

INVERTER PACKAGED AIR-CONDITIONERS (Split system, air to air heat pump type)

HYPER INVERTER CEILING SUSPENDED TYPE

Single type	Twin type
FDE40ZSXVG	FDE71VNXPVG
50ZSXVG	100VNXPVG
60ZSXVG	100VXSPVG
71VNXVG	125VNXPVG
100VNXVG	125VXSPVG
100VSXVG	140VNXPVG
125VNXVG	140VXSPVG
125VSXVG	Triple type
140VNXVG	FDE140VNXTVG
140VSXVG	140VSXTVG

DUCT CONNECTED-LOW/MIDDLE STATIC PRESSURE TYPE

Single type	Twin type
FDUM40ZSXVF	FDUM100VNXPVF
50ZSXVF	100VXSPVF
60ZSXVF	125VNXPVF
71VNXVF1	125VXSPVF
100VNXVF2	140VNXPVF1
100VSXVF2	140VXSPVF1
125VNXVF	Triple type
125VSXVF	FDUM140VNXTVF
140VNXVF	140VSXTVF
140VSXVF	

STANDARD INVERTER CEILING SUSPENDED TYPE

FDE71VNPVG
90VNP1VG
100VNP1VG

DUCT CONNECTED-HIGH STATIC PRESSURE TYPE

Single type
FDU71VNXVF1
100VNXVF2
100VSXVF2
125VNXVF
125VSXVF
140VNXVF
140VSXVF

DUCT CONNECTED-LOW/MIDDLE STATIC PRESSURE TYPE

FDUM71VNPVF1
90VNP1VF2
100VNP1VF2

MICRO INVERTER CEILING SUSPENDED TYPE

Single type	Twin type	Triple type
FDE100VNAVG	FDE100VNAPVG	FDE140VNATVG
100SAVG	100VSAPVG	140VSATVG
125VNAVG	125VNAPVG	200VSATVG
125SAVG	125VSAPVG	Double twin type
140VNAVG	140VNAPVG	FDE200VSADVG
140SAVG	140VSAPVG	250VSADVG
	200VSAPVG	
	250VSAPVG	

DUCT CONNECTED-LOW/MIDDLE STATIC PRESSURE TYPE

Single type	Twin type
FDUM100VNAVF2	FDUM100VNAPVF
100VSAVF2	100VSAPVF
125VNAVF	125VNAPVF
125VSAVF	125VSAPVF
140VNAVF	140VNAPVF1
140VSAVF	140VSAPVF1
	200VSAPVF2
	250VSAPVF
	Triple type
	FDUM140VNATVF
	140VSATVF
	200VSATVF1

DUCT CONNECTED-HIGH STATIC PRESSURE TYPE

Single type
FDU100VNAVF2
100VSAVF2
125VNAVF
125VSAVF
140VNAVF
140VSAVF
200VSAVG
250VSAVG

V Multi System

(OUTDOOR UNIT)	(INDOOR UNIT)
FDC71VNX	FDE40VG
100VNX	50VG
100VSX	60VG
125VNX	71VG
125VSX	
140VNX	
140VSX	

V Multi System

(OUTDOOR UNIT)	(INDOOR UNIT)
FDC100VNA	FDE50VG
100VSA	60VG
125VNA	71VG
125VSA	100VG
140VNA	125VG
140VSA	
200VSA	
250VSA	

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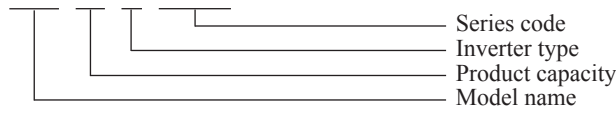
1. HYPER INVERTER PACKAGED AIR-CONDITIONERS

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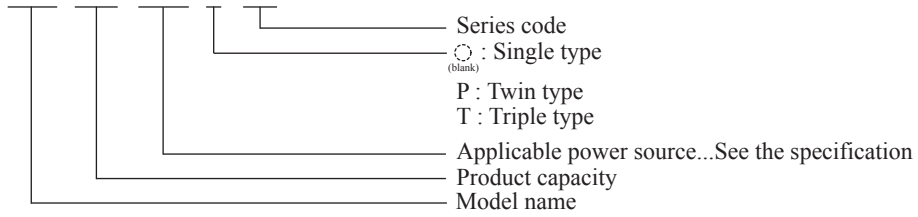
■ How to read the model name

Example: **FDE 40 Z SXVG**



- FDE : Ceiling suspended type
- FDUM : Duct connected-Low/Middle static pressure type
- FDU : Duct connected-High static pressure type
- SRC : Outdoor unit

Example: **FDE 100 VNX P VG**



- : Single type
(blank)
- P : Twin type
- T : Triple type

- FDE : Ceiling suspended type
- FDUM : Duct connected-Low/Middle static pressure type
- FDU : Duct connected-High static pressure type
- FDC : Outdoor unit

Item		Model	FDE50ZSXVG		
			Indoor unit FDE50VG	Outdoor unit SRC50ZSX-S	
Power source			1 Phase 220-240V 50Hz / 220V 60Hz		
Operation data	Nominal cooling capacity (range)	kW	5.0 [1.1(Min.)-5.6(Max.)]		
	Nominal heating capacity (range)	kW	5.4 [0.6(Min.)-6.3(Max.)]		
	Power consumption	Cooling	kW	1.52	
		Heating		1.46	
	Max power consumption		2.90		
	Running current	Cooling	A	7.0 / 7.4	
		Heating		7.0 / 7.3	
	Inrush current, max current		5 , 15		
	Power factor	Cooling	%	94 / 93	
		Heating		91	
	EER	Cooling		3.29	
	COP	Heating		3.70	
	Sound power level	Cooling	dB(A)	60	
Heating		63			
Sound pressure level	Cooling	dB(A)	P-Hi : 46 Hi : 38 Me : 36 Lo : 31		
	Heating		50		
Silent mode sound pressure level			49		
Exterior dimensions (Height x Width x Depth)		mm	210 × 1,070 × 690		
Exterior appearance (Munsell color)			Plaster white (6.8Y8.9/0.2)near equivalent		
Net weight		kg	28		
Compressor type & Q'ty			RMT5113MCE2 (Twin rotary type)×1		
Compressor motor (Starting method)		kW	Direct line start		
Refrigerant oil (Amount, type)		ℓ	0.45 (M-MA68)		
Refrigerant (Type, amount, pre-charge length)		kg	R410A 1.5kg in outdoor unit (Incl. the amount for the piping of : 15m)		
Heat exchanger			Louver fin & inner grooved tubing		
Refrigerant control			M shape fin & inner grooved tubing		
Fan type & Q'ty			Capillary tubes + Electronic expansion valve		
Fan motor (Starting method)		W	Centrifugal fan ×2		
Air flow		m ³ /min	Propeller fan ×1		
Available external static pressure		Pa	30 < Direct line start >		
Outside air intake			34 < Direct line start >		
Air filter, Quality / Quantity			40		
Shock & vibration absorber			33		
Electric heater		W	0		
Operation control			Remote control (Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-E-E3		
Safety equipments			Room temperature control Thermostat by electronics		
Installation data			Operation display		
Refrigerant piping size (O.D.)		mm	Overload protection for fan motor		
Connecting method			Frost protection thermostat		
Attached length of piping		m	Internal thermostat for fan motor		
Insulation for piping			Abnormal discharge temperature protection		
Refrigerant line (one way) length		m	Liquid line: I/U φ 6.35 (1/4") Pipe φ 6.35(1/4")x0.8 O/U φ 6.35 (1/4")		
Vertical height diff. between O/U and I/U		m	Gas line: φ 12.7 (1/2") φ 12.7(1/2")x0.8 φ 12.7 (1/2")		
Drain hose			Flare piping		
Drain pump, max lift height		mm	Flare piping		
Recommended breaker size		A	Necessary (both Liquid & Gas lines)		
L.R.A. (Locked rotor ampere)		A	Max.30m		
Interconnecting wires		Size x Core number	Max.20m (Outdoor unit is higher)		
IP number			Max.20m (Outdoor unit is lower)		
Standard accessories			Hose connectable with VP20(O.D.26)		
Option parts			Hole size φ 20 x 5 pcs		
Notes			Motion sensor : LB-E		
(1) The data are measured at the following conditions.			The pipe length is 7.5m.		
(2) This air-conditioner is manufactured and tested in conformity with the ISO.					
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.					
(4) Select the breaker size according to the own national standard.					
(5) The operation data indicate when the air-conditioner is operated at 230V 50Hz or 220V 60Hz.					

Item		Model	FDE60ZSXVG			
			Indoor unit FDE60VG	Outdoor unit SRC60ZSX-S		
Power source		1 Phase 220-240V 50Hz / 220V 60Hz				
Operation data	Nominal cooling capacity (range)	kW	5.6 [1.1(Min.)-6.3(Max.)]			
	Nominal heating capacity (range)	kW	6.7 [0.6(Min.)-7.1(Max.)]			
	Power consumption	Cooling	kW	1.75		
		Heating		1.86		
	Max power consumption		2.90			
	Running current	Cooling	A	8.0 / 8.4		
		Heating		8.7 / 9.1		
	Inrush current, max current		5 , 15			
	Power factor	Cooling	%	95		
		Heating		93		
	EER	Cooling		3.20		
	COP	Heating		3.60		
	Sound power level	Cooling	dB(A)	60	65	
		Heating			64	
Sound pressure level	Cooling	dB(A)	P-Hi : 47 Hi : 41 Me : 37 Lo : 32			
	Heating		52			
Silent mode sound pressure level			Cooling : 42 / Heating : 43			
Exterior dimensions (Height x Width x Depth)		mm	210 × 1,320 × 690	640×800(+71)×290		
Exterior appearance (Munsell color)			Plaster white (6.8Y8.9/0.2)near equivalent	Stucco white (4.2Y7.5/1.1)near equivalent		
Net weight		kg	33	45		
Compressor type & Q'ty			—	RMT5113MCE2 (Twin rotary type)×1		
Compressor motor (Starting method)		kW	—	Direct line start		
Refrigerant oil (Amount, type)		ℓ	—	0.45 (M-MA68)		
Refrigerant (Type, amount, pre-charge length)		kg	R410A 1.5kg in outdoor unit (Incl. the amount for the piping of : 15m)			
Heat exchanger			Louver fin & inner grooved tubing	M shape fin & inner grooved tubing		
Refrigerant control			Capillary tubes + Electronic expansion valve			
Fan type & Q'ty			Centrifugal fan ×4	Propeller fan ×1		
Fan motor (Starting method)		W	50 < Direct line start >	34 < Direct line start >		
Air flow	Cooling	m ³ /min	P-Hi : 20 Hi : 16 Me : 13 Lo : 10			
	Heating		41.5			
Available external static pressure		Pa	0	—		
Outside air intake			Not possible	—		
Air filter, Quality / Quantity			Pocket plastic net ×2(Washable)	—		
Shock & vibration absorber			Rubber sleeve(for fan motor)	Rubber sleeve(for compressor)		
Electric heater		W	0	—		
Operation control	Remote control		(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-E-E3			
	Room temperature control		Thermostat by electronics			
	Operation display		—			
Safety equipments			Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection			
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 6.35 (1/4") Pipe φ 6.35(1/4")x0.8 O/U φ 6.35 (1/4") Gas line: φ 12.7 (1/2") φ 12.7(1/2")x0.8 φ 12.7 (1/2")			
	Connecting method		Flare piping	Flare piping		
	Attached length of piping	m	—	—		
	Insulation for piping		Necessary (both Liquid & Gas lines)			
	Refrigerant line (one way) length	m	Max.30m			
	Vertical height diff. between O/U and I/U	m	Max.20m (Outdoor unit is higher)	Max.20m (Outdoor unit is lower)		
Drain hose		Hose connectable with VP20(O.D.26)		Hole size φ 20 x 5 pcs		
Drain pump, max lift height		mm	—	—		
Recommended breaker size		A	—			
L.R.A. (Locked rotor ampere)		A	5.0			
Interconnecting wires		Size x Core number	1.5mm ² ×4 cores (Including earth cable) / Terminal block (Screw fixing type)			
IP number			IPX0	IPX4		
Standard accessories			Mounting kit, Drain hose	Drain elbow, Drain hole grommet		
Option parts			Motion sensor : LB-E			
Notes (1) The data are measured at the following conditions. The pipe length is 7.5m.						
Operation	Item	Indoor air temperature		Outdoor air temperature		Standards
		DB	WB	DB	WB	
	Cooling	27°C	19°C	35°C	24°C	
Heating	20°C	—	7°C	6°C		
(2) This air-conditioner is manufactured and tested in conformity with the ISO.						
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.						
(4) Select the breaker size according to the own national standard.						
(5) The operation data indicate when the air-conditioner is operated at 230V 50Hz or 220V 60Hz.						

Item		Model	FDE71VNXVG			
			Indoor unit FDE71VG	Outdoor unit FDC71VNX		
Power source			1 Phase 220-240V 50Hz / 220V 60Hz			
Operation data	Nominal cooling capacity (range)	kW	7.1 [3.2(Min.)-8.0(Max.)]			
	Nominal heating capacity (range)	kW	8.0 [3.6(Min.)-9.0(Max.)]			
	Power consumption	Cooling	kW	2.11		
		Heating		2.11		
	Max power consumption		3.38			
	Running current	Cooling	A	9.7 / 10.1		
		Heating		9.3 / 9.7		
	Inrush current, max current		5 , 17			
	Power factor	Cooling	%	95		
		Heating		99		
	EER	Cooling		3.36		
	COP	Heating		3.79		
	Sound power level	Cooling	dB(A)	60	66	
Heating						
Sound pressure level	Cooling	P-Hi : 47 Hi : 41 Me : 37 Lo : 32	51			
	Heating		48			
Silent mode sound pressure level			-			
Exterior dimensions (Height x Width x Depth)		mm	210 × 1,320 × 690	750×880(+88)×340		
Exterior appearance (Munsell color)			Plaster white (6.8Y8.9/0.2)near equivalent	Stucco white (4.2Y7.5/1.1)near equivalent		
Net weight		kg	33	60		
Compressor type & Q'ty			-	RMT5118MDE2 (Twin rotary type)×1		
Compressor motor (Starting method)		kW	-	Direct line start		
Refrigerant oil (Amount, type)		ℓ	-	0.675 (M-MA68)		
Refrigerant (Type, amount, pre-charge length)		kg	R410A 2.95kg in outdoor unit (Incl. the amount for the piping of : 30m)			
Heat exchanger			Louver fin & inner grooved tubing	M shape fin & inner grooved tubing		
Refrigerant control			Electronic expansion valve			
Fan type & Q'ty			Centrifugal fan ×4	Propeller fan ×1		
Fan motor (Starting method)		W	50 < Direct line start >	86 < Direct line start >		
Air flow	Cooling	m ³ /min	P-Hi : 20 Hi : 16 Me : 13 Lo : 10	60		
	Heating			50		
Available external static pressure		Pa	0	-		
Outside air intake			Not possible	-		
Air filter, Quality / Quantity			Pocket plastic net ×2(Washable)	-		
Shock & vibration absorber			Rubber sleeve(for fan motor)	Rubber sleeve(for compressor)		
Electric heater		W	-	20(Crank case heater)		
Operation control	Remote control		(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-E-E3			
	Room temperature control		Thermostat by electronics			
	Operation display		-			
Safety equipments			Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection			
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 9.52 (3/8") Pipe φ 9.52(3/8")×0.8 O/U φ 9.52 (3/8") Gas line: φ 15.88 (5/8") φ 15.88(5/8")×1.0 φ 15.88 (5/8")			
	Connecting method		Flare piping	Flare piping		
	Attached length of piping	m	-	-		
	Insulation for piping		Necessary (both Liquid & Gas lines)			
	Refrigerant line (one way) length	m	Max.50m			
	Vertical height diff. between O/U and I/U	m	Max.30m (Outdoor unit is higher)	Max.15m (Outdoor unit is lower)		
Drain hose		Hose connectable with VP20(O.D.26)	Hole size φ 20 x 3 pcs			
Drain pump, max lift height		mm	-	-		
Recommended breaker size		A	-			
L.R.A. (Locked rotor ampere)		A	5.0			
Interconnecting wires Size x Core number			φ 1.6mm×3 cores + earth cable / Terminal block (Screw fixing type)			
IP number			IPX0	IP24		
Standard accessories			Mounting kit, Drain hose	-		
Option parts			Motion sensor : LB-E			
Notes		(1) The data are measured at the following conditions. The pipe length is 7.5m.				
	Item	Indoor air temperature		Outdoor air temperature	Standards	
Operation		DB	WB	DB		WB
	Cooling	27°C	19°C	35°C	24°C	ISO5151-T1
	Heating	20°C	-	7°C	6°C	
(2) This air-conditioner is manufactured and tested in conformity with the ISO.						
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.						
(4) Select the breaker size according to the own national standard.						
(5) The operation data indicate when the air-conditioner is operated at 230V 50Hz or 220V 60Hz.						

Item		Model	FDE100VNXVG			
			Indoor unit FDE100VG	Outdoor unit FDC100VNX		
Power source			1 Phase 220-240V 50Hz / 220V 60Hz			
Operation data	Nominal cooling capacity (range)	kW	10.0 [4.0(Min.)-11.2(Max.)]			
	Nominal heating capacity (range)	kW	11.2 [4.0(Min.)-12.5(Max.)]			
	Power consumption	Cooling	kW	2.55		
		Heating		2.68		
	Max power consumption		4.61			
	Running current	Cooling	A	11.3 / 11.8		
		Heating		11.8 / 12.3		
	Inrush current, max current		5 , 24			
	Power factor	Cooling	%	98		
		Heating		99		
	EER	Cooling		3.92		
	COP	Heating		4.18		
	Sound power level	Cooling	dB(A)	64	70	
		Heating				
Sound pressure level	Cooling	P-Hi : 48 Hi : 43 Me : 38 Lo : 34	48			
	Heating		50			
Silent mode sound pressure level			-			
Exterior dimensions (Height x Width x Depth)		mm	250 × 1,620 × 690	1,300×970×370		
Exterior appearance (Munsell color)			Plaster white (6.8Y8.9/0.2)near equivalent	Stucco white (4.2Y7.5/1.1)near equivalent		
Net weight		kg	43	105		
Compressor type & Q'ty			-	RMT5134MDE2 (Twin rotary type)×1		
Compressor motor (Starting method)		kW	-	Direct line start		
Refrigerant oil (Amount, type)		ℓ	-	0.9 (M-MA68)		
Refrigerant (Type, amount, pre-charge length)		kg	R410A 4.5kg in outdoor unit (Incl. the amount for the piping of : 30m)			
Heat exchanger			Louver fin & inner grooved tubing	M shape fin & inner grooved tubing		
Refrigerant control			Electronic expansion valve			
Fan type & Q'ty			Centrifugal fan ×4	Propeller fan ×2		
Fan motor (Starting method)		W	80 < Direct line start >	86 ×2 < Direct line start >		
Air flow	Cooling Heating	m ³ /min	P-Hi : 32 Hi : 26 Me : 21 Lo : 16.5	100		
Available external static pressure		Pa	0	-		
Outside air intake			Not possible	-		
Air filter, Quality / Quantity			Pocket plastic net ×2(Washable)	-		
Shock & vibration absorber			Rubber sleeve(for fan motor)	Rubber sleeve(for compressor)		
Electric heater		W	-	20(Crank case heater)		
Operation control	Remote control		(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-E-E3			
	Room temperature control		Thermostat by electronics			
	Operation display		-			
Safety equipments			Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection			
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 9.52 (3/8") Pipe φ 9.52(3/8")×0.8 O/U φ 9.52 (3/8") Gas line: φ 15.88 (5/8") φ 15.88(5/8")×1.0 φ 15.88 (5/8")			
	Connecting method		Flare piping	Flare piping		
	Attached length of piping	m	-	-		
	Insulation for piping		Necessary (both Liquid & Gas lines)			
	Refrigerant line (one way) length	m	Max.100m			
	Vertical height diff. between O/U and I/U	m	Max.30m (Outdoor unit is higher)	Max.15m (Outdoor unit is lower)		
Drain hose			Hose connectable with VP20(O.D.26)	Hole size φ 20 x 3 pcs		
Drain pump, max lift height		mm	-			
Recommended breaker size		A	-			
L.R.A. (Locked rotor ampere)		A	5.0			
Interconnecting wires		Size x Core number	φ 1.6mm×3 cores + earth cable / Terminal block (Screw fixing type)			
IP number			IPX0	IP24		
Standard accessories			Mounting kit, Drain hose	Edging		
Option parts			Motion sensor : LB-E			
Notes (1) The data are measured at the following conditions. The pipe length is 7.5m.						
Operation	Item	Indoor air temperature		Outdoor air temperature		Standards
		DB	WB	DB	WB	
	Cooling	27°C	19°C	35°C	24°C	
Heating	20°C	-	7°C	6°C	ISO5151-T1	
(2) This air-conditioner is manufactured and tested in conformity with the ISO.						
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.						
(4) Select the breaker size according to the own national standard.						
(5) The operation data indicate when the air-conditioner is operated at 230V 50Hz or 220V 60Hz.						

Item		Model	FDE100VSXVG			
			Indoor unit FDE100VG	Outdoor unit FDC100VSX		
Power source			3 Phase 380-415V 50Hz / 380V 60Hz			
Operation data	Nominal cooling capacity (range)	kW	10.0 [4.0(Min.)-11.2(Max.)]			
	Nominal heating capacity (range)	kW	11.2 [4.0(Min.)-16.0(Max.)]			
	Power consumption	Cooling	kW	2.55		
		Heating		2.68		
	Max power consumption		5.76			
	Running current	Cooling	A	3.8 / 4.0		
		Heating		3.9 / 4.1		
	Inrush current, max current		5 , 15			
	Power factor	Cooling	%	98		
		Heating		99		
	EER	Cooling		3.92		
	COP	Heating		4.18		
	Sound power level	Cooling	dB(A)	64	70	
Heating						
Sound pressure level	Cooling	P-Hi : 48 Hi : 43 Me : 38 Lo : 34	48			
	Heating		50			
Silent mode sound pressure level			-			
Exterior dimensions (Height x Width x Depth)		mm	250 × 1,620 × 690	1,300×970×370		
Exterior appearance (Munsell color)			Plaster white (6.8Y8.9/0.2)near equivalent	Stucco white (4.2Y7.5/1.1)near equivalent		
Net weight		kg	43	105		
Compressor type & Q'ty			-	RMT5134MDE3 (Twin rotary type)×1		
Compressor motor (Starting method)		kW	-	Direct line start		
Refrigerant oil (Amount, type)		ℓ	-	0.9 (M-MA68)		
Refrigerant (Type, amount, pre-charge length)		kg	R410A 4.5kg in outdoor unit (Incl. the amount for the piping of : 30m)			
Heat exchanger			Louver fin & inner grooved tubing	M shape fin & inner grooved tubing		
Refrigerant control			Electronic expansion valve			
Fan type & Q'ty			Centrifugal fan ×4	Propeller fan ×2		
Fan motor (Starting method)		W	80 < Direct line start >	86 ×2 < Direct line start >		
Air flow	Cooling	m³/min	P-Hi : 32 Hi : 26 Me : 21 Lo : 16.5			
	Heating		100			
Available external static pressure		Pa	0	-		
Outside air intake			Not possible	-		
Air filter, Quality / Quantity			Pocket plastic net ×2(Washable)	-		
Shock & vibration absorber			Rubber sleeve(for fan motor)	Rubber sleeve(for compressor)		
Electric heater		W	-	20(Crank case heater)		
Operation control	Remote control		(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-E-E3			
	Room temperature control		Thermostat by electronics			
	Operation display		-			
Safety equipments			Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection			
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 9.52 (3/8") Pipe φ 9.52(3/8")×0.8 O/U φ 9.52 (3/8") Gas line: φ 15.88 (5/8") φ 15.88(5/8")×1.0 φ 15.88 (5/8")			
	Connecting method		Flare piping	Flare piping		
	Attached length of piping	m	-	-		
	Insulation for piping		Necessary (both Liquid & Gas lines)			
	Refrigerant line (one way) length	m	Max.100m			
	Vertical height diff. between O/U and I/U	m	Max.30m (Outdoor unit is higher)	Max.15m (Outdoor unit is lower)		
Drain hose			Hose connectable with VP20(O.D.26)	Hole size φ 20 x 3 pcs		
Drain pump, max lift height		mm	-	-		
Recommended breaker size		A	-			
L.R.A. (Locked rotor ampere)		A	5.0			
Interconnecting wires		Size x Core number	φ 1.6mm×3 cores + earth cable / Terminal block (Screw fixing type)			
IP number			IPX0	IP24		
Standard accessories			Mounting kit, Drain hose	Edging		
Option parts			Motion sensor : LB-E			
Notes (1) The data are measured at the following conditions. The pipe length is 7.5m.						
Operation	Item	Indoor air temperature		Outdoor air temperature		Standards
		DB	WB	DB	WB	
	Cooling	27°C	19°C	35°C	24°C	
	Heating	20°C	-	7°C	6°C	ISO5151-T1
(2) This air-conditioner is manufactured and tested in conformity with the ISO.						
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.						
(4) Select the breaker size according to the own national standard.						
(5) The operation data indicate when the air-conditioner is operated at 400V 50Hz or 380V 60Hz.						

Item		Model	FDE125VNXVG			
			Indoor unit FDE125VG	Outdoor unit FDC125VNX		
Power source			1 Phase 220-240V 50Hz / 220V 60Hz			
Operation data	Nominal cooling capacity (range)	kW	12.5 [5.0(Min.)-14.0(Max.)]			
	Nominal heating capacity (range)	kW	14.0 [4.0(Min.)-17.0(Max.)]			
	Power consumption	Cooling	kW	3.50		
		Heating		3.77		
	Max power consumption		6.18			
	Running current	Cooling	A	15.4 / 16.1		
		Heating		16.6 / 17.3		
	Inrush current, max current		5 , 26			
	Power factor	Cooling	%	99		
		Heating		99		
	EER	Cooling		3.57		
	COP	Heating		3.71		
	Sound power level	Cooling	dB(A)	64	70	
		Heating				
Sound pressure level	Cooling	P-Hi : 48 Hi : 45 Me : 40 Lo : 35	48			
	Heating		50			
Silent mode sound pressure level			-			
Exterior dimensions (Height x Width x Depth)		mm	250 × 1,620 × 690	1,300×970×370		
Exterior appearance (Munsell color)			Plaster white (6.8Y8.9/0.2)near equivalent	Stucco white (4.2Y7.5/1.1)near equivalent		
Net weight		kg	43	105		
Compressor type & Q'ty			-	RMT5134MDE2 (Twin rotary type)×1		
Compressor motor (Starting method)		kW	-	Direct line start		
Refrigerant oil (Amount, type)		ℓ	-	0.9 (M-MA68)		
Refrigerant (Type, amount, pre-charge length)		kg	R410A 4.5kg in outdoor unit (Incl. the amount for the piping of : 30m)			
Heat exchanger			Louver fin & inner grooved tubing	M shape fin & inner grooved tubing		
Refrigerant control			Electronic expansion valve			
Fan type & Q'ty			Centrifugal fan ×4	Propeller fan ×2		
Fan motor (Starting method)		W	80 < Direct line start >	86 ×2 < Direct line start >		
Air flow	Cooling Heating	m ³ /min	P-Hi : 32 Hi : 29 Me : 23 Lo : 17	100		
Available external static pressure		Pa	0	-		
Outside air intake			Not possible	-		
Air filter, Quality / Quantity			Pocket plastic net ×2(Washable)	-		
Shock & vibration absorber			Rubber sleeve(for fan motor)	Rubber sleeve(for compressor)		
Electric heater		W	-	20(Crank case heater)		
Operation control	Remote control		(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-E-E3			
	Room temperature control		Thermostat by electronics			
	Operation display		-			
Safety equipments			Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection			
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 9.52 (3/8") Pipe φ 9.52(3/8")×0.8 O/U φ 9.52 (3/8") Gas line: φ 15.88 (5/8") φ 15.88(5/8")×1.0 φ 15.88 (5/8")			
	Connecting method		Flare piping	Flare piping		
	Attached length of piping	m	-	-		
	Insulation for piping		Necessary (both Liquid & Gas lines)			
	Refrigerant line (one way) length	m	Max.100m			
	Vertical height diff. between O/U and I/U	m	Max.30m (Outdoor unit is higher)	Max.15m (Outdoor unit is lower)		
Drain hose			Hose connectable with VP20(O.D.26)	Hole size φ 20 x 3 pcs		
Drain pump, max lift height		mm	-	-		
Recommended breaker size		A	-			
L.R.A. (Locked rotor ampere)		A	5.0			
Interconnecting wires		Size x Core number	φ 1.6mm×3 cores + earth cable / Terminal block (Screw fixing type)			
IP number			IPX0	IP24		
Standard accessories			Mounting kit, Drain hose	Edging		
Option parts			Motion sensor : LB-E			
Notes (1) The data are measured at the following conditions. The pipe length is 7.5m.						
Operation	Item	Indoor air temperature		Outdoor air temperature		Standards
		DB	WB	DB	WB	
	Cooling	27°C	19°C	35°C	24°C	
Heating	20°C	-	7°C	6°C	ISO5151-T1	
(2) This air-conditioner is manufactured and tested in conformity with the ISO.						
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.						
(4) Select the breaker size according to the own national standard.						
(5) The operation data indicate when the air-conditioner is operated at 230V 50Hz or 220V 60Hz.						

Item		Model	FDE125VSVXG			
			Indoor unit FDE125VG	Outdoor unit FDC125VSX		
Power source			3 Phase 380-415V 50Hz / 380V 60Hz			
Operation data	Nominal cooling capacity (range)	kW	12.5 [5.0(Min.)-14.0(Max.)]			
	Nominal heating capacity (range)	kW	14.0 [4.0(Min.)-18.0(Max.)]			
	Power consumption	Cooling	kW	3.50		
		Heating		3.77		
	Max power consumption		7.72			
	Running current	Cooling	A	5.1 / 5.4		
		Heating		5.5 / 5.8		
	Inrush current, max current		5 , 15			
	Power factor	Cooling	%	99		
		Heating		99		
	EER	Cooling		3.57		
	COP	Heating		3.71		
	Sound power level	Cooling	dB(A)	64	70	
Heating						
Sound pressure level	Cooling	dB(A)	P-Hi : 48 Hi : 45 Me : 40 Lo : 35	48		
	Heating			50		
Silent mode sound pressure level			—	—		
Exterior dimensions (Height x Width x Depth)		mm	250 × 1,620 × 690	1,300×970×370		
Exterior appearance (Munsell color)			Plaster white (6.8Y8.9/0.2)near equivalent	Stucco white (4.2Y7.5/1.1)near equivalent		
Net weight		kg	43	105		
Compressor type & Q'ty			—	RMT5134MDE3 (Twin rotary type)×1		
Compressor motor (Starting method)		kW	—	Direct line start		
Refrigerant oil (Amount, type)		ℓ	—	0.9 (M-MA68)		
Refrigerant (Type, amount, pre-charge length)		kg	R410A 4.5kg in outdoor unit (Incl. the amount for the piping of : 30m)			
Heat exchanger			Louver fin & inner grooved tubing	M shape fin & inner grooved tubing		
Refrigerant control			Electronic expansion valve			
Fan type & Q'ty			Centrifugal fan ×4	Propeller fan ×2		
Fan motor (Starting method)		W	80 < Direct line start >	86 ×2 < Direct line start >		
Air flow	Cooling Heating	m ³ /min	P-Hi : 32 Hi : 29 Me : 23 Lo : 17	100		
Available external static pressure		Pa	0	—		
Outside air intake			Not possible	—		
Air filter, Quality / Quantity			Pocket plastic net ×2(Washable)	—		
Shock & vibration absorber			Rubber sleeve(for fan motor)	Rubber sleeve(for compressor)		
Electric heater		W	—	20(Crank case heater)		
Operation control	Remote control		(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-E-E3			
	Room temperature control		Thermostat by electronics			
	Operation display		—			
Safety equipments			Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection			
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 9.52 (3/8") Pipe φ 9.52(3/8")×0.8 O/U φ 9.52 (3/8") Gas line: φ 15.88 (5/8") φ 15.88(5/8")×1.0 φ 15.88 (5/8")			
	Connecting method		Flare piping	Flare piping		
	Attached length of piping	m	—	—		
	Insulation for piping		Necessary (both Liquid & Gas lines)			
	Refrigerant line (one way) length	m	Max.100m			
	Vertical height diff. between O/U and I/U	m	Max.30m (Outdoor unit is higher)	Max.15m (Outdoor unit is lower)		
Drain hose		Hose connectable with VP20(O.D.26)	Hole size φ 20 x 3 pcs			
Drain pump, max lift height		mm	—	—		
Recommended breaker size		A	—			
L.R.A. (Locked rotor ampere)		A	5.0			
Interconnecting wires		Size x Core number	φ 1.6mm×3 cores + earth cable / Terminal block (Screw fixing type)			
IP number			IPX0	IP24		
Standard accessories			Mounting kit, Drain hose	Edging		
Option parts			Motion sensor : LB-E			
Notes (1) The data are measured at the following conditions. The pipe length is 7.5m.						
Operation	Item	Indoor air temperature		Outdoor air temperature		Standards
		DB	WB	DB	WB	
	Cooling	27°C	19°C	35°C	24°C	
Heating	20°C	—	7°C	6°C	ISO5151-T1	
(2) This air-conditioner is manufactured and tested in conformity with the ISO.						
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.						
(4) Select the breaker size according to the own national standard.						
(5) The operation data indicate when the air-conditioner is operated at 400V 50Hz or 380V 60Hz.						

Item		Model	FDE140VNXVG			
			Indoor unit FDE140VG	Outdoor unit FDC140VNX		
Power source			1 Phase 220-240V 50Hz / 220V 60Hz			
Operation data	Nominal cooling capacity (range)	kW	14.0 [5.0(Min.)-16.0(Max.)]			
	Nominal heating capacity (range)	kW	16.0 [4.0(Min.)-18.0(Max.)]			
	Power consumption	Cooling	kW	4.40		
		Heating		4.69		
	Max power consumption		6.97			
	Running current	Cooling	A	19.3 / 20.2		
		Heating		20.6 / 21.5		
	Inrush current, max current		5 , 26			
	Power factor	Cooling	%	99		
		Heating		99		
	EER	Cooling		3.18		
	COP	Heating		3.41		
	Sound power level	Cooling	dB(A)	65	72	
		Heating				
Sound pressure level	Cooling	P-Hi : 49 Hi : 45 Me : 40 Lo : 36	49			
	Heating		52			
Silent mode sound pressure level			-			
Exterior dimensions (Height x Width x Depth)		mm	250 x 1,620 x 690	1,300x970x370		
Exterior appearance (Munsell color)			Plaster white (6.8Y8.9/0.2)near equivalent	Stucco white (4.2Y7.5/1.1)near equivalent		
Net weight		kg	43	105		
Compressor type & Q'ty			-	RMT5134MDE2 (Twin rotary type)x1		
Compressor motor (Starting method)		kW	-	Direct line start		
Refrigerant oil (Amount, type)		ℓ	-	0.9 (M-MA68)		
Refrigerant (Type, amount, pre-charge length)		kg	R410A 4.5kg in outdoor unit (Incl. the amount for the piping of : 30m)			
Heat exchanger			Louver fin & inner grooved tubing	M shape fin & inner grooved tubing		
Refrigerant control			Electronic expansion valve			
Fan type & Q'ty			Centrifugal fan x4	Propeller fan x2		
Fan motor (Starting method)		W	90 < Direct line start >	86 x2 < Direct line start >		
Air flow	Cooling	m³/min	P-Hi : 34 Hi : 29 Me : 23 Lo : 18			
	Heating		100			
Available external static pressure		Pa	0	-		
Outside air intake			Not possible	-		
Air filter, Quality / Quantity			Pocket plastic net x2(Washable)	-		
Shock & vibration absorber			Rubber sleeve(for fan motor)	Rubber sleeve(for compressor)		
Electric heater		W	-	20(Crank case heater)		
Operation control	Remote control		(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-E-E3			
	Room temperature control		Thermostat by electronics			
	Operation display		-			
Safety equipments			Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection			
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 9.52 (3/8") Pipe φ 9.52(3/8")x0.8 O/U φ 9.52 (3/8") Gas line: φ 15.88 (5/8") φ 15.88(5/8")x1.0 φ 15.88 (5/8")			
	Connecting method		Flare piping	Flare piping		
	Attached length of piping	m	-	-		
	Insulation for piping		Necessary (both Liquid & Gas lines)			
	Refrigerant line (one way) length	m	Max.100m			
	Vertical height diff. between O/U and I/U	m	Max.30m (Outdoor unit is higher)	Max.15m (Outdoor unit is lower)		
Drain hose			Hose connectable with VP20(O.D.26)	Hole size φ 20 x 3 pcs		
Drain pump, max lift height		mm	-	-		
Recommended breaker size		A	-			
L.R.A. (Locked rotor ampere)		A	5.0			
Interconnecting wires		Size x Core number	φ 1.6mmx3 cores + earth cable / Terminal block (Screw fixing type)			
IP number			IPX0	IP24		
Standard accessories			Mounting kit, Drain hose	Edging		
Option parts			Motion sensor : LB-E			
Notes (1) The data are measured at the following conditions. The pipe length is 7.5m.						
Operation	Item	Indoor air temperature		Outdoor air temperature		Standards
		DB	WB	DB	WB	
	Cooling	27°C	19°C	35°C	24°C	
	Heating	20°C	-	7°C	6°C	ISO5151-T1
(2) This air-conditioner is manufactured and tested in conformity with the ISO.						
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.						
(4) Select the breaker size according to the own national standard.						
(5) The operation data indicate when the air-conditioner is operated at 230V 50Hz or 220V 60Hz.						

Item		Model	FDE140VSXVG				
			Indoor unit FDE140VG		Outdoor FDC140VSX		
Power source			3 Phase 380-415V 50Hz / 380V 60Hz				
Operation data	Nominal cooling capacity (range)	kW	14.0 [5.0(Min.)-16.0(Max.)]				
	Nominal heating capacity (range)	kW	16.0 [4.0(Min.)-20.0(Max.)]				
	Power consumption	Cooling	kW	4.40			
		Heating		4.69			
	Max power consumption		8.72				
	Running current	Cooling	A	6.4 / 6.8			
		Heating		6.8 / 7.2			
	Inrush current, max current		5 , 15				
	Power factor	Cooling	%	99			
		Heating		99			
	EER	Cooling		3.18			
	COP	Heating		3.41			
	Sound power level	Cooling	dB(A)	65		72	
Heating		P-Hi : 49 Hi : 45 Me : 40 Lo : 36		49			
Sound pressure level	Cooling				52		
	Heating				—		
Silent mode sound pressure level			—		—		
Exterior dimensions (Height x Width x Depth)	mm		250 x 1,620 x 690		1,300x970x370		
Exterior appearance (Munsell color)			Plaster white (6.8Y8.9/0.2)near equivalent		Stucco white (4.2Y7.5/1.1)near equivalent		
Net weight	kg		43		105		
Compressor type & Q'ty			—		RMT5134MDE3 (Twin rotary type)x1		
Compressor motor (Starting method)	kW		—		Direct line start		
Refrigerant oil (Amount, type)	ℓ		—		0.9 (M-MA68)		
Refrigerant (Type, amount, pre-charge length)	kg		R410A 4.5kg in outdoor unit (Incl. the amount for the piping of : 30m)				
Heat exchanger			Louver fin & inner grooved tubing		M shape fin & inner grooved tubing		
Refrigerant control			Electronic expansion valve				
Fan type & Q'ty			Centrifugal fan x4		Propeller fan x2		
Fan motor (Starting method)	W		90 < Direct line start >		86 x2 < Direct line start >		
Air flow	Cooling	m³/min	P-Hi : 34 Hi : 29 Me : 23 Lo : 18		100		
	Heating						
Available external static pressure	Pa		0		—		
Outside air intake			Not possible		—		
Air filter, Quality / Quantity			Pocket plastic net x2(Washable)		—		
Shock & vibration absorber			Rubber sleeve(for fan motor)		Rubber sleeve(for compressor)		
Electric heater	W		—		20(Crank case heater)		
Operation control	Remote control		(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-E-E3				
	Room temperature control		Thermostat by electronics				
	Operation display		—				
Safety equipments			Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection				
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 9.52 (3/8") Pipe φ 9.52(3/8")x0.8 O/U φ 9.52 (3/8") Gas line: φ 15.88 (5/8") φ 15.88(5/8")x1.0 φ 15.88 (5/8")				
	Connecting method		Flare piping		Flare piping		
	Attached length of piping	m	—		—		
	Insulation for piping		Necessary (both Liquid & Gas lines)				
	Refrigerant line (one way) length	m	Max.100m				
	Vertical height diff. between O/U and I/U	m	Max.30m (Outdoor unit is higher)		Max.15m (Outdoor unit is lower)		
Drain hose			Hose connectable with VP20(O.D.26)		Hole size φ 20 x 3 pcs		
Drain pump, max lift height	mm		—		—		
Recommended breaker size	A		—				
L.R.A. (Locked rotor ampere)	A		5.0				
Interconnecting wires	Size x Core number		φ 1.6mmx3 cores + earth cable / Terminal block (Screw fixing type)				
IP number			IPX0		IP24		
Standard accessories			Mounting kit, Drain hose		Edging		
Option parts			Motion sensor : LB-E				
Notes	(1) The data are measured at the following conditions.		The pipe length is 7.5m.				
	Item	Indoor air temperature	Outdoor air temperature		Standards		
	Operation	DB	WB	DB	WB	ISO5151-T1	
	Cooling	27°C	19°C	35°C	24°C		
	Heating	20°C	—	7°C	6°C		
	(2) This air-conditioner is manufactured and tested in conformity with the ISO.						
	(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.						
	(4) Select the breaker size according to the own national standard.						
	(5) The operation data indicate when the air-conditioner is operated at 400V 50Hz or 380V 60Hz.						

(b) Twin type

Item		Model	FDE71VNXPGV			
			Indoor unit FDE40VG (2 units)	Outdoor unit FDC71VNX		
Power source			1 Phase 220-240V 50Hz / 220V 60Hz			
Operation data	Nominal cooling capacity (range)	kW	7.1 [3.2(Min.)-8.0(Max.)]			
	Nominal heating capacity (range)	kW	8.0 [3.6(Min.)-9.0(Max.)]			
	Power consumption	Cooling	kW	2.05		
		Heating		2.35		
	Max power consumption		3.84			
	Running current	Cooling	A	9.1 / 9.5		
		Heating		10.4 / 10.9		
	Inrush current, max current		5 , 17			
	Power factor	Cooling	%	98		
		Heating		98		
	EER	Cooling		3.46		
	COP	Heating		3.40		
	Sound power level	Cooling	dB(A)	60		
Heating		66				
Sound pressure level	Cooling	dB(A)	P-Hi : 46 Hi : 38 Me : 36 Lo : 31			
	Heating		51			
Silent mode sound pressure level			48			
Exterior dimensions (Height x Width x Depth)		mm	210 x 1,070 x 690			
Exterior appearance (Munsell color)			Plaster white (6.8Y8.9/0.2)near equivalent			
Net weight		kg	28			
Compressor type & Q'ty			RMT5118MDE2 (Twin rotary type) x1			
Compressor motor (Starting method)		kW	Direct line start			
Refrigerant oil (Amount, type)		ℓ	0.675 (M-MA68)			
Refrigerant (Type, amount, pre-charge length)		kg	R410A 2.95kg in outdoor unit (Incl. the amount for the piping of : 30m)			
Heat exchanger			Louver fin & inner grooved tubing			
Refrigerant control			Electronic expansion valve			
Fan type & Q'ty			Centrifugal fan x2			
Fan motor (Starting method)		W	30 < Direct line start >			
Air flow	Cooling	m³/min	P-Hi : 13 Hi : 10 Me : 9 Lo : 7			
	Heating		60			
Available external static pressure		Pa	0			
Outside air intake			Not possible			
Air filter, Quality / Quantity			Pocket plastic net x2(Washable)			
Shock & vibration absorber			Rubber sleeve(for fan motor)			
Electric heater		W	20(Crank case heater)			
Operation control	Remote control		(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-E-E3			
	Room temperature control		Thermostat by electronics			
	Operation display		-			
Safety equipments			Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection			
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 6.35 (1/4") ② φ 9.52(3/8")x0.8 ① φ 9.52(3/8")x0.8 O/U φ 9.52 (3/8") Gas line: I/U φ 12.7 (1/2") ② φ 12.7(1/2")x0.8 ① φ 15.88(5/8")x1.0 O/U φ 15.88 (5/8")			
	Connecting method		Flare piping			
	Attached length of piping	m	-			
	Insulation for piping		Necessary (both Liquid & Gas lines)			
	Refrigerant line (one way) length	m	Max.50m			
	Vertical height diff. between O/U and I/U	m	Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)			
Drain hose			Hose connectable with VP20(O.D.26) Hole size φ 20 x 3 pcs			
Drain pump, max lift height	mm		-			
Recommended breaker size	A		-			
L.R.A. (Locked rotor ampere)	A		5.0			
Interconnecting wires	Size x Core number		φ 1.6mmx3 cores + earth cable / Terminal block (Screw fixing type)			
IP number			IPX0			
Standard accessories			Mounting kit, Drain hose			
Option parts			Motion sensor : LB-E			
Notes		(1) The data are measured at the following conditions. The pipe length is 7.5m.				
Operation	Item	Indoor air temperature		Outdoor air temperature		Standards
		DB	WB	DB	WB	
	Cooling	27°C	19°C	35°C	24°C	
Heating	20°C	-	7°C	6°C		
(2) This air-conditioner is manufactured and tested in conformity with the ISO.						
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.						
(4) Select the breaker size according to the own national standard.						
(5) The operation data indicate when the air-conditioner is operated at 230V 50Hz or 220V 60Hz.						
(6) Indoor unit specification for one unit. Capacity and operation data are two indoor units combined and run together.						
(7) Branching pipe set "DIS-WA1G"x1(option). ① : Pipe of O/U-Branch, ② : Pipe of Branch-I/U						

Item		Model	FDE100VNXPGV			
			Indoor unit FDE50VG (2 units)	Outdoor unit FDC100VNX		
Power source			1 Phase 220-240V 50Hz / 220V 60Hz			
Operation data	Nominal cooling capacity (range)	kW	10.0 [4.0(Min.)-11.2(Max.)]			
	Nominal heating capacity (range)	kW	11.2 [4.0(Min.)-12.5(Max.)]			
	Power consumption	Cooling	kW	3.00		
		Heating		3.39		
	Max power consumption		5.58			
	Running current	Cooling	A	13.3 / 13.9		
		Heating		15.0 / 15.7		
	Inrush current, max current		5 , 24			
	Power factor	Cooling	%	98		
		Heating		98		
	EER	Cooling		3.33		
	COP	Heating		3.30		
	Sound power level	Cooling	dB(A)	60	70	
Heating						
Sound pressure level	Cooling	dB(A)	P-Hi : 46 Hi : 38 Me : 36 Lo : 31			
	Heating					
Silent mode sound pressure level			-			
Exterior dimensions (Height x Width x Depth)	mm	210 x 1,070 x 690		1,300x970x370		
Exterior appearance (Munsell color)		Plaster white (6.8Y8.9/0.2)near equivalent		Stucco white (4.2Y7.5/1.1)near equivalent		
Net weight	kg	28		105		
Compressor type & Q'ty		-		RMT5134MDE2 (Twin rotary type)x1		
Compressor motor (Starting method)	kW	-		Direct line start		
Refrigerant oil (Amount, type)	ℓ	-		0.9 (M-MA68)		
Refrigerant (Type, amount, pre-charge length)	kg	R410A 4.5kg in outdoor unit (Incl. the amount for the piping of : 30m)				
Heat exchanger		Louver fin & inner grooved tubing		M shape fin & inner grooved tubing		
Refrigerant control		Electronic expansion valve				
Fan type & Q'ty		Centrifugal fan x2		Propeller fan x2		
Fan motor (Starting method)	W	30 < Direct line start >		86 x2 < Direct line start >		
Air flow	Cooling	m³/min	P-Hi : 13 Hi : 10 Me : 9 Lo : 7			
	Heating		100			
Available external static pressure	Pa	0				
Outside air intake		Not possible				
Air filter, Quality / Quantity		Pocket plastic net x2(Washable)				
Shock & vibration absorber		Rubber sleeve(for fan motor)		Rubber sleeve(for compressor)		
Electric heater	W	-		20(Crank case heater)		
Operation control	Remote control	(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-E-E3				
	Room temperature control	Thermostat by electronics				
	Operation display	-				
Safety equipments		Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection				
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U ϕ 6.35 (1/4") ② ϕ 9.52(3/8")x0.8 ① ϕ 9.52(3/8")x0.8 O/U ϕ 9.52 (3/8") Gas line: I/U ϕ 12.7 (1/2") ② ϕ 12.7(1/2")x0.8 ① ϕ 15.88(5/8")x1.0 O/U ϕ 15.88 (5/8")			
	Connecting method		Flare piping			
	Attached length of piping	m	-			
	Insulation for piping		Necessary (both Liquid & Gas lines)			
	Refrigerant line (one way) length	m	Max.100m			
	Vertical height diff. between O/U and I/U	m	Max.30m (Outdoor unit is higher)		Max.15m (Outdoor unit is lower)	
Drain hose		Hose connectable with VP20(O.D.26)		Hole size ϕ 20 x 3 pcs		
Drain pump, max lift height	mm	-				
Recommended breaker size	A	-				
L.R.A. (Locked rotor ampere)	A	5.0				
Interconnecting wires	Size x Core number	ϕ 1.6mmx3 cores + earth cable / Terminal block (Screw fixing type)				
IP number		IPX0		IP24		
Standard accessories		Mounting kit, Drain hose		Edging		
Option parts		Motion sensor : LB-E				
Notes		(1) The data are measured at the following conditions. The pipe length is 7.5m.				
Operation	Item	Indoor air temperature		Outdoor air temperature		Standards
		DB	WB	DB	WB	
	Cooling	27°C	19°C	35°C	24°C	
Heating	20°C	-	7°C	6°C		
(2) This air-conditioner is manufactured and tested in conformity with the ISO.						
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.						
(4) Select the breaker size according to the own national standard.						
(5) The operation data indicate when the air-conditioner is operated at 230V 50Hz or 220V 60Hz.						
(6) Indoor unit specification for one unit. Capacity and operation data are two indoor units combined and run together.						
(7) Branching pipe set "DIS-WA1G"x1(option). ① : Pipe of O/U-Branch, ② : Pipe of Branch-I/U						

Item		Model	FDE100VSPVPG			
			Indoor unit FDE50VG (2 units)	Outdoor unit FDC100VSX		
Power source			3 Phase 380-415V 50Hz / 380V 60Hz			
Operation data	Nominal cooling capacity (range)	kW	10.0 [4.0(Min.)-11.2(Max.)]			
	Nominal heating capacity (range)	kW	11.2 [4.0(Min.)-16.0(Max.)]			
	Power consumption	Cooling	kW	3.00		
		Heating		3.39		
	Max power consumption		6.98			
	Running current	Cooling	A	4.4 / 4.6		
		Heating		4.9 / 5.2		
	Inrush current, max current		5 , 15			
	Power factor	Cooling	%	99		
		Heating		99		
	EER	Cooling		3.33		
	COP	Heating		3.30		
	Sound power level	Cooling	dB(A)	60	70	
Heating		P-Hi : 46 Hi : 38 Me : 36 Lo : 31				
Sound pressure level	Cooling		48			
	Heating		50			
Silent mode sound pressure level			-			
Exterior dimensions (Height x Width x Depth)	mm	210 x 1,070 x 690		1,300x970x370		
Exterior appearance (Munsell color)		Plaster white (6.8Y8.9/0.2)near equivalent		Stucco white (4.2Y7.5/1.1)near equivalent		
Net weight	kg	28		105		
Compressor type & Q'ty		-		RMT5134MDE3 (Twin rotary type)x1		
Compressor motor (Starting method)	kW	-		Direct line start		
Refrigerant oil (Amount, type)	ℓ	-		0.9 (M-MA68)		
Refrigerant (Type, amount, pre-charge length)	kg	R410A 4.5kg in outdoor unit (Incl. the amount for the piping of : 30m)				
Heat exchanger		Louver fin & inner grooved tubing		M shape fin & inner grooved tubing		
Refrigerant control		Electronic expansion valve				
Fan type & Q'ty		Centrifugal fan x2		Propeller fan x2		
Fan motor (Starting method)	W	30 < Direct line start >		86 x2 < Direct line start >		
Air flow	Cooling	m³/min	P-Hi : 13 Hi : 10 Me : 9 Lo : 7			
	Heating		100			
Available external static pressure	Pa	0				
Outside air intake		Not possible				
Air filter, Quality / Quantity		Pocket plastic net x2(Washable)				
Shock & vibration absorber		Rubber sleeve(for fan motor)		Rubber sleeve(for compressor)		
Electric heater	W	-		20(Crank case heater)		
Operation control	Remote control	(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-E-E3				
	Room temperature control	Thermostat by electronics				
	Operation display	-				
Safety equipments		Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection				
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 6.35 (1/4") ② φ 9.52(3/8")x0.8 ① φ 9.52(3/8")x0.8 O/U φ 9.52 (3/8") Gas line: I/U φ 12.7 (1/2") ② φ 12.7(1/2")x0.8 ① φ 15.88(5/8")x1.0 O/U φ 15.88 (5/8")			
	Connecting method		Flare piping			
	Attached length of piping	m	-			
	Insulation for piping		Necessary (both Liquid & Gas lines)			
	Refrigerant line (one way) length	m	Max.100m			
	Vertical height diff. between O/U and I/U	m	Max.30m (Outdoor unit is higher)		Max.15m (Outdoor unit is lower)	
Drain hose		Hose connectable with VP20(O.D.26)		Hole size φ 20 x 3 pcs		
Drain pump, max lift height	mm	-				
Recommended breaker size	A	-				
L.R.A. (Locked rotor ampere)	A	5.0				
Interconnecting wires	Size x Core number	φ 1.6mmx3 cores + earth cable / Terminal block (Screw fixing type)				
IP number		IPX0		IP24		
Standard accessories		Mounting kit, Drain hose		Edging		
Option parts		Motion sensor : LB-E				
Notes		(1) The data are measured at the following conditions. The pipe length is 7.5m.				
Operation	Item	Indoor air temperature		Outdoor air temperature		Standards
		DB	WB	DB	WB	
	Cooling	27°C	19°C	35°C	24°C	
Heating	20°C	-	7°C	6°C		
(2) This air-conditioner is manufactured and tested in conformity with the ISO.						
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.						
(4) Select the breaker size according to the own national standard.						
(5) The operation data indicate when the air-conditioner is operated at 400V 50Hz or 380V 60Hz.						
(6) Indoor unit specification for one unit. Capacity and operation data are two indoor units combined and run together.						
(7) Branching pipe set "DIS-WA1G"x1(option). ① : Pipe of O/U-Branch, ② : Pipe of Branch-I/U						

Item		Model	FDE125VNXPGV			
			Indoor unit FDE60VG (2 units)	Outdoor unit FDC125VNX		
Power source			1 Phase 220-240V 50Hz / 220V 60Hz			
Operation data	Nominal cooling capacity (range)	kW	12.5 [5.0(Min.)-14.0(Max.)]			
	Nominal heating capacity (range)	kW	14.0 [4.0(Min.)-17.0(Max.)]			
	Power consumption	Cooling	kW	3.97		
		Heating		3.70		
	Max power consumption		6.50			
	Running current	Cooling	A	17.6 / 18.4		
		Heating		16.4 / 17.2		
	Inrush current, max current		5 , 26			
	Power factor	Cooling	%	98		
		Heating		98		
	EER	Cooling		3.15		
	COP	Heating		3.78		
	Sound power level	Cooling	dB(A)	60		
Heating		70				
Sound pressure level	Cooling	dB(A)	P-Hi : 47 Hi : 41 Me : 37 Lo : 32			
	Heating		48			
Silent mode sound pressure level			50			
Exterior dimensions (Height x Width x Depth)		mm	210 × 1,320 × 690			
Exterior appearance (Munsell color)			Plaster white (6.8Y8.9/0.2)near equivalent			
Net weight		kg	33			
Compressor type & Q'ty			RMT5134MDE2 (Twin rotary type)×1			
Compressor motor (Starting method)		kW	Direct line start			
Refrigerant oil (Amount, type)		ℓ	0.9 (M-MA68)			
Refrigerant (Type, amount, pre-charge length)		kg	R410A 4.5kg in outdoor unit (Incl. the amount for the piping of : 30m)			
Heat exchanger			Louver fin & inner grooved tubing			
Refrigerant control			Electronic expansion valve			
Fan type & Q'ty			Centrifugal fan ×4			
Fan motor (Starting method)		W	50 < Direct line start >			
Air flow	Cooling	m³/min	P-Hi : 20 Hi : 16 Me : 13 Lo : 10			
	Heating		100			
Available external static pressure		Pa	0			
Outside air intake			Not possible			
Air filter, Quality / Quantity			Pocket plastic net ×2(Washable)			
Shock & vibration absorber			Rubber sleeve(for fan motor)			
Electric heater		W	20(Crank case heater)			
Operation control	Remote control		(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-E-E3			
	Room temperature control		Thermostat by electronics			
	Operation display		-			
Safety equipments			Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection			
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 6.35 (1/4") ② φ 9.52(3/8")×0.8 ① φ 9.52(3/8")×0.8 O/U φ 9.52 (3/8")			
			Gas line: I/U φ 12.7 (1/2") ② φ 12.7(1/2")×0.8 ① φ 15.88(5/8")×1.0 O/U φ 15.88 (5/8")			
	Connecting method		Flare piping			
	Attached length of piping	m	-			
	Insulation for piping		Necessary (both Liquid & Gas lines)			
	Refrigerant line (one way) length	m	Max.100m			
Vertical height diff. between O/U and I/U	m	Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)				
Drain hose		Hose connectable with VP20(O.D.26) Hole size φ 20 x 3 pcs				
Drain pump, max lift height	mm	-				
Recommended breaker size	A	-				
L.R.A. (Locked rotor ampere)	A	5.0				
Interconnecting wires	Size x Core number	φ 1.6mm×3 cores + earth cable / Terminal block (Screw fixing type)				
IP number		IPX0				
Standard accessories		Mounting kit, Drain hose				
Option parts		Motion sensor : LB-E				
Notes		(1) The data are measured at the following conditions. The pipe length is 7.5m.				
Operation	Item	Indoor air temperature		Outdoor air temperature		Standards
		DB	WB	DB	WB	
	Cooling	27°C	19°C	35°C	24°C	
Heating	20°C	-	7°C	6°C		
(2) This air-conditioner is manufactured and tested in conformity with the ISO.						
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.						
(4) Select the breaker size according to the own national standard.						
(5) The operation data indicate when the air-conditioner is operated at 230V 50Hz or 220V 60Hz.						
(6) Indoor unit specification for one unit. Capacity and operation data are two indoor units combined and run together.						
(7) Branching pipe set "DIS-WA1G"×1(option). ① : Pipe of O/U-Branch, ② : Pipe of Branch-I/U						

Item		Model	FDE125VSPVG			
			Indoor unit FDE60VG (2 units)	Outdoor unit FDC125VSX		
Power source			3 Phase 380-415V 50Hz / 380V 60Hz			
Operation data	Nominal cooling capacity (range)	kW	12.5 [5.0(Min.)-14.0(Max.)]			
	Nominal heating capacity (range)	kW	14.0 [4.0(Min.)-18.0(Max.)]			
	Power consumption	Cooling	kW	3.97		
		Heating		3.70		
	Max power consumption		8.12			
	Running current	Cooling	A	5.8 / 6.2		
		Heating		5.4 / 5.7		
	Inrush current, max current		5 , 15			
	Power factor	Cooling	%	98		
		Heating		99		
	EER	Cooling		3.15		
	COP	Heating		3.78		
	Sound power level	Cooling	dB(A)	60		
Heating		70				
Sound pressure level	Cooling	dB(A)	P-Hi : 47 Hi : 41 Me : 37 Lo : 32			
	Heating		48			
Silent mode sound pressure level			50			
Exterior dimensions (Height x Width x Depth)		mm	210 x 1,320 x 690			
Exterior appearance (Munsell color)			Plaster white (6.8Y8.9/0.2)near equivalent			
Net weight		kg	33			
Compressor type & Q'ty			RMT5134MDE3 (Twin rotary type) x1			
Compressor motor (Starting method)		kW	Direct line start			
Refrigerant oil (Amount, type)		ℓ	0.9 (M-MA68)			
Refrigerant (Type, amount, pre-charge length)		kg	R410A 4.5kg in outdoor unit (Incl. the amount for the piping of : 30m)			
Heat exchanger			Louver fin & inner grooved tubing			
Refrigerant control			Electronic expansion valve			
Fan type & Q'ty			Centrifugal fan x4			
Fan motor (Starting method)		W	50 < Direct line start >			
Air flow	Cooling	m³/min	P-Hi : 20 Hi : 16 Me : 13 Lo : 10			
	Heating		100			
Available external static pressure		Pa	0			
Outside air intake			Not possible			
Air filter, Quality / Quantity			Pocket plastic net x2(Washable)			
Shock & vibration absorber			Rubber sleeve(for fan motor)			
Electric heater		W	20(Crank case heater)			
Operation control	Remote control		(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-E-E3			
	Room temperature control		Thermostat by electronics			
	Operation display		-			
Safety equipments			Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection			
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 6.35 (1/4") ② φ 9.52(3/8")x0.8 ① φ 9.52(3/8")x0.8 O/U φ 9.52 (3/8") Gas line: I/U φ 12.7 (1/2") ② φ 12.7(1/2")x0.8 ① φ 15.88(5/8")x1.0 O/U φ 15.88 (5/8")			
	Connecting method		Flare piping			
	Attached length of piping	m	-			
	Insulation for piping		Necessary (both Liquid & Gas lines)			
	Refrigerant line (one way) length	m	Max.100m			
	Vertical height diff. between O/U and I/U	m	Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)			
Drain hose			Hose connectable with VP20(O.D.26) Hole size φ 20 x 3 pcs			
Drain pump, max lift height	mm		-			
Recommended breaker size	A		-			
L.R.A. (Locked rotor ampere)	A		5.0			
Interconnecting wires	Size x Core number		φ 1.6mmx3 cores + earth cable / Terminal block (Screw fixing type)			
IP number			IPX0			
Standard accessories			Mounting kit, Drain hose			
Option parts			Motion sensor : LB-E			
Notes		(1) The data are measured at the following conditions. The pipe length is 7.5m.				
Operation	Item	Indoor air temperature		Outdoor air temperature		Standards
		DB	WB	DB	WB	
	Cooling	27°C	19°C	35°C	24°C	
Heating	20°C	-	7°C	6°C		
(2) This air-conditioner is manufactured and tested in conformity with the ISO.						
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.						
(4) Select the breaker size according to the own national standard.						
(5) The operation data indicate when the air-conditioner is operated at 400V 50Hz or 380V 60Hz.						
(6) Indoor unit specification for one unit. Capacity and operation data are two indoor units combined and run together.						
(7) Branching pipe set "DIS-WA1G" x1(option). ① : Pipe of O/U-Branch, ② : Pipe of Branch-I/U						

Item		Model	FDE140VNXPGV			
			Indoor unit FDE71VG (2 units)	Outdoor unit FDC140VNX		
Power source			1 Phase 220-240V 50Hz / 220V 60Hz			
Operation data	Nominal cooling capacity (range)	kW	14.0 [5.0(Min.)-16.0(Max.)]			
	Nominal heating capacity (range)	kW	16.0 [4.0(Min.)-18.0(Max.)]			
	Power consumption	Cooling	kW	4.67		
		Heating		4.58		
	Max power consumption		6.94			
	Running current	Cooling	A	20.7 / 21.7		
		Heating		20.3 / 21.2		
	Inrush current, max current		5 , 26			
	Power factor	Cooling	%	98		
		Heating		98		
	EER	Cooling		3.00		
	COP	Heating		3.49		
	Sound power level	Cooling	dB(A)	60		
Heating		72				
Sound pressure level	Cooling	dB(A)	P-Hi : 47 Hi : 41 Me : 37 Lo : 32			
	Heating		49			
Silent mode sound pressure level			52			
Exterior dimensions (Height x Width x Depth)		mm	210 × 1,320 × 690			
Exterior appearance (Munsell color)			Plaster white (6.8Y8.9/0.2)near equivalent			
Net weight		kg	33			
Compressor type & Q'ty			RMT5134MDE2 (Twin rotary type)x1			
Compressor motor (Starting method)		kW	Direct line start			
Refrigerant oil (Amount, type)		ℓ	0.9 (M-MA68)			
Refrigerant (Type, amount, pre-charge length)		kg	R410A 4.5kg in outdoor unit (Incl. the amount for the piping of : 30m)			
Heat exchanger			Louver fin & inner grooved tubing			
Refrigerant control			Electronic expansion valve			
Fan type & Q'ty			Centrifugal fan x4			
Fan motor (Starting method)		W	50 < Direct line start >			
Air flow	Cooling	m³/min	P-Hi : 20 Hi : 16 Me : 13 Lo : 10			
	Heating		100			
Available external static pressure		Pa	0			
Outside air intake			Not possible			
Air filter, Quality / Quantity			Pocket plastic net x2(Washable)			
Shock & vibration absorber			Rubber sleeve(for fan motor)			
Electric heater		W	20(Crank case heater)			
Operation control	Remote control		(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-E-E3			
	Room temperature control		Thermostat by electronics			
	Operation display		-			
Safety equipments			Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection			
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 9.52 (3/8") ② φ 9.52(3/8")x0.8 ① φ 9.52(3/8")x0.8 O/U φ 9.52 (3/8")			
			Gas line: I/U φ 15.88 (5/8") ② φ 15.88(5/8")x1.0 ① φ 15.88(5/8")x1.0 O/U φ 15.88 (5/8")			
	Connecting method		Flare piping			
	Attached length of piping	m	-			
	Insulation for piping		Necessary (both Liquid & Gas lines)			
	Refrigerant line (one way) length	m	Max.100m			
Vertical height diff. between O/U and I/U	m	Max.30m (Outdoor unit is higher)				
Drain hose		Hose connectable with VP20(O.D.26)				
Drain pump, max lift height	mm	-				
Recommended breaker size	A	-				
L.R.A. (Locked rotor ampere)	A	5.0				
Interconnecting wires	Size x Core number	φ 1.6mmx3 cores + earth cable / Terminal block (Screw fixing type)				
IP number		IPX0				
Standard accessories		Mounting kit, Drain hose				
Option parts		Motion sensor : LB-E				
Notes		(1) The data are measured at the following conditions. The pipe length is 7.5m.				
Operation	Item	Indoor air temperature		Outdoor air temperature		Standards
		DB	WB	DB	WB	
	Cooling	27°C	19°C	35°C	24°C	
Heating	20°C	-	7°C	6°C		
(2) This air-conditioner is manufactured and tested in conformity with the ISO.						
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.						
(4) Select the breaker size according to the own national standard.						
(5) The operation data indicate when the air-conditioner is operated at 230V 50Hz or 220V 60Hz.						
(6) Indoor unit specification for one unit. Capacity and operation data are two indoor units combined and run together.						
(7) Branching pipe set "DIS-WA1G"x1(option). ① : Pipe of O/U-Branch, ② : Pipe of Branch-I/U						

Item		Model	FDE140VSPVG			
			Indoor unit FDE71VG (2 units)	Outdoor unit FDC140VSX		
Power source			3 Phase 380-415V 50Hz / 380V 60Hz			
Operation data	Nominal cooling capacity (range)	kW	14.0 [5.0(Min.)-16.0(Max.)]			
	Nominal heating capacity (range)	kW	16.0 [4.0(Min.)-20.0(Max.)]			
	Power consumption	Cooling	kW	4.67		
		Heating		4.58		
	Max power consumption		8.68			
	Running current	Cooling	A	6.8 / 7.2		
		Heating		6.7 / 7.1		
	Inrush current, max current		5 , 15			
	Power factor	Cooling	%	99		
		Heating		98		
	EER	Cooling		3.00		
	COP	Heating		3.49		
	Sound power level	Cooling	dB(A)	60		
Heating		72				
Sound pressure level	Cooling	dB(A)	P-Hi : 47 Hi : 41 Me : 37 Lo : 32			
	Heating		49			
Silent mode sound pressure level			52			
Exterior dimensions (Height x Width x Depth)		mm	210 × 1,320 × 690			
Exterior appearance (Munsell color)			Plaster white (6.8Y8.9/0.2)near equivalent			
Net weight		kg	33			
Compressor type & Q'ty			RMT5134MDE3 (Twin rotary type)×1			
Compressor motor (Starting method)		kW	Direct line start			
Refrigerant oil (Amount, type)		ℓ	0.9 (M-MA68)			
Refrigerant (Type, amount, pre-charge length)		kg	R410A 4.5kg in outdoor unit (Incl. the amount for the piping of : 30m)			
Heat exchanger			Louver fin & inner grooved tubing			
Refrigerant control			Electronic expansion valve			
Fan type & Q'ty			Centrifugal fan ×4			
Fan motor (Starting method)		W	50 < Direct line start >			
Air flow	Cooling	m³/min	P-Hi : 20 Hi : 16 Me : 13 Lo : 10			
	Heating		100			
Available external static pressure		Pa	0			
Outside air intake			Not possible			
Air filter, Quality / Quantity			Pocket plastic net ×2(Washable)			
Shock & vibration absorber			Rubber sleeve(for fan motor)			
Electric heater		W	20(Crank case heater)			
Operation control	Remote control		(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-E-E3			
	Room temperature control		Thermostat by electronics			
	Operation display		-			
Safety equipments			Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection			
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 9.52 (3/8") ② φ 9.52(3/8")×0.8 ① φ 9.52(3/8")×0.8 O/U φ 9.52 (3/8")			
	Gas line: I/U φ 15.88 (5/8") ② φ 15.88(5/8")×1.0 ① φ 15.88(5/8")×1.0 O/U φ 15.88 (5/8")					
	Connecting method		Flare piping			
	Attached length of piping	m	-			
	Insulation for piping		Necessary (both Liquid & Gas lines)			
	Refrigerant line (one way) length	m	Max.100m			
Vertical height diff. between O/U and I/U	m	Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)				
Drain hose		Hose connectable with VP20(O.D.26) Hole size φ 20 x 3 pcs				
Drain pump, max lift height	mm	-				
Recommended breaker size	A	-				
L.R.A. (Locked rotor ampere)	A	5.0				
Interconnecting wires	Size x Core number	φ 1.6mm×3 cores + earth cable / Terminal block (Screw fixing type)				
IP number		IPX0				
Standard accessories		Mounting kit, Drain hose				
Option parts		Motion sensor : LB-E				
Notes		(1) The data are measured at the following conditions. The pipe length is 7.5m.				
Operation	Item	Indoor air temperature		Outdoor air temperature		Standards
		DB	WB	DB	WB	
	Cooling	27°C	19°C	35°C	24°C	
Heating	20°C	-	7°C	6°C		
(2) This air-conditioner is manufactured and tested in conformity with the ISO.						
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.						
(4) Select the breaker size according to the own national standard.						
(5) The operation data indicate when the air-conditioner is operated at 400V 50Hz or 380V 60Hz.						
(6) Indoor unit specification for one unit. Capacity and operation data are two indoor units combined and run together.						
(7) Branching pipe set "DIS-WA1G"×1(option). ① : Pipe of O/U-Branch, ② : Pipe of Branch-I/U						

(c) Triple type

Item		Model	FDE140VNXTVG			
			Indoor unit FDE50VG (3 units)	Outdoor unit FDC140VNX		
Power source			1 Phase 220-240V 50Hz / 220V 60Hz			
Operation data	Nominal cooling capacity (range)	kW	14.0 [5.0(Min.)-16.0(Max.)]			
	Nominal heating capacity (range)	kW	16.0 [4.0(Min.)-18.0(Max.)]			
	Power consumption	Cooling	kW	4.66		
		Heating		4.53		
	Max power consumption		6.86			
	Running current	Cooling	A	20.7 / 21.6		
		Heating		20.1 / 21.0		
	Inrush current, max current		5 , 26			
	Power factor	Cooling	%	98		
		Heating		98		
	EER	Cooling		3.00		
	COP	Heating		3.53		
	Sound power level	Cooling	dB(A)	60		
Heating		72				
Sound pressure level	Cooling	dB(A)	P-Hi : 46 Hi : 38 Me : 36 Lo : 31			
	Heating		49			
Silent mode sound pressure level			52			
Exterior dimensions (Height x Width x Depth)		mm	210 × 1,070 × 690			
Exterior appearance (Munsell color)			Plaster white (6.8Y8.9/0.2)near equivalent			
Net weight		kg	28			
Compressor type & Q'ty			RMT5134MDE2 (Twin rotary type)x1			
Compressor motor (Starting method)		kW	Direct line start			
Refrigerant oil (Amount, type)		ℓ	0.9 (M-MA68)			
Refrigerant (Type, amount, pre-charge length)		kg	R410A 4.5kg in outdoor unit (Incl. the amount for the piping of : 30m)			
Heat exchanger			Louver fin & inner grooved tubing			
Refrigerant control			Electronic expansion valve			
Fan type & Q'ty			Centrifugal fan x2			
Fan motor (Starting method)		W	30 < Direct line start >			
Air flow		m³/min	P-Hi : 13 Hi : 10 Me : 9 Lo : 7			
Available external static pressure		Pa	0			
Outside air intake			Not possible			
Air filter, Quality / Quantity			Pocket plastic net x2(Washable)			
Shock & vibration absorber			Rubber sleeve(for fan motor)			
Electric heater		W	20(Crank case heater)			
Operation control	Remote control		(Option) Wired : RC-EX3 , RC-E5 , RCH-E3			
	Room temperature control		Wireless : RCN-E-E3			
	Operation display		Thermostat by electronics			
Safety equipments			Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection			
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 6.35 (1/4") ② φ 9.52(3/8")x0.8 ① φ 9.52(3/8")x0.8 O/U φ 9.52 (3/8")			
	Gas line: I/U φ 12.7 (1/2") ② φ 12.7(1/2")x0.8 ① φ 15.88(5/8")x1.0 O/U φ 15.88 (5/8")					
	Connecting method		Flare piping			
	Attached length of piping	m	-			
	Insulation for piping		Necessary (both Liquid & Gas lines)			
	Refrigerant line (one way) length	m	Max.100m			
Vertical height diff. between O/U and I/U	m	Max.30m (Outdoor unit is higher)				
Drain hose		Hose connectable with VP20(O.D.26)				
Drain pump, max lift height	mm	-				
Recommended breaker size	A	-				
L.R.A. (Locked rotor ampere)	A	5.0				
Interconnecting wires	Size x Core number	φ 1.6mmx3 cores + earth cable / Terminal block (Screw fixing type)				
IP number		IPX0				
Standard accessories		Mounting kit, Drain hose				
Option parts		Motion sensor : LB-E				
Notes		(1) The data are measured at the following conditions. The pipe length is 7.5m.				
Operation	Item	Indoor air temperature		Outdoor air temperature		Standards
		DB	WB	DB	WB	
	Cooling	27°C	19°C	35°C	24°C	
Heating	20°C	-	7°C	6°C		
(2) This air-conditioner is manufactured and tested in conformity with the ISO.						
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.						
(4) Select the breaker size according to the own national standard.						
(5) The operation data indicate when the air-conditioner is operated at 230V 50Hz or 220V 60Hz.						
(6) Indoor unit specification for one unit. Capacity and operation data are three indoor units combined and run together.						
(7) Branching pipe set "DIS-TA1G"x1(option). ① : Pipe of O/U-Branch, ② : Pipe of Branch-I/U						

Item		Model	FDE140VSXTVG			
			Indoor unit FDE50VG (3 units)	Outdoor unit FDC140VSX		
Power source			3 Phase 380-415V 50Hz / 380V 60Hz			
Operation data	Nominal cooling capacity (range)	kW	14.0 [5.0(Min.)-16.0(Max.)]			
	Nominal heating capacity (range)	kW	16.0 [4.0(Min.)-20.0(Max.)]			
	Power consumption	Cooling	kW	4.66		
		Heating		4.53		
	Max power consumption		8.58			
	Running current	Cooling	A	6.9 / 7.2		
		Heating		6.7 / 7.0		
	Inrush current, max current		5 , 15			
	Power factor	Cooling	%	99		
		Heating		98		
	EER	Cooling		3.00		
	COP	Heating		3.53		
	Sound power level	Cooling	dB(A)	60		
Heating		72				
Sound pressure level	Cooling	dB(A)	P-Hi : 46 Hi : 38 Me : 36 Lo : 31			
	Heating		49			
Silent mode sound pressure level			52			
Exterior dimensions (Height x Width x Depth)		mm	210 x 1,070 x 690			
Exterior appearance (Munsell color)			Plaster white (6.8Y8.9/0.2)near equivalent			
Net weight		kg	28			
Compressor type & Q'ty			RMT5134MDE3 (Twin rotary type) x1			
Compressor motor (Starting method)		kW	Direct line start			
Refrigerant oil (Amount, type)		ℓ	0.9 (M-MA68)			
Refrigerant (Type, amount, pre-charge length)		kg	R410A 4.5kg in outdoor unit (Incl. the amount for the piping of : 30m)			
Heat exchanger			Louver fin & inner grooved tubing			
Refrigerant control			Electronic expansion valve			
Fan type & Q'ty			Centrifugal fan x2			
Fan motor (Starting method)		W	30 < Direct line start >			
Air flow	Cooling	m³/min	P-Hi : 13 Hi : 10 Me : 9 Lo : 7			
	Heating		100			
Available external static pressure		Pa	0			
Outside air intake			Not possible			
Air filter, Quality / Quantity			Pocket plastic net x2(Washable)			
Shock & vibration absorber			Rubber sleeve(for fan motor)			
Electric heater		W	20(Crank case heater)			
Operation control	Remote control		(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-E-E3			
	Room temperature control		Thermostat by electronics			
	Operation display		-			
Safety equipments			Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection			
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 6.35 (1/4") ② φ 9.52(3/8")x0.8 ① φ 9.52(3/8")x0.8 O/U φ 9.52 (3/8") Gas line: I/U φ 12.7 (1/2") ② φ 12.7(1/2")x0.8 ① φ 15.88(5/8")x1.0 O/U φ 15.88 (5/8")			
	Connecting method		Flare piping			
	Attached length of piping	m	-			
	Insulation for piping		Necessary (both Liquid & Gas lines)			
	Refrigerant line (one way) length	m	Max.100m			
	Vertical height diff. between O/U and I/U	m	Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)			
Drain hose		Hose connectable with VP20(O.D.26) Hole size φ 20 x 3 pcs				
Drain pump, max lift height	mm	-				
Recommended breaker size	A	-				
L.R.A. (Locked rotor ampere)	A	5.0				
Interconnecting wires	Size x Core number	φ 1.6mmx3 cores + earth cable / Terminal block (Screw fixing type)				
IP number		IPX0				
Standard accessories		Mounting kit, Drain hose				
Option parts		Motion sensor : LB-E				
Notes	(1) The data are measured at the following conditions. The pipe length is 7.5m.					
	Item	Indoor air temperature		Outdoor air temperature	Standards	
Operation		DB	WB	DB		WB
Cooling		27°C	19°C	35°C		24°C
Heating		20°C	-	7°C		6°C
(2) This air-conditioner is manufactured and tested in conformity with the ISO.						
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.						
(4) Select the breaker size according to the own national standard.						
(5) The operation data indicate when the air-conditioner is operated at 400V 50Hz or 380V 60Hz.						
(6) Indoor unit specification for one unit. Capacity and operation data are three indoor units combined and run together.						
(7) Branching pipe set "DIS-TA1G"x1(option). ① : Pipe of O/U-Branch, ② : Pipe of Branch-I/U						

(2) Duct connected-Low / Middle static pressure type (FDUM)
(a) Single type

Item		Model	FDUM40ZSXVF				
			Indoor unit FDUM40VF	Outdoor unit SRC40ZSX-S			
Power source			1 Phase 220-240V 50Hz / 220V 60Hz				
Operation data	Nominal cooling capacity (range)	kW	4.0 [1.1(Min.)- 4.7(Max.)]				
	Nominal heating capacity (range)	kW	4.5 [0.6(Min.)- 5.4(Max.)]				
	Power consumption	Cooling	kW	0.952			
		Heating		1.07			
	Max power consumption		2.60				
	Running current	Cooling	A	4.4 / 4.6			
		Heating		4.9 / 5.1			
	Inrush current, max current		5 , 12				
	Power factor	Cooling	%	94			
		Heating		95			
	EER	Cooling		4.20			
	COP	Heating		4.21			
	Sound power level	Cooling	dB(A)	60			
		Heating		63			
Sound pressure level	Cooling	dB(A)	P-Hi : 37 Hi : 32 Me : 29 Lo : 26				
	Heating		50				
Silent mode sound pressure level			49				
Exterior dimensions (Height x Width x Depth)	mm		280 x 750 x 635				
Exterior appearance (Munsell color)			Stucco white (4.2Y7.5/1.1) near equivalent				
Net weight	kg		29				
Compressor type & Q'ty			RMT5113MCE2 (Twin rotary type)x1				
Compressor motor (Starting method)	kW		Direct line start				
Refrigerant oil (Amount, type)	ℓ		0.45 (M-MA68)				
Refrigerant (Type, amount, pre-charge length)	kg		R410A 1.5kg in outdoor unit (Incl. the amount for the piping of : 15m)				
Heat exchanger			Louver fin & inner grooved tubing				
Refrigerant control			M shape fin & inner grooved tubing				
Fan type & Q'ty			Capillary tubes + Electronic expansion valve				
Fan motor (Starting method)	W		Centrifugal fan x1				
Air flow	Cooling	m³/min	100 < Direct line start >				
	Heating		34 < Direct line start >				
Available external static pressure	Pa		Standard : 35 Max : 100				
Outside air intake			Possible				
Air filter, Quality / Quantity			Procure locally				
Shock & vibration absorber			Rubber sleeve(for fan motor)				
Electric heater	W		Rubber sleeve(for compressor)				
Operation control	Remote control		(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-KIT4-E2				
	Room temperature control		Thermostat by electronics				
	Operation display		-				
Safety equipments			Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection				
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 6.35 (1/4") Pipe φ 6.35(1/4")x0.8 O/U φ 6.35 (1/4")				
	Connecting method		Gas line: φ 12.7 (1/2") φ 12.7 (1/2")x0.8 φ 12.7 (1/2")				
	Attached length of piping	m	Flare piping				
	Insulation for piping		Flare piping				
	Refrigerant line (one way) length	m	Necessary (both Liquid & Gas lines)				
	Vertical height diff. between O/U and I/U	m	Max.30m				
Drain hose			Max.20m (Outdoor unit is higher)				
Drain pump, max lift height	mm		Max.20m (Outdoor unit is lower)				
Recommended breaker size	A		Hose connectable VP25(I.D.25, O.D.32)				
L.R.A. (Locked rotor ampere)	A		Hole size φ 20 x 5 pcs				
Interconnecting wires	Size x Core number		Built-in drain pump , 600				
IP number			4.8				
Standard accessories			1.5mm ² x 4 cores (Including earth cable) / Terminal block (Screw fixing type)				
Option parts			IPX0				
			IPX4				
			Mounting kit, Drain hose				
			Drain elbow, Drain hole grommet				
			Filter set : UM-FL1EF, Motion sensor : LB-KIT				
Notes		(1) The data are measured at the following conditions.		The pipe length is 7.5m.			
Operation	Item	Indoor air temperature		Outdoor air temperature		External static pressure of indoor unit	Standards
		DB	WB	DB	WB		
	Cooling	27°C	19°C	35°C	24°C		
Heating	20°C	-	7°C	6°C			
(2) This air-conditioner is manufactured and tested in conformity with the ISO. (3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions. (4) Select the breaker size according to the own national standard. (5) The operation data indicate when the air-conditioner is operated at 230V 50Hz or 220V 60Hz. (6) Static pressure of optional air filter "UM-FL1EF" is 5Pa initially. (7) The external static pressure setting can be changed to 10-100Pa. (For RC-EX3 and RC-E5 only)							

Item		Model	FDUM50ZSXVF				
			Indoor unit FDUM50VF	Outdoor unit SRC50ZSX-S			
Power source			1 Phase 220-240V 50Hz / 220V 60Hz				
Operation data	Nominal cooling capacity (range)	kW	5.0 [1.1(Min.)- 5.6(Max.)]				
	Nominal heating capacity (range)	kW	5.4 [0.6(Min.)- 6.3(Max.)]				
	Power consumption	Cooling	kW	1.38			
		Heating		1.45			
	Max power consumption		2.90				
	Running current	Cooling	A	6.3 / 6.6			
		Heating		6.6 / 6.9			
	Inrush current, max current		5 , 15				
	Power factor	Cooling	%	95			
		Heating		96			
	EER	Cooling		3.62			
	COP	Heating		3.72			
Sound power level	Cooling	dB(A)	60	63			
	Heating						
Sound pressure level	Cooling	dB(A)	P-Hi : 37 Hi : 32 Me : 29 Lo : 26				
	Heating		50 49				
Silent mode sound pressure level			— Cooling : 42 / Heating : 43				
Exterior dimensions (Height x Width x Depth)		mm	280 × 750 × 635	640×800(+71)×290			
Exterior appearance (Munsell color)			—	Stucco white (4.2Y7.5/1.1) near equivalent			
Net weight		kg	29	45			
Compressor type & Q'ty			—	RMT5113MCE2 (Twin rotary type)×1			
Compressor motor (Starting method)		kW	—	Direct line start			
Refrigerant oil (Amount, type)		ℓ	—	0.45 (M-MA68)			
Refrigerant (Type, amount, pre-charge length)		kg	R410A 1.5kg in outdoor unit (Incl. the amount for the piping of : 15m)				
Heat exchanger			Louver fin & inner grooved tubing	M shape fin & inner grooved tubing			
Refrigerant control			Capillary tubes + Electronic expansion valve				
Fan type & Q'ty			Centrifugal fan ×1	Propeller fan ×1			
Fan motor (Starting method)		W	100 < Direct line start >	34 < Direct line start >			
Air flow	Cooling	m ³ /min	P-Hi : 13 Hi : 10 Me : 9 Lo : 8				
	Heating		40 33				
Available external static pressure		Pa	Standard : 35 Max : 100	—			
Outside air intake			Possible	—			
Air filter, Quality / Quantity			Procure locally	—			
Shock & vibration absorber			Rubber sleeve(for fan motor)	Rubber sleeve(for compressor)			
Electric heater		W	—	—			
Operation control	Remote control		(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-KIT4-E2				
	Room temperature control		Thermostat by electronics				
	Operation display		—				
Safety equipments			Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection				
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 6.35 (1/4") Pipe φ 6.35(1/4")×0.8 O/U φ 6.35 (1/4") Gas line: φ 12.7 (1/2") φ 12.7 (1/2")×0.8 φ 12.7 (1/2")				
	Connecting method		Flare piping	Flare piping			
	Attached length of piping	m	—	—			
	Insulation for piping		Necessary (both Liquid & Gas lines)				
	Refrigerant line (one way) length	m	Max.30m				
	Vertical height diff. between O/U and I/U	m	Max.20m (Outdoor unit is higher)	Max.20m (Outdoor unit is lower)			
Drain hose		Hose connectable VP25(I.D.25, O.D.32)		Hole size φ 20 x 5 pcs			
Drain pump, max lift height		mm	Built-in drain pump , 600	—			
Recommended breaker size		A	—				
L.R.A. (Locked rotor ampere)		A	5.0				
Interconnecting wires		Size x Core number	1.5mm ² x 4 cores (Including earth cable) / Terminal block (Screw fixing type)				
IP number			IPX0	IPX4			
Standard accessories			Mounting kit, Drain hose	Drain elbow, Drain hole grommet			
Option parts			Filter set : UM-FL1EF, Motion sensor : LB-KIT				
Notes		(1) The data are measured at the following conditions.			The pipe length is 7.5m.		
Operation	Item	Indoor air temperature		Outdoor air temperature		External static pressure of indoor unit	Standards
		DB	WB	DB	WB		
	Cooling	27°C	19°C	35°C	24°C		
Heating	20°C	—	7°C	6°C			
(2) This air-conditioner is manufactured and tested in conformity with the ISO. (3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions. (4) Select the breaker size according to the own national standard. (5) The operation data indicate when the air-conditioner is operated at 230V 50Hz or 220V 60Hz. (6) Static pressure of optional air filter "UM-FL1EF" is 5Pa initially. (7) The external static pressure setting can be changed to 10-100Pa. (For RC-EX3 and RC-E5 only)							

Item		Model	FDUM60ZSXVF				
			Indoor unit FDUM60VF	Outdoor unit SRC60ZSX-S			
Power source			1 Phase 220-240V 50Hz / 220V 60Hz				
Operation data	Nominal cooling capacity (range)	kW	5.6 [1.1(Min.)- 6.3(Max.)]				
	Nominal heating capacity (range)	kW	6.7 [0.6(Min.)- 7.1(Max.)]				
	Power consumption	Cooling	kW	1.54			
		Heating		1.75			
	Max power consumption		2.90				
	Running current	Cooling	A	6.8 / 7.1			
		Heating		7.8 / 8.2			
	Inrush current, max current		5 , 15				
	Power factor	Cooling	%	98 / 99			
		Heating		98 / 97			
	EER	Cooling		3.64			
	COP	Heating		3.83			
Sound power level	Cooling	dB(A)	60	65			
	Heating			64			
Sound pressure level	Cooling	dB(A)	P-Hi : 36 Hi : 31 Me : 28 Lo : 25				
	Heating		52				
Silent mode sound pressure level			—				
Exterior dimensions (Height x Width x Depth)		mm	280 × 950 × 635	640×800(+71)×290			
Exterior appearance (Munsell color)			—	Stucco white (4.2Y7.5/1.1) near equivalent			
Net weight		kg	34	45			
Compressor type & Q'ty			—	RMT5113MCE2 (Twin rotary type)×1			
Compressor motor (Starting method)		kW	—	Direct line start			
Refrigerant oil (Amount, type)		ℓ	—	0.45 (M-MA68)			
Refrigerant (Type, amount, pre-charge length)		kg	R410A 1.5kg in outdoor unit (Incl. the amount for the piping of : 15m)				
Heat exchanger			Louver fin & inner grooved tubing	M shape fin & inner grooved tubing			
Refrigerant control			Capillary tubes + Electronic expansion valve				
Fan type & Q'ty			Centrifugal fan ×2	Propeller fan ×1			
Fan motor (Starting method)		W	130 < Direct line start >	34 < Direct line start >			
Air flow	Cooling	m ³ /min	P-Hi : 20 Hi : 15 Me : 13 Lo : 10				
	Heating		41.5				
Available external static pressure		Pa	Standard : 35 Max : 100	—			
Outside air intake			Possible	—			
Air filter, Quality / Quantity			Procure locally	—			
Shock & vibration absorber			Rubber sleeve(for fan motor)	Rubber sleeve(for compressor)			
Electric heater		W	—	—			
Operation control	Remote control		(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-KIT4-E2				
	Room temperature control		Thermostat by electronics				
	Operation display		—				
Safety equipments			Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection				
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 6.35 (1/4") Pipe φ 6.35(1/4")×0.8 O/U φ 6.35 (1/4") Gas line: φ 12.7 (1/2") φ 12.7 (1/2")×0.8 φ 12.7 (1/2")				
	Connecting method		Flare piping	Flare piping			
	Attached length of piping	m	—	—			
	Insulation for piping		Necessary (both Liquid & Gas lines)				
	Refrigerant line (one way) length	m	Max.30m				
	Vertical height diff. between O/U and I/U	m	Max.20m (Outdoor unit is higher)	Max.20m (Outdoor unit is lower)			
Drain hose		Hose connectable VP25(I.D.25, O.D.32)		Hole size φ 20 x 5 pcs			
Drain pump, max lift height	mm	Built-in drain pump , 600		—			
Recommended breaker size	A	—					
L.R.A. (Locked rotor ampere)	A	5.0					
Interconnecting wires	Size x Core number	1.5mm ² x 4 cores (Including earth cable) / Terminal block (Screw fixing type)					
IP number		IPX0		IPX4			
Standard accessories		Mounting kit, Drain hose		Drain elbow, Drain hole grommet			
Option parts		Filter set : UM-FL2EF, Motion sensor : LB-KIT					
Notes	(1) The data are measured at the following conditions.			The pipe length is 7.5m.			
	Item	Indoor air temperature		Outdoor air temperature	External static pressure of indoor unit	Standards	
	Operation	DB	WB	DB			WB
	Cooling	27°C	19°C	35°C	24°C	35Pa	ISO5151-T1
	Heating	20°C	—	7°C	6°C		
	(2) This air-conditioner is manufactured and tested in conformity with the ISO.						
	(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.						
	(4) Select the breaker size according to the own national standard.						
	(5) The operation data indicate when the air-conditioner is operated at 230V 50Hz or 220V 60Hz.						
	(6) Static pressure of optional air filter "UM-FL2EF" is 5Pa initially.						
	(7) The external static pressure setting can be changed to 10-100Pa. (For RC-EX3 and RC-E5 only)						

Item		Model	FDUM71VNXVF1				
			Indoor unit FDUM71VF1	Outdoor unit FDC71VNX			
Power source			1 Phase 220-240V 50Hz / 220V 60Hz				
Operation data	Nominal cooling capacity (range)	kW	7.1 [3.2(Min.)-8.0(Max.)]				
	Nominal heating capacity (range)	kW	8.0 [3.6(Min.)-9.0(Max.)]				
	Power consumption	Cooling	kW	2.03			
		Heating		1.99			
	Max power consumption		3.25				
	Running current	Cooling	A	9.0 / 9.4			
		Heating		9.0 / 9.4			
	Inrush current, max current		5 , 17				
	Power factor	Cooling	%	98			
		Heating		96			
	EER	Cooling		3.5			
	COP	Heating		4.02			
	Sound power level	Cooling	dB(A)	65	66		
Heating							
Sound pressure level	Cooling	dB(A)	P-Hi : 38 Hi : 33 Me : 29 Lo : 25	51			
	Heating			48			
Silent mode sound pressure level			—	—			
Exterior dimensions (Height x Width x Depth)	mm		280 × 950 × 635	750×880(+88)×340			
Exterior appearance (Munsell color)			—	Stucco white (4.2Y7.5/1.1) near equivalent			
Net weight	kg		34	60			
Compressor type & Q'ty			—	RMT5118MDE2 (Twin rotary type)×1			
Compressor motor (Starting method)	kW		—	Direct line start			
Refrigerant oil (Amount, type)	ℓ		—	0.675 (M-MA68)			
Refrigerant (Type, amount, pre-charge length)	kg		R410A 2.95kg in outdoor unit (Incl. the amount for the piping of : 30m)				
Heat exchanger			Louver fin & inner grooved tubing	M shape fin & inner grooved tubing			
Refrigerant control			Electronic expansion valve				
Fan type & Q'ty			Centrifugal fan ×2	Propeller fan ×1			
Fan motor (Starting method)	W		130 < Direct line start >	86 < Direct line start >			
Air flow	Cooling	m³/min	P-Hi : 24 Hi : 19 Me : 15 Lo : 10				
	Heating						
Available external static pressure	Pa		Standard : 35 Max : 100	—			
Outside air intake			Possible	—			
Air filter, Quality / Quantity			Procure locally	—			
Shock & vibration absorber			Rubber sleeve(for fan motor)	Rubber sleeve(for compressor)			
Electric heater	W		—	20 (Crank case heater)			
Operation control	Remote control		(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-KIT4-E2				
	Room temperature control		Thermostat by electronics				
	Operation display		—				
Safety equipments			Overload protection for fan motor				
			Frost protection thermostat				
			Internal thermostat for fan motor				
			Abnormal discharge temperature protection				
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 9.52 (3/8") Pipe φ 9.52 (3/8")×0.8 O/U φ 9.52 (3/8")				
			Gas line: φ 15.88 (5/8") φ 15.88 (5/8")×1.0 φ 15.88 (5/8")				
	Connecting method		Flare piping				
	Attached length of piping	m	—				
	Insulation for piping		Necessary (both Liquid & Gas lines)				
	Refrigerant line (one way) length	m	Max.50m				
Vertical height diff. between O/U and I/U	m		Max.30m (Outdoor unit is higher)	Max.15m (Outdoor unit is lower)			
Drain hose			Hose connectable VP25(I.D.25, O.D.32)	Hole size φ 20 x 3 pcs			
Drain pump, max lift height	mm		Built-in Drain pump , 600	—			
Recommended breaker size	A		—				
L.R.A. (Locked rotor ampere)	A		5.0				
Interconnecting wires	Size x Core number		φ 1.6mm x 3 cores + earth cable / Terminal block (Screw fixing type)				
IP number			IPX0	IP24			
Standard accessories			Mounting kit, Drain hose	—			
Option parts			Filter set : UM-FL2EF, Motion sensor : LB-KIT				
Notes	(1) The data are measured at the following conditions.				The pipe length is 7.5m.		
	Item	Indoor air temperature		Outdoor air temperature		External static pressure of indoor unit	Standards
Operation		DB	WB	DB	WB		
Cooling		27°C	19°C	35°C	24°C		
Heating		20°C	—	7°C	6°C		
(2) This air-conditioner is manufactured and tested in conformity with the ISO. (3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions. (4) Select the breaker size according to the own national standard. (5) The operation data indicate when the air-conditioner is operated at 230V50Hz or 220V60Hz. (6) Static pressure of optional air filter "UM-FL2EF" is 5Pa initially. (7) The external static pressure setting can be changed to 10-100Pa. (For RC-EX3 and RC-E5 only)							

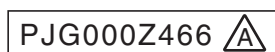
Item		Model	FDUM100VNXVF2				
			Indoor unit FDUM100VF2	Outdoor unit FDC100VNX			
Power source			1 Phase 220-240V 50Hz / 220V 60Hz				
Operation data	Nominal cooling capacity (range)	kW	10.0 [4.0(Min.)-11.2(Max.)]				
	Nominal heating capacity (range)	kW	11.2 [4.0(Min.)-12.5(Max.)]				
	Power consumption	Cooling	kW	2.68			
		Heating		3.02			
	Max power consumption		4.83				
	Running current	Cooling	A	12.0 / 12.5			
		Heating		13.5 / 14.1			
	Inrush current, max current		5 , 24				
	Power factor	Cooling	%	97			
		Heating		97			
	EER	Cooling		3.73			
	COP	Heating		3.71			
	Sound power level	Cooling	dB(A)	65	70		
Heating							
Sound pressure level	Cooling	dB(A)	P-Hi : 44 Hi : 38 Me : 36 Lo : 30				
	Heating		48				
Silent mode sound pressure level			50				
Exterior dimensions (Height x Width x Depth)	mm		280 x 1370 x 740				
Exterior appearance (Munsell color)			Stucco white (4.2Y7.5/1.1) near equivalent				
Net weight	kg		54	105			
Compressor type & Q'ty			RMT5134MDE2 (Twin rotary type)x1				
Compressor motor (Starting method)	kW		Direct line start				
Refrigerant oil (Amount, type)	ℓ		0.9 (M-MA68)				
Refrigerant (Type, amount, pre-charge length)	kg		R410A 4.5kg in outdoor unit (Incl. the amount for the piping of : 30m)				
Heat exchanger			Louver fin & inner grooved tubing	M shape fin & inner grooved tubing			
Refrigerant control			Electronic expansion valve				
Fan type & Q'ty			Centrifugal fan x3	Propeller fan x2			
Fan motor (Starting method)	W		100 + 130 < Direct line start >	86 x 2 < Direct line start >			
Air flow	Cooling	m³/min	P-Hi : 36 Hi : 28 Me : 25 Lo : 19				
	Heating		100				
Available external static pressure	Pa		Standard : 60 Max : 100				
Outside air intake			Possible				
Air filter, Quality / Quantity			Procure locally				
Shock & vibration absorber			Rubber sleeve(for fan motor)	Rubber sleeve(for compressor)			
Electric heater	W		20 (Crank case heater)				
Operation control	Remote control		(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-KIT4-E2				
	Room temperature control		Thermostat by electronics				
	Operation display		-				
Safety equipments			Overload protection for fan motor				
			Frost protection thermostat				
			Internal thermostat for fan motor				
			Abnormal discharge temperature protection				
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 9.52 (3/8") Pipe φ 9.52 (3/8")x0.8 O/U φ 9.52 (3/8")				
			Gas line: φ 15.88 (5/8") φ 15.88 (5/8")x1.0 φ 15.88 (5/8")				
	Connecting method		Flare piping				
	Attached length of piping	m	-				
	Insulation for piping		Necessary (both Liquid & Gas lines)				
	Refrigerant line (one way) length	m	Max.100m				
Vertical height diff. between O/U and I/U	m		Max.30m (Outdoor unit is higher)	Max.15m (Outdoor unit is lower)			
Drain hose			Hose connectable VP25(I.D.25, O.D.32)	Hole size φ 20 x 3 pcs			
Drain pump, max lift height	mm		Built-in Drain pump , 600				
Recommended breaker size	A		-				
L.R.A. (Locked rotor ampere)	A		5.0				
Interconnecting wires	Size x Core number		φ 1.6mm x 3 cores + earth cable / Terminal block (Screw fixing type)				
IP number			IPX0	IP24			
Standard accessories			Mounting kit, Drain hose	Edging			
Option parts			Filter set : UM-FL3EF, Motion sensor : LB-KIT				
Notes	(1) The data are measured at the following conditions.				The pipe length is 7.5m.		
	Item	Indoor air temperature		Outdoor air temperature		External static pressure of indoor unit	Standards
Operation		DB	WB	DB	WB		
Cooling		27°C	19°C	35°C	24°C		
Heating		20°C	-	7°C	6°C		
(2) This air-conditioner is manufactured and tested in conformity with the ISO. (3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions. (4) Select the breaker size according to the own national standard. (5) The operation data indicate when the air-conditioner is operated at 230V50Hz or 220V60Hz. (6) Static pressure of optional air filter "UM-FL3EF" is 5Pa initially. (7) The external static pressure setting can be changed to 10-100Pa. (For RC-EX3 and RC-E5 only)							

Item		Model	FDUM100VSXF2				
			Indoor unit FDUM100VF2	Outdoor unit FDC100VSX			
Power source			3 Phase 380-415V 50Hz / 380V 60Hz				
Operation data	Nominal cooling capacity (range)	kW	10.0 [4.0(Min.)-11.2(Max.)]				
	Nominal heating capacity (range)	kW	11.2 [4.0(Min.)-16.0(Max.)]				
	Power consumption	Cooling	kW	2.68			
		Heating		3.02			
	Max power consumption		6.04				
	Running current	Cooling	A	4.0 / 4.2			
		Heating		4.5 / 4.7			
	Inrush current, max current		5 , 15				
	Power factor	Cooling	%	97			
		Heating		97 / 98			
	EER	Cooling		3.73			
	COP	Heating		3.71			
Sound power level	Cooling	dB(A)	65	70			
	Heating						
Sound pressure level	Cooling	dB(A)	P-Hi : 44 Hi : 38 Me : 36 Lo : 30				
	Heating		48				
Silent mode sound pressure level			50				
Exterior dimensions (Height x Width x Depth)	mm		280 x 1370 x 740				
Exterior appearance (Munsell color)			Stucco white (4.2Y7.5/1.1) near equivalent				
Net weight	kg		54	105			
Compressor type & Q'ty			RMT5134MDE3 (Twin rotary type)x1				
Compressor motor (Starting method)	kW		Direct line start				
Refrigerant oil (Amount, type)	ℓ		0.9 (M-MA68)				
Refrigerant (Type, amount, pre-charge length)	kg		R410A 4.5kg in outdoor unit (Incl. the amount for the piping of : 30m)				
Heat exchanger			Louver fin & inner grooved tubing	M shape fin & inner grooved tubing			
Refrigerant control			Electronic expansion valve				
Fan type & Q'ty			Centrifugal fan x3	Propeller fan x2			
Fan motor (Starting method)	W		100 + 130 < Direct line start >	86 x 2 < Direct line start >			
Air flow	Cooling	m³/min	P-Hi : 36 Hi : 28 Me : 25 Lo : 19				
	Heating		100				
Available external static pressure	Pa		Standard : 60 Max : 100				
Outside air intake			Possible				
Air filter, Quality / Quantity			Procure locally				
Shock & vibration absorber			Rubber sleeve(for fan motor)	Rubber sleeve(for compressor)			
Electric heater	W		20 (Crank case heater)				
Operation control	Remote control		(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-KIT4-E2				
	Room temperature control		Thermostat by electronics				
	Operation display		-				
Safety equipments			Overload protection for fan motor				
			Frost protection thermostat				
			Internal thermostat for fan motor				
			Abnormal discharge temperature protection				
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 9.52 (3/8") Pipe φ 9.52 (3/8")x0.8 O/U φ 9.52 (3/8")				
			Gas line: φ 15.88 (5/8") φ 15.88 (5/8")x1.0 φ 15.88 (5/8")				
	Connecting method		Flare piping				
	Attached length of piping	m	-				
	Insulation for piping		Necessary (both Liquid & Gas lines)				
	Refrigerant line (one way) length	m	Max.100m				
Vertical height diff. between O/U and I/U	m		Max.30m (Outdoor unit is higher)	Max.15m (Outdoor unit is lower)			
Drain hose			Hose connectable VP25(I.D.25, O.D.32)	Hole size φ 20 x 3 pcs			
Drain pump, max lift height	mm		Built-in Drain pump , 600				
Recommended breaker size	A		-				
L.R.A. (Locked rotor ampere)	A		5.0				
Interconnecting wires	Size x Core number		φ 1.6mm x 3 cores + earth cable / Terminal block (Screw fixing type)				
IP number			IPX0	IP24			
Standard accessories			Mounting kit, Drain hose	Edging			
Option parts			Filter set : UM-FL3EF, Motion sensor : LB-KIT				
Notes	(1) The data are measured at the following conditions.			The pipe length is 7.5m.			
	Item	Indoor air temperature		Outdoor air temperature		External static pressure of indoor unit	Standards
	Operation	DB	WB	DB	WB		
	Cooling	27°C	19°C	35°C	24°C	60Pa	ISO5151-T1
	Heating	20°C	-	7°C	6°C		
	(2) This air-conditioner is manufactured and tested in conformity with the ISO.						
	(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.						
	(4) Select the breaker size according to the own national standard.						
	(5) The operation data indicate when the air-conditioner is operated at 400V50Hz or 380V60Hz.						
	(6) Static pressure of optional air filter "UM-FL3EF" is 5Pa initially.						
	(7) The external static pressure setting can be changed to 10-100Pa. (For RC-EX3 and RC-E5 only)						

Item		Model	FDUM125VNXVF				
			Indoor unit FDUM125VF	Outdoor unit FDC125VNX			
Power source			1 Phase 220-240V 50Hz / 220V 60Hz				
Operation data	Nominal cooling capacity (range)	kW	12.5 [5.0(Min.)-14.0(Max.)]				
	Nominal heating capacity (range)	kW	14.0 [4.0(Min.)-17.0(Max.)]				
	Power consumption	Cooling	kW	3.49			
		Heating		3.77			
	Max power consumption		6.03				
	Running current	Cooling	A	15.5 / 16.2			
		Heating		16.8 / 17.6			
	Inrush current, max current		5 , 26				
	Power factor	Cooling	%	98			
		Heating		98 / 97			
	EER	Cooling		3.58			
	COP	Heating		3.71			
	Sound power level	Cooling	dB(A)	67	70		
Heating							
Sound pressure level	Cooling	dB(A)	P-Hi : 45 Hi : 40 Me : 34 Lo : 29	48			
	Heating			50			
Silent mode sound pressure level			—	—			
Exterior dimensions (Height x Width x Depth)	mm		280 x 1370 x 740	1300x970x370			
Exterior appearance (Munsell color)			—	Stucco white (4.2Y7.5/1.1) near equivalent			
Net weight	kg		54	105			
Compressor type & Q'ty			—	RMT5134MDE2 (Twin rotary type)x1			
Compressor motor (Starting method)	kW		—	Direct line start			
Refrigerant oil (Amount, type)	ℓ		—	0.9 (M-MA68)			
Refrigerant (Type, amount, pre-charge length)	kg		R410A 4.5kg in outdoor unit (Incl. the amount for the piping of : 30m)				
Heat exchanger			Louver fin & inner grooved tubing	M shape fin & inner grooved tubing			
Refrigerant control			Electronic expansion valve				
Fan type & Q'ty			Centrifugal fan x3	Propeller fan x2			
Fan motor (Starting method)	W		100 + 200 < Direct line start >	86 x 2 < Direct line start >			
Air flow	Cooling	m³/min	P-Hi : 39 Hi : 32 Me : 26 Lo : 20				
	Heating		100				
Available external static pressure	Pa		Standard : 60 Max : 100	—			
Outside air intake			Possible	—			
Air filter, Quality / Quantity			Procure locally	—			
Shock & vibration absorber			Rubber sleeve(for fan motor)	Rubber sleeve(for compressor)			
Electric heater	W		—	20 (Crank case heater)			
Operation control	Remote control		(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-KIT4-E2				
	Room temperature control		Thermostat by electronics				
	Operation display		—				
Safety equipments			Overload protection for fan motor				
			Frost protection thermostat				
			Internal thermostat for fan motor				
			Abnormal discharge temperature protection				
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 9.52 (3/8") Pipe φ 9.52 (3/8")x0.8 O/U φ 9.52 (3/8")				
			Gas line: φ 15.88 (5/8") φ 15.88 (5/8")x1.0 φ 15.88 (5/8")				
	Connecting method		Flare piping	Flare piping			
	Attached length of piping	m	—	—			
	Insulation for piping		Necessary (both Liquid & Gas lines)				
	Refrigerant line (one way) length	m	Max.100m				
Vertical height diff. between O/U and I/U	m	Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)					
Drain hose		Hose connectable VP25(I.D.25, O.D.32) Hole size φ 20 x 3 pcs					
Drain pump, max lift height	mm	Built-in Drain pump , 600					
Recommended breaker size	A	—					
L.R.A. (Locked rotor ampere)	A	5.0					
Interconnecting wires	Size x Core number	φ 1.6mm x 3 cores + earth cable / Terminal block (Screw fixing type)					
IP number		IPX0	IP24				
Standard accessories		Mounting kit, Drain hose	Edging				
Option parts		Filter set : UM-FL3EF, Motion sensor : LB-KIT					
Notes	(1) The data are measured at the following conditions.			The pipe length is 7.5m.			
	Item	Indoor air temperature		Outdoor air temperature	External static pressure of indoor unit	Standards	
Operation		DB	WB	DB			WB
	Cooling	27°C	19°C	35°C	24°C	60Pa	ISO5151-T1
	Heating	20°C	—	7°C	6°C		
<p>(2) This air-conditioner is manufactured and tested in conformity with the ISO.</p> <p>(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.</p> <p>(4) Select the breaker size according to the own national standard.</p> <p>(5) The operation data indicate when the air-conditioner is operated at 230V50Hz or 220V60Hz.</p> <p>(6) Static pressure of optional air filter "UM-FL3EF" is 5Pa initially.</p> <p>(7) The external static pressure setting can be changed to 10-100Pa. (For RC-EX3 and RC-E5 only)</p>							

Item		Model	FDUM125VSXVF				
			Indoor unit FDUM125VF	Outdoor unit FDC125VSX			
Power source			3 Phase 380-415V 50Hz / 380V 60Hz				
Operation data	Nominal cooling capacity (range)	kW	12.5 [5.0(Min.)-14.0(Max.)]				
	Nominal heating capacity (range)	kW	14.0 [4.0(Min.)-18.0(Max.)]				
	Power consumption	Cooling	kW	3.49			
		Heating		3.77			
	Max power consumption		7.54				
	Running current	Cooling	A	5.2 / 5.5			
		Heating		5.6 / 5.9			
	Inrush current, max current		5 , 15				
	Power factor	Cooling	%	97 / 96			
		Heating		97			
	EER	Cooling		3.58			
	COP	Heating		3.71			
	Sound power level	Cooling	dB(A)	67	70		
Heating							
Sound pressure level	Cooling	dB(A)	P-Hi : 45 Hi : 40 Me : 34 Lo : 29	48			
	Heating			50			
Silent mode sound pressure level			—	—			
Exterior dimensions (Height x Width x Depth)	mm	280 x 1370 x 740		1300x970x370			
Exterior appearance (Munsell color)		—		Stucco white (4.2Y7.5/1.1) near equivalent			
Net weight	kg	54		105			
Compressor type & Q'ty		—		RMT5134MDE3 (Twin rotary type)x1			
Compressor motor (Starting method)	kW	—		Direct line start			
Refrigerant oil (Amount, type)	ℓ	—		0.9 (M-MA68)			
Refrigerant (Type, amount, pre-charge length)	kg	R410A 4.5kg in outdoor unit (Incl. the amount for the piping of : 30m)					
Heat exchanger		Louver fin & inner grooved tubing		M shape fin & inner grooved tubing			
Refrigerant control		Electronic expansion valve					
Fan type & Q'ty		Centrifugal fan x3		Propeller fan x2			
Fan motor (Starting method)	W	100 + 200 < Direct line start >		86 x 2 < Direct line start >			
Air flow	Cooling	m³/min	P-Hi : 39 Hi : 32 Me : 26 Lo : 20				
	Heating		100				
Available external static pressure	Pa	Standard : 60 Max : 100		—			
Outside air intake		Possible		—			
Air filter, Quality / Quantity		Procure locally		—			
Shock & vibration absorber		Rubber sleeve(for fan motor)		Rubber sleeve(for compressor)			
Electric heater	W	—		20 (Crank case heater)			
Operation control	Remote control	(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-KIT4-E2					
	Room temperature control	Thermostat by electronics					
	Operation display	—					
Safety equipments		Overload protection for fan motor					
		Frost protection thermostat					
		Internal thermostat for fan motor					
		Abnormal discharge temperature protection					
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 9.52 (3/8") Pipe φ 9.52 (3/8")x0.8 O/U φ 9.52 (3/8") Gas line: φ 15.88 (5/8") φ 15.88 (5/8")x1.0 φ 15.88 (5/8")				
	Connecting method		Flare piping				
	Attached length of piping	m	—				
	Insulation for piping		Necessary (both Liquid & Gas lines)				
	Refrigerant line (one way) length	m	Max.100m				
	Vertical height diff. between O/U and I/U	m	Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)				
Drain hose		Hose connectable VP25(I.D.25, O.D.32)		Hole size φ 20 x 3 pcs			
Drain pump, max lift height	mm	Built-in Drain pump , 600		—			
Recommended breaker size	A	—					
L.R.A. (Locked rotor ampere)	A	5.0					
Interconnecting wires	Size x Core number	φ 1.6mm x 3 cores + earth cable / Terminal block (Screw fixing type)					
IP number		IPX0		IP24			
Standard accessories		Mounting kit, Drain hose		Edging			
Option parts		Filter set : UM-FL3EF, Motion sensor : LB-KIT					
Notes	(1) The data are measured at the following conditions. The pipe length is 7.5m.						
	Item	Indoor air temperature		Outdoor air temperature		External static pressure of indoor unit	Standards
	Operation	DB	WB	DB	WB		
	Cooling	27°C	19°C	35°C	24°C	60Pa	ISO5151-T1
	Heating	20°C	—	7°C	6°C		
	(2) This air-conditioner is manufactured and tested in conformity with the ISO.						
	(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.						
	(4) Select the breaker size according to the own national standard.						
	(5) The operation data indicate when the air-conditioner is operated at 400V50Hz or 380V60Hz.						
	(6) Static pressure of optional air filter "UM-FL3EF" is 5Pa initially.						
	(7) The external static pressure setting can be changed to 10-100Pa. (For RC-EX3 and RC-E5 only)						

Item		Model	FDUM140VNXVF				
			Indoor unit FDUM140VF	Outdoor unit FDUM140VF			
Power source			1 Phase 220-240V 50Hz / 220V 60Hz				
Operation data	Nominal cooling capacity (range)	kW	14.0 [5.0(Min.)-16.0(Max.)]				
	Nominal heating capacity (range)	kW	16.0 [4.0(Min.)-18.0(Max.)]				
	Power consumption	Cooling	kW	4.28			
		Heating		4.42			
	Max power consumption		6.19				
	Running current	Cooling	A	19.2 / 20.1			
		Heating		19.8 / 20.7			
	Inrush current, max current		5 , 26				
	Power factor	Cooling	%	97			
		Heating		97			
	EER	Cooling		3.27			
	COP	Heating		3.62			
	Sound power level	Cooling	dB(A)	70	72		
Heating							
Sound pressure level	Cooling	dB(A)	P-Hi : 47 Hi : 40 Me : 35 Lo : 30	49			
	Heating			52			
Silent mode sound pressure level			-	-			
Exterior dimensions (Height x Width x Depth)		mm	280 x 1370 x 740				
Exterior appearance (Munsell color)			Stucco white (4.2Y7.5/1.1) near equivalent				
Net weight		kg	54				
Compressor type & Q'ty			RMT5134MDE2 (Twin rotary type)x1				
Compressor motor (Starting method)		kW	Direct line start				
Refrigerant oil (Amount, type)		ℓ	0.9 (M-MA68)				
Refrigerant (Type, amount, pre-charge length)		kg	R410A 4.5kg in outdoor unit (Incl. the amount for the piping of : 30m)				
Heat exchanger			Louver fin & inner grooved tubing	M shape fin & inner grooved tubing			
Refrigerant control			Electronic expansion valve				
Fan type & Q'ty			Centrifugal fan x3	Propeller fan x2			
Fan motor (Starting method)		W	100 + 200 < Direct line start >	86 x 2 < Direct line start >			
Air flow	Cooling	m³/min	P-Hi : 48 Hi : 35 Me : 28 Lo : 22				
	Heating		100				
Available external static pressure		Pa	Standard : 60 Max : 100				
Outside air intake			Possible				
Air filter, Quality / Quantity			Procure locally				
Shock & vibration absorber			Rubber sleeve(for fan motor)	Rubber sleeve(for compressor)			
Electric heater		W	20 (Crank case heater)				
Operation control	Remote control		(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-KIT4-E2				
	Room temperature control		Thermostat by electronics				
	Operation display		-				
Safety equipments			Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection				
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 9.52 (3/8") Pipe φ 9.52 (3/8")x0.8 O/U φ 9.52 (3/8") Gas line: φ 15.88 (5/8") φ 15.88 (5/8")x1.0 φ 15.88 (5/8")				
	Connecting method		Flare piping				
	Attached length of piping	m	-				
	Insulation for piping		Necessary (both Liquid & Gas lines)				
	Refrigerant line (one way) length	m	Max.100m				
	Vertical height diff. between O/U and I/U	m	Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)				
Drain hose			Hose connectable VP25(I.D.25, O.D.32)	Hole size φ 20 x 3 pcs			
Drain pump, max lift height		mm	Built-in Drain pump , 600				
Recommended breaker size		A	-				
L.R.A. (Locked rotor ampere)		A	5.0				
Interconnecting wires		Size x Core number	φ 1.6mm x 3 cores + earth cable / Terminal block (Screw fixing type)				
IP number			IPX0	IP24			
Standard accessories			Mounting kit, Drain hose	Edging			
Option parts			Filter set : UM-FL3EF, Motion sensor : LB-KIT				
Notes		(1) The data are measured at the following conditions.			The pipe length is 7.5m.		
Operation	Item	Indoor air temperature		Outdoor air temperature		External static pressure of indoor unit	Standards
		DB	WB	DB	WB		
	Cooling	27°C	19°C	35°C	24°C		
Heating	20°C	-	7°C	6°C			
(2) This air-conditioner is manufactured and tested in conformity with the ISO. (3) Sound level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient conditions. (4) Select the breaker size according to the own national standard. (5) The operation data indicate when the air-conditioner is operated at 230V50Hz or 220V60Hz. (6) Static pressure of optional air filter "UM-FL3EF" is 5Pa initially. (7) The external static pressure setting can be changed to 10-100Pa. (For RC-EX3 and RC-E5 only)							



Item		Model	FDUM140VSXVF				
			Indoor unit FDUM140VF	Outdoor unit FDC140VSX			
Power source			3 Phase 380-415V 50Hz / 380V 60Hz				
Operation data	Nominal cooling capacity (range)	kW	14.0 [5.0(Min.)-16.0(Max.)]				
	Nominal heating capacity (range)	kW	16.0 [4.0(Min.)-20.0(Max.)]				
	Power consumption	Cooling	kW	4.28			
		Heating		4.42			
	Max power consumption		7.74				
	Running current	Cooling	A	6.4 / 6.7			
		Heating		6.6 / 6.9			
	Inrush current, max current		5 , 15				
	Power factor	Cooling	%	97			
		Heating		97			
	EER	Cooling		3.27			
	COP	Heating		3.62			
	Sound power level	Cooling	dB(A)	70	72		
Heating							
Sound pressure level	Cooling	dB(A)	P-Hi : 47 Hi : 40 Me : 35 Lo : 30	49			
	Heating			52			
Silent mode sound pressure level			-	-			
Exterior dimensions (Height x Width x Depth)		mm	280 × 1370 × 740				
Exterior appearance (Munsell color)			Stucco white (4.2Y7.5/1.1) near equivalent				
Net weight		kg	54	105			
Compressor type & Q'ty			RMT5134MDE3 (Twin rotary type)×1				
Compressor motor (Starting method)		kW	Direct line start				
Refrigerant oil (Amount, type)		ℓ	0.9 (M-MA68)				
Refrigerant (Type, amount, pre-charge length)		kg	R410A 4.5kg in outdoor unit (Incl. the amount for the piping of : 30m)				
Heat exchanger			Louver fin & inner grooved tubing	M shape fin & inner grooved tubing			
Refrigerant control			Electronic expansion valve				
Fan type & Q'ty			Centrifugal fan ×3	Propeller fan ×2			
Fan motor (Starting method)		W	100 + 200 < Direct line start >	86 × 2 < Direct line start >			
Air flow	Cooling	m³/min	P-Hi : 48 Hi : 35 Me : 28 Lo : 22				
	Heating		100				
Available external static pressure		Pa	Standard : 60 Max : 100				
Outside air intake			Possible				
Air filter, Quality / Quantity			Procure locally				
Shock & vibration absorber			Rubber sleeve(for fan motor)	Rubber sleeve(for compressor)			
Electric heater		W	20 (Crank case heater)				
Operation control	Remote control		(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-KIT4-E2				
	Room temperature control		Thermostat by electronics				
	Operation display		-				
Safety equipments			Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection				
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 9.52 (3/8") Pipe φ 9.52(3/8")×0.8 O/U φ 9.52 (3/8") Gas line: φ 15.88 (5/8") φ 15.88(5/8")×1.0 φ 15.88 (5/8")				
	Connecting method		Flare piping				
	Attached length of piping	m	-				
	Insulation for piping		Necessary (both Liquid & Gas lines)				
	Refrigerant line (one way) length	m	Max.100m				
	Vertical height diff. between O/U and I/U	m	Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)				
Drain hose		Hose connectable VP25(I.D.25, O.D.32) Hole size φ 20 × 3 pcs					
Drain pump, max lift height		mm	Built-in Drain pump , 600				
Recommended breaker size		A	-				
L.R.A. (Locked rotor ampere)		A	5.0				
Interconnecting wires Size x Core number			φ 1.6mm×3 cores + earth cable / Terminal block (Screw fixing type)				
IP number			IPX0	IP24			
Standard accessories			Mounting kit, Drain hose	Edging			
Option parts			Filter set : UM-FL3EF, Motion sensor : LB-KIT				
Notes		(1) The data are measured at the following conditions.			The pipe length is 7.5m.		
Operation	Item	Indoor air temperature		Outdoor air temperature		External static pressure of indoor unit	Standards
		DB	WB	DB	WB		
	Cooling	27°C	19°C	35°C	24°C	60Pa	ISO5151-T1
Heating	20°C	-	7°C	6°C			
<p>(2) This air-conditioner is manufactured and tested in conformity with the ISO.</p> <p>(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.</p> <p>(4) Select the breaker size according to the own national standard.</p> <p>(5) The operation data indicate when the air-conditioner is operated at 400V50Hz or 380V60Hz.</p> <p>(6) Static pressure of optional air filter "UM-FL3EF" is 5Pa initially.</p> <p>(7) The external static pressure setting can be changed to 10-100Pa. (For RC-EX3 and RC-E5 only)</p>							

(b) Twin type

Item		Model	FDUM100VNXPVF		
			Indoor unit FDUM50VF (2 units)	Outdoor unit FDC100VNX	
Power source			1 Phase 220-240V 50Hz / 220V 60Hz		
Operation data	Nominal cooling capacity (range)	kW	10.0 [4.0(Min.)-11.2(Max.)]		
	Nominal heating capacity (range)	kW	11.2 [4.0(Min.)-12.5(Max.)]		
	Power consumption	Cooling	kW	2.66	
		Heating		3.02	
	Max power consumption		4.83		
	Running current	Cooling	A	11.9 / 12.4	
		Heating		13.5 / 14.1	
	Inrush current, max current		5 , 24		
	Power factor	Cooling	%	97 / 98	
		Heating		97	
	EER	Cooling		3.76	
	COP	Heating		3.71	
	Sound power level	Cooling	dB(A)	60	
Heating		70			
Sound pressure level	Cooling	dB(A)	P-Hi : 37 Hi : 32 Me : 29 Lo : 26		
	Heating		48		
Silent mode sound pressure level			50		
Exterior dimensions (Height x Width x Depth)		mm	280 x 750 x 635		
Exterior appearance (Munsell color)			Stucco white (4.2Y7.5/1.1) near equivalent		
Net weight		kg	29		
Compressor type & Q'ty			RMT5134MDE2 (Twin rotary type) x1		
Compressor motor (Starting method)		kW	Direct line start		
Refrigerant oil (Amount, type)		ℓ	0.9 (M-MA68)		
Refrigerant (Type, amount, pre-charge length)		kg	R410A 4.5kg in outdoor unit (Incl. the amount for the piping of : 30m)		
Heat exchanger			Louver fin & inner grooved tubing	M shape fin & inner grooved tubing	
Refrigerant control			Electronic expansion valve		
Fan type & Q'ty			Centrifugal fan x1	Propeller fan x2	
Fan motor (Starting method)		W	100 < Direct line start >	86 x 2 < Direct line start >	
Air flow	Cooling	m³/min	P-Hi : 13 Hi : 10 Me : 9 Lo : 8		
	Heating		100		
Available external static pressure		Pa	Standard : 35 Max : 100		
Outside air intake			Possible		
Air filter, Quality / Quantity			Procure locally		
Shock & vibration absorber			Rubber sleeve(for fan motor)	Rubber sleeve(for compressor)	
Electric heater		W	20 (Crank case heater)		
Operation control	Remote control		(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-KIT4-E2		
	Room temperature control		Thermostat by electronics		
	Operation display		-		
Safety equipments			Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection		
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 6.35 (1/4") ② φ 9.52(3/8")x0.8 ① φ 9.52(3/8")x0.8 O/U φ 9.52 (3/8")		
			Gas line: I/U φ 12.7 (1/2") ② φ 12.7(1/2")x0.8 ① φ 15.88(5/8")x1.0 O/U φ 15.88 (5/8")		
	Connecting method		Flare piping		
	Attached length of piping	m	-		
	Insulation for piping		Necessary (both Liquid & Gas lines)		
	Refrigerant line (one way) length	m	Max.100m		
Vertical height diff. between O/U and I/U	m	Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)			
Drain hose		Hose connectable VP25(I.D.25, O.D.32) Hole size φ 20 x 3 pcs			
Drain pump, max lift height	mm	Built-in Drain pump , 600			
Recommended breaker size	A	-			
L.R.A. (Locked rotor ampere)	A	5.0			
Interconnecting wires	Size x Core number	φ 1.6mmx3 cores + earth cable / Terminal block (Screw fixing type)			
IP number		IPX0 IP24			
Standard accessories		Mounting kit, Drain hose Edging			
Option parts		Filter set : UM-FL1EF, Motion sensor : LB-KIT			

Notes (1) The data are measured at the following conditions. The pipe length is 7.5m.

Operation	Indoor air temperature		Outdoor air temperature		External static pressure of indoor unit	Standards
	DB	WB	DB	WB		
Cooling	27°C	19°C	35°C	24°C	35Pa	ISO5151-T1
Heating	20°C	-	7°C	6°C		

- (2) This air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.
- (4) Select the breaker size according to the own national standard.
- (5) The operation data indicate when the air-conditioner is operated at 230V50Hz or 220V60Hz.
- (6) Indoor unit specifications for one unit. Capacity and operation data are two indoor units are combined and run together.
- (7) Branching pipe set "DIS-WA1Gx1(option). ① : Pipe of O/U-Branch. ② : Pipe of Branch-I/U
- (8) Static pressure of optional air filter "UM-FL1EF" is 5Pa initially.
- (9) The external static pressure setting can be changed to 10-100Pa. (For RC-EX3 and RC-E5 only)

Item		Model	FDUM100V5XPVF				
			Indoor unit FDUM50VF (2 units)	Outdoor unit FDC100VSX			
Power source			3 Phase 380-415V 50Hz / 380V 60Hz				
Operation data	Nominal cooling capacity (range)	kW	10.0 [4.0(Min.)-11.2(Max.)]				
	Nominal heating capacity (range)	kW	11.2 [4.0(Min.)-16.0(Max.)]				
	Power consumption	Cooling	kW	2.66			
		Heating		3.02			
	Max power consumption		6.04				
	Running current	Cooling	A	4.0 / 4.2			
		Heating		4.5 / 4.7			
	Inrush current, max current		5 , 15				
	Power factor	Cooling	%	96			
		Heating		97 / 98			
	EER	Cooling		3.76			
	COP	Heating		3.71			
	Sound power level	Cooling	dB(A)	60	70		
Heating							
Sound pressure level	Cooling	dB(A)	P-Hi : 37 Hi : 32 Me : 29 Lo : 26	48			
	Heating			50			
Silent mode sound pressure level			—	—			
Exterior dimensions (Height x Width x Depth)		mm	280 x 750 x 635	1300x970x370			
Exterior appearance (Munsell color)			—	Stucco white (4.2Y7.5/1.1) near equivalent			
Net weight		kg	29	105			
Compressor type & Q'ty			—	RMT5134MDE3 (Twin rotary type)x1			
Compressor motor (Starting method)		kW	—	Direct line start			
Refrigerant oil (Amount, type)		ℓ	—	0.9 (M-MA68)			
Refrigerant (Type, amount, pre-charge length)		kg	R410A 4.5kg in outdoor unit (Incl. the amount for the piping of :30m)				
Heat exchanger			Louver fin & inner grooved tubing	M shape fin & inner grooved tubing			
Refrigerant control			Electronic expansion valve				
Fan type & Q'ty			Centrifugal fan x1	Propeller fan x2			
Fan motor (Starting method)		W	100 < Direct line start >	86 x 2 < Direct line start >			
Air flow	Cooling	m³/min	P-Hi : 13 Hi : 10 Me : 9 Lo : 8				
	Heating		100				
Available external static pressure		Pa	Standard : 35 Max : 100	—			
Outside air intake			Possible	—			
Air filter, Quality / Quantity			Procure locally				
Shock & vibration absorber			Rubber sleeve(for fan motor)	Rubber sleeve(for compressor)			
Electric heater		W	—	20 (Crank case heater)			
Operation control	Remote control		(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-KIT4-E2				
	Room temperature control		Thermostat by electronics				
	Operation display		—				
Safety equipments			Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection				
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 6.35 (1/4") ② φ 9.52(3/8")x0.8 ① φ 9.52(3/8")x0.8 O/U φ 9.52 (3/8") Gas line: I/U φ 12.7 (1/2") ② φ 12.7(1/2")x0.8 ① φ 15.88(5/8")x1.0 O/U φ 15.88 (5/8")				
	Connecting method		Flare piping	Flare piping			
	Attached length of piping	m	—	—			
	Insulation for piping		Necessary (both Liquid & Gas lines)				
	Refrigerant line (one way) length	m	Max.100m				
	Vertical height diff. between O/U and I/U	m	Max.30m (Outdoor unit is higher)	Max.15m (Outdoor unit is lower)			
Drain hose		Hose connectable VP25(I.D.25, O.D.32)	Hole size φ 20 x 3 pcs				
Drain pump, max lift height		mm	Built-in Drain pump , 600	—			
Recommended breaker size		A	—				
L.R.A. (Locked rotor ampere)		A	5.0				
Interconnecting wires		Size x Core number	φ 1.6mmx3 cores + earth cable / Terminal block (Screw fixing type)				
IP number			IPX0	IP24			
Standard accessories			Mounting kit, Drain hose	Edging			
Option parts			Filter set : UM-FL1EF, Motion sensor : LB-KIT				
Notes		(1) The data are measured at the following conditions.		The pipe length is 7.5m.			
Operation	Item	Indoor air temperature		Outdoor air temperature		External static pressure of indoor unit	Standards
		DB	WB	DB	WB		
	Cooling	27°C	19°C	35°C	24°C	35Pa	ISO5151-T1
Heating	20°C	—	7°C	6°C			
<p>(2) This air-conditioner is manufactured and tested in conformity with the ISO.</p> <p>(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.</p> <p>(4) Select the breaker size according to the own national standard.</p> <p>(5) The operation data indicate when the air-conditioner is operated at 400V50Hz or 380V60Hz.</p> <p>(6) Indoor unit specifications for one unit. Capacity and operation data are two indoor units are combined and run together.</p> <p>(7) Branching pipe set "DIS-WA1G"x1(option). ① : Pipe of O/U—Branch. ② : Pipe of Branch—I/U</p> <p>(8) Static pressure of optional air filter "UM-FL1EF" is 5Pa initially.</p> <p>(9) The external static pressure setting can be changed to 10-100Pa. (For RC-EX3 and RC-E5 only)</p>							

Item		Model	FDUM125VNXPFV				
			Indoor unit FDUM60VF (2 units)	Outdoor unit FDC125VNX			
Power source			1 Phase 220-240V 50Hz / 220V 60Hz				
Operation data	Nominal cooling capacity (range)	kW	12.5 [5.0(Min.)-14.0(Max.)]				
	Nominal heating capacity (range)	kW	14.0 [4.0(Min.)-17.0(Max.)]				
	Power consumption	Cooling	kW	3.26			
		Heating		3.66			
	Max power consumption		5.86				
	Running current	Cooling	A	14.6 / 15.3			
		Heating		16.4 / 17.1			
	Inrush current, max current		5 , 26				
	Power factor	Cooling	%	97			
		Heating		97			
	EER	Cooling		3.83			
	COP	Heating		3.83			
	Sound power level	Cooling	dB(A)	60	70		
Heating		48					
Sound pressure level	Cooling	dB(A)	P-Hi : 36 Hi : 31 Me : 28 Lo : 25				
	Heating		50				
Silent mode sound pressure level			—				
Exterior dimensions (Height x Width x Depth)		mm	280 x 950 x 635				
Exterior appearance (Munsell color)			Stucco white (4.2Y7.5/1.1) near equivalent				
Net weight		kg	34				
Compressor type & Q'ty			RMT5134MDE2 (Twin rotary type)x1				
Compressor motor (Starting method)		kW	—				
Refrigerant oil (Amount, type)		ℓ	—				
Refrigerant (Type, amount, pre-charge length)		kg	R410A 4.5kg in outdoor unit (Incl. the amount for the piping of :30m)				
Heat exchanger			Louver fin & inner grooved tubing	M shape fin & inner grooved tubing			
Refrigerant control			Electronic expansion valve				
Fan type & Q'ty			Centrifugal fan x2	Propeller fan x2			
Fan motor (Starting method)		W	130 < Direct line start >				
Air flow	Cooling	m³/min	P-Hi : 20 Hi : 15 Me : 13 Lo : 10				
	Heating		100				
Available external static pressure		Pa	Standard : 35 Max : 100				
Outside air intake			Possible				
Air filter, Quality / Quantity			Procure locally				
Shock & vibration absorber			Rubber sleeve(for fan motor)	Rubber sleeve (for compressor)			
Electric heater		W	—				
Operation control	Remote control		(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-KIT4-E2				
	Room temperature control		Thermostat by electronics				
	Operation display		—				
Safety equipments			Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection				
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 6.35 (1/4") ② φ 9.52(3/8")x0.8 ① φ 9.52(3/8")x0.8 O/U φ 9.52 (3/8") Gas line: I/U φ 12.7 (1/2") ② φ 12.7(1/2")x0.8 ① φ 15.88(5/8")x1.0 O/U φ 15.88 (5/8")				
	Connecting method		Flare piping				
	Attached length of piping	m	—				
	Insulation for piping		Necessary (both Liquid & Gas lines)				
	Refrigerant line (one way) length	m	Max.100m				
	Vertical height diff. between O/U and I/U	m	Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)				
Drain hose			Hose connectable VP25(I.D.25, O.D.32)	Hole size φ 20 x 3 pcs			
Drain pump, max lift height		mm	Built-in Drain pump , 600				
Recommended breaker size		A	—				
L.R.A. (Locked rotor ampere)		A	5.0				
Interconnecting wires		Size x Core number	φ 1.6mmx 3 cores + earth cable / Terminal block (Screw fixing type)				
IP number			IPX0	IP24			
Standard accessories			Mounting kit, Drain hose	Edging			
Option parts			Filter set : UM-FL2EF, Motion sensor : LB-KIT				
Notes		(1) The data are measured at the following conditions.		The pipe length is 7.5m.			
Operation	Item	Indoor air temperature		Outdoor air temperature	External static pressure of indoor unit	Standards	
		DB	WB	DB			WB
	Cooling	27°C	19°C	35°C			24°C
Heating	20°C	—	7°C	6°C			
<p>(2) This air-conditioner is manufactured and tested in conformity with the ISO.</p> <p>(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.</p> <p>(4) Select the breaker size according to the own national standard.</p> <p>(5) The operation data indicate when the air-conditioner is operated at 230V50Hz or 220V60Hz.</p> <p>(6) Indoor unit specifications for one unit. Capacity and operation data are two indoor units are combined and run together.</p> <p>(7) Branching pipe set "DIS-WA1G"x1(option). ① : Pipe of O/U-Branch. ② : Pipe of Branch-I/U</p> <p>(8) Static pressure of optional air filter "UM-FL2EF" is 5Pa initially.'</p> <p>(9) The external static pressure setting can be changed to 10-100Pa. (For RC-EX3 and RC-E5 only)</p>							

Item		Model	FDUM125V5XPVF				
			Indoor unit FDUM60VF (2 units)	Outdoor unit FDC125VSX			
Power source			3 Phase 380-415V 50Hz / 380V 60Hz				
Operation data	Nominal cooling capacity (range)	kW	12.5 [5.0(Min.)-14.0(Max.)]				
	Nominal heating capacity (range)	kW	14.0 [4.0(Min.)-18.0(Max.)]				
	Power consumption	Cooling	kW	3.26			
		Heating		3.66			
	Max power consumption		7.32				
	Running current	Cooling	A	4.9 / 5.2			
		Heating		5.4 / 5.7			
	Inrush current, max current		5 , 15				
	Power factor	Cooling	%	96 / 95			
		Heating		98			
	EER	Cooling		3.83			
	COP	Heating		3.83			
	Sound power level	Cooling	dB(A)	60	70		
Heating							
Sound pressure level	Cooling	dB(A)	P-Hi : 36 Hi : 31 Me : 28 Lo : 25				
	Heating		48				
Silent mode sound pressure level			50				
Exterior dimensions (Height x Width x Depth)	mm	280 x 950 x 635		1300x970x370			
Exterior appearance (Munsell color)		-		Stucco white (4.2Y7.5/1.1) near equivalent			
Net weight	kg	34		105			
Compressor type & Q'ty		-		RMT5134MDE3 (Twin rotary type)x1			
Compressor motor (Starting method)	kW	-		Direct line start			
Refrigerant oil (Amount, type)	ℓ	-		0.9 (M-MA68)			
Refrigerant (Type, amount, pre-charge length)	kg	R410A 4.5kg in outdoor unit (Incl. the amount for the piping of :30m)					
Heat exchanger		Louver fin & inner grooved tubing		M shape fin & inner grooved tubing			
Refrigerant control		Electronic expansion valve					
Fan type & Q'ty		Centrifugal fan x2		Propeller fan x2			
Fan motor (Starting method)	W	130 < Direct line start >		86 x 2 < Direct line start >			
Air flow	Cooling	m³/min	P-Hi : 20 Hi : 15 Me : 13 Lo : 10				
	Heating		100				
Available external static pressure	Pa	Standard : 35 Max : 100		-			
Outside air intake		Possible		-			
Air filter, Quality / Quantity		Procure locally		-			
Shock & vibration absorber		Rubber sleeve(for fan motor)		Rubber sleeve(for compressor)			
Electric heater	W	-		20 (Crank case heater)			
Operation control	Remote control	(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-KIT4-E2					
	Room temperature control	Thermostat by electronics					
	Operation display	-					
Safety equipments		Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection					
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 6.35 (1/4") ② φ 9.52(3/8")x0.8 ① φ 9.52(3/8")x0.8 O/U φ 9.52 (3/8") Gas line: I/U φ 12.7 (1/2") ② φ 12.7(1/2")x0.8 ① φ 15.88(5/8")x1.0 O/U φ 15.88 (5/8")				
	Connecting method		Flare piping				
	Attached length of piping	m	-				
	Insulation for piping		Necessary (both Liquid & Gas lines)				
	Refrigerant line (one way) length	m	Max.100m				
	Vertical height diff. between O/U and I/U	m	Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)				
Drain hose		Hose connectable VP25(I.D.25, O.D.32)		Hole size φ 20 x 3 pcs			
Drain pump, max lift height	mm	Built-in Drain pump , 600		-			
Recommended breaker size	A	-					
L.R.A. (Locked rotor ampere)	A	5.0					
Interconnecting wires	Size x Core number	φ 1.6mmx3 cores + earth cable / Terminal block (Screw fixing type)					
IP number		IPX0		IP24			
Standard accessories		Mounting kit, Drain hose		Edging			
Option parts		Filter set : UM-FL2EF, Motion sensor : LB-KIT					
Notes	(1) The data are measured at the following conditions. The pipe length is 7.5m.						
	Item	Indoor air temperature		Outdoor air temperature	External static pressure of indoor unit	Standards	
Operation		DB	WB	DB			WB
	Cooling	27°C	19°C	35°C	24°C	35Pa	ISO5151-T1
	Heating	20°C	-	7°C	6°C		
(2) This air-conditioner is manufactured and tested in conformity with the ISO. (3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions. (4) Select the breaker size according to the own national standard. (5) The operation data indicate when the air-conditioner is operated at 400V50Hz or 380V60Hz. (6) Indoor unit specifications for one unit. Capacity and operation data are two indoor units are combined and run together. (7) Branching pipe set "DIS-WA1G"x1(option). ① : Pipe of O/U-Branch. ② : Pipe of Branch-I/U (8) Static pressure of optional air filter "UM-FL2EF" is 5Pa initially. (9) The external static pressure setting can be changed to 10-100Pa. (For RC-EX3 and RC-E5 only)							

Item		Model	FDUM140VNXPVF1				
			Indoor unit FDUM71VF1 (2 units)	Outdoor unit FDC140VNX			
Power source			1 Phase 220-240V 50Hz / 220V 60Hz				
Operation data	Nominal cooling capacity (range)	kW	14.0 [5.0(Min.)-16.0(Max.)]				
	Nominal heating capacity (range)	kW	16.0 [4.0(Min.)-18.0(Max.)]				
	Power consumption	Cooling	kW	4.36			
		Heating		4.35			
	Max power consumption		6.10				
	Running current	Cooling	A	19.5 / 20.4			
		Heating		19.5 / 20.4			
	Inrush current, max current		5 , 26				
	Power factor	Cooling	%	97			
		Heating		97			
	EER	Cooling		3.21			
	COP	Heating		3.68			
	Sound power level	Cooling	dB(A)	65	72		
Heating							
Sound pressure level	Cooling	dB(A)	P-Hi : 38 Hi : 33 Me : 29 Lo : 25	49			
	Heating			52			
Silent mode sound pressure level			—	—			
Exterior dimensions (Height x Width x Depth)		mm	280 × 950 × 635	1300×970×370			
Exterior appearance (Munsell color)			—	Stucco white (4.2Y7.5/1.1) near equivalent			
Net weight		kg	34	105			
Compressor type & Q'ty			—	RMT5134MDE2 (Twin rotary type)×1			
Compressor motor (Starting method)		kW	—	Direct line start			
Refrigerant oil (Amount, type)		ℓ	—	0.9 (M-MA68)			
Refrigerant (Type, amount, pre-charge length)		kg	R410A 4.5kg in outdoor unit (Incl. the amount for the piping of :30m)				
Heat exchanger			Louver fin & inner grooved tubing	M shape fin & inner grooved tubing			
Refrigerant control			Electronic expansion valve				
Fan type & Q'ty			Centrifugal fan ×2	Propeller fan ×2			
Fan motor (Starting method)		W	130 < Direct line start >	86 x 2 < Direct line start >			
Air flow	Cooling	m³/min	P-Hi : 24 Hi : 19 Me : 15 Lo : 10				
	Heating		100				
Available external static pressure		Pa	Standard : 35 Max : 100	—			
Outside air intake			Possible	—			
Air filter, Quality / Quantity			Procure locally	—			
Shock & vibration absorber			Rubber sleeve(for fan motor)	Rubber sleeve (for compressor)			
Electric heater		W	—	20 (Crank case heater)			
Operation control	Remote control		(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-KIT4-E2				
	Room temperature control		Thermostat by electronics				
	Operation display		—				
Safety equipments			Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection				
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 9.52 (3/8") ② φ 9.52(3/8")x0.8 ① φ 9.52(3/8")x0.8 O/U φ 9.52 (3/8") Gas line: I/U φ 15.88 (5/8") ② φ 15.88(5/8")x1.0 ① φ 15.88(5/8")x1.0 O/U φ 15.88 (5/8")				
	Connecting method		Flare piping	Flare piping			
	Attached length of piping	m	—	—			
	Insulation for piping		Necessary (both Liquid & Gas lines)				
	Refrigerant line (one way) length	m	Max.100m				
	Vertical height diff. between O/U and I/U	m	Max.30m (Outdoor unit is higher)	Max.15m (Outdoor unit is lower)			
Drain hose		Hose connectable VP25(I.D.25, O.D.32)	Hole size φ 20 x 3 pcs				
Drain pump, max lift height		mm	Built-in Drain pump , 600	—			
Recommended breaker size		A	—				
L.R.A. (Locked rotor ampere)		A	5.0				
Interconnecting wires		Size x Core number	φ 1.6mm× 3 cores + earth cable / Terminal block (Screw fixing type)				
IP number			IPX0	IP24			
Standard accessories			Mounting kit, Drain hose	Edging			
Option parts			Filter set : UM-FL2EF, Motion sensor : LB-KIT				
Notes		(1) The data are measured at the following conditions.			The pipe length is 7.5m.		
Operation	Item	Indoor air temperature		Outdoor air temperature		External static pressure of indoor unit	Standards
		DB	WB	DB	WB		
	Cooling	27°C	19°C	35°C	24°C	35Pa	ISO5151-T1
Heating	20°C	—	7°C	6°C			
(2) This air-conditioner is manufactured and tested in conformity with the ISO. (3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions. (4) Select the breaker size according to the own national standard. (5) The operation data indicate when the air-conditioner is operated at 230V50Hz or 220V60Hz. (6) Indoor unit specifications for one unit. Capacity and operation data are two indoor units are combined and run together. (7) Branching pipe set "DIS-WA1G"×1(option). ① : Pipe of O/U-Branch. ② : Pipe of Branch-I/U (8) Static pressure of optional air filter "UM-FL2EF" is 5Pa initially. (9) The external static pressure setting can be changed to 10-100Pa. (For RC-EX3 and RC-E5 only)							

Item		Model	FDUM140VSPVF1				
			Indoor unit FDUM71VF1 (2 units)	Outdoor unit FDC140VSX			
Power source			3 Phase 380-415V 50Hz / 380V 60Hz				
Operation data	Nominal cooling capacity (range)	kW	14.0 [5.0(Min.)-16.0(Max.)]				
	Nominal heating capacity (range)	kW	16.0 [4.0(Min.)-20.0(Max.)]				
	Power consumption	Cooling	kW	4.36			
		Heating		4.35			
	Max power consumption		7.63				
	Running current	Cooling	A	6.5 / 6.8			
		Heating		6.5 / 6.8			
	Inrush current, max current		5 , 15				
	Power factor	Cooling	%	97			
		Heating		97			
	EER	Cooling		3.21			
	COP	Heating		3.68			
	Sound power level	Cooling	dB(A)	65	72		
Heating							
Sound pressure level	Cooling	dB(A)	P-Hi : 38 Hi : 33 Me : 29 Lo : 25				
	Heating		49				
Silent mode sound pressure level			52				
Exterior dimensions (Height x Width x Depth)	mm	280 x 950 x 635		1300x970x370			
Exterior appearance (Munsell color)		-		Stucco white (4.2Y7.5/1.1) near equivalent			
Net weight	kg	34		105			
Compressor type & Q'ty		-		RMT5134MDE3 (Twin rotary type)x1			
Compressor motor (Starting method)	kW	-		Direct line start			
Refrigerant oil (Amount, type)	ℓ	-		0.9 (M-MA68)			
Refrigerant (Type, amount, pre-charge length)	kg	R410A 4.5kg in outdoor unit (Incl. the amount for the piping of :30m)					
Heat exchanger		Louver fin & inner grooved tubing		M shape fin & inner grooved tubing			
Refrigerant control		Electronic expansion valve					
Fan type & Q'ty		Centrifugal fan x2		Propeller fan x2			
Fan motor (Starting method)	W	130 < Direct line start >		86 x 2 < Direct line start >			
Air flow	Cooling	m³/min	P-Hi : 24 Hi : 19 Me : 15 Lo : 10				
	Heating		100				
Available external static pressure	Pa	Standard : 35 Max : 100		-			
Outside air intake		Possible		-			
Air filter, Quality / Quantity		Procure locally		-			
Shock & vibration absorber		Rubber sleeve(for fan motor)		Rubber sleeve (for compressor)			
Electric heater	W	-		20 (Crank case heater)			
Operation control	Remote control	(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-KIT4-E2					
	Room temperature control	Thermostat by electronics					
	Operation display	-					
Safety equipments		Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection					
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 9.52 (3/8") ② φ 9.52(3/8")x0.8 ① φ 9.52(3/8")x0.8 O/U φ 9.52 (3/8") Gas line: I/U φ 15.88 (5/8") ② φ 15.88(5/8")x1.0 ① φ 15.88(5/8")x1.0 O/U φ 15.88 (5/8")				
	Connecting method		Flare piping				
	Attached length of piping	m	-				
	Insulation for piping		Necessary (both Liquid & Gas lines)				
	Refrigerant line (one way) length	m	Max.100m				
	Vertical height diff. between O/U and I/U	m	Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)				
Drain hose		Hose connectable VP25(I.D.25, O.D.32)		Hole size φ 20 x 3 pcs			
Drain pump, max lift height	mm	Built-in Drain pump , 600		-			
Recommended breaker size	A	-					
L.R.A. (Locked rotor ampere)	A	5.0					
Interconnecting wires	Size x Core number	φ 1.6mmx 3 cores + earth cable / Terminal block (Screw fixing type)					
IP number		IPX0		IP24			
Standard accessories		Mounting kit, Drain hose		Edging			
Option parts		Filter set : UM-FL2EF, Motion sensor : LB-KIT					
Notes	(1) The data are measured at the following conditions. The pipe length is 7.5m.						
	Item	Indoor air temperature		Outdoor air temperature	External static pressure of indoor unit	Standards	
Operation		DB	WB	DB			WB
	Cooling	27°C	19°C	35°C	24°C	35Pa	ISO5151-T1
	Heating	20°C	-	7°C	6°C		
	(2) This air-conditioner is manufactured and tested in conformity with the ISO.						
	(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.						
	(4) Select the breaker size according to the own national standard.						
	(5) The operation data indicate when the air-conditioner is operated at 400V50Hz or 380V60Hz.						
	(6) Indoor unit specifications for one unit. Capacity and operation data are two indoor units are combined and run together.						
	(7) Branching pipe set "DIS-WA1G"x1(option). ① : Pipe of O/U-Branch. ② : Pipe of Branch-I/U						
	(8) Static pressure of optional air filter "UM-FL2EF" is 5Pa initially.'						
	(9) The external static pressure setting can be changed to 10-100Pa. (For RC-EX3 and RC-E5 only)						

(c) Triple type

Item		Model	FDUM140VNXTVF				
			Indoor unit FDUM50VF (3 units)	Outdoor unit FDC140VNX			
Power source			1 Phase 220-240V 50Hz / 220V 60Hz				
Operation data	Nominal cooling capacity (range)	kW	14.0 [5.0(Min.)-16.0(Max.)]				
	Nominal heating capacity (range)	kW	16.0 [4.0(Min.)-18.0(Max.)]				
	Power consumption	Cooling	kW	4.21			
		Heating		4.69			
	Max power consumption		6.57				
	Running current	Cooling	A	18.9 / 19.8			
		Heating		21.0 / 22.0			
	Inrush current, max current		5 , 26				
	Power factor	Cooling	%	97			
		Heating		97			
	EER	Cooling		3.33			
	COP	Heating		3.41			
	Sound power level	Cooling	dB(A)	60	72		
Heating							
Sound pressure level	Cooling	dB(A)	P-Hi : 37 Hi : 32 Me : 29 Lo : 26				
	Heating		49				
Silent mode sound pressure level			—				
Exterior dimensions (Height x Width x Depth)		mm	280 x 750 x 635	1300x970x370			
Exterior appearance (Munsell color)			—	Stucco white (4.2Y7.5/1.1) near equivalent			
Net weight		kg	29	105			
Compressor type & Q'ty			—	RMT5134MDE2 (Twin rotary type)x1			
Compressor motor (Starting method)		kW	—	Direct line start			
Refrigerant oil (Amount, type)		ℓ	—	0.9 (M-MA68)			
Refrigerant (Type, amount, pre-charge length)		kg	R410A 4.5kg in outdoor unit (Incl. the amount for the piping of :30m)				
Heat exchanger			Louver fin & inner grooved tubing	M shape fin & inner grooved tubing			
Refrigerant control			Electronic expansion valve				
Fan type & Q'ty			Centrifugal fan x1	Propeller fan x2			
Fan motor (Starting method)		W	100 < Direct line start >	86 <Direct line start>			
Air flow	Cooling	m³/min	P-Hi : 13 Hi : 10 Me : 9 Lo : 8				
	Heating		100				
Available external static pressure		Pa	Standard : 35 Max : 100	—			
Outside air intake			Possible	—			
Air filter, Quality / Quantity			Procure locally	—			
Shock & vibration absorber			Rubber sleeve(for fan motor)	Rubber sleeve (for compressor)			
Electric heater		W	—	20 (Crank case heater)			
Operation control	Remote control		(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-KIT4-E2				
	Room temperature control		Thermostat by electronics				
	Operation display		—				
Safety equipments			Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection				
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 6.35 (1/4") ② φ 9.52(3/8")x0.8 ① φ 9.52(3/8")x0.8 O/U φ 9.52 (3/8") Gas line: I/U φ 12.7 (1/2") ② φ 12.7(1/2")x0.8 ① φ 15.88(5/8")x1.0 O/U φ 15.88 (5/8")				
	Connecting method		Flare piping	Flare piping			
	Attached length of piping	m	—	—			
	Insulation for piping		Necessary (both Liquid & Gas lines)				
	Refrigerant line (one way) length	m	Max.50m				
	Vertical height diff. between O/U and I/U	m	Max.30m (Outdoor unit is higher)	Max.15m (Outdoor unit is lower)			
Drain hose		Hose connectable VP25(I.D.25, O.D.32)	Hole size φ 20 x 3 pcs				
Drain pump, max lift height		mm	Built-in Drain pump , 600	—			
Recommended breaker size		A	—				
L.R.A. (Locked rotor ampere)		A	5.0				
Interconnecting wires		Size x Core number	φ 1.6mmx 3 cores + earth cable / Terminal block (Screw fixing type)				
IP number			IPX0	IP24			
Standard accessories			Mounting kit, Drain hose	Edging			
Option parts			Filter set : UM-FL1EF, Motion sensor : LB-KIT				
Notes		(1) The data are measured at the following conditions.			The pipe length is 7.5m.		
Operation	Item	Indoor air temperature		Outdoor air temperature		External static pressure of indoor unit	Standards
		DB	WB	DB	WB		
	Cooling	27°C	19°C	35°C	24°C	35Pa	ISO5151-T1
Heating	20°C	—	7°C	6°C			
<p>(2) This air-conditioner is manufactured and tested in conformity with the ISO.</p> <p>(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.</p> <p>(4) Select the breaker size according to the own national standard.</p> <p>(5) The operation data indicate when the air-conditioner is operated at 230V50Hz or 220V60Hz.</p> <p>(6) Indoor unit specifications for one unit. Capacity and operation data are two indoor units are combined and run together.</p> <p>(7) Branching pipe set "DIS-TA1G"x1(option). ① : Pipe of O/U-Branch. ② : Pipe of Branch-I/U</p> <p>(8) Static pressure of optional air filter "UM-FL1EF" is 5Pa initially.'</p> <p>(9) The external static pressure setting can be changed to 10-100Pa. (For RC-EX3 and RC-E5 only)</p>							

Item		Model	FDUM140VSXTVF				
			Indoor unit FDUM50VF (3 units)	Outdoor unit FDC140VSX			
Power source			3 Phase 380-415V 50Hz / 380V 60Hz				
Operation data	Nominal cooling capacity (range)	kW	14.0 [5.0(Min.)-16.0(Max.)]				
	Nominal heating capacity (range)	kW	16.0 [4.0(Min.)-20.0(Max.)]				
	Power consumption	Cooling	kW	4.21			
		Heating		4.69			
	Max power consumption		8.21				
	Running current	Cooling	A	6.3 / 6.6			
		Heating		7.0 / 7.4			
	Inrush current, max current		5 , 15				
	Power factor	Cooling	%	96 / 97			
		Heating		97 / 96			
	EER	Cooling		3.33			
	COP	Heating		3.41			
	Sound power level	Cooling	dB(A)	60	72		
Heating							
Sound pressure level	Cooling	dB(A)	P-Hi : 37 Hi : 32 Me : 29 Lo : 26				
	Heating		49				
Silent mode sound pressure level			52				
Exterior dimensions (Height x Width x Depth)	mm	280 x 750 x 635		1300x970x370			
Exterior appearance (Munsell color)		-		Stucco white (4.2Y7.5/1.1) near equivalent			
Net weight	kg	29		105			
Compressor type & Q'ty		-		RMT5134MDE3 (Twin rotary type)x1			
Compressor motor (Starting method)	kW	-		Direct line start			
Refrigerant oil (Amount, type)	ℓ	-		0.9 (M-MA68)			
Refrigerant (Type, amount, pre-charge length)	kg	R410A 4.5kg in outdoor unit (Incl. the amount for the piping of :30m)					
Heat exchanger		Louver fin & inner grooved tubing		M shape fin & inner grooved tubing			
Refrigerant control		Electronic expansion valve					
Fan type & Q'ty		Centrifugal fan x1		Propeller fan x2			
Fan motor (Starting method)	W	100 < Direct line start >		86 x 2 < Direct line start >			
Air flow	Cooling	m³/min	P-Hi : 13 Hi : 10 Me : 9 Lo : 8				
	Heating		100				
Available external static pressure	Pa	Standard : 35 Max : 100		-			
Outside air intake		Possible		-			
Air filter, Quality / Quantity		Procure locally		-			
Shock & vibration absorber		Rubber sleeve(for fan motor)		Rubber sleeve (for compressor)			
Electric heater	W	-		20 (Crank case heater)			
Operation control	Remote control	(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-KIT4-E2					
	Room temperature control	Thermostat by electronics					
	Operation display	-					
Safety equipments		Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection					
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 6.35 (1/4") ② φ 9.52(3/8")x0.8 ① φ 9.52(3/8")x0.8 O/U φ 9.52 (3/8") Gas line: I/U φ 12.7 (1/2") ② φ 12.7(1/2")x0.8 ① φ 15.88(5/8")x1.0 O/U φ 15.88 (5/8")				
	Connecting method		Flare piping				
	Attached length of piping	m	-				
	Insulation for piping		Necessary (both Liquid & Gas lines)				
	Refrigerant line (one way) length	m	Max.100m				
	Vertical height diff. between O/U and I/U	m	Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)				
Drain hose		Hose connectable VP25(I.D.25, O.D.32)		Hole size φ 20 x 3 pcs			
Drain pump, max lift height	mm	Built-in Drain pump , 600		-			
Recommended breaker size	A	-					
L.R.A. (Locked rotor ampere)	A	5.0					
Interconnecting wires	Size x Core number	φ 1.6mmx 3 cores + earth cable / Terminal block (Screw fixing type)					
IP number		IPX0		IP24			
Standard accessories		Mounting kit, Drain hose		Edging			
Option parts		Filter set : UM-FL1EF, Motion sensor : LB-KIT					
Notes	(1) The data are measured at the following conditions. The pipe length is 7.5m.						
	Item	Indoor air temperature		Outdoor air temperature	External static pressure of indoor unit	Standards	
Operation		DB	WB	DB			WB
	Cooling	27°C	19°C	35°C	24°C	35Pa	ISO5151-T1
	Heating	20°C	-	7°C	6°C		
(2) This air-conditioner is manufactured and tested in conformity with the ISO. (3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions. (4) Select the breaker size according to the own national standard. (5) The operation data indicate when the air-conditioner is operated at 400V50Hz or 380V60Hz. (6) Indoor unit specifications for one unit. Capacity and operation data are two indoor units are combined and run together. (7) Branching pipe set "DIS-TA1G"x1(option). ① : Pipe of O/U-Branch. ② : Pipe of Branch-I/U (8) Static pressure of optional air filter "UM-FL1EF" is 5Pa initially. (9) The external static pressure setting can be changed to 10-100Pa. (For RC-EX3 and RC-E5 only)							

**(3) Duct connected-High static pressure type (FDU)
Single type**

Item		Model	FDU71VNXVF1				
			Indoor unit FDU71VF1	Outdoor unit FDC71VNX			
Power source			1 Phase 220-240V 50Hz / 220V 60Hz				
Operation data	Nominal cooling capacity (range)	kW	7.1 [3.2(Min.)-8.0(Max.)]				
	Nominal heating capacity (range)	kW	8.0 [3.6(Min.)-9.0(Max.)]				
	Power consumption	Cooling	kW	2.05			
		Heating		2.01			
	Max power consumption		3.28				
	Running current	Cooling	A	9.1 / 9.5			
		Heating		9.1 / 9.5			
	Inrush current, max current		5 , 17				
	Power factor	Cooling	%	98			
		Heating		96			
	EER	Cooling		3.46			
	COP	Heating		3.98			
	Sound power level	Cooling	dB(A)	65	66		
Heating							
Sound pressure level	Cooling	P-Hi : 38 Hi : 33 Me : 29 Lo : 25	51				
	Heating		48				
Silent mode sound pressure level			-				
Exterior dimensions (Height x Width x Depth)		mm	280 x 950 x 635	750x880(+88)x340			
Exterior appearance (Munsell color)			-	Stucco white (4.2Y7.5/1.1) near equivalent			
Net weight		kg	34	60			
Compressor type & Q'ty			-	RMT5118MDE2 (Twin rotary type)x1			
Compressor motor (Starting method)		kW	-	Direct line start			
Refrigerant oil (Amount, type)		ℓ	-	0.675 (M-MA68)			
Refrigerant (Type, amount, pre-charge length)		kg	R410A 2.95kg in outdoor unit (Incl. the amount for the piping of : 30m)				
Heat exchanger			Louver fin & inner grooved tubing	M shape fin & inner grooved tubing			
Refrigerant control			Electronic expansion valve				
Fan type & Q'ty			Centrifugal fan x2	Propeller fan x1			
Fan motor (Starting method)		W	130 < Direct line start >	86 < Direct line start >			
Air flow	Cooling	m³/min	P-Hi : 24 Hi : 19 Me : 15 Lo : 10				
	Heating		60				
Available external static pressure		Pa	Standard : 35 Max : 200	-			
Outside air intake			Possible	-			
Air filter, Quality / Quantity			Procure locally	-			
Shock & vibration absorber			Rubber sleeve(for fan motor)	Rubber sleeve(for compressor)			
Electric heater		W	-	20 (Crank case heater)			
Operation control	Remote control		(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-KIT4-E2				
	Room temperature control		Thermostat by electronics				
	Operation display		-				
Safety equipments			Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection				
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 9.52 (3/8") Pipe φ 9.52(3/8")x0.8 O/U φ 9.52 (3/8") Gas line: φ 15.88 (5/8") φ 15.88(5/8")x1.0 φ 15.88(5/8")				
	Connecting method		Flare piping	Flare piping			
	Attached length of piping	m	-	-			
	Insulation for piping		Necessary (both Liquid & Gas lines)				
	Refrigerant line (one way) length	m	Max.50m				
Vertical height diff. between O/U and I/U	m	Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)					
Drain hose		Hose connectable VP25(I.D.25, O.D.32) Hole size φ 20 x 3 pcs					
Drain pump, max lift height	mm	Built-in Drain pump , 600					
Recommended breaker size	A	-					
L.R.A. (Locked rotor ampere)	A	5.0					
Interconnecting wires	Size x Core number	φ 1.6mm x3 cores + earth cable / Terminal block(Screw fixing type)					
IP number		IPX0	IP24				
Standard accessories			Mounting kit, Drain hose	-			
Option parts			Motion sensor : LB-KIT				
Notes		(1) The data are measured at the following conditions.		The pipe length is 7.5m.			
Operation	Item	Indoor air temperature		Outdoor air temperature		External static pressure of indoor unit	Standards
		DB	WB	DB	WB		
	Cooling	27°C	19°C	35°C	24°C		
Heating	20°C	-	7°C	6°C			
(2) This air-conditioner is manufactured and tested in conformity with the ISO. (3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions. (4) Select the breaker size according to the own national standard. (5) When wireless remote control is used, fan is 3 speed setting (Hi-Me-Lo) only. (6) The operation data indicate when the air-conditioner is operated at 230V50Hz or 220V60Hz. (7) The factory E.S.P. setting is set within the range of 80 - 150 Pa.If SW8-4 is turned to "ON", E.S.P. setting range can be changed to 10 - 200 Pa.(For RC-EX3 and RC-E5 only)							

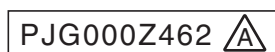
Item		Model	FDU100VNXVF2				
			Indoor unit FDU100VF2	Outdoor unit FDC100VNX			
Power source			1 Phase 220-240V 50Hz / 220V 60Hz				
Operation data	Nominal cooling capacity (range)	kW	10.0 [4.0(Min.)-11.2(Max.)]				
	Nominal heating capacity (range)	kW	11.2 [4.0(Min.)-12.5(Max.)]				
	Power consumption	Cooling	kW	2.68			
		Heating		3.02			
	Max power consumption		4.83				
	Running current	Cooling	A	12.0 / 12.5			
		Heating		13.5 / 14.1			
	Inrush current, max current		5 , 25				
	Power factor	Cooling	%	97			
		Heating		97			
	EER	Cooling		3.73			
	COP	Heating		3.71			
Sound power level	Cooling	dB(A)	65	70			
	Heating						
Sound pressure level	Cooling	dB(A)	P-Hi : 44 Hi : 38 Me : 36 Lo : 30				
	Heating		48				
Silent mode sound pressure level			50				
Exterior dimensions (Height x Width x Depth)	mm		280 x 1370 x 740	1300x970x370			
Exterior appearance (Munsell color)			—	Stucco white (4.2Y7.5/1.1) near equivalent			
Net weight	kg		54	105			
Compressor type & Q'ty			—	RMT5134MDE2 (Twin rotary type)×1			
Compressor motor (Starting method)	kW		—	Direct line start			
Refrigerant oil (Amount, type)	ℓ		—	0.9 (M-MA68)			
Refrigerant (Type, amount, pre-charge length)	kg		R410A 4.5kg in outdoor unit (Incl. the amount for the piping of : 30m)				
Heat exchanger			Louver fin & inner grooved tubing	M shape fin & inner grooved tubing			
Refrigerant control			Electronic expansion valve				
Fan type & Q'ty			Centrifugal fan ×3	Propeller fan ×2			
Fan motor (Starting method)	W		100 + 130 < Direct line start >	86 x 2 < Direct line start >			
Air flow	Cooling	m³/min	P-Hi : 36 Hi : 28 Me : 25 Lo : 19				
	Heating		100				
Available external static pressure	Pa		Standard : 60 Max : 200	—			
Outside air intake			Possible	—			
Air filter, Quality / Quantity			Procure locally	—			
Shock & vibration absorber			Rubber sleeve(for fan motor)	Rubber sleeve(for compressor)			
Electric heater	W		—	20 (Crank case heater)			
Operation control	Remote control		(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-KIT4-E2				
	Room temperature control		Thermostat by electronics				
	Operation display		—				
Safety equipments			Overload protection for fan motor				
			Frost protection thermostat				
			Internal thermostat for fan motor				
			Abnormal discharge temperature protection				
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 9.52 (3/8") Pipe φ 9.52(3/8")x0.8 O/U φ 9.52 (3/8")				
			Gas line: φ 15.88 (5/8") φ 15.88(5/8")x1.0 φ 15.88(5/8")				
	Connecting method		Flare piping				
	Attached length of piping	m	—				
	Insulation for piping		Necessary (both Liquid & Gas lines)				
	Refrigerant line (one way) length	m	Max.100m				
Vertical height diff. between O/U and I/U	m		Max.30m (Outdoor unit is higher)	Max.15m (Outdoor unit is lower)			
Drain hose			Hose connectable VP25(I.D.25, O.D.32)	Hole size φ 20 x 3 pcs			
Drain pump, max lift height	mm		Built-in Drain pump , 600	—			
Recommended breaker size	A		—				
L.R.A. (Locked rotor ampere)	A		5.0				
Interconnecting wires	Size x Core number		φ 1.6mm x3 cores + earth cable / Terminal block(Screw fixing type)				
IP number			IPX0	IP24			
Standard accessories			Mounting kit, Drain hose	Edging			
Option parts			Motion sensor : LB-KIT				
Notes	(1) The data are measured at the following conditions.			The pipe length is 7.5m.			
	Item	Indoor air temperature		Outdoor air temperature		External static pressure of indoor unit	Standards
Operation		DB	WB	DB	WB		
	Cooling	27°C	19°C	35°C	24°C		
	Heating	20°C	—	7°C	6°C	60Pa	ISO5151-T1
<p>(2) This air-conditioner is manufactured and tested in conformity with the ISO.</p> <p>(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.</p> <p>(4) Select the breaker size according to the own national standard.</p> <p>(5) When wireless remote control is used, fan is 3 speed setting (Hi-Me-Lo) only.</p> <p>(6) The operation data indicate when the air-conditioner is operated at 230V50Hz or 220V60Hz.</p> <p>(7) The factory E.S.P. setting is set within the range of 80 - 150 Pa.If SW8-4 is turned to "ON", E.S.P. setting range can be changed to 10 - 200 Pa.(For RC-EX3 and RC-E5 only)</p>							

Item		Model	FDU100VSXF2				
			Indoor unit FDU100VF2	Outdoor unit FDC100VSX			
Power source			3 Phase 380-415V 50Hz / 380V 60Hz				
Operation data	Nominal cooling capacity (range)	kW	10.0 [4.0(Min.)-11.2(Max.)]				
	Nominal heating capacity (range)	kW	11.2 [4.0(Min.)-16.0(Max.)]				
	Power consumption	Cooling	kW	2.68			
		Heating		3.02			
	Max power consumption		6.04				
	Running current	Cooling	A	4.0 / 4.2			
		Heating		4.5 / 4.7			
	Inrush current, max current		5 , 16				
	Power factor	Cooling	%	97			
		Heating		97 / 98			
	EER	Cooling		3.73			
	COP	Heating		3.71			
Sound power level	Cooling	dB(A)	65	70			
	Heating						
Sound pressure level	Cooling	dB(A)	P-Hi : 44 Hi : 38 Me : 36 Lo : 30	48			
	Heating			50			
Silent mode sound pressure level			-	-			
Exterior dimensions (Height x Width x Depth)	mm		280 x 1370 x 740	1300x970x370			
Exterior appearance (Munsell color)			-	Stucco white (4.2Y7.5/1.1) near equivalent			
Net weight	kg		54	105			
Compressor type & Q'ty			-	RMT5134MDE3(Twin rotary type)x1			
Compressor motor (Starting method)	kW		-	Direct line start			
Refrigerant oil (Amount, type)	ℓ		-	0.9 (M-MA68)			
Refrigerant (Type, amount, pre-charge length)	kg		R410A 4.5kg in outdoor unit (Incl. the amount for the piping of : 30m)				
Heat exchanger			Louver fin & inner grooved tubing	M shape fin & inner grooved tubing			
Refrigerant control			Electronic expansion valve				
Fan type & Q'ty			Centrifugal fan x3	Propeller fan x2			
Fan motor (Starting method)	W		100 + 130 < Direct line start >	86 x 2 < Direct line start >			
Air flow	Cooling	m³/min	P-Hi : 36 Hi : 28 Me : 25 Lo : 19				
	Heating		100				
Available external static pressure	Pa		Standard : 60 Max : 200	-			
Outside air intake			Possible	-			
Air filter, Quality / Quantity			Procure locally	-			
Shock & vibration absorber			Rubber sleeve(for fan motor)	Rubber sleeve(for compressor)			
Electric heater	W		-	20 (Crank case heater)			
Operation control	Remote control		(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-KIT4-E2				
	Room temperature control		Thermostat by electronics				
	Operation display		-				
Safety equipments			Overload protection for fan motor				
			Frost protection thermostat				
			Internal thermostat for fan motor				
			Abnormal discharge temperature protection				
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 9.52 (3/8") Pipe φ 9.52(3/8")x0.8 O/U φ 9.52 (3/8")				
			Gas line: φ 15.88 (5/8") φ 15.88(5/8")x1.0 φ 15.88(5/8")				
	Connecting method		Flare piping	Flare piping			
	Attached length of piping	m	-	-			
	Insulation for piping		Necessary (both Liquid & Gas lines)				
	Refrigerant line (one way) length	m	Max.100m				
Vertical height diff. between O/U and I/U	m		Max.30m (Outdoor unit is higher)	Max.15m (Outdoor unit is lower)			
Drain hose			Hose connectable VP25(I.D.25, O.D.32)	Hole size φ 20 x 3 pcs			
Drain pump, max lift height	mm		Built-in Drain pump , 600	-			
Recommended breaker size	A		-				
L.R.A. (Locked rotor ampere)	A		5.0				
Interconnecting wires	Size x Core number		φ 1.6mm x3 cores + earth cable / Terminal block(Screw fixing type)				
IP number			IPX0	IP24			
Standard accessories			Mounting kit, Drain hose	Edging			
Option parts			Motion sensor : LB-KIT				
Notes	(1) The data are measured at the following conditions.			The pipe length is 7.5m.			
	Item	Indoor air temperature		Outdoor air temperature	External static pressure of indoor unit	Standards	
Operation		DB	WB	DB			WB
	Cooling	27°C	19°C	35°C			24°C
	Heating	20°C	-	7°C	6°C	60Pa	ISO5151-T1
(2) This air-conditioner is manufactured and tested in conformity with the ISO. (3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions. (4) Select the breaker size according to the own national standard. (5) When wireless remote control is used, fan is 3 speed setting (Hi-Me-Lo) only. (6) The operation data indicate when the air-conditioner is operated at 400V50Hz or 380V60Hz. (7) The factory E.S.P. setting is set within the range of 80 - 150 Pa.If SW8-4 is turned to "ON", E.S.P. setting range can be changed to 10 - 200 Pa.(For RC-EX3 and RC-E5 only)							

Item		Model	FDU125VNXVF				
			Indoor unit FDU125VF	Outdoor unit FDC125VNX			
Power source			1 Phase 220-240V 50Hz / 220V 60Hz				
Operation data	Nominal cooling capacity (range)	kW	12.5 [5.0(Min.)-14.0(Max.)]				
	Nominal heating capacity (range)	kW	14.0 [4.0(Min.)-17.0(Max.)]				
	Power consumption	Cooling	kW	3.49			
		Heating		3.77			
	Max power consumption		6.03				
	Running current	Cooling	A	15.5 / 16.2			
		Heating		16.8 / 17.6			
	Inrush current, max current		5 , 29				
	Power factor	Cooling	%	98			
		Heating		98 / 97			
	EER	Cooling		3.58			
	COP	Heating		3.71			
Sound power level	Cooling	dB(A)	67	70			
	Heating						
Sound pressure level	Cooling	dB(A)	P-Hi : 45 Hi : 40 Me : 34 Lo : 29				
	Heating		48				
Silent mode sound pressure level			50				
Exterior dimensions (Height x Width x Depth)	mm		280 x 1370 x 740	1300x970x370			
Exterior appearance (Munsell color)			—	Stucco white (4.2Y7.5/1.1) near equivalent			
Net weight	kg		54	105			
Compressor type & Q'ty			—	RMT5134MDE2 (Twin rotary type)x1			
Compressor motor (Starting method)	kW		—	Direct line start			
Refrigerant oil (Amount, type)	ℓ		—	0.9 (M-MA68)			
Refrigerant (Type, amount, pre-charge length)	kg		R410A 4.5kg in outdoor unit (Incl. the amount for the piping of : 30m)				
Heat exchanger			Louver fin & inner grooved tubing	M shape fin & inner grooved tubing			
Refrigerant control			Electronic expansion valve				
Fan type & Q'ty			Centrifugal fan x3	Propeller fan x2			
Fan motor (Starting method)	W		100 + 200 < Direct line start >	86 x 2 < Direct line start >			
Air flow	Cooling	m³/min	P-Hi : 39 Hi : 32 Me : 26 Lo : 20				
	Heating		100				
Available external static pressure	Pa		Standard : 60 Max : 200	—			
Outside air intake			Possible	—			
Air filter, Quality / Quantity			Procure locally	—			
Shock & vibration absorber			Rubber sleeve(for fan motor)	Rubber sleeve(for compressor)			
Electric heater	W		—	20 (Crank case heater)			
Operation control	Remote control		(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-KIT4-E2				
	Room temperature control		Thermostat by electronics				
	Operation display		—				
Safety equipments			Overload protection for fan motor				
			Frost protection thermostat				
			Internal thermostat for fan motor				
			Abnormal discharge temperature protection				
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 9.52 (3/8") Pipe φ 9.52(3/8")x0.8 O/U φ 9.52 (3/8")				
			Gas line: φ 15.88 (5/8") φ 15.88(5/8")x1.0 φ 15.88(5/8")				
	Connecting method		Flare piping				
	Attached length of piping	m	—				
	Insulation for piping		Necessary (both Liquid & Gas lines)				
	Refrigerant line (one way) length	m	Max.100m				
Vertical height diff. between O/U and I/U	m		Max.30m (Outdoor unit is higher)	Max.15m (Outdoor unit is lower)			
Drain hose			Hose connectable VP25(I.D.25, O.D.32)	Hole size φ 20 x 3 pcs			
Drain pump, max lift height	mm		Built-in Drain pump , 600	—			
Recommended breaker size	A		—				
L.R.A. (Locked rotor ampere)	A		5.0				
Interconnecting wires	Size x Core number		φ 1.6mm x3 cores + earth cable / Terminal block(Screw fixing type)				
IP number			IPX0	IP24			
Standard accessories			Mounting kit, Drain hose	Edging			
Option parts			Motion sensor : LB-KIT				
Notes	(1) The data are measured at the following conditions.			The pipe length is 7.5m.			
	Item	Indoor air temperature		Outdoor air temperature	External static pressure of indoor unit	Standards	
Operation		DB	WB	DB			WB
	Cooling	27°C	19°C	35°C			24°C
	Heating	20°C	—	7°C			6°C
(2) This air-conditioner is manufactured and tested in conformity with the ISO. (3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions. (4) Select the breaker size according to the own national standard. (5) When wireless remote control is used, fan is 3 speed setting (Hi-Me-Lo) only. (6) The operation data indicate when the air-conditioner is operated at 230V50Hz or 220V60Hz. (7) The factory E.S.P. setting is set within the range of 80 - 150 Pa.If SW8-4 is turned to "ON", E.S.P. setting range can be changed to 10 - 200 Pa.(For RC-EX3 and RC-E5 only)							

Item		Model	FDU125VSXVF				
			Indoor unit FDU125VF	Outdoor unit FDC125VSX			
Power source			3 Phase 380-415V 50Hz / 380V 60Hz				
Operation data	Nominal cooling capacity (range)	kW	12.5 [5.0(Min.)-14.0(Max.)]				
	Nominal heating capacity (range)	kW	14.0 [4.0(Min.)-18.0(Max.)]				
	Power consumption	Cooling	kW	3.49			
		Heating		3.77			
	Max power consumption		7.54				
	Running current	Cooling	A	5.2 / 5.5			
		Heating		5.6 / 5.9			
	Inrush current, max current		5 , 18				
	Power factor	Cooling	%	97 / 96			
		Heating		97			
	EER	Cooling		3.58			
	COP	Heating		3.71			
	Sound power level	Cooling	dB(A)	67	70		
Heating							
Sound pressure level	Cooling	dB(A)	P-Hi : 45 Hi : 40 Me : 34 Lo : 29	48			
	Heating			50			
Silent mode sound pressure level			-	-			
Exterior dimensions (Height x Width x Depth)		mm	280 x 1370 x 740				
Exterior appearance (Munsell color)			Stucco white (4.2Y7.5/1.1) near equivalent				
Net weight		kg	54				
Compressor type & Q'ty			RMT5134MDE3 (Twin rotary type)×1				
Compressor motor (Starting method)		kW	-				
Refrigerant oil (Amount, type)		ℓ	-				
Refrigerant (Type, amount, pre-charge length)		kg	R410A 4.5kg in outdoor unit (Incl. the amount for the piping of : 30m)				
Heat exchanger			Louver fin & inner grooved tubing	M shape fin & inner grooved tubing			
Refrigerant control			Electronic expansion valve				
Fan type & Q'ty			Centrifugal fan ×3	Propeller fan ×2			
Fan motor (Starting method)		W	100 + 200 < Direct line start >	86 x 2 < Direct line start >			
Air flow	Cooling	m³/min	P-Hi : 39 Hi : 32 Me : 26 Lo : 20				
	Heating		100				
Available external static pressure		Pa	Standard : 60 Max : 200				
Outside air intake			Possible				
Air filter, Quality / Quantity			Procure locally				
Shock & vibration absorber			Rubber sleeve(for fan motor)	Rubber sleeve(for compressor)			
Electric heater		W	-				
Operation control	Remote control		(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-KIT4-E2				
	Room temperature control		Thermostat by electronics				
	Operation display		-				
Safety equipments			Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection				
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 9.52 (3/8") Pipe φ 9.52(3/8")x0.8 O/U φ 9.52 (3/8") Gas line: φ 15.88 (5/8") φ 15.88(5/8")x1.0 φ 15.88(5/8")				
	Connecting method		Flare piping				
	Attached length of piping	m	-				
	Insulation for piping		Necessary (both Liquid & Gas lines)				
	Refrigerant line (one way) length	m	Max.100m				
	Vertical height diff. between O/U and I/U	m	Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)				
Drain hose			Hose connectable VP25(I.D.25, O.D.32)	Hole size φ 20 x 3 pcs			
Drain pump, max lift height		mm	Built-in Drain pump , 600				
Recommended breaker size		A	-				
L.R.A. (Locked rotor ampere)		A	5.0				
Interconnecting wires		Size x Core number	φ 1.6mm ×3 cores + earth cable / Terminal block(Screw fixing type)				
IP number			IPX0	IP24			
Standard accessories			Mounting kit, Drain hose	Edging			
Option parts			Motion sensor : LB-KIT				
Notes		(1) The data are measured at the following conditions.		The pipe length is 7.5m.			
Operation	Item	Indoor air temperature		Outdoor air temperature		External static pressure of indoor unit	Standards
		DB	WB	DB	WB		
	Cooling	27°C	19°C	35°C	24°C		
Heating	20°C	-	7°C	6°C			
(2) This air-conditioner is manufactured and tested in conformity with the ISO. (3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions. (4) Select the breaker size according to the own national standard. (5) When wireless remote control is used, fan is 3 speed setting (Hi-Me-Lo) only. (6) The operation data indicate when the air-conditioner is operated at 400V50Hz or 380V60Hz. (7) The factory E.S.P. setting is set within the range of 80 - 150 Pa.If SW8-4 is turned to "ON", E.S.P. setting range can be changed to 10 - 200 Pa.(For RC-EX3 and RC-E5 only)							

Item		Model	FDU140VNXVF				
			Indoor unit FDU140VF	Outdoor unit FDC140VNX			
Power source			1 Phase 220-240V 50Hz / 220V 60Hz				
Operation data	Nominal cooling capacity (range)	kW	14.0 [5.0(Min.)-16.0(Max.)]				
	Nominal heating capacity (range)	kW	16.0 [4.0(Min.)-18.0(Max.)]				
	Power consumption	Cooling	kW	4.28			
		Heating		4.42			
	Max power consumption		6.19				
	Running current	Cooling	A	19.2 / 20.1			
		Heating		19.8 / 20.7			
	Inrush current, max current		5 , 30				
	Power factor	Cooling	%	97			
		Heating		97			
	EER	Cooling		3.27			
	COP	Heating		3.62			
	Sound power level	Cooling	dB(A)	70	72		
Heating							
Sound pressure level	Cooling	dB(A)	P-Hi : 47 Hi : 40 Me : 35 Lo : 30				
	Heating						
Silent mode sound pressure level			-				
Exterior dimensions (Height x Width x Depth)	mm	280 x 1370 x 740		1300x970x370			
Exterior appearance (Munsell color)		-		Stucco white (4.2Y7.5/1.1) near equivalent			
Net weight	kg	54		105			
Compressor type & Q'ty		-		RMT5134MDE2 (Twin rotary type)x1			
Compressor motor (Starting method)	kW	-		Direct line start			
Refrigerant oil (Amount, type)	ℓ	-		0.9 (M-MA68)			
Refrigerant (Type, amount, pre-charge length)	kg	R410A 4.5kg in outdoor unit (Incl. the amount for the piping of : 30m)					
Heat exchanger		Louver fin & inner grooved tubing		M shape fin & inner grooved tubing			
Refrigerant control		Electronic expansion valve					
Fan type & Q'ty		Centrifugal fan x3		Propeller fan x2			
Fan motor (Starting method)	W	100 + 200 < Direct line start >		86 x 2 < Direct line start >			
Air flow	Cooling	m³/min	P-Hi : 48 Hi : 35 Me : 28 Lo : 22				
	Heating		100				
Available external static pressure	Pa	Standard : 60 Max : 200		-			
Outside air intake		Possible		-			
Air filter, Quality / Quantity		Procure locally		-			
Shock & vibration absorber		Rubber sleeve(for fan motor)		Rubber sleeve(for compressor)			
Electric heater	W	-		20 (Crank case heater)			
Operation control	Remote control	(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-KIT4-E2					
	Room temperature control	Thermostat by electronics					
	Operation display	-					
Safety equipments		Overload protection for fan motor					
		Frost protection thermostat					
		Internal thermostat for fan motor					
		Abnormal discharge temperature protection					
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 9.52 (3/8") Pipe φ 9.52(3/8")x0.8 O/U φ 9.52 (3/8")				
			Gas line: φ 15.88 (5/8") φ 15.88(5/8")x1.0 φ 15.88(5/8")				
	Connecting method		Flare piping				
	Attached length of piping	m	-				
	Insulation for piping		Necessary (both Liquid & Gas lines)				
	Refrigerant line (one way) length	m	Max.100m				
Vertical height diff. between O/U and I/U	m	Max.30m (Outdoor unit is higher)		Max.15m (Outdoor unit is lower)			
Drain hose		Hose connectable VP25(I.D.25, O.D.32)		Hole size φ 20 x 3 pcs			
Drain pump, max lift height	mm	Built-in Drain pump , 600		-			
Recommended breaker size	A	-					
L.R.A. (Locked rotor ampere)	A	5.0					
Interconnecting wires	Size x Core number	φ 1.6mm x3 cores + earth cable / Terminal block(Screw fixing type)					
IP number		IPX0		IP24			
Standard accessories		Mounting kit, Drain hose		Edging			
Option parts		Motion sensor : LB-KIT					
Notes	(1) The data are measured at the following conditions. The pipe length is 7.5m.						
	Item	Indoor air temperature		Outdoor air temperature	External static pressure of indoor unit	Standards	
Operation		DB	WB	DB			WB
	Cooling	27°C	19°C	35°C			24°C
	Heating	20°C	-	7°C			6°C
	(2) This air-conditioner is manufactured and tested in conformity with the ISO.						
	(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.						
	(4) Select the breaker size according to the own national standard.						
	(5) When wireless remote control is used, fan is 3 speed setting (Hi-Me-Lo) only.						
	(6) The operation data indicate when the air-conditioner is operated at 230V50Hz or 220V60Hz.						
	(7) The factory E.S.P. setting is set within the range of 80 - 150 Pa.If SW8-4 is turned to "ON", E.S.P. setting range can be changed to 10 - 200 Pa.(For RC-EX3 and RC-E5 only)						



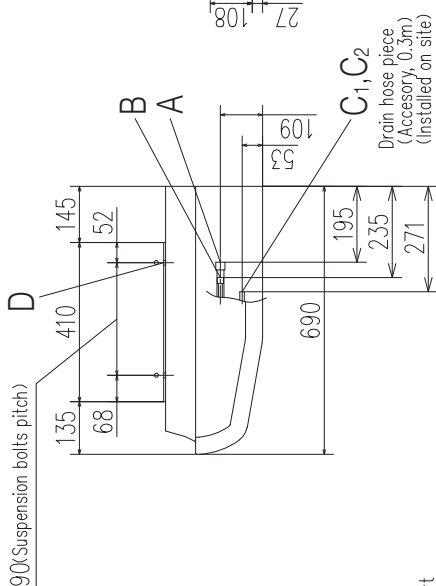
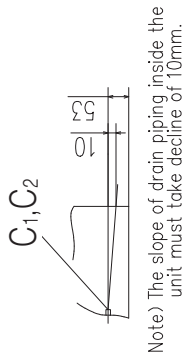
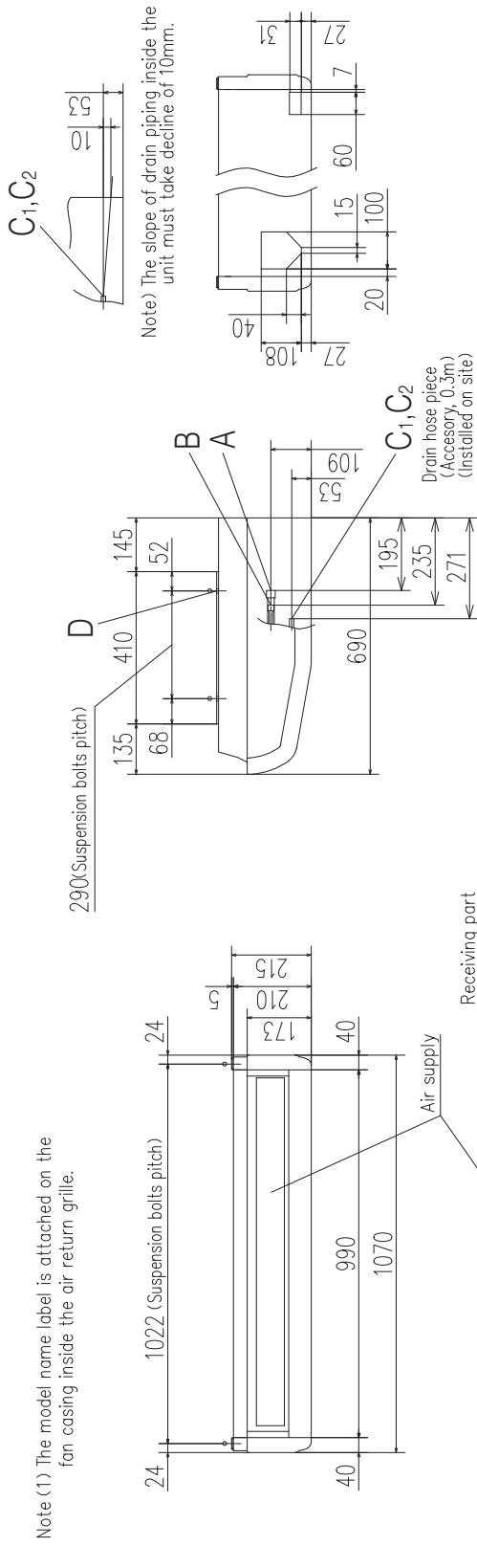
Item		Model	FDU140VSXVF				
			Indoor unit FDU140VF	Outdoor unit FDC140VSX			
Power source			3 Phase 380-415V 50Hz / 380V 60Hz				
Operation data	Nominal cooling capacity (range)	kW	14.0 [5.0(Min.)-16.0(Max.)]				
	Nominal heating capacity (range)	kW	16.0 [4.0(Min.)-20.0(Max.)]				
	Power consumption	Cooling	kW	4.28			
		Heating		4.42			
	Max power consumption		7.74				
	Running current	Cooling	A	6.4 / 6.7			
		Heating		6.6 / 6.9			
	Inrush current, max current		5 , 19				
	Power factor	Cooling	%	97			
		Heating		97			
	EER	Cooling		3.27			
	COP	Heating		3.62			
	Sound power level	Cooling	dB(A)	70	72		
Heating							
Sound pressure level	Cooling	dB(A)	P-Hi : 47 Hi : 40 Me : 35 Lo : 30				
	Heating						
Silent mode sound pressure level			-				
Exterior dimensions (Height x Width x Depth)	mm	280 x 1370 x 740		1300x970x370			
Exterior appearance (Munsell color)		-		Stucco white (4.2Y7.5/1.1) near equivalent			
Net weight	kg	54		105			
Compressor type & Q'ty		-		RMT5134MDE3 (Twin rotary type)x1			
Compressor motor (Starting method)	kW	-		Direct line start			
Refrigerant oil (Amount, type)	ℓ	-		0.9 (M-MA68)			
Refrigerant (Type, amount, pre-charge length)	kg	R410A 4.5kg in outdoor unit (Incl. the amount for the piping of : 30m)					
Heat exchanger		Louver fin & inner grooved tubing		M shape fin & inner grooved tubing			
Refrigerant control		Electronic expansion valve					
Fan type & Q'ty		Centrifugal fan x3		Propeller fan x2			
Fan motor (Starting method)	W	100 + 200 < Direct line start >		86 x 2 < Direct line start >			
Air flow	Cooling	m³/min	P-Hi : 48 Hi : 35 Me : 28 Lo : 22				
	Heating		100				
Available external static pressure	Pa	Standard : 60 Max : 200		-			
Outside air intake		Possible		-			
Air filter, Quality / Quantity		Procure locally		-			
Shock & vibration absorber		Rubber sleeve(for fan motor)		Rubber sleeve(for compressor)			
Electric heater	W	-		20 (Crank case heater)			
Operation control	Remote control	(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-KIT4-E2					
	Room temperature control	Thermostat by electronics					
	Operation display	-					
Safety equipments		Overload protection for fan motor					
		Frost protection thermostat					
		Internal thermostat for fan motor					
		Abnormal discharge temperature protection					
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 9.52 (3/8") Pipe φ 9.52(3/8")x0.8 O/U φ 9.52 (3/8")				
			Gas line: φ 15.88 (5/8") φ 15.88(5/8")x1.0 φ 15.88(5/8")				
	Connecting method		Flare piping		Flare piping		
	Attached length of piping	m	-		-		
	Insulation for piping		Necessary (both Liquid & Gas lines)				
	Refrigerant line (one way) length	m	Max.100m				
Vertical height diff. between O/U and I/U	m	Max.30m (Outdoor unit is higher)		Max.15m (Outdoor unit is lower)			
Drain hose		Hose connectable VP25(I.D.25, O.D.32)		Hole size φ 20 x 3 pcs			
Drain pump, max lift height	mm	Built-in Drain pump , 600		-			
Recommended breaker size	A	-					
L.R.A. (Locked rotor ampere)	A	5.0					
Interconnecting wires	Size x Core number	φ 1.6mm x3 cores + earth cable / Terminal block(Screw fixing type)					
IP number		IPX0		IP24			
Standard accessories		Mounting kit, Drain hose		Edging			
Option parts		Motion sensor : LB-KIT					
Notes	(1) The data are measured at the following conditions. The pipe length is 7.5m.						
	Item	Indoor air temperature		Outdoor air temperature		External static pressure of indoor unit	Standards
Operation		DB	WB	DB	WB		
	Cooling	27°C	19°C	35°C	24°C	60Pa	ISO5151-T1
	Heating	20°C	-	7°C	6°C		
(2) This air-conditioner is manufactured and tested in conformity with the ISO.							
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.							
(4) Select the breaker size according to the own national standard.							
(5) When wireless remote control is used, fan is 3 speed setting (Hi-Me-Lo) only.							
(6) The operation data indicate when the air-conditioner is operated at 400V50Hz or 380V60Hz.							
(7) The factory E.S.P. setting is set within the range of 80 - 150 Pa.If SW8-4 is turned to "ON", E.S.P. setting range can be changed to 10 - 200 Pa.(For RC-EX3 and RC-E5 only)							

1.2 EXTERIOR DIMENSIONS

(1) Indoor units

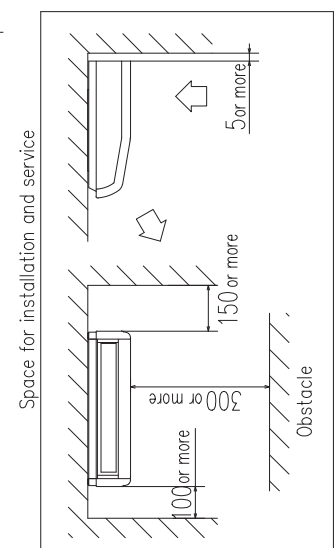
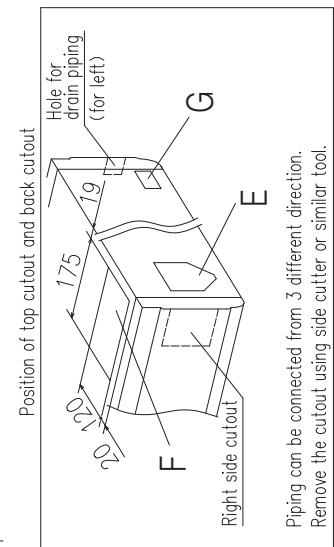
(a) Ceiling suspended type (FDE)

Models FDE40G, 50VG



Symbol	Content
A	Gas piping φ12.7 (1/2") (Flare)
B	Liquid piping φ6.35 (1/4") (Flare)
C.1,2	Drain piping VP20 (I.D.20, 0.0.26)
D	Hole for suspension bolts (M10 or M8)
E	Back cutout PE cover
F	Top cutout Plate cover
G	Drain piping (for left back) (knock out)

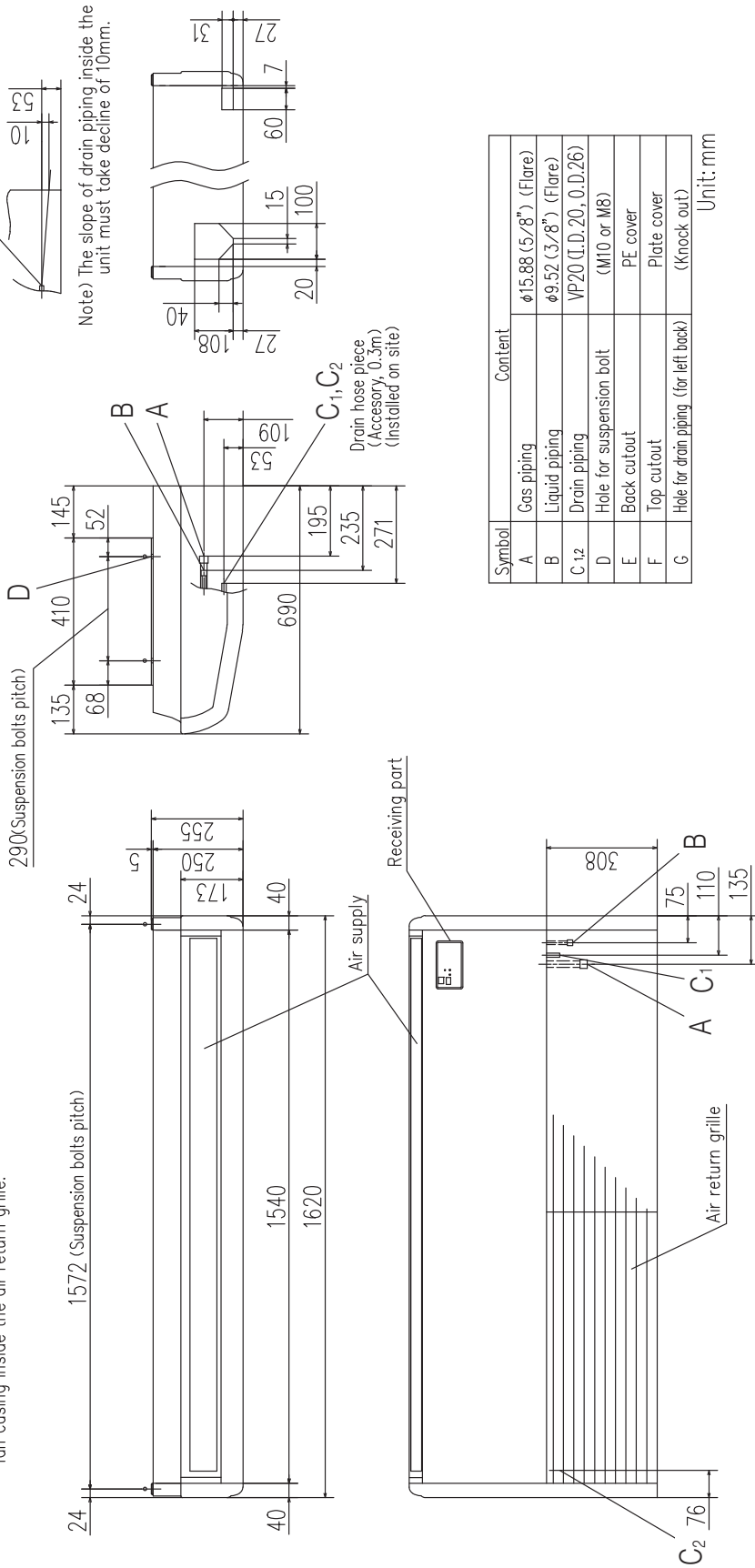
Unit: mm



PFA004Z025

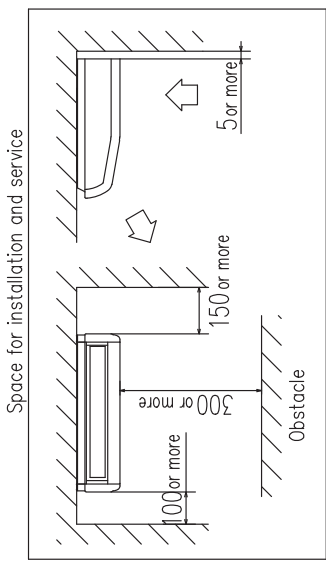
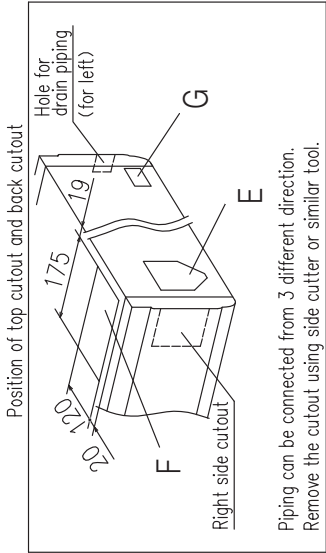
Models FDE100VG, 125VG, 140VG

Note (1) The model name label is attached on the fan casing inside the air return grille.



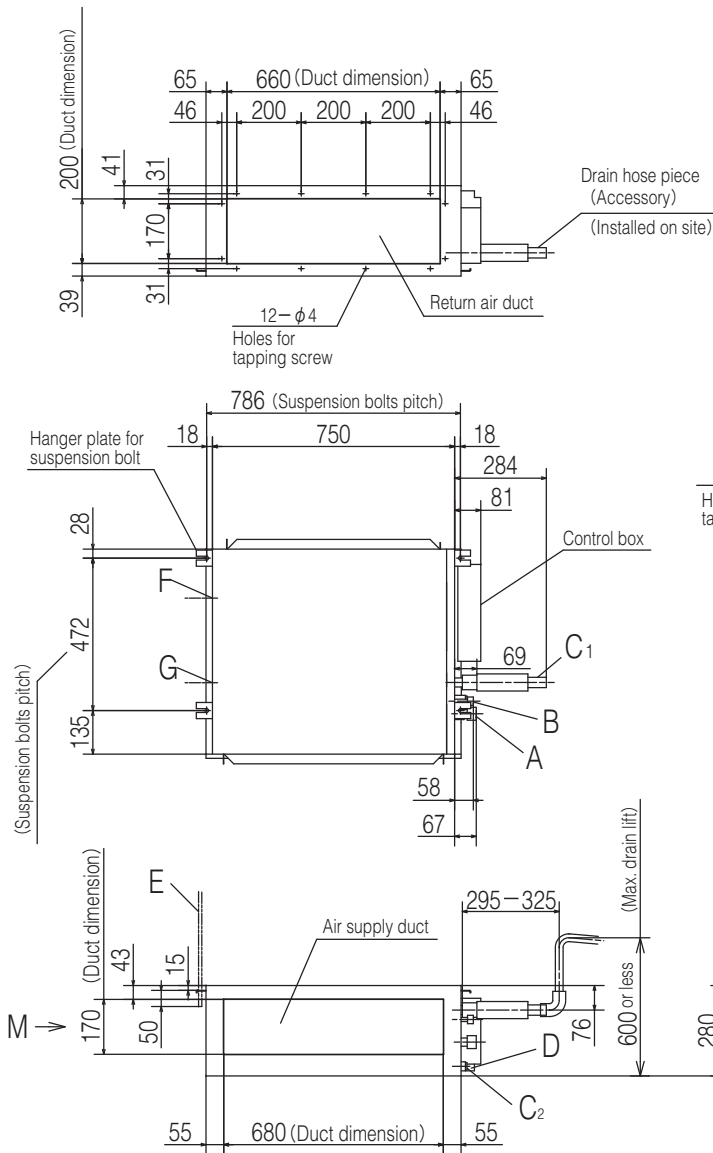
Symbol	Content
A	Gas piping φ15.88 (5/8") (Flare)
B	Liquid piping φ9.52 (3/8") (Flare)
C 1,2	Drain piping VP20 (I.D. 20, O.D. 26)
D	Hole for suspension bolt (M10 or M8)
E	Back cutout PE cover
F	Top cutout Plate cover
G	Hole for drain piping (for left back) (knock out)

Unit: mm



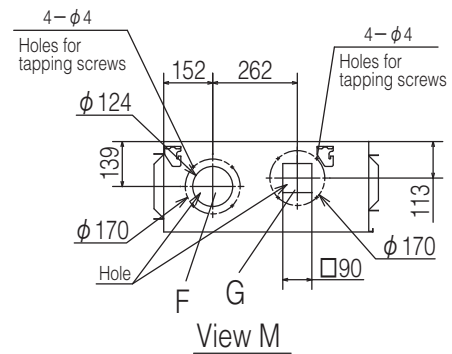
PFA004Z027

(b) Duct connected-Low / Middle static pressure type (FDUM)
Models FDUM40VF, 50VF



Symbol	Content	
A	Gas piping	φ 12.7 (1/2") (Flare)
B	Liquid piping	φ 6.35 (1/4") (Flare)
C1	Drain piping	VP25 (I.D.25, O.D.32)
C2	Drain piping (Gravity drainage)	VP20 (I.D.20, O.D.26)
D	Hole for wiring	
E	Suspension bolts	(M10)
F	Outside air opening for ducting	(φ 150) (Knock out)
G	Air outlet opening for ducting	(φ 125) (Knock out)
H	Inspection hole	(450X450)

Note (1) The model name label is attached on the lid of the control box.

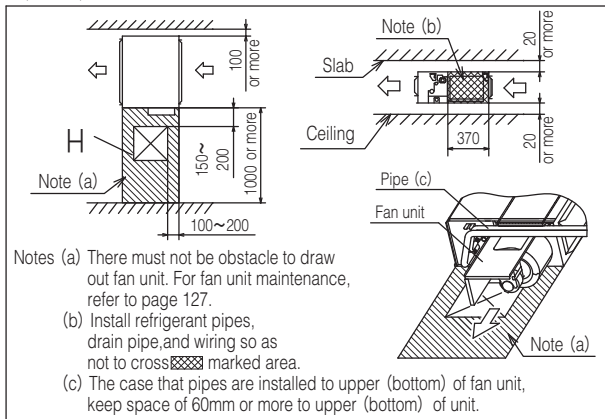


Unit:mm

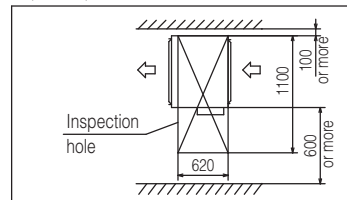
Space for installation and service

Select either of two cases to keep space for installation and services.

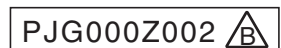
(Case 1) From side of unit



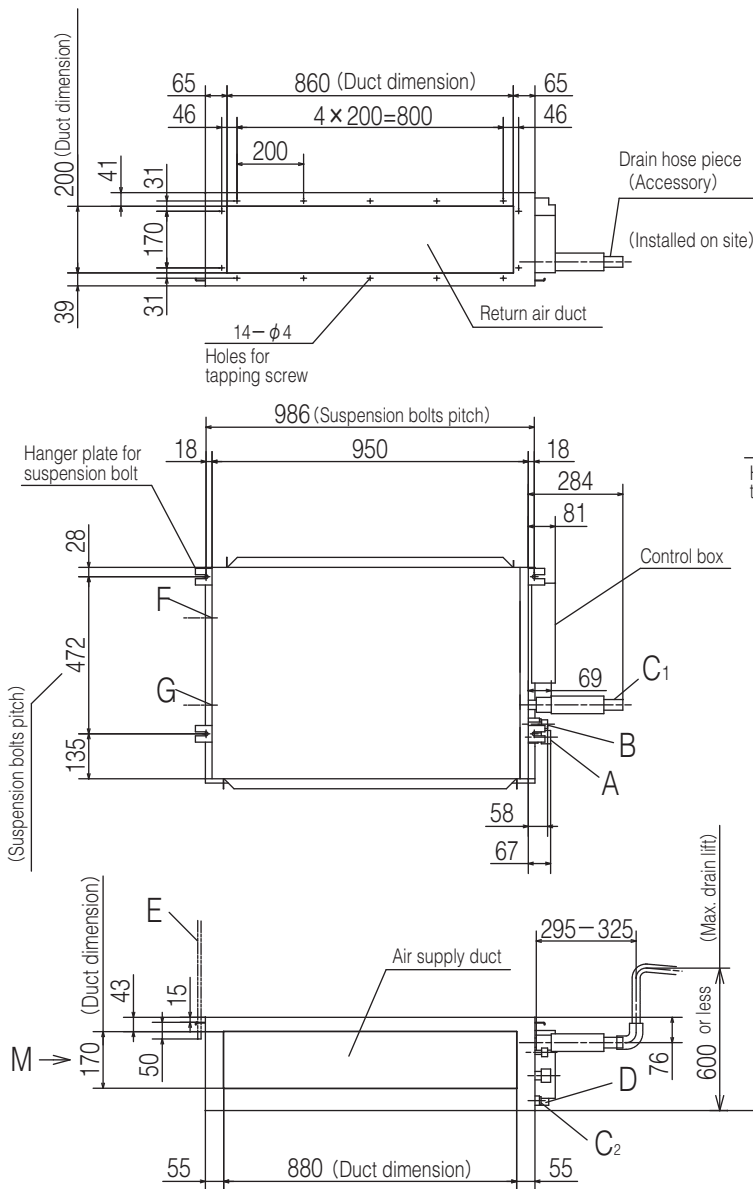
(Case 2) From bottom of unit



- Notes (a) There must not be obstacle to draw out fan unit. For fan unit maintenance, refer to page 127.
 (b) Install refrigerant pipes, drain pipe, and wiring so as not to cross marked area.
 (c) The case that pipes are installed to upper (bottom) of fan unit, keep space of 60mm or more to upper (bottom) of unit.

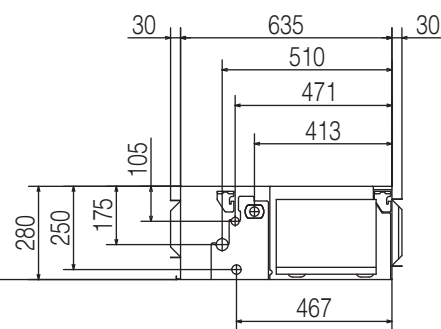
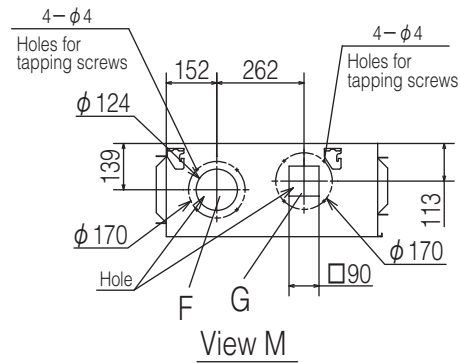


Models FDUM60VF, 70VF1



Symbol	Content		
	Model	60	71
A	Gas piping	φ 12.7 (1/2") (Flare)	φ 15.88 (5/8") (Flare)
B	Liquid piping	φ 6.35 (1/4") (Flare)	φ 9.52 (3/8") (Flare)
C1	Drain piping	VP25 (I.D.25, O.D.32)	
C2	Drain piping (Gravity drainage)	VP20 (I.D.20, O.D.26)	
D	Hole for wiring		
E	Suspension bolts	(M10)	
F	Outside air opening for ducting	(φ 150) (Knock out)	
G	Air outlet opening for ducting	(φ 125) (Knock out)	
H	Inspection hole	(450X450)	

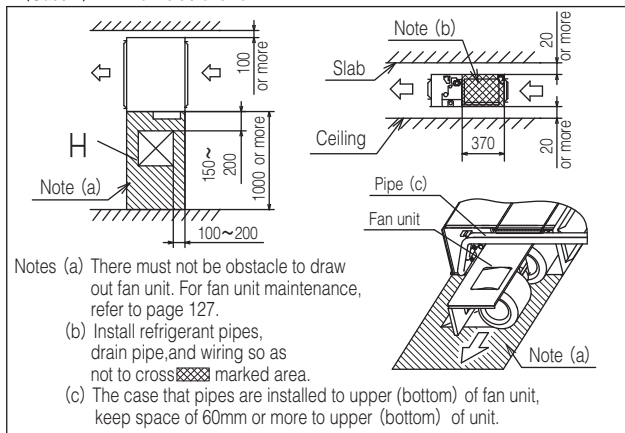
Note (1) The model name label is attached on the lid of the control box.



Space for installation and service

Select either of two cases to keep space for installation and services.

(Case 1) From side of unit

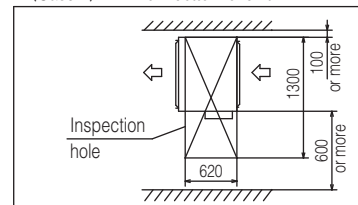


Notes (a) There must not be obstacle to draw out fan unit. For fan unit maintenance, refer to page 127.

(b) Install refrigerant pipes, drain pipe, and wiring so as not to cross marked area.

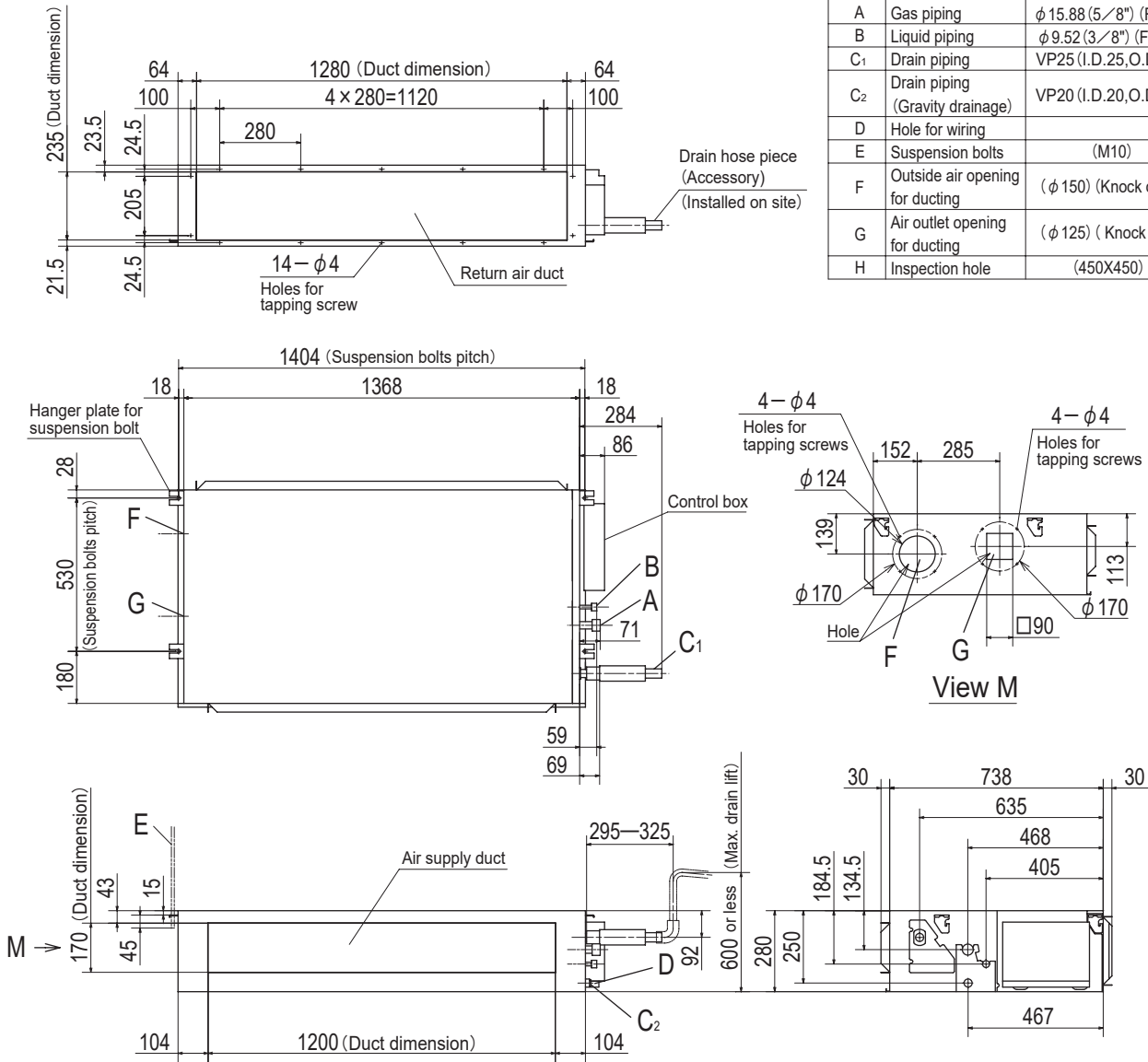
(c) The case that pipes are installed to upper (bottom) of fan unit, keep space of 60mm or more to upper (bottom) of unit.

(Case 2) From bottom of unit



Models FDUM100VF2, 125VF, 140VF

Symbol	Content	
A	Gas piping	φ 15.88 (5/8") (Flare)
B	Liquid piping	φ 9.52 (3/8") (Flare)
C ₁	Drain piping	VP25 (I.D.25,O.D.32)
C ₂	Drain piping (Gravity drainage)	VP20 (I.D.20,O.D.26)
D	Hole for wiring	
E	Suspension bolts	(M10)
F	Outside air opening for ducting	(φ 150) (Knock out)
G	Air outlet opening for ducting	(φ 125) (Knock out)
H	Inspection hole	(450X450)

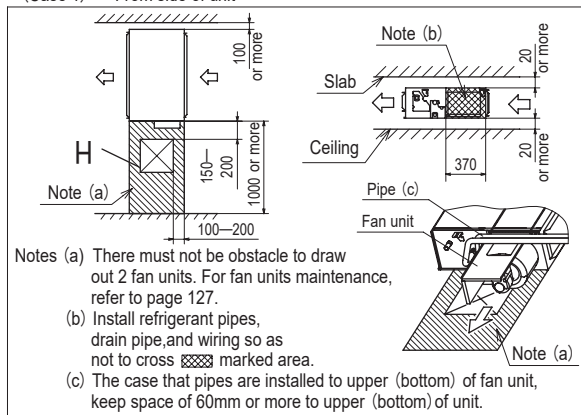


Unit:mm

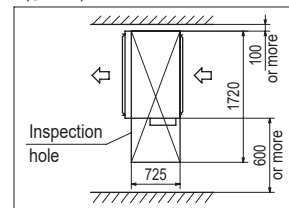
Space for installation and service

Select either of two cases to keep space for installation and services.

(Case 1) From side of unit

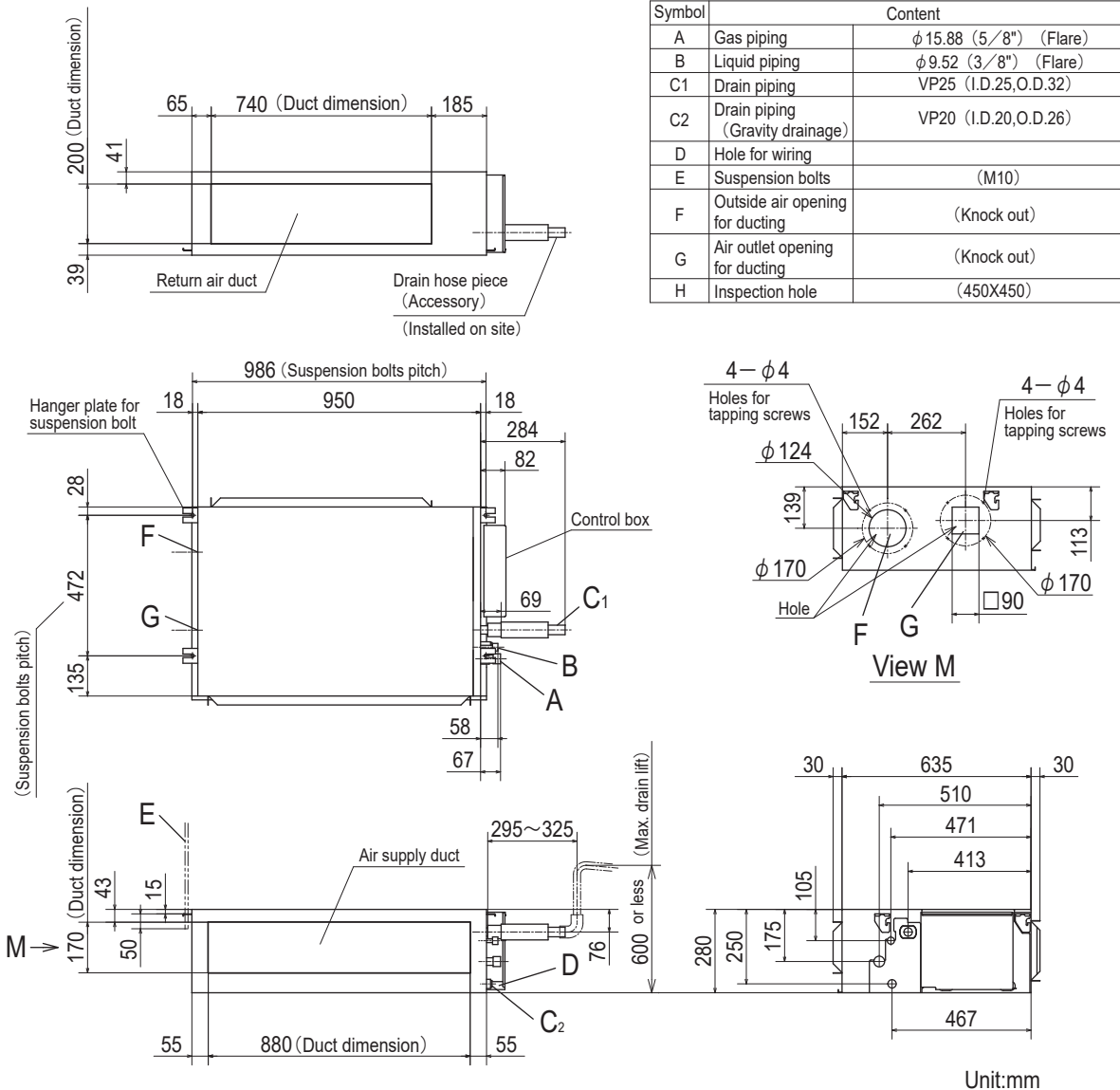


(Case 2) From bottom of unit



PJG000Z004

(c) Duct connected-High static pressure type (FDU)
Model FDU71VF1

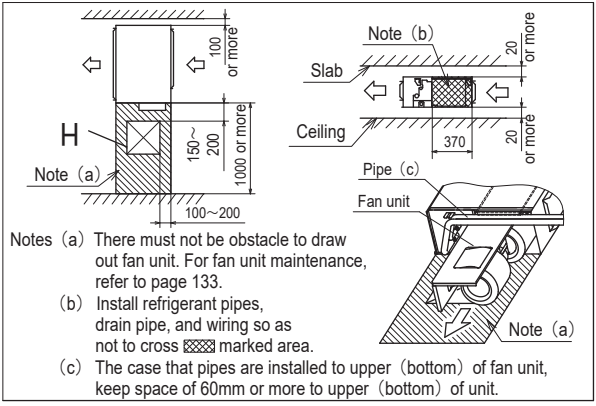


Symbol	Content	
A	Gas piping	φ 15.88 (5/8") (Flare)
B	Liquid piping	φ 9.52 (3/8") (Flare)
C1	Drain piping	VP25 (I.D.25,O.D.32)
C2	Drain piping (Gravity drainage)	VP20 (I.D.20,O.D.26)
D	Hole for wiring	
E	Suspension bolts	(M10)
F	Outside air opening for ducting	(Knock out)
G	Air outlet opening for ducting	(Knock out)
H	Inspection hole	(450X450)

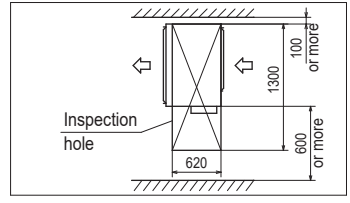
Space for installation and service

Select either of two cases to keep space for installation and services.

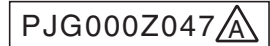
(Case 1) From side of unit



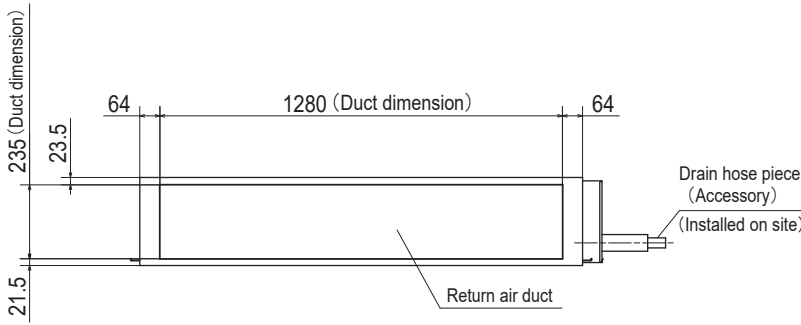
(Case 2) From bottom of unit



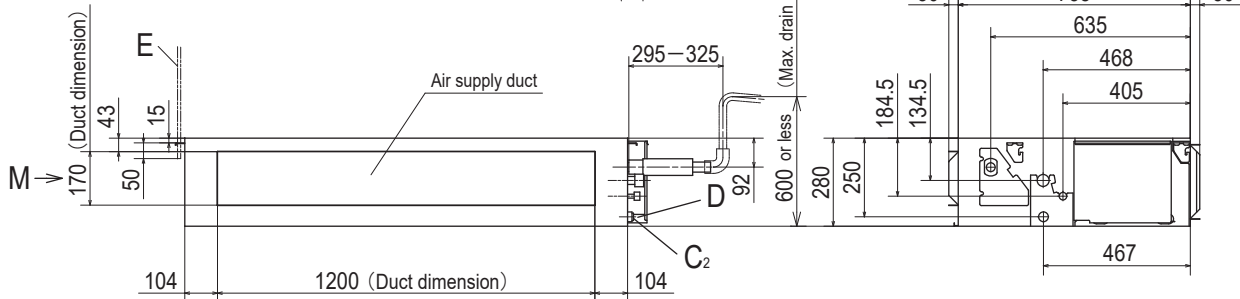
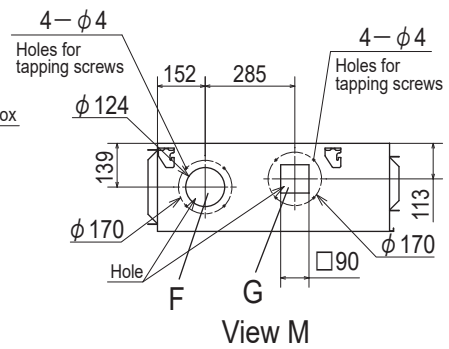
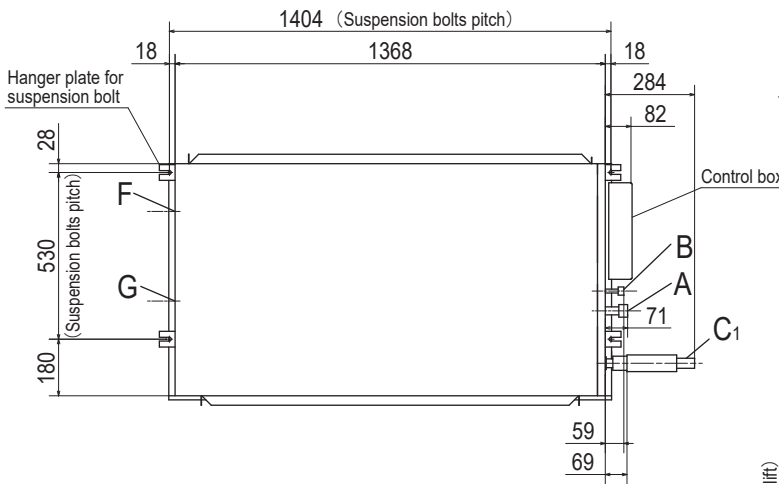
Note (1) The model name label is attached on the lid of the control box.



Models FDU100VF2, 125VF, 140VF



Symbol	Content	
A	Gas piping	φ 15.88 (5/8") (Flare)
B	Liquid piping	φ 9.52 (3/8") (Flare)
C ₁	Drain piping	VP25 (I.D.25,O.D.32)
C ₂	Drain piping (Gravity drainage)	VP20 (I.D.20,O.D.26)
D	Hole for wiring	
E	Suspension bolts	(M10)
F	Outside air opening for ducting	(Knock out)
G	Air outlet opening for ducting	(Knock out)
H	Inspection hole	(450X450)

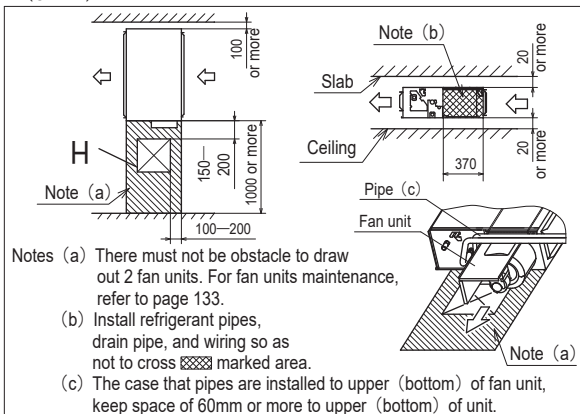


Unit:mm

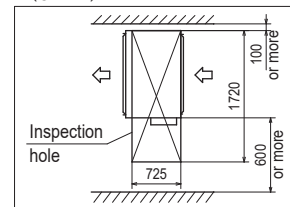
Space for installation and service

Select either of two cases to keep space for installation and services.

(Case 1) From side of unit



(Case 2) From bottom of unit

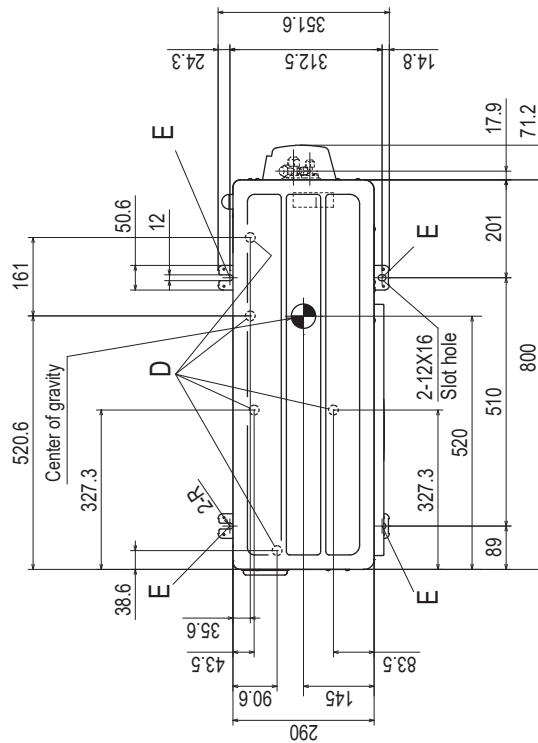


Note (1) The model name label is attached on the lid of the control box.

PJG000Z048

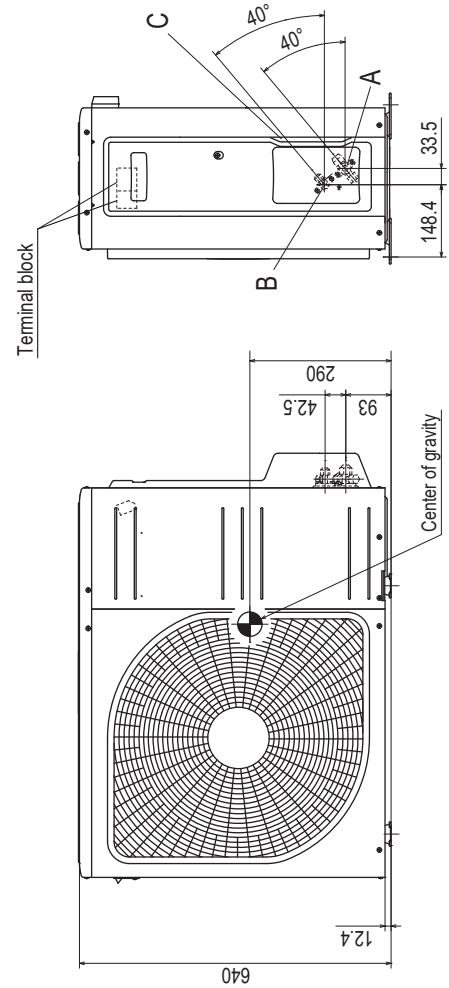
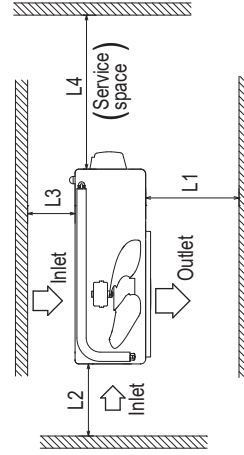
(2) Outdoor units
Models SRC40ZSX-S, 50ZSX-S, 60ZSX-S

Symbol	Content
A	Service valve connection (Gas side) ϕ 12.7(1/2") (Flare)
B	Service valve connection (Liquid side) ϕ 6.35(1/4") (Flare)
C	Pipe/cable draw-out hole
D	Drain discharge hole
E	Anchor bolt hole



Notes

- (1) The unit must not be surrounded by walls on the four sides.
- (2) The unit must be fixed with anchor bolts. An anchor bolt must not protrude more than 15mm.
- (3) If the unit is installed in the location where there is a possibility of strong winds, place the unit such that the direction of air from the outlet gets perpendicular to the wind direction.
- (4) Leave 200mm or more space above the unit.
- (5) The wall height on the outlet side should be 1200mm or less.
- (6) The model name label is attached on the front side of the unit.



Minimum installation space

Examples installation	I	II	III	IV
Size	Open	280	280	180
L1	100	75	Open	Open
L2	100	80	80	80
L3	250	Open	250	Open
L4	Open	Open	Open	Open

Unit:mm

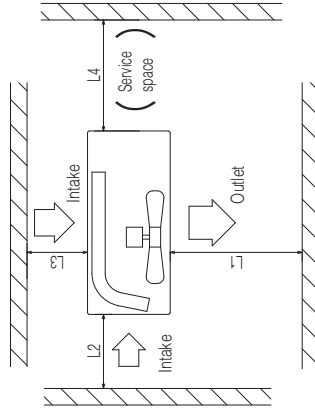
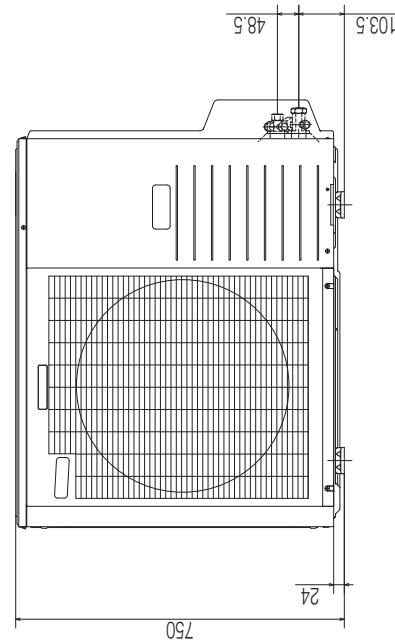
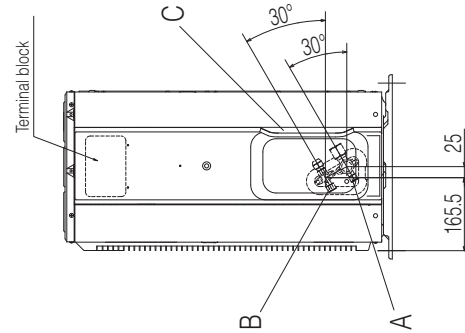
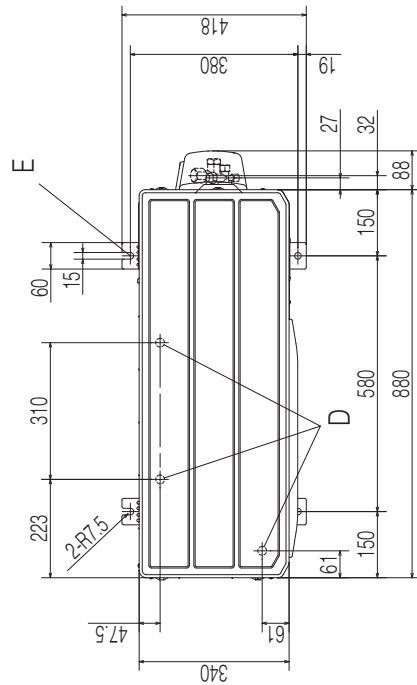
RCT000Z020

Model FDC71VNX

Notes

- (1) It must not be surrounded by walls on the four sides.
- (2) The unit must be fixed with anchor bolts. An anchor bolt must not protrude more than 15mm.
- (3) Where the unit is subjected to strong winds, lay it in such a direction that the blower outlet faces perpendicularly to the dominant wind direction.
- (4) Leave 1m or more space above the unit.
- (5) A wall in front of the blower outlet must not exceed the unit's height.
- (6) The model name label is attached on the lower right corner of the front panel.

Symbol	Content
A	Service valve connection (gas side) $\phi 15.88$ (5/8") (Flare)
B	Service valve connection (liquid side) $\phi 9.52$ (3/8") (Flare)
C	Pipe/cable draw-out hole
D	Drain discharge hole $\phi 20 \times 3$ places
E	Anchor bolt hole M10 x 4places



Minimum installation space

Examples of installation Dimensions	I	II	III
L1	Open	Open	500
L2	300	250	Open
L3	100	150	100
L4	250	250	250

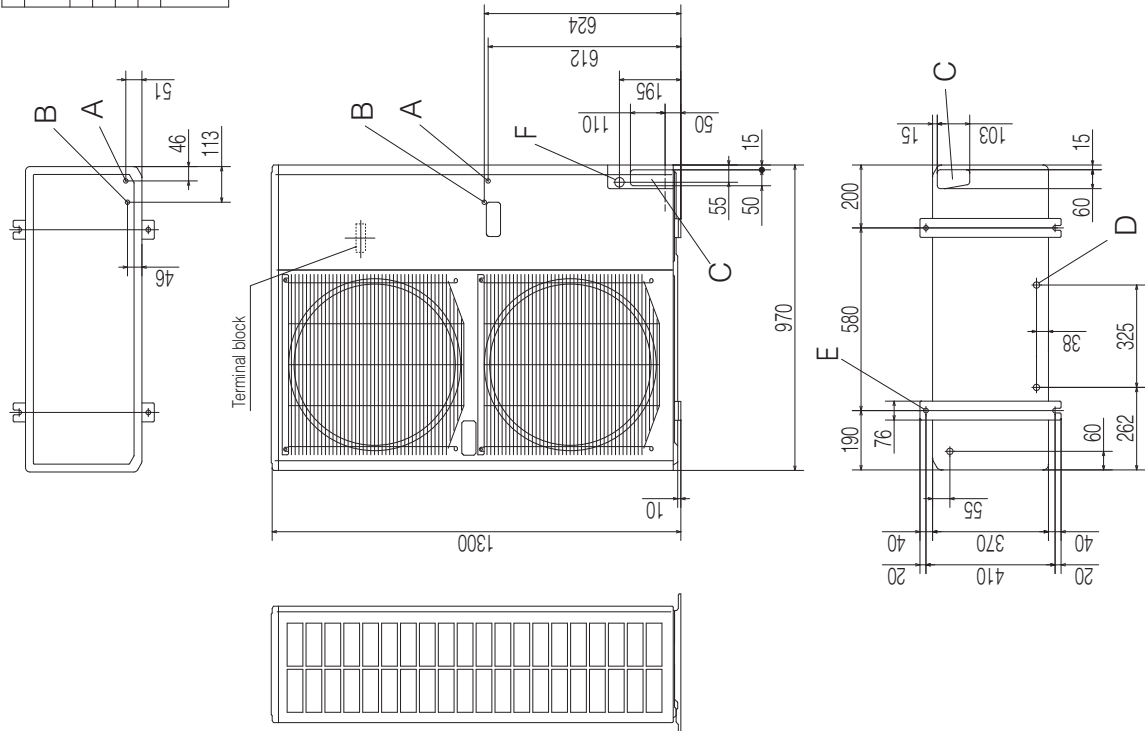
Unit:mm

**Models FDC100VNX, 125VNX, 140VNX
100VSX, 125VSX, 140VSX**

Notes

- (1) It must not be surrounded by walls on the four sides.
- (2) The unit must be fixed with anchor bolts. An anchor bolt must not protrude more than 15mm.
- (3) Where the unit is subject to strong winds, lay it in such a direction that the blower outlet faces perpendicularly to the dominant wind direction.
- (4) Leave 1m or more space above the unit.
- (5) A wall in front of the blower outlet must not exceed the units height.
- (6) The model name label is attached on the lower right corner of the front panel.
- (7) Connect the Service valve with local pipe by using the pipe of the attachment. (Gas side only)

Symbol	Content
A	Service valve connection of the attached connecting pipe (gas side) $\phi 15.88$ (5/8") (Flare)
B	Service valve connection (liquid side) $\phi 9.52$ (3/8") (Flare)
C	Pipe/cable draw-out hole $\phi 20 \times 3$ places M10 \times 4places
D	Drain discharge hole $\phi 50$ (front) $\phi 45$ (side) $\phi 50$ (back)
E	Anchor bolt hole
F	Cable draw-out hole

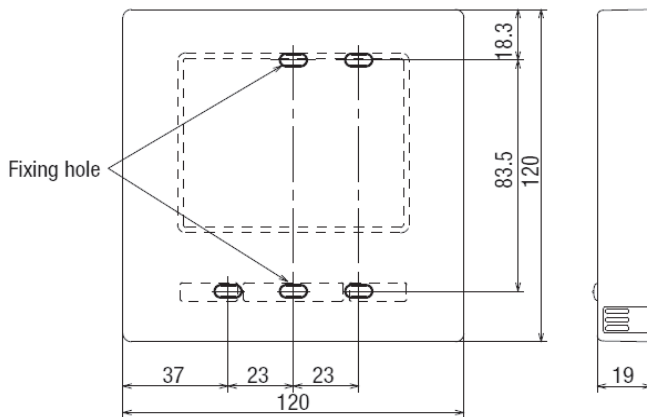


(3) Remote control (Option parts)

(a) Wired remote control

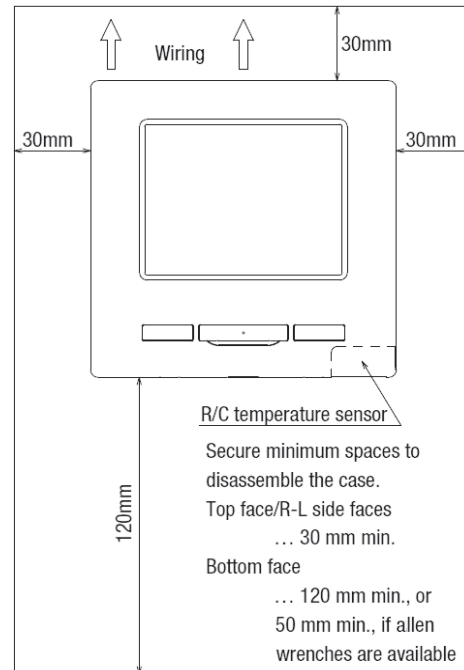
Model RC-EX3

Dimensions (Viewed from front)



Exterior appearance (Munsell color)	Pearl white (N8.5) near equivalent
-------------------------------------	------------------------------------

Installation space



Cautions for selecting installation place

- (1) Installation surface must be flat and sufficiently strong. R/C case must not be deformed.
- (2) Where the R/C can detect room temperatures accurately. This is a must when detecting room temperatures with the temperature sensor of R/C.
 - Install the R/C where it can detect the average temperature in the room.
 - Install the R/C sufficiently separated from a heat source.
 - Install the R/C where it will not be influenced by the turbulence of air when the door is opened or closed.
 Select a place where the R/C is not exposed to direct sunlight or blown by winds from the air-conditioner or temperatures on the wall surface will not deviate largely from indoor air temperatures.
- (3) When using the panel provided with the automatic filter elevating function, select a place where the movement of grill can be seen easily.

R/C cable: 0.3mm² × 2 cores

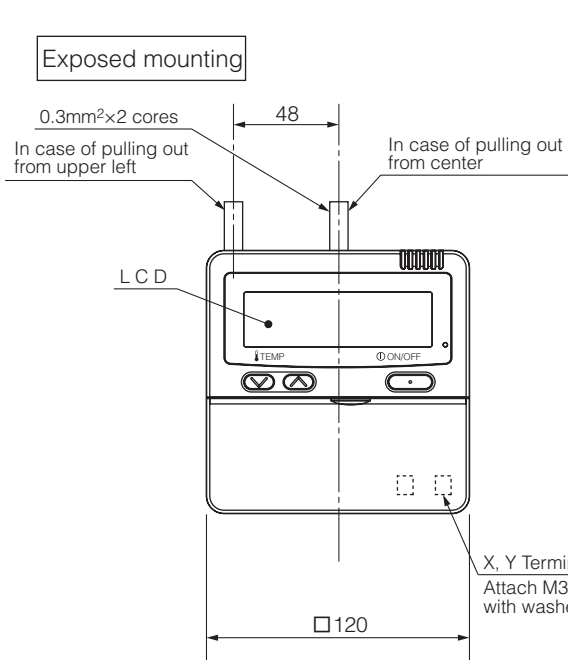
When the cable length is longer than 100 m, the max size for wires used in the R/C case is 0.5 mm². Connect them to wires of larger size near the outside of R/C. When wires are connected, take measures to prevent water, etc. from entering inside.

< 200 m	0.5 mm ² x 2 cores
< 300 m	0.75 mm ² x 2 cores
< 400 m	1.25 mm ² x 2 cores
< 600 m	2.0 mm ² x 2 cores

Adapted to **RoHS** directive

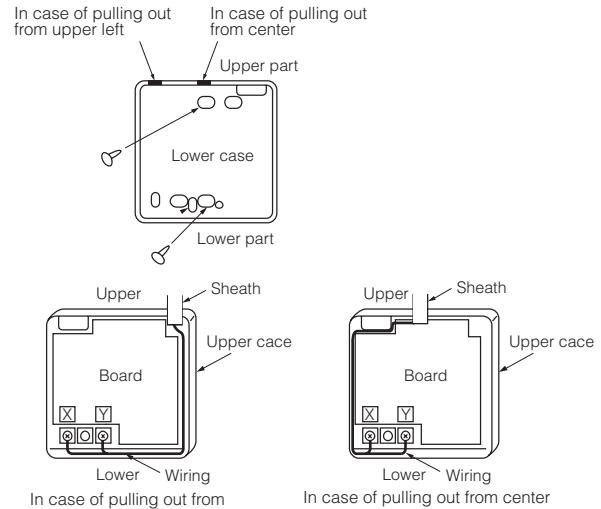
PJZ000Z321

Model RC-E5

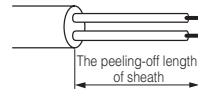


Exterior appearance (Munsell color)	Pearl white (N8.5) near equivalent
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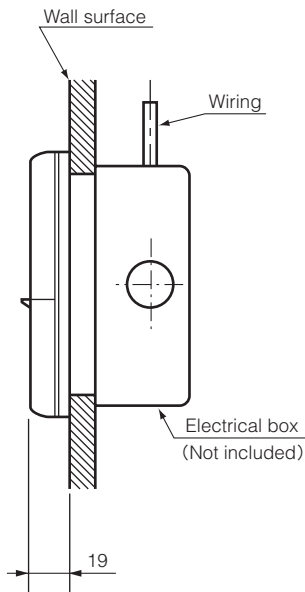
Wiring outlet
Cut off the upper thin part of remote control lower case with a nipper or knife, and grind burrs with a file etc.



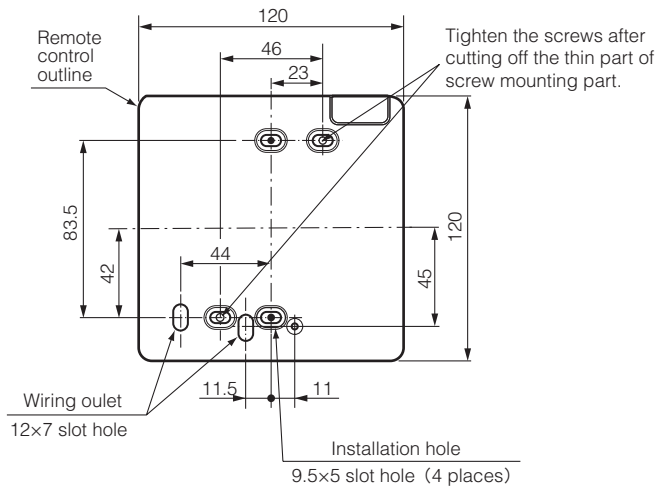
The peeling-off length of sheath	
Pulling out from upper left	Pulling out from center
X wiring : 215mm	X wiring : 170mm
Y wiring : 195mm	Y wiring : 190mm



Embedded mounting



Remote control installation dimensions



(1) Installation screw for remote control
M4 screw (2 pieces)

Unit:mm

Wiring specifications

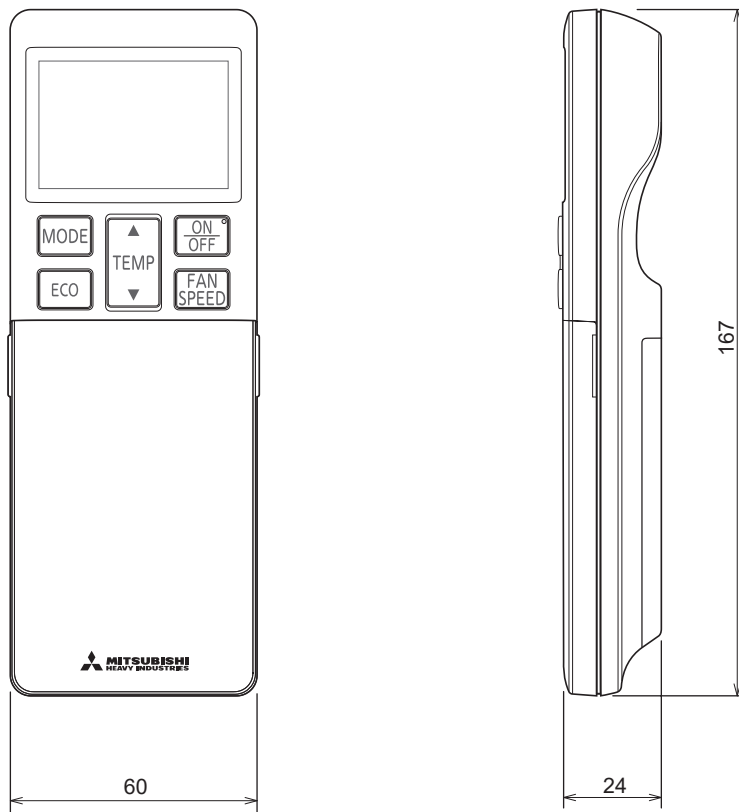
(1) If the prolongation is over 100m, change to the size below.
But, wiring in the remote control case should be under 0.5mm². Change the wire size outside of the case according to wire connecting. Waterproof treatment is necessary at the wire connecting section. Be careful about contact failure.

Length	Wiring thickness
100 to 200m	0.5mm²x2 cores
Under 300m	0.75mm²x2 cores
Under 400m	1.25mm²x2 cores
Under 600m	2.0mm²x2 cores

PJZ000Z295

(b) Wireless remote control
RCN-E2 (Option parts)

Unit: mm

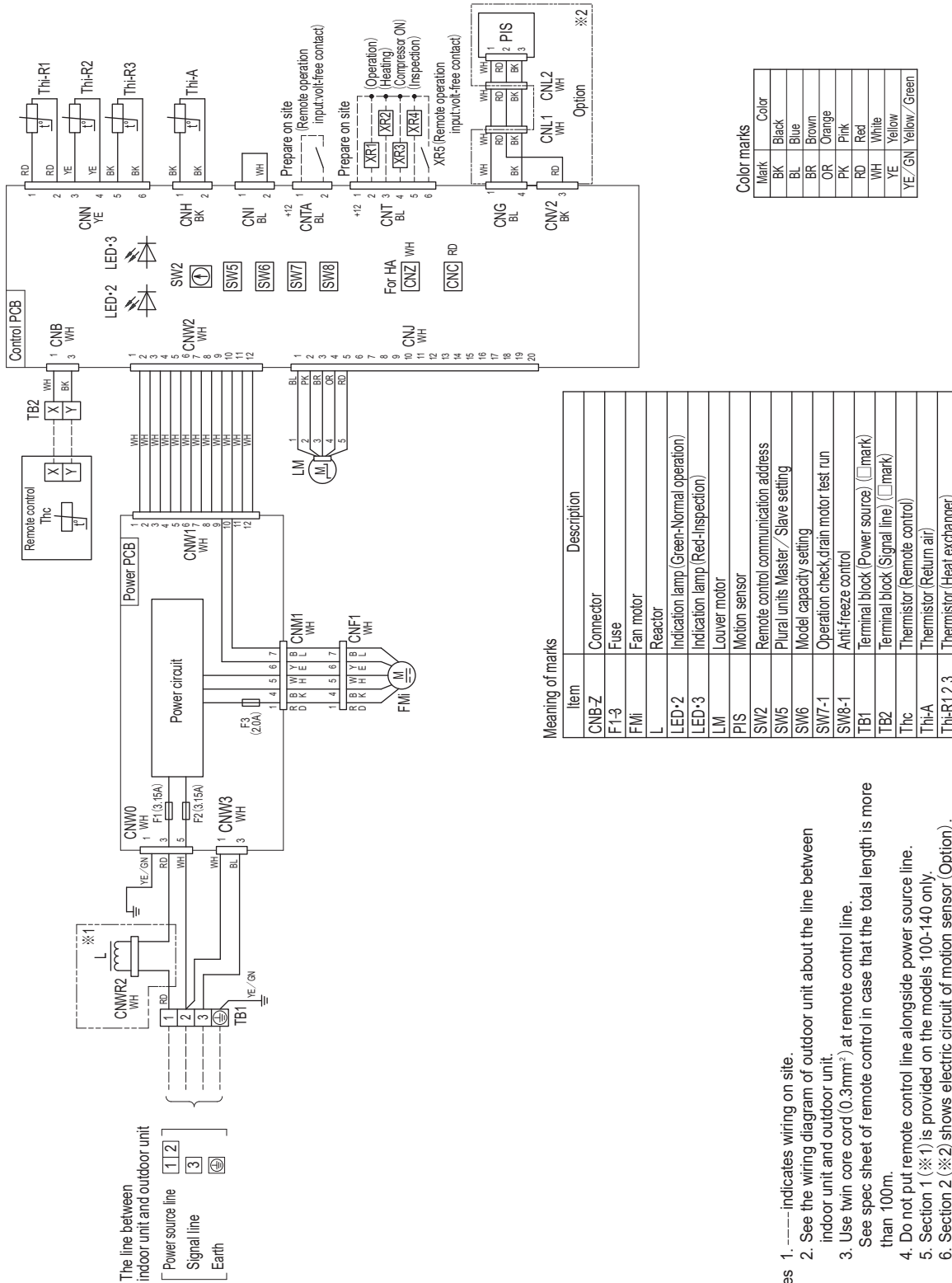


1.3 ELECTRICAL WIRING

(1) Indoor units

(a) Ceiling suspended type (FDE)

Models FDE40VG, 50VG, 60VG, 71VG, 100VG, 125VG, 140VG



- Notes**
1. - - - - indicates wiring on site.
 2. See the wiring diagram of outdoor unit about the line between indoor unit and outdoor unit.
 3. Use twin core cord (0.3mm²) at remote control line.
See spec sheet of remote control in case that the total length is more than 100m.
 4. Do not put remote control line alongside power source line.
 5. Section 1 (※1) is provided on the models 100-140 only.
 6. Section 2 (※2) shows electric circuit of motion sensor (Option).

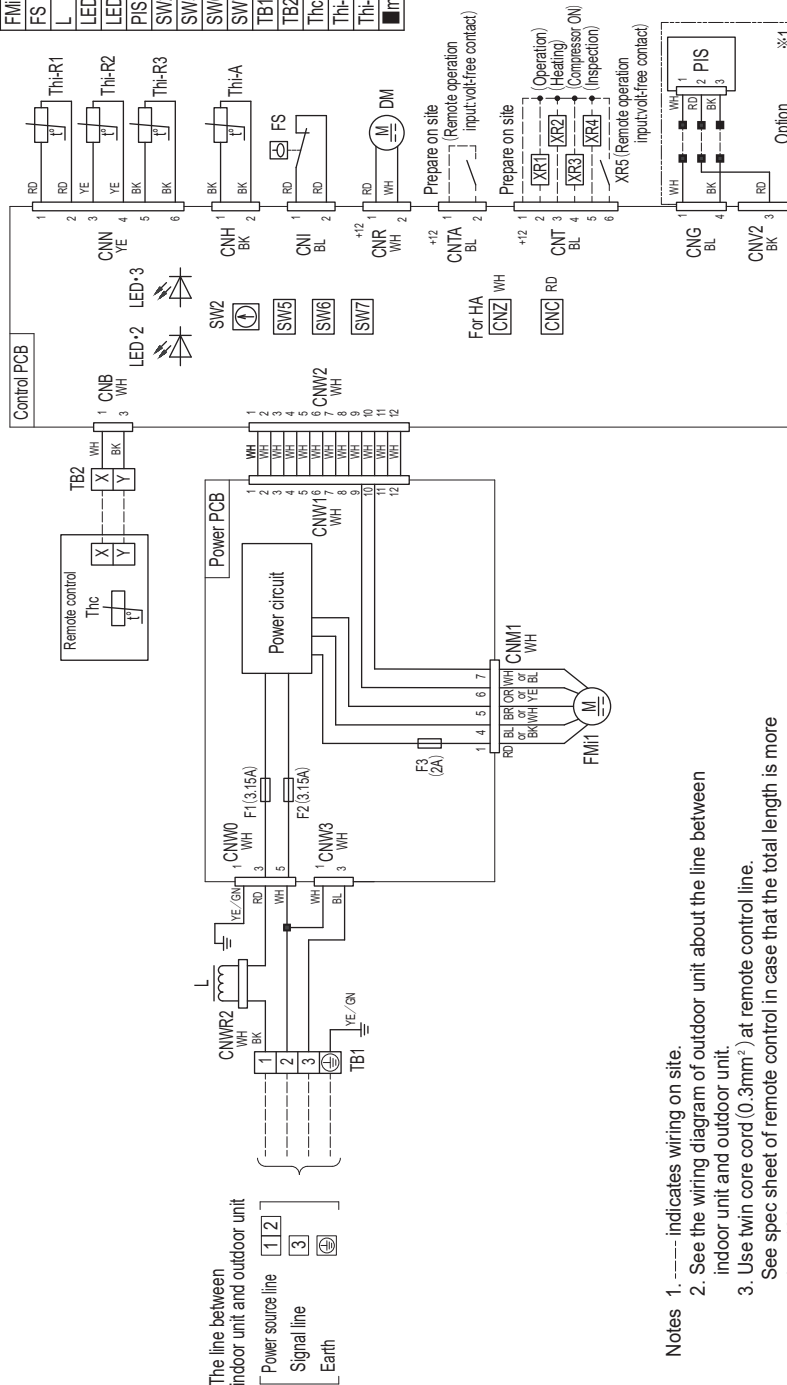
PFA004Z081

(6) Duct connected-Low / Middle static pressure type (FDUM)
Models FDUM40VF, 50VF

Item	Description
CNB-Z	Connector
DM	Drain motor
F1-3	Fuse
FMI1	Fan motor
FS	Float switch
L	Reactor
LED-2	Indication lamp (Green-Normal operation)
LED-3	Indication lamp (Red-Inspection)
PIS	Motion sensor
SW2	Remote control communication address
SW5	Plural units Master / Slave setting
SW6	Model capacity setting
SW7-1	Operation check, drain motor test run
TB1	Terminal block (Power source) (mark)
TB2	Terminal block (Signal line) (mark)
Thc	Thermistor (Remote control)
Thi-A	Thermistor (Return air)
Thi-R1,2,3	Thermistor (Heat exchanger)
mark	Closed-end connector

Mark	Color
BK	Black
BL	Blue
BR	Brown
OR	Orange
RD	Red
WH	White
YE	Yellow
YE/GN	Yellow / Green

Meaning of marks



- Notes
1. ----- indicates wiring on site.
 2. See the wiring diagram of outdoor unit about the line between indoor unit and outdoor unit.
 3. Use twin core cord (0.3mm²) at remote control line. See spec sheet of remote control in case that the total length is more than 100m.
 4. Do not put remote control line alongside power source line.
 5. Section 1 (※1) shows electric circuit of motion sensor (Option).

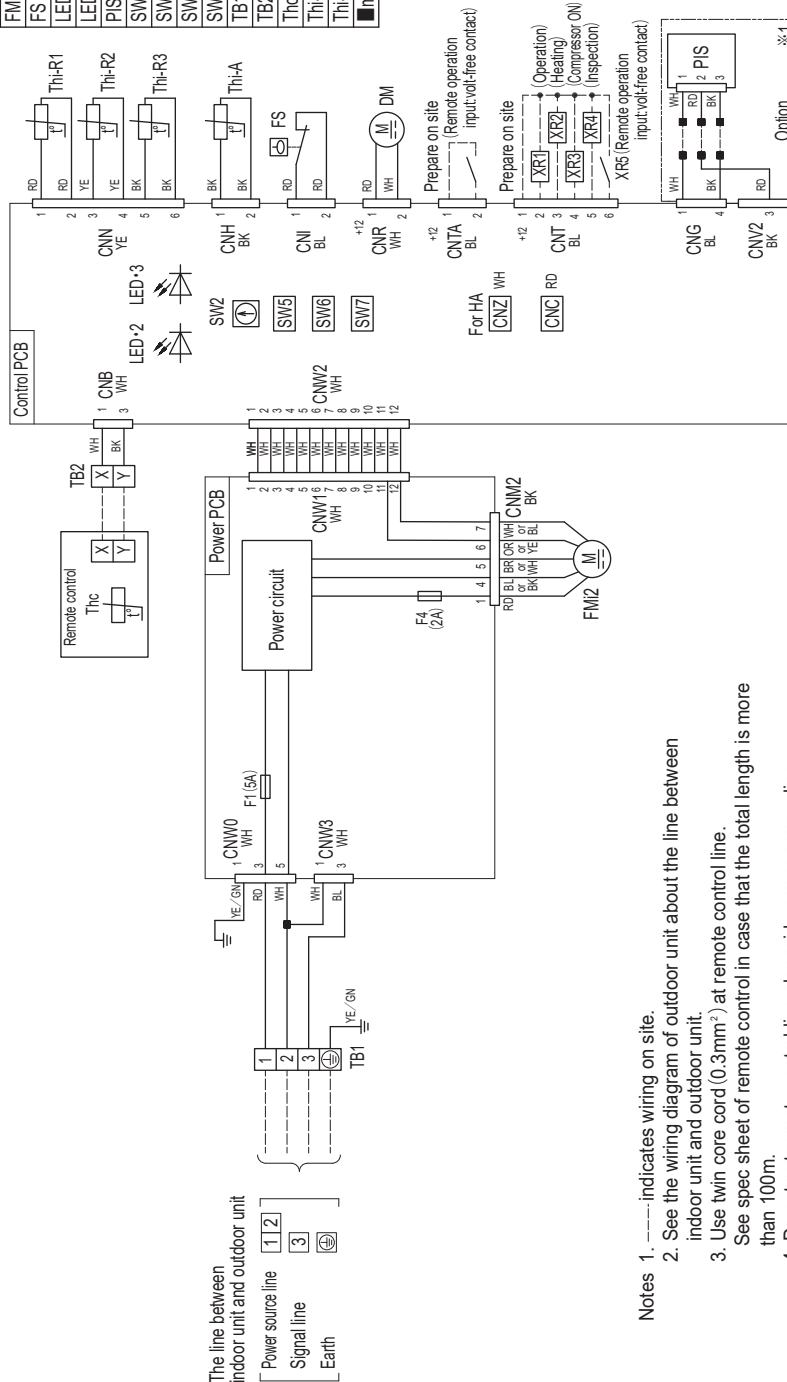
PJG000Z467

Models FDUM60VF, 71VF1

Meaning of marks

Item	Description
CNB-Z	Connector
DM	Drain motor
F1,4	Fuse
FM2	Fan motor
FS	Float switch
LED-2	Indication lamp (Green-Normal operation)
LED-3	Indication lamp (Red-Inspection)
PIS	Motion sensor
SW2	Remote control communication address
SW5	Plural units Master / Slave setting
SW6	Model capacity setting
SW7-1	Operation check, drain motor test run
TB1	Terminal block (Power source) (□mark)
TB2	Terminal block (Signal line) (□mark)
Thc	Thermistor (Remote control)
Thi-A	Thermistor (Return air)
Thi-R1,2,3	Thermistor (Heat exchanger)
■mark	Closed-end connector

Color Marks	Mark	Color
	BK	Black
	BL	Blue
	BR	Brown
	OR	Orange
	RD	Red
	WH	White
	YE	Yellow
	YE / GN	Yellow / Green



- Notes
1. - - - - indicates wiring on site.
 2. See the wiring diagram of outdoor unit about the line between indoor unit and outdoor unit.
 3. Use twin core cord (0.3mm²) at remote control line. See spec sheet of remote control in case that the total length is more than 100m.
 4. Do not put remote control line alongside power source line.
 5. Section 1 (※1) shows electric circuit of motion sensor (Option).

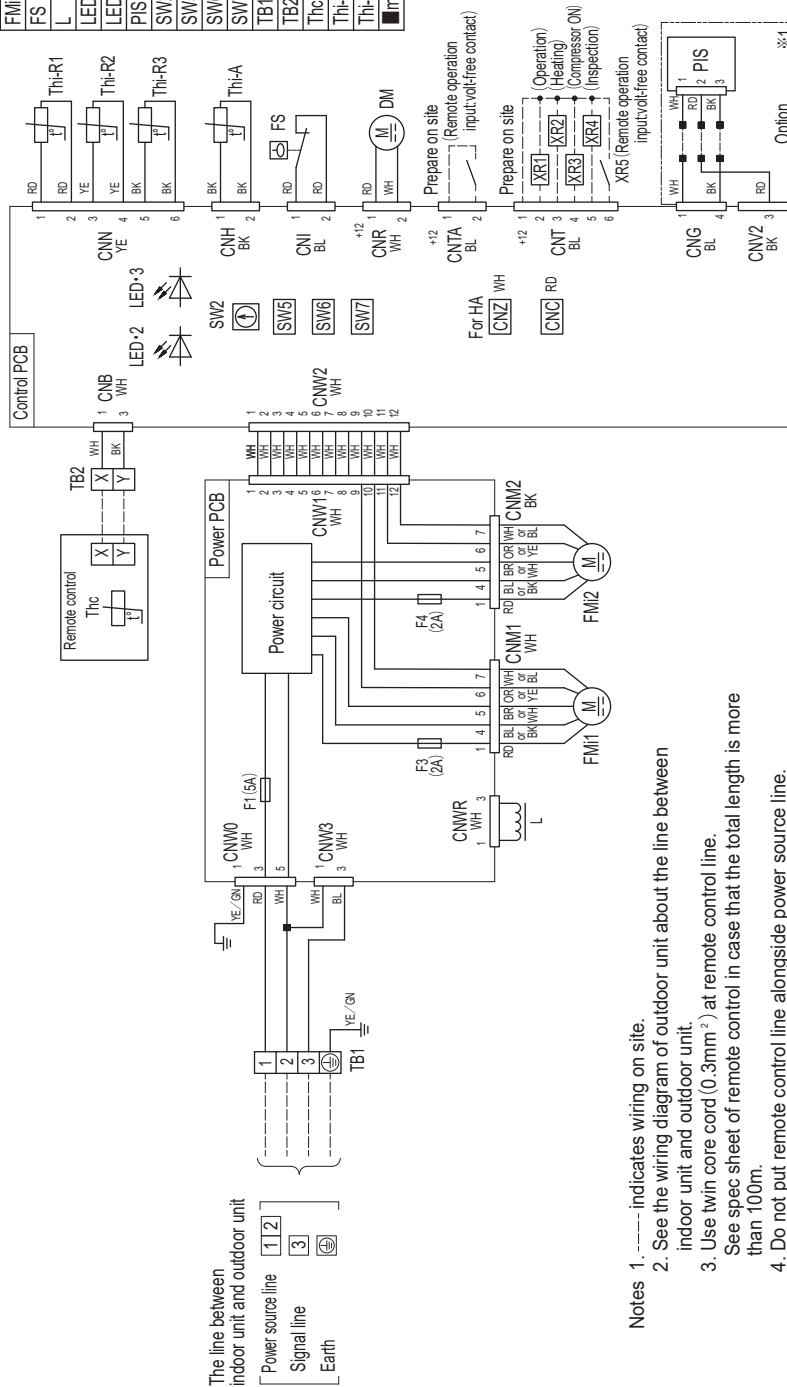
PJG000Z468

Models FDUM100VF2, 125VF, 140VF

Meaning of marks

Item	Description
CNB-Z	Connector
DM	Drain motor
F1.3.4	Fuse
FM1.2	Fan motor
FS	Float switch
L	Reactor
LED-2	Indication lamp (Green-Normal operation)
LED-3	Indication lamp (Red-Inspection)
PIS	Motion sensor
SW2	Remote control communication address
SW5	Plural units Master/ Slave setting
SW6	Model capacity setting
SW7-1	Operation check/drain motor test run
TB1	Terminal block (Power source) (□mark)
TB2	Terminal block (Signal line) (□mark)
Thc	Thermistor (Remote control)
Th-A	Thermistor (Return air)
Th-R1,2,3	Thermistor (Heat exchanger)
■mark	Closed-end connector

Mark	Color
BK	Black
BL	Blue
BR	Brown
OR	Orange
RD	Red
WH	White
YE	Yellow
YE/GN	Yellow/ Green



The line between indoor unit and outdoor unit

- Power source line [1] [2]
- Signal line [3]
- Earth [4]

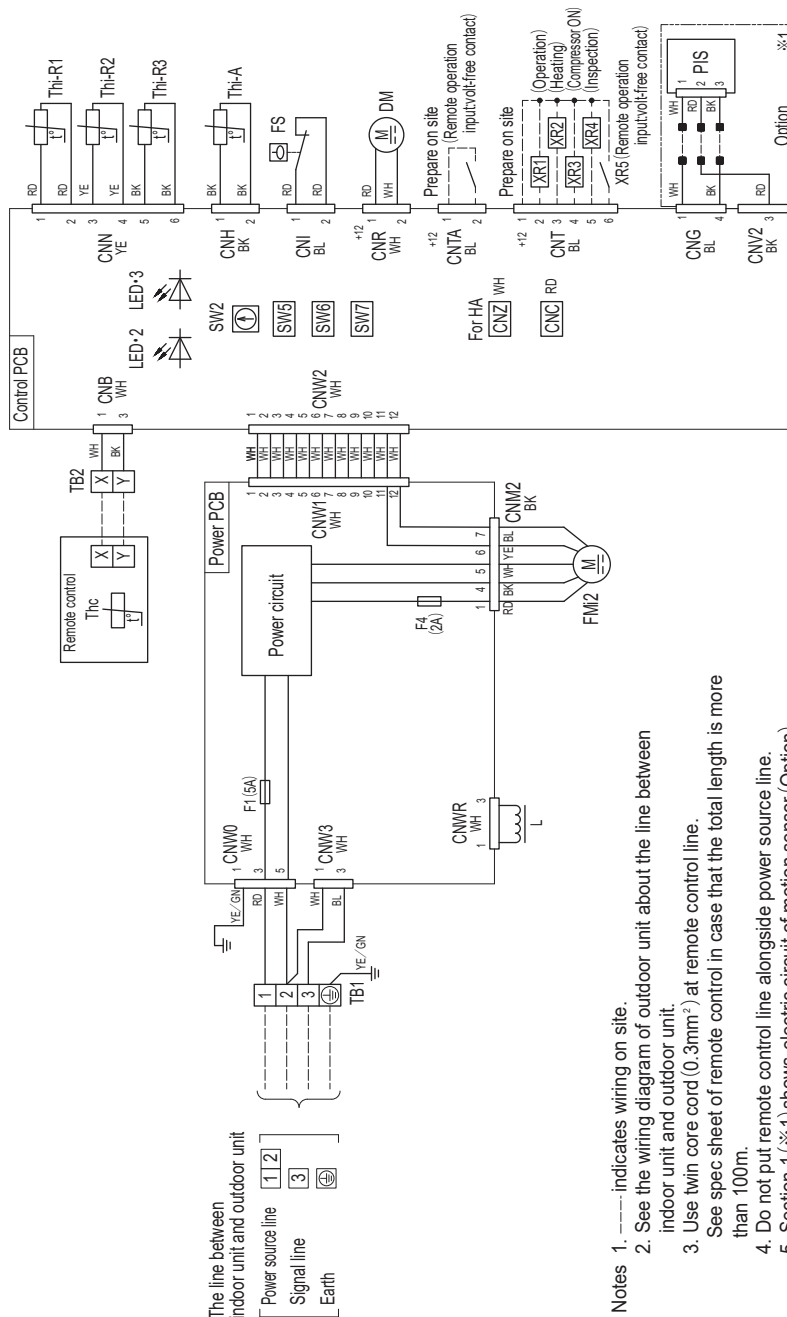
- Notes
1. ----- indicates wiring on site.
 2. See the wiring diagram of outdoor unit about the line between indoor unit and outdoor unit.
 3. Use twin core cord (0.3mm²) at remote control line. See spec sheet of remote control in case that the total length is more than 100m.
 4. Do not put remote control line alongside power source line.
 5. Section 1 (※1) shows electric circuit of motion sensor (Option).

(c) Duct connected-High static pressure type (FDU)
Model FDU71VF1

Meaning of marks

Item	Description
CNB-Z	Connector
DM	Drain motor
F1,4	Fuse
FM1,2	Fan motor
FS	Float switch
L	Reactor
LED-2	Indication lamp (Green-Normal operation)
LED-3	Indication lamp (Red-Inspection)
PIS	Motion sensor
SW2	Remote control communication address
SW5	Plural units Master / Slave setting
SW6	Model capacity setting
SW7-1	Operation check, drain motor test run
TB1	Terminal block (Power source) (□mark)
TB2	Terminal block (Signal line) (□mark)
Thc	Thermistor (Remote control)
Th-A	Thermistor (Return air)
Th-R1,2,3	Thermistor (Heat exchanger)
□mark	Closed-end connector

Mark	Color
BK	Black
BL	Blue
RD	Red
WH	White
YE	Yellow
YE/GN	Yellow/Green



- The line between indoor unit and outdoor unit
- 1. ----- indicates wiring on site.
 - 2. See the wiring diagram of outdoor unit about the line between indoor unit and outdoor unit.
 - 3. Use twin core cord (0.3mm²) at remote control line. See spec sheet of remote control in case that the total length is more than 100m.
 - 4. Do not put remote control line alongside power source line.
 - 5. Section 1 (※1) shows electric circuit of motion sensor (Option).

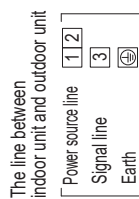
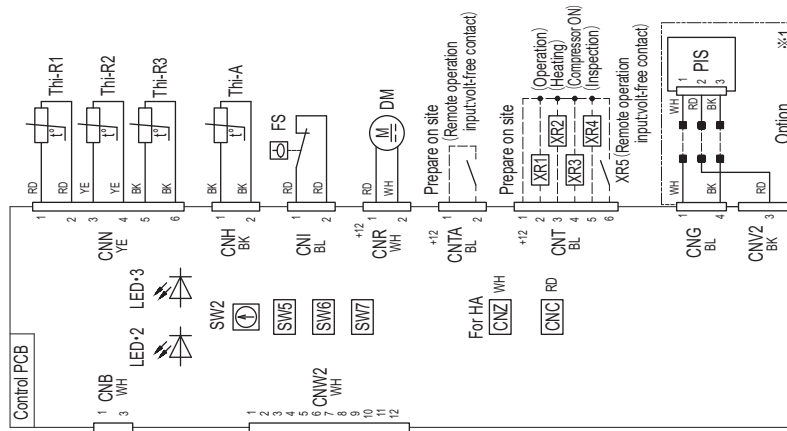
PJG000Z463

Models FDU100VF2, 125VF, 140VF

Meaning of marks

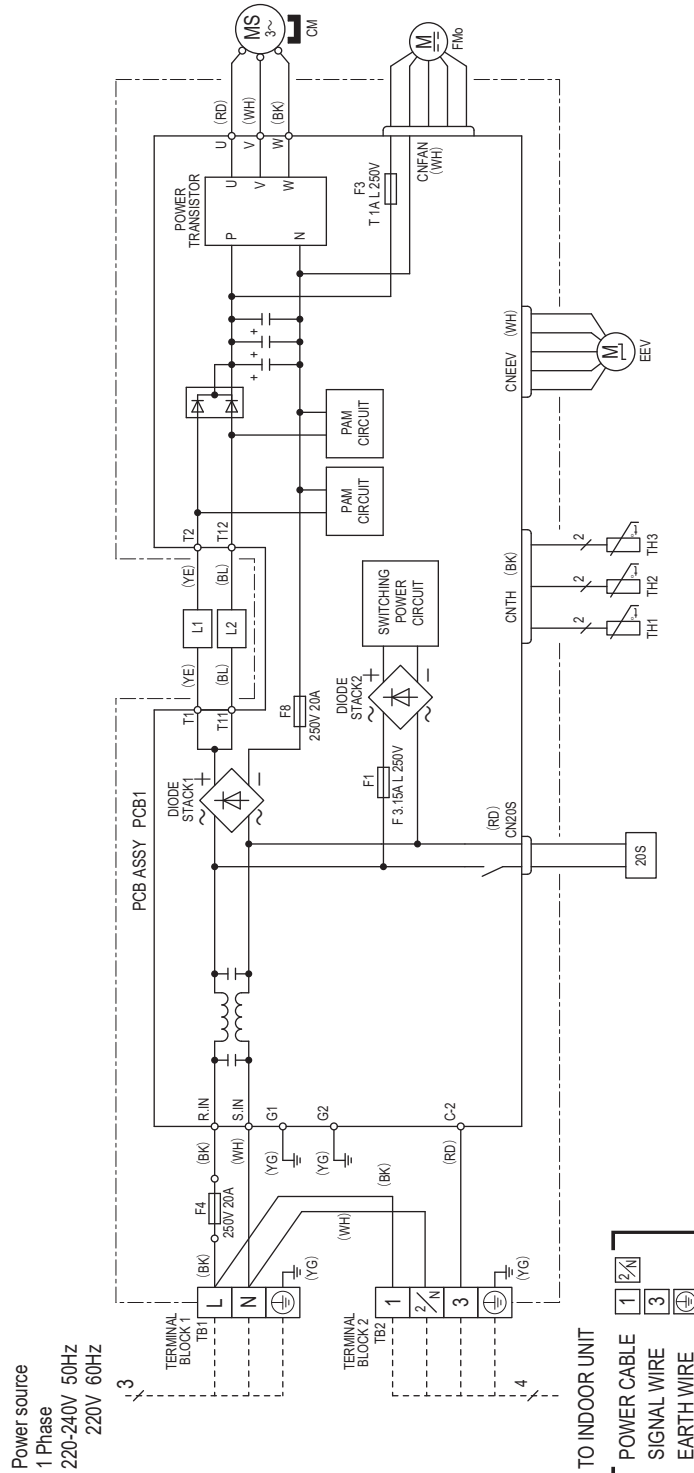
Item	Description
CNB-Z	Connector
DM	Drain motor
F1,3,4	Fuse
FM1,2	Fan motor
FS	Float switch
L	Reactor
LED-2	Indication lamp (Green-Normal operation)
LED-3	Indication lamp (Red-Inspection)
PIS	Motion sensor
SW2	Remote control communication address
SW5	Plural units Master / Slave setting
SW6	Model capacity setting
SW7-1	Operation check drain motor test run
TB1	Terminal block (Power source) (□mark)
TB2	Terminal block (Signal line) (□mark)
Thc	Thermistor (Remote control)
Thi-A	Thermistor (Return air)
Thi-R1,2,3	Thermistor (Heat exchanger)
■mark	Closed-end connector

Color Marks	Color
BK	Black
BL	Blue
RD	Red
WH	White
YE	Yellow
YE / GN	Yellow / Green



- Notes
1. - - - - indicates wiring on site.
 2. See the wiring diagram of outdoor unit about the line between indoor unit and outdoor unit.
 3. Use twin core cord (0.3mm²) at remote control line.
See spec sheet of remote control in case that the total length is more than 100m.
 4. Do not put remote control line alongside power source line.
 5. Section 1 (※1) shows electric circuit of motion sensor (Option).

(2) Outdoor units
 Models SRC40ZSX-S, 50ZSX-S, 60ZSX-S



Meaning of marks

Item	Description
20S	Solenoid coil for 4-way valve
CN20S	Connector
CNEEV	Compressor motor
CNFAN	Electric expansion valve (coil)
CNTH	Fan motor
CM	Reactor
EEV	Heat exchanger sensor
FMo	Outdoor air temp. sensor
L1,2	Discharge pipe temp. sensor
TH1	
TH2	
TH3	

Color marks

Mark	Color
BK	Black
BL	Blue
RD	Red
WH	White
YE	Yellow
YG	Yellow/ Green

Power cable, indoor-outdoor connecting wires

Model name	MAX running current (A)	Power cable wire size x number*	Power cable length (m)	Connecting cable wire size x number*
SRC40ZSX-S	15	2.0mm ² x 3	13	1.5mm ² x 4
SRC50ZSX-S				
SRC60ZSX-S				

- * The wire numbers include earth wire. (Yellow/ Green)
- Switchgear or circuit breaker capacity should be chosen according to national or regional electricity regulations.
- The power cable specifications are based on the assumption that a metal or plastic conduit is used with no more than three cables contained in a conduit and a voltage drop is 2%. For an installation falling outside of these conditions, please follow the national or regional electricity regulations.

RWC000Z298

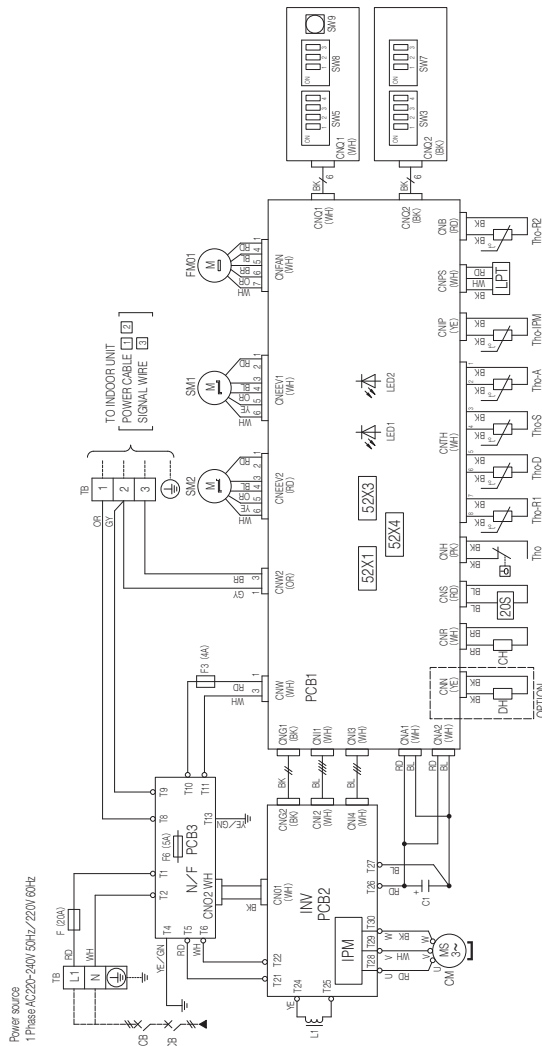
Model FDC71VNX

Meaning of marks

Item	Description
CM	Compressor motor
FM01	Fan motor
CH	Crankcase heater
DH	Drain pan heater
52X1	Auxiliary relay (for CH)
52X3	Auxiliary relay (for 2OS)
52X4	Auxiliary relay (for DH)
2OS	Solenoid valve for 4-way valve
SM1	Expansion valve for cooling
SM2	Expansion valve for heating
63H1	High pressure switch
Tho-A	Thermistor (Outdoor air temp.)
Tho-D	Thermistor (Discharge pipe temp.)
Tho-R1R2	Thermistor (Heat exchanger temp.)
Tho-S	Thermistor (Suction pipe temp.)
Tho-IPM	Thermistor (IPM)
LPT	Low pressure sensor
IPM	Intelligent power module
TB	Terminal block
FF3	Fuse
CoA-Z	Connector
SW9	Pump down switch
SW3.5	Local setting switch
LED1	Indication lamp (GREEN)
LED2	Indication lamp (RED)
L1	Reactor

Color marks

Mark	Color
BK	Black
BL	Blue
BR	Brown
OR	Orange
RD	Red
WH	White
YE	Yellow
YE/GN	Yellow/Green
GY	Gray
PK	Pink



Local setting switch SW3, SW5 (Set up at shipment OFF)

SW3-1	Defrost control change	The defrost operation interval becomes shorter by turning ON this switch. This switch should be turned ON in the area where outside temperature becomes below the freezing point.
SW3-2	Show guard fan control	When this switch is turned ON, the outdoor fan will run for 10 seconds in every 10 minutes, when outdoor temperature falls to 3°C or lower and the compressor is not running when the unit is used in a very snowy country, set this switch to ON.
SW5-3,4	Trial operation	Method of trial operation 1. Trial operation can be performed by using SW5-3. 2. Cooling trial operation will be performed when SW5-4 is OFF, and heating trial operation when SW5-4 is ON. 3. Be sure to turn OFF SW5-3 after the trial operation is finished.

Power cable, indoor-outdoor connecting wires			
Model	MAX over current (A)	Power cable size (mm ²)	Earth wire size
FDC71	17	3.5	φ 1.6mm x 3
		Power cable length (m)	
		Indoor-outdoor wire size x number	
		21	φ 1.6mm x 3

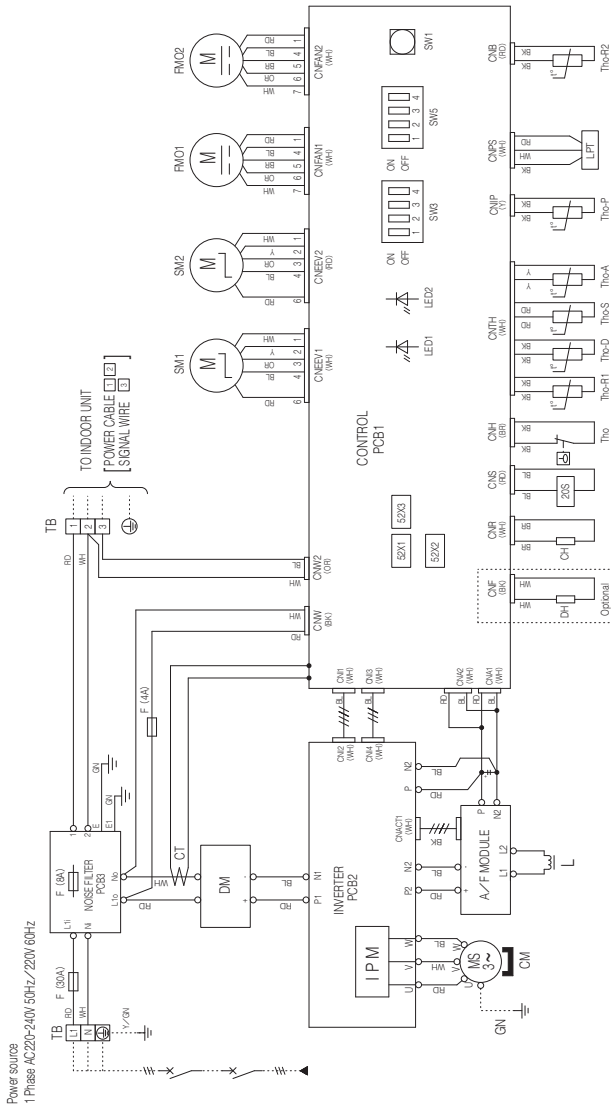
- The specifications shown in the above table are for units without heaters. For units with heaters, refer to the installation instructions or the construction instructions of the indoor unit.
- Switching gear of circuit breaker capacity which is calculated from MAX. over current should be chosen along the regulations in each country.
- The cable specifications are based on the assumption that a metal or plastic conduit is used with no more than three cables contained in a conduit and a voltage drop is 2%. For an installation falling outside of these conditions, please follow the internal cabling regulations. Adapt it to the regulation in effect in each country.
- Refer to installation manual or technical manual about usage of local setting switch.
- Don't operate SW3-3, SW5-1, SW5-2, SW7, SW8

PCA001Z605

Models FDC100VNX, 125VNX, 140VNX

Color marks		Meaning of marks	
Mark	Color	Item	Description
BK	Black	CrA-Z	Connector
BL	Blue	CH	Crankcase heater
BR	Brown	DH	Drain pan heater
GN	Green	CM	Compressor motor
GR	Gray	CT	Current sensor
P	Pink	DM	Diode module
OR	Orange	F	Fuse
RD	Red	FM01	Fan motor
WH	White	IPM	Intelligent power module
Y	Yellow	L	Reactor
Y/GN	Yellow/Green	LED1	Indication lamp (GREEN)
		LED2	Indication lamp (RED)
		LPT	Low pressure sensor
		SM1	Expansion valve for cooling
		SM2	Expansion valve for heating
		SW1	Pump down switch
		SW3.5	Local setting switch
		TB	Terminal block
		Tho-A	Thermistor (Outdoor air temp.)
		Tho-D	Thermistor (Discharge pipe temp.)
		Tho-P	Thermistor (IPM)
		Tho-R1,2	Thermistor (Heat exchanger pipe temp.)
		Tho-S	Thermistor (Suction pipe temp.)
		20S	Solenoid valve for 4-way valve
		52X1	Auxiliary relay (for CH)
		52X2	Auxiliary relay (for DH)
		52X3	Auxiliary relay (for 20S)
		63H1	High pressure switch

Mark	Color
BK	Black
BL	Blue
BR	Brown
GN	Green
GR	Gray
P	Pink
OR	Orange
RD	Red
WH	White
Y	Yellow
Y/GN	Yellow/Green



Local setting switch SW3 (Set up at shipment OFF)

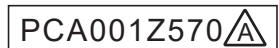
SW3-1	SW3-2	SW3-3,4
Defrost control change	Snow guard fan control	Trial operation

Method of trial operation
 ① Trial operation can be performed by using SW3-3,4.
 ② Compressor will be in the operation when SW3-3 is ON.
 ③ Cooling trial operation will be performed when SW3-4 is OFF, and heating trial operation when SW3-4 is ON.
 ④ Be sure to turn OFF SW3-3 after the trial operation is finished.

Power cable, indoor-outdoor connecting wires

Model	MAX over current (A)	Power cable size (mm ²)	Power cable length (m)	Indoor-outdoor wire size x number	Earth wire size (mm)
FDC100	24	5.5	25	φ 1.6mm x 3	φ 1.6
FDC125	26		23		
FDC140					

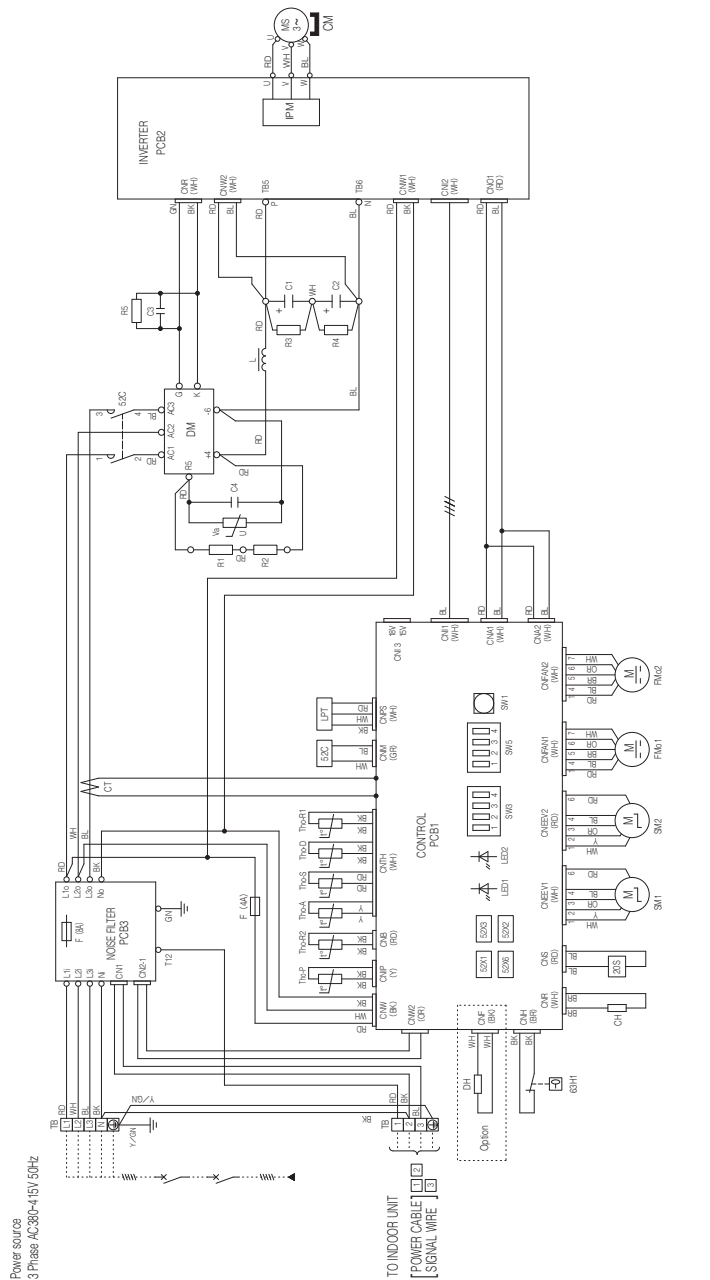
- The specifications shown in the above table are for units without heaters. For units with heaters, refer to the installation instructions or the construction instructions of the indoor unit.
- Switchgear of circuit breaker capacity which is calculated from MAX. over current should be chosen along the regulations in each country.
- The cable specifications are based on the assumption that a metal or plastic conduit is used with no more than three cables contained in a conduit and a voltage drop is 2%. For an installation failing outside of these conditions, please follow the internal cabling regulations. A dapt. fit to the regulation in effect in each country.



Models FDC100VSX, 125VSX, 140VSX

Meaning of marks

Item	Description
CH	Crankcase heater
CM	Compressor motor
CRA-Z	Connector
CT	Current sensor
DH	Drain pan heater
DM	Diode module
F	Fuse
FMo1.2	Fan motor
IPM	Intelligent power module
L	Reactor
LED1	Indication lamp (GREEN)
LED2	Indication lamp (RED)
LPT	Low pressure sensor
SM1	Expansion valve for cooling
SM2	Expansion valve for heating
SW1	Pump down switch
SW3.5	Local setting switch
TB	Terminal block
Tho-A	Thermistor (Outdoor air temp.)
Tho-D	Thermistor (Discharger pipe temp.)
Tho-R1.2	Thermistor (Heat exchanger pipe temp.)
Tho-S	Thermistor (Suction pipe temp.)
Tho-P	Thermistor (IPM)
2XS	Solenoid valve for 4-way valve
52C	Relay
52X1	Auxiliary relay (for CH)
52X2	Auxiliary relay (for DH)
52X3	Auxiliary relay (for 2XS)
52X6	Auxiliary relay (for 52C)
63H1	High pressure switch



Color marks

Mark	Color
BK	Black
BL	Blue
BR	Brown
OR	Orange
RD	Red
WH	White
Y	Yellow
Y/GN	Yellow/Green
GR	Gray
P	Pink

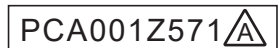
Local setting switch SW3 (Set up at shipment OFF)

SW3-1	Defrost control change	The defrost operation interval becomes shorter by turning ON this switch. This switch should be turned ON in the area where outside temperature becomes below the freezing point.
SW3-2	Show guard fan control	When this switch is turned ON, the outdoor unit fan will run for 30 seconds in every 10 minutes, when outdoor temperature falls to 3°C or lower and the compressor is not running when the unit is used in a very snowy country, set this switch to ON.
SW3-3.4	Trial operation	Method of trial operation ① Trial operation can be performed by using SW3-3.4. ② Compressor will be in the operation when SW3-3 is ON. ③ Cooling trial operation will be performed when SW3-4 is OFF, and heating trial operation when SW3-4 is ON. ④ Be sure to turn OFF SW3.3 after the trial operation is finished.

Power cable, indoor-outdoor connecting wires

Model	MAX over current (A)	Power cable size (mm ²)	Power cable length (m)	Indoor-outdoor wire size x number	Earth wire size (mm)
FDC100	15	3.5	27	φ 1.6mm x 3	φ 1.6
FDC125					
FDC140					

- The specifications shown in the above table are for units without heaters. For units with heaters, refer to the installation instructions or the construction instructions of the indoor unit.
- Switchgear or circuit breaker capacity which is calculated from MAX. over current should be chosen along the regulations in each country.
- The cable specifications are based on the assumption that a metal or plastic conduit is used with no more than three cables contained in a conduit and a voltage drop is 2%. For an installation falling outside of these conditions, please follow the internal cabling regulations. Adapt it to the regulation in effect in each country.



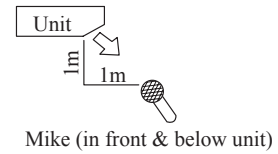
1.4 NOISE LEVEL

- Notes(1) The data are based on the following conditions.
 Ambient air temperature: Indoor unit 27°CWB. Outdoor unit 35°CDB.
 (2) The data in the chart are measured in an anechoic room.
 (3) The noise levels measured in the field are usually higher than the data because of reflection.

(1) Indoor units

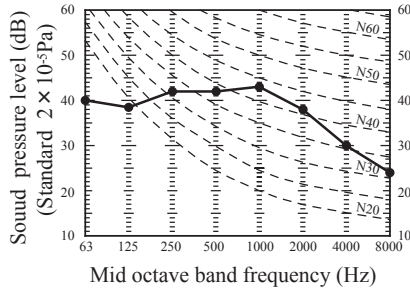
(a) Ceiling suspended type (FDE)

Measured based on JIS B 8616
 Mike position as right



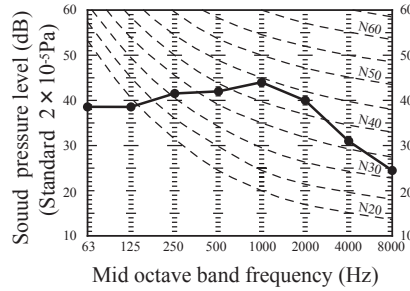
Models FDE40VG, 50VG

Noise level 46 dB (A) at P-HIGH
 38 dB (A) at HIGH
 36 dB (A) at MEDIUM
 31 dB (A) at LOW



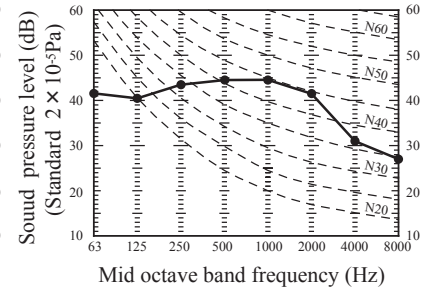
Models FDE60VG, 71VG

Noise level 47 dB (A) at P-HIGH
 41 dB (A) at HIGH
 37 dB (A) at MEDIUM
 32 dB (A) at LOW



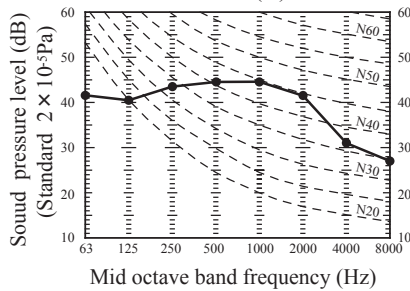
Model FDE100VG

Noise level 48 dB (A) at P-HIGH
 43 dB (A) at HIGH
 38 dB (A) at MEDIUM
 34 dB (A) at LOW



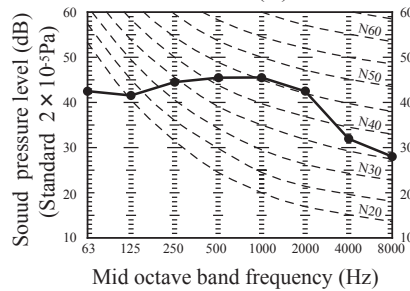
Model FDE125VG

Noise level 48 dB (A) at P-HIGH
 45 dB (A) at HIGH
 40 dB (A) at MEDIUM
 35 dB (A) at LOW



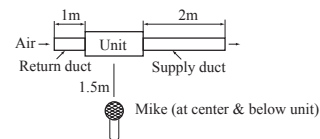
Model FDE140VG

Noise level 49 dB (A) at P-HIGH
 45 dB (A) at HIGH
 40 dB (A) at MEDIUM
 36 dB (A) at LOW



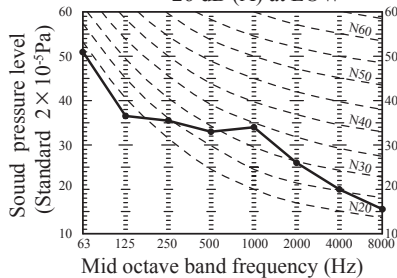
(b) Duct connected-Low/Middle static pressure type (FDUM)

Measured based on JIS B 8616
 Mike position as right



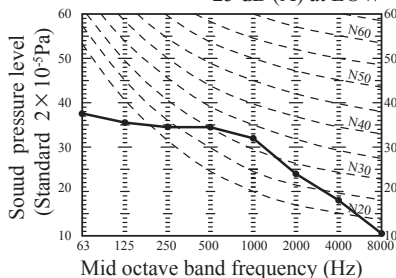
Models FDUM40VF, 50VF

Noise level 37 dB (A) at P-HIGH
 32 dB (A) at HIGH
 29 dB (A) at MEDIUM
 26 dB (A) at LOW



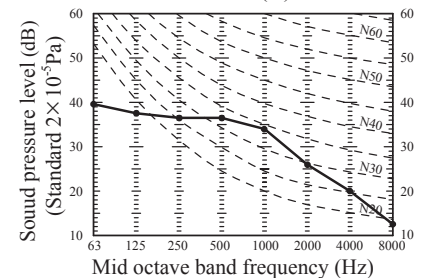
Model FDUM60VF

Noise level 36 dB (A) at P-HIGH
 31 dB (A) at HIGH
 28 dB (A) at MEDIUM
 25 dB (A) at LOW



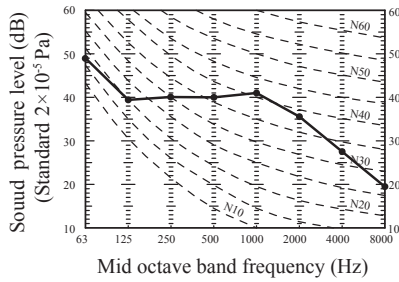
Model FDUM71VF1

Noise level 38 dB (A) at P-HIGH
 33 dB (A) at HIGH
 29 dB (A) at MEDIUM
 25 dB (A) at LOW



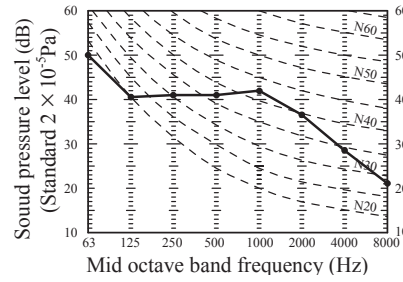
Model FDUM100VF2

Noise level 44 dB (A) at P-Hi
 38 dB (A) at Hi
 36 dB (A) at Me
 30 dB (A) at Lo



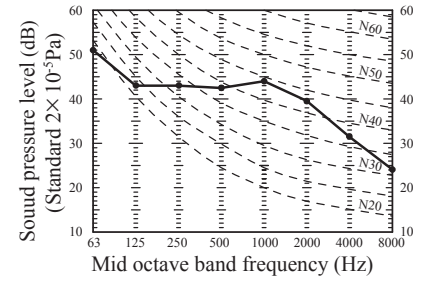
Model FDUM125VF

Noise level 45 dB (A) at P-HIGH
 40 dB (A) at HIGH
 34 dB (A) at MEDIUM
 29 dB (A) at LOW



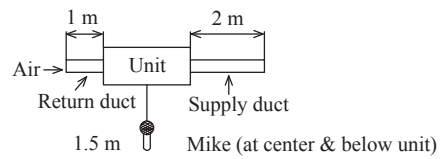
Model FDUM140VF

Noise level 47 dB (A) at P-HIGH
 40 dB (A) at HIGH
 35 dB (A) at MEDIUM
 30 dB (A) at LOW



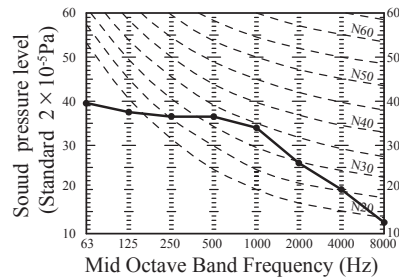
(c) Duct connected-High static pressure type (FDU)

Measured based on JIS B 8616
 Mike position as right



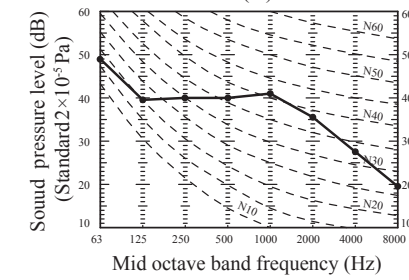
Model FDU71VF1

Noise level 38 dB (A) at P-HIGH
 33 dB (A) at HIGH
 29 dB (A) at MEDIUM
 25 dB (A) at LOW



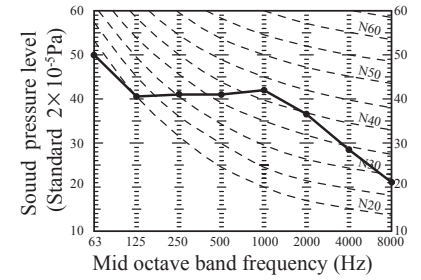
Model FDU100VF2

Noise level 44 dB (A) at P-Hi
 38 dB (A) at Hi
 36 dB (A) at Me
 30 dB (A) at Lo



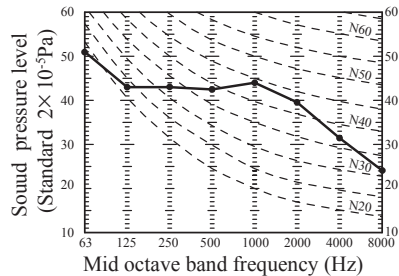
Model FDU125VF

Noise level 45 dB (A) at P-HIGH
 40 dB (A) at HIGH
 34 dB (A) at MEDIUM
 29 dB (A) at LOW



Model FDU140VF

Noise level 47 dB (A) at P-HIGH
 40 dB (A) at HIGH
 35 dB (A) at MEDIUM
 30 dB (A) at LOW



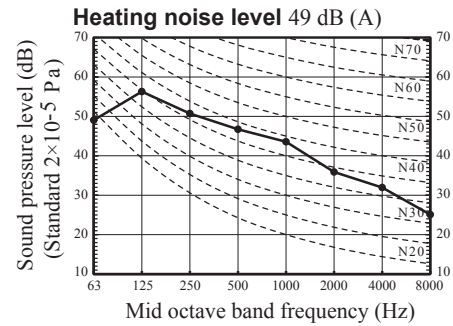
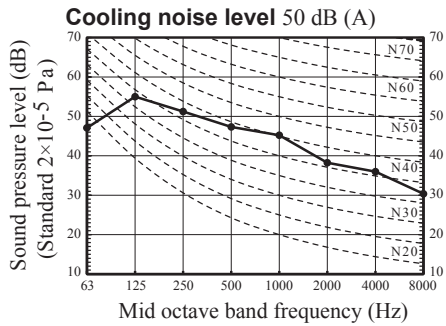
(2) Outdoor units

Measured based on JIS B 8616 or JIS C 9612

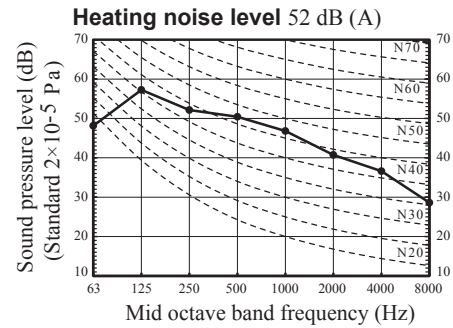
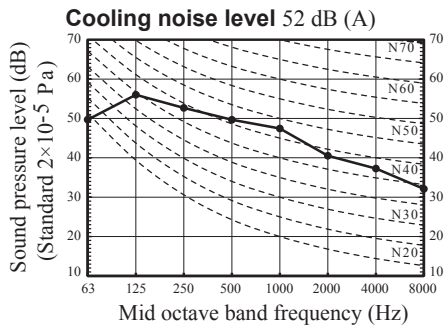
Mike position: at highest noise level in position as mentioned below.

Distance from front side 1m

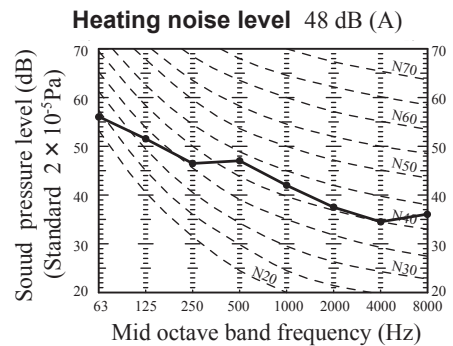
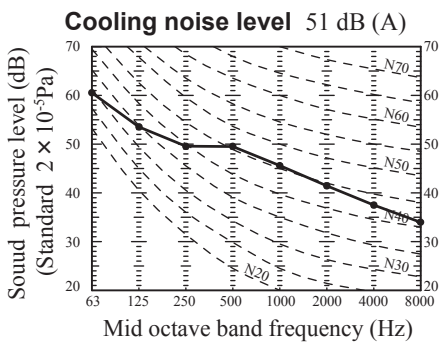
Models SRC40ZSX-S, 50ZSX-S



Model SRC60ZSX-S

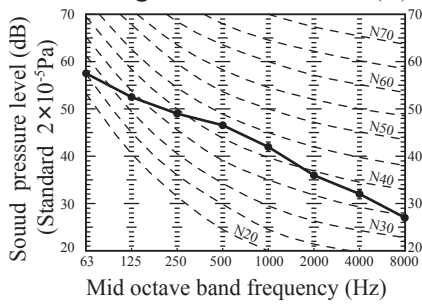


Model FDC71VNX

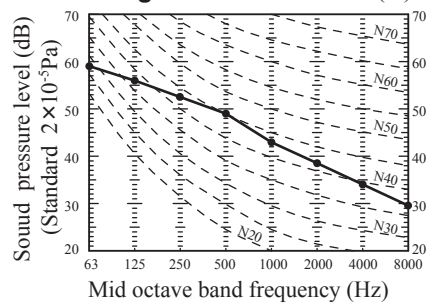


Models FDC100VNX,100VSX

Cooling noise level 48 dB (A)

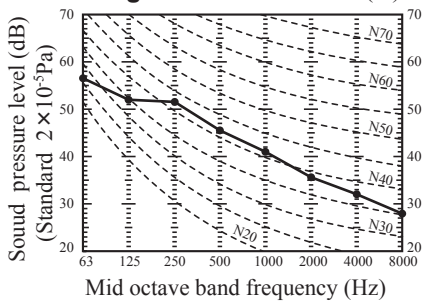


Heating noise level 50 dB (A)

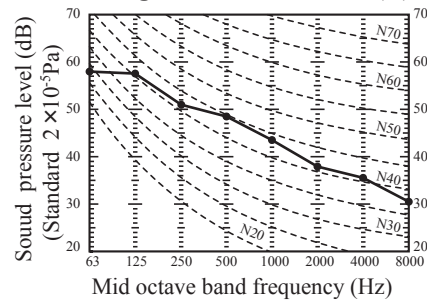


Models FDC125VNX,125VSX

Cooling noise level 48 dB (A)

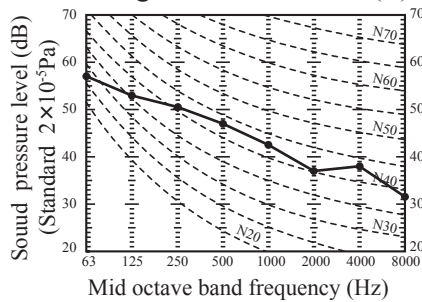


Heating noise level 50 dB (A)

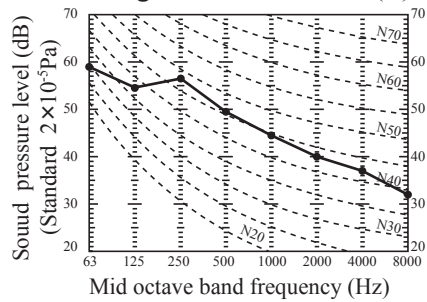


Models FDC140VNX,140VSX

Cooling noise level 49 dB (A)



Heating noise level 52 dB (A)



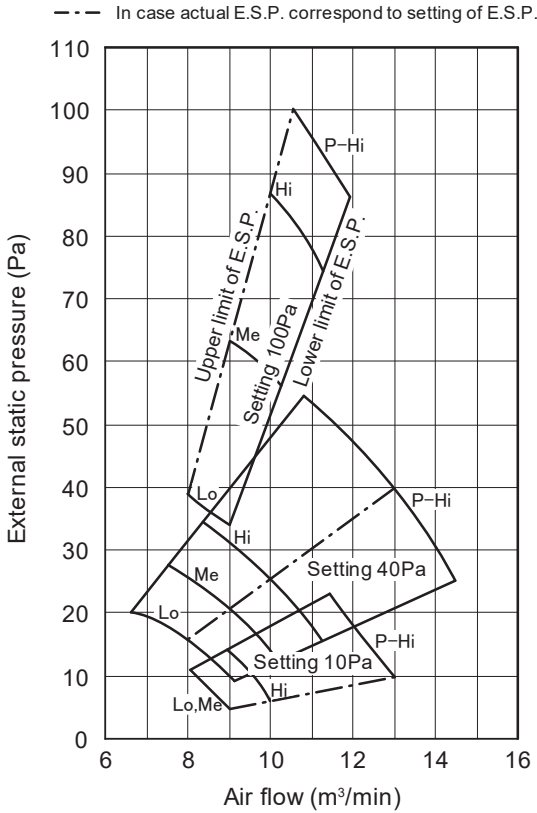
1.5 CHARACTERISTICS OF FAN

(1) Duct connected-Low / Middle static pressure type (FDUM)

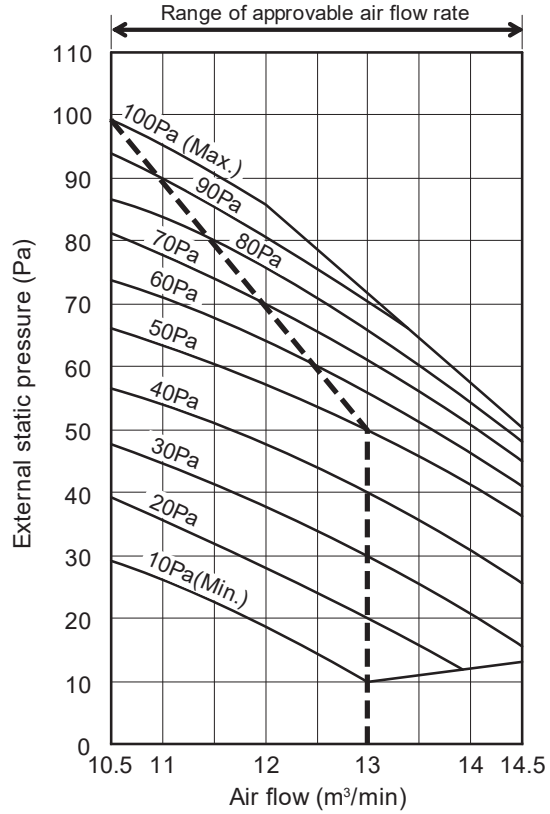
- Characteristic FAN (1) shows air flow vs. External Static Pressure (E.S.P.) range where settings of E.S.P. are maximum E.S.P. (100Pa), rated E.S.P., and minimum E.S.P. (10Pa)
- Characteristic FAN (2) shows air flow vs. E.S.P. curve when set fan tap is set P-Hi with each setting of E.S.P. by remote control.
- External Static Pressure (E.S.P.) can be set by wired remote control.
- You can set required E.S.P. by wired remote control which calculate it with the set air flow rate and pressure loss of the duct connected.

Models FDUM40VF, 50VF

Characteristic FAN(1)

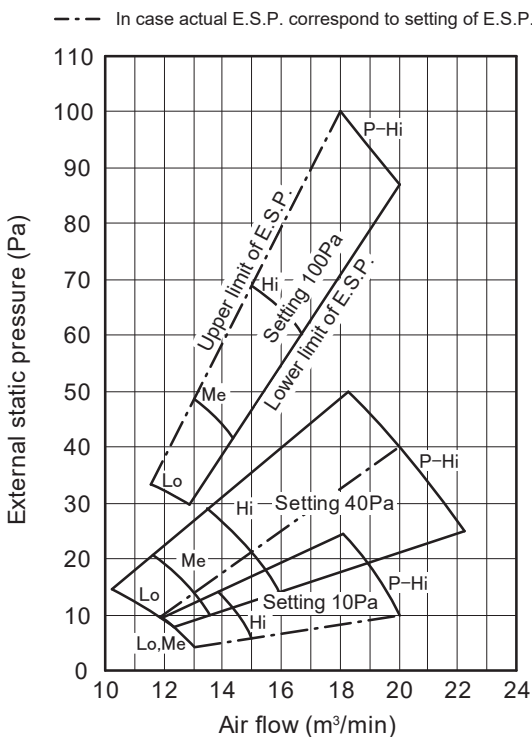


Characteristic FAN(2)

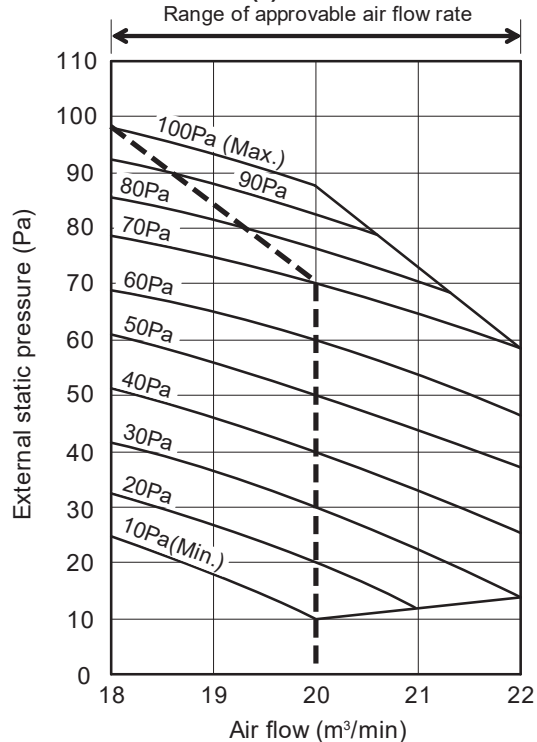


Model FDUM60VF

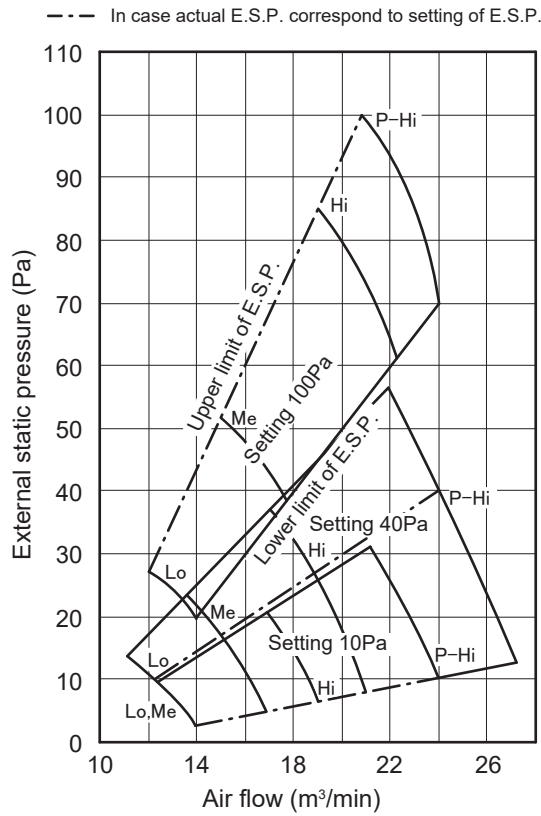
Characteristic FAN(1)



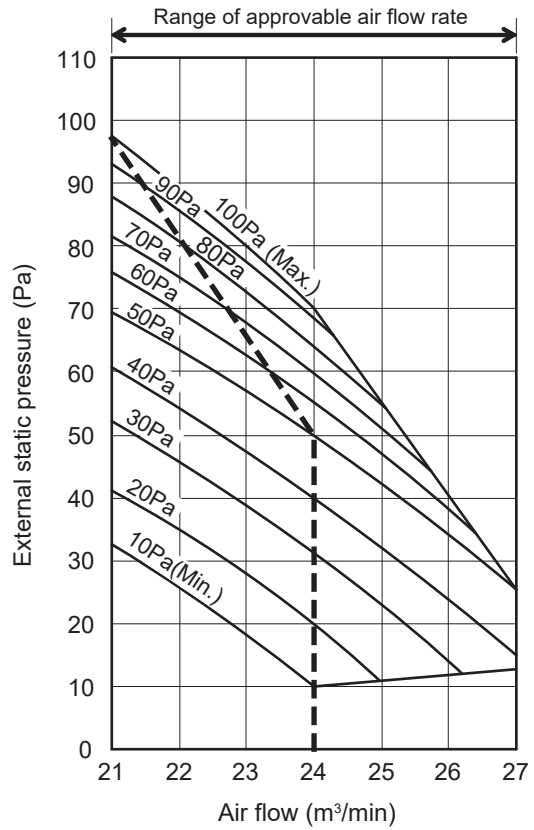
Characteristic FAN(2)



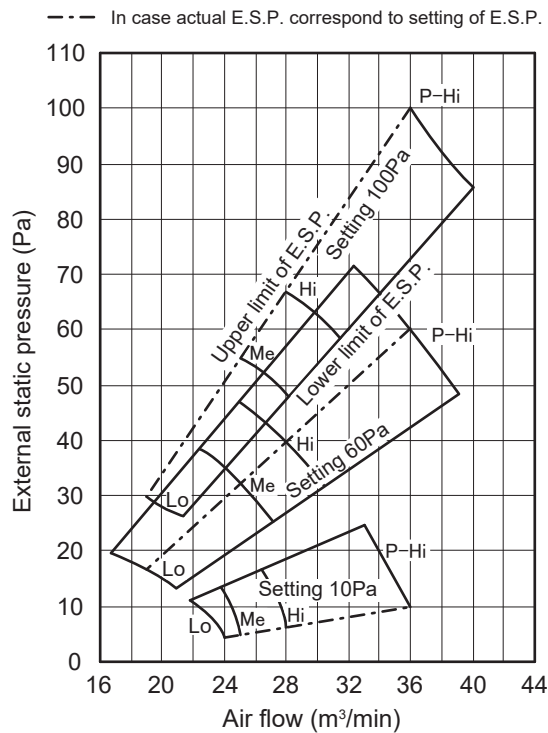
Model FDUM71VF1
Characteristic FAN(1)



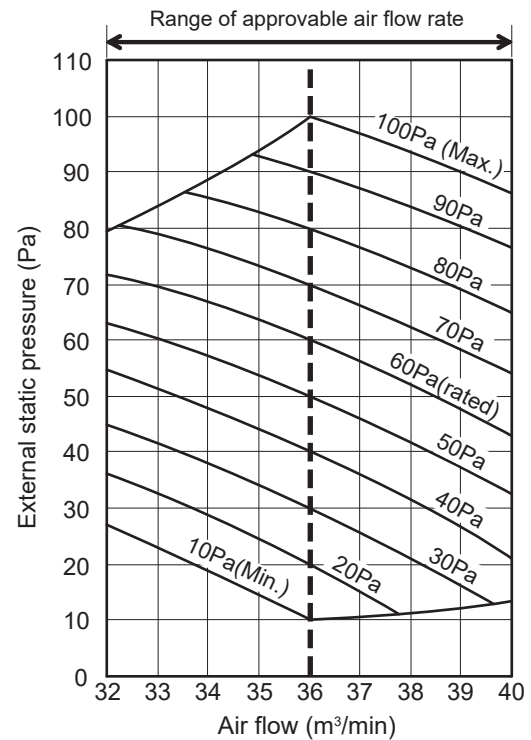
Characteristic FAN(2)



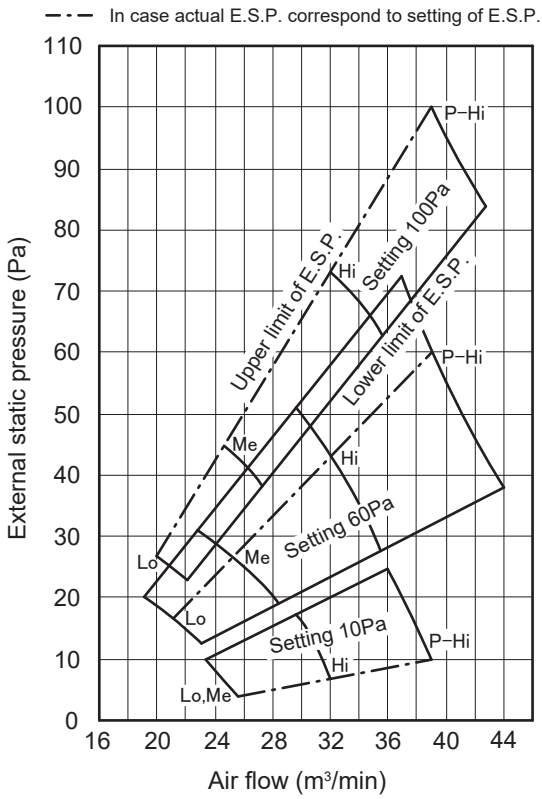
Model FDUM100VF2
Characteristic FAN(1)



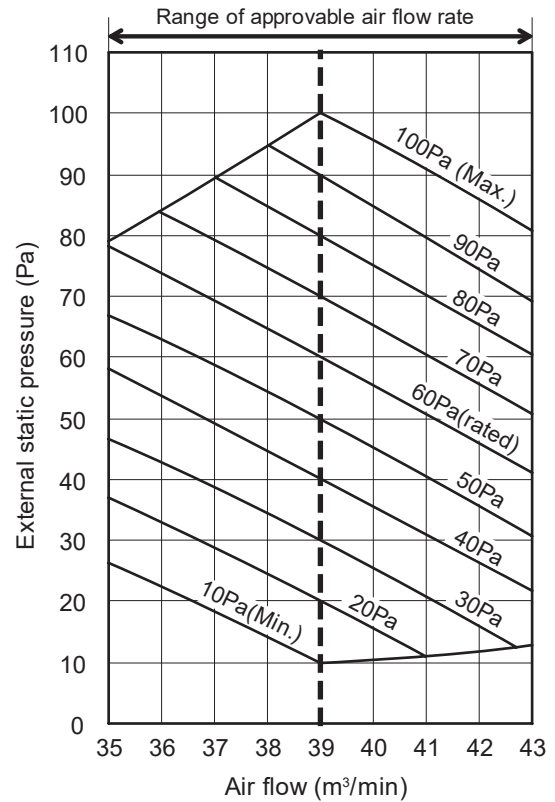
Characteristic FAN(2)



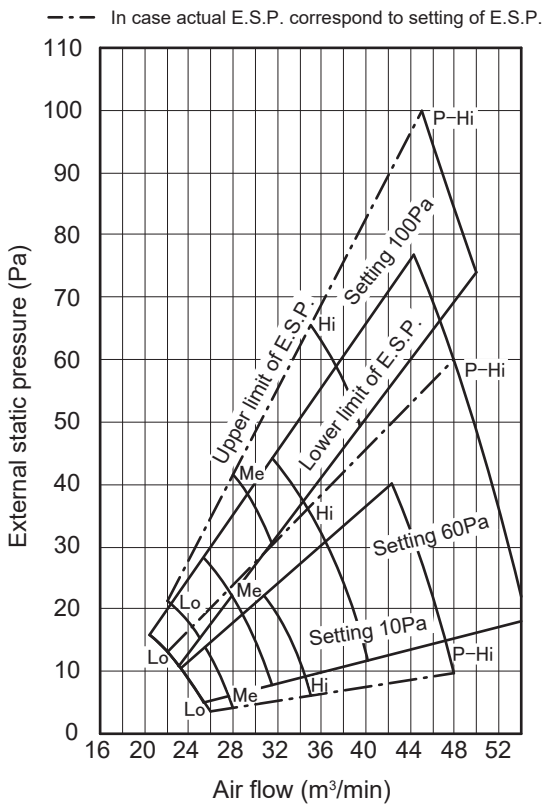
Model FDUM125VF
Characteristic FAN(1)



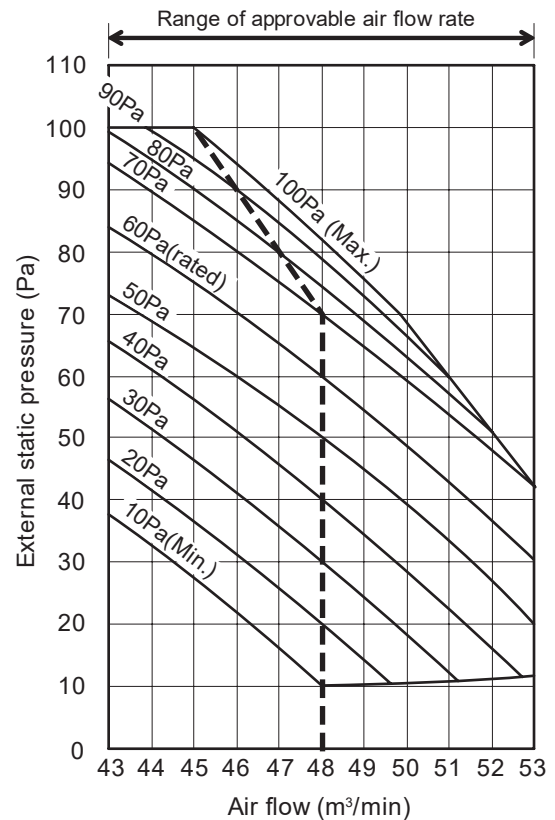
Characteristic FAN(2)



Model FDUM140VF
Characteristic FAN(1)



Characteristic FAN(2)



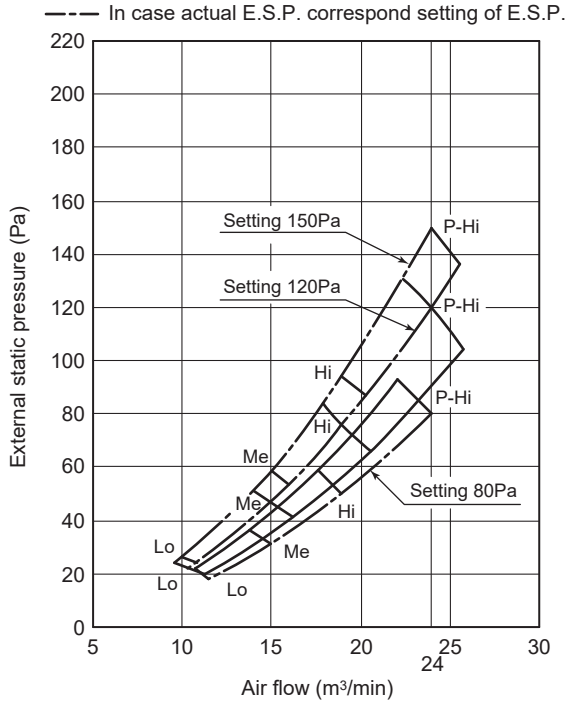
(2) Duct connected-High static pressure type (FDU)

- Characteristic FAN (1) shows air flow vs. External Static Pressure (E.S.P.) range where settings of E.S.P. are maximum E.S.P. (SW8-4 OFF : 150Pa, SW8-4 ON : 200Pa), rated E.S.P., and minimum E.S.P. (SW8-4 OFF : 80Pa, SW8-4 ON : 10Pa)
- Characteristic FAN (2) shows air flow vs E.S.P. curve when set fan tap is set P-Hi with each setting of E.S.P. by remote control.
- External Static Pressure (E.S.P.) can be set by wired remote control.
- You can set required E.S.P. by wired remote control which calculate it with the set air flow rate and pressure loss of the duct connected.

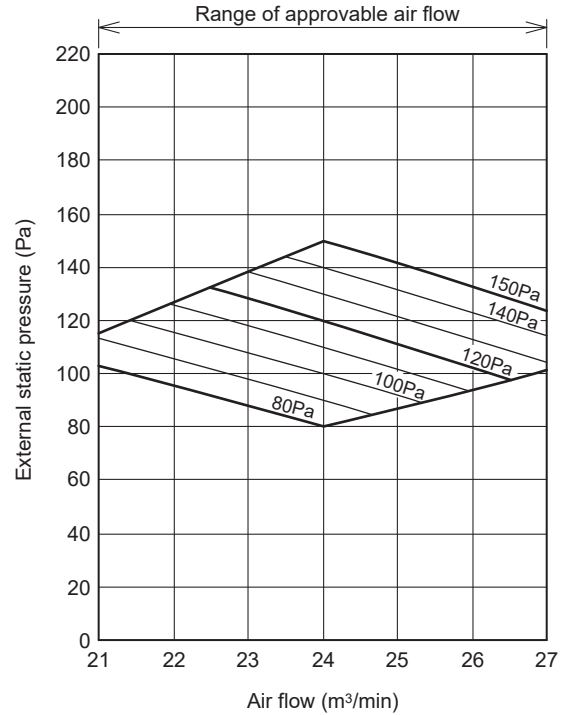
Model FDU71VF1

■ SW8-4 : OFF (Range of use limitation : Setting 80Pa-150Pa)

Characteristic FAN (1)

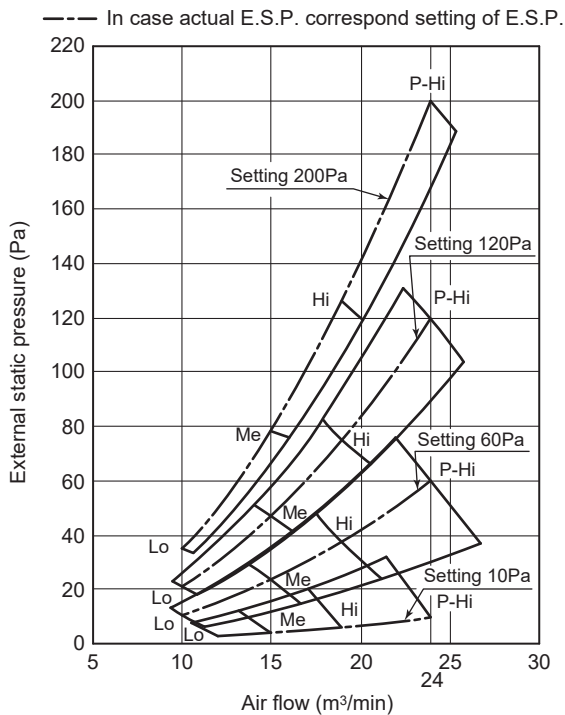


Characteristic FAN (2)

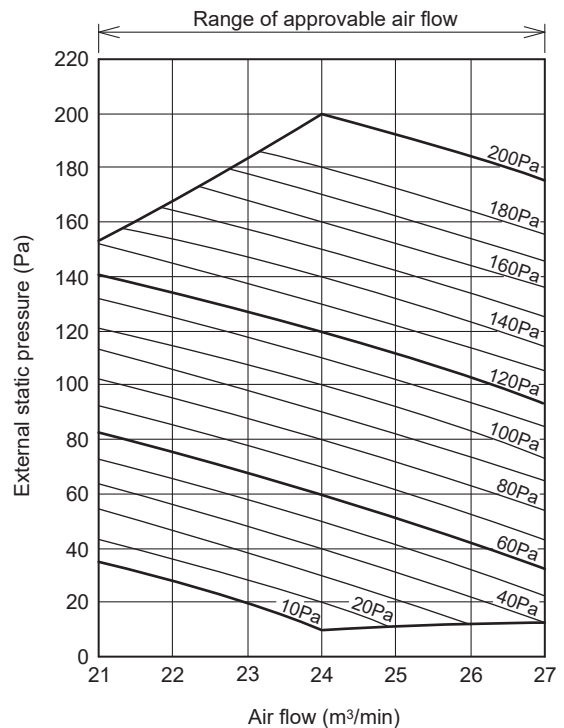


■ SW8-4 : ON (Range of use limitation : Setting 10Pa-200Pa)

Characteristic FAN (1)



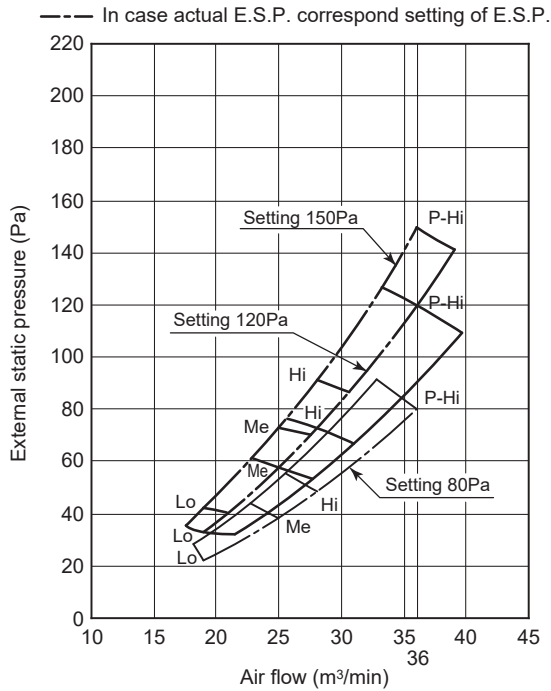
Characteristic FAN (2)



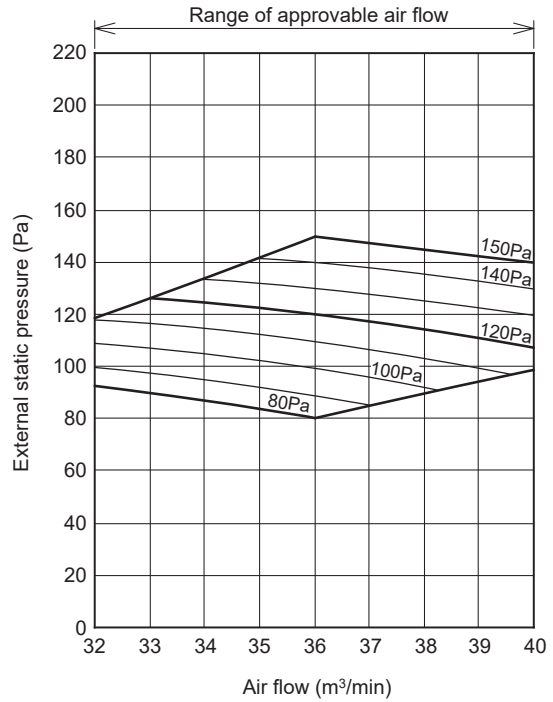
Model FDU100VF2

■ SW8-4 : OFF (Range of use limitation : Setting 80Pa-150Pa)

Characteristic FAN (1)

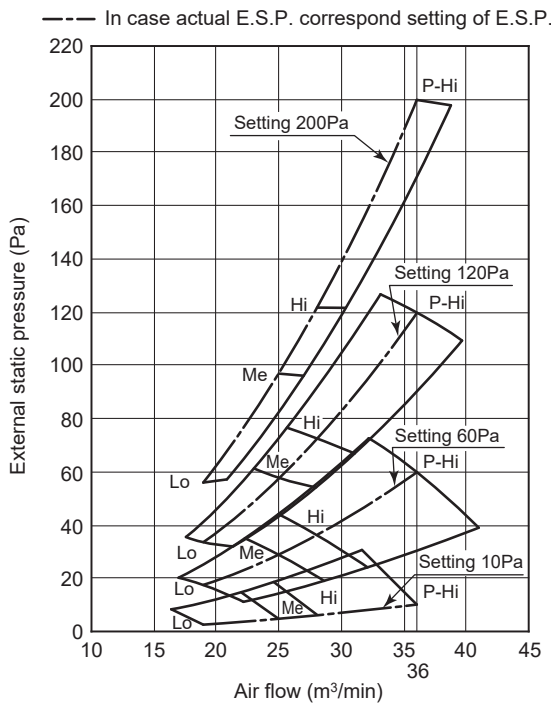


Characteristic FAN (2)

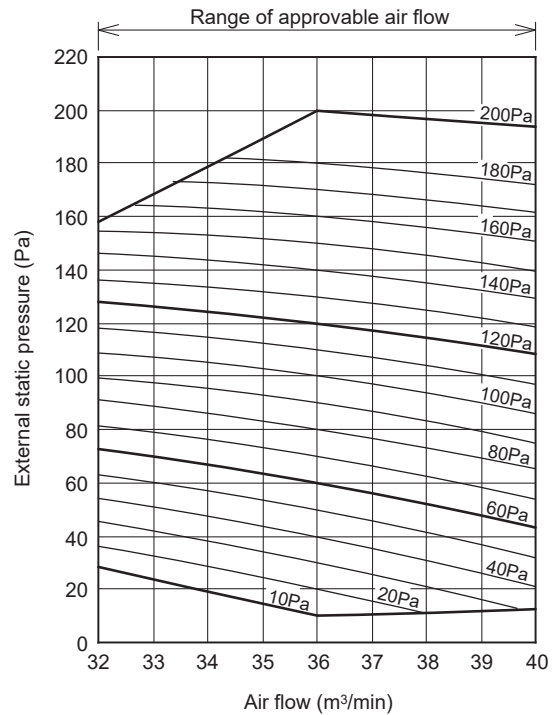


■ SW8-4 : ON (Range of use limitation : Setting 10Pa-200Pa)

Characteristic FAN (1)



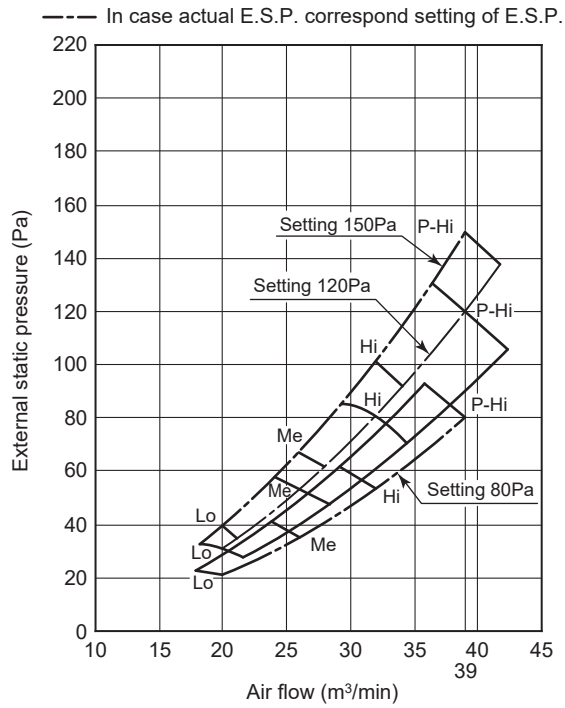
Characteristic FAN (2)



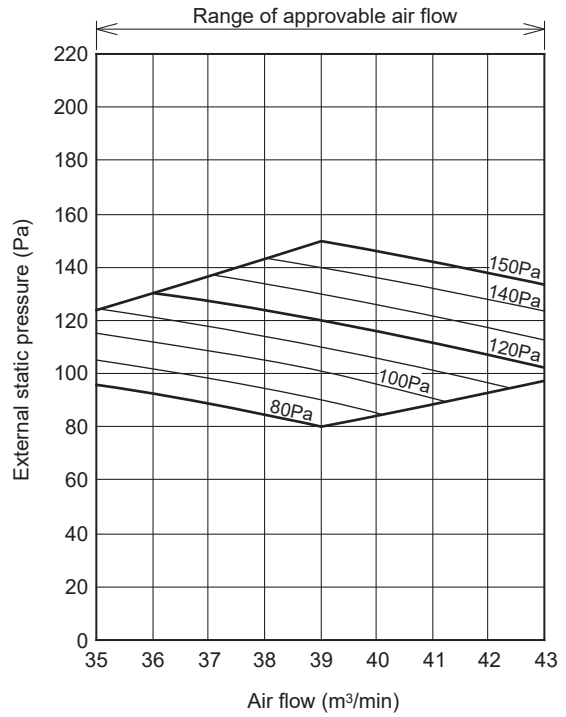
Model FDU125VF

■ SW8-4 : OFF (Range of use limitation : Setting 80Pa-150Pa)

Characteristic FAN (1)

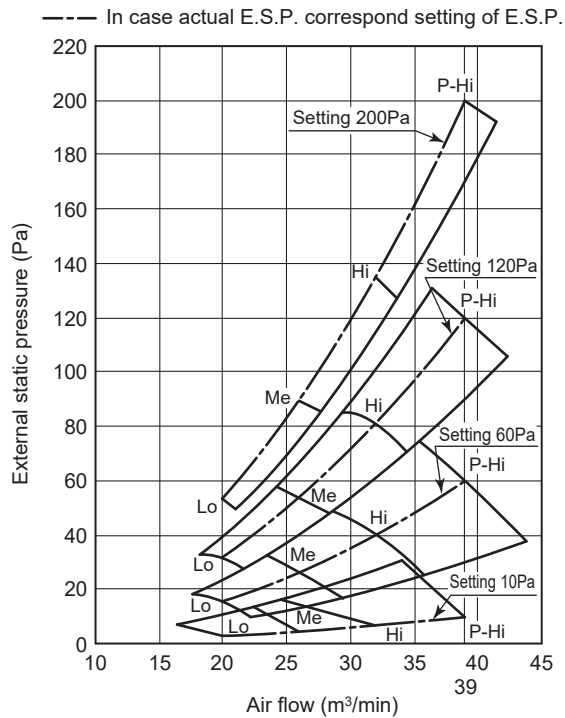


Characteristic FAN (2)

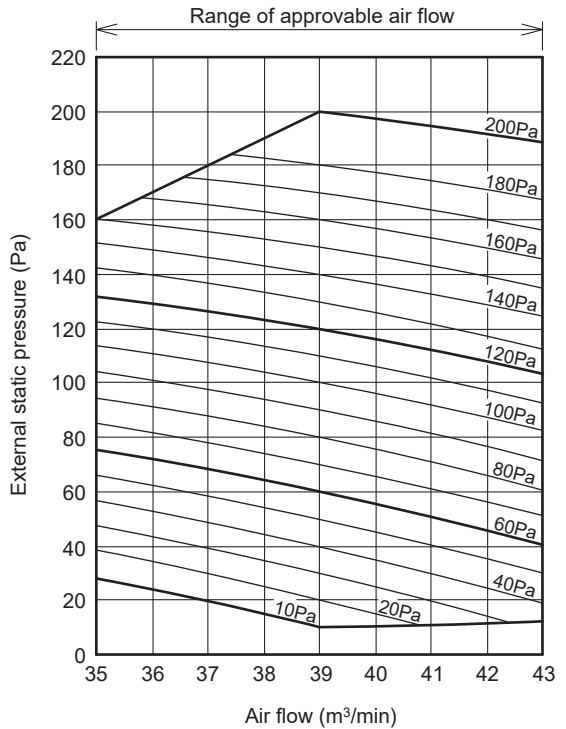


■ SW8-4 : ON (Range of use limitation : Setting 10Pa-200Pa)

Characteristic FAN (1)



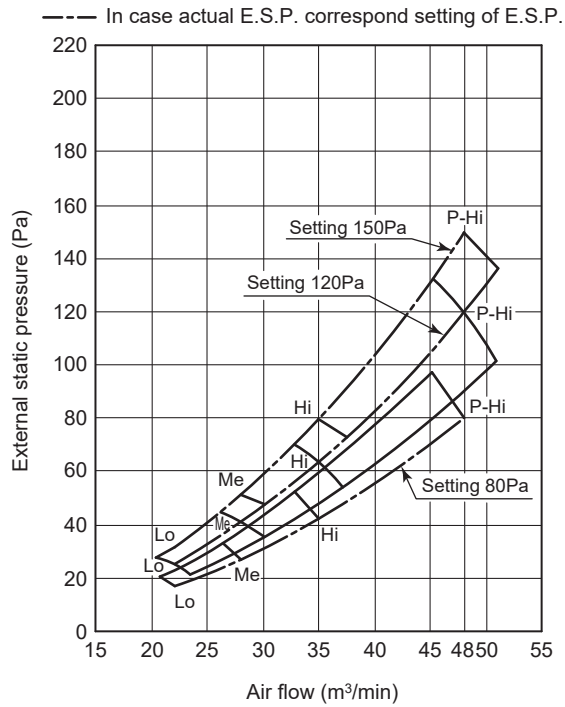
Characteristic FAN (2)



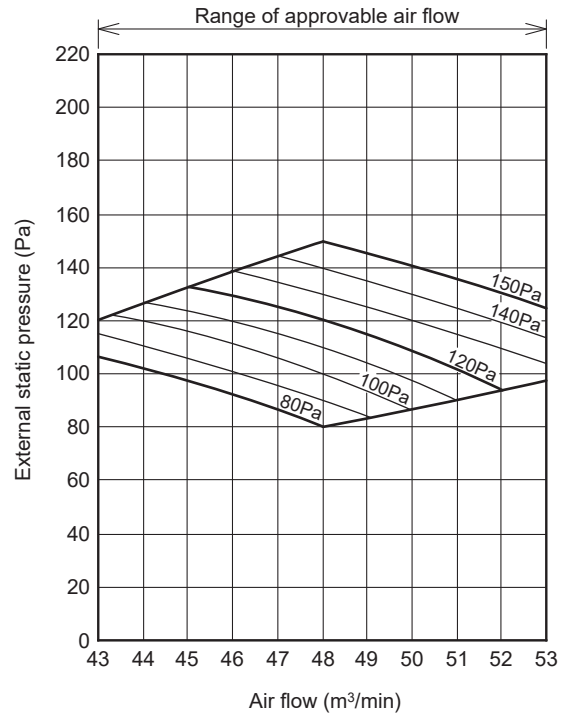
Model FDU140VF

■ SW8-4 : OFF (Range of use limitation : Setting 80Pa-150Pa)

Characteristic FAN (1)

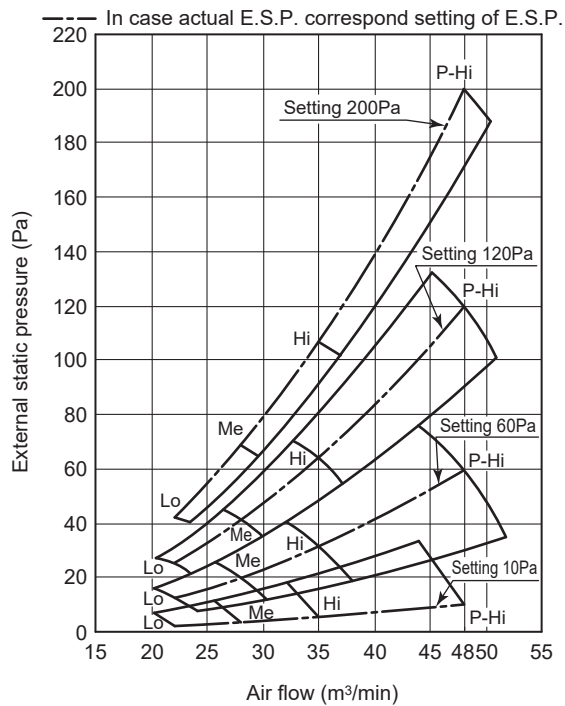


Characteristic FAN (2)

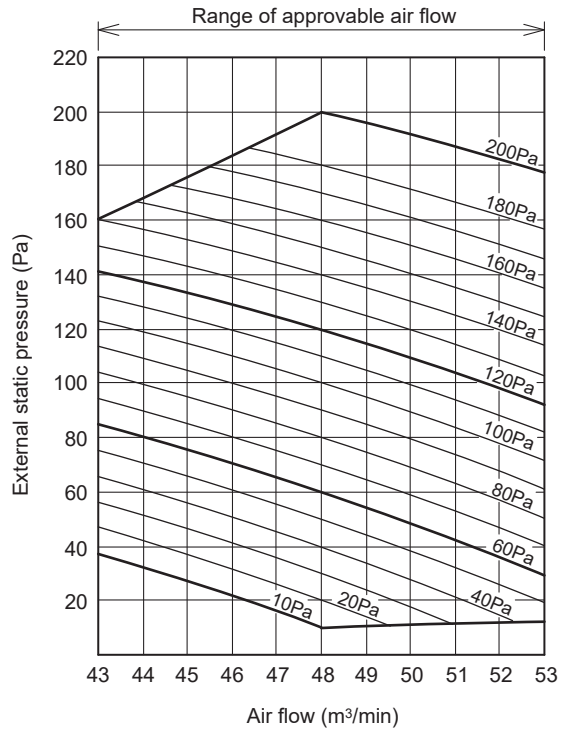


■ SW8-4 : ON (Range of use limitation : Setting 10Pa-200Pa)

Characteristic FAN (1)



Characteristic FAN (2)



1.6 TEMPERATURE AND VELOCITY DISTRIBUTION

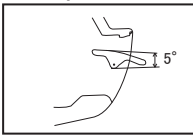
Indoor temperature
 Cooling 27°CDB / 19°CWB
 Heating 20°CDB
 Note: These figures represent the typical main range of temperature and velocity distribution at the center of air outlet within the published conditions.
 In the actual installation, they may differ from the typical figures under the influence of air temperature conditions, ceiling height, operation conditions and obstacles.

Ceiling suspended type (FDE)

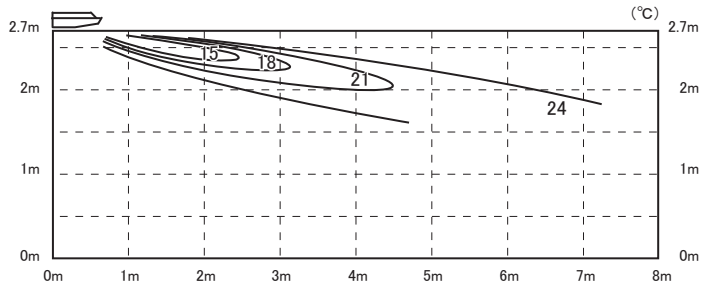
Models FDE40, 50VG

Cooling Air flow: P-Hi

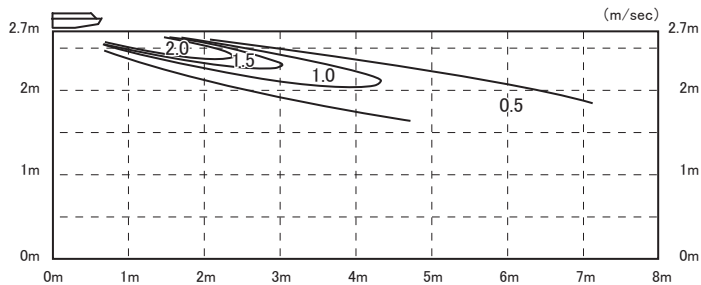
Louver position



Temperature distribution

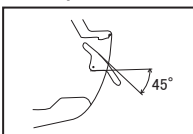


Velocity distribution

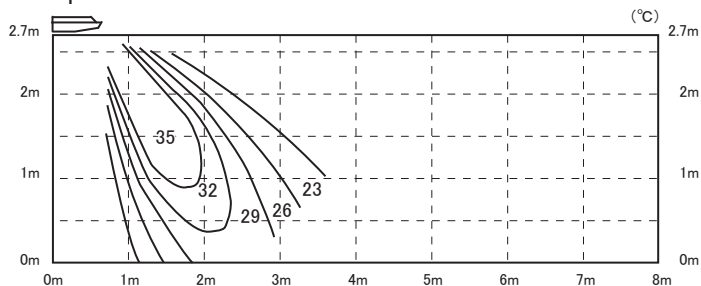


Heating Air flow: P-Hi

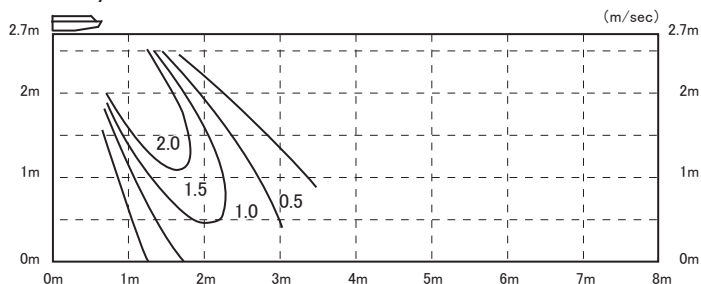
Louver position



Temperature distribution



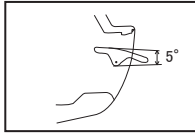
Velocity distribution



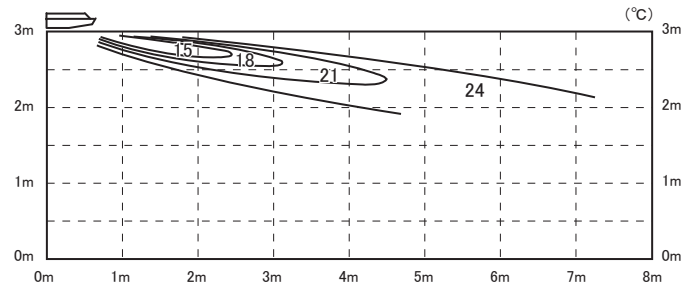
Models FDE60, 71VG

Cooling Air flow: P-Hi

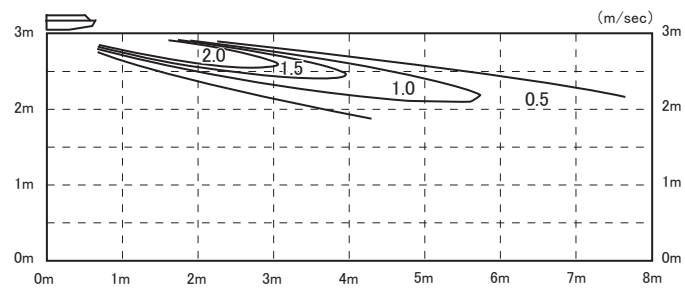
Louver position



Temperature distribution

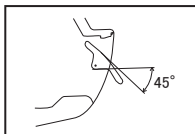


Velocity distribution

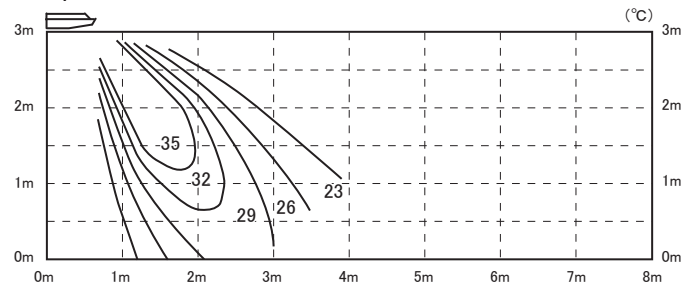


Heating Air flow: P-Hi

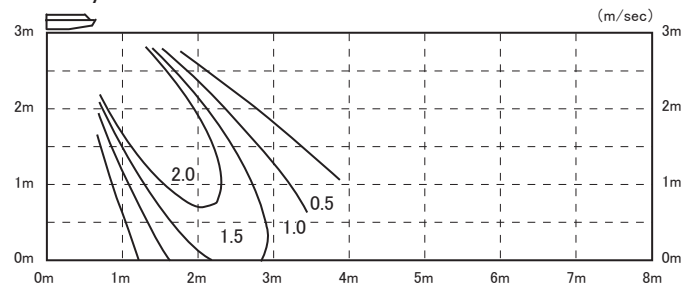
Louver position



Temperature distribution



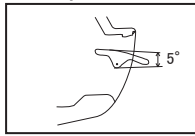
Velocity distribution



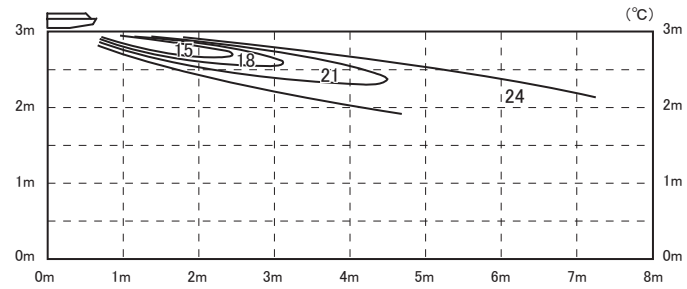
Models FDE100, 125VG

Cooling Air flow: P-Hi

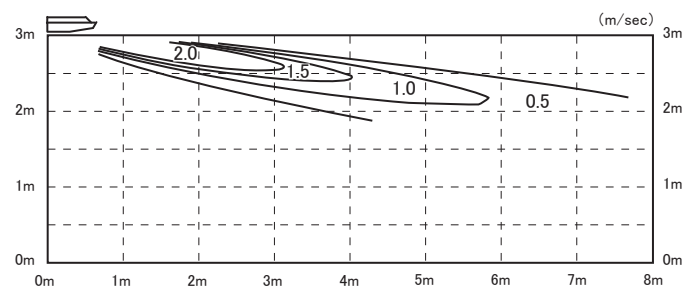
Louver position



Temperature distribution

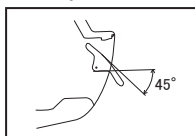


Velocity distribution

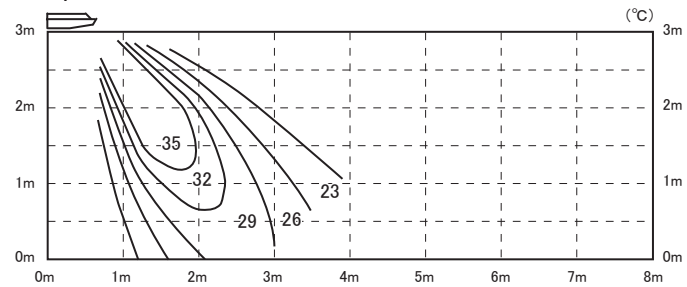


Heating Air flow: P-Hi

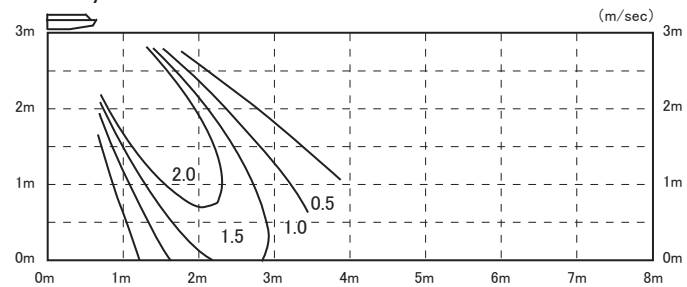
Louver position



Temperature distribution



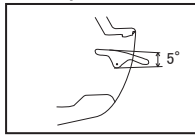
Velocity distribution



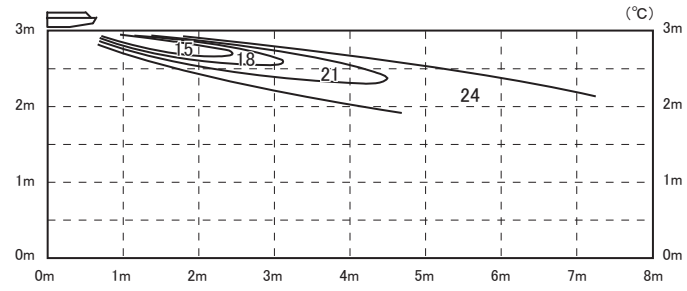
Model FDE140VG

Cooling Air flow: P-Hi

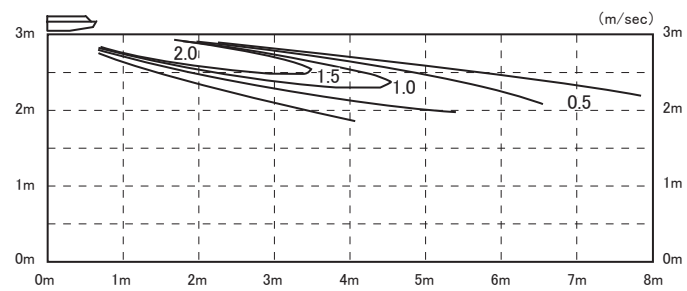
Louver position



Temperature distribution

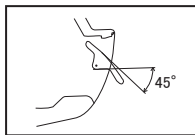


Velocity distribution

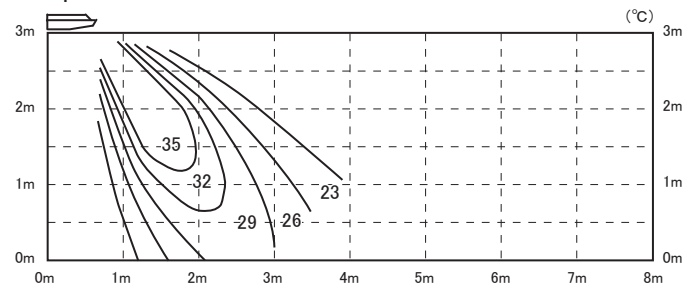


Heating Air flow: P-Hi

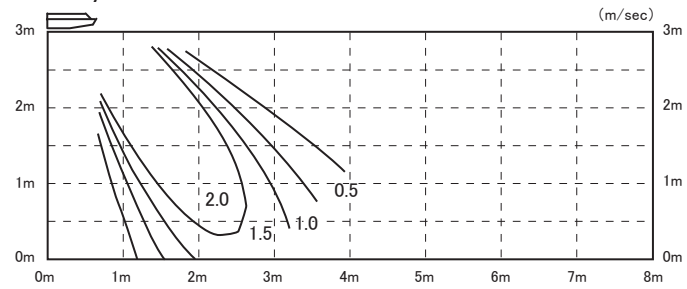
Louver position



Temperature distribution

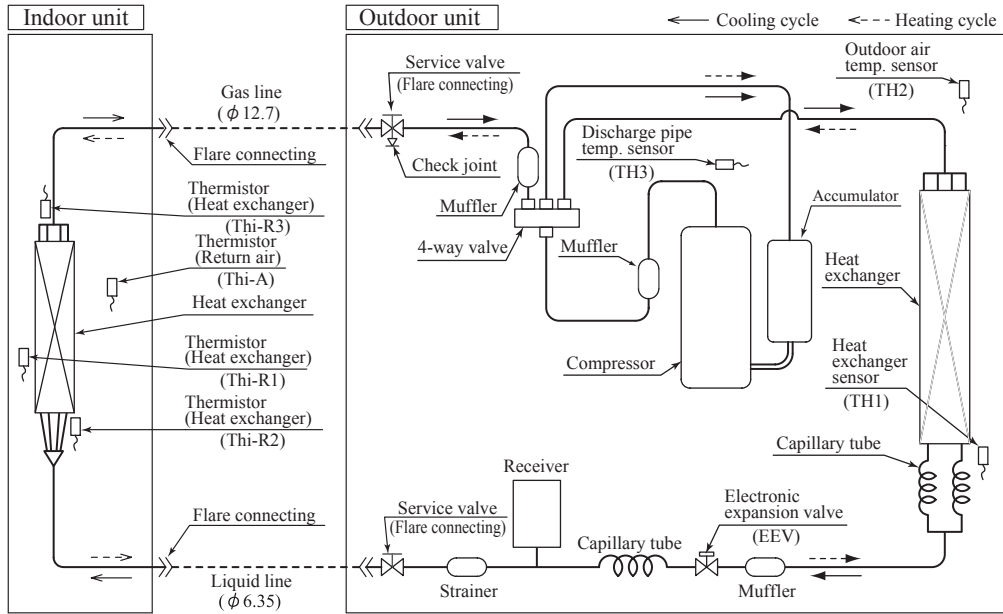


Velocity distribution

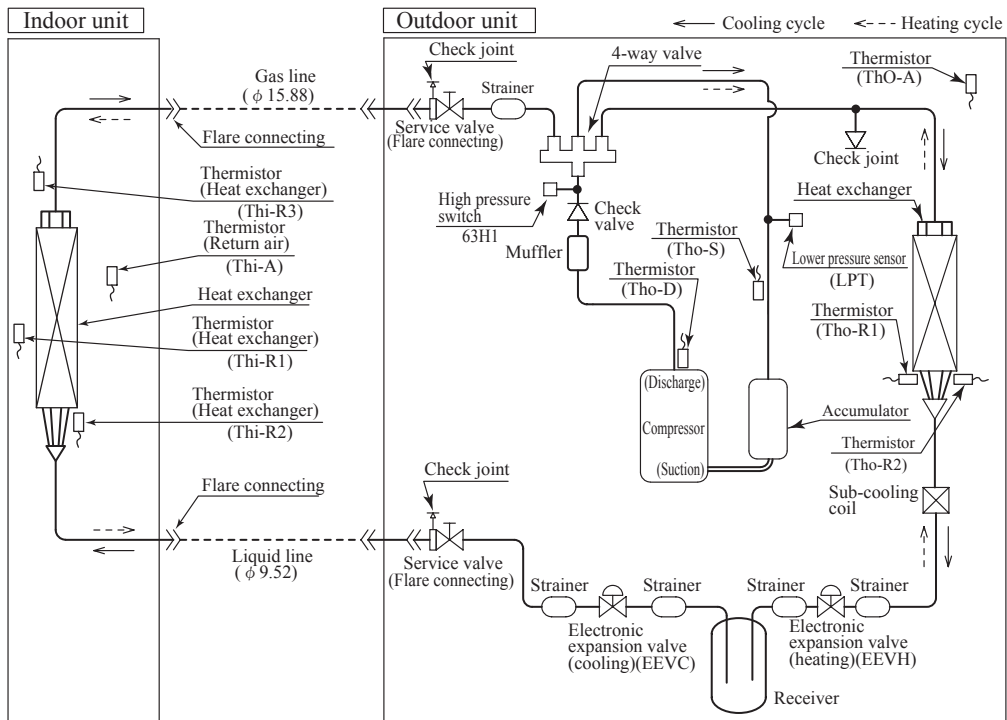


1.7 PIPING SYSTEM

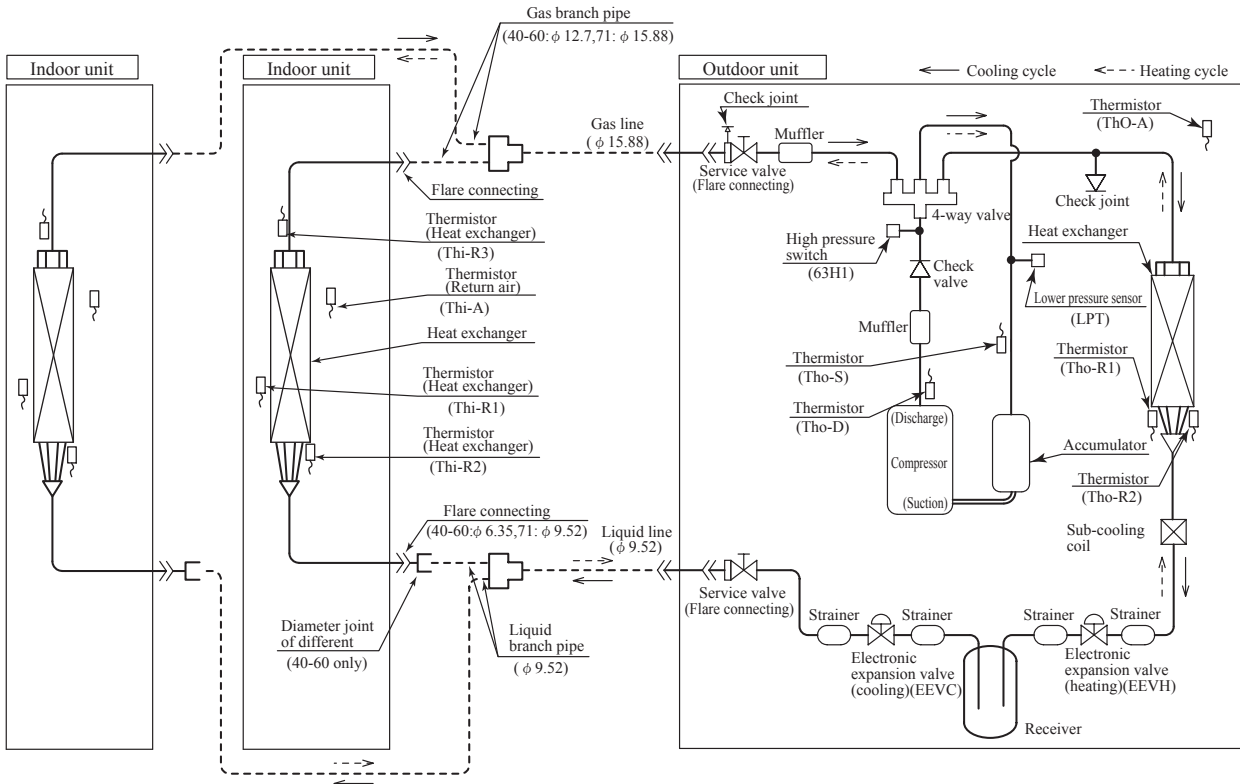
(1) Single type
Models 40, 50, 60



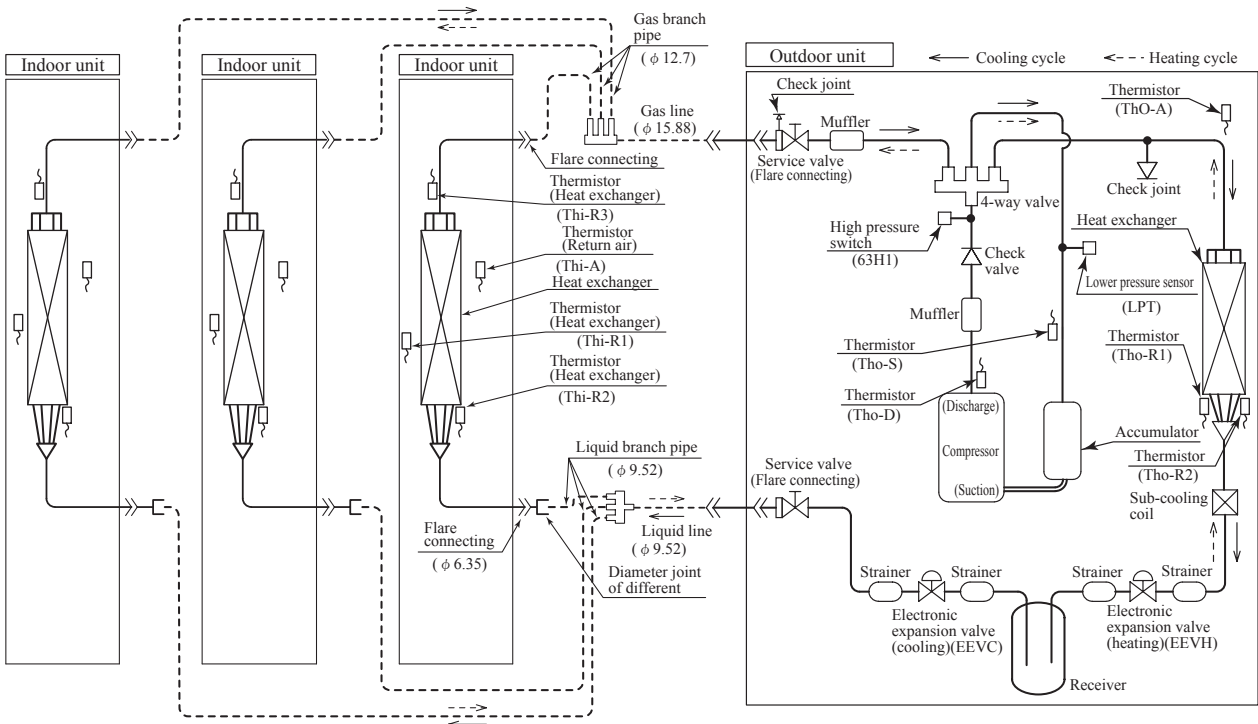
Models 71, 100, 125, 140



(2) Twin type
Models 71, 100, 125, 140



(3) Triple type
Model 140



Preset point of the protective devices

Parts name	Mark	Equipped unit	40, 50, 60 model	71, 100, 125, 140 model
Thermistor (for protection overloading in heating)	Thi-R	Indoor unit	OFF 63°C ON 56°C	
Thermistor (for frost prevention)	Thi-R		OFF 1.0°C ON 10°C	
Thermistor (for protection high pressure in cooling.)	Tho-R (TH1)	Outdoor unit	OFF 63°C ON 53°C	OFF 65°C ON 51°C
Thermistor (for detecting discharge pipe temp.)	Tho-D (TH3)	Outdoor unit	OFF 115°C ON 95°C	OFF 115°C ON 85°C
High pressure switch (for protection)	63H1	Outdoor unit	—	OFF 4.15MPa ON 3.15MPa
Low pressure sensor (for protection)	LPT	Outdoor unit	—	OFF 0.079MPa ON 0.227MPa

Note(1) Values in () shown in the case of SRC40, 50, 60 model.

1.8 RANGE OF USAGE & LIMITATIONS

Operating temperature range		See the next page.
		When used below -5°C, install a snow hood. <FDC71-140 only>
Recommendable area to install		Considering to get sufficient heating capacity, the area where the averaged lowest ambient air temperature in day time during winter is above 0°C, and it has no accumulation of snow.
Installation site		The limitations of installation space are shown in the page for outline drawing. Install the indoor unit at least 2.5m higher than the floor surface.
Temperature and humidity conditions surrounding the indoor unit in the ceiling (Note 2)		Dew point temperature : 28°C (FDE : 23°C) or less, relative humidity : 80% or less
Limitations on unit and piping installation		See page 92 and 93.
Compressor ON-OFF cycling	Cycle time	7 minutes or more (from OFF to OFF) or (from ON to ON)
	Stop time	3 minutes or more
Power source	Voltage range	Rating ±10%
	Voltage drop at start-up	Min.85% of rating
	Phase-to-phase unbalance	3% or less

Note 1. Do not install the unit in places which :

- 1) Flammable gas may leak.
- 2) Carbon fiber, metal particles, powder, etc. are floating.
- 3) Cosmetic or special sprays are used frequently.
- 4) Exposed to oil splashes or steam (e.g. kitchen and machine plant).
- 5) Exposed to sea breeze (e.g. coastal area) or calcium chloride (e.g. snow melting agent).
- 6) Exposed to ammonia substance (e.g. organic fertilizer).
- 7) Matters affecting devices, such as sulfuric gas, chlorine gas, acid, alkali, etc. may generate or accumulate.
- 8) Chimney smoke is hanging.
- 9) Sucking the exhaust gas from heat exchanger.
- 10) Adjacent to equipment generating electromagnetic waves or high frequency waves.
- 11) There is light beams that affect the receiving device of indoor unit in case of the wireless specification.
- 12) Snow falls heavily.
- 13) At an elevation of 1000 meters or higher.
- 14) On mobile machine (e.g. vehicle, ship, etc.)
- 15) Splashed with water to indoor unit (e.g. laundry room).
- 16) Indoor units of twin and triple specifications separately in a room with partition.


Note 2. If ambient temperature and humidity exceed the above values, add polyurethane foam insulation on the outer plate (10mm or thicker) of indoor unit.


Both gas and liquid pipes need to be cover with 20mm or thicker heat insulation materials at the place where humidity exceeds 70%.

Note 3. When used below -5°C, install a snow hood on site.

Regarding outline of a snow hood, refer to our technical manual.

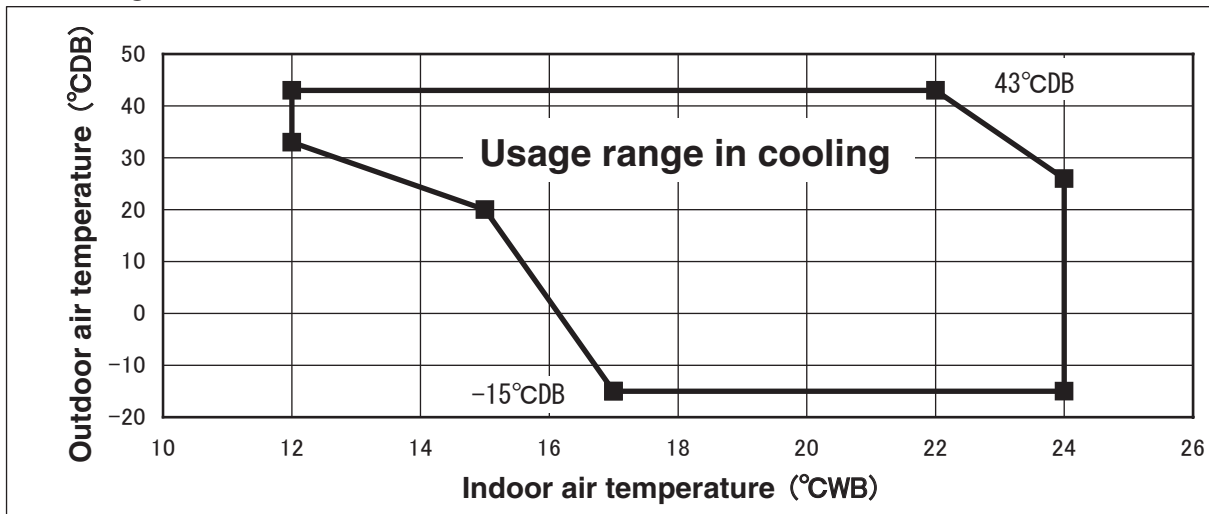
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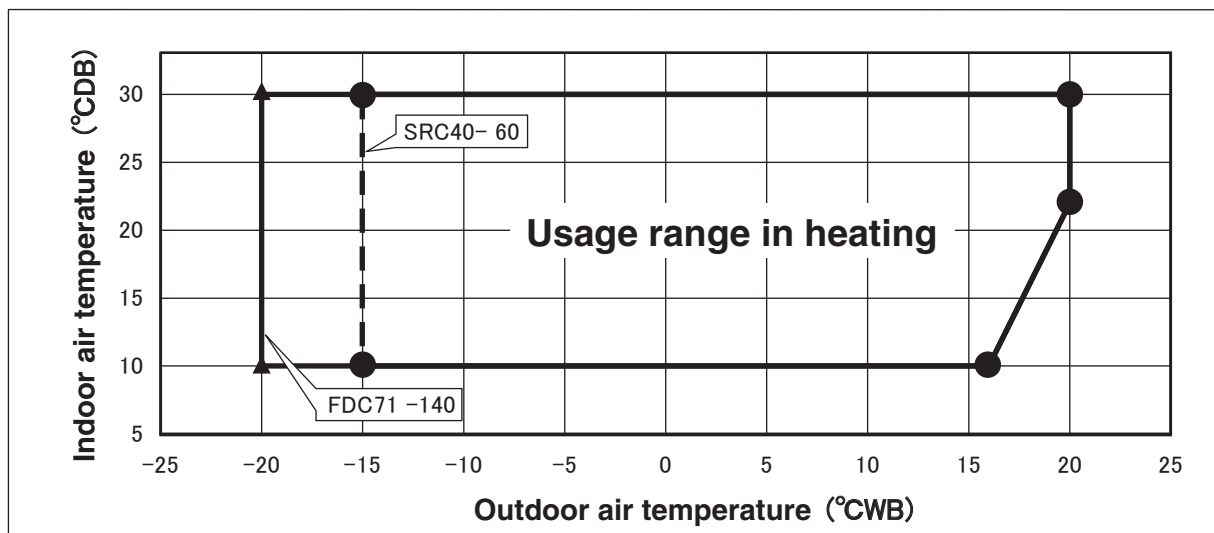
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Operating temperature range

■ Cooling



■ Heating



Decline in cooling and heating capacity or operation stop may occur when the outdoor unit is installed in places where natural wind can increase or decrease its design air flow rate.

“CAUTION” Cooling operation under low outdoor air temperature conditions

PAC models can be operated in cooling mode at low outdoor air temperature condition within above temperature range. However in case of severely low temperature conditions if the following precaution is not observed, it may not be operated in spite of operable temperature range mentioned above and cooling capacity may not be established under certain conditions.

[Precaution]

In case of severely low temperature condition

- 1) Install the outdoor unit at the place where strong wind cannot blow directly into the outdoor unit.
- 2) If there is no installation place where can prevent strong wind from directly blowing into the outdoor unit, mount the flex flow adapter (prepared as option part) or like such devices onto the outdoor unit in order to divert the strong wind.

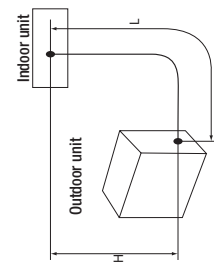
[Reason]

Under the low outdoor air temperature conditions of -5°C or lower, the outdoor fan is controlled at lower or lowest speed by outdoor fan control, but if strong wind directly blow into the outdoor unit, the outdoor heat exchanger temperature will drop more.

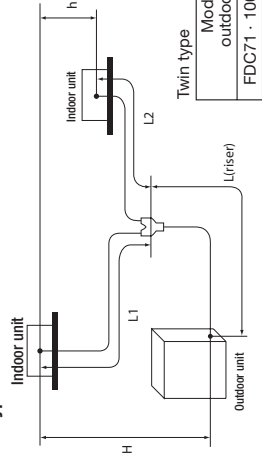
This makes high and low pressures to drop as well. This low pressure drop makes the indoor heat exchanger temperature to drop and will activate anti-frost control at indoor heat exchanger at frequent intervals, that cooling operation may not be established for any given time.

Limitation on unit and piping installation - single, twin.				
Descriptions	Models for outdoor unit	Dimensional limitations	Marks appearing in the drawing	
			Single type	Twin type
One-way pipe length	SRC40 · 50 · 60	≤ 30m	L	L + L1 + L2
	FDC71	≤ 50m		
	FDC100 · 125 · 140	≤ 100m		
Main pipe length	FDC71	≤ 50m		L
	FDC100 · 125 · 140	≤ 100m		
	FDC71	≤ 20m		
One-way pipe length after first branching point	FDC100 · 125 · 140	≤ 20m		L1, L2
		≤ 30m		
Difference of pipe length after first branching point		≤ 10m		L1 - L2 L2 - L1
		≤ 15m		
Total pipe length after the second branching point	SRC40 · 50 · 60 FDC71	≤ 20m	H	H
		≤ 30m		
Elevation difference between indoor and outdoor unit	When outdoor unit is positioned higher	≤ 30m	H	H
		FDC100 · 125 · 140		
		SRC40 · 50 · 60		
Elevation difference among indoor units	When outdoor unit is positioned lower	≤ 20m	H	H
		FDC71		
Elevation difference among indoor units		≤ 15m		h
		≤ 0.5m		

Single type



Twin type



- (1) A riser pipe must be part of the main.
A branching pipe set should be installed horizontally at point as close to an indoor unit as possible.
- (2) Reduce refrigerant amount by according to table below from the factory charge when refrigerant piping is shorter than 3m.

Model for outdoor units	Refrigerant to be reduced
FDC71 · 100 · 125 · 140	1.0 kg

Limitation on unit and piping installation - triple.				
Descriptions	Models for outdoor unit	Dimensional limitations	Marks appearing in the drawing	
			Triple type A	Triple type B
One-way pipe length	FDC140	≤ 100m	L + L1 + L2 + L3	L + La + L1 + L2 + L3 ※1
Main pipe length	FDC140	≤ 100m	L	L
One-way pipe length first branching point to indoor units between	FDC140	≤ 30m	L1, □L2, □L3	L1 ※1
One-way pipe length between first branching point from and second branching point	FDC140	≤ 5m		La
One-way pipe length first branching point and indoor units	FDC140	≤ 27m		La + L2, □La + L3 ※1
Piping length difference among piping to indoor units from first branch		< 3m	L1 - L2, □L1 - L3, □L2 - L3	(not possible)
Piping length difference among piping to indoor units from second branching point to indoor units		3m ≤ ≤ 10m	(not possible)	L1 - (La + L2), □L1 - (La + L3) ※1
One-way pipe length difference from second branching point to indoor units		≤ 10m		L2 - L3
Elevation difference between indoor and outdoor	When the outdoor unit is positioned higher	≤ 30m	H	H
	When the outdoor unit is positioned lower	≤ 15m		
Elevation difference among indoor units		≤ 0.5m	h1, □h2, □h3	h1, □h2, □h3

Triple type A

Triple type B

Branch piping set (option)

Model for outdoor units	Triple type A Branch piping	Triple type B First branch	Triple type B Second branch
FDC140	DIS-TA1	DIS-WA1	DIS-WA1

※1 Install the indoor units so that L + L1 becomes the longest one-way pipe. Keep the pipe length difference between L1 and (La + L2) or (La + L3) within 10m.

(1) A riser pipe must be part of the main.
 A branching pipe set should be installed horizontally at point as close to an indoor unit as possible.
 (2) Reduce refrigerant amount by 1.0kg from the factory charge when refrigerant piping is shorter than 3m.

1.9 SELECTION CHART

Correct the cooling and heating capacity in accordance with the operating conditions. The net cooling and heating capacity can be obtained in the following way.

Net capacity = Capacity shown in the capacity tables (1.9.1) × Correction factors shown in the table (1.9.2) (1.9.3) (1.9.4).

Caution: In case that the cooling operation during low outdoor air temperature below -5°C is expected, install the outdoor unit where it is not influenced by natural wind. Otherwise protection control by low pressure will be activated much more frequently and it will cause insufficient capacity or breakdown of the compressor in worst case.

1.9.1 Capacity tables

(1) Ceiling suspended type (FDE)

(a) Single type

Model FDE40ZSXVG Indoor unit FDE40VG Outdoor unit SRC40ZSX-S

Cooling mode

(kW)

Heating mode : HC

(kW)

Outdoor air temp. °CDB	Indoor air temperature															
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB	
	12°CWB	14°CWB	16°CWB	18°CWB	19°CWB	20°CWB	22°CWB	24°CWB	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					3.38	3.03	3.56	3.28	3.65	3.25	3.75	3.23	3.95	3.42	4.15	3.36
13					3.46	3.06	3.65	3.32	3.75	3.29	3.85	3.26	4.05	3.45	4.26	3.39
15					3.54	3.09	3.74	3.35	3.84	3.32	3.95	3.30	4.15	3.49	4.36	3.42
17					3.62	3.12	3.83	3.38	3.94	3.36	4.04	3.33	4.26	3.52	4.47	3.45
19					3.69	3.15	3.91	3.41	4.02	3.39	4.15	3.37	4.41	3.57	4.67	3.51
21					3.81	3.20	3.99	3.44	4.10	3.42	4.26	3.40	4.56	3.62	4.87	3.57
23					3.85	3.22	4.04	3.46	4.15	3.43	4.30	3.42	4.59	3.63	4.88	3.57
25			3.73	3.35	3.89	3.23	4.08	3.48	4.20	3.45	4.34	3.43	4.61	3.63	4.89	3.58
27			3.76	3.36	3.93	3.25	4.13	3.50	4.25	3.47	4.36	3.44	4.60	3.63		
29			3.70	3.34	3.86	3.22	4.06	3.47	4.18	3.45	4.30	3.42	4.54	3.61		
31			3.64	3.31	3.80	3.20	4.00	3.45	4.12	3.42	4.24	3.40	4.48	3.59		
33	3.23	2.99	3.44	3.22	3.74	3.17	3.94	3.42	4.06	3.40	4.18	3.38	4.42	3.57		
35	3.28	3.01	3.44	3.22	3.68	3.15	3.88	3.40	4.00	3.38	4.12	3.36	4.36	3.55		
37	3.23	2.99	3.38	3.20	3.62	3.12	3.82	3.38	3.94	3.36	4.06	3.33	4.30	3.53		
39	3.17	2.96	3.32	3.17	3.56	3.10	3.76	3.36	3.88	3.34	4.00	3.31	4.23	3.51		
41	3.12	2.94	3.27	3.15	3.50	3.07	3.70	3.33	3.82	3.31	3.93	3.29	4.17	3.49		
43	3.06	2.91	3.21	3.12	3.44	3.05	3.64	3.31	3.76	3.29	3.87	3.27	4.10	3.47		

Outdoor air temp. °CDB	°CWB	Indoor air temperature °CDB				
		16	18	20	22	24
		-19.8	-20			
-17.7	-18					
-15.7	-16					
-13.5	-14	2.67	2.63	2.59	2.55	2.50
-11.5	-12	2.83	2.79	2.75	2.71	2.67
-9.5	-10	3.00	2.96	2.92	2.88	2.84
-7.5	-8	3.17	3.13	3.09	3.05	3.01
-5.5	-6	3.23	3.20	3.16	3.12	3.09
-3.0	-4	3.29	3.26	3.23	3.20	3.17
-1.0	-2	3.36	3.33	3.30	3.28	3.25
1.0	0	3.42	3.40	3.38	3.35	3.33
2.0	1	3.45	3.43	3.41	3.39	3.37
3.0	2	3.67	3.65	3.63	3.61	3.59
5.0	4	4.11	4.09	4.07	4.04	4.01
7.0	6	4.55	4.53	4.50	4.47	4.44
9.0	8	4.78	4.75	4.72	4.69	4.66
11.5	10	5.01	4.98	4.95	4.91	4.88
13.5	12	5.30	5.26	5.21	5.14	5.10
15.5	14	5.58	5.53	5.48	5.37	5.32
16.5	16	5.73	5.67	5.61	5.48	5.44

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Model FDE50ZSXVG Indoor unit FDE50VG Outdoor unit SRC50ZSX-S

Cooling mode

(kW)

Heating mode : HC

(kW)

Outdoor air temp. °CDB	Indoor air temperature															
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB	
	12°CWB	14°CWB	16°CWB	18°CWB	19°CWB	20°CWB	22°CWB	24°CWB	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					4.22	3.37	4.45	3.62	4.56	3.59	4.69	3.56	4.94	3.74	5.19	3.66
13					4.32	3.42	4.56	3.66	4.68	3.63	4.81	3.60	5.07	3.78	5.32	3.70
15					4.42	3.46	4.68	3.71	4.80	3.68	4.93	3.65	5.19	3.82	5.45	3.74
17					4.53	3.51	4.79	3.76	4.92	3.72	5.06	3.69	5.32	3.87	5.58	3.78
19					4.62	3.55	4.89	3.80	5.02	3.76	5.19	3.74	5.51	3.93	5.84	3.86
21					4.76	3.61	4.99	3.84	5.13	3.81	5.32	3.79	5.70	4.00	6.09	3.94
23					4.81	3.63	5.04	3.86	5.19	3.83	5.37	3.81	5.73	4.01	6.10	3.95
25			4.66	3.78	4.86	3.65	5.10	3.88	5.25	3.85	5.42	3.83	5.76	4.02	6.11	3.95
27			4.70	3.80	4.91	3.67	5.16	3.91	5.31	3.88	5.46	3.84	5.75	4.02		
29			4.62	3.76	4.83	3.64	5.08	3.87	5.23	3.84	5.38	3.81	5.68	3.99		
31			4.54	3.73	4.75	3.60	5.00	3.84	5.15	3.81	5.30	3.78	5.60	3.96		
33	4.04	3.38	4.31	3.62	4.67	3.57	4.93	3.81	5.08	3.79	5.23	3.76	5.53	3.94		
35	4.11	3.42	4.30	3.61	4.59	3.53	4.85	3.78	5.00	3.75	5.15	3.73	5.45	3.91		
37	4.04	3.38	4.23	3.58	4.52	3.50	4.77	3.75	4.92	3.72	5.07	3.70	5.37	3.88		
39	3.97	3.35	4.16	3.55	4.45	3.47	4.70	3.72	4.85	3.70	4.99	3.67	5.29	3.86		
41	3.90	3.31	4.09	3.52	4.38	3.44	4.62	3.69	4.77	3.67	4.92	3.64	5.21	3.83		
43	3.83	3.28	4.01	3.48	4.30	3.41	4.55	3.66	4.69	3.64	4.84	3.61	5.13	3.80		

Outdoor air temp. °CDB	°CWB	Indoor air temperature °CDB				
		16	18	20	22	24
		-19.8	-20			
-17.7	-18					
-15.7	-16					
-13.5	-14	3.20	3.15	3.11	3.05	3.00
-11.5	-12	3.40	3.35	3.31	3.26	3.20
-9.5	-10	3.60	3.55	3.51	3.46	3.41
-7.5	-8	3.80	3.75	3.71	3.66	3.61
-5.5	-6	3.88	3.83	3.79	3.75	3.71
-3.0	-4	3.95	3.92	3.88	3.84	3.80
-1.0	-2	4.03	4.00	3.97	3.93	3.90
1.0	0	4.10	4.08	4.05	4.03	4.00
2.0	1	4.14	4.12	4.10	4.07	4.05
3.0	2	4.41	4.38	4.36	4.33	4.30
5.0	4	4.94	4.91	4.88	4.85	4.82
7.0	6	5.46	5.43	5.40	5.37	5.33
9.0	8	5.74	5.70	5.67	5.63	5.59
11.5	10	6.02	5.98	5.94	5.89	5.85
13.5	12	6.36	6.31	6.25	6.17	6.12
15.5	14	6.70	6.64	6.57	6.44	6.39
16.5	16	6.87	6.80	6.73	6.58	6.52

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Notes(1) These data show average statuses.

Depending on the system control, there may be ranges where the operation is not conducted continuously.

These data show the case where the operation frequency of a compressor is fixed.

(2) Capacities are based on the following conditions.

Corresponding refrigerant piping length :7.5m

Level difference of Zero.

(3) Symbols are as follows.

TC : Total cooling capacity (kW)

SHC : Sensible heat capacity (kW)

HC : Heating capacity (kW)

Model **FDE60ZSXVG** Indoor unit FDE60VG Outdoor unit SRC60ZSX-S
 Cooling mode (kW) Heating mode : HC (kW)

Outdoor air temp. °CDB	Indoor air temperature															
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB	
	12°CWB	14°CWB	16°CWB	18°CWB	19°CWB	20°CWB	22°CWB	24°CWB	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					4.73	4.47	4.98	4.87	5.11	4.83	5.25	4.79	5.53	5.10	5.81	5.01
13					4.84	4.51	5.11	4.91	5.24	4.87	5.39	4.84	5.67	5.14	5.96	5.05
15					4.95	4.55	5.24	4.96	5.38	4.92	5.52	4.88	5.82	5.19	6.11	5.09
17					5.07	4.60	5.37	5.01	5.51	4.97	5.66	4.93	5.96	5.23	6.25	5.13
19					5.17	4.64	5.48	5.05	5.63	5.01	5.81	4.98	6.17	5.30	6.54	5.21
21					5.33	4.71	5.59	5.09	5.74	5.05	5.96	5.03	6.39	5.36	6.82	5.30
23					5.39	4.73	5.65	5.11	5.81	5.08	6.01	5.05	6.42	5.37	6.83	5.30
25			5.22	4.93	5.44	4.75	5.71	5.14	5.88	5.10	6.07	5.07	6.45	5.38	6.84	5.30
27			5.27	4.95	5.50	4.78	5.78	5.16	5.94	5.12	6.11	5.08	6.44	5.38		
29			5.18	4.91	5.41	4.74	5.69	5.13	5.86	5.09	6.02	5.05	6.36	5.36		
31			5.09	4.87	5.32	4.70	5.60	5.09	5.77	5.06	5.94	5.02	6.27	5.33		
33	4.53	4.39	4.82	4.72	5.23	4.67	5.52	5.06	5.69	5.03	5.85	4.99	6.19	5.30		
35	4.60	4.42	4.81	4.71	5.15	4.63	5.43	5.03	5.60	5.00	5.77	4.97	6.10	5.27		
37	4.52	4.39	4.73	4.64	5.06	4.60	5.35	5.00	5.51	4.97	5.68	4.94	6.01	5.25		
39	4.44	4.35	4.65	4.56	4.98	4.57	5.26	4.97	5.43	4.94	5.59	4.91	5.92	5.22		
41	4.37	4.28	4.58	4.49	4.90	4.54	5.18	4.94	5.34	4.91	5.51	4.88	5.83	5.19		
43	4.29	4.20	4.50	4.41	4.82	4.50	5.10	4.91	5.26	4.88	5.42	4.85	5.74	5.16		

Outdoor air temp. °CDB	°CWB	Indoor air temperature °CDB					
		16	18	20	22	24	
		-19.8	-20				
-17.7	-18						
-15.7	-16						
-13.5	-14	3.97	3.91	3.85	3.79	3.73	
-11.5	-12	4.22	4.16	4.10	4.04	3.98	
-9.5	-10	4.47	4.41	4.35	4.29	4.23	
-7.5	-8	4.72	4.66	4.60	4.54	4.48	
-5.5	-6	4.81	4.76	4.70	4.65	4.60	
-3.0	-4	4.90	4.86	4.81	4.77	4.72	
-1.0	-2	5.00	4.96	4.92	4.88	4.84	
1.0	0	5.09	5.06	5.03	4.99	4.96	
2.0	1	5.14	5.11	5.08	5.05	5.02	
3.0	2	5.47	5.44	5.41	5.37	5.34	
5.0	4	6.12	6.09	6.05	6.01	5.98	
7.0	6	6.78	6.74	6.70	6.66	6.61	
9.0	8	7.12	7.08	7.03	6.98	6.94	
11.5	10	7.47	7.41	7.36	7.31	7.26	
13.5	12	7.89	7.82	7.76	7.65	7.59	
15.5	14	8.31	8.23	8.15	7.99	7.93	
16.5	16	8.53	8.44	8.35	8.16	8.09	

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Model **FDE71VNXVG** Indoor unit FDE71VG Outdoor unit FDC71VNX
 Cooling mode (kW) Heating mode : HC (kW)

Outdoor air temp. °CDB	Indoor air temperature															
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB	
	12°CWB	14°CWB	16°CWB	18°CWB	19°CWB	20°CWB	22°CWB	24°CWB	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					4.87	4.52	6.02	5.25	6.59	5.36	6.79	5.32	7.19	5.62	7.59	5.52
13					5.33	4.71	6.32	5.37	6.82	5.44	7.03	5.41	7.45	5.71	7.88	5.61
15					5.79	4.90	6.63	5.49	7.05	5.53	7.27	5.49	7.71	5.79	8.16	5.69
17					6.26	5.09	6.94	5.61	7.27	5.61	7.51	5.58	7.97	5.88	8.44	5.78
19					6.59	5.23	7.16	5.70	7.44	5.68	7.68	5.64	8.15	5.94	8.63	5.83
21					6.93	5.38	7.38	5.78	7.60	5.74	7.84	5.70	8.33	6.00	8.82	5.89
23					6.91	5.37	7.35	5.77	7.57	5.73	7.81	5.69	8.30	5.99	8.78	5.88
25			6.46	5.49	6.89	5.36	7.32	5.76	7.54	5.72	7.78	5.68	8.26	5.98	8.74	5.87
27			6.45	5.48	6.87	5.35	7.30	5.75	7.52	5.71	7.74	5.66	8.18	5.95		
29			6.34	5.43	6.75	5.30	7.19	5.71	7.41	5.67	7.64	5.63	8.09	5.92		
31			6.23	5.38	6.64	5.25	7.08	5.66	7.31	5.63	7.54	5.59	7.99	5.89		
33	5.77	4.98	6.05	5.30	6.53	5.21	6.97	5.62	7.20	5.59	7.44	5.55	7.90	5.85		
35	5.67	4.93	5.95	5.25	6.42	5.16	6.86	5.58	7.10	5.55	7.34	5.52	7.81	5.82		
37	5.58	4.89	5.85	5.21	6.31	5.11	6.72	5.52	6.95	5.49	7.18	5.46	7.64	5.77		
39	5.49	4.85	5.76	5.17	6.20	5.07	6.59	5.47	6.81	5.44	7.03	5.41	7.46	5.71		
41	5.39	4.80	5.67	5.13	6.09	5.02	6.45	5.42	6.66	5.39	6.87	5.35	7.29	5.65		
43	5.30	4.75	5.57	5.08	5.97	4.97	6.31	5.36	6.51	5.33	6.71	5.29	7.12	5.60		

Outdoor air temp. °CDB	°CWB	Indoor air temperature °CDB					
		16	18	20	22	24	
		-19.8	-20	3.95	3.93	3.91	3.88
-17.7	-18	4.18	4.16	4.14	4.11	4.09	
-15.7	-16	4.42	4.39	4.37	4.34	4.32	
-13.5	-14	4.68	4.65	4.63	4.60	4.57	
-11.5	-12	4.94	4.91	4.88	4.85	4.82	
-9.5	-10	5.20	5.17	5.14	5.11	5.08	
-7.5	-8	5.46	5.43	5.40	5.36	5.33	
-5.5	-6	5.59	5.55	5.52	5.48	5.44	
-3.0	-4	5.71	5.68	5.64	5.60	5.56	
-1.0	-2	5.84	5.80	5.76	5.72	5.67	
1.0	0	5.97	5.92	5.88	5.83	5.79	
2.0	1	6.03	5.98	5.94	5.89	5.85	
3.0	2	6.45	6.40	6.35	6.30	6.25	
5.0	4	7.29	7.23	7.18	7.12	7.06	
7.0	6	8.13	8.06	8.00	7.93	7.87	
9.0	8	8.42	8.36	8.29	8.23	8.16	
11.5	10	8.72	8.65	8.59	8.52	8.46	
13.5	12	9.20	9.13	9.06	9.00	8.92	
15.5	14	9.69	9.61	9.53	9.47	9.39	
16.5	16	9.93	9.85	9.77	9.71	9.62	

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- Notes(1) These data show average statuses.
 Depending on the system control, there may be ranges where the operation is not conducted continuously.
 These data show the case where the operation frequency of a compressor is fixed.(Cooling only)
- (2) Capacities are based on the following conditions.
 Corresponding refrigerant piping length :7.5m
 Level difference of Zero.
- (3) Symbols are as follows.
 TC : Total cooling capacity (kW)
 SHC : Sensible heat capacity (kW)
 HC : Heating capacity (kW)

Model **FDE100VNXXG** Indoor unit FDE100VG Outdoor unit FDC100VNX
 Cooling mode (kW) Heating mode : HC (kW)

Outdoor air temp. °CDB	Indoor air temperature															
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB	
	12°CWB	14°CWB	16°CWB	18°CWB	19°CWB	20°CWB	22°CWB	24°CWB	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					8.33	7.45	8.84	8.11	9.10	8.05	9.38	8.00	9.94	8.49	10.50	8.35
13					8.63	7.57	9.17	8.23	9.43	8.17	9.73	8.12	10.32	8.61	10.92	8.47
15					8.93	7.70	9.49	8.35	9.77	8.29	10.09	8.24	10.71	8.74	11.34	8.60
17					9.23	7.82	9.82	8.48	10.11	8.42	10.44	8.36	11.10	8.86	11.75	8.72
19					9.44	7.91	10.04	8.56	10.34	8.50	10.68	8.45	11.35	8.94	12.01	8.79
21					9.64	7.99	10.26	8.64	10.57	8.58	10.91	8.53	11.59	9.02	12.28	8.87
23					9.64	7.99	10.28	8.65	10.59	8.59	10.94	8.54	11.63	9.03	12.32	8.88
25			8.95	8.15	9.64	7.99	10.30	8.66	10.62	8.60	10.97	8.55	11.66	9.04	12.36	8.90
27			8.91	8.13	9.64	7.99	10.33	8.67	10.64	8.61	10.96	8.55	11.59	9.02		
29			8.84	8.10	9.51	7.93	10.16	8.61	10.48	8.55	10.80	8.49	11.45	8.98		
31			8.76	8.06	9.37	7.88	10.00	8.54	10.32	8.49	10.65	8.44	11.30	8.93		
33	8.21	7.48	8.58	7.98	9.23	7.82	9.83	8.48	10.16	8.43	10.49	8.38	11.15	8.88		
35	7.77	7.27	8.31	7.86	9.09	7.76	9.66	8.41	10.00	8.38	10.34	8.33	11.01	8.83		
37	7.68	7.23	8.18	7.81	8.92	7.69	9.49	8.35	9.81	8.31	10.13	8.26	10.77	8.76		
39	7.58	7.18	8.04	7.74	8.76	7.63	9.31	8.28	9.62	8.24	9.93	8.19	10.54	8.68		
41	7.49	7.14	7.91	7.69	8.59	7.56	9.14	8.22	9.43	8.17	9.73	8.12	10.31	8.61		
43	7.40	7.09	7.78	7.62	8.42	7.49	8.96	8.15	9.24	8.10	9.52	8.05	10.08	8.54		

Outdoor air temp. °CDB		Indoor air temperature °CDB				
°CDB	°CWB	16	18	20	22	24
-19.8	-20	7.30	7.24	7.18	7.12	7.06
-17.7	-18	7.74	7.68	7.62	7.55	7.49
-15.7	-16	8.18	8.12	8.05	7.99	7.92
-13.5	-14	8.54	8.47	8.40	8.33	8.27
-11.5	-12	8.89	8.82	8.75	8.68	8.61
-9.5	-10	9.25	9.17	9.10	9.03	8.95
-7.5	-8	9.60	9.53	9.45	9.38	9.30
-5.5	-6	10.00	9.92	9.84	9.76	9.68
-3.0	-4	10.39	10.31	10.23	10.14	10.06
-1.0	-2	10.79	10.70	10.62	10.53	10.44
1.0	0	11.18	11.09	11.01	10.91	10.82
2.0	1	11.38	11.29	11.20	11.10	11.01
3.0	2	11.38	11.29	11.20	11.10	11.01
5.0	4	11.38	11.29	11.20	11.11	11.01
7.0	6	11.37	11.29	11.20	11.11	11.01
9.0	8	11.85	11.76	11.67	11.58	11.48
11.5	10	12.32	12.23	12.15	12.05	11.95
13.5	12	12.97	12.88	12.78	12.68	12.72
15.5	14	13.62	13.52	13.41	13.32	13.49
16.5	16	13.95	13.84	13.72	13.63	13.87

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Model **FDE100VSXVG** Indoor unit FDE100VG Outdoor unit FDC100VSX
 Cooling mode (kW) Heating mode : HC (kW)

Outdoor air temp. °CDB	Indoor air temperature															
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB	
	12°CWB	14°CWB	16°CWB	18°CWB	19°CWB	20°CWB	22°CWB	24°CWB	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					8.33	7.45	8.84	8.11	9.10	8.05	9.38	8.00	9.94	8.49	10.50	8.35
13					8.63	7.57	9.17	8.23	9.43	8.17	9.73	8.12	10.32	8.61	10.92	8.47
15					8.93	7.70	9.49	8.35	9.77	8.29	10.09	8.24	10.71	8.74	11.34	8.60
17					9.23	7.82	9.82	8.48	10.11	8.42	10.44	8.36	11.10	8.86	11.75	8.72
19					9.44	7.91	10.04	8.56	10.34	8.50	10.68	8.45	11.35	8.94	12.01	8.79
21					9.64	7.99	10.26	8.64	10.57	8.58	10.91	8.53	11.59	9.02	12.28	8.87
23					9.64	7.99	10.28	8.65	10.59	8.59	10.94	8.54	11.63	9.03	12.32	8.88
25			8.95	8.15	9.64	7.99	10.30	8.66	10.62	8.60	10.97	8.55	11.66	9.04	12.36	8.90
27			8.91	8.13	9.64	7.99	10.33	8.67	10.64	8.61	10.96	8.55	11.59	9.02		
29			8.84	8.10	9.51	7.93	10.16	8.61	10.48	8.55	10.80	8.49	11.45	8.98		
31			8.76	8.06	9.37	7.88	10.00	8.54	10.32	8.49	10.65	8.44	11.30	8.93		
33	8.21	7.48	8.58	7.98	9.23	7.82	9.83	8.48	10.16	8.43	10.49	8.38	11.15	8.88		
35	7.77	7.27	8.31	7.86	9.09	7.76	9.66	8.41	10.00	8.38	10.34	8.33	11.01	8.83		
37	7.68	7.23	8.18	7.81	8.92	7.69	9.49	8.35	9.81	8.31	10.13	8.26	10.77	8.76		
39	7.58	7.18	8.04	7.74	8.76	7.63	9.31	8.28	9.62	8.24	9.93	8.19	10.54	8.68		
41	7.49	7.14	7.91	7.69	8.59	7.56	9.14	8.22	9.43	8.17	9.73	8.12	10.31	8.61		
43	7.40	7.09	7.78	7.62	8.42	7.49	8.96	8.15	9.24	8.10	9.52	8.05	10.08	8.54		

Outdoor air temp. °CDB		Indoor air temperature °CDB				
°CDB	°CWB	16	18	20	22	24
-19.8	-20	11.29	11.20	11.11	11.02	10.93
-17.7	-18	11.34	11.25	11.16	11.06	10.97
-15.7	-16	11.38	11.29	11.20	11.11	11.02
-13.5	-14	11.38	11.29	11.20	11.11	11.02
-11.5	-12	11.38	11.29	11.20	11.11	11.02
-9.5	-10	11.38	11.29	11.20	11.11	11.02
-7.5	-8	11.37	11.29	11.20	11.11	11.02
-5.5	-6	11.38	11.29	11.20	11.11	11.02
-3.0	-4	11.38	11.29	11.20	11.11	11.01
-1.0	-2	11.38	11.29	11.20	11.11	11.01
1.0	0	11.38	11.29	11.20	11.10	11.01
2.0	1	11.38	11.29	11.20	11.10	11.01
3.0	2	11.38	11.29	11.20	11.10	11.01
5.0	4	11.38	11.29	11.20	11.11	11.01
7.0	6	11.37	11.29	11.20	11.11	11.01
9.0	8	11.85	11.76	11.67	11.58	11.48
11.5	10	12.32	12.23	12.15	12.05	11.95
13.5	12	12.97	12.88	12.78	12.68	12.72
15.5	14	13.62	13.52	13.41	13.32	13.49
16.5	16	13.95	13.84	13.72	13.63	13.87

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- Notes(1) These data show average statuses.
 Depending on the system control, there may be ranges where the operation is not conducted continuously.
 These data show the case where the operation frequency of a compressor is fixed.(Cooling only)
- (2) Capacities are based on the following conditions.
 Corresponding refrigerant piping length :7.5m
 Level difference of Zero.
- (3) Symbols are as follows.
 TC : Total cooling capacity (kW)
 SHC : Sensible heat capacity (kW)
 HC : Heating capacity (kW)

Model **FDE125VNXXG** Indoor unit FDE125VG Outdoor unit FDC125VNX
 Cooling mode (kW) Heating mode : HC (kW)

Outdoor air temp.	Indoor air temperature															
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB	
	12°CWB		14°CWB		16°CWB		18°CWB		19°CWB		20°CWB		22°CWB		24°CWB	
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					10.41	8.31	11.05	8.95	11.37	8.88	11.72	8.82	12.42	9.29	13.12	9.13
13					10.79	8.47	11.46	9.11	11.79	9.04	12.16	8.98	12.91	9.46	13.65	9.29
15					11.16	8.63	11.87	9.28	12.22	9.21	12.61	9.15	13.39	9.62	14.17	9.45
17					11.54	8.80	12.27	9.44	12.64	9.37	13.05	9.31	13.87	9.79	14.69	9.61
19					11.80	8.91	12.55	9.55	12.93	9.49	13.34	9.42	14.18	9.89	15.02	9.71
21					12.05	9.02	12.83	9.67	13.21	9.60	13.64	9.53	14.49	10.00	15.34	9.82
23					12.05	9.02	12.85	9.68	13.24	9.61	13.67	9.55	14.54	10.02	15.40	9.84
25			11.19	9.18	12.05	9.02	12.88	9.69	13.27	9.62	13.71	9.56	14.58	10.03	15.45	9.85
27			11.14	9.15	12.05	9.02	12.91	9.70	13.30	9.63	13.70	9.56	14.49	10.00		
29			11.05	9.11	11.88	8.95	12.70	9.62	13.10	9.55	13.51	9.48	14.31	9.94		
31			10.95	9.06	11.71	8.87	12.49	9.53	12.90	9.47	13.31	9.41	14.13	9.88		
33	10.26	8.48	10.73	8.96	11.53	8.80	12.29	9.45	12.70	9.40	13.11	9.33	13.94	9.81		
35	9.71	8.21	10.39	8.80	11.36	8.72	12.08	9.36	12.50	9.32	12.92	9.26	13.76	9.75		
37	9.60	8.15	10.22	8.72	11.15	8.63	11.86	9.27	12.26	9.22	12.67	9.17	13.47	9.65		
39	9.48	8.09	10.05	8.64	10.94	8.54	11.64	9.19	12.03	9.14	12.41	9.07	13.18	9.55		
41	9.36	8.03	9.89	8.57	10.74	8.45	11.42	9.10	11.79	9.04	12.16	8.98	12.89	9.45		
43	9.25	7.98	9.72	8.49	10.53	8.36	11.21	9.01	11.55	8.95	11.90	8.89	12.60	9.35		

Outdoor air temp.		Indoor air temperature				
°CDB	°CWB	°CDB				
		16	18	20	22	24
-19.8	-20	9.12	9.05	8.97	8.90	8.83
-17.7	-18	9.67	9.60	9.52	9.44	9.37
-15.7	-16	10.23	10.15	10.07	9.98	9.90
-13.5	-14	10.67	10.59	10.50	10.42	10.33
-11.5	-12	11.11	11.03	10.94	10.85	10.76
-9.5	-10	11.56	11.47	11.38	11.29	11.19
-7.5	-8	12.00	11.91	11.82	11.72	11.62
-5.5	-6	12.49	12.40	12.30	12.20	12.10
-3.0	-4	12.99	12.89	12.79	12.68	12.57
-1.0	-2	13.48	13.38	13.27	13.16	13.05
1.0	0	13.98	13.87	13.76	13.64	13.52
2.0	1	14.22	14.11	14.00	13.88	13.76
3.0	2	14.22	14.11	14.00	13.88	13.76
5.0	4	14.22	14.11	14.00	13.88	13.76
7.0	6	14.22	14.11	14.00	13.88	13.77
9.0	8	14.81	14.70	14.59	14.47	14.35
11.5	10	15.41	15.29	15.18	15.06	14.94
13.5	12	16.22	16.09	15.97	15.85	15.90
15.5	14	17.03	16.90	16.76	16.65	16.86
16.5	16	17.44	17.30	17.16	17.04	17.34

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Model **FDE125VSXVG** Indoor unit FDE125VG Outdoor unit FDC125VSX
 Cooling mode (kW) Heating mode : HC (kW)

Outdoor air temp.	Indoor air temperature															
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB	
	12°CWB		14°CWB		16°CWB		18°CWB		19°CWB		20°CWB		22°CWB		24°CWB	
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					10.41	8.31	11.05	8.95	11.37	8.88	11.72	8.82	12.42	9.29	13.12	9.13
13					10.79	8.47	11.46	9.11	11.79	9.04	12.16	8.98	12.91	9.46	13.65	9.29
15					11.16	8.63	11.87	9.28	12.22	9.21	12.61	9.15	13.39	9.62	14.17	9.45
17					11.54	8.80	12.27	9.44	12.64	9.37	13.05	9.31	13.87	9.79	14.69	9.61
19					11.80	8.91	12.55	9.55	12.93	9.49	13.34	9.42	14.18	9.89	15.02	9.71
21					12.05	9.02	12.83	9.67	13.21	9.60	13.64	9.53	14.49	10.00	15.34	9.82
23					12.05	9.02	12.85	9.68	13.24	9.61	13.67	9.55	14.54	10.02	15.40	9.84
25			11.19	9.18	12.05	9.02	12.88	9.69	13.27	9.62	13.71	9.56	14.58	10.03	15.45	9.85
27			11.14	9.15	12.05	9.02	12.91	9.70	13.30	9.63	13.70	9.56	14.49	10.00		
29			11.05	9.11	11.88	8.95	12.70	9.62	13.10	9.55	13.51	9.48	14.31	9.94		
31			10.95	9.06	11.71	8.87	12.49	9.53	12.90	9.47	13.31	9.41	14.13	9.88		
33	10.26	8.48	10.73	8.96	11.53	8.80	12.29	9.45	12.70	9.40	13.11	9.33	13.94	9.81		
35	9.71	8.21	10.39	8.80	11.36	8.72	12.08	9.36	12.50	9.32	12.92	9.26	13.76	9.75		
37	9.60	8.15	10.22	8.72	11.15	8.63	11.86	9.27	12.26	9.22	12.67	9.17	13.47	9.65		
39	9.48	8.09	10.05	8.64	10.94	8.54	11.64	9.19	12.03	9.14	12.41	9.07	13.18	9.55		
41	9.36	8.03	9.89	8.57	10.74	8.45	11.42	9.10	11.79	9.04	12.16	8.98	12.89	9.45		
43	9.25	7.98	9.72	8.49	10.53	8.36	11.21	9.01	11.55	8.95	11.90	8.89	12.60	9.35		

Outdoor air temp.		Indoor air temperature				
°CDB	°CWB	°CDB				
		16	18	20	22	24
-19.8	-20	14.11	14.00	13.89	13.78	13.66
-17.7	-18	14.17	14.06	13.94	13.83	13.72
-15.7	-16	14.23	14.11	14.00	13.89	13.77
-13.5	-14	14.23	14.11	14.00	13.89	13.77
-11.5	-12	14.22	14.11	14.00	13.89	13.77
-9.5	-10	14.22	14.11	14.00	13.89	13.77
-7.5	-8	14.22	14.11	14.00	13.89	13.77
-5.5	-6	14.22	14.11	14.00	13.88	13.77
-3.0	-4	14.22	14.11	14.00	13.88	13.77
-1.0	-2	14.22	14.11	14.00	13.88	13.76
1.0	0	14.22	14.11	14.00	13.88	13.76
2.0	1	14.22	14.11	14.00	13.88	13.76
3.0	2	14.22	14.11	14.00	13.88	13.76
5.0	4	14.22	14.11	14.00	13.88	13.76
7.0	6	14.22	14.11	14.00	13.88	13.77
9.0	8	14.81	14.70	14.59	14.47	14.35
11.5	10	15.41	15.29	15.18	15.06	14.94
13.5	12	16.22	16.09	15.97	15.85	15.90
15.5	14	17.03	16.90	16.76	16.65	16.86
16.5	16	17.44	17.30	17.16	17.04	17.34

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- Notes(1) These data show average statuses.
 Depending on the system control, there may be ranges where the operation is not conducted continuously.
 These data show the case where the operation frequency of a compressor is fixed.(Cooling only)
- (2) Capacities are based on the following conditions.
 Corresponding refrigerant piping length :7.5m
 Level difference of Zero.
- (3) Symbols are as follows.
 TC : Total cooling capacity (kW)
 SHC : Sensible heat capacity (kW)
 HC : Heating capacity (kW)

Model FDE140VN XVG Indoor unit FDE140VG Outdoor unit FDC140VNX
Cooling mode

(kW) Heating mode : HC (kW)

Outdoor air temp.	Indoor air temperature															
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB	
	12°CWB		14°CWB		16°CWB		18°CWB		19°CWB		20°CWB		22°CWB		24°CWB	
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					11.66	9.09	12.38	9.76	12.73	9.69	13.13	9.62	13.91	10.11	14.70	9.93
13					12.08	9.27	12.83	9.95	13.21	9.87	13.62	9.80	14.45	10.30	15.28	10.11
15					12.50	9.45	13.29	10.13	13.68	10.06	14.12	9.99	14.99	10.48	15.87	10.29
17					12.92	9.64	13.75	10.32	14.16	10.24	14.62	10.18	15.54	10.68	16.45	10.48
19					13.21	9.77	14.06	10.45	14.48	10.37	14.95	10.31	15.88	10.80	16.82	10.60
21					13.50	9.90	14.36	10.58	14.80	10.50	15.28	10.43	16.23	10.92	17.19	10.72
23					13.50	9.90	14.40	10.59	14.83	10.51	15.31	10.44	16.28	10.94	17.25	10.74
25			12.53	10.06	13.50	9.90	14.43	10.61	14.87	10.53	15.35	10.46	16.33	10.96	17.30	10.75
27			12.48	10.03	13.50	9.90	14.46	10.62	14.90	10.54	15.34	10.46	16.23	10.92		
29			12.37	9.98	13.31	9.82	14.23	10.52	14.68	10.45	15.13	10.37	16.03	10.85		
31			12.26	9.93	13.11	9.73	13.99	10.42	14.45	10.36	14.91	10.29	15.82	10.78		
33	11.49	9.31	12.02	9.81	12.92	9.64	13.76	10.33	14.23	10.27	14.69	10.21	15.61	10.70		
35	10.88	9.00	11.63	9.63	12.72	9.55	13.53	10.23	14.00	10.18	14.47	10.12	15.41	10.63		
37	10.75	8.93	11.45	9.54	12.49	9.45	13.29	10.13	13.74	10.08	14.18	10.01	15.08	10.52		
39	10.62	8.87	11.26	9.45	12.26	9.35	13.04	10.03	13.47	9.97	13.90	9.91	14.76	10.41		
41	10.49	8.80	11.07	9.37	12.02	9.24	12.80	9.93	13.21	9.87	13.62	9.80	14.44	10.30		
43	10.35	8.74	10.89	9.28	11.79	9.14	12.55	9.83	12.94	9.77	13.33	9.69	14.11	10.18		

Outdoor air temp.		Indoor air temperature				
°CDB	°CWB	°CDB				
		16	18	20	22	24
-19.8	-20	10.42	10.34	10.26	10.17	10.09
-17.7	-18	11.06	10.97	10.88	10.79	10.70
-15.7	-16	11.69	11.60	11.50	11.41	11.32
-13.5	-14	12.20	12.10	12.00	11.91	11.81
-11.5	-12	12.70	12.60	12.50	12.40	12.30
-9.5	-10	13.21	13.11	13.00	12.90	12.79
-7.5	-8	13.71	13.61	13.50	13.39	13.28
-5.5	-6	14.28	14.17	14.06	13.94	13.83
-3.0	-4	14.84	14.73	14.61	14.49	14.37
-1.0	-2	15.41	15.29	15.17	15.04	14.91
1.0	0	15.97	15.85	15.72	15.59	15.45
2.0	1	16.26	16.13	16.00	15.86	15.73
3.0	2	16.25	16.13	16.00	15.86	15.73
5.0	4	16.25	16.13	16.00	15.86	15.73
7.0	6	16.25	16.12	16.00	15.87	15.73
9.0	8	16.93	16.80	16.68	16.54	16.40
11.5	10	17.61	17.48	17.35	17.21	17.07
13.5	12	18.53	18.39	18.25	18.12	18.17
15.5	14	19.46	19.31	19.16	19.02	19.27
16.5	16	19.93	19.77	19.61	19.48	19.82

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Model FDE140VS XVG Indoor unit FDE140VG Outdoor unit FDC140VSX
Cooling mode

(kW) Heating mode : HC (kW)

Outdoor air temp.	Indoor air temperature															
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB	
	12°CWB		14°CWB		16°CWB		18°CWB		19°CWB		20°CWB		22°CWB		24°CWB	
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					11.66	9.09	12.38	9.76	12.73	9.69	13.13	9.62	13.91	10.11	14.70	9.93
13					12.08	9.27	12.83	9.95	13.21	9.87	13.62	9.80	14.45	10.30	15.28	10.11
15					12.50	9.45	13.29	10.13	13.68	10.06	14.12	9.99	14.99	10.48	15.87	10.29
17					12.92	9.64	13.75	10.32	14.16	10.24	14.62	10.18	15.54	10.68	16.45	10.48
19					13.21	9.77	14.06	10.45	14.48	10.37	14.95	10.31	15.88	10.80	16.82	10.60
21					13.50	9.90	14.36	10.58	14.80	10.50	15.28	10.43	16.23	10.92	17.19	10.72
23					13.50	9.90	14.40	10.59	14.83	10.51	15.31	10.44	16.28	10.94	17.25	10.74
25			12.53	10.06	13.50	9.90	14.43	10.61	14.87	10.53	15.35	10.46	16.33	10.96	17.30	10.75
27			12.48	10.03	13.50	9.90	14.46	10.62	14.90	10.54	15.34	10.46	16.23	10.92		
29			12.37	9.98	13.31	9.82	14.23	10.52	14.68	10.45	15.13	10.37	16.03	10.85		
31			12.26	9.93	13.11	9.73	13.99	10.42	14.45	10.36	14.91	10.29	15.82	10.78		
33	11.49	9.31	12.02	9.81	12.92	9.64	13.76	10.33	14.23	10.27	14.69	10.21	15.61	10.70		
35	10.88	9.00	11.63	9.63	12.72	9.55	13.53	10.23	14.00	10.18	14.47	10.12	15.41	10.63		
37	10.75	8.93	11.45	9.54	12.49	9.45	13.29	10.13	13.74	10.08	14.18	10.01	15.08	10.52		
39	10.62	8.87	11.26	9.45	12.26	9.35	13.04	10.03	13.47	9.97	13.90	9.91	14.76	10.41		
41	10.49	8.80	11.07	9.37	12.02	9.24	12.80	9.93	13.21	9.87	13.62	9.80	14.44	10.30		
43	10.35	8.74	10.89	9.28	11.79	9.14	12.55	9.83	12.94	9.77	13.33	9.69	14.11	10.18		

Outdoor air temp.		Indoor air temperature				
°CDB	°CWB	°CDB				
		16	18	20	22	24
-19.8	-20	16.13	16.00	15.87	15.74	15.61
-17.7	-18	16.19	16.07	15.94	15.81	15.68
-15.7	-16	16.26	16.13	16.00	15.87	15.74
-13.5	-14	16.26	16.13	16.00	15.87	15.74
-11.5	-12	16.25	16.13	16.00	15.87	15.74
-9.5	-10	16.25	16.13	16.00	15.87	15.74
-7.5	-8	16.25	16.12	16.00	15.87	15.74
-5.5	-6	16.25	16.13	16.00	15.87	15.74
-3.0	-4	16.25	16.13	16.00	15.87	15.73
-1.0	-2	16.25	16.13	16.00	15.86	15.73
1.0	0	16.25	16.13	16.00	15.86	15.73
2.0	1	16.26	16.13	16.00	15.86	15.73
3.0	2	16.25	16.13	16.00	15.86	15.73
5.0	4	16.25	16.13	16.00	15.86	15.73
7.0	6	16.25	16.12	16.00	15.87	15.73
9.0	8	16.93	16.80	16.68	16.54	16.40
11.5	10	17.61	17.48	17.35	17.21	17.07
13.5	12	18.53	18.39	18.25	18.12	18.17
15.5	14	19.46	19.31	19.16	19.02	19.27
16.5	16	19.93	19.77	19.61	19.48	19.82

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- Notes(1) These data show average statuses.
Depending on the system control, there may be ranges where the operation is not conducted continuously.
These data show the case where the operation frequency of a compressor is fixed.(Cooling only)
- (2) Capacities are based on the following conditions.
Corresponding refrigerant piping length : 7.5m
Level difference of Zero.
- (3) Symbols are as follows.
TC : Total cooling capacity (kW)
SHC : Sensible heat capacity (kW)
HC : Heating capacity (kW)

(b) Twin type

Model **FDE71VNXPVG** Indoor unit **FDE40VG (2 units)** Outdoor unit **FDC71VNX**
 Cooling mode (kW) Heating mode : HC (kW)

Outdoor air temp.	Indoor air temperature															
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB	
	12°CWB		14°CWB		16°CWB		18°CWB		19°CWB		20°CWB		22°CWB		24°CWB	
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					4.87	4.77	6.02	5.90	6.59	6.26	6.79	6.22	7.19	6.63	7.59	6.52
13					5.33	5.22	6.32	6.19	6.82	6.34	7.03	6.30	7.45	6.71	7.88	6.60
15					5.79	5.67	6.63	6.38	7.05	6.42	7.27	6.38	7.71	6.79	8.16	6.68
17					6.26	5.85	6.94	6.50	7.27	6.50	7.51	6.46	7.97	6.87	8.44	6.76
19					6.59	5.98	7.16	6.58	7.44	6.56	7.68	6.52	8.15	6.93	8.63	6.82
21					6.93	6.12	7.38	6.66	7.60	6.62	7.84	6.57	8.33	6.98	8.82	6.87
23					6.91	6.11	7.35	6.65	7.57	6.60	7.81	6.56	8.30	6.97	8.78	6.86
25			6.46	6.26	6.89	6.10	7.32	6.64	7.54	6.59	7.78	6.55	8.26	6.96	8.74	6.85
27			6.45	6.26	6.87	6.10	7.30	6.63	7.52	6.59	7.74	6.54	8.18	6.93		
29			6.34	6.21	6.75	6.05	7.19	6.59	7.41	6.55	7.64	6.50	8.09	6.91		
31			6.23	6.11	6.64	6.00	7.08	6.55	7.31	6.51	7.54	6.47	7.99	6.87		
33	5.77	5.65	6.05	5.93	6.53	5.96	6.97	6.51	7.20	6.47	7.44	6.44	7.90	6.85		
35	5.67	5.56	5.95	5.83	6.42	5.92	6.86	6.47	7.10	6.44	7.34	6.40	7.81	6.82		
37	5.58	5.47	5.85	5.73	6.31	5.87	6.72	6.42	6.95	6.38	7.18	6.35	7.64	6.77		
39	5.49	5.38	5.76	5.64	6.20	5.83	6.59	6.37	6.81	6.34	7.03	6.30	7.46	6.71		
41	5.39	5.28	5.67	5.56	6.09	5.78	6.45	6.32	6.66	6.28	6.87	6.24	7.29	6.66		
43	5.30	5.19	5.57	5.46	5.97	5.74	6.31	6.18	6.51	6.23	6.71	6.19	7.12	6.61		

Outdoor air temp.	Indoor air temperature					
	°CDB					
°CDB	°CWB	16	18	20	22	24
-19.8	-20	3.95	3.93	3.91	3.88	3.86
-17.7	-18	4.18	4.16	4.14	4.11	4.09
-15.7	-16	4.42	4.39	4.37	4.34	4.32
-13.5	-14	4.68	4.65	4.63	4.60	4.57
-11.5	-12	4.94	4.91	4.88	4.85	4.82
-9.5	-10	5.20	5.17	5.14	5.11	5.08
-7.5	-8	5.46	5.43	5.40	5.36	5.33
-5.5	-6	5.59	5.55	5.52	5.48	5.44
-3.0	-4	5.71	5.68	5.64	5.60	5.56
-1.0	-2	5.84	5.80	5.76	5.72	5.67
1.0	0	5.97	5.92	5.88	5.83	5.79
2.0	1	6.03	5.98	5.94	5.89	5.85
3.0	2	6.45	6.40	6.35	6.30	6.25
5.0	4	7.29	7.23	7.18	7.12	7.06
7.0	6	8.13	8.06	8.00	7.93	7.87
9.0	8	8.42	8.36	8.29	8.23	8.16
11.5	10	8.72	8.65	8.59	8.52	8.46
13.5	12	9.20	9.13	9.06	9.00	8.92
15.5	14	9.69	9.61	9.53	9.47	9.39
16.5	16	9.93	9.85	9.77	9.71	9.62

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Model **FDE100VNXPVG** Indoor unit **FDE50VG (2 units)** Outdoor unit **FDC100VNX**
 Cooling mode (kW) Heating mode : HC (kW)

Outdoor air temp.	Indoor air temperature															
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB	
	12°CWB		14°CWB		16°CWB		18°CWB		19°CWB		20°CWB		22°CWB		24°CWB	
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					8.33	6.70	8.84	7.22	9.10	7.17	9.38	7.12	9.94	7.50	10.50	7.37
13					8.63	6.83	9.17	7.35	9.43	7.29	9.73	7.24	10.32	7.63	10.92	7.49
15					8.93	6.96	9.49	7.48	9.77	7.42	10.09	7.37	10.71	7.76	11.34	7.62
17					9.23	7.09	9.82	7.61	10.11	7.55	10.44	7.50	11.10	7.89	11.75	7.75
19					9.44	7.18	10.04	7.70	10.34	7.64	10.68	7.59	11.35	7.98	12.01	7.83
21					9.64	7.27	10.26	7.79	10.57	7.73	10.91	7.68	11.59	8.06	12.28	7.92
23					9.64	7.27	10.28	7.80	10.59	7.74	10.94	7.69	11.63	8.08	12.32	7.93
25			8.95	7.39	9.64	7.27	10.30	7.80	10.62	7.75	10.97	7.70	11.66	8.09	12.36	7.94
27			8.91	7.37	9.64	7.27	10.33	7.82	10.64	7.76	10.96	7.70	11.59	8.06		
29			8.84	7.34	9.51	7.21	10.16	7.75	10.48	7.70	10.80	7.64	11.45	8.01		
31			8.76	7.30	9.37	7.15	10.00	7.68	10.32	7.63	10.65	7.58	11.30	7.96		
33	8.21	6.83	8.58	7.22	9.23	7.09	9.83	7.61	10.16	7.57	10.49	7.52	11.15	7.91		
35	7.77	6.61	8.31	7.09	9.09	7.03	9.66	7.54	10.00	7.51	10.34	7.47	11.01	7.86		
37	7.68	6.56	8.18	7.03	8.92	6.95	9.49	7.48	9.81	7.44	10.13	7.39	10.77	7.78		
39	7.58	6.51	8.04	6.97	8.76	6.88	9.31	7.40	9.62	7.36	9.93	7.32	10.54	7.70		
41	7.49	6.47	7.91	6.91	8.59	6.81	9.14	7.34	9.43	7.29	9.73	7.24	10.31	7.62		
43	7.40	6.43	7.78	6.85	8.42	6.74	8.96	7.27	9.24	7.22	9.52	7.17	10.08	7.55		

Outdoor air temp.	Indoor air temperature					
	°CDB					
°CDB	°CWB	16	18	20	22	24
-19.8	-20	7.30	7.24	7.18	7.12	7.06
-17.7	-18	7.74	7.68	7.62	7.55	7.49
-15.7	-16	8.18	8.12	8.05	7.99	7.92
-13.5	-14	8.54	8.47	8.40	8.33	8.27
-11.5	-12	8.89	8.82	8.75	8.68	8.61
-9.5	-10	9.25	9.17	9.10	9.03	8.95
-7.5	-8	9.60	9.53	9.45	9.38	9.30
-5.5	-6	10.00	9.92	9.84	9.76	9.68
-3.0	-4	10.39	10.31	10.23	10.14	10.06
-1.0	-2	10.79	10.70	10.62	10.53	10.44
1.0	0	11.18	11.09	11.01	10.91	10.82
2.0	1	11.38	11.29	11.20	11.10	11.01
3.0	2	11.38	11.29	11.20	11.10	11.01
5.0	4	11.38	11.29	11.20	11.11	11.01
7.0	6	11.37	11.29	11.20	11.11	11.01
9.0	8	11.85	11.76	11.67	11.58	11.48
11.5	10	12.32	12.23	12.15	12.05	11.95
13.5	12	12.97	12.88	12.78	12.68	12.72
15.5	14	13.62	13.52	13.41	13.32	13.49
16.5	16	13.95	13.84	13.72	13.63	13.87

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- Notes(1) These data show average statuses.
 Depending on the system control, there may be ranges where the operation is not conducted continuously.
 These data show the case where the operation frequency of a compressor is fixed.(Cooling only)
- (2) Capacities are based on the following conditions.
 Corresponding refrigerant piping length :7.5m
 Level difference of Zero.
- (3) Symbols are as follows.
 TC : Total cooling capacity (kW)
 SHC : Sensible heat capacity (kW)
 HC : Heating capacity (kW)

Model **FDE100VXPVG** Indoor unit FDE50VG (2 units) Outdoor unit FDC100VSX
 Cooling mode (kW) Heating mode : HC (kW)

Outdoor air temp.	Indoor air temperature															
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB	
	12°CWB		14°CWB		16°CWB		18°CWB		19°CWB		20°CWB		22°CWB		24°CWB	
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					8.33	6.70	8.84	7.22	9.10	7.17	9.38	7.12	9.94	7.50	10.50	7.37
13					8.63	6.83	9.17	7.35	9.43	7.29	9.73	7.24	10.32	7.63	10.92	7.49
15					8.93	6.96	9.49	7.48	9.77	7.42	10.09	7.37	10.71	7.76	11.34	7.62
17					9.23	7.09	9.82	7.61	10.11	7.55	10.44	7.50	11.10	7.89	11.75	7.75
19					9.44	7.18	10.04	7.70	10.34	7.64	10.68	7.59	11.35	7.98	12.01	7.83
21					9.64	7.27	10.26	7.79	10.57	7.73	10.91	7.68	11.59	8.06	12.28	7.92
23					9.64	7.27	10.28	7.80	10.59	7.74	10.94	7.69	11.63	8.08	12.32	7.93
25			8.95	7.39	9.64	7.27	10.30	7.80	10.62	7.75	10.97	7.70	11.66	8.09	12.36	7.94
27			8.91	7.37	9.64	7.27	10.33	7.82	10.64	7.76	10.96	7.70	11.59	8.06		
29			8.84	7.34	9.51	7.21	10.16	7.75	10.48	7.70	10.80	7.64	11.45	8.01		
31			8.76	7.30	9.37	7.15	10.00	7.68	10.32	7.63	10.65	7.58	11.30	7.96		
33	8.21	6.83	8.58	7.22	9.23	7.09	9.83	7.61	10.16	7.57	10.49	7.52	11.15	7.91		
35	7.77	6.61	8.31	7.09	9.09	7.03	9.66	7.54	10.00	7.51	10.34	7.47	11.01	7.86		
37	7.68	6.56	8.18	7.03	8.92	6.95	9.49	7.48	9.81	7.44	10.13	7.39	10.77	7.78		
39	7.58	6.51	8.04	6.97	8.76	6.88	9.31	7.40	9.62	7.36	9.93	7.32	10.54	7.70		
41	7.49	6.47	7.91	6.91	8.59	6.81	9.14	7.34	9.43	7.29	9.73	7.24	10.31	7.62		
43	7.40	6.43	7.78	6.85	8.42	6.74	8.96	7.27	9.24	7.22	9.52	7.17	10.08	7.55		

Outdoor air temp.	Indoor air temperature					
	°CDB					
°CDB	°CWB	16	18	20	22	24
-19.8	-20	11.29	11.20	11.11	11.02	10.93
-17.7	-18	11.34	11.25	11.16	11.06	10.97
-15.7	-16	11.38	11.29	11.20	11.11	11.02
-13.5	-14	11.38	11.29	11.20	11.11	11.02
-11.5	-12	11.38	11.29	11.20	11.11	11.02
-9.5	-10	11.38	11.29	11.20	11.11	11.02
-7.5	-8	11.37	11.29	11.20	11.11	11.02
-5.5	-6	11.38	11.29	11.20	11.11	11.02
-3.0	-4	11.38	11.29	11.20	11.11	11.01
-1.0	-2	11.38	11.29	11.20	11.11	11.01
1.0	0	11.38	11.29	11.20	11.10	11.01
2.0	1	11.38	11.29	11.20	11.10	11.01
3.0	2	11.38	11.29	11.20	11.10	11.01
5.0	4	11.38	11.29	11.20	11.11	11.01
7.0	6	11.37	11.29	11.20	11.11	11.01
9.0	8	11.85	11.76	11.67	11.58	11.48
11.5	10	12.32	12.23	12.15	12.05	11.95
13.5	12	12.97	12.88	12.78	12.68	12.72
15.5	14	13.62	13.52	13.41	13.32	13.49
16.5	16	13.95	13.84	13.72	13.63	13.87

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Model **FDE125VNX** Indoor unit FDE60VG (2 units) Outdoor unit FDC125VNX
 Cooling mode (kW) Heating mode : HC (kW)

Outdoor air temp.	Indoor air temperature															
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB	
	12°CWB		14°CWB		16°CWB		18°CWB		19°CWB		20°CWB		22°CWB		24°CWB	
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					10.41	9.31	11.05	10.13	11.37	10.06	11.72	9.99	12.42	10.62	13.12	10.44
13					10.79	9.47	11.46	10.29	11.79	10.21	12.16	10.15	12.91	10.77	13.65	10.59
15					11.16	9.62	11.87	10.44	12.22	10.37	12.61	10.30	13.39	10.92	14.17	10.74
17					11.54	9.77	12.27	10.59	12.64	10.52	13.05	10.46	13.87	11.08	14.69	10.90
19					11.80	9.88	12.55	10.70	12.93	10.63	13.34	10.56	14.18	11.18	15.02	10.99
21					12.05	9.99	12.83	10.81	13.21	10.73	13.64	10.66	14.49	11.28	15.34	11.09
23					12.05	9.99	12.85	10.81	13.24	10.74	13.67	10.67	14.54	11.29	15.40	11.11
25			11.19	10.18	12.05	9.99	12.88	10.83	13.27	10.75	13.71	10.69	14.58	11.31	15.45	11.12
27			11.14	10.16	12.05	9.99	12.91	10.84	13.30	10.76	13.70	10.69	14.49	11.28		
29			11.05	10.12	11.88	9.91	12.70	10.76	13.10	10.69	13.51	10.62	14.31	11.22		
31			10.95	10.08	11.71	9.84	12.49	10.68	12.90	10.62	13.31	10.55	14.13	11.16		
33	10.26	9.34	10.73	9.98	11.53	9.77	12.29	10.60	12.70	10.54	13.11	10.48	13.94	11.10		
35	9.71	9.08	10.39	9.83	11.36	9.70	12.08	10.52	12.50	10.47	12.92	10.41	13.76	11.04		
37	9.60	9.03	10.22	9.75	11.15	9.61	11.86	10.44	12.26	10.38	12.67	10.32	13.47	10.95		
39	9.48	8.98	10.05	9.68	10.94	9.53	11.64	10.35	12.03	10.30	12.41	10.23	13.18	10.86		
41	9.36	8.92	9.89	9.61	10.74	9.45	11.42	10.27	11.79	10.21	12.16	10.15	12.89	10.76		
43	9.25	8.87	9.72	9.53	10.53	9.36	11.21	10.19	11.55	10.13	11.90	10.06	12.60	10.67		

Outdoor air temp.	Indoor air temperature					
	°CDB					
°CDB	°CWB	16	18	20	22	24
-19.8	-20	9.12	9.05	8.97	8.90	8.83
-17.7	-18	9.67	9.60	9.52	9.44	9.37
-15.7	-16	10.23	10.15	10.07	9.98	9.90
-13.5	-14	10.67	10.59	10.50	10.42	10.33
-11.5	-12	11.11	11.03	10.94	10.85	10.76
-9.5	-10	11.56	11.47	11.38	11.29	11.19
-7.5	-8	12.00	11.91	11.82	11.72	11.62
-5.5	-6	12.49	12.40	12.30	12.20	12.10
-3.0	-4	12.99	12.89	12.79	12.68	12.57
-1.0	-2	13.48	13.38	13.27	13.16	13.05
1.0	0	13.98	13.87	13.76	13.64	13.52
2.0	1	14.22	14.11	14.00	13.88	13.76
3.0	2	14.22	14.11	14.00	13.88	13.76
5.0	4	14.22	14.11	14.00	13.88	13.76
7.0	6	14.22	14.11	14.00	13.88	13.77
9.0	8	14.81	14.70	14.59	14.47	14.35
11.5	10	15.41	15.29	15.18	15.06	14.94
13.5	12	16.22	16.09	15.97	15.85	15.90
15.5	14	17.03	16.90	16.76	16.65	16.86
16.5	16	17.44	17.30	17.16	17.04	17.34

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- Notes(1) These data show average statuses.
 Depending on the system control, there may be ranges where the operation is not conducted continuously.
 These data show the case where the operation frequency of a compressor is fixed.(Cooling only)
- (2) Capacities are based on the following conditions.
 Corresponding refrigerant piping length :7.5m
 Level difference of Zero.
- (3) Symbols are as follows.
 TC : Total cooling capacity (kW)
 SHC : Sensible heat capacity (kW)
 HC : Heating capacity (kW)

Model **FDE125VXPVG** Indoor unit FDE60VG (2 units) Outdoor unit FDC125VSX
 Cooling mode (kW) Heating mode : HC (kW)

Outdoor air temp.	Indoor air temperature															
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB	
	12°CWB		14°CWB		16°CWB		18°CWB		19°CWB		20°CWB		22°CWB		24°CWB	
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					10.41	9.31	11.05	10.13	11.37	10.06	11.72	9.99	12.42	10.62	13.12	10.44
13					10.79	9.47	11.46	10.29	11.79	10.21	12.16	10.15	12.91	10.77	13.65	10.59
15					11.16	9.62	11.87	10.44	12.22	10.37	12.61	10.30	13.39	10.92	14.17	10.74
17					11.54	9.77	12.27	10.59	12.64	10.52	13.05	10.46	13.87	11.08	14.69	10.90
19					11.80	9.88	12.55	10.70	12.93	10.63	13.34	10.56	14.18	11.18	15.02	10.99
21					12.05	9.99	12.83	10.81	13.21	10.73	13.64	10.66	14.49	11.28	15.34	11.09
23					12.05	9.99	12.85	10.81	13.24	10.74	13.67	10.67	14.54	11.29	15.40	11.11
25			11.19	10.18	12.05	9.99	12.88	10.83	13.27	10.75	13.71	10.69	14.58	11.31	15.45	11.12
27			11.14	10.16	12.05	9.99	12.91	10.84	13.30	10.76	13.70	10.69	14.49	11.28		
29			11.05	10.12	11.88	9.91	12.70	10.76	13.10	10.69	13.51	10.62	14.31	11.22		
31			10.95	10.08	11.71	9.84	12.49	10.68	12.90	10.62	13.31	10.55	14.13	11.16		
33	10.26	9.34	10.73	9.98	11.53	9.77	12.29	10.60	12.70	10.54	13.11	10.48	13.94	11.10		
35	9.71	9.08	10.39	9.83	11.36	9.70	12.08	10.52	12.50	10.47	12.92	10.41	13.76	11.04		
37	9.60	9.03	10.22	9.75	11.15	9.61	11.86	10.44	12.26	10.38	12.67	10.32	13.47	10.95		
39	9.48	8.98	10.05	9.68	10.94	9.53	11.64	10.35	12.03	10.30	12.41	10.23	13.18	10.86		
41	9.36	8.92	9.89	9.61	10.74	9.45	11.42	10.27	11.79	10.21	12.16	10.15	12.89	10.76		
43	9.25	8.87	9.72	9.53	10.53	9.36	11.21	10.19	11.55	10.13	11.90	10.06	12.60	10.67		

Outdoor air temp.	Indoor air temperature					
	°CDB					
	°CDB	°CWB	16	18	20	22
-19.8	-20	14.11	14.00	13.89	13.78	13.66
-17.7	-18	14.17	14.06	13.94	13.83	13.72
-15.7	-16	14.23	14.11	14.00	13.89	13.77
-13.5	-14	14.23	14.11	14.00	13.89	13.77
-11.5	-12	14.22	14.11	14.00	13.89	13.77
-9.5	-10	14.22	14.11	14.00	13.89	13.77
-7.5	-8	14.22	14.11	14.00	13.89	13.77
-5.5	-6	14.22	14.11	14.00	13.88	13.77
-3.0	-4	14.22	14.11	14.00	13.88	13.77
-1.0	-2	14.22	14.11	14.00	13.88	13.76
1.0	0	14.22	14.11	14.00	13.88	13.76
2.0	1	14.22	14.11	14.00	13.88	13.76
3.0	2	14.22	14.11	14.00	13.88	13.76
5.0	4	14.22	14.11	14.00	13.88	13.76
7.0	6	14.22	14.11	14.00	13.88	13.77
9.0	8	14.81	14.70	14.59	14.47	14.35
11.5	10	15.41	15.29	15.18	15.06	14.94
13.5	12	16.22	16.09	15.97	15.85	15.90
15.5	14	17.03	16.90	16.76	16.65	16.86
16.5	16	17.44	17.30	17.16	17.04	17.34

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Model **FDE140VNX** Indoor unit FDE71VG (2 units) Outdoor unit FDC140VNX
 Cooling mode (kW) Heating mode : HC (kW)

Outdoor air temp.	Indoor air temperature															
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB	
	12°CWB		14°CWB		16°CWB		18°CWB		19°CWB		20°CWB		22°CWB		24°CWB	
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					11.66	9.82	12.38	10.63	12.73	10.55	13.13	10.48	13.91	11.09	14.70	10.90
13					12.08	10.00	12.83	10.81	13.21	10.73	13.62	10.66	14.45	11.26	15.28	11.07
15					12.50	10.17	13.29	10.99	13.68	10.90	14.12	10.84	14.99	11.44	15.87	11.25
17					12.92	10.35	13.75	11.17	14.16	11.09	14.62	11.02	15.54	11.62	16.45	11.42
19					13.21	10.47	14.06	11.29	14.48	11.21	14.95	11.14	15.88	11.74	16.82	11.53
21					13.50	10.60	14.36	11.41	14.80	11.33	15.28	11.26	16.23	11.85	17.19	11.65
23					13.50	10.60	14.40	11.42	14.83	11.34	15.31	11.27	16.28	11.87	17.25	11.67
25			12.53	10.79	13.50	10.60	14.43	11.43	14.87	11.35	15.35	11.28	16.33	11.89	17.30	11.68
27			12.48	10.77	13.50	10.60	14.46	11.45	14.90	11.37	15.34	11.28	16.23	11.85		
29			12.37	10.72	13.31	10.52	14.23	11.35	14.68	11.28	15.13	11.20	16.03	11.79		
31			12.26	10.67	13.11	10.43	13.99	11.26	14.45	11.19	14.91	11.12	15.82	11.72		
33	11.49	9.94	12.02	10.56	12.92	10.35	13.76	11.17	14.23	11.11	14.69	11.04	15.61	11.65		
35	10.88	9.64	11.63	10.38	12.72	10.27	13.53	11.08	14.00	11.02	14.47	10.96	15.41	11.58		
37	10.75	9.58	11.45	10.30	12.49	10.17	13.29	10.99	13.74	10.93	14.18	10.86	15.08	11.47		
39	10.62	9.52	11.26	10.21	12.26	10.07	13.04	10.89	13.47	10.83	13.90	10.76	14.76	11.37		
41	10.49	9.45	11.07	10.13	12.02	9.97	12.80	10.80	13.21	10.73	13.62	10.66	14.44	11.26		
43	10.35	9.39	10.89	10.05	11.79	9.88	12.55	10.70	12.94	10.63	13.33	10.55	14.11	11.15		

Outdoor air temp.	Indoor air temperature					
	°CDB					
	°CDB	°CWB	16	18	20	22
-19.8	-20	10.42	10.34	10.26	10.17	10.09
-17.7	-18	11.06	10.97	10.88	10.79	10.70
-15.7	-16	11.69	11.60	11.50	11.41	11.32
-13.5	-14	12.20	12.10	12.00	11.91	11.81
-11.5	-12	12.70	12.60	12.50	12.40	12.30
-9.5	-10	13.21	13.11	13.00	12.90	12.79
-7.5	-8	13.71	13.61	13.50	13.39	13.28
-5.5	-6	14.28	14.17	14.06	13.94	13.83
-3.0	-4	14.84	14.73	14.61	14.49	14.37
-1.0	-2	15.41	15.29	15.17	15.04	14.91
1.0	0	15.97	15.85	15.72	15.59	15.45
2.0	1	16.26	16.13	16.00	15.86	15.73
3.0	2	16.25	16.13	16.00	15.86	15.73
5.0	4	16.25	16.13	16.00	15.86	15.73
7.0	6	16.25	16.12	16.00	15.87	15.73
9.0	8	16.93	16.80	16.68	16.54	16.40
11.5	10	17.61	17.48	17.35	17.21	17.07
13.5	12	18.53	18.39	18.25	18.12	18.17
15.5	14	19.46	19.31	19.16	19.02	19.27
16.5	16	19.93	19.77	19.61	19.48	19.82

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- Notes(1) These data show average statuses.
 Depending on the system control, there may be ranges where the operation is not conducted continuously.
 These data show the case where the operation frequency of a compressor is fixed.(Cooling only)
- (2) Capacities are based on the following conditions.
 Corresponding refrigerant piping length :7.5m
 Level difference of Zero.
- (3) Symbols are as follows.
 TC : Total cooling capacity (kW)
 SHC : Sensible heat capacity (kW)
 HC : Heating capacity (kW)

Model **FDE140VXPVG** Indoor unit FDE71VG (2 units) Outdoor unit FDC140VSX
 Cooling mode (kW) Heating mode : HC (kW)

Outdoor air temp. °CDB	Indoor air temperature															
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB	
	12°CWB	14°CWB	16°CWB	18°CWB	19°CWB	20°CWB	22°CWB	24°CWB	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					11.66	9.82	12.38	10.63	12.73	10.55	13.13	10.48	13.91	11.09	14.70	10.90
13					12.08	10.00	12.83	10.81	13.21	10.73	13.62	10.66	14.45	11.26	15.28	11.07
15					12.50	10.17	13.29	10.99	13.68	10.90	14.12	10.84	14.99	11.44	15.87	11.25
17					12.92	10.35	13.75	11.17	14.16	11.09	14.62	11.02	15.54	11.62	16.45	11.42
19					13.21	10.47	14.06	11.29	14.48	11.21	14.95	11.14	15.88	11.74	16.82	11.53
21					13.50	10.60	14.36	11.41	14.80	11.33	15.28	11.26	16.23	11.85	17.19	11.65
23					13.50	10.60	14.40	11.42	14.83	11.34	15.31	11.27	16.28	11.87	17.25	11.67
25			12.53	10.79	13.50	10.60	14.43	11.43	14.87	11.35	15.35	11.28	16.33	11.89	17.30	11.68
27			12.48	10.77	13.50	10.60	14.46	11.45	14.90	11.37	15.34	11.28	16.23	11.85		
29			12.37	10.72	13.31	10.52	14.23	11.35	14.68	11.28	15.13	11.20	16.03	11.79		
31			12.26	10.67	13.11	10.43	13.99	11.26	14.45	11.19	14.91	11.12	15.82	11.72		
33	11.49	9.94	12.02	10.56	12.92	10.35	13.76	11.17	14.23	11.11	14.69	11.04	15.61	11.65		
35	10.88	9.64	11.63	10.38	12.72	10.27	13.53	11.08	14.00	11.02	14.47	10.96	15.41	11.58		
37	10.75	9.58	11.45	10.30	12.49	10.17	13.29	10.99	13.74	10.93	14.18	10.86	15.08	11.47		
39	10.62	9.52	11.26	10.21	12.26	10.07	13.04	10.89	13.47	10.83	13.90	10.76	14.76	11.37		
41	10.49	9.45	11.07	10.13	12.02	9.97	12.80	10.80	13.21	10.73	13.62	10.66	14.44	11.26		
43	10.35	9.39	10.89	10.05	11.79	9.88	12.55	10.70	12.94	10.63	13.33	10.55	14.11	11.15		

Outdoor air temp. °CDB	°CWB	Indoor air temperature °CDB				
		16	18	20	22	24
		-19.8	-20	16.13	16.00	15.87
-17.7	-18	16.19	16.07	15.94	15.81	15.68
-15.7	-16	16.26	16.13	16.00	15.87	15.74
-13.5	-14	16.26	16.13	16.00	15.87	15.74
-11.5	-12	16.25	16.13	16.00	15.87	15.74
-9.5	-10	16.25	16.13	16.00	15.87	15.74
-7.5	-8	16.25	16.12	16.00	15.87	15.74
-5.5	-6	16.25	16.13	16.00	15.87	15.74
-3.0	-4	16.25	16.13	16.00	15.87	15.73
-1.0	-2	16.25	16.13	16.00	15.86	15.73
1.0	0	16.25	16.13	16.00	15.86	15.73
2.0	1	16.26	16.13	16.00	15.86	15.73
3.0	2	16.25	16.13	16.00	15.86	15.73
5.0	4	16.25	16.13	16.00	15.86	15.73
7.0	6	16.25	16.12	16.00	15.87	15.73
9.0	8	16.93	16.80	16.68	16.54	16.40
11.5	10	17.61	17.48	17.35	17.21	17.07
13.5	12	18.53	18.39	18.25	18.12	18.17
15.5	14	19.46	19.31	19.16	19.02	19.27
16.5	16	19.93	19.77	19.61	19.48	19.82

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(c) Triple type

Model **FDE140VNXTVG** Indoor unit FDE50VG (3 units) Outdoor unit FDC140VNX
 Cooling mode (kW) Heating mode : HC (kW)

Outdoor air temp. °CDB	Indoor air temperature															
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB	
	12°CWB	14°CWB	16°CWB	18°CWB	19°CWB	20°CWB	22°CWB	24°CWB	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					11.66	9.70	12.38	10.49	12.73	10.41	13.13	10.34	13.91	10.92	14.70	10.73
13					12.08	9.87	12.83	10.66	13.21	10.58	13.62	10.51	14.45	11.10	15.28	10.91
15					12.50	10.05	13.29	10.84	13.68	10.76	14.12	10.69	14.99	11.28	15.87	11.08
17					12.92	10.23	13.75	11.02	14.16	10.94	14.62	10.87	15.54	11.46	16.45	11.26
19					13.21	10.35	14.06	11.14	14.48	11.06	14.95	10.99	15.88	11.58	16.82	11.38
21					13.50	10.48	14.36	11.26	14.80	11.19	15.28	11.12	16.23	11.70	17.19	11.49
23					13.50	10.48	14.40	11.28	14.83	11.20	15.31	11.13	16.28	11.71	17.25	11.51
25			12.53	10.67	13.50	10.48	14.43	11.29	14.87	11.21	15.35	11.14	16.33	11.73	17.30	11.52
27			12.48	10.64	13.50	10.48	14.46	11.30	14.90	11.23	15.34	11.14	16.23	11.70		
29			12.37	10.59	13.31	10.40	14.23	11.21	14.68	11.14	15.13	11.06	16.03	11.63		
31			12.26	10.54	13.11	10.31	13.99	11.12	14.45	11.05	14.91	10.98	15.82	11.56		
33	11.49	9.83	12.02	10.43	12.92	10.23	13.76	11.03	14.23	10.97	14.69	10.90	15.61	11.49		
35	10.88	9.53	11.63	10.25	12.72	10.14	13.53	10.93	14.00	10.88	14.47	10.82	15.41	11.42		
37	10.75	9.47	11.45	10.17	12.49	10.05	13.29	10.84	13.74	10.78	14.18	10.71	15.08	11.31		
39	10.62	9.41	11.26	10.09	12.26	9.95	13.04	10.74	13.47	10.68	13.90	10.61	14.76	11.20		
41	10.49	9.34	11.07	10.00	12.02	9.85	12.80	10.65	13.21	10.58	13.62	10.51	14.44	11.10		
43	10.35	9.28	10.89	9.92	11.79	9.75	12.55	10.55	12.94	10.48	13.33	10.41	14.11	10.99		

Outdoor air temp. °CDB	°CWB	Indoor air temperature °CDB				
		16	18	20	22	24
		-19.8	-20	10.42	10.34	10.26
-17.7	-18	11.06	10.97	10.88	10.79	10.70
-15.7	-16	11.69	11.60	11.50	11.41	11.32
-13.5	-14	12.20	12.10	12.00	11.91	11.81
-11.5	-12	12.70	12.60	12.50	12.40	12.30
-9.5	-10	13.21	13.11	13.00	12.90	12.79
-7.5	-8	13.71	13.61	13.50	13.39	13.28
-5.5	-6	14.28	14.17	14.06	13.94	13.83
-3.0	-4	14.84	14.73	14.61	14.49	14.37
-1.0	-2	15.41	15.29	15.17	15.04	14.91
1.0	0	15.97	15.85	15.72	15.59	15.45
2.0	1	16.26	16.13	16.00	15.86	15.73
3.0	2	16.25	16.13	16.00	15.86	15.73
5.0	4	16.25	16.13	16.00	15.86	15.73
7.0	6	16.25	16.12	16.00	15.87	15.73
9.0	8	16.93	16.80	16.68	16.54	16.40
11.5	10	17.61	17.48	17.35	17.21	17.07
13.5	12	18.53	18.39	18.25	18.12	18.17
15.5	14	19.46	19.31	19.16	19.02	19.27
16.5	16	19.93	19.77	19.61	19.48	19.82

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- Notes(1) These data show average statuses.
 Depending on the system control, there may be ranges where the operation is not conducted continuously.
 These data show the case where the operation frequency of a compressor is fixed.(Cooling only)
- (2) Capacities are based on the following conditions.
 Corresponding refrigerant piping length :7.5m
 Level difference of Zero.
- (3) Symbols are as follows.
 TC : Total cooling capacity (kW)
 SHC : Sensible heat capacity (kW)
 HC : Heating capacity (kW)

Model **FDE140VSXTVG** Indoor unit FDE50VG (3 units) Outdoor unit FDC140VSX

Cooling mode

(kW)

Heating mode : HC

(kW)

Outdoor air temp. °CDB	Indoor air temperature															
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB	
	12°CWB	14°CWB	16°CWB	18°CWB	19°CWB	20°CWB	22°CWB	24°CWB	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					11.66	9.70	12.38	10.49	12.73	10.41	13.13	10.34	13.91	10.92	14.70	10.73
13					12.08	9.87	12.83	10.66	13.21	10.58	13.62	10.51	14.45	11.10	15.28	10.91
15					12.50	10.05	13.29	10.84	13.68	10.76	14.12	10.69	14.99	11.28	15.87	11.08
17					12.92	10.23	13.75	11.02	14.16	10.94	14.62	10.87	15.54	11.46	16.45	11.26
19					13.21	10.35	14.06	11.14	14.48	11.06	14.95	10.99	15.88	11.58	16.82	11.38
21					13.50	10.48	14.36	11.26	14.80	11.19	15.28	11.12	16.23	11.70	17.19	11.49
23					13.50	10.48	14.40	11.28	14.83	11.20	15.31	11.13	16.28	11.71	17.25	11.51
25			12.53	10.67	13.50	10.48	14.43	11.29	14.87	11.21	15.35	11.14	16.33	11.73	17.30	11.52
27			12.48	10.64	13.50	10.48	14.46	11.30	14.90	11.23	15.34	11.14	16.23	11.70		
29			12.37	10.59	13.31	10.40	14.23	11.21	14.68	11.14	15.13	11.06	16.03	11.63		
31			12.26	10.54	13.11	10.31	13.99	11.12	14.45	11.05	14.91	10.98	15.82	11.56		
33	11.49	9.83	12.02	10.43	12.92	10.23	13.76	11.03	14.23	10.97	14.69	10.90	15.61	11.49		
35	10.88	9.53	11.63	10.25	12.72	10.14	13.53	10.93	14.00	10.88	14.47	10.82	15.41	11.42		
37	10.75	9.47	11.45	10.17	12.49	10.05	13.29	10.84	13.74	10.78	14.18	10.71	15.08	11.31		
39	10.62	9.41	11.26	10.09	12.26	9.95	13.04	10.74	13.47	10.68	13.90	10.61	14.76	11.20		
41	10.49	9.34	11.07	10.00	12.02	9.85	12.80	10.65	13.21	10.58	13.62	10.51	14.44	11.10		
43	10.35	9.28	10.89	9.92	11.79	9.75	12.55	10.55	12.94	10.48	13.33	10.41	14.11	10.99		

Outdoor air temp.		Indoor air temperature					
°CDB	°CWB	16	18	20	22	24	
-19.8	-20	16.13	16.00	15.87	15.74	15.61	
-17.7	-18	16.19	16.07	15.94	15.81	15.68	
-15.7	-16	16.26	16.13	16.00	15.87	15.74	
-13.5	-14	16.26	16.13	16.00	15.87	15.74	
-11.5	-12	16.25	16.13	16.00	15.87	15.74	
-9.5	-10	16.25	16.13	16.00	15.87	15.74	
-7.5	-8	16.25	16.12	16.00	15.87	15.74	
-5.5	-6	16.25	16.13	16.00	15.87	15.74	
-3.0	-4	16.25	16.13	16.00	15.87	15.73	
-1.0	-2	16.25	16.13	16.00	15.86	15.73	
1.0	0	16.25	16.13	16.00	15.86	15.73	
2.0	1	16.26	16.13	16.00	15.86	15.73	
3.0	2	16.25	16.13	16.00	15.86	15.73	
5.0	4	16.25	16.13	16.00	15.86	15.73	
7.0	6	16.25	16.12	16.00	15.87	15.73	
9.0	8	16.93	16.80	16.68	16.54	16.40	
11.5	10	17.61	17.48	17.35	17.21	17.07	
13.5	12	18.53	18.39	18.25	18.12	18.17	
15.5	14	19.46	19.31	19.16	19.02	19.27	
16.5	16	19.93	19.77	19.61	19.48	19.82	

Notes(1) These data show average statuses.

Depending on the system control, there may be ranges where the operation is not conducted continuously.

These data show the case where the operation frequency of a compressor is fixed.(Cooling only)

(2) Capacities are based on the following conditions.

Corresponding refrigerant piping length : 7.5m

Level difference of Zero.

(3) Symbols are as follows.

TC : Total cooling capacity (kW)

SHC : Sensible heat capacity (kW)

HC : Heating capacity (kW)

PFA004Z047

(2) Duct connected-Low / Middle static pressure type (FDUM)

(a) Single type

Model **FDUM40ZSXVF** Indoor unit **FDUM40VF** Outdoor unit **SRC40ZSX-S**

Cooling mode

(kW)

Heating mode : HC

(kW)

Outdoor air temp.	Indoor air temperature															
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB	
	12°CWB		14°CWB		16°CWB		18°CWB		19°CWB		20°CWB		22°CWB		24°CWB	
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					3.38	3.08	3.56	3.34	3.65	3.31	3.75	3.29	3.95	3.49	4.15	3.44
13					3.46	3.11	3.65	3.37	3.75	3.35	3.85	3.33	4.05	3.52	4.26	3.47
15					3.54	3.14	3.74	3.41	3.84	3.38	3.95	3.36	4.15	3.56	4.36	3.50
17					3.62	3.18	3.83	3.44	3.94	3.42	4.04	3.39	4.26	3.59	4.47	3.53
19					3.69	3.21	3.91	3.47	4.02	3.45	4.15	3.43	4.41	3.64	4.67	3.59
21					3.81	3.26	3.99	3.51	4.10	3.48	4.26	3.47	4.56	3.69	4.87	3.66
23					3.85	3.27	4.04	3.53	4.15	3.50	4.30	3.49	4.59	3.71	4.88	3.66
25			3.73	3.40	3.89	3.29	4.08	3.54	4.20	3.52	4.34	3.50	4.61	3.71	4.89	3.66
27			3.76	3.42	3.93	3.31	4.13	3.56	4.25	3.54	4.36	3.51	4.60	3.71		
29			3.70	3.39	3.86	3.28	4.06	3.53	4.18	3.51	4.30	3.49	4.54	3.69		
31			3.64	3.36	3.80	3.25	4.00	3.51	4.12	3.49	4.24	3.47	4.48	3.67		
33	3.23	3.03	3.44	3.27	3.74	3.23	3.94	3.49	4.06	3.47	4.18	3.45	4.42	3.65		
35	3.28	3.05	3.44	3.27	3.68	3.20	3.88	3.46	4.00	3.44	4.12	3.42	4.36	3.63		
37	3.23	3.03	3.38	3.24	3.62	3.18	3.82	3.44	3.94	3.42	4.06	3.40	4.30	3.61		
39	3.17	3.00	3.32	3.22	3.56	3.15	3.76	3.42	3.88	3.40	4.00	3.38	4.23	3.58		
41	3.12	2.98	3.27	3.19	3.50	3.13	3.70	3.39	3.82	3.38	3.93	3.36	4.17	3.56		
43	3.06	2.95	3.21	3.15	3.44	3.10	3.64	3.37	3.76	3.35	3.87	3.33	4.10	3.54		

Outdoor air temp.	Indoor air temperature					
	°CDB		°CDB			
	°CDB	°CWB	16	18	20	22
-19.8	-20					
-17.7	-18					
-15.7	-16					
-13.5	-14	2.67	2.63	2.59	2.55	2.50
-11.5	-12	2.83	2.79	2.75	2.71	2.67
-9.5	-10	3.00	2.96	2.92	2.88	2.84
-7.5	-8	3.17	3.13	3.09	3.05	3.01
-5.5	-6	3.23	3.20	3.16	3.12	3.09
-3.0	-4	3.29	3.26	3.23	3.20	3.17
-1.0	-2	3.36	3.33	3.30	3.28	3.25
1.0	0	3.42	3.40	3.38	3.35	3.33
2.0	1	3.45	3.43	3.41	3.39	3.37
3.0	2	3.67	3.65	3.63	3.61	3.59
5.0	4	4.11	4.09	4.07	4.04	4.01
7.0	6	4.55	4.53	4.50	4.47	4.44
9.0	8	4.78	4.75	4.72	4.69	4.66
11.5	10	5.01	4.98	4.95	4.91	4.88
13.5	12	5.30	5.26	5.21	5.14	5.10
15.5	14	5.58	5.53	5.48	5.37	5.32
16.5	16	5.73	5.67	5.61	5.48	5.44

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Model **FDUM50ZSXVF** Indoor unit **FDUM50VF** Outdoor unit **SRC50ZSX-S**

Cooling mode

(kW)

Heating mode:HC

(kW)

Outdoor air temp.	Indoor air temperature															
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB	
	12°CWB		14°CWB		16°CWB		18°CWB		19°CWB		20°CWB		22°CWB		24°CWB	
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					4.22	3.43	4.45	3.69	4.56	3.66	4.69	3.63	4.94	3.82	5.19	3.76
13					4.32	3.48	4.56	3.73	4.68	3.71	4.81	3.68	5.07	3.87	5.32	3.80
15					4.42	3.52	4.68	3.78	4.80	3.75	4.93	3.72	5.19	3.91	5.45	3.84
17					4.53	3.57	4.79	3.83	4.92	3.80	5.06	3.77	5.32	3.96	5.58	3.88
19					4.62	3.61	4.89	3.87	5.02	3.84	5.19	3.82	5.51	4.02	5.84	3.97
21					4.76	3.67	4.99	3.91	5.13	3.88	5.32	3.87	5.70	4.09	6.09	4.05
23					4.81	3.70	5.04	3.93	5.19	3.91	5.37	3.89	5.73	4.10	6.10	4.05
25			4.66	3.84	4.86	3.72	5.10	3.96	5.25	3.93	5.42	3.91	5.76	4.11	6.11	4.05
27			4.70	3.86	4.91	3.74	5.16	3.98	5.31	3.96	5.46	3.93	5.75	4.11		
29			4.62	3.82	4.83	3.71	5.08	3.95	5.23	3.92	5.38	3.90	5.68	4.09		
31			4.54	3.79	4.75	3.67	5.00	3.92	5.15	3.89	5.30	3.87	5.60	4.06		
33	4.04	3.43	4.31	3.68	4.67	3.63	4.93	3.89	5.08	3.86	5.23	3.84	5.53	4.03		
35	4.11	3.47	4.30	3.67	4.59	3.60	4.85	3.85	5.00	3.83	5.15	3.81	5.45	4.00		
37	4.04	3.43	4.23	3.64	4.52	3.57	4.77	3.82	4.92	3.80	5.07	3.78	5.37	3.97		
39	3.97	3.40	4.16	3.60	4.45	3.54	4.70	3.79	4.85	3.77	4.99	3.75	5.29	3.95		
41	3.90	3.36	4.09	3.57	4.38	3.50	4.62	3.76	4.77	3.74	4.92	3.72	5.21	3.92		
43	3.83	3.33	4.01	3.53	4.30	3.47	4.55	3.73	4.69	3.71	4.84	3.69	5.13	3.89		

Outdoor air temp.	Indoor air temperature					
	°CDB		°CDB			
	°CDB	°CWB	16	18	20	22
-19.8	-20					
-17.7	-18					
-15.7	-16					
-13.5	-14	3.20	3.15	3.11	3.05	3.00
-11.5	-12	3.40	3.35	3.31	3.26	3.20
-9.5	-10	3.60	3.55	3.51	3.46	3.41
-7.5	-8	3.80	3.75	3.71	3.66	3.61
-5.5	-6	3.88	3.83	3.79	3.75	3.71
-3.0	-4	3.95	3.92	3.88	3.84	3.80
-1.0	-2	4.03	4.00	3.97	3.93	3.90
1.0	0	4.10	4.08	4.05	4.03	4.00
2.0	1	4.14	4.12	4.10	4.07	4.05
3.0	2	4.41	4.38	4.36	4.33	4.30
5.0	4	4.94	4.91	4.88	4.85	4.82
7.0	6	5.46	5.43	5.40	5.37	5.33
9.0	8	5.74	5.70	5.67	5.63	5.59
11.5	10	6.02	5.98	5.94	5.89	5.85
13.5	12	6.36	6.31	6.25	6.17	6.12
15.5	14	6.70	6.64	6.57	6.44	6.39
16.5	16	6.87	6.80	6.73	6.58	6.52

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Notes(1) These data show average statuses.

Depending on the system control, there may be ranges where the operation is not conducted continuously.

These data show the case where the operation frequency of a compressor is fixed.

(2) Capacities are based on the following conditions.

Corresponding refrigerant piping length : 7.5m

Level difference of Zero.

(3) Symbols are as follows.

TC : Total cooling capacity (kW)

SHC : Sensible heat capacity (kW)

HC : Heating capacity (kW)

Model **FDUM60ZSXVF** Indoor unit **FDUM60VF** Outdoor unit **SRC60ZSX-S**
 Cooling mode (kW) Heating mode:HC (kW)

Outdoor air temp.	Indoor air temperature															
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB	
	12°CWB		14°CWB		16°CWB		18°CWB		19°CWB		20°CWB		22°CWB		24°CWB	
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					4.73	4.33	4.98	4.71	5.11	4.67	5.25	4.62	5.53	4.91	5.81	4.80
13					4.84	4.37	5.11	4.76	5.24	4.71	5.39	4.66	5.67	4.95	5.96	4.84
15					4.95	4.41	5.24	4.80	5.38	4.75	5.52	4.70	5.82	4.99	6.11	4.88
17					5.07	4.45	5.37	4.84	5.51	4.80	5.66	4.75	5.96	5.03	6.25	4.91
19					5.17	4.49	5.48	4.88	5.63	4.83	5.81	4.79	6.17	5.09	6.54	4.99
21					5.33	4.55	5.59	4.92	5.74	4.87	5.96	4.84	6.39	5.15	6.82	5.06
23					5.39	4.58	5.65	4.94	5.81	4.89	6.01	4.86	6.42	5.16	6.83	5.06
25			5.22	4.78	5.44	4.59	5.71	4.96	5.88	4.92	6.07	4.88	6.45	5.17	6.84	5.06
27			5.27	4.80	5.50	4.62	5.78	4.99	5.94	4.94	6.11	4.89	6.44	5.17		
29			5.18	4.77	5.41	4.58	5.69	4.95	5.86	4.91	6.02	4.86	6.36	5.14		
31			5.09	4.73	5.32	4.55	5.60	4.92	5.77	4.88	5.94	4.83	6.27	5.12		
33	4.53	4.27	4.82	4.62	5.23	4.51	5.52	4.90	5.69	4.85	5.85	4.81	6.19	5.07		
35	4.60	4.30	4.81	4.61	5.15	4.48	5.43	4.86	5.60	4.82	5.77	4.78	6.10	5.09		
37	4.52	4.27	4.73	4.58	5.06	4.45	5.35	4.84	5.51	4.80	5.68	4.75	6.01	5.04		
39	4.44	4.23	4.65	4.55	4.98	4.42	5.26	4.81	5.43	4.77	5.59	4.73	5.92	5.02		
41	4.37	4.20	4.58	4.49	4.90	4.39	5.18	4.78	5.34	4.74	5.51	4.70	5.83	4.99		
43	4.29	4.17	4.50	4.41	4.82	4.36	5.10	4.75	5.26	4.71	5.42	4.67	5.74	4.97		

Outdoor air temp.	Indoor air temperature						
	°CDB						
	°CDB	°CWB	16	18	20	22	24
-19.8	-20						
-17.7	-18						
-15.7	-16						
-13.5	-14	3.97	3.91	3.85	3.79	3.73	
-11.5	-12	4.22	4.16	4.10	4.04	3.98	
-9.5	-10	4.47	4.41	4.35	4.29	4.23	
-7.5	-8	4.72	4.66	4.60	4.54	4.48	
-5.5	-6	4.81	4.76	4.70	4.65	4.60	
-3.0	-4	4.90	4.86	4.81	4.77	4.72	
-1.0	-2	5.00	4.96	4.92	4.88	4.84	
1.0	0	5.09	5.06	5.03	4.99	4.96	
2.0	1	5.14	5.11	5.08	5.05	5.02	
3.0	2	5.47	5.44	5.41	5.37	5.34	
5.0	4	6.12	6.09	6.05	6.01	5.98	
7.0	6	6.78	6.74	6.70	6.66	6.61	
9.0	8	7.12	7.08	7.03	6.98	6.94	
11.5	10	7.47	7.41	7.36	7.31	7.26	
13.5	12	7.89	7.82	7.76	7.65	7.59	
15.5	14	8.31	8.23	8.15	7.99	7.93	
16.5	16	8.53	8.44	8.35	8.16	8.09	

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Model **FDUM71VNXVF1** Indoor unit **FDUM71VF1** Outdoor unit **FDC71VNX**
 Cooling mode (kW) Heating mode:HC (kW)

Outdoor air temp.	Indoor air temperature															
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB	
	12°CWB		14°CWB		16°CWB		18°CWB		19°CWB		20°CWB		22°CWB		24°CWB	
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					4.87	4.77	6.02	5.60	6.59	5.67	6.79	5.62	7.19	5.96	7.59	5.82
13					5.33	5.01	6.32	5.70	6.82	5.74	7.03	5.69	7.45	6.03	7.88	5.89
15					5.79	5.17	6.63	5.80	7.05	5.82	7.27	5.76	7.71	6.10	8.16	5.96
17					6.26	5.35	6.94	5.91	7.27	5.89	7.51	5.84	7.97	6.17	8.44	6.03
19					6.59	5.47	7.16	5.98	7.44	5.95	7.68	5.89	8.15	6.22	8.63	6.08
21					6.93	5.60	7.38	6.06	7.60	6.00	7.84	5.94	8.33	6.27	8.82	6.13
23					6.91	5.59	7.35	6.05	7.57	5.99	7.81	5.93	8.30	6.26	8.78	6.11
25			6.46	5.76	6.89	5.58	7.32	6.04	7.54	5.98	7.78	5.92	8.26	6.25	8.74	6.10
27			6.45	5.75	6.87	5.57	7.30	6.03	7.52	5.97	7.74	5.91	8.18	6.23		
29			6.34	5.71	6.75	5.53	7.19	5.99	7.41	5.94	7.64	5.88	8.09	6.21		
31			6.23	5.66	6.64	5.49	7.08	5.96	7.31	5.90	7.54	5.85	7.99	6.18		
33	5.77	5.22	6.05	5.59	6.53	5.45	6.97	5.92	7.20	5.87	7.44	5.81	7.90	6.15		
35	5.67	5.18	5.95	5.55	6.42	5.40	6.86	5.88	7.10	5.83	7.34	5.78	7.81	6.13		
37	5.58	5.14	5.85	5.51	6.31	5.36	6.72	5.83	6.95	5.79	7.18	5.73	7.64	6.08		
39	5.49	5.10	5.76	5.47	6.20	5.32	6.59	5.79	6.81	5.74	7.03	5.69	7.46	6.03		
41	5.39	5.05	5.67	5.44	6.09	5.28	6.45	5.74	6.66	5.69	6.87	5.64	7.29	5.99		
43	5.30	5.02	5.57	5.40	5.97	5.24	6.31	5.70	6.51	5.65	6.71	5.59	7.12	5.94		

Outdoor air temp.	Indoor air temperature						
	°CDB						
	°CDB	°CWB	16	18	20	22	24
-19.8	-20	3.95	3.93	3.91	3.88	3.86	
-17.7	-18	4.18	4.16	4.14	4.11	4.09	
-15.7	-16	4.42	4.39	4.37	4.34	4.32	
-13.5	-14	4.68	4.65	4.63	4.60	4.57	
-11.5	-12	4.94	4.91	4.88	4.85	4.82	
-9.5	-10	5.20	5.17	5.14	5.11	5.08	
-7.5	-8	5.46	5.43	5.40	5.36	5.33	
-5.5	-6	5.59	5.55	5.52	5.48	5.44	
-3.0	-4	5.71	5.68	5.64	5.60	5.56	
-1.0	-2	5.84	5.80	5.76	5.72	5.67	
1.0	0	5.97	5.92	5.88	5.83	5.79	
2.0	1	6.03	5.98	5.94	5.89	5.85	
3.0	2	6.45	6.40	6.35	6.30	6.25	
5.0	4	7.29	7.23	7.18	7.12	7.06	
7.0	6	8.13	8.06	8.00	7.93	7.87	
9.0	8	8.42	8.36	8.29	8.23	8.16	
11.5	10	8.72	8.65	8.59	8.52	8.46	
13.5	12	9.20	9.13	9.06	9.00	8.92	
15.5	14	9.69	9.61	9.53	9.47	9.39	
16.5	16	9.93	9.85	9.77	9.71	9.62	

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- Notes(1) These data show average statuses.
 Depending on the system control, there may be ranges where the operation is not conducted continuously.
 These data show the case where the operation frequency of a compressor is fixed.
- (2) Capacities are based on the following conditions.
 Corresponding refrigerant piping length :7.5m
 Level difference of Zero.
- (3) Symbols are as follows.
 TC : Total cooling capacity (kW)
 SHC : Sensible heat capacity (kW)
 HC : Heating capacity (kW)

Model **FDUM100VNXVF2** Indoor unit FDUM100VF2 Outdoor unit FDC100VNX
Cooling mode

Outdoor air temp.	Indoor air temperature															
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB	
	12°CWB	14°CWB	16°CWB	18°CWB	19°CWB	20°CWB	22°CWB	24°CWB	TC	SHC	TC	SHC	TC	SHC	TC	SHC
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					8.33	6.94	8.84	7.57	9.10	7.45	9.38	7.33	9.94	7.76	10.50	7.48
13					8.63	7.03	9.17	7.65	9.43	7.52	9.73	7.40	10.32	7.83	10.92	7.54
15					8.93	7.11	9.49	7.73	9.77	7.60	10.09	7.48	10.71	7.90	11.34	7.60
17					9.23	7.20	9.82	7.82	10.11	7.69	10.44	7.56	11.10	7.97	11.75	7.67
19					9.44	7.27	10.04	7.87	10.34	7.74	10.68	7.61	11.35	8.02	12.01	7.71
21					9.64	7.33	10.26	7.93	10.57	7.80	10.91	7.66	11.59	8.07	12.28	7.75
23					9.64	7.33	10.28	7.94	10.59	7.80	10.94	7.67	11.63	8.08	12.32	7.76
25			8.95	7.65	9.64	7.33	10.30	7.94	10.62	7.81	10.97	7.68	11.66	8.08	12.36	7.76
27			8.91	7.63	9.64	7.33	10.33	7.95	10.64	7.82	10.96	7.68	11.59	8.07		
29			8.84	7.61	9.51	7.29	10.16	7.91	10.48	7.78	10.80	7.64	11.45	8.04		
31			8.76	7.58	9.37	7.25	10.00	7.86	10.32	7.74	10.65	7.60	11.30	8.01		
33	8.21	7.04	8.58	7.52	9.23	7.20	9.83	7.82	10.16	7.70	10.49	7.57	11.15	7.98		
35	7.77	6.87	8.31	7.43	9.09	7.16	9.66	7.77	10.00	7.66	10.34	7.53	11.01	7.96		
37	7.68	6.84	8.18	7.39	8.92	7.11	9.49	7.73	9.81	7.61	10.13	7.49	10.77	7.91		
39	7.58	6.80	8.04	7.34	8.76	7.06	9.31	7.68	9.62	7.57	9.93	7.44	10.54	7.87		
41	7.49	6.77	7.91	7.30	8.59	7.02	9.14	7.64	9.43	7.52	9.73	7.40	10.31	7.83		
43	7.40	6.74	7.78	7.26	8.42	6.97	8.96	7.60	9.24	7.48	9.52	7.36	10.08	7.79		

Heating mode:HC (kW)

Outdoor air temp.	Indoor air temperature						
	°CDB	°CWB	16	18	20	22	24
-19.8	-20	7.30	7.24	7.18	7.12	7.06	
-17.7	-18	7.74	7.68	7.62	7.55	7.49	
-15.7	-16	8.18	8.12	8.05	7.99	7.92	
-13.5	-14	8.54	8.47	8.40	8.33	8.27	
-11.5	-12	8.89	8.82	8.75	8.68	8.61	
-9.5	-10	9.25	9.17	9.10	9.03	8.95	
-7.5	-8	9.60	9.53	9.45	9.38	9.30	
-5.5	-6	10.00	9.92	9.84	9.76	9.68	
-3.0	-4	10.39	10.31	10.23	10.14	10.06	
-1.0	-2	10.79	10.70	10.62	10.53	10.44	
1.0	0	11.18	11.09	11.01	10.91	10.82	
2.0	1	11.38	11.29	11.20	11.10	11.01	
3.0	2	11.38	11.29	11.20	11.10	11.01	
5.0	4	11.38	11.29	11.20	11.11	11.01	
7.0	6	11.37	11.29	11.20	11.11	11.01	
9.0	8	11.85	11.76	11.67	11.58	11.48	
11.5	10	12.32	12.23	12.15	12.05	11.95	
13.5	12	12.97	12.88	12.78	12.68	12.72	
15.5	14	13.62	13.52	13.41	13.32	13.49	
16.5	16	13.95	13.84	13.72	13.63	13.87	

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Model **FDUM100VSXVF2** Indoor unit FDUM100VF2 Outdoor unit FDC100VSX
Cooling mode

Outdoor air temp.	Indoor air temperature															
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB	
	12°CWB	14°CWB	16°CWB	18°CWB	19°CWB	20°CWB	22°CWB	24°CWB	TC	SHC	TC	SHC	TC	SHC	TC	SHC
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					8.33	6.94	8.84	7.57	9.10	7.45	9.38	7.33	9.94	7.76	10.50	7.48
13					8.63	7.03	9.17	7.65	9.43	7.52	9.73	7.40	10.32	7.83	10.92	7.54
15					8.93	7.11	9.49	7.73	9.77	7.60	10.09	7.48	10.71	7.90	11.34	7.60
17					9.23	7.20	9.82	7.82	10.11	7.69	10.44	7.56	11.10	7.97	11.75	7.67
19					9.44	7.27	10.04	7.87	10.34	7.74	10.68	7.61	11.35	8.02	12.01	7.71
21					9.64	7.33	10.26	7.93	10.57	7.80	10.91	7.66	11.59	8.07	12.28	7.75
23					9.64	7.33	10.28	7.94	10.59	7.80	10.94	7.67	11.63	8.08	12.32	7.76
25			8.95	7.65	9.64	7.33	10.30	7.94	10.62	7.81	10.97	7.68	11.66	8.08	12.36	7.76
27			8.91	7.63	9.64	7.33	10.33	7.95	10.64	7.82	10.96	7.68	11.59	8.07		
29			8.84	7.61	9.51	7.29	10.16	7.91	10.48	7.78	10.80	7.64	11.45	8.04		
31			8.76	7.58	9.37	7.25	10.00	7.86	10.32	7.74	10.65	7.60	11.30	8.01		
33	8.21	7.04	8.58	7.52	9.23	7.20	9.83	7.82	10.16	7.70	10.49	7.57	11.15	7.98		
35	7.77	6.87	8.31	7.43	9.09	7.16	9.66	7.77	10.00	7.66	10.34	7.53	11.01	7.96		
37	7.68	6.84	8.18	7.39	8.92	7.11	9.49	7.73	9.81	7.61	10.13	7.49	10.77	7.91		
39	7.58	6.80	8.04	7.34	8.76	7.06	9.31	7.68	9.62	7.57	9.93	7.44	10.54	7.87		
41	7.49	6.77	7.91	7.30	8.59	7.02	9.14	7.64	9.43	7.52	9.73	7.40	10.31	7.83		
43	7.40	6.74	7.78	7.26	8.42	6.97	8.96	7.60	9.24	7.48	9.52	7.36	10.08	7.79		

Heating mode:HC (kW)

Outdoor air temp.	Indoor air temperature						
	°CDB	°CWB	16	18	20	22	24
-19.8	-20	11.29	11.20	11.11	11.02	10.93	
-17.7	-18	11.34	11.25	11.16	11.06	10.97	
-15.7	-16	11.38	11.29	11.20	11.11	11.02	
-13.5	-14	11.38	11.29	11.20	11.11	11.02	
-11.5	-12	11.38	11.29	11.20	11.11	11.02	
-9.5	-10	11.38	11.29	11.20	11.11	11.02	
-7.5	-8	11.37	11.29	11.20	11.11	11.02	
-5.5	-6	11.38	11.29	11.20	11.11	11.02	
-3.0	-4	11.38	11.29	11.20	11.11	11.01	
-1.0	-2	11.38	11.29	11.20	11.11	11.01	
1.0	0	11.38	11.29	11.20	11.10	11.01	
2.0	1	11.38	11.29	11.20	11.10	11.01	
3.0	2	11.38	11.29	11.20	11.10	11.01	
5.0	4	11.38	11.29	11.20	11.11	11.01	
7.0	6	11.37	11.29	11.20	11.11	11.01	
9.0	8	11.85	11.76	11.67	11.58	11.48	
11.5	10	12.32	12.23	12.15	12.05	11.95	
13.5	12	12.97	12.88	12.78	12.68	12.72	
15.5	14	13.62	13.52	13.41	13.32	13.49	
16.5	16	13.95	13.84	13.72	13.63	13.87	

PJG000Z012 

- Notes(1) These data show average statuses.
Depending on the system control, there may be ranges where the operation is not conducted continuously.
These data show the case where the operation frequency of a compressor is fixed.
- (2) Capacities are based on the following conditions.
Corresponding refrigerant piping length :7.5m
Level difference of Zero.
- (3) Symbols are as follows.
TC : Total cooling capacity (kW)
SHC : Sensible heat capacity (kW)
HC : Heating capacity (kW)

Model **FDUM125VNXVF** Indoor unit FDUM125VF Outdoor unit FDC125VNX

Cooling mode

(kW)

Heating mode:HC

(kW)

Outdoor air temp.	Indoor air temperature															
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB	
	12°CWB	14°CWB	16°CWB	18°CWB	19°CWB	20°CWB	22°CWB	24°CWB	°CDB	°CWB	16	18	20	22	24	
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					10.41	9.34	11.05	10.16	11.37	10.10	11.72	10.04	12.42	10.66	13.12	10.51
13					10.79	9.50	11.46	10.32	11.79	10.25	12.16	10.20	12.91	10.83	13.65	10.67
15					11.16	9.66	11.87	10.48	12.22	10.42	12.61	10.36	13.39	10.99	14.17	10.83
17					11.54	9.82	12.27	10.64	12.64	10.58	13.05	10.52	13.87	11.15	14.69	10.99
19					11.80	9.93	12.55	10.75	12.93	10.69	13.34	10.63	14.18	11.25	15.02	11.10
21					12.05	10.04	12.83	10.86	13.21	10.79	13.64	10.74	14.49	11.36	15.34	11.20
23					12.05	10.04	12.85	10.87	13.24	10.81	13.67	10.75	14.54	11.38	15.40	11.22
25			11.19	10.21	12.05	10.04	12.88	10.88	13.27	10.82	13.71	10.77	14.58	11.39	15.45	11.23
27			11.14	10.19	12.05	10.04	12.91	10.89	13.30	10.83	13.70	10.76	14.49	11.36		
29			11.05	10.15	11.88	9.97	12.70	10.81	13.10	10.75	13.51	10.69	14.31	11.30		
31			10.95	10.10	11.71	9.89	12.49	10.72	12.90	10.67	13.31	10.62	14.13	11.24		
33	10.26	9.37	10.73	10.00	11.53	9.82	12.29	10.64	12.70	10.60	13.11	10.54	13.94	11.17		
35	9.71	9.10	10.39	9.84	11.36	9.74	12.08	10.56	12.50	10.52	12.92	10.47	13.76	11.11		
37	9.60	9.05	10.22	9.77	11.15	9.65	11.86	10.47	12.26	10.43	12.67	10.38	13.47	11.01		
39	9.48	8.99	10.05	9.69	10.94	9.57	11.64	10.39	12.03	10.34	12.41	10.29	13.18	10.92		
41	9.36	8.93	9.89	9.62	10.74	9.48	11.42	10.30	11.79	10.25	12.16	10.20	12.89	10.82		
43	9.25	8.88	9.72	9.53	10.53	9.39	11.21	10.22	11.55	10.16	11.90	10.10	12.60	10.72		

Outdoor air temp.	Indoor air temperature					
	°CDB		°CWB		°CDB	
	16	18	20	22	24	24
-19.8	-20	9.12	9.05	8.97	8.90	8.83
-17.7	-18	9.67	9.60	9.52	9.44	9.37
-15.7	-16	10.23	10.15	10.07	9.98	9.90
-13.5	-14	10.67	10.59	10.50	10.42	10.33
-11.5	-12	11.11	11.03	10.94	10.85	10.76
-9.5	-10	11.56	11.47	11.38	11.29	11.19
-7.5	-8	12.00	11.91	11.82	11.72	11.62
-5.5	-6	12.49	12.40	12.30	12.20	12.10
-3.0	-4	12.99	12.89	12.79	12.68	12.57
-1.0	-2	13.48	13.38	13.27	13.16	13.05
1.0	0	13.98	13.87	13.76	13.64	13.52
2.0	1	14.22	14.11	14.00	13.88	13.76
3.0	2	14.22	14.11	14.00	13.88	13.76
5.0	4	14.22	14.11	14.00	13.88	13.76
7.0	6	14.22	14.11	14.00	13.88	13.77
9.0	8	14.81	14.70	14.59	14.47	14.35
11.5	10	15.41	15.29	15.18	15.06	14.94
13.5	12	16.22	16.09	15.97	15.85	15.90
15.5	14	17.03	16.90	16.76	16.65	16.86
16.5	16	17.44	17.30	17.16	17.04	17.34

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Model **FDUM125VSXVF** Indoor unit FDUM125VF Outdoor unit FDC125VSX

Cooling mode

(kW)

Heating mode:HC

(kW)

Outdoor air temp.	Indoor air temperature															
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB	
	12°CWB	14°CWB	16°CWB	18°CWB	19°CWB	20°CWB	22°CWB	24°CWB	°CDB	°CWB	16	18	20	22	24	
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					10.41	9.34	11.05	10.16	11.37	10.10	11.72	10.04	12.42	10.66	13.12	10.51
13					10.79	9.50	11.46	10.32	11.79	10.25	12.16	10.20	12.91	10.83	13.65	10.67
15					11.16	9.66	11.87	10.48	12.22	10.42	12.61	10.36	13.39	10.99	14.17	10.83
17					11.54	9.82	12.27	10.64	12.64	10.58	13.05	10.52	13.87	11.15	14.69	10.99
19					11.80	9.93	12.55	10.75	12.93	10.69	13.34	10.63	14.18	11.25	15.02	11.10
21					12.05	10.04	12.83	10.86	13.21	10.79	13.64	10.74	14.49	11.36	15.34	11.20
23					12.05	10.04	12.85	10.87	13.24	10.81	13.67	10.75	14.54	11.38	15.40	11.22
25			11.19	10.21	12.05	10.04	12.88	10.88	13.27	10.82	13.71	10.77	14.58	11.39	15.45	11.23
27			11.14	10.19	12.05	10.04	12.91	10.89	13.30	10.83	13.70	10.76	14.49	11.36		
29			11.05	10.15	11.88	9.97	12.70	10.81	13.10	10.75	13.51	10.69	14.31	11.30		
31			10.95	10.10	11.71	9.89	12.49	10.72	12.90	10.67	13.31	10.62	14.13	11.24		
33	10.26	9.37	10.73	10.00	11.53	9.82	12.29	10.64	12.70	10.60	13.11	10.54	13.94	11.17		
35	9.71	9.10	10.39	9.84	11.36	9.74	12.08	10.56	12.50	10.52	12.92	10.47	13.76	11.11		
37	9.60	9.05	10.22	9.77	11.15	9.65	11.86	10.47	12.26	10.43	12.67	10.38	13.47	11.01		
39	9.48	8.99	10.05	9.69	10.94	9.57	11.64	10.39	12.03	10.34	12.41	10.29	13.18	10.92		
41	9.36	8.93	9.89	9.62	10.74	9.48	11.42	10.30	11.79	10.25	12.16	10.20	12.89	10.82		
43	9.25	8.88	9.72	9.53	10.53	9.39	11.21	10.22	11.55	10.16	11.90	10.10	12.60	10.72		

Outdoor air temp.	Indoor air temperature					
	°CDB		°CWB		°CDB	
	16	18	20	22	24	24
-19.8	-20	14.11	14.00	13.89	13.78	13.66
-17.7	-18	14.17	14.06	13.93	13.83	13.72
-15.7	-16	14.23	14.11	14.00	13.89	13.77
-13.5	-14	14.23	14.11	14.00	13.89	13.77
-11.5	-12	14.22	14.11	14.00	13.89	13.77
-9.5	-10	14.22	14.11	14.00	13.89	13.77
-7.5	-8	14.22	14.11	14.00	13.89	13.77
-5.5	-6	14.22	14.11	14.00	13.88	13.77
-3.0	-4	14.22	14.11	14.00	13.88	13.77
-1.0	-2	14.22	14.11	14.00	13.88	13.76
1.0	0	14.22	14.11	14.00	13.88	13.76
2.0	1	14.22	14.11	14.00	13.88	13.76
3.0	2	14.22	14.11	14.00	13.88	13.76
5.0	4	14.22	14.11	14.00	13.88	13.76
7.0	6	14.22	14.11	14.00	13.88	13.77
9.0	8	14.81	14.70	14.59	14.47	14.35
11.5	10	15.41	15.29	15.18	15.06	14.94
13.5	12	16.22	16.09	15.97	15.85	15.90
15.5	14	17.03	16.90	16.76	16.65	16.86
16.5	16	17.44	17.30	17.16	17.04	17.34

PJG000Z012 

- Notes(1) These data show average statuses.
Depending on the system control, there may be ranges where the operation is not conducted continuously.
These data show the case where the operation frequency of a compressor is fixed.
- (2) Capacities are based on the following conditions.
Corresponding refrigerant piping length :7.5m
Level difference of Zero.
- (3) Symbols are as follows.
TC : Total cooling capacity (kW)
SHC : Sensible heat capacity (kW)
HC : Heating capacity (kW)

Model **FDUM140VNXVF** Indoor unit **FDUM140VF** Outdoor unit **FDC140VNX**

Cooling mode

(kW)

Heating mode:HC

(kW)

Outdoor air temp.	Indoor air temperature															
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB	
	12°CWB	14°CWB	16°CWB	18°CWB	19°CWB	20°CWB	22°CWB	24°CWB	TC	SHC	TC	SHC	TC	SHC	TC	SHC
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					11.66	10.07	12.38	10.97	12.73	10.84	13.13	10.71	13.91	11.36	14.70	11.06
13					12.08	10.21	12.83	11.10	13.21	10.97	13.62	10.85	14.45	11.49	15.28	11.18
15					12.50	10.35	13.29	11.25	13.68	11.11	14.12	10.98	14.99	11.63	15.87	11.31
17					12.92	10.50	13.75	11.39	14.16	11.26	14.62	11.12	15.54	11.76	16.45	11.43
19					13.21	10.60	14.06	11.49	14.48	11.35	14.95	11.22	15.88	11.85	16.82	11.52
21					13.50	10.71	14.36	11.59	14.80	11.45	15.28	11.31	16.23	11.94	17.19	11.60
23					13.50	10.71	14.40	11.60	14.83	11.46	15.31	11.32	16.28	11.95	17.25	11.61
25			12.53	11.05	13.50	10.71	14.43	11.61	14.87	11.47	15.35	11.33	16.33	11.96	17.30	11.62
27			12.48	11.03	13.50	10.71	14.46	11.62	14.90	11.48	15.34	11.33	16.23	11.94		
29			12.37	10.98	13.31	10.64	14.23	11.54	14.68	11.41	15.13	11.27	16.03	11.89		
31			12.26	10.94	13.11	10.57	13.99	11.47	14.45	11.34	14.91	11.21	15.82	11.83		
33	11.49	10.15	12.02	10.85	12.92	10.50	13.76	11.39	14.23	11.28	14.69	11.14	15.61	11.78		
35	10.88	9.90	11.63	10.70	12.72	10.43	13.53	11.32	14.00	11.21	14.47	11.08	15.41	11.73		
37	10.75	9.84	11.45	10.63	12.49	10.35	13.29	11.25	13.74	11.13	14.18	11.00	15.08	11.65		
39	10.62	9.79	11.26	10.56	12.26	10.27	13.04	11.17	13.47	11.05	13.90	10.92	14.76	11.57		
41	10.49	9.73	11.07	10.49	12.02	10.19	12.80	11.10	13.21	10.97	13.62	10.85	14.44	11.49		
43	10.35	9.68	10.89	10.42	11.79	10.11	12.55	11.02	12.94	10.90	13.33	10.77	14.11	11.41		

Outdoor air temp.	Indoor air temperature					
	°CDB		°CWB		°CDB	
°CDB	°CWB	16	18	20	22	24
-19.8	-20	10.42	10.34	10.26	10.17	10.09
-17.7	-18	11.06	10.97	10.88	10.79	10.70
-15.7	-16	11.69	11.60	11.50	11.41	11.32
-13.5	-14	12.20	12.10	12.00	11.91	11.81
-11.5	-12	12.70	12.60	12.50	12.40	12.30
-9.5	-10	13.21	13.11	13.00	12.90	12.79
-7.5	-8	13.71	13.61	13.50	13.39	13.28
-5.5	-6	14.28	14.17	14.06	13.94	13.83
-3.0	-4	14.84	14.73	14.61	14.49	14.37
-1.0	-2	15.41	15.29	15.17	15.04	14.91
1.0	0	15.97	15.85	15.72	15.59	15.45
2.0	1	16.26	16.13	16.00	15.86	15.73
3.0	2	16.25	16.13	16.00	15.86	15.73
5.0	4	16.25	16.13	16.00	15.86	15.73
7.0	6	16.25	16.12	16.00	15.87	15.73
9.0	8	16.93	16.80	16.68	16.54	16.40
11.5	10	17.61	17.48	17.35	17.21	17.07
13.5	12	18.53	18.39	18.25	18.12	18.17
15.5	14	19.46	19.31	19.16	19.02	19.27
16.5	16	19.93	19.77	19.61	19.48	19.82

Model **FDUM140VSXVF** Indoor unit **FDUM140VF** Outdoor unit **FDC140VSX**

Cooling mode

(kW)

Heating mode:HC

(kW)

PJG000Z012 

Outdoor air temp.	Indoor air temperature															
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB	
	12°CWB	14°CWB	16°CWB	18°CWB	19°CWB	20°CWB	22°CWB	24°CWB	TC	SHC	TC	SHC	TC	SHC	TC	SHC
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					11.66	10.07	12.38	10.97	12.73	10.84	13.13	10.71	13.91	11.36	14.70	11.06
13					12.08	10.21	12.83	11.10	13.21	10.97	13.62	10.85	14.45	11.49	15.28	11.18
15					12.50	10.35	13.29	11.25	13.68	11.11	14.12	10.98	14.99	11.63	15.87	11.31
17					12.92	10.50	13.75	11.39	14.16	11.26	14.62	11.12	15.54	11.76	16.45	11.43
19					13.21	10.60	14.06	11.49	14.48	11.35	14.95	11.22	15.88	11.85	16.82	11.52
21					13.50	10.71	14.36	11.59	14.80	11.45	15.28	11.31	16.23	11.94	17.19	11.60
23					13.50	10.71	14.40	11.60	14.83	11.46	15.31	11.32	16.28	11.95	17.25	11.61
25			12.53	11.05	13.50	10.71	14.43	11.61	14.87	11.47	15.35	11.33	16.33	11.96	17.30	11.62
27			12.48	11.03	13.50	10.71	14.46	11.62	14.90	11.48	15.34	11.33	16.23	11.94		
29			12.37	10.98	13.31	10.64	14.23	11.54	14.68	11.41	15.13	11.27	16.03	11.89		
31			12.26	10.94	13.11	10.57	13.99	11.47	14.45	11.34	14.91	11.21	15.82	11.83		
33	11.49	10.15	12.02	10.85	12.92	10.50	13.76	11.39	14.23	11.28	14.69	11.14	15.61	11.78		
35	10.88	9.90	11.63	10.70	12.72	10.43	13.53	11.32	14.00	11.21	14.47	11.08	15.41	11.73		
37	10.75	9.84	11.45	10.63	12.49	10.35	13.29	11.25	13.74	11.13	14.18	11.00	15.08	11.65		
39	10.62	9.79	11.26	10.56	12.26	10.27	13.04	11.17	13.47	11.05	13.90	10.92	14.76	11.57		
41	10.49	9.73	11.07	10.49	12.02	10.19	12.80	11.10	13.21	10.97	13.62	10.85	14.44	11.49		
43	10.35	9.68	10.89	10.42	11.79	10.11	12.55	11.02	12.94	10.90	13.33	10.77	14.11	11.41		

Outdoor air temp.	Indoor air temperature					
	°CDB		°CWB		°CDB	
°CDB	°CWB	16	18	20	22	24
-19.8	-20	16.13	16.00	15.87	15.74	15.61
-17.7	-18	16.19	16.07	15.94	15.81	15.68
-15.7	-16	16.26	16.13	16.00	15.87	15.74
-13.5	-14	16.26	16.13	16.00	15.87	15.74
-11.5	-12	16.25	16.13	16.00	15.87	15.74
-9.5	-10	16.25	16.13	16.00	15.87	15.74
-7.5	-8	16.25	16.12	16.00	15.87	15.74
-5.5	-6	16.25	16.13	16.00	15.87	15.74
-3.0	-4	16.25	16.13	16.00	15.87	15.73
-1.0	-2	16.25	16.13	16.00	15.86	15.73
1.0	0	16.25	16.13	16.00	15.86	15.73
2.0	1	16.26	16.13	16.00	15.86	15.73
3.0	2	16.25	16.13	16.00	15.86	15.73
5.0	4	16.25	16.13	16.00	15.86	15.73
7.0	6	16.25	16.12	16.00	15.87	15.73
9.0	8	16.93	16.80	16.68	16.54	16.40
11.5	10	17.61	17.48	17.35	17.21	17.07
13.5	12	18.53	18.39	18.25	18.12	18.17
15.5	14	19.46	19.31	19.16	19.02	19.27
16.5	16	19.93	19.77	19.61	19.48	19.82

Notes(1) These data show average statuses.

Depending on the system control, there may be ranges where the operation is not conducted continuously.

These data show the case where the operation frequency of a compressor is fixed.

(2) Capacities are based on the following conditions.

Corresponding refrigerant piping length :7.5m

Level difference of Zero.

(3) Symbols are as follows.

TC : Total cooling capacity (kW)

SHC : Sensible heat capacity (kW)

HC : Heating capacity (kW)

PJG000Z012 

(b) Twin type

Model **FDUM100VNXPVF** Indoor unit FDUM50VF (2 units) Outdoor unit FDC100VNX
Cooling mode

(kW) Heating mode:HC (kW)

Outdoor air temp.	Indoor air temperature															
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB	
	12°CWB	14°CWB	16°CWB	18°CWB	19°CWB	20°CWB	22°CWB	24°CWB	TC	SHC	TC	SHC	TC	SHC	TC	SHC
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					8.33	6.82	8.84	7.36	9.10	7.31	9.38	7.27	9.94	7.67	10.50	7.55
13					8.63	6.95	9.17	7.49	9.43	7.44	9.73	7.40	10.32	7.80	10.92	7.69
15					8.93	7.08	9.49	7.62	9.77	7.57	10.09	7.54	10.71	7.94	11.34	7.82
17					9.23	7.22	9.82	7.76	10.11	7.71	10.44	7.67	11.10	8.08	11.75	7.95
19					9.44	7.31	10.04	7.85	10.34	7.80	10.68	7.76	11.35	8.17	12.01	8.04
21					9.64	7.40	10.26	7.94	10.57	7.89	10.91	7.85	11.59	8.25	12.28	8.13
23					9.64	7.40	10.28	7.95	10.59	7.90	10.94	7.86	11.63	8.27	12.32	8.14
25			8.95	7.51	9.64	7.40	10.30	7.96	10.62	7.91	10.97	7.88	11.66	8.28	12.36	8.16
27			8.91	7.49	9.64	7.40	10.33	7.97	10.64	7.92	10.96	7.87	11.59	8.25		
29			8.84	7.46	9.51	7.34	10.16	7.90	10.48	7.86	10.80	7.81	11.45	8.20		
31			8.76	7.42	9.37	7.28	10.00	7.83	10.32	7.79	10.65	7.75	11.30	8.15		
33	8.21	6.93	8.58	7.33	9.23	7.22	9.83	7.76	10.16	7.73	10.49	7.69	11.15	8.09		
35	7.77	6.71	8.31	7.20	9.09	7.16	9.66	7.69	10.00	7.66	10.34	7.63	11.01	8.05		
37	7.68	6.66	8.18	7.14	8.92	7.08	9.49	7.62	9.81	7.59	10.13	7.55	10.77	7.96		
39	7.58	6.61	8.04	7.08	8.76	7.01	9.31	7.55	9.62	7.51	9.93	7.47	10.54	7.88		
41	7.49	6.57	7.91	7.02	8.59	6.93	9.14	7.48	9.43	7.44	9.73	7.40	10.31	7.80		
43	7.40	6.52	7.78	6.96	8.42	6.86	8.96	7.40	9.24	7.36	9.52	7.32	10.08	7.72		

Outdoor air temp.	Indoor air temperature						
	°CDB	°CWB	16	18	20	22	24
-19.8	-20	7.30	7.24	7.18	7.12	7.06	
-17.7	-18	7.74	7.68	7.62	7.55	7.49	
-15.7	-16	8.18	8.12	8.05	7.99	7.92	
-13.5	-14	8.54	8.47	8.40	8.33	8.27	
-11.5	-12	8.89	8.82	8.75	8.68	8.61	
-9.5	-10	9.25	9.17	9.10	9.03	8.95	
-7.5	-8	9.60	9.53	9.45	9.38	9.30	
-5.5	-6	10.00	9.92	9.84	9.76	9.68	
-3.0	-4	10.39	10.31	10.23	10.14	10.06	
-1.0	-2	10.79	10.70	10.62	10.53	10.44	
1.0	0	11.18	11.09	11.01	10.91	10.82	
2.0	1	11.38	11.29	11.20	11.10	11.01	
3.0	2	11.38	11.29	11.20	11.10	11.01	
5.0	4	11.38	11.29	11.20	11.11	11.01	
7.0	6	11.37	11.29	11.20	11.11	11.01	
9.0	8	11.85	11.76	11.67	11.58	11.48	
11.5	10	12.32	12.23	12.15	12.05	11.95	
13.5	12	12.97	12.88	12.78	12.68	12.72	
15.5	14	13.62	13.52	13.41	13.32	13.49	
16.5	16	13.95	13.84	13.72	13.63	13.87	

Model **FDUM100VXSPVF** Indoor unit FDUM50VF (2 units) Outdoor unit FDC100VSX
Cooling mode

(kW) Heating mode:HC (kW)

PJG000Z012 

Outdoor air temp.	Indoor air temperature															
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB	
	12°CWB	14°CWB	16°CWB	18°CWB	19°CWB	20°CWB	22°CWB	24°CWB	TC	SHC	TC	SHC	TC	SHC	TC	SHC
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					8.33	6.82	8.84	7.36	9.10	7.31	9.38	7.27	9.94	7.67	10.50	7.55
13					8.63	6.95	9.17	7.49	9.43	7.44	9.73	7.40	10.32	7.80	10.92	7.69
15					8.93	7.08	9.49	7.62	9.77	7.57	10.09	7.54	10.71	7.94	11.34	7.82
17					9.23	7.22	9.82	7.76	10.11	7.71	10.44	7.67	11.10	8.08	11.75	7.95
19					9.44	7.31	10.04	7.85	10.34	7.80	10.68	7.76	11.35	8.17	12.01	8.04
21					9.64	7.40	10.26	7.94	10.57	7.89	10.91	7.85	11.59	8.25	12.28	8.13
23					9.64	7.40	10.28	7.95	10.59	7.90	10.94	7.86	11.63	8.27	12.32	8.14
25			8.95	7.51	9.64	7.40	10.30	7.96	10.62	7.91	10.97	7.88	11.66	8.28	12.36	8.16
27			8.91	7.49	9.64	7.40	10.33	7.97	10.64	7.92	10.96	7.87	11.59	8.25		
29			8.84	7.46	9.51	7.34	10.16	7.90	10.48	7.86	10.80	7.81	11.45	8.20		
31			8.76	7.42	9.37	7.28	10.00	7.83	10.32	7.79	10.65	7.75	11.30	8.15		
33	8.21	6.93	8.58	7.33	9.23	7.22	9.83	7.76	10.16	7.73	10.49	7.69	11.15	8.09		
35	7.77	6.71	8.31	7.20	9.09	7.16	9.66	7.69	10.00	7.66	10.34	7.63	11.01	8.05		
37	7.68	6.66	8.18	7.14	8.92	7.08	9.49	7.62	9.81	7.59	10.13	7.55	10.77	7.96		
39	7.58	6.61	8.04	7.08	8.76	7.01	9.31	7.55	9.62	7.51	9.93	7.47	10.54	7.88		
41	7.49	6.57	7.91	7.02	8.59	6.93	9.14	7.48	9.43	7.44	9.73	7.40	10.31	7.80		
43	7.40	6.52	7.78	6.96	8.42	6.86	8.96	7.40	9.24	7.36	9.52	7.32	10.08	7.72		

Outdoor air temp.	Indoor air temperature						
	°CDB	°CWB	16	18	20	22	24
-19.8	-20	11.29	11.20	11.11	11.02	10.93	
-17.7	-18	11.34	11.25	11.16	11.06	10.97	
-15.7	-16	11.38	11.29	11.20	11.11	11.02	
-13.5	-14	11.38	11.29	11.20	11.11	11.02	
-11.5	-12	11.38	11.29	11.20	11.11	11.02	
-9.5	-10	11.38	11.29	11.20	11.11	11.02	
-7.5	-8	11.37	11.29	11.20	11.11	11.02	
-5.5	-6	11.38	11.29	11.20	11.11	11.02	
-3.0	-4	11.38	11.29	11.20	11.11	11.01	
-1.0	-2	11.38	11.29	11.20	11.11	11.01	
1.0	0	11.38	11.29	11.20	11.10	11.01	
2.0	1	11.38	11.29	11.20	11.10	11.01	
3.0	2	11.38	11.29	11.20	11.10	11.01	
5.0	4	11.38	11.29	11.20	11.11	11.01	
7.0	6	11.37	11.29	11.20	11.11	11.01	
9.0	8	11.85	11.76	11.67	11.58	11.48	
11.5	10	12.32	12.23	12.15	12.05	11.95	
13.5	12	12.97	12.88	12.78	12.68	12.72	
15.5	14	13.62	13.52	13.41	13.32	13.49	
16.5	16	13.95	13.84	13.72	13.63	13.87	

- Notes(1) These data show average statuses.
Depending on the system control, there may be ranges where the operation is not conducted continuously.
These data show the case where the operation frequency of a compressor is fixed.
- (2) Capacities are based on the following conditions.
Corresponding refrigerant piping length : 7.5m
Level difference of Zero.
- (3) Symbols are as follows.
TC : Total cooling capacity(KW)
SHC : Sensible heat capacity(KW)
HC : Heating capacity(KW)

PJG000Z012 

Model **FDUM125VNXPVF** Indoor unit FDUM60VF (2 units) Outdoor unit FDC125VNX
Cooling mode (kW)

Outdoor air temp.	Indoor air temperature															
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB	
	12°CWB	14°CWB	16°CWB	18°CWB	19°CWB	20°CWB	22°CWB	24°CWB	TC	SHC	TC	SHC	TC	SHC	TC	SHC
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					10.41	9.01	11.05	9.80	11.37	9.71	11.72	9.62	12.42	10.20	13.12	9.98
13					10.79	9.16	11.46	9.94	11.79	9.84	12.16	9.76	12.91	10.34	13.65	10.12
15					11.16	9.30	11.87	10.08	12.22	9.99	12.61	9.90	13.39	10.48	14.17	10.25
17					11.54	9.44	12.27	10.22	12.64	10.13	13.05	10.04	13.87	10.62	14.69	10.39
19					11.80	9.55	12.55	10.32	12.93	10.23	13.34	10.14	14.18	10.71	15.02	10.48
21					12.05	9.64	12.83	10.42	13.21	10.32	13.64	10.24	14.49	10.80	15.34	10.56
23					12.05	9.64	12.85	10.43	13.24	10.34	13.67	10.25	14.54	10.82	15.40	10.58
25			11.19	9.88	12.05	9.64	12.88	10.44	13.27	10.35	13.71	10.26	14.58	10.83	15.45	10.59
27			11.14	9.86	12.05	9.64	12.91	10.45	13.30	10.36	13.70	10.25	14.49	10.80		
29			11.05	9.82	11.88	9.58	12.70	10.38	13.10	10.29	13.51	10.19	14.31	10.75		
31			10.95	9.78	11.71	9.51	12.49	10.30	12.90	10.22	13.31	10.13	14.13	10.69		
33	10.26	9.08	10.73	9.69	11.53	9.44	12.29	10.23	12.70	10.15	13.11	10.06	13.94	10.64		
35	9.71	8.83	10.39	9.55	11.36	9.37	12.08	10.16	12.50	10.08	12.92	10.00	13.76	10.59		
37	9.60	8.78	10.22	9.47	11.15	9.29	11.86	10.08	12.26	10.00	12.67	9.92	13.47	10.50		
39	9.48	8.73	10.05	9.40	10.94	9.21	11.64	10.00	12.03	9.92	12.41	9.84	13.18	10.42		
41	9.36	8.68	9.89	9.34	10.74	9.14	11.42	9.92	11.79	9.84	12.16	9.76	12.89	10.33		
43	9.25	8.63	9.72	9.27	10.53	9.06	11.21	9.85	11.55	9.76	11.90	9.68	12.60	10.25		

Heating mode:HC (kW)

Outdoor air temp.	Indoor air temperature						
	°CDB	°CWB	16	18	20	22	24
-19.8	-20	9.12	9.05	8.97	8.90	8.83	
-17.7	-18	9.67	9.60	9.52	9.44	9.37	
-15.7	-16	10.23	10.15	10.07	9.98	9.90	
-13.5	-14	10.67	10.59	10.50	10.42	10.33	
-11.5	-12	11.11	11.03	10.94	10.85	10.76	
-9.5	-10	11.56	11.47	11.38	11.29	11.19	
-7.5	-8	12.00	11.91	11.82	11.72	11.62	
-5.5	-6	12.49	12.40	12.30	12.20	12.10	
-3.0	-4	12.99	12.89	12.79	12.68	12.57	
-1.0	-2	13.48	13.38	13.27	13.16	13.05	
1.0	0	13.98	13.87	13.76	13.64	13.52	
2.0	1	14.22	14.11	14.00	13.88	13.76	
3.0	2	14.22	14.11	14.00	13.88	13.76	
5.0	4	14.22	14.11	14.00	13.88	13.76	
7.0	6	14.22	14.11	14.00	13.88	13.77	
9.0	8	14.81	14.70	14.59	14.47	14.35	
11.5	10	15.41	15.29	15.18	15.06	14.94	
13.5	12	16.22	16.09	15.97	15.85	15.90	
15.5	14	17.03	16.90	16.76	16.65	16.86	
16.5	16	17.44	17.30	17.16	17.04	17.34	

PJG000Z012 

Model **FDUM125VSXPVF** Indoor unit FDUM60VF (2 units) Outdoor unit FDC125VSX
Cooling mode (kW)

Outdoor air temp.	Indoor air temperature															
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB	
	12°CWB	14°CWB	16°CWB	18°CWB	19°CWB	20°CWB	22°CWB	24°CWB	TC	SHC	TC	SHC	TC	SHC	TC	SHC
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					10.41	9.01	11.05	9.80	11.37	9.71	11.72	9.62	12.42	10.20	13.12	9.98
13					10.79	9.16	11.46	9.94	11.79	9.84	12.16	9.76	12.91	10.34	13.65	10.12
15					11.16	9.30	11.87	10.08	12.22	9.99	12.61	9.90	13.39	10.48	14.17	10.25
17					11.54	9.44	12.27	10.22	12.64	10.13	13.05	10.04	13.87	10.62	14.69	10.39
19					11.80	9.55	12.55	10.32	12.93	10.23	13.34	10.14	14.18	10.71	15.02	10.48
21					12.05	9.64	12.83	10.42	13.21	10.32	13.64	10.24	14.49	10.80	15.34	10.56
23					12.05	9.64	12.85	10.43	13.24	10.34	13.67	10.25	14.54	10.82	15.40	10.58
25			11.19	9.88	12.05	9.64	12.88	10.44	13.27	10.35	13.71	10.26	14.58	10.83	15.45	10.59
27			11.14	9.86	12.05	9.64	12.91	10.45	13.30	10.36	13.70	10.25	14.49	10.80		
29			11.05	9.82	11.88	9.58	12.70	10.38	13.10	10.29	13.51	10.19	14.31	10.75		
31			10.95	9.78	11.71	9.51	12.49	10.30	12.90	10.22	13.31	10.13	14.13	10.69		
33	10.26	9.08	10.73	9.69	11.53	9.44	12.29	10.23	12.70	10.15	13.11	10.06	13.94	10.64		
35	9.71	8.83	10.39	9.55	11.36	9.37	12.08	10.16	12.50	10.08	12.92	10.00	13.76	10.59		
37	9.60	8.78	10.22	9.47	11.15	9.29	11.86	10.08	12.26	10.00	12.67	9.92	13.47	10.50		
39	9.48	8.73	10.05	9.40	10.94	9.21	11.64	10.00	12.03	9.92	12.41	9.84	13.18	10.42		
41	9.36	8.68	9.89	9.34	10.74	9.14	11.42	9.92	11.79	9.84	12.16	9.76	12.89	10.33		
43	9.25	8.63	9.72	9.27	10.53	9.06	11.21	9.85	11.55	9.76	11.90	9.68	12.60	10.25		

Heating mode:HC (kW)

Outdoor air temp.	Indoor air temperature						
	°CDB	°CWB	16	18	20	22	24
-19.8	-20	14.11	14.00	13.89	13.78	13.66	
-17.7	-18	14.17	14.06	13.94	13.83	13.72	
-15.7	-16	14.23	14.11	14.00	13.89	13.77	
-13.5	-14	14.23	14.11	14.00	13.89	13.77	
-11.5	-12	14.22	14.11	14.00	13.89	13.77	
-9.5	-10	14.22	14.11	14.00	13.89	13.77	
-7.5	-8	14.22	14.11	14.00	13.89	13.77	
-5.5	-6	14.22	14.11	14.00	13.88	13.77	
-3.0	-4	14.22	14.11	14.00	13.88	13.77	
-1.0	-2	14.22	14.11	14.00	13.88	13.76	
1.0	0	14.22	14.11	14.00	13.88	13.76	
2.0	1	14.22	14.11	14.00	13.88	13.76	
3.0	2	14.22	14.11	14.00	13.88	13.76	
5.0	4	14.22	14.11	14.00	13.88	13.76	
7.0	6	14.22	14.11	14.00	13.88	13.77	
9.0	8	14.81	14.70	14.59	14.47	14.35	
11.5	10	15.41	15.29	15.18	15.06	14.94	
13.5	12	16.22	16.09	15.97	15.85	15.90	
15.5	14	17.03	16.90	16.76	16.65	16.86	
16.5	16	17.44	17.30	17.16	17.04	17.34	

PJG000Z012 

- Notes(1) These data show average statuses.
Depending on the system control, there may be ranges where the operation is not conducted continuously.
These data show the case where the operation frequency of a compressor is fixed.
- (2) Capacities are based on the following conditions.
Corresponding refrigerant piping length :7.5m
Level difference of Zero.
- (3) Symbols are as follows.
TC : Total cooling capacity (kW)
SHC : Sensible heat capacity (kW)
HC : Heating capacity (kW)

Model **FDUM140VNXPFV1** Indoor unit **FDUM71VF1 (2 units)** Outdoor unit **FDC140VNX**
 Cooling mode (kW) Heating mode:HC (kW)

Outdoor air temp.	Indoor air temperature															
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB	
	12°CWB	14°CWB	16°CWB	18°CWB	19°CWB	20°CWB	22°CWB	24°CWB	TC	SHC	TC	SHC	TC	SHC	TC	SHC
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					11.66	10.38	12.38	11.31	12.73	11.20	13.13	11.10	13.91	11.79	14.70	11.53
13					12.08	10.53	12.83	11.46	13.21	11.35	13.62	11.24	14.45	11.94	15.28	11.67
15					12.50	10.68	13.29	11.62	13.68	11.50	14.12	11.40	14.99	12.08	15.87	11.81
17					12.92	10.84	13.75	11.77	14.16	11.66	14.62	11.55	15.54	12.23	16.45	11.95
19					13.21	10.95	14.06	11.88	14.48	11.76	14.95	11.65	15.88	12.33	16.82	12.04
21					13.50	11.06	14.36	11.98	14.80	11.86	15.28	11.75	16.23	12.43	17.19	12.14
23					13.50	11.06	14.40	11.99	14.83	11.87	15.31	11.76	16.28	12.44	17.25	12.15
25			12.53	11.36	13.50	11.06	14.43	12.00	14.87	11.89	15.35	11.77	16.33	12.45	17.30	12.16
27			12.48	11.34	13.50	11.06	14.46	12.01	14.90	11.90	15.34	11.77	16.23	12.43		
29			12.37	11.29	13.31	10.99	14.23	11.94	14.68	11.83	15.13	11.71	16.03	12.37		
31			12.26	11.25	13.11	10.91	13.99	11.85	14.45	11.75	14.91	11.64	15.82	12.31		
33	11.49	10.42	12.02	11.15	12.92	10.84	13.76	11.78	14.23	11.68	14.69	11.57	15.61	12.25		
35	10.88	10.15	11.63	10.99	12.72	10.77	13.53	11.70	14.00	11.60	14.47	11.50	15.41	12.20		
37	10.75	10.10	11.45	10.92	12.49	10.68	13.29	11.62	13.74	11.52	14.18	11.41	15.08	12.11		
39	10.62	10.04	11.26	10.84	12.26	10.60	13.04	11.53	13.47	11.44	13.90	11.33	14.76	12.02		
41	10.49	9.98	11.07	10.77	12.02	10.51	12.80	11.45	13.21	11.35	13.62	11.24	14.44	11.93		
43	10.35	9.92	10.89	10.67	11.79	10.42	12.55	11.37	12.94	11.27	13.33	11.16	14.11	11.84		

Outdoor air temp.	Indoor air temperature						
	°CDB	°CWB	16	18	20	22	24
-19.8	-20	10.42	10.34	10.26	10.17	10.09	
-17.7	-18	11.06	10.97	10.88	10.79	10.70	
-15.7	-16	11.69	11.60	11.50	11.41	11.32	
-13.5	-14	12.20	12.10	12.00	11.91	11.81	
-11.5	-12	12.70	12.60	12.50	12.40	12.30	
-9.5	-10	13.21	13.11	13.00	12.90	12.79	
-7.5	-8	13.71	13.61	13.50	13.39	13.28	
-5.5	-6	14.28	14.17	14.06	13.94	13.83	
-3.0	-4	14.84	14.73	14.61	14.49	14.37	
-1.0	-2	15.41	15.29	15.17	15.04	14.91	
1.0	0	15.97	15.85	15.72	15.59	15.45	
2.0	1	16.26	16.13	16.00	15.86	15.73	
3.0	2	16.25	16.13	16.00	15.86	15.73	
5.0	4	16.25	16.13	16.00	15.86	15.73	
7.0	6	16.25	16.12	16.00	15.87	15.73	
9.0	8	16.93	16.80	16.68	16.54	16.40	
11.5	10	17.61	17.48	17.35	17.21	17.07	
13.5	12	18.53	18.39	18.25	18.12	18.17	
15.5	14	19.46	19.31	19.16	19.02	19.27	
16.5	16	19.93	19.77	19.61	19.48	19.82	

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Model **FDUM140VSXPVF1** Indoor unit **FDUM71VF1 (2 units)** Outdoor unit **FDC140VSX**
 Cooling mode (kW) Heating mode:HC (kW)

Outdoor air temp.	Indoor air temperature															
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB	
	12°CWB	14°CWB	16°CWB	18°CWB	19°CWB	20°CWB	22°CWB	24°CWB	TC	SHC	TC	SHC	TC	SHC	TC	SHC
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					11.66	10.38	12.38	11.31	12.73	11.20	13.13	11.10	13.91	11.79	14.70	11.53
13					12.08	10.53	12.83	11.46	13.21	11.35	13.62	11.24	14.45	11.94	15.28	11.67
15					12.50	10.68	13.29	11.62	13.68	11.50	14.12	11.40	14.99	12.08	15.87	11.81
17					12.92	10.84	13.75	11.77	14.16	11.66	14.62	11.55	15.54	12.23	16.45	11.95
19					13.21	10.95	14.06	11.88	14.48	11.76	14.95	11.65	15.88	12.33	16.82	12.04
21					13.50	11.06	14.36	11.98	14.80	11.86	15.28	11.75	16.23	12.43	17.19	12.14
23					13.50	11.06	14.40	11.99	14.83	11.87	15.31	11.76	16.28	12.44	17.25	12.15
25			12.53	11.36	13.50	11.06	14.43	12.00	14.87	11.89	15.35	11.77	16.33	12.45	17.30	12.16
27			12.48	11.34	13.50	11.06	14.46	12.01	14.90	11.90	15.34	11.77	16.23	12.43		
29			12.37	11.29	13.31	10.99	14.23	11.94	14.68	11.83	15.13	11.71	16.03	12.37		
31			12.26	11.25	13.11	10.91	13.99	11.85	14.45	11.75	14.91	11.64	15.82	12.31		
33	11.49	10.42	12.02	11.15	12.92	10.84	13.76	11.78	14.23	11.68	14.69	11.57	15.61	12.25		
35	10.88	10.15	11.63	10.99	12.72	10.77	13.53	11.70	14.00	11.60	14.47	11.50	15.41	12.20		
37	10.75	10.10	11.45	10.92	12.49	10.68	13.29	11.62	13.74	11.52	14.18	11.41	15.08	12.11		
39	10.62	10.04	11.26	10.84	12.26	10.60	13.04	11.53	13.47	11.44	13.90	11.33	14.76	12.02		
41	10.49	9.98	11.07	10.77	12.02	10.51	12.80	11.45	13.21	11.35	13.62	11.24	14.44	11.93		
43	10.35	9.92	10.89	10.67	11.79	10.42	12.55	11.37	12.94	11.27	13.33	11.16	14.11	11.84		

Outdoor air temp.	Indoor air temperature						
	°CDB	°CWB	16	18	20	22	24
-19.8	-20	16.13	16.00	15.87	15.74	15.61	
-17.7	-18	16.19	16.07	15.94	15.81	15.68	
-15.7	-16	16.26	16.13	16.00	15.87	15.74	
-13.5	-14	16.26	16.13	16.00	15.87	15.74	
-11.5	-12	16.25	16.13	16.00	15.87	15.74	
-9.5	-10	16.25	16.13	16.00	15.87	15.74	
-7.5	-8	16.25	16.12	16.00	15.87	15.74	
-5.5	-6	16.25	16.13	16.00	15.87	15.74	
-3.0	-4	16.25	16.13	16.00	15.87	15.73	
-1.0	-2	16.25	16.13	16.00	15.86	15.73	
1.0	0	16.25	16.13	16.00	15.86	15.73	
2.0	1	16.26	16.13	16.00	15.86	15.73	
3.0	2	16.25	16.13	16.00	15.86	15.73	
5.0	4	16.25	16.13	16.00	15.86	15.73	
7.0	6	16.25	16.12	16.00	15.87	15.73	
9.0	8	16.93	16.80	16.68	16.54	16.40	
11.5	10	17.61	17.48	17.35	17.21	17.07	
13.5	12	18.53	18.39	18.25	18.12	18.17	
15.5	14	19.46	19.31	19.16	19.02	19.27	
16.5	16	19.93	19.77	19.61	19.48	19.82	

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- Notes(1) These data show average statuses.
 Depending on the system control, there may be ranges where the operation is not conducted continuously.
 These data show the case where the operation frequency of a compressor is fixed.
- (2) Capacities are based on the following conditions.
 Corresponding refrigerant piping length :7.5m
 Level difference of Zero.
- (3) Symbols are as follows.
 TC : Total cooling capacity (kW)
 SHC : Sensible heat capacity (kW)
 HC : Heating capacity (kW)

(c) Triple type

Model **FDUM140VNXTVF** Indoor unit **FDUM50VF (3 units)** Outdoor unit **FDC140VNX**
Cooling mode (kW)

Outdoor air temp.	Indoor air temperature															
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB	
	12°CWB	14°CWB	16°CWB	18°CWB	19°CWB	20°CWB	22°CWB	24°CWB	°CDB	SHC	TC	SHC	TC	SHC	TC	SHC
11					11.66	9.87	12.38	10.68	12.73	10.61	13.13	10.55	13.91	11.16	14.70	11.00
13					12.08	10.05	12.83	10.86	13.21	10.79	13.62	10.73	14.45	11.35	15.28	11.18
15					12.50	10.23	13.29	11.05	13.68	10.98	14.12	10.92	14.99	11.53	15.87	11.36
17					12.92	10.42	13.75	11.23	14.16	11.16	14.62	11.11	15.54	11.72	16.45	11.55
19					13.21	10.54	14.06	11.36	14.48	11.29	14.95	11.23	15.88	11.84	16.82	11.67
21					13.50	10.67	14.36	11.48	14.80	11.42	15.28	11.36	16.23	11.97	17.19	11.79
23					13.50	10.67	14.40	11.50	14.83	11.43	15.31	11.37	16.28	11.98	17.25	11.81
25			12.53	10.84	13.50	10.67	14.43	11.51	14.87	11.45	15.35	11.39	16.33	12.00	17.30	11.83
27			12.48	10.81	13.50	10.67	14.46	11.52	14.90	11.46	15.34	11.38	16.23	11.97		
29			12.37	10.76	13.31	10.59	14.23	11.43	14.68	11.37	15.13	11.30	16.03	11.90		
31			12.26	10.71	13.11	10.50	13.99	11.33	14.45	11.28	14.91	11.22	15.82	11.82		
33	11.49	9.98	12.02	10.60	12.92	10.42	13.76	11.24	14.23	11.19	14.69	11.13	15.61	11.75		
35	10.88	9.67	11.63	10.41	12.72	10.33	13.53	11.14	14.00	11.10	14.47	11.05	15.41	11.68		
37	10.75	9.61	11.45	10.33	12.49	10.23	13.29	11.05	13.74	11.00	14.18	10.94	15.08	11.56		
39	10.62	9.55	11.26	10.24	12.26	10.13	13.04	10.94	13.47	10.89	13.90	10.84	14.76	11.45		
41	10.49	9.48	11.07	10.16	12.02	10.03	12.80	10.85	13.21	10.79	13.62	10.73	14.44	11.34		
43	10.35	9.41	10.89	10.07	11.79	9.93	12.55	10.75	12.94	10.69	13.33	10.63	14.11	11.23		

Notes(1) These data show average statuses.

Heating mode:HC (kW)

Outdoor air temp.	Indoor air temperature					
	°CDB					
	°CDB	°CWB	16	18	20	22
-19.8	-20	10.42	10.34	10.26	10.17	10.09
-17.7	-18	11.06	10.97	10.88	10.79	10.70
-15.7	-16	11.69	11.60	11.50	11.41	11.32
-13.5	-14	12.20	12.10	12.00	11.91	11.81
-11.5	-12	12.70	12.60	12.50	12.40	12.30
-9.5	-10	13.21	13.11	13.00	12.90	12.79
-7.5	-8	13.71	13.61	13.50	13.39	13.28
-5.5	-6	14.28	14.17	14.06	13.94	13.83
-3.0	-4	14.84	14.73	14.61	14.49	14.37
-1.0	-2	15.41	15.29	15.17	15.04	14.91
1.0	0	15.97	15.85	15.72	15.59	15.45
2.0	1	16.26	16.13	16.00	15.86	15.73
3.0	2	16.25	16.13	16.00	15.86	15.73
5.0	4	16.25	16.13	16.00	15.86	15.73
7.0	6	16.25	16.12	16.00	15.87	15.73
9.0	8	16.93	16.80	16.68	16.54	16.40
11.5	10	17.61	17.48	17.35	17.21	17.07
13.5	12	18.53	18.39	18.25	18.12	18.17
15.5	14	19.46	19.31	19.16	19.02	19.27
16.5	16	19.93	19.77	19.61	19.48	19.82

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Model **FDUM140VSXTVF** Indoor unit **FDUM50VF (3 units)** Outdoor unit **FDC140VSX**
Cooling mode (kW)

Outdoor air temp.	Indoor air temperature															
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB	
	12°CWB	14°CWB	16°CWB	18°CWB	19°CWB	20°CWB	22°CWB	24°CWB	°CDB	SHC	TC	SHC	TC	SHC	TC	SHC
11					11.66	9.87	12.38	10.68	12.73	10.61	13.13	10.55	13.91	11.16	14.70	11.00
13					12.08	10.05	12.83	10.86	13.21	10.79	13.62	10.73	14.45	11.35	15.28	11.18
15					12.50	10.23	13.29	11.05	13.68	10.98	14.12	10.92	14.99	11.53	15.87	11.36
17					12.92	10.42	13.75	11.23	14.16	11.16	14.62	11.11	15.54	11.72	16.45	11.55
19					13.21	10.54	14.06	11.36	14.48	11.29	14.95	11.23	15.88	11.84	16.82	11.67
21					13.50	10.67	14.36	11.48	14.80	11.42	15.28	11.36	16.23	11.97	17.19	11.79
23					13.50	10.67	14.40	11.50	14.83	11.43	15.31	11.37	16.28	11.98	17.25	11.81
25			12.53	10.84	13.50	10.67	14.43	11.51	14.87	11.45	15.35	11.39	16.33	12.00	17.30	11.83
27			12.48	10.81	13.50	10.67	14.46	11.52	14.90	11.46	15.34	11.38	16.23	11.97		
29			12.37	10.76	13.31	10.59	14.23	11.43	14.68	11.37	15.13	11.30	16.03	11.90		
31			12.26	10.71	13.11	10.50	13.99	11.33	14.45	11.28	14.91	11.22	15.82	11.82		
33	11.49	9.98	12.02	10.60	12.92	10.42	13.76	11.24	14.23	11.19	14.69	11.13	15.61	11.75		
35	10.88	9.67	11.63	10.41	12.72	10.33	13.53	11.14	14.00	11.10	14.47	11.05	15.41	11.68		
37	10.75	9.61	11.45	10.33	12.49	10.23	13.29	11.05	13.74	11.00	14.18	10.94	15.08	11.56		
39	10.62	9.55	11.26	10.24	12.26	10.13	13.04	10.94	13.47	10.89	13.90	10.84	14.76	11.45		
41	10.49	9.48	11.07	10.16	12.02	10.03	12.80	10.85	13.21	10.79	13.62	10.73	14.44	11.34		
43	10.35	9.41	10.89	10.07	11.79	9.93	12.55	10.75	12.94	10.69	13.33	10.63	14.11	11.23		

Notes(1) These data show average statuses.
Depending on the system control, there may be ranges where the operation is not conducted continuously.
These data show the case where the operation frequency of a compressor is fixed.

(2) Capacities are based on the following conditions.

Corresponding refrigerant piping length :7.5m
Level difference of Zero.

(3) Symbols are as follows.

TC : Total cooling capacity (kW)
SHC : Sensible heat capacity (kW)
HC : Heating capacity (kW)

Heating mode:HC (kW)

Outdoor air temp.	Indoor air temperature					
	°CDB					
	°CDB	°CWB	16	18	20	22
-19.8	-20	16.13	16.00	15.87	15.74	15.61
-17.7	-18	16.19	16.07	15.94	15.81	15.68
-15.7	-16	16.26	16.13	16.00	15.87	15.74
-13.5	-14	16.26	16.13	16.00	15.87	15.74
-11.5	-12	16.25	16.13	16.00	15.87	15.74
-9.5	-10	16.25	16.13	16.00	15.87	15.74
-7.5	-8	16.25	16.12	16.00	15.87	15.74
-5.5	-6	16.25	16.13	16.00	15.87	15.74
-3.0	-4	16.25	16.13	16.00	15.87	15.73
-1.0	-2	16.25	16.13	16.00	15.86	15.73
1.0	0	16.25	16.13	16.00	15.86	15.73
2.0	1	16.26	16.13	16.00	15.86	15.73
3.0	2	16.25	16.13	16.00	15.86	15.73
5.0	4	16.25	16.13	16.00	15.86	15.73
7.0	6	16.25	16.12	16.00	15.87	15.73
9.0	8	16.93	16.80	16.68	16.54	16.40
11.5	10	17.61	17.48	17.35	17.21	17.07
13.5	12	18.53	18.39	18.25	18.12	18.17
15.5	14	19.46	19.31	19.16	19.02	19.27
16.5	16	19.93	19.77	19.61	19.48	19.82

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(3) Duct connected-High static pressure type (FDU)

Model **FDU71VNXF1** Indoor unit FDU71VF1 Outdoor unit FDC71VNX
Cooling mode (kW) Heating mode:HC (kW)

Outdoor air temp.	Indoor air temperature															
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB	
	12°CWB	14°CWB	16°CWB	18°CWB	19°CWB	20°CWB	22°CWB	24°CWB	°CDB	°CWB	16	18	20	22	24	
11					4.87	4.77	6.02	5.60	6.59	5.67	6.79	5.62	7.19	5.96	7.59	5.82
13					5.33	5.01	6.32	5.70	6.82	5.74	7.03	5.69	7.45	6.03	7.88	5.89
15					5.79	5.17	6.63	5.80	7.05	5.82	7.27	5.76	7.71	6.10	8.16	5.96
17					6.26	5.35	6.94	5.91	7.27	5.89	7.51	5.84	7.97	6.17	8.44	6.03
19					6.59	5.47	7.16	5.98	7.44	5.95	7.68	5.89	8.15	6.22	8.63	6.08
21					6.93	5.60	7.38	6.06	7.60	6.00	7.84	5.94	8.33	6.27	8.82	6.13
23					6.91	5.59	7.35	6.05	7.57	5.99	7.81	5.93	8.30	6.26	8.78	6.11
25			6.46	5.76	6.89	5.58	7.32	6.04	7.54	5.98	7.78	5.92	8.26	6.25	8.74	6.10
27			6.45	5.75	6.87	5.57	7.30	6.03	7.52	5.97	7.74	5.91	8.18	6.23		
29			6.34	5.71	6.75	5.53	7.19	5.99	7.41	5.94	7.64	5.88	8.09	6.21		
31			6.23	5.66	6.64	5.49	7.08	5.96	7.31	5.90	7.54	5.85	7.99	6.18		
33	5.77	5.22	6.05	5.59	6.53	5.45	6.97	5.92	7.20	5.87	7.44	5.81	7.90	6.15		
35	5.67	5.18	5.95	5.55	6.42	5.40	6.86	5.88	7.10	5.83	7.34	5.78	7.81	6.13		
37	5.58	5.14	5.85	5.51	6.31	5.36	6.72	5.83	6.95	5.79	7.18	5.73	7.64	6.08		
39	5.49	5.10	5.76	5.47	6.20	5.32	6.59	5.79	6.81	5.74	7.03	5.69	7.46	6.03		
41	5.39	5.05	5.67	5.44	6.09	5.28	6.45	5.74	6.66	5.69	6.87	5.64	7.29	5.99		
43	5.30	5.02	5.57	5.40	5.97	5.24	6.31	5.70	6.51	5.65	6.71	5.59	7.12	5.94		

Outdoor air temp.	Indoor air temperature									
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB	
	°CDB	°CWB	16	18	20	22	24			
-19.8	-20	3.95	3.93	3.91	3.88	3.86				
-17.7	-18	4.18	4.16	4.14	4.11	4.09				
-15.7	-16	4.42	4.39	4.37	4.34	4.32				
-13.5	-14	4.68	4.65	4.63	4.60	4.57				
-11.5	-12	4.94	4.91	4.88	4.85	4.82				
-9.5	-10	5.20	5.17	5.14	5.11	5.08				
-7.5	-8	5.46	5.43	5.40	5.36	5.33				
-5.5	-6	5.59	5.55	5.52	5.48	5.44				
-3.0	-4	5.71	5.68	5.64	5.60	5.56				
-1.0	-2	5.84	5.80	5.76	5.72	5.67				
1.0	0	5.97	5.92	5.88	5.83	5.79				
2.0	1	6.03	5.98	5.94	5.89	5.85				
3.0	2	6.45	6.40	6.35	6.30	6.25				
5.0	4	7.29	7.23	7.18	7.12	7.06				
7.0	6	8.13	8.06	8.00	7.93	7.87				
9.0	8	8.42	8.36	8.29	8.23	8.16				
11.5	10	8.72	8.65	8.59	8.52	8.46				
13.5	12	9.20	9.13	9.06	9.00	8.92				
15.5	14	9.69	9.61	9.53	9.47	9.39				
16.5	16	9.93	9.85	9.77	9.71	9.62				

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Model **FDU100VNXF2** Indoor unit FDU100VF2 Outdoor unit FDC100VNX
Cooling mode (kW) Heating mode:HC (kW)

Outdoor air temp.	Indoor air temperature															
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB	
	12°CWB	14°CWB	16°CWB	18°CWB	19°CWB	20°CWB	22°CWB	24°CWB	°CDB	°CWB	16	18	20	22	24	
11					8.33	6.94	8.84	7.57	9.10	7.45	9.38	7.33	9.94	7.76	10.50	7.48
13					8.63	7.03	9.17	7.65	9.43	7.52	9.73	7.40	10.32	7.83	10.92	7.54
15					8.93	7.11	9.49	7.73	9.77	7.60	10.09	7.48	10.71	7.90	11.34	7.60
17					9.23	7.20	9.82	7.82	10.11	7.69	10.44	7.56	11.10	7.97	11.75	7.67
19					9.44	7.27	10.04	7.87	10.34	7.74	10.68	7.61	11.35	8.02	12.01	7.71
21					9.64	7.33	10.26	7.93	10.57	7.80	10.91	7.66	11.59	8.07	12.28	7.75
23					9.64	7.33	10.28	7.94	10.59	7.80	10.94	7.67	11.63	8.08	12.32	7.76
25			8.95	7.65	9.64	7.33	10.30	7.94	10.62	7.81	10.97	7.68	11.66	8.08	12.36	7.76
27			8.91	7.63	9.64	7.33	10.33	7.95	10.64	7.82	10.96	7.68	11.59	8.07		
29			8.84	7.61	9.51	7.29	10.16	7.91	10.48	7.78	10.80	7.64	11.45	8.04		
31			8.76	7.58	9.37	7.25	10.00	7.86	10.32	7.74	10.65	7.60	11.30	8.01		
33	8.21	7.04	8.58	7.52	9.23	7.20	9.83	7.82	10.16	7.70	10.49	7.57	11.15	7.98		
35	7.77	6.87	8.31	7.43	9.09	7.16	9.66	7.77	10.00	7.66	10.34	7.53	11.01	7.96		
37	7.68	6.84	8.18	7.39	8.92	7.11	9.49	7.73	9.81	7.61	10.13	7.49	10.77	7.91		
39	7.58	6.80	8.04	7.34	8.76	7.06	9.31	7.68	9.62	7.57	9.93	7.44	10.54	7.87		
41	7.49	6.77	7.91	7.30	8.59	7.02	9.14	7.64	9.43	7.52	9.73	7.40	10.31	7.83		
43	7.40	6.74	7.78	7.26	8.42	6.97	8.96	7.60	9.24	7.48	9.52	7.36	10.08	7.79		

Outdoor air temp.	Indoor air temperature									
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB	
	°CDB	°CWB	16	18	20	22	24			
-19.8	-20	7.30	7.24	7.18	7.12	7.06				
-17.7	-18	7.74	7.68	7.62	7.55	7.49				
-15.7	-16	8.18	8.12	8.05	7.99	7.92				
-13.5	-14	8.54	8.47	8.40	8.33	8.27				
-11.5	-12	8.89	8.82	8.75	8.68	8.61				
-9.5	-10	9.25	9.17	9.10	9.03	8.95				
-7.5	-8	9.60	9.53	9.45	9.38	9.30				
-5.5	-6	10.00	9.92	9.84	9.76	9.68				
-3.0	-4	10.39	10.31	10.23	10.14	10.06				
-1.0	-2	10.79	10.70	10.62	10.53	10.44				
1.0	0	11.18	11.09	11.01	10.91	10.82				
2.0	1	11.38	11.29	11.20	11.10	11.01				
3.0	2	11.38	11.29	11.20	11.10	11.01				
5.0	4	11.38	11.29	11.20	11.11	11.01				
7.0	6	11.37	11.29	11.20	11.11	11.01				
9.0	8	11.85	11.76	11.67	11.58	11.48				
11.5	10	12.32	12.23	12.15	12.05	11.95				
13.5	12	12.97	12.88	12.78	12.68	12.72				
15.5	14	13.62	13.52	13.41	13.32	13.49				
16.5	16	13.95	13.84	13.72	13.63	13.87				

Notes(1) These data show average statuses.
Depending on the system control, there may be ranges where the operation is not conducted continuously.
These data show the case where the operation frequency of a compressor is fixed.

(2) Capacities are based on the following conditions.
Corresponding refrigerant piping length :7.5m
Level difference of Zero.

(3) Symbols are as follows.
TC : Total cooling capacity (kW)
SHC : Sensible heat capacity (kW)
HC : Heating capacity (kW)

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Model **FDU100VSXF2** Indoor unit FDU100VF2 Outdoor unit FDC100VSX

Cooling mode

(kW)

Heating mode:HC

(kW)

Outdoor air temp.	Indoor air temperature															
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB	
	12°CWB		14°CWB		16°CWB		18°CWB		19°CWB		20°CWB		22°CWB		24°CWB	
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					8.33	6.94	8.84	7.57	9.10	7.45	9.38	7.33	9.94	7.76	10.50	7.48
13					8.63	7.03	9.17	7.65	9.43	7.52	9.73	7.40	10.32	7.83	10.92	7.54
15					8.93	7.11	9.49	7.73	9.77	7.60	10.09	7.48	10.71	7.90	11.34	7.60
17					9.23	7.20	9.82	7.82	10.11	7.69	10.44	7.56	11.10	7.97	11.75	7.67
19					9.44	7.27	10.04	7.87	10.34	7.74	10.68	7.61	11.35	8.02	12.01	7.71
21					9.64	7.33	10.26	7.93	10.57	7.80	10.91	7.66	11.59	8.07	12.28	7.75
23					9.64	7.33	10.28	7.94	10.59	7.80	10.94	7.67	11.63	8.08	12.32	7.76
25			8.95	7.65	9.64	7.33	10.30	7.94	10.62	7.81	10.97	7.68	11.66	8.08	12.36	7.76
27			8.91	7.63	9.64	7.33	10.33	7.95	10.64	7.82	10.96	7.68	11.59	8.07		
29			8.84	7.61	9.51	7.29	10.16	7.91	10.48	7.78	10.80	7.64	11.45	8.04		
31			8.76	7.58	9.37	7.25	10.00	7.86	10.32	7.74	10.65	7.60	11.30	8.01		
33	8.21	7.04	8.58	7.52	9.23	7.20	9.83	7.82	10.16	7.70	10.49	7.57	11.15	7.98		
35	7.77	6.87	8.31	7.43	9.09	7.16	9.66	7.77	10.00	7.66	10.34	7.53	11.01	7.96		
37	7.68	6.84	8.18	7.39	8.92	7.11	9.49	7.73	9.81	7.61	10.13	7.49	10.77	7.91		
39	7.58	6.80	8.04	7.34	8.76	7.06	9.31	7.68	9.62	7.57	9.93	7.44	10.54	7.87		
41	7.49	6.77	7.91	7.30	8.59	7.02	9.14	7.64	9.43	7.52	9.73	7.40	10.31	7.83		
43	7.40	6.74	7.78	7.26	8.42	6.97	8.96	7.60	9.24	7.48	9.52	7.36	10.08	7.79		

Outdoor air temp.	Indoor air temperature					
	°CDB		°CWB		°CDB	
	16	18	20	22	24	
-19.8	-20	11.29	11.20	11.11	11.02	10.93
-17.7	-18	11.34	11.25	11.16	11.06	10.97
-15.7	-16	11.38	11.29	11.20	11.11	11.02
-13.5	-14	11.38	11.29	11.20	11.11	11.02
-11.5	-12	11.38	11.29	11.20	11.11	11.02
-9.5	-10	11.38	11.29	11.20	11.11	11.02
-7.5	-8	11.37	11.29	11.20	11.11	11.02
-5.5	-6	11.38	11.29	11.20	11.11	11.02
-3.0	-4	11.38	11.29	11.20	11.11	11.01
-1.0	-2	11.38	11.29	11.20	11.11	11.01
1.0	0	11.38	11.29	11.20	11.10	11.01
2.0	1	11.38	11.29	11.20	11.10	11.01
3.0	2	11.38	11.29	11.20	11.10	11.01
5.0	4	11.38	11.29	11.20	11.11	11.01
7.0	6	11.37	11.29	11.20	11.11	11.01
9.0	8	11.85	11.76	11.67	11.58	11.48
11.5	10	12.32	12.23	12.15	12.05	11.95
13.5	12	12.97	12.88	12.78	12.68	12.72
15.5	14	13.62	13.52	13.41	13.32	13.49
16.5	16	13.95	13.84	13.72	13.63	13.87

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Model **FDU125VNXFV** Indoor unit FDU125VF Outdoor unit FDC125VNX

Cooling mode

(kW)

Heating mode:HC

(kW)

Outdoor air temp.	Indoor air temperature															
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB	
	12°CWB		14°CWB		16°CWB		18°CWB		19°CWB		20°CWB		22°CWB		24°CWB	
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					10.41	9.34	11.05	10.16	11.37	10.10	11.72	10.04	12.42	10.66	13.12	10.51
13					10.79	9.50	11.46	10.32	11.79	10.25	12.16	10.20	12.91	10.83	13.65	10.67
15					11.16	9.66	11.87	10.48	12.22	10.42	12.61	10.36	13.39	10.99	14.17	10.83
17					11.54	9.82	12.27	10.64	12.64	10.58	13.05	10.52	13.87	11.15	14.69	10.99
19					11.80	9.93	12.55	10.75	12.93	10.69	13.34	10.63	14.18	11.25	15.02	11.10
21					12.05	10.04	12.83	10.86	13.21	10.79	13.64	10.74	14.49	11.36	15.34	11.20
23					12.05	10.04	12.85	10.87	13.24	10.81	13.67	10.75	14.54	11.38	15.40	11.22
25			11.19	10.21	12.05	10.04	12.88	10.88	13.27	10.82	13.71	10.77	14.58	11.39	15.45	11.23
27			11.14	10.19	12.05	10.04	12.91	10.89	13.30	10.83	13.70	10.76	14.49	11.36		
29			11.05	10.15	11.88	9.97	12.70	10.81	13.10	10.75	13.51	10.69	14.31	11.30		
31			10.95	10.10	11.71	9.89	12.49	10.72	12.90	10.67	13.31	10.62	14.13	11.24		
33	10.26	9.37	10.73	10.00	11.53	9.82	12.29	10.64	12.70	10.60	13.11	10.54	13.94	11.17		
35	9.71	9.10	10.39	9.84	11.36	9.74	12.08	10.56	12.50	10.52	12.92	10.47	13.76	11.11		
37	9.60	9.05	10.22	9.77	11.15	9.65	11.86	10.47	12.26	10.43	12.67	10.38	13.47	11.01		
39	9.48	8.99	10.05	9.69	10.94	9.57	11.64	10.39	12.03	10.34	12.41	10.29	13.18	10.92		
41	9.36	8.93	9.89	9.62	10.74	9.48	11.42	10.30	11.79	10.25	12.16	10.20	12.89	10.82		
43	9.25	8.88	9.72	9.53	10.53	9.39	11.21	10.22	11.55	10.16	11.90	10.10	12.60	10.72		

Outdoor air temp.	Indoor air temperature					
	°CDB		°CWB		°CDB	
	16	18	20	22	24	
-19.8	-20	9.12	9.05	8.97	8.90	8.83
-17.7	-18	9.67	9.60	9.52	9.44	9.37
-15.7	-16	10.23	10.15	10.07	9.98	9.90
-13.5	-14	10.67	10.59	10.50	10.42	10.33
-11.5	-12	11.11	11.03	10.94	10.85	10.76
-9.5	-10	11.56	11.47	11.38	11.29	11.19
-7.5	-8	12.00	11.91	11.82	11.72	11.62
-5.5	-6	12.49	12.40	12.30	12.20	12.10
-3.0	-4	12.99	12.89	12.79	12.68	12.57
-1.0	-2	13.48	13.38	13.27	13.16	13.05
1.0	0	13.98	13.87	13.76	13.64	13.52
2.0	1	14.22	14.11	14.00	13.88	13.76
3.0	2	14.22	14.11	14.00	13.88	13.76
5.0	4	14.22	14.11	14.00	13.88	13.76
7.0	6	14.22	14.11	14.00	13.88	13.77
9.0	8	14.81	14.70	14.59	14.47	14.35
11.5	10	15.41	15.29	15.18	15.06	14.94
13.5	12	16.22	16.09	15.97	15.85	15.90
15.5	14	17.03	16.90	16.76	16.65	16.86
16.5	16	17.44	17.30	17.16	17.04	17.34

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Notes(1) These data show average statuses.

Depending on the system control, there may be ranges where the operation is not conducted continuously.

These data show the case where the operation frequency of a compressor is fixed. (Cooling only)

(2) Capacities are based on the following conditions.

Corresponding refrigerant piping length :7.5m

Level difference of Zero.

(3) Symbols are as follows.

TC : Total cooling capacity (kW)

SHC : Sensible heat capacity (kW)

HC : Heating capacity (kW)

Model **FDU125VSXFV** Indoor unit FDU125VF Outdoor unit FDC125VSX
Cooling mode (kW) Heating mode:HC (kW)

Outdoor air temp.	Indoor air temperature															
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB	
	12°CWB		14°CWB		16°CWB		18°CWB		19°CWB		20°CWB		22°CWB		24°CWB	
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					10.41	9.34	11.05	10.16	11.37	10.10	11.72	10.04	12.42	10.66	13.12	10.51
13					10.79	9.50	11.46	10.32	11.79	10.25	12.16	10.20	12.91	10.83	13.65	10.67
15					11.16	9.66	11.87	10.48	12.22	10.42	12.61	10.36	13.39	10.99	14.17	10.83
17					11.54	9.82	12.27	10.64	12.64	10.58	13.05	10.52	13.87	11.15	14.69	10.99
19					11.80	9.93	12.55	10.75	12.93	10.69	13.34	10.63	14.18	11.25	15.02	11.10
21					12.05	10.04	12.83	10.86	13.21	10.79	13.64	10.74	14.49	11.36	15.34	11.20
23					12.05	10.04	12.85	10.87	13.24	10.81	13.67	10.75	14.54	11.38	15.40	11.22
25			11.19	10.21	12.05	10.04	12.88	10.88	13.27	10.82	13.71	10.77	14.58	11.39	15.45	11.23
27			11.14	10.19	12.05	10.04	12.91	10.89	13.30	10.83	13.70	10.76	14.49	11.36		
29			11.05	10.15	11.88	9.97	12.70	10.81	13.10	10.75	13.51	10.69	14.31	11.30		
31			10.95	10.10	11.71	9.89	12.49	10.72	12.90	10.67	13.31	10.62	14.13	11.24		
33	10.26	9.37	10.73	10.00	11.53	9.82	12.29	10.64	12.70	10.60	13.11	10.54	13.94	11.17		
35	9.71	9.10	10.39	9.84	11.36	9.74	12.08	10.56	12.50	10.52	12.92	10.47	13.76	11.11		
37	9.60	9.05	10.22	9.77	11.15	9.65	11.86	10.47	12.26	10.43	12.67	10.38	13.47	11.01		
39	9.48	8.99	10.05	9.69	10.94	9.57	11.64	10.39	12.03	10.34	12.41	10.29	13.18	10.92		
41	9.36	8.93	9.89	9.62	10.74	9.48	11.42	10.30	11.79	10.25	12.16	10.20	12.89	10.82		
43	9.25	8.88	9.72	9.53	10.53	9.39	11.21	10.22	11.55	10.16	11.90	10.10	12.60	10.72		

Outdoor air temp.	Indoor air temperature						
	°CDB	°CWB	16	18	20	22	24
-19.8	-20	14.11	14.00	13.89	13.78	13.66	
-17.7	-18	14.17	14.06	13.94	13.83	13.72	
-15.7	-16	14.23	14.11	14.00	13.89	13.77	
-13.5	-14	14.23	14.11	14.00	13.89	13.77	
-11.5	-12	14.22	14.11	14.00	13.89	13.77	
-9.5	-10	14.22	14.11	14.00	13.89	13.77	
-7.5	-8	14.22	14.11	14.00	13.89	13.77	
-5.5	-6	14.22	14.11	14.00	13.88	13.77	
-3.0	-4	14.22	14.11	14.00	13.88	13.77	
-1.0	-2	14.22	14.11	14.00	13.88	13.76	
1.0	0	14.22	14.11	14.00	13.88	13.76	
2.0	1	14.22	14.11	14.00	13.88	13.76	
3.0	2	14.22	14.11	14.00	13.88	13.76	
5.0	4	14.22	14.11	14.00	13.88	13.76	
7.0	6	14.22	14.11	14.00	13.88	13.77	
9.0	8	14.81	14.70	14.59	14.47	14.35	
11.5	10	15.41	15.29	15.18	15.06	14.94	
13.5	12	16.22	16.09	15.97	15.85	15.90	
15.5	14	17.03	16.90	16.76	16.65	16.86	
16.5	16	17.44	17.30	17.16	17.04	17.34	

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Model **FDU140VNXVF** Indoor unit FDU140VF Outdoor unit FDC140VNX
Cooling mode (kW) Heating mode:HC (kW)

Outdoor air temp.	Indoor air temperature															
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB	
	12°CWB		14°CWB		16°CWB		18°CWB		19°CWB		20°CWB		22°CWB		24°CWB	
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					11.66	10.07	12.38	10.97	12.73	10.84	13.13	10.71	13.91	11.36	14.70	11.06
13					12.08	10.21	12.83	11.10	13.21	10.97	13.62	10.85	14.45	11.49	15.28	11.18
15					12.50	10.35	13.29	11.25	13.68	11.11	14.12	10.98	14.99	11.63	15.87	11.31
17					12.92	10.50	13.75	11.39	14.16	11.26	14.62	11.12	15.54	11.76	16.45	11.43
19					13.21	10.60	14.06	11.49	14.48	11.35	14.95	11.22	15.88	11.85	16.82	11.52
21					13.50	10.71	14.36	11.59	14.80	11.45	15.28	11.31	16.23	11.94	17.19	11.60
23					13.50	10.71	14.40	11.60	14.83	11.46	15.31	11.32	16.28	11.95	17.25	11.61
25			12.53	11.05	13.50	10.71	14.43	11.61	14.87	11.47	15.35	11.33	16.33	11.96	17.30	11.62
27			12.48	11.03	13.50	10.71	14.46	11.62	14.90	11.48	15.34	11.33	16.23	11.94		
29			12.37	10.98	13.31	10.64	14.23	11.54	14.68	11.41	15.13	11.27	16.03	11.89		
31			12.26	10.94	13.11	10.57	13.99	11.47	14.45	11.34	14.91	11.21	15.82	11.83		
33	11.49	10.15	12.02	10.85	12.92	10.50	13.76	11.39	14.23	11.28	14.69	11.14	15.61	11.78		
35	10.88	9.90	11.63	10.70	12.72	10.43	13.53	11.32	14.00	11.21	14.47	11.08	15.41	11.73		
37	10.75	9.84	11.45	10.63	12.49	10.35	13.29	11.25	13.74	11.13	14.18	11.00	15.08	11.65		
39	10.62	9.79	11.26	10.56	12.26	10.27	13.04	11.17	13.47	11.05	13.90	10.92	14.76	11.57		
41	10.49	9.73	11.07	10.49	12.02	10.19	12.80	11.10	13.21	10.97	13.62	10.85	14.44	11.49		
43	10.35	9.68	10.89	10.42	11.79	10.11	12.55	11.02	12.94	10.90	13.33	10.77	14.11	11.41		

Outdoor air temp.	Indoor air temperature						
	°CDB	°CWB	16	18	20	22	24
-19.8	-20	10.42	10.34	10.26	10.17	10.09	
-17.7	-18	11.06	10.97	10.88	10.79	10.70	
-15.7	-16	11.69	11.60	11.50	11.41	11.32	
-13.5	-14	12.20	12.10	12.00	11.91	11.81	
-11.5	-12	12.70	12.60	12.50	12.40	12.30	
-9.5	-10	13.21	13.11	13.00	12.90	12.79	
-7.5	-8	13.71	13.61	13.50	13.39	13.28	
-5.5	-6	14.28	14.17	14.06	13.94	13.83	
-3.0	-4	14.84	14.73	14.61	14.49	14.37	
-1.0	-2	15.41	15.29	15.17	15.04	14.91	
1.0	0	15.97	15.85	15.72	15.59	15.45	
2.0	1	16.26	16.13	16.00	15.86	15.73	
3.0	2	16.25	16.13	16.00	15.86	15.73	
5.0	4	16.25	16.13	16.00	15.86	15.73	
7.0	6	16.25	16.12	16.00	15.87	15.73	
9.0	8	16.93	16.80	16.68	16.54	16.40	
11.5	10	17.61	17.48	17.35	17.21	17.07	
13.5	12	18.53	18.39	18.25	18.12	18.17	
15.5	14	19.46	19.31	19.16	19.02	19.27	
16.5	16	19.93	19.77	19.61	19.48	19.82	

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- Notes(1) These data show average statuses.
Depending on the system control, there may be ranges where the operation is not conducted continuously.
These data show the case where the operation frequency of a compressor is fixed. (Cooling only)
- (2) Capacities are based on the following conditions.
Corresponding refrigerant piping length :7.5m
Level difference of Zero.
- (3) Symbols are as follows.
TC : Total cooling capacity (kW)
SHC : Sensible heat capacity (kW)
HC : Heating capacity (kW)

Model **FDU140VSXF** Indoor unit FDU140VF Outdoor unit FDC140VSX
 Cooling mode

(kW) Heating mode:HC (kW)

Outdoor air temp.	Indoor air temperature															
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB	
	12°CWB		14°CWB		16°CWB		18°CWB		19°CWB		20°CWB		22°CWB		24°CWB	
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					11.66	10.07	12.38	10.97	12.73	10.84	13.13	10.71	13.91	11.36	14.70	11.06
13					12.08	10.21	12.83	11.10	13.21	10.97	13.62	10.85	14.45	11.49	15.28	11.18
15					12.50	10.35	13.29	11.25	13.68	11.11	14.12	10.98	14.99	11.63	15.87	11.31
17					12.92	10.50	13.75	11.39	14.16	11.26	14.62	11.12	15.54	11.76	16.45	11.43
19					13.21	10.60	14.06	11.49	14.48	11.35	14.95	11.22	15.88	11.85	16.82	11.52
21					13.50	10.71	14.36	11.59	14.80	11.45	15.28	11.31	16.23	11.94	17.19	11.60
23					13.50	10.71	14.40	11.60	14.83	11.46	15.31	11.32	16.28	11.95	17.25	11.61
25			12.53	11.05	13.50	10.71	14.43	11.61	14.87	11.47	15.35	11.33	16.33	11.96	17.30	11.62
27			12.48	11.03	13.50	10.71	14.46	11.62	14.90	11.48	15.34	11.33	16.23	11.94		
29			12.37	10.98	13.31	10.64	14.23	11.54	14.68	11.41	15.13	11.27	16.03	11.89		
31			12.26	10.94	13.11	10.57	13.99	11.47	14.45	11.34	14.91	11.21	15.82	11.83		
33	11.49	10.15	12.02	10.85	12.92	10.50	13.76	11.39	14.23	11.28	14.69	11.14	15.61	11.78		
35	10.88	9.90	11.63	10.70	12.72	10.43	13.53	11.32	14.00	11.21	14.47	11.08	15.41	11.73		
37	10.75	9.84	11.45	10.63	12.49	10.35	13.29	11.25	13.74	11.13	14.18	11.00	15.08	11.65		
39	10.62	9.79	11.26	10.56	12.26	10.27	13.04	11.17	13.47	11.05	13.90	10.92	14.76	11.57		
41	10.49	9.73	11.07	10.49	12.02	10.19	12.80	11.10	13.21	10.97	13.62	10.85	14.44	11.49		
43	10.35	9.68	10.89	10.42	11.79	10.11	12.55	11.02	12.94	10.90	13.33	10.77	14.11	11.41		

Outdoor air temp.	Indoor air temperature						
	°CDB	°CWB	16	18	20	22	24
-19.8	-20		16.13	16.00	15.87	15.74	15.61
-17.7	-18		16.19	16.07	15.94	15.81	15.68
-15.7	-16		16.26	16.13	16.00	15.87	15.74
-13.5	-14		16.26	16.13	16.00	15.87	15.74
-11.5	-12		16.25	16.13	16.00	15.87	15.74
-9.5	-10		16.25	16.13	16.00	15.87	15.74
-7.5	-8		16.25	16.12	16.00	15.87	15.74
-5.5	-6		16.25	16.13	16.00	15.87	15.74
-3.0	-4		16.25	16.13	16.00	15.87	15.73
-1.0	-2		16.25	16.13	16.00	15.86	15.73
1.0	0		16.25	16.13	16.00	15.86	15.73
2.0	1		16.26	16.13	16.00	15.86	15.73
3.0	2		16.25	16.13	16.00	15.86	15.73
5.0	4		16.25	16.13	16.00	15.86	15.73
7.0	6		16.25	16.12	16.00	15.87	15.73
9.0	8		16.93	16.80	16.68	16.54	16.40
11.5	10		17.61	17.48	17.35	17.21	17.07
13.5	12		18.53	18.39	18.25	18.12	18.17
15.5	14		19.46	19.31	19.16	19.02	19.27
16.5	16		19.93	19.77	19.61	19.48	19.82



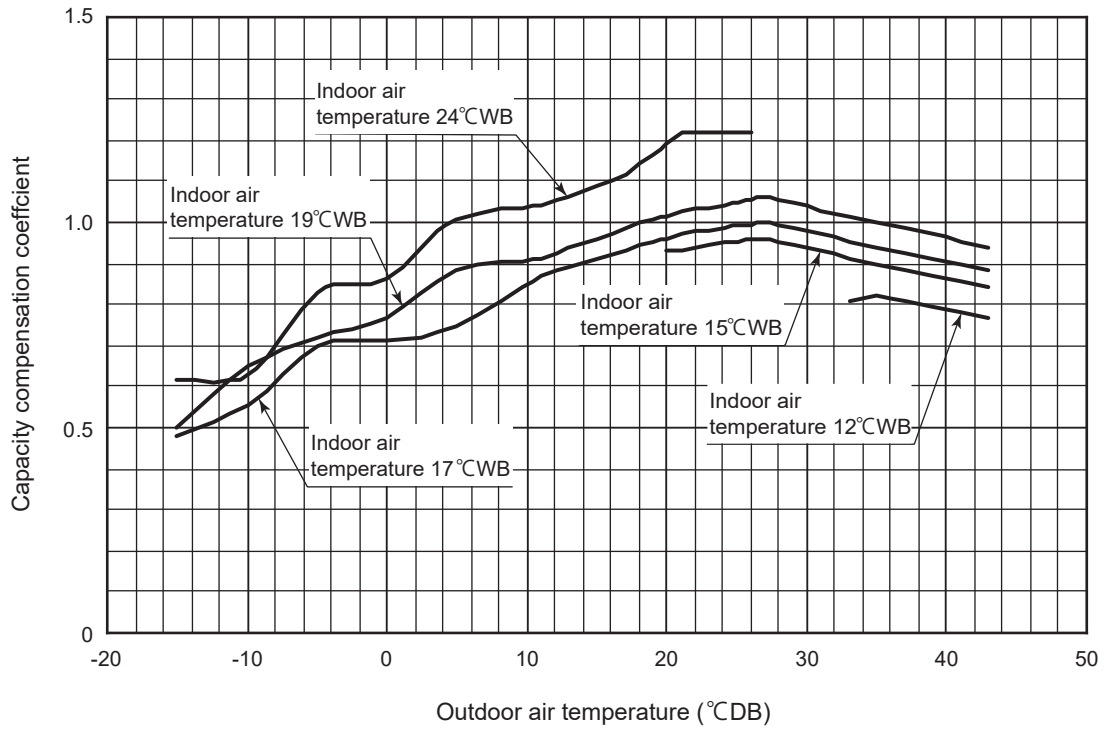
- Notes(1) These data show average statuses.
 Depending on the system control, there may be ranges where the operation is not conducted continuously.
 These data show the case where the operation frequency of a compressor is fixed. (Cooling only)
- (2) Capacities are based on the following conditions.
 Corresponding refrigerant piping length :7.5m
 Level difference of Zero.
- (3) Symbols are as follows.
 TC : Total cooling capacity (kW)
 SHC : Sensible heat capacity (kW)
 HC : Heating capacity (kW)

[References data]

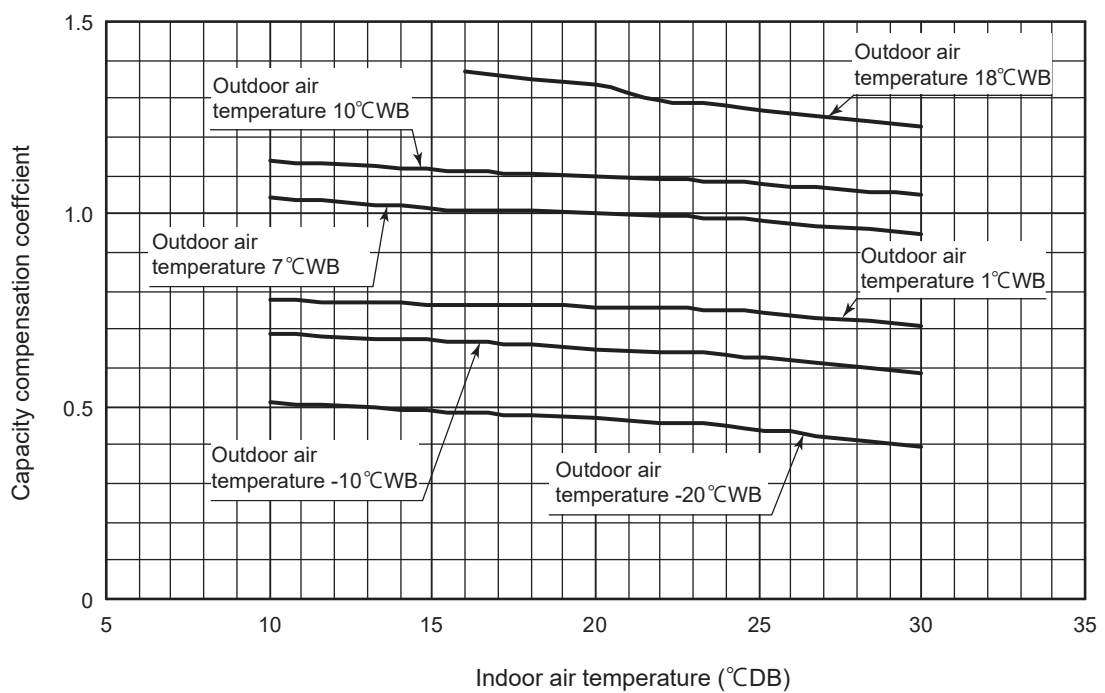
Capacity variation against outdoor and indoor temperature at the maximum compressor speed capacity compensation coefficient shows the ratio to nominal capacity.

(I) Models SRC40, 50, 60ZSX-S

① Cooling

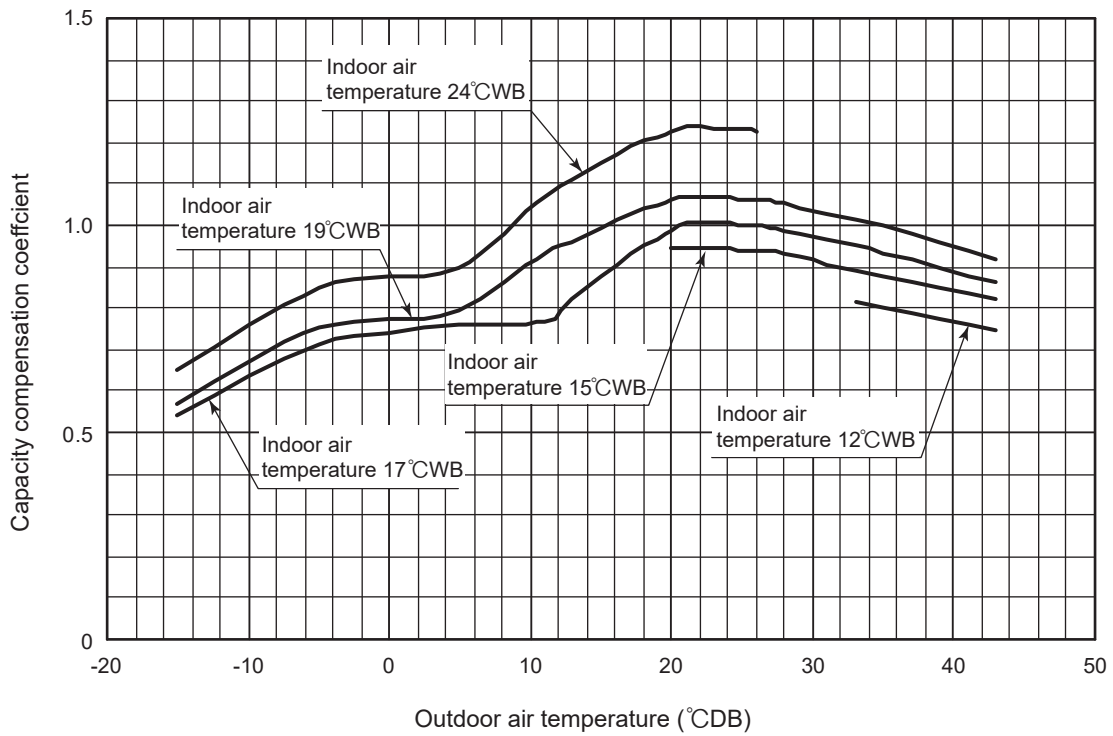


② Heating

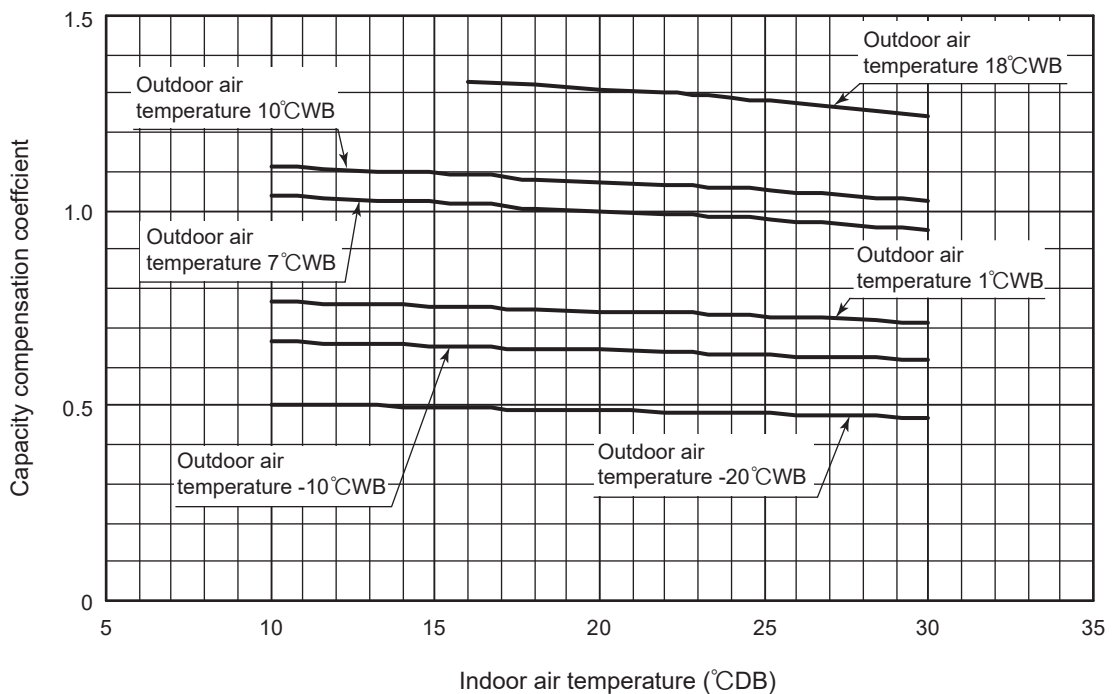


(II) Model FDC71VNX

① Cooling

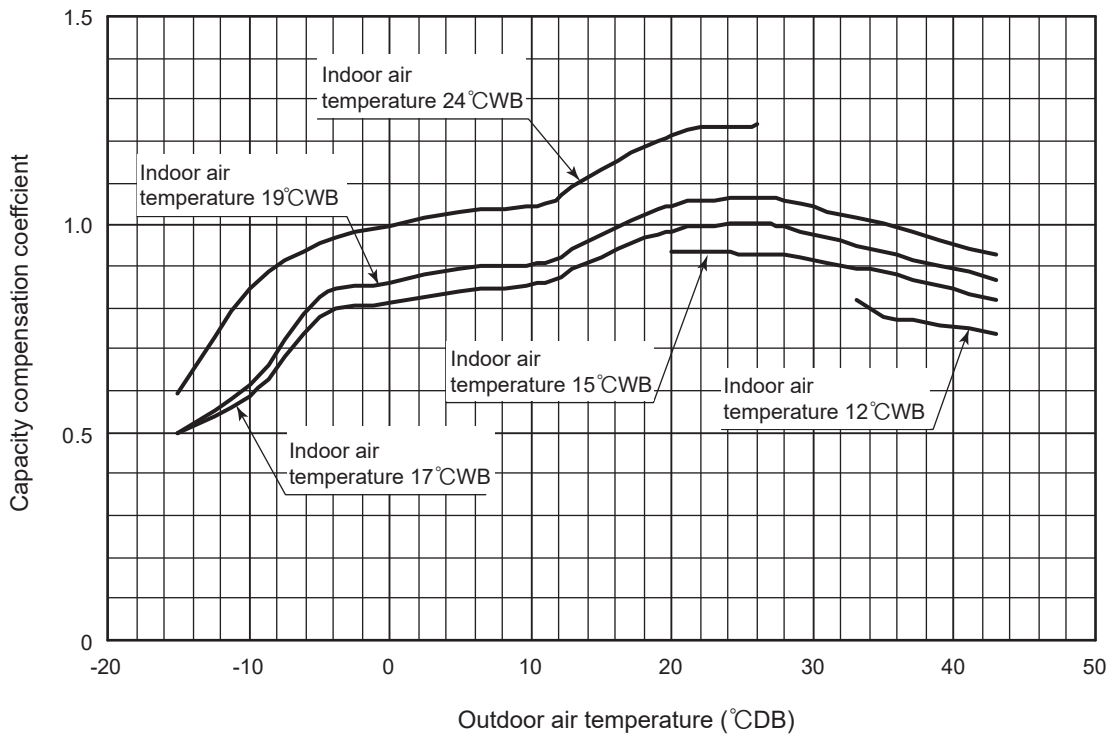


② Heating

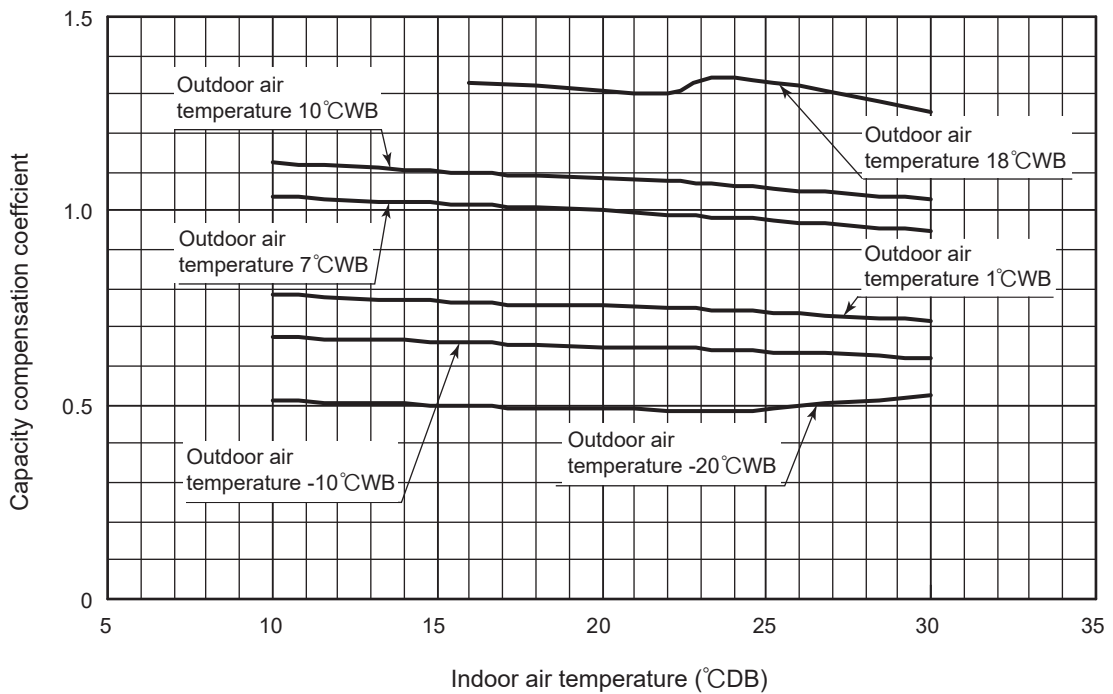


Ⅲ Models FDC100, 125, 140VNX, 100, 125, 140VSX

① Cooling



② Heating



1.9.2 Correction of cooling and heating capacity in relation to air flow rate control (fan speed)

Fan speed	P-Hi or Hi	Me	Lo
Coefficient	1.00	0.97	0.95

1.9.3 Correction of cooling and heating capacity in relation to one way length of refrigerant piping

It is necessary to correct the cooling and heating capacity in relation to the one way equivalent piping length between the indoor and outdoor units.

(1) Models SRC40-60

Piping length (m)	7	10	15	20	25	30
Cooling	1	0.99	0.975	0.965	0.95	0.935
Heating	1	1	1	1	1	1

(2) Models FDC71-140

Equivalent piping length ⁽¹⁾ (m)		7.5	10	15	20	25	30	35	40	45	50	55	
Heating		1	1	1	1	1	0.998	0.998	0.993	0.993	0.988	0.988	
Cooling	FDC71 model	φ 15.88	1	0.996	0.989	0.982	0.975	0.968	0.961	0.954	0.947	0.940	0.933
	FDC100 model		1	0.991	0.978	0.964	0.951	0.937	0.924	0.910	0.897	0.883	0.870
	FDC125 model		1	0.986	0.968	0.950	0.932	0.914	0.896	0.878	0.860	0.842	0.824
	FDC140 model		1	0.985	0.966	0.946	0.927	0.907	0.888	0.868	0.849	0.829	0.810
	FDC71 model	φ 19.05	1.008	1.006	1.003	1	0.997	0.994	0.991	0.988	0.985	0.982	0.979
	FDC100 model		1.016	1.013	1.007	1.002	0.996	0.991	0.985	0.980	0.974	0.969	0.963
	FDC125 model		1.022	1.018	1.009	1.001	0.992	0.984	0.975	0.967	0.958	0.950	0.941
	FDC140 model		1.026	1.021	1.011	1.002	0.992	0.983	0.973	0.964	0.954	0.945	0.935

Equivalent piping length ⁽¹⁾ (m)		60	65	70	75	80	85	90	95	100	105	
Heating		0.983	0.983	0.978	0.978	0.973	0.973	0.968	0.968	0.963	0.963	
Cooling	FDC71 model	φ 15.88	—	—	—	—	—	—	—	—	—	
	FDC100 model		0.856	0.843	0.829	0.816	0.803	0.789	0.776	0.762	0.749	0.736
	FDC125 model		0.806	0.788	0.770	0.752	0.734	0.716	0.698	0.680	0.662	0.644
	FDC140 model		0.790	0.771	0.751	0.732	0.712	0.693	0.673	0.654	0.634	0.615
	FDC71 model	φ 19.05	—	—	—	—	—	—	—	—	—	
	FDC100 model		0.959	0.955	0.951	0.948	0.944	0.940	0.936	0.932	0.929	0.926
	FDC125 model		0.935	0.929	0.924	0.919	0.912	0.908	0.902	0.897	0.892	0.887
	FDC140 model		0.928	0.920	0.913	0.907	0.900	0.894	0.888	0.882	0.876	0.870

Note (1) Calculate the equivalent length using the following formula.

However, install the piping so that the piping length is within +5 m of the limit length (actual length) for the respective types.

- Equivalent length = Actual length + (Equivalent bend length x number of bends in the piping.)
Equivalent length per bend. (Models FDC71-140 only)

Gas pipe diameter (mm)	φ 12.7	φ 15.88	φ 19.05
Equivalent bend length	0.20	0.25	0.30

1.9.4 Height difference between the indoor unit and outdoor unit

When the outdoor unit is located below indoor units in cooling mode, or when the outdoor unit is located above indoor units in heating mode, the correction coefficient mentioned in the below table should be subtracted from the value in the above table.

Height difference between the indoor unit and outdoor unit in the vertical height difference	5m	10m	15m	20m	25m	30m
Adjustment coefficient	0.99	0.98	0.97	0.96	0.95	0.94

Piping length limitations

Item	Model	SRC40, 50, 60	FDC71	FDC100, 125, 140
Max. one way piping length		30m	50m	100m
Max. vertical height difference		Outdoor unit is higher 20m Outdoor unit is lower 20m	Outdoor unit is higher 30m Outdoor unit is lower 15m	


Note (1) Values in the table indicate the one way piping length between the indoor and outdoor units.

How to obtain the cooling and heating capacity

Example : The net cooling capacity of the model FDE100VNXVG with the air flow “P-High”, the piping length of 15m, the outdoor unit located 5m lower than the indoor unit, indoor wet-bulb temperature at 19.0°C and outdoor dry-bulb temperature 35°C is

$$\text{Net cooling capacity} = \frac{10.0}{\text{Net cooling total capacity of FDE100VNXVG (Outdoor temp. : 35°CDB Indoor temp. : 19°CWB) shown in table 1.9.1}} \times \frac{1.00}{\text{Air flow : P-High shown in table 1.9.2}} \times \frac{0.978}{\text{Piping length : 15m (Gas pipe size is } \phi 15.88 \text{) shown in table 1.9.3}} \times \frac{0.99}{\text{Height diff. : 5m (Outdoor unit : below) shown in table 1.9.4}} \approx 9.7\text{kW}$$







1.10 APPLICATION DATA

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1.10.1 Installation of indoor unit (1) Ceiling suspended type (FDE)

This manual is for the installation of an indoor unit.
For electrical wiring work (Indoor), refer to the electrical wiring work installation manual. For remote control installation, refer to the installation manual attached to a remote control. For wireless kit installation, refer to the installation manual attached to a wireless kit. For electrical wiring work (Outdoor) and refrigerant pipe work installation for outdoor unit, refer to the installation manual attached to an outdoor unit.































SAFETY PRECAUTIONS

- Read the "SAFETY PRECAUTIONS" carefully first of all and then strictly follow it during the installation work in order to protect yourself.
- The precautionary items mentioned below are distinguished into two levels,  **WARNING** and  **CAUTION**.
 **WARNING**: Wrong installation would cause serious consequences such as injuries or death.
 **CAUTION**: Wrong installation might cause serious consequences depending on circumstances.
 Both mentions the important items to protect your health and safety so strictly follow them by any means.
- The meanings of "Marks" used here are as shown as follows:
 Never do it under any circumstances.  Always do it according to the instruction.
- After completing the installation, do commissioning to confirm there are no abnormalities, and explain to the customers about "SAFETY PRECAUTIONS", correct operation method and maintenance method (air filter cleaning, operation method and temperature setting method) with user's manual of this unit.
Ask your customers to keep this installation manual together with the user's manual. Also, ask them to hand over the user's manual to the new user when the owner is changed.

WARNING

- **Installation should be performed by the specialist.** 
If you install the unit by yourself, it may lead to serious trouble such as water leakage, electric shock, fire, and injury due to overturn of the unit.
- **Install the system correctly according to these installation manuals.** 
Improper installation may cause explosion, injury, water leakage, electric shock, and fire.
- **When installing in small rooms, take prevention measures not to exceed the density limit of refrigerant in the event of leakage, referred by the formula (accordance with IS05149).** 
If the density of refrigerant exceeds the limit, please consult the dealer and install the ventilation system, otherwise lack of oxygen can occur, which can cause serious accidents.
- **Use the genuine accessories and the specified parts for installation.** 
If parts unspecified by our company are used it could cause water leakage, electric shock, fire, and injury due to overturn of the unit.
- **Ventilate the working area well in case the refrigerant leaks during installation.** 
If the refrigerant contacts the fire, toxic gas is produced.
- **Install the unit in a location that can hold heavy weight.** 
Improper installation may cause the unit to fall leading to accidents.
- **Install the unit properly in order to be able to withstand strong winds such as typhoons, and earthquakes.** 
Improper installation may cause the unit to fall leading to accidents.
- **Do not mix air in to the cooling cycle on installation or removal of the air-conditioner.** 
If air is mixed in, the pressure in the cooling cycle will rise abnormally and may cause explosion and injuries.
- **Be sure to have the electrical wiring work done by qualified electrical installer, and use exclusive circuit.** 
Power source with insufficient capacity and improper work can cause electric shock and fire.
- **Use specified wire for electrical wiring, fasten the wiring to the terminal securely, and hold the cable securely in order not to apply unexpected stress on the terminal.** 
Loose connections or hold could result in abnormal heat generation or fire.
- **Arrange the electrical wires in the control box properly to prevent them from rising. Fit the lid of the services panel properly.** 
Improper fitting may cause abnormal heat and fire.
- **Check for refrigerant gas leakage after installation is completed.** 
If the refrigerant gas leaks into the house and comes in contact with a fan heater, a stove, or an oven, toxic gas is produced.
- **Use the specified pipe, flare nut, and tools for R410A.** 
Using existing parts (R22) could cause the unit failure and serious accident due to explosion of the cooling cycle.
- **Tighten the flare nut according to the specified method by with torque wrench.** 
If the flare nut were tightened with excess torque, it could cause burst and refrigerant leakage after a long period.
- **Do not put the drainage pipe directly into drainage channels where poisonous gases such as sulfide gas can occur.** 
Poisonous gases will flow into the room through drainage pipe and seriously affect the user's health and safety. This can also cause the corrosion of the indoor unit and a resultant unit failure or refrigerant leak.
- **Connect the pipes for refrigeration circuit securely in installation work before compressor is operated.** 
If the compressor is operated when the service valve is open without connecting the pipe, it could cause explosion and injuries due to abnormal high pressure in the system.
- **Stop the compressor before removing the pipe after shutting the service valve on pump down work.** 
If the pipe is removed when the compressor is in operation with the service valve open, air would be mixed in the refrigeration circuit and it could cause explosion and injuries due to abnormal high pressure in the cooling cycle.
- **Only use prescribed option parts. The installation must be carried out by the qualified installer.** 
If you install the system by yourself, it can cause serious trouble such as water leaks, electric shocks, fire.
- **Do not repair by yourself. And consult with the dealer about repair.** 
Improper repair may cause water leakage, electric shock or fire.
- **Consult the dealer or a specialist about removal of the air-conditioner.** 
Improper installation may cause water leakage, electric shock or fire.
- **Turn off the power source during servicing or inspection work.** 
If the power is supplied during servicing or inspection work, it could cause electric shock and injury by the operating fan.
- **Do not run the unit when the panel or protection guard are taken off.** 
Touching the rotating equipment, hot surface, or high voltage section could cause an injury to be caught in the machine, to get burned, or electric shock.
- **Shut off the power before electrical wiring work.** 
It could cause electric shock, unit failure and improper running.

CAUTION

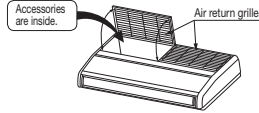
- **Perform earth wiring surely.** 
Do not connect the earth wiring to the gas pipe, water pipe, lightning rod and telephone earth wiring. Improper earth could cause unit failure, electric shock and fire due to a short circuit.
- **Earth leakage breaker must be installed.** 
If the earth leakage breaker is not installed, it can cause fire and electric shocks.
- **Use the circuit breaker of correct capacity. Circuit breaker should be the one that disconnect all poles under over current.** 
Using the incorrect one could cause the system failure and fire.
- **Do not use any materials other than a fuse of correct capacity where a fuse should be used.** 
Connecting the circuit by wire or copper wire could cause unit failure and fire.
- **Do not install the indoor unit near the location where there is possibility of flammable gas leakages.** 
If the gas leaks and gathers around the unit, it could cause fire.
- **Do not install and use the unit where corrosive gas (such as sulfurous acid gas etc.) or flammable gas (such as thinner, petroleum etc.) may be generated or accumulated, or volatile flammable substances are handled.** 
It could cause the corrosion of heat exchanger, breakage of plastic parts etc. And inflammable gas could cause fire.
- **Secure a space for installation, inspection and maintenance specified in the manual.** 
Insufficient space can result in accident such as personal injury due to falling from the installation place.
- **Do not use the indoor unit at the place where water splashes such as laundry.** 
Indoor unit is not waterproof. It could cause electric shock and fire.
- **Do not use the indoor unit for a special purpose such as food storage, cooling for precision instrument, preservation of animals, plants, and a work of art.** 
It could cause the damage of the items.
- **Do not install nor use the system near equipments which generate electromagnetic wave or high harmonics.** 
Equipments like inverter equipment, private power generator, high-frequency medical equipment, or telecommunication equipment might influence the air-conditioner and cause a malfunction and breakdown. Or the air-conditioner might influence medical equipments or telecommunication equipments, and obstruct their medical activity or cause jamming.
- **Do not install the remote control at the direct sunlight.** 
It could cause breakdown or deformation of the remote control.
- **Do not install the indoor unit at the place listed below.** 
 - Places where flammable gas could leak.
 - Places where carbon fiber, metal powder or any powder is floated.
 - Places where the substances which affect the air-conditioner are generated such as sulfide gas, chloride gas, acid, alkali or ammonia atmospheres.
 - Places exposed to oil mist or steam directly.
 - On vehicles and ships
 - Places where machinery which generates high harmonics is used.
 - Places where cosmetics or special sprays are frequently used.
 - Highly salted area such as beach.
 - Heavy snow area
 - Places where the system is affected by smoke from a chimney.
 - Altitude over 1000m
- **Do not install the indoor unit in the locations listed below (Be sure to install the indoor unit according to the installation manual for each model because each indoor unit has each limitation)** 
 - Locations with any obstacles which can prevent inlet and outlet air of the unit
 - Locations where vibration can be amplified due to insufficient strength of structure.
 - Locations where the infrared receiver is exposed to the direct sunlight or the strong light beam. (In case of the infrared specification unit)
 - Locations where an equipment affected by high harmonics is placed. (TV set or radio receiver is placed within 5m)
 - Locations where drainage cannot run off safely.
 - It can affect performance or function and etc..
- **Do not put any valuables which will break down by getting wet under the air-conditioner.** 
Condensation could drop when the relative humidity is higher than 80% or drain pipe is clogged, and it damages user's belongings.
- **Do not use the base frame for the outdoor unit which is corroded or damaged after a long period of use.** 
It could cause the unit falling down and injury.
- **Pay attention not to damage the drain pan by weld sputter when brazing work is done near the unit.** 
If sputter entered into the unit during brazing work, it could cause damage (pinhole) of drain pan and leakage of water. To avoid damaging, keep the indoor unit packed or cover the indoor unit.
- **Install the drain pipe to drain the water surely according to the installation manual.** 
Improper connection of the drain pipe may cause dropping water into room and damaging user's belongings.
- **Do not share the drain pipe for indoor unit and GHP (Gas Heat Pump system) outdoor unit.** 
Toxic exhaust gas would flow into room and it might cause serious damage (some poisoning or deficiency of oxygen) to user's health and safety.
- **Be sure to perform air tightness test by pressurizing with nitrogen gas after completed refrigerant piping work.** 
If the density of refrigerant exceeds the limit in the event of refrigerant leakage in the small room, lack of oxygen can occur, which can cause serious accidents.
- **For drain pipe installation, be sure to make descending slope of greater than 1/100, not to make traps, and not to make air-bleeding.** 
Check if the drainage is correctly done during commissioning and ensure the space for inspection and maintenance.
- **Ensure the insulation on the pipes for refrigeration circuit so as not to condense water.** 
Incomplete insulation could cause condensation and it would wet ceiling, floor, and any other valuables.
- **Do not install the outdoor unit where is likely to be a nest for insects and small animals.** 
Insects and small animals could come into the electronic components and cause breakdown and fire. Instruct the user to keep the surroundings clean.
- **Pay extra attention, carrying the unit by hand.** 
Carry the unit with 2 people if it is heavier than 20kg. Do not use the plastic straps but the grabbing place, moving the unit by hand. Use protective gloves in order to avoid injury by the aluminum fin.
- **Make sure to dispose of the packaging material.** 
Leaving the materials may cause injury as metals like nail and woods are used in the package.
- **Do not operate the system without the air filter.** 
It may cause the breakdown of the system due to clogging of the heat exchanger.
- **Do not touch any button with wet hands.** 
It could cause electric shock.
- **Do not touch the refrigerant piping with bare hands when in operation.** 
The pipe during operation would become very hot or cold according to the operating condition, and it could cause a burn or frostbite.
- **Do not clean up the air-conditioner with water.** 
It could cause electric shock.
- **Do not turn off the power source immediately after stopping the operation.** 
Be sure to wait for more than 5 minutes. Otherwise it could cause water leakage or breakdown.
- **Do not control the operation with the circuit breaker.** 
It could cause fire or water leakage. In addition, the fan may start operation unexpectedly and it may cause injury.

① Before installation

- Install correctly according to the installation manual.
- Confirm the following points:
 - Unit type/Power source specification
 - Pipes/Wires/Small parts
 - Accessory items

Accessory item

For unit hanging		For refrigerant pipe			For drain pipe				For air return grille	
Pat washer (M10)	Paper pattern	Pipe cover (large)	Pipe cover (small)	Strap	Drain hose (with clamp)	Hose clamp	Fixing bracket	Screw	Heavy insulation	Screw
8	1	1	1	4	1	1	1	2	1	4
For unit hanging and adjustment	For heat insulation of gas pipe	For heat insulation of liquid pipe	For fixing of pipe cover	For drain pipe connection	For drain hose mounting	For fixing of drain hose	For installing of fixing bracket	For drain hose	For fixing air return grille	



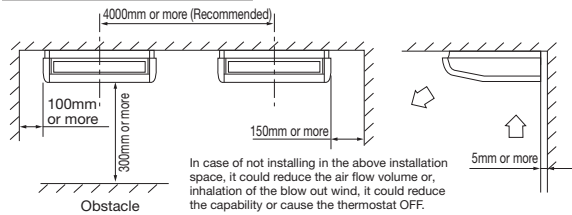
② Selection of installation location for the indoor unit

- Select the suitable areas to install the unit under approval of the user.
 - Areas where the indoor unit can deliver hot and cold wind sufficiently. Suggest to the user to use a circulator if the ceiling height is over 3m to avoid warm air being accumulated on the ceiling.
 - Areas where there is enough space to install and service.
 - Areas where it can be drained properly. Areas where drain pipe descending slope can be taken.
 - Areas where there is no obstruction of air flow on both air return grille and air supply port.
 - Areas where fire alarm will not be accidentally activated by the air-conditioner.
 - Areas where the supply air does not short-circuit.
 - Areas where it is not influenced by draft air.
 - Areas not exposed to direct sunlight.
 - Areas where dew point is lower than around 23°C and relative humidity is lower than 80%.

This indoor unit is tested under the condition of JIS (Japan Industrial Standard) high humidity condition and confirmed there is no problem. However, there is some risk of condensation drop if the air-conditioner is operated under the severer condition than mentioned above.

 - Areas where TV and radio stays away more than 1m. (It could cause jamming and noise.)
 - Areas where any items which will be damaged by getting wet are not placed such as food, table wares, server, or medical equipment under the unit.
 - Areas where there is no influence by the heat which cookware generates.
 - Areas where not exposed to oil mist, powder and/or steam directly such as above fryer.
- Check if the place where the air-conditioner is installed can hold the weight of the unit. If it is not able to hold, reinforce the structure with boards and beams strong enough to hold it. If the strength is not enough, it could cause injury due to unit falling.
- When plural indoor units are installed nearby, it is recommended to separate each other more than 4m.

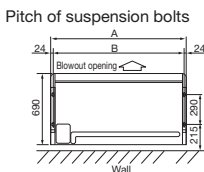
Space for installation and service



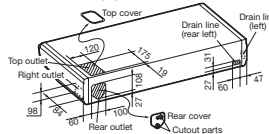
③ Preparation before installation

- If suspension bolt becomes longer, do reinforcement of earthquake resistant.
 - For grid ceiling: When suspension bolt length is over 500mm, or the gap between the ceiling and roof is over 700mm, apply earthquake resistant brace to the bolt.
 - In case the unit is hung directly from the slab and is installed on the ceiling plane which has enough strength. When suspension bolt length is over 1000mm, apply the earthquake resistant brace to the bolt.
- Prepare four (4) sets of suspension bolt, nut and spring washer (M10) on site.

Pitch of suspension bolts and pipe position



Location of pipe outlets



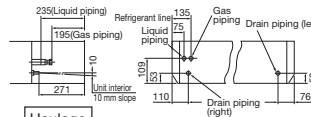
③ Preparation before installation (continued)

Series	type	(mm)	
		A	B
Single split (PAC) series	40 to 50type	1070	1022
	60 to 71type	1320	1272
	100 to 140type	1620	1572
VRF (KX) series	36 to 56type	1070	1022
	71type	1320	1272
	112 to 140type	1620	1572

※Pipes can be taken out in 3 directions (rear, right or top).

- Cut out holes using nippers, etc.
- Cut out holes to take out pipes along the cutoff line on the rear cover.
- Cut out the top face cover aligning to the piping position.
- When taking pipe out to right-hand side, cut out a hole along the groove at the inside of side panel.
- After installing pipes and wires, seal clearances around pipes and wires with putty, etc. to shut off dust.

Pipe position



Make sure to install the covers at rear and top in order to protect the inside of unit from intrusion of dust or protect wires from damages by sharp edges. When taking them out to the right-hand side, remove burrs or sharp edges from the cutout.

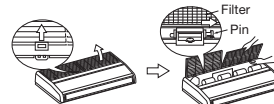
Haulage

- Move the box as close to the installation area as possible packed.
- If it must be unpacked, wrap the unit with a nylon sling, and be careful not to damage the unit.
 - ※ Do not hold fragile plastic parts, such as the side panel, blow louver, etc.
- If you need to lay the unit on a floor after unpacking, always put it with the intake grille facing upward.

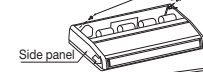


Preparation before installation

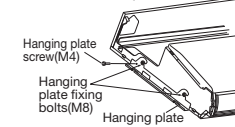
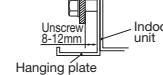
- Remove the air return grille.**
Slide stoppers (4 places) of the catches, then pull out the pins (4 or 6 places).
- Remove the side panel.**
Remove the screw and detach the side panel by sliding it toward the direction indicated by the arrow mark.



Side panel screw (1 each on the left and right) (M4)



- Remove the hanging plate.**
Remove the screw, and then loosen the fixing bolts.



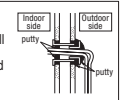
④ Installation of indoor unit

WARNING

Completely seal the hole in the wall with putty. If not sealed properly, dust, insects, small animals, and highly humid air may enter the room from outside, which could result in fire or other hazards.

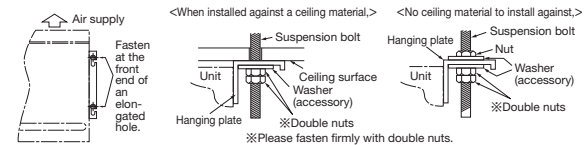
CAUTION

Completely seal the hole in the wall with putty. If not sealed properly, furniture and other fixtures may be damaged by water leakage or condensation.



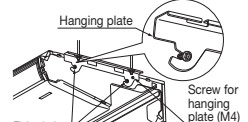
Work procedure

- Select the suspension bolt locations and the pipe hole location.
 - Use enclosed paper pattern as a reference, and drill the holes for the suspension bolts and pipe.
 - Decide the locations based on direct measurements.
- Once the locations are properly placed, the paper pattern can be removed.
- Install the suspension bolts in place.
- Fix with 4 suspension bolts, which can endure load of 500N.
- Check the measurements given at the right figure for the length of the suspension bolts.
- Fasten the hanging plate onto the suspension bolts.



- Install the unit to the hanging plate. (See the figure at right.)

- Slide the unit in from front side to get it hanged on the hanging plate with the bolts.
- Fasten the four fixing bolts (M8: 2 each on the left and right sides) firmly.
- Fasten the two screws (M4: 1 each on the left and right sides).



▲ **WARNING** : Hang a side panel on from the panel side to the rear side and then fasten it securely onto the indoor unit with screws.

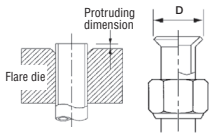
※ To ensure smooth drain flow, install the unit with a descending slope toward the drain outlet.

▲ **CAUTION** : Do not give the reversed slope, which may cause water leaks.

5 Refrigerant pipe

Caution

- Be sure to use new pipes for the refrigerant pipes. Use the flare nut attached to the product or a nut compatible with JIS B 8607, Class 2.
Regarding whether existing pipes can be reused or not, and the washing method, refer to the instruction manual of the outdoor unit, catalogue or technical data.
- 1) In case of reuse: Do not use old flare nut, but use the one attached to the unit or compatible with JIS B 8607, Class 2.
- 2) In case of reuse: Flare the end of pipe replaced partially for R410A.



Pipe dia. d mm	Min. pipe wall thickness mm	Protruding dimension for flare, mm		Flare O.D. D mm	Flare nut tightening torque N·m
		Rigid (Clutch type) For R410A	Conventional tool		
6.35	0.8	0 - 0.5	0.7 - 1.3	8.9 - 9.1	14 - 18
9.52	0.8			12.8 - 13.2	34 - 42
12.7	0.8			16.2 - 16.6	49 - 61
15.88	1			19.3 - 19.7	68 - 82
19.05	1.2			23.6 - 24.0	100 - 120

- Use phosphorus deoxidized copper alloy seamless pipe (C1220T specified in JIS H 3300) for refrigeration pipe installation. In addition, make sure there is no damage both inside and outside of the pipe, and no harmful substances such as sulfur, oxide, dust or a contaminant stuck on the pipes.
- Do not use any refrigerant other than R410A.
- Using other refrigerant except R410A (R22 etc.) may degrade inside refrigeration oil. And air getting into refrigeration circuit may cause over-pressure and resultant it may result in bursting, etc.
- Store the copper pipes indoors and seal the both end of them until they are brazed in order to avoid any dust, dirt or water getting into pipe. Otherwise it will cause degradation of refrigeration oil and compressor breakdown, etc.
- Use special tools for R410A refrigerant.

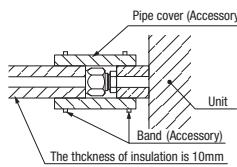
Work procedure

- Remove the flare nut and blind flanges on the pipe of the indoor unit.
 - ※ Make sure to loosen the flare nut with holding the nut on pipe side with a spanner and giving torque to the nut with another spanner in order to avoid unexpected stress to the copper pipe, and then remove them. (Gas may come out at this time, but it is not abnormal.)
 - Pay attention whether the flare nut pops out. (as the indoor unit is sometimes pressured.)
- Make a flare on liquid pipe and gas pipe, and connect the refrigeration pipes on the indoor unit.
 - When pulling out pipes backward or upward, install them passing through the attached cover together with the electrical cabling.
 - Seal the gap with putty, or other, to protect from dust, etc.
 - ※ Bend radius of pipe must be 4D or larger. Once a pipe is bent, do not readjust the bending. Do not twist a pipe or collapse to 2/3D or smaller.
 - ※ Do a flare connection as follows:
 - Make sure to loosen the flare nut with holding the nut on pipe side with a spanner and giving torque to the nut with another spanner in order to avoid unexpected stress to the copper pipe, and then remove them.
 - When fastening the flare nut, align the refrigeration pipe with the center of flare nut, screw the nut for 3-4 times by hand and then tighten it by spanner with the specified torque mentioned in the table above. Make sure to hold the pipe on the indoor unit securely by a spanner when tightening the nut in order to avoid unexpected stress on the copper pipe.
- Cover the flare connection part of the indoor unit with attached insulation material after a gas leakage inspection, and tighten both ends with attached straps.
 - Make sure to insulate both gas pipes and liquid pipes completely.
 - ※ Incomplete insulation may cause dew condensation or water dropping.
 - Use heat-resistant (120 °C or more) insulations on the gas side pipes.
 - In case of using at high humidity condition, reinforce insulation of refrigerant pipes. Surface of insulation may cause dew condensation or water dropping, if insulations are not reinforced.
- Refrigerant is charged in the outdoor unit.
As for the additional refrigerant charge for the indoor unit and piping, refer to the installation manual attached to the outdoor unit.

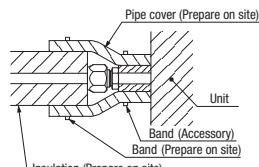
Caution:

Refrigerating machine oil should not be applied to the threads of union or external surface of flare. It is because, even if the same tightening torque is applied, the oil is likely to decrease the side friction force on the threads and increase, in turn, the axial component force so that it could crack the flare by the stress corrosion.
Refrigerating machine oil may be applied to the internal surface of flare only.

<The case of using thickness of insulation is 10mm>

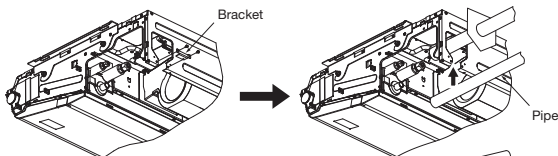


<The case of using reinforced insulation>

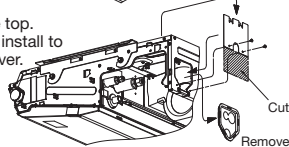


The pipe can be connected from three different directions. (back, right, top)

- When the pipe is routed through the back.
If the bracket is removed, piping work will become easy.
※ After piping, reinstall the removed bracket.



- When the pipe is routed through the top.
Cut the removed top cover, and install to the rear panel instead of rear cover.



6 Drain pipe

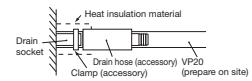
- The drain pipes may pull out either from back, right or left side.

Caution

- Install the drain pipe according to the installation manual in order to drain properly. Imperfection in draining may cause flood indoors and wetting the household goods, etc.
- Do not put the drain pipe directly into the ditch where toxic gas such as sulfur, the other harmful and inflammable gas is generated. Toxic gas would flow into the room and it would cause serious damage to user's health and safety (some poisoning or deficiency of oxygen). In addition, it may cause corrosion of heat exchanger and bad smell.
- Connect the pipe securely to avoid water leakage from the joint.
- Insulate the pipe properly to avoid condensation drop.
- Check if the water can flow out properly from both the drain outlet on the indoor unit and the end of the drain pipe after installation.
- Make sure to make descending slope of greater than 1/100 and do not make up-down bend and/or trap in the midway. In addition, do not put air vent on the drain pipe. Check if water is drained out properly from the pipe during commissioning. Also, keep sufficient space for inspection and maintenance.

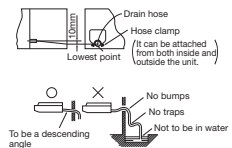
Work procedure

- Insert drain hose completely to the base, and tighten the drain hose clamp securely. (adhesive must not be used.)
 - ※ When plumbing on the left side, move the rubber plug and the cylindrical insulating materials by the pipe connecting hole on the left side of the unit to the right side.



- ⚠ Beware of a possible outflow of water that may occur upon removal of a drain plug.

- Fix the drain hose at the lowest point with a hose clamp supplied as an accessory.
 - ※ Give a drain hose a gradient of 10mm as illustrated in the right drawing by laying it without leaving a slack.



- Take head of electrical cables so that they may not run beneath the drain hose.
 - ⚠ A drain hose must be clamped down with a hose clamp. There is a possibility that drain water overflows.
- Connect VP20 (prepare on site) to drain hose. (Adhesive must not be used.)
 - ※ Use commercially available rigid PVC general pipe VP20 for drain pipe.
 - Do not to make the up-down bending and trap in the mid-way while assuming that the drain pipes is downhill. (more than 1/100)
 - Never set up air vent.
 - Insulate the drain pipe.
 - Insulate the drain hose clamp with the heat insulation supplied as accessories.
 - When the unit is installed in a humid place, consider precautions against dew condensation such as heat insulation for the drain pipe.

Drain test

- After installation of drain pipe, make sure that drain system work in good condition and no water leakage from joint and drain pan.
- Do drain test even if installation of heating season.

7 Wiring-out position and wiring connection

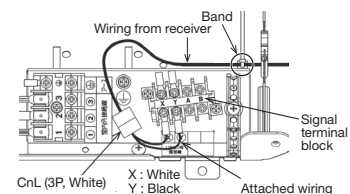
- Electrical installation work must be performed according to the installation manual by an electrical installation service provider qualified by a power provider of the country, and be executed according to the technical standards and other regulations applicable to electrical installation in the country. Be sure to use an exclusive circuit.
- Use specified cord, fasten the wiring to the terminal securely, and hold the cord securely in order not to apply unexpected stress on the terminal.
- Be sure to do D type earth work.
- For the details of electrical wiring work, see attached instruction manual for electrical wiring work.

- Remove wiring from clips.
- Remove the control box (Screw ①, 2pcs).
- Pull out the control box by sliding along the groove on the bracket (Direction A → B).
- Remove the lid of control box (Screw ②, 2pcs).
- Hold each wiring inside the unit and connect to the terminal block surely.
- Fix the wiring by clamp.
- Install the lid of control box (Screw ②, 2pcs).
- Return the control box to the original place by sliding along the groove on the bracket (Direction B → A).
- Install the removed parts at their original places.

- ※ 1 Wiring for the signal receiving section of wireless kit (Option) and motion sensor kit (Option) are connected at the time of shipping from the factory. It is not necessary to disconnect these wiring when wired remote control is connected. When the wired/wireless kits are used together, it becomes necessary to set the slaves and remote control. For the methods of installing the wireless kit and the motion sensor kit, refer to the attached installation manuals.

NOTICE

When installing the Superlink adapter, remove the band fixed the wiring from receiver.



⑦ Wiring-out position and wiring connection (continued)

-
- Control box Sliding Method**

※ Disconnect each wiring from clips before pulling out the control box.
-
-
- Single split (PAC) Series**
- VRF (KX) Series**

⑧ Control mode switching

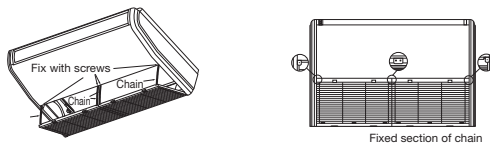
• The control content of indoor units can be switched in following way. (□ is the default setting)

Switch No.	Control Content	
SWB-4	ON	Indoor unit silent mode
	OFF	Normal operation

⑨ Attaching the air return grille

• The air return grille must be attached when electrical cabling work is completed.

- Fix the chains tied to the air return grille onto the indoor unit with screws supplied as accessories (4 pieces).
- Close the air return grille. This completes the unit installation work.



⑩ Check list after installation

• Check the following items after all installation work completed.

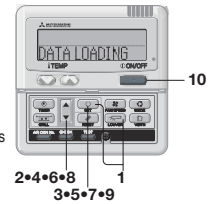
Check if	Expected trouble	Check
The indoor and outdoor units are fixed securely?	Falling, vibration, noise	
Inspection for leakage is done?	Insufficient capacity	
Insulation work is properly done?	Water leakage	
Water is drained properly?	Water leakage	
Power source voltage is same as mentioned in the model name plate?	PCB burnt out, not working at all	
There is mis-wiring or mis-connection of piping?	PCB burnt out, not working at all	
Earth wiring is connected properly?	Electric shock	
Cable size comply with specified size?	PCB burnt out, not working at all	
Any obstacle blocks air flow on air inlet and outlet?	Insufficient capacity	

⑪ How to set the air flow direction

It is possible to change the movable range of the louver on the air outlet from the wired remote control. Once the top and bottom position is set, the louver will swing within the range between the top and the bottom when swing operation is chosen. It is also possible to apply different setting to each louver.

- Stop the air conditioner and press **ON/OFF** SET button and **LOUVER** button simultaneously for three seconds or more.

- The following is displayed if the number of the indoor units connected to the remote control is one. Go to step 4.
- The following is displayed if the number of the indoor units connected to the remote control are more than one.



- Press **▲** or **▼** button. (selection of indoor unit) • Select the indoor unit of which the louver is set.

[EXAMPLE]
 1/1000 ▲ ← 1/1001 ← ← 1/1002 ← ←
 1/1003 ▼

- Press **ON/OFF** SET button. (determination of indoor unit) • Selected indoor unit is fixed.

[EXAMPLE]
 1/1001 (displayed for two seconds)
 DATA LOADING
 No.1 ▲

- Press **▲** or **▼** button. (selection of louver No.) • Select the louver No. to be set according to the right figure.

[EXAMPLE]
 No.1 ▲ ← No.2 ← ← No.3 ← ←
 No.4 ▼

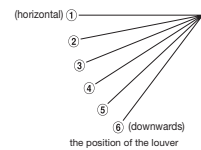
- Press **ON/OFF** SET button. (Determination of louver No.)

• The louver No. to be set is confirmed and the display shows the upper limit of the movable range.

[EXAMPLE] If No.1 louver is selected,
 No.1 UPPER ▲ ← current upper limit position

- Press **▲** or **▼** button. (selection of upper limit position)

• Select the upper limit of louver movable range. "position 1" is the most horizontal, and "position 6" is the most downward. "position --" is to return to the factory setting. If you need to change the setting to the default setting, use "position --".



[EXAMPLE]
 No.1 UPPER1 ▼ (the most horizontal)
 No.1 UPPER2 ▲
 No.1 UPPER3 ▲
 No.1 UPPER4 ▲
 No.1 UPPER5 ▲
 No.1 UPPER6 ▲ (the most downwards)
 No.1 UPPER-- ▲ (return to the default setting)

- Press **ON/OFF** SET button. (Fixing of the upper limit position)

• The upper limit position is fixed and the setting position is displayed for two seconds. Then proceed to lower limit position selection display.

[EXAMPLE]
 No.1 UPPER2 (displayed for two seconds)
 No.1 LOWER ▲ (shows current setting)

- Press **▲** or **▼** button. (Selection of lower limit position)

• Select the lower limit position of louver. "position 1" is the most horizontal, and "position 6" is the most downwards. "position --" is to return to the factory setting. If you need to change the setting to the default setting, use "position --".

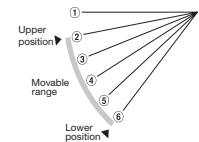
[EXAMPLE]
 No.1 LOWER1 ▼ (the most horizontal)
 No.1 LOWER2 ▼
 No.1 LOWER3 ▼
 No.1 LOWER4 ▼
 No.1 LOWER5 ▼
 No.1 LOWER6 ▼ (the most downwards)
 No.1 LOWER-- ▲ (return to the default setting)

- Press **ON/OFF** SET button. (Fixing of the lower limit position)

• Upper limit position and lower limit position are fixed, and the set positions are displayed for two seconds, then setting is completed.

• After the setting is completed, the louver which was set moves from the original position to the lower limit position, and goes back to the original position again. (This operation is not performed if the indoor unit and/or indoor unit fan is in operation.)

[Example]
 No.1 U L L (displayed for two seconds)
 SET COMPLETE
 No.1 ▲



- Press **ON/OFF** button.

• Louver adjusting mode ends and returns to the original display.

Caution

If the upper limit position number and the lower limit position number are set to the same position, the louver is fixed at that position auto swing does not function.

ATTENTION

If you press **RESET** button during settings, the display will return to previous display. If you press **ON/OFF** button during settings, the mode will be ended and return to original display, and the settings that have not been completed will become invalid.

When plural remote controls are connected, louver setting operation cannot be set by slave remote control.

(2) Duct connected-Low / Middle static pressure type (FDUM)



(a) Indoor unit

This manual is for the installation of an indoor unit.
 For electrical wiring work (Indoor), refer to page 137. For remote control installation, refer to page 141.
 For wireless kit installation, refer to page 562. For electrical wiring work (Outdoor) and refrigerant pipe work installation for outdoor unit, refer to page 153.

SAFETY PRECAUTIONS

- Read the "SAFETY PRECAUTIONS" carefully first of all and then strictly follow it during the installation work in order to protect yourself.
- The precautionary items mentioned below are distinguished into two levels, **⚠️ WARNING** and **⚠️ CAUTION**.
⚠️ WARNING: Wrong installation would cause serious consequences such as injuries or death.
⚠️ CAUTION: Wrong installation might cause serious consequences depending on circumstances.
 Both mentions the important items to protect your health and safety so strictly follow them by any means.
 The meanings of "Marks" used here are as shown on the right:
Ⓜ Never do it under any circumstances. **Ⓢ** Always do it according to the instruction.
- After completing the installation, do commissioning to confirm there are no abnormalities, and explain to the customers about "SAFETY PRECAUTIONS", correct operation method and maintenance method (air filter cleaning, operation method and temperature setting method) with user's manual of this unit.
 Ask your customers to keep this installation manual together with the user's manual. Also, ask them to hand over the user's manual to the new user when the owner is changed.

⚠️ WARNING

- **Installation should be performed by the specialist.**
 If you install the unit by yourself, it may lead to serious trouble such as water leakage, electric shock, fire, and injury due to overturn of the unit. **Ⓢ**
- **Install the system correctly according to these installation manuals.**
 Improper installation may cause explosion, injury, water leakage, electric shock, and fire. **Ⓢ**
- **Check the density referred by the formula (accordance with ISO5149).**
 If the density exceeds the limit density, please consult the dealer and installate the ventilation system. **Ⓢ**
- **Use the genuine accessories and the specified parts for installation.**
 If parts unspecified by our company are used it could cause water leakage, electric shock, fire, and injury due to overturn of the unit. **Ⓢ**
- **Ventilate the working area well in case the refrigerant leaks during installation.**
 If the refrigerant contacts the fire, toxic gas is produced. **Ⓢ**
- **Install the unit in a location that can hold heavy weight.**
 Improper installation may cause the unit to fall leading to accidents. **Ⓢ**
- **Install the unit properly in order to be able to withstand strong winds such as typhoons, and earthquakes.**
 Improper installation may cause the unit to fall leading to accidents. **Ⓢ**
- **Do not mix air in to the cooling cycle on installation or removal of the air-conditioner.**
 If air is mixed in, the pressure in the cooling cycle will rise abnormally and may cause explosion and injuries. **Ⓢ**
- **Be sure to have the electrical wiring work done by qualified electrical installer, and use exclusive circuit.**
 Power source with insufficient capacity and improper work can cause electric shock and fire. **Ⓢ**
- **Use specified wire for electrical wiring, fasten the wiring to the terminal securely, and hold the cable securely in order not to apply unexpected stress on the terminal.**
 Loose connections or hold could result in abnormal heat generation or fire. **Ⓢ**
- **Arrange the electrical wires in the control box properly to prevent them from rising. Fit the lid of the services panel properly.**
 Improper fitting may cause abnormal heat and fire. **Ⓢ**
- **Check for refrigerant gas leakage after installation is completed.**
 If the refrigerant gas leaks into the house and comes in contact with a fan heater, a stove, or an oven, toxic gas is produced. **Ⓢ**
- **Use the specified pipe, flare nut, and tools for R410A.**
 Using existing parts (R22) could cause the unit failure and serious accident due to explosion of the cooling cycle. **Ⓢ**
- **Tighten the flare nut according to the specified method by with torque wrench.**
 If the flare nut were tightened with excess torque, it could cause burst and refrigerant leakage after a long period. **Ⓢ**
- **Do not put the drainage pipe directly into drainage channels where poisonous gases such as sulfide gas can occur.**
 Poisonous gases will flow into the room through drainage pipe and seriously affect the user's health and safety. This can also cause the corrosion of the indoor unit and a resultant unit failure or refrigerant leak. **Ⓢ**
- **Connect the pipes for refrigeration circuit securely in installation work before compressor is operated.**
 If the compressor is operated when the service valve is open without connecting the pipe, it could cause explosion and injuries due to abnormal high pressure in the system. **Ⓢ**
- **Stop the compressor before removing the pipe after shutting the service valve on pump down work.**
 If the pipe is removed when the compressor is in operation with the service valve open, air would be mixed in the refrigeration circuit and it could cause explosion and injuries due to abnormal high pressure in the cooling cycle. **Ⓢ**
- **Only use prescribed option parts. The installation must be carried out by the qualified installer.**
 If you install the system by yourself, it can cause serious trouble such as water leaks, electric shocks, fire. **Ⓢ**
- **Do not repair by yourself. And consult with the dealer about repair.**
 Improper repair may cause water leakage, electric shock or fire. **Ⓢ**
- **Consult the dealer or a specialist about removal of the air conditioner.**
 Improper installation may cause water leakage, electric shock or fire. **Ⓢ**
- **Turn off the power source during servicing or inspection work.**
 If the power is supplied during servicing or inspection work, it could cause electric shock and injury by the operating fan. **Ⓢ**
- **Do not run the unit when the panel or protection guard are taken off.**
 Touching the rotating equipment, hot surface, or high voltage section could cause an injury to be caught in the machine, to get burned, or electric shock. **Ⓢ**
- **Shut off the power before electrical wiring work.**
 It could cause electric shock, unit failure and improper running. **Ⓢ**

⚠️ CAUTION

- **Perform earth wiring surely.**
 Do not connect the earth wiring to the gas pipe, water pipe, lightning rod and telephone earth wiring. Improper earth could cause unit failure and electric shock or fire due to a short circuit. **Ⓢ**
- **Earth leakage breaker must be installed.**
 If the earth leakage breaker is not installed, it could cause electric shocks or fire. **Ⓢ**
- **Use the circuit breaker of correct capacity. Circuit breaker should be the one that disconnect all poles under over current.**
 Using the incorrect one could cause the system failure and fire. **Ⓢ**
- **Do not use any materials other than a fuse of correct capacity where a fuse should be used.**
 Connecting the circuit by wire or copper wire could cause unit failure and fire. **Ⓢ**
- **Do not install the indoor unit near the location where there is possibility of flammable gas leakages.**
 If the gas leaks and gathers around the unit, it could cause fire. **Ⓢ**
- **Do not install and use the unit where corrosive gas (such as sulfurous acid gas etc.) or flammable gas (such as thinner, petroleum etc.) may be generated or accumulated, or volatile flammable substances are handled.**
 It could cause the corrosion of heat exchanger, breakage of plastic parts etc. And inflammable gas could cause fire. **Ⓢ**
- **Secure a space for installation, inspection and maintenance specified in the manual.**
 Insufficient space can result in accident such as personal injury due to falling from the installation place. **Ⓢ**
- **Do not use the indoor unit at the place where water splashes such as laundry.**
 Indoor unit is not waterproof. It could cause electric shock and fire. **Ⓢ**
- **Do not use the indoor unit for a special purpose such as food storage, cooling for precision instrument, preservation of animals, plants, and a work of art.**
 It could cause the damage of the items. **Ⓢ**
- **Do not install nor use the system near equipments which generate electromagnetic wave or high harmonics.**
 Equipments like inverter equipment, private power generator, high-frequency medical equipment, or telecommunication equipment might influence the air conditioner and cause a malfunction and breakdown. Or the air conditioner might influence medical equipments or telecommunication equipments, and obstruct their medical activity or cause jamming. **Ⓢ**
- **Do not install the remote control at the direct sunlight.**
 It could cause breakdown or deformation of the remote control. **Ⓢ**
- **Do not install the indoor unit at the place listed below.**
 - Places where flammable gas could leak.
 - Places where carbon fiber, metal powder or any powder is floated.
 - Places where the substances which affect the air conditioner are generated such as sulfide gas, chloride gas, acid, alkali or ammoniac atmospheres.
 - Places exposed to oil mist or steam directly.
 - On vehicles and ships
 - Places where machinery which generates high harmonics is used.
 - Places where cosmetics or special sprays are frequently used.
 - Highly salted area such as beach.
 - Heavy snow area
 - Places where the system is affected by smoke from a chimney.
 - Altitude over 1000m**Ⓢ**
- **Do not install the indoor unit in the locations listed below (Be sure to install the indoor unit according to the installation manual for each model because each indoor unit has each limitation)**
 - Locations with any obstacles which can prevent inlet and outlet air of the unit
 - Locations where vibration can be amplified due to insufficient strength of structure.
 - Locations where the infrared receiver is exposed to the direct sunlight or the strong light beam. (in case of the infrared specification unit)
 - Locations where an equipment affected by high harmonics is placed. (TV set or radio receiver is placed within 5m)
 - Locations where drainage cannot run off safely.
 It can affect performance or function and etc.. **Ⓢ**
- **Do not put any valuables which will break down by getting wet under the air conditioner.**
 Condensation could drop when the relative humidity is higher than 80% or drain pipe is clogged, and it damages user's belongings. **Ⓢ**
- **Do not use the base frame for the outdoor unit which is corroded or damaged after a long period of use.**
 It could cause the unit falling down and injury. **Ⓢ**
- **Pay attention not to damage the drain pan by weld spatter when brazing work is done near the unit.**
 If spatter entered into the unit during brazing work, it could cause damage (pinhole) of drain pan and leakage of water. To avoid damaging, keep the indoor unit packed or cover the indoor unit. **Ⓢ**
- **Install the drain pipe to drain the water surely according to the installation manual.**
 Improper connection of the drain pipe may cause dropping water into room and damaging user's belongings. **Ⓢ**
- **Do not share the drain pipe for indoor unit and GHP (Gas Heat Pump system) outdoor unit.**
 Toxic exhaust gas would flow into room and it might cause serious damage (some poisoning or deficiency of oxygen) to user's health and safety. **Ⓢ**
- **Be sure to perform air tightness test by pressurizing with nitrogen gas after completed refrigerant piping work.**
 If the density of refrigerant exceeds the limit in the event of refrigerant leakage in the small room, lack of oxygen can occur, which can cause serious accidents. **Ⓢ**
- **For drain pipe installation, be sure to make descending slope of greater than 1/100, not to make traps, and not to make air-bleeding.**
 Check if the drainage is correctly done during commissioning and ensure the space for inspection and maintenance. **Ⓢ**
- **Ensure the insulation on the pipes for refrigeration circuit so as not to condense water.**
 Incomplete insulation could cause condensation and it would wet ceiling, floor, and any other valuables. **Ⓢ**
- **Do not install the outdoor unit where is likely to be a nest for insects and small animals.**
 Insects and small animals could come into the electronic components and cause breakdown and fire. Instruct the user to keep the surroundings clean. **Ⓢ**
- **Pay extra attention, carrying the unit by hand.**
 Carry the unit with 2 people if it is heavier than 20kg. Do not use the plastic straps but the grabbing place, moving the unit by hand. Use protective gloves in order to avoid injury by the aluminum fin. **Ⓢ**
- **Make sure to dispose of the packaging material.**
 Leaving the materials may cause injury as metals like nail and woods are used in the package. **Ⓢ**
- **Do not operate the system without the air filter.**
 It may cause the breakdown of the system due to clogging of the heat exchanger. **Ⓢ**
- **Do not touch any button with wet hands.**
 It could cause electric shock. **Ⓢ**
- **Do not touch the refrigerant piping with bare hands when in operation.**
 The pipe during operation would become very hot or cold according to the operating condition, and it could cause a burn or frostbite. **Ⓢ**
- **Do not clean up the air conditioner with water.**
 It could cause electric shock. **Ⓢ**
- **Do not turn off the power source immediately after stopping the operation.**
 Be sure to wait for more than 5 minutes. Otherwise it could cause water leakage or breakdown. **Ⓢ**
- **Do not control the operation with the circuit breaker.**
 It could cause fire or water leakage. In addition, the fan may start operation unexpectedly and it may cause injury. **Ⓢ**

○ This model is middle static ducted type air-conditioner unit. Therefore, do not use this model for direct blow type air-conditioner unit.

① Before installation

- Install correctly according to the installation manual.
- Confirm the following points:
 - Unit type/Power source specification
 - Pipes/Wires/Small parts
 - Accessory items

Accessory item							
For hanging	For refrigerant pipe			For drain pipe			
Flat washer (M10)	Pipe cover (big)	Pipe cover (small)	Strap	Pipe cover (big)	Pipe cover (small)	Drain hose	Hose clamp
8	1	1	4	1	1	1	1
For unit hanging	For heat insulation of gas pipe	For heat insulation of liquid tube	For pipe cover fixing	For heat insulation of drain socket	For heat insulation of drain socket	For drain pipe connecting	For drain hose mounting

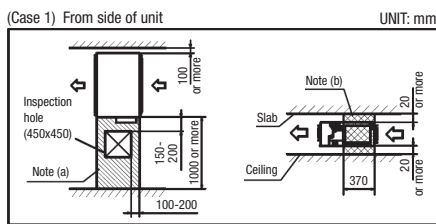
Accessory parts are stored inside this suction side.

② Selection of installation location for the indoor unit

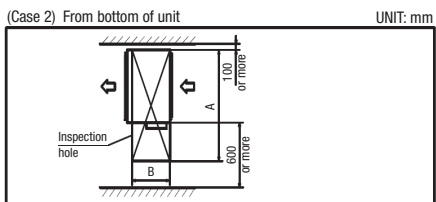
- Select the suitable areas to install the unit under approval of the user.
 - Areas where the indoor unit can deliver hot and cold wind sufficiently. Suggest to the user to use a circulator if the ceiling height is over 3m to avoid warm air being accumulated on the ceiling.
 - Areas where there is enough space to install and service.
 - Areas where it can be drained properly. Areas where drain pipe descending slope can be taken.
 - Areas where there is no obstruction of air flow on both air return grille and air supply port.
 - Areas where fire alarm will not be accidentally activated by the air-conditioner.
 - Areas where the supply air does not short-circuit.
 - Areas where it is not influenced by draft air.
 - Areas not exposed to direct sunlight.
 - Areas where dew point is lower than around 28°C and relative humidity is lower than 80%.
 (This indoor unit is tested under the condition of JIS (Japan Industrial Standard) high humidity condition and confirmed there is no problem. However, there is some risk of condensation drop if the air-conditioner is operated under the severer condition than mentioned above. If there is a possibility to use it under such a condition, attach additional insulation of 10 to 20mm thick for entire surface of indoor unit, refrigeration pipe and drain pipe.)
 - Areas where TV and radio stays away more than 1m. (It could cause jamming and noise.)
 - Areas where any items which will be damaged by getting wet are not placed such as food, table wares, server, or medical equipment under the unit.
 - Areas where there is no influence by the heat which cookware generates.
 - Areas where not exposed to oil mist, powder and/or steam directly such as above fryer.
 - Areas where lighting device such as fluorescent light or incandescent light doesn't affect the operation.
 (A beam from lighting device sometimes affects the infrared receiver for the wireless remote control and the air-conditioner might not work properly.)
- Check if the place where the air-conditioner is installed can hold the weight of the unit. If it is not able to hold, reinforce the structure with boards and beams strong enough to hold it. If the strength is not enough, it could cause injury due to unit falling.

Space for installation and service

- Make installation altitude over 2.5m. (Indoor Unit)
- Select either of two cases to keep space for installation and services.



Notes (a) There must not be obstacle to draw out fan motor. (b) Install refrigerant pipe, drain pipe, and wiring so as not to cross marked area.

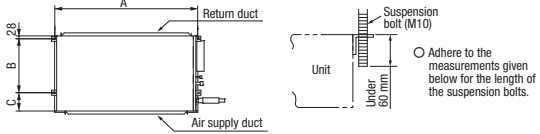


(Size of inspection hole)	UNIT: mm		
Single type	40-50	60-71	100-140
Multi type	22-56	71-90	112-160
A	1100	1300	1720
B	620	725	

③ Preparation before installation

- If suspension bolt becomes longer, do reinforcement of earthquake resistant.
 - For grid ceiling
 - When the suspension bolt length is over 500mm, or the gap between the ceiling and roof is over 700mm, apply earthquake resistant brace to the bolt.
 - In case the unit is hanged directly from the slab and is installed on the ceiling plane which has enough strength.
 - When suspension bolt length is over 1000mm, apply the earthquake resistant brace to the bolt.
- Prepare four (4) sets of suspension bolt, nut and spring washer (M10) on site.

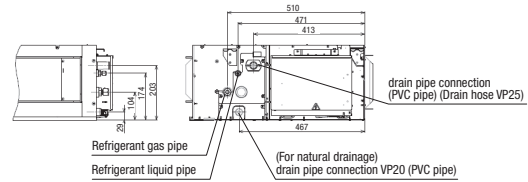
Suspension Bolt Location



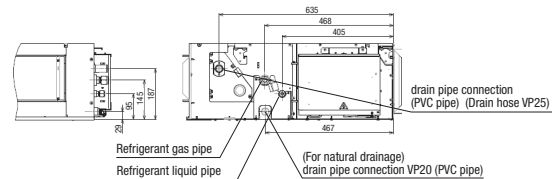
	UNIT: mm		
Multi type	22-56	71-90	112-160
Single type	40-50	60-71	100-140
A	786	986	1404
B	472	472	530
C	135	135	180

Pipe locations UNIT: mm

Multi type	22-90
Single type	40-71



Multi type	112-160
Single type	100-140

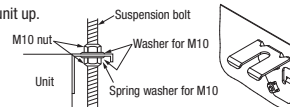


④ Installation of indoor unit

Installation

[Hanging]

Hang the unit up.

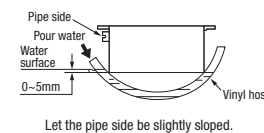


If the measurements between the unit and the ceiling hole do not match upon installation, it may be adjusted with the long holed installation tool.

Adjustment for horizontality

○ Either use a level vial, or adjust the level according to the method below.

- Adjust so the bottom side of the unit will be leveled with the water surface as illustrated below.



○ If the unit is not leveled, it may cause malfunctions or inoperation of the float switch.

⑤ Duct work

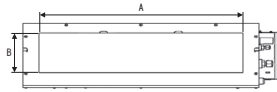
- ① A corrugated board (for preventing sputtering) is attached to the main body of the air-conditioner (on the outlet port). Do not remove it until connecting the duct.
 - An air filter can be provided on the main body of the air-conditioner (on the inlet port). Remove it when connecting the duct on the inlet port.

② Blowout duct

- Use rectangular duct to connect with unit.

Duct size for each unit is as shown below.

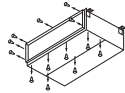
	UNIT: mm		
Single type	40-50	60-71	100-140
Multi type	22-56	71-90	112-140
A	682	882	1202
B	172	172	172



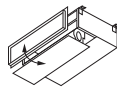
- Duct should be at their minimum length.
- We recommend to use sound and heat insulated duct to prevent it from condensation.
- Connect duct to unit before ceiling attachment.

③ Inlet port

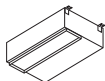
- When shipped the inlet port lies on the back.
- When connecting the duct to the inlet port, remove the air filter if it is fitted to the inlet port.
- When placing the inlet port to carry out suction from the bottom side, use the following procedure to replace the suction duct joint and the bottom plate.



- Remove the screws which fasten the bottom plate and the duct joint on the inlet port side of the unit.



- Replace the removed bottom plate and duct joint.

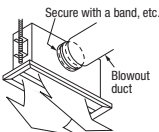


- Fit the duct joint with a screw; fit the bottom plate.

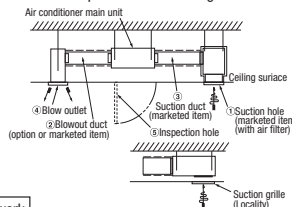
- Make sure to insulate the duct to prevent dewing on it.

④ Install the specific blowout duct in a location where the air will circulate to the entire room.

- Conduct the installation of the specific blowout hole and the connection of the duct before attaching them to the ceiling.
- Insulate the area where the duct is secured by a band for dew condensation prevention.

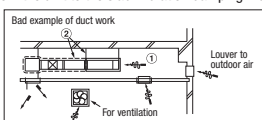


⑤ Make sure provide an inspection hole on the ceiling. It is indispensable to service electric equipment, motor, functional components and cleaning of heat exchanger.



Bad example of duct work

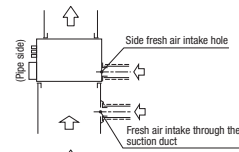
- ① If a duct is not provided at the suction side but it is substituted with the space over the ceiling, humidity in the space will increase by the influence of capacity of ventilation fan, strength of wind blowing against the out door air louver, weather (rainy day) and others.
 - a) Moisture in air is likely to condense over the external plates of the unit and to drip on the ceiling. Unit should be operated under the conditions as listed in the above table and within the limitation of wind volume. When the building is a concrete structure, especially immediately after the construction, humidity tends to rise even if the space over the ceiling is not substituted in place of a duct. In such occasion, it is necessary to insulate the entire unit with glass wool (25mm). (Use a wire net or equivalent to hold the glass wool in place.)
 - b) It may run out the allowable limit of unit operation (Example: When outdoor air temperature is 35°C DB, suction air temperature is 27°C WB) and it could result in such troubles as compressor overload, etc..
 - c) There is a possibility that the blow air volume may exceed the allowable range of operation due to the capacity of ventilation fan or strength of wind blowing against external air louver so that drainage from heat exchanger may fall to reach the drain pan but leak outside (Example: drip on to the ceiling) with consequential water leakage in the room.
- ② If vibration damping is not conducted between the unit and the duct, and between the unit and the slab, vibration will be transmitted to the duct and vibration noise may occur. Also, vibration may be transmitted from the unit to the slab. Vibration damping must be performed.



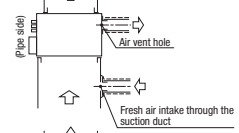
⑤ Duct work (continued)

Connecting the air intake/vent ducts

- ① Fresh Air Intake [for air intake duct only]
 - Use the side fresh air intake hole, or supply through a part of the suction duct.

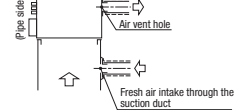


- [for simultaneous air intake/vent]
 - Intake air through the suction duct. (the side cannot be used)



② Air Vent

- Use the side air vent hole. (always use together with the air intake)

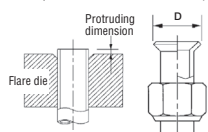


- Insulate the duct to protect it from dew condensation.

⑥ Refrigerant pipe

Caution

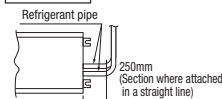
- Be sure to use new pipes for the refrigerant pipes. Use the flare nut attached to the product or a nut compatible with JIS B 8607, Class 2. Regarding whether existing pipes can be reused or not, and the washing method, refer to the instruction manual of the outdoor unit, catalogue or technical data.
 - 1) In case of reuse: Do not use old flare nut, but use the one attached to the unit or compatible with JIS B 8607, Class 2.
 - 2) In case of reuse: Flare the end of pipe replaced partially for R410A.



Pipe dia. d mm	Min. pipe wall thickness mm	Protruding dimension for flare, mm		Flare O.D. D mm	Flare nut tightening torque N·m
		For R410A	Conventional tool		
6.35	0.8	0-0.5	0.7-1.3	8.9 - 9.1	14 - 18
9.52	0.8			12.8 - 13.2	24 - 42
12.7	0.8			16.2 - 16.6	49 - 61
15.88	1			19.3 - 19.7	68 - 82
19.05	1.2			23.6 - 24.0	100 - 120

- Use phosphorus deoxidized copper alloy seamless pipe (C1220T specified in JIS H 3300) for refrigerant pipe installation. In addition, make sure there is no damage both inside and outside of the pipe, and no harmful substances such as sulfur, oxide, dust or a contaminant stuck on the pipes.
- Do not use any refrigerant other than R410A. Using other refrigerant except R410A (R22 etc.) may degrade inside refrigeration oil. And air getting into refrigeration circuit may cause over-pressure and resultant it may result in bursting, etc.
- Store the copper pipes indoors and seal the both end of them until they are brazed in order to avoid any dust, dirt or water getting into pipe. Otherwise it will cause degradation of refrigeration oil and compressor breakdown, etc.
- Use special tools for R410A refrigerant.

Piping work



When conducting piping work, make sure to allow the pipes to be aligned in a straight line for at least 250 mm, as shown in the left illustration. (This is necessary for the drain pump to function)

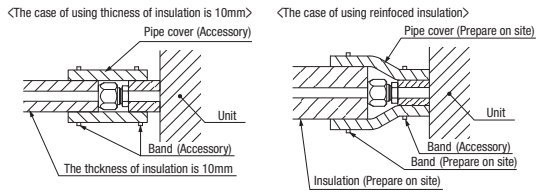
Work procedure

- Remove the flare nut and blind flanges on the pipe of the indoor unit.
 - ※ Make sure to loosen the flare nut with holding the nut on pipe side with a spanner and giving torque to the nut with another spanner in order to avoid unexpected stress to the copper pipe, and then remove them. (Gas may come out at this time, but it is not abnormal.)
 - Pay attention whether the flare nut pops out. (as the indoor unit is sometimes pressured.)
- Make a flare on liquid pipe and gas pipe, and connect the refrigeration pipes on the indoor unit.
 - ※ Bend radius of pipe must be 4D or larger. Once a pipe is bent, do not readjust the bending. Do not twist a pipe or collapse to 2/3D or smaller.
 - ※ Do a flare connection as follows:
 - Make sure to loosen the flare nut with holding the nut on pipe side with a spanner and giving torque to the nut with another spanner in order to avoid unexpected stress to the copper pipe, and then remove them.
 - When fastening the flare nut, align the refrigeration pipe with the center of flare nut, screw the nut for 3-4 times by hand and then tighten it by spanner with the specified torque mentioned in the table above. Make sure to hold the pipe on the indoor unit securely by a spanner when tightening the nut in order to avoid unexpected stress on the copper pipe.
- Cover the flare connection part of the indoor unit with attached insulation material after a gas leakage inspection, and tighten both ends with attached straps.
 - Make sure to insulate both gas pipes and liquid pipes completely.
 - ※ Incomplete insulation may cause dew condensation or water dropping.
 - Use heat-resistant (120 °C or more) insulations on the gas side pipes.
 - In case of using at high humidity condition, reinforce insulation of refrigerant pipes. Surface of insulation may cause dew condition or water dropping, if insulations are not reinforced.

⑥ Refrigerant pipe (continued)

4. Refrigerant is charged in the outdoor unit.
As for the additional refrigerant charge for the indoor unit and piping, refer to the installation manual attached to the outdoor unit.

Caution:
Refrigerating machine oil should not be applied to the threads of union or external surface of flare. It is because, even if the same tightening torque is applied, the oil is likely to decrease the slide friction force on the threads and increase, in turn, the axial component force so that it could crack the flare by the stress corrosion.
Refrigerating machine oil may be applied to the internal surface of flare only.



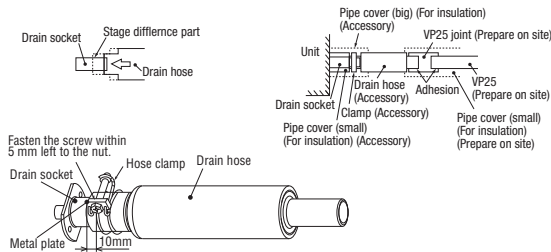
⑦ Drain pipe

Caution

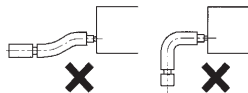
- Install the drain pipe according to the installation manual in order to drain properly. Imperfection in draining may cause flood indoors and wetting the household goods, etc.
- Do not put the drain pipe directly into the ditch where toxic gas such as sulfur, the other harmful and inflammable gas is generated. Toxic gas would flow into the room and it would cause serious damage to user's health and safety (some poisoning or deficiency of oxygen). In addition, it may cause corrosion of heat exchanger and bad smell.
- Connect the pipe securely to avoid water leakage from the joint.
- Insulate the pipe properly to avoid condensation drop.
- Check if the water can flow out properly from both the drain outlet on the indoor unit and the end of the drain pipe after installation.
- Make sure to make descending slope of greater than 1/100 and do not make up-down bend and/or trap in the midway. In addition, do not put air vent on the drain pipe. Check if water is drained out properly from the pipe during commissioning. Also, keep sufficient space for inspection and maintenance.

Work procedure

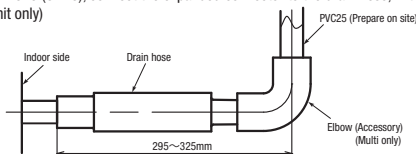
1. Make sure to insert the drain hose (the end made of soft PVC) to the end of the step part of drain socket.
Attach the hose clamp to the drain hose around 10mm from the end, and fasten the screw within 5mm left to the nut.
 - Do not apply adhesives on this end.
 - Do not use acetone-based adhesives to connect to the drain socket.



2. Prepare a joint for connecting VP25 pipe, adhere and connect the joint to the drain hose (the end made of rigid PVC), and adhere and connect VP25 pipe (prepare on site).
 ※As for drain pipe, apply VP25 made of rigid PVC which is on the market.
 - Make sure that the adhesive will not get into the supplied drain hose. It may cause the flexible part broken after the adhesive is dried up and gets rigid.
 - The flexible drain hose is intended to absorb a small difference at installation of the unit or drain pipes. Intentional bending, expanding may cause the flexible hose broken and water leakage.

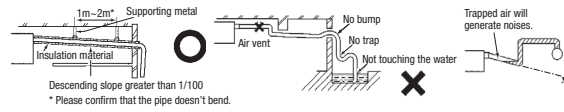


- As for drain pipe, apply VP25 (OD32).
If apply PVC25 (OD25), connect the expanded connector to the drain hose, with adhesive. (Multi unit only)

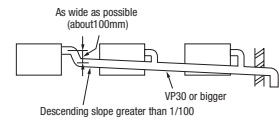


⑦ Drain pipe (continued)

3. Make sure to make descending slope of greater than 1/100 and do not make up-down bend and/or trap in the midway.
 - Pay attention not to give stress on the pipe on the indoor unit side, and support and fix the pipe as close place to the unit as possible when connecting the drain pipe.
 - Do not set up air vent.



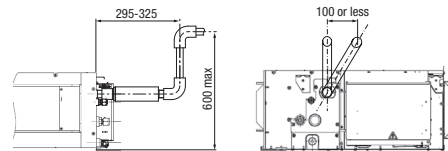
- When sharing a drain pipe for more than one unit, lay the main pipe 100mm below the drain outlet of the unit. In addition, select VP30 or bigger size for main drain pipe.



4. Insulate the drain pipe.
 - Be sure to insulate the drain socket and rigid PVC pipe installed indoors otherwise it may cause dew condensation and water leakage.
 - ※After drainage test implementation, cover the drain socket part with pipe cover (small size), then use the pipe cover (big size) to cover the pipe cover (small size), clamps and part of the drain hose, and fix and wrap it with tapes to wrap and make joint part gapless.

Drain up

- The position for drain pipe outlet can be raised up to 600mm above the ceiling. Use elbows for installation to avoid obstacles inside ceiling. If the horizontal drain pipe is too long before vertical pipe, the backflow of water will increase when the unit is stopped, and it may cause overflow of water from the drain pan on the indoor unit. In order to avoid overflow, keep the horizontal pipe length and offset of the pipe within the limit shown in the figure below.



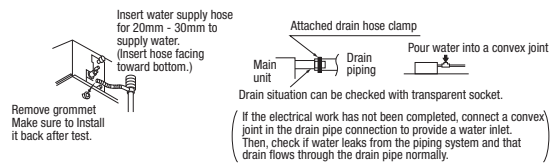
Otherwise, the construction point makes it same as drain pipe construction.

Drain test

1. Conduct a drain test after completion of the electrical work.
2. During the trial, make sure that drain flows properly through the piping and that no water leaks from connections.
3. In case of a new building, conduct the test before it is furnished with the ceiling.
4. Be sure to conduct this test even when the unit is installed in the heating season.

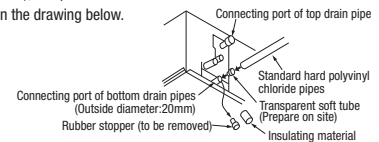
Procedures

1. Supply about 1000 cc of water to the unit through the air outlet by using a feed water pump.
2. Check the drain while cooling operation.



Outline of bottom drain piping work

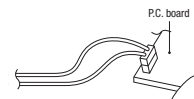
- If the bottom drain piping can be done with a descending gradient (1/50-1/100), it is possible to connect the pipes as shown in the drawing below.



Uncoupling the drain motor connector

- Uncouple the connector CnR for the drain motor as illustrated in the drawing on the right.

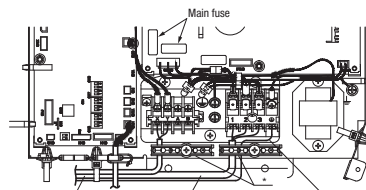
(Note: If the unit is run with the connector coupled, drain water will be discharged from the upper drain pipe joint, causing a water leak.)



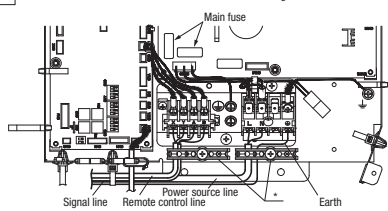
⑧ Wiring-out position and wiring connection

- Electrical installation work must be performed according to the installation manual by an electrical installation service provider qualified by a power provider of the country, and be executed according to the technical standards and other regulations applicable to electrical installation in the country.
Be sure to use an exclusive circuit.
- Use specified cord, fasten the wiring to the terminal securely, and hold the cord securely in order not to apply unexpected stress on the terminal.
- Do not put both power source line and signal line on the same route. It may cause miscommunication and malfunction.
- For the details of electrical wiring work, see attached instruction manual for electrical wiring work.
 1. Remove a lid of the control box (2 screws).
 2. Hold each wiring inside the unit and fasten them to terminal block securely.
 3. Fix the wiring with clamps.
 4. Install the removed parts back to original place.

Single unit wiring connection



Multi unit wiring connection



Main fuse specification

Model	Specification	Port No.
22-56	T3.15A L250V	SSA564A149AF
71-160	T5A L250V	SSA564A149AM

* Please fix the wiring in the band not to move even if it pulls.

⑨ External static pressure setting (continued)

- How to start automatic setting
 - ①, ② Same setting as MANUAL SETTING.
 - ③ Select [AUT] by using \blacktriangleleft button and press \square button.
 - ② After setting E.S.P. at "AUT", operate unit in FAN mode with certain fan speed (Lo-Uh).

Indoor unit fan will run automatically and recognize E.S.P. by itself.

The operation for automatic E.S.P. recognition will last about 6 minutes, and it will be stopped after recognition is completed.

Caution

- Be sure to execute AUTOMATIC SETTING by remote control AFTER ducting work is completed.
When duct specification is changed after AUTOMATIC SETTING, be sure to execute AUTOMATIC SETTING again after power resetting and turning on again.
- Be sure to execute AUTOMATIC SETTING before trial cooling operation.
(See ELECTRICAL WIRING WORK INSTRUCTION about trial cooling operation)
- Before AUTOMATIC SETTING, be sure to check that return air filter in duct is installed and damper is opened.
Wrong procedure causes excessive air flow or water drop blown out.

Notice

- During operation for automatic recognition (the Auto Operation), fan rotates with certain speeds regardless of set fan speed by remote control.
- When duct is set with low static pressure (around 10-50Pa), even if indoor unit operate with higher air flow volume than rated one, but it is not abnormal.
- When you changed operation mode or stop operation with ON/OFF button during Auto Operation, the Auto operation will be canceled.
- In such case, be sure to execute AUTOMATIC SETTING again according to above procedure.

⑩ Check list after installation

- Check the following items after all installation work completed.

Check if	Expected trouble	Check
The indoor and outdoor units are fixed securely?	Falling, vibration, noise	
Inspection for leakage is done?	Insufficient capacity	
Insulation work is properly done?	Water leakage	
Water is drained properly?	Water leakage	
Power source voltage is same as mentioned in the model name plate?	PCB burnt out, not working at all	
No mis-wiring or mis-connection of piping?	PCB burnt out, not working at all	
Earth wiring is connected properly?	Electric shock	
Cable size comply with specified size?	PCB burnt out, not working at all	
Any obstacle blocks air flow on air inlet and outlet?	Insufficient capacity	
Is setting of E.S.P. finished?	Excessive air flow, water drop blow out	

⑨ External static pressure setting

You can set External Static Pressure (E.S.P.) by either method of MANUAL SETTING or AUTOMATIC SETTING by remote control.
Indoor unit will control fan-speed to keep rated air flow volume at each fan speed setting (Lo-Uh)

1. MANUAL SETTING

You can set required E.S.P. by wired remote control that calculated with the set air flow rate and pressure loss of the duct connected.

Select No.1-10 (10Pa-100Pa) from following table according to calculation result.
Refer to technical manual for details of air flow characteristic.

Setting No.	1	2	3	4	5	6	7	8	9	10
External Static Pressure (Pa)	10	20	30	40	50	60	70	80	90	100

※ When you set No.11-19 by remote control, unit will control fan-speed with setting of No.10 Factory default is at No.5.

- How to set E.S.P. by wired remote control

- ① Push "◆" marked button(E.S.P button).
- ② Select indoor unit No. by using \blacktriangleleft button.
- ③ Select setting No. by using \blacktriangleleft button and set E.S.P. by \square button.
See detailed procedure in technical manual.

Notice

You can NOT set E.S.P. by wireless remote control.

E.S.P. button



Caution

Be sure to set E.S.P. according to actual duct connected.
Wrong settings causes excessive air flow volume or water drop blown out.

2. AUTOMATIC SETTING

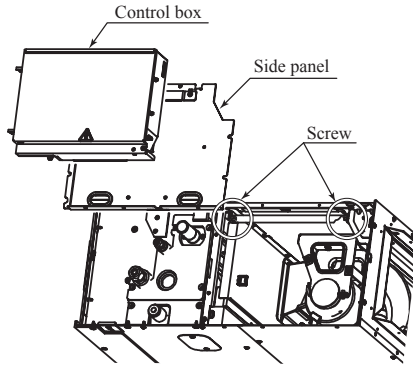
Indoor unit will recognize E.S.P. by itself automatically and select appropriate fan speed No.1-10.

(b) Replacement procedure of the fan unit

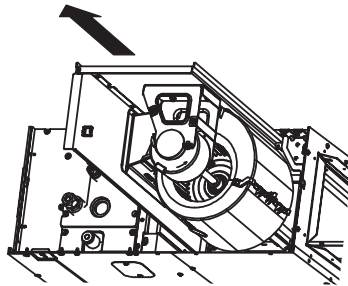
- Notes(1) The unit is a heavy item. It must be supported securely and handled with care not to drop when it is necessary to replace.
 (2) For the maintenance space, refer to page 127.

(i) Models FDUM40VF, 50VF

- 1) Remove the control box and the side panel, and remove the screws marked in the circles (2 places) in the figure.

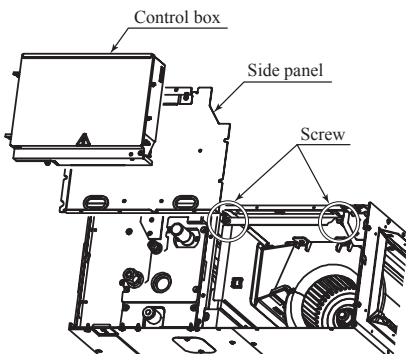


- 2) Take out the fan unit in the arrow direction.

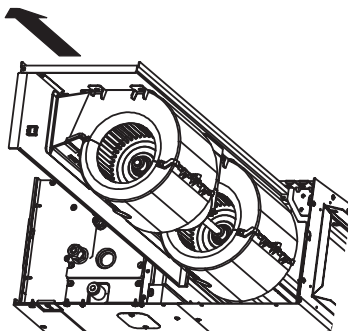


(ii) Models FDUM60VF, 71VF1

- 1) Remove the control box and the side panel, and remove the screws marked in the circles (2 places) in the figure.

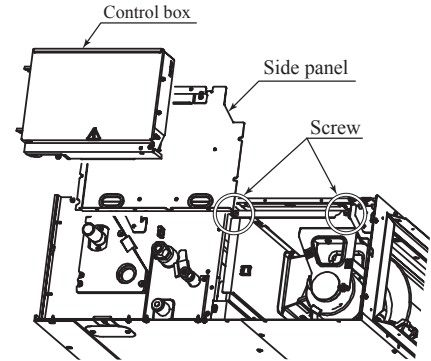


- 2) Take out the fan unit in the arrow direction.

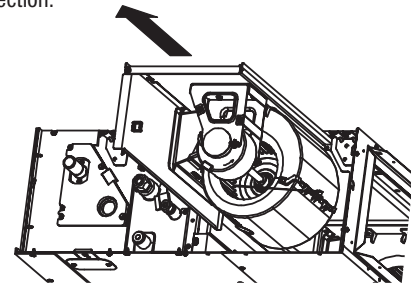


(iii) Models FDUM100VF2, 125VF, 140VF

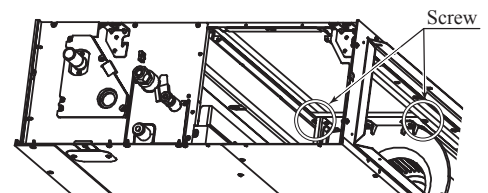
- 1) Remove the control box and the side panel, and remove the screws marked in the circles (2 places) from the unit located at the near side.



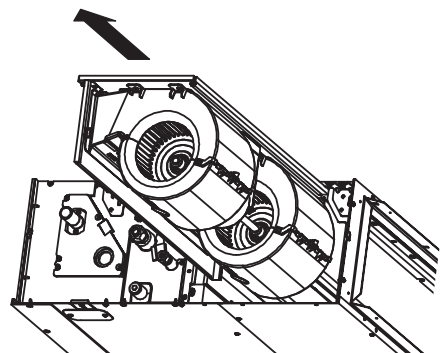
- 2) Take out the fan unit located at the near side in the arrow direction.



- 3) Remove the screws marked in the circles (2 places) from the fan unit located at the far side.



- 4) Take out the fan unit in the arrow direction.



(3) Duct connected-High static pressure type (FDU)







(a) Indoor unit

- This manual is for installation of an indoor unit and an outdoor air processing unit (FDU-F).
- This manual is for the installation of an indoor unit.
- For electrical wiring work (Indoor), refer to page 137. For remote control installation, refer to page 141. For wireless kit installation, refer to page 562. For electrical wiring work (Outdoor) and refrigerant pipe work installation for outdoor unit, refer to page 153.
























The case of FDU-F

- The total connection capacity of the other air-conditioner units and the outdoor air processing units must be from 50% to 100% (the total includes the outdoor air processing unit). The connection capacity of the outdoor air processing unit must not exceed 30% of the capacity of the outdoor unit.
- Single outdoor air processing unit can be used alone. The connection capacity of the outdoor air processing unit must be from 50% to 100% of the total capacity of the outdoor unit. Maximum number of outdoor air processing units that can be connected to the outdoor unit is 2 units.
- Capacities of the suction air processing units can be calculated with the following formulas.
FDU850FKXEZ1 = 90, FDU1100FKXEZ1 = 140































SAFETY PRECAUTIONS

- Read the "SAFETY PRECAUTIONS" carefully first of all and then strictly follow it during the installation work in order to protect yourself.
- The precautionary items mentioned below are distinguished into two levels,  **WARNING** and  **CAUTION**.
 **WARNING**: Wrong installation would cause serious consequences such as injuries or death.
 **CAUTION**: Wrong installation might cause serious consequences depending on circumstances. Both mentions the important items to protect your health and safety so strictly follow them by any means.
- The meanings of "Marks" used here are as shown on the right:
 Never do it under any circumstances.  Always do it according to the instruction.
- After completing the installation, do commissioning to confirm there are no abnormalities, and explain to the customers about "SAFETY PRECAUTIONS", correct operation method and maintenance method (air filter cleaning, operation method and temperature setting method) with user's manual of this unit. Ask your customers to keep this installation manual together with the user's manual. Also, ask them to hand over the user's manual to the new user when the owner is changed.

WARNING

- **Installation should be performed by the specialist.**
If you install the unit by yourself, it may lead to serious trouble such as water leakage, electric shock, fire, and injury due to overturn of the unit. 
- **Install the system correctly according to these installation manuals.**
Improper installation may cause explosion, injury, water leakage, electric shock, and fire. 
- **Check the density referred by the formula (accordance with ISO5149).**
If the density exceeds the limit density, please consult the dealer and install the ventilation system. 
- **Use the genuine accessories and the specified parts for installation.**
Parts unspecified by our company are used it could cause water leakage, electric shock, fire, and injury due to overturn of the unit. 
- **Ventilate the working area well in case the refrigerant leaks during installation.**
If the refrigerant contacts the fire, toxic gas is produced. 
- **Install the unit in a location that can hold heavy weight.**
Improper installation may cause the unit to fall leading to accidents. 
- **Install the unit properly in order to be able to withstand strong winds such as typhoons, and earthquakes.**
Improper installation may cause the unit to fall leading to accidents. 
- **Do not mix air in to the cooling cycle on installation or removal of the air-conditioner.**
If air is mixed in, the pressure in the cooling cycle will rise abnormally and may cause explosion and injuries. 
- **Be sure to have the electrical wiring work done by qualified electrical installer, and use exclusive circuit.**
Power source with insufficient capacity and improper work can cause electric shock and fire. 
- **Use specified wire for electrical wiring, fasten the wiring to the terminal securely, and hold the cable securely in order not to apply unexpected stress on the terminal.**
Loose connections or hold could result in abnormal heat generation or fire. 
- **Arrange the electrical wires in the control box properly to prevent them from rising. Fit the lid of the services panel properly.**
Improper fitting may cause abnormal heat and fire. 
- **Check for refrigerant gas leakage after installation is completed.**
If the refrigerant gas leaks into the house and comes in contact with a fan heater, a stove, or an oven, toxic gas is produced. 
- **Use the specified pipe, flare nut, and tools for R410A.**
Using existing parts (R22) could cause the unit failure and serious accident due to explosion of the cooling cycle. 
- **Tighten the flare nut according to the specified method by with torque wrench.**
If the flare nut were tightened with excess torque, it could cause burst and refrigerant leakage after a long period. 
- **Do not put the drainage pipe directly into drainage channels where poisonous gases such as sulfide gas can occur.**
Poisonous gases will flow into the room through drainage pipe and seriously affect the user's health and safety. This can also cause the corrosion of the indoor unit and a resultant unit failure or refrigerant leak. 
- **Connect the pipes for refrigeration circuit securely in installation work before compressor is operated.**
If the compressor is operated when the service valve is open without connecting the pipe, it could cause explosion and injuries due to abnormal high pressure in the system. 
- **Stop the compressor before removing the pipe after shutting the service valve on pump down work.**
If the pipe is removed when the compressor is in operation with the service valve open, air would be mixed in the refrigeration circuit and it could cause explosion and injuries due to abnormal high pressure in the cooling cycle. 
- **Only use prescribed option parts. The installation must be carried out by the qualified installer.**
If you install the system by yourself, it can cause serious trouble such as water leaks, electric shocks, fire. 
- **Do not repair by yourself. And consult with the dealer about repair.**
Improper repair may cause water leakage, electric shock or fire. 
- **Consult the dealer or a specialist about removal of the air-conditioner.**
Improper installation may cause water leakage, electric shock or fire. 
- **Turn off the power source during servicing or inspection work.**
If the power is supplied during servicing or inspection work, it could cause electric shock and injury by the operating fan. 
- **Do not run the unit when the panel or protection guard are taken off.**
Touching the rotating equipment, hot surface, or high voltage section could cause an injury to be caught in the machine, to get burned, or electric shock. 
- **Shut off the power before electrical wiring work.**
It could cause electric shock, unit failure and improper running. 

CAUTION

- **Perform earth wiring surely.**
Do not connect the earth wiring to the gas pipe, water pipe, lightning rod and telephone earth wiring. Improper earth could cause unit failure and electric shock or fire due to a short circuit. 
- **Earth leakage breaker must be installed.**
If the earth leakage breaker is not installed, it could cause electric shocks or fire. 
- **Use the circuit breaker of correct capacity. Circuit breaker should be the one that disconnect all poles under over current.**
Using the incorrect one could cause the system failure and fire. 
- **Do not use any materials other than a fuse of correct capacity where a fuse should be used.**
Connecting the circuit by wire or copper wire could cause unit failure and fire. 
- **Do not install the indoor unit near the location where there is possibility of flammable gas leakages.**
If the gas leaks and gathers around the unit, it could cause fire. 
- **Do not install and use the unit where corrosive gas (such as sulfuric acid gas etc.) or flammable gas (such as thinner, petroleum etc.) may be generated or accumulated, or volatile flammable substances are handled.**
It could cause the corrosion of heat exchanger, breakage of plastic parts etc. And inflammable gas could cause fire. 
- **Secure a space for installation, inspection and maintenance specified in the manual.**
Insufficient space can result in accident such as personal injury due to falling from the installation place. 
- **Do not use the indoor unit at the place where water splashes such as laundry.**
Indoor unit is not waterproof. It could cause electric shock and fire. 
- **Do not use the indoor unit for a special purpose such as food storage, cooling for precision instrument, preservation of animals, plants, and a work of art.**
It could cause the damage of the items. 
- **Do not install nor use the system near equipments which generate electromagnetic wave or high harmonics.**
Equipments like inverter equipment, private power generator, high-frequency medical equipment, or telecommunication equipment might influence the air-conditioner and cause a malfunction and breakdown. Or the air-conditioner might influence medical equipments or telecommunication equipments, and obstruct their medical activity or cause jamming. 
- **Do not install the remote control at the direct sunlight.**
It could cause breakdown or deformation of the remote control. 
- **Do not install the indoor unit at the place listed below.**
 - Places where flammable gas could leak.
 - Places where carbon fiber, metal powder or any powder is floated.
 - Places where the substances which affect the air-conditioner are generated such as sulfide gas, chlorine gas, acid, alkali or ammoniac atmospheres.
 - Places exposed to oil mist or steam directly.
 - On vehicles and ships
 - Places where machinery which generates high harmonics is used.
 - Places where cosmetics or special sprays are frequently used.
 - Highly salted area such as beach.
 - Heavy snow area
 - Places where the system is affected by smoke from a chimney.
 - Altitude over 1000m
- **Do not install the indoor unit in the locations listed below (Be sure to install the indoor unit according to the installation manual for each model because each indoor unit has each limitation)**
 - Locations with any obstacles which can prevent inlet and outlet air of the unit
 - Locations where vibration can be amplified due to insufficient strength of structure.
 - Locations where the infrared receiver is exposed to the direct sunlight or the strong light beam. (in case of the infrared specification unit)
 - Locations where an equipment affected by high harmonics is placed. (TV set or radio receiver is placed within 5m)
 - Locations where drainage cannot run off safely. It can affect performance or function and etc..
- **Do not put any valuables which will break down by getting wet under the air-conditioner.**
Condensation could drop when the relative humidity is higher than 80% or drain pipe is clogged, and it damages user's belongings. 
- **Do not use the base frame for the outdoor unit which is corroded or damaged after a long period of use.**
It could cause the unit falling down and injury. 
- **Pay attention not to damage the drain pan by weld sputter when brazing work is done near the unit.**
If sputter entered into the unit during brazing work, it could cause damage (pinhole) of drain pan and leakage of water. To avoid damaging, keep the indoor unit packed or cover the indoor unit. 
- **Install the drain pipe to drain the water surely according to the installation manual.**
Improper connection of the drain pipe may cause dropping water into room and damaging user's belongings. 
- **Do not share the drain pipe for indoor unit and GHP (Gas Heat Pump system) outdoor unit.**
Toxic exhaust gas would flow into room and it might cause serious damage (some poisoning or deficiency of oxygen) to user's health and safety. 
- **Be sure to perform air tightness test by pressurizing with nitrogen gas after completed refrigerant piping work.**
If the density of refrigerant exceeds the limit in the event of refrigerant leakage in the small room, lack of oxygen can occur, which can cause serious accidents. 
- **For drain pipe installation, be sure to make descending slope of greater than 1/100, not to make traps, and not to make air-bleeding.**
Check if the drainage is correctly done during commissioning and ensure the space for inspection and maintenance. 
- **Ensure the insulation on the pipes for refrigeration circuit so as not to condense water.**
Incomplete insulation could cause condensation and it would wet ceiling, floor, and any other valuables. 
- **Do not install the outdoor unit where is likely to be a nest for insects and small animals.**
Insects and small animals could come into the electronic components and cause breakdown and fire. Instruct the user to keep the surroundings clean. 
- **Pay extra attention, carrying the unit by hand.**
Carry the unit with 2 people if it is heavier than 20kg. Do not use the plastic straps but the grabbing place, moving the unit by hand. Use protective gloves in order to avoid injury by the aluminum fin. 
- **Make sure to dispose of the packaging material.**
Leaving the materials may cause injury as metals like nail and woods are used in the package. 
- **Do not operate the system without the air filter.**
It may cause the breakdown of the system due to clogging of the heat exchanger. 
- **Do not touch any button with wet hands.**
It could cause electric shock. 
- **Do not touch the refrigerant piping with bare hands when in operation.**
The pipe during operation would become very hot or cold according to the operating condition, and it could cause a burn or frostbite. 
- **Do not clean up the air-conditioner with water.**
It could cause electric shock. 
- **Do not turn off the power source immediately after stopping the operation.**
Be sure to wait for more than 5 minutes. Otherwise it could cause water leakage or breakdown. 
- **Do not control the operation with the circuit breaker.**
It could cause fire or water leakage. In addition, the fan may start operation unexpectedly and it may cause injury. 

○ This model is high static ducted type air-conditioner unit. Therefore, do not use this model for direct blow type air-conditioning unit.

1 Before installation

● Install correctly according to the installation manual.

● Confirm the following points:

- Unit type/Power source specification
- Pipes/Wires/Small parts
- Accessory items

Accessory item

For hanging		For refrigerant pipe				For drain pipe			
Flat washer (M10)	Pipe cover (big)	Pipe cover (small)	Strap	Pipe cover (big)	Pipe cover (small)	Drain hose	Hose clamp	Elbow (Multi only)	
8	1	1	4	1	1	1	1	1	
For unit hanging	For heat insulation of gas pipe	For heat insulation of liquid tube	For pipe cover fixing	For heat insulation of drain socket	For heat insulation of drain socket	For drain pipe connecting	For drain hose mounting	For drain pipe connecting	Accessory parts are stored inside this suction side.

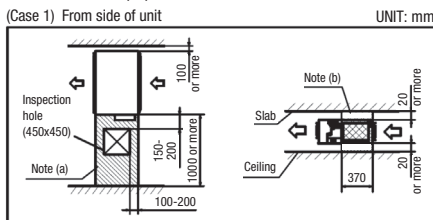
2 Selection of installation location for the indoor unit

- Select the suitable areas to install the unit under approval of the user.
 - Areas where the indoor unit can deliver hot and cold wind sufficiently. Suggest to the user to use a circulator if the ceiling height is over 3m to avoid warm air being accumulated on the ceiling.
 - Areas where there is enough space to install and service.
 - Areas where it can be drained properly. Areas where drain pipe descending slope can be taken.
 - Areas where there is no obstruction of air flow on both air return grille and air supply port.
 - Areas where fire alarm will not be accidentally activated by the air-conditioner.
 - Areas where the supply air does not short-circuit.
 - Areas where it is not influenced by draft air.
 - Areas not exposed to direct sunlight.
 - Areas where dew point is lower than around 28°C and relative humidity is lower than 80%.
 (This indoor unit is tested under the condition of JIS (Japan Industrial Standard) high humidity condition and confirmed there is no problem. However, there is some risk of condensation drop if the air-conditioner is operated under the severer condition than mentioned above. If there is a possibility to use it under such a condition, attach additional insulation of 10 to 20mm thick for entire surface of indoor unit, refrigeration pipe and drain pipe.)
 - Areas where TV and radio stays away more than 1m. (It could cause jamming and noise.)
 - Areas where any items which will be damaged by getting wet are not placed such as food, table wares, server, or medical equipment under the unit.
 - Areas where there is no influence by the heat which cookware generates.
 - Areas where not exposed to oil mist, powder and/or steam directly such as above fryer.
 - Areas where lighting device such as fluorescent light or incandescent light doesn't affect the operation.
 (A beam from lighting device sometimes affects the infrared receiver for the wireless remote control and the air-conditioner might not work properly.)
 - When operating the suction air processing unit independently, it operates in the outdoor air processing mode.
 Blowout temperatures are not same at the standard unit operation and the outdoor air processing mode operations.
 Since the temperatures become higher during cooling or lower during heating, take care of the direction of blowout outlet.
 Avoid directing the blowout outlet to the space where people are present.
- Check if the place where the air-conditioner is installed can hold the weight of the unit. If it is not able to hold, reinforce the structure with boards and beams strong enough to hold it. If the strength is not enough, it could cause injury due to unit falling.

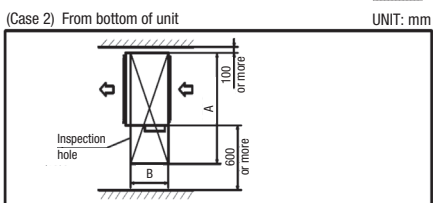
Space for installation and service

● Make installation altitude over 2.5m.
(Indoor Unit)

Select either of two cases to keep space for installation and services.



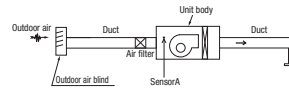
- Notes (a) There must not be obstacle to draw out fan motor. (▨ marked area)
 (b) Install refrigerant pipe, drain pipe, and wiring so as not to cross ▨ marked area.



(Size of inspection hole)		UNIT: mm		
Single type	-	71	100-140	
Multi type	45, 56	71, 90	112-160	
FDU-F	-	650	1100	
A	1100	1300	1720	
B	620	725		

3 Cautions for the handling and installation place of outdoor air processing unit

① This unit monitors the outdoor air temperature at the position of sensor A in the figure, and controls the start and stop with the thermostat based on the value of sensor A and the setting temperature by the remote control.



Remote control's setting temperature indicates the outdoor air temperature that controls the start and stop of operation by the thermostat.

When the thermostat is turned off, the operation is changed to the fan mode so that the outdoor air is blown out directly into the room. For example if the remote control is set to 22°C in cooling operation, and if the outdoor air temperature is 22°C or lower at that time, the unit will go into fan operation.

- When there is a difference between the air-conditioner temperature in the room during cooling operation and the temperature of air blown out from the outdoor air processing unit, dewing water may drip from the unit. To prevent the dewing, provide a sufficient heat insulation means at the air blow outlet.
 - Since the air blow outlet on the outdoor air processing unit may blow out the outdoor air directly, orient the outlet in such a way that it will not blow air directly to persons in the room.
 - Since the unit controls the thermostat start and stop by monitoring the outdoor air temperature, it is prohibited to monitor the room temperature by means of the room temperature monitoring by changing the thermostat setting at the remote control side and the optional remote thermostat. Otherwise, dewing water may drip from the unit at lower outdoor air temperatures during cooling operation.
 - Install the remote control of the outdoor air processing unit at a place closer to the administrator to avoid the end user from using the remote control.
- When handing over the unit to the end user, make sure to explain sufficiently about the foregoing cautions, the installation place of the remote control for the outdoor air processing unit and the position of air blow outlet.

4 Preparation before installation

● If suspension bolt becomes longer, do reinforcement of earthquake resistant.

○ For grid ceiling

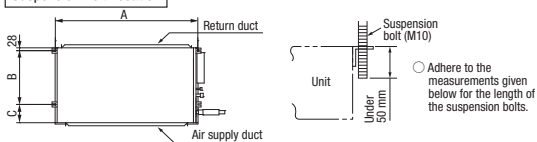
When the suspension bolt length is over 500mm, or the gap between the ceiling and roof is over 700mm, apply earthquake resistant brace to the bolt.

○ In case the unit is hanged directly from the slab and is installed on the ceiling plane which has enough strength.

When suspension bolt length is over 1000mm, apply the earthquake resistant brace to the bolt.

● Prepare four (4) sets of suspension bolt, nut and spring washer (M10) on site.

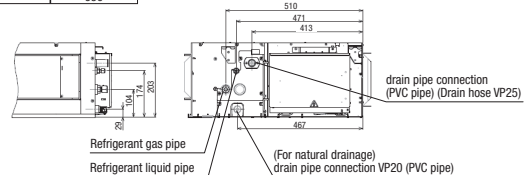
Suspension Bolt Location



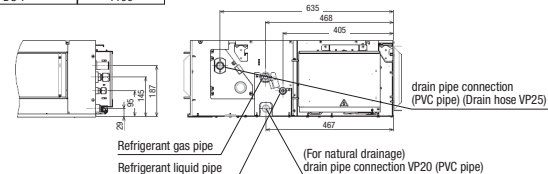
UNIT: mm			
Single type	-	71	100-140
Multi type	45, 56	71, 90	112-160
FDU-F	-	650	1100
A	786	986	1720
B	472	472	725
C	135	135	180

Pipe locations

UNIT: mm	
Single type	71
Multi type	45-90
FDU-F	650



Single type	100-140
Multi type	112-160
FDU-F	1100

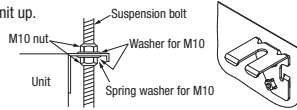


⑤ Installation of indoor unit

Installation

[Hanging]

Hang the unit up.

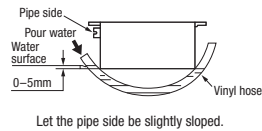


If the measurements between the unit and the ceiling hole do not match upon installation, it may be adjusted with the long holed installation tool.

Adjustment for horizontality

Either use a level vial, or adjust the level according to the method below.

- Adjust so the bottom side of the unit will be leveled with the water surface as illustrated below.



○ If the unit is not leveled, it may cause malfunctions or inoperation of the float switch.

⑥ Duct Work

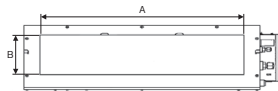
① A corrugated board (for preventing sputtering) is attached to the main body of the air-conditioner (on the outlet port). Do not remove it until connecting the duct.

- An air filter can be provided on the main body of the air-conditioner (on the inlet port). Remove it when connecting the duct on the inlet port.

② Blowout duct

- Use rectangular duct to connect with unit.
- Duct size for each unit is as shown below.

		UNIT: mm		
Single type	—	71	100-140	
Multi type	45, 56	71, 90	112-160	
FDU-F	—	650	1100	
A	682	882	1202	
B	172	172	172	



- Duct should be at their minimum length.
- We recommend to use sound and heat insulated duct to prevent it from condensation.
- Connect duct to unit before ceiling attachment.

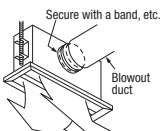
③ Inlet port

- When connecting the duct to the inlet port, remove the air filter if it is fitted to the inlet port.
- Inlet port size for each unit is as shown below.

		UNIT: mm		
Single type	—	71	100-140	
Multi Type	45, 56	71, 90	112-160	
FDU-F	—	650	1100	
A	582	742	1282	
B	202	202	237	

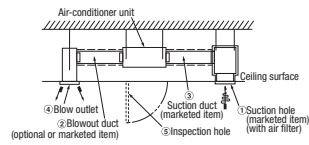


- Make sure to insulate the duct to prevent dewing on it.
- ④ Install the specific blowout duct in a location where the air will circulate to the entire room.
 - Conduct the installation of the specific blowout hole and the connection of the duct before attaching them to the ceiling.
 - Insulate the area where the duct is secured by a band for dew condensation prevention.
- ⑤ Make sure provide an inspection hole on the ceiling. It is indispensable to service electric equipment, motor, functional components and cleaning of heat exchanger.

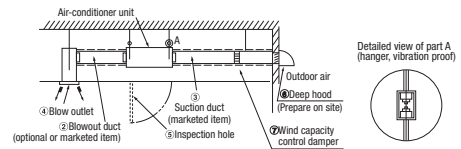


⑥ Duct Work (continued)

FDU

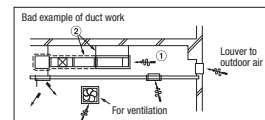


FDU-F



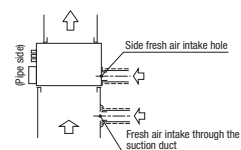
Bad example of duct work

- ① If a duct is not provided at the suction side but it is substituted with the space over the ceiling, humidity in the space will increase by the influence of capacity of ventilation fan, strength of wind blowing against the outdoor air louver, weather (rainy day) and others.
 - a) Moisture in air is likely to condense over the external plates of the unit and to drip on the ceiling. Unit should be operated under the conditions as listed in the above table and within the limitation of wind volume. When the building is a concrete structure, especially immediately after the construction, humidity tends to rise even if the space over the ceiling is not substituted in place of a duct. In such occasion, it is necessary to insulate the entire unit with glass wool (25mm). (Use a wire net or equivalent to hold the glass wool in place.)
 - b) It may run out the allowable limit of unit operation (Example, the case of FDU: When outdoor air temperature is 35°CDB, suction air temperature is 27°CWB) and it could result in such troubles as compressor overload, etc..
 - c) There is a possibility that the blow air volume may exceed the allowable range of operation due to the capacity of ventilation fan or strength of wind blowing against external air louver so that drainage from the heat exchanger may fall to reach the drain pan but leak outside (Example: drip on to the ceiling) with consequential water leakage in the room.
- ② If vibration damping is not conducted between the unit and the duct, and between the unit and the slab, vibration will be transmitted to the duct and vibration noise may occur. Also, vibration may be transmitted from the unit to the slab. Vibration damping must be performed.



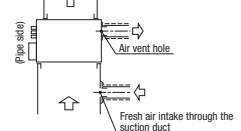
Connecting the air intake/vent ducts the case of FDU

- ① Fresh Air Intake [for air intake duct only]
 - Use the side fresh air intake hole, or supply through a part of the suction duct.

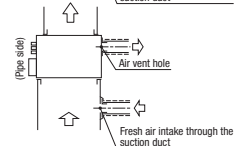


[for simultaneous air intake/vent]

- Intake air through the suction duct. (the side cannot be used)



- ② Air Vent
 - Use the side air vent hole. (always use together with the air intake)

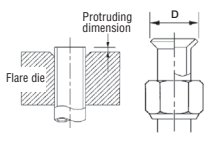


- Insulate the duct to protect it from dew condensation.

⑦ Refrigerant pipe

Caution

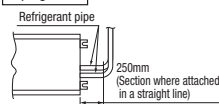
- Be sure to use new pipes for the refrigerant pipes. Use the flare nut attached to the product or a nut compatible with JIS B 8607, Class 2.
Regarding whether existing pipes can be reused or not, and the washing method, refer to the instruction manual of the outdoor unit, catalogue or technical data.
- 1) In case of reuse: Do not use old flare nut, but use the one attached to the unit or compatible with JIS B 8607, Class 2.
- 2) In case of reuse: Flare the end of pipe replaced partially for R410A.



Pipe dia. d mm	Min. pipe wall thickness mm	Protruding dimension for flare, mm		Flare O.D. D mm	Flare nut tightening torque N·m
		Rigid (Clutch type) For R410A	Conventional tool		
6.35	0.8	0 - 0.5	0.7 - 1.3	8.9 - 9.1	14 - 18
9.52	0.8			12.8 - 13.2	34 - 42
12.7	0.8			16.2 - 16.6	49 - 61
15.88	1			19.3 - 19.7	68 - 82
19.05	1.2			23.6 - 24.0	100 - 120

- Use phosphorus deoxidized copper alloy seamless pipe (C1220T specified in JIS H 3300) for refrigeration pipe installation. In addition, make sure there is no damage both inside and outside of the pipe, and no harmful substances such as sulfur, oxide, dust or a contaminant stuck on the pipes.
- Do not use any refrigerant other than R410A.
Using other refrigerant except R410A (R22 etc.) may degrade inside refrigeration oil. And air getting into refrigeration circuit may cause over-pressure and resultant it may result in bursting, etc.
- Store the copper pipes indoors and seal the both end of them until they are brazed in order to avoid any dust, dirt or water getting into pipe. Otherwise it will cause degradation of refrigeration oil and compressor breakdown, etc.
- Use special tools for R410A refrigerant.

Piping work



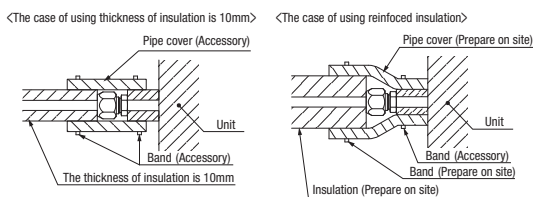
When conducting piping work, make sure to allow the pipes to be aligned in a straight line for at least 250 mm, as shown in the left illustration. (This is necessary for the drain pump to function)

Work procedure

- Remove the flare nut and blind flanges on the pipe of the indoor unit.
 - ※ Make sure to loosen the flare nut with holding the nut on pipe side with a spanner and giving torque to the nut with another spanner in order to avoid unexpected stress to the copper pipe, and then remove them. (Gas may come out at this time, but it is not abnormal.)
 - Pay attention whether the flare nut pops out. (as the indoor unit is sometimes pressured.)
- Make a flare on liquid pipe and gas pipe, and connect the refrigeration pipes on the indoor unit.
 - ※ Bend radius of pipe must be 4D or larger. Once a pipe is bent, do not readjust the bending. Do not twist a pipe or collapse to 2/3D or smaller.
 - ※ Do a flare connection as follows:
 - Make sure to loosen the flare nut with holding the nut on pipe side with a spanner and giving torque to the nut with another spanner in order to avoid unexpected stress to the copper pipe, and then remove them.
 - When fastening the flare nut, align the refrigeration pipe with the center of flare nut, screw the nut for 3-4 times by hand and then tighten it by spanner with the specified torque mentioned in the table above. Make sure to hold the pipe on the indoor unit securely by a spanner when tightening the nut in order to avoid unexpected stress on the copper pipe.
- Cover the flare connection part of the indoor unit with attached insulation material after a gas leakage inspection, and tighten both ends with attached straps.
 - Make sure to insulate both gas pipes and liquid pipes completely.
 - ※ Incomplete insulation may cause dew condensation or water dropping.
 - Use heat-resistant (120 °C or more) insulations on the gas side pipes.
 - In case of using at high humidity condition, reinforce insulation of refrigerant pipes. Surface of insulation may cause dew condition or water dropping, if insulations are not reinforced.
- Refrigerant is charged in the outdoor unit.
As for the additional refrigerant charge for the indoor unit and piping, refer to the installation manual attached to the outdoor unit.

Caution:

Refrigerating machine oil should not be applied to the threads of union or external surface of flare. It is because, even if the same tightening torque is applied, the oil is likely to decrease the slide friction force on the threads and increase, in turn, the axial component force so that it could crack the flare by the stress corrosion.
Refrigerating machine oil may be applied to the internal surface of flare only.



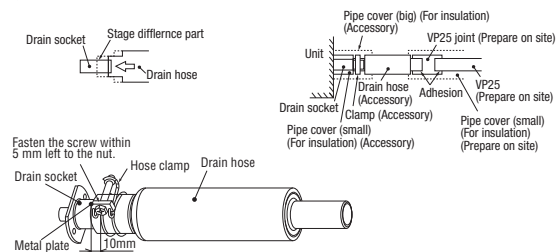
⑧ Drain pipe

Caution

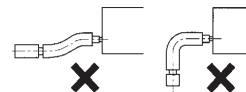
- Install the drain pipe according to the installation manual in order to drain properly. Imperfection in draining may cause flood indoors and wetting the household goods, etc.
- Do not put the drain pipe directly into the ditch where toxic gas such as sulfur, the other harmful and inflammable gas is generated. Toxic gas would flow into the room and it would cause serious damage to user's health and safety (some poisoning or deficiency of oxygen). In addition, it may cause corrosion of heat exchanger and bad smell.
- Connect the pipe securely to avoid water leakage from the joint.
- Insulate the pipe properly to avoid condensation drop.
- Check if the water can flow out properly from both the drain outlet on the indoor unit and the end of the drain pipe after installation.
- Make sure to make descending slope of greater than 1/100 and do not make up-down bend and/or trap in the midway. In addition, do not put air vent on the drain pipe. Check if water is drained out properly from the pipe during commissioning. Also, keep sufficient space for inspection and maintenance.

Work procedure

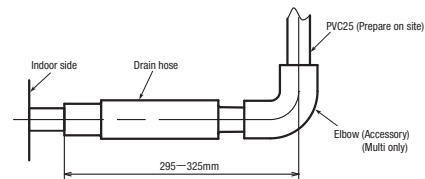
- Make sure to insert the drain hose (the end mode of soft PVC) to the end of the step part of drain socket.
Attach the hose clamp to the drain hose around 10mm from the end, and fasten the screw within 5mm left to the nut.
 - Do not apply adhesives on this end.
 - Do not use acetone-based adhesives to connect to the drain socket.



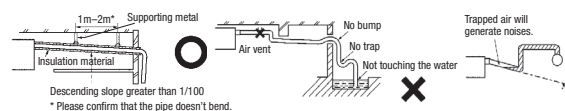
- Prepare a joint for connecting VP25 pipe, adhere and connect the joint to the drain hose (the end mode of rigid PVC), and adhere and connect VP25 pipe (prepare on site).
 - ※ As for drain pipe, apply VP25 made of rigid PVC which is on the market.
 - Make sure that the adhesive will not get into the supplied drain hose. It may cause the flexible part broken after the adhesive is dried up and gets rigid.
 - The flexible drain hose is intended to absorb a small difference at installation of the unit or drain pipes. Intentional bending, expanding may cause the flexible hose broken and water leakage.

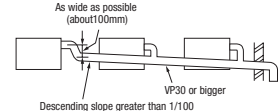


- As for drain pipe, apply VP25 (OD32).
If apply PVC25 (OD25), connect the expanded connector to the drain hose, with adhesive. (Multi unit only)



- Make sure to make descending slope of greater than 1/100 and do not make up-down bend and/or trap in the midway.
 - Pay attention not to give stress on the pipe on the indoor unit side, and support and fix the pipe as close place to the unit as possible when connecting the drain pipe.
 - Do not set up air vent.



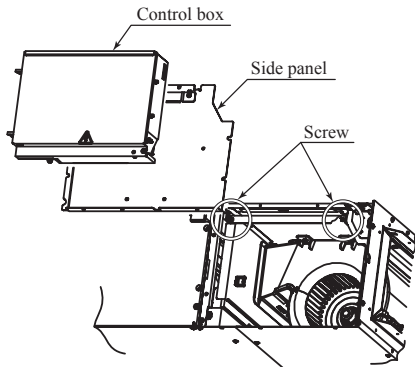
- When sharing a drain pipe for more than one unit, lay the main pipe 100mm below the drain outlet of the unit. In addition, select VP30 or bigger size for main drain pipe.
- 

(b) Replacement procedure of the fan unit

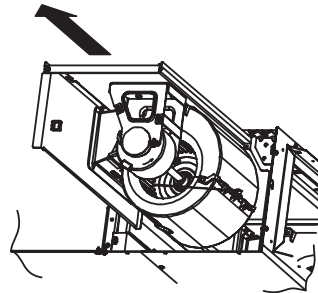
- Notes(1) The unit is a heavy item. It must be supported securely and handled with care not to drop when it is necessary to replace.
 (2) For the maintenance space, refer to page 133.

(i) Model FDU71VF1

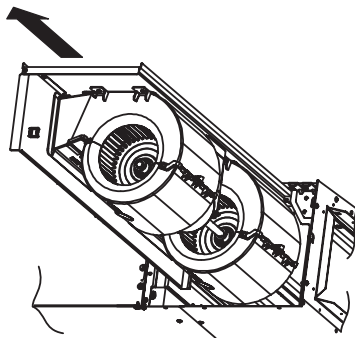
- 1) Remove the control box and the side panel, and remove the screws marked in the circles (2 places) in the figure.



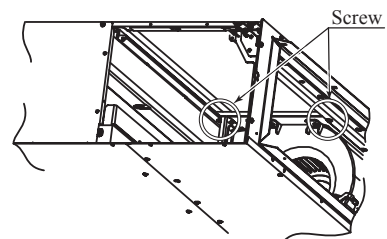
- 2) Take out the fan unit located at the near side in the arrow direction.



- 2) Take out the fan unit in the arrow direction.

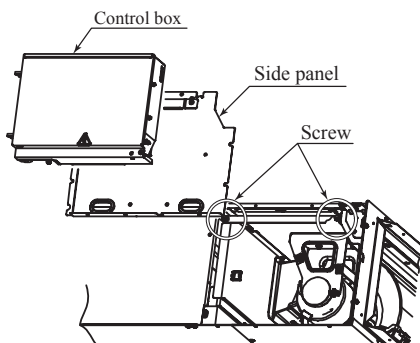


- 3) Remove the screws marked in the circles (2 places) from the fan unit located at the far side.

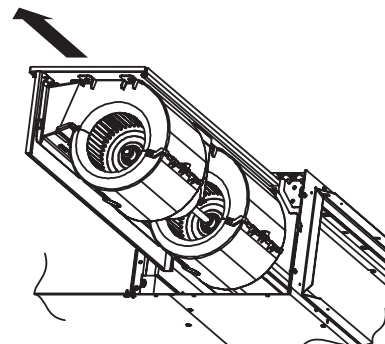


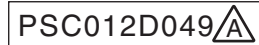
(ii) Models FDU100VF2, 125VF, 140VF

- 1) Remove the control box and the side panel, and remove the screws marked in the circles (2 places) from the unit located at the near side.



- 4) Take out the fan unit in the arrow direction.





1.10.2 Electric wiring work installation

Electrical wiring work must be performed by an electrician qualified by a local power provider according to the electrical installation technical standards and interior wiring regulations applicable to the installation site.

Security instructions

- Read the "SAFETY PRECAUTIONS" carefully first of all and then strictly follow it during the installation work in order to protect yourself.
- The precautionary items mentioned below are distinguished into two levels, **WARNING** and **CAUTION**.
 - WARNING** : Wrong installation would cause serious consequences such as injuries or death.
 - CAUTION** : Wrong installation might cause serious consequences depending on circumstances. Both mentions the important items to protect your health and safety so strictly follow them by any means.
- The meanings of "Marks" used here are as shown on the right:
 - ⊘ Never do it under any circumstances.
 - ⊕ Always do it according to the instruction.
- Accord with following items. Otherwise, there will be the risks of electric shock and fire caused by overheating or short circuit.

WARNING

- Be sure to have the electrical wiring work done by qualified electrical installer, and use exclusive circuit.

Power source with insufficient capacity and improper work can cause electric shock and fire.
- Use specified wire for electrical wiring, fasten the wiring to the terminal securely, and hold the cable securely in order not to apply unexpected stress on the terminal.

Loose connections or hold could result in abnormal heat generation or fire.
- Arrange the electrical wires in the control box properly to prevent them from rising. Fit the lid of the services panel properly.

Improper fitting may cause abnormal heat and fire.
- Use the genuine option parts. And installation should be performed by a specialist.

If you install the unit by yourself, it could cause water leakage, electric shock and fire.
- Do not repair by yourself. And consult with the dealer about repair.

Improper repair may cause water leakage, electric shock or fire.
- Consult the dealer or a specialist about removal of the air-conditioner.

Improper installation may cause water leakage, electric shock or fire.
- Turn off the power source during servicing or inspection work.

If the power is supplied during servicing or inspection work, it could cause electric shock and injury by the operating fan.
- Shut off the power before electrical wiring work.

It could cause electric shock, unit failure and improper running.

CAUTION

- Perform earth wiring surely.

Do not connect the earth wiring to the gas pipe, water pipe, lightning rod and telephone earth wiring. Improper earth could cause unit failure and electric shock due to a short circuit.
- Earth leakage breaker must be installed.

If the earth leakage breaker is not installed, it can cause electric shocks.
- Make sure to install earth leakage breaker on power source line. (countermeasure thing to high harmonics.)

Absence of breaker could cause electric shock.
- Use the circuit breaker of correct capacity. Circuit breaker should be the one that disconnect all poles under over current.

Using the incorrect one could cause the system failure and fire.
- Do not use any materials other than a fuse of correct capacity where a fuse should be used.

Connecting the circuit by wire or copper wire could cause unit failure and fire.
- Use power source line of correct capacity.

Using incorrect capacity one could cause electric leak, abnormal heat generation and fire.
- Do not mingle solid cord and stranded cord on power source and signal side terminal block.

In addition, do not mingle difference capacity solid or stranded cord. Inappropriate cord setting could cause losing screw on terminal block, bad electrical contact, smoke and fire.
- Do not turn off the power source immediately after stopping the operation.

Be sure to wait for more than 5 minutes. Otherwise it could cause water leakage or breakdown.
- Do not control the operation with the circuit breaker.

It could cause fire or water leakage. In addition, the fan may start operation unexpectedly and it may cause injury.

Control mode switching

● The control content of indoor units can be switched in following way. (is the default setting)

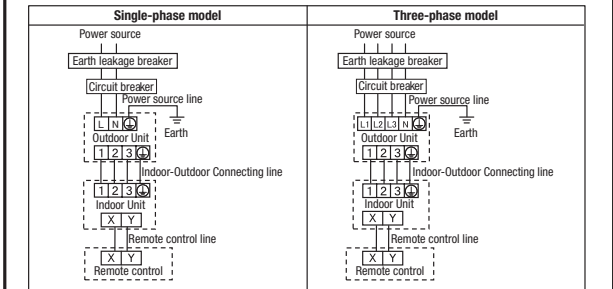
Switch No.	Control Content	
SW2	Indoor unit address (0-FH)	
SW5-1	Master/Slave Switching (plural /Slave unit Setting)	
SW5-2		
SW6-1-4	Model capacity setting	
SW7-1	ON	Operation check, Drain motor test run
	OFF	Normal operation

① Electrical Wiring Connection

- Electrical wiring work must be performed by an electrician qualified by a local power provider. These wiring specifications are determined on the assumption that the following instructions are observed:
 - Do not use cords other than copper ones.
 - Do not use any power source line lighter than one specified in parentheses for each type below.
 - braided cord (code designation 60245 IEC 51), if allowed in the relevant part 2;
 - ordinary tough rubber sheathed cord (code designation 60245 IEC 53);
 - flat twin tinsel cord (code designation 60227 IEC 41);
 - ordinary polyvinyl chloride sheathed cord (code designation 60227 IEC 53);
 - Connect the power source to the outdoor unit.
 - Pay extra attention so as not to confuse signal line and power source line connection, because an error in their connection can burn all the boards at once.
- Connect ground wires before connecting wires between the indoor and outdoor units and between indoor units. The ground wires need to be longer than the wires between the indoor and outdoor units, and protected from undue stress.
- Do not turn on the power source before completing the work.
 - The ground wires must be connected by the Class D grounding connection.
 - Use the round crimp terminals for connections to the terminal block.
 - Use dedicated branch circuits, avoiding combination with other devices. Otherwise, it could trip the power source breaker, resulting in secondary accidents.
 - Install the overcurrent and earth leakage breakers (sensitivity current: 30 mA) specified to respective models.
 - Do not connect indoor and outdoor signal cables to extension cables on the way. If the joint is wetted with intruding water, it could cause a ground insulation failure or poor connection, resulting in communication errors. (If it is inevitable to connect cables on the way, make sure to prevent the water intrusion completely.)
 - When running wires (wires for power source, remote control, connecting between indoor and outdoor units, or other) behind the ceiling, protect them using copper or other pipes against assault by rat, or other.
 - It is up to 3.5 mm² the size of power source cables connected to indoor units. When using cables of 5.5 mm² or larger, provide a dedicated pull box for branching connection to indoor units.
 - If signal and power source cables are connected mistakenly, it could burn down all PCBs.
 - Even if the power source of AC 220/240/380/415 V is connected mistakenly to A-B signal cable, it is protected at initial occasion only.
 - If the remote control fails to detect the unit No. (address) at 15 minutes after turning the power on, check and repair all signal cables for misconnection.
 - Cut the jumper wire J10SL1 of burnt PCB, and reconnect connectors Ck1 (yellow) and Ck1 (white) to Ck2 (black).
 - If any anomaly is found on wires between the A-B terminal block and the PCB, replace them.
 - At the outside of indoor and outdoor units, take care to avoid direct contacts between remote control and power source cables.
 - In no event connect the power source of AC 220/240/380/415 V to the remote control terminal block. It could cause failures.
 - Connections of wiring between units, ground wire and remote control cable
 - When connecting wires between units, ground wire or remote control wire, connect them according to the number of terminals on the power source terminal block or signal terminal block in the control box. Connect the ground wire to the ground terminal on the power source terminal block.
 - Make sure to install an earth leakage breaker for the power source. Select a breaker for inverter circuit.
 - When the earth leakage protection, it is necessary to connect also an isolating switch (Switch + Class B fuse) or wiring circuit breaker in series to the earth leakage breaker.
 - Install the isolating switch close to the unit.
 - Connect wires securing by tightening screws firmly. Confirm also no connector or wire (from terminal) is disconnected in the control box.
 - When installing an auxiliary electric heater, consult the electric heater manual or technical data.

Cable connection for single unit installation

- As for connecting method of power source, select from following connecting patterns. In principle, do not directly connect power source line to inside unit.
 - As for exceptional connecting method of power source, discuss with the power provider of the country with referring to technical documents, and follow its instruction.
- For cable size and circuit breaker selection, refer to the outdoor unit installation manual.



Cable connection for a V multi configuration installation

- Connect the same pairs number of terminal block "①", "②", and "③" and "X" and "Y" between master and slave indoor units.
- Do the same address setting of all inside units belong to same refrigerant system by rotary switch SW2 on indoor unit's PCB (Printed circuit board).
- Set slave indoor unit as "slave 1" through "slave 3" by address switch SW5-1, 5-2 on PCB.
- When the [AIR CON No.] button on the remote control unit is pressed after turning on the power, an indoor unit's address number will be displayed. Do not fail to confirm that the connected indoor unit's numbers are displayed on the remote control unit by pressing the or button.

Method of setting Master/Slave of indoor unit

(Factory setting: "Master")

Indoor Unit	Master	Slave 1	Slave 2	Slave 3
PCB SW	SW5-1	OFF	OFF	ON
	SW5-2	OFF	ON	OFF

② Remote control, wiring and functions

● Do not install it on the following places

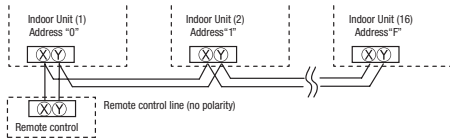
- ① Places exposed to direct sunlight
- ② Places near heat devices
- ③ High humidity places
- ④ Hot surface or cold surface enough to generate condensation
- ⑤ Places exposed to oil mist or steam directly.
- ⑥ Uneven surface

Installation and wiring of remote control

- ① Install remote control referring to the attached installation manual.
- ② Wiring of remote control should use 0.3mm² × 2 core wires or cables.
The insulation thickness is 1mm or more. (on-site configuration)
- ③ Maximum prolongation of remote control wiring is 600 m.
If the prolongation is over 100m, change to the size below.
But, wiring in the remote control case should be under 0.5mm². Change the wire size outside of the case according to wire connecting. Waterproof treatment is necessary at the wire connecting section. Be careful about contact failure.
100 - 200m 0.5mm² × 2 cores
Under 300m 0.75mm² × 2 cores
Under 400m 1.25mm² × 2 cores
Under 600m 2.0mm² × 2 cores
- ④ Avoid using multi-core cables to prevent malfunction.
- ⑤ Keep remote control line away from earth (frame or any metal of building).
- ⑥ Make sure to connect remote control line to the remote control and terminal block of indoor unit. (No polarity)

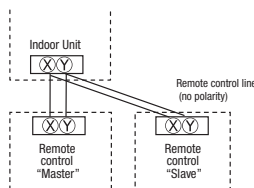
Control plural indoor units by a single remote control

- ① A remote control can control plural indoor units (Up to 16).
- In above setting, all plural indoor units will operate under same mode and temperature setting.
- ② Connect all indoor units with 2 core remote control line.
- ③ Set unique remote control communication address from "0" to "F" to each inside unit by the rotary switch SW2 on the indoor unit's PCB.



Master/ slave setting when more than one remote control unit are used

A maximum of two remote control units can be connected to one indoor unit (or one group of indoor units.)
The air-conditioner operation follows the last operation of the remote control regardless of the master/slave setting of it.
Acceptable combination is "two (2) wired remote controls", "one (1) wired remote control and one (1) wireless kit" or "two (2) wireless kits".
Set one to "Master" and the other to "Slave".
Note: The setting "Remote control unit sensor enabled" is only selectable with the master remote control unit in the position where you want to check room temperature.

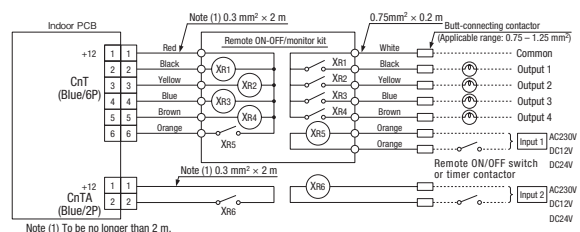


③ Operation and confirmation from remote control

No.	Item	Operation from the eco touch remote control (RC-EX3)	Operation from the standard remote control (RC-E4, RC-E5)
1	Check the number of units connected in the multi remote control system.	[Menu] ⇒ [Service setting] ⇒ [Service & Maintenance] ⇒ [Service password] ⇒ [IU address]	① Press the [AIR CON No.] button to display the IU address. ② Press the [▲] or [▼] button and check addresses of connected indoor units one by one.
2	Check if each unit is connected properly in the remote control system.	[Menu] ⇒ [Service setting] ⇒ [Service & Maintenance] ⇒ [Service password] ⇒ [IU address] ⇒ [Check run mode]	① Press the [AIR CON No.] button to display the IU address. ② Press the [▲] or [▼] button and select one of IU addresses. ③ Press the [MODE] button. The unit starts to blow air.
3	Setting main/sub remote controls	[Menu] ⇒ [Service setting] ⇒ [R/C function settings] ⇒ [Service password] ⇒ [Main/Sub of R/C]	Set SW1 to "Sub" for the sub remote control unit.
4	Checking operation data	[Menu] ⇒ [Service setting] ⇒ [Service & Maintenance] ⇒ [Service password] ⇒ [Operation data]	Press the [CHECK] button. ⇒ "OPER DATA" is displayed. ⇒ Press the [SET] button. ⇒ "DATA LINKING" is displayed. ⇒ Select one of addresses for connected indoor units by pressing the [▲] or [▼] button. ⇒ Press the [SET] button. ⇒ "DATA LINKING" is displayed. ⇒ Select data by pressing the [▲] or [▼] button.
5	Checking inspection display	[Menu] ⇒ [Service setting] ⇒ [Service & Maintenance] ⇒ [Service password] ⇒ [Error display]	Press the [CHECK] button. ⇒ "OPER DATA" is displayed. ⇒ Press the [▼] button. ⇒ "ERR DATA" is displayed. ⇒ Press the [SET] button. ⇒ "DATA LINKING" is displayed. ⇒ Data is displayed.
6	Cooling test run from remote control	[Menu] ⇒ [Service setting] ⇒ [Installation settings] ⇒ [Service password] ⇒ [Test run] ⇒ [Cooling test run] ⇒ [Start]	① Start the system by pressing the [ON/OFF] button. ② Select "C (Cool)" with the [MODE] button. ③ Press the [TEST] button for 3 seconds or longer. The screen display will switch to "TEST RUN". ④ Pressing the [SET] button, while the "TEST RUN" is displayed, starts the cooling test run. The screen display will switch to "TEST RUN".
7	Trial operation of drain pump from remote control	[Menu] ⇒ [Service setting] ⇒ [Installation settings] ⇒ [Service password] ⇒ [Test run] ⇒ [Drain pump test run] ⇒ [Run]	① Start the system by pressing the [ON/OFF] button. The display will change to "TEST RUN". ② Press the [▼] button once to display "DRAIN PUMP". ③ Pressing the [SET] button starts the drain pump operation. The display will show "DRAIN TO STOP".

The menu configuration may vary depending on models of the remote control. If the model of your remote control is different, refer to the installation manual attached to the remote control.

④ Function of CnT connector of indoor printed circuit board



Note (1) To be no longer than 2 m.

- XR1-4 are DC 12 V relays. (Equivalent to Omron's LY2F)
- XRS is a DC 12 V, 24 V or AC230 V relay. (Equivalent to Omron's MY2F)
- Maker and model of CnT connector (Site side)
Connector : Molex 5264-06
Terminal : Molex 5263T
- CnTA connector is used on FDT, or other. <Check with the specifications.> (Site side) Maker and model
Connector : J.S.T. Mfg. XAP02V-1-E
Terminal : J.S.T. Mfg. SXA-01T-P0.6
- Output 1 - 4 and input1/2 can be selected/set as required from following items.
Factory default is set as shown below.

Output	
① RUN output	⑧ Fan ON output 3
② Heating output	⑨ Defrost/oil return output
③ Compressor ON output	⑩ Ventilation output
④ Inspection (error) output	⑪ Heater output
⑤ Cooling output	⑫ Free cleaning output
⑥ Fan ON output 1	⑬ Indoor overload error output
⑦ Fan ON output 2	

Input	
① RUN/STOP	⑤ Setting temp. shift
② RUN permit prohibition	⑥ Compulsory thermostat OFF
③ Emergency stop	⑦ Temporary stop
④ Cooling/Heating	⑧ Silent mode

Factory default setting					
CnT-2	Output 1	RUN output	CnT-5	Output 4	Inspection (error) output
CnT-3	Output 2	Heating output	CnT-6	Input 1	RUN/STOP
CnT-4	Output 3	Compressor ON output	CnTA	Input 2	RUN/STOP

● For the setting method, refer to the technical data.

⑤ Operation and setting from remote control

A : Refer to the instruction manual for RC-EX series
 B : Refer to the installation manual for RC-EX series
 C : Loading a utility software via Internet

○ : Nearly same function setting and operations are possible.
 △ : Similar function setting and operations are possible.

Setting & display item	Description	RC-EX3	RC-E5	
1.Remote control network				
1 Control plural indoor units by a single remote control	A remote control can control plural indoor units up to 16 (in one group of remote control network). An address is set to each indoor unit.		○	
2 Main/sub setting of remote controls	A pair of remote controls (including optional wireless remote control) can be connected within the remote control network. Set one to "Main" and the other to "Sub".	B	○	
2.TOP screen, Switch manipulation				
1 Menu	"Control", "State", or "Details" can be selected. (3-8)	A		
2 Operation mode	"Cooling", "Heating", "Fan", "Dry" or "Auto" can be set.	A	○	
3 Set temp.	"Set temperature" can be set by 0.5°C interval.	A	○	
4 Air flow direction	"Air flow direction" [Individual flap control] can be set. Select Enable or Disable for the "3D AUTO" (in case of FDK).	A	△	
5 Fan speed	"Fan speed" can be set.	A	○	
6 Timer setting	"Timer operation" can be set.	A	○	
7 ON/OFF	"On/Off operation of the system" can be done.	A	○	
8 F1 SW	The system operates and is controlled according to the function specified to the F1 switch.	A		
9 F2 SW	The system operates and is controlled according to the function specified to the F2 switch.	A		
3.Useful functions				
1 Individual flap control	The moving range (the positions of upper limit and lower limit) of the flap for individual flap can be set. Set also the left and right limit positions for FDK.	A	△	
2 Anti draft setting When the panel with the anti-draft function is assembled.	When the panel with the anti draft function is assembled, select to Enable or Disable the anti draft setting for each operation mode and for each blow outlet.	A		
3 Timer settings	Set On timer by hour	The period of time to start operation after stopping can be set. • The period of set time can be set within range of 1hour-12hours (1hr interval). • The operation mode, set temp and fan speed at starting operation can be set.	A	△
	Set Off timer by hour	The period of time to stop operation after starting can be set. • The period of set time can be set within range of 1hour-12hours (1hr interval).	A	△
	Set On timer by clock	The clock time to start operation can be set. • The set clock time can be set by 5 minutes interval. • [Once (one time only)] or [Everyday] operation can be switched. • The operation mode, set temp and fan speed at starting operation can be set.	A	△
	Set Off timer by clock	The clock time to stop operation can be set. • The set clock time can be set by 5 minutes interval. • [Once (one time only)] or [Everyday] operation can be switched.	A	△
Confirmation of timer settings	Status of timer settings can be seen.	A		
4 Favorite setting [Administrator password]	Set the operation mode, setting temperature, air flow capacity and air flow direction for the choice setting operations. Set them for the Favorite set 1 and the Favorite set 2 respectively.	A		
5 Weekly timer	On timer and Off timer on weekly basis can be set. • 8-operation patterns per day can be set at a maximum. • The setting clock time can be set by 5 minutes interval. • Holiday setting is available. • The operation mode, set temp and fan speed at starting operation can be set.	A	△	
6 Home leave mode [Administrator password]	When leaving home for a long period like a vacation leave, the unit can be operated to maintain the room temperature not to be hotter in summer or not to be colder in winter. • The judgment to switch the operation mode (Cooling ↔ Heating) is done by the both factors of the set temp. and outdoor air temp. • The set temp. and fan speed can be set.	A		
7 External Ventilation When the ventilator is combined.	On/Off operation of the external ventilator can be done. It is necessary to set from [Menu] ⇒ [Service setting] ⇒ [R/C function settings] ⇒ [Ventilation setting]. • If the "Independent" is selected for the ventilation setting, the ventilator can be operated or stopped.	A	○	
8 Select the language	Select the language to display on the remote control. Polish, Japanese and Chinese.	A		
4.Energy-saving setting				
1 Sleep timer	To prevent the timer from keeping ON, set hours to stop operation automatically with this timer. • The selectable range of setting time is from 30 to 240 minutes. (10 minutes interval) • When setting is "Enable", this timer will activate whenever the ON timer is set.	A	△	
2 Peak-cut timer	Power consumption can be reduced by restructuring the maximum capacity. Set the [Start time], the [End time] and the capacity limit % (Peak-cut %). • 4-operation patterns per day can be set at maximum. • The setting time can be changed by 5-minutes interval. • The selectable range of capacity limit % (Peak-cut %) is from 0% to 40-80% (20% interval) • Holiday setting is available.	A		
3 Automatic temp set back	After the elapse of the set time period, the current set temp. will be set back to the [Set back time.] • The setting can be done in cooling and heating mode respectively. • Selectable range of the set time is from 20 min. to 120 min. (10 min. interval). • Set the [Set back temp.] by 1°C interval.	A	△	
4 Infrared sensor control (Motion sensor control) When the panel with the infrared sensor (motion sensor) is assembled.	When the infrared sensor (motion sensor) is used, it is necessary to set Enable or Disable for the "Power control" and the "Auto-off".	A		
5.Filter				
1 Filter sign reset	Filter sign reset	The filter sign can be reset.	A	
	Setting next cleaning date	The next cleaning date can be set.	A	
6.User setting				
1 Internal settings	Clock setting	The current date and time can be set or revised. • If a power failure continues no longer than 80 hours, the clock continues to tick by the built-in power source.	A	△
	Date and time display	[Display] or [Hide] the date and/or time can be set, and [12H] or [24H] display can be set.	A	
	Summer time	When select [Enable], the +1 hour adjustment of current time can be set. When select [Disable], the [Summer time] adjustment can be reset.	A	
	Contrast	The contrast of LCD can be adjusted higher or lower.	A	
	Backlight	Switching on/off a light can be set and period of the lighting time can be set within the range of 5sec-90 sec (5sec interval).	A	
	Control sound	It can set with or without [Control sound (beep sound)] at touch panel.	A	
	Operation lamp luminance	This is used to adjust the luminance of operation lamp.	A	
2 Administrator settings [Administrator password]	Permission/Prohibition setting	• Permission/Prohibition setting of operation can be set. [On/Off] [Change set temp] [Change operation mode] [Change flap direction] [Change fan speed] [High power operation] [Energy-saving operation] [Timer] Request for administrator can be set. [Individual flap control] [Weekly timer] [Select the language] [Anti draft setting]	A	△
	Outdoor unit silent mode timer	The period of time to operate the outdoor unit by prioritizing the quietness can be set. • The [Start time] and the [End time] for operating outdoor unit in silent mode can be set. • The period of the operation time can be set once a day by 5 minutes interval.	A	△
	Setting temp. range	The upper/lower limit of temp. setting range can be set.	A	△
	Temp increment setting	The temp. increment setting can be changed by 0.5°C or 1.0°C.	A	
Set temp. display	Ways of displaying setting temperatures can be selected.	A		

5 Operation and setting from remote control (continued)

Setting & display item		Description	RC-EX3	RC-E5
2 Administrator settings [Administrator password]	R/C display setting	Register [Room name] [Name of I/U] Display [Indoor temp. display] or not. Display [Error code display] or not. Display [Heating stand-by display] [Defrost operation display] [Auto cooling/heating display] [Display temp of R/C, Room, Outdoor] or not	A	△
	Change administrator password	The administrator password can be changed. (Default setting is "0000") The administrator password can be reset.	A B	
	F1/F2 function setting	Functions can be set for F1 and F2. Selectable functions: [High power operation], [Energy-saving operation], [Silent mode cont.], [Home leave mode], [Favorite set 1], [Favorite set 2] and [Filter sign reset].	A	
7. Service setting				
1 Installer settings [Service password]	Installation date	The [Installation date] can be registered. • When registering the [Installation date], the [Next service date] is displayed automatically. (For changing the [Next service date], please refer the item of [Service & Maintenance])	B	
	Company information	The [Company information] can be registered and can be displayed on the R/C. • The [Company] can be registered within 26 characters. • The [Phone No.] can be registered within 13 digits.	B	
	Test run	On/Off operation of the test run can be done.		
	Cooling test run	The [Cooling test run] can be done at 5°C of set temp. for 30 minutes.	B	○
	Drain pump test run	Only drain pump can be operated.		
	Static pressure adjustment	In case of combination with only the ducted indoor unit which has a function of static pressure adjustment, the static pressure is adjustable. • It can be set for each indoor unit individually.	B	
	Change auto-address	The set address of each indoor unit decided by auto-address setting method can be changed to any other address. (For multiple KX units only)	B	△
	Address setting of main IU	Main indoor unit address can be set. • Only the Main indoor unit can change operation mode and the Sub indoor units dominated by the Main indoor shall follow. • The Main indoor unit can domain 10 indoor units at a maximum.	B	△
	IU back-up function	When a pair of indoor units (2 groups) is connected to one unit of remote control, it can be set Enable or Disable for the [IU rotation], [IU capacity back-up] and [IU fault back-up]	B	
	Infrared sensor setting (Motion sensor setting) When the panel with the infrared sensor (motion sensor) is assembled.	Set Enable or Disable for the infrared sensor detectors of indoor units connected to the remote control. If Disable is selected, it cannot be control the infrared sensor control for the energy-saving setting.	B	
2 R/C function setting [Service password]	Main/Sub R/C	The R/C setting of [Main/Sub] can be changed.	B	○
	Return air temp.	When two or more indoor units are connected to one unit of remote control, suction sensors, which are used for the judgement by thermostat, can be selected. • It can be selected from [Individual], [Master IU] and [Average temp].	B	
	R/C sensor	It can be set the mode to switch to the remote control sensor. It can be selected from cooling and heating.	B	△
	R/C sensor adjustment	The offset value of [R/C sensor] sensing temp. can be set respectively in heating and cooling.	B	△
	Operation mode	Enable or Disable can be set for each operation mode.	B	△
	°C / °F	Set the unit for setting temperatures. • °C or °F can be selected.	B	
	Fan speed	Fan speeds can be selected.	B	○
	External input	When two or more indoor units are connected to one unit of remote control, the range to apply CnT inputs can be set.	B	○
	Upper/lower flap control	[Stop at fixed position] or [Stop at any position] can be selected for the upper and lower louvers.	B	○
	Left/right flap control	[Fixed position stop] or [Stop at any position] can be selected for the right and left louvers.	B	○
	Ventilation setting	Combination control for ventilator can be set.	B	○
	Auto-restart	The operation control method after recovery of power failure happened during operation can be set.	B	○
	Auto temp setting	[Enable] or [Disable] of [Auto temp setting] can be selected.	B	
Auto fan speed	[Enable] or [Disable] of [Auto fan speed] can be selected.	B		
3 IU settings [Service password]	Fan speed setting	The fan speed for indoor units can be set.	B	○
	Filter sign	The setting of filter sign display timer can be done from following patterns.	B	○
	External input 1	The connect of control by external input 1 can be changed.	B	○
	External input 1 signal	The type of external input 1 signal can be changed.	B	○
	External input 2	The connect of control by external input 2 can be changed.	B	○
	External input 2 signal	The type of external input 2 signal can be changed.	B	○
	Heating thermo-OFF temp adjustment	The judgement temp. of heating thermo-off can be adjusted within the range from 0 to +3°C (1°C interval)	B	△
	Return temperature adjustment	The sensing temp. of return air temp. sensor built in the indoor unit can be adjusted within the range of ±2°C.	B	△
	Fan control in cooling thermo-OFF	Fan control, when the cooling thermostat is turned OFF, can be changed.	B	○
	Fan control in heating thermo-OFF	Fan control, when the heating thermostat is turned OFF, can be changed.	B	○
	Anti-frost temp.	Judgment temperature for the anti-frost control during cooling can be changed.	B	○
	Anti-frost control	When the anti-frost control of indoor unit in cooling is activated, the fan speed can be changed.	B	○
	Drain pump operation	In any operation mode in addition to cooling and dry mode, the setting of drain pump operation can be done.	B	○
	Keep fan operating after cooling is stopped	The time period residual fan operation after stopping or thermo-off in cooling mode can be set.	B	○
	Keep fan operating after heating is stopped	The time period residual fan operation after stopping or thermo-off in heating mode can be set.	B	○
	Intermittent fan operation in heating	The fan operation rule following the residual fan operation after stopping or thermo-off in heating mode can be set.	B	○
	Fan circulator operation	In case that the fan is operated as the circulator, the fan control rule can be set.	B	
	Control pressure adjust	When only the OA processing units are operated, control pressure value can be changed.	B	
	Auto operation mode	The [Auto rule selection] for switching the operation mode automatically can be selected from 3 patterns.	B	
	Thermo. rule setting	When selecting [Outdoor air temp. control], the judgment temp. can be offset by outdoor temp..	B	
Auto fan speed control	Auto switching range for the auto fan speed control can be set.	B		
IU overload alarm	If the difference between the setting temperature and the suction temperature becomes larger than the temperature difference set for the overload alarm, at 30 minutes after the start of operation, the overload alarm signal is transmitted from the external output (CnT-5).	B		
External output setting	Functions assigned to the external outputs 1 to 4 can be changed.	B		
4 Service & Maintenance [Service password]	IU address	Max 16 indoor units can be connected to one remote control, and all address No. of the connected indoor units can be displayed. • The indoor unit conforming to the address No. can be identified by selecting the address No. and tapping [Check] to operate the indoor fan.	B	○
	Next service date	The [Next service date] can be registered. • The [Next service date] and [Company information] is displayed on the message screen.	A B	○
	Operation data	The [Operation data] for indoor unit and outdoor unit can be displayed.	B	○
	Error display			
	Error history	The error history can be displayed.		
	Display anomaly data	The operation data just before the latest error stop can be displayed.	B	△
	Erase anomaly data	Anomaly operation data can be erased.		
	Reset periodical check	The timer for the periodical check can be reset.		
Saving IU settings	The IU settings memorized in the indoor PCB connected to the remote control can be saved in the memory of the remote control.	B		
Special settings	[Erase IU address] [CPU reset] [Restore of default setting] [Touch panel calibration]	B	△	
Indoor unit capacity display	Address No. and capacities of indoor units connected to the remote control are displayed.	B		
8. Contact company				
9. Inspection				
Confirmation of Inspection	This is displayed when any error occurs.	A	△	
10. PC connection				
USB connection	Weekly timer setting and etc., can be set from PC.	C		

◆ Listed items may not function depending on the specifications of indoor and outdoor units which are combined.



1.10.3 Installation of wired remote control (Option parts)

(1) Model RC-EX3

PJZ012A131 

1. Safety precautions

- Please read this manual carefully before starting installation work to install the unit properly. Every one of the followings is important information to be observed strictly.

 WARNING	Failure to follow these instructions properly may result in serious consequences such as death, severe injury, etc.
 CAUTION	Failure to follow these instructions properly may cause injury or property damage.

It could have serious consequences depending on the circumstances.

- The following pictograms are used in the text.

	Never do.		Always follow the instructions given.
---	-----------	---	---------------------------------------

- Keep this manual at a safe place where you can consult with whenever necessary. Show this manual to installers when moving or repairing the unit. When the ownership of the unit is transferred, this manual should be given to a new owner.

WARNING



Consult your dealer or a professional contractor to install the unit.

Improper installation made on your own may cause electric shocks, fire or dropping of the unit.



Installation work should be performed properly according to this installation manual.

Improper installation work may result in electric shocks, fire or break-down.



Be sure to use accessories and specified parts for installation work.

Use of unspecified parts may result in drop, fire or electric shocks.



Install the unit properly to a place with sufficient strength to hold the weight.

If the place is not strong enough, the unit may drop and cause injury.



Be sure to have the electrical wiring work done by qualified electrical installer, and use exclusive circuit.

Power source with insufficient and improper work can cause electric shock and fire.



Shut OFF the main power source before starting electrical work.

Otherwise, it could result in electric shocks, break-down or malfunction.



Do not modify the unit.

It could cause electric shocks, fire, or break-down.



Be sure to turn OFF the power circuit breaker before repairing/ inspecting the unit.

Repairing/inspecting the unit with the power circuit breaker turned ON could cause electric shocks or injury.


WARNING
Do not install the unit in appropriate environment or where inflammable gas could generate, flow in, accumulate or leak.


If the unit is used at places where air contains dense oil mist, steam, organic solvent vapor, corrosive gas (ammonium, sulfuric compound, acid, etc) or where acidic or alkaline solution, special spray, etc. are used, it could cause electric shocks, break-down, smoke or fire as a result of significant deterioration of its performance or corrosion.

Do not install the unit where water vapor is generated excessively or condensation occurs.


It could cause electric shocks, fire, or break-down.

Do not use the unit in a place where it gets wet, such as laundry room.


It could cause electric shocks, fire, or break-down.

Do not operate the unit with wet hands.


It could cause electric shocks.

Do not wash the unit with water.


It could cause electric shocks, fire, or break-down.

Use the specified cables for wiring, and connect them securely with care to protect electronic parts from external forces.


Improper connections or fixing could cause heat generation, fire, etc.

Seal the inlet hole for remote control cable with putty.


If dew, water, insect, etc. enters through the hole, it could cause electric shocks, fire or break-down.

If dew or water enters the unit, it may cause screen display anomalies.

When installing the unit at a hospital, telecommunication facility, etc., take measures to suppress electric noises.


It could cause malfunction or break-down due to hazardous effects on the inverter, private power generator, high frequency medical equipment, radio communication equipment, etc.

The influences transmitted from the remote control to medical or communication equipment could disrupt medical activities, video broadcasting or cause noise interference.

Do not leave the remote control with its upper case removed.


If dew, water, insect, etc. enters through the hole, it could cause electric shocks, fire or break-down.

 CAUTION

Do not install the remote control at following places.

- (1) It could cause break-down or deformation of remote control.
- Where it is exposed to direct sunlight
 - Where the ambient temperature becomes 0 °C or below, or 40 °C or above
 - Where the surface is not flat
 - Where the strength of installation area is insufficient
- (2) Moisture may be attached to internal parts of the remote control, resulting in a display failure.
- Place with high humidity where condensation occurs on the remote control
 - Where the remote control gets wet
- (3) Accurate room temperature may not be detected using the temperature sensor of the remote control.
- Where the average room temperature cannot be detected
 - Place near the equipment to generate heat
 - Place affected by outside air in opening/closing the door
 - Place exposed to direct sunlight or wind from air-conditioner
 - Where the difference between wall and room temperature is large



To connect to a personal computer via USB, use the dedicated software.



Do not connect other USB devices and the remote control at the same time.

It could cause malfunction or break-down of the remote control/personal computer.

2 . Accessories & Prepare on site

Following parts are provided.

Accessories	R/C main unit, wood screw (ø3.5 x 16) 2 pcs, Quick reference
-------------	--

Following parts are arranged at site. Prepare them according to the respective installation procedures.

Item name	Q'ty	Remark
Switch box For 1 piece or 2 pieces (JIS C 8340 or equivalent)	1	These are not required when installing directly on a wall.
Thin wall steel pipe for electric appliance directly on a wall. (JIS C 8305 or equivalent)	As required	
Lock nut, bushing (JIS C 8330 or equivalent)	As required	
Lacing (JIS C 8425 or equivalent)	As required	Necessary to run R/C cable on the wall.
Putty	Suitably	For sealing gaps
Molly anchor	As required	
R/C cable (0.3 mm ² x 2 pcs)	As required	See right table when longer than 100 m

When the cable length is longer than 100 m, the max size for wires used in the R/C case is 0.5 mm². Connect them to wires of larger size near the outside of R/C. When wires are connected, take measures to prevent water, etc. from entering inside.

≤ 200 m	0.5 mm ² x 2 cores
≤ 300m	0.75 mm ² x 2 cores
≤ 400m	1.25 mm ² x 2 cores
≤ 600m	2.0 mm ² x 2 cores

3 . Installation place

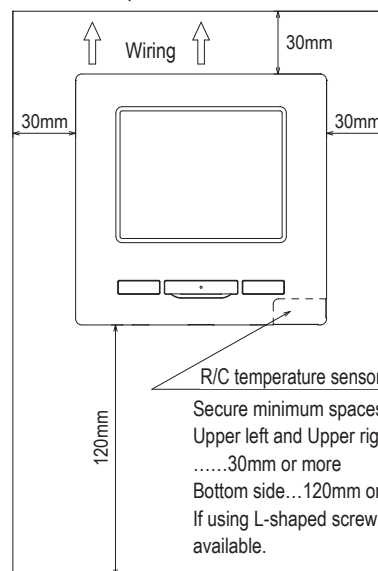
Secure the installation space shown in the figure.

For the installation method, "embedding wiring" or "exposing wiring" can be selected.

For the wiring direction, "Backward", "Upper center" or "Upper left" can be selected.

Determine the installation place in consideration of the installation method and wiring direction.

Installation space



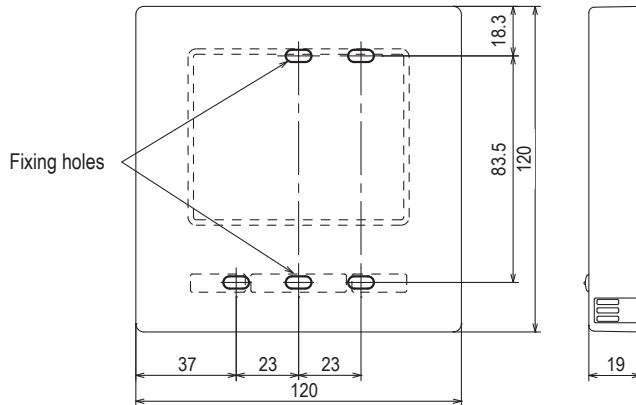
R/C temperature sensor

Secure minimum spaces for disassembling the case.
Upper left and Upper right sides
.....30mm or more
Bottom side...120mm or more
If using L-shaped screw driver, 50mm or more is available.

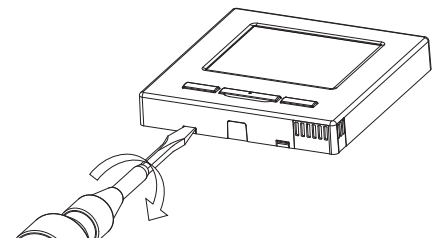
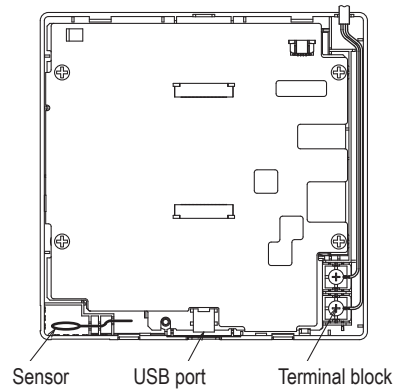
4 . Installation procedure

Perform installation and wiring work for the remote control according to the following procedure.

Dimensions (Viewed from front)



PCB side (Viewed from rear)



To remove the upper case from the bottom cases of R/C

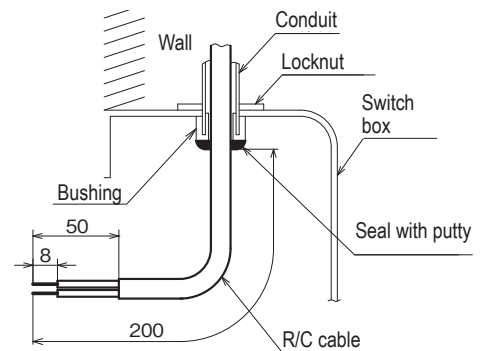
- Insert the tip of flat head screwdriver or the like in the recess at the lower part of R/C and twist it lightly to remove. It is recommended that the tip of the screwdriver be wrapped with tape to avoid damaging the case.

Take care to protect the removed upper case from moisture or dust.

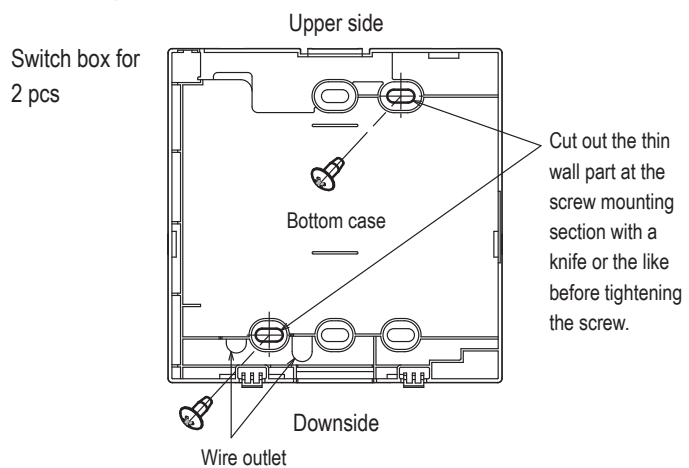
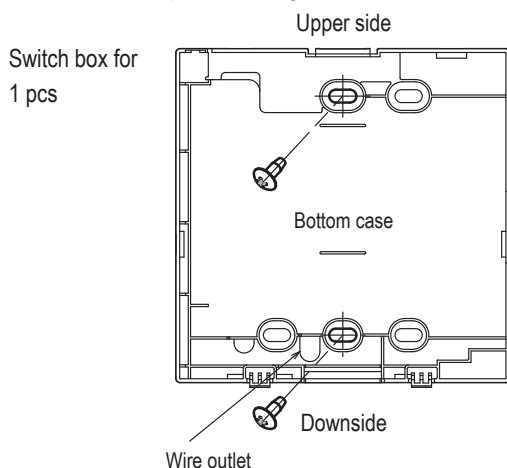
In case of embedding wiring

(When the wiring is retrieved "Backward")

- ① Embed the switch box and the R/C wires beforehand.
Seal the inlet hole for the R/C wiring with putty.



- ② When wires are passed through the bottom case, fix the bottom case at 2 places on the switch box.

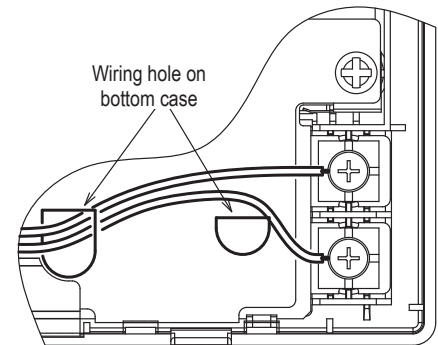
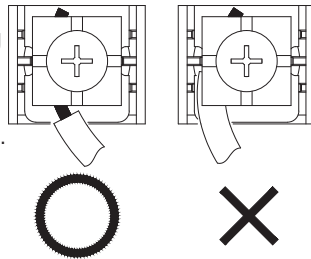


- ③ Connect wires from X and Y terminals of R/C to X and Y terminals of indoor unit. R/C wires (X, Y) have no polarity. Fix wires such that the wires will run around the terminal screws on the top case of R/C.
- ④ Install the upper case with care not to pinch wires of R/C.

Cautions for wire connection

Use wires of no larger than 0.5 mm² for wiring running through the remote control case. Take care not to pinch the sheath.

Tighten by hand (0.7 N·m or less) the wire connection. If the wire is connected using an electric driver, it may cause failure or deformation.

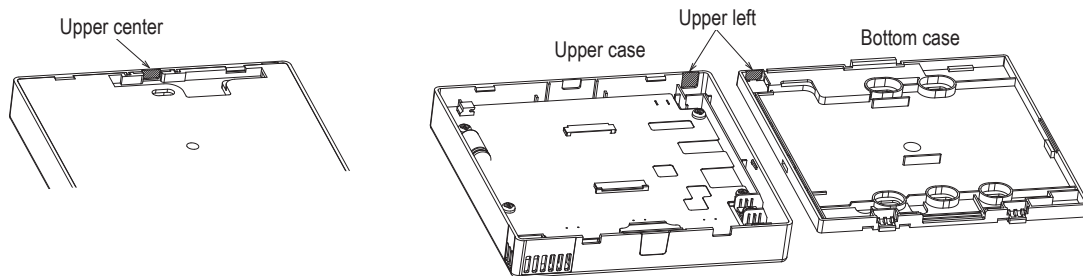


In case of exposing wiring

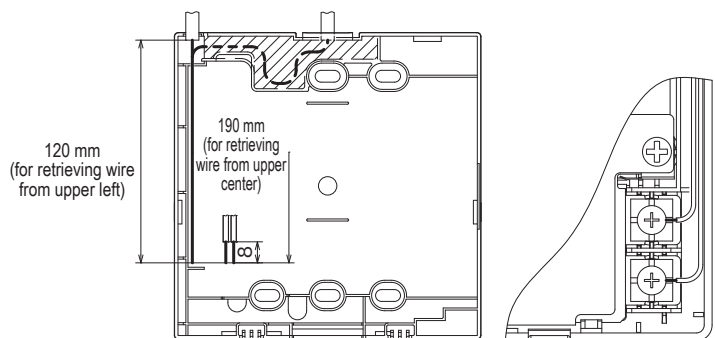
(When the wiring is taken out from the "upper center" or "upper left" of R/C)

- ① Cut out the thin wall sections on the cases for the size of wire.

When taking the wiring out from the upper center, open a hole before separating the upper and bottom cases. This will reduce risk of damaging the PCB and facilitate subsequent work.
 When taking the wiring out from the upper left, take care not to damage the PCB and not to leave any chips of cut thin wall inside.



- ② Fix the bottom R/C case on a flat surface with two wood screws.
- ③ In case of the upper center, pass the wiring behind the bottom case. (Hatched section)
- ④ Connect wires from X and Y terminals of R/C to X and Y terminals of indoor unit. R/C wires (X, Y) have no polarity. Fix wires such that the wires will run around the terminal screws on the top case of R/C.
- ⑤ Install the top case with care not to pinch wires of R/C.
- ⑥ Seal the area cut in ① with putty.

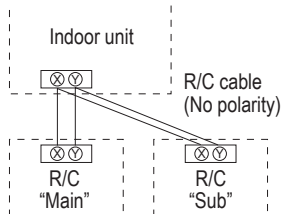


5 . Main/Sub setting when more than one remote control are used

Up to two units of R/C can be used at the maximum for 1 indoor unit or 1 group.

One is main R/C and the other is sub R/C.

Operating range is different depending on the main or sub R/C.



Set the "Main" and "Sub" as described at Section 8.

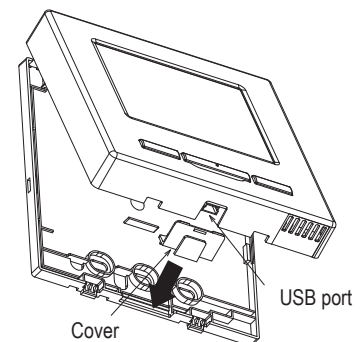
R/C operations		Main	Sub	
Run/Stop, Change set temp, Change flap direction, Auto swing, Change fan speed operations		○	○	
High power operation, Energy-saving operation		○	○	
Silent mode control		○	×	
Useful functions	Individual flap control	○	×	
	Anti draft setting	○	×	
	Timer	○	○	
	Favorite setting	○	○	
	Weekly timer	○	×	
	Home leave mode	○	×	
	External ventilation	○	○	
Select the language		○	○	
Energy-saving setting		○	×	
Filter	Filter sign reset	○	○	
User setting	Initial settings		○	○
	Administrator settings	Permission/Prohibition setting	○	×
		Outdoor unit silent mode timer	○	×
	Setting temp. range		○	×
	Temp. increment setting		○	×
	Set temp. display		○	○
	R/C display setting		○	○
	Change administrator password		○	○
	F1/F2 function setting		○	○

○: operable ×: not operable

R/C operations		Main	Sub			
Service setting	Installation settings	Installation date	○	×		
		Company information	○	○		
		Test run	○	×		
		Static pressure adjustment	○	×		
		Change auto-address	○	×		
		Address setting of main IU	○	×		
	R/C function settings	Main/Sub of R/C	○	○		
		Return air temp.	○	×		
		R/C sensor	○	×		
		R/C sensor adjustment	○	×		
		Operation mode	○	×		
		°C / °F	○	×		
		Fan speed	○	×		
		External input	○	×		
		Upper/lower flap control	○	×		
Left/right flap control	○	×				
IU settings	Ventilation setting		○	×		
	Auto-restart		○	×		
	Auto temp. setting		○	×		
	Auto fan speed		○	×		
	IU settings		○	×		
	Service & Maintenance	IU address		○	○	
		Next service date		○	×	
		Operation data		○	×	
		Error display	Error history		○	○
			Display/erase anomaly data		○	×
Reset periodical check			○	○		
Saving IU settings		○	×			
Special settings		Erase IU address		○	×	
		CPU reset		○	○	
		Restore of default setting		○	×	
	Touch panel calibration		○	○		
Indoor unit capacity display		○	×			

Advice: Connection to personal computer

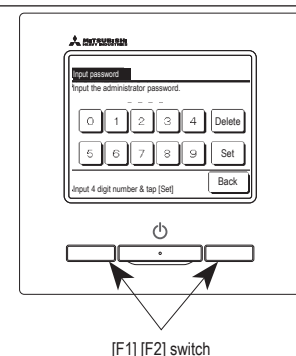
It can be set from a personal computer via the USB port (mini-B).
 Connect after removing the cover for USB port of upper case.
 Replace the cover after use.
 Special software is necessary for the connection.
 For details, view the web site or refer to the engineering data.



Advice: Initializing of password

Administrator password (for daily setting items) and service password (for installation, test run and maintenance) are used.

- The administrator password at factory default is "0000". This setting can be changed (Refer to User's Manual).
- If the administrator password is forgotten, it can be initialized by holding down the [F1] and [F2] switches together for five seconds on the administrator password input screen.
- Service password is "9999", which cannot be changed.
- When the administrator password is input, the service password is also accepted.





PJA012D730 

(2) Model RC-E5

Read together with indoor unit's installation manual.



⚠ WARNING

- Fasten the wiring to the terminal securely and hold the cable securely so as not to apply unexpected stress on the terminal.
Loose connection or hold will cause abnormal heat generation or fire. 
- Make sure the power source is turned off when electric wiring work.
Otherwise, electric shock, malfunction and improper running may occur. 

⚠ CAUTION

- Do not install the remote control at the following places in order to avoid malfunction.

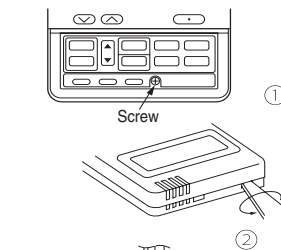
(1) Places exposed to direct sunlight	(4) Hot surface or cold surface enough to generate condensation
(2) Places near heat devices	(5) Places exposed to oil mist or steam directly
(3) High humidity places	(6) Uneven surface


- Do not leave the remote control without the upper case.
In case the upper case needs to be detached, protect the remote control with a packaging box or bag in order to keep it away from water and dust. 

Accessories	Remote control, wood screw (ø3.5x16) 2 pieces
Prepare on site	Remote control cord (2 cores) the insulated thickness in 1mm or more. [In case of embedding cord] Electrical box, M4 screw (2 pieces) [In case of exposing cord] Cord clamp (if needed)

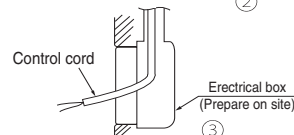
Installation procedure

- ① Open the cover of remote control, and remove the screw under the buttons without fail.
- ② Remove the upper case of remote control.
Insert a flat-blade screwdriver into the dented part of the upper part of the remote control, and wrench slightly.

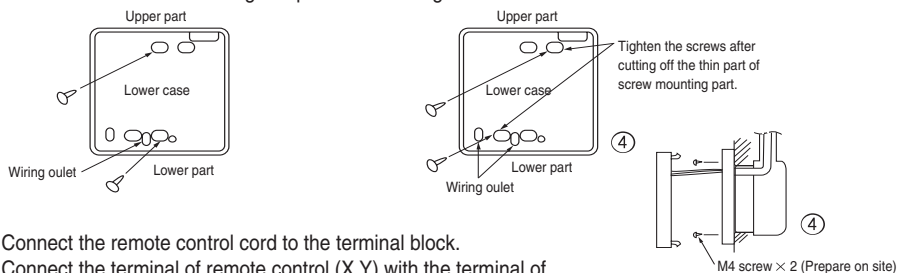


[In case of embedding cord]

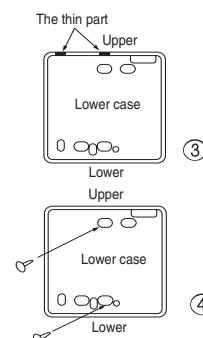
- ③ Embed the electrical box and remote control cord beforehand.



- ④ Prepare two M4 screws (recommended length is 12-16mm) on site, and install the lower case to electrical box. Choose either of the following two positions in fixing it with screws.



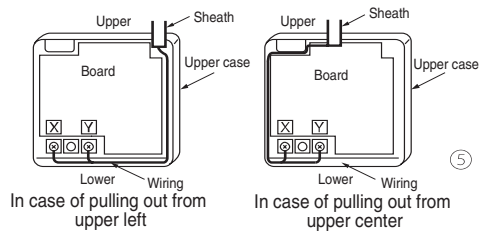
- ⑤ Connect the remote control cord to the terminal block.
Connect the terminal of remote control (X,Y) with the terminal of indoor unit (X,Y). (X and Y are no polarity)
- ⑥ Install the upper case as before so as not to catch up the remote control cord, and tighten with the screws.



[In case of exposing cord]

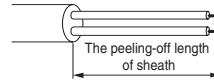
- ③ You can pull out the remote control cord from left upper part or center upper part.
Cut off the upper thin part of remote control lower case with a nipper or knife, and grind burrs with a file etc.
- ④ Install the lower case to the flat wall with attached two wooden screws.

- ⑤ Connect the remote control cord to the terminal block.
Connect the terminal of remote control (X,Y) with the terminal of indoor unit (X,Y).
(X and Y are no polarity)
Wiring route is as shown in the right diagram depending on the pulling out direction.



The wiring inside the remote control case should be within 0.3mm² (recommended) to 0.5mm².
The sheath should be peeled off inside the remote control case.
The peeling-off length of each wire is as below.

Pulling out from upper left	Pulling out from upper center
X wiring : 215mm	X wiring : 170mm
Y wiring : 195mm	Y wiring : 190mm



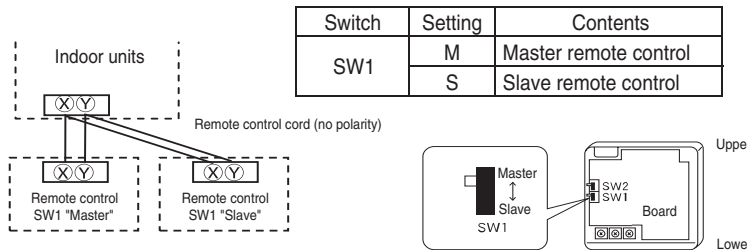
- ⑥ Install the upper case as before so as not to catch up the remote control cord, and tighten with the screws.
- ⑦ In case of exposing cord, fix the cord on the wall with cord clamp so as not to slack.

Installation and wiring of remote control

- ① Wiring of remote control should use 0.3mm² × 2 cores wires or cables. (on-site configuration)
 - ② Maximum prolongation of remote control wiring is 600 m.
If the prolongation is over 100m, change to the size below.
But, wiring in the remote control case should be under 0.5mm². Change the wire size outside of the case according to wire connecting. Waterproof treatment is necessary at the wire connecting section. Be careful about contact failure.
- 100 - 200m.....0.5mm² × 2 cores
Under 300m.....0.75mm² × 2 cores
Under 400m.....1.25mm² × 2 cores
Under 600m.....2.0mm² × 2 cores

Master/ slave setting when more than one remote controls are used

A maximum of two remote controls can be connected to one indoor unit (or one group of indoor units.)



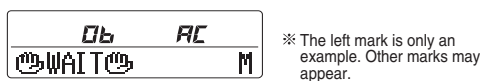
Set SW1 to "Slave" for the slave remote control. It was factory set to "Master" for shipment.
Note: The setting "Remote control sensor enabled" is only selectable with the master remote control in the position where you want to check room temperature.
The air-conditioner operation follows the last operation of the remote control regardless of the master/ slave setting of it.

The indication when power source is supplied

When power source is turned on, the following is displayed on the remote control until the communication between the remote control and indoor unit settled.

Master remote control : " 06 AC WAIT M"
Slave remote control : " 06 AC WAIT S"

At the same time, a mark or a number will be displayed for two seconds first.
This is the software's administration number of the remote control, not an error cord.



When remote control cannot communicate with the indoor unit for half an hour, the below indication will appear.
Check wiring of the indoor unit and the outdoor unit etc.



The range of temperature setting

When shipped, the range of set temperature differs depending on the operation mode as below.

Heating : 16-30°C (55-86°F)

Except heating (cooling, fan, dry, automatic) : 18-30°C (62-86°F)

● **Upper limit and lower limit of set temperature can be changed with remote control.**

Upper limit setting: valid during heating operation. Possible to set in the range of 20 to 30°C (68 to 86°F).

Lower limit setting: valid except heating (automatic, cooling, fan, dry) Possible to set in the range of 18 to 26°C (62 to 79°F).

When you set upper and lower limit by this function, control as below.

- When ⑫ TEMP RANGE SET, remote control function of function setting mode is "INDN CHANGE" (factory setting),
 [If upper limit value is set]

During heating, you cannot set the value exceeding the upper limit.

- [If lower limit value is set]

During operation mode except heating, you cannot set the value below the lower limit.

- When ⑫ TEMP RANGE SET, remote control function of function setting mode is "NO INDN CHANGE"

- [If upper limit value is set]

During heating, even if the value exceeding the upper limit is set, upper limit value will be sent to the indoor unit.

But, the indication is the same as the temperature set.

- [If lower limit value is set]

During except heating, even if the value lower than the lower limit is set, lower limit value will be sent to the indoor unit.

But, the indication is the same as the temperature set.

● **How to set upper and lower limit value**

- Stop the air-conditioner, and press (SET) and (MODE) button at the same time for over three seconds .

The indication changes to "FUNCTION SET ▼".

- Press button once, and change to the "TEMP RANGE ▲" indication.

- Press (SET) button, and enter the temperature range setting mode.

- Select "UPPER LIMIT ▼" or "LOWER LIMIT ▲" by using button.

- Press (SET) button to fix.

- When "UPPER LIMIT ▼" is selected (valid during heating)

① Indication: " ▼ ^ SET UP " → "UPPER 30°C ▼"

② Select the upper limit value with temperature setting button . Indication example: "UPPER 26°C ▼ ^" (blinking)

③ Press (SET) button to fix. Indication example: "UPPER 26°C" (Displayed for two seconds)

After the fixed upper limit value displayed for two seconds, the indication will return to "UPPER LIMIT ▼".

- When "LOWER LIMIT ▲" is selected (valid during cooling, dry, fan, automatic)

① Indication: " ▼ ^ SET UP " → "LOWER 18°C ^"

② Select the lower limit value with temperature setting button . Indication example: "LOWER 24°C ▼ ^" (blinking)

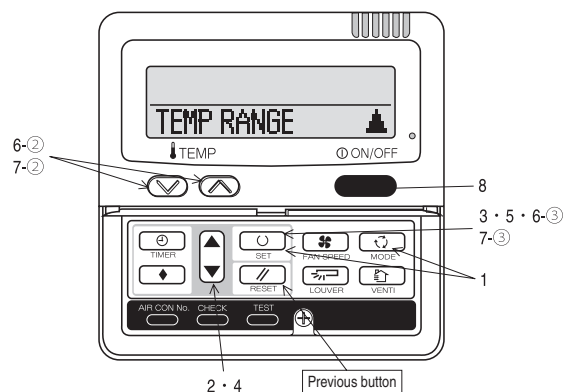
③ Press (SET) button to fix. Indication for example: "LOWER 24°C" (Displayed for two seconds)

After the fixed lower limit value displayed for two seconds, the indication will return to "LOWER LIMIT ▼".

- Press button to finish.

• It is possible to finish by pressing button on the way, but unfinished change of setting is unavailable.

• During setting, if you press (RESET) button, you return to the previous screen.



The functional setting

- The initial functional setting for typical using is performed automatically by the indoor unit connected, when remote control and indoor unit are connected.
- As long as they are used in a typical manner, there will be no need to change the initial settings.
- If you would like to change the initial setting marked "○", set your desired setting as for the selected item.
- The procedure of functional setting is shown as the following diagram.

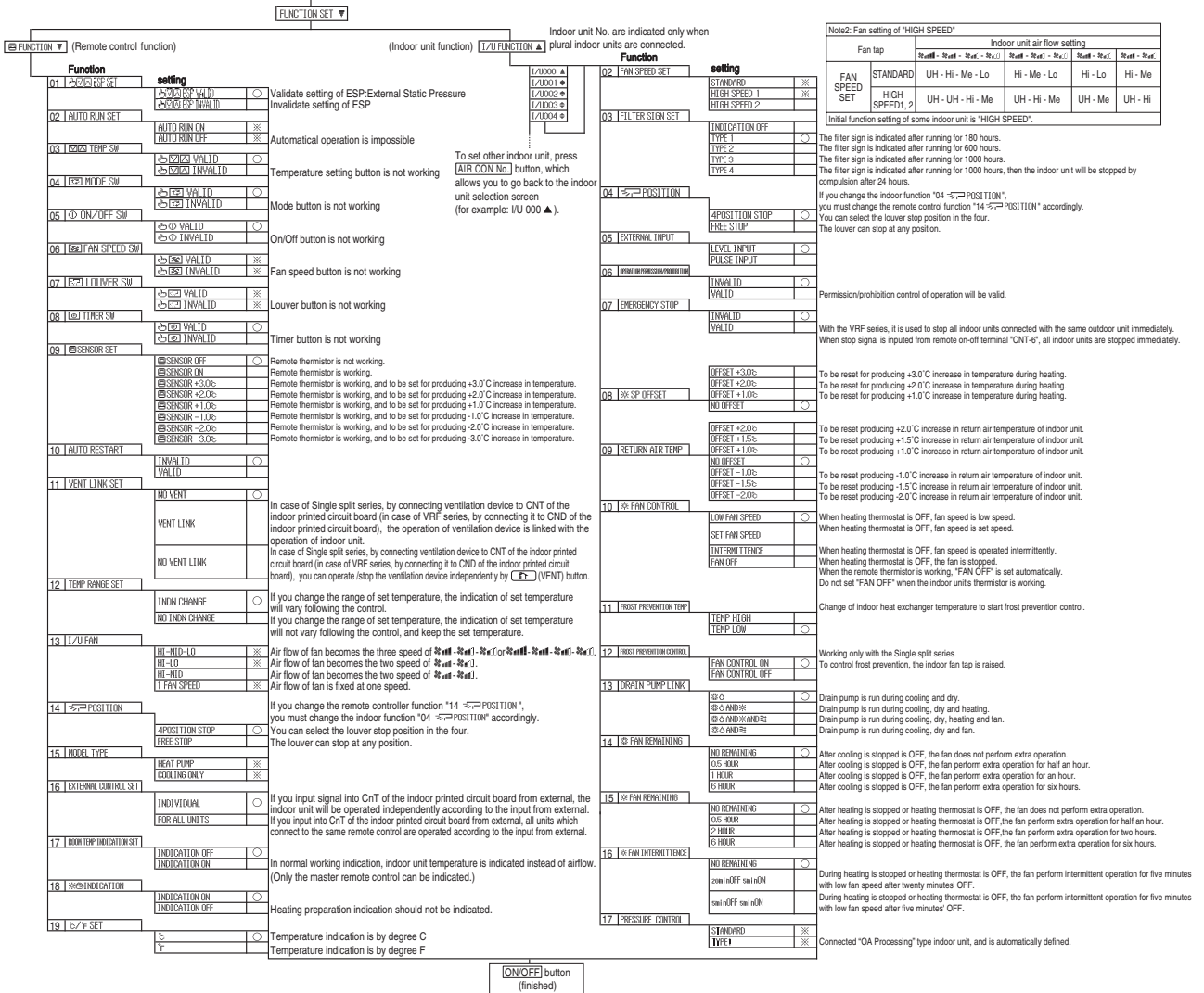
[Flow of function setting]

- Start : Stop air-conditioner and press "○" (SET) and "◀▶" (MODE) buttons at the same time for over three seconds.
- Finalize : Press "○" (SET) button.
- Reset : Press "▲" (RESET) button.
- Select : Press "▲" (UP) button.
- End : Press "ON/OFF" button.
- It is possible to finish above setting on the way, and unfinished change of setting is unavailable.
- * ○ : Initial settings
* ※ : Automatic criterion

Record and keep the setting

Consult the technical data etc. for each control details

Stop air-conditioner and press "○" (SET) + "◀▶" (MODE) buttons at the same time for over three seconds.

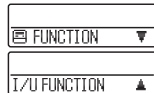


How to set function

1. Stop air-conditioner and press (SET) (MODE) buttons at the same time for over three seconds, and the "FUNCTION SET ▼" will be displayed.



2. Press (SET) button.
3. Make sure which do you want to set, "FUNCTION ▼" (remote control function) or "I/U FUNCTION ▲" (indoor unit function).
4. Press ▲ or ▼ button. Select "FUNCTION ▼" (remote control function) or "I/U FUNCTION ▲" (indoor unit function).



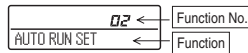
5. Press (SET) button.

6. 【On the occasion of remote control function selection】

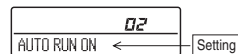
- ① "DATA LOADING" (Indication with blinking)

Display is changed to "01 I/U EXP SET".

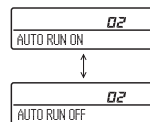
- ② Press ▲ or ▼ button. "No. and function" are indicated by turns on the remote control function table, then you can select from them. (For example)



- ③ Press (SET) button. The current setting of selected function is indicated. (for example) "AUTO RUN ON" ← If "02 AUTO RUN SET" is selected



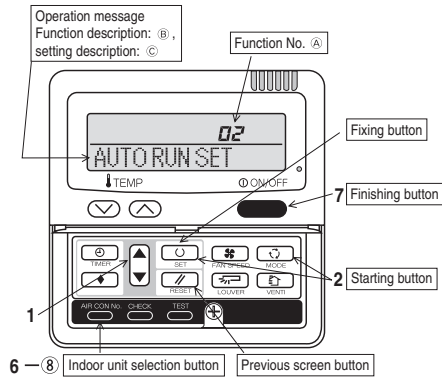
- ④ Press ▲ or ▼ button. Select the setting.



- ⑤ Press (SET) button. "SET COMPLETE" will be indicated, and the setting will be completed. Then after "No. and function" indication returns, Set as the same procedure if you want to set continuously, and if to finish, go to 7.



7. Press (ON/OFF) button. Setting is finished.



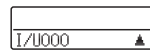
【On the occasion of indoor unit function selection】

- ① "DATA LOADING" (Blinking for 2 to 23 seconds to read the data)

Indication is changed to "02 FAN SPEED SET". Go to ②.

[Note]

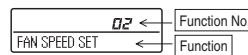
- (1) If plural indoor units are connected to a remote control, the indication is "I/U 000" (blinking) ← The lowest number of the indoor unit connected is indicated.



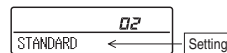
- (2) Press ▲ or ▼ button. Select the number of the indoor unit you are to set. If you select "ALL UNIT ▼", you can set the same setting with all unites.

- (3) Press (SET) button.

- ② Press ▲ or ▼ button. "No. and function" are indicated by turns on the indoor unit function table, then you can select from them. (For example)



- ③ Press (SET) button. The current setting of selected function is indicated. (For example) "STANDARD" ← If "02 FAN SPEED SET" is selected.



- ④ Press ▲ or ▼ button. Select the setting.

- ⑤ Press (SET) button. "SET COMPLETE" will be indicated, and the setting will be completed. Then after "No. and function" indication returns, set as the same procedure if you want to set continuously, and if to finish, go to 7.



※ When plural indoor units are connected to a remote control, press the (AIR CON No.) button, which allows you to go back to the indoor unit selection screen. (example "I/U 000 ▲")


- It is possible to finish by pressing (ON/OFF) button on the way, but unfinished change of setting is unavailable.
- During setting, if you press (RESET) button, you return to the previous screen.
- Setting is memorized in the control and it is saved independently of power failure.

【How to check the current setting】

When you select from "No. and function" and press set button by the previous operation, the "Setting" displayed first is the current setting. (But, if you select "ALL UNIT ▼", the setting of the lowest number indoor unit is displayed.)

1.10.4 Installation of outdoor unit





(1) Models SRC40-60ZSX-S

RWC012A060 

Model SRC20,25,35,40,50,60ZSX-S
SRC20,25,35ZSX-SA
R410A REFRIGERANT USED

• This installation manual deals with an outdoor unit installation only. For an indoor unit installation, refer to page 122.

SAFETY PRECAUTIONS

- Before installation, read the "SAFETY PRECAUTIONS" carefully and strictly follow it during the installation work in order to protect yourself.
 - The precautionary items mentioned below are distinguished into two levels,  **WARNING** and  **CAUTION**.
 -  **WARNING** Indicates a potentially hazardous situation which, if not avoided, can result in serious consequences such as death or severe injury.
 -  **CAUTION** Indicates a potentially hazardous situation which, if not avoided, can result in personal injury or property damage.
- Both mention the important items to protect your health and safety. Therefore, strictly follow them by any means.



WARNING

- **Be sure to use only for residential purpose.**
If this unit is installed in inferior environment such as machine shop, vehicle (like ship), warehouse, etc., it can malfunction.
- **Installation must be carried out by the qualified installer completely in accordance with the installation manual.**
Installation by non qualified person or incorrect installation can cause serious troubles such as water leak, electric shock, fire and personal injury.
- **Be sure to wear protective goggles and gloves while performing installation work.**
Improper safety measures can result in personal injury.
- **Use the original accessories and the specified components for the installation.**
Using parts other than those prescribed may cause water leak, electric shock, fire and personal injury.
- **Do not install the unit near the location where leakage of flammable gases can occur.**
If leaked gases accumulate around the unit, it can cause fire resulting in property damage and personal injury.
- **When installing the unit in small rooms, make sure that refrigerant density does not exceed the limit (Reference: ISO5149) in the event of leakage.**
If refrigerant density exceeds the limit, consult the dealer and install the ventilation system. Otherwise lack of oxygen can occur resulting in serious accident.
- **Install the unit in a location where unit will remain stable, horizontal and free of any vibration transmission.**
Unsuitable installation location can cause the unit to fall resulting in material damage and personal injury.
- **Do not run the unit with removed panels or protections.**
Touching rotating equipments, hot surfaces or high voltage parts can cause personal injury due to entrapment, burn or electric shock.
- **This unit is designed specifically for R410A.**
Using any other refrigerant can cause unit failure and personal injury.
- **Do not vent R410A into atmosphere.**
R410A is a fluorinated greenhouse gas with a Global Warming Potential(GWP)=2088.
- **Make sure that no air enters the refrigerant circuit when the unit is installed and removed.**
If air enters the refrigerant circuit, the pressure in the refrigerant circuit will become too high, which can cause burst and personal injury.
- **Be sure to use the prescribed pipes, flare nuts and tools for R410A.**
Using existing parts (for R22 or R407C) can cause refrigerant circuit burst resulting in unit failure and personal injury.
- **Be sure to connect both liquid and gas connecting pipes properly before operating the compressor.**
Do not open the liquid and gas service valves before completing piping work, and evacuation.
If the compressor is operated when connecting pipes are not connected and service valves are open, air can be sucked into the refrigerant circuit which can cause anomalous high pressure resulting in burst or personal injury.
- **Be sure to tighten the flare nuts to specified torque using the torque wrench.**
Tightening flare nuts with excess torque can cause burst and refrigerant leakage after a long period.
- **During pump down work, be sure to stop the compressor before closing service valves and removing connecting pipes.**
If the connecting pipes are removed when the compressor is in operation and service valves are open, air can be sucked into the refrigerant circuit which can cause anomalous high pressure resulting in burst or personal injury.
- **In the event of refrigerant leakage during installation, be sure to ventilate the working area properly.**
If the refrigerant comes into contact with naked flames, poisonous gases will be produced.
- **Electrical work must be carried out by the qualified electrician, strictly in accordance with national or regional electricity regulations.**
Incorrect installation can cause electric shock, fire or personal injury.
- **Make sure that earth leakage breaker and circuit breaker of appropriate capacities are installed.**
Circuit breaker should be able to disconnect all poles under over current. Absence of appropriate breakers can cause electric shock, personal injury or property damage.
- **Be sure to switch off the power source in the event of installation, maintenance or service.**
If the power source is not switched off, there is a risk of electric shock, unit failure or personal injury.
- **Be sure to tighten the cables securely in terminal block and relieve the cables properly to prevent overloading the terminal blocks.**
Loose connections or cable mountings can cause anomalous heat production or fire.
- **Do not process, splice or modify the power cable, or share the socket with other power plugs.**
Improper power cable or power plug can cause fire or electric shock due to poor connection, insufficient insulation or over-current.
- **Do not perform any change in protective device or its setup condition yourself.**
Changing protective device specifications can cause electric shock, fire or burst.
- **Be sure to clamp the cables properly so that they do not touch any internal component of the unit.**
If cables touch any internal component, it can cause overheating and fire.
- **Be sure to install service cover properly.**
Improper installation can cause electric shock or fire due to intrusion of dust or water.
- **Be sure to use the prescribed power and connecting cables for electrical work.**
Using improper cables can cause electric leak, anomalous heat production or fire.
- **This appliance must be connected to main power source by means of a circuit breaker or switch with a contact separation of at least 3mm.**
Improper electrical work can cause unit failure or personal injury.
- **When plugging this unit, a plug conforming to the norm IEC60884-1 must be used.**
Using improper plug can cause electric shock or fire.
- **Be sure to connect the power source cable with power source properly.**
Improper connection can cause intrusion of dust or water resulting in electric shock or fire.

CAUTION

- **Take care when carrying the unit by hand.**
If the unit weight is more than 20kg, it must be carried by two or more persons.
Do not carry the unit by the plastic straps. Always use the carry handle.
- **Do not install the outdoor unit in a location where insects and small animals can inhabit.**
Insects and small animals can enter the electrical parts and cause damage resulting in fire or personal injury. Instruct the user to keep the surroundings clean.
- **If the outdoor unit is installed at height, make sure that there is enough space for installation, maintenance and service.**
Insufficient space can result in personal injury due to falling from the height.
- **Do not install the unit near the location where neighbours are bothered by noise or air generating from the unit.**
It can affect surrounding environment and cause a claim.
- **Do not install in the locations where unit is directly exposed to corrosive gases (like sulphide gas, chloride gas), sea breeze or salty atmosphere.**
It can cause corrosion of heat exchanger and damage to plastic parts.
- **Do not install the unit close to the equipments that generate electromagnetic waves and/or high-harmonic waves.**
Equipment such as inverters, standby generators, medical high frequency equipments and telecommunication equipments can affect the system, and cause malfunctions and breakdowns.
The system can also affect medical equipment and telecommunication equipment, and obstruct its function or cause jamming.
- **Do not install the unit in the locations where:**
 - There are heat sources nearby.
 - Unit is directly exposed to rain or sunlight.
 - There is any obstacle which can prevent smooth air circulation from inlet and outlet side of the unit.
 - Unit is directly exposed to oil mist and steam such as kitchen.
 - Chemical substances like ammonia (organic fertilizer), calcium chloride (snow melting agent) and acid (sulfurous acid etc.), which can harm the unit, will generate or accumulate.
 - Drain water can not be discharged properly.
 - TV set or radio receiver is placed within 1m.
 - Height above sea level is more than 1000m.
 It can cause performance degradation, corrosion and damage of components, unit malfunction and fire.
- **Dispose of all packing materials properly.**
Packing materials contain nails and wood which can cause personal injury.
Keep the polybag away from children to avoid the risk of suffocation.
- **Do not put anything on the outdoor unit.**
Object may fall causing property damage or personal injury.
- **Do not touch the aluminum fin of the outdoor unit.**
Aluminium fin temperature is high during heating operation. Touching fin can cause burn.
- **Do not touch any refrigerant pipe with your hands when the system is in operation.**
During operation the refrigerant pipes become extremely hot or extremely cold depending on the operating condition. Touching pipes can cause personal injury like burn (hot/cold).
- **Install isolator or disconnect switch on the power source wiring in accordance with the local codes and regulations.**
The isolator should be locked in OFF state in accordance with EN60204-1.

1. ACCESSORIES AND TOOLS

Standard accessories (Supplied with outdoor unit)	Q'ty	Locally procured parts	Tools for installation work		
(1) Drain grommet 	4	(a) Anchor bolt(M10-M12)×4 pcs	Plus headed driver	Spanner wrench	Vacuum pump*
(2) Drain elbow 	1	(b) Putty	Knife	Torque wrench [14.0-62.0N/m(1.4-6.2kgf·m)]	Gauge manifold *
		(c) Electrical tape	Saw	Wrench key (Hexagon) [4mm]	Charge hose *
		(d) Connecting pipe	Tape measure	Flaring tool set *	Vacuum pump adapter* (Anti-reverse flow type)
		(e) Connecting cable	Pipe cutter	Flare adjustment gauge	Gas leak detector *
		(f) Power cable			
		(g) Clamp and screw (for finishing work)			

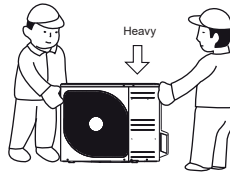
*Not included for SRC20, 25, or 35ZSX-SA.

*Designed specifically for R410A

2. OUTDOOR UNIT INSTALLATION

1. Haulage

- Always carry or move the unit with two or more persons.
 - The right hand side of the unit as viewed from the front (outlet side) is heavier.
- A person carrying the right hand side must take care of this fact. A person carrying the left hand side must hold the handle provided on the front panel of the unit with his right hand and the corner column section of the unit with his left hand.



CAUTION

When a unit is hauled, take care of its gravity center position which is shifted towards right hand side. If the unit is not hauled properly, it can go off balance and fall resulting in serious injury.

2. Selecting the installation location

Select the suitable installation location where:

- Unit will be stable, horizontal and free of any vibration transmission.
- There is no obstacle which can prevent smooth air circulation from inlet and outlet side of the unit.
- There is enough space for service and maintenance of unit.
- Neighbours are not bothered by noise or air generating from the unit.
- Outlet air of the unit does not blow directly to animals or plants.
- Drain water can be discharged properly.
- There is no risk of flammable gas leakage.
- There are no other heat sources nearby.
- Unit is not directly exposed to rain or sunlight.
- Unit is not directly exposed to oil mist and steam.
- Chemical substances like ammonia (organic fertilizer), calcium chloride (snow melting agent) and acid (sulfurous acid etc.), which can harm the unit, will not generate or accumulate.
- Unit is not directly exposed to corrosive gases (like sulphide gas, chloride gas), sea breeze or salty atmosphere.
- No TV set or radio receiver is placed within 1m.
- Unit is not affected by electromagnetic waves and/or high-harmonic waves generated by other equipments.
- Strong wind does not blow against the unit outlet.
- Heavy snowfalls do not occur (If installed, provide proper protection to avoid snow accumulation).

NOTE

If the unit is installed in the area where there is a possibility of strong wind or snow accumulation, the following measures are required.

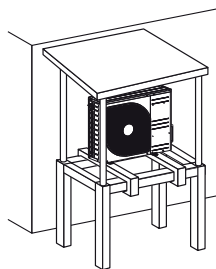
(1) Location of strong wind

- Place the unit with its outlet side facing the wall.
- Place the unit such that the direction of air from the outlet gets perpendicular to the wind direction.



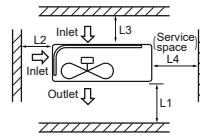
(2) Location of snow accumulation

- Install the unit on the base so that the bottom is higher than snow cover surface.
- Install the unit under eaves or provide the roof on site.



3. Installation space

- There must be 1 meter or larger space between the unit and the wall in at least 1 of the 4 sides. Walls surrounding the unit from 4 sides is not acceptable. The wall height on the outlet side should be 1200 mm or less. Refer to the following figure and table for details.



		(mm)			
Example installation		I	II	III	IV
Size	L1	Open	280	260	180
	L2	100	75	Open	Open
	L3	100	80	80	80
	L4	250	Open	250	Open

NOTE

When more than one unit are installed side by side, provide a 250mm or wider interval between them as a service space.

CAUTION

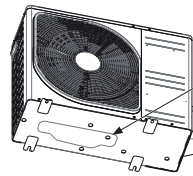
When more than one unit are installed in parallel directions, provide sufficient inlet space so that short-circuiting may not occur.

4. Drain piping work (If necessary)

Carry out drain piping work by using a drain elbow and a drain grommet supplied separately as accessories if condensed water needs to be drained out.

- Install drain elbow and drain grommet.
- Seal around the drain elbow and drain grommet with putty or adequate caulking material.

<SRC20/25/35/40/50/60ZSX-S>

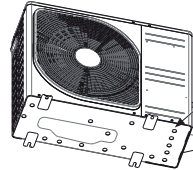


Do not put a grommet on this hole. This is a supplementary drain hole to discharge drain water, when a large amount of it is gathered.

CAUTION

Do not use drain elbow and drain grommet if there is a possibility to have several consecutive days of sub zero temperature. (There is a risk of drain water freezing inside and blocking the drain.)

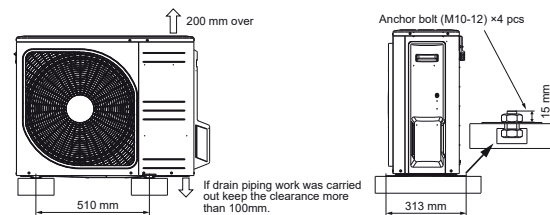
<SRC20/25/35ZSX-SA>



Do not block the drain holes when installing the outdoor unit.

5. Installation

- Install the unit on a flat level base.
- While installing the unit, keep space and fix the unit's legs with 4 anchor bolts as shown in the figure below. The protrusion of an anchor bolt from the foundation surface must be kept within 15mm.



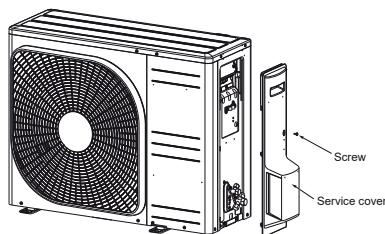
CAUTION

- Install the unit properly so that it does not fall over during earthquake, strong wind, etc.
- Make sure that unit is installed on a flat level base. Installing unit on uneven base may result in unit malfunction.

3. PREPARATION FOR WORK

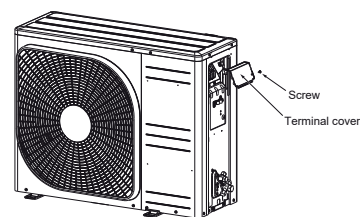
1. Removing service cover

Remove the screw. Slide service cover downwards and remove it.



2. Removing terminal cover

Remove the screw and take out terminal cover.

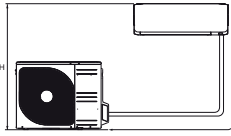


4. CONNECTING PIPING WORK

1. Restrictions on unit installation

Abide by the following restrictions on unit installation. Improper installation can cause compressor failure or performance degradation.

	Dimensional restrictions	
	Model SRC20/25/35	Model SRC40/50/60
Connecting pipe length(L)	25m or less	30m or less
Elevation difference between indoor and outdoor units(H)*	15m or less	20m or less



* Outdoor unit installation position can be higher as well as lower than the indoor unit installation position.

2. Preparation of connecting pipe

2.1. Selecting connecting pipe

Select connecting pipe according to the following table.

	Model SRC20/25/35	Model SRC40/50/60
Gas pipe	ø9.52	ø12.7
Liquid pipe	ø6.35	ø6.35

- Pipe wall thickness must be greater than or equal to 0.8 mm.
- Pipe material must be O-type (Phosphorus deoxidized seamless copper pipe ICS 23.040.15, ICS 77.150.30).

NOTE

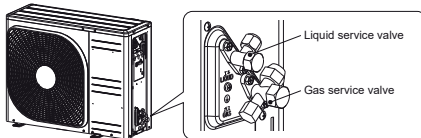
If it is required to reuse the existing connecting pipe system, refer to 5. UTILIZATION OF EXISTING PIPE.

2.2. Cutting connecting pipe

- (1) Cut the connecting pipe to the required length with pipe cutter.
- (2) Hold the pipe downward and remove the burrs. Make sure that no foreign material enters the pipe.
- (3) Cover the connecting pipe ends with the tape.

3. Piping work

Check that both liquid and gas service valves are fully closed. Carry out the piping work with service valves fully closed.



3.1. Flaring pipe

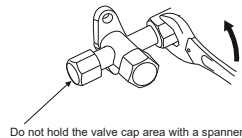
- (1) Take out flare nuts from the service valves of outdoor unit and engage them onto connecting pipes.
- (2) Flare the pipes according to table and figure shown below. Flare dimensions for R410A are different from those for conventional refrigerant. Although it is recommended to use the flaring tools designed specifically for R410A, conventional flaring tools can also be used by adjusting the measurement of protrusion B with a flare adjustment gauge.

Copper pipe outer diameter	A ₀ -0.4	B	Copper pipe outer diameter	
			Rigid (clutch) type R410A	Conventional
ø6.35	9.1		ø6.35	
ø9.52	13.2		ø9.52	0.0-5
ø12.7	16.6		ø12.7	1.0-1.5

3.2. Connecting pipes

- (1) Connect pipes on both liquid and gas sides.
- (2) Tighten nuts to specified torque shown in the table below.

Service valve size (mm)	Tightening torque (N·m)
ø6.35 (1/4")	14-18
ø9.52 (3/8")	34-42
ø12.7 (1/2")	49-61



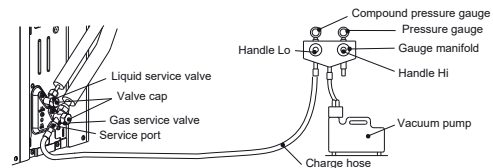
CAUTION

- Do not apply refrigerating machine oil to the flared surface. It can cause refrigerant leakage.
- Do not apply excess torque to the flared nuts. The flared nuts may crack resulting in refrigerant leakage.

4. Evacuation

- (1) Connect vacuum pump to gauge manifold. Connect charge hose of gauge manifold to service port of outdoor unit.
- (2) Run the vacuum pump for at least one hour after the vacuum gauge shows -0.1MPa (-76cm Hg).
- (3) Confirm that the vacuum gauge indicator does not rise even if the system is left for 15 minutes or more. Vacuum gauge indicator will rise if the system has moisture left inside or has a leakage point. Check the system for the leakage point. If leakage point is found, repair it and return to (1) again.
- (4) Close the Handle Lo and stop the vacuum pump. Keep this state for a few minutes to make sure that the compound pressure gauge pointer does not swing back.
- (5) Remove valve caps from liquid service valve and gas service valve.
- (6) Turn the liquid service valve's rod 90 degree counterclockwise with a hexagonal wrench key to open valve. Close it after 5 seconds, and check for gas leakage. Using soapy water, check for gas leakage from indoor unit's flare and outdoor unit's flare and valve rods. Wipe off all the water after completing the check.
- (7) Disconnect charging hose from gas service valve's service port and fully open liquid and gas service valves. (Do not attempt to turn valve rod beyond its stop.)
- (8) Tighten service valve caps and service port cap to the specified torque shown in the table below.

Service valve size (mm)	Service valve cap tightening torque (N·m)	Service port cap tightening torque (N·m)
ø6.35 (1/4")	20-30	10-12
ø9.52 (3/8")		
ø12.7 (1/2")	25-35	



CAUTION

- To prevent the entering of different oil into the refrigeration system, do not use tools designed for any other refrigerant type (R22, R407C, etc.).
- To prevent vacuum pump oil from entering into the refrigerant system, use a counterflow prevention adapter.

5. Additional refrigerant charge

Additional refrigerant charge is required only when connecting pipe length exceeds 15 m.

5.1 Calculating additional refrigerant charge

Additional refrigerant charge can be calculated using the formula given below. Additional refrigerant charge (g) = { Connecting pipe length (m) - Factory charged length 15 (m) } x 20 (g/m)

NOTE

- If additional refrigerant charge calculation result is negative, there is no need to remove the refrigerant.
- If refrigerant recharge is required for the unit with connecting pipe length 15m or shorter, charge the factory charged volume as shown in the table below.

	Model SRC 20/25/35	Model SRC40/50/60
Factory charged volume(kg)	1.45	1.50

5.2 Charging refrigerant

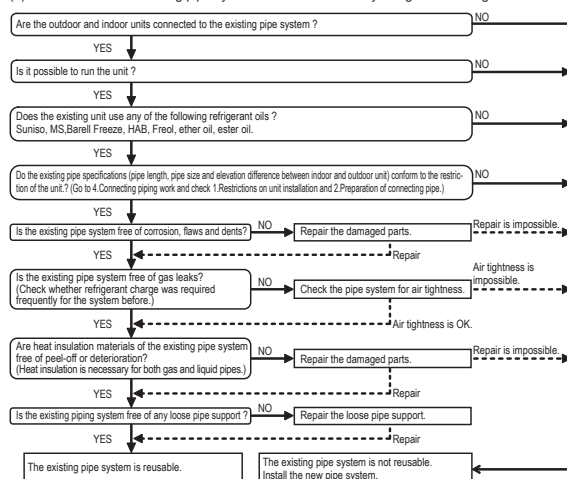
- (1) Charge the R410A refrigerant in liquid phase from service port with both liquid and gas service valves shut. Since R410A refrigerant must be charged in the liquid phase, make sure that refrigerant is discharged from the cylinder in the liquid phase all the time.
- (2) When it is difficult to charge a required refrigerant volume, fully open both liquid and gas service valves and charge refrigerant, while running the unit in the cooling mode. When refrigerant is charged with the unit being run, complete the charge operation within 30 minutes.
- (3) Write the additional refrigerant charge calculated from the connecting pipe length on the label attached on the service cover.

CAUTION

Running the unit with an insufficient quantity of refrigerant for a long time can cause unit malfunction.

5. UTILIZATION OF EXISTING PIPE

- (1) Check whether an existing pipe system is reusable or not by using the following flow chart.



NOTE

- Consult with our distributor in the area, if you need to recover refrigerant and charge it again.
- (2) Clean the existing pipe system according to the procedure given below.
 - (a) Carry out forced cooling operation of existing unit for 30 minutes. For "Forced cooling operation" refer to the indoor unit installation manual.
 - (b) Stop the indoor fan and carry out forced cooling operation for 3 minutes (Liquid return).
 - (c) Close the liquid service valve of the outdoor unit and carry out pump down operation (Refer to 6. PUMP DOWN).
 - (d) Blow with nitrogen gas. If discolored refrigeration oil or any foreign matter is discharged by the blow, wash the pipe system or install a new pipe system.
- (3) Remove the flare nuts from the existing pipe system. Go back to 4. Connecting Piping work and proceed to step 2.2 Cutting connecting pipe.

CAUTION

Do not use the old flare nuts (of existing unit). Make sure that the flare nuts supplied with the (new) outdoor unit are used.

* If the existing piping is specified as liquid pipe ø9.52 or gas pipe ø12.7, refer to the following. (SRC40.50 and 60 only)

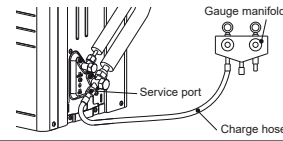
<Table of pipe size restrictions>

Additional charge volume per meter of pipe		0.06kg/m
Pipe size	Liquid pipe	ø9.52
	Gas pipe	ø12.7
Maximum one-way pipe length		10
Length covered without additional charge		5

Additional charge volume (kg) = (Main pipe length (m) - Length covered without additional charge shown in the table (m)) X Additional charge volume per meter of pipe shown in the table (kg/m)

6. PUMP DOWN

- Connect charge hose of gauge manifold to service port of outdoor unit.
- Close the liquid service valve with hexagonal wrench key.
- Fully open the gas service valve with hexagonal wrench key.
- Carry out forced cooling operation (For forced cooling operation procedure, refer to indoor unit installation manual).
- When the low pressure gauge becomes 0.01MPa, close the gas service valve and stop forced cooling operation.



7. ELECTRICAL WIRING WORK

⚠ WARNING

- Make sure that all the electrical work is carried out in accordance with the national or regional electrical standards.
- Make sure that the earth leakage breaker and circuit breaker of appropriate capacities are installed (Refer to the table given below).
- Do not turn on the power until the electrical work is completed.
- Do not use a condensive capacitor for power factor improvement under any circumstances. (It does not improve power factor. Moreover, it can cause an abnormal overheat accident).

Breaker specifications

Model	Phase	Earth leakage breaker	Circuit breaker
SRC20/25/35	Single phase	Leakage current: 30mA, 0.1sec or less	Over current: 16A
SRC40/50/60			Over current: 20A

Main fuse specification

Model	Specification	Parts No.	Code on LABEL,WIRING
SRC20/25/35	250V 15A	SSA564A136	F7
SRC40/50/60	250V 20A	SSA564A136A	F4

1.Preparing cable

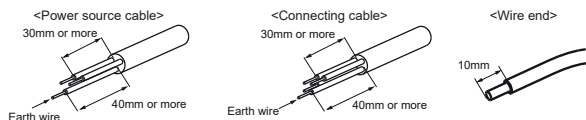
- Selecting cable
Select the power source cable and connecting cable in accordance with the specifications mentioned below.

- Power source cable
3-core* 2.0mm² or more, conformed with 60245 IEC57(CENELEC H05RN-F)
When selecting the power source cable length, make sure that voltage drop is less than 2%.
If the wire length gets longer, increase the wire diameter.

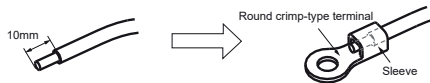
- Connecting cable
4-core* 1.5mm², conformed with 60245 IEC57(CENELEC H05RN-F)
* 1 Earth wire is included (Yellow/Green)

- Arrange each wire length as shown below.

Make sure that each wire is stripped 10mm from the end.



- Attach round crimp-type terminal to each wire as shown in the below.
Select the size of round crimp-type terminal after considering the specifications of terminal block and wire diameter.



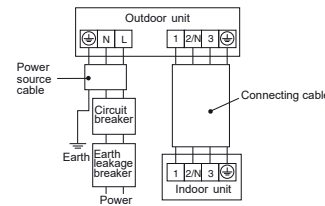
⚠ CAUTION

Power source cable and connecting cable must conform to the specifications mentioned in the manual. Using cables with wrong specifications may result in unit malfunction.

2.Connecting cable

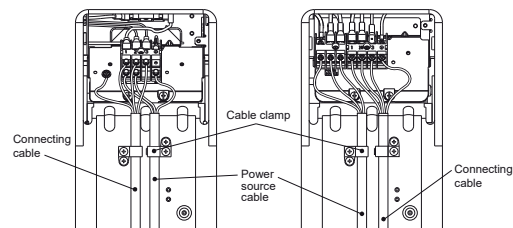
- Remove the service cover.
- Connect the cables according to the instructions and figures given below.
 - Connect the earth wire of power source cable.
An earth wire must be connected before connecting the other wires of power source cable. Keep the earth wire longer than the remaining two wires of power source cable.
 - Connect the remaining two wires (N and L) of power source cable.
 - Connect the wires of connecting cable. Make sure that for each wire, outdoor and indoor side terminal numbers match.
- Fasten the cables properly with cable clamps so that no external force may work on terminal connections.
Moreover, make sure that cables do not touch the piping, etc. When cables are connected, make sure that all electrical components within the electrical component box are free of loose connector coupling or terminal connection.

<Circuit diagram>



<SRC20/25/35>

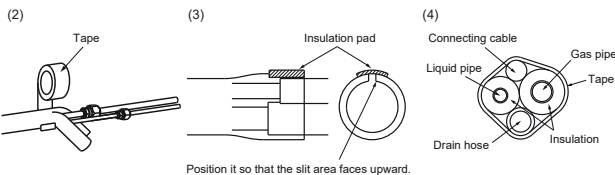
<SRC40/50/60>



8. FINISHING WORK

1. Heating and condensation prevention

- Dress the connecting pipes (both liquid and gas pipes) with insulation to prevent it from heating and dew condensation.
Use the heat insulating material which can withstand 120°C or higher temperature. Make sure that insulation is wrapped tightly around the pipes and no gap is left between them.
- Wrap the refrigerant pipings of indoor unit with indoor unit heat insulation using tape.
- Cover the flare-connected joints (indoor side) with the indoor unit heat insulation and wrap it with an insulation pad (standard accessory provided with indoor unit).
- Wrap the connecting pipes, connecting cable and drain hose with the tape.



Position it so that the slit area faces upward.

NOTE

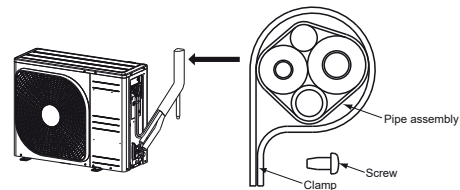
Locations where relative humidity exceeds 70%, both liquid and gas pipes need to be dressed with 20mm or thicker heat insulation materials.

⚠ CAUTION

- Improper insulation can cause condensate(water) formation during cooling operation. Condensate can leak or drip causing damage to household property.
- Poor heat insulating capacity can cause pipe outer surface to reach high temperature during heating operation. It can cause cable deterioration and personal injury.

2.Finishing work

- Make sure that the exterior portion of connecting pipes, connecting cable and drain hose is wrapped properly with tape. Shape the connecting pipes to match with the contours of the pipe assembly route.
- Fix the pipe assembly with the wall using clamps and screws. Pipe assembly should be anchored every 1.5m or less to isolate the vibration.
- Install the service cover securely. Water may enter the unit if service cover is not installed properly, resulting in unit malfunction and failure.



⚠ CAUTION

Make sure that the connecting pipes do not touch the components within the unit. If pipes touch the internal components, it may generate abnormal sounds and/or vibrations.

9. INSTALLATION TEST CHECK POINTS

After finishing the installation work, check the following points again before turning on the power. Conduct test run (Refer to indoor unit installation manual) and ensure that the unit operates properly.

Power source voltage complies with the rated voltage of air-conditioner.	
Earth leakage breaker and circuit breaker are installed.	
Power cable and connecting cable are securely fixed to the terminal block.	
Both liquid and gas service valves are fully open.	

No gas leaks from the joints of the service valves.	
Indoor and outdoor side pipe joints have been insulated.	
Drain hose (if installed) is fixed properly.	
Screw of the service cover is tightened properly.	

PSC012D062F

Inverter driven single split PAC

71V

Designed for R410A refrigerant

(2) Model FDC71VNX

- ⓘ This installation manual deals with outdoor units and general installation specifications only. For indoor units, refer to page 122.
- ⓘ When install the unit, be sure to check whether the selection of installation place, power source specifications, usage limitation (piping length, height differences between indoor and outdoor units, power source voltage and etc.) and installation spaces

SAFETY PRECAUTIONS

● We recommend you to read this "SAFETY PRECAUTIONS" carefully before the installation work in order to gain full advantage of the functions of the unit and to avoid malfunction due to mishandling.

● The precautions described below are divided into **⚠ WARNING** and **⚠ CAUTION**. The matters with possibilities leading to serious consequences such as death or serious personal injury due to erroneous handling are listed in the **⚠ WARNING** and the matters with possibilities leading to personal injury or damage of the unit due to erroneous handling including probability leading to serious consequences in some cases are listed in **⚠ CAUTION**. **These are very important precautions for safety. Be sure to observe all of them without fail.**

● The meaning of "Marks" used here are as shown below.

⊘ Never do it under any circumstance. **⚠** Always do it according to the instruction

● Be sure to confirm no anomaly on the equipment by commissioning after completed installation and explain the operating methods as well as the maintenance methods of this equipment to the user according to the owner's manual.

● Keep the installation manual together with owner's manual at a place where any user can read at any time. Moreover if necessary, ask to hand them to a new user



Check before installation work

- Model name and power source
- Refrigerant piping length
- Piping, wiring and miscellaneous small parts
- Indoor unit installation manual

⚠ WARNING

<ul style="list-style-type: none"> ● Installation must be carried out by the qualified installer. If you install the system by yourself, it may cause serious trouble such as water leaks, electric shocks, fire and personal injury, as a result of a system malfunction. ● Install the system in full accordance with the instruction manual. Incorrect installation may cause bursts, personal injury, water leaks, electric shocks and fire. ● Use the original accessories and the specified components for installation. If parts other than those prescribed by us are used, it may cause fall of the unit, water leaks, electric shocks, fire, refrigerant leak, substandard performance, control failure and personal injury. ● When installing in small rooms, take prevention measures not to exceed the density limit of refrigerant in the event of leakage accordance with the instruction manual. Consult the expert about prevention measures. If the density of refrigerant exceeds the limit in the event of leakage, lack of oxygen can occur, which can cause serious accidents. ● Ventilate the working area well in the event of refrigerant leakage during installation. If the refrigerant comes into contact with naked flames, poisonous gas is produced. ● After completed installation, check that no refrigerant leaks from the system. If refrigerant leaks into the room and comes into contact with an oven or other hot surface, poisonous gas is produced. ● Hang up the unit at the specified points with ropes which can support the weight in lifting for portage. And to avoid jolting out of alignment, be sure to hang up the unit at 4-point support. An improper manner of portage such as 3-point support can cause death or serious personal injury due to falling of the unit. ● Install the unit in a location with good support. Unstable installation locations can cause the unit to fall and cause material damage and personal injury. ● Ensure the unit is stable when installed, so that it can withstand earthquakes and strong winds. Unstable installation locations can cause the unit to fall and cause material damage and personal injury. ● The electrical installation must be carried out by the qualified electrician in accordance with "the norm for electrical work" and "national wiring regulation", and the system must be connected to the dedicated circuit. Power source with insufficient capacity and incorrect function done by improper work can cause electric shocks and fire. ● Be sure to shut off the power before starting electrical work. Failure to shut off the power can cause electric shocks, unit failure or incorrect function of equipment. ● Be sure to use the cables conformed to safety standard and cable ampacity for power distribution work. Unconformable cables can cause electric leak, anomalous heat production or fire. ● Use the prescribed cables for electrical connection, tighten the cables securely in terminal block and relieve the cables correctly to prevent overloading the terminal blocks. Loose connections or cable mountings can cause anomalous heat production or fire. ● Arrange the wiring in the control box so that it cannot be pushed up further into the box. Install the service panel correctly. Incorrect installation may result in overheating and fire. 	<ul style="list-style-type: none"> ● Do not perform brazing work in the airtight room It can cause lack of oxygen. ● Use the prescribed pipes, flare nuts and tools for R410A. Using existing parts (for R22 or R407C) can cause the unit failure and serious accidents due to burst of the refrigerant circuit. ● Tighten the flare nut by using double spanners and torque wrench according to prescribed method. Be sure not to loosen the flare nut too much. Loose flare connection or damage on the flare part by tightening with excess torque can cause burst or refrigerant leaks which may result in lack of oxygen. ● Do not open the service valves for liquid line and gas line until completed refrigerant piping work, air tightness test and evacuation. If the compressor is operated in state of opening service valves before completed connection of refrigerant piping work, you may incur frost bite or injury from an abrupt, refrigerant outflow and air can be sucked into refrigerant circuit, which can cause burst or personal injury due to anomalously high pressure in the refrigerant. ● Only use prescribed optional parts. The installation must be carried out by the qualified installer. If you install the system by yourself, it can cause serious trouble such as water leaks, electric shocks, fire. ● Do not perform any change of protective device itself or its setup condition The forced operation by short-circuiting protective device of pressure switch and temperature controller or the use of non specified component can cause fire or burst. ● Be sure to switch off the power source in the event of installation, inspection or servicing. If the power source is not shut off, there is a risk of electric shocks, unit failure or personal injury due to the unexpected start of fan. ● Consult the dealer or an expert regarding removal of the unit. Incorrect installation can cause water leaks, electric shocks or fire. ● Stop the compressor before closing valve and disconnecting refrigerant pipes in case of pump down operation. If disconnecting refrigerant pipes in state of opening service valves before compressor stopping, you may incur frost bite or injury or pressure in the refrigerant circuit and air can be sucked, which can cause burst or personal injury due to anomalously high pressure in the refrigerant circuit. ● Ensure that no air enters in the refrigerant circuit when the unit is installed and removed. If air enters in the refrigerant circuit, the pressure in the refrigerant circuit becomes too high, which can cause burst and personal injury. ● Do not run the unit with removed panels or protections Touching rotating equipments, hot surfaces or high voltage parts can cause personal injury due to entrapment, burn or electric shocks. ● Be sure to fix up the service panels. Incorrect fixing can cause electric shocks or fire due to intrusion of dust or water. ● Do not perform any repairs or modifications by yourself. Consult the dealer if the unit requires repair. If you repair or modify the unit, it can cause water leaks, electric shocks or fire.
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	CAUTION	<ul style="list-style-type: none"> ● Carry out the electrical work for ground lead with care Do not connect the ground lead to the gas line, water line, lightning conductor or telephone line's ground lead. Incorrect grounding can cause unit faults such as electric shocks due to short-circuiting. Never connect the grounding wire to a gas pipe because a gas leak could cause explosion or ignition. ● Use the circuit breaker for all pipe with correct capacity Using the incorrect circuit breaker can cause the unit malfunction and fire. ● Install isolator or disconnect switch on the power source wiring in accordance with the local codes and regulations. The isolator should be located in accordance with EN60204-1. ● Take care when carrying the unit by hand. If the unit is carried by two or more persons, do not carry by the plastic steps, always use the carry handle when carrying the unit by hand. Use gloves to minimize the risk of cuts by the aluminum fins. ● Dispose of any packing materials correctly. Do not use any packing materials for personal injury as it contains nails and wood. And to avoid danger of suffocation, be sure to keep the plastic wrap away from children and to dispose after heat it up. ● Pay attention not to damage the drain pan by wear spatter when welding work is done near the indoor unit. If heat spatter entered the indoor unit during welding work, it can cause phosgene in drain pan and result in water leakage. To prevent such damage, keep the indoor unit in its packing or cover it. ● Be sure to perform air tightness test by pressurizing with nitrogen gas after completed refrigerant piping work. Insufficient insulation can cause condensation, which can lead to moisture damage on the ceiling, floor, furniture and any other valuables. ● Perform installation work properly according to this installation manual. If the density of refrigerant exceeds the limit in the event of refrigerant leakage in the small room, lack of oxygen can occur, which can cause serious accidents. Improper installation can cause abnormal vibrations or increased noise generation. ● Earth leakage breaker must be installed If the earth leakage breaker is not installed, it can cause fire or electric shocks. ● Do not use any materials other than a fuse with the correct rating in the location where fuses are to be used. Connecting the circuit with copper wire or other metal thread can cause unit failure and fire. ● Do not install the unit near the location where leakage of combustible gases can occur. If leaked gases accumulate around the unit, it can cause fire. ● Do not install the unit where corrosive gas (such as sulfuric acid gas etc.) or combustible gas (such as thinner and petroleum gases) can accumulate or collect, or where volatile combustible substances are handled. Corrosive gas can cause corrosion of heat exchanger, breakage of plastic parts and etc. And combustible gas can cause fire. ● Secure a space for installation, inspection and maintenance specified in the manual. Insufficient space can result in accident such as personal injury due to falling from the installation place. ● When the outdoor unit is installed on a roof or a high place, provide permanent ladders and handrails along the access route and fences and handrails around the outdoor unit. If safety facilities are not provided, it can cause personal injury due to falling from the installation place. ● Do not install nor use the system close to the equipment that generates electromagnetic fields or high frequency harmonics Equipment such as inverters, standby generators, medical high frequency equipments and telecommunication equipments can affect the system, and cause malfunctions and breakdowns. The system can also affect medical equipment and telecommunication equipment, and obstruct its function or cause jamming. ● Do not install the outdoor unit in a location where insects and small animals can enter. Insects and small animals can enter the electric parts and cause damage or fire. Instruct the user to keep the surroundings clean.
	CAUTION	<ul style="list-style-type: none"> ● Do not use the base frame for outdoor unit which is corroded or damaged due to long periods of operation. Using an old and damaged base frame can cause the unit falling down and cause personal injury. ● Do not install the unit in the locations listed below <ul style="list-style-type: none"> • Locations where there are carbon fibers, meth powder or any powder is floating. • Locations where any substances that can affect the unit such as sulphide gas, chloride gas, acid and alkaline can occur. • Vehicles and ships. • Locations where cosmetic or special sprays are often used. • Locations with direct exposure of mist and steam such as kitchen and machine plant. • Locations where any machines which generate high frequency harmonics are used. • Locations with salty atmospheres such as coastlines. • Locations with heavy snow (if installed, be sure to provide base frame and snow hood mentioned in the manual) • Locations where the unit is exposed to chimney smoke • Locations at high altitude (more than 1000m high) • Locations with ammonia, atmospheres. • Locations where heat radiation from other heat source can affect the unit • Locations with any obstacles which can prevent inlet and outlet air of the unit • Locations where short circuit of air can occur (in case of multiple units installation) • Locations where strong air blow against the air outlet of outdoor unit It can cause remarkable decrease in performance, corrosion and damage of components, malfunction and fire. ● Do not install the outdoor unit in the locations listed below. <ul style="list-style-type: none"> • Locations where discharged hot air or operating sound of the outdoor unit can bother neighborhood • Locations where outlet air of the outdoor unit blows directly to an animal or plants. The outlet air can affect adversely to the plant etc. • Locations where vibration and operation sound generated by the outdoor unit can affect seriously. (on the wall or at the place near bed room) • Locations where an equipment affected by high harmonics is placed. (TV set or radio receiver is placed within 5m) • Locations where drainage cannot run off safely. It can affect surrounding environment and cause a claim ● Do not use the unit for special purposes such as storing foods, cooling precision instruments and preservation of animals, plants or art. It can cause the damage of the items. ● Do not touch any buttons with wet hands It can cause electric shocks ● Do not touch any refrigerant pipes with your hands when the system is in operation During operation the refrigerant pipes become extremely hot or extremely cold depending the operating condition, and it can cause burn injury or frost injury. ● Do not clean up the unit with water It can cause electric shocks ● Do not operate the outdoor unit with any article placed on it. You may incur property damage or personal injury from a fall of the article. ● Do not step onto the outdoor unit. You may incur injury from a drop or fall.

Notabilia as a unit designed for R410A

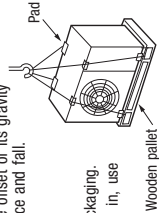
- Do not use any refrigerant other than R410A. R410A will rise to pressure about 1.6 times higher than that of a conventional refrigerant.
- A cylinder containing R410A has a pink indication mark on the top.
- A unit designed for R410A has adopted a different size indoor unit service valve charge port and a different size check joint provided in the unit to prevent the charging of a wrong refrigerant by mistake. The processed dimension of the flared part of a refrigerant pipe and a flare nut's parallel side measurement have also been altered to raise strength against pressure. Accordingly, you are required to arrange dedicated R410A tools listed in the table on the right before installing or servicing this unit.
- Do not use a charge cylinder. The use of a charge cylinder will cause the refrigerant composition to change, which results in performance degradation.
- In charging refrigerant, always take it out from a cylinder in the liquid phase.
- All indoor units must be models designed exclusively for R410A. Check connectable indoor unit models in a catalog, etc. (A wrong indoor unit, if connected into the system, will impair proper system operation)

	Dedicated R410A tools
a)	Gauge manifold
b)	Charge hose
c)	Electronic scale for refrigerant charging
d)	Torque wrench
e)	Flare tool
f)	Protusion control copper pipe gauge
g)	Vacuum pump adapter
h)	Gas leak detector

1. HAULAGE AND INSTALLATION (Take particular care in carrying in or moving the unit, and always perform such an operation with two or more persons.)

CAUTION

When a unit is hoisted with slings for haulage, take into consideration the offset of its gravity center position. If not properly balanced, the unit can be thrown off-balance and fall.



1) Delivery

- Deliver the unit as close as possible to the installation site before removing it from the packaging.
- When some compelling reason necessitates the unpacking of the unit before it is carried in, use nylon slings or protective wood pieces so as not to damage the unit by ropes lifting it.

2) Portage

- The right hand side of the unit as viewed from the front (diffuser side) is heavier. A person carrying the right hand side must take heed of this fact. A person carrying the left hand side must hold with his right hand the handle provided on the front panel of the unit and with his left hand the corner column section.



2) Determination of pipe size

- Determine refrigerant pipe size pursuant to the following guidelines based on the indoor unit specifications.

	Model 7TV	
	Gas pipe	Liquid pipe
Outdoor unit connected	φ15.88 Flare	φ9.52 Flare
	φ15.88	φ9.52
In the case of a single type	Indoor unit connected	φ15.88
	Capacity of indoor unit	Model 7TV
In the case of a twin type	Branching pipe set	DIS-WA1
	Refrigerant piping (branch pipe L1, L2)	φ12.7
Capacity of indoor unit	Indoor unit connected	φ12.7
		Model 40V×2

CAUTION

- When the 40V model is connected as an indoor unit, always use a φ9.52 liquid pipe for the branch (branching pipe – indoor unit) and a different diameter joint supplied with the indoor unit (φ6.35 on the liquid pipe side).
- If a φ6.35 pipe is used for connection with a branching pipe, a refrigerant distribution disorder may occur, causing one of the indoor units to fall short of the rated capacity.
- A riser pipe must be a part of the main. A branching pipe set should be installed horizontally at a point as close to an indoor unit as possible.
- A branching part must be dressed with a heat-insulation material supplied as an accessory.
- For the details of installation work required at and near a branching area, see the installation manual supplied with your branching pipe set.

3) Refrigerant pipe wall thickness and material

- Select refrigerant pipes of the table shown on the right wall thickness and material as specified for each pipe size.

Pipe diameter [mm]	6.35	9.52	12.7	15.88
Minimum pipe wall thickness [mm]	0.8	0.8	0.8	1.0
Pipe material*	O-type pipe	O-type pipe	O-type pipe	O-type pipe

- Select pipes having a wall thickness larger than the specified minimum pipe thickness.
- *Phosphorus deoxidized seamless copper pipe C1220T, JIS H 3300

4) On-site piping work

- Take care so that installed pipes may not touch components within a unit. If touching with an internal component, it will generate abnormal sounds and/or vibrations.

IMPORTANT

How to remove the side cover

Please remove the screw of a side cover and remove to the front.

- Carry out the on-site piping work with the service valve fully closed.
- Give sufficient protection to a pipe end (compressed and brazed, or with an adhesive tape) so that water or foreign matters may not enter the piping.
- Band a pipe to a radius as large as practical (R100-R150). Do not bend a pipe repeatedly to correct its form.
- Flare connection is used between the unit and refrigerant pipe. Flare a pipe after engaging a flare nut onto it. Flare dimensions for R410A are different from those for conventional R407C. Although we recommend the use of flaring tools designed specifically for R410A, conventional flaring tools can also be used by adjusting the measurement of protrusion B with a protrusion control gauge.
- The pipe should be anchored every 1.3m or less to isolate the vibration.
- Tighten a flare joint securely with a double spanner.

CAUTION

Do not apply force beyond proper fastening torque in tightening the flare nut.

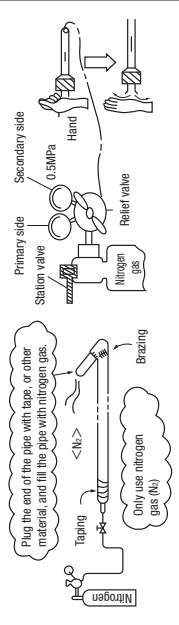
Fix both liquid and gas service valves at the valve main bodies as illustrated on the right, and then fasten them, applying appropriate fastening torque.

Service valve size (mm)	Tightening torque (N·m)	Tightening angle (°)	Recommended length of a tool handle (mm)
φ6.35 (1/4")	14-18	45-60	150
φ9.52 (3/8")	34-42	30-45	200
φ12.7 (1/2")	49-61	30-45	250
φ15.88(5/8")	68-82	15-20	300

About brazing

Brazing must be performed under a nitrogen gas flow.

Without nitrogen gas, a large quantity of foreign matters (oxidized film) are created, causing a critical failure from capillary tube or expansion valve clogging.

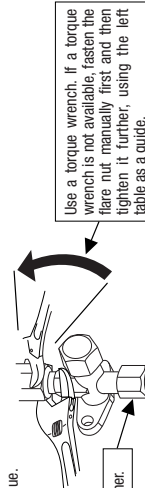
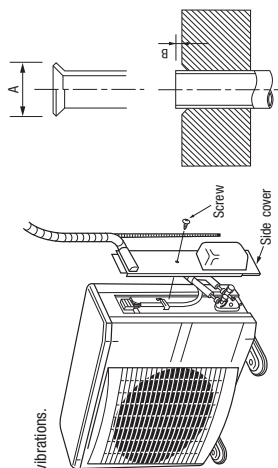


Flared pipe end: A (mm)

Copper pipe outer diameter	A
φ6.35	9.1
φ9.52	13.2
φ12.7	16.6
φ15.88	19.7

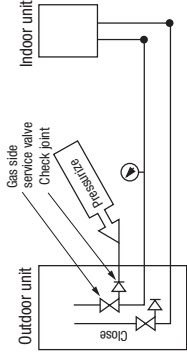
Copper pipe protrusion for flaring: B (mm)

Copper pipe outer diameter	B
φ6.35	0-0.5
φ9.52	0-0.5
φ12.7	0-0.5
φ15.88	0.7-1.3



5) Air tightness test

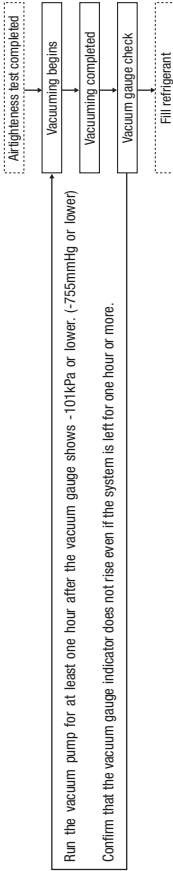
- ① Although outdoor and indoor units themselves have been tested for air tightness at the factory, check the connecting pipes after the installation work for air tightness from the service valve's check joint equipped on the outdoor unit side. While conducting a test, keep the service valve shut all the time.
 - a) Raise the pressure to 0.5 MPa, and then stop. Leave it for five minutes to see if the pressure drops.
 - b) Then raise the pressure to 1.5 MPa, and stop. Leave it for five more minutes to see if the pressure drops.
 - c) Then raise the pressure to the specified level (4.15 MPa), and record the ambient temperature and the pressure.
 - d) If no pressure drop is observed with an installation pressurized to the specified level, and left for about one day, it is acceptable. When the ambient Temperature fall 1°C, the pressure also fall approximately 0.01 MPa. The pressure, if changed, should be compensated for.
 - e) If a pressure drop is observed in checking e) and a) - d), a leak exists somewhere. Find a leak by applying bubble test liquid to welded parts and flare joints and repair it. After repair, conduct an air-tightness test again.
- ② In conducting an air-tightness test, use nitrogen gas and pressurize the system with nitrogen gas from the gas side. Do not use a medium other than nitrogen gas under any circumstances.



6) Evacuation

<Work flow>

When the system has remaining moisture inside or a leaky point, the vacuum gauge indicator will rise. Check the system for a leaky point and then draw air to create a vacuum again.



Pay attention to the following points in addition to the above for the R410A and compatible machines.

- To prevent a different oil from entering, assign dedicated tools, etc. to each refrigerant type. Under no circumstances must a gauge manifold and a charge hose in particular be shared with other refrigerant types (R22, R407C, etc.).
- Use a counterflow prevention adapter to prevent vacuum pump oil from entering the refrigerant system.

7) Additional refrigerant charge

(1) Calculate a required refrigerant charge volume from the following table.

Model	Standard refrigerant charge volume (kg)	Pipe length for standard refrigerant charge volume (m)	Additional charge volume (kg) per meter of refrigerant piping (liquid pipe, φ6.35)	Refrigerant volume charged for shipment at the factory (kg)	Installation's pipe length (m) covered without additional refrigerant charge
Model 7TV	2.35	20	0.06	2.95	30

- This unit contains factory charged refrigerant covering 30m of refrigerant piping and additional refrigerant charge on the installation site is not required for an installation with up to 30m refrigerant piping. When refrigerant piping exceeds 30m, additionally charge an amount calculated from the pipe length and the above table for the portion in excess of 30m.
- When refrigerant piping is shorter than 3m, reduce refrigerant by 1kg from the factory charge volume and adjust to 1.95kg.
- If an existing pipe system is used, a required refrigerant charge volume will vary depending on the liquid pipe size. For further information, please see "6. UTILIZATION OF EXISTING PIPING."

Formula to calculate the volume of additional refrigerant required

$$\text{Additional charge volume (kg)} = \{ \text{Main pipe length (m)} - \text{Length covered without additional charge (30 m)} \} \times 0.06 \text{ (kg/m)} + \text{Total length of branch pipes (m)} \times 0.06 \text{ (kg/m)}$$

- For an installation measuring 3m or longer, but not more than 20m, in pipe length, please charge the standard refrigerant charge volume, when you recharge refrigerant after servicing etc.
- When refrigerant piping is shorter than 3m, recharge 1.95kg of refrigerant.

Ex.) For a 10m installation, charge 2.35 kg of refrigerant.
For a 25m installation, charge "2.35 + (25-20) x 0.06 = 2.65 kg."

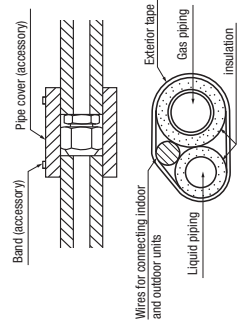
(2) Charging refrigerant

- Since R410A refrigerant must be charged in the liquid phase, you should charge it, keeping the container cylinder upside down or using a refrigerant cylinder equipped with a siphon tube. Charge refrigerant always from the liquid side service port with the service valve shut. When you find it difficult to charge a required amount, fully open the outdoor unit valves on both liquid and gas sides and charge refrigerant from the gas (suction) side service port, while running the unit in the cooling mode. In doing so, care must be taken so that refrigerant may be discharged from the cylinder in the liquid phase all the time. When the cylinder valve is throttled down or a dedicated conversion tool to change liquid-phase refrigerant into mist is used to protect the compressor, however, adjust charge conditions so that refrigerant will gassy upon entering the unit.
- In charging refrigerant, always charge a calculated volume by using a scale to measure the charge volume.
- When refrigerant is charged with the unit being run, complete a charge operation within 30 minutes. Running the unit with an insufficient quantity of refrigerant for a long time can cause a compressor failure.

NOTE Put down the refrigerant volume calculated from the pipe length onto the caution label attached on the back side of the service panel.

8) Heating and condensation prevention

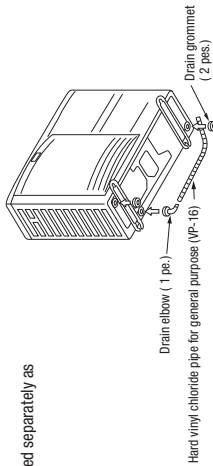
- (1) Dress refrigerant pipes (both gas and liquid pipes) for heat insulation and prevention of dew condensation.
 - Improper heat insulation/anti-dew dressing can result in a water leak or dripping causing damage to household effects, etc.
- (2) Use a heat insulating material that can withstand 120°C or a higher temperature. Poor heat insulating capacity can cause heat insulation problems or cable deterioration.
 - All gas pipes must be securely heat insulated in order to prevent damage from dripping water that comes from the condensation formed on them during a cooling operation or personal injury from burns because their surface can reach quite a high temperature due to discharged gas flowing inside during a heating operation.
 - Wrap indoor units' flare joints with heat insulating parts (pipe cover) for heat insulation (both gas and liquid pipes).
 - Give heat insulation to both gas and liquid side pipes. Bundle a heat insulating material and a pipe tightly together so that no gaps may be left between them and wrap them together with a connecting cable by a dressing tape.
 - Although it is verified in a test that this air-conditioning unit shows satisfactory performance under JIS condensation test conditions, **both gas and liquid pipes need to be dressed with 20 mm or thicker heat insulation materials above the ceiling where relative humidity exceeds 70%.**



*When an additional charge volume calculation result is negative, it is not necessary to charge refrigerant additionally.

3. DRAIN PIPING WORK

- Execute drain piping by using a drain elbow and drain grommets supplied separately as optional parts, where water drained from the outdoor unit is a problem.



- There are 3 drain holes provided on the bottom plate of an outdoor unit to discharge condensed water.
- When condensed water needs to be led to a drain, etc., install the unit on a flat base (supplied separately as an optional part) or concrete blocks.
- Connect a drain elbow as shown in the illustration and close the other two drain holes with grommets.

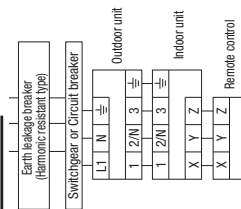
4. ELECTRICAL WIRING WORK For details of electrical cabling, refer to the indoor unit installation manual.

- Electrical installation work must be performed by an electrical installation service provider qualified by a power provider of the country.
- Electrical installation work must be executed according to the technical standards and other regulations applicable to electrical installations in the country.
- Do not use any supply cord lighter than one specified in parentheses for each type below.
 - braided cord (code designation 60245 IEC 51).
 - ordinary tough rubber sheathed cord (code designation 60245 IEC 53)
 - flat twin tinned cord (code designation 60227 IEC 41).
 - Do not use anything lighter than polychloroprene sheathed flexible cord (code designation 60245 IEC57) for supply cords of parts of appliances for outdoor use.
 - Ground the unit. Do not connect the grounding wire to a gas pipe, water pipe, lightning rod or telephone grounding wire.
 - If improper grounded, an electric shock or malfunction may result.
 - A grounding wire must be connected before connecting the power cable.
 - The installation of an impulse withstanding type earth leakage breaker is necessary. A failure to install an earth leakage breaker can result in an accident such as an electric shock or a fire.
 - Do not turn on the power until the electrical work is completed.
 - Do not use a condensive capacitor for power factor improvement under any circumstances. (It does not improve power factor, while it can cause an abnormal overheat accident)
 - For power source cables, use conduits.
 - Do not lay electronic control cables (remote control and signaling wires) and other cables together outside the unit. Laying them together can result in the malfunctioning or a failure of the unit due to electric noises.
 - Fasten cables so that they may not touch the piping, etc.
 - When cables are connected, make sure that all electrical components within the electrical component box are free of loose connector coupling or terminal connection and then attach the cover securely. Improper cover attachment can result in malfunctioning or a failure of the unit, if water penetrates into the box.)
 - Always use a three-core cable for an indoor-outdoor connecting cable. Never use a shield cable.

Power cable, indoor-outdoor connecting wires

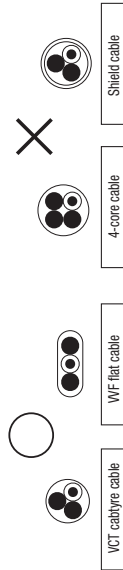
- Always perform grounding system installation work with the power cord unplugged.

CAUTION Always use an earth leakage circuit breaker designed for inverter circuits to prevent a faulty operation.

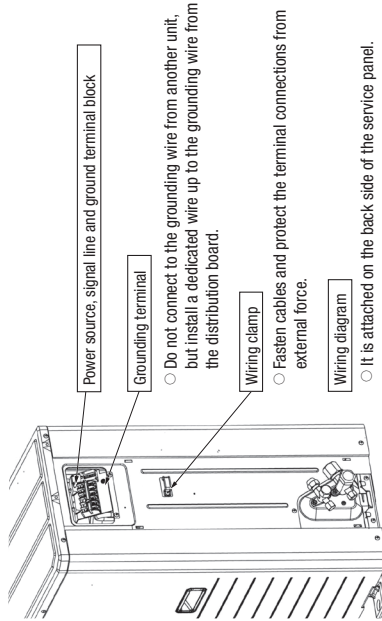


Model	Power source	Power cable thickness (mm²)	MAX. over current (A)	Cable length (m)	Grounding wire thickness	Indoor-outdoor wire thickness X number
71V	Single phase 3 wire 220-240V 50Hz	3.5	17	21	φ1.6mm	φ1.6mm x 3

- The specifications shown in the above table are for units without heaters. For units with heaters, refer to the installation instructions or the construction instructions of the indoor unit.
- Switchgear or Circuit breaker capacity which is calculated from MAX. over current should be chosen along the regulations in each country.
- The cable specifications are based on the assumption that a metal or plastic conduit is used with no more than three cables contained in a conduit and a voltage drop is 2%. For an installation falling outside of these conditions, follow the internal cabling regulations. Adapt it to the regulation in effect in each country.



- Connect a pair bearing a common terminal number with an indoor-outdoor connecting wire.
- In cabling, fasten cables securely with cable clamps so that no external force may work on terminal connections.
- Grounding terminals are provided in the control box.



- Fasten cables and protect the terminal connections from external force.
- It is attached on the back side of the service panel.

PSC012D066H 
Inverter driven split PAC
100VN~140VN, 100VS~140VS
100VNX~140VNX, 100VSX~140VSX
Designed for R410A refrigerant

③ This installation manual deals with outdoor units and general installation specifications only. For indoor units, refer to page 122.
 ④ When install the unit, be sure to check whether the selection of installation place, power source specifications, usage limitation (piping length, height differences between indoor and outdoor units, power source voltage and etc.) and installation spaces



(3) Models FDC100-140VNX, 100-140VSX

SAFETY PRECAUTIONS

● We recommend you to read this "SAFETY PRECAUTIONS", carefully before the installation work in order to gain full advantage of the functions of the unit and to avoid malfunction due to mishandling.


● The precautions described below are divided into **⚠ WARNING** and **⚠ CAUTION**. The matters with possibilities leading to serious consequences such as death or serious personal injury due to erroneous handling are listed in the **⚠ WARNING** and the matters with possibilities leading to personal injury or damage of the unit due to erroneous handling including probability leading to serious consequences in some cases are listed in **⚠ CAUTION**. **These are very important precautions for safety. Be sure to observe all of them without fail.**

● The meaning of "Marks" used here are as shown below.

<p> Never do it under any circumstance.</p> <p>● For 3 phase power source outdoor unit, ENG1000-3-2 is not applicable if consent by the utility company or notification to the utility company is given before usage.</p> <p>● 3 phase power source unit, both indoor and outdoor, is suitable for installation in a commercial and light industrial environment, if installed as a house-hold appliance. It could cause electromagnetic interference.</p> <p>● 5 and 6 HP units of single phase power source are equipment complying with IEC 61000-3-12.</p> <p>● Be sure to confirm no anomaly on the equipment by commissioning after completed installation and explain the operating methods as well as the maintenance methods of this equipment to the user according to the owner's manual.</p> <p>● Keep the installation manual together with owner's manual at a place where any user can read at any time. Moreover if necessary, ask to hand them to a new user</p>	<p> Always do it according to the instruction</p>
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Check before installation work

[Accessory]

Edging		1 piece knock-out hole protection
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- Model name and power source
- Refrigerant piping length
- Piping, wiring and miscellaneous small parts
- Indoor unit installation manual

WARNING

<p>⚠ Installation must be carried out by the qualified installer. If you install the system by yourself, it may cause serious trouble such as water leaks, electric shocks, fire and personal injury, as a result of a system malfunction.</p> <p>● Install the system in full accordance with the instruction manual. Incorrect installation may cause bursts, personal injury, water leaks, electric shocks and fire.</p> <p>● Use the original accessories and the specified components for installation. If parts other than those prescribed by us are used, it may cause fall of the unit, water leaks, electric shocks, fire, refrigerant leak, substandard performance, control failure and personal injury.</p> <p>● When installing in small rooms, take prevention measures not to exceed the density limit of refrigerant in the event of leakage according with ISO5148. Once the expert safety prevention measures, if the density of refrigerant exceeds the limit in the event of leakage, lack of oxygen can occur, which can cause serious accidents.</p> <p>● Ventilate the working area well in the event of refrigerant leakage during installation. If the refrigerant comes into contact with naked flames, poisonous gas is produced.</p> <p>● After completed installation, check that no refrigerant leaks from the system. If refrigerant leaks into the room and comes into contact with an open or other hot surface, poisonous gas is produced.</p> <p>● Hang up the unit at the specified points with ropes which can support the weight in wiring for portage. Avoid pulling out or alignment, be sure to hang up the unit at 4-point support. An improper manner of portage such as 3-point support can cause death or serious personal injury due to falling of the unit.</p> <p>● Install the unit in a location with good support. Unsuitable installation locations can cause the unit to fall and cause material damage and personal injury.</p> <p>● Ensure the unit is stable when installed so that it can withstand earthquakes and strong winds. Unsuitable installation locations can cause the unit to fall and cause material damage and personal injury.</p> <p>● The electrical installation must be carried out by the qualified electrician in accordance with "the norm for electrical work" and "national wiring regulation", and the system must be connected to the dedicated circuit. Power source with insufficient capacity and incorrect function done by improper work can cause electric shocks and fire.</p> <p>● Be sure to shut off the power before starting electrical work. Failure to shut off the power can cause electric shocks, unit failure or incorrect function of equipment.</p> <p>● Be sure to use the cables conforming to safety standard and cable assembly for power distribution work. Unconformable cables can cause electric leak, anomalous heat production or fire.</p> <p>● Use the prescribed cables for electrical connection, tighten the cables securely in terminal block and relieve the cables correctly to prevent loose connections or cable routings can cause anomalous heat production or fire.</p> <p>● Arrange the wiring in the control box so that it cannot be pushed up further into the box. Install the service panel correctly. Incorrect installation may result in overheating and fire.</p>	<p>● Do not perform brazing work in the airtight room It can cause lack of oxygen.</p> <p>● Use the prescribed pipes, flare nuts and tools for R410A. Using existing parts (for R22 or R407D) can cause the unit failure and serious accidents due to burst of the refrigerant circuit.</p> <p>● Tighten the flare nut by using double spanners and torque wrench according to prescribed method. Be sure not to tighten the flare nut too much. Loose flare connection or damage on the flare part by tightening with excess torque can cause burst or refrigerant leaks which may result in lack of oxygen.</p> <p>● Do not open the service valves for liquid line and gas line until completed refrigerant piping work, air tightness test and evacuation. If the compressor is operated in state of opening service valves before completed connection of refrigerant piping work, you may incur frost bite or personal injury. Moreover, the refrigerant and oil can be sucked into refrigerant circuit, which can cause burst or personal injury due to anomalously high pressure in the refrigerant.</p> <p>● Only use prescribed optional parts. The installation must be carried out by the qualified installer. If you install the system by yourself, it can cause serious trouble such as water leaks, electric shocks, fire.</p> <p>● Do not perform any change of protective device itself or its setup condition The forced operation by short-circuiting, protective device or pressure switch and temperature controller or the use of non specified component can cause fire or burst.</p> <p>● Be sure to switch off the power source in the event of installation, inspection or servicing. If the power source is not shut off, there is a risk of electric shocks, unit failure or personal injury due to the unexpected start of fan.</p> <p>● Consult the dealer or an expert regarding removal of the unit. Incorrect installation can cause water leaks, electric shocks or fire.</p> <p>● Stop the compressor before closing valve and disconnecting refrigerant pipes in case of pump down operation. If disconnecting refrigerant pipes in state of opening service valves before compressor stopping, you may incur frost bite or injury from an abrupt refrigerant outflow and air can be sucked, which can cause burst or personal injury due to anomalously high pressure in the refrigerant circuit.</p> <p>● Ensure that no air enters in the refrigerant circuit when the unit is installed and removed. If air enters in the refrigerant circuit, the pressure in the refrigerant circuit becomes too high, which can cause burst and personal injury.</p> <p>● Do not run the unit with removed panels or protections Touching rotating equipments, hot surfaces or high voltage parts can cause personal injury due to entrapment, burn or electric shocks.</p> <p>● Be sure to fix up the service panels. Incorrect fixing can cause electric shocks or fire due to intrusion of dust or water.</p> <p>● Do not perform any repairs or modifications by yourself. Consult the dealer if the unit requires repair. If you repair or modify the unit, it can cause water leaks, electric shocks or fire.</p>
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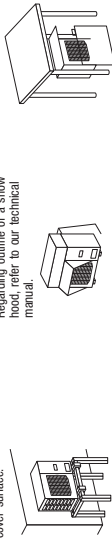
3) Selection of installation location for the outdoor unit

- Be sure to select a suitable installation place in consideration of following conditions.
- A place where it is horizontal, stable and can reduce the unit weight and will not allow vibration transmission of the unit.
 - A place where it can be free from possibility of both noise neighbors due to noise or exhaust air from the unit.
 - A place where the unit is not exposed to oil splashes.
 - A place where drain water can be disposed without any trouble.
 - A place where snow will not accumulate.
 - A place where the unit can be kept away 5m or more from TV set and/or radio receiver in order to avoid any radio or TV interference.
 - A place where good air circulation can be secured, and enough service space can be secured for maintenance and service of the unit safely.
 - A place where chemical substances like sulfuric gas, chlorine gas, acid and alkali (including ammonia), which can harm the unit, do not exist.
 - A place where strong wind will not blow against the outlet air blow of the unit.
 - Do not install the unit in places which exposed to sea breeze (e.g. coastal area) or calcium chloride (e.g. snow melting agent), exposed to ammonia substance (e.g. organic fertilizer).

4) Caution about selection of installation location

(1) If the unit is installed in the area where the snow will accumulate, following measures are required.

1. Install the unit on the base so that the bottom is higher than snow cover surface.
2. Provide a snow hood to the outdoor unit on site. Regarding outline of a snow hood, refer to our technical manual.
3. Install the unit under eaves or provide the roof on site.

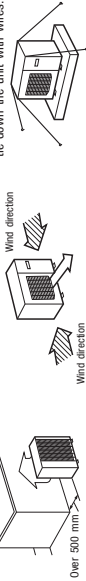


Since drain water generated by defrost control may freeze, following measures are required.

- Don't execute drain piping work by using a drain elbow and drain grommets (option parts). [Refer to Drain piping work.]
- Recommend setting Defrost Control (SW3-1) and Snow Guard Fan Control (SW3-2). [Refer to Setting SW3-1, SW3-2.]
- Attach heater on a base plate on site, if there is possibility to freeze drain water. In case that the product has a corrective drainage system, the drainage paths should have suitable measure against freezing but be sure not to meet the material of drainage paths with heat.

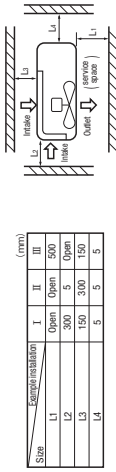
(2) If the unit can be affected by strong wind, following measures are required.

1. Strong wind can cause damage of fan (fan motor), or can cause performance degradation, or can trigger anomalous stop of the unit due to rising of high pressure.
2. Install the outlet air blow side of the unit in a position perpendicular to face a wall of building, or provide a fence or a windbreak screen.
3. Install the unit in a position perpendicular to the direction of wind, if the foundation is not level, tie down the unit with wires.



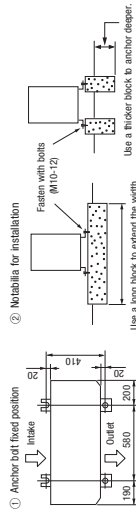
5) Installation space

- Walls surrounding the unit in the four sides are not acceptable.
- The clearance between the unit and the wall must be 150 mm or more.
- Where a space of short-circuiting exists, install guide lowers.
- Where more than one unit are installed, provide sufficient intake space consciously so that short-circuiting may not occur.
- Where piling snow can bury the outdoor unit, provide proper snow guards.
- A barrier wall placed in front of the exhaust diffuser must not be higher than the unit.



Size	Example installation				
	I	II	III	IV	V
L1	Open	Open	500	Open	Open
L2	300	300	S	5	Open
L3	150	150	300	150	150
L4	5	5	S	5	5

6) Installation



- In installing the unit, fix the unit's legs with bolts specified on the left.
 - The protrusion of an anchor bolt on the front side must be kept within 15 mm.
 - Securely install the unit so that it does not fall over during earthquakes or strong winds, etc.
 - Refer to the left illustrations for information regarding concrete foundations.
 - Install the unit in a level area. (With a gradient of 5 mm or less.)
- Improper installation can result in a compressor failure, broken piping within the unit and abnormal noise generation.

7) To run the unit for a cooling operation, when the outdoor temperature is -5°C or lower.

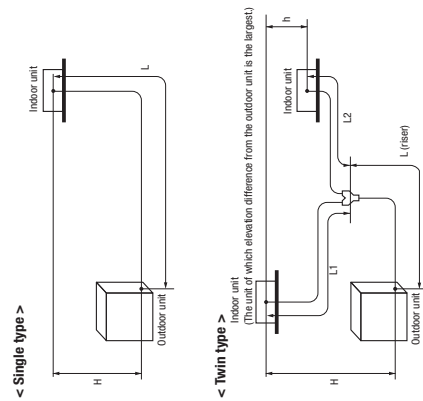
- When the outdoor air temperature is -5°C or lower, provide a snow hood to the outdoor unit on site.
- So that strong wind will not blow against the outdoor heat exchanger directly. Regarding outline of a snow hood, refer to our technical manual.

2. REFRIGERANT PIPING WORK

1) Restrictions on unit installation and use

- Check the following points in light of the indoor unit specifications and the installation site.
- Observe the following restrictions on unit installation and use. Improper installation can result in a compressor failure or performance degradation.

Descriptions	Models for outdoor units		Models depending on the room	
	Model type	Dimensional limitations	Single type	Twin type
One-way pipe length of refrigerant piping	140W/L, 125W/L, 100W/S, 125S/S	≤ 50m	L	L+L1+L2
	140W/L, 140S/S	≤ 100m	L	L+L1+L2+L3
	100W/L, 125W/L, 100W/S, 125S/S, 140W/L, 140S/S	≤ 50m	-	L+L1+L2+L3
	100W/L, 125W/L, 100W/S, 125S/S, 140W/L, 140S/S	≤ 100m	-	L
One-way pipe length between the first branching point from the second branching point	140W/L, 140S/S	≤ 5m	-	La
	140W/L, 125W/L, 100W/S, 125S/S	≤ 5m	-	-
One-way pipe length after the first branching point	All Models	≤ 30m	-	L1, L2
	140W/L, 140S/S	≤ 30m	-	L1, L2, L3
One-way pipe length after the first branching point and second branching point	140W/L, 140S/S	≤ 27m	-	-
	100W/L, 140S/S	≤ 27m	-	La+L2, La+L3, h
One-way pipe length difference between the indoor and outdoor units	All Models	≤ 10m	-	-
	140W/L, 140S/S	≤ 10m	-	L1+L2 L1+L2+L3 L1+L2+L3+L4
One-way pipe length difference for the second branching point	140W/L, 140S/S	≤ 10m	-	-
	140W/L, 140S/S	≤ 10m	-	L1+L2 L1+L2+L3 L1+L2+L3+L4
Elevation difference between indoor and outdoor units	When the outdoor unit is installed higher	≤ 30m	H	H
	When the outdoor unit is installed lower	≤ 10m	H	H
Elevation difference between indoor units	-	≤ 0.5m	-	h
	-	-	-	h1, h2, h3



CAUTION

- The use restrictions appearing in the table above are applicable to the standard pipe size combinations shown in the table below. Where an existing pipe system is utilized, different one-way pipe length restrictions should apply depending on its pipe size. For more information, see "UTILIZATION OF EXISTING PIPING."
- With the triple pipe connection, the way of use is different when the difference of one-way pipe length after the first branching point is 3m to 10m. For details, refer to the above table and right figure.

Note (1) Install the indoor units so that L₁ + L₂ or (L₁ + L₃) becomes the longest one-way pipe. Keep the pipe length difference between L₁ and (L₁ + L₂) or (L₁ + L₃) within 10m.

2) Determination of pipe size

- Determine refrigerant pipe size pursuant to the following guidelines based on the indoor unit specifications.

	Model 100V		Model 125V		Model 140V	
	Gas pipe	Liquid pipe	Gas pipe	Liquid pipe	Gas pipe	Liquid pipe
Outdoor unit connected	φ15.88	φ9.52	φ15.88	φ9.52	φ15.88	φ9.52
Refrigerant piping (Main pipe L)	Flare	Flare	Flare	Flare	Flare	Flare
Indoor unit connected	φ15.88	φ9.52	φ15.88	φ9.52	φ15.88	φ9.52
In the case of a single type	φ15.88	φ9.52	φ15.88	φ9.52	φ15.88	φ9.52
Capacity of indoor unit	Model 100V					
Branching pipe set	φ12.7	φ6.35	φ12.7	φ6.35	φ12.7	φ6.35
Branching pipe set (Branching pipe L1, L2)	φ12.7	φ6.35	φ12.7	φ6.35	φ12.7	φ6.35
Branching pipe set (Branching pipe L3)	φ12.7	φ6.35	φ12.7	φ6.35	φ12.7	φ6.35
Branching pipe set (After branch pipe L4)	φ12.7	φ6.35	φ12.7	φ6.35	φ12.7	φ6.35
Refrigerant piping (Branching pipe L1, L2, L3)	Model 50V-2					
Branching pipe set	φ12.7	φ6.35	φ12.7	φ6.35	φ12.7	φ6.35
Refrigerant piping (Branching pipe L1, L2, L3)	φ12.7	φ6.35	φ12.7	φ6.35	φ12.7	φ6.35
Indoor unit connected	φ12.7	φ6.35	φ12.7	φ6.35	φ12.7	φ6.35
Capacity of indoor unit	Model 50V-3					

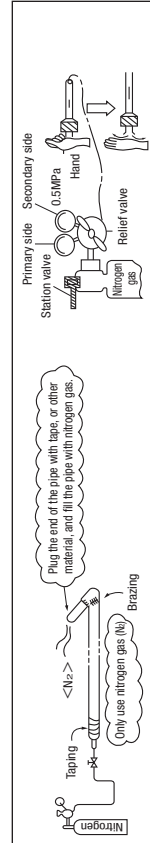
CAUTION

- When the 50V or 60V model is connected as an indoor unit, always use a φ9.52 liquid pipe for the branch (branching pipe - indoor unit) and a different diameter pipe for the main (main pipe - outdoor unit). If a φ6.35 pipe is used for connection with a branching pipe, a refrigerant distribution disorder may occur, causing one of the indoor units to fail short of the rated capacity.
- A riser pipe must be a part of the main. A branching pipe set should be installed horizontally at a point as close to an indoor unit as possible. A branching part must be dressed with a heat-insulation material supplied as an accessory.
- For the details of installation work required at and near a branching area, see the installation manual supplied with your branching pipe set.

About brazing

Brazing must be performed under a nitrogen gas flow.

Without nitrogen gas, a large quantity of foreign matters (oxidized film) are created, causing a critical failure from capillary tube or expansion valve clogging.



3) Refrigerant pipe wall thickness and material

- Select refrigerant pipes of the table shown on the right wall thickness and material as specified for each pipe size.
- This unit uses R410A. Always use 1/2H pipes having a 1.0mm or thicker wall for φ19.05 or larger pipes, because O-type pipes do not meet the pressure resistance requirement.

Pipe diameter (mm)	6.35	9.52	12.7	15.88	22.22	25.4	28.58
Minimum pipe wall thickness (mm)	0.8	0.8	0.8	1.0	1.0	1.0	1.0
Pipe material*	O-type pipe		O-type pipe		O-type pipe		1/2H-type pipe

*Phosphorous deoxidized seamless copper pipe C1220T-JIS H 3300

4) On-site piping work

- Take care so that installed pipes may not touch components within a unit. If touching with an internal component, it will generate abnormal sounds and/or vibrations.

How to remove the service panel

- First remove the five screws (X mark) of the service panel and push it down into the direction of the arrow mark and then remove it by pulling it toward you.
- The pipe can be laid in any of the following directions: side right, front, rear, and downward.
- Remove a knock-out plate provided on the pipe penetration to open a minimum necessary area and attach an edging material as an accessory by cutting it to an appropriate length before laying a pipe.
- Carry out the on-site piping work with the service valve fully closed.
- Give sufficient protection to a pipe end (compressed and brazed, or with an adhesive tape) so that water or foreign matters may not enter the piping.
- Bend a pipe to a radius as large as practical (R100-R150). Do not bend a pipe repeatedly to correct its form.
- Flare connection is used between the unit and refrigerant pipe. Flare a pipe after engaging a flare nut onto it. Flare dimensions are different from those for conventional R407C. Although we recommend the use of flaring tools designed specifically for R410A, conventional flaring tools can also be used by adjusting the measurement or protrusion B with a protrusion control gauge.
- The pipe should be anchored every 1.5m or less to isolate the vibration.
- Tighten a flare joint securely with a double spanner.

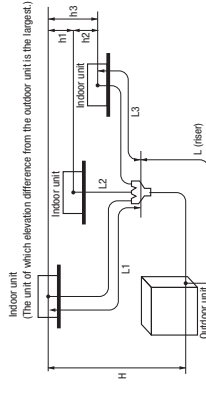
Do not apply force beyond proper fastening torque in tightening the flare nut.

CAUTION

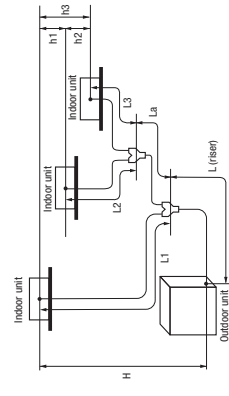
Fix both liquid and gas service valves at the valve main bodies as illustrated on the right, and then fasten them, applying appropriate fastening torque.

Service valve size (mm)	Tightening torque (N·m)	Tightening angle (°)	Recommended length of a tool handle (mm)
φ6.35 (1/4")	14-18	45-60	150
φ9.52 (3/8")	30-42	30-45	200
φ12.7 (1/2")	49-61	30-45	250
φ15.88 (5/8")	68-82	15-20	300

< Triple type A >

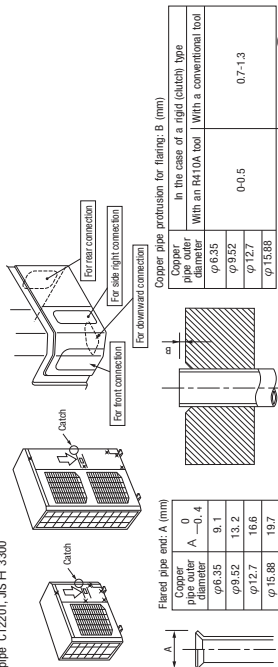


< Triple type B >



- Select pipes having a wall thickness larger than the specified minimum pipe thickness.

NOTE

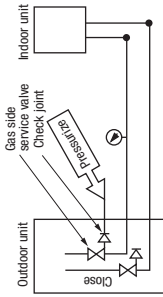


Do not hold the valve cap area with a spanner.

Use a torque wrench. If a torque wrench is not available, fasten the flare nut manually first and then tighten it further, using the left table as a guide.

5) Air tightness test

- ① Although outdoor and indoor units themselves have been tested for air tightness at the factory, check the connecting pipes after the installation work for air tightness from the service valve's check joint equipped on the outdoor unit side. While conducting a test, keep the service valve shut all the time.
 - a) Raise the pressure to 0.5 MPa, and then stop. Leave it for five minutes to see if the pressure drops.
 - b) Then raise the pressure to 1.5 MPa, and stop. Leave it for five more minutes to see if the pressure drops.
 - c) Then raise the pressure to the specified level (4.15 MPa), and record the ambient temperature and the pressure.
 - d) If no pressure drop is observed with an installation pressurized to the specified level and left for about one day, it is acceptable. When the ambient temperature fall 1°C, the pressure also fall approximately 0.01 MPa. The pressure, if changed, should be compensated for.
 - e) If a pressure drop is observed in checking e) and a) - d), a leak exists somewhere. Find a leak by applying bubble test liquid to welded parts and flare joints and repair it. After repair, conduct an air-tightness test again.
- ② In conducting an air-tightness test, use nitrogen gas and pressurize the system with nitrogen gas from the gas side. Do not use a medium other than nitrogen gas under any circumstances.

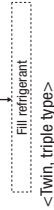


6) Evacuation

- <Work flow> When the system has remaining moisture inside or a leaky point, the vacuum gauge indicator will rise. Check the system for a leaky point and then draw air to create a vacuum again.
1. Run the vacuum pump for at least one hour after the vacuum gauge shows -10 kPa or lower. (-75mmHg or lower)
 2. Confirm that the vacuum gauge indicator does not rise even if the system is left for one hour or more.

Pay attention to the following points in addition to the above for the R410A and compatible machines.

- To prevent a different oil from entering, assign dedicated tools, etc. to each refrigerant type. Under no circumstances must a gauge manifold and a charge hose in particular be shared with other refrigerant types (R22, R407C, etc.)
- Use a counterflow prevention adapter to prevent vacuum pump oil from entering the refrigerant system.



7) Additional refrigerant charge

(1) Calculate a required refrigerant charge volume from the following table.

Item	Standard refrigerant charge volume (kg)	Pipe length for standard refrigerant charge volume (m)	Additional charge volume (kg) per meter of refrigerant piping (liquid pipe)	Refrigerant volume charged for shipment at the factory (kg)	Installation's pipe length (m) covered without additional refrigerant charge
Capacity					
100W~140W	2.0	0	0.06	3.8	30
100S~140S	2.7			4.5	

Item	Standard refrigerant charge volume (kg)	Pipe length for standard refrigerant charge volume (m)	Additional charge volume (kg) per meter of refrigerant piping (liquid pipe)		Refrigerant volume charged for shipment at the factory (kg)	Installation's pipe length (m) covered without additional refrigerant charge
			Main pipe	Branch pipe		
Capacity						
100W~140W	2.0	0	0.06		3.8	30
100S~140S	2.7				4.5	

- A standard refrigerant charge volume means a refrigerant charge volume for an installation with 0m long refrigerant piping.
- This unit contains factory charged refrigerant covering 30m of refrigerant piping and additional refrigerant charge on the installation site is not required for an installation with up to 30m refrigerant piping.
- When refrigerant piping exceeds 30m, additionally charge an amount calculated from the pipe length and the above table for the portion in excess of 30m.
- When refrigerant piping is shorter than 3m, reduce refrigerant by 1kg from the factory charge volume and adjust to 2.8kg or 3.5kg.
- If an existing pipe system is used, a required refrigerant charge volume will vary depending on the liquid pipe size. For further information, see "6. UTILIZATION OF EXISTING PIPING."

Formula to calculate the volume of additional refrigerant required

$$\text{Additional charge volume (kg)} = (\text{Main pipe length (m)} - \text{Length covered without additional charge 30 (m)}) \times 0.06 \text{ (kg/m)} + \text{Total length of branch pipes (m)} \times 0.06 \text{ (kg/m)}$$

*When an additional charge volume calculation result is negative, it is not necessary to charge refrigerant additionally.

- To charge refrigerant again, recover refrigerant from the system first and then charge the volume calculated from the above table (Standard refrigerant charge volume + additional charge volume for total pipe length).

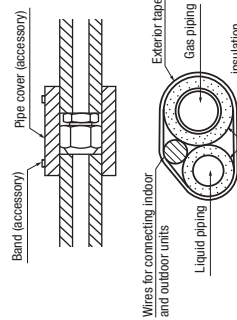
(2) Charging refrigerant

- Since R410A refrigerant must be charged in the liquid phase, you should charge it, keeping the container cylinder upside down or using a refrigerant cylinder equipped with a siphon tube.
- Charge refrigerant always from the liquid side service port with the service valve shut. When you find it difficult to charge a required amount, fully open the outdoor unit valves on both liquid and gas sides and charge refrigerant from the gas (suction) side service port, while running the unit in the cooling mode. In doing so, care must be taken so that refrigerant may be discharged from the cylinder in the liquid phase all the time. When the cylinder valve is throttled down or a dedicated conversion tool to charge liquid-phase refrigerant into mist is used to protect the compressor, however, adjust charge conditions so that refrigerant will gassy upon entering the unit.
- In charging refrigerant, always charge a calculated volume by using a scale to measure the charge volume.
- When refrigerant is charged with the unit being run, complete a charge operation within 30 minutes. Running the unit with an insufficient quantity of refrigerant for a long time can cause a compressor failure.

NOTE Put down the refrigerant volume calculated from the pipe length onto the caution label attached on the back side of the service panel.

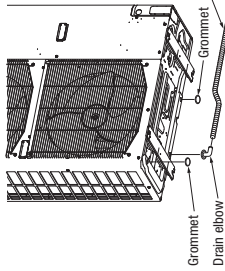
8) Heating and condensation prevention

- (1) Dress refrigerant pipes (both gas and liquid pipes) for heat insulation and prevention of dew condensation.
- (2) Use a heat insulating material that can withstand 120°C or a higher temperature. Poor heat insulating capacity can cause heat insulation problems or cable deterioration.
 - Improper heat insulation/anti-dew dressing can result in a water leak or dripping causing damage to household effects, etc.
 - All gas pipes must be securely heat insulated in order to prevent damage from dripping water that comes from the condensation formed on them during a cooling operation or personal injury from burns because their surface can reach quite a high temperature due to discharged gas flowing inside during a heating operation.
 - Wrap indoor units' flare joints with heat insulating parts (pipe cover) for heat insulation (both gas and liquid pipes).
 - Give heat insulation to both gas and liquid side pipes. Bundle a heat insulating material and a pipe tightly together so that no gaps may be left between them and wrap them together with a connecting cable by a dressing tape.
 - Although it is verified in a test that this air-conditioning unit shows satisfactory performance under JIS condensation test conditions, both gas and liquid pipes need to be dressed with 20 mm or thicker heat insulation materials above the ceiling where relative humidity exceeds 70%.

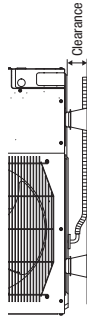


3. DRAIN PIPING WORK

- Execute drain piping by using a drain elbow and drain grommets supplied separately as option parts, where water drained from the outdoor unit is a problem.
- Water may drip where there is a larger amount of drain water. Seal around the drain elbow and drain grommets with putty or adequate caulking material.
- Condensed water may flow out from vicinity of service valve or connected pipes.
- Where you are likely to have several days of sub-zero temperatures in a row, do not use a drain elbow and drain grommets. (There is a risk of drain water freezing inside and blocking the drain.)
- Do not use drain elbow and grommet made of plastic for drain piping when base heater for outdoor unit is used. Plastic grommet and elbow will be damaged and burnt in worst case.
- Prepare another drain tray made of metallic material for collecting drain when base heater is used.

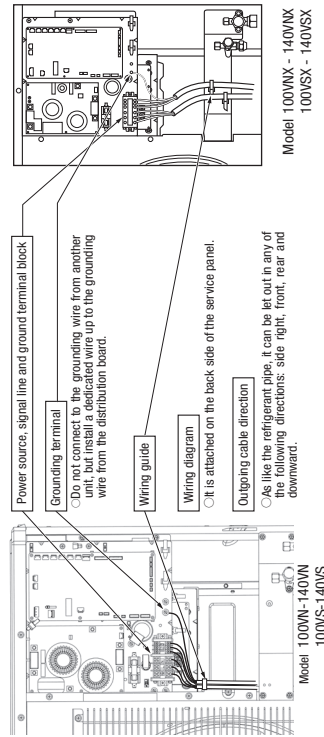


- When condensed water needs to be led to a drain, etc., install the unit on a flat base (supplied separately as an option part) or concrete blocks.
- Then, please secure space for the drain elbow and the drain hose.

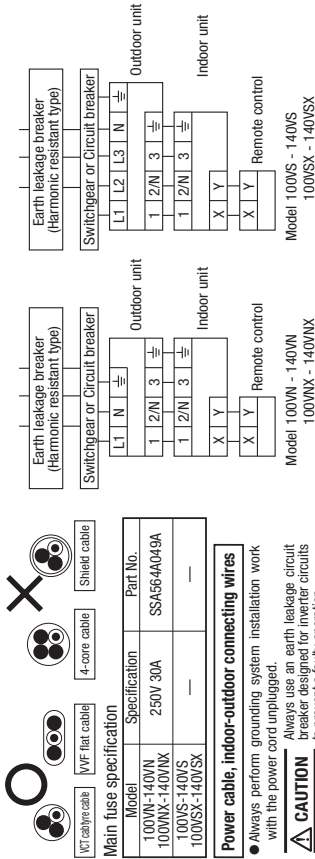


4. ELECTRICAL WIRING WORK For details of electrical cabling, refer to the indoor unit installation manual.

- Electrical installation work must be performed by an electrical installation service provider qualified by a power provider of the country. Electrical installation work must be executed according to the technical standards and other regulations applicable to electrical installations in the country.
- Do not use any supply cord lighter than one specified in parentheses for each type below.
 - braided cord (code designation 60245 IEC 51).
 - ordinary tough rubber sheathed cord (code designation 60245 IEC 53)
 - flat twin tinsel cord (code designation 60227 IEC 41);
 - flat twin tinsel cord than polychloroprene sheathed flexible cord (code designation 60245 IEC57) for supply cords of parts of appliances for outdoor use.
 - Ground the unit. Do not connect the grounding wire to a gas pipe, water pipe, lightning rod or telephone grounding wire.
 - If improper grounded, an electric shock or malfunction may result.
 - A grounding wire must be connected before connecting the power cable. Provide a grounding wire longer than the power cable.
 - The installation of an impulse withstanding type earth leakage breaker is necessary. A failure to install an earth leakage breaker can result in an accident such as an electric shock or a fire.



- Do not turn on the power until the electrical work is completed.
- Do not use a condensive capacitor for power factor improvement under any circumstances. (It does not improve power factor, while it can cause an abnormal overcurrent accident)
- For power source cables, use conduits.
- Do not lay electronic control cables (remote control and signaling wires) and other cables together outside the unit. Laying them together can result in the malfunctioning or a failure of the unit due to electric noises.
- Fasten cables so that they may not touch the piping, etc.
- When cables are connected, make sure that all electrical components within the electrical component box are free of loose connector coupling or terminal connection and then attach the cover securely. (Improper cover attachment can result in malfunctioning or a failure of the unit, if water penetrates into the box.)
- Always use a three-core cable for an indoor-outdoor connecting cable. Never use a shield cable.
- Connect a pair bearing a common terminal number with an indoor-outdoor connecting wire.
- In cabling, fasten cables securely with cable clamps so that no external force may work on terminal connections.
- Grounding terminals are provided in the control box.



Power cable, indoor-outdoor connecting wires

- Always perform grounding system installation work with the power cord unplugged.
- Always use an earth leakage circuit breaker designed for inverter circuits to prevent a faulty operation.

※ At the connection with the duct type indoor unit.

Model	Power source	Power cable thickness(mm ²)	MAX. over current (A)	Cable length (m)	Bounding wire thickness	Indoor-outdoor wire thickness X number
100WN-140VN	Single phase 3 wire 220-240V 50Hz	5.5	25	24	φ4.6mm	φ4.6mm x 3
100WNX-140VNX				23		
100VS-140VS	3 phase 4 wire 380-415V 50Hz	3.5	19	15	φ4.6mm	φ4.6mm x 3
100VSX-140VSX				27		

Model	Power source	Power cable thickness(mm ²)	MAX. over current (A)	Cable length (m)	Bounding wire thickness	Indoor-outdoor wire thickness X number
100WN-140VN	Single phase 3 wire 220-240V 50Hz	5.5	25	24	φ4.6mm	φ4.6mm x 3
123M				22		
140VN	220V 60Hz	8	28	27	φ4.6mm	φ4.6mm x 3
123MX				32		
140VNX	220V 60Hz	8	29	29	φ4.6mm	φ4.6mm x 3
140VNX				31		
100VS-140VS	3 phase 4 wire 380-415V 50Hz	3.5	19	16	φ4.6mm	φ4.6mm x 3
123VS				26		
140VS-140VSX	380V 60Hz	3.5	18	18	φ4.6mm	φ4.6mm x 3
140VSX-140VSX				21		

- The specifications shown in the above table are for units without heaters. For units with heaters, refer to the installation instructions of the construction instructions of the indoor unit.
- The cable specifications are based on the assumption that a metal or plastic conduit is used with no more than three cables contained in a conduit and a voltage drop is 2%. For an installation falling outside of these conditions, follow the internal cabling regulations. Adapt it to the regulation in effect in each country.

5. TEST RUN

⚠ WARNING

- Before conduct a test run, make sure that the service valves are closed.
- Turn on power 6 hours prior to a test run to energize the crank case heater.
- In case of the first operation after turning on power, even if the unit does not move for 30 minutes, it is not a breakdown.
- Always give a 3-minute or longer interval before you start the unit again whenever it is stopped.
- Removing the service panel will expose high-voltage live parts and high-temperature parts, which are quite dangerous. Take utmost care not to incur an electric shock or burns. Do not leave the unit with the service panel open.

⚠ CAUTION

- When you operate switches (SW3, SW5) for on-site setting, be careful not to touch a live part.
- You cannot check discharge pressure from the liquid service valve charge port.
- The 4-way valve (2GS) is energized during a heating operation.
- When power source is cut off to reset the unit, give 3 or more minutes before you turn on power again after power is cut off. If this procedure is not observed in turning on power again, "Communication error between outdoor and indoor unit" may occur.

1) Test run method

- (1) A test run can be initiated from an outdoor unit by using SW3-3 and SW3-4 for on-site setting.
- (2) Switching SW3-3 to ON will start the compressor.
- (3) The unit will start a cooling operation, when SW3-4 is OFF, or a heating operation, when SW3-4 is ON.
- (4) Do not fail to switch SW3-3 to OFF when a test run is completed.

SW3-3	SW3-4	Operation
ON	OFF	Cooling during a test run
ON	ON	Heating during a test run
OFF	—	Normal or After the test operation

2) Checking the state of the unit in operation

Use check joints provided on the piping before and after the bur-way valve installed inside the outdoor unit for checking discharge pressure and suction pressure. As indicated in the table shown on the right, pressure detected at each point will vary depending on whether a cooling or heating operation has been selected.

Check point of the pipe	Change part of the
Cooling operation	Discharge pressure (High pressure)
Heating operation	Suction pressure (Low pressure)
	Discharge pressure (High pressure)

3) Setting SW3-1, SW3-2, on-site

- (1) Defrost control switching (SW3-1)
 - When this switch is turned ON, the unit will run in the defrost mode more frequently.
 - Set this switch to ON, when installed in a region where outdoor temperature falls below zero during the season the unit is run for a heating operation.
- (2) Snow guard fan control (SW3-2)
 - When this switch is turned on, the outdoor unit fan will run for 10 seconds in every 10 minutes, when outdoor temperature falls to 3°C or lower and the compressor is not running.
 - When the unit is used in a very snowy country, set this switch to ON.

4) Failure diagnosis in a test run

Error indicated on the remote control unit	Failure event	Action
E34	Red LED Blinking once	Check power cables for loose contact or disconnection. 1. Check whether the service valves are open. 2. If an error has been remedied when 3 minutes have elapsed after the power source is cut off, the unit will start a heating operation. *1 Do not operate SW5-2, SW5-3, SW5-4.
E40	Green LED Blinking continuously	
E49	Blinking once	

- If an error code other than those listed above is indicated, refer to the wiring diagram of the outdoor unit and the indoor unit.

5) The state of the electronic expansion valve.

The following table illustrates the steady states of the electronic expansion valve.

When power is turned on	When the unit comes to a normal stop
Valve for a cooling operation	Valve for a cooling operation
Valve for a heating operation	Valve for a heating operation

6) Heed the following on the first operation after turning on the circuit breaker.

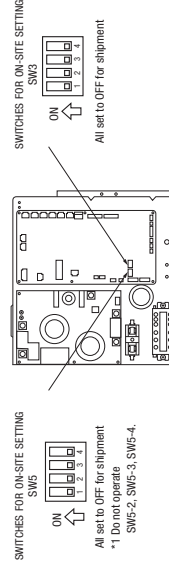
This outdoor unit may start in the standby mode (waiting for a compressor startup), which can continue up to 30 minutes, to prevent the oil level in the compressor from lowering on the first operation after turning on the circuit breaker. If that is the case, do not suspect a unit failure.

A failure to observe these instructions can result in a compressor breakdown.

Items to check before a test run	Item	Check item	Check
2	Refrigerant plumbing	If brazed, was it brazed under a nitrogen gas flow? Were air-tightness test and vacuum extraction surely performed? Are heat insulation materials installed on both liquid and gas pipes? Are service valves surely opened for both liquid and gas systems? Have you recorded the additional refrigerant charge volume and refrigerant pipe length on the panel's label? Is the unit free of cabling errors such as uncompleted connection, an absent or reversed phase? Are properly rated electrical equipments used for circuit breakers and cables?	
4	Electric wiring	Doesn't cabling cross-connect between units, where more than one unit are installed? Are indoor-outdoor signal wires connected to remote control wires? Do indoor-outdoor connecting cables connect between the same terminal numbers? Are either VCT cable-type or WF flat cables used for indoor-outdoor connecting cables? Does grounding satisfy the D type grounding (type III grounding) requirements? Is the unit grounded with a dedicated grounding wire not connected to another unit's grounding wire? Are cables held down with cable clamps so that no external force works onto terminal connections? Is indoor unit installation work completed?	
—	Indoor unit	Where a face cover should be attached onto an indoor unit, is the face cover attached to the indoor unit?	

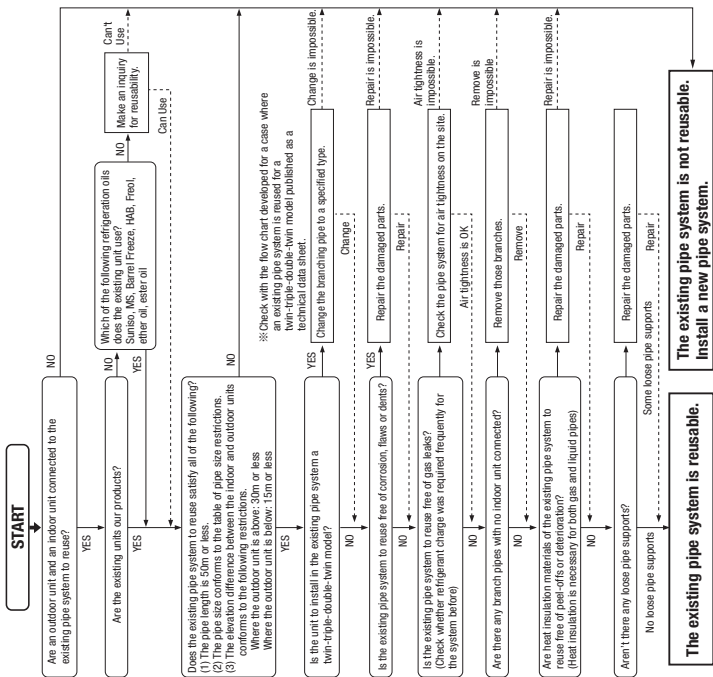
● Always carry out a test run and check the following in order as listed.

Turn	The contents of operation	Check
①	Open the gas side service valve fully.	
②	Open the liquid side service valve fully.	
③	Close the panel.	
④	Where a remote control unit is used for unit setup on the installation site, follow instructions for unit setup on the installation site with a remote control unit.	
⑤	SW3-3 ON / SW3-4 OFF: the unit will start a cooling operation. SW3-3 ON / SW3-4 ON: the unit will start a heating operation.	
⑥	When the unit starts operation, press the wind direction button provided on the remote control unit to check its operation.	
⑦	Place your hand before the indoor unit's diffuser to check whether cold (warm) winds come out in a cooling (heating) operation.	
⑧	Make sure that a red LED is not blinking.	
⑨	When you complete the test run, do not forget to turn SW3-3 to the OFF position.	
⑩	Where options are used, check their operation according to the respective instruction manuals.	



6. UTILIZATION OF EXISTING PIPING.

Check whether an existing pipe system is reusable or not by using the following flow chart.



WARNING

Where the existing unit can be run for a cooling operation. >

- Carry out the following steps with the existing unit (in the order of (1), (2), (3) and (4))
- Run the unit for 30 minutes for a cooling operation.
 - Stop the indoor fan and run the unit for 3 minutes for a cooling operation (returning liquid)
 - Close the liquid side service valve of the outdoor unit and pump down (refrigerant recovery)
 - Blow with nitrogen gas. If discolored refrigeration oil or any foreign matters is discharged by the blow, wash the pipe system or install a new pipe system.
 - For the flare nut, do not use the old one, but use the one supplied with the outdoor unit.
 - Process a flare to the dimensions specified for R410A.
 - Turn on-site setting switch SW5-1 to the ON position. (Where the gas pipe size is φ 19.05)

Where the existing unit cannot be run for a cooling operation. >

- Wash the pipe system or install a new pipe system.
- If you choose to wash the pipe system, contact our distributor in the area.

<Table of pipe size restrictions>

○: Standard pipe size ○: Usable
 △: Restricted to shorter pipe length limits ×: Not usable

Pipe size	Additional charging amount of refrigerant per 1m		0.08kg/m		0.09kg/m	
	φ6.35	φ6.52	φ6.27	φ6.52	φ6.52	φ6.27
Liquid pipe	φ6.35	φ6.52	φ6.27	φ6.52	φ6.52	φ6.27
Gas pipe	φ5.88	φ5.88	φ5.88	φ5.88	φ5.88	φ5.88
Usability	○	○	△	△	○	△
Maximum one-way pipe length	50	50	25	25	100	50
Length covered without additional charge	30	30	15	15	30	15
Usability	○	○	△	△	○	△
Maximum one-way pipe length	50	50	25	25	100	50
Length covered without additional charge	30	30	15	15	30	15
Usability	○	○	△	△	○	△
Maximum one-way pipe length	50	50	25	25	100	50
Length covered without additional charge	30	30	15	15	30	15
Usability	○	○	△	△	○	△
Maximum one-way pipe length	50	50	25	25	100	50
Length covered without additional charge	30	30	15	15	30	15

<Pipe system after the branching pipe>

Pipe size	Additional charging amount of refrigerant per 1m		0.08kg/m		0.09kg/m	
	φ6.35	φ6.52	φ6.27	φ6.52	φ6.52	φ6.27
Liquid pipe	φ6.35	φ6.52	φ6.27 <td>φ6.52</td> <td>φ6.52</td> <td>φ6.27 </td>	φ6.52	φ6.52	φ6.27
Gas pipe	φ5.88	φ5.88	φ5.88	φ5.88	φ5.88	φ5.88
Usability	○	○	△	△	○	△
Maximum one-way pipe length	50	50	25	25	100	50
Length covered without additional charge	30	30	15	15	30	15
Usability	○	○	△	△	○	△
Maximum one-way pipe length	50	50	25	25	100	50
Length covered without additional charge	30	30	15	15	30	15
Usability	○	○	△	△	○	△
Maximum one-way pipe length	50	50	25	25	100	50
Length covered without additional charge	30	30	15	15	30	15

※1 Because of its insufficient pressure resistance, turn the dip switch SW5-1 provided on the outdoor unit board to the ON position for φ 19.05 × 11.0. (In the case of a twin-triple-double-twin model, this also applies to the case where φ 19.05 × 11.0 is used in a pipe system after the first branching point). However, you need not turn the dip switch SW5-1 to the ON position, if 1/2H pipes or pipes having 1.2 or thicker walls are used.

※2 When the main pipe length exceeds 40m, a significant capacity drop may be experienced due to pressure loss in the liquid pipe system. Use φ 12.7 for the liquid main.

※3 Keep the total pipe length, not one-way pipe length, below the specified maximum pipe length.

※4 Piping size after branch should be equal or smaller than main pipe size.

※5 Piping size from first branch to indoor unit should be φ 9.52 (Liquid) / φ 12.7 (Gas).

● When refrigerant piping is shorter than 3m, reduce refrigerant by 1kg from factory charged volume.

● Any combinations of pipe sizes not listed in the table or marked with × in the table are not usable.

<The model types of existing units of which branching pipes are reusable.>

- Models later than Type 8.
- FDC * * * * 8 □ □ □ □
- FDCP * * * * 8 □ □ □ □

The branching pipes used with models other than those listed above are not reusable because of their insufficient pressure resistance. Please use our genuine branching pipes for R410A.

● * * * are numbers representing horsepower. □ □ □ □ is an alphanumeric letter.


Formula to calculate additional charge volume

$$\text{Additional charge volume (kg)} = (\text{Main pipe length (m)} - \text{Length covered without additional charge shown in the table (m)}) \times \text{Additional charge volume per meter of pipe shown in the table (kg/m)} + (\text{Branching pipe length (m)} - \text{Length covered without additional charge shown in the table (m)}) \times \text{Additional charge volume per meter of pipe shown in the table (kg/m)}$$

※ If you obtain a negative figure as a result of calculation, no additional refrigerant needs to be charged.
 Example) When an 140V (single installation) is installed in a 20m long existing pipe system (liquid φ 12.7, gas φ 19.05), the quantity of refrigerant to charge additionally should be (20m-15m) x 0.08kg/m = 0.4 kg.

1.10.5 Instructions for branching pipe set (DIS-WA1, WB1, TA1, TB1)

For R410A

PSB012D865 

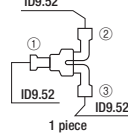
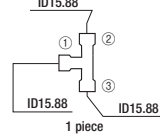

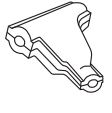
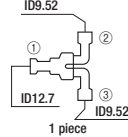
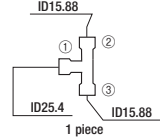

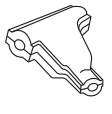
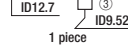
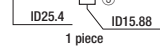
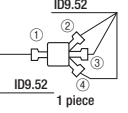
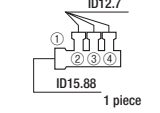


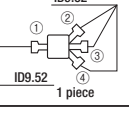
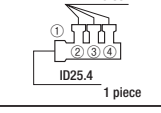




WARNING / CAUTION

- This set is for R410A refrigerant.
- Select a branching pipe set correctly rated for the combined total capacity of connected indoor units and install it according to this manual. An improperly installed branching pipe set can cause degraded performance or an abnormal unit stop.
- Provide good heat insulation to the pipes by following instructions contained in this manual.
- Improper heat insulation can result in degraded performance or a water leak accident from condensation.
- Please make sure that only parts supplied as accessories or the manufacturer's approved parts are used in installing the unit, because a leak of refrigerant can result in a lack-of-oxygen accident, if it reaches a concentration beyond the tolerable limit.

This manual explains how to use a branching pipe set that is indispensable in connecting pipes for a twin/triple/double-twin configuration installation (system). For the details of piping work, unit installation work and electrical installation work, please refer to the installation manuals and installation guides supplied with your outdoor and indoor units.

1. Branching pipe set specifications

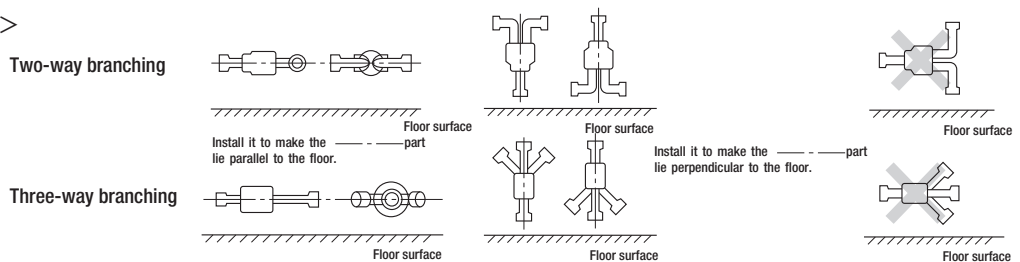
- (1) Please make sure that you have chosen the right branching pipe set and the specifications of the parts contained in it by checking with the table below.
- (2) Connect pipes as illustrated in the table below. The pipe from an outdoor unit must be brazed to the pipe connection port "①" and the pipes from indoor units to "②," "③" and "④."

Branching pipe set type	Supported outdoor/indoor unit combinations		Part lists			
	Outdoor unit model	Indoor unit model	Branching pipe set for a liquid pipe	Branching pipe set for a gas pipe	Different diameter pipe joint	Heat insulation material
DIS-WA1 (Two-way branching set)	3HP	1.5HP + 1.5HP			Joint A ID9.52  2 pieces Flare joint (for indoor unit side connection)	
	4HP	2HP + 2HP 1.5HP + 2.5HP				
	5HP	2.5HP + 2.5HP 2HP + 3HP				
	6HP	3HP + 3HP 2HP + 4HP				
DIS-WB1 (Two-way branching set)	8HP	4HP + 4HP			Joint C OD12.7  1 piece ID9.52	
		3HP + 5HP				
	10HP	5HP + 5HP				
DIS-TA1 (Three-way branching set)	6HP	2HP + 2HP + 2HP			Joint A ID9.52  3 pieces Flare joint (for indoor unit side connection)	
DIS-TB1 (Three-way branching set)	8HP	3HP + 3HP + 3HP			Joint A ID9.52  2 pieces Flare joint (for indoor unit side connection) Joint B OD15.88  1 piece Joint D ID12.7  1 piece OD9.52	

- (3) To connect pipes for a Double Twin installation (involving 4 indoor units), please see 2-7. "Double Twin configuration."
- (4) A branching pipe set must always be installed into the posture as illustrated in the drawing below.

ID stands for inner diameter and OD, outer diameter.

< Posture to install into >



2. Pipe connecting procedure

Braze the different diameter pipe joint found in the set matching the connected outdoor and indoor unit capacities according to the instructions set out below.

CAUTION

In connecting an indoor unit of which capacity is 1.5HP, 2HP or 2.5HP, always use a $\phi 9.52$ liquid pipe to connect to the branching pipe (branching pipe – indoor unit).
 In connecting to an indoor unit (liquid pipe side: $\phi 6.35$), use the different diameter pipe joint A supplied with the set and follow the procedure set out below.



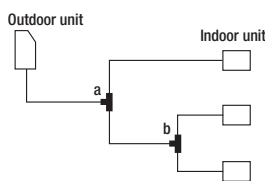
2-1 DIS-WA1

Supported combinations		Liquid branching pipe	Gas branching pipe
Outdoor unit model	Indoor unit model		
3HP	1.5HP + 1.5HP		
4HP	2HP + 2HP		
	1.5HP + 2.5HP		
5HP	2.5HP + 2.5HP		
	2HP + 3HP		
6HP	3HP + 3HP		
	2HP + 4HP		

Note When connect the indoor unit of an old model that is shown in the model list, use the joint supplied with the branch piping set like ※A

2-5. Triple type for same model/same capacity or different model/same capacity

When the difference in length of pipes after the branch is longer than 3 m and shorter than 10 m



Outdoor unit model	Indoor unit model	Branching pipe	Branching pipe set type	Liquid branching pipe	Gas branching pipe
6HP	2HP + 2HP + 2HP	a	DIS-WA1		
		b			
8HP	3HP + 3HP + 3HP	a	DIS-WB1		
		b	DIS-WA1		

2-2 DIS-WB1

Supported combinations		Liquid branching pipe	Gas branching pipe
Outdoor unit model	Indoor unit model		
8HP	3HP + 5HP		
	4HP + 4HP		
10HP	5HP + 5HP		

2-3 DIS-TA1

Applicable to the difference in length of pipes after the branch being less than 3 m
* Connection is not allowed when the difference in length of pipes is larger than 3 m.

Supported combinations		Liquid branching pipe	Gas branching pipe
Outdoor unit model	Indoor unit model		
6HP	2HP + 2HP + 2HP		

2-4 DIS-TB1

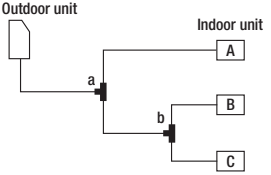
Applicable to the difference in length of pipes after the branch being less than 3 m
* Connection is not allowed when the difference in length of pipes is larger than 3 m.

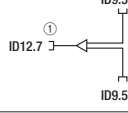
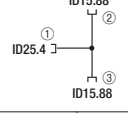
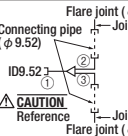
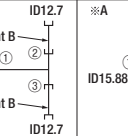
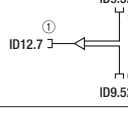
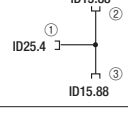
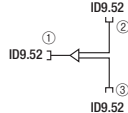
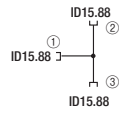
Supported combinations		Liquid branching pipe	Gas branching pipe
Outdoor unit model	Indoor unit model		
8HP	3HP + 3HP + 3HP		

2-6. Triple type for same model/different capacity or different model/different capacity

Applicable to the difference in length of pipes after the branch being less than 3 m

* Connection is not allowed when the difference in length of pipes is larger than 3 m.



Outdoor unit model	Indoor unit model	Branching pipe	Branching pipe set type	Liquid branching pipe	Gas branching pipe
10HP	2.5HP+2.5HP+5HP	a	DIS-WB1		
		b	DIS-WA1		
10HP	3HP+3HP+4HP	a	DIS-WB1		
		b	DIS-WA1		

Connecting position

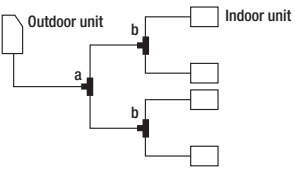
Outdoor unit model	Indoor unit model	A	B	C
10HP	2.5HP+2.5HP+5HP	5HP	2.5HP	2.5HP
	3HP+3HP+4HP	4HP	3HP	3HP

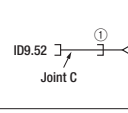
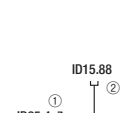
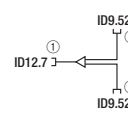
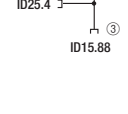
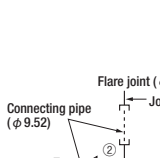
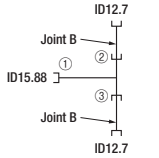
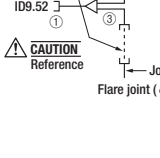
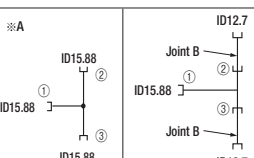
Note When connect the indoor unit of an old model that is shown in the model list, use the joint supplied with the branch piping set like ※ A.

2-7. Double Twin type

Pipes should be connected as follows for a Double Twin installation (4 connected indoor units. The capacity of an outdoor unit available for this configuration is either 8HP or 10HP only):

Outdoor unit capacity	Indoor unit capacity
8HP	2HP × 4 units
10HP	2.5HP × 4 units

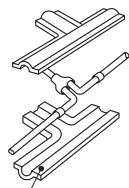


Branching pipe	Branching pipe set type	Outdoor unit model	Liquid branching pipe	Gas branching pipe
a	DIS-WB1	8HP		
		10HP		
b	DIS-WA1	8HP		
		10HP		

Note When connect the indoor unit of an old model that is shown in the model list, use the joint supplied with the branch piping set like ※ A.

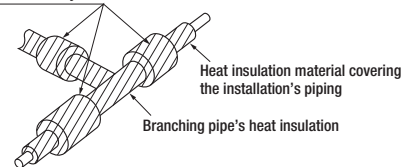
3. Heat insulation work

- (1) Condensation can also occur on liquid pipes with this model. Please provide good heat insulation to both liquid and gas pipes.
- (2) For the heat insulation of a branching pipe, always use the heat insulation material supplied with the set and provide heat insulation according to the instructions set out below.



1. It has an adhesive layer on the entire inner face. Remove a separator and wrap it around the branching pipe.

Heat insulation material (for pipe insulation, etc.) to be procured locally



2. Apply a heat insulation material (to be procured locally) to the joint between the branching pipe's heat insulation and the heat insulation material covering the installation's piping as described above and wrap a tape over the gap shown as a hatched (///) area to complete dressing of the piping.

1.11 TECHNICAL INFORMATION

(1) Ceiling suspended type (FDE)

FDE40ZSXVG				Information to identify the model(s) to which the information relates to:				If function includes heating: Indicate the heating season the information relates to. Indicated values should relate to one heating season at a time. Include at least the heating season 'Average'.					
Indoor unit model name		FDE40VG		Outdoor unit model name		SRC40ZSX-S							
Function(indicate if present)				Average(mandatory)				Yes					
cooling		Yes		Warmer(if designated)		No							
heating		Yes		Colder(if designated)		No							
Item	symbol	value	unit	Item	symbol	value	class						
Design load				Seasonal efficiency and energy efficiency class									
cooling	Pdesignc	4.0	kW	cooling	SEER	6.46	A++						
heating / Average	Pdesignh	3.0	kW	heating / Average	SCOP/A	3.93	A						
heating / Warmer	Pdesignh	—	kW	heating / Warmer	SCOP/W	—	—						
heating / Colder	Pdesignh	—	kW	heating / Colder	SCOP/C	—	—						
								unit					
Declared capacity at outdoor temperature Tdesignh				Back up heating capacity at outdoor temperature Tdesignh									
heating / Average (-10°C)	Pdh	3.0	kW	heating / Average (-10°C)	elbu	0	kW						
heating / Warmer (2°C)	Pdh	—	kW	heating / Warmer (2°C)	elbu	—	kW						
heating / Colder (-22°C)	Pdh	—	kW	heating / Colder (-22°C)	elbu	—	kW						
Declared capacity for cooling, at indoor temperature 27(19)°C and outdoor temperature Tj				Declared energy efficiency ratio, at indoor temperature 27(19)°C and outdoor temperature Tj									
Tj=35°C	Pdc	4.00	kW	Tj=35°C	EERd	3.92	-						
Tj=30°C	Pdc	2.95	kW	Tj=30°C	EERd	5.67	-						
Tj=25°C	Pdc	1.90	kW	Tj=25°C	EERd	8.26	-						
Tj=20°C	Pdc	1.38	kW	Tj=20°C	EERd	13.14	-						
Declared capacity for heating / Average season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Average season, at indoor temperature 20°C and outdoor temperature Tj									
Tj=-7°C	Pdh	2.66	kW	Tj=-7°C	COPd	3.09	-						
Tj=2°C	Pdh	1.61	kW	Tj=2°C	COPd	4.20	-						
Tj=7°C	Pdh	1.04	kW	Tj=7°C	COPd	3.92	-						
Tj=12°C	Pdh	0.77	kW	Tj=12°C	COPd	5.13	-						
Tj=bivalent temperature	Pdh	3.00	kW	Tj=bivalent temperature	COPd	2.73	-						
Tj=operating limit	Pdh	2.47	kW	Tj=operating limit	COPd	2.47	-						
Declared capacity for heating / Warmer season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Warmer season, at indoor temperature 20°C and outdoor temperature Tj									
Tj=2°C	Pdh	—	kW	Tj=2°C	COPd	—	-						
Tj=7°C	Pdh	—	kW	Tj=7°C	COPd	—	-						
Tj=12°C	Pdh	—	kW	Tj=12°C	COPd	—	-						
Tj=bivalent temperature	Pdh	—	kW	Tj=bivalent temperature	COPd	—	-						
Tj=operating limit	Pdh	—	kW	Tj=operating limit	COPd	—	-						
Declared capacity for heating / Colder season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Colder season, at indoor temperature 20°C and outdoor temperature Tj									
Tj=-7°C	Pdh	—	kW	Tj=-7°C	COPd	—	-						
Tj=2°C	Pdh	—	kW	Tj=2°C	COPd	—	-						
Tj=7°C	Pdh	—	kW	Tj=7°C	COPd	—	-						
Tj=12°C	Pdh	—	kW	Tj=12°C	COPd	—	-						
Tj=bivalent temperature	Pdh	—	kW	Tj=bivalent temperature	COPd	—	-						
Tj=operating limit	Pdh	—	kW	Tj=operating limit	COPd	—	-						
Tj=-15°C	Pdh	—	kW	Tj=-15°C	COPd	—	-						
Bivalent temperature				Operating limit temperature									
heating / Average	Tbiv	-10	°C	heating / Average	Tol	-20	°C						
heating / Warmer	Tbiv	—	°C	heating / Warmer	Tol	—	°C						
heating / Colder	Tbiv	—	°C	heating / Colder	Tol	—	°C						
Cycling interval capacity				Cycling interval efficiency									
for cooling	Pcycc	—	kW	for cooling	EERcyc	—	-						
for heating	Pcyh	—	kW	for heating	COPcyc	—	-						
Degradation coefficient cooling				Degradation coefficient heating									
	Cdc	0.25	-		Cdh	0.25	-						
Electric power input in power modes other than 'active mode'				Annual electricity consumption									
off mode	Poff	13	W	cooling	Qce	217	kWh/a						
standby mode	Psb	13	W	heating / Average	Qhe	1,069	kWh/a						
thermostat-off mode	Pto	13	W	heating / Warmer	Qhe	—	kWh/a						
crankcase heater mode	Pck	0	W	heating / colder	Qhe	—	kWh/a						
Capacity control(indicate one of three options)				Other items									
fixed		No		Sound power level(indoor)	Lwa	60	dB(A)						
staged		No		Sound power level(outdoor)	Lwa	63	dB(A)						
variable		Yes		Global warming potential	GWP	1,975	kgCO ₂ eq.						
				Rated air flow(indoor)	-	780	m ³ /h						
				Rated air flow(outdoor)	-	2,160	m ³ /h						
Contact details for obtaining more information				Name and address of the manufacturer or of its authorised representative.									
				Mitsubishi Heavy Industries Air-Conditioning Europe, Ltd.									
				5 The Square, Stockley Park, Uxbridge, Middlesex, UB11 1ET,									
				United Kingdom									

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FDE50ZSXVG							
Information to identify the model(s) to which the information relates to:				If function includes heating: Indicate the heating season the information relates to. Indicated values should relate to one heating season at a time. Include at least the heating season 'Average'.			
Indoor unit model name		FDE50VG					
Outdoor unit model name		SRC50ZSX-S					
Function(indicate if present)				Average(mandatory)			
cooling		Yes		Warmer(if designated)		No	
heating		Yes		Colder(if designated)		No	
Item				Item			
Design load		symbol value unit		Seasonal efficiency and energy efficiency class		symbol value class	
cooling		Pdesignc 5.0 kW		cooling		SEER 6.10 A++	
heating / Average		Pdesignh 3.8 kW		heating / Average		SCOP/A 3.92 A	
heating / Warmer		Pdesignh - kW		heating / Warmer		SCOP/W - -	
heating / Colder		Pdesignh - kW		heating / Colder		SCOP/C - -	
				unit			
Declared capacity at outdoor temperature Tdesignh				Back up heating capacity at outdoor temperature Tdesignh			
heating / Average (-10°C)		Pdh 3.8 kW		heating / Average (-10°C)		elbu 0 kW	
heating / Warmer (2°C)		Pdh - kW		heating / Warmer (2°C)		elbu - kW	
heating / Colder (-22°C)		Pdh - kW		heating / Colder (-22°C)		elbu - kW	
Declared capacity for cooling, at indoor temperature 27(19)°C and outdoor temperature Tj				Declared energy efficiency ratio, at indoor temperature 27(19)°C and outdoor temperature Tj			
Tj=35°C		Pdc 5.00 kW		Tj=35°C		EERd 3.29 -	
Tj=30°C		Pdc 3.69 kW		Tj=30°C		EERd 5.12 -	
Tj=25°C		Pdc 2.37 kW		Tj=25°C		EERd 7.18 -	
Tj=20°C		Pdc 1.38 kW		Tj=20°C		EERd 13.14 -	
Declared capacity for heating / Average season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Average season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C		Pdh 3.36 kW		Tj=-7°C		COPd 2.97 -	
Tj=2°C		Pdh 2.04 kW		Tj=2°C		COPd 4.32 -	
Tj=7°C		Pdh 1.31 kW		Tj=7°C		COPd 3.72 -	
Tj=12°C		Pdh 0.77 kW		Tj=12°C		COPd 5.13 -	
Tj=bivalent temperature		Pdh 3.80 kW		Tj=bivalent temperature		COPd 2.53 -	
Tj=operating limit		Pdh 3.15 kW		Tj=operating limit		COPd 2.22 -	
Declared capacity for heating / Warmer season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Warmer season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=2°C		Pdh - kW		Tj=2°C		COPd - -	
Tj=7°C		Pdh - kW		Tj=7°C		COPd - -	
Tj=12°C		Pdh - kW		Tj=12°C		COPd - -	
Tj=bivalent temperature		Pdh - kW		Tj=bivalent temperature		COPd - -	
Tj=operating limit		Pdh - kW		Tj=operating limit		COPd - -	
Declared capacity for heating / Colder season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Colder season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C		Pdh - kW		Tj=-7°C		COPd - -	
Tj=2°C		Pdh - kW		Tj=2°C		COPd - -	
Tj=7°C		Pdh - kW		Tj=7°C		COPd - -	
Tj=12°C		Pdh - kW		Tj=12°C		COPd - -	
Tj=bivalent temperature		Pdh - kW		Tj=bivalent temperature		COPd - -	
Tj=operating limit		Pdh - kW		Tj=operating limit		COPd - -	
Tj=-15°C		Pdh - kW		Tj=-15°C		COPd - -	
Bivalent temperature				Operating limit temperature			
heating / Average		Tbiv -10 °C		heating / Average		Tol -20 °C	
heating / Warmer		Tbiv - °C		heating / Warmer		Tol - °C	
heating / Colder		Tbiv - °C		heating / Colder		Tol - °C	
Cycling interval capacity				Cycling interval efficiency			
for cooling		Pcycc - kW		for cooling		EERcyc - -	
for heating		Pcyh - kW		for heating		COPcyc - -	
Degradation coefficient cooling				Degradation coefficient heating			
cooling		Cdc 0.25 -		heating		Cdh 0.25 -	
Electric power input in power modes other than 'active mode'				Annual electricity consumption			
off mode		Poff 13 W		cooling		Qce 288 kWh/a	
standby mode		Psb 13 W		heating / Average		Qhe 1,358 kWh/a	
thermostat-off mode		Pto 13 W		heating / Warmer		Qhe - kWh/a	
crankcase heater mode		Pck 0 W		heating / colder		Qhe - kWh/a	
Capacity control(indicate one of three options)				Other items			
fixed		No		Sound power level(indoor)		Lwa 60 dB(A)	
staged		No		Sound power level(outdoor)		Lwa 63 dB(A)	
variable		Yes		Global warming potential		GWP 1,975 kgCO ₂ eq.	
				Rated air flow(indoor)		- 780 m ³ /h	
				Rated air flow(outdoor)		- 2,400 m ³ /h	
Contact details for obtaining more information		Name and address of the manufacturer or of its authorised representative. Mitsubishi Heavy Industries Air-Conditioning Europe, Ltd. 5 The Square, Stockley Park, Uxbridge, Middlesex, UB11 1ET, United Kingdom					

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FDE60ZSXVG

Information to identify the model(s) to which the information relates to:				If function includes heating: Indicate the heating season the information relates to. Indicated values should relate to one heating season at a time. Include at least the heating season 'Average'.			
Indoor unit model name		FDE60VG		Average(mandatory)		Yes	
Outdoor unit model name		SRC60ZSX-S		Warmer(if designated)		No	
Function(indicate if present)				Colder(if designated)		No	
cooling		Yes					
heating		Yes					
Item	symbol	value	unit	Item	symbol	value	class
Design load				Seasonal efficiency and energy efficiency class			
cooling	Pdesignc	5.6	kW	cooling	SEER	6.72	A++
heating / Average	Pdesignh	4.3	kW	heating / Average	SCOP/A	4.08	A+
heating / Warmer	Pdesignh	—	kW	heating / Warmer	SCOP/W	—	—
heating / Colder	Pdesignh	—	kW	heating / Colder	SCOP/C	—	—
				unit			
Declared capacity at outdoor temperature Tdesignh				Back up heating capacity at outdoor temperature Tdesignh			
heating / Average (-10°C)	Pdh	4.30	kW	heating / Average (-10°C)	elbu	0.00	kW
heating / Warmer (2°C)	Pdh	—	kW	heating / Warmer (2°C)	elbu	—	kW
heating / Colder (-22°C)	Pdh	—	kW	heating / Colder (-22°C)	elbu	—	kW
Declared capacity for cooling, at indoor temperature 27(19)°C and outdoor temperature Tj				Declared energy efficiency ratio, at indoor temperature 27(19)°C and outdoor temperature Tj			
Tj=35°C	Pdc	5.60	kW	Tj=35°C	EERd	3.20	-
Tj=30°C	Pdc	4.13	kW	Tj=30°C	EERd	5.74	-
Tj=25°C	Pdc	2.65	kW	Tj=25°C	EERd	8.55	-
Tj=20°C	Pdc	1.55	kW	Tj=20°C	EERd	13.48	-
Declared capacity for heating / Average season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Average season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C	Pdh	3.81	kW	Tj=-7°C	COPd	3.00	-
Tj=2°C	Pdh	2.31	kW	Tj=2°C	COPd	4.44	-
Tj=7°C	Pdh	1.49	kW	Tj=7°C	COPd	4.12	-
Tj=12°C	Pdh	0.81	kW	Tj=12°C	COPd	5.06	-
Tj=bivalent temperature	Pdh	4.30	kW	Tj=bivalent temperature	COPd	2.56	-
Tj=operating limit	Pdh	3.64	kW	Tj=operating limit	COPd	2.30	-
Declared capacity for heating / Warmer season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Warmer season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=2°C	Pdh	—	kW	Tj=2°C	COPd	—	-
Tj=7°C	Pdh	—	kW	Tj=7°C	COPd	—	-
Tj=12°C	Pdh	—	kW	Tj=12°C	COPd	—	-
Tj=bivalent temperature	Pdh	—	kW	Tj=bivalent temperature	COPd	—	-
Tj=operating limit	Pdh	—	kW	Tj=operating limit	COPd	—	-
Declared capacity for heating / Colder season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Colder season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C	Pdh	—	kW	Tj=-7°C	COPd	—	-
Tj=2°C	Pdh	—	kW	Tj=2°C	COPd	—	-
Tj=7°C	Pdh	—	kW	Tj=7°C	COPd	—	-
Tj=12°C	Pdh	—	kW	Tj=12°C	COPd	—	-
Tj=bivalent temperature	Pdh	—	kW	Tj=bivalent temperature	COPd	—	-
Tj=operating limit	Pdh	—	kW	Tj=operating limit	COPd	—	-
Tj=-15°C	Pdh	—	kW	Tj=-15°C	COPd	—	-
Bivalent temperature				Operating limit temperature			
heating / Average	Tbiv	-10	°C	heating / Average	Tol	-20	°C
heating / Warmer	Tbiv	—	°C	heating / Warmer	Tol	—	°C
heating / Colder	Tbiv	—	°C	heating / Colder	Tol	—	°C
Cycling interval capacity				Cycling interval efficiency			
for cooling	Pcycc	—	kW	for cooling	EERcyc	—	-
for heating	Pcyh	—	kW	for heating	COPcyc	—	-
Degradation coefficient cooling				Degradation coefficient heating			
cooling	Cdc	0.25	-	heating	Cdh	0.25	-
Electric power input in power modes other than 'active mode'				Annual electricity consumption			
off mode	Poff	13	W	cooling	Qce	292	kWh/a
standby mode	Psb	13	W	heating / Average	Qhe	1,475	kWh/a
thermostat-off mode	Pto	20	W	heating / Warmer	Qhe	—	kWh/a
crankcase heater mode	Pck	0	W	heating / colder	Qhe	—	kWh/a
Capacity control(indicate one of three options)				Other items			
fixed		No		Sound power level(indoor)	Lwa	60	dB(A)
staged		No		Sound power level(outdoor)	Lwa	65	dB(A)
variable		Yes		Global warming potential	GWP	1,975	kgCO ₂ eq.
				Rated air flow(indoor)	-	1,200	m ³ /h
				Rated air flow(outdoor)	-	2,490	m ³ /h
Contact details for obtaining more information	Name and address of the manufacturer or of its authorised representative. Mitsubishi Heavy Industries Air-Conditioning Europe, Ltd. 5 The Square, Stockley Park, Uxbridge, Middlesex, UB11 1ET, United Kingdom						

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FDE71VNXVG

Information to identify the model(s) to which the information relates to:				If function includes heating: Indicate the heating season the information relates to. Indicated values should relate to one heating season at a time. Include at least the heating season 'Average'.			
Indoor unit model name		FDE71VG		Average(mandatory)		Yes	
Outdoor unit model name		FDC71VNX		Warmer(if designated)		No	
Function(indicate if present)				Colder(if designated)			
cooling		Yes		Colder(if designated)		No	
heating		Yes					
Item	symbol	value	unit	Item	symbol	value	class
Design load				Seasonal efficiency and energy efficiency class			
cooling	Pdesignc	7.1	kW	cooling	SEER	4.87	B
heating / Average	Pdesignh	6.0	kW	heating / Average	SCOP/A	4.00	A+
heating / Warmer	Pdesignh	—	kW	heating / Warmer	SCOP/W	—	—
heating / Colder	Pdesignh	—	kW	heating / Colder	SCOP/C	—	—
				unit			
Declared capacity at outdoor temperature Tdesignh				Back up heating capacity at outdoor temperature Tdesignh			
heating / Average (-10°C)	Pdh	6.0	kW	heating / Average (-10°C)	elbu	0	kW
heating / Warmer (2°C)	Pdh	—	kW	heating / Warmer (2°C)	elbu	—	kW
heating / Colder (-22°C)	Pdh	—	kW	heating / Colder (-22°C)	elbu	—	kW
Declared capacity for cooling, at indoor temperature 27(19)°C and outdoor temperature Tj				Declared energy efficiency ratio, at indoor temperature 27(19)°C and outdoor temperature Tj			
Tj=35°C	Pdc	7.10	kW	Tj=35°C	EERd	3.36	-
Tj=30°C	Pdc	5.23	kW	Tj=30°C	EERd	4.75	-
Tj=25°C	Pdc	3.37	kW	Tj=25°C	EERd	6.95	-
Tj=20°C	Pdc	2.95	kW	Tj=20°C	EERd	10.17	-
Declared capacity for heating / Average season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Average season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C	Pdh	5.31	kW	Tj=-7°C	COPd	2.75	-
Tj=2°C	Pdh	3.23	kW	Tj=2°C	COPd	3.89	-
Tj=7°C	Pdh	2.08	kW	Tj=7°C	COPd	5.10	-
Tj=12°C	Pdh	2.42	kW	Tj=12°C	COPd	6.24	-
Tj=bivalent temperature	Pdh	6.00	kW	Tj=bivalent temperature	COPd	2.53	-
Tj=operating limit	Pdh	4.30	kW	Tj=operating limit	COPd	2.10	-
Declared capacity for heating / Warmer season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Warmer season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=2°C	Pdh	—	kW	Tj=2°C	COPd	—	-
Tj=7°C	Pdh	—	kW	Tj=7°C	COPd	—	-
Tj=12°C	Pdh	—	kW	Tj=12°C	COPd	—	-
Tj=bivalent temperature	Pdh	—	kW	Tj=bivalent temperature	COPd	—	-
Tj=operating limit	Pdh	—	kW	Tj=operating limit	COPd	—	-
Declared capacity for heating / Colder season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Colder season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C	Pdh	—	kW	Tj=-7°C	COPd	—	-
Tj=2°C	Pdh	—	kW	Tj=2°C	COPd	—	-
Tj=7°C	Pdh	—	kW	Tj=7°C	COPd	—	-
Tj=12°C	Pdh	—	kW	Tj=12°C	COPd	—	-
Tj=bivalent temperature	Pdh	—	kW	Tj=bivalent temperature	COPd	—	-
Tj=operating limit	Pdh	—	kW	Tj=operating limit	COPd	—	-
Tj=-15°C	Pdh	—	kW	Tj=-15°C	COPd	—	-
Bivalent temperature				Operating limit temperature			
heating / Average	Tbiv	-10	°C	heating / Average	Tol	-20	°C
heating / Warmer	Tbiv	—	°C	heating / Warmer	Tol	—	°C
heating / Colder	Tbiv	—	°C	heating / Colder	Tol	—	°C
Cycling interval capacity				Cycling interval efficiency			
for cooling	Pcycc	—	kW	for cooling	EERcyc	—	-
for heating	Pcyh	—	kW	for heating	COPcyc	—	-
Degradation coefficient cooling				Degradation coefficient heating			
cooling	Cdc	0.25	-	heating	Cdh	0.25	-
Electric power input in power modes other than 'active mode'				Annual electricity consumption			
off mode	Poff	18	W	cooling	Qce	511	kWh/a
standby mode	Psb	18	W	heating / Average	Qhe	2,102	kWh/a
thermostat-off mode	Pto	20	W	heating / Warmer	Qhe	—	kWh/a
crankcase heater mode	Pck	25	W	heating / colder	Qhe	—	kWh/a
Capacity control(indicate one of three options)				Other items			
fixed		No		Sound power level(indoor)	Lwa	60	dB(A)
staged		No		Sound power level(outdoor)	Lwa	66	dB(A)
variable		Yes		Global warming potential	GWP	1,975	kgCO ₂ eq.
				Rated air flow(indoor)	-	1,200	m ³ /h
				Rated air flow(outdoor)	-	3,600	m ³ /h
Contact details for obtaining more information	Name and address of the manufacturer or of its authorised representative. Mitsubishi Heavy Industries Air-Conditioning Europe, Ltd. 5 The Square, Stockley Park, Uxbridge, Middlesex, UB11 1ET, United Kingdom						

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FDE100VNXVG

Information to identify the model(s) to which the information relates to:				If function includes heating: Indicate the heating season the information relates to. Indicated values should relate to one heating season at a time. Include at least the heating season 'Average'.			
Indoor unit model name		FDE100VG		Average(mandatory)		Yes	
Outdoor unit model name		FDC100VNX		Warmer(if designated)		No	
Function(indicate if present)				Colder(if designated)			
cooling		Yes		Colder(if designated)		No	
heating		Yes					
Item	symbol	value	unit	Item	symbol	value	class
Design load				Seasonal efficiency and energy efficiency class			
cooling	Pdesignc	10.0	kW	cooling	SEER	5.89	A+
heating / Average	Pdesignh	11.2	kW	heating / Average	SCOP/A	4.18	A+
heating / Warmer	Pdesignh	—	kW	heating / Warmer	SCOP/W	—	—
heating / Colder	Pdesignh	—	kW	heating / Colder	SCOP/C	—	—
				unit			
Declared capacity at outdoor temperature Tdesignh				Back up heating capacity at outdoor temperature Tdesignh			
heating / Average (-10°C)	Pdh	11.2	kW	heating / Average (-10°C)	elbu	0	kW
heating / Warmer (2°C)	Pdh	—	kW	heating / Warmer (2°C)	elbu	—	kW
heating / Colder (-22°C)	Pdh	—	kW	heating / Colder (-22°C)	elbu	—	kW
Declared capacity for cooling, at indoor temperature 27(19)°C and outdoor temperature Tj				Declared energy efficiency ratio, at indoor temperature 27(19)°C and outdoor temperature Tj			
Tj=35°C	Pdc	10.0	kW	Tj=35°C	EERd	3.92	-
Tj=30°C	Pdc	7.37	kW	Tj=30°C	EERd	5.80	-
Tj=25°C	Pdc	5.50	kW	Tj=25°C	EERd	8.70	-
Tj=20°C	Pdc	5.70	kW	Tj=20°C	EERd	11.52	-
Declared capacity for heating / Average season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Average season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C	Pdh	9.91	kW	Tj=-7°C	COPd	2.83	-
Tj=2°C	Pdh	6.03	kW	Tj=2°C	COPd	3.92	-
Tj=7°C	Pdh	4.13	kW	Tj=7°C	COPd	5.73	-
Tj=12°C	Pdh	4.90	kW	Tj=12°C	COPd	6.85	-
Tj=bivalent temperature	Pdh	11.2	kW	Tj=bivalent temperature	COPd	2.59	-
Tj=operating limit	Pdh	7.80	kW	Tj=operating limit	COPd	2.26	-
Declared capacity for heating / Warmer season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Warmer season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=2°C	Pdh	—	kW	Tj=2°C	COPd	—	-
Tj=7°C	Pdh	—	kW	Tj=7°C	COPd	—	-
Tj=12°C	Pdh	—	kW	Tj=12°C	COPd	—	-
Tj=bivalent temperature	Pdh	—	kW	Tj=bivalent temperature	COPd	—	-
Tj=operating limit	Pdh	—	kW	Tj=operating limit	COPd	—	-
Declared capacity for heating / Colder season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Colder season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C	Pdh	—	kW	Tj=-7°C	COPd	—	-
Tj=2°C	Pdh	—	kW	Tj=2°C	COPd	—	-
Tj=7°C	Pdh	—	kW	Tj=7°C	COPd	—	-
Tj=12°C	Pdh	—	kW	Tj=12°C	COPd	—	-
Tj=bivalent temperature	Pdh	—	kW	Tj=bivalent temperature	COPd	—	-
Tj=operating limit	Pdh	—	kW	Tj=operating limit	COPd	—	-
Tj=-15°C	Pdh	—	kW	Tj=-15°C	COPd	—	-
Bivalent temperature				Operating limit temperature			
heating / Average	Tbiv	-10	°C	heating / Average	Tol	-20	°C
heating / Warmer	Tbiv	—	°C	heating / Warmer	Tol	—	°C
heating / Colder	Tbiv	—	°C	heating / Colder	Tol	—	°C
Cycling interval capacity				Cycling interval efficiency			
for cooling	Pcycc	—	kW	for cooling	EERcyc	—	-
for heating	Pcyh	—	kW	for heating	COPcyc	—	-
Degradation coefficient cooling				Degradation coefficient heating			
cooling	Cdc	0.25	-	heating	Cdh	0.25	-
Electric power input in power modes other than 'active mode'				Annual electricity consumption			
off mode	Poff	20	W	cooling	Qce	595	kWh/a
standby mode	Psb	20	W	heating / Average	Qhe	3,754	kWh/a
thermostat-off mode	Pto	30	W	heating / Warmer	Qhe	—	kWh/a
crankcase heater mode	Pck	25	W	heating / colder	Qhe	—	kWh/a
Capacity control(indicate one of three options)				Other items			
fixed		No		Sound power level(indoor)	Lwa	64	dB(A)
staged		No		Sound power level(outdoor)	Lwa	70	dB(A)
variable		Yes		Global warming potential	GWP	1,975	kgCO ₂ eq.
				Rated air flow(indoor)	-	1,920	m ³ /h
				Rated air flow(outdoor)	-	6,000	m ³ /h
Contact details for obtaining more information	Name and address of the manufacturer or of its authorised representative. Mitsubishi Heavy Industries Air-Conditioning Europe, Ltd. 5 The Square, Stockley Park, Uxbridge, Middlesex, UB11 1ET, United Kingdom						

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FDE100VSXVG

Information to identify the model(s) to which the information relates to:				If function includes heating: Indicate the heating season the information relates to. Indicated values should relate to one heating season at a time. Include at least the heating season 'Average'.			
Indoor unit model name		FDE100VG		Average(mandatory)		Yes	
Outdoor unit model name		FDC100VSX		Warmer(if designated)		No	
Function(indicate if present)				Colder(if designated)			
cooling		Yes		Colder(if designated)		No	
heating		Yes					
Item	symbol	value	unit	Item	symbol	value	class
Design load				Seasonal efficiency and energy efficiency class			
cooling	Pdesignc	10.0	kW	cooling	SEER	5.84	A+
heating / Average	Pdesignh	11.2	kW	heating / Average	SCOP/A	4.17	A+
heating / Warmer	Pdesignh	—	kW	heating / Warmer	SCOP/W	—	—
heating / Colder	Pdesignh	—	kW	heating / Colder	SCOP/C	—	—
				unit			
Declared capacity at outdoor temperature Tdesignh				Back up heating capacity at outdoor temperature Tdesignh			
heating / Average (-10°C)	Pdh	11.2	kW	heating / Average (-10°C)	elbu	0	kW
heating / Warmer (2°C)	Pdh	—	kW	heating / Warmer (2°C)	elbu	—	kW
heating / Colder (-22°C)	Pdh	—	kW	heating / Colder (-22°C)	elbu	—	kW
Declared capacity for cooling, at indoor temperature 27(19)°C and outdoor temperature Tj				Declared energy efficiency ratio, at indoor temperature 27(19)°C and outdoor temperature Tj			
Tj=35°C	Pdc	10.0	kW	Tj=35°C	EERd	3.92	-
Tj=30°C	Pdc	7.37	kW	Tj=30°C	EERd	5.80	-
Tj=25°C	Pdc	5.50	kW	Tj=25°C	EERd	8.70	-
Tj=20°C	Pdc	5.70	kW	Tj=20°C	EERd	11.52	-
Declared capacity for heating / Average season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Average season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C	Pdh	9.91	kW	Tj=-7°C	COPd	2.83	-
Tj=2°C	Pdh	6.03	kW	Tj=2°C	COPd	3.92	-
Tj=7°C	Pdh	4.13	kW	Tj=7°C	COPd	5.73	-
Tj=12°C	Pdh	4.90	kW	Tj=12°C	COPd	6.85	-
Tj=bivalent temperature	Pdh	11.2	kW	Tj=bivalent temperature	COPd	2.59	-
Tj=operating limit	Pdh	7.80	kW	Tj=operating limit	COPd	2.26	-
Declared capacity for heating / Warmer season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Warmer season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=2°C	Pdh	—	kW	Tj=2°C	COPd	—	-
Tj=7°C	Pdh	—	kW	Tj=7°C	COPd	—	-
Tj=12°C	Pdh	—	kW	Tj=12°C	COPd	—	-
Tj=bivalent temperature	Pdh	—	kW	Tj=bivalent temperature	COPd	—	-
Tj=operating limit	Pdh	—	kW	Tj=operating limit	COPd	—	-
Declared capacity for heating / Colder season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Colder season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C	Pdh	—	kW	Tj=-7°C	COPd	—	-
Tj=2°C	Pdh	—	kW	Tj=2°C	COPd	—	-
Tj=7°C	Pdh	—	kW	Tj=7°C	COPd	—	-
Tj=12°C	Pdh	—	kW	Tj=12°C	COPd	—	-
Tj=bivalent temperature	Pdh	—	kW	Tj=bivalent temperature	COPd	—	-
Tj=operating limit	Pdh	—	kW	Tj=operating limit	COPd	—	-
Tj=-15°C	Pdh	—	kW	Tj=-15°C	COPd	—	-
Bivalent temperature				Operating limit temperature			
heating / Average	Tbiv	-10	°C	heating / Average	Tol	-20	°C
heating / Warmer	Tbiv	—	°C	heating / Warmer	Tol	—	°C
heating / Colder	Tbiv	—	°C	heating / Colder	Tol	—	°C
Cycling interval capacity				Cycling interval efficiency			
for cooling	Pcycc	—	kW	for cooling	EERcyc	—	-
for heating	Pcyh	—	kW	for heating	COPcyc	—	-
Degradation coefficient cooling				Degradation coefficient heating			
cooling	Cdc	0.25	-	heating	Cdh	0.25	-
Electric power input in power modes other than 'active mode'				Annual electricity consumption			
off mode	Poff	20	W	cooling	Qce	599	kWh/a
standby mode	Psb	20	W	heating / Average	Qhe	3,758	kWh/a
thermostat-off mode	Pto	50	W	heating / Warmer	Qhe	—	kWh/a
crankcase heater mode	Pck	25	W	heating / colder	Qhe	—	kWh/a
Capacity control(indicate one of three options)				Other items			
fixed		No		Sound power level(indoor)	Lwa	64	dB(A)
staged		No		Sound power level(outdoor)	Lwa	70	dB(A)
variable		Yes		Global warming potential	GWP	1,975	kgCO ₂ eq.
				Rated air flow(indoor)	-	1,920	m ³ /h
				Rated air flow(outdoor)	-	6,000	m ³ /h
Contact details for obtaining more information				Name and address of the manufacturer or of its authorised representative.			
				Mitsubishi Heavy Industries Air-Conditioning Europe, Ltd.			
				5 The Square, Stockley Park, Uxbridge, Middlesex, UB11 1ET,			
				United Kingdom			

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FDE71VNXPVG

Information to identify the model(s) to which the information relates to:				If function includes heating: Indicate the heating season the information relates to. Indicated values should relate to one heating season at a time. Include at least the heating season 'Average'.			
Indoor unit model name		FDE40VG (2 units)		Average (mandatory)		Yes	
Outdoor unit model name		FDC71VNX		Warmer (if designated)		No	
Function (indicate if present)				Colder (if designated)			
cooling		Yes					
heating		Yes					
Item	symbol	value	unit	Item	symbol	value	class
Design load				Seasonal efficiency and energy efficiency class			
cooling	Pdesignc	7.1	kW	cooling	SEER	5.26	A
heating / Average	Pdesignh	6.0	kW	heating / Average	SCOP/A	4.09	A+
heating / Warmer	Pdesignh	—	kW	heating / Warmer	SCOP/W	—	—
heating / Colder	Pdesignh	—	kW	heating / Colder	SCOP/C	—	—
				unit			
Declared capacity at outdoor temperature Tdesignh				Back up heating capacity at outdoor temperature Tdesignh			
heating / Average (-10°C)	Pdh	6.0	kW	heating / Average (-10°C)	elbu	0	kW
heating / Warmer (2°C)	Pdh	—	kW	heating / Warmer (2°C)	elbu	—	kW
heating / Colder (-22°C)	Pdh	—	kW	heating / Colder (-22°C)	elbu	—	kW
Declared capacity for cooling, at indoor temperature 27(19)°C and outdoor temperature Tj				Declared energy efficiency ratio, at indoor temperature 27(19)°C and outdoor temperature Tj			
Tj=35°C	Pdc	7.10	kW	Tj=35°C	EERd	3.46	-
Tj=30°C	Pdc	5.23	kW	Tj=30°C	EERd	5.30	-
Tj=25°C	Pdc	3.37	kW	Tj=25°C	EERd	7.93	-
Tj=20°C	Pdc	3.15	kW	Tj=20°C	EERd	11.25	-
Declared capacity for heating / Average season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Average season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C	Pdh	5.31	kW	Tj=-7°C	COPd	2.95	-
Tj=2°C	Pdh	3.23	kW	Tj=2°C	COPd	3.94	-
Tj=7°C	Pdh	2.08	kW	Tj=7°C	COPd	5.20	-
Tj=12°C	Pdh	2.44	kW	Tj=12°C	COPd	6.39	-
Tj=bivalent temperature	Pdh	6.00	kW	Tj=bivalent temperature	COPd	2.40	-
Tj=operating limit	Pdh	4.38	kW	Tj=operating limit	COPd	2.19	-
Declared capacity for heating / Warmer season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Warmer season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=2°C	Pdh	—	kW	Tj=2°C	COPd	—	-
Tj=7°C	Pdh	—	kW	Tj=7°C	COPd	—	-
Tj=12°C	Pdh	—	kW	Tj=12°C	COPd	—	-
Tj=bivalent temperature	Pdh	—	kW	Tj=bivalent temperature	COPd	—	-
Tj=operating limit	Pdh	—	kW	Tj=operating limit	COPd	—	-
Declared capacity for heating / Colder season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Colder season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C	Pdh	—	kW	Tj=-7°C	COPd	—	-
Tj=2°C	Pdh	—	kW	Tj=2°C	COPd	—	-
Tj=7°C	Pdh	—	kW	Tj=7°C	COPd	—	-
Tj=12°C	Pdh	—	kW	Tj=12°C	COPd	—	-
Tj=bivalent temperature	Pdh	—	kW	Tj=bivalent temperature	COPd	—	-
Tj=operating limit	Pdh	—	kW	Tj=operating limit	COPd	—	-
Tj=-15°C	Pdh	—	kW	Tj=-15°C	COPd	—	-
Bivalent temperature				Operating limit temperature			
heating / Average	Tbiv	-10	°C	heating / Average	Tol	-20	°C
heating / Warmer	Tbiv	—	°C	heating / Warmer	Tol	—	°C
heating / Colder	Tbiv	—	°C	heating / Colder	Tol	—	°C
Cycling interval capacity				Cycling interval efficiency			
for cooling	Pcycc	—	kW	for cooling	EERcyc	—	-
for heating	Pcyh	—	kW	for heating	COPcyc	—	-
Degradation coefficient cooling				Degradation coefficient heating			
cooling	Cdc	0.25	-	heating	Cdh	0.25	-
Electric power input in power modes other than 'active mode'				Annual electricity consumption			
off mode	Poff	18	W	cooling	Qce	473	kWh/a
standby mode	Psb	18	W	heating / Average	Qhe	2,054	kWh/a
thermostat-off mode	Pto	26	W	heating / Warmer	Qhe	—	kWh/a
crankcase heater mode	Pck	25	W	heating / colder	Qhe	—	kWh/a
Capacity control (indicate one of three options)				Other items			
fixed		No		Sound power level (indoor)	Lwa	60	dB(A)
staged		No		Sound power level (outdoor)	Lwa	66	dB(A)
variable		Yes		Global warming potential	GWP	1,975	kgCO ₂ eq.
				Rated air flow (indoor)	-	780	m ³ /h
				Rated air flow (outdoor)	-	3,600	m ³ /h
Contact details for obtaining more information				Name and address of the manufacturer or of its authorised representative.			
				Mitsubishi Heavy Industries Air-Conditioning Europe, Ltd.			
				5 The Square, Stockley Park, Uxbridge, Middlesex, UB11 1ET,			
				United Kingdom			

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FDE100VNXPVG

Information to identify the model(s) to which the information relates to:				If function includes heating: Indicate the heating season the information relates to. Indicated values should relate to one heating season at a time. Include at least the heating season 'Average'.			
Indoor unit model name		FDE50VG (2 units)		Average (mandatory)		Yes	
Outdoor unit model name		FDC100VNX		Warmer (if designated)		No	
Function (indicate if present)				Colder (if designated)			
cooling		Yes					
heating		Yes					
Item	symbol	value	unit	Item	symbol	value	class
Design load				Seasonal efficiency and energy efficiency class			
cooling	Pdesignc	10.0	kW	cooling	SEER	5.53	A
heating / Average	Pdesignh	10.8	kW	heating / Average	SCOP/A	3.94	A
heating / Warmer	Pdesignh	—	kW	heating / Warmer	SCOP/W	—	—
heating / Colder	Pdesignh	—	kW	heating / Colder	SCOP/C	—	—
				unit			
Declared capacity at outdoor temperature Tdesignh				Back up heating capacity at outdoor temperature Tdesignh			
heating / Average (-10°C)	Pdh	10.8	kW	heating / Average (-10°C)	elbu	0	kW
heating / Warmer (2°C)	Pdh	—	kW	heating / Warmer (2°C)	elbu	—	kW
heating / Colder (-22°C)	Pdh	—	kW	heating / Colder (-22°C)	elbu	—	kW
Declared capacity for cooling, at indoor temperature 27(19)°C and outdoor temperature Tj				Declared energy efficiency ratio, at indoor temperature 27(19)°C and outdoor temperature Tj			
Tj=35°C	Pdc	10.0	kW	Tj=35°C	EERd	3.33	-
Tj=30°C	Pdc	7.37	kW	Tj=30°C	EERd	5.34	-
Tj=25°C	Pdc	5.13	kW	Tj=25°C	EERd	8.02	-
Tj=20°C	Pdc	5.34	kW	Tj=20°C	EERd	10.47	-
Declared capacity for heating / Average season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Average season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C	Pdh	9.56	kW	Tj=-7°C	COPd	2.72	-
Tj=2°C	Pdh	5.81	kW	Tj=2°C	COPd	3.75	-
Tj=7°C	Pdh	4.06	kW	Tj=7°C	COPd	5.27	-
Tj=12°C	Pdh	4.82	kW	Tj=12°C	COPd	6.16	-
Tj=bivalent temperature	Pdh	10.8	kW	Tj=bivalent temperature	COPd	2.36	-
Tj=operating limit	Pdh	7.60	kW	Tj=operating limit	COPd	2.05	-
Declared capacity for heating / Warmer season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Warmer season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=2°C	Pdh	—	kW	Tj=2°C	COPd	—	-
Tj=7°C	Pdh	—	kW	Tj=7°C	COPd	—	-
Tj=12°C	Pdh	—	kW	Tj=12°C	COPd	—	-
Tj=bivalent temperature	Pdh	—	kW	Tj=bivalent temperature	COPd	—	-
Tj=operating limit	Pdh	—	kW	Tj=operating limit	COPd	—	-
Declared capacity for heating / Colder season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Colder season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C	Pdh	—	kW	Tj=-7°C	COPd	—	-
Tj=2°C	Pdh	—	kW	Tj=2°C	COPd	—	-
Tj=7°C	Pdh	—	kW	Tj=7°C	COPd	—	-
Tj=12°C	Pdh	—	kW	Tj=12°C	COPd	—	-
Tj=bivalent temperature	Pdh	—	kW	Tj=bivalent temperature	COPd	—	-
Tj=operating limit	Pdh	—	kW	Tj=operating limit	COPd	—	-
Tj=-15°C	Pdh	—	kW	Tj=-15°C	COPd	—	-
Bivalent temperature				Operating limit temperature			
heating / Average	Tbiv	-10	°C	heating / Average	Tol	-20	°C
heating / Warmer	Tbiv	—	°C	heating / Warmer	Tol	—	°C
heating / Colder	Tbiv	—	°C	heating / Colder	Tol	—	°C
Cycling interval capacity				Cycling interval efficiency			
for cooling	Pcycc	—	kW	for cooling	EERcyc	—	-
for heating	Pcyh	—	kW	for heating	COPcyc	—	-
Degradation coefficient cooling				Degradation coefficient heating			
cooling	Cdc	0.25	-	heating	Cdh	0.25	-
Electric power input in power modes other than 'active mode'				Annual electricity consumption			
off mode	Poff	20	W	cooling	Qce	634	kWh/a
standby mode	Psb	20	W	heating / Average	Qhe	3,836	kWh/a
thermostat-off mode	Pto	26	W	heating / Warmer	Qhe	—	kWh/a
crankcase heater mode	Pck	25	W	heating / colder	Qhe	—	kWh/a
Capacity control (indicate one of three options)				Other items			
fixed		No		Sound power level (indoor)	Lwa	60	dB(A)
staged		No		Sound power level (outdoor)	Lwa	70	dB(A)
variable		Yes		Global warming potential	GWP	1,975	kgCO ₂ eq.
				Rated air flow (indoor)	-	780	m ³ /h
				Rated air flow (outdoor)	-	6,000	m ³ /h
Contact details for obtaining more information	Name and address of the manufacturer or of its authorised representative. Mitsubishi Heavy Industries Air-Conditioning Europe, Ltd. 5 The Square, Stockley Park, Uxbridge, Middlesex, UB11 1ET, United Kingdom						

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FDE100VSPVG

Information to identify the model(s) to which the information relates to:				If function includes heating: Indicate the heating season the information relates to. Indicated values should relate to one heating season at a time. Include at least the heating season 'Average'.			
Indoor unit model name		FDE50VG (2 units)		Average (mandatory)		Yes	
Outdoor unit model name		FDC100VSX		Warmer (if designated)		No	
Function (indicate if present)				Colder (if designated)			
cooling		Yes					
heating		Yes					
Item	symbol	value	unit	Item	symbol	value	class
Design load				Seasonal efficiency and energy efficiency class			
cooling	Pdesignc	10.0	kW	cooling	SEER	5.49	A
heating / Average	Pdesignh	10.8	kW	heating / Average	SCOP/A	3.94	A
heating / Warmer	Pdesignh	—	kW	heating / Warmer	SCOP/W	—	—
heating / Colder	Pdesignh	—	kW	heating / Colder	SCOP/C	—	—
				unit			
Declared capacity at outdoor temperature Tdesignh				Back up heating capacity at outdoor temperature Tdesignh			
heating / Average (-10°C)	Pdh	10.8	kW	heating / Average (-10°C)	elbu	0	kW
heating / Warmer (2°C)	Pdh	—	kW	heating / Warmer (2°C)	elbu	—	kW
heating / Colder (-22°C)	Pdh	—	kW	heating / Colder (-22°C)	elbu	—	kW
Declared capacity for cooling, at indoor temperature 27(19)°C and outdoor temperature Tj				Declared energy efficiency ratio, at indoor temperature 27(19)°C and outdoor temperature Tj			
Tj=35°C	Pdc	10.0	kW	Tj=35°C	EERd	3.33	-
Tj=30°C	Pdc	7.37	kW	Tj=30°C	EERd	5.34	-
Tj=25°C	Pdc	5.13	kW	Tj=25°C	EERd	8.02	-
Tj=20°C	Pdc	5.34	kW	Tj=20°C	EERd	10.47	-
Declared capacity for heating / Average season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Average season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C	Pdh	9.56	kW	Tj=-7°C	COPd	2.72	-
Tj=2°C	Pdh	5.81	kW	Tj=2°C	COPd	3.75	-
Tj=7°C	Pdh	4.06	kW	Tj=7°C	COPd	5.27	-
Tj=12°C	Pdh	4.82	kW	Tj=12°C	COPd	6.16	-
Tj=bivalent temperature	Pdh	10.8	kW	Tj=bivalent temperature	COPd	2.36	-
Tj=operating limit	Pdh	7.60	kW	Tj=operating limit	COPd	2.05	-
Declared capacity for heating / Warmer season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Warmer season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=2°C	Pdh	—	kW	Tj=2°C	COPd	—	-
Tj=7°C	Pdh	—	kW	Tj=7°C	COPd	—	-
Tj=12°C	Pdh	—	kW	Tj=12°C	COPd	—	-
Tj=bivalent temperature	Pdh	—	kW	Tj=bivalent temperature	COPd	—	-
Tj=operating limit	Pdh	—	kW	Tj=operating limit	COPd	—	-
Declared capacity for heating / Colder season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Colder season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C	Pdh	—	kW	Tj=-7°C	COPd	—	-
Tj=2°C	Pdh	—	kW	Tj=2°C	COPd	—	-
Tj=7°C	Pdh	—	kW	Tj=7°C	COPd	—	-
Tj=12°C	Pdh	—	kW	Tj=12°C	COPd	—	-
Tj=bivalent temperature	Pdh	—	kW	Tj=bivalent temperature	COPd	—	-
Tj=operating limit	Pdh	—	kW	Tj=operating limit	COPd	—	-
Tj=-15°C	Pdh	—	kW	Tj=-15°C	COPd	—	-
Bivalent temperature				Operating limit temperature			
heating / Average	Tbiv	-10	°C	heating / Average	Tol	-20	°C
heating / Warmer	Tbiv	—	°C	heating / Warmer	Tol	—	°C
heating / Colder	Tbiv	—	°C	heating / Colder	Tol	—	°C
Cycling interval capacity				Cycling interval efficiency			
for cooling	Pcycc	—	kW	for cooling	EERcyc	—	-
for heating	Pcyh	—	kW	for heating	COPcyc	—	-
Degradation coefficient cooling				Degradation coefficient heating			
	Cdc	0.25	-		Cdh	0.25	-
Electric power input in power modes other than 'active mode'				Annual electricity consumption			
off mode	Poff	20	W	cooling	Qce	638	kWh/a
standby mode	Psb	20	W	heating / Average	Qhe	3,840	kWh/a
thermostat-off mode	Pto	46	W	heating / Warmer	Qhe	—	kWh/a
crankcase heater mode	Pck	25	W	heating / colder	Qhe	—	kWh/a
Capacity control (indicate one of three options)				Other items			
fixed		No		Sound power level (indoor)	Lwa	60	dB(A)
staged		No		Sound power level (outdoor)	Lwa	70	dB(A)
variable		Yes		Global warming potential	GWP	1,975	kgCO ₂ eq.
				Rated air flow (indoor)	-	780	m ³ /h
				Rated air flow (outdoor)	-	6,000	m ³ /h
Contact details for obtaining more information				Name and address of the manufacturer or of its authorised representative.			
				Mitsubishi Heavy Industries Air-Conditioning Europe, Ltd. 5 The Square, Stockley Park, Uxbridge, Middlesex, UB11 1ET, United Kingdom			

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FDE125VNXVG

Model(s) : FDC125VNX / FDE125VG							
Outdoor side heat exchanger of air conditioner : air							
Indoor side heat exchanger of air conditioner : air							
Type : vapour compression							
if applicable : electric motor							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	12.5	kW	Seasonal space cooling energy efficiency ηs,c		219.4	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35°C	Pdc	12.5	kW	Tj=+35°C	EERd or GUEc,bin / AEFc,bin	357.0	%
Tj=+30°C	Pdc	9.2	kW	Tj=+30°C	EERd or GUEc,bin / AEFc,bin	481.0	%
Tj=+25°C	Pdc	5.9	kW	Tj=+25°C	EERd or GUEc,bin / AEFc,bin	731.0	%
Tj=+20°C	Pdc	5.6	kW	Tj=+20°C	EERd or GUEc,bin / AEFc,bin	1,035.0	%
Degradation coefficient for air conditioners**	Cdc	0.25	-				
Power consumption in other than 'active mode'							
Off mode	P _{OFF}	0.045	kW	Crankcase heater mode	P _{CK}	0.045	kW
Thermostat-off mode	P _{TO}	0.035	kW	Standby mode	P _{SB}	0.045	kW
Other items				For air-to-air air conditioner: air flow-rate,outdoor measured			
Capacity control		variable				6,000	m ³ /h
Sound power level, outdoor	L _{WA}	70.0	dB				
If engine driven: Emissions of nitrogen oxides	NO _x ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
							PFA004Z080 A

Information to identify the model(s) to which the information relates :				FDC125VNX / FDE125VG			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	14.0	kW	Seasonal space heating energy efficiency ηs,h		145.6	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	10.1	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	228.0	%
Tj=+2°C	Pdh	6.1	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	359.0	%
Tj=+7°C	Pdh	4.3	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	517.0	%
Tj=+12°C	Pdh	5.0	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	619.0	%
Tbiv=bivalent temperature	Pdh	11.4	kW	Tbiv=bivalent temperature	COPd or GUEh,bin / AEFh,bin	239.0	%
TOL=operation limit	Pdh	9.0	kW	TOL=operation limit	COPd or GUEh,bin / AEFh,bin	213.0	%
For air-to-water heat pumps : Tj=-15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj=-15°C (if TOL < -20°C)	COPd or GUEh,bin / AEFh,bin	-	%
Bivalent temperature	Tbiv	-10.0	°C	For water-to-air heat pumps: Operation limit Ta temperature		-	°C
Degradation coefficient heat pumps**	Cdh	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.045	kW	elbu		-	kW
Thermostat-off mode	P _{TO}	0.075	kW	Type of energy input Standby mode	P _{SB}	0.045	kW
Crankcase heater mode	P _{CK}	0.045	kW				
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				6,000	m ³ /h
Sound power level, outdoor measured	L _{WA}	70.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		-	m ³ /h
Emissions of nitrogen oxides(if applicable)	NO _x ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details				Mitsubishi heavy industries thermal systems,LTD			
** If Cdh is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							

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FDE125VSXVG

Model(s) : FDC125VSX / FDE125VG							
Outdoor side heat exchanger of air conditioner : air							
Indoor side heat exchanger of air conditioner : air							
Type : vapour compression							
if applicable : electric motor							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	12.5	kW	Seasonal space cooling energy efficiency ηs,c		226.4	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35°C	Pdc	12.5	kW	Tj=+35°C	EERd or GUEc,bin / AEFc,bin	357.0	%
Tj=+30°C	Pdc	9.2	kW	Tj=+30°C	EERd or GUEc,bin / AEFc,bin	491.0	%
Tj=+25°C	Pdc	5.9	kW	Tj=+25°C	EERd or GUEc,bin / AEFc,bin	746.0	%
Tj=+20°C	Pdc	5.6	kW	Tj=+20°C	EERd or GUEc,bin / AEFc,bin	1,056.0	%
Degradation coefficient for air conditioners**	Cdc	0.25	-				
Power consumption in other than 'active mode'							
Off mode	P _{OFF}	0.040	kW	Crankcase heater mode	P _{CK}	0.040	kW
Thermostat-off mode	P _{TO}	0.030	kW	Standby mode	P _{SB}	0.040	kW
Other items				For air-to-air air conditioner: air flow-rate,outdoor measured			
Capacity control		variable				6,000	m ³ /h
Sound power level, outdoor	L _{WA}	70.0	dB				
If engine driven: Emissions of nitrogen oxides	NO _x ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
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Information to identify the model(s) to which the information relates :				FDC125VSX / FDE125VG			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	14.0	kW	Seasonal space heating energy efficiency ηs,h		143.4	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	12.4	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	209.0	%
Tj=+2°C	Pdh	7.5	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	361.0	%
Tj=+7°C	Pdh	5.0	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	506.0	%
Tj=+12°C	Pdh	5.0	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	631.0	%
Tbiv=bivalent temperature	Pdh	14.0	kW	Tbiv=bivalent temperature	COPd or GUEh,bin / AEFh,bin	222.0	%
TOL=operation limit	Pdh	10.9	kW	TOL=operation limit	COPd or GUEh,bin / AEFh,bin	211.0	%
For air-to-water heat pumps : Tj=-15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj=-15°C (if TOL < -20°C)	COPd or GUEh,bin / AEFh,bin	-	%
Bivalent temperature	Tbiv	-10.0	°C	For water-to-air heat pumps: Operation limit Ta temperature		-	°C
Degradation coefficient heat pumps**	Cdh	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.040	kW	elbu		-	kW
Thermostat-off mode	P _{TO}	0.070	kW	Type of energy input Standby mode	P _{SB}	0.040	kW
Crankcase heater mode	P _{CK}	0.040	kW				
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				6,000	m ³ /h
Sound power level, outdoor measured	L _{WA}	70.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		-	m ³ /h
Emissions of nitrogen oxides(if applicable)	NO _x ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details				Mitsubishi heavy industries thermal systems,LTD			
** If Cdh is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							

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FDE140VNXVG

Model(s) : FDC140VNX / FDE140VG							
Outdoor side heat exchanger of air conditioner : air							
Indoor side heat exchanger of air conditioner : air							
Type : vapour compression							
if applicable : electric motor							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	14.0	kW	Seasonal space cooling energy efficiency ηs,c		213.5	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35°C	Pdc	14.0	kW	Tj=+35°C	EERd or GUEc,bin / AEFc,bin	318.0	%
Tj=+30°C	Pdc	10.3	kW	Tj=+30°C	EERd or GUEc,bin / AEFc,bin	450.0	%
Tj=+25°C	Pdc	6.6	kW	Tj=+25°C	EERd or GUEc,bin / AEFc,bin	698.0	%
Tj=+20°C	Pdc	5.6	kW	Tj=+20°C	EERd or GUEc,bin / AEFc,bin	1,042.0	%
Degradation coefficient for air conditioners**	Cdc	0.25	-				
Power consumption in other than 'active mode'							
Off mode	P _{OFF}	0.045	kW	Crankcase heater mode	P _{CK}	0.045	kW
Thermostat-off mode	P _{TO}	0.035	kW	Standby mode	P _{SB}	0.045	kW
Other items				For air-to-air air conditioner: air flow-rate,outdoor measured			
Capacity control		variable				6,000	m ³ /h
Sound power level, outdoor	L _{WA}	72.0	dB				
If engine driven: Emissions of nitrogen oxides	NO _x ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
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Information to identify the model(s) to which the information relates :				FDC140VNX / FDE140VG			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	16.0	kW	Seasonal space heating energy efficiency ηs,h		143.3	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	11.5	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	215.0	%
Tj=+2°C	Pdh	7.0	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	357.0	%
Tj=+7°C	Pdh	4.5	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	511.0	%
Tj=+12°C	Pdh	5.0	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	619.0	%
Tbiv=bivalent temperature	Pdh	13.0	kW	Tbiv=bivalent temperature	COPd or GUEh,bin / AEFh,bin	227.0	%
TOL=operation limit	Pdh	10.3	kW	TOL=operation limit	COPd or GUEh,bin / AEFh,bin	211.0	%
For air-to-water heat pumps : Tj=-15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj=-15°C (if TOL < -20°C)	COPd or GUEh,bin / AEFh,bin	-	%
Bivalent temperature	Tbiv	-10.0	°C	For water-to-air heat pumps: Operation limit Ta temperature		-	°C
Degradation coefficient heat pumps**	Cdh	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.045	kW	elbu		-	kW
Thermostat-off mode	P _{TO}	0.080	kW	Type of energy input Standby mode	P _{SB}	0.045	kW
Crankcase heater mode	P _{CK}	0.045	kW				
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				6,000	m ³ /h
Sound power level, outdoor measured	L _{WA}	72.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		-	m ³ /h
Emissions of nitrogen oxides(if applicable)	NO _x ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details				Mitsubishi heavy industries thermal systems,LTD			
** If Cdh is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							

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FDE140VSXVG


Model(s) : FDC140VSX / FDE140VG							
Outdoor side heat exchanger of air conditioner : air							
Indoor side heat exchanger of air conditioner : air							
Type : vapour compression							
if applicable : electric motor							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	14.0	kW	Seasonal space cooling energy efficiency ηs,c		219.4	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35°C	Pdc	14.0	kW	Tj=+35°C	EERd or GUEc,bin / AEFc,bin	318.0	%
Tj=+30°C	Pdc	10.3	kW	Tj=+30°C	EERd or GUEc,bin / AEFc,bin	459.0	%
Tj=+25°C	Pdc	6.6	kW	Tj=+25°C	EERd or GUEc,bin / AEFc,bin	712.0	%
Tj=+20°C	Pdc	5.6	kW	Tj=+20°C	EERd or GUEc,bin / AEFc,bin	1,063.0	%
Degradation coefficient for air conditioners**	Cdc	0.25	-				
Power consumption in other than 'active mode'							
Off mode	P _{OFF}	0.040	kW	Crankcase heater mode	P _{CK}	0.040	kW
Thermostat-off mode	P _{TO}	0.035	kW	Standby mode	P _{SB}	0.040	kW
Other items				For air-to-air air conditioner: air flow-rate,outdoor measured			
Capacity control		variable				6,000	m ³ /h
Sound power level, outdoor	L _{WA}	72.0	dB				
If engine driven: Emissions of nitrogen oxides	NO _x ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
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Information to identify the model(s) to which the information relates :				FDC140VSX / FDE140VG			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	16.0	kW	Seasonal space heating energy efficiency ηs,h		141.8	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	13.7	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	203.0	%
Tj=+2°C	Pdh	8.4	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	360.0	%
Tj=+7°C	Pdh	5.4	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	494.0	%
Tj=+12°C	Pdh	5.0	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	631.0	%
Tbiv=bivalent temperature	Pdh	15.5	kW	Tbiv=bivalent temperature	COPd or GUEh,bin / AEFh,bin	219.0	%
TOL=operation limit	Pdh	11.9	kW	TOL=operation limit	COPd or GUEh,bin / AEFh,bin	211.0	%
For air-to-water heat pumps : Tj=-15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj=-15°C (if TOL < -20°C)	COPd or GUEh,bin / AEFh,bin	-	%
Bivalent temperature	Tbiv	-10.0	°C	For water-to-air heat pumps: Operation limit Ta temperature		-	°C
Degradation coefficient heat pumps**	Cdh	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.040	kW	elbu		-	kW
Thermostat-off mode	P _{TO}	0.070	kW	Type of energy input Standby mode	P _{SB}	0.040	kW
Crankcase heater mode	P _{CK}	0.040	kW				
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				6,000	m ³ /h
Sound power level, outdoor measured	L _{WA}	72.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		-	m ³ /h
Emissions of nitrogen oxides(if applicable)	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details				Mitsubishi heavy industries thermal systems,LTD			
** If Cdh is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							

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FDE125VNXPG

Model(s) : FDC125VNX / FDE60VG (2 units)							
Outdoor side heat exchanger of air conditioner : air							
Indoor side heat exchanger of air conditioner : air							
Type : vapour compression							
if applicable : electric motor							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	12.5	kW	Seasonal space cooling energy efficiency ηs,c		254.8	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35°C	Pdc	12.5	kW	Tj=+35°C	EERd or GUEc,bin / AEFc,bin	323.0	%
Tj=+30°C	Pdc	9.2	kW	Tj=+30°C	EERd or GUEc,bin / AEFc,bin	547.0	%
Tj=+25°C	Pdc	5.9	kW	Tj=+25°C	EERd or GUEc,bin / AEFc,bin	873.0	%
Tj=+20°C	Pdc	5.6	kW	Tj=+20°C	EERd or GUEc,bin / AEFc,bin	1,259.0	%
Degradation coefficient for air conditioners**	Cdc	0.25	-				
Power consumption in other than 'active mode'							
Off mode	P _{OFF}	0.040	kW	Crankcase heater mode	P _{CK}	0.040	kW
Thermostat-off mode	P _{TO}	0.000	kW	Standby mode	P _{SB}	0.040	kW
Other items				For air-to-air air conditioner: air flow-rate,outdoor measured			
Capacity control		variable				6,000	m ³ /h
Sound power level, outdoor	L _{WA}	70.0	dB				
If engine driven: Emissions of nitrogen oxides	NO _x ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
PFA004Z080 A							

Information to identify the model(s) to which the information relates :				FDC125VNX / FDE60VG (2 units)			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	14.0	kW	Seasonal space heating energy efficiency ηs,h		162.0	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	10.1	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	243.0	%
Tj=+2°C	Pdh	6.1	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	392.0	%
Tj=+7°C	Pdh	4.3	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	603.0	%
Tj=+12°C	Pdh	5.0	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	741.0	%
Tbiv=bivalent temperature	Pdh	11.4	kW	Tbiv=bivalent temperature	COPd or GUEh,bin / AEFh,bin	249.0	%
TOL=operation limit	Pdh	9.0	kW	TOL=operation limit	COPd or GUEh,bin / AEFh,bin	221.0	%
For air-to-water heat pumps : Tj=-15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj=-15°C (if TOL < -20°C)	COPd or GUEh,bin / AEFh,bin	-	%
Bivalent temperature	Tbiv	-10.0	°C	For water-to-air heat pumps: Operation limit Ta temperature		-	°C
Degradation coefficient heat pumps**	Cdh	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.040	kW	elbu		-	kW
Thermostat-off mode	P _{TO}	0.045	kW	Type of energy input Standby mode	P _{SB}	0.040	kW
Crankcase heater mode	P _{CK}	0.040	kW				
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				6,000	m ³ /h
Sound power level, outdoor measured	L _{WA}	70.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		-	m ³ /h
Emissions of nitrogen oxides(if applicable)	NO _x ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details				Mitsubishi heavy industries thermal systems,LTD			
** If Cdh is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
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FDE125VSPVG


Model(s) : FDC125VSX / FDE60VG (2 units)							
Outdoor side heat exchanger of air conditioner : air							
Indoor side heat exchanger of air conditioner : air							
Type : vapour compression							
if applicable : electric motor							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	12.5	kW	Seasonal space cooling energy efficiency ηs,c		262.7	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35°C	Pdc	12.5	kW	Tj=+35°C	EERd or GUEc,bin / AEFc,bin	323.0	%
Tj=+30°C	Pdc	9.2	kW	Tj=+30°C	EERd or GUEc,bin / AEFc,bin	558.0	%
Tj=+25°C	Pdc	5.9	kW	Tj=+25°C	EERd or GUEc,bin / AEFc,bin	891.0	%
Tj=+20°C	Pdc	5.6	kW	Tj=+20°C	EERd or GUEc,bin / AEFc,bin	1,285.0	%
Degradation coefficient for air conditioners**	Cdc	0.25	-				
Power consumption in other than 'active mode'							
Off mode	P _{OFF}	0.035	kW	Crankcase heater mode	P _{CK}	0.035	kW
Thermostat-off mode	P _{TO}	0.000	kW	Standby mode	P _{SB}	0.035	kW
Other items				For air-to-air air conditioner: air flow-rate,outdoor measured			
Capacity control		variable				6,000	m ³ /h
Sound power level, outdoor	L _{WA}	70.0	dB				
If engine driven: Emissions of nitrogen oxides	NO _x ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
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Information to identify the model(s) to which the information relates :				FDC125VSX / FDE60VG (2 units)			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	14.0	kW	Seasonal space heating energy efficiency ηs,h		159.8	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	12.4	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	224.0	%
Tj=+2°C	Pdh	7.5	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	396.0	%
Tj=+7°C	Pdh	5.0	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	584.0	%
Tj=+12°C	Pdh	5.0	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	758.0	%
Tbiv=bivalent temperature	Pdh	14.0	kW	Tbiv=bivalent temperature	COPd or GUEh,bin / AEFh,bin	235.0	%
TOL=operation limit	Pdh	10.9	kW	TOL=operation limit	COPd or GUEh,bin / AEFh,bin	223.0	%
For air-to-water heat pumps : Tj=-15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj=-15°C (if TOL < -20°C)	COPd or GUEh,bin / AEFh,bin	-	%
Bivalent temperature	Tbiv	-10.0	°C	For water-to-air heat pumps: Operation limit Ta temperature		-	°C
Degradation coefficient heat pumps**	Cdh	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.035	kW	elbu		-	kW
Thermostat-off mode	P _{TO}	0.040	kW	Type of energy input Standby mode	P _{SB}	0.035	kW
Crankcase heater mode	P _{CK}	0.035	kW				
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				6,000	m ³ /h
Sound power level, outdoor measured	L _{WA}	70.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		-	m ³ /h
Emissions of nitrogen oxides(if applicable)	NO _x ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details				Mitsubishi heavy industries thermal systems,LTD			
** If Cdh is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
PFA004Z080 							

FDE140VNXPG

Model(s) : FDC140VNX / FDE71VG (2 units)							
Outdoor side heat exchanger of air conditioner : air							
Indoor side heat exchanger of air conditioner : air							
Type : vapour compression							
if applicable : electric motor							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	14.0	kW	Seasonal space cooling energy efficiency ηs,c		243.6	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35°C	Pdc	14.0	kW	Tj=+35°C	EERd or GUEc,bin / AEFc,bin	307.0	%
Tj=+30°C	Pdc	10.3	kW	Tj=+30°C	EERd or GUEc,bin / AEFc,bin	514.0	%
Tj=+25°C	Pdc	6.6	kW	Tj=+25°C	EERd or GUEc,bin / AEFc,bin	782.0	%
Tj=+20°C	Pdc	5.6	kW	Tj=+20°C	EERd or GUEc,bin / AEFc,bin	1,259.0	%
Degradation coefficient for air conditioners**	Cdc	0.25	-				
Power consumption in other than 'active mode'							
Off mode	P _{OFF}	0.040	kW	Crankcase heater mode	P _{CK}	0.040	kW
Thermostat-off mode	P _{TO}	0.000	kW	Standby mode	P _{SB}	0.040	kW
Other items				For air-to-air air conditioner: air flow-rate,outdoor measured			
Capacity control		variable				6,000	m ³ /h
Sound power level, outdoor	L _{WA}	72.0	dB				
If engine driven: Emissions of nitrogen oxides	NO _x ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
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Information to identify the model(s) to which the information relates :				FDC140VNX / FDE71VG (2 units)			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	16.0	kW	Seasonal space heating energy efficiency ηs,h		159.3	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	11.5	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	227.0	%
Tj=+2°C	Pdh	7.0	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	391.0	%
Tj=+7°C	Pdh	4.5	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	595.0	%
Tj=+12°C	Pdh	5.0	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	741.0	%
T _{biv} =bivalent temperature	Pdh	13.0	kW	T _{biv} =bivalent temperature	COPd or GUEh,bin / AEFh,bin	234.0	%
T _{OL} =operation limit	Pdh	10.3	kW	T _{OL} =operation limit	COPd or GUEh,bin / AEFh,bin	217.0	%
For air-to-water heat pumps : Tj=-15°C (if T _{OL} <-20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj=-15°C (if T _{OL} <-20°C)	COPd or GUEh,bin / AEFh,bin	-	%
Bivalent temperature	T _{biv}	-10.0	°C	For water-to-air heat pumps: Operation limit T _a temperature		-	°C
Degradation coefficient heat pumps**	C _{dh}	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.040	kW		elbu	-	kW
Thermostat-off mode	P _{TO}	0.045	kW	Type of energy input	P _{SB}	0.040	kW
Crankcase heater mode	P _{CK}	0.040	kW	Standby mode			
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				6,000	m ³ /h
Sound power level, outdoor measured	L _{WA}	72.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		-	m ³ /h
Emissions of nitrogen oxides(if applicable)	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details				Mitsubishi heavy industries thermal systems,LTD			
** If C _{dh} is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							

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FDE140VSXPVG

Model(s) : FDC140VSX / FDE71VG (2 units)							
Outdoor side heat exchanger of air conditioner : air							
Indoor side heat exchanger of air conditioner : air							
Type : vapour compression							
if applicable : electric motor							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	14.0	kW	Seasonal space cooling energy efficiency ηs,c		250.7	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35°C	Pdc	14.0	kW	Tj=+35°C	EERd or GUEc,bin / AEFc,bin	307.0	%
Tj=+30°C	Pdc	10.3	kW	Tj=+30°C	EERd or GUEc,bin / AEFc,bin	524.0	%
Tj=+25°C	Pdc	6.6	kW	Tj=+25°C	EERd or GUEc,bin / AEFc,bin	798.0	%
Tj=+20°C	Pdc	5.6	kW	Tj=+20°C	EERd or GUEc,bin / AEFc,bin	1,285.0	%
Degradation coefficient for air conditioners**	Cdc	0.25	-				
Power consumption in other than 'active mode'							
Off mode	P _{OFF}	0.035	kW	Crankcase heater mode	P _{CK}	0.035	kW
Thermostat-off mode	P _{TO}	0.000	kW	Standby mode	P _{SB}	0.035	kW
Other items				For air-to-air air conditioner: air flow-rate,outdoor measured			
Capacity control		variable				6,000	m ³ /h
Sound power level, outdoor	L _{WA}	72.0	dB				
If engine driven: Emissions of nitrogen oxides	NO _x ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
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Information to identify the model(s) to which the information relates :				FDC140VSX / FDE71VG (2 units)			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	16.0	kW	Seasonal space heating energy efficiency ηs,h		156.8	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	13.7	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	213.0	%
Tj=+2°C	Pdh	8.4	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	393.0	%
Tj=+7°C	Pdh	5.4	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	568.0	%
Tj=+12°C	Pdh	5.0	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	758.0	%
Tbiv=bivalent temperature	Pdh	15.5	kW	Tbiv=bivalent temperature	COPd or GUEh,bin / AEFh,bin	230.0	%
TOL=operation limit	Pdh	11.9	kW	TOL=operation limit	COPd or GUEh,bin / AEFh,bin	220.0	%
For air-to-water heat pumps : Tj=-15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj=-15°C (if TOL < -20°C)	COPd or GUEh,bin / AEFh,bin	-	%
Bivalent temperature	Tbiv	-10.0	°C	For water-to-air heat pumps: Operation limit Ta temperature		-	°C
Degradation coefficient heat pumps**	Cdh	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.035	kW	elbu		-	kW
Thermostat-off mode	P _{TO}	0.040	kW	Type of energy input Standby mode	P _{SB}	0.035	kW
Crankcase heater mode	P _{CK}	0.035	kW				
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				6,000	m ³ /h
Sound power level, outdoor measured	L _{WA}	72.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		-	m ³ /h
Emissions of nitrogen oxides(if applicable)	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details				Mitsubishi heavy industries thermal systems,LTD			
** If Cdh is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							

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FDE140VNXTVG

Model(s) : FDC140VNX / FDE50VG (3 units)							
Outdoor side heat exchanger of air conditioner : air							
Indoor side heat exchanger of air conditioner : air							
Type : vapour compression							
if applicable : electric motor							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	14.0	kW	Seasonal space cooling energy efficiency ηs,c		243.6	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35°C	Pdc	14.0	kW	Tj=+35°C	EERd or GUEc,bin / AEFc,bin	307.0	%
Tj=+30°C	Pdc	10.3	kW	Tj=+30°C	EERd or GUEc,bin / AEFc,bin	514.0	%
Tj=+25°C	Pdc	6.6	kW	Tj=+25°C	EERd or GUEc,bin / AEFc,bin	782.0	%
Tj=+20°C	Pdc	5.6	kW	Tj=+20°C	EERd or GUEc,bin / AEFc,bin	1,259.0	%
Degradation coefficient for air conditioners**	Cdc	0.25	-				
Power consumption in other than 'active mode'							
Off mode	P _{OFF}	0.040	kW	Crankcase heater mode	P _{CK}	0.040	kW
Thermostat-off mode	P _{TO}	0.000	kW	Standby mode	P _{SB}	0.040	kW
Other items				For air-to-air air conditioner: air flow-rate,outdoor measured			
Capacity control		variable				6,000	m ³ /h
Sound power level, outdoor	L _{WA}	72.0	dB				
If engine driven: Emissions of nitrogen oxides	NO _x ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
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Information to identify the model(s) to which the information relates :				FDC140VNX / FDE50VG (3 units)			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	16.0	kW	Seasonal space heating energy efficiency ηs,h		159.3	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	11.5	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	227.0	%
Tj=+2°C	Pdh	7.0	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	391.0	%
Tj=+7°C	Pdh	4.5	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	595.0	%
Tj=+12°C	Pdh	5.0	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	741.0	%
Tbiv=bivalent temperature	Pdh	13.0	kW	Tbiv=bivalent temperature	COPd or GUEh,bin / AEFh,bin	234.0	%
TOL=operation limit	Pdh	10.3	kW	TOL=operation limit	COPd or GUEh,bin / AEFh,bin	217.0	%
For air-to-water heat pumps : Tj=-15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj=-15°C (if TOL < -20°C)	COPd or GUEh,bin / AEFh,bin	-	%
Bivalent temperature	Tbiv	-10.0	°C	For water-to-air heat pumps: Operation limit Ta temperature		-	°C
Degradation coefficient heat pumps**	Cdh	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.040	kW	elbu		-	kW
Thermostat-off mode	P _{TO}	0.045	kW	Type of energy input Standby mode	P _{SB}	0.040	kW
Crankcase heater mode	P _{CK}	0.040	kW				
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				6,000	m ³ /h
Sound power level, outdoor measured	L _{WA}	72.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		-	m ³ /h
Emissions of nitrogen oxides(if applicable)	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details				Mitsubishi heavy industries thermal systems,LTD			
** If Cdh is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
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FDE140VSXTVG

Model(s) : FDC140VSX / FDE50VG (3 units)							
Outdoor side heat exchanger of air conditioner : air							
Indoor side heat exchanger of air conditioner : air							
Type : vapour compression							
if applicable : electric motor							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	14.0	kW	Seasonal space cooling energy efficiency ηs,c		250.7	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35°C	Pdc	14.0	kW	Tj=+35°C	EERd or GUEc,bin / AEFc,bin	307.0	%
Tj=+30°C	Pdc	10.3	kW	Tj=+30°C	EERd or GUEc,bin / AEFc,bin	524.0	%
Tj=+25°C	Pdc	6.6	kW	Tj=+25°C	EERd or GUEc,bin / AEFc,bin	798.0	%
Tj=+20°C	Pdc	5.6	kW	Tj=+20°C	EERd or GUEc,bin / AEFc,bin	1,285.0	%
Degradation coefficient for air conditioners**	Cdc	0.25	-				
Power consumption in other than 'active mode'							
Off mode	P _{OFF}	0.035	kW	Crankcase heater mode	P _{CK}	0.035	kW
Thermostat-off mode	P _{TO}	0.000	kW	Standby mode	P _{SB}	0.035	kW
Other items				For air-to-air air conditioner: air flow-rate,outdoor measured			
Capacity control		variable				6,000	m ³ /h
Sound power level, outdoor	L _{WA}	72.0	dB				
If engine driven: Emissions of nitrogen oxides	NO _x ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
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Information to identify the model(s) to which the information relates :				FDC140VSX / FDE50VG (3 units)			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	16.0	kW	Seasonal space heating energy efficiency ηs,h		156.8	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	13.7	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	213.0	%
Tj=+2°C	Pdh	8.4	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	393.0	%
Tj=+7°C	Pdh	5.4	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	568.0	%
Tj=+12°C	Pdh	5.0	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	758.0	%
Tbiv=bivalent temperature	Pdh	15.5	kW	Tbiv=bivalent temperature	COPd or GUEh,bin / AEFh,bin	230.0	%
TOL=operation limit	Pdh	11.9	kW	TOL=operation limit	COPd or GUEh,bin / AEFh,bin	220.0	%
For air-to-water heat pumps : Tj=-15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj=-15°C (if TOL < -20°C)	COPd or GUEh,bin / AEFh,bin	-	%
Bivalent temperature	Tbiv	-10.0	°C	For water-to-air heat pumps: Operation limit Ta temperature		-	°C
Degradation coefficient heat pumps**	Cdh	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.035	kW	elbu		-	kW
Thermostat-off mode	P _{TO}	0.040	kW	Type of energy input Standby mode	P _{SB}	0.035	kW
Crankcase heater mode	P _{CK}	0.035	kW				
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				6,000	m ³ /h
Sound power level, outdoor measured	L _{WA}	72.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		-	m ³ /h
Emissions of nitrogen oxides(if applicable)	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details				Mitsubishi heavy industries thermal systems,LTD			
** If Cdh is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
PFA004Z080							

Models FDE40VG, 50VG, 60VG, 71VG, 100VG, 125VG, 140VG

Model(s) : FDE40VG							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Cooling capacity (sensible)	$P_{rated,c}$	3.4	kW	Total electric power input	P_{elec}	0.050	kW
Cooling capacity (latent)	$P_{rated,c}$	0.6	kW	Sound power level (per speed setting,if applicable)	L_{WA}	60.0	dB
Heating capacity	$P_{rated,h}$	4.5	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

Model(s) : FDE50VG							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Cooling capacity (sensible)	$P_{rated,c}$	3.8	kW	Total electric power input	P_{elec}	0.050	kW
Cooling capacity (latent)	$P_{rated,c}$	1.2	kW	Sound power level (per speed setting,if applicable)	L_{WA}	60.0	dB
Heating capacity	$P_{rated,h}$	5.4	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						


Model(s) : FDE60VG							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Cooling capacity (sensible)	$P_{rated,c}$	5.0	kW	Total electric power input	P_{elec}	0.080	kW
Cooling capacity (latent)	$P_{rated,c}$	0.6	kW	Sound power level (per speed setting,if applicable)	L_{WA}	60.0	dB
Heating capacity	$P_{rated,h}$	6.7	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

Model(s) : FDE71VG							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Cooling capacity (sensible)	$P_{rated,c}$	5.6	kW	Total electric power input	P_{elec}	0.080	kW
Cooling capacity (latent)	$P_{rated,c}$	1.5	kW	Sound power level (per speed setting,if applicable)	L_{WA}	60.0	dB
Heating capacity	$P_{rated,h}$	8.0	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

Model(s) : FDE100VG							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Cooling capacity (sensible)	$P_{rated,c}$	8.4	kW	Total electric power input	P_{elec}	0.130	kW
Cooling capacity (latent)	$P_{rated,c}$	1.6	kW	Sound power level (per speed setting,if applicable)	L_{WA}	64.0	dB
Heating capacity	$P_{rated,h}$	11.2	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

Model(s) : FDE125VG							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Cooling capacity (sensible)	$P_{rated,c}$	9.3	kW	Total electric power input	P_{elec}	0.130	kW
Cooling capacity (latent)	$P_{rated,c}$	3.2	kW	Sound power level (per speed setting,if applicable)	L_{WA}	64.0	dB
Heating capacity	$P_{rated,h}$	14.0	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

Model(s) : FDE140VG							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Cooling capacity (sensible)	$P_{rated,c}$	10.2	kW	Total electric power input	P_{elec}	0.140	kW
Cooling capacity (latent)	$P_{rated,c}$	3.8	kW	Sound power level (per speed setting,if applicable)	L_{WA}	65.0	dB
Heating capacity	$P_{rated,h}$	16.0	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

PFA004Z080 

(2) Duct connected-Low/Middle static pressure type (FDUM)

FDUM40ZSXVF				Information to identify the model(s) to which the information relates to:				If function includes heating: Indicate the heating season the information relates to. Indicated values should relate to one heating season at a time. Include at least the heating season 'Average'.							
Indoor unit model name		FDUM40VF		Outdoor unit model name		SRC40ZSX-S									
Function(indicate if present)				Average(mandatory)				Yes							
cooling		Yes		Warmer(if designated)		No									
heating		Yes		Colder(if designated)		No									
Item				symbol				value				unit			
Design load				Pdesignc				4.0				kW			
cooling															
heating / Average				Pdesignh		3.5									
heating / Warmer				Pdesignh		-									
heating / Colder				Pdesignh		-									
												unit			
Declared capacity at outdoor temperature Tdesignh				Pdh				2.788				kW			
heating / Average (-10°C)															
heating / Warmer (2°C)				Pdh		-									
heating / Colder (-22°C)				Pdh		-									
Declared capacity for cooling, at indoor temperature 27(19)°C and outdoor temperature Tj				Pdc				4.00				kW			
Tj=35°C															
Tj=30°C				Pdc		2.95									
Tj=25°C				Pdc		1.90									
Tj=20°C				Pdc		1.51									
Declared energy efficiency ratio, at indoor temperature 27(19)°C and outdoor temperature Tj				EERd				4.17				-			
Tj=35°C															
Tj=30°C				EERd		5.57									
Tj=25°C				EERd		7.45									
Tj=20°C				EERd		10.27									
Declared capacity for heating / Average season, at indoor temperature 20°C and outdoor temperature Tj				Pdh				3.05				kW			
Tj=-7°C															
Tj=2°C				Pdh		1.79									
Tj=7°C				Pdh		1.21									
Tj=12°C				Pdh		0.98									
Tj=bivalent temperature				Pdh		3.05									
Tj=operating limit				Pdh		2.35									
Declared coefficient of performance / Average season, at indoor temperature 20°C and outdoor temperature Tj				COPd				2.88				-			
Tj=-7°C															
Tj=2°C				COPd		4.34									
Tj=7°C				COPd		4.90									
Tj=12°C				COPd		5.17									
Tj=bivalent temperature				COPd		2.88									
Tj=operating limit				COPd		2.37									
Declared capacity for heating / Warmer season, at indoor temperature 20°C and outdoor temperature Tj				Pdh				-				kW			
Tj=2°C															
Tj=7°C				Pdh		-									
Tj=12°C				Pdh		-									
Tj=bivalent temperature				Pdh		-									
Tj=operating limit				Pdh		-									
Declared coefficient of performance / Warmer season, at indoor temperature 20°C and outdoor temperature Tj				COPd				-				-			
Tj=2°C															
Tj=7°C				COPd		-									
Tj=12°C				COPd		-									
Tj=bivalent temperature				COPd		-									
Tj=operating limit				COPd		-									
Declared capacity for heating / Colder season, at indoor temperature 20°C and outdoor temperature Tj				Pdh				-				kW			
Tj=-7°C															
Tj=2°C				Pdh		-									
Tj=7°C				Pdh		-									
Tj=12°C				Pdh		-									
Tj=bivalent temperature				Pdh		-									
Tj=operating limit				Pdh		-									
Tj=-15°C				Pdh		-									
Declared coefficient of performance / Colder season, at indoor temperature 20°C and outdoor temperature Tj				COPd				-				-			
Tj=-7°C															
Tj=2°C				COPd		-									
Tj=7°C				COPd		-									
Tj=12°C				COPd		-									
Tj=bivalent temperature				COPd		-									
Tj=operating limit				COPd		-									
Tj=-15°C				COPd		-									
Bivalent temperature heating / Average		Tbiv		-7		°C									
heating / Warmer		Tbiv		-		°C									
heating / Colder		Tbiv		-		°C									
Operating limit temperature				Tol				-20				°C			
heating / Average															
heating / Warmer				Tol		-									
heating / Colder				Tol		-									
Cycling interval capacity				Pcycc				-				kW			
for cooling															
for heating				Ppsych		-									
Degradation coefficient cooling				Cdc				0.25				-			
Degradation coefficient heating				Cdh				0.25				-			
Electric power input in power modes other than 'active mode'				Poff				12				W			
off mode															
standby mode				Psb		12									
thermostat-off mode				Pto		15									
crankcase heater mode				Pck		0									
Annual electricity consumption				Qce				233				kWh/a			
cooling															
heating / Average				Qhe		1,182									
heating / Warmer				Qhe		-									
heating / colder				Qhe		-									
Capacity control(indicate one of three options)				fixed				No							
staged				No											
variable				Yes											
Other items				Lwa				60				dB(A)			
Sound power level(indoor)															
Sound power level(outdoor)				Lwa		63									
Global warming potential				GWP		1,975									
Rated air flow(indoor)				-		780									
Rated air flow(outdoor)				-		2,160									
Contact details for obtaining more information		Name and address of the manufacturer or of its authorised representative. Mitsubishi Heavy Industries Air-Conditioning Europe, Ltd. 5 The Square, Stockley Park, Uxbridge, Middlesex, UB11 1ET, United Kingdom													

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FDUM50ZSXVF

Information to identify the model(s) to which the information relates to: Indoor unit model name FDUM50VF Outdoor unit model name SRC50ZSX-S				If function includes heating: Indicate the heating season the information relates to. Indicated values should relate to one heating season at a time. Include at least the heating season 'Average'.			
Function(indicate if present)				Average(mandatory)			
cooling Yes				Warmer(if designated) No			
heating Yes				Colder(if designated) No			
Item symbol value unit				Item symbol value class			
Design load				Seasonal efficiency and energy efficiency class			
cooling Pdesignc 5.0 kW				cooling SEER 5.68 A+			
heating / Average Pdesignh 4.3 kW				heating / Average SCOP/A 4.36 A+			
heating / Warmer Pdesignh — kW				heating / Warmer SCOP/W —			
heating / Colder Pdesignh — kW				heating / Colder SCOP/C —			
				unit			
Declared capacity at outdoor temperature Tdesignh				Back up heating capacity at outdoor temperature Tdesignh			
heating / Average (-10°C) Pdh 3.42 kW				heating / Average (-10°C) elbu 0.88 kW			
heating / Warmer (2°C) Pdh — kW				heating / Warmer (2°C) elbu — kW			
heating / Colder (-22°C) Pdh — kW				heating / Colder (-22°C) elbu — kW			
Declared capacity for cooling, at indoor temperature 27(19)°C and outdoor temperature Tj				Declared energy efficiency ratio, at indoor temperature 27(19)°C and outdoor temperature Tj			
Tj=35°C Pdc 5.00 kW				Tj=35°C EERd 3.62 -			
Tj=30°C Pdc 3.69 kW				Tj=30°C EERd 4.86 -			
Tj=25°C Pdc 2.37 kW				Tj=25°C EERd 6.93 -			
Tj=20°C Pdc 1.51 kW				Tj=20°C EERd 9.50 -			
Declared capacity for heating / Average season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Average season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C Pdh 3.78 kW				Tj=-7°C COPd 2.86 -			
Tj=2°C Pdh 2.31 kW				Tj=2°C COPd 4.33 -			
Tj=7°C Pdh 1.50 kW				Tj=7°C COPd 5.51 -			
Tj=12°C Pdh 0.98 kW				Tj=12°C COPd 6.76 -			
Tj=bivalent temperature Pdh 3.78 kW				Tj=bivalent temperature COPd 2.86 -			
Tj=operating limit Pdh 2.82 kW				Tj=operating limit COPd 2.47 -			
Declared capacity for heating / Warmer season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Warmer season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=2°C Pdh — kW				Tj=2°C COPd — -			
Tj=7°C Pdh — kW				Tj=7°C COPd — -			
Tj=12°C Pdh — kW				Tj=12°C COPd — -			
Tj=bivalent temperature Pdh — kW				Tj=bivalent temperature COPd — -			
Tj=operating limit Pdh — kW				Tj=operating limit COPd — -			
Declared capacity for heating / Colder season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Colder season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C Pdh — kW				Tj=-7°C COPd — -			
Tj=2°C Pdh — kW				Tj=2°C COPd — -			
Tj=7°C Pdh — kW				Tj=7°C COPd — -			
Tj=12°C Pdh — kW				Tj=12°C COPd — -			
Tj=bivalent temperature Pdh — kW				Tj=bivalent temperature COPd — -			
Tj=operating limit Pdh — kW				Tj=operating limit COPd — -			
Tj=-15°C Pdh — kW				Tj=-15°C COPd — -			
Bivalent temperature				Operating limit temperature			
heating / Average Tbiv -7 °C				heating / Average Tol -20 °C			
heating / Warmer Tbiv — °C				heating / Warmer Tol — °C			
heating / Colder Tbiv — °C				heating / Colder Tol — °C			
Cycling interval capacity				Cycling interval efficiency			
for cooling Pcycc — kW				for cooling EERcyc — -			
for heating Ppsych — kW				for heating COPcyc — -			
Degradation coefficient cooling Cdc 0.25 -				Degradation coefficient heating Cdh 0.25 -			
Electric power input in power modes other than 'active mode'				Annual electricity consumption			
off mode Poff 12 W				cooling Qce 309 kWh/a			
standby mode Psb 12 W				heating / Average Qhe 1,382 kWh/a			
thermostat-off mode Pto 15 W				heating / Warmer Qhe — kWh/a			
crankcase heater mode Pck 0 W				heating / colder Qhe — kWh/a			
Capacity control(indicate one of three options)				Other items			
fixed No				Sound power level(indoor) Lwa 60 dB(A)			
staged No				Sound power level(outdoor) Lwa 63 dB(A)			
variable Yes				Global warming potential GWP 1,975 kgCO ₂ eq.			
				Rated air flow(indoor) - 780 m ³ /h			
				Rated air flow(outdoor) - 2,400 m ³ /h			
Contact details for obtaining more information		Name and address of the manufacturer or of its authorised representative. Mitsubishi Heavy Industries Air-Conditioning Europe, Ltd. 5 The Square, Stockley Park, Uxbridge, Middlesex, UB11 1ET, United Kingdom					

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FDUM60ZSXVF

Information to identify the model(s) to which the information relates to: Indoor unit model name FDUM60VF Outdoor unit model name SRC60ZSX-S				If function includes heating: Indicate the heating season the information relates to. Indicated values should relate to one heating season at a time. Include at least the heating season 'Average'.			
Function(indicate if present)				Average(mandatory)			
cooling Yes				Warmer(if designated) No			
heating Yes				Colder(if designated) No			
Item	symbol	value	unit	Item	symbol	value	class
Design load				Seasonal efficiency and energy efficiency class			
cooling	Pdesignc	5.6	kW	cooling	SEER	6.42	A++
heating / Average	Pdesignh	5.4	kW	heating / Average	SCOP/A	4.37	A+
heating / Warmer	Pdesignh	—	kW	heating / Warmer	SCOP/W	—	—
heating / Colder	Pdesignh	—	kW	heating / Colder	SCOP/C	—	—
Declared capacity at outdoor temperature T _{designh}				Back up heating capacity at outdoor temperature T _{designh}			
heating / Average (-10°C)	Pdh	4.50	kW	heating / Average (-10°C)	elbu	0.90	kW
heating / Warmer (2°C)	Pdh	—	kW	heating / Warmer (2°C)	elbu	—	kW
heating / Colder (-22°C)	Pdh	—	kW	heating / Colder (-22°C)	elbu	—	kW
Declared capacity for cooling, at indoor temperature 27(19)°C and outdoor temperature T _j				Declared energy efficiency ratio, at indoor temperature 27(19)°C and outdoor temperature T _j			
T _j =35°C	Pdc	5.60	kW	T _j =35°C	EERd	3.64	-
T _j =30°C	Pdc	4.13	kW	T _j =30°C	EERd	5.23	-
T _j =25°C	Pdc	2.65	kW	T _j =25°C	EERd	7.68	-
T _j =20°C	Pdc	1.48	kW	T _j =20°C	EERd	13.10	-
Declared capacity for heating / Average season, at indoor temperature 20°C and outdoor temperature T _j				Declared coefficient of performance / Average season, at indoor temperature 20°C and outdoor temperature T _j			
T _j =-7°C	Pdh	4.80	kW	T _j =-7°C	COPd	2.91	-
T _j =2°C	Pdh	2.85	kW	T _j =2°C	COPd	4.35	-
T _j =7°C	Pdh	1.77	kW	T _j =7°C	COPd	5.62	-
T _j =12°C	Pdh	0.97	kW	T _j =12°C	COPd	5.77	-
T _j =bivalent temperature	Pdh	4.80	kW	T _j =bivalent temperature	COPd	2.91	-
T _j =operating limit	Pdh	4.00	kW	T _j =operating limit	COPd	2.50	-
Declared capacity for heating / Warmer season, at indoor temperature 20°C and outdoor temperature T _j				Declared coefficient of performance / Warmer season, at indoor temperature 20°C and outdoor temperature T _j			
T _j =2°C	Pdh	—	kW	T _j =2°C	COPd	—	-
T _j =7°C	Pdh	—	kW	T _j =7°C	COPd	—	-
T _j =12°C	Pdh	—	kW	T _j =12°C	COPd	—	-
T _j =bivalent temperature	Pdh	—	kW	T _j =bivalent temperature	COPd	—	-
T _j =operating limit	Pdh	—	kW	T _j =operating limit	COPd	—	-
Declared capacity for heating / Colder season, at indoor temperature 20°C and outdoor temperature T _j				Declared coefficient of performance / Colder season, at indoor temperature 20°C and outdoor temperature T _j			
T _j =-7°C	Pdh	—	kW	T _j =-7°C	COPd	—	-
T _j =2°C	Pdh	—	kW	T _j =2°C	COPd	—	-
T _j =7°C	Pdh	—	kW	T _j =7°C	COPd	—	-
T _j =12°C	Pdh	—	kW	T _j =12°C	COPd	—	-
T _j =bivalent temperature	Pdh	—	kW	T _j =bivalent temperature	COPd	—	-
T _j =operating limit	Pdh	—	kW	T _j =operating limit	COPd	—	-
T _j =-15°C	Pdh	—	kW	T _j =-15°C	COPd	—	-
Bivalent temperature				Operating limit temperature			
heating / Average	Tbiv	-7	°C	heating / Average	Tol	-20	°C
heating / Warmer	Tbiv	—	°C	heating / Warmer	Tol	—	°C
heating / Colder	Tbiv	—	°C	heating / Colder	Tol	—	°C
Cycling interval capacity				Cycling interval efficiency			
for cooling	Pcycc	—	kW	for cooling	EER _{cycc}	—	-
for heating	Pcyhc	—	kW	for heating	COP _{cycc}	—	-
Degradation coefficient cooling				Degradation coefficient heating			
	Cdc	0.25	-		Cdh	0.25	-
Electric power input in power modes other than 'active mode'				Annual electricity consumption			
off mode	Poff	12	W	cooling	Qce	306	kWh/a
standby mode	Psb	12	W	heating / Average	Qhe	1,731	kWh/a
thermostat-off mode	Pto	25	W	heating / Warmer	Qhe	—	kWh/a
crankcase heater mode	Pck	0	W	heating / colder	Qhe	—	kWh/a
Capacity control(indicate one of three options)				Other items			
fixed		No		Sound power level(indoor)	Lwa	60	dB(A)
staged		No		Sound power level(outdoor)	Lwa	65	dB(A)
variable		Yes		Global warming potential	GWP	1,975	kgCO ₂ eq.
				Rated air flow(indoor)	-	1,200	m ³ /h
				Rated air flow(outdoor)	-	2,490	m ³ /h
Contact details for obtaining more information	Name and address of the manufacturer or of its authorised representative. Mitsubishi Heavy Industries Air-Conditioning Europe, Ltd. 5 The Square, Stockley Park, Uxbridge, Middlesex, UB11 1ET, United Kingdom						

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FDUM71VNXVF1

Information to identify the model(s) to which the information relates to: Indoor unit model name FDUM71VF1 Outdoor unit model name FDC71VNX				If function includes heating: Indicate the heating season the information relates to. Indicated values should relate to one heating season at a time. Include at least the heating season 'Average'.			
Function(indicate if present)				Average(mandatory)			
cooling Yes				Warmer(if designated) No			
heating Yes				Colder(if designated) No			
Item symbol value unit				Item symbol value class			
Design load				Seasonal efficiency and energy efficiency class			
cooling Pdesignc 7.1 kW				cooling SEER 5.24 A			
heating / Average Pdesignh 7.0 kW				heating / Average SCOP/A 3.90 A			
heating / Warmer Pdesignh — kW				heating / Warmer SCOP/W — —			
heating / Colder Pdesignh — kW				heating / Colder SCOP/C — —			
Declared capacity at outdoor temperature Tdesignh				Back up heating capacity at outdoor temperature Tdesignh			
heating / Average (-10°C) Pdh 5.92 kW				heating / Average (-10°C) elbu 1.08 kW			
heating / Warmer (2°C) Pdh — kW				heating / Warmer (2°C) elbu — kW			
heating / Colder (-22°C) Pdh — kW				heating / Colder (-22°C) elbu — kW			
Declared capacity for cooling, at indoor temperature 27(19)°C and outdoor temperature Tj				Declared energy efficiency ratio, at indoor temperature 27(19)°C and outdoor temperature Tj			
Tj=35°C Pdc 7.10 kW				Tj=35°C EERd 3.50 -			
Tj=30°C Pdc 5.23 kW				Tj=30°C EERd 4.85 -			
Tj=25°C Pdc 3.37 kW				Tj=25°C EERd 8.10 -			
Tj=20°C Pdc 3.20 kW				Tj=20°C EERd 10.60 -			
Declared capacity for heating / Average season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Average season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C Pdh 6.20 kW				Tj=-7°C COPd 2.53 -			
Tj=2°C Pdh 3.85 kW				Tj=2°C COPd 3.82 -			
Tj=7°C Pdh 2.45 kW				Tj=7°C COPd 5.15 -			
Tj=12°C Pdh 2.56 kW				Tj=12°C COPd 6.28 -			
Tj=bivalent temperature Pdh 6.20 kW				Tj=bivalent temperature COPd 2.53 -			
Tj=operating limit Pdh 5.00 kW				Tj=operating limit COPd 2.06 -			
Declared capacity for heating / Warmer season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Warmer season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=2°C Pdh — kW				Tj=2°C COPd — -			
Tj=7°C Pdh — kW				Tj=7°C COPd — -			
Tj=12°C Pdh — kW				Tj=12°C COPd — -			
Tj=bivalent temperature Pdh — kW				Tj=bivalent temperature COPd — -			
Tj=operating limit Pdh — kW				Tj=operating limit COPd — -			
Declared capacity for heating / Colder season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Colder season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C Pdh — kW				Tj=-7°C COPd — -			
Tj=2°C Pdh — kW				Tj=2°C COPd — -			
Tj=7°C Pdh — kW				Tj=7°C COPd — -			
Tj=12°C Pdh — kW				Tj=12°C COPd — -			
Tj=bivalent temperature Pdh — kW				Tj=bivalent temperature COPd — -			
Tj=operating limit Pdh — kW				Tj=operating limit COPd — -			
Tj=-15°C Pdh — kW				Tj=-15°C COPd — -			
Bivalent temperature				Operating limit temperature			
heating / Average Tbiv -7 °C				heating / Average Tol -20 °C			
heating / Warmer Tbiv — °C				heating / Warmer Tol — °C			
heating / Colder Tbiv — °C				heating / Colder Tol — °C			
Cycling interval capacity				Cycling interval efficiency			
for cooling Pcycc — kW				for cooling EERcyc — -			
for heating Ppsych — kW				for heating COPcyc — -			
Degradation coefficient cooling Cdc 0.25 -				Degradation coefficient heating Cdh 0.25 -			
Electric power input in power modes other than 'active mode'				Annual electricity consumption			
off mode Poff 15 W				cooling Qce 475 kWh/a			
standby mode Psb 15 W				heating / Average Qhe 2,513 kWh/a			
thermostat-off mode Pto 18 W				heating / Warmer Qhe — kWh/a			
crankcase heater mode Pck 25 W				heating / colder Qhe — kWh/a			
Capacity control(indicate one of three options)				Other items			
fixed No				Sound power level(indoor) Lwa 65 dB(A)			
staged No				Sound power level(outdoor) Lwa 66 dB(A)			
variable Yes				Global warming potential GWP 1,975 kgCO ₂ eq.			
				Rated air flow(indoor) - 1,440 m ³ /h			
				Rated air flow(outdoor) - 3,600 m ³ /h			
Contact details for obtaining more information		Name and address of the manufacturer or of its authorised representative. Mitsubishi Heavy Industries Air-Conditioning Europe, Ltd. 5 The Square, Stockley Park, Uxbridge, Middlesex, UB11 1ET, United Kingdom					

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FDUM100VNXVF2

Information to identify the model(s) to which the information relates to: Indoor unit model name FDUM100VF2 Outdoor unit model name FDC100VNX				If function includes heating: Indicate the heating season the information relates to. Indicated values should relate to one heating season at a time. Include at least the heating season 'Average'.			
Function(indicate if present) cooling Yes heating Yes				Average(mandatory) Warmer(if designated) No Colder(if designated) No			
Item symbol value unit				Item symbol value class			
Design load cooling Pdesignc 10.0 kW heating / Average Pdesignh 13.0 kW heating / Warmer Pdesignh — kW heating / Colder Pdesignh — kW				Seasonal efficiency and energy efficiency class cooling SEER 5.22 A heating / Average SCOP/A 4.10 A+ heating / Warmer SCOP/W — heating / Colder SCOP/C —			
Declared capacity at outdoor temperature Tdesignh heating / Average (-10°C) Pdh 10.91 kW heating / Warmer (2°C) Pdh — kW heating / Colder (-22°C) Pdh — kW				Back up heating capacity at outdoor temperature Tdesignh heating / Average (-10°C) elbu 2.09 kW heating / Warmer (2°C) elbu — kW heating / Colder (-22°C) elbu — kW			
Declared capacity for cooling, at indoor temperature 27(19)°C and outdoor temperature Tj Tj=35°C Pdc 10.00 kW Tj=30°C Pdc 7.42 kW Tj=25°C Pdc 5.58 kW Tj=20°C Pdc 5.87 kW				Declared energy efficiency ratio, at indoor temperature 27(19)°C and outdoor temperature Tj Tj=35°C EERd 3.73 - Tj=30°C EERd 4.84 - Tj=25°C EERd 7.43 - Tj=20°C EERd 10.46 -			
Declared capacity for heating / Average season, at indoor temperature 20°C and outdoor temperature Tj Tj=-7°C Pdh 11.50 kW Tj=2°C Pdh 6.89 kW Tj=7°C Pdh 4.50 kW Tj=12°C Pdh 5.20 kW Tj=bivalent temperature Pdh 11.50 kW Tj=operating limit Pdh 8.96 kW				Declared coefficient of performance / Average season, at indoor temperature 20°C and outdoor temperature Tj Tj=-7°C COPd 2.54 - Tj=2°C COPd 4.07 - Tj=7°C COPd 5.52 - Tj=12°C COPd 6.50 - Tj=bivalent temperature COPd 2.54 - Tj=operating limit COPd 2.16 -			
Declared capacity for heating / Warmer season, at indoor temperature 20°C and outdoor temperature Tj Tj=2°C Pdh — kW Tj=7°C Pdh — kW Tj=12°C Pdh — kW Tj=bivalent temperature Pdh — kW Tj=operating limit Pdh — kW				Declared coefficient of performance / Warmer season, at indoor temperature 20°C and outdoor temperature Tj Tj=2°C COPd — - Tj=7°C COPd — - Tj=12°C COPd — - Tj=bivalent temperature COPd — - Tj=operating limit COPd — -			
Declared capacity for heating / Colder season, at indoor temperature 20°C and outdoor temperature Tj Tj=-7°C Pdh — kW Tj=2°C Pdh — kW Tj=7°C Pdh — kW Tj=12°C Pdh — kW Tj=bivalent temperature Pdh — kW Tj=operating limit Pdh — kW Tj=-15°C Pdh — kW				Declared coefficient of performance / Colder season, at indoor temperature 20°C and outdoor temperature Tj Tj=-7°C COPd — - Tj=2°C COPd — - Tj=7°C COPd — - Tj=12°C COPd — - Tj=bivalent temperature COPd — - Tj=operating limit COPd — - Tj=-15°C COPd — -			
Bivalent temperature heating / Average Tbiv -7 °C heating / Warmer Tbiv — °C heating / Colder Tbiv — °C				Operating limit temperature heating / Average Tol -20 °C heating / Warmer Tol — °C heating / Colder Tol — °C			
Cycling interval capacity for cooling Pcycc — kW for heating Ppsych — kW				Cycling interval efficiency for cooling EERcyc — - for heating COPcyc — -			
Degradation coefficient cooling Cdc 0.25 -				Degradation coefficient heating Cdh 0.25 -			
Electric power input in power modes other than 'active mode' off mode Poff 20 W standby mode Psb 20 W thermostat-off mode Pto 45 W crankcase heater mode Pck 25 W				Annual electricity consumption cooling Qce 670 kWh/a heating / Average Qhe 4,437 kWh/a heating / Warmer Qhe — kWh/a heating / colder Qhe — kWh/a			
Capacity control(indicate one of three options) fixed No staged No variable Yes				Other items Sound power level(indoor) Lwa 65 dB(A) Sound power level(outdoor) Lwa 70 dB(A) Global warming potential GWP 1,975 kgCO ₂ eq. Rated air flow(indoor) - 2,160 m ³ /h Rated air flow(outdoor) - 6,000 m ³ /h			
Contact details for obtaining more information		Name and address of the manufacturer or of its authorised representative. Mitsubishi Heavy Industries Air-Conditioning Europe, Ltd. 5 The Square, Stockley Park, Uxbridge, Middlesex, UB11 1ET, United Kingdom					

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FDUM100VSXF2

Information to identify the model(s) to which the information relates to: Indoor unit model name FDUM100VF2 Outdoor unit model name FDC100VSX				If function includes heating: Indicate the heating season the information relates to. Indicated values should relate to one heating season at a time. Include at least the heating season 'Average'.			
Function(indicate if present)				Average(mandatory)			
cooling Yes				Warmer(if designated) No			
heating Yes				Colder(if designated) No			
Item symbol value unit				Item symbol value class			
Design load				Seasonal efficiency and energy efficiency class			
cooling Pdesignc 10.0 kW				cooling SEER 5.19 A			
heating / Average Pdesignh 13.0 kW				heating / Average SCOP/A 4.10 A+			
heating / Warmer Pdesignh — kW				heating / Warmer SCOP/W —			
heating / Colder Pdesignh — kW				heating / Colder SCOP/C —			
				unit			
Declared capacity at outdoor temperature Tdesignh				Back up heating capacity at outdoor temperature Tdesignh			
heating / Average (-10°C) Pdh 10.91 kW				heating / Average (-10°C) elbu 2.09 kW			
heating / Warmer (2°C) Pdh — kW				heating / Warmer (2°C) elbu — kW			
heating / Colder (-22°C) Pdh — kW				heating / Colder (-22°C) elbu — kW			
Declared capacity for cooling, at indoor temperature 27(19)°C and outdoor temperature Tj				Declared energy efficiency ratio, at indoor temperature 27(19)°C and outdoor temperature Tj			
Tj=35°C Pdc 10.00 kW				Tj=35°C EERd 3.73 -			
Tj=30°C Pdc 7.42 kW				Tj=30°C EERd 4.84 -			
Tj=25°C Pdc 5.58 kW				Tj=25°C EERd 7.43 -			
Tj=20°C Pdc 5.87 kW				Tj=20°C EERd 10.46 -			
Declared capacity for heating / Average season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Average season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C Pdh 11.50 kW				Tj=-7°C COPd 2.54 -			
Tj=2°C Pdh 6.89 kW				Tj=2°C COPd 4.07 -			
Tj=7°C Pdh 4.50 kW				Tj=7°C COPd 5.52 -			
Tj=12°C Pdh 5.20 kW				Tj=12°C COPd 6.50 -			
Tj=bivalent temperature Pdh 11.50 kW				Tj=bivalent temperature COPd 2.54 -			
Tj=operating limit Pdh 8.96 kW				Tj=operating limit COPd 2.16 -			
Declared capacity for heating / Warmer season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Warmer season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=2°C Pdh — kW				Tj=2°C COPd — -			
Tj=7°C Pdh — kW				Tj=7°C COPd — -			
Tj=12°C Pdh — kW				Tj=12°C COPd — -			
Tj=bivalent temperature Pdh — kW				Tj=bivalent temperature COPd — -			
Tj=operating limit Pdh — kW				Tj=operating limit COPd — -			
Declared capacity for heating / Colder season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Colder season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C Pdh — kW				Tj=-7°C COPd — -			
Tj=2°C Pdh — kW				Tj=2°C COPd — -			
Tj=7°C Pdh — kW				Tj=7°C COPd — -			
Tj=12°C Pdh — kW				Tj=12°C COPd — -			
Tj=bivalent temperature Pdh — kW				Tj=bivalent temperature COPd — -			
Tj=operating limit Pdh — kW				Tj=operating limit COPd — -			
Tj=-15°C Pdh — kW				Tj=-15°C COPd — -			
Bivalent temperature				Operating limit temperature			
heating / Average Tbiv -7 °C				heating / Average Tol -20 °C			
heating / Warmer Tbiv — °C				heating / Warmer Tol — °C			
heating / Colder Tbiv — °C				heating / Colder Tol — °C			
Cycling interval capacity				Cycling interval efficiency			
for cooling Pcycc — kW				for cooling EERcyc — -			
for heating Ppsych — kW				for heating COPcyc — -			
Degradation coefficient cooling Cdc 0.25 -				Degradation coefficient heating Cdh 0.25 -			
Electric power input in power modes other than 'active mode'				Annual electricity consumption			
off mode Poff 20 W				cooling Qce 675 kWh/a			
standby mode Psb 20 W				heating / Average Qhe 4,441 kWh/a			
thermostat-off mode Pto 65 W				heating / Warmer Qhe — kWh/a			
crankcase heater mode Pck 25 W				heating / colder Qhe — kWh/a			
Capacity control(indicate one of three options)				Other items			
fixed No				Sound power level(indoor) Lwa 65 dB(A)			
staged No				Sound power level(outdoor) Lwa 70 dB(A)			
variable Yes				Global warming potential GWP 1,975 kgCO ₂ eq.			
				Rated air flow(indoor) - 2,160 m ³ /h			
				Rated air flow(outdoor) - 6,000 m ³ /h			
Contact details for obtaining more information		Name and address of the manufacturer or of its authorised representative. Mitsubishi Heavy Industries Air-Conditioning Europe, Ltd. 5 The Square, Stockley Park, Uxbridge, Middlesex, UB11 1ET, United Kingdom					

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FDUM100VNXPFV

Information to identify the model(s) to which the information relates to: Indoor unit model name FDUM50VF (2 units) Outdoor unit model name FDC100VNX		If function includes heating: Indicate the heating season the information relates to. Indicated values should relate to one heating season at a time. Include at least the heating season 'Average'.	
Function(indicate if present) cooling Yes heating Yes		Average(mandatory) Yes Warmer(if designated) No Colder(if designated) No	
Item	symbol	value	unit
Design load			
cooling	Pdesignc	10.0	kW
heating / Average	Pdesignh	10.0	kW
heating / Warmer	Pdesignh	—	kW
heating / Colder	Pdesignh	—	kW
Declared capacity at outdoor temperature Tdesignh			
heating / Average (-10°C)	Pdh	8.22	kW
heating / Warmer (2°C)	Pdh	—	kW
heating / Colder (-22°C)	Pdh	—	kW
Declared capacity for cooling, at indoor temperature 27(19)°C and outdoor temperature Tj			
Tj=35°C	Pdc	10.00	kW
Tj=30°C	Pdc	7.40	kW
Tj=25°C	Pdc	4.80	kW
Tj=20°C	Pdc	5.10	kW
Declared capacity for heating / Average season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C	Pdh	8.85	kW
Tj=2°C	Pdh	5.38	kW
Tj=7°C	Pdh	3.75	kW
Tj=12°C	Pdh	4.35	kW
Tj=bivalent temperature	Pdh	8.85	kW
Tj=operating limit	Pdh	6.10	kW
Declared capacity for heating / Warmer season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=2°C	Pdh	—	kW
Tj=7°C	Pdh	—	kW
Tj=12°C	Pdh	—	kW
Tj=bivalent temperature	Pdh	—	kW
Tj=operating limit	Pdh	—	kW
Declared capacity for heating / Colder season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C	Pdh	—	kW
Tj=2°C	Pdh	—	kW
Tj=7°C	Pdh	—	kW
Tj=12°C	Pdh	—	kW
Tj=bivalent temperature	Pdh	—	kW
Tj=operating limit	Pdh	—	kW
Tj=-15°C	Pdh	—	kW
Bivalent temperature			
heating / Average	Tbiv	-7	°C
heating / Warmer	Tbiv	—	°C
heating / Colder	Tbiv	—	°C
Cycling interval capacity			
for cooling	Pcycc	—	kW
for heating	Pcyhc	—	kW
Degradation coefficient cooling		Cdc	0.25 -
Degradation coefficient heating		Cdh	0.25 -
Electric power input in power modes other than 'active mode'			
off mode	Poff	18	W
standby mode	Psb	18	W
thermostat-off mode	Pto	64	W
crankcase heater mode	Pck	25	W
Capacity control(indicate one of three options)			
fixed		No	
staged		No	
variable		Yes	
Annual electricity consumption			
cooling	Qce	681	kWh/a
heating / Average	Qhe	3,611	kWh/a
heating / Warmer	Qhe	—	kWh/a
heating / colder	Qhe	—	kWh/a
Other items			
Sound power level(indoor)	Lwa	60	dB(A)
Sound power level(outdoor)	Lwa	70	dB(A)
Global warming potential	GWP	1,975	kgCO ₂ eq.
Rated air flow(indoor)	-	780	m ³ /h
Rated air flow(outdoor)	-	6,000	m ³ /h
Contact details for obtaining more information	Name and address of the manufacturer or of its authorised representative. Mitsubishi Heavy Industries Air-Conditioning Europe, Ltd. 5 The Square, Stockley Park, Uxbridge, Middlesex, UB11 1ET, United Kingdom		

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FDUM100VSPVF

Information to identify the model(s) to which the information relates to: Indoor unit model name FDUM50VF (2 units) Outdoor unit model name FDC100VSX		If function includes heating: Indicate the heating season the information relates to. Indicated values should relate to one heating season at a time. Include at least the heating season 'Average'.	
Function(indicate if present) cooling Yes heating Yes		Average(mandatory) Yes Warmer(if designated) No Colder(if designated) No	
Item	symbol	value	unit
Design load			
cooling	Pdesignc	10.0	kW
heating / Average	Pdesignh	10.0	kW
heating / Warmer	Pdesignh	—	kW
heating / Colder	Pdesignh	—	kW
Declared capacity at outdoor temperature Tdesignh			
heating / Average (-10°C)	Pdh	8.22	kW
heating / Warmer (2°C)	Pdh	—	kW
heating / Colder (-22°C)	Pdh	—	kW
Declared capacity for cooling, at indoor temperature 27(19)°C and outdoor temperature Tj			
Tj=35°C	Pdc	10.00	kW
Tj=30°C	Pdc	7.40	kW
Tj=25°C	Pdc	4.80	kW
Tj=20°C	Pdc	5.10	kW
Declared capacity for heating / Average season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C	Pdh	8.85	kW
Tj=2°C	Pdh	5.38	kW
Tj=7°C	Pdh	3.75	kW
Tj=12°C	Pdh	4.35	kW
Tj=bivalent temperature	Pdh	8.85	kW
Tj=operating limit	Pdh	6.10	kW
Declared capacity for heating / Warmer season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=2°C	Pdh	—	kW
Tj=7°C	Pdh	—	kW
Tj=12°C	Pdh	—	kW
Tj=bivalent temperature	Pdh	—	kW
Tj=operating limit	Pdh	—	kW
Declared capacity for heating / Colder season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C	Pdh	—	kW
Tj=2°C	Pdh	—	kW
Tj=7°C	Pdh	—	kW
Tj=12°C	Pdh	—	kW
Tj=bivalent temperature	Pdh	—	kW
Tj=operating limit	Pdh	—	kW
Tj=-15°C	Pdh	—	kW
Bivalent temperature			
heating / Average	Tbiv	-7	°C
heating / Warmer	Tbiv	—	°C
heating / Colder	Tbiv	—	°C
Cycling interval capacity			
for cooling	Pcycc	—	kW
for heating	Pcyhc	—	kW
Degradation coefficient cooling		Cdc	0.25 -
Degradation coefficient heating		Cdh	0.25 -
Electric power input in power modes other than 'active mode'			
off mode	Poff	18	W
standby mode	Psb	18	W
thermostat-off mode	Pto	84	W
crankcase heater mode	Pck	25	W
Capacity control(indicate one of three options)			
fixed		No	
staged		No	
variable		Yes	
Annual electricity consumption			
cooling	Qce	685	kWh/a
heating / Average	Qhe	3,614	kWh/a
heating / Warmer	Qhe	—	kWh/a
heating / colder	Qhe	—	kWh/a
Other items			
Sound power level(indoor)	Lwa	60	dB(A)
Sound power level(outdoor)	Lwa	70	dB(A)
Global warming potential	GWP	1,975	kgCO ₂ eq.
Rated air flow(indoor)	-	780	m ³ /h
Rated air flow(outdoor)	-	6,000	m ³ /h
Contact details for obtaining more information	Name and address of the manufacturer or of its authorised representative. Mitsubishi Heavy Industries Air-Conditioning Europe, Ltd. 5 The Square, Stockley Park, Uxbridge, Middlesex, UB11 1ET, United Kingdom		

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FDUM125VNXVF

Model(s) : FDC125VNX / FDUM125VF							
Outdoor side heat exchanger of air conditioner : air							
Indoor side heat exchanger of air conditioner : air							
Type : vapour compression							
if applicable : electric motor							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	12.5	kW	Seasonal space cooling energy efficiency ηs,c		210.5	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35°C	Pdc	12.5	kW	Tj=+35°C	EERd or GUEc,bin / AEFc,bin	358.0	%
Tj=+30°C	Pdc	9.2	kW	Tj=+30°C	EERd or GUEc,bin / AEFc,bin	456.0	%
Tj=+25°C	Pdc	5.9	kW	Tj=+25°C	EERd or GUEc,bin / AEFc,bin	700.0	%
Tj=+20°C	Pdc	5.8	kW	Tj=+20°C	EERd or GUEc,bin / AEFc,bin	1,017.0	%
Degradation coefficient for air conditioners**	Cdc	0.25	-				
Power consumption in other than 'active mode'				Crankcase heater mode			
Off mode	P _{OFF}	0.045	kW	Standby mode	P _{CK}	0.045	kW
Thermostat-off mode	P _{TO}	0.055	kW		P _{SB}	0.045	kW
Other items				For air-to-air air conditioner: air flow-rate,outdoor measured			
Capacity control		variable				6,000	m ³ /h
Sound power level, outdoor	L _{WA}	70.0	dB				
If engine driven: Emissions of nitrogen oxides	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
PJM000Z466 A							

Information to identify the model(s) to which the information relates :				FDC125VNX / FDUM125VF			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	14.0	kW	Seasonal space heating energy efficiency ηs,h		152.0	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	10.1	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	302.0	%
Tj=+2°C	Pdh	6.1	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	353.0	%
Tj=+7°C	Pdh	4.3	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	512.0	%
Tj=+12°C	Pdh	4.5	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	625.0	%
Tbiv=bivalent temperature	Pdh	11.4	kW	Tbiv=bivalent temperature	COPd or GUEh,bin / AEFh,bin	279.0	%
TOL=operation limit	Pdh	9.0	kW	TOL=operation limit	COPd or GUEh,bin / AEFh,bin	238.0	%
For air-to-water heat pumps : Tj=-15°C (if TOL < -20°C)	Pdh	—	kW	For air-to-water heat pumps:Tj=-15°C (if TOL < -20°C)	COPd or GUEh,bin / AEFh,bin	—	%
Bivalent temperature	Tbiv	-10.0	°C	For water-to-air heat pumps:Operation limit Tol temperature		—	°C
Degradation coefficient heat pumps**	Cdh	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.045	kW		elbu	—	kW
Thermostat-off mode	P _{TO}	0.100	kW	Type of energy input Standby mode	P _{SB}	0.045	kW
Crankcase heater mode	P _{CK}	0.045	kW				
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				6,000	m ³ /h
Sound power level, outdoor measured	L _{WA}	70.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		—	m ³ /h
Emissions of nitrogen oxides(if applicable)	NOx ***	—	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdh is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
PJG000Z466 A							

FDUM125VSXF

Model(s) : FDC125VSX / FDUM125VF							
Outdoor side heat exchanger of air conditioner : air							
Indoor side heat exchanger of air conditioner : air							
Type : vapour compression							
if applicable : electric motor							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	12.5	kW	Seasonal space cooling energy efficiency ηs,c		216.5	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35°C	Pdc	12.5	kW	Tj=+35°C	EERd or GUEc,bin / AEFc,bin	358.0	%
Tj=+30°C	Pdc	9.2	kW	Tj=+30°C	EERd or GUEc,bin / AEFc,bin	465.0	%
Tj=+25°C	Pdc	5.9	kW	Tj=+25°C	EERd or GUEc,bin / AEFc,bin	714.0	%
Tj=+20°C	Pdc	5.8	kW	Tj=+20°C	EERd or GUEc,bin / AEFc,bin	1,038.0	%
Degradation coefficient for air conditioners**	Cdc	0.25	-				
Power consumption in other than 'active mode'				Crankcase heater mode			
Off mode	P _{OFF}	0.040	kW	Standby mode	P _{CK}	0.040	kW
Thermostat-off mode	P _{TO}	0.055	kW		P _{SB}	0.040	kW
Other items				For air-to-air air conditioner: air flow-rate,outdoor measured			
Capacity control		variable				6,000	m ³ /h
Sound power level, outdoor	L _{WA}	70.0	dB				
If engine driven: Emissions of nitrogen oxides	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
PJG000Z466 A							

Information to identify the model(s) to which the information relates :				FDC125VSX / FDUM125VF			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	14.0	kW	Seasonal space heating energy efficiency ηs,h		153.2	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	12.4	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	284.0	%
Tj=+2°C	Pdh	7.5	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	364.0	%
Tj=+7°C	Pdh	4.9	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	512.0	%
Tj=+12°C	Pdh	4.5	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	638.0	%
Tbiv=bivalent temperature	Pdh	14.0	kW	Tbiv=bivalent temperature	COPd or GUEh,bin / AEFh,bin	263.0	%
TOL=operation limit	Pdh	10.9	kW	TOL=operation limit	COPd or GUEh,bin / AEFh,bin	238.0	%
For air-to-water heat pumps : Tj=-15°C (if TOL < -20°C)	Pdh	—	kW	For air-to-water heat pumps:Tj=-15°C (if TOL < -20°C)	COPd or GUEh,bin / AEFh,bin	—	%
Bivalent temperature	Tbiv	-10.0	°C	For water-to-air heat pumps:Operation limit Tol temperature		—	°C
Degradation coefficient heat pumps**	Cdh	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.040	kW		elbu	—	kW
Thermostat-off mode	P _{TO}	0.095	kW	Type of energy input Standby mode	P _{SB}	0.040	kW
Crankcase heater mode	P _{CK}	0.040	kW				
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				6,000	m ³ /h
Sound power level, outdoor measured	L _{WA}	70.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		—	m ³ /h
Emissions of nitrogen oxides(if applicable)	NOx ***	—	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdh is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
P.JG000Z466 A							

FDUM140VNXVF

Model(s) : FDC140VNX / FDUM140VF							
Outdoor side heat exchanger of air conditioner : air							
Indoor side heat exchanger of air conditioner : air							
Type : vapour compression							
if applicable : electric motor							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	14.0	kW	Seasonal space cooling energy efficiency ηs,c		205.9	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35°C	Pdc	14.0	kW	Tj=+35°C	EERd or GUEc,bin / AEFc,bin	327.0	%
Tj=+30°C	Pdc	10.3	kW	Tj=+30°C	EERd or GUEc,bin / AEFc,bin	445.0	%
Tj=+25°C	Pdc	6.6	kW	Tj=+25°C	EERd or GUEc,bin / AEFc,bin	656.0	%
Tj=+20°C	Pdc	6.0	kW	Tj=+20°C	EERd or GUEc,bin / AEFc,bin	1,026.0	%
Degradation coefficient for air conditioners**	Cdc	0.25	-				
Power consumption in other than 'active mode'				Crankcase heater mode			
Off mode	P _{OFF}	0.045	kW	Standby mode	P _{CK}	0.045	kW
Thermostat-off mode	P _{TO}	0.060	kW		P _{SB}	0.045	kW
Other items				For air-to-air air conditioner: air flow-rate,outdoor measured			
Capacity control		variable				6,000	m ³ /h
Sound power level, outdoor	L _{WA}	72.0	dB				
If engine driven: Emissions of nitrogen oxides	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
PJG000Z466 A							

Information to identify the model(s) to which the information relates :				FDC140VNX / FDUM140VF			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	16.0	kW	Seasonal space heating energy efficiency ηs,h		151.1	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	11.5	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	295.0	%
Tj=+2°C	Pdh	7.0	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	351.0	%
Tj=+7°C	Pdh	4.5	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	511.0	%
Tj=+12°C	Pdh	4.5	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	631.0	%
Tbiv=bivalent temperature	Pdh	13.0	kW	Tbiv=bivalent temperature	COPd or GUEh,bin / AEFh,bin	267.0	%
TOL=operation limit	Pdh	10.3	kW	TOL=operation limit	COPd or GUEh,bin / AEFh,bin	235.0	%
For air-to-water heat pumps : Tj=-15°C (if TOL < -20°C)	Pdh	—	kW	For air-to-water heat pumps:Tj=-15°C (if TOL < -20°C)	COPd or GUEh,bin / AEFh,bin	—	%
Bivalent temperature	Tbiv	-10.0	°C	For water-to-air heat pumps:Operation limit Tol temperature		—	°C
Degradation coefficient heat pumps**	Cdh	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.045	kW		elbu	—	kW
Thermostat-off mode	P _{TO}	0.105	kW	Type of energy input Standby mode	P _{SB}	0.045	kW
Crankcase heater mode	P _{CK}	0.045	kW				
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				6,000	m ³ /h
Sound power level, outdoor measured	L _{WA}	72.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		—	m ³ /h
Emissions of nitrogen oxides(if applicable)	NOx ***	—	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdh is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
PJG000Z466 A							

FDUM140VSXF

Model(s) : FDC140VSX / FDUM140VF							
Outdoor side heat exchanger of air conditioner : air							
Indoor side heat exchanger of air conditioner : air							
Type : vapour compression							
if applicable : electric motor							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	14.0	kW	Seasonal space cooling energy efficiency ηs,c		211.4	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35°C	Pdc	14.0	kW	Tj=+35°C	EERd or GUEc,bin / AEFc,bin	327.0	%
Tj=+30°C	Pdc	10.3	kW	Tj=+30°C	EERd or GUEc,bin / AEFc,bin	454.0	%
Tj=+25°C	Pdc	6.6	kW	Tj=+25°C	EERd or GUEc,bin / AEFc,bin	669.0	%
Tj=+20°C	Pdc	6.0	kW	Tj=+20°C	EERd or GUEc,bin / AEFc,bin	1,047.0	%
Degradation coefficient for air conditioners**	Cdc	0.25	-				
Power consumption in other than 'active mode'				Crankcase heater mode			
Off mode	P _{OFF}	0.040	kW	Standby mode	P _{CK}	0.040	kW
Thermostat-off mode	P _{TO}	0.060	kW		P _{SB}	0.040	kW
Other items				For air-to-air air conditioner: air flow-rate,outdoor measured			
Capacity control		variable				6,000	m ³ /h
Sound power level, outdoor	L _{WA}	72.0	dB				
If engine driven: Emissions of nitrogen oxides	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
PjG000Z466 A							

Information to identify the model(s) to which the information relates :				FDC140VSX / FDUM140VF			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	16.0	kW	Seasonal space heating energy efficiency ηs,h		152.3	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	13.7	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	279.0	%
Tj=+2°C	Pdh	8.4	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	363.0	%
Tj=+7°C	Pdh	5.4	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	508.0	%
Tj=+12°C	Pdh	4.5	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	644.0	%
Tbiv=bivalent temperature	Pdh	15.5	kW	Tbiv=bivalent temperature	COPd or GUEh,bin / AEFh,bin	237.0	%
TOL=operation limit	Pdh	11.9	kW	TOL=operation limit	COPd or GUEh,bin / AEFh,bin	212.0	%
For air-to-water heat pumps : Tj=-15°C (if TOL < -20°C)	Pdh	—	kW	For air-to-water heat pumps:Tj=-15°C (if TOL < -20°C)	COPd or GUEh,bin / AEFh,bin	—	%
Bivalent temperature	Tbiv	-10.0	°C	For water-to-air heat pumps:Operation limit Tol temperature		—	°C
Degradation coefficient heat pumps**	Cdh	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.040	kW		elbu	—	kW
Thermostat-off mode	P _{TO}	0.100	kW	Type of energy input Standby mode	P _{SB}	0.040	kW
Crankcase heater mode	P _{CK}	0.040	kW				
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				6,000	m ³ /h
Sound power level, outdoor measured	L _{WA}	72.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		—	m ³ /h
Emissions of nitrogen oxides(if applicable)	NOx ***	—	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdh is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
PJG000Z466 A							

FDUM125VNXPF

Model(s) : FDC125VNX / FDUM60VF (2 units)							
Outdoor side heat exchanger of air conditioner : air							
Indoor side heat exchanger of air conditioner : air							
Type : vapour compression							
if applicable : electric motor							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	12.5	kW	Seasonal space cooling energy efficiency ηs,c		245.3	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35°C	Pdc	12.5	kW	Tj=+35°C	EERd or GUEc,bin / AEFc,bin	334.0	%
Tj=+30°C	Pdc	9.2	kW	Tj=+30°C	EERd or GUEc,bin / AEFc,bin	549.0	%
Tj=+25°C	Pdc	5.9	kW	Tj=+25°C	EERd or GUEc,bin / AEFc,bin	796.0	%
Tj=+20°C	Pdc	5.7	kW	Tj=+20°C	EERd or GUEc,bin / AEFc,bin	1,183.0	%
Degradation coefficient for air conditioners**	Cdc	0.25	-				
Power consumption in other than 'active mode'				Crankcase heater mode			
Off mode	P _{OFF}	0.040	kW	Standby mode	P _{CK}	0.040	kW
Thermostat-off mode	P _{TO}	0.000	kW		P _{SB}	0.040	kW
Other items				For air-to-air air conditioner: air flow-rate,outdoor measured			
Capacity control		variable				6,000	m ³ /h
Sound power level, outdoor	L _{WA}	70.0	dB				
If engine driven: Emissions of nitrogen oxides	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
PJJ000Z466 A							

Information to identify the model(s) to which the information relates :				FDC125VNX / FDUM60VF (2 units)			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	14.0	kW	Seasonal space heating energy efficiency ηs,h		167.3	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	10.1	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	311.0	%
Tj=+2°C	Pdh	6.1	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	394.0	%
Tj=+7°C	Pdh	4.2	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	569.0	%
Tj=+12°C	Pdh	4.5	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	693.0	%
Tbiv=bivalent temperature	Pdh	11.4	kW	Tbiv=bivalent temperature	COPd or GUEh,bin / AEFh,bin	278.0	%
TOL=operation limit	Pdh	9.0	kW	TOL=operation limit	COPd or GUEh,bin / AEFh,bin	238.0	%
For air-to-water heat pumps : Tj=-15°C (if TOL < -20°C)	Pdh	—	kW	For air-to-water heat pumps:Tj=-15°C (if TOL < -20°C)	COPd or GUEh,bin / AEFh,bin	—	%
Bivalent temperature	Tbiv	-10.0	°C	For water-to-air heat pumps:Operation limit Tol temperature		—	°C
Degradation coefficient heat pumps**	Cdh	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.040	kW		elbu	—	kW
Thermostat-off mode	P _{TO}	0.045	kW	Type of energy input Standby mode	P _{SB}	0.040	kW
Crankcase heater mode	P _{CK}	0.040	kW				
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				6,000	m ³ /h
Sound power level, outdoor measured	L _{WA}	70.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		—	m ³ /h
Emissions of nitrogen oxides(if applicable)	NOx ***	—	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdh is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
PJG000Z466 A							

FDUM125VSPVF

Model(s) : FDC125VSX / FDUM60VF (2 units)							
Outdoor side heat exchanger of air conditioner : air							
Indoor side heat exchanger of air conditioner : air							
Type : vapour compression							
if applicable : electric motor							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	12.5	kW	Seasonal space cooling energy efficiency ηs,c		253.4	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35°C	Pdc	12.5	kW	Tj=+35°C	EERd or GUEc,bin / AEFc,bin	341.0	%
Tj=+30°C	Pdc	9.2	kW	Tj=+30°C	EERd or GUEc,bin / AEFc,bin	560.0	%
Tj=+25°C	Pdc	5.9	kW	Tj=+25°C	EERd or GUEc,bin / AEFc,bin	812.0	%
Tj=+20°C	Pdc	5.7	kW	Tj=+20°C	EERd or GUEc,bin / AEFc,bin	1,207.0	%
Degradation coefficient for air conditioners**	Cdc	0.25	-				
Power consumption in other than 'active mode'				Crankcase heater mode			
Off mode	P _{OFF}	0.035	kW	Standby mode	P _{CK} P _{SB}	0.035	kW
Thermostat-off mode	P _{TO}	0.000	kW			0.035	kW
Other items				For air-to-air air conditioner: air flow-rate,outdoor measured			
Capacity control		variable				6,000	m ³ /h
Sound power level, outdoor	L _{WA}	70.0	dB				
If engine driven: Emissions of nitrogen oxides	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
PJK000Z466 A							

Information to identify the model(s) to which the information relates :				FDC125VSX / FDUM60VF (2 units)			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	14.0	kW	Seasonal space heating energy efficiency ηs,h		164.0	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	12.4	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	288.0	%
Tj=+2°C	Pdh	7.5	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	395.0	%
Tj=+7°C	Pdh	4.9	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	548.0	%
Tj=+12°C	Pdh	4.5	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	709.0	%
Tbiv=bivalent temperature	Pdh	14.0	kW	Tbiv=bivalent temperature	COPd or GUEh,bin / AEFh,bin	235.0	%
TOL=operation limit	Pdh	10.9	kW	TOL=operation limit	COPd or GUEh,bin / AEFh,bin	211.0	%
For air-to-water heat pumps : Tj=-15°C (if TOL < -20°C)	Pdh	—	kW	For air-to-water heat pumps:Tj=-15°C (if TOL < -20°C)	COPd or GUEh,bin / AEFh,bin	—	%
Bivalent temperature	Tbiv	-10.0	°C	For water-to-air heat pumps:Operation limit Tol temperature		—	°C
Degradation coefficient heat pumps**	Cdh	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.035	kW		elbu	—	kW
Thermostat-off mode	P _{TO}	0.040	kW	Type of energy input Standby mode	P _{SB}	0.035	kW
Crankcase heater mode	P _{CK}	0.035	kW				
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				6,000	m ³ /h
Sound power level, outdoor measured	L _{WA}	70.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		—	m ³ /h
Emissions of nitrogen oxides(if applicable)	NOx ***	—	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdh is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
PJG000Z466 A							

FDUM140VNXPVF1

Model(s) : FDC140VNX / FDUM71VF1 (2 units)							
Outdoor side heat exchanger of air conditioner : air							
Indoor side heat exchanger of air conditioner : air							
Type : vapour compression							
if applicable : electric motor							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	14.0	kW	Seasonal space cooling energy efficiency ηs,c		261.8	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35°C	Pdc	14.0	kW	Tj=+35°C	EERd or GUEc,bin / AEFc,bin	341.0	%
Tj=+30°C	Pdc	10.3	kW	Tj=+30°C	EERd or GUEc,bin / AEFc,bin	546.0	%
Tj=+25°C	Pdc	6.6	kW	Tj=+25°C	EERd or GUEc,bin / AEFc,bin	858.0	%
Tj=+20°C	Pdc	6.0	kW	Tj=+20°C	EERd or GUEc,bin / AEFc,bin	1,356.0	%
Degradation coefficient for air conditioners**	Cdc	0.25	-				
Power consumption in other than 'active mode'				Crankcase heater mode			
Off mode	P _{OFF}	0.040	kW	Standby mode	P _{CK}	0.040	kW
Thermostat-off mode	P _{TO}	0.000	kW		P _{SB}	0.040	kW
Other items				For air-to-air air conditioner: air flow-rate,outdoor measured			
Capacity control		variable				6,000	m ³ /h
Sound power level, outdoor	L _{WA}	72.0	dB				
If engine driven: Emissions of nitrogen oxides	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
PJK000Z466 A							

Information to identify the model(s) to which the information relates :				FDC140VNX / FDUM71VF1 (2 units)			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	16.0	kW	Seasonal space heating energy efficiency ηs,h		172.3	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	11.5	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	307.0	%
Tj=+2°C	Pdh	7.0	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	403.0	%
Tj=+7°C	Pdh	4.5	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	599.0	%
Tj=+12°C	Pdh	4.5	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	765.0	%
Tbiv=bivalent temperature	Pdh	13.0	kW	Tbiv=bivalent temperature	COPd or GUEh,bin / AEFh,bin	271.0	%
TOL=operation limit	Pdh	10.3	kW	TOL=operation limit	COPd or GUEh,bin / AEFh,bin	240.0	%
For air-to-water heat pumps : Tj=-15°C (if TOL < -20°C)	Pdh	—	kW	For air-to-water heat pumps:Tj=-15°C (if TOL < -20°C)	COPd or GUEh,bin / AEFh,bin	—	%
Bivalent temperature	Tbiv	-10.0	°C	For water-to-air heat pumps:Operation limit Tol temperature		—	°C
Degradation coefficient heat pumps**	Cdh	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.040	kW		elbu	—	kW
Thermostat-off mode	P _{TO}	0.045	kW	Type of energy input Standby mode	P _{SB}	0.040	kW
Crankcase heater mode	P _{CK}	0.040	kW				
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				6,000	m ³ /h
Sound power level, outdoor measured	L _{WA}	72.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		—	m ³ /h
Emissions of nitrogen oxides(if applicable)	NOx ***	—	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdh is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
PJG000Z466 A							

FDUM140VSXPVF1

Model(s) : FDC140VSX / FDUM71VF1 (2 units)							
Outdoor side heat exchanger of air conditioner : air							
Indoor side heat exchanger of air conditioner : air							
Type : vapour compression							
if applicable : electric motor							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	14.0	kW	Seasonal space cooling energy efficiency ηs,c		269.7	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35°C	Pdc	14.0	kW	Tj=+35°C	EERd or GUEc,bin / AEFc,bin	341.0	%
Tj=+30°C	Pdc	10.3	kW	Tj=+30°C	EERd or GUEc,bin / AEFc,bin	557.0	%
Tj=+25°C	Pdc	6.6	kW	Tj=+25°C	EERd or GUEc,bin / AEFc,bin	876.0	%
Tj=+20°C	Pdc	6.0	kW	Tj=+20°C	EERd or GUEc,bin / AEFc,bin	1,384.0	%
Degradation coefficient for air conditioners**	Cdc	0.25	-				
Power consumption in other than 'active mode'				Crankcase heater mode			
Off mode	P _{OFF}	0.035	kW	Standby mode	P _{CK}	0.035	kW
Thermostat-off mode	P _{TO}	0.000	kW		P _{SB}	0.035	kW
Other items				For air-to-air air conditioner: air flow-rate,outdoor measured			
Capacity control		variable				6,000	m ³ /h
Sound power level, outdoor	L _{WA}	72.0	dB				
If engine driven: Emissions of nitrogen oxides	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
PJM000Z466 A							

Information to identify the model(s) to which the information relates :				FDC140VSX / FDUM71VF1 (2 units)			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	16.0	kW	Seasonal space heating energy efficiency ηs,h		170.3	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	13.7	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	287.0	%
Tj=+2°C	Pdh	8.4	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	408.0	%
Tj=+7°C	Pdh	5.4	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	579.0	%
Tj=+12°C	Pdh	4.5	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	784.0	%
Tbiv=bivalent temperature	Pdh	15.5	kW	Tbiv=bivalent temperature	COPd or GUEh,bin / AEFh,bin	243.0	%
TOL=operation limit	Pdh	11.9	kW	TOL=operation limit	COPd or GUEh,bin / AEFh,bin	218.0	%
For air-to-water heat pumps : Tj=-15°C (if TOL < -20°C)	Pdh	—	kW	For air-to-water heat pumps:Tj=-15°C (if TOL < -20°C)	COPd or GUEh,bin / AEFh,bin	—	%
Bivalent temperature	Tbiv	-10.0	°C	For water-to-air heat pumps:Operation limit Tol temperature		—	°C
Degradation coefficient heat pumps**	Cdh	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.035	kW		elbu	—	kW
Thermostat-off mode	P _{TO}	0.040	kW	Type of energy input Standby mode	P _{SB}	0.035	kW
Crankcase heater mode	P _{CK}	0.035	kW				
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				6,000	m ³ /h
Sound power level, outdoor measured	L _{WA}	72.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		—	m ³ /h
Emissions of nitrogen oxides(if applicable)	NOx ***	—	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdh is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
PJG000Z466 A							

FDUM140VNXTVF

Model(s) : FDC140VNX / FDUM50VF (3 units)							
Outdoor side heat exchanger of air conditioner : air							
Indoor side heat exchanger of air conditioner : air							
Type : vapour compression							
if applicable : electric motor							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	14.0	kW	Seasonal space cooling energy efficiency ηs,c		261.8	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35°C	Pdc	14.0	kW	Tj=+35°C	EERd or GUEc,bin / AEFc,bin	341.0	%
Tj=+30°C	Pdc	10.3	kW	Tj=+30°C	EERd or GUEc,bin / AEFc,bin	546.0	%
Tj=+25°C	Pdc	6.6	kW	Tj=+25°C	EERd or GUEc,bin / AEFc,bin	858.0	%
Tj=+20°C	Pdc	6.0	kW	Tj=+20°C	EERd or GUEc,bin / AEFc,bin	1,356.0	%
Degradation coefficient for air conditioners**	Cdc	0.25	-				
Power consumption in other than 'active mode'				Crankcase heater mode			
Off mode	P _{OFF}	0.040	kW	Standby mode	P _{CK}	0.040	kW
Thermostat-off mode	P _{TO}	0.000	kW		P _{SB}	0.040	kW
Other items				For air-to-air air conditioner: air flow-rate,outdoor measured			
Capacity control		variable				6,000	m ³ /h
Sound power level, outdoor	L _{WA}	72.0	dB				
If engine driven: Emissions of nitrogen oxides	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
PJJ000Z466 A							

Information to identify the model(s) to which the information relates :				FDC140VNX / FDUM50VF (3 units)			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	16.0	kW	Seasonal space heating energy efficiency ηs,h		172.3	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	11.5	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	307.0	%
Tj=+2°C	Pdh	7.0	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	403.0	%
Tj=+7°C	Pdh	4.5	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	599.0	%
Tj=+12°C	Pdh	4.5	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	765.0	%
Tbiv=bivalent temperature	Pdh	13.0	kW	Tbiv=bivalent temperature	COPd or GUEh,bin / AEFh,bin	271.0	%
TOL=operation limit	Pdh	10.3	kW	TOL=operation limit	COPd or GUEh,bin / AEFh,bin	240.0	%
For air-to-water heat pumps : Tj=-15°C (if TOL < -20°C)	Pdh	—	kW	For air-to-water heat pumps:Tj=-15°C (if TOL < -20°C)	COPd or GUEh,bin / AEFh,bin	—	%
Bivalent temperature	Tbiv	-10.0	°C	For water-to-air heat pumps:Operation limit Tol temperature		—	°C
Degradation coefficient heat pumps**	Cdh	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.040	kW		elbu	—	kW
Thermostat-off mode	P _{TO}	0.045	kW	Type of energy input Standby mode	P _{SB}	0.040	kW
Crankcase heater mode	P _{CK}	0.040	kW				
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				6,000	m ³ /h
Sound power level, outdoor measured	L _{WA}	72.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		—	m ³ /h
Emissions of nitrogen oxides(if applicable)	NOx ***	—	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdh is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
PJG000Z466 A							

FDUM140VSXTVF

Model(s) : FDC140VSX / FDUM50VF (3 units)							
Outdoor side heat exchanger of air conditioner : air							
Indoor side heat exchanger of air conditioner : air							
Type : vapour compression							
if applicable : electric motor							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	14.0	kW	Seasonal space cooling energy efficiency ηs,c		269.7	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35°C	Pdc	14.0	kW	Tj=+35°C	EERd or GUEc,bin / AEFc,bin	341.0	%
Tj=+30°C	Pdc	10.3	kW	Tj=+30°C	EERd or GUEc,bin / AEFc,bin	557.0	%
Tj=+25°C	Pdc	6.6	kW	Tj=+25°C	EERd or GUEc,bin / AEFc,bin	876.0	%
Tj=+20°C	Pdc	6.0	kW	Tj=+20°C	EERd or GUEc,bin / AEFc,bin	1,384.0	%
Degradation coefficient for air conditioners**	Cdc	0.25	-				
Power consumption in other than 'active mode'				Crankcase heater mode			
Off mode	P _{OFF}	0.035	kW	Standby mode	P _{CK}	0.035	kW
Thermostat-off mode	P _{TO}	0.000	kW		P _{SB}	0.035	kW
Other items				For air-to-air air conditioner: air flow-rate,outdoor measured			
Capacity control		variable				6,000	m ³ /h
Sound power level, outdoor	L _{WA}	72.0	dB				
If engine driven: Emissions of nitrogen oxides	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
PJM000Z466 A							

Information to identify the model(s) to which the information relates :				FDC140VSX / FDUM50VF (3 units)			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	16.0	kW	Seasonal space heating energy efficiency ηs,h		170.3	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	13.7	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	287.0	%
Tj=+2°C	Pdh	8.4	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	408.0	%
Tj=+7°C	Pdh	5.4	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	579.0	%
Tj=+12°C	Pdh	4.5	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	784.0	%
Tbiv=bivalent temperature	Pdh	15.5	kW	Tbiv=bivalent temperature	COPd or GUEh,bin / AEFh,bin	243.0	%
TOL=operation limit	Pdh	11.9	kW	TOL=operation limit	COPd or GUEh,bin / AEFh,bin	218.0	%
For air-to-water heat pumps : Tj=-15°C (if TOL < -20°C)	Pdh	—	kW	For air-to-water heat pumps:Tj=-15°C (if TOL < -20°C)	COPd or GUEh,bin / AEFh,bin	—	%
Bivalent temperature	Tbiv	-10.0	°C	For water-to-air heat pumps:Operation limit Tol temperature		—	°C
Degradation coefficient heat pumps**	Cdh	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.035	kW		elbu	—	kW
Thermostat-off mode	P _{TO}	0.040	kW	Type of energy input Standby mode	P _{SB}	0.035	kW
Crankcase heater mode	P _{CK}	0.035	kW				
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				6,000	m ³ /h
Sound power level, outdoor measured	L _{WA}	72.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		—	m ³ /h
Emissions of nitrogen oxides(if applicable)	NOx ***	—	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdh is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
PJG000Z466 A							

Models FDUM40VF, 50VF, 60VF, 71VF1, 100VF2, 125VF, 140VF

Model(s) : FDUM40VF							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Cooling capacity (sensible)	Prated,c	3.2	kW	Total electric power input	Pelec	0.100	kW
Cooling capacity (latent)	Prated,c	0.8	kW	Sound power level (per speed setting,if applicable)	LWA	60.0	dB
Heating capacity	Prated,h	4.5	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

Model(s) : FDUM50VF							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Cooling capacity (sensible)	Prated,c	3.7	kW	Total electric power input	Pelec	0.100	kW
Cooling capacity (latent)	Prated,c	1.3	kW	Sound power level (per speed setting,if applicable)	LWA	60.0	dB
Heating capacity	Prated,h	5.4	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

Model(s) : FDUM60VF							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Cooling capacity (sensible)	Prated,c	3.9	kW	Total electric power input	Pelec	0.160	kW
Cooling capacity (latent)	Prated,c	1.7	kW	Sound power level (per speed setting,if applicable)	LWA	60.0	dB
Heating capacity	Prated,h	6.7	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

Model(s) : FDUM71VF1							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Cooling capacity (sensible)	Prated,c	5.8	kW	Total electric power input	Pelec	0.200	kW
Cooling capacity (latent)	Prated,c	1.3	kW	Sound power level (per speed setting,if applicable)	LWA	65.0	dB
Heating capacity	Prated,h	8.0	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

Model(s) : FDUM100VF2							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Cooling capacity (sensible)	Prated,c	7.7	kW	Total electric power input	Pelec	0.290	kW
Cooling capacity (latent)	Prated,c	2.3	kW	Sound power level (per speed setting,if applicable)	LWA	65.0	dB
Heating capacity	Prated,h	11.2	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

Model(s) : FDUM125VF							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Cooling capacity (sensible)	Prated,c	10.5	kW	Total electric power input	Pelec	0.330	kW
Cooling capacity (latent)	Prated,c	2.0	kW	Sound power level (per speed setting,if applicable)	LWA	67.0	dB
Heating capacity	Prated,h	14.0	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

Model(s) : FDUM140VF							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Cooling capacity (sensible)	Prated,c	11.2	kW	Total electric power input	Pelec	0.450	kW
Cooling capacity (latent)	Prated,c	2.8	kW	Sound power level (per speed setting,if applicable)	LWA	70.0	dB
Heating capacity	Prated,h	16.0	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

(3) Duct connected-High static pressure type (FDU)

FDU71VNXVF1

Information to identify the model(s) to which the information relates to:				If function includes heating: Indicate the heating season the information relates to. Indicated values should relate to one heating season at a time. Include at least the heating season 'Average'.			
Indoor unit model name		FDU71VF1		Average(mandatory)		Yes	
Outdoor unit model name		FDC71VNX		Warmer(if designated)		No	
Function(indicate if present)				Colder(if designated)		No	
cooling		Yes					
heating		Yes					
Item	symbol	value	unit	Item	symbol	value	class
Design load				Seasonal efficiency and energy efficiency class			
cooling	Pdesignc	7.1	kW	cooling	SEER	5.24	A
heating / Average	Pdesignh	7.0	kW	heating / Average	SCOP/A	3.90	A
heating / Warmer	Pdesignh	—	kW	heating / Warmer	SCOP/W	—	—
heating / Colder	Pdesignh	—	kW	heating / Colder	SCOP/C	—	—
				unit			
Declared capacity at outdoor temperature Tdesignh				Back up heating capacity at outdoor temperature Tdesignh			
heating / Average (-10°C)	Pdh	5.92	kW	heating / Average (-10°C)	elbu	1.08	kW
heating / Warmer (2°C)	Pdh	—	kW	heating / Warmer (2°C)	elbu	—	kW
heating / Colder (-22°C)	Pdh	—	kW	heating / Colder (-22°C)	elbu	—	kW
Declared capacity for cooling, at indoor temperature 27(19)°C and outdoor temperature Tj				Declared energy efficiency ratio, at indoor temperature 27(19)°C and outdoor temperature Tj			
Tj=35°C	Pdc	7.10	kW	Tj=35°C	EERd	3.46	-
Tj=30°C	Pdc	5.23	kW	Tj=30°C	EERd	4.72	-
Tj=25°C	Pdc	3.37	kW	Tj=25°C	EERd	7.94	-
Tj=20°C	Pdc	3.20	kW	Tj=20°C	EERd	10.38	-
Declared capacity for heating / Average season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Average season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C	Pdh	6.20	kW	Tj=-7°C	COPd	2.53	-
Tj=2°C	Pdh	3.85	kW	Tj=2°C	COPd	3.82	-
Tj=7°C	Pdh	2.45	kW	Tj=7°C	COPd	5.15	-
Tj=12°C	Pdh	2.56	kW	Tj=12°C	COPd	6.28	-
Tj=bivalent temperature	Pdh	6.20	kW	Tj=bivalent temperature	COPd	2.53	-
Tj=operating limit	Pdh	5.00	kW	Tj=operating limit	COPd	2.06	-
Declared capacity for heating / Warmer season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Warmer season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=2°C	Pdh	—	kW	Tj=2°C	COPd	—	-
Tj=7°C	Pdh	—	kW	Tj=7°C	COPd	—	-
Tj=12°C	Pdh	—	kW	Tj=12°C	COPd	—	-
Tj=bivalent temperature	Pdh	—	kW	Tj=bivalent temperature	COPd	—	-
Tj=operating limit	Pdh	—	kW	Tj=operating limit	COPd	—	-
Declared capacity for heating / Colder season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Colder season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C	Pdh	—	kW	Tj=-7°C	COPd	—	-
Tj=2°C	Pdh	—	kW	Tj=2°C	COPd	—	-
Tj=7°C	Pdh	—	kW	Tj=7°C	COPd	—	-
Tj=12°C	Pdh	—	kW	Tj=12°C	COPd	—	-
Tj=bivalent temperature	Pdh	—	kW	Tj=bivalent temperature	COPd	—	-
Tj=operating limit	Pdh	—	kW	Tj=operating limit	COPd	—	-
Tj=-15°C	Pdh	—	kW	Tj=-15°C	COPd	—	-
Bivalent temperature				Operating limit temperature			
heating / Average	Tbiv	-7	°C	heating / Average	Tol	-20	°C
heating / Warmer	Tbiv	—	°C	heating / Warmer	Tol	—	°C
heating / Colder	Tbiv	—	°C	heating / Colder	Tol	—	°C
Cycling interval capacity				Cycling interval efficiency			
for cooling	Pcycc	—	kW	for cooling	EERcyc	—	-
for heating	Pcyh	—	kW	for heating	COPcyc	—	-
Degradation coefficient cooling				Degradation coefficient heating			
cooling	Cdc	0.25	-	heating	Cdh	0.25	-
Electric power input in power modes other than 'active mode'				Annual electricity consumption			
off mode	Poff	15	W	cooling	Qce	475	kWh/a
standby mode	Psb	15	W	heating / Average	Qhe	2,513	kWh/a
thermostat-off mode	Pto	18	W	heating / Warmer	Qhe	—	kWh/a
crankcase heater mode	Pck	22	W	heating / colder	Qhe	—	kWh/a
Capacity control(indicate one of three options)				Other items			
fixed		No		Sound power level(indoor)	Lwa	65	dB(A)
staged		No		Sound power level(outdoor)	Lwa	66	dB(A)
variable		Yes		Global warming potential	GWP	1,975	kgCO ₂ eq.
				Rated air flow(indoor)	-	1,440	m ³ /h
				Rated air flow(outdoor)	-	3,600	m ³ /h
Contact details for obtaining more information	Name and address of the manufacturer or of its authorised representative. Mitsubishi Heavy Industries Air-Conditioning Europe, Ltd. 5 The Square, Stockley Park, Uxbridge, Middlesex, UB11 1ET, United Kingdom						

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FDU100VNXVF2

Information to identify the model(s) to which the information relates to:				If function includes heating: Indicate the heating season the information relates to. Indicated values should relate to one heating season at a time. Include at least the heating season 'Average'.			
Indoor unit model name		FDU100VF2		Average(mandatory)		Yes	
Outdoor unit model name		FDC100VNX		Warmer(if designated)		No	
Function(indicate if present)				Colder(if designated)		No	
cooling		Yes					
heating		Yes					
Item	symbol	value	unit	Item	symbol	value	class
Design load				Seasonal efficiency and energy efficiency class			
cooling	Pdesignc	10.0	kW	cooling	SEER	5.22	A
heating / Average	Pdesignh	13.0	kW	heating / Average	SCOP/A	4.10	A+
heating / Warmer	Pdesignh	—	kW	heating / Warmer	SCOP/W	—	—
heating / Colder	Pdesignh	—	kW	heating / Colder	SCOP/C	—	—
				unit			
Declared capacity at outdoor temperature Tdesignh				Back up heating capacity at outdoor temperature Tdesignh			
heating / Average (-10°C)	Pdh	10.91	kW	heating / Average (-10°C)	elbu	2.09	kW
heating / Warmer (2°C)	Pdh	—	kW	heating / Warmer (2°C)	elbu	—	kW
heating / Colder (-22°C)	Pdh	—	kW	heating / Colder (-22°C)	elbu	—	kW
Declared capacity for cooling, at indoor temperature 27(19)°C and outdoor temperature Tj				Declared energy efficiency ratio, at indoor temperature 27(19)°C and outdoor temperature Tj			
Tj=35°C	Pdc	10.0	kW	Tj=35°C	EERd	3.73	-
Tj=30°C	Pdc	7.42	kW	Tj=30°C	EERd	4.84	-
Tj=25°C	Pdc	5.58	kW	Tj=25°C	EERd	7.43	-
Tj=20°C	Pdc	5.87	kW	Tj=20°C	EERd	10.46	-
Declared capacity for heating / Average season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Average season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C	Pdh	11.5	kW	Tj=-7°C	COPd	2.54	-
Tj=2°C	Pdh	6.89	kW	Tj=2°C	COPd	4.07	-
Tj=7°C	Pdh	4.50	kW	Tj=7°C	COPd	5.52	-
Tj=12°C	Pdh	5.20	kW	Tj=12°C	COPd	6.50	-
Tj=bivalent temperature	Pdh	11.5	kW	Tj=bivalent temperature	COPd	2.54	-
Tj=operating limit	Pdh	8.96	kW	Tj=operating limit	COPd	2.16	-
Declared capacity for heating / Warmer season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Warmer season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=2°C	Pdh	—	kW	Tj=2°C	COPd	—	-
Tj=7°C	Pdh	—	kW	Tj=7°C	COPd	—	-
Tj=12°C	Pdh	—	kW	Tj=12°C	COPd	—	-
Tj=bivalent temperature	Pdh	—	kW	Tj=bivalent temperature	COPd	—	-
Tj=operating limit	Pdh	—	kW	Tj=operating limit	COPd	—	-
Declared capacity for heating / Colder season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Colder season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C	Pdh	—	kW	Tj=-7°C	COPd	—	-
Tj=2°C	Pdh	—	kW	Tj=2°C	COPd	—	-
Tj=7°C	Pdh	—	kW	Tj=7°C	COPd	—	-
Tj=12°C	Pdh	—	kW	Tj=12°C	COPd	—	-
Tj=bivalent temperature	Pdh	—	kW	Tj=bivalent temperature	COPd	—	-
Tj=operating limit	Pdh	—	kW	Tj=operating limit	COPd	—	-
Tj=-15°C	Pdh	—	kW	Tj=-15°C	COPd	—	-
Bivalent temperature				Operating limit temperature			
heating / Average	Tbiv	-7	°C	heating / Average	Tol	-20	°C
heating / Warmer	Tbiv	—	°C	heating / Warmer	Tol	—	°C
heating / Colder	Tbiv	—	°C	heating / Colder	Tol	—	°C
Cycling interval capacity				Cycling interval efficiency			
for cooling	Pcycc	—	kW	for cooling	EERcyc	—	-
for heating	Pcyh	—	kW	for heating	COPcyc	—	-
Degradation coefficient cooling				Degradation coefficient heating			
cooling	Cdc	0.25	-	heating	Cdh	0.25	-
Electric power input in power modes other than 'active mode'				Annual electricity consumption			
off mode	Poff	20	W	cooling	Qce	670	kWh/a
standby mode	Psb	20	W	heating / Average	Qhe	4,437	kWh/a
thermostat-off mode	Pto	45	W	heating / Warmer	Qhe	—	kWh/a
crankcase heater mode	Pck	25	W	heating / colder	Qhe	—	kWh/a
Capacity control(indicate one of three options)				Other items			
fixed		No		Sound power level(indoor)	Lwa	65	dB(A)
staged		No		Sound power level(outdoor)	Lwa	70	dB(A)
variable		Yes		Global warming potential	GWP	1,975	kgCO ₂ eq.
				Rated air flow(indoor)	-	2,160	m ³ /h
				Rated air flow(outdoor)	-	6,000	m ³ /h
Contact details for obtaining more information	Name and address of the manufacturer or of its authorised representative. Mitsubishi Heavy Industries Air-Conditioning Europe, Ltd. 5 The Square, Stockley Park, Uxbridge, Middlesex, UB11 1ET, United Kingdom						


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FDU100VSXF2

Information to identify the model(s) to which the information relates to:				If function includes heating: Indicate the heating season the information relates to. Indicated values should relate to one heating season at a time. Include at least the heating season 'Average'.			
Indoor unit model name		FDU100VF2		Average(mandatory)		Yes	
Outdoor unit model name		FDC100VSX		Warmer(if designated)		No	
Function(indicate if present)				Colder(if designated)		No	
cooling		Yes					
heating		Yes					
Item	symbol	value	unit	Item	symbol	value	class
Design load				Seasonal efficiency and energy efficiency class			
cooling	Pdesignc	10.0	kW	cooling	SEER	5.19	A
heating / Average	Pdesignh	13.0	kW	heating / Average	SCOP/A	4.10	A+
heating / Warmer	Pdesignh	—	kW	heating / Warmer	SCOP/W	—	—
heating / Colder	Pdesignh	—	kW	heating / Colder	SCOP/C	—	—
				unit			
Declared capacity at outdoor temperature Tdesignh				Back up heating capacity at outdoor temperature Tdesignh			
heating / Average (-10°C)	Pdh	10.91	kW	heating / Average (-10°C)	elbu	2.09	kW
heating / Warmer (2°C)	Pdh	—	kW	heating / Warmer (2°C)	elbu	—	kW
heating / Colder (-22°C)	Pdh	—	kW	heating / Colder (-22°C)	elbu	—	kW
Declared capacity for cooling, at indoor temperature 27(19)°C and outdoor temperature Tj				Declared energy efficiency ratio, at indoor temperature 27(19)°C and outdoor temperature Tj			
Tj=35°C	Pdc	10.0	kW	Tj=35°C	EERd	3.73	-
Tj=30°C	Pdc	7.42	kW	Tj=30°C	EERd	4.84	-
Tj=25°C	Pdc	5.58	kW	Tj=25°C	EERd	7.43	-
Tj=20°C	Pdc	5.87	kW	Tj=20°C	EERd	10.46	-
Declared capacity for heating / Average season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Average season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C	Pdh	11.5	kW	Tj=-7°C	COPd	2.54	-
Tj=2°C	Pdh	6.89	kW	Tj=2°C	COPd	4.07	-
Tj=7°C	Pdh	4.50	kW	Tj=7°C	COPd	5.52	-
Tj=12°C	Pdh	5.20	kW	Tj=12°C	COPd	6.50	-
Tj=bivalent temperature	Pdh	11.5	kW	Tj=bivalent temperature	COPd	2.54	-
Tj=operating limit	Pdh	8.96	kW	Tj=operating limit	COPd	2.16	-
Declared capacity for heating / Warmer season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Warmer season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=2°C	Pdh	—	kW	Tj=2°C	COPd	—	-
Tj=7°C	Pdh	—	kW	Tj=7°C	COPd	—	-
Tj=12°C	Pdh	—	kW	Tj=12°C	COPd	—	-
Tj=bivalent temperature	Pdh	—	kW	Tj=bivalent temperature	COPd	—	-
Tj=operating limit	Pdh	—	kW	Tj=operating limit	COPd	—	-
Declared capacity for heating / Colder season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Colder season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C	Pdh	—	kW	Tj=-7°C	COPd	—	-
Tj=2°C	Pdh	—	kW	Tj=2°C	COPd	—	-
Tj=7°C	Pdh	—	kW	Tj=7°C	COPd	—	-
Tj=12°C	Pdh	—	kW	Tj=12°C	COPd	—	-
Tj=bivalent temperature	Pdh	—	kW	Tj=bivalent temperature	COPd	—	-
Tj=operating limit	Pdh	—	kW	Tj=operating limit	COPd	—	-
Tj=-15°C	Pdh	—	kW	Tj=-15°C	COPd	—	-
Bivalent temperature				Operating limit temperature			
heating / Average	Tbiv	-7	°C	heating / Average	Tol	-20	°C
heating / Warmer	Tbiv	—	°C	heating / Warmer	Tol	—	°C
heating / Colder	Tbiv	—	°C	heating / Colder	Tol	—	°C
Cycling interval capacity				Cycling interval efficiency			
for cooling	Pcycc	—	kW	for cooling	EERcyc	—	-
for heating	Pcyh	—	kW	for heating	COPcyc	—	-
Degradation coefficient cooling				Degradation coefficient heating			
cooling	Cdc	0.25	-	heating	Cdh	0.25	-
Electric power input in power modes other than 'active mode'				Annual electricity consumption			
off mode	Poff	40	W	cooling	Qce	675	kWh/a
standby mode	Psb	20	W	heating / Average	Qhe	4,441	kWh/a
thermostat-off mode	Pto	65	W	heating / Warmer	Qhe	—	kWh/a
crankcase heater mode	Pck	25	W	heating / colder	Qhe	—	kWh/a
Capacity control(indicate one of three options)				Other items			
fixed		No		Sound power level(indoor)	Lwa	65	dB(A)
staged		No		Sound power level(outdoor)	Lwa	70	dB(A)
variable		Yes		Global warming potential	GWP	1,975	kgCO ₂ eq.
				Rated air flow(indoor)	-	2,160	m ³ /h
				Rated air flow(outdoor)	-	6,000	m ³ /h
Contact details for obtaining more information	Name and address of the manufacturer or of its authorised representative. Mitsubishi Heavy Industries Air-Conditioning Europe, Ltd. 5 The Square, Stockley Park, Uxbridge, Middlesex, UB11 1ET, United Kingdom						

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FDU125VNXVF

Model(s) : FDC125VNX / FDU125VF							
Outdoor side heat exchanger of air conditioner : air							
Indoor side heat exchanger of air conditioner : air							
Type : vapour compression							
if applicable : electric motor							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	12.5	kW	Seasonal space cooling energy efficiency ηs,c		210.5	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35°C	Pdc	12.5	kW	Tj=+35°C	EERd or GUEc,bin / AEFc,bin	358.0	%
Tj=+30°C	Pdc	9.2	kW	Tj=+30°C	EERd or GUEc,bin / AEFc,bin	456.0	%
Tj=+25°C	Pdc	5.9	kW	Tj=+25°C	EERd or GUEc,bin / AEFc,bin	700.0	%
Tj=+20°C	Pdc	5.8	kW	Tj=+20°C	EERd or GUEc,bin / AEFc,bin	1,017.0	%
Degradation coefficient for air conditioners**	Cdc	0.25	-				
Power consumption in other than 'active mode'							
Off mode	P _{OFF}	0.045	kW	Crankcase heater mode	P _{CK}	0.045	kW
Thermostat-off mode	P _{TO}	0.055	kW	Standby mode	P _{SB}	0.045	kW
Other items				For air-to-air air conditioner: air flow-rate,outdoor measured			
Capacity control		variable				6,000	m ³ /h
Sound power level, outdoor	L _{WA}	70.0	dB				
If engine driven: Emissions of nitrogen oxides	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
							PJG000Z462 

Information to identify the model(s) to which the information relates :				FDC125VNX / FDU125VF			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	14.0	kW	Seasonal space heating energy efficiency ηs,h		152.0	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	10.1	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	302.0	%
Tj=+2°C	Pdh	6.1	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	353.0	%
Tj=+7°C	Pdh	4.3	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	512.0	%
Tj=+12°C	Pdh	4.5	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	625.0	%
T _{biv} =bivalent temperature	Pdh	11.4	kW	T _{biv} =bivalent temperature	COPd or GUEh,bin / AEFh,bin	279.0	%
T _{OL} =operation limit	Pdh	9.0	kW	T _{OL} =operation limit	COPd or GUEh,bin / AEFh,bin	238.0	%
For air-to-water heat pumps : Tj=-15°C (if T _{OL} <-20°C)	Pdh	—	kW	For air-to-water heat pumps: Tj=-15°C (if T _{OL} <-20°C)	COPd or GUEh,bin / AEFh,bin	—	%
Bivalent temperature	T _{biv}	-10.0	°C	For water-to-air heat pumps: Operation limit T _{oi} temperature		—	°C
Degradation coefficient heat pumps**	C _{dh}	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.045	kW		elbu	—	kW
Thermostat-off mode	P _{TO}	0.100	kW	Type of energy input Standby mode	P _{SB}	0.045	kW
Crankcase heater mode	P _{CK}	0.045	kW				
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				6,000	m ³ /h
Sound power level, outdoor measured	L _{WA}	70.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		—	m ³ /h
Emissions of nitrogen oxides(if applicable)	NOx ***	—	mg/kWh fuel input GCV				
GWP of the refrigerant		2088	kg CO _{2eq} (100years)				
Contact details				Mitsubishi heavy industries thermal systems,LTD			
** If Cdh is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							


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FDU125VSXF

Model(s) : FDC125VSX / FDU125VF							
Outdoor side heat exchanger of air conditioner : air							
Indoor side heat exchanger of air conditioner : air							
Type : vapour compression							
if applicable : electric motor							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	12.5	kW	Seasonal space cooling energy efficiency $\eta_{s,c}$		216.5	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35°C	Pdc	12.5	kW	Tj=+35°C	EERd or GUEc,bin / AEFc,bin	358.0	%
Tj=+30°C	Pdc	9.2	kW	Tj=+30°C	EERd or GUEc,bin / AEFc,bin	465.0	%
Tj=+25°C	Pdc	5.9	kW	Tj=+25°C	EERd or GUEc,bin / AEFc,bin	714.0	%
Tj=+20°C	Pdc	5.8	kW	Tj=+20°C	EERd or GUEc,bin / AEFc,bin	1,038.0	%
Degradation coefficient for air conditioners**	Cdc	0.25	-				
Power consumption in other than 'active mode'							
Off mode	P _{OFF}	0.040	kW	Crankcase heater mode	P _{CK}	0.040	kW
Thermostat-off mode	P _{TO}	0.055	kW	Standby mode	P _{SB}	0.040	kW
Other items				For air-to-air air conditioner: air flow-rate,outdoor measured			
Capacity control		variable				6,000	m ³ /h
Sound power level, outdoor	L _{WA}	70.0	dB				
If engine driven: Emissions of nitrogen oxides	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
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Information to identify the model(s) to which the information relates :				FDC125VSX / FDU125VF			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	14.0	kW	Seasonal space heating energy efficiency ηs,h		153.2	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	12.4	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	284.0	%
Tj=+2°C	Pdh	7.5	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	364.0	%
Tj=+7°C	Pdh	4.9	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	512.0	%
Tj=+12°C	Pdh	4.5	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	638.0	%
Tbiv=bivalent temperature	Pdh	14.0	kW	Tbiv=bivalent temperature	COPd or GUEh,bin / AEFh,bin	263.0	%
TOL=operation limit	Pdh	10.9	kW	TOL=operation limit	COPd or GUEh,bin / AEFh,bin	238.0	%
For air-to-water heat pumps : Tj=-15°C (if TOL < -20°C)	Pdh	—	kW	For air-to-water heat pumps: Tj=-15°C (if TOL < -20°C)	COPd or GUEh,bin / AEFh,bin	—	%
Bivalent temperature	Tbiv	-10.0	°C	For water-to-air heat pumps: Operation limit TOL temperature		—	°C
Degradation coefficient heat pumps**	Cdh	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.040	kW		elbu	—	kW
Thermostat-off mode	P _{TO}	0.095	kW	Type of energy input Standby mode	P _{SB}	0.040	kW
Crankcase heater mode	P _{CK}	0.040	kW				
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				6,000	m ³ /h
Sound power level, outdoor measured	L _{WA}	70.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		—	m ³ /h
Emissions of nitrogen oxides(if applicable)	NOx ***	—	mg/kWh fuel input GCV				
GWP of the refrigerant		2088	kg CO _{2eq} (100years)				
Contact details				Mitsubishi heavy industries thermal systems,LTD			
** If Cdh is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
PJG000Z462 A.							


FDU140VNXVF

Model(s) : FDC140VNX / FDU140VF							
Outdoor side heat exchanger of air conditioner : air							
Indoor side heat exchanger of air conditioner : air							
Type : vapour compression							
if applicable : electric motor							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	14.0	kW	Seasonal space cooling energy efficiency ηs,c		205.9	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35°C	Pdc	14.0	kW	Tj=+35°C	EERd or GUEc,bin / AEFc,bin	327.0	%
Tj=+30°C	Pdc	10.3	kW	Tj=+30°C	EERd or GUEc,bin / AEFc,bin	445.0	%
Tj=+25°C	Pdc	6.6	kW	Tj=+25°C	EERd or GUEc,bin / AEFc,bin	656.0	%
Tj=+20°C	Pdc	6.0	kW	Tj=+20°C	EERd or GUEc,bin / AEFc,bin	1,026.0	%
Degradation coefficient for air conditioners**	Cdc	0.25	-				
Power consumption in other than 'active mode'							
Off mode	P _{OFF}	0.045	kW	Crankcase heater mode	P _{CK}	0.045	kW
Thermostat-off mode	P _{TO}	0.060	kW	Standby mode	P _{SB}	0.045	kW
Other items				For air-to-air air conditioner: air flow-rate,outdoor measured			
Capacity control		variable				6,000	m ³ /h
Sound power level, outdoor	L _{WA}	72.0	dB				
If engine driven: Emissions of nitrogen oxides	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
PJG000Z462 							

Information to identify the model(s) to which the information relates :				FDC140VNX / FDU140VF			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	16.0	kW	Seasonal space heating energy efficiency ηs,h		151.1	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	11.5	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	295.0	%
Tj=+2°C	Pdh	7.0	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	351.0	%
Tj=+7°C	Pdh	4.5	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	511.0	%
Tj=+12°C	Pdh	4.5	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	631.0	%
Tbw=bivalent temperature	Pdh	13.0	kW	Tbw=bivalent temperature	COPd or GUEh,bin / AEFh,bin	267.0	%
TOL=operation limit	Pdh	10.3	kW	TOL=operation limit	COPd or GUEh,bin / AEFh,bin	235.0	%
For air-to-water heat pumps : Tj=-15°C (if TOL < -20°C)	Pdh	—	kW	For air-to-water heat pumps: Tj=-15°C (if TOL < -20°C)	COPd or GUEh,bin / AEFh,bin	—	%
Bivalent temperature	Tbw	-10.0	°C	For water-to-air heat pumps: Operation limit TOL temperature		—	°C
Degradation coefficient heat pumps**	Cdh	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.045	kW		elbu	—	kW
Thermostat-off mode	P _{TO}	0.105	kW	Type of energy input Standby mode	P _{SB}	0.045	kW
Crankcase heater mode	P _{CK}	0.045	kW				
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				6,000	m ³ /h
Sound power level, outdoor measured	L _{WA}	72.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		—	m ³ /h
Emissions of nitrogen oxides(if applicable)	NOx ***	—	mg/kWh fuel input GCV				
GWP of the refrigerant		2088	kg CO _{2eq} (100years)				
Contact details				Mitsubishi heavy industries thermal systems,LTD			
** If Cdh is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							

PJG000Z462 A

FDU140VSXF

Model(s) : FDC140VSX / FDU140VF							
Outdoor side heat exchanger of air conditioner : air							
Indoor side heat exchanger of air conditioner : air							
Type : vapour compression							
if applicable : electric motor							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	14.0	kW	Seasonal space cooling energy efficiency ηs,c		211.4	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35°C	Pdc	14.0	kW	Tj=+35°C	EERd or GUEc,bin / AEFc,bin	327.0	%
Tj=+30°C	Pdc	10.3	kW	Tj=+30°C	EERd or GUEc,bin / AEFc,bin	454.0	%
Tj=+25°C	Pdc	6.6	kW	Tj=+25°C	EERd or GUEc,bin / AEFc,bin	669.0	%
Tj=+20°C	Pdc	6.0	kW	Tj=+20°C	EERd or GUEc,bin / AEFc,bin	1,047.0	%
Degradation coefficient for air conditioners**	Cdc	0.25	-				
Power consumption in other than 'active mode'							
Off mode	P _{OFF}	0.040	kW	Crankcase heater mode	P _{CK}	0.040	kW
Thermostat-off mode	P _{TO}	0.060	kW	Standby mode	P _{SB}	0.040	kW
Other items				For air-to-air air conditioner: air flow-rate,outdoor measured			
Capacity control		variable				6,000	m ³ /h
Sound power level, outdoor	L _{WA}	72.0	dB				
If engine driven: Emissions of nitrogen oxides	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
							PJG000Z462 

Information to identify the model(s) to which the information relates :				FDC140VSX / FDU140VF			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	16.0	kW	Seasonal space heating energy efficiency ηs,h		152.3	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	13.7	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	279.0	%
Tj=+2°C	Pdh	8.4	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	363.0	%
Tj=+7°C	Pdh	5.4	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	508.0	%
Tj=+12°C	Pdh	4.5	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	644.0	%
T _{biv} =bivalent temperature	Pdh	15.5	kW	T _{biv} =bivalent temperature	COPd or GUEh,bin / AEFh,bin	237.0	%
T _{OL} =operation limit	Pdh	11.9	kW	T _{OL} =operation limit	COPd or GUEh,bin / AEFh,bin	212.0	%
For air-to-water heat pumps : Tj=-15°C (if T _{OL} <-20°C)	Pdh	—	kW	For air-to-water heat pumps: Tj=-15°C (if T _{OL} <-20°C)	COPd or GUEh,bin / AEFh,bin	—	%
Bivalent temperature	T _{biv}	-10.0	°C	For water-to-air heat pumps: Operation limit T _{oi} temperature		—	°C
Degradation coefficient heat pumps**	C _{dh}	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.040	kW		elbu	—	kW
Thermostat-off mode	P _{TO}	0.100	kW	Type of energy input Standby mode	P _{SB}	0.040	kW
Crankcase heater mode	P _{CK}	0.040	kW				
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				6,000	m ³ /h
Sound power level, outdoor measured	L _{WA}	72.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		—	m ³ /h
Emissions of nitrogen oxides(if applicable)	NOx ***	—	mg/kWh fuel input GCV				
GWP of the refrigerant		2088	kg CO _{2eq} (100years)				
Contact details				Mitsubishi heavy industries thermal systems,LTD			
** If Cdh is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							

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Models FDU71VF1, 100VF2, 125VF, 140VF

Model(s) : FDU71VF1							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Cooling capacity (sensible)	$P_{rated,c}$	5.8	kW	Total electric power input	P_{elec}	0.250	kW
Cooling capacity (latent)	$P_{rated,c}$	1.3	kW	Sound power level (per speed setting,if applicable)	L_{WA}	65.0	dB
Heating capacity	$P_{rated,h}$	8.0	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

Model(s) : FDU100VF2							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Cooling capacity (sensible)	$P_{rated,c}$	7.7	kW	Total electric power input	P_{elec}	0.350	kW
Cooling capacity (latent)	$P_{rated,c}$	2.3	kW	Sound power level (per speed setting,if applicable)	L_{WA}	65.0	dB
Heating capacity	$P_{rated,h}$	11.2	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

Model(s) : FDU125VF							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Cooling capacity (sensible)	$P_{rated,c}$	10.5	kW	Total electric power input	P_{elec}	0.400	kW
Cooling capacity (latent)	$P_{rated,c}$	2.0	kW	Sound power level (per speed setting,if applicable)	L_{WA}	67.0	dB
Heating capacity	$P_{rated,h}$	14.0	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

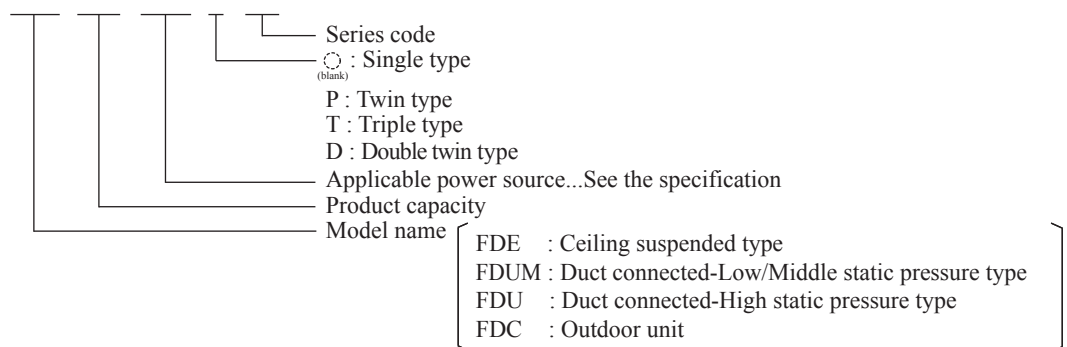
Model(s) : FDU140VF							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Cooling capacity (sensible)	$P_{rated,c}$	11.2	kW	Total electric power input	P_{elec}	0.550	kW
Cooling capacity (latent)	$P_{rated,c}$	2.8	kW	Sound power level (per speed setting,if applicable)	L_{WA}	70.0	dB
Heating capacity	$P_{rated,h}$	16.0	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

2. MICRO INVERTER PACKAGED AIR-CONDITIONERS

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Example: FDE 100 VNA P VG




2.1 SPECIFICATIONS

(1) Ceiling suspended type (FDE)

(a) Single type

Item		Model	FDE100VNAV		
			Indoor unit FDE100VG	Outdoor unit FDC100VNA	
Power source			1 Phase, 220-240V, 50Hz / 220V, 60Hz		
Operation data	Nominal cooling capacity (range)	kW	10.0 [4.0(Min.)-11.2(Max.)]		
	Nominal heating capacity (range)	kW	11.2 [4.0(Min.)-12.5(Max.)]		
	Power consumption	Cooling	kW	2.85	
		Heating		2.70	
	Max power consumption		6.40		
	Running current	Cooling	A	13.8 / 14.4	
		Heating		13.2 / 13.8	
	Inrush current, max current		5, 24		
	Power factor	Cooling	%	90	
		Heating		89	
	EER	Cooling		3.51	
	COP	Heating		4.15	
	Sound power level	Cooling	dB(A)	64	
Heating		70			
Sound pressure level	Cooling	dB(A)	P-Hi : 48 Hi : 43 Me : 38 Lo : 34		
	Heating		54 56		
Silent mode sound pressure level			50/44 (Normal/Silent)		
Exterior dimensions (Height × Width × Depth)	mm		250 × 1,620 × 690 845 × 970 × 370		
Exterior appearance (Munsell color)			Plaster white (6.8Y8.9/0.2) near equivalent Stucco white (4.2Y7.5/1.1) near equivalent		
Net weight	kg		43 80		
Compressor type & Q'ty			— RMT5126MCE3 (Twin rotary type)×1		
Compressor motor (Starting method)	kW		— Direct line start		
Refrigerant oil (Amount, type)	ℓ		— 0.9 (M-MA68)		
Refrigerant (Type, amount, pre-charge length)	kg		R410A 3.8kg in outdoor unit (Incl. the amount for the piping of : 30m)		
Heat exchanger			Louver fin & inner grooved tubing Straight fin & inner grooved tubing		
Refrigerant control			Electronic expansion valve		
Fan type & Q'ty			Centrifugal fan ×4 Propeller fan ×1		
Fan motor (Starting method)	W		80 < Direct line start > 86 < Direct line start >		
Air flow	Cooling	m ³ /min	P-Hi : 32 Hi : 26 Me : 21 Lo : 16.5		
	Heating		75 73		
Available external static pressure	Pa		0 —		
Outside air intake			Not possible —		
Air filter, Quality / Quantity			Pocket plastic net ×2(Washable) —		
Shock & vibration absorber			Rubber sleeve (for fan motor) Rubber sleeve (for compressor)		
Electric heater	W		— 20 (Crank case heater)		
Operation control	Remote control		(Option) Wired : RC-EX3,RC-E5,RCH-E3 Wireless : RCN-E-E3		
	Room temperature control		Thermostat by electronics		
	Operation display		—		
Safety equipments			Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection		
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 9.52 (3/8") Pipe φ 9.52(3/8")×0.8 O/U φ 9.52 (3/8") Gas line: φ 15.88 (5/8") φ 15.88(5/8")×1.0 φ 15.88 (5/8")		
	Connecting method		Flare piping Flare piping		
	Attached length of piping	m	— —		
	Insulation for piping		Necessary (both Liquid & Gas lines)		
	Refrigerant line (one way) length	m	Max.50m		
	Vertical height diff. between O/U and I/U	m	Max.50m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)		
Drain hose			Hose connectable with VP20 (O.D.26) Hole size φ 20 × 3 pcs		
Drain pump, max lift height	mm		— —		
Recommended breaker size	A		—		
L.R.A. (Locked rotor ampere)	A		5.0		
Interconnecting wires	Size × Core number		φ 1.6mm × 3 cores + earth cable / Terminal block (Screw fixing type)		
IP number			IPX0 IP24		
Standard accessories			Mounting kit, Drain hose —		
Option parts			Motion sensor : LB-E		
Notes (1) The data are measured at the following conditions.			The pipe length is 7.5m.		
	Item	Indoor air temperature	Outdoor air temperature		Standards
Operation		DB	DB	WB	
	Cooling	27°C	35°C	24°C	
Heating	20°C	—	7°C	6°C	
					ISO5151-T1
(2) This air-conditioner is manufactured and tested in conformity with the ISO.					
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.					
(4) Select the breaker size according to the own national standard.					
(5) The operation data indicate when the air-conditioner is operated at 230V 50Hz or 220V 60Hz.					


PFA004Z080 

Item		Model	FDE100VSAVG		
			Indoor unit FDE100VG	Outdoor unit FDC100VSA	
Power source			3 Phase, 380-415V, 50Hz / 380V, 60Hz		
Operation data	Nominal cooling capacity (range)	kW	10.0 [4.0(Min.)-11.2(Max.)]		
	Nominal heating capacity (range)	kW	11.2 [4.0(Min.)-12.5(Max.)]		
	Power consumption	Cooling	kW	2.85	
		Heating		2.70	
	Max power consumption		10.20		
	Running current	Cooling	A	4.5 / 4.8	
		Heating		4.3 / 4.5	
	Inrush current, max current		5, 15		
	Power factor	Cooling	%	91 / 90	
		Heating		91	
	EER	Cooling		3.51	
	COP	Heating		4.15	
	Sound power level	Cooling	dB(A)	64	70
Heating					
Sound pressure level	Cooling	dB(A)	P-Hi : 48 Hi : 43 Me : 38 Lo : 34		
	Heating		54 56		
Silent mode sound pressure level			50/44 (Normal/Silent)		
Exterior dimensions (Height × Width × Depth)	mm		250 × 1,620 × 690	845 × 970 × 370	
Exterior appearance (Munsell color)			Plaster white (6.8Y8.9/0.2) near equivalent	Stucco white (4.2Y7.5/1.1) near equivalent	
Net weight	kg		43	82	
Compressor type & Q'ty			—	RMT5126MCE4 (Twin rotary type)×1	
Compressor motor (Starting method)	kW		—	Direct line start	
Refrigerant oil (Amount, type)	ℓ		—	0.9 (M-MA68)	
Refrigerant (Type, amount, pre-charge length)	kg		R410A 3.8kg in outdoor unit (Incl. the amount for the piping of : 30m)		
Heat exchanger			Louver fin & inner grooved tubing	Straight fin & inner grooved tubing	
Refrigerant control			Electronic expansion valve		
Fan type & Q'ty			Centrifugal fan ×4	Propeller fan ×1	
Fan motor (Starting method)	W		80 < Direct line start >	86 < Direct line start >	
Air flow	Cooling	m ³ /min	P-Hi : 32 Hi : 26 Me : 21 Lo : 16.5		
	Heating		75 73		
Available external static pressure	Pa		0	—	
Outside air intake			Not possible	—	
Air filter, Quality / Quantity			Pocket plastic net ×2(Washable)	—	
Shock & vibration absorber			Rubber sleeve (for fan motor)	Rubber sleeve (for compressor)	
Electric heater	W		—	20 (Crank case heater)	
Operation control	Remote control		(Option) Wired : RC-EX3,RC-E5,RCH-E3 Wireless : RCN-E-E3		
	Room temperature control		Thermostat by electronics		
	Operation display		—		
Safety equipments			Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection		
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 9.52 (3/8") Pipe φ 9.52(3/8")×0.8 O/U φ 9.52 (3/8") Gas line: φ 15.88 (5/8") φ 15.88(5/8")×1.0 φ 15.88 (5/8")		
	Connecting method		Flare piping	Flare piping	
	Attached length of piping	m	—	—	
	Insulation for piping		Necessary (both Liquid & Gas lines)		
	Refrigerant line (one way) length	m	Max.50m		
	Vertical height diff. between O/U and I/U	m	Max.50m (Outdoor unit is higher)	Max.15m (Outdoor unit is lower)	
Drain hose			Hose connectable with VP20 (O.D.26)	Hole size φ 20 × 3 pcs	
Drain pump, max lift height	mm		—	—	
Recommended breaker size	A		—		
L.R.A. (Locked rotor ampere)	A		5.0		
Interconnecting wires	Size × Core number		φ 1.6mm × 3 cores + earth cable / Terminal block (Screw fixing type)		
IP number			IPX0	IP24	
Standard accessories			Mounting kit, Drain hose		
Option parts			Motion sensor : LB-E		

Notes (1) The data are measured at the following conditions. The pipe length is 7.5m.

Operation	Item	Indoor air temperature		Outdoor air temperature		Standards
		DB	WB	DB	WB	
Cooling		27°C	19°C	35°C	24°C	ISO5151-T1
		20°C	—	7°C	6°C	

- (2) This air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.
- (4) Select the breaker size according to the own national standard.
- (5) The operation data indicate when the air-conditioner is operated at 400V 50Hz or 380V 60Hz.

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Item		Model	FDE125VNAVG		
			Indoor unit FDE125VG	Outdoor unit FDC125VNA	
Power source		1 Phase, 220-240V, 50Hz / 220V, 60Hz			
Operation data	Nominal cooling capacity (range)	kW	12.5 [5.0(Min.)-14.0(Max.)]		
	Nominal heating capacity (range)	kW	14.0 [4.0(Min.)-16.0(Max.)]		
	Power consumption	Cooling	kW	4.45	
		Heating		3.74	
	Max power consumption		6.40		
	Running current	Cooling	A	20.3 / 21.3	
		Heating		17.5 / 18.3	
	Inrush current, max current		5, 24		
	Power factor	Cooling	%	95	
		Heating		93	
	EER	Cooling	2.81		
	COP	Heating	3.74		
	Sound power level	Cooling	dB(A)	64	71
		Heating			
Sound pressure level	Cooling	dB(A)	P-Hi : 48 Hi : 45 Me : 40 Lo : 35		
	Heating				
Silent mode sound pressure level		—		51/45 (Normal/Silent)	
Exterior dimensions (Height × Width × Depth)	mm	250 × 1,620 × 690		845 × 970 × 370	
Exterior appearance (Munsell color)		Plaster white (6.8Y8.9/0.2) near equivalent		Stucco white (4.2Y7.5/1.1) near equivalent	
Net weight	kg	43		80	
Compressor type & Q'ty		—		RMT5126MCE3 (Twin rotary type)×1	
Compressor motor (Starting method)	kW	—		Direct line start	
Refrigerant oil (Amount, type)	ℓ	—		0.9 (M-MA68)	
Refrigerant (Type, amount, pre-charge length)	kg	R410A 3.8kg in outdoor unit (Incl. the amount for the piping of : 30m)			
Heat exchanger		Louver fin & inner grooved tubing		Straight fin & inner grooved tubing	
Refrigerant control		Electronic expansion valve			
Fan type & Q'ty		Centrifugal fan ×4		Propeller fan ×1	
Fan motor (Starting method)	W	80 < Direct line start >		86 < Direct line start >	
Air flow	Cooling	m³/min	P-Hi : 32 Hi : 29 Me : 23 Lo : 17		
	Heating				
Available external static pressure	Pa	0		—	
Outside air intake		Not possible			
Air filter, Quality / Quantity		Pocket plastic net ×2(Washable)			
Shock & vibration absorber		Rubber sleeve (for fan motor)		Rubber sleeve (for compressor)	
Electric heater	W	—		20 (Crank case heater)	
Operation control	Remote control	(Option) Wired : RC-EX3,RC-E5,RCH-E3 Wireless : RCN-E-E3			
	Room temperature control	Thermostat by electronics			
	Operation display	—			
Safety equipments		Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection			
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 9.52 (3/8") Pipe φ 9.52(3/8")×0.8 O/U φ 9.52 (3/8") Gas line: φ 15.88 (5/8") φ 15.88(5/8")×1.0 φ 15.88 (5/8")		
	Connecting method		Flare piping		
	Attached length of piping	m	—		
	Insulation for piping		Necessary (both Liquid & Gas lines)		
	Refrigerant line (one way) length	m	Max.50m		
	Vertical height diff. between O/U and I/U	m	Max.50m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)		
Drain hose		Hose connectable with VP20 (O.D.26)		Hole size φ 20 × 3 pcs	
Drain pump, max lift height	mm	—		—	
Recommended breaker size	A	—			
L.R.A. (Locked rotor ampere)	A	5.0			
Interconnecting wires	Size × Core number	φ 1.6mm × 3 cores + earth cable / Terminal block (Screw fixing type)			
IP number		IPX0		IP24	
Standard accessories		Mounting kit, Drain hose		—	
Option parts		Motion sensor : LB-E			

Notes (1) The data are measured at the following conditions.

The pipe length is 7.5m.

Operation	Indoor air temperature		Outdoor air temperature		Standards
	DB	WB	DB	WB	
Cooling	27°C	19°C	35°C	24°C	ISO5151-T1
Heating	20°C	—	7°C	6°C	

(2) This air-conditioner is manufactured and tested in conformity with the ISO.

(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.

(4) Select the breaker size according to the own national standard.


(5) The operation data indicate when the air-conditioner is operated at 230V 50Hz or 220V 60Hz.

Item		Model	FDE125VSAVG		
			Indoor unit FDE125VG	Outdoor unit FDC125VSA	
Power source			3 Phase, 380-415V, 50Hz / 380V, 60Hz		
Operation data	Nominal cooling capacity (range)	kW	12.5 [5.0(Min.)-14.0(Max.)]		
	Nominal heating capacity (range)	kW	14.0 [4.0(Min.)-16.0(Max.)]		
	Power consumption	Cooling	kW	4.45	
		Heating		3.74	
	Max power consumption		10.20		
	Running current	Cooling	A	6.9 / 7.3	
		Heating		5.9 / 6.2	
	Inrush current, max current		5, 15		
	Power factor	Cooling	%	93	
		Heating		91 / 92	
	EER	Cooling		2.81	
	COP	Heating		3.74	
	Sound power level	Cooling	dB(A)	64	
Heating		71			
Sound pressure level	Cooling	dB(A)	P-Hi : 48 Hi : 45 Me : 40 Lo : 35		
	Heating		55 57		
Silent mode sound pressure level			51/45 (Normal/Silent)		
Exterior dimensions (Height × Width × Depth)	mm		250 × 1,620 × 690 845 × 970 × 370		
Exterior appearance (Munsell color)			Plaster white (6.8Y8.9/0.2) near equivalent Stucco white (4.2Y7.5/1.1) near equivalent		
Net weight	kg		43 82		
Compressor type & Q'ty			— RMT5126MCE4 (Twin rotary type)×1		
Compressor motor (Starting method)	kW		— Direct line start		
Refrigerant oil (Amount, type)	ℓ		— 0.9 (M-MA68)		
Refrigerant (Type, amount, pre-charge length)	kg		R410A 3.8kg in outdoor unit (Incl. the amount for the piping of : 30m)		
Heat exchanger			Louver fin & inner grooved tubing Straight fin & inner grooved tubing		
Refrigerant control			Electronic expansion valve		
Fan type & Q'ty			Centrifugal fan ×4 Propeller fan ×1		
Fan motor (Starting method)	W		80 < Direct line start > 86 < Direct line start >		
Air flow	Cooling	m ³ /min	P-Hi : 32 Hi : 29 Me : 23 Lo : 17		
	Heating		75 73		
Available external static pressure	Pa		0 —		
Outside air intake			Not possible —		
Air filter, Quality / Quantity			Pocket plastic net ×2(Washable) —		
Shock & vibration absorber			Rubber sleeve (for fan motor) Rubber sleeve (for compressor)		
Electric heater	W		— 20 (Crank case heater)		
Operation control	Remote control		(Option) Wired : RC-EX3,RC-E5,RCH-E3 Wireless : RCN-E-E3		
	Room temperature control		Thermostat by electronics		
	Operation display		—		
Safety equipments			Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection		
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 9.52 (3/8") Pipe φ 9.52(3/8")×0.8 O/U φ 9.52 (3/8") Gas line: φ 15.88 (5/8") φ 15.88(5/8")×1.0 φ 15.88 (5/8")		
	Connecting method		Flare piping Flare piping		
	Attached length of piping	m	— —		
	Insulation for piping		Necessary (both Liquid & Gas lines)		
	Refrigerant line (one way) length	m	Max.50m		
	Vertical height diff. between O/U and I/U	m	Max.50m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)		
Drain hose			Hose connectable with VP20 (O.D.26) Hole size φ 20 × 3 pcs		
Drain pump, max lift height	mm		— —		
Recommended breaker size	A		—		
L.R.A. (Locked rotor ampere)	A		5.0		
Interconnecting wires	Size × Core number		φ 1.6mm × 3 cores + earth cable / Terminal block (Screw fixing type)		
IP number			IPX0 IP24		
Standard accessories			Mounting kit, Drain hose —		
Option parts			Motion sensor : LB-E		

Notes (1) The data are measured at the following conditions. The pipe length is 7.5m.

Operation	Indoor air temperature		Outdoor air temperature		Standards
	DB	WB	DB	WB	
Cooling	27°C	19°C	35°C	24°C	ISO5151-T1
Heating	20°C	—	7°C	6°C	

- (2) This air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.
- (4) Select the breaker size according to the own national standard.
- (5) The operation data indicate when the air-conditioner is operated at 400V 50Hz or 380V 60Hz.

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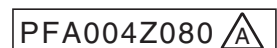
Item		Model	FDE140VNAV		
			Indoor unit FDE140VG	Outdoor unit FDC140VNA	
Power source		1 Phase, 220-240V, 50Hz / 220V, 60Hz			
Operation data	Nominal cooling capacity (range)	kW	13.6 [5.0(Min.)-14.5(Max.)]		
	Nominal heating capacity (range)	kW	15.5 [4.0(Min.)-16.5(Max.)]		
	Power consumption	Cooling	kW	5.21	
		Heating		4.42	
	Max power consumption		6.40		
	Running current	Cooling	A	22.9 / 23.9	
		Heating		19.4 / 20.3	
	Inrush current, max current		5, 24		
	Power factor	Cooling	%	99	
		Heating		99	
	EER	Cooling		2.61	
	COP	Heating		3.51	
	Sound power level	Cooling	dB(A)	65	
Heating		73			
Sound pressure level	Cooling	dB(A)	P-Hi : 49 Hi : 45 Me : 40 Lo : 36		
	Heating		57 59		
Silent mode sound pressure level			53/47 (Normal/Silent)		
Exterior dimensions (Height × Width × Depth)	mm	250 × 1,620 × 690		845 × 970 × 370	
Exterior appearance (Munsell color)		Plaster white (6.8Y8.9/0.2) near equivalent		Stucco white (4.2Y7.5/1.1) near equivalent	
Net weight	kg	43		80	
Compressor type & Q'ty		—		RMT5126MCE3 (Twin rotary type)×1	
Compressor motor (Starting method)	kW	—		Direct line start	
Refrigerant oil (Amount, type)	ℓ	—		0.9 (M-MA68)	
Refrigerant (Type, amount, pre-charge length)	kg	R410A 3.8kg in outdoor unit (Incl. the amount for the piping of : 30m)			
Heat exchanger		Louver fin & inner grooved tubing		Straight fin & inner grooved tubing	
Refrigerant control		Electronic expansion valve			
Fan type & Q'ty		Centrifugal fan ×4		Propeller fan ×1	
Fan motor (Starting method)	W	90 < Direct line start >		86 < Direct line start >	
Air flow	Cooling	m ³ /min	P-Hi : 34 Hi : 29 Me : 23 Lo : 18		
	Heating		75 73		
Available external static pressure	Pa	0			
Outside air intake		Not possible			
Air filter, Quality / Quantity		Pocket plastic net ×2(Washable)			
Shock & vibration absorber		Rubber sleeve (for fan motor)		Rubber sleeve (for compressor)	
Electric heater	W	—		20 (Crank case heater)	
Operation control	Remote control	(Option) Wired : RC-EX3,RC-E5,RCH-E3 Wireless : RCN-E-E3			
	Room temperature control	Thermostat by electronics			
	Operation display	—			
Safety equipments		Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection			
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 9.52 (3/8") Pipe φ 9.52(3/8")×0.8 O/U φ 9.52 (3/8") Gas line: φ 15.88 (5/8") φ 15.88(5/8")×1.0 φ 15.88 (5/8")		
	Connecting method		Flare piping		
	Attached length of piping	m	—		
	Insulation for piping		Necessary (both Liquid & Gas lines)		
	Refrigerant line (one way) length	m	Max.50m		
	Vertical height diff. between O/U and I/U	m	Max.50m (Outdoor unit is higher)		Max.15m (Outdoor unit is lower)
Drain hose		Hose connectable with VP20 (O.D.26)		Hole size φ 20 × 3 pcs	
Drain pump, max lift height	mm	—			
Recommended breaker size	A	—			
L.R.A. (Locked rotor ampere)	A	5.0			
Interconnecting wires	Size × Core number	φ 1.6mm × 3 cores + earth cable / Terminal block (Screw fixing type)			
IP number		IPX0		IP24	
Standard accessories		Mounting kit, Drain hose		—	
Option parts		Motion sensor : LB-E			

Notes (1) The data are measured at the following conditions. The pipe length is 7.5m.

Operation	Item	Indoor air temperature		Outdoor air temperature		Standards
		DB	WB	DB	WB	
Cooling		27°C	19°C	35°C	24°C	ISO5151-T1
		20°C	—	7°C	6°C	

- (2) This air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.
- (4) Select the breaker size according to the own national standard.
- (5) The operation data indicate when the air-conditioner is operated at 230V 50Hz or 220V 60Hz.

Item		Model	FDE140VSAVG			
			Indoor unit FDE140VG	Outdoor unit FDC140VSA		
Power source			3 Phase, 380-415V, 50Hz / 380V, 60Hz			
Operation data	Nominal cooling capacity (range)	kW	13.6 [5.0(Min.)-14.5(Max.)]			
	Nominal heating capacity (range)	kW	15.5 [4.0(Min.)-16.5(Max.)]			
	Power consumption	Cooling	kW	5.21		
		Heating		4.42		
	Max power consumption		10.20			
	Running current	Cooling	A	8.0 / 8.4		
		Heating		6.8 / 7.2		
	Inrush current, max current		5, 15			
	Power factor	Cooling	%	94		
		Heating		94 / 93		
	EER	Cooling		2.61		
	COP	Heating		3.51		
	Sound power level	Cooling	dB(A)	65	73	
Heating						
Sound pressure level	Cooling	dB(A)	P-Hi : 49 Hi : 45 Me : 40 Lo : 36			
	Heating		57 59			
Silent mode sound pressure level			—			
Exterior dimensions (Height × Width × Depth)	mm	250 × 1,620 × 690		845 × 970 × 370		
Exterior appearance (Munsell color)		Plaster white (6.8Y8.9/0.2) near equivalent		Stucco white (4.2Y7.5/1.1) near equivalent		
Net weight	kg	43		82		
Compressor type & Q'ty		—		RMT5126MCE4 (Twin rotary type)×1		
Compressor motor (Starting method)	kW	—		Direct line start		
Refrigerant oil (Amount, type)	ℓ	—		0.9 (M-MA68)		
Refrigerant (Type, amount, pre-charge length)	kg	R410A 3.8kg in outdoor unit (Incl. the amount for the piping of : 30m)				
Heat exchanger		Louver fin & inner grooved tubing		Straight fin & inner grooved tubing		
Refrigerant control		Electronic expansion valve				
Fan type & Q'ty		Centrifugal fan ×4		Propeller fan ×1		
Fan motor (Stating method)	W	90 < Direct line start >		86 < Direct line start >		
Air flow	Cooling	m³/min	P-Hi : 34 Hi : 29 Me : 23 Lo : 18			
	Heating		75 73			
Available external static pressure	Pa	0				
Outside air intake		Not possible				
Air filter, Quality / Quantity		Pocket plastic net ×2 (Washable)		—		
Shock & vibration absorber		Rubber sleeve (for fan motor)		Rubber sleeve (for compressor)		
Electric heater	W	—		20 (Crank case heater)		
Operation control	Remote control	(Option) Wired : RC-EX3,RC-E5,RCH-E3 Wireless : RCN-E-E3				
	Room temperature control	Thermostat by electronics				
	Operation display	—				
Safety equipments		Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection				
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 9.52 (3/8") Pipe φ 9.52(3/8")×0.8 O/U φ 9.52 (3/8") Gas line: φ 15.88 (5/8") φ 15.88(5/8")×1.0 φ 15.88 (5/8")			
	Connecting method		Flare piping			
	Attached length of piping	m	—			
	Insulation for piping		Necessary (both Liquid & Gas lines)			
	Refrigerant line (one way) length	m	Max.50m			
	Vertical height diff. between O/U and I/U	m	Max.50m (Outdoor unit is higher)		Max.15m (Outdoor unit is lower)	
Drain hose		Hose connectable with VP20 (O.D.26)		Hole size φ 20 × 3 pcs		
Drain pump, max lift height	mm	—				
Recommended breaker size	A	—				
L.R.A. (Locked rotor ampere)	A	5.0				
Interconnecting wires Size × Core number		φ 1.6mm × 3 cores + earth cable / Terminal block (Screw fixing type)				
IP number		IPX0		IP24		
Standard accessories		Mounting kit, Drain hose		—		
Option parts		Motion sensor : LB-E				
Notes (1) The data are measured at the following conditions.		The pipe length is 7.5m.				
Operation	Item	Indoor air temperature		Outdoor air temperature		Standards
		DB	WB	DB	WB	
	Cooling	27°C	19°C	35°C	24°C	
Heating	20°C	—	7°C	6°C		
(2) This air-conditioner is manufactured and tested in conformity with the ISO.						
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.						
(4) Select the breaker size according to the own national standard.						
(5) The operation data indicate when the air-conditioner is operated at 400V 50Hz or 380V 60Hz.						




(b) Twin type

Item		Model	FDE100VNAPVG		
			Indoor unit FDE50VG (2 units)	Outdoor unit FDC100VNA	
Power source			1 Phase, 220-240V, 50Hz / 220V, 60Hz		
Operation data	Nominal cooling capacity (range)	kW	10.0 [4.0(Min.)-11.2(Max.)]		
	Nominal heating capacity (range)	kW	11.2 [4.0(Min.)-12.5(Max.)]		
	Power consumption	Cooling	kW	3.12	
		Heating		2.99	
	Max power consumption		6.40		
	Running current	Cooling	A	13.7 / 14.3	
		Heating		13.1 / 13.7	
	Inrush current, max current		5, 24		
	Power factor	Cooling	%	99	
		Heating		99	
	EER	Cooling		3.21	
	COP	Heating		3.75	
	Sound power level	Cooling	dB(A)	60	70
Heating		P-Hi : 46 Hi : 38 Me : 36 Lo : 31			
Sound pressure level	Cooling		54		
	Heating		56		
Silent mode sound pressure level			50 / 44 (Normal / Silent)		
Exterior dimensions (Height × Width × Depth)	mm	210 × 1,070 × 690		845 × 970 × 370	
Exterior appearance (Munsell color)		Plaster white (6.8Y8.9/0.2) near equivalent		Stucco white (4.2Y7.5/1.1) near equivalent	
Net weight	kg	28		80	
Compressor type & Q'ty		—		RMT5126MCE3 (Twin rotary type) ×1	
Compressor motor (Starting method)	kW	—		Direct line start	
Refrigerant oil (Amount, type)	ℓ	—		0.9 (M-MA68)	
Refrigerant (Type, amount, pre-charge length)	kg	R410A 3.8kg in outdoor unit (Incl. the amount for the piping of : 30m)			
Heat exchanger		Louver fin & inner grooved tubing		Straight fin & inner grooved tubing	
Refrigerant control		Electronic expansion valve			
Fan type & Q'ty		Centrifugal fan ×2		Propeller fan ×1	
Fan motor (Starting method)	W	30 < Direct line start >		86 < Direct line start >	
Air flow	Cooling	m³/min	P-Hi : 13 Hi : 10 Me : 9 Lo : 7		
	Heating		75		
Available external static pressure	Pa	0		—	
Outside air intake		Not possible		—	
Air filter, Quality / Quantity		Pocket plastic net ×2(Washable)		—	
Shock & vibration absorber		Rubber sleeve (for fan motor)		Rubber sleeve (for compressor)	
Electric heater	W	—		20 (Crank case heater)	
Operation control	Remote control	(Option) Wired : RC-EX3, RC-E5, RCH-E3 Wireless : RCN-E-E3			
	Room temperature control	Thermostat by electronics			
	Operation display	—			
Safety equipments		Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection			
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 6.35 (1/4") ② φ 9.52 (3/8") x0.8 ① φ 9.52 (3/8") x0.8 O/U φ 9.52 (3/8") Gas line: I/U φ 12.7 (1/2") ② φ 12.7 (1/2") x0.8 ① φ 15.88 (5/8") x1.0 O/U φ 15.88 (5/8")		
	Connecting method		Flare piping		
	Attached length of piping	m	—		
	Insulation for piping		Necessary (both Liquid & Gas lines)		
	Refrigerant line (one way) length	m	Max.50m		
	Vertical height diff. between O/U and I/U	m	Max.50m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)		
Drain hose		Hose connectable with VP20 (O.D.26)		Hole size φ 20 × 3 pcs	
Drain pump, max lift height	mm	—		—	
Recommended breaker size	A	—		—	
L.R.A. (Locked rotor ampere)	A	—		5.0	
Interconnecting wires	Size × Core number	φ 1.6mm × 3 cores + earth cable / Terminal block (Screw fixing type)			
IP number		IPX0		IP24	
Standard accessories		Mounting kit, Drain hose		—	
Option parts		Motion sensor : LB-E			

Notes (1) The data are measured at the following conditions. The pipe length is 7.5m.

Operation	Item	Indoor air temperature		Outdoor air temperature		Standards
		DB	WB	DB	WB	
Cooling		27°C	19°C	35°C	24°C	ISO5151-T1
		20°C	—	7°C	6°C	

- (2) This air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.
- (4) Select the breaker size according to the own national standard.
- (5) The operation data indicate when the air-conditioner is operated at 230V50Hz or 220V60Hz.
- (6) Indoor unit specifications for one unit. Capacity and operation data is two indoor units are combined and run together.
- (7) Branching pipe set "DIS-WA1G"×1(Option). ①: Pipe of O/U-Branch, ②: Pipe of Branch-I/U


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Item		Model	FDE100VSAPVG		
			Indoor unit FDE50VG (2 units)	Outdoor unit FDC100VSA	
Power source			3 Phase, 380-415V, 50Hz / 380V, 60Hz		
Operation data	Nominal cooling capacity (range)	kW	10.0 [4.0(Min.)-11.2(Max.)]		
	Nominal heating capacity (range)	kW	11.2 [4.0(Min.)-12.5(Max.)]		
	Power consumption	Cooling	kW	3.12	
		Heating		2.99	
	Max power consumption		10.20		
	Running current	Cooling	A	4.6 / 4.8	
		Heating		4.4 / 4.6	
	Inrush current, max current		5, 15		
	Power factor	Cooling	%	98 / 99	
		Heating		98 / 99	
	EER	Cooling		3.21	
	COP	Heating		3.75	
	Sound power level	Cooling	dB(A)	60	70
Heating					
Sound pressure level	Cooling	P-Hi : 46 Hi : 38 Me : 36 Lo : 31	54		
	Heating		56		
Silent mode sound pressure level			50 / 44 (Normal / Silent)		
Exterior dimensions (Height × Width × Depth)	mm	210 × 1,070 × 690		845 × 970 × 370	
Exterior appearance (Munsell color)		Plaster white (6.8Y8.9/0.2) near equivalent		Stucco white (4.2Y7.5/1.1) near equivalent	
Net weight	kg	28		82	
Compressor type & Q'ty		-		RMT5126MCE4 (Twin rotary type)×1	
Compressor motor (Starting method)	kW	-		Direct line start	
Refrigerant oil (Amount, type)	ℓ	-		0.9 (M-MA68)	
Refrigerant (Type, amount, pre-charge length)	kg	R410A 3.8kg in outdoor unit (Incl. the amount for the piping of : 30m)			
Heat exchanger		Louver fin & inner grooved tubing		Straight fin & inner grooved tubing	
Refrigerant control		Electronic expansion valve			
Fan type & Q'ty		Centrifugal fan ×2		Propeller fan ×1	
Fan motor (Starting method)	W	30 < Direct line start >		86 < Direct line start >	
Air flow	Cooling	m³/min	P-Hi : 13 Hi : 10 Me : 9 Lo : 7		
	Heating		75		
Available external static pressure	Pa	0		-	
Outside air intake		Not possible		-	
Air filter, Quality / Quantity		Pocket plastic net ×2 (Washable)		-	
Shock & vibration absorber		Rubber sleeve (for fan motor)		Rubber sleeve (for compressor)	
Electric heater	W	-		20 (Crank case heater)	
Operation control	Remote control	(Option) Wired : RC-EX3,RC-E5,RCH-E3 Wireless : RCN-E-E3			
	Room temperature control	Thermostat by electronics			
	Operation display	-			
Safety equipments		Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection			
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 6.35 (1/4") ② φ 9.52 (3/8") x0.8 ① φ 9.52 (3/8") x0.8 O/U φ 9.52 (3/8") Gas line: I/U φ 12.7 (1/2") ② φ 12.7 (1/2") x0.8 ① φ 15.88 (5/8") x1.0 O/U φ 15.88 (5/8")		
	Connecting method		Flare piping		
	Attached length of piping	m	-		
	Insulation for piping		Necessary (both Liquid & Gas lines)		
	Refrigerant line (one way) length	m	Max.50m		
	Vertical height diff. between O/U and I/U	m	Max.50m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)		
Drain hose		Hose connectable with VP20 (O.D.26)		Hole size φ 20 × 3 pcs	
Drain pump, max lift height	mm	-		-	
Recommended breaker size	A	-		-	
L.R.A. (Locked rotor ampere)	A	5.0			
Interconnecting wires	Size × Core number	φ 1.6mm × 3 cores + earth cable / Terminal block (Screw fixing type)			
IP number		IPX0		IP24	
Standard accessories		Mounting kit, Drain hose		-	
Option parts		Motion sensor : LB-E			

Notes (1) The data are measured at the following conditions. The pipe length is 7.5m.

Item	Indoor air temperature		Outdoor air temperature		Standards
	DB	WB	DB	WB	
Operation	27°C	19°C	35°C	24°C	ISO5151-T1
Cooling	27°C	19°C	35°C	24°C	
Heating	20°C	-	7°C	6°C	

- (2) This air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.
- (4) Select the breaker size according to the own national standard.
- (5) The operation data indicate when the air-conditioner is operated at 400V50Hz or 380V60Hz.
- (6) Indoor unit specifications for one unit. Capacity and operation data is two indoor units are combined and run together.
- (7) Branching pipe set "DIS-WA1G"×1(Option). ①: Pipe of O/U-Branch, ②: Pipe of Branch-I/U


PFA004Z080 

Item		Model	FDE125VNAPVG		
			Indoor unit FDE60VG (2 units)	Outdoor unit FDC125VNA	
Power source			1 Phase, 220-240V, 50Hz / 220V, 60Hz		
Operation data	Nominal cooling capacity (range)	kW	12.5 [5.0(Min.)-14.0(Max.)]		
	Nominal heating capacity (range)	kW	14.0 [4.0(Min.)-16.0(Max.)]		
	Power consumption	Cooling	kW	4.16	
		Heating		3.54	
	Max power consumption		6.40		
	Running current	Cooling	A	18.3 / 19.1	
		Heating		15.6 / 16.3	
	Inrush current, max current		5, 24		
	Power factor	Cooling	%	99	
		Heating		99	
	EER	Cooling		3.00	
	COP	Heating		3.95	
	Sound power level	Cooling	dB(A)	60	
Heating		71			
Sound pressure level	Cooling	dB(A)	P-Hi : 47 Hi : 41 Me : 37 Lo : 32		
	Heating		55 57		
Silent mode sound pressure level			— / 51 / 45 (Normal / Silent)		
Exterior dimensions (Height × Width × Depth)	mm		210 × 1,320 × 690 / 845 × 970 × 370		
Exterior appearance (Munsell color)			Plaster white (6.8Y8.9/0.2) near equivalent / Stucco white (4.2Y7.5/1.1) near equivalent		
Net weight	kg		33 / 80		
Compressor type & Q'ty			— / RMT5126MCE3 (Twin rotary type)×1		
Compressor motor (Starting method)	kW		— / Direct line start		
Refrigerant oil (Amount, type)	ℓ		— / 0.9 (M-MA68)		
Refrigerant (Type, amount, pre-charge length)	kg		R410A 3.8kg in outdoor unit (Incl. the amount for the piping of : 30m)		
Heat exchanger			Louver fin & inner grooved tubing / Straight fin & inner grooved tubing		
Refrigerant control			Electronic expansion valve		
Fan type & Q'ty			Centrifugal fan ×4 / Propeller fan ×1		
Fan motor (Starting method)	W		50 < Direct line start > / 86 < Direct line start >		
Air flow	Cooling	m³/min	P-Hi : 20 Hi : 16 Me : 13 Lo : 10		
	Heating		75 73		
Available external static pressure	Pa		0 / —		
Outside air intake			Not possible / —		
Air filter, Quality / Quantity			Pocket plastic net ×2 (Washable) / —		
Shock & vibration absorber			Rubber sleeve (for fan motor) / Rubber sleeve (for compressor)		
Electric heater	W		— / 20 (Crank case heater)		
Operation control	Remote control		(Option) Wired : RC-EX3, RC-E5, RCH-E3 / Wireless : RCN-E-E3		
	Room temperature control		Thermostat by electronics		
	Operation display		—		
Safety equipments			Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection		
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 6.35 (1/4") ② φ 9.52 (3/8") x0.8 ① φ 9.52 (3/8") x0.8 O/U φ 9.52 (3/8") Gas line: I/U φ 12.7 (1/2") ② φ 12.7 (1/2") x0.8 ① φ 15.88 (5/8") x1.0 O/U φ 15.88 (5/8")		
	Connecting method		Flare piping / Flare piping		
	Attached length of piping	m	— / —		
	Insulation for piping		Necessary (both Liquid & Gas lines)		
	Refrigerant line (one way) length	m	Max.50m		
	Vertical height diff. between O/U and I/U	m	Max.50m (Outdoor unit is higher) / Max.15m (Outdoor unit is lower)		
Drain hose			Hose connectable with VP20 (O.D.26) / Hole size φ 20 × 3 pcs		
Drain pump, max lift height	mm		— / —		
Recommended breaker size	A		—		
L.R.A. (Locked rotor ampere)	A		5.0		
Interconnecting wires	Size × Core number		φ 1.6mm × 3 cores + earth cable / Terminal block (Screw fixing type)		
IP number			IPX0 / IP24		
Standard accessories			Mounting kit, Drain hose / —		
Option parts			Motion sensor : LB-E		

Notes (1) The data are measured at the following conditions. The pipe length is 7.5m.

Item	Indoor air temperature		Outdoor air temperature		Standards
	DB	WB	DB	WB	
Cooling	27°C	19°C	35°C	24°C	ISO5151-T1
Heating	20°C	—	7°C	6°C	

- (2) This air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.
- (4) Select the breaker size according to the own national standard.
- (5) The operation data indicate when the air-conditioner is operated at 230V50Hz or 220V60Hz.
- (6) Indoor unit specifications for one unit. Capacity and operation data is two indoor units are combined and run together.
- (7) Branching pipe set "DIS-WA1G"×1(Option). ①: Pipe of O/U-Branch, ②: Pipe of Branch-I/U


PFA004Z080 

Item		Model	FDE125VSAPVG		
			Indoor unit FDE60VG (2 units)	Outdoor unit FDC125VSA	
Power source			3 Phase, 380-415V, 50Hz / 380V, 60Hz		
Operation data	Nominal cooling capacity (range)	kW	12.5 [5.0(Min.)-14.0(Max.)]		
	Nominal heating capacity (range)	kW	14.0 [4.0(Min.)-16.0(Max.)]		
	Power consumption	Cooling	kW	4.16	
		Heating		3.54	
	Max power consumption		10.20		
	Running current	Cooling	A	6.1 / 6.4	
		Heating		5.2 / 5.5	
	Inrush current, max current		5, 15		
	Power factor	Cooling	%	98 / 99	
		Heating		98	
	EER	Cooling		3.00	
	COP	Heating		3.95	
	Sound power level	Cooling	dB(A)	60	
Heating		71			
Sound pressure level	Cooling	dB(A)	P-Hi : 47 Hi : 41 Me : 37 Lo : 32		
	Heating		55		
Silent mode sound pressure level			57		
Exterior dimensions (Height × Width × Depth)	mm		210 × 1,320 × 690		
Exterior appearance (Munsell color)			Plaster white (6.8Y8.9/0.2) near equivalent		
Net weight	kg		845 × 970 × 370		
Compressor type & Q'ty			Stucco white (4.2Y7.5/1.1) near equivalent		
Compressor motor (Starting method)	kW		33		
Refrigerant oil (Amount, type)	ℓ		82		
Refrigerant (Type, amount, pre-charge length)	kg		RMT5126MCE4 (Twin rotary type)×1		
Heat exchanger			Direct line start		
Refrigerant control			0.9 (M-MA68)		
Fan type & Q'ty			R410A 3.8kg in outdoor unit (Incl. the amount for the piping of : 30m)		
Fan motor (Starting method)	W		Louver fin & inner grooved tubing		
Air flow	Cooling Heating	m ³ /min	Straight fin & inner grooved tubing		
Available external static pressure	Pa		Electronic expansion valve		
Outside air intake			Centrifugal fan ×4		
Air filter, Quality / Quantity			Propeller fan ×1		
Shock & vibration absorber			50 < Direct line start >		
Electric heater	W		86 < Direct line start >		
Operation control	Remote control		75		
	Room temperature control		73		
	Operation display		-		
Safety equipments			-		
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 6.35 (1/4") ② φ 9.52 (3/8") x0.8 ① φ 9.52 (3/8") x0.8 O/U φ 9.52 (3/8")		
	Connecting method		Gas line: I/U φ 12.7 (1/2") ② φ 12.7 (1/2") x0.8 ① φ 15.88 (5/8") x1.0 O/U φ 15.88 (5/8")		
	Attached length of piping	m	Flare piping		
	Insulation for piping		Flare piping		
	Refrigerant line (one way) length	m	Necessary (both Liquid & Gas lines)		
	Vertical height diff. between O/U and I/U	m	Max.50m		
Drain hose			Max.50m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)		
Drain pump, max lift height	mm		Hose connectable with VP20 (O.D.26) Hole size φ 20 × 3 pcs		
Recommended breaker size	A		-		
L.R.A. (Locked rotor ampere)	A		5.0		
Interconnecting wires	Size × Core number		φ 1.6mm × 3 cores + earth cable / Terminal block (Screw fixing type)		
IP number			IPX0 IP24		
Standard accessories			Mounting kit, Drain hose		
Option parts			Motion sensor : LB-E		

Notes (1) The data are measured at the following conditions. The pipe length is 7.5m.

Operation	Indoor air temperature		Outdoor air temperature		Standards
	DB	WB	DB	WB	
Cooling	27°C	19°C	35°C	24°C	ISO5151-T1
Heating	20°C	-	7°C	6°C	

- (2) This air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.
- (4) Select the breaker size according to the own national standard.
- (5) The operation data indicate when the air-conditioner is operated at 400V50Hz or 380V60Hz.
- (6) Indoor unit specifications for one unit. Capacity and operation data is two indoor units are combined and run together.
- (7) Branching pipe set "DIS-WA1G"×1(Option). ①: Pipe of O/U-Branch, ②: Pipe of Branch-I/U


PFA004Z080 

Item		Model	FDE140VNAPVG		
			Indoor unit FDE71VG (2 units)	Outdoor unit FDC140VNA	
Power source			1 Phase, 220-240V, 50Hz / 220V, 60Hz		
Operation data	Nominal cooling capacity (range)	kW	13.6 [5.0(Min.)-14.5(Max.)]		
	Nominal heating capacity (range)	kW	15.5 [4.0(Min.)-16.5(Max.)]		
	Power consumption	Cooling	kW	4.74	
		Heating		4.21	
	Max power consumption		6.40		
	Running current	Cooling	A	20.8 / 21.8	
		Heating		18.5 / 19.3	
	Inrush current, max current		5, 24		
	Power factor	Cooling	%	99	
		Heating		99	
	EER	Cooling		2.87	
	COP	Heating		3.68	
	Sound power level	Cooling	dB(A)	60	
		Heating		73	
Sound pressure level	Cooling	dB(A)	P-Hi : 47 Hi : 41 Me : 37 Lo : 32		
	Heating		57 59		
Silent mode sound pressure level			—		
Exterior dimensions (Height × Width × Depth)	mm		210 × 1,320 × 690 845 × 970 × 370		
Exterior appearance (Munsell color)			Plaster white (6.8Y8.9/0.2) near equivalent Stucco white (4.2Y7.5/1.1) near equivalent		
Net weight	kg		33 80		
Compressor type & Q'ty			— RMT5126MCE3 (Twin rotary type)×1		
Compressor motor (Starting method)	kW		— Direct line start		
Refrigerant oil (Amount, type)	ℓ		— 0.9 (M-MA68)		
Refrigerant (Type, amount, pre-charge length)	kg		R410A 3.8kg in outdoor unit (Incl. the amount for the piping of : 30m)		
Heat exchanger			Louver fin & inner grooved tubing Straight fin & inner grooved tubing		
Refrigerant control			Electronic expansion valve		
Fan type & Q'ty			Centrifugal fan ×4 Propeller fan ×1		
Fan motor (Starting method)	W		50 < Direct line start > 86 < Direct line start >		
Air flow	Cooling	m³/min	P-Hi : 20 Hi : 16 Me : 13 Lo : 10		
	Heating		75 73		
Available external static pressure	Pa		0 —		
Outside air intake			Not possible —		
Air filter, Quality / Quantity			Pocket plastic net ×2 (Washable) —		
Shock & vibration absorber			Rubber sleeve (for fan motor) Rubber sleeve (for compressor)		
Electric heater	W		— 20 (Crank case heater)		
Operation control	Remote control		(Option) Wired : RC-EX3, RC-E5, RCH-E3 Wireless : RCN-E-E3		
	Room temperature control		Thermostat by electronics		
	Operation display		—		
Safety equipments			Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection		
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 9.52 (3/8") ② φ 9.52 (3/8") x0.8 ① φ 9.52 (3/8") x0.8 O/U φ 9.52 (3/8") Gas line: I/U φ 15.88 (5/8") ② φ 15.88 (5/8") x1.0 ① φ 15.88 (5/8")x1.0 O/U φ 15.88 (5/8")		
	Connecting method		Flare piping Flare piping		
	Attached length of piping	m	— —		
	Insulation for piping		Necessary (both Liquid & Gas lines)		
	Refrigerant line (one way) length	m	Max.50m Max.50m		
	Vertical height diff. between O/U and I/U	m	Max.50m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)		
Drain hose			Hose connectable with VP20 (O.D.26) Hole size φ 20 × 3 pcs		
Drain pump, max lift height	mm		— —		
Recommended breaker size	A		—		
L.R.A. (Locked rotor ampere)	A		5.0		
Interconnecting wires	Size × Core number		φ 1.6mm × 3 cores + earth cable / Terminal block (Screw fixing type)		
IP number			IPX0 IP24		
Standard accessories			Mounting kit, Drain hose —		
Option parts			Motion sensor : LB-E		

Notes (1) The data are measured at the following conditions. The pipe length is 7.5m.

Item	Indoor air temperature		Outdoor air temperature		Standards
	DB	WB	DB	WB	
Cooling	27°C	19°C	35°C	24°C	ISO5151-T1
Heating	20°C	—	7°C	6°C	

- (2) This air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.
- (4) Select the breaker size according to the own national standard.
- (5) The operation data indicate when the air-conditioner is operated at 230V50Hz or 220V60Hz.
- (6) Indoor unit specifications for one unit. Capacity and operation data is two indoor units are combined and run together.
- (7) Branching pipe set "DIS-WA1G"×1(Option). ①: Pipe of O/U-Branch, ②: Pipe of Branch-I/U


PFA004Z080 

Item		Model	FDE140VSAPVG		
			Indoor unit FDE71VG (2 units)	Outdoor unit FDC140VSA	
Power source		3 Phase, 380-415V, 50Hz / 380V, 60Hz			
Operation data	Nominal cooling capacity (range)	kW	13.6 [5.0(Min.)-14.5(Max.)]		
	Nominal heating capacity (range)	kW	15.5 [4.0(Min.)-16.5(Max.)]		
	Power consumption	Cooling	kW	4.74	
		Heating		4.21	
	Max power consumption		10.20		
	Running current	Cooling	A	6.9 / 7.3	
		Heating		6.2 / 6.5	
	Inrush current, max current		5, 15		
	Power factor	Cooling	%	99	
		Heating		98	
	EER	Cooling		2.87	
	COP	Heating		3.68	
	Sound power level	Cooling	dB(A)	60	73
Heating					
Sound pressure level	Cooling	P-Hi : 47 Hi : 41 Me : 37 Lo : 32	57		
	Heating		59		
Silent mode sound pressure level			53 / 47 (Normal / Silent)		
Exterior dimensions (Height × Width × Depth)	mm	210 × 1,320 × 690		845 × 970 × 370	
Exterior appearance (Munsell color)		Plaster white (6.8Y8.9/0.2) near equivalent		Stucco white (4.2Y7.5/1.1) near equivalent	
Net weight	kg	33		82	
Compressor type & Q'ty		—		RMT5126MCE4 (Twin rotary type)×1	
Compressor motor (Starting method)	kW	—		Direct line start	
Refrigerant oil (Amount, type)	ℓ	—		0.9 (M-MA68)	
Refrigerant (Type, amount, pre-charge length)	kg	R410A 3.8kg in outdoor unit (Incl. the amount for the piping of : 30m)			
Heat exchanger		Louver fin & inner grooved tubing		Straight fin & inner grooved tubing	
Refrigerant control		Electronic expansion valve			
Fan type & Q'ty		Centrifugal fan ×4		Propeller fan ×1	
Fan motor (Starting method)	W	50 < Direct line start >		86 < Direct line start >	
Air flow	Cooling	m³/min	P-Hi : 20 Hi : 16 Me : 13 Lo : 10		
	Heating		75		
Available external static pressure	Pa	0		—	
Outside air intake		Not possible		—	
Air filter, Quality / Quantity		Pocket plastic net ×2 (Washable)		—	
Shock & vibration absorber		Rubber sleeve (for fan motor)		Rubber sleeve (for compressor)	
Electric heater	W	—		20 (Crank case heater)	
Operation control	Remote control	(Option) Wired : RC-EX3, RC-E5, RCH-E3 Wireless : RCN-E-E3			
	Room temperature control	Thermostat by electronics			
	Operation display	—			
Safety equipments		Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection			
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 9.52 (3/8") ② φ 9.52 (3/8") x0.8 ① φ 9.52 (3/8") x0.8 O/U φ 9.52 (3/8")		
			Gas line: I/U φ 15.88 (5/8") ② φ 15.88 (5/8") x1.0 ① φ 15.88 (5/8") x1.0 O/U φ 15.88 (5/8")		
	Connecting method		Flare piping		Flare piping
	Attached length of piping	m	—		—
	Insulation for piping		Necessary (both Liquid & Gas lines)		
	Refrigerant line (one way) length	m	Max.50m		
Vertical height diff. between O/U and I/U	m	Max.50m (Outdoor unit is higher)		Max.15m (Outdoor unit is lower)	
Drain hose		Hose connectable with VP20 (O.D.26)		Hole size φ 20 × 3 pcs	
Drain pump, max lift height	mm	—		—	
Recommended breaker size	A	—			
L.R.A. (Locked rotor ampere)	A	5.0			
Interconnecting wires	Size × Core number	φ 1.6mm × 3 cores + earth cable / Terminal block (Screw fixing type)			
IP number		IPX0		IP24	
Standard accessories		Mounting kit, Drain hose		—	
Option parts		Motion sensor : LB-E			

Notes (1) The data are measured at the following conditions. The pipe length is 7.5m.

Operation	Indoor air temperature		Outdoor air temperature		Standards
	DB	WB	DB	WB	
Cooling	27°C	19°C	35°C	24°C	ISO5151-T1
Heating	20°C	—	7°C	6°C	


- (2) This air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.
- (4) Select the breaker size according to the own national standard.
- (5) The operation data indicate when the air-conditioner is operated at 400V50Hz or 380V60Hz.
- (6) Indoor unit specifications for one unit. Capacity and operation data is two indoor units are combined and run together.
- (7) Branching pipe set "DIS-WA1G"×1(Option). ①: Pipe of O/U-Branch, ②: Pipe of Branch-I/U

PFA004Z080 

Item		Model	FDE200VSAPVG			
			Indoor unit FDE100VG (2 units)	Outdoor unit FDC200VSA		
Power source			3 Phase 380-415V 50Hz / 380V 60Hz			
Operation data	Nominal cooling capacity (range)	kW	19.0 [5.2(Min.)-22.4(Max.)]			
	Nominal heating capacity (range)	kW	22.4 [3.3(Min.)-25.0(Max.)]			
	Power consumption	Cooling	kW	6.34		
		Heating		6.10		
	Max power consumption		12.0			
	Running current	Cooling	A	9.7 / 10.2		
		Heating		9.4 / 9.9		
	Inrush current, max current		5 , 20			
	Power factor	Cooling	%	94		
		Heating		94		
	EER	Cooling		3.00		
	COP	Heating		3.67		
	Sound power level	Cooling	dB(A)	64	72	
Heating				74		
Sound pressure level	Cooling	dB(A)	P-Hi : 48 Hi : 43 Me : 38 Lo : 34	58		
	Heating			59		
Silent mode sound pressure level			—	52		
Exterior dimensions (Height x Width x Depth)		mm	250 × 1,620 × 690	1,300×970×370		
Exterior appearance (Munsell color)			Plaster white (6.8Y8.9/0.2) near equivalent	Stucco white (4.2Y7.5/1.1) near equivalent		
Net weight		kg	43	115		
Compressor type & Q'ty			—	RMT5134MDE3 (Twin rotary type)×1		
Compressor motor (Starting method)		kW	—	Direct line start		
Refrigerant oil (Amount, type)		ℓ	—	0.9(compressor) + 0.6(unit) (M-MA68)		
Refrigerant (Type, amount, pre-charge length)		kg	R410A 5.6kg in outdoor unit (Incl. the amount for the piping of : 30m)			
Heat exchanger			Louver fin & inner grooved tubing	M shape fin & inner grooved tubing		
Refrigerant control			Electronic expansion valve			
Fan type & Q'ty			Centrifugal fan ×4	Propeller fan ×2		
Fan motor (Starting method)		W	80 < Direct line start >	86 × 2 < Direct line start >		
Air flow	Cooling	m³/min	P-Hi : 32 Hi : 26 Me : 21 Lo : 16.5			
	Heating		135			
Available external static pressure		Pa	0	—		
Outside air intake			Not possible			
Air filter, Quality / Quantity			Pocket plastic net ×2(Washable)			
Shock & vibration absorber			Rubber sleeve(for fan motor)			
Electric heater		W	—	20(Crank case heater)		
Operation control	Remote control		(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-E-E3			
	Room temperature control		Thermostat by electronics			
	Operation display		—			
Safety equipments			Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection			
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 9.52 (3/8") ② φ 9.52(3/8")×0.8 ① φ 9.52(3/8")×0.8 or φ 12.7(1/2")×0.8 O/U φ 9.52 (3/8")			
			Gas line: I/U φ 15.88 (5/8") ② φ 15.88(5/8")×1.0 ① φ 22.22(7/8")×1.0 or φ 25.4(1")×1.0 or φ 28.58(1 1/8")×1.0 O/U φ 22.22 (7/8")			
	Connecting method		Flare piping	Liquid : Flare / Gas : Brazing		
	Attached length of piping	m	—	—		
	Insulation for piping		Necessary (both Liquid & Gas lines)			
	Refrigerant line (one way) length	m	Max.70m(Liquid piping: φ 12.7, Gas piping: φ 25.4 or φ 28.58), Max.40m(Liquid piping: φ 9.52, Max.35m(Gas piping: φ 22.22)			
Vertical height diff. between O/U and I/U	m	Max.30m (Outdoor unit is higher)	Max.15m (Outdoor unit is lower)			
Drain hose		Hose connectable with VP20(O.D.26)	Hole size φ 20 × 3 pcs			
Drain pump, max lift height		mm	—	—		
Recommended breaker size		A	—			
L.R.A. (Locked rotor ampere)		A	5.0			
Interconnecting wires	Size x Core number		φ 1.6mm×3 cores + earth cable / Terminal block (Screw fixing type)			
IP number			IPX0	IP24		
Standard accessories			Mounting kit, Drain hose	Connecting pipe, Edging		
Option parts			Motion sensor : LB-E			
Notes (1) The data are measured at the following conditions. The pipe length is 7.5m.						
Operation	Item	Indoor air temperature		Outdoor air temperature		Standards
		DB	WB	DB	WB	
	Cooling	27°C	19°C	35°C	24°C	
Heating	20°C	—	7°C	6°C		
(2) This air-conditioner is manufactured and tested in conformity with the ISO.						
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.						
(4) Select the breaker size according to the own national standard.						
(5) The operation data indicate when the air-conditioner is operated at 400V 50Hz or 380V 60Hz.						
(6) Indoor unit specifications for one unit. Capacity and operation data are two indoor units combined and run together.						
(7) Branching pipe set "DIS-WA1G"×1(option). ① : Pipe of O/U-Branch ② : Pipe of Branch-I/U						
(8) Use 1/2H pipes having a 1.0mm or thicker wall for φ 19.05 or larger pipes.						

(c) Triple type

Item		Model	FDE140VNATVG			
			Indoor unit FDE50VG (3 units)	Outdoor unit FDC140VNA		
Power source			1 Phase, 220-240V, 50Hz / 220V, 60Hz			
Operation data	Nominal cooling capacity (range)	kW	13.6 [5.0(Min.)-14.5(Max.)]			
	Nominal heating capacity (range)	kW	15.5 [4.0(Min.)-16.5(Max.)]			
	Power consumption	Cooling	kW	4.74		
		Heating		4.21		
	Max power consumption		6.40			
	Running current	Cooling	A	20.8 / 21.8		
		Heating		18.5 / 19.3		
	Inrush current, max current		5, 24			
	Power factor	Cooling	%	99		
		Heating		99		
	EER	Cooling		2.87		
	COP	Heating		3.68		
	Sound power level	Cooling	dB(A)	60	73	
Heating						
Sound pressure level	Cooling	dB(A)	P-Hi : 46 Hi : 38 Me : 36 Lo : 31	57		
	Heating			59		
Silent mode sound pressure level			—			
Exterior dimensions (Height × Width × Depth)	mm	210 × 1,070 × 690		845 × 970 × 370		
Exterior appearance (Munsell color)		Plaster white (6.8Y8.9/0.2) near equivalent		Stucco white (4.2Y7.5/1.1) near equivalent		
Net weight	kg	28		80		
Compressor type & Q'ty		—		RMT5126MCE3 (Twin rotary type)×1		
Compressor motor (Starting method)	kW	—		Direct line start		
Refrigerant oil (Amount, type)	ℓ	—		0.9 (M-MA68)		
Refrigerant (Type, amount, pre-charge length)	kg	R410A 3.8kg in outdoor unit (Incl. the amount for the piping of : 30m)				
Heat exchanger		Louver fin & inner grooved tubing		Straight fin & inner grooved tubing		
Refrigerant control		Electronic expansion valve				
Fan type & Q'ty		Centrifugal fan ×2		Propeller fan ×1		
Fan motor (Starting method)	W	30 < Direct line start >		86 < Direct line start >		
Air flow	Cooling	m³/min	P-Hi : 13 Hi : 10 Me : 9 Lo : 7			
	Heating		75			
Available external static pressure	Pa	0		—		
Outside air intake		Not possible				
Air filter, Quality / Quantity		Pocket plastic net ×2 (Washable)				
Shock & vibration absorber		Rubber sleeve (for fan motor)		Rubber sleeve (for compressor)		
Electric heater	W	—		20 (Crank case heater)		
Operation control	Remote control	(Option) Wired : RC-EX3, RC-E5, RCH-E3 Wireless : RCN-E-E3				
	Room temperature control	Thermostat by electronics				
	Operation display	—				
Safety equipments		Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection				
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 6.35 (1/4") ② φ 9.52(3/8")×0.8 ① φ 9.52(3/8")×0.8 O/U φ 9.52 (3/8") Gas line: I/U φ 12.7 (1/2") ② φ 12.7(1/2")×0.8 ① φ 15.88(5/8")×1.0 O/U φ 15.88 (5/8")			
	Connecting method		Flare piping	Flare piping		
	Attached length of piping	m	—			
	Insulation for piping		Necessary (both Liquid & Gas lines)			
	Refrigerant line (one way) length	m	Max.50m			
	Vertical height diff. between O/U and I/U	m	Max.50m (Outdoor unit is higher)		Max.15m (Outdoor unit is lower)	
Drain hose		Hose connectable with VP20 (O.D.26)		Hole size φ 20 × 3 pcs		
Drain pump, max lift height	mm	—		—		
Recommended breaker size	A	—				
L.R.A. (Locked rotor ampere)	A	5.0				
Interconnecting wires	Size × Core number	φ 1.6mm × 3 cores + earth cable / Terminal block (Screw fixing type)				
IP number		IPX0		IP24		
Standard accessories		Mounting kit, Drain hose		—		
Option parts		Motion sensor : LB-E				
Notes (1) The data are measured at the following conditions. The pipe length is 7.5m.						
	Item	Indoor air temperature		Outdoor air temperature		Standards
Operation		DB	WB	DB	WB	
	Cooling	27°C	19°C	35°C	24°C	
Heating	20°C	—	7°C	6°C	ISO5151-T1	
<p>(2) This air-conditioner is manufactured and tested in conformity with the ISO.</p> <p>(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.</p> <p>(4) Select the breaker size according to the own national standard.</p> <p>(5) The operation data indicate when the air-conditioner is operated at 230V50Hz or 220V60Hz.</p> <p>(6) Indoor unit specifications for one unit. Capacity and operation data is three indoor units are combined and run together.</p> <p>(7) Branching pipe set "DIS-TA1G"×1(Option). ① : Pipe of O/U-Branch, ② : Pipe of Branch-I/U</p>						


PFA004Z080 

Item		Model	FDE140VSATVG		
			Indoor unit FDE50VG (3 units)	Outdoor unit FDC140VSA	
Power source			3 Phase, 380-415V, 50Hz / 380V, 60Hz		
Operation data	Nominal cooling capacity (range)	kW	13.6 [5.0(Min.)-14.5(Max.)]		
	Nominal heating capacity (range)	kW	15.5 [4.0(Min.)-16.5(Max.)]		
	Power consumption	Cooling	kW	4.74	
		Heating		4.21	
	Max power consumption		10.20		
	Running current	Cooling	A	6.9 / 7.3	
		Heating		6.2 / 6.5	
	Inrush current, max current		5, 15		
	Power factor	Cooling	%	99	
		Heating		98	
	EER	Cooling		2.87	
	COP	Heating		3.68	
	Sound power level	Cooling	dB(A)	60	73
Heating		P-Hi : 46 Hi : 38 Me : 36 Lo : 31			
Sound pressure level	Cooling		57		
	Heating		59		
Silent mode sound pressure level			53 / 47 (Normal / Silent)		
Exterior dimensions (Height × Width × Depth)	mm	210 × 1,070 × 690		845 × 970 × 370	
Exterior appearance (Munsell color)		Plaster white (6.8Y8.9/0.2) near equivalent		Stucco white (4.2Y7.5/1.1) near equivalent	
Net weight	kg	28		82	
Compressor type & Q'ty		-		RMT5126MCE4 (Twin rotary type)×1	
Compressor motor (Starting method)	kW	-		Direct line start	
Refrigerant oil (Amount, type)	ℓ	-		0.9 (M-MA68)	
Refrigerant (Type, amount, pre-charge length)	kg	R410A 3.8kg in outdoor unit (Incl. the amount for the piping of : 30m)			
Heat exchanger		Louver fin & inner grooved tubing		Straight fin & inner grooved tubing	
Refrigerant control		Electronic expansion valve			
Fan type & Q'ty		Centrifugal fan ×2		Propeller fan ×1	
Fan motor (Starting method)	W	30 < Direct line start >		86 < Direct line start >	
Air flow	Cooling	m³/min	P-Hi : 13 Hi : 10 Me : 9 Lo : 7		
	Heating		75		
Available external static pressure	Pa	0		-	
Outside air intake		Not possible		-	
Air filter, Quality / Quantity		Pocket plastic net ×2 (Washable)		-	
Shock & vibration absorber		Rubber sleeve (for fan motor)		Rubber sleeve (for compressor)	
Electric heater	W	-		20 (Crank case heater)	
Operation control	Remote control	(Option) Wired : RC-EX3, RC-E5, RCH-E3 Wireless : RCN-E-E3			
	Room temperature control	Thermostat by electronics			
	Operation display	-			
Safety equipments		Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection			
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 6.35 (1/4") ② φ 9.52 (3/8") x0.8 ① φ 9.52 (3/8") x0.8 O/U φ 9.52 (3/8") Gas line: I/U φ 12.7 (1/2") ② φ 12.7 (1/2") x0.8 ① φ 15.88 (5/8") x1.0 O/U φ 15.88 (5/8")		
	Connecting method		Flare piping		
	Attached length of piping	m	-		
	Insulation for piping		Necessary (both Liquid & Gas lines)		
	Refrigerant line (one way) length	m	Max.50m		
	Vertical height diff. between O/U and I/U	m	Max.50m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)		
Drain hose		Hose connectable with VP20 (O.D.26)		Hole size φ 20 × 3 pcs	
Drain pump, max lift height	mm	-		-	
Recommended breaker size	A	-			
L.R.A. (Locked rotor ampere)	A	5.0			
Interconnecting wires	Size × Core number	φ 1.6mm × 3 cores + earth cable / Terminal block (Screw fixing type)			
IP number		IPX0		IP24	
Standard accessories		Mounting kit, Drain hose		-	
Option parts		Motion sensor : LB-E			

Notes (1) The data are measured at the following conditions. The pipe length is 7.5m.

Operation	Item	Indoor air temperature		Outdoor air temperature		Standards
		DB	WB	DB	WB	
Cooling		27°C	19°C	35°C	24°C	ISO5151-T1
		20°C	-	7°C	6°C	
Heating		20°C	-	7°C	6°C	

- (2) This air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.
- (4) Select the breaker size according to the own national standard.
- (5) The operation data indicate when the air-conditioner is operated at 400V50Hz or 380V60Hz.
- (6) Indoor unit specifications for one unit. Capacity and operation data is three indoor units are combined and run together.
- (7) Branching pipe set "DIS-TA1G"×1(Option). ① : Pipe of O/U-Branch, ② : Pipe of Branch-I/U

PFA004Z080 

Item		Model	FDE200VSATVG			
			Indoor unit FDE71VG (3 units)	Outdoor unit FDC200VSA		
Power source			3 Phase 380-415V 50Hz / 380V 60Hz			
Operation data	Nominal cooling capacity (range)	kW	19.0 [5.2(Min.)-22.4(Max.)]			
	Nominal heating capacity (range)	kW	22.4 [3.3(Min.)-25.0(Max.)]			
	Power consumption	Cooling	kW	6.33		
		Heating		5.94		
	Max power consumption		12.0			
	Running current	Cooling	A	9.7 / 10.2		
		Heating		9.1 / 9.6		
	Inrush current, max current		5 , 20			
	Power factor	Cooling	%	94		
		Heating		94		
	EER	Cooling		3.00		
	COP	Heating		3.77		
	Sound power level	Cooling	dB(A)	60	72	
Heating				74		
Sound pressure level	Cooling	dB(A)	P-Hi : 47 Hi : 41 Me : 37 Lo : 32	58		
	Heating			59		
Silent mode sound pressure level			—	52		
Exterior dimensions (Height x Width x Depth)		mm	210 × 1,320 × 690	1,300×970×370		
Exterior appearance (Munsell color)			Plaster white (6.8Y8.9/0.2) near equivalent	Stucco white (4.2Y7.5/1.1) near equivalent		
Net weight		kg	33	115		
Compressor type & Q'ty			—	RMT5134MDE3 (Twin rotary type)×1		
Compressor motor (Starting method)		kW	—	Direct line start		
Refrigerant oil (Amount, type)		ℓ	—	0.9(compressor) + 0.6(unit) (M-MA68)		
Refrigerant (Type, amount, pre-charge length)		kg	R410A 5.6kg in outdoor unit (Incl. the amount for the piping of : 30m)			
Heat exchanger			Louver fin & inner grooved tubing	M shape fin & inner grooved tubing		
Refrigerant control			Electronic expansion valve			
Fan type & Q'ty			Centrifugal fan ×4	Propeller fan ×2		
Fan motor (Starting method)		W	50 < Direct line start >	86 × 2 < Direct line start >		
Air flow	Cooling	m³/min	P-Hi : 20 Hi : 16 Me : 13 Lo : 10			
	Heating		135			
Available external static pressure		Pa	0	—		
Outside air intake			Not possible			
Air filter, Quality / Quantity			Pocket plastic net ×2(Washable)			
Shock & vibration absorber			Rubber sleeve(for fan motor)	Rubber sleeve(for compressor)		
Electric heater		W	—	20(Crank case heater)		
Operation control	Remote control		(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-E-E3			
	Room temperature control		Thermostat by electronics			
	Operation display		—			
Safety equipments			Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection			
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 9.52 (3/8") ② φ 9.52(3/8")×0.8 ① φ 9.52(3/8")×0.8 or φ 12.7(1/2")×0.8 O/U φ 9.52 (3/8")			
			Gas line: I/U φ 15.88 (5/8") ② φ 15.88(5/8")×1.0 ① φ 22.22(7/8")×1.0 or φ 25.4(1")×1.0 or φ 28.58(1 1/8")×1.0 O/U φ 22.22 (7/8")			
	Connecting method		Flare piping	Liquid : Flare / Gas : Brazing		
	Attached length of piping	m	—	—		
	Insulation for piping		Necessary (both Liquid & Gas lines)			
	Refrigerant line (one way) length	m	Max.70m(Liquid piping: φ 12.7, Gas piping: φ 25.4 or φ 28.58), Max.40m(Liquid piping: φ 9.52, Max.35m(Gas piping: φ 22.22)			
Vertical height diff. between O/U and I/U	m	Max.30m (Outdoor unit is higher)	Max.15m (Outdoor unit is lower)			
Drain hose		Hose connectable with VP20(O.D.26)	Hole size φ 20 × 3 pcs			
Drain pump, max lift height	mm	—	—			
Recommended breaker size	A	—				
L.R.A. (Locked rotor ampere)	A	5.0				
Interconnecting wires	Size x Core number	φ 1.6mm×3 cores + earth cable / Terminal block (Screw fixing type)				
IP number		IPX0		IP24		
Standard accessories			Mounting kit, Drain hose	Connecting pipe, Edging		
Option parts			Motion sensor : LB-E			
Notes		(1) The data are measured at the following conditions. The pipe length is 7.5m.				
	Item	Indoor air temperature		Outdoor air temperature		Standards
Operation		DB	WB	DB	WB	
Cooling		27°C	19°C	35°C	24°C	
Heating		20°C	—	7°C	6°C	
(2) This air-conditioner is manufactured and tested in conformity with the ISO.						
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.						
(4) Select the breaker size according to the own national standard.						
(5) The operation data indicate when the air-conditioner is operated at 400V 50Hz or 380V 60Hz.						
(6) Indoor unit specifications for one unit. Capacity and operation data are three indoor units combined and run together.						
(7) Branching pipe set "DIS-TB1G"×1(option). ① : Pipe of O/U-Branch. ② : Pipe of Branch-I/U						
(8) Use 1/2H pipes having a 1.0mm or thicker wall for φ 19.05 or larger pipes.						

(d) Double twin type

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Item		Model	FDE200VSADVG			
			Indoor unit FDE50VG (4 units)	Outdoor unit FDC200VSA		
Power source			3 Phase 380-415V 50Hz / 380V 60Hz			
Operation data	Nominal cooling capacity (range)	kW	19.0 [5.2(Min.)-22.4(Max.)]			
	Nominal heating capacity (range)	kW	22.4 [3.3(Min.)-25.0(Max.)]			
	Power consumption	Cooling	kW	6.90		
		Heating		7.10		
	Max power consumption		12.0			
	Running current	Cooling	A	10.6 / 11.2		
		Heating		10.8 / 11.4		
	Inrush current, max current		5 , 20			
	Power factor	Cooling	%	94		
		Heating		95		
	EER	Cooling		2.75		
	COP	Heating		3.15		
Sound power level	Cooling	dB(A)	60	72		
	Heating			74		
Sound pressure level	Cooling	dB(A)	P-Hi : 46 Hi : 38 Me : 36 Lo : 31	58		
	Heating			59		
Silent mode sound pressure level			—	52		
Exterior dimensions (Height x Width x Depth)		mm	210 × 1,070 × 690	1,300×970×370		
Exterior appearance (Munsell color)			Plaster white (6.8Y8.9/0.2) near equivalent	Stucco white (4.2Y7.5/1.1) near equivalent		
Net weight		kg	28	115		
Compressor type & Q'ty			—	RMT5134MDE3 (Twin rotary type) ×1		
Compressor motor (Starting method)		kW	—	Direct line start		
Refrigerant oil (Amount, type)		ℓ	—	0.9(compressor) + 0.6(unit) (M-MA68)		
Refrigerant (Type, amount, pre-charge length)		kg	R410A 5.6kg in outdoor unit (Incl. the amount for the piping of : 30m)			
Heat exchanger			Louver fin & inner grooved tubing	M shape fin & inner grooved tubing		
Refrigerant control			Electronic expansion valve			
Fan type & Q'ty			Centrifugal fan ×2	Propeller fan ×2		
Fan motor (Starting method)		W	30 < Direct line start >	86 × 2 < Direct line start >		
Air flow	Cooling	m ³ /min	P-Hi : 13 Hi : 10 Me : 9 Lo : 7			
	Heating		135			
Available external static pressure		Pa	0	—		
Outside air intake			Not possible			
Air filter, Quality / Quantity			Pocket plastic net ×2(Washable)			
Shock & vibration absorber			Rubber sleeve(for fan motor)			
Electric heater		W	—	20(Crank case heater)		
Operation control	Remote control		(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-E-E3			
	Room temperature control		Thermostat by electronics			
	Operation display		—			
Safety equipments			Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection			
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 6.35 (1/4") ③② φ 9.52(3/8")×0.8 ① φ 9.52(3/8")×0.8 or φ 12.7(1/2")×0.8 O/U φ 9.52 (3/8")			
			Gas line: I/U φ 12.7 (1/2") ③ φ 12.7×0.8 ③ φ 15.88×1.0 ① φ 22.22(7/8")×1.0 or φ 25.4(1")×1.0 or φ 28.58(1 1/8")×1.0 O/U φ 22.22 (7/8")			
	Connecting method		Flare piping	Liquid : Flare / Gas : Brazing		
	Attached length of piping	m	—	—		
	Insulation for piping		Necessary (both Liquid & Gas lines)			
	Refrigerant line (one way) length	m	Max.70m(Liquid piping: φ 12.7, Gas piping: φ 25.4 or φ 28.58), Max.40m(Liquid piping: φ 9.52, Max.35m(Gas piping: φ 22.22)			
Vertical height diff. between O/U and I/U	m	Max.30m (Outdoor unit is higher)	Max.15m (Outdoor unit is lower)			
Drain hose		Hose connectable with VP20(O.D.26)	Hole size φ 20 × 3 pcs			
Drain pump, max lift height	mm	—	—			
Recommended breaker size	A	—				
L.R.A. (Locked rotor ampere)	A	5.0				
Interconnecting wires	Size x Core number	φ 1.6mm×3 cores + earth cable / Terminal block (Screw fixing type)				
IP number		IPX0		IP24		
Standard accessories		Mounting kit, Drain hose		Connecting pipe, Edging		
Option parts		Motion sensor : LB-E				
Notes		(1) The data are measured at the following conditions. The pipe length is 7.5m.				
	Item	Indoor air temperature		Outdoor air temperature	Standards	
Operation		DB	WB	DB		WB
	Cooling	27°C	19°C	35°C		24°C
	Heating	20°C	—	7°C		6°C
(2) This air-conditioner is manufactured and tested in conformity with the ISO.						
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.						
(4) Select the breaker size according to the own national standard.						
(5) The operation data indicate when the air-conditioner is operated at 400V 50Hz or 380V 60Hz.						
(6) Indoor unit specifications for one unit. Capacity and operation data are four indoor units combined and run together.						
(7) Branching pipe set "DIS-WB1G"×1,"DIS-WA1G"×2 (option). Pipe ① : O/U-Branch, ② : Branch-Branch, ③ : Branch-I/U						
(8) Use 1/2H pipes having a 1.0mm or thicker wall for φ 19.05 or larger pipes.						

Item		Model	FDE250VSADVG			
			Indoor unit FDE60VG (4 units)	Outdoor unit FDC250VSA		
Power source			3 Phase 380-415V 50Hz / 380V 60Hz			
Operation data	Nominal cooling capacity (range)	kW	24.0 [6.9(Min.)-28.0(Max.)]			
	Nominal heating capacity (range)	kW	27.0 [5.5(Min.)-31.5(Max.)]			
	Power consumption	Cooling	kW	8.00		
		Heating		7.02		
	Max power consumption		13.7			
	Running current	Cooling	A	12.2 / 12.8		
		Heating		10.7 / 11.2		
	Inrush current, max current		5 , 21			
	Power factor	Cooling	%	95		
		Heating		95		
	EER	Cooling		3.00		
	COP	Heating		3.85		
Sound power level	Cooling	dB(A)	60	73		
	Heating			75		
Sound pressure level	Cooling	dB(A)	P-Hi : 47 Hi : 41 Me : 37 Lo : 32	59		
	Heating			62		
Silent mode sound pressure level			—	54		
Exterior dimensions (Height x Width x Depth)	mm	210 × 1,320 × 690		1,505×970×370		
Exterior appearance (Munsell color)		Plaster white (6.8Y8.9/0.2) near equivalent		Stucco white (4.2Y7.5/1.1) near equivalent		
Net weight	kg	33		143		
Compressor type & Q'ty		—		GTC5150NC40KF (Scroll type) ×1		
Compressor motor (Starting method)	kW	—		Direct line start		
Refrigerant oil (Amount, type)	ℓ	—		1.45 (M-MA32R)		
Refrigerant (Type, amount, pre-charge length)	kg	R410A 7.2kg in outdoor unit (Incl. the amount for the piping of : 30m)				
Heat exchanger		Louver fin & inner grooved tubing		M shape fin & inner grooved tubing		
Refrigerant control		Electronic expansion valve				
Fan type & Q'ty		Centrifugal fan ×4		Propeller fan ×2		
Fan motor (Starting method)	W	50 < Direct line start >		86 x 2 < Direct line start >		
Air flow	Cooling	m³/min	P-Hi : 20 Hi : 16 Me : 13 Lo : 10			
	Heating		143			
Available external static pressure	Pa	0		—		
Outside air intake		Not possible				
Air filter, Quality / Quantity		Pocket plastic net ×2(Washable)				
Shock & vibration absorber		Rubber sleeve(for fan motor)		Rubber sleeve(for compressor)		
Electric heater	W	—		20(Crank case heater)		
Operation control	Remote control	(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-E-E3				
	Room temperature control	Thermostat by electronics				
	Operation display	—				
Safety equipments		Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection				
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 6.35 (1/4") ③② φ 9.52(3/8")×0.8 ① φ 12.7(1/2")×0.8 O/U φ 12.7 (1/2") Gas line: I/U φ 12.7 (1/2") ③ φ 12.7×0.8 ② φ 15.88×1.0 ① φ 22.22(7/8")×1.0 or φ 25.4(1")×1.0 or φ 28.58(1 1/8")×1.0 O/U φ 22.22 (7/8")			
	Connecting method		Flare piping	Liquid : Flare / Gas : Brazing		
	Attached length of piping	m	—			
	Insulation for piping		Necessary (both Liquid & Gas lines)			
	Refrigerant line (one way) length	m	Max.70m(Gas piping: φ 25.4 or φ 28.58), Max.35m(Gas piping: φ 22.22)			
	Vertical height diff. between O/U and I/U	m	Max.30m (Outdoor unit is higher)		Max.15m (Outdoor unit is lower)	
Drain hose		Hose connectable with VP20(O.D.26)		Hole size φ 20 x 3 pcs		
Drain pump, max lift height	mm	—				
Recommended breaker size	A	—				
L.R.A. (Locked rotor ampere)	A	5.0				
Interconnecting wires	Size x Core number	φ 1.6mm×3 cores + earth cable / Terminal block (Screw fixing type)				
IP number		IPX0		IP24		
Standard accessories		Mounting kit, Drain hose		Connecting pipe, Edging		
Option parts		Motion sensor : LB-E				
Notes	(1) The data are measured at the following conditions. The pipe length is 7.5m.					
	Item	Indoor air temperature		Outdoor air temperature		Standards
	Operation	DB	WB	DB	WB	
	Cooling	27°C	19°C	35°C	24°C	
	Heating	20°C	—	7°C	6°C	
	(2) This air-conditioner is manufactured and tested in conformity with the ISO.					
	(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.					
	(4) Select the breaker size according to the own national standard.					
	(5) The operation data indicate when the air-conditioner is operated at 400V 50Hz or 380V 60Hz.					
	(6) Indoor unit specifications for one unit. Capacity and operation data are four indoor units combined and run together.					
	(7) Branching pipe set "DIS-WB1G"×1,"DIS-WA1G"×2 (option). Pipe ① : O/U-Branch, ② : Branch-Branch, ③ : Branch-I/U					
	(8) Use 1/2H pipes having a 1.0mm or thicker wall for φ 19.05 or larger pipes.					

(2) Duct connected-Low/Middle static pressure type (FDUM)
(a) Single type

Item		Model	FDUM100VNAVF2			
			Indoor unit FDUM100VF2	Outdoor unit FDC100VNA		
Power source			1 Phase, 220-240V, 50Hz / 220V, 60Hz			
Operation data	Nominal cooling capacity (range)	kW	10.0 [4.0(Min.)-11.2(Max.)]			
	Nominal heating capacity (range)	kW	11.2 [4.0(Min.)-12.5(Max.)]			
	Power consumption	Cooling	kW	2.84		
		Heating		2.78		
	Max power consumption		6.40			
	Running current	Cooling	A	13.6 / 14.2		
		Heating		13.3 / 13.9		
	Inrush current, max current		5, 26			
	Power factor	Cooling	%	91		
		Heating		91		
	EER	Cooling		3.52		
	COP	Heating		4.03		
	Sound power level	Cooling	dB(A)	65	70	
Heating						
Sound pressure level	Cooling	dB(A)	P-Hi : 44 Hi : 38 Me : 36 Lo : 30			
	Heating		54 56			
Silent mode sound pressure level			50/44 (Normal/Silent)			
Exterior dimensions (Height × Width × Depth)	mm		280 × 1,370 × 740	845 × 970 × 370		
Exterior appearance (Munsell color)			—	Stucco white (4.2Y7.5/1.1) near equivalent		
Net weight	kg		54	80		
Compressor type & Q'ty			—	RMT5126MCE3 (Twin rotary type)×1		
Compressor motor (Starting method)	kW		—	Direct line start		
Refrigerant oil (Amount, type)	ℓ		—	0.9 (M-MA68)		
Refrigerant (Type, amount, pre-charge length)	kg		R410A 3.8kg in outdoor unit (Incl. the amount for the piping of : 30m)			
Heat exchanger			Louver fin & inner grooved tubing	Straight fin & inner grooved tubing		
Refrigerant control			Electronic expansion valve			
Fan type & Q'ty			Centrifugal fan ×3	Propeller fan ×1		
Fan motor (Stating method)	W		100 + 130 < Direct line start >	86 < Direct line start >		
Air flow	Cooling	m³/min	P-Hi : 36 Hi : 28 Me : 25 Lo : 19			
	Heating		75 73			
Available external static pressure	Pa		Standard : 60 Max : 100	—		
Outside air intake			Possible	—		
Air filter, Quality / Quantity			Procure locally	—		
Shock & vibration absorber			Rubber sleeve (for fan motor)	Rubber sleeve (for compressor)		
Electric heater	W		—	20 (Crank case heater)		
Operation control	Remote control		(Option) Wired : RC-EX3,RC-E5,RCH-E3 Wireless : RCN-KIT4-E2			
	Room temperature control		Thermostat by electronics			
	Operation display		—			
Safety equipments			Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection			
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 9.52 (3/8") Pipe φ 9.52(3/8")×0.8 O/U φ 9.52 (3/8") Gas line: φ 15.88 (5/8") φ 15.88(5/8")×1.0 φ 15.88 (5/8")			
	Connecting method		Flare piping	Flare piping		
	Attached length of piping	m	—	—		
	Insulation for piping		Necessary (both Liquid & Gas lines)			
	Refrigerant line (one way) length	m	Max.50m			
	Vertical height diff. between O/U and I/U	m	Max.50m (Outdoor unit is higher)	Max.15m (Outdoor unit is lower)		
Drain hose		Hose connectable VP25(I.D.25, O.D.32)	Hole size φ 20 × 3 pcs			
Drain pump, max lift height	mm		Built-in drain pump , 600	—		
Recommended breaker size	A		—			
L.R.A. (Locked rotor ampere)	A		5.0			
Interconnecting wires	Size × Core number		φ 1.6mm × 3 cores + earth cable/ Terminal block (Screw fixing type)			
IP number			IPX0	IP24		
Standard accessories			Mounting kit, Drain hose	—		
Option parts			Filter set : UM-FL3EF, Motion sensor : LB-KIT			
Notes (1) The data are measured at the following conditions.			The pipe length is 7.5m.			
Operation	Cooling	Indoor air temperature	Outdoor air temperature	External static pressure of indoor unit	Standards	
		DB	WB			DB
	27°C	19°C	35°C			24°C
Heating	20°C	—	7°C	6°C		
(2) This air-conditioner is manufactured and tested in conformity with the ISO. (3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions. (4) Select the breaker size according to the own national standard. (5) The operation data indicate when the air-conditioner is operated at 230V 50Hz or 220V 60Hz. (6) Static pressure of option air filter "UM-FL3EF" is 5Pa initially. (7) The external static pressure setting can be changed to 10-100Pa. (For RC-EX3 and RC-E5 only)						

Item		Model	FDUM100VSAVF2			
			Indoor unit FDUM100VF2	Outdoor unit FDC100VSA		
Power source			3 Phase, 380-415V, 50Hz / 380V, 60Hz			
Operation data	Nominal cooling capacity (range)	kW	10.0 [4.0(Min.)-11.2(Max.)]			
	Nominal heating capacity (range)	kW	11.2 [4.0(Min.)-12.5(Max.)]			
	Power consumption	Cooling	kW	2.84		
		Heating		2.78		
	Max power consumption		10.20			
	Running current	Cooling	A	4.4 / 4.6		
		Heating		4.3 / 4.5		
	Inrush current, max current		5, 17			
	Power factor	Cooling	%	93 / 94		
		Heating		93 / 94		
	EER	Cooling		3.52		
	COP	Heating		4.03		
	Sound power level	Cooling	dB(A)	65		
Heating		70				
Sound pressure level	Cooling	dB(A)	P-Hi : 44 Hi : 38 Me : 36 Lo : 30			
	Heating		54 56			
Silent mode sound pressure level			50/44 (Normal/Silent)			
Exterior dimensions (Height × Width × Depth)	mm		280 × 1,370 × 740			
Exterior appearance (Munsell color)			Stucco white (4.2Y7.5/1.1) near equivalent			
Net weight	kg		54			
Compressor type & Q'ty			RMT5126MCE4 (Twin rotary type)×1			
Compressor motor (Starting method)	kW		Direct line start			
Refrigerant oil (Amount, type)	ℓ		0.9 (M-MA68)			
Refrigerant (Type, amount, pre-charge length)	kg		R410A 3.8kg in outdoor unit (Incl. the amount for the piping of : 30m)			
Heat exchanger			Louver fin & inner grooved tubing	Straight fin & inner grooved tubing		
Refrigerant control			Electronic expansion valve			
Fan type & Q'ty			Centrifugal fan ×3	Propeller fan ×1		
Fan motor (Starting method)	W		100 + 130 < Direct line start >	86 < Direct line start >		
Air flow	Cooling	m³/min	P-Hi : 36 Hi : 28 Me : 25 Lo : 19			
	Heating		75 73			
Available external static pressure	Pa		Standard : 60 Max : 100			
Outside air intake			Possible			
Air filter, Quality / Quantity			Procure locally			
Shock & vibration absorber			Rubber sleeve (for fan motor)	Rubber sleeve (for compressor)		
Electric heater	W		20 (Crank case heater)			
Operation control	Remote control		(Option) Wired : RC-EX3,RC-E5,RCH-E3 Wireless : RCN-KIT4-E2			
	Room temperature control		Thermostat by electronics			
	Operation display		-			
Safety equipments			Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection			
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 9.52 (3/8") Pipe φ 9.52(3/8")×0.8 O/U φ 9.52 (3/8") Gas line: φ 15.88 (5/8") φ 15.88(5/8")×1.0 φ 15.88 (5/8")			
	Connecting method		Flare piping			
	Attached length of piping	m	-			
	Insulation for piping		Necessary (both Liquid & Gas lines)			
	Refrigerant line (one way) length	m	Max.50m			
	Vertical height diff. between O/U and I/U	m	Max.50m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)			
Drain hose			Hose connectable VP25(I.D.25, O.D.32)	Hole size φ 20 × 3 pcs		
Drain pump, max lift height	mm		Built-in drain pump , 600			
Recommended breaker size	A		-			
L.R.A. (Locked rotor ampere)	A		5.0			
Interconnecting wires	Size × Core number		φ 1.6mm × 3 cores + earth cable/ Terminal block (Screw fixing type)			
IP number			IPX0	IP24		
Standard accessories			Mounting kit, Drain hose			
Option parts			Filter set : UM-FL3EF, Motion sensor : LB-KIT			
Notes (1) The data are measured at the following conditions.			The pipe length is 7.5m.			
	Item	Indoor air temperature	Outdoor air temperature		External static pressure of indoor unit	Standards
Operation		DB	WB	DB		
	Cooling	27°C	19°C	35°C	24°C	60Pa
	Heating	20°C	-	7°C	6°C	
(2) This air-conditioner is manufactured and tested in conformity with the ISO. (3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions. (4) Select the breaker size according to the own national standard. (5) The operation data indicate when the air-conditioner is operated at 400V 50Hz or 380V 60Hz. (6) Static pressure of option air filter "UM-FL3EF" is 5Pa initially. (7) The external static pressure setting can be changed to 10-100Pa. (For RC-EX3 and RC-E5 only)						

Item		Model	FDUM125VNAVF																								
			Indoor unit FDUM125VF	Outdoor unit FDC125VNA																							
Power source			1 Phase, 220-240V, 50Hz / 220V, 60Hz																								
Operation data	Nominal cooling capacity (range)	kW	12.5 [5.0(Min.)-14.0(Max.)]																								
	Nominal heating capacity (range)	kW	14.0 [4.0(Min.)-16.0(Max.)]																								
	Power consumption	Cooling	kW	4.36																							
		Heating		3.69																							
	Max power consumption		6.40																								
	Running current	Cooling	A	20.3 / 21.3																							
		Heating		17.8 / 18.7																							
	Inrush current, max current		5, 26																								
	Power factor	Cooling	%	93																							
		Heating		90																							
	EER	Cooling		2.87																							
	COP	Heating		3.79																							
	Sound power level	Cooling	dB(A)	67																							
Heating		71																									
Sound pressure level	Cooling	dB(A)	P-Hi : 45 Hi : 40 Me : 34 Lo : 29																								
	Heating		55																								
Silent mode sound pressure level			57																								
Exterior dimensions (Height × Width × Depth)	mm		280 × 1,370 × 740																								
Exterior appearance (Munsell color)			845 × 970 × 370																								
Net weight	kg		Stucco white (4.2Y7.5/1.1) near equivalent																								
Compressor type & Q'ty			80																								
Compressor motor (Starting method)	kW		RMT5126MCE3 (Twin rotary type)×1																								
Refrigerant oil (Amount, type)	ℓ		Direct line start																								
Refrigerant (Type, amount, pre-charge length)	kg		0.9 (M-MA68)																								
Heat exchanger			R410A 3.8kg in outdoor unit (Incl. the amount for the piping of : 30m)																								
Refrigerant control			Louver fin & inner grooved tubing																								
Fan type & Q'ty			Straight fin & inner grooved tubing																								
Fan motor (Stating method)	W		Electronic expansion valve																								
Air flow	Cooling Heating	m ³ /min	Centrifugal fan ×3																								
Available external static pressure	Pa		Propeller fan ×1																								
Outside air intake			100 + 200 < Direct line start >																								
Air filter, Quality / Quantity			86 < Direct line start >																								
Shock & vibration absorber			75																								
Electric heater	W		73																								
Operation control	Remote control		Standard : 60 Max : 100																								
Safety equipments	Room temperature control		Possible																								
	Operation display		Procure locally																								
Installation data	Refrigerant piping size (O.D.)	mm	Rubber sleeve (for fan motor)																								
	Connecting method		Rubber sleeve (for compressor)																								
Standard accessories	Attached length of piping	m	-																								
	Insulation for piping		-																								
Option parts	Refrigerant line (one way) length	m	-																								
	Vertical height diff. between O/U and I/U	m	-																								
Notes	Drain hose		Hose connectable VP25(I.D.25, O.D.32)																								
	Drain pump, max lift height	mm	Hole size φ 20 × 3 pcs																								
Notes (1)	Recommended breaker size	A	Built-in drain pump , 600																								
	L.R.A. (Locked rotor ampere)	A	-																								
Notes (2)	Interconnecting wires	Size × Core number	5.0																								
	IP number		φ 1.6mm × 3 cores + earth cable/ Terminal block (Screw fixing type)																								
Notes (3)	Standard accessories		IPX0																								
	Option parts		IP24																								
Notes (4)	Notes (5)		Mounting kit, Drain hose																								
	Notes (6)		Filter set : UM-FL3EF, Motion sensor : LB-KIT																								
Notes (1) The data are measured at the following conditions. The pipe length is 7.5m.																											
<table border="1"> <thead> <tr> <th rowspan="2">Item</th> <th colspan="2">Indoor air temperature</th> <th colspan="2">Outdoor air temperature</th> <th rowspan="2">External static pressure of indoor unit</th> <th rowspan="2">Standards</th> </tr> <tr> <th>DB</th> <th>WB</th> <th>DB</th> <th>WB</th> </tr> </thead> <tbody> <tr> <td>Cooling</td> <td>27°C</td> <td>19°C</td> <td>35°C</td> <td>24°C</td> <td rowspan="2">60Pa</td> <td rowspan="2">ISO5151-T1</td> </tr> <tr> <td>Heating</td> <td>20°C</td> <td>-</td> <td>7°C</td> <td>6°C</td> </tr> </tbody> </table>					Item	Indoor air temperature		Outdoor air temperature		External static pressure of indoor unit	Standards	DB	WB	DB	WB	Cooling	27°C	19°C	35°C	24°C	60Pa	ISO5151-T1	Heating	20°C	-	7°C	6°C
Item	Indoor air temperature		Outdoor air temperature			External static pressure of indoor unit	Standards																				
	DB	WB	DB	WB																							
Cooling	27°C	19°C	35°C	24°C	60Pa	ISO5151-T1																					
Heating	20°C	-	7°C	6°C																							
<p>(2) This air-conditioner is manufactured and tested in conformity with the ISO.</p> <p>(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.</p> <p>(4) Select the breaker size according to the own national standard.</p> <p>(5) The operation data indicate when the air-conditioner is operated at 230V 50Hz or 220V 60Hz.</p> <p>(6) Static pressure of option air filter "UM-FL3EF" is 5Pa initially.</p> <p>(7) The external static pressure setting can be changed to 10-100Pa. (For RC-EX3 and RC-E5 only)</p>																											

Item		Model	FDUM125VSAVF		
			Indoor unit FDUM125VF	Outdoor unit FDC125VSA	
Power source			3 Phase, 380-415V, 50Hz / 380V, 60Hz		
Operation data	Nominal cooling capacity (range)	kW	12.5 [5.0(Min.)-14.0(Max.)]		
	Nominal heating capacity (range)	kW	14.0 [4.0(Min.)-16.0(Max.)]		
	Power consumption	Cooling	kW	4.36	
		Heating		3.69	
	Max power consumption		10.20		
	Running current	Cooling	A	6.8 / 7.2	
		Heating		5.9 / 6.2	
	Inrush current, max current		5, 17		
	Power factor	Cooling	%	93 / 92	
		Heating		90	
	EER	Cooling		2.87	
	COP	Heating		3.79	
	Sound power level	Cooling	dB(A)	67	
Heating		71			
Sound pressure level	Cooling	dB(A)	P-Hi : 45 Hi : 40 Me : 34 Lo : 29		
	Heating		55		
Silent mode sound pressure level			57		
Exterior dimensions (Height × Width × Depth)	mm		280 × 1,370 × 740		
Exterior appearance (Munsell color)			845 × 970 × 370		
Net weight	kg		Stucco white (4.2Y7.5/1.1) near equivalent		
Compressor type & Q'ty			82		
Compressor motor (Starting method)	kW		RMT5126MCE4 (Twin rotary type)×1		
Refrigerant oil (Amount, type)	ℓ		Direct line start		
Refrigerant (Type, amount, pre-charge length)	kg		0.9 (M-MA68)		
Heat exchanger			R410A 3.8kg in outdoor unit (Incl. the amount for the piping of : 30m)		
Refrigerant control			Louver fin & inner grooved tubing		
Fan type & Q'ty			Straight fin & inner grooved tubing		
Fan motor (Starting method)	W		Electronic expansion valve		
Air flow	Cooling Heating	m ³ /min	Centrifugal fan ×3 Propeller fan ×1		
Available external static pressure	Pa		100 + 200 < Direct line start > 86 < Direct line start >		
Outside air intake			75		
Air filter, Quality / Quantity			73		
Shock & vibration absorber			Standard : 60 Max : 100		
Electric heater	W		Possible		
Operation control	Remote control		Procure locally		
	Room temperature control		Rubber sleeve (for fan motor) Rubber sleeve (for compressor)		
	Operation display		20 (Crank case heater)		
Safety equipments			(Option) Wired : RC-EX3,RC-E5,RCH-E3 Wireless : RCN-KIT4-E2		
			Thermostat by electronics		
			-		
			Overload protection for fan motor		
			Frost protection thermostat		
			Internal thermostat for fan motor		
			Abnormal discharge temperature protection		
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 9.52 (3/8") Pipe φ 9.52(3/8")×0.8 O/U φ 9.52 (3/8")		
	Connecting method		Gas line: φ 15.88 (5/8") φ 15.88(5/8")×1.0 φ 15.88 (5/8")		
	Attached length of piping	m	Flare piping Flare piping		
	Insulation for piping		Necessary (both Liquid & Gas lines)		
	Refrigerant line (one way) length	m	Max.50m		
	Vertical height diff. between O/U and I/U	m	Max.50m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)		
Drain hose			Hose connectable VP25(I.D.25, O.D.32) Hole size φ 20 × 3 pcs		
Drain pump, max lift height	mm		Built-in drain pump , 600		
Recommended breaker size	A		-		
L.R.A. (Locked rotor ampere)	A		5.0		
Interconnecting wires	Size × Core number		φ 1.6mm × 3 cores + earth cable / Terminal block (Screw fixing type)		
IP number			IPX0 IP24		
Standard accessories			Mounting kit, Drain hose		
Option parts			Filter set : UM-FL3EF, Motion sensor : LB-KIT		

Notes (1) The data are measured at the following conditions. The pipe length is 7.5m.

Item	Indoor air temperature		Outdoor air temperature		External static pressure of indoor unit	Standards
	DB	WB	DB	WB		
Operation						
Cooling	27°C	19°C	35°C	24°C	60Pa	ISO5151-T1
Heating	20°C	-	7°C	6°C		

(2) This air-conditioner is manufactured and tested in conformity with the ISO.
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.
(4) Select the breaker size according to the own national standard.
(5) The operation data indicate when the air-conditioner is operated at 400V 50Hz or 380V 60Hz.
(6) Static pressure of option air filter "UM-FL3EF" is 5Pa initially.
(7) The external static pressure setting can be changed to 10-100Pa. (For RC-EX3 and RC-E5 only)

Item		Model	FDUM140VNAVF				
			Indoor unit FDUM140VF	Outdoor unit FDC140VNA			
Power source			1 Phase, 220-240V, 50Hz / 220V, 60Hz				
Operation data	Nominal cooling capacity (range)	kW	13.6 [5.0(Min.)-14.5(Max.)]				
	Nominal heating capacity (range)	kW	15.5 [4.0(Min.)-16.5(Max.)]				
	Power consumption	Cooling	kW	4.93			
		Heating		4.21			
	Max power consumption		6.40				
	Running current	Cooling	A	22.8 / 23.8			
		Heating		20.3 / 21.3			
	Inrush current, max current		5, 27				
	Power factor	Cooling	%	94			
		Heating		90			
	EER	Cooling		2.76			
	COP	Heating		3.68			
	Sound power level	Cooling	dB(A)	70			
Heating		73					
Sound pressure level	Cooling	dB(A)	P-Hi : 47 Hi : 40 Me : 35 Lo : 30				
	Heating		57 59				
Silent mode sound pressure level			— 53/47 (Normal/Silent)				
Exterior dimensions (Height × Width × Depth)	mm		280 × 1,370 × 740 845 × 970 × 370				
Exterior appearance (Munsell color)			— Stucco white (4.2Y7.5/1.1) near equivalent				
Net weight	kg		54 80				
Compressor type & Q'ty			— RMT5126MCE3 (Twin rotary type)×1				
Compressor motor (Starting method)	kW		— Direct line start				
Refrigerant oil (Amount, type)	ℓ		— 0.9 (M-MA68)				
Refrigerant (Type, amount, pre-charge length)	kg		R410A 3.8kg in outdoor unit (Incl. the amount for the piping of : 30m)				
Heat exchanger			Louver fin & inner grooved tubing	Straight fin & inner grooved tubing			
Refrigerant control			Electronic expansion valve				
Fan type & Q'ty			Centrifugal fan ×3	Propeller fan ×1			
Fan motor (Stating method)	W		100 + 200 < Direct line start >	86 < Direct line start >			
Air flow	Cooling	m³/min	P-Hi : 48 Hi : 35 Me : 28 Lo : 22				
	Heating		75 73				
Available external static pressure	Pa		Standard : 60 Max : 100 —				
Outside air intake			Possible —				
Air filter, Quality / Quantity			Procure locally —				
Shock & vibration absorber			Rubber sleeve (for fan motor)	Rubber sleeve (for compressor)			
Electric heater	W		— 20 (Crank case heater)				
Operation control	Remote control		(Option) Wired : RC-EX3,RC-E5,RCH-E3 Wireless : RCN-KIT4-E2				
	Room temperature control		Thermostat by electronics				
	Operation display		—				
Safety equipments			Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection				
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 9.52 (3/8") Pipe φ 9.52(3/8")×0.8 O/U φ 9.52 (3/8") Gas line: φ 15.88 (5/8") φ 15.88(5/8")×1.0 φ 15.88 (5/8")				
	Connecting method		Flare piping	Flare piping			
	Attached length of piping	m	—				
	Insulation for piping		Necessary (both Liquid & Gas lines)				
	Refrigerant line (one way) length	m	Max.50m				
	Vertical height diff. between O/U and I/U	m	Max.50m (Outdoor unit is higher)	Max.15m (Outdoor unit is lower)			
Drain hose		Hose connectable VP25(I.D.25, O.D.32)	Hole size φ 20 × 3 pcs				
Drain pump, max lift height	mm	Built-in drain pump , 600		—			
Recommended breaker size	A	—					
L.R.A. (Locked rotor ampere)	A	5.0					
Interconnecting wires	Size × Core number	φ 1.6mm × 3 cores + earth cable / Terminal block (Screw fixing type)					
IP number		IPX0	IP24				
Standard accessories		Mounting kit, Drain hose		—			
Option parts		Filter set : UM-FL3EF, Motion sensor : LB-KIT					
Notes (1) The data are measured at the following conditions.		The pipe length is 7.5m.					
	Item	Indoor air temperature		Outdoor air temperature		External static pressure of indoor unit	Standards
Operation		DB	WB	DB	WB		
Cooling		27°C	19°C	35°C	24°C	60Pa	ISO5151-T1
Heating		20°C	—	7°C	6°C		
<p>(2) This air-conditioner is manufactured and tested in conformity with the ISO.</p> <p>(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.</p> <p>(4) Select the breaker size according to the own national standard.</p> <p>(5) The operation data indicate when the air-conditioner is operated at 230V 50Hz or 220V 60Hz.</p> <p>(6) Static pressure of option air filter "UM-FL3EF" is 5Pa initially.</p> <p>(7) The external static pressure setting can be changed to 10-100Pa. (For RC-EX3 and RC-E5 only)</p>							

Item		Model	FDUM140VSAVF		
			Indoor unit FDUM140VF	Outdoor unit FDC140VSA	
Power source			3 Phase, 380-415V, 50Hz / 380V, 60Hz		
Operation data	Nominal cooling capacity (range)	kW	13.6 [5.0(Min.)-14.5(Max.)]		
	Nominal heating capacity (range)	kW	15.5 [4.0(Min.)-16.5(Max.)]		
	Power consumption	Cooling	kW	4.93	
		Heating		4.21	
	Max power consumption		10.20		
	Running current	Cooling	A	7.8 / 8.2	
		Heating		6.8 / 7.1	
	Inrush current, max current		5, 18		
	Power factor	Cooling	%	91	
		Heating		89 / 90	
	EER	Cooling		2.76	
	COP	Heating		3.68	
	Sound power level	Cooling	dB(A)	70	
Heating		73			
Sound pressure level	Cooling	dB(A)	P-Hi : 47 Hi : 40 Me : 35 Lo : 30		
	Heating		57 59		
Silent mode sound pressure level			53/47 (Normal/Silent)		
Exterior dimensions (Height × Width × Depth)	mm		280 × 1,370 × 740		
Exterior appearance (Munsell color)			Stucco white (4.2Y7.5/1.1) near equivalent		
Net weight	kg		54		
Compressor type & Q'ty			RMT5126MCE4 (Twin rotary type)×1		
Compressor motor (Starting method)	kW		Direct line start		
Refrigerant oil (Amount, type)	ℓ		0.9 (M-MA68)		
Refrigerant (Type, amount, pre-charge length)	kg		R410A 3.8kg in outdoor unit (Incl. the amount for the piping of : 30m)		
Heat exchanger			Louver fin & inner grooved tubing	Straight fin & inner grooved tubing	
Refrigerant control			Electronic expansion valve		
Fan type & Q'ty			Centrifugal fan ×3	Propeller fan ×1	
Fan motor (Starting method)	W		100 + 200 < Direct line start >	86 < Direct line start >	
Air flow	Cooling	m³/min	P-Hi : 48 Hi : 35 Me : 28 Lo : 22		
	Heating		75 73		
Available external static pressure	Pa		Standard : 60 Max : 100		
Outside air intake			Possible		
Air filter, Quality / Quantity			Procure locally		
Shock & vibration absorber			Rubber sleeve (for fan motor)	Rubber sleeve (for compressor)	
Electric heater	W		20 (Crank case heater)		
Operation control	Remote control		(Option) Wired : RC-EX3,RC-E5,RCH-E3 Wireless : RCN-KIT4-E2		
	Room temperature control		Thermostat by electronics		
	Operation display		-		
Safety equipments			Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection		
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 9.52 (3/8") Pipe φ 9.52(3/8")×0.8 O/U φ 9.52 (3/8") Gas line: φ 15.88 (5/8") φ 15.88(5/8")×1.0 φ 15.88 (5/8")		
	Connecting method		Flare piping		
	Attached length of piping	m	-		
	Insulation for piping		Necessary (both Liquid & Gas lines)		
	Refrigerant line (one way) length	m	Max.50m		
	Vertical height diff. between O/U and I/U	m	Max.50m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)		
Drain hose			Hose connectable VP25(I.D.25, O.D.32)	Hole size φ 20 × 3 pcs	
Drain pump, max lift height	mm		Built-in drain pump , 600		
Recommended breaker size	A		-		
L.R.A. (Locked rotor ampere)	A		5.0		
Interconnecting wires	Size × Core number		φ 1.6mm × 3 cores + earth cable / Terminal block (Screw fixing type)		
IP number			IPX0	IP24	
Standard accessories			Mounting kit, Drain hose		
Option parts			Filter set : UM-FL3EF, Motion sensor : LB-KIT		

Notes (1) The data are measured at the following conditions. The pipe length is 7.5m.

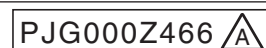
Item	Indoor air temperature		Outdoor air temperature		External static pressure of indoor unit	Standards
	DB	WB	DB	WB		
Cooling	27°C	19°C	35°C	24°C	60Pa	ISO5151-T1
Heating	20°C	-	7°C	6°C		

(2) This air-conditioner is manufactured and tested in conformity with the ISO.
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.
(4) Select the breaker size according to the own national standard.
(5) The operation data indicate when the air-conditioner is operated at 400V 50Hz or 380V 60Hz.
(6) Static pressure of option air filter "UM-FL3EF" is 5Pa initially.
(7) The external static pressure setting can be changed to 10-100Pa. (For RC-EX3 and RC-E5 only)

(b) Twin type


Item		Model	FDUM100VNAPVF			
			Indoor unit FDUM50VF (2 units)	Outdoor unit FDC100VNA		
Power source			1 Phase, 220-240V, 50Hz / 220V, 60Hz			
Operation data	Nominal cooling capacity (range)	kW	10.0 [4.0(Min.)-11.2(Max.)]			
	Nominal heating capacity (range)	kW	11.2 [4.0(Min.)-12.5(Max.)]			
	Power consumption	Cooling	kW	3.25		
		Heating		3.21		
	Max power consumption		6.40			
	Running current	Cooling	A	14.6 / 15.2		
		Heating		14.4 / 15.0		
	Inrush current, max current		5, 26			
	Power factor	Cooling	%	97		
		Heating		97		
	EER	Cooling		3.08		
	COP	Heating		3.49		
	Sound power level	Cooling	dB(A)	60	70	
Heating						
Sound pressure level	Cooling	P-Hi : 37 Hi : 32 Me : 29 Lo : 26	54			
	Heating		56			
Silent mode sound pressure level		—	50 / 44 (Normal / Silent)			
Exterior dimensions (Height × Width × Depth)	mm	280 × 750 × 635		845 × 970 × 370		
Exterior appearance (Munsell color)		—		Stucco white (4.2Y7.5/1.1)near equivalent		
Net weight	kg	29		80		
Compressor type & Q'ty		—		RMT5126MCE3 (Twin rotary type)×1		
Compressor motor (Starting method)	kW	—		Direct line start		
Refrigerant oil (Amount, type)	ℓ	—		0.9 (M-MA68)		
Refrigerant (Type, amount, pre-charge length)	kg	R410A 3.8kg in outdoor unit (Incl. the amount for the piping of : 30m)				
Heat exchanger		Louver fin & inner grooved tubing		Straight fin & inner grooved tubing		
Refrigerant control		Electronic expansion valve				
Fan type & Q'ty		Centrifugal fan ×1		Propeller fan ×1		
Fan motor (Stating method)	W	100 < Direct line start >		86 < Direct line start >		
Air flow	Cooling	m³/min	P-Hi : 13 Hi : 10 Me : 9 Lo : 8			
	Heating		75			
Available external static pressure	Pa	Standard : 35 Max : 100		—		
Outside air intake		Possible		—		
Air filter, Quality / Quantity		Procure locally		—		
Shock & vibration absorber		Rubber sleeve (for fan motor)		Rubber sleeve (for compressor)		
Electric heater	W	—		20 (Crank case heater)		
Operation control	Remote control	(Option) Wired : RC-EX3,RC-E5,RCH-E3 Wireless : RCN-KIT4-E2				
	Room temperature control	Thermostat by electronics				
	Operation display	—				
Safety equipments		Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection				
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 6.35 (1/4") ② φ 9.52(3/8")x0.8 ① φ 9.52(3/8")x0.8 O/U φ 9.52 (3/8") Gas line: I/U φ 12.7 (1/2") ② φ 12.7(1/2")x0.8 ① φ 15.88(5/8")x1.0 O/U φ 15.88 (5/8")			
	Connecting method		Flare piping			
	Attached length of piping	m	—			
	Insulation for piping		Necessary (both Liquid & Gas lines)			
	Refrigerant line (one way) length	m	Max.50m			
	Vertical height diff. between O/U and I/U	m	Max.50m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)			
Drain hose		Hose connectable VP25(I.D.25, O.D.32)		Hole size φ 20 × 3 pcs		
Drain pump, max lift height	mm	Built-in drain pump , 600		—		
Recommended breaker size	A	—				
L.R.A. (Locked rotor ampere)	A	5.0				
Interconnecting wires	Size × Core number	φ 1.6mm × 3 cores + earth cable / Terminal block (Screw fixing type)				
IP number		IPX0		IP24		
Standard accessories		Mounting kit, Drain hose		—		
Option parts		Filter set : UM-FL1EF, Motion sensor : LB-KIT				
Notes (1) The data are measured at the following conditions.		The pipe length is 7.5m.				
Operation	Cooling	Indoor air temperature	Outdoor air temperature		External static pressure of indoor unit	Standards
		DB	WB	DB		
	27°C	19°C	35°C	24°C		
Heating	20°C	—	7°C	6°C		

- (2) This air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.
- (4) Select the breaker size according to the own national standard.
- (5) The operation data indicate when the air-conditioner is operated at 230V50Hz or 220V60Hz.
- (6) Indoor unit specifications for one unit. Capacity and operation data is two indoor units are combined and run together.
- (7) Branching pipe set "DIS-WA1G"×1(Option). ① : Pipe of O/U-Branch, ② : Pipe of Branch-I/U
- (8) Static pressure of optional air filter "UM-FL1EF" is 5Pa initially.
- (9) The external static pressure setting can be changed to 10-100Pa. (For RC-EX3 and RC-E5 only)



Item		Model	FDUM100VSAPVF			
			Indoor unit FDUM50VF (2 units)	Outdoor unit FDC100VSA		
Power source			3 Phase, 380-415V, 50Hz / 380V, 60Hz			
Operation data	Nominal cooling capacity (range)	kW	10.0 [4.0(Min.)-11.2(Max.)]			
	Nominal heating capacity (range)	kW	11.2 [4.0(Min.)-12.5(Max.)]			
	Power consumption	Cooling	kW	3.25		
		Heating		3.21		
	Max power consumption		10.20			
	Running current	Cooling	A	4.8 / 5.1		
		Heating		4.8 / 5.0		
	Inrush current, max current		5, 17			
	Power factor	Cooling	%	98 / 97		
		Heating		97 / 98		
	EER	Cooling		3.08		
	COP	Heating		3.49		
Sound power level	Cooling	dB(A)	60	70		
	Heating					
Sound pressure level	Cooling	P-Hi : 37 Hi : 32 Me : 29 Lo : 26	54			
	Heating		56			
Silent mode sound pressure level		—	50 / 44 (Normal / Silent)			
Exterior dimensions (Height × Width × Depth)	mm	280 × 750 × 635		845 × 970 × 370		
Exterior appearance (Munsell color)		—		Stucco white (4.2Y7.5/1.1)near equivalent		
Net weight	kg	29		82		
Compressor type & Q'ty		—		RMT5126MCE4 (Twin rotary type)x1		
Compressor motor (Starting method)	kW	—		Direct line start		
Refrigerant oil (Amount, type)	ℓ	—		0.9 (M-MA68)		
Refrigerant (Type, amount, pre-charge length)	kg	R410A 3.8kg in outdoor unit (Incl. the amount for the piping of : 30m)				
Heat exchanger		Louver fin & inner grooved tubing	Straight fin & inner grooved tubing			
Refrigerant control		Electronic expansion valve				
Fan type & Q'ty		Centrifugal fan x1		Propeller fan x1		
Fan motor (Stating method)	W	100 < Direct line start >		86 < Direct line start >		
Air flow	Cooling	m³/min	P-Hi : 13 Hi : 10 Me : 9 Lo : 8			
	Heating		75			
Available external static pressure	Pa	Standard : 35 Max : 100		—		
Outside air intake		Possible		—		
Air filter, Quality / Quantity		Procure locally		—		
Shock & vibration absorber		Rubber sleeve (for fan motor)		Rubber sleeve (for compressor)		
Electric heater	W	—		20 (Crank case heater)		
Operation control	Remote control	(Option) Wired : RC-EX3,RC-E5,RCH-E3 Wireless : RCN-KIT4-E2				
	Room temperature control	Thermostat by electronics				
	Operation display	—				
Safety equipments		Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection				
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 6.35 (1/4") ② φ 9.52(3/8")x0.8 ① φ 9.52(3/8")x0.8 O/U φ 9.52 (3/8") Gas line: I/U φ 12.7 (1/2") ② φ 12.7(1/2")x0.8 ① φ 15.88(5/8")x1.0 O/U φ 15.88 (5/8")			
	Connecting method		Flare piping			
	Attached length of piping	m	—			
	Insulation for piping		Necessary (both Liquid & Gas lines)			
	Refrigerant line (one way) length	m	Max.50m			
	Vertical height diff. between O/U and I/U	m	Max.50m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)			
Drain hose		Hose connectable VP25(I.D.25, O.D.32)		Hole size φ 20 x 3 pcs		
Drain pump, max lift height	mm	Built-in drain pump , 600		—		
Recommended breaker size	A	—				
L.R.A. (Locked rotor ampere)	A	5.0				
Interconnecting wires	Size × Core number	φ 1.6mm × 3 cores + earth cable / Terminal block (Screw fixing type)				
IP number		IPX0		IP24		
Standard accessories		Mounting kit, Drain hose		—		
Option parts		Filter set : UM-FL1EF, Motion sensor : LB-KIT				
Notes (1) The data are measured at the following conditions.		The pipe length is 7.5m.				
Operation	Cooling	Indoor air temperature	Outdoor air temperature		External static pressure of indoor unit	Standards
		DB	WB	DB		
	27°C	19°C	35°C	24°C		
Heating	Indoor air temperature	Outdoor air temperature		External static pressure of indoor unit	Standards	
	DB	WB	DB			WB
20°C	—	7°C	6°C	35Pa	ISO5151-T1	

(2) This air-conditioner is manufactured and tested in conformity with the ISO.
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.
(4) Select the breaker size according to the own national standard.
(5) The operation data indicate when the air-conditioner is operated at 400V50Hz or 380V60Hz.
(6) Indoor unit specifications for one unit. Capacity and operation data is two indoor units are combined and run together.
(7) Branching pipe set "DIS-WA1G"×1(Option). ①: Pipe of O/U-Branch, ②: Pipe of Branch-I/U
(8) Static pressure of optional air filter "UM-FL1EF" is 5Pa initially.
(9) The external static pressure setting can be changed to 10-100Pa. (For RC-EX3 and RC-E5 only)

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Item		Model	FDUM125VNAPVF		
			Indoor unit FDUM60VF (2 units)	Outdoor unit FDC125VNA	
Power source			1 Phase, 220-240V, 50Hz / 220V, 60Hz		
Operation data	Nominal cooling capacity (range)	kW	12.5 [5.0(Min.)-14.0(Max.)]		
	Nominal heating capacity (range)	kW	14.0 [4.0(Min.)-16.0(Max.)]		
	Power consumption	Cooling	kW	4.53	
		Heating		3.75	
	Max power consumption		6.40		
	Running current	Cooling	A	20.3 / 21.2	
		Heating		16.8 / 17.6	
	Inrush current, max current		5, 26		
	Power factor	Cooling	%	97	
		Heating		97	
	EER	Cooling		2.76	
	COP	Heating		3.73	
Sound power level	Cooling	dB(A)	60		
	Heating		71		
Sound pressure level	Cooling	dB(A)	P-Hi : 36 Hi : 31 Me : 28 Lo : 25		
	Heating		55		
Silent mode sound pressure level			57		
Exterior dimensions (Height × Width × Depth)	mm		280 × 950 × 635		
Exterior appearance (Munsell color)			Stucco white (4.2Y7.5/1.1)near equivalent		
Net weight	kg		34		
Compressor type & Q'ty			RMT5126MCE3 (Twin rotary type)×1		
Compressor motor (Starting method)	kW		Direct line start		
Refrigerant oil (Amount, type)	ℓ		0.9 (M-MA68)		
Refrigerant (Type, amount, pre-charge length)	kg		R410A 3.8kg in outdoor unit (Incl. the amount for the piping of : 30m)		
Heat exchanger			Louver fin & inner grooved tubing	Straight fin & inner grooved tubing	
Refrigerant control			Electronic expansion valve		
Fan type & Q'ty			Centrifugal fan ×2	Propeller fan ×1	
Fan motor (Stating method)	W		130 < Direct line start >	86 < Direct line start >	
Air flow	Cooling	m³/min	P-Hi : 20 Hi : 15 Me : 13 Lo : 10		
	Heating		75		
Available external static pressure	Pa		Standard : 35 Max : 100		
Outside air intake			Possible		
Air filter, Quality / Quantity			Procure locally		
Shock & vibration absorber			Rubber sleeve(for fan motor)	Rubber sleeve(for compressor)	
Electric heater	W		20 (Crank case heater)		
Operation control	Remote control		(Option) Wired : RC-EX3,RC-E5,RCH-E3 Wireless : RCN-KIT4-E2		
	Room temperature control		Thermostat by electronics		
	Operation display		-		
Safety equipments			Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection		
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 6.35 (1/4") ② φ 9.52(3/8")×0.8 ① φ 9.52(3/8")×0.8 O/U φ 9.52 (3/8") Gas line: I/U φ 12.7 (1/2") ② φ 12.7(1/2")×0.8 ① φ 15.88(5/8")×1.0 O/U φ 15.88 (5/8")		
	Connecting method		Flare piping		
	Attached length of piping	m	-		
	Insulation for piping		Necessary (both Liquid & Gas lines)		
	Refrigerant line (one way) length	m	Max.50m		
	Vertical height diff. between O/U and I/U	m	Max.50m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)		
Drain hose			Hose connectable VP25(I.D.25, O.D.32)	Hole size φ 20 × 3 pcs	
Drain pump, max lift height	mm		Built-in drain pump , 600		
Recommended breaker size	A		-		
L.R.A. (Locked rotor ampere)	A		5.0		
Interconnecting wires	Size × Core number		φ 1.6mm × 3 cores + earth cable / Terminal block (Screw fixing type)		
IP number			IPX0		
Standard accessories			Mounting kit, Drain hose		
Option parts			Filter set : UM-FL2EF, Motion sensor : LB-KIT		
Notes (1) The data are measured at the following conditions.			The pipe length is 7.5m.		
Operation	Cooling	Indoor air temperature	Outdoor air temperature	External static pressure of indoor unit	Standards
		DB	WB		
	27°C	19°C	35°C		
Heating	Indoor air temperature	Outdoor air temperature	35Pa	ISO5151-T1	
	20°C	-			7°C

(2) This air-conditioner is manufactured and tested in conformity with the ISO.
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.
(4) Select the breaker size according to the own national standard.
(5) The operation data indicate when the air-conditioner is operated at 230V50Hz or 220V60Hz.
(6) Indoor unit specifications for one unit. Capacity and operation data is two indoor units are combined and run together.
(7) Branching pipe set "DIS-WA1G"×1(Option). ① : Pipe of O/U-Branch, ② : Pipe of Branch-I/U
(8) Static pressure of optional air filter "UM-FL2EF" is 5Pa initially.
(9) The external static pressure setting can be changed to 10-100Pa. (For RC-EX3 and RC-E5 only)

Item		Model	FDUM125VSAPVF				
			Indoor unit FDUM60VF (2 units)	Outdoor unit FDC125VSA			
Power source			3 Phase, 380-415V, 50Hz / 380V, 60Hz				
Operation data	Nominal cooling capacity (range)	kW	12.5 [5.0(Min.)-14.0(Max.)]				
	Nominal heating capacity (range)	kW	14.0 [4.0(Min.)-16.0(Max.)]				
	Power consumption	Cooling	kW	4.53			
		Heating		3.75			
	Max power consumption		10.20				
	Running current	Cooling	A	6.7 / 7.1			
		Heating		5.9 / 5.9			
	Inrush current, max current		5, 17				
	Power factor	Cooling	%	98 / 97			
		Heating		97			
	EER	Cooling		2.76			
	COP	Heating		3.73			
Sound power level	Cooling	dB(A)	60	71			
	Heating		P-Hi : 36 Hi : 31 Me : 28 Lo : 25				
Sound pressure level	Cooling		55				
	Heating		57				
Silent mode sound pressure level			51 / 45 (Normal / Silent)				
Exterior dimensions (Height × Width × Depth)	mm	280 × 950 × 635		845 × 970 × 370			
Exterior appearance (Munsell color)		-		Stucco white (4.2Y7.5/1.1)near equivalent			
Net weight	kg	34		82			
Compressor type & Q'ty		-		RMT5126MCE4 (Twin rotary type)x1			
Compressor motor (Starting method)	kW	-		Direct line start			
Refrigerant oil (Amount, type)	ℓ	-		0.9 (M-MA68)			
Refrigerant (Type, amount, pre-charge length)	kg	R410A 3.8kg in outdoor unit (Incl. the amount for the piping of : 30m)					
Heat exchanger		Louver fin & inner grooved tubing		Straight fin & inner grooved tubing			
Refrigerant control		Electronic expansion valve					
Fan type & Q'ty		Centrifugal fan x2		Propeller fan x1			
Fan motor (Stating method)	W	130 < Direct line start >		86 < Direct line start >			
Air flow	Cooling	m³/min	P-Hi : 20 Hi : 15 Me : 13 Lo : 10				
	Heating		75				
Available external static pressure	Pa	Standard : 35 Max : 100		-			
Outside air intake		Possible		-			
Air filter, Quality / Quantity		Procure locally		-			
Shock & vibration absorber		Rubber sleeve (for fan motor)		Rubber sleeve (for compressor)			
Electric heater	W	-		20 (Crank case heater)			
Operation control	Remote control	(Option) Wired : RC-EX3,RC-E5,RCH-E3 Wireless : RCN-KIT4-E2					
	Room temperature control	Thermostat by electronics					
	Operation display	-					
Safety equipments		Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection					
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 6.35 (1/4") ② φ 9.52(3/8")x0.8 ① φ 9.52(3/8")x0.8 O/U φ 9.52 (3/8") Gas line: I/U φ 12.7 (1/2") ② φ 12.7(1/2")x0.8 ① φ 15.88(5/8")x1.0 O/U φ 15.88 (5/8")				
	Connecting method		Flare piping				
	Attached length of piping	m	-				
	Insulation for piping		Necessary (both Liquid & Gas lines)				
	Refrigerant line (one way) length	m	Max.50m				
	Vertical height diff. between O/U and I/U	m	Max.50m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)				
Drain hose		Hose connectable VP25(I.D.25, O.D.32)		Hole size φ 20 x 3 pcs			
Drain pump, max lift height	mm	Built-in drain pump , 600		-			
Recommended breaker size	A	-					
L.R.A. (Locked rotor ampere)	A	5.0					
Interconnecting wires	Size × Core number	φ 1.6mm × 3 cores + earth cable / Terminal block (Screw fixing type)					
IP number		IPX0		IP24			
Standard accessories		Mounting kit, Drain hose		-			
Option parts		Filter set : UM-FL2EF, Motion sensor : LB-KIT					
Notes (1) The data are measured at the following conditions.		The pipe length is 7.5m.					
Operation	Item	Indoor air temperature		Outdoor air temperature		External static pressure of indoor unit	Standards
		DB	WB	DB	WB		
	Cooling	27°C	19°C	35°C	24°C		
Heating	20°C	-	7°C	6°C			

- (2) This air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.
- (4) Select the breaker size according to the own national standard.
- (5) The operation data indicate when the air-conditioner is operated at 400V50Hz or 380V60Hz.
- (6) Indoor unit specifications for one unit. Capacity and operation data is two indoor units are combined and run together.
- (7) Branching pipe set "DIS-WA1G"×1(Option). ①: Pipe of O/U-Branch, ②: Pipe of Branch-I/U
- (8) Static pressure of optional air filter "UM-FL2EF" is 5Pa initially.
- (9) The external static pressure setting can be changed to 10-100Pa. (For RC-EX3 and RC-E5 only)

Item		Model	FDUM140VNAPVF1			
			Indoor unit FDUM71VF1 (2 units)	Outdoor unit FDC140VNA		
Power source			1 Phase, 220-240V, 50Hz / 220V, 60Hz			
Operation data	Nominal cooling capacity (range)	kW	13.6 [5.0(Min.)-14.5(Max.)]			
	Nominal heating capacity (range)	kW	15.5 [4.0(Min.)-16.5(Max.)]			
	Power consumption	Cooling	kW	5.02		
		Heating		4.20		
	Max power consumption		6.40			
	Running current	Cooling	A	22.5 / 23.5		
		Heating		18.8 / 19.7		
	Inrush current, max current		5, 27			
	Power factor	Cooling	%	97		
		Heating		97		
	EER	Cooling		2.71		
	COP	Heating		3.69		
	Sound power level	Cooling	dB(A)	65	73	
Heating						
Sound pressure level	Cooling	P-Hi : 38 Hi : 33 Me : 29 Lo : 25	57			
	Heating		59			
Silent mode sound pressure level		—	53 / 47 (Normal / Silent)			
Exterior dimensions (Height × Width × Depth)		mm	280 × 950 × 635	845 × 970 × 370		
Exterior appearance (Munsell color)			—	Stucco white (4.2Y7.5/1.1)near equivalent		
Net weight		kg	34	80		
Compressor type & Q'ty			—	RMT5126MCE3 (Twin rotary type)×1		
Compressor motor (Starting method)		kW	—	Direct line start		
Refrigerant oil (Amount, type)		ℓ	—	0.9 (M-MA68)		
Refrigerant (Type, amount, pre-charge length)		kg	R410A 3.8kg in outdoor unit (Incl. the amount for the piping of : 30m)			
Heat exchanger			Louver fin & inner grooved tubing	Straight fin & inner grooved tubing		
Refrigerant control			Electronic expansion valve			
Fan type & Q'ty			Centrifugal fan ×2	Propeller fan ×1		
Fan motor (Stating method)		W	130 < Direct line start >	86 < Direct line start >		
Air flow	Cooling	m³/min	P-Hi : 24 Hi : 19 Me : 15 Lo : 10			
	Heating		75 73			
Available external static pressure		Pa	Standard : 35 Max : 100			
Outside air intake			Possible	—		
Air filter, Quality / Quantity			Procure locally			
Shock & vibration absorber			Rubber sleeve(for fan motor)	Rubber sleeve(for compressor)		
Electric heater		W	—	20 (Crank case heater)		
Operation control	Remote control		(Option) Wired : RC-EX3,RC-E5,RCH-E3 Wireless : RCN-KIT4-E2			
	Room temperature control		Thermostat by electronics			
	Operation display		—			
Safety equipments			Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection			
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 9.52 (3/8") ② φ 9.52(3/8")×0.8 ① φ 9.52(3/8")×0.8 O/U φ 9.52 (3/8") Gas line: I/U φ 15.88 (5/8") ② φ 15.88(5/8")×1.0 ① φ 15.88(5/8")×1.0 O/U φ 15.88 (5/8")			
	Connecting method		Flare piping			
	Attached length of piping	m	—			
	Insulation for piping		Necessary (both Liquid & Gas lines)			
	Refrigerant line (one way) length	m	Max.50m			
	Vertical height diff. between O/U and I/U	m	Max.50m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)			
Drain hose			Hose connectable VP25(I.D.25, O.D.32)	Hole size φ 20 × 3 pcs		
Drain pump, max lift height		mm	Built-in drain pump , 600			
Recommended breaker size		A	—			
L.R.A. (Locked rotor ampere)		A	5.0			
Interconnecting wires Size × Core number			φ 1.6mm × 3 cores + earth cable / Terminal block (Screw fixing type)			
IP number			IPX0	IP24		
Standard accessories			Mounting kit, Drain hose			
Option parts			Filter set : UM-FL2EF, Motion sensor : LB-KIT			
Notes (1) The data are measured at the following conditions.			The pipe length is 7.5m.			
Operation	Cooling	Indoor air temperature	Outdoor air temperature	External static pressure of indoor unit	Standards	
		DB	WB			DB
	27°C	19°C	35°C			24°C
Heating	20°C	—	7°C	6°C		

- (2) This air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.
- (4) Select the breaker size according to the own national standard.
- (5) The operation data indicate when the air-conditioner is operated at 230V50Hz or 220V60Hz.
- (6) Indoor unit specifications for one unit. Capacity and operation data is two indoor units are combined and run together.
- (7) Branching pipe set "DIS-WA1G"×1(Option). ① : Pipe of O/U-Branch, ② : Pipe of Branch-I/U
- (8) Static pressure of optional air filter "UM-FL2EF" is 5Pa initially.
- (9) The external static pressure setting can be changed to 10-100Pa. (For RC-EX3 and RC-E5 only)

Item		Model	FDUM140VSAPVF1				
			Indoor unit FDUM71VF1 (2 units)	Outdoor unit FDC140VSA			
Power source			3 Phase, 380-415V, 50Hz / 380V, 60Hz				
Operation data	Nominal cooling capacity (range)	kW	13.6 [5.0(Min.)-14.5(Max.)]				
	Nominal heating capacity (range)	kW	15.5 [4.0(Min.)-16.5(Max.)]				
	Power consumption	Cooling	kW	5.02			
		Heating		4.20			
	Max power consumption		10.20				
	Running current	Cooling	A	7.5 / 7.9			
		Heating		6.2 / 6.6			
	Inrush current, max current		5, 18				
	Power factor	Cooling	%	97			
		Heating		98 / 97			
	EER	Cooling		2.71			
	COP	Heating		3.69			
	Sound power level	Cooling	dB(A)	65	73		
Heating		P-Hi : 38 Hi : 33 Me : 29 Lo : 25					
Sound pressure level	Cooling		57				
	Heating		59				
Silent mode sound pressure level			53 / 47 (Normal / Silent)				
Exterior dimensions (Height × Width × Depth)	mm	280 × 950 × 635		845 × 970 × 370			
Exterior appearance (Munsell color)		-		Stucco white (4.2Y7.5/1.1) near equivalent			
Net weight	kg	34		82			
Compressor type & Q'ty		-		RMT5126MCE4 (Twin rotary type)×1			
Compressor motor (Starting method)	kW	-		Direct line start			
Refrigerant oil (Amount, type)	ℓ	-		0.9 (M-MA68)			
Refrigerant (Type, amount, pre-charge length)	kg	R410A 3.8kg in outdoor unit (Incl. the amount for the piping of : 30m)					
Heat exchanger		Louver fin & inner grooved tubing		Straight fin & inner grooved tubing			
Refrigerant control		Electronic expansion valve					
Fan type & Q'ty		Centrifugal fan ×2		Propeller fan ×1			
Fan motor (Stating method)	W	130 < Direct line start >		86 < Direct line start >			
Air flow	Cooling	m³/min	P-Hi : 24 Hi : 19 Me : 15 Lo : 10				
	Heating		75				
Available external static pressure	Pa	Standard : 35 Max : 100		-			
Outside air intake		Possible		-			
Air filter, Quality / Quantity		Procure locally		-			
Shock & vibration absorber		Rubber sleeve(for fan motor)		Rubber sleeve(for compressor)			
Electric heater	W	-		20 (Crank case heater)			
Operation control	Remote control	(option) Wired : RC-EX3,RC-E5,RCH-E3 Wireless : RCN-KIT4-E2					
	Room temperature control	Thermostat by electronics					
	Operation display	-					
Safety equipments		Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection					
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 9.52 (3/8") ② φ 9.52(3/8")×0.8 ① φ 9.52(3/8")×0.8 O/U φ 9.52 (3/8") Gas line: I/U φ 15.88 (5/8") ② φ 15.88(5/8")×1.0 ① φ 15.88(5/8")×1.0 O/U φ 15.88 (5/8")				
	Connecting method		Flare piping				
	Attached length of piping	m	-				
	Insulation for piping		Necessary (both Liquid & Gas lines)				
	Refrigerant line (one way) length	m	Max.50m				
	Vertical height diff. between O/U and I/U	m	Max.50m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)				
Drain hose		Hose connectable VP25(I.D.25, O.D.32)		Hole size φ 20 × 3 pcs			
Drain pump, max lift height	mm	Built-in drain pump , 600		-			
Recommended breaker size	A	-					
L.R.A. (Locked rotor ampere)	A	5.0					
Interconnecting wires	Size × Core number	φ 1.6mm × 3 cores + earth cable / Terminal block (Screw fixing type)					
IP number		IPX0		IP24			
Standard accessories		Mounting kit, Drain hose		-			
Option parts		Filter set : UM-FL2EF, Motion sensor : LB-KIT					
Notes (1) The data are measured at the following conditions.		The pipe length is 7.5m.					
Operation	Item	Indoor air temperature		Outdoor air temperature		External static pressure of indoor unit	Standards
		DB	WB	DB	WB		
	Cooling	27°C	19°C	35°C	24°C		
Heating	20°C	-	7°C	6°C			

(2) This air-conditioner is manufactured and tested in conformity with the ISO.

(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.

(4) Select the breaker size according to the own national standard.

(5) The operation data indicate when the air-conditioner is operated at 400V50Hz or 380V60Hz.

(6) Indoor unit specifications for one unit. Capacity and operation data is two indoor units are combined and run together.

(7) Branching pipe set "DIS-WA1G"×1(Option). ①: Pipe of O/U-Branch, ②: Pipe of Branch-I/U

(8) Static pressure of optional air filter "UM-FL2EF" is 5Pa initially.

(9) The external static pressure setting can be changed to 10-100Pa. (For RC-EX3 and RC-E5 only)

Item		Model	FDUM200VSAPVF2		
			Indoor unit FDUM100VF2 (2 units)	Outdoor unit FDC200VSA	
Power source			3 Phase 380-415V 50Hz / 380V 60Hz		
Operation data	Nominal cooling capacity (range)	kW	19.0 [5.2(Min.)— 22.4(Max.)]		
	Nominal heating capacity (range)	kW	22.4 [3.3(Min.)— 25.0(Max.)]		
	Power consumption	Cooling	kW	6.51	
		Heating		6.04	
	Max power consumption		12.0		
	Running current	Cooling	A	10.2 / 10.6	
		Heating		9.5 / 9.9	
	Inrush current, max current		5, 22		
	Power factor	Cooling	%	92 / 93	
		Heating		92 / 93	
	EER	Cooling	2.92		
	COP	Heating	3.71		
Sound power level	Cooling	dB(A)	65		
	Heating		72		
Sound pressure level	Cooling	dB(A)	P-Hi : 44 Hi : 38 Me : 36 Lo : 30		
	Heating		58		
Silent mode sound pressure level		—			
Exterior dimensions (Height × Width × Depth)		mm	280 × 1,370 × 740		
Exterior appearance (Munsell color)			Stucco white (4.2Y7.5/1.1) near equivalent		
Net weight		kg	54		
Compressor type & Q'ty			RMT5134MDE3 (Twin rotary type)×1		
Compressor motor (Starting method)		kW	—		
Refrigerant oil (Amount, type)		ℓ	—		
Refrigerant (Type, amount, pre-charge length)		kg	R410A 5.6kg in outdoor unit (Incl. the amount for the piping of : 30m)		
Heat exchanger			Louver fin & inner grooved tubing		
Refrigerant control			M shape fin & inner grooved tubing		
Fan type & Q'ty			Electronic expansion valve		
Fan motor (Starting method)		W	Centrifugal fan ×3 Propeller fan ×2		
Air flow		m ³ /min	100 + 130 < Direct line start > 86 × 2 < Direct line start >		
Available external static pressure		Pa	Standard : 60 Max : 100		
Outside air intake			Possible		
Air filter, Quality / Quantity			Procure locally		
Shock & vibration absorber			Rubber sleeve(for fan motor)		
Electric heater		W	Rubber sleeve (for compressor) 20 (Crank case heater)		
Operation control	Remote control		(Option) Wired : RC-EX3, RC-E5 , RCH-E3 Wireless : RCN-KIT4-E2		
	Room temperature control		Thermostat by electronics		
	Operation display		—		
Safety equipments			Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection		
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 9.52 (3/8") ② φ 9.52(3/8")×0.8 ① φ 9.52(3/8")×0.8 or φ 12.7(1/2")×0.8 O/U φ 9.52(3/8") Gas line: I/U φ 15.88 (5/8") ② φ 15.88(5/8")×1.0 ① φ 22.22(7/8")×1.0 or φ 25.4(1")×1.0 or φ 28.58(1 1/8")×1.0 O/U φ 22.22		
	Connecting method		Flare piping Liquid : Flare / Gas : Brazing		
	Attached length of piping	m	—		
	Insulation for piping		Necessary (both Liquid & Gas lines)		
	Refrigerant line (one way) length	m	Max.70m (Liquid piping : φ 12.7, Gas piping : φ 25.4 or φ 28.58), Max.40m (Liquid piping : φ 9.52), Max.35m (Gas piping : φ 22.22)		
	Vertical height diff. between O/U and I/U	m	Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)		
Drain hose		Hose connectable VP25(I.D.25, O.D.32) Hole size φ 20 × 3 pcs			
Drain pump, max lift height	mm	Built-in Drain pump , 600			
Recommended breaker size	A	—			
L.R.A. (Locked rotor ampere)	A	5.0			
Interconnecting wires	Size × Core number	φ 1.6mm×3 cores + earth cable / Terminal block (Screw fixing type)			
IP number		IPX0 IP24			
Standard accessories		Mounting kit, Drain hose Connecting pipe, Edging			
Option parts		Filter set : UM-FL3EF, Motion sensor : LB-KIT			

Notes (1) The data are measured at the following conditions.

The pipe length is 7.5m.

Item	Indoor air temperature		Outdoor air temperature		External static pressure of indoor unit	Standards
	DB	WB	DB	WB		
Cooling	27°C	19°C	35°C	24°C	60Pa	ISO5151-T1
Heating	20°C	—	7°C	6°C		

(2) This air-conditioner is manufactured and tested in conformity with the ISO.

(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.

(4) Select the breaker size according to the own national standard.

(5) The operation data indicate when the air-conditioner is operated at 400V 50Hz or 380V 60Hz.

(6) Indoor unit specifications for one unit. Capacity and operation data are two indoor units combined run together.

(7) Branching pipe set "DIS-WB1G"×1(option). ① : Pipe of O/U-Branch ② : Pipe of Branch-I/U

(8) Static pressure of optional air filter "UM-FL3EF" is 5Pa initially.

(9) The external static pressure setting can be changed to 10-100Pa. (For RC-EX3 and RC-E5 only)

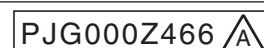
(10) Use 1/2H pipes having a 1.0mm or thicker wall for φ 19.05 or larger pipes.

		Model	FDUM250VSAPVF				
Item			Indoor unit	FDUM125VF (2 units)	Outdoor unit	FDC250VSA	
Power source			3 Phase 380-415V 50Hz / 380V 60Hz				
Operation data	Nominal cooling capacity (range)	kW	24.0 [6.9(Min.) – 28.0(Max.)]				
	Nominal heating capacity (range)	kW	27.0 [5.5(Min.) – 31.5(Max.)]				
	Power consumption	Cooling	kW	8.33			
		Heating		7.52			
	Max power consumption		13.7				
	Running current	Cooling	A	13.2 / 13.9			
		Heating		12.1 / 12.7			
	Inrush current, max current			5 , 24			
	Power factor	Cooling	%	91			
		Heating		90			
	EER	Cooling		2.88			
	COP	Heating		3.59			
Sound power level	Cooling	dB(A)	67		73		
	Heating				75		
Sound pressure level	Cooling		P-Hi : 45 Hi : 40 Me : 34 Lo : 29			59	
	Heating					62	
Silent mode sound pressure level			—			54	
Exterior dimensions (Height x Width x Depth)		mm	280 × 1,370 × 740		1,505×970×370		
Exterior appearance (Munsell color)			—		Stucco white (4.2Y7.5/1.1) near equivalent		
Net weight		kg	54		143		
Compressor type & Q'ty			—		GTC5150NC40KF(Scroll type)×1		
Compressor motor (Starting method)		kW	—		Direct line start		
Refrigerant oil (Amount, type)		ℓ	—		1.45 (M-MA32R)		
Refrigerant (Type, amount, pre-charge length)		kg	R410A 7.2kg in outdoor unit (Incl. the amount for the piping of : 30m)				
Heat exchanger			Louver fin & inner grooved tubing		M shape fin & inner grooved tubing		
Refrigerant control			Electronic expansion valve				
Fan type & Q'ty			Centrifugal fan ×3		Propeller fan ×2		
Fan motor (Stating method)		W	100 + 200 < Direct line start >		86 x 2 < Direct line start >		
Air flow	Cooling	m ³ /min	P-Hi : 39 Hi : 32 Me : 26 Lo : 20			143	
	Heating					151	
Available external static pressure		Pa	Standard : 60 Max : 100		—		
Outside air intake			Possible		—		
Air filter, Quality / Quantity			Procure locally		—		
Shock & vibration absorber			Rubber sleeve(for fan motor)		Rubber sleeve(for Compressor)		
Electric heater		W	—		20 (Crank case heater)		
Operation control	Remote control		(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-KIT4-E2				
	Room temperature control		Thermostat by electronics				
	Operation display		—				
Safety equipments			Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection.				
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/Uφ9.52 (3/8") ②φ9.52(3/8")x0.8 ①φ12.7(1/2")x0.8 O/Uφ12.7 (1/2") Gas line: I/Uφ15.88 (5/8") ②φ15.88(5/8")x1.0 ①φ22.22(7/8")x1.0 or φ25.4(1")x1.0 or φ28.58(1 1/8")x1.0 O/Uφ22.22 (7/8")				
	Connecting method		Flare piping		Liquid : Flare / Gas : Brazing		
	Attached length of piping	m	—		—		
	Insulation for piping		Necessary (both Liquid & Gas lines)				
	Refrigerant line (one way) length	m	Max.70m(Gas piping: φ 25.4 or φ 28.58), Max.35m(Gas piping: φ 22.22)				
	Vertical height diff. between O/U and I/U	m	Max.30m (Outdoor unit is higher)		Max.15m (Outdoor unit is lower)		
Drain hose			Hose connectable VP25(I.D.25, O.D.32)		Hole size φ20 x 3 pcs		
Drain pump, max lift height		mm	Built-in Drain pump , 600		—		
Recommended breaker size		A	—				
L.R.A. (Locked rotor ampere)		A	5.0				
Interconnecting wires Size x Core number			φ 1.6mm × 3 cores + earth cable/ Terminal block (Screw fixing type)				
IP number			IPX0		IP24		
Standard accessories			Mounting kit, Drain hose		Connecting pipe, Edging		
Option parts			Filter set : UM-FL3EF, Motion sensor : LB-KIT				
Notes		(1) The data are measured at the following conditions. The pipe length is 7.5m.					
Operation	Item	Indoor air temperature		Outdoor air temperature		External static pressure of indoor unit	Standards
		DB	WB	DB	WB		
	Cooling	27°C	19°C	35°C	24°C	60Pa	ISO5151-T1
Heating	20°C	—	7°C	6°C			
(2) This air-conditioner is manufactured and tested in conformity with the ISO.							
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.							
(4) Select the breaker size according to the own national standard.							
(5) The operation data indicate when the air-conditioner is operated at 400V50Hz or 380V60Hz.							
(6) Indoor unit specifications for one unit. Capacity and operation data are two indoor units combined and run together.							
(7) Branching pipe set "DIS-WB1G"×1(option). ① : Pipe of O/U- Branch, ② : Pipe of Branch-I/U							
(8) Static pressure of option air filter "UM-FL3EF" is 5Pa initially.							
(9) The external static pressure setting can be changed to 10-100Pa. (For RC-EX3 and RC-E5 only)							
(10) Use 1/2H pipes having a 1.0mm or thicker wall for φ 19.05 or larger pipes.							

(c) Triple type

Item		Model	FDUM140VNATVF			
			Indoor unit FDUM50VF (3 units)	Outdoor unit FDC140VNA		
Power source			1 Phase, 220-240V, 50Hz / 220V, 60Hz			
Operation data	Nominal cooling capacity (range)	kW	13.6 [5.0(Min.)-14.5(Max.)]			
	Nominal heating capacity (range)	kW	15.5 [4.0(Min.)-16.5(Max.)]			
	Power consumption	Cooling	kW	5.02		
		Heating		4.20		
	Max power consumption		6.40			
	Running current	Cooling	A	22.5 / 23.5		
		Heating		18.8 / 19.7		
	Inrush current, max current		5, 27			
	Power factor	Cooling	%	97		
		Heating		97		
	EER	Cooling		2.71		
	COP	Heating		3.69		
	Sound power level	Cooling	dB(A)	60	73	
Heating						
Sound pressure level	Cooling	P-Hi : 37 Hi : 32 Me : 29 Lo : 26	57			
	Heating		59			
Silent mode sound pressure level		—	53 / 47 (Normal / Silent)			
Exterior dimensions (Height × Width × Depth)	mm	280 × 750 × 635		845 × 970 × 370		
Exterior appearance (Munsell color)		—		Stucco white (4.2Y7.5/1.1) near equivalent		
Net weight	kg	29		80		
Compressor type & Q'ty		—		RMT5126MCE3 (Twin rotary type)×1		
Compressor motor (Starting method)	kW	—		Direct line start		
Refrigerant oil (Amount, type)	ℓ	—		0.9 (M-MA68)		
Refrigerant (Type, amount, pre-charge length)	kg	R410A 3.8kg in outdoor unit (Incl. the amount for the piping of : 30m)				
Heat exchanger		Louver fin & inner grooved tubing		Straight fin & inner grooved tubing		
Refrigerant control		Electronic expansion valve				
Fan type & Q'ty		Centrifugal fan ×1		Propeller fan ×1		
Fan motor (Stating method)	W	100 < Direct line start >		86 < Direct line start >		
Air flow	Cooling	m³/min	P-Hi : 13 Hi : 10 Me : 9 Lo : 8			
	Heating		75			
Available external static pressure	Pa	Standard : 35 Max : 100		—		
Outside air intake		Possible		—		
Air filter, Quality / Quantity		Procure locally		—		
Shock & vibration absorber		Rubber sleeve(for fan motor)		Rubber sleeve(for compressor)		
Electric heater	W	—		20 (Crank case heater)		
Operation control	Remote control	(Option) Wired : RC-EX3,RC-E5,RCH-E3 Wireless : RCN-KIT4-E2				
	Room temperature control	Thermostat by electronics				
	Operation display	—				
Safety equipments		Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection				
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 6.35 (1/4") ② φ 9.52(3/8")x0.8 ① φ 9.52(3/8")x0.8 O/U φ 9.52 (3/8") Gas line: I/U φ 12.7 (1/2") ② φ 2.7(1/2")x0.8 ① φ 15.88(5/8")x1.0 O/U φ 15.88 (5/8")			
	Connecting method		Flare piping			
	Attached length of piping	m	—			
	Insulation for piping		Necessary (both Liquid & Gas lines)			
	Refrigerant line (one way) length	m	Max.50m			
	Vertical height diff. between O/U and I/U	m	Max.50m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)			
Drain hose		Hose connectable VP25(I.D.25, O.D.32)		Hole size φ 20 × 3 pcs		
Drain pump, max lift height	mm	Built-in drain pump , 600		—		
Recommended breaker size	A	—				
L.R.A. (Locked rotor ampere)	A	5.0				
Interconnecting wires	Size × Core number	φ 1.6mm × 3 cores + earth cable / Terminal block (Screw fixing type)				
IP number		IPX0		IP24		
Standard accessories		Mounting kit, Drain hose		—		
Option parts		Filter set : UM-FL1EF, Motion sensor : LB-KIT				
Notes (1) The data are measured at the following conditions.		The pipe length is 7.5m.				
Operation	Cooling	Indoor air temperature	Outdoor air temperature		External static pressure of indoor unit	Standards
		DB	WB	DB		
	27°C	19°C	35°C	24°C		
Heating	20°C	—	7°C	6°C		

- (2) This air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.
- (4) Select the breaker size according to the own national standard.
- (5) The operation data indicate when the air-conditioner is operated at 230V50Hz or 220V60Hz.
- (6) Indoor unit specifications for one unit. Capacity and operation data is three indoor units are combined and run together.
- (7) Branching pipe set "DIS-TA1G"×1(Option). ① : Pipe of O/U-Branch, ② : Pipe of Branch-I/U
- (8) Static pressure of optional air filter "UM-FL1EF" is 5Pa initially.
- (9) The external static pressure setting can be changed to 10-100Pa. (For RC-EX3 and RC-E5 only)



Item		Model	FDUM140VSATVF			
			Indoor unit FDUM50VF (3 units)	Outdoor unit FDC140VSA		
Power source			3 Phase, 380-415V, 50Hz / 380V, 60Hz			
Operation data	Nominal cooling capacity (range)	kW	13.6 [5.0(Min.)-14.5(Max.)]			
	Nominal heating capacity (range)	kW	15.5 [4.0(Min.)-16.5(Max.)]			
	Power consumption	Cooling	kW	5.02		
		Heating		4.20		
	Max power consumption		10.20			
	Running current	Cooling	A	7.5 / 7.9		
		Heating		6.2 / 6.6		
	Inrush current, max current		5, 18			
	Power factor	Cooling	%	97		
		Heating		98 / 97		
	EER	Cooling		2.71		
	COP	Heating		3.69		
	Sound power level	Cooling	dB(A)	60	73	
Heating		P-Hi : 37 Hi : 32 Me : 29 Lo : 26				
Sound pressure level	Cooling		57			
	Heating		59			
Silent mode sound pressure level			53 / 47 (Normal / Silent)			
Exterior dimensions (Height × Width × Depth)	mm	280 × 750 × 635		845 × 970 × 370		
Exterior appearance (Munsell color)		-		Stucco white (4.2Y7.5/1.1) near equivalent		
Net weight	kg	29		82		
Compressor type & Q'ty		-		RMT5126MCE4 (Twin rotary type)x1		
Compressor motor (Starting method)	kW	-		Direct line start		
Refrigerant oil (Amount, type)	ℓ	-		0.9 (M-MA68)		
Refrigerant (Type, amount, pre-charge length)	kg	R410A 3.8kg in outdoor unit (Incl. the amount for the piping of : 30m)				
Heat exchanger		Louver fin & inner grooved tubing		Straight fin & inner grooved tubing		
Refrigerant control		Electronic expansion valve				
Fan type & Q'ty		Centrifugal fan x1		Propeller fan x1		
Fan motor (Stating method)	W	100 < Direct line start >		86 < Direct line start >		
Air flow	Cooling	m³/min	P-Hi : 13 Hi : 10 Me : 9 Lo : 8			
	Heating		75			
Available external static pressure	Pa	Standard : 35 Max : 100		-		
Outside air intake		Possible		-		
Air filter, Quality / Quantity		Procure locally		-		
Shock & vibration absorber		Rubber sleeve(for fan motor)		Rubber sleeve(for compressor)		
Electric heater	W	-		20 (Crank case heater)		
Operation control	Remote control	(Option) Wired : RC-EX3,RC-E5,RCH-E3 Wireless : RCN-KIT4-E2				
	Room temperature control	Thermostat by electronics				
	Operation display	-				
Safety equipments		Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection				
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 6.35 (1/4") ② φ 9.52(3/8")x0.8 ① φ 9.52(3/8")x0.8 O/U φ 9.52 (3/8") Gas line: I/U φ 12.7 (1/2") ② φ 12.7(1/2")x0.8 ① φ 15.88(5/8")x1.0 O/U φ 15.88 (5/8")			
	Connecting method		Flare piping			
	Attached length of piping	m	-			
	Insulation for piping		Necessary (both Liquid & Gas lines)			
	Refrigerant line (one way) length	m	Max.50m			
	Vertical height diff. between O/U and I/U	m	Max.50m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)			
	Drain hose		Hose connectable VP25(I.D.25, O.D.32)		Hole size φ 20 x 3 pcs	
Drain pump, max lift height	mm	Built-in drain pump , 600		-		
Recommended breaker size	A	-				
L.R.A. (Locked rotor ampere)	A	5.0				
Interconnecting wires	Size × Core number	φ 1.6mm × 3 cores + earth cable / Terminal block (Screw fixing type)				
IP number		IPX0		IP24		
Standard accessories		Mounting kit, Drain hose		-		
Option parts		Filter set : UM-FL1EF, Motion sensor : LB-KIT				
Notes (1) The data are measured at the following conditions.		The pipe length is 7.5m.				
Operation	Cooling	Indoor air temperature	Outdoor air temperature		External static pressure of indoor unit	Standards
		DB	WB	DB		
	27°C	19°C	35°C	24°C		
Heating	20°C	-	7°C	6°C		

(2) This air-conditioner is manufactured and tested in conformity with the ISO.
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.
(4) Select the breaker size according to the own national standard.
(5) The operation data indicate when the air-conditioner is operated at 400V50Hz or 380V60Hz.
(6) Indoor unit specifications for one unit. Capacity and operation data is three indoor units are combined and run together.
(7) Branching pipe set "DIS-TA1G"x1(Option). ① : Pipe of O/U-Branch, ② : Pipe of Branch-I/U
(8) Static pressure of optional air filter "UM-FL1EF" is 5Pa initially.
(9) The external static pressure setting can be changed to 10-100Pa. (For RC-EX3 and RC-E5 only)

Item		Model	FDUM200VSATVF1				
			Indoor unit	FDUM71VF1 (3 units)	Outdoor unit	FDC200VSA	
Power source			3 Phase 380-415V 50Hz / 380V 60Hz				
Operation data	Nominal cooling capacity (range)	kW	19.0 [5.2(Min.) - 22.4(Max.)]				
	Nominal heating capacity (range)	kW	22.4 [3.3(Min.) - 25.0(Max.)]				
	Power consumption	Cooling	kW	6.46			
		Heating		6.15			
	Max power consumption		12.0				
	Running current	Cooling	A	10.0 / 10.6			
		Heating		9.6 / 10.0			
	Inrush current, max current		5 , 22				
	Power factor	Cooling	%	93			
		Heating		92 / 93			
	EER	Cooling		2.94			
	COP	Heating		3.64			
	Sound power level	Cooling	dB(A)	65		72	
Heating				74			
Sound pressure level	Cooling		P-Hi : 38 Hi : 33 Me : 29 Lo : 25			58	
	Heating					59	
Silent mode sound pressure level			-			52	
Exterior dimensions (Height x Width x Depth)		mm	280 × 950 × 635		1,300×970×370		
Exterior appearance (Munsell color)			-		Stucco white (4.2Y7.5/1.1) near equivalent		
Net weight		kg	34		115		
Compressor type & Q'ty			-		RMT5134MDE3 (Twin rotary type)×1		
Compressor motor (Starting method)		kW	-		Direct line start		
Refrigerant oil (Amount, type)		ℓ	-		0.9(compressor) + 0.6(unit) (M-MA68)		
Refrigerant (Type, amount, pre-charge length)		kg	R410A 5.6kg in outdoor unit (Incl. the amount for the piping of : 30m)				
Heat exchanger			Louver fin & inner grooved tubing		M shape fin & inner grooved tubing		
Refrigerant control			Electronic expansion valve				
Fan type & Q'ty			Centrifugal fan ×2		Propeller fan ×2		
Fan motor (Stating method)		W	130 < Direct line start >		86 x 2 < Direct line start >		
Air flow	Cooling	m³/min	P-Hi : 24 Hi : 19 Me : 15 Lo : 10			135	
	Heating						
Available external static pressure		Pa	Standard : 35 Max : 100		-		
Outside air intake			Possible		-		
Air filter, Quality / Quantity			Procure locally				
Shock & vibration absorber			Rubber sleeve(for fan motor)		Rubber sleeve(for compressor)		
Electric heater		W	-		20(Crank case heater)		
Operation control	Remote control		(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-KIT4-E2				
	Room temperature control		Thermostat by electronics				
	Operation display		-				
Safety equipments			Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection				
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line : I/Uφ9.52 (3/8") ②φ9.52(3/8")x0.8 ①φ9.52(3/8")x0.8 or φ12.7(1/2")x0.8 O/Uφ9.52(3/8")				
			Gas line : I/Uφ15.88 (5/8") ②φ 15.88(5/8")x1.0 ①φ22.22(7/8")x1.0 or φ25.4(1")x1.0 or φ28.58(1 1/8")x1.0 O/Uφ22.22 (7/8")				
	Connecting method		Flare piping		Liquid : Flare / Gas : Brazing		
	Attached length of piping	m	-				
	Insulation for piping		Necessary (both Liquid & Gas lines)				
	Refrigerant line (one way) length	m	Max.70m(Liquid piping:φ12.7, Gas piping:φ25.4 or φ28.58), Max.40m(Liquid piping:φ9.52), Max.35m(Gas piping:φ22.22)				
Vertical height diff. between O/U and I/U	m	Max.30m (Outdoor unit is higher)		Max.15m (Outdoor unit is lower)			
Drain hose		Hose connectable VP25(I.D.25, O.D.32)		Hole size φ20 x 3 pcs			
Drain pump, max lift height	mm	Built-in Drain pump , 600					
Recommended breaker size	A	-					
L.R.A. (Locked rotor ampere)	A	5.0					
Interconnecting wires	Size x Core number	φ 1.6mm × 3 cores + earth cable/ Terminal block (Screw fixing type)					
IP number		IPX0		IP24			
Standard accessories		Mounting kit, Drain hose		Connecting pipe, Edging			
Option parts		Filter set : UM-FL2EF, Motion sensor : LB-KIT					
Notes (1) The data are measured at the following conditions.		The pipe length is 7.5m.					
Operation	Item	Indoor air temperature		Outdoor air temperature		External static pressure of indoor unit	Standards
		DB	WB	DB	WB		
Cooling		27°C	19°C	35°C	24°C	35Pa	ISO5151-T1
Heating		20°C	-	7°C	6°C		
<p>(2) This air-conditioner is manufactured and tested in conformity with the ISO.</p> <p>(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.</p> <p>(4) Select the breaker size according to the own national standard.</p> <p>(5) The operation data indicate when the air-conditioner is operated at 400V50Hz or 380V60Hz.</p> <p>(6) Indoor unit specifications for one unit. Capacity and operation data are three indoor units combined and run together.</p> <p>(7) Branching pipe set "DIS-TB1G"×1(option). ①: Pipe of O/U-Branch. ②: Pipe of Branch-I/U</p> <p>(8) Static pressure of option air filter "UM-FL2EF" is 5Pa initially.</p> <p>(9) The external static pressure setting can be changed to 10-100Pa. (For RC-EX3 and RC-E5 only)</p> <p>(10) Use 1/2H pipes having a 1.0mm or thicker wall for φ 19.05 or larger pipes.</p>							

(3) Duct connected-High static pressure type (FDU)
Single type

Item		Model	FDU100VNAVF2		
			Indoor unit FDU100VF2	Outdoor unit FDC100VNA	
Power source			1 Phase, 220-240V, 50Hz / 220V, 60Hz		
Operation data	Nominal cooling capacity (range)	kW	10.0 [4.0(Min.)-11.2(Max.)]		
	Nominal heating capacity (range)	kW	11.2 [4.0(Min.)-12.5(Max.)]		
	Power consumption	Cooling	kW	2.84	
		Heating		2.78	
	Max power consumption		6.40		
	Running current	Cooling	A	13.6 / 14.2	
		Heating		13.3 / 13.9	
	Inrush current, max current		5, 26		
	Power factor	Cooling	%	91	
		Heating		91	
	EER	Cooling		3.52	
	COP	Heating		4.03	
	Sound power level	Cooling	dB(A)	65	70
		Heating			
Sound pressure level	Cooling	dB(A)	P-Hi : 44 Hi : 38 Me : 36 Lo : 30		
	Heating		54 56		
Silent mode sound pressure level			—		
Exterior dimensions (Height × Width × Depth)	mm		280 × 1,370 × 740	845 × 970 × 370	
Exterior appearance (Munsell color)			—	Stucco white (4.2Y7.5/1.1) near equivalent	
Net weight	kg		54	80	
Compressor type & Q'ty			—	RMT5126MCE3 (Twin rotary type)×1	
Compressor motor (Starting method)	kW		—	Direct line start	
Refrigerant oil (Amount, type)	ℓ		—	0.9 (M-MA68)	
Refrigerant (Type, amount, pre-charge length)	kg		R410A 3.8kg in outdoor unit (Incl. the amount for the piping of : 30m)		
Heat exchanger			Louver fin & inner grooved tubing	Straight fin & inner grooved tubing	
Refrigerant control			Electronic expansion valve		
Fan type & Q'ty			Centrifugal fan ×3	Propeller fan ×1	
Fan motor (Stating method)	W		100 + 130 < Direct line start >	86 < Direct line start >	
Air flow	Cooling	m³/min	P-Hi : 36 Hi : 28 Me : 25 Lo : 19		
	Heating		75 73		
Available external static pressure	Pa		Standard : 60 Max : 200	—	
Outside air intake			Possible	—	
Air filter, Quality / Quantity			Procure locally	—	
Shock & vibration absorber			Rubber sleeve (for fan motor)	Rubber sleeve (for compressor)	
Electric heater	W		—	20 (Crank case heater)	
Operation control	Remote control		(Option) Wired :RC-EX3, RC-E5,RCH-E3 Wireless : RCN-KIT4-E2		
	Room temperature control		Thermostat by electronics		
	Operation display		—		
Safety equipments			Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection		
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 9.52 (3/8") Pipe φ 9.52(3/8")×0.8 O/U φ 9.52 (3/8") Gas line: φ 15.88 (5/8") φ 15.88(5/8")×1.0 φ 15.88 (5/8")		
	Connecting method		Flare piping		
	Attached length of piping	m	—		
	Insulation for piping		Necessary (both Liquid & Gas lines)		
	Refrigerant line (one way) length	m	Max.50m		
	Vertical height diff. between O/U and I/U	m	Max.50m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)		
Drain hose			Hose connectable VP25 (I.D.25, O.D.32)	Hole size φ 20 × 3 pcs	
Drain pump, max lift height	mm		Built-in drain pump,600	—	
Recommended breaker size	A		—		
L.R.A. (Locked rotor ampere)	A		5.0		
Interconnecting wires	Size × Core number		φ 1.6mm × 3 cores + earth cable / Terminal block (Screw fixing type)		
IP number			IPX0	IP24	
Standard accessories			Mounting kit, Drain hose	—	
Option parts			Motion sensor : LB-KIT		

Notes (1) The data are measured at the following conditions. The pipe length is 7.5m.

Item	Indoor air temperature		Outdoor air temperature		External static pressure of indoor unit	Standards
	DB	WB	DB	WB		
Cooling	27°C	19°C	35°C	24°C	60Pa	ISO5151-T1
Heating	20°C	—	7°C	6°C		

- (2) This air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.
- (4) Select the breaker size according to the own national standard.
- (5) When wireless remote controller is used, fan is 3 speed setting (Hi-Me-Lo) only.
- (6) The operation data indicate when the air-conditioner is operated at 230V 50Hz or 220V 60Hz.
- (7) The factory E.S.P. setting is set within the range of 80 - 150 Pa.If SW8-4 is turned to "ON", E.S.P. setting range can be changed to 10 - 200 Pa.(For RC-EX3 and RC-E5 only)

Item		Model	FDU100VSAVF2			
			Indoor unit FDU100VF2		Outdoor unit FDC100VSA	
Power source		3 Phase, 380-415V, 50Hz / 380V, 60Hz				
Operation data	Nominal cooling capacity (range)	kW	10.0 [4.0(Min.)-11.2(Max.)]			
	Nominal heating capacity (range)	kW	11.2 [4.0(Min.)-12.5(Max.)]			
	Power consumption	Cooling	kW	2.84		
		Heating		2.78		
	Max power consumption		10.20			
	Running current	Cooling	A	4.4 / 4.6		
		Heating		4.3 / 4.5		
	Inrush current, max current		5, 17			
	Power factor	Cooling	%	93 / 94		
		Heating		93 / 94		
	EER	Cooling		3.52		
	COP	Heating		4.03		
	Sound power level	Cooling	dB(A)	65		70
		Heating		P-Hi : 44 Hi : 38 Me : 36 Lo : 30		54
Sound pressure level	Cooling				56	
	Heating				50/44 (Normal/Silent)	
Silent mode sound pressure level			—			
Exterior dimensions (Height × Width × Depth)	mm	280 × 1,370 × 740		845 × 970 × 370		
Exterior appearance (Munsell color)		—		Stucco white (4.2Y7.5/1.1) near equivalent		
Net weight	kg	54		82		
Compressor type & Q'ty		—		RMT5126MCE4 (Twin rotary type)×1		
Compressor motor (Starting method)	kW	—		Direct line start		
Refrigerant oil (Amount, type)	ℓ	—		0.9 (M-MA68)		
Refrigerant (Type, amount, pre-charge length)	kg	R410A 3.8kg in outdoor unit (Incl. the amount for the piping of : 30m)				
Heat exchanger		Louver fin & inner grooved tubing		Straight fin & inner grooved tubing		
Refrigerant control		Electronic expansion valve				
Fan type & Q'ty		Centrifugal fan ×3		Propeller fan ×1		
Fan motor (Stating method)	W	100 + 130 < Direct line start >		86 < Direct line start >		
Air flow	Cooling	m³/min	P-Hi : 36 Hi : 28 Me : 25 Lo : 19			
	Heating					75
Available external static pressure	Pa	Standard : 60 Max : 200		—		
Outside air intake		Possible		—		
Air filter, Quality / Quantity		Procure locally		—		
Shock & vibration absorber		Rubber sleeve (for fan motor)		Rubber sleeve (for compressor)		
Electric heater	W	—		20 (Crank case heater)		
Operation control	Remote control	(Option) Wired :RC-EX3, RC-E5,RCH-E3 Wireless : RCN-KIT4-E2				
	Room temperature control	Thermostat by electronics				
	Operation display	—				
Safety equipments		Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection				
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 9.52 (3/8") Pipe φ 9.52(3/8")×0.8 O/U φ 9.52 (3/8") Gas line: φ 15.88 (5/8") φ 15.88(5/8")×1.0 φ 15.88 (5/8")			
	Connecting method		Flare piping		Flare piping	
	Attached length of piping	m	—			
	Insulation for piping		Necessary (both Liquid & Gas lines)			
	Refrigerant line (one way) length	m	Max.50m			
	Vertical height diff. between O/U and I/U	m	Max.50m (Outdoor unit is higher)		Max.15m (Outdoor unit is lower)	
Drain hose		Hose connectable VP25 (I.D.25, O.D.32)		Hole size φ 20 × 3 pcs		
Drain pump, max lift height	mm	Built-in drain pump,600		—		
Recommended breaker size	A	—				
L.R.A. (Locked rotor ampere)	A	5.0				
Interconnecting wires	Size × Core number	φ 1.6mm × 3 cores + earth cable / Terminal block (Screw fixing type)				
IP number		IPX0		IP24		
Standard accessories		Mounting kit, Drain hose		—		
Option parts		Motion sensor : LB-KIT				

Notes (1) The data are measured at the following conditions. The pipe length is 7.5m.

Item	Indoor air temperature		Outdoor air temperature		External static pressure of indoor unit	Standards
	DB	WB	DB	WB		
Cooling	27°C	19°C	35°C	24°C	60Pa	ISO5151-T1
Heating	20°C	—	7°C	6°C		

(2) This air-conditioner is manufactured and tested in conformity with the ISO.
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.
(4) Select the breaker size according to the own national standard.
(5) When wireless remote controller is used, fan is 3 speed setting (Hi-Me-Lo) only.
(6) The operation data indicate when the air-conditioner is operated at 400V 50Hz or 380V 60Hz.
(7) The factory E.S.P. setting is set within the range of 80 - 150 Pa.If SW8-4 is turned to "ON", E.S.P. setting range can be changed to 10 - 200 Pa.(For RC-EX3 and RC-E5 only)

Item		Model	FDU125VNAVF				
			Indoor unit FDU125VF	Outdoor unit FDC125VNA			
Power source			1 Phase, 220-240V, 50Hz / 220V, 60Hz				
Operation data	Nominal cooling capacity (range)	kW	12.5 [5.0(Min.)-14.0(Max.)]				
	Nominal heating capacity (range)	kW	14.0 [4.0(Min.)-16.0(Max.)]				
	Power consumption	Cooling	kW	4.36			
		Heating		3.69			
	Max power consumption		6.40				
	Running current	Cooling	A	20.3 / 21.3			
		Heating		17.8 / 18.7			
	Inrush current, max current		5, 26				
	Power factor	Cooling	%	93			
		Heating		90			
	EER	Cooling		2.87			
	COP	Heating		3.79			
	Sound power level	Cooling	dB(A)	67	71		
Heating							
Sound pressure level	Cooling	dB(A)	P-Hi : 45 Hi : 40 Me 34 Lo : 29				
	Heating		55 57				
Silent mode sound pressure level			51/45 (Normal/Silent)				
Exterior dimensions (Height × Width × Depth)	mm	280 × 1,370 × 740		845 × 970 × 370			
Exterior appearance (Munsell color)		—		Stucco white (4.2Y7.5/1.1) near equivalent			
Net weight	kg	54		80			
Compressor type & Q'ty		—		RMT5126MCE3 (Twin rotary type)×1			
Compressor motor (Starting method)	kW	—		Direct line start			
Refrigerant oil (Amount, type)	ℓ	—		0.9 (M-MA68)			
Refrigerant (Type, amount, pre-charge length)	kg	R410A 3.8kg in outdoor unit (Incl. the amount for the piping of : 30m)					
Heat exchanger		Louver fin & inner grooved tubing		Straight fin & inner grooved tubing			
Refrigerant control		Electronic expansion valve					
Fan type & Q'ty		Centrifugal fan ×3		Propeller fan ×1			
Fan motor (Stating method)	W	100 + 200 < Direct line start >		86 < Direct line start >			
Air flow	Cooling	m³/min	P-Hi : 39 Hi : 32 Me : 26 Lo : 20				
	Heating		75 73				
Available external static pressure	Pa	Standard : 60 Max : 200		—			
Outside air intake		Possible		—			
Air filter, Quality / Quantity		Procure locally		—			
Shock & vibration absorber		Rubber sleeve (for fan motor)		Rubber sleeve (for compressor)			
Electric heater	W	—		20 (Crank case heater)			
Operation control	Remote control	(Option) Wired :RC-EX3, RC-E5,RCH-E3 Wireless : RCN-KIT4-E2					
	Room temperature control	Thermostat by electronics					
	Operation display	—					
Safety equipments		Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection					
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 9.52 (3/8") Pipe φ 9.52(3/8")×0.8 O/U φ 9.52 (3/8") Gas line: φ 15.88 (5/8") φ 15.88(5/8")×1.0 φ 15.88 (5/8")				
	Connecting method		Flare piping				
	Attached length of piping	m	—				
	Insulation for piping		Necessary (both Liquid & Gas lines)				
	Refrigerant line (one way) length	m	Max.50m				
	Vertical height diff. between O/U and I/U	m	Max.50m (Outdoor unit is higher)		Max.15m (Outdoor unit is lower)		
Drain hose		Hose connectable VP25 (I.D.25, O.D.32)		Hole size φ 20 × 3 pcs			
Drain pump, max lift height	mm	Built-in drain pump,600		—			
Recommended breaker size	A	—					
L.R.A. (Locked rotor ampere)	A	5/5					
Interconnecting wires	Size × Core number	φ 1.6mm × 3 cores + earth cable / Terminal block (Screw fixing type)					
IP number		IPX0		IP24			
Standard accessories		Mounting kit, Drain hose		—			
Option parts		Motion sensor : LB-KIT					
Notes (1) The data are measured at the following conditions. The pipe length is 7.5m.							
	Item	Indoor air temperature		Outdoor air temperature		External static pressure of indoor unit	Standards
	Operation	DB	WB	DB	WB		
	Cooling	27°C	19°C	35°C	24°C	60Pa	ISO5151-T1
	Heating	20°C	—	7°C	6°C		
(2) This air-conditioner is manufactured and tested in conformity with the ISO.							
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.							
(4) Select the breaker size according to the own national standard.							
(5) When wireless remote controller is used, fan is 3 speed setting (Hi-Me-Lo) only.							
(6) The operation data indicate when the air-conditioner is operated at 230V 50Hz or 220V 60Hz.							
(7) The factory E.S.P. setting is set within the range of 80 - 150 Pa.If SW8-4 is turned to "ON", E.S.P. setting range can be changed to 10 - 200 Pa.(For RC-EX3 and RC-E5 only)							

Item		Model	FDU125VSAVF		
			Indoor unit FDU125VF	Outdoor unit FDC125VSA	
Power source			3 Phase, 380-415V, 50Hz / 380V, 60Hz		
Operation data	Nominal cooling capacity (range)	kW	12.5 [5.0(Min.)-14.0(Max.)]		
	Nominal heating capacity (range)	kW	14.0 [4.0(Min.)-16.0(Max.)]		
	Power consumption	Cooling	kW	4.36	
		Heating		3.69	
	Max power consumption		10.20		
	Running current	Cooling	A	6.8 / 7.2	
		Heating		5.9 / 6.2	
	Inrush current, max current		5, 17		
	Power factor	Cooling	%	93 / 92	
		Heating		90	
	EER	Cooling		2.87	
	COP	Heating		3.79	
	Sound power level	Cooling	dB(A)	67	71
Heating					
Sound pressure level	Cooling	dB(A)	P-Hi : 45 Hi : 40 Me : 34 Lo : 29		
	Heating		55 57		
Silent mode sound pressure level			—		
Exterior dimensions (Height × Width × Depth)	mm		280 × 1,370 × 740	845 × 970 × 370	
Exterior appearance (Munsell color)			—	Stucco white (4.2Y7.5/1.1) near equivalent	
Net weight	kg		54	82	
Compressor type & Q'ty			—	RMT5126MCE4 (Twin rotary type)×1	
Compressor motor (Starting method)	kW		—	Direct line start	
Refrigerant oil (Amount, type)	ℓ		—	0.9 (M-MA68)	
Refrigerant (Type, amount, pre-charge length)	kg		R410A 3.8kg in outdoor unit (Incl. the amount for the piping of : 30m)		
Heat exchanger			Louver fin & inner grooved tubing	Straight fin & inner grooved tubing	
Refrigerant control			Electronic expansion valve		
Fan type & Q'ty			Centrifugal fan ×3	Propeller fan ×1	
Fan motor (Stating method)	W		100 + 200 < Direct line start >	86 < Direct line start >	
Air flow	Cooling	m³/min	P-Hi : 39 Hi : 32 Me : 26 Lo : 20		
	Heating		75 73		
Available external static pressure	Pa		Standard : 60 Max : 200	—	
Outside air intake			Possible	—	
Air filter, Quality / Quantity			Procure locally	—	
Shock & vibration absorber			Rubber sleeve (for fan motor)	Rubber sleeve (for compressor)	
Electric heater	W		—	20 (Crank case heater)	
Operation control	Remote control		(Option) Wired :RC-EX3, RC-E5,RCH-E3 Wireless : RCN-KIT4-E2		
	Room temperature control		Thermostat by electronics		
	Operation display		—		
Safety equipments			Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection		
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 9.52 (3/8") Pipe φ 9.52(3/8")×0.8 O/U φ 9.52 (3/8") Gas line: φ 15.88 (5/8") φ 15.88(5/8")×1.0 φ 15.88 (5/8")		
	Connecting method		Flare piping	Flare piping	
	Attached length of piping	m	—		
	Insulation for piping		Necessary (both Liquid & Gas lines)		
	Refrigerant line (one way) length	m	Max.50m		
	Vertical height diff. between O/U and I/U	m	Max.50m (Outdoor unit is higher)	Max.15m (Outdoor unit is lower)	
Drain hose			Hose connectable VP25 (I.D.25, O.D.32)	Hole size φ 20 × 3 pcs	
Drain pump, max lift height	mm		Built-in drain pump,600	—	
Recommended breaker size	A		—		
L.R.A. (Locked rotor ampere)	A		5/5		
Interconnecting wires	Size × Core number		φ 1.6mm × 3 cores + earth cable / Terminal block (Screw fixing type)		
IP number			IPX0	IP24	
Standard accessories			Mounting kit, Drain hose	—	
Option parts			Motion sensor : LB-KIT		

Notes (1) The data are measured at the following conditions. The pipe length is 7.5m.

Item	Indoor air temperature		Outdoor air temperature		External static pressure of indoor unit	Standards
	DB	WB	DB	WB		
Cooling	27°C	19°C	35°C	24°C	60Pa	ISO5151-T1
Heating	20°C	—	7°C	6°C		

- (2) This air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.
- (4) Select the breaker size according to the own national standard.
- (5) When wireless remote controller is used, fan is 3 speed setting (Hi-Me-Lo) only.
- (6) The operation data indicate when the air-conditioner is operated at 400V 50Hz or 380V 60Hz.
- (7) The factory E.S.P. setting is set within the range of 80 - 150 Pa.If SW8-4 is turned to "ON", E.S.P. setting range can be changed to 10 - 200 Pa.(For RC-EX3 and RC-E5 only)

Item		Model	FDU140VNAVF				
			Indoor unit FDU140VF	Outdoor unit FDC140VNA			
Power source			1 Phase, 220-240V, 50Hz / 220V, 60Hz				
Operation data	Nominal cooling capacity (range)	kW	13.6 [5.0(Min.)-14.5(Max.)]				
	Nominal heating capacity (range)	kW	15.5 [4.0(Min.)-16.5(Max.)]				
	Power consumption	Cooling	kW	4.93			
		Heating		4.21			
	Max power consumption		6.40				
	Running current	Cooling	A	22.8 / 23.8			
		Heating		20.3 / 21.3			
	Inrush current, max current		5, 27				
	Power factor	Cooling	%	94			
		Heating		90			
	EER	Cooling		2.76			
	COP	Heating		3.68			
	Sound power level	Cooling	dB(A)	70	73		
		Heating					
Sound pressure level	Cooling	dB(A)	P-Hi : 47 Hi : 40 Me : 35 Lo : 30				
	Heating		57 59				
Silent mode sound pressure level			—				
Exterior dimensions (Height × Width × Depth)	mm	280 × 1,370 × 740		845 × 970 × 370			
Exterior appearance (Munsell color)		—		Stucco white (4.2Y7.5/1.1) near equivalent			
Net weight	kg	54		80			
Compressor type & Q'ty		—		RMT5126MCE3 (Twin rotary type)×1			
Compressor motor (Starting method)	kW	—		Direct line start			
Refrigerant oil (Amount, type)	ℓ	—		0.9 (M-MA68)			
Refrigerant (Type, amount, pre-charge length)	kg	R410A 3.8kg in outdoor unit (Incl. the amount for the piping of : 30m)					
Heat exchanger		Louver fin & inner grooved tubing		Straight fin & inner grooved tubing			
Refrigerant control		Electronic expansion valve					
Fan type & Q'ty		Centrifugal fan ×3		Propeller fan ×1			
Fan motor (Stating method)	W	100 + 200 < Direct line start >		86 < Direct line start >			
Air flow	Cooling	m³/min	P-Hi : 48 Hi : 35 Me : 28 Lo : 22				
	Heating		75 73				
Available external static pressure	Pa	Standard : 60 Max : 200		—			
Outside air intake		Possible		—			
Air filter, Quality / Quantity		Procure locally		—			
Shock & vibration absorber		Rubber sleeve (for fan motor)		Rubber sleeve (for compressor)			
Electric heater	W	—		20 (Crank case heater)			
Operation control	Remote control	(Option) Wired :RC-EX3, RC-E5,RCH-E3 Wireless : RCN-KIT4-E2					
	Room temperature control	Thermostat by electronics					
	Operation display	—					
Safety equipments		Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection					
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 9.52 (3/8") Pipe φ 9.52(3/8")×0.8 O/U φ 9.52 (3/8") Gas line: φ 15.88 (5/8") φ 15.88(5/8")×1.0 φ 15.88 (5/8")				
	Connecting method		Flare piping				
	Attached length of piping	m	—				
	Insulation for piping		Necessary (both Liquid & Gas lines)				
	Refrigerant line (one way) length	m	Max.50m				
	Vertical height diff. between O/U and I/U	m	Max.50m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)				
Drain hose		Hose connectable VP25 (I.D.25, O.D.32)		Hole size φ 20 × 3 pcs			
Drain pump, max lift height	mm	Built-in drain pump,600		—			
Recommended breaker size	A	—					
L.R.A. (Locked rotor ampere)	A	5/5					
Interconnecting wires	Size × Core number	φ 1.6mm × 3 cores + earth cable / Terminal block (Screw fixing type)					
IP number		IPX0		IP24			
Standard accessories		Mounting kit, Drain hose		—			
Option parts		Motion sensor : LB-KIT					
Notes (1) The data are measured at the following conditions. The pipe length is 7.5m.							
	Item	Indoor air temperature		Outdoor air temperature		External static pressure of indoor unit	Standards
Operation		DB	WB	DB	WB		
Cooling		27°C	19°C	35°C	24°C	60Pa	ISO5151-T1
Heating		20°C	—	7°C	6°C		
<p>(2) This air-conditioner is manufactured and tested in conformity with the ISO.</p> <p>(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.</p> <p>(4) Select the breaker size according to the own national standard.</p> <p>(5) When wireless remote controller is used, fan is 3 speed setting (Hi-Me-Lo) only.</p> <p>(6) The operation data indicate when the air-conditioner is operated at 230V 50Hz or 220V 60Hz.</p> <p>(7) The factory E.S.P. setting is set within the range of 80 - 150 Pa.If SW8-4 is turned to "ON", E.S.P. setting range can be changed to 10 - 200 Pa.(For RC-EX3 and RC-E5 only)</p>							

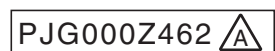
Item		Model	FDU140VSAVF		
			Indoor unit FDU140VF	Outdoor unit FDC140VSA	
Power source			3 Phase, 380-415V, 50Hz / 380V, 60Hz		
Operation data	Nominal cooling capacity (range)	kW	13.6 [5.0(Min.)-14.5(Max.)]		
	Nominal heating capacity (range)	kW	15.5 [4.0(Min.)-16.5(Max.)]		
	Power consumption	Cooling	kW	4.93	
		Heating		4.21	
	Max power consumption		10.20		
	Running current	Cooling	A	7.8 / 8.2	
		Heating		6.8 / 7.1	
	Inrush current, max current		5, 18		
	Power factor	Cooling	%	91	
		Heating		89 / 90	
	EER	Cooling		2.76	
	COP	Heating		3.68	
	Sound power level	Cooling	dB(A)	70	73
		Heating			
Sound pressure level	Cooling	dB(A)	P-Hi : 47 Hi : 40 Me : 35 Lo : 30		
	Heating		57 59		
Silent mode sound pressure level			—		
Exterior dimensions (Height × Width × Depth)	mm		280 × 1,370 × 740	845 × 970 × 370	
Exterior appearance (Munsell color)			—	Stucco white (4.2Y7.5/1.1) near equivalent	
Net weight	kg		54	82	
Compressor type & Q'ty			—	RMT5126MCE4 (Twin rotary type)×1	
Compressor motor (Starting method)	kW		—	Direct line start	
Refrigerant oil (Amount, type)	ℓ		—	0.9 (M-MA68)	
Refrigerant (Type, amount, pre-charge length)	kg		R410A 3.8kg in outdoor unit (Incl. the amount for the piping of : 30m)		
Heat exchanger			Louver fin & inner grooved tubing	Straight fin & inner grooved tubing	
Refrigerant control			Electronic expansion valve		
Fan type & Q'ty			Centrifugal fan ×3	Propeller fan ×1	
Fan motor (Stating method)	W		100 + 200 < Direct line start >	86 < Direct line start >	
Air flow	Cooling	m³/min	P-Hi : 48 Hi : 35 Me : 28 Lo : 22		
	Heating		75 73		
Available external static pressure	Pa		Standard : 60 Max : 200	—	
Outside air intake			Possible	—	
Air filter, Quality / Quantity			Procure locally	—	
Shock & vibration absorber			Rubber sleeve (for fan motor)	Rubber sleeve (for compressor)	
Electric heater	W		—	20 (Crank case heater)	
Operation control	Remote control		(Option) Wired :RC-EX3, RC-E5,RCH-E3 Wireless : RCN-KIT4-E2		
	Room temperature control		Thermostat by electronics		
	Operation display		—		
Safety equipments			Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection		
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 9.52 (3/8") Pipe φ 9.52(3/8")×0.8 O/U φ 9.52 (3/8") Gas line: φ 15.88 (5/8") φ 15.88(5/8")×1.0 φ 15.88 (5/8")		
	Connecting method		Flare piping	Flare piping	
	Attached length of piping	m	—		
	Insulation for piping		Necessary (both Liquid & Gas lines)		
	Refrigerant line (one way) length	m	Max.50m		
	Vertical height diff. between O/U and I/U	m	Max.50m (Outdoor unit is higher)	Max.15m (Outdoor unit is lower)	
Drain hose			Hose connectable VP25 (I.D.25, O.D.32)	Hole size φ 20 × 3 pcs	
Drain pump, max lift height	mm		Built-in drain pump,600	—	
Recommended breaker size	A		—		
L.R.A. (Locked rotor ampere)	A		5/5		
Interconnecting wires	Size × Core number		φ 1.6mm × 3 cores + earth cable / Terminal block (Screw fixing type)		
IP number			IPX0	IP24	
Standard accessories			Mounting kit, Drain hose	—	
Option parts			Motion sensor : LB-KIT		

Notes (1) The data are measured at the following conditions. The pipe length is 7.5m.

Item	Indoor air temperature		Outdoor air temperature		External static pressure of indoor unit	Standards
	DB	WB	DB	WB		
Cooling	27°C	19°C	35°C	24°C	60Pa	ISO5151-T1
Heating	20°C	—	7°C	6°C		

(2) This air-conditioner is manufactured and tested in conformity with the ISO.
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.
(4) Select the breaker size according to the own national standard.
(5) When wireless remote controller is used, fan is 3 speed setting (Hi-Me-Lo) only.
(6) The operation data indicate when the air-conditioner is operated at 400V 50Hz or 380V 60Hz.
(7) The factory E.S.P. setting is set within the range of 80 - 150 Pa.If SW8-4 is turned to "ON", E.S.P. setting range can be changed to 10 - 200 Pa.(For RC-EX3 and RC-E5 only)

Item		Model	FDU200VSAVG				
			Indoor unit FDU200VG		Outdoor unit FDC200VSA		
Power source		3 Phase 380-415V 50Hz / 380V 60Hz					
Operation data	Nominal cooling capacity (range)	kW	19.0 [5.2(Min.) – 22.4(Max.)]				
	Nominal heating capacity (range)	kW	22.4 [3.3(Min.) – 25.0(Max.)]				
	Power consumption	Cooling	kW	6.15			
		Heating	kW	6.03			
	Max power consumption		12.0				
	Running current	Cooling	A	9.6 / 10.0			
		Heating	A	9.5 / 9.9			
	Inrush current, max current		5 , 25				
	Power factor	Cooling	%	92 / 93			
		Heating	%	92 / 93			
	EER	Cooling		3.09			
	COP	Heating		3.71			
Sound power level	Cooling	dB(A)	75				
	Heating		72				
Sound pressure level	Cooling		P-Hi:52 Hi:50 Me:47 Lo:45				
	Heating		74				
Silent mode sound pressure level			58				
Exterior dimensions (Height x Width x Depth)		mm	379 × 1600 × 893				
Exterior appearance (Munsell color)			Stucco white (4.2Y7.5/1.1) near equivalent				
Net weight		kg	89				
Compressor type & Q'ty			RMT513MDE3 (Twin rotary type)×1				
Compressor motor (Starting method)		kW	Direct line start				
Refrigerant oil (Amount, type)		ℓ	0.9(compressor) + 0.6(unit) (M-MA68)				
Refrigerant (Type, amount, pre-charge length)		kg	R410A 5.6kg in outdoor unit (Incl. the amount for the piping of : 30m)				
Heat exchanger			Louver fin & inner grooved tubing	M shape fin & inner grooved tubing			
Refrigerant control			Electronic expansion valve				
Fan type & Q'ty			Centrifugal fan ×3	Propeller fan ×2			
Fan motor (Starting method)		W	130 + 350 < Direct line start >				
Air flow	Cooling	m ³ /min	P-Hi:80 Hi:72 Me:64 Lo:56				
	Heating		135				
Available external static pressure		Pa	Standard: 72 Max: 200				
Outside air intake			Possible				
Air filter, Quality / Quantity			Procure locally				
Shock & vibration absorber			Rubber sleeve(for fan motor)	Rubber sleeve(for compressor)			
Electric heater		W	20 (Crank case heater)				
Operation control	Remote control		(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-KIT4-E2				
	Room temperature control		Thermostat by electronics				
	Operation display		-				
Safety equipments			Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection				
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 9.52 (3/8") Pipe φ 9.52 (3/8")x0.8 or φ 12.7 (1/2")x0.8 O/U φ 9.52 (3/8")				
			Gas line:I/U φ 25.4 (1") φ 22.22 (7/8")x1.0 or φ 25.4 (1")x1.0 or φ 28.58 (1 1/8")x1.0 O/U φ 22.22 (7/8")				
	Connecting method		Brazing				
	Attached length of piping	m	-				
	Insulation for piping		Necessary (both Liquid & Gas lines)				
	Refrigerant line (one way) length	m	Max.70m(Liquid piping: φ 12.7, Gas piping: φ 25.4 or φ 28.58), Max.40m(Liquid piping: φ 9.52), Max.35m(Gas piping: φ 22.22)				
Vertical height diff. between O/U and I/U	m	Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)					
Drain hose		Hose connectable VP25(I.D.25, O.D.32) Hole size φ20 x 3 pcs					
Drain pump, max lift height	mm	-					
Recommended breaker size	A	-					
L.R.A. (Locked rotor ampere)	A	5.0					
Interconnecting wires	Size x Core number	φ 1.6mm × 3 cores + earth cable/ Terminal block (Screw fixing type)					
IP number		IPX0 IP24					
Standard accessories		Mounting kit Connecting pipe, Edging					
Option parts		Motion sensor : LB-KIT					
Notes (1) The data are measured at the following conditions. The pipe length is 7.5m.							
Operation	Item	Indoor air temperature		Outdoor air temperature		External static pressure of indoor unit	Standards
		DB	WB	DB	WB		
	Cooling	27°C	19°C	35°C	24°C		
Heating	20°C	-	7°C	6°C			
(2) This air-conditioner is manufactured and tested in conformity with the ISO.							
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.							
(4) Select the breaker size according to the own national standard.							
(5) When wireless remote control is used, fan is 3 speed setting (Hi-Me-Lo) only.							
(6) The operation data indicate when the air-conditioner is operated at 400V50Hz or 380V60Hz.							
(7) The factory E.S.P. setting is set within the range of 80 - 150 Pa.If SW8-4 is turned to "ON", E.S.P. setting range can be changed to 10 - 200 Pa.(For RC-EX3 and RC-E5 only)							
(8) Use 1/2H pipes having a 1.0mm or thicker wall for φ 19.05 or larger pipes.							



Item		Model	FDU250VSAVG		
			Indoor unit FDU250VG	Outdoor unit FDC250VSA	
Power source			3 Phase 380-415V 50Hz / 380V 60Hz		
Operation data	Nominal cooling capacity (range)	kW	24.0 [6.9(Min.) – 28.0(Max.)]		
	Nominal heating capacity (range)	kW	27.0 [5.5(Min.) – 31.5(Max.)]		
	Power consumption	Cooling	kW	7.98	
		Heating		7.20	
	Max power consumption		13.7		
	Running current	Cooling	A	12.2 / 12.8	
		Heating		11.3 / 12.0	
	Inrush current, max current		5 , 27		
	Power factor	Cooling	%	94	
		Heating		92	
	EER	Cooling		3.01	
	COP	Heating		3.75	
	Sound power level	Cooling	dB(A)	75	
Heating		73			
Sound pressure level	Cooling	dB(A)	P-Hi:52 Hi:50 Me:47 Lo:45		
	Heating		59		
Silent mode sound pressure level			62		
Exterior dimensions (Height x Width x Depth)	mm		379 × 1600 × 893		
Exterior appearance (Munsell color)			Stucco white (4.2Y7.5/1.1) near equivalent		
Net weight	kg		89		
Compressor type & Q'ty			GTC5150NC40KF (Scroll type)×1		
Compressor motor (Starting method)	kW		Direct line start		
Refrigerant oil (Amount, type)	ℓ		1.45 (M-MA32R)		
Refrigerant (Type, amount, pre-charge length)	kg		R410A 7.2kg in outdoor unit (Incl. the amount for the piping of : 30m)		
Heat exchanger			Louver fin & inner grooved tubing	M shape fin & inner grooved tubing	
Refrigerant control			Electronic expansion valve		
Fan type & Q'ty			Centrifugal fan ×3	Propeller fan ×2	
Fan motor (Starting method)	W		130 + 350 < Direct line start >	86 ×2 < Direct line start >	
Air flow	Cooling	m³/min	P-Hi:80 Hi:72 Me:64 Lo:56		
	Heating		143		
Available external static pressure	Pa		Standard:72 Max:200		
Outside air intake			Possible		
Air filter, Quality / Quantity			Procure locally		
Shock & vibration absorber			Rubber sleeve(for fan motor)	Rubber sleeve(for compressor)	
Electric heater	W		20 (Crank case heater)		
Operation control	Remote control		(Option) Wired :RC-EX3, RC-E5,RCH-E3 Wireless : RCN-KIT4-E2		
	Room temperature control		Thermostat by electronics		
	Operation display		-		
Safety equipments			Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection		
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 12.7 (1/2") Pipe φ 12.7 (1/2")x0.8 O/U φ 12.7 (1/2") Gas line: I/U φ 25.4 (1") φ 22.22 (7/8")x1.0 or φ 25.4 (1")x1.0 or φ 28.58 (1 1/8")x1.0 O/U φ 22.22 (7/8")		
	Connecting method		Brazing	Liquid : Flare / Gas : Brazing	
	Attached length of piping	m	-		
	Insulation for piping		Necessary (both Liquid & Gas lines)		
	Refrigerant line (one way) length	m	Max.70m(Gas piping: φ 25.4 or φ 28.58), Max.35m(Gas piping: φ 22.22)		
	Vertical height diff. between O/U and I/U	m	Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)		
Drain hose			Hose connectable VP25 (I.D.25, O.D.32)	Hole size φ20 x 3 pcs	
Drain pump, max lift height	mm		-		
Recommended breaker size	A		-		
L.R.A. (Locked rotor ampere)	A		5.0		
Interconnecting wires	Size x Core number		φ 1.6mm × 3 cores + earth cable/ Terminal block (Screw fixing type)		
IP number			IPX0	IP24	
Standard accessories			Mounting kit	Connecting pipe, Edging	
Option parts			Motion sensor : LB-KIT		

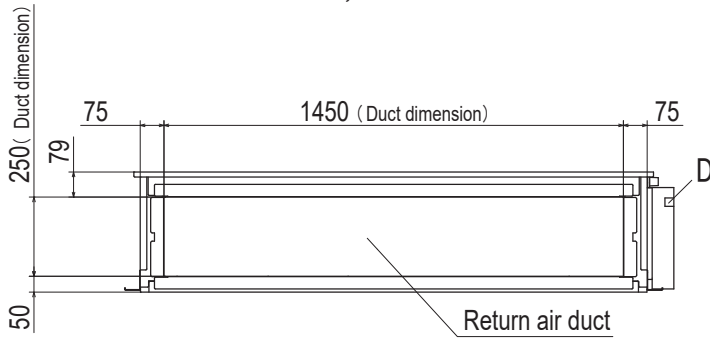
Notes (1) The data are measured at the following conditions. The pipe length is 7.5m.

Operation	Indoor air temperature		Outdoor air temperature		External static pressure of indoor unit	Standards
	DB	WB	DB	WB		
Cooling	27°C	19°C	35°C	24°C	72Pa	ISO5151-T1, Hi
Heating	20°C	-	7°C	6°C		

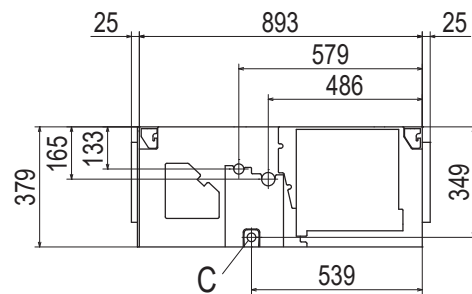
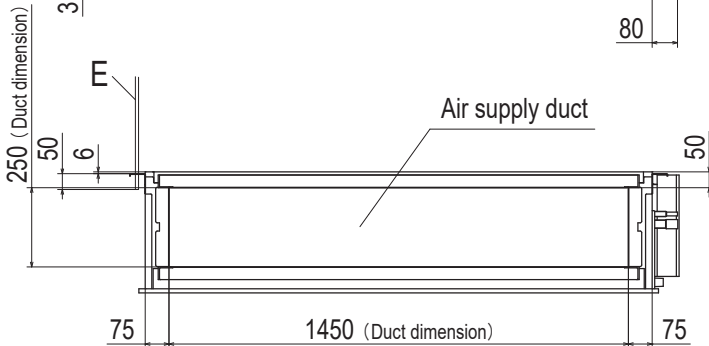
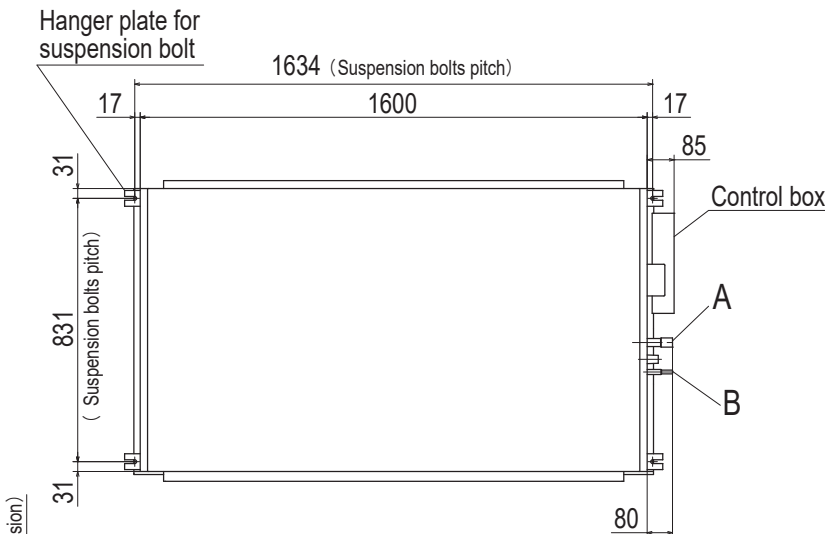
- (2) This air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.
- (4) Select the breaker size according to the own national standard.
- (5) When wireless remote control is used, fan is 3 speed setting (Hi-Me-Lo) only.
- (6) The operation data indicate when the air-conditioner is operated at 400V50Hz or 380V60Hz.
- (7) The factory E.S.P. setting is set within the range of 80 - 150 Pa. If SW8-4 is turned to "ON", E.S.P. setting range can be changed to 10 - 200 Pa. (For RC-EX3 and RC-E5 only)
- (8) Use 1/2H pipes having a 1.0mm or thicker wall for φ 19.05 or larger pipes.

2.2 EXTERIOR DIMENSIONS

(1) Indoor units (Except FDU200VG, 250VG) See page 48.
Models FDU200VG, 250VG



Symbol	Content		
	MODEL	200	250
A	Gas piping	φ 25.4(1") (Brazing)	
B	Liquid piping	φ 9.52(3/8") (Brazing)	φ 12.7(1/2") (Brazing)
C	Drain piping (Gravity drainage)	VP25(I.D.25, O.D.32)	
D	Hole for wiring		
E	Suspension bolts	M10	
F	Inspection hole	(450X450)	

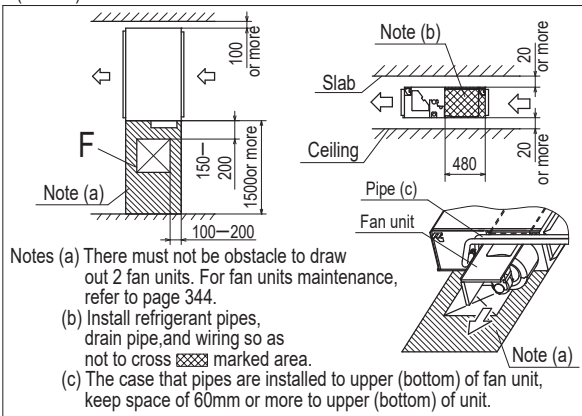


Unit:mm

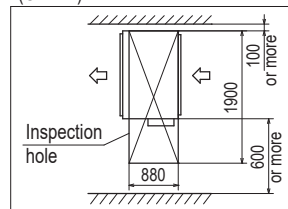
Space for installation and service

Select either of two cases to keep space for installation and services.

(Case 1) From side of unit



(Case 2) From bottom of unit



Note(1) The model name label is attached on the lid of the control box.

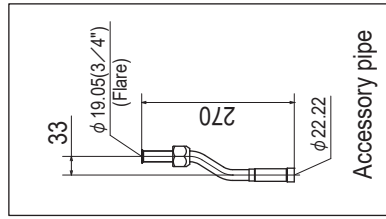
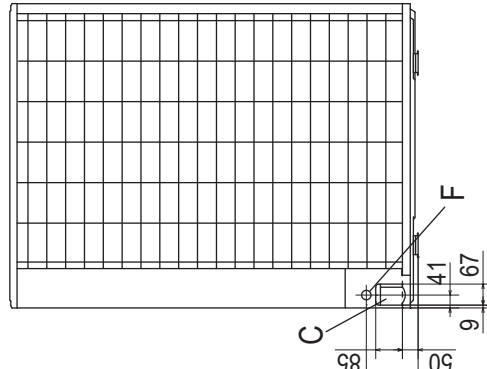
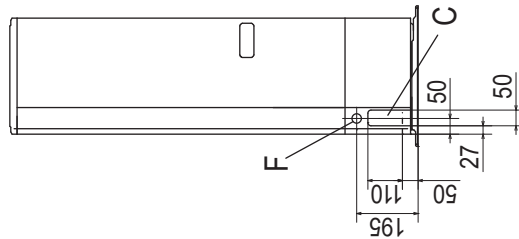
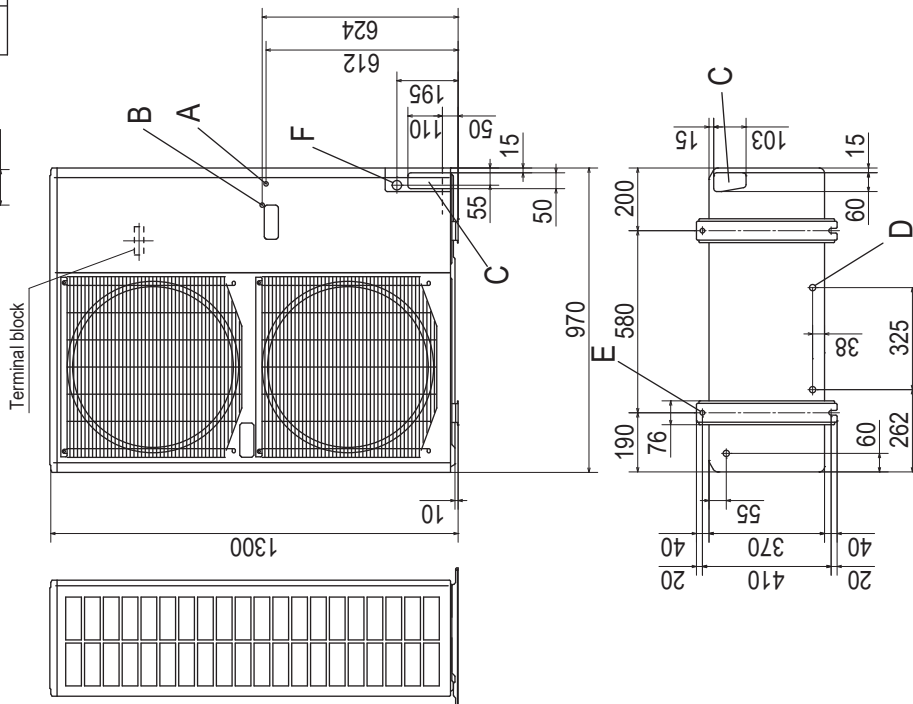
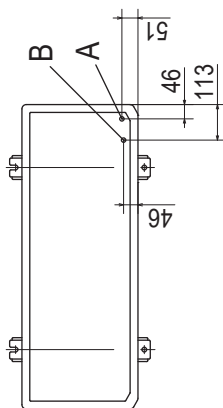
PJG000Z285

Model FDC200VSA

Notes

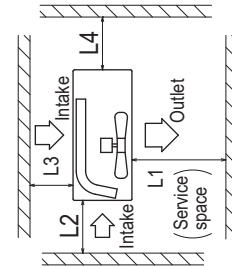
- (1) It must not be surrounded by walls on the four sides.
- (2) The unit must be fixed with anchor bolts.
- (3) Where the unit is subject to strong winds, lay it in such a direction that the blower outlet faces perpendicularly to the dominant wind direction.
- (4) Leave 1m or more space above the unit.
- (5) A wall in front of the blower outlet must not exceed the units height.
- (6) The model name label is attached on the lower right corner of the front panel.
- (7) Connect the service valve with local pipe by using the pipe of the attachment (Gas side only)
- (8) Regarding attaching the pipe of accessories, refer to page 365.

Symbol	Content
A	Service valve connection of the attached connecting pipe (gas side)
B	Service valve connection (liquid side)
C	Pipe/cable draw-out hole
D	Drain discharge hole
E	Anchor bolt hole
F	Cable draw-out hole



Unit:mm

Dimensions	Examples of installation		
	I	II	III
L1	Open	Open	500
L2	300	5	Open
L3	150	300	150
L4	5	5	5

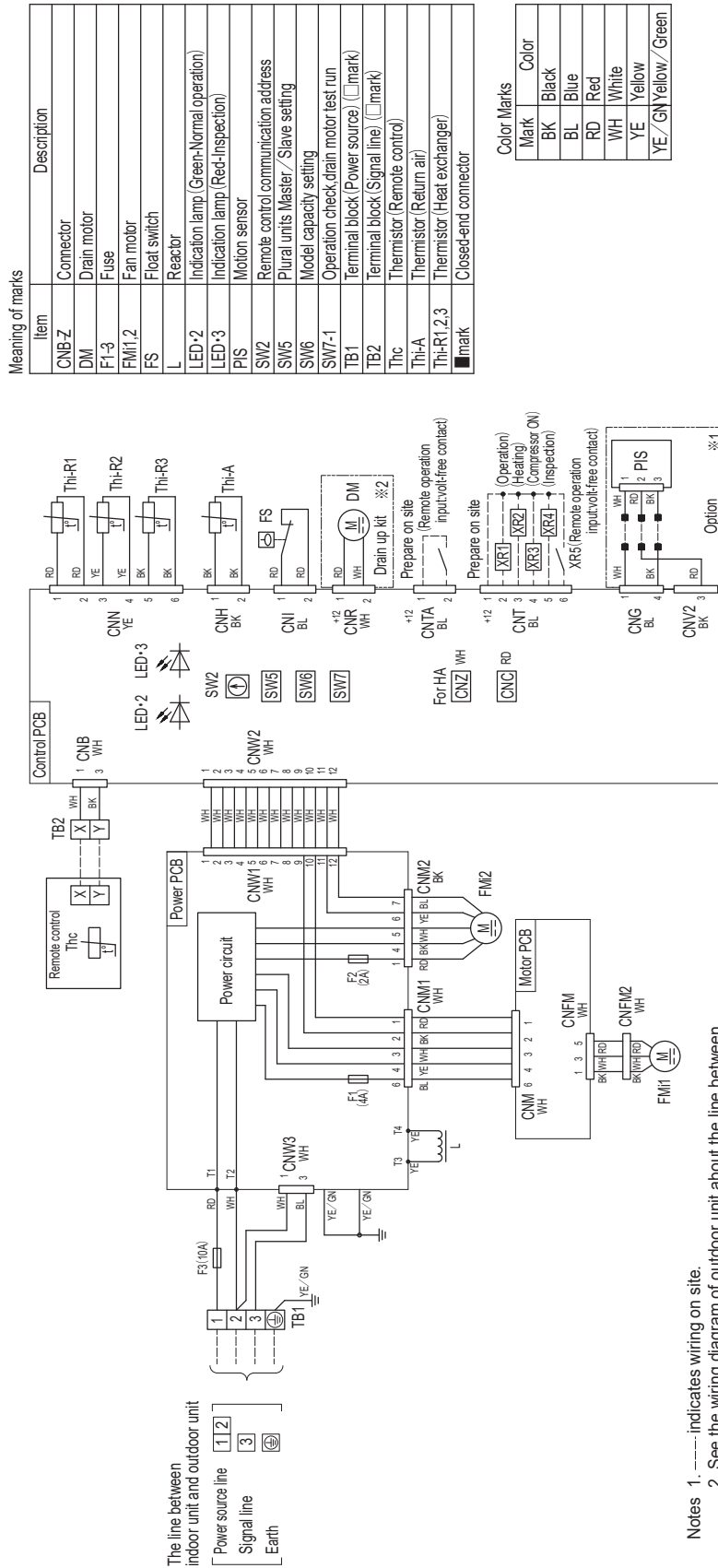


Minimum installation space

PCA001Z768

2.3 ELECTRICAL WIRING

(1) Indoor units (Except FDU200VG, 250VG) See page 62.
Models FDU200VG, 250VG



Meaning of marks

Item	Description
CNB-Z	Connector
DM	Drain motor
FI-3	Fuse
FMI1,2	Fan motor
FS	Float switch
L	Reactor
LED-2	Indication lamp (Green-Normal operation)
LED-3	Indication lamp (Red-Inspection)
PIS	Motion sensor
SW2	Remote control communication address
SW5	Plural units Master / Slave setting
SW6	Model capacity setting
SW7-1	Operation check drain motor test run
TB1	Terminal block (Power source) (□mark)
TB2	Terminal block (Signal line) (□mark)
Thc	Thermistor (Remote control)
Th-A	Thermistor (Return air)
Th-R1,2,3	Thermistor (Heat exchanger)
■mark	Closed-end connector

Color Marks

Mark	Color
BK	Black
BL	Blue
RD	Red
WH	White
YE	Yellow
YE/GN	Yellow/Green

- Notes
1. --- indicates wiring on site.
 2. See the wiring diagram of outdoor unit about the line between indoor unit and outdoor unit.
 3. Use twin core cord (0.3mm²) at remote control line. See spec sheet of remote control in case that the total length is more than 100m.
 4. Do not put remote control line alongside power source line.
 5. Section 1 (※1) shows electric circuit of motion sensor (Option).
 6. Section 2 (※2) is not included as standard from factory. This circuit is an option when using drain up kit.

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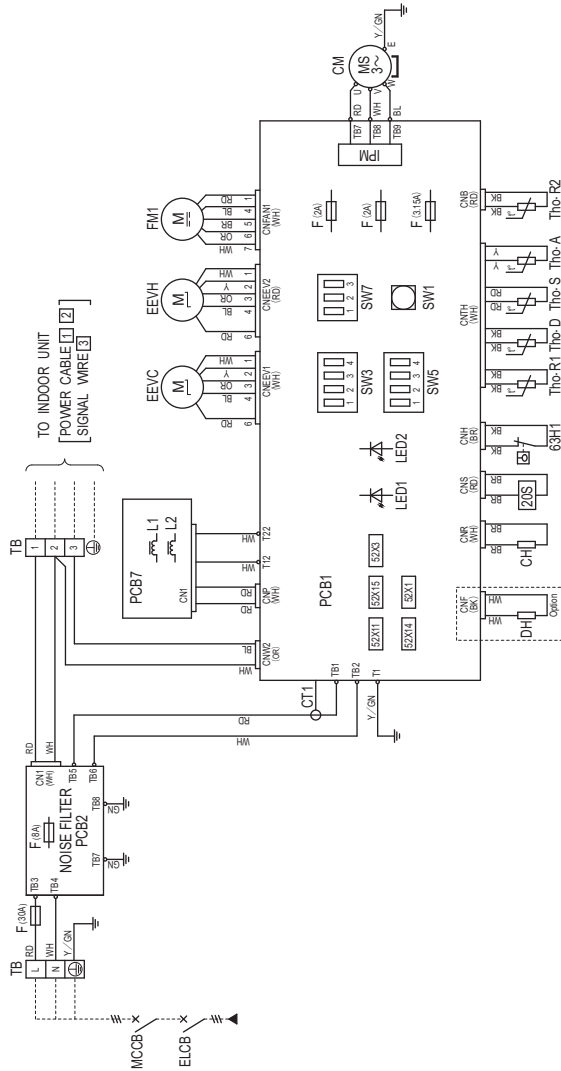
(2) Outdoor units
Models FDC100VNA, 125VNA, 140VNA

Meaning of marks

ITEM	DESCRIPTION
CH	Crankcase heater
CM	Compressor motor
CN	Connector
CT1	Current sensor
DH	Drain pan heater
EEVC	Expansion valve for cooling
EEVH	Expansion valve for heating
F	Fuse
FM1	Fan motor
IPM	Intelligent power module
LED1	Indication lamp (GREEN)
LED2	Indication lamp (RED)
L1,2	Reactor
SW1	Switch
SW3,5,7	Local setting switch
TB	Terminal block
Tho-A	Thermistor (Outdoor air temp.)
Tho-D	Thermistor (Discharge pipe temp.)
Tho-R1,R2	Thermistor (Heat exchanger temp.)
Tho-S	Thermistor (Suction pipe temp.)
20S	Solenoid valve for 4-way valve
52X1	Auxiliary relay
52X3	Auxiliary relay
52X11	Auxiliary relay (for 20S)
52X14	Auxiliary relay (for CH)
52X15	Auxiliary relay (for DH)
63H1	High pressure switch

Color marks	Color
Mark	Color
BK	Black
BL	Blue
BR	Brown
GN	Green
OR	Orange
RD	Red
WH	White
Y	Yellow
Y/GN	Yellow / Green

Power source
1 Phase 220-240V 50Hz / 1 Phase 220V 60Hz



Local setting switch SW3,5,7 (Set up at shipment OFF)

Item	Description	Notes
SW3-1	Defrost control change	The defrosting operation interval becomes shorter by turning ON this switch. This switch should be turned ON in the area where outside temperature becomes below the freezing point.
SW3-2	Snow guard fan control	When this switch is turned ON, the outdoor unit fan will run for 10 seconds in every 10 minutes, when outdoor temperature falls to 3°C or lower and the compressor is not running when the unit is used in a very snowy country, set this switch to ON.
SW3-3,4	Trial operation	Method of trial operation ① Trial operation can be performed by using SW3-3,4. ② Compressor will be in the operation when SW3-3 is ON. ③ Cooling trial operation will be performed when SW3-4 is OFF, and heating trial operation when SW3-4 is ON. ④ Be sure to turn OFF SW3-3 after the trial operation is finished.
SW5-2	High height difference operation control	Set this switch to ON when outdoor unit is installed at a position higher than indoor unit by 30m or more.
SW7-2	Defrost control change	Set this switch to ON when managing unit operation by remote control connected external equipment.
SW7-3	Lower noise silent mode	Upper limit of compressor speed and fan speed becomes lower in silent mode.

Model	MAX over current (A)	Power cable size (mm ²)	Power cable length (m)	Indoor-outdoor wire size x number	Earth wire size (mm)
100	24	5.5	22	Ø1.6mm x 3	Ø1.6
125	26	5.5	20	Ø1.6mm x 3	Ø1.6
140	27	5.5	20	Ø1.6mm x 3	Ø1.6

※ At the connection with the duct type indoor unit.

- The specifications shown in the above table are for units without heaters. For units with heaters, refer to the installation instructions or the construction instructions of the indoor unit.
- Switchgear of Circuit breaker capacity which is calculated from MAX. over current should be chosen along the regulations in each country.
- The cable specifications are based on the assumption that a metal or plastic conduit is used with no more than three cables contained in a conduit and a voltage drop is 2%. For an installation falling outside of these conditions, please follow the internal cabling regulations. Adapt it to the regulation in effect in each country.

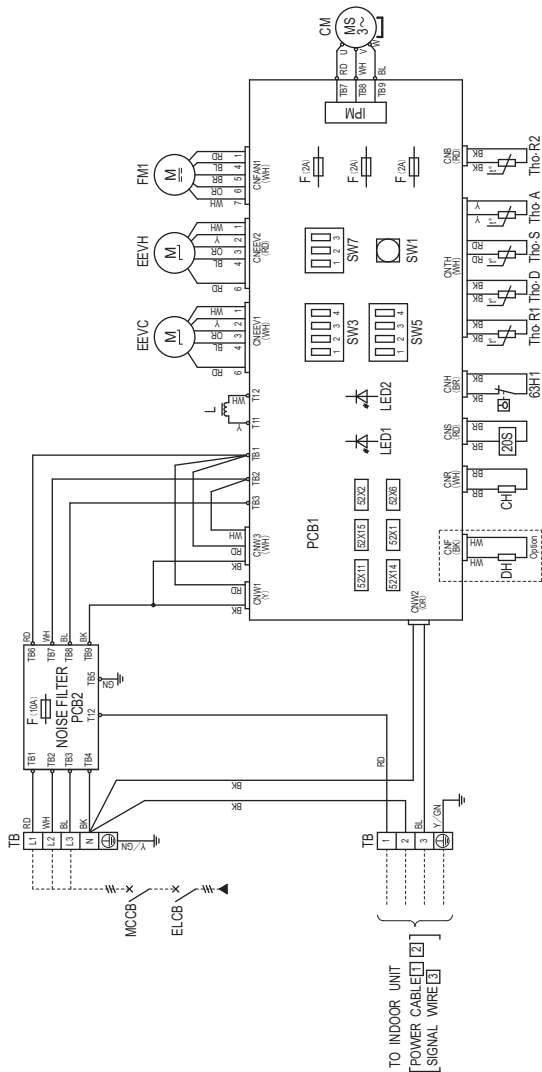
PCA001Z817

Models FDC100VSA, 125VSA, 140VSA

Meaning of marks

ITEM	DESCRIPTION
CH	Crankcase heater
CM	Compressor motor
CN	Connector
DH	Drain pan heater
EEVC	Expansion valve for cooling
EEVH	Expansion valve for heating
F	Fuse
FM1	Fan motor
IPM	Intelligent power module
L	Reactor
LED1	Indication lamp (GREEN)
LED2	Indication lamp (RED)
SW1	Switch
SW3,5,7	Local setting switch
TB	Terminal block
Tho-A	Thermistor (Outdoor air temp.)
Tho-D	Thermistor (Discharge pipe temp.)
Tho-R1,R2	Thermistor (Heat exchanger temp.)
Tho-S	Thermistor (Suction pipe temp.)
20S	Solenoid valve for 4-way valve
52X1	Auxiliary relay
52X2	Auxiliary relay
52X6	Auxiliary relay (for FM1)
52X11	Auxiliary relay (for 20S)
52X14	Auxiliary relay (for CH)
52X15	Auxiliary relay (for DH)
63H1	High pressure switch

Color	Mark
Black	BK
Blue	BL
Brown	BR
Green	GN
Orange	OR
Red	RD
White	WH
Yellow	Y
Yellow / Green	Y / GN



Power source
3 Phase 380-415V/50Hz

Local setting switch SW3,5,7 (Set up at shipment OFF)

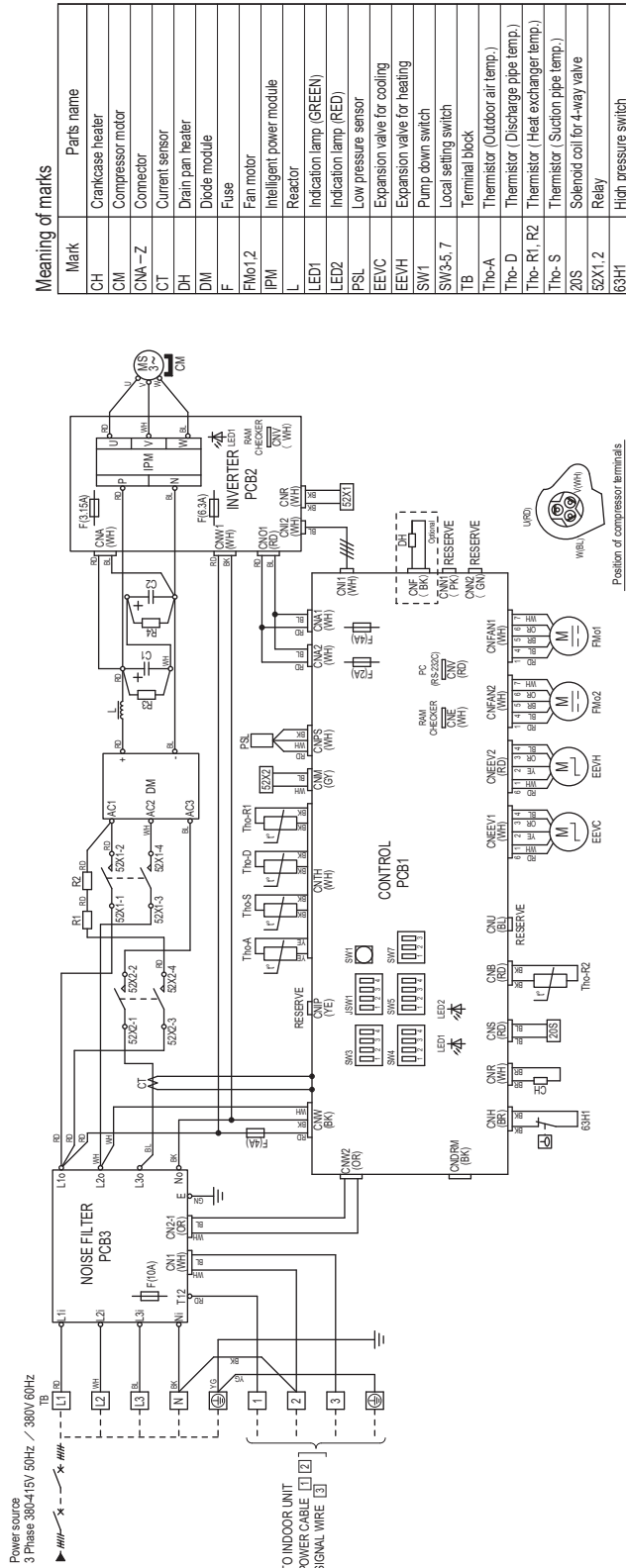
Item	Description
SW3-1	Defrost control change The defrosting operation interval becomes shorter by turning ON this switch. This switch should be turned ON in the area where outside temperature becomes below the freezing point.
SW3-2	Snow guard fan control When this switch is turned ON, the outdoor unit fan will run for 10 seconds in every 10 minutes, when outdoor temperature falls to 3°C or lower and the compressor is not running when the unit is used in a very snowy country, set this switch to ON.
SW3-3,4	Trial operation Method of trial operation can be performed by using SW3-3,4. ① Trial operation can be performed by using SW3-3,4. ② Compressor will be in the operation when SW3-3 is ON. ③ Cooling trial operation will be performed when SW3-4 is OFF, and heating trial operation when SW3-4 is ON. ④ Be sure to turn OFF SW3-3 after the trial operation is finished.
SW5-2	High height difference operation control Set this switch to ON when outdoor unit is installed at a position higher than indoor unit by 30m or more.
SW7-2	Defrost control change Set this switch to ON when managing unit operation by remote control connected external equipment.
SW7-3	Lower noise silent mode Upper limit of compressor speed and fan speed becomes lower in silent mode.

Model	Power cable, indoor-outdoor connecting wires		Earth wire size (mm)
	MAX over current (A)	Power cable size (mm ²)	
100	15	3.5	Ø1.6
125			
140			
※At the connection with the duct type indoor unit.			
Model	Power cable, indoor-outdoor connecting wires		Earth wire size (mm)
	MAX over current (A)	Power cable size (mm ²)	
100	17	3.5	Ø1.6
125			
140			

- The specifications shown in the above table are for units without heaters. For units with heaters, refer to the installation instructions or the construction instructions of the indoor unit.
- Switchgear of Circuit breaker capacity which is calculated from MAX. over current should be chosen along the regulations in each country.
- The cable specifications are based on the assumption that a metal or plastic conduit is used with no more than three cables contained in a conduit and a voltage drop is 2%. For an installation falling outside of these conditions, please follow the internal cabling regulations. Adapt it to the regulation in effect in each country.

PCA001Z818

Model FDC200VSA



Meaning of marks

Mark	Parts name
CH	Criticase heater
CM	Compressor motor
CNA-Z	Connector
CT	Current sensor
DH	Drain pan heater
DM	Diode module
F	Fuse
FMot.1,2	Fan motor
IPM	Intelligent power module
L	Reactor
LED1	Indication lamp (GREEN)
LED2	Indication lamp (RED)
PSL	Low pressure sensor
EEVC	Expansion valve for cooling
EEVH	Expansion valve for heating
SW1	Pump down switch
SW3-5,7	Local setting switch
TB	Terminal block
Tho-A	Thermistor (Outdoor air temp.)
Tho-D	Thermistor (Discharge pipe temp.)
Tho-R1, R2	Thermistor (Heat exchanger temp.)
Tho-S	Thermistor (Suction pipe temp.)
ZOS	Solenoid coil for 4-way valve
52X1, 2	Relay
63H1	High pressure switch

Color marks

Mark	Color
BK	Black
BL	Blue
BR	Brown
GN	Green
OR	Orange
RD	Red
WH	White
YE	Yellow
YG	Yellow/Green
GY	Gray
PK	Pink

Local setting switch SW3 (Set up at shipment OFF)

SW3-1	Defrost control change	The defrosting operation interval becomes shorter by turning ON this switch. This switch should be turned ON in the area where outside temperature becomes below the freezing point.
SW3-2	Snow guard fan control	When this switch is turned ON, the outdoor unit fan will run for 30 seconds in every 10 minutes, when outdoor temperature falls to 3°C or lower and the compressor is not running when the unit is used in a very snowy country, set this switch to ON.
SW3-3,4	Trial operation	Method of trial operation ① Trial operation can be performed by using SW3-3,4. ② Compressor will be in the operation when SW3-3 is ON. ③ Cooling trial operation will be performed when SW3-4 is OFF, and heating trial operation when SW3-4 is ON. ④ Be sure to turn OFF SW3-3 after the trial operation is finished.

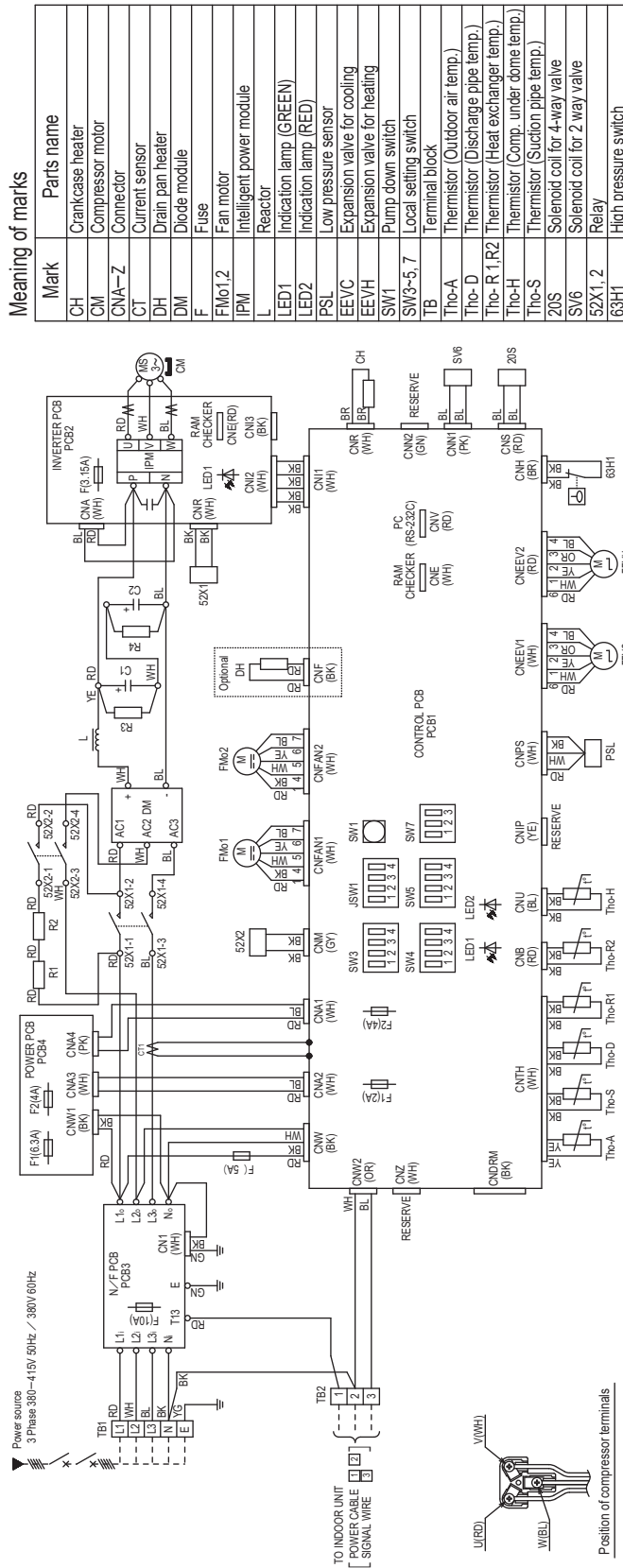
Power cable, indoor-outdoor connecting wires

MAX over current (A)	Power cable size (mm)	Indoor-outdoor wire size x number	Earth wire size
25	5.5	φ1.6mm x 3	φ1.6mm

- The specifications shown in the above table are for units without heaters. For units with heaters, refer to the installation instructions or the construction instructions of the indoor unit.
- Switchgear of circuit breaker capacity which is calculated from MAX. over current should be chosen along the regulations in each country
- The cable specifications are based on the assumption that a metal or plastic conduit is used with no more than three cables contained in a conduit and a voltage drop is 2%. For an installation falling outside of these conditions, please follow the internal cabling regulations. Adapt it to the regulation in effect in each country.

PCA001Z769

Model FDC250VSA



Meaning of marks

Mark	Parts name
CH	Crankcase heater
CM	Compressor motor
CNA-Z	Connector
CT	Current sensor
DH	Drain pan heater
DM	Diode module
F	Fuse
FMo1.2	Fan motor
IPM	Intelligent power module
L	Reactor
LED1	Indication lamp (GREEN)
LED2	Indication lamp (RED)
PSL	Low pressure sensor
EEVC	Expansion valve for cooling
EEVH	Expansion valve for heating
SW1	Pump down switch
SW3-5,7	Local setting switch
TB	Terminal block
The-A	Thermistor (Outdoor air temp.)
The-D	Thermistor (Discharge pipe temp.)
The-R1,R2	Thermistor (Heat exchanger temp.)
The-H	Thermistor (Comp. under dome temp.)
The-S	Thermistor (Suction pipe temp.)
2S	Solenoid coil for 4-way valve
SV6	Solenoid coil for 2 way valve
52X1, 2	Relay
63H1	High pressure switch

Color marks

Mark	Color
BK	Black
BL	Blue
BR	Brown
GN	Green
OR	Orange
RD	Red
WH	White
YE	Yellow
YG	Yellow/Green
GY	Gray
PK	Pink

Local setting switch SW3 (Set up at shipment OFF)

SW3-1	Defrost control change
SW3-2	Snow guard fan control
SW3-3.4	Trial operation

The defrosting operation interval becomes shorter by turning ON this switch. This switch should be turned ON in the area where outside temperature becomes below the freezing point.

When this switch is turned ON, the outdoor unit fan will run for 30 seconds in every 10 minutes, when outdoor temperature falls to 3°C or lower and the compressor is not running when the unit is used in a very snowy country, set this switch to ON.

Method of trial operation
 ① Trial operation can be performed by using SW3-3.4.
 ② Compressor will be in the operation when SW3-3 is ON.
 ③ Cooling trial operation will be performed when SW3-4 is OFF, and heating trial operation when SW3-4 is ON.
 ④ Be sure to turn OFF SW3-3 after the trial operation is finished.

Power cable, indoor-outdoor connecting wires

MAX over current (A)	Power cable size (mm ²)	Power cable length (m)	Indoor-outdoor wire size x number	Earth wire size
27	5.5	40	φ 1.6mm x 3	φ 1.6mm

- The specifications shown in the above table are for units without heaters. For units with heaters, refer to the installation instructions or the construction instructions of the indoor unit.
- Switchgear of circuit breaker capacity which is calculated from MAX. over current should be chosen along the regulations in each country.
- The cable specifications are based on the assumption that a metal or plastic conduit is used with no more than three cables contained in a conduit and a voltage drop is 2%. For an installation falling outside of these conditions, please follow the internal cabling regulations. Adapt it to the regulation in effect in each country.

PCB003Z866

2.4 NOISE LEVEL

Notes(1) The data are based on the following conditions.

Ambient air temperature: Indoor unit 27°CWB. Outdoor unit 35°CDB.

(2) The data in the chart are measured in an anechoic room.

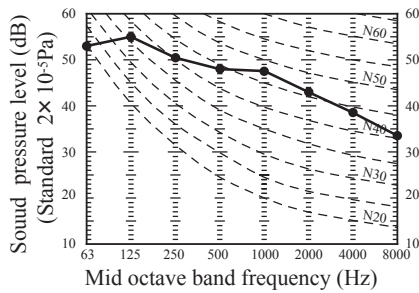
(3) The noise levels measured in the field are usually higher than the data because of reflection.

(1) Indoor units (Except FDU200VG, 250VG) See page 72.

Duct connected-High static pressure type (FDU)

Models FDU200VG, 250VG

Noise level 52dB (A) at P-HIGH
 50dB (A) at HIGH
 47dB (A) at MEDIUM
 45dB (A) at LOW



(2) Outdoor units

Measured based on JIS B 8616

Mike position: at highest noise level in position as mentioned below

Distance from front side 1m

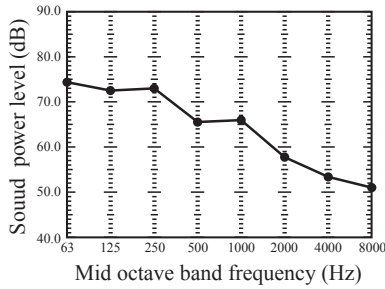
Height 1m

(a) FDC100-140

(i) Sound power level

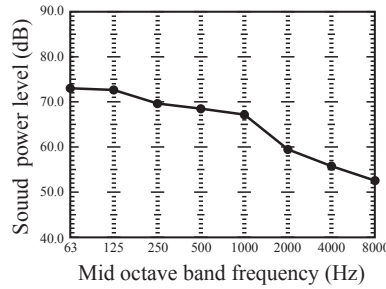
Models FDC100VNA,100VSA

Noise level 70 dB (A)



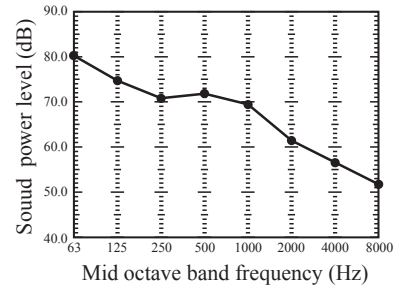
Models FDC125VNA,125VSA

Noise level 71 dB (A)



Models FDC140VNA,140VSA

Noise level 73 dB (A)



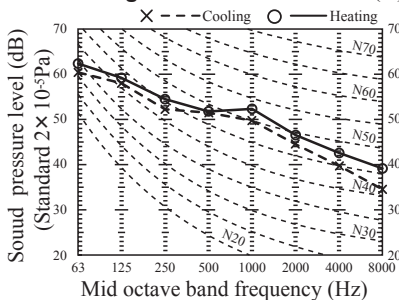
(ii) Sound pressure level

1) Rating mode

Models FDC100VNA,100VSA

Cooling noise level Hi : 54 dB (A)

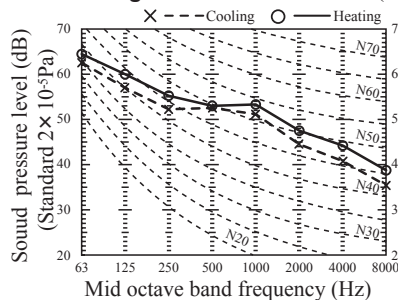
Heating noise level Hi : 56 dB (A)



Models FDC125VNA,125VSA

Cooling noise level Hi : 55 dB (A)

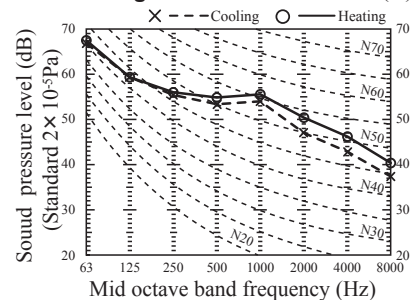
Heating noise level Hi : 57 dB (A)



Models FDC140VNA,140VSA

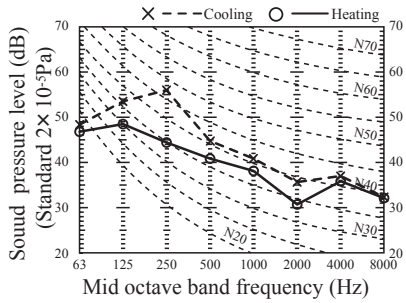
Cooling noise level Hi : 57 dB (A)

Heating noise level Hi : 59 dB (A)

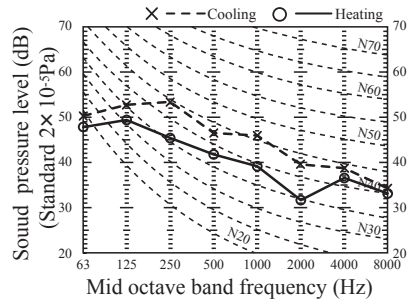


2) Silent mode

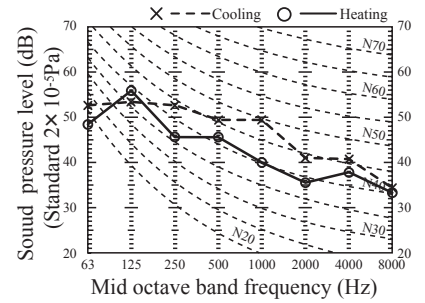
Models FDC100VNA,100VSA
Cooling noise level Hi : 50 dB (A)
Heating noise level Hi : 44 dB (A)



Models FDC125VNA,125VSA
Cooling noise level Hi : 51 dB (A)
Heating noise level Hi : 45 dB (A)

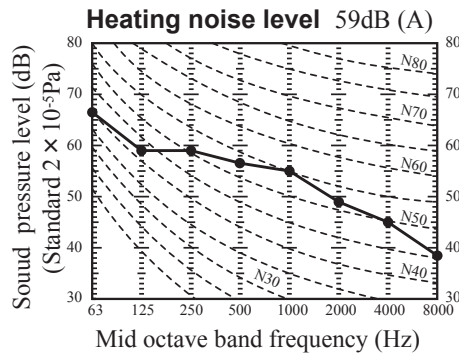
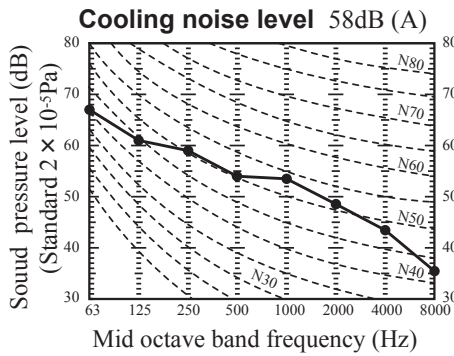


Models FDC140VNA,140VSA
Cooling noise level Hi : 53 dB (A)
Heating noise level Hi : 47 dB (A)

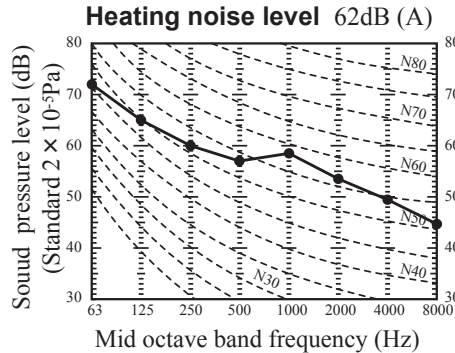
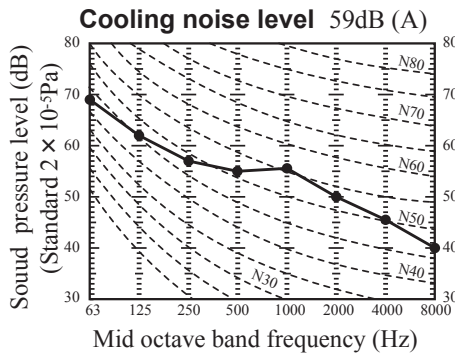


(b) FDC200, 250

Model FDC200VSA



Model FDC250VSA



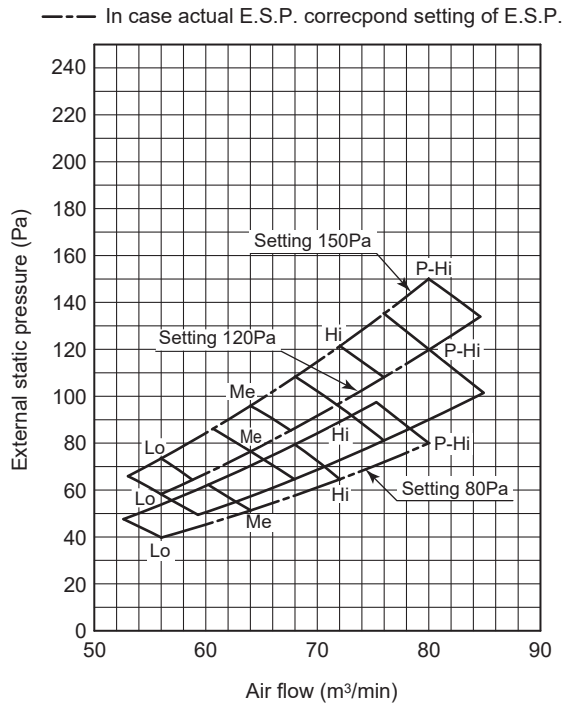
2.5 CHARACTERISTICS OF FAN

See page 76 of 1.5 chapter. (Except FDU200VG, 250VG)

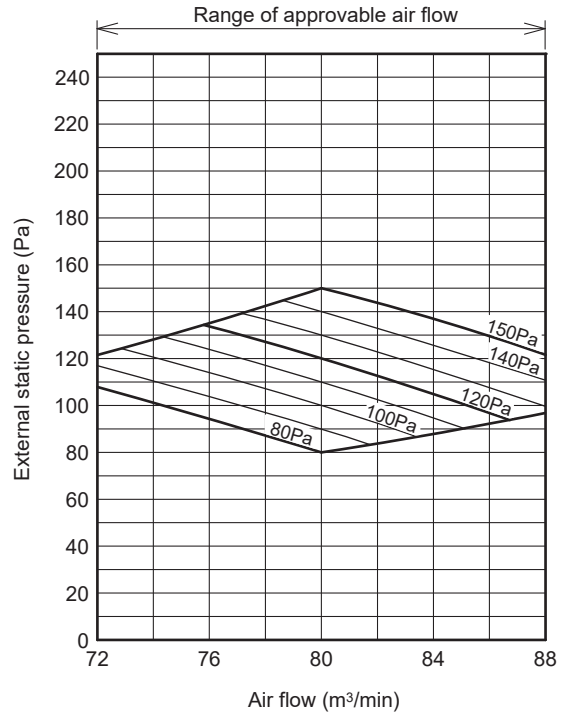
Models FDU200VG, 250VG

■ SW8-4 : OFF (Range of use limitation : Setting 80Pa-150Pa)

Characteristic FAN (1)

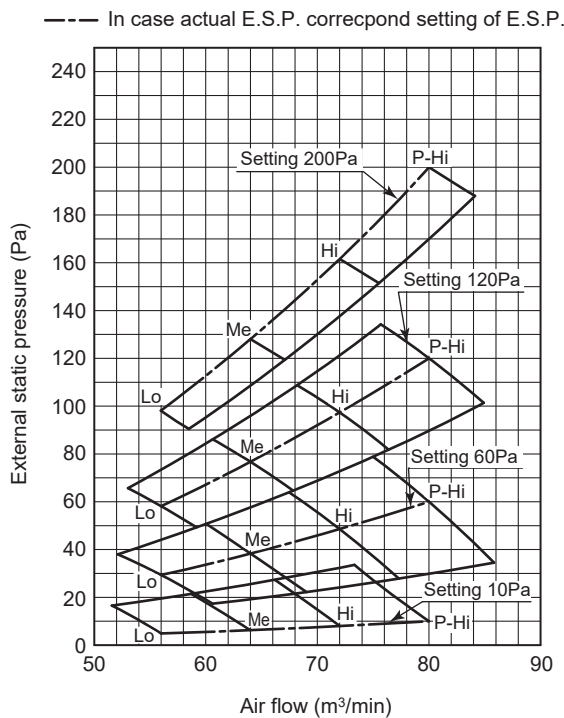


Characteristic FAN (2)

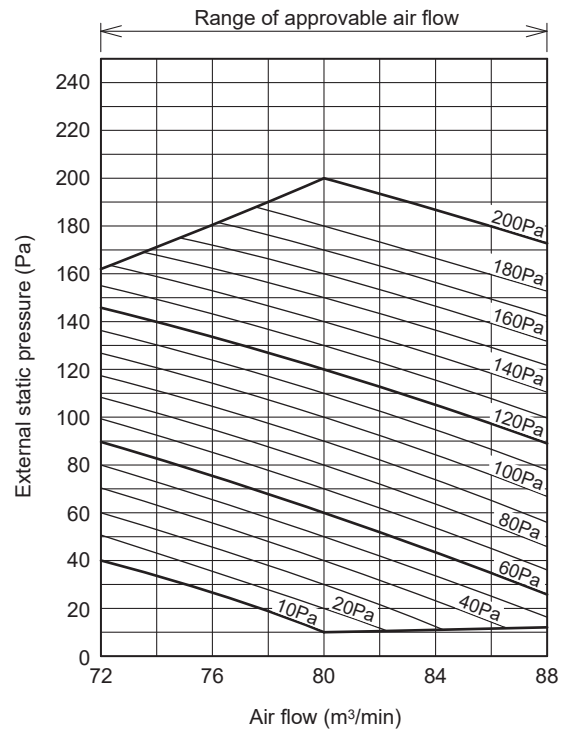


■ SW8-4 : ON (Range of use limitation : Setting 10Pa-200Pa)

Characteristic FAN (1)



Characteristic FAN (2)



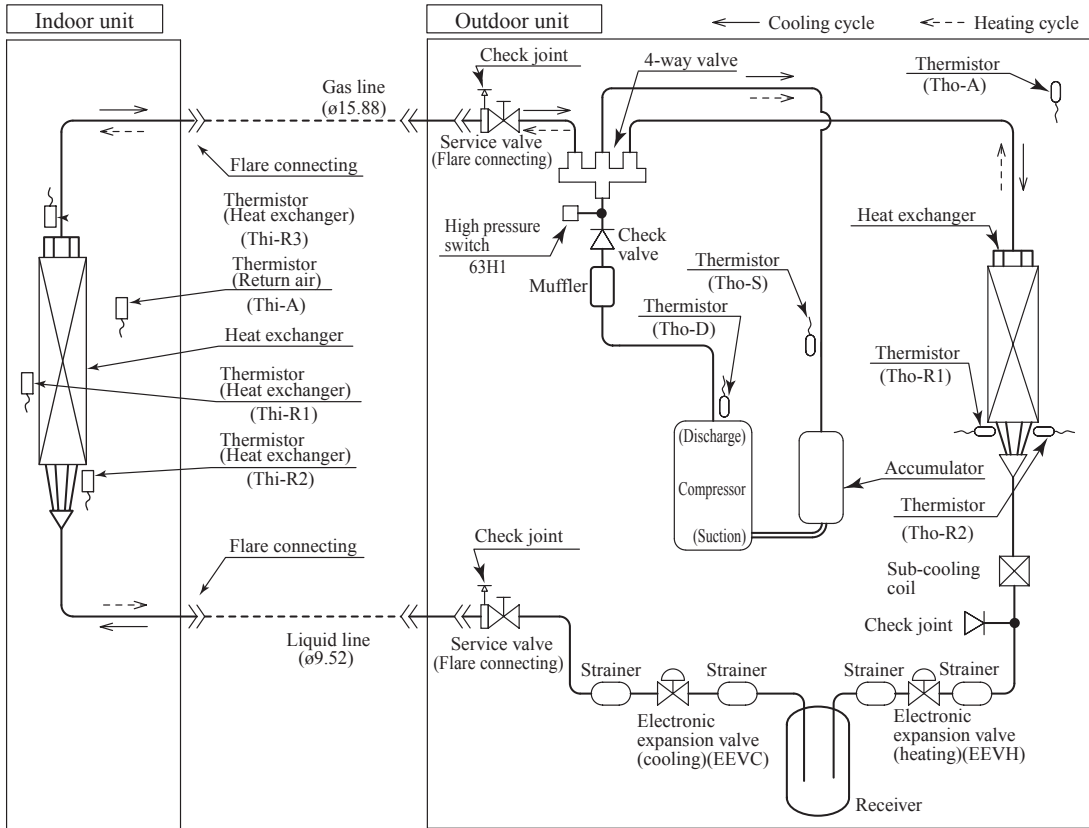
2.6 TEMPERATURE AND VELOCITY DISTRIBUTION

See page 83 of 1.6 chapter.

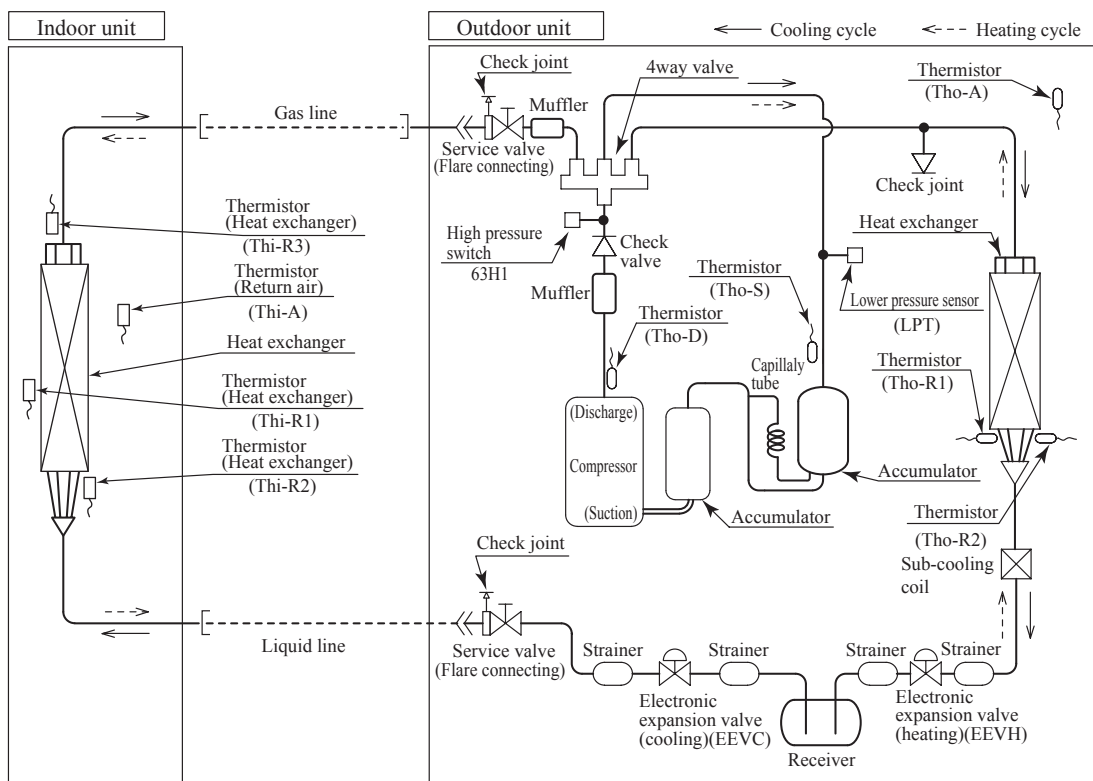
2.7 PIPING SYSTEM

(1) Single type

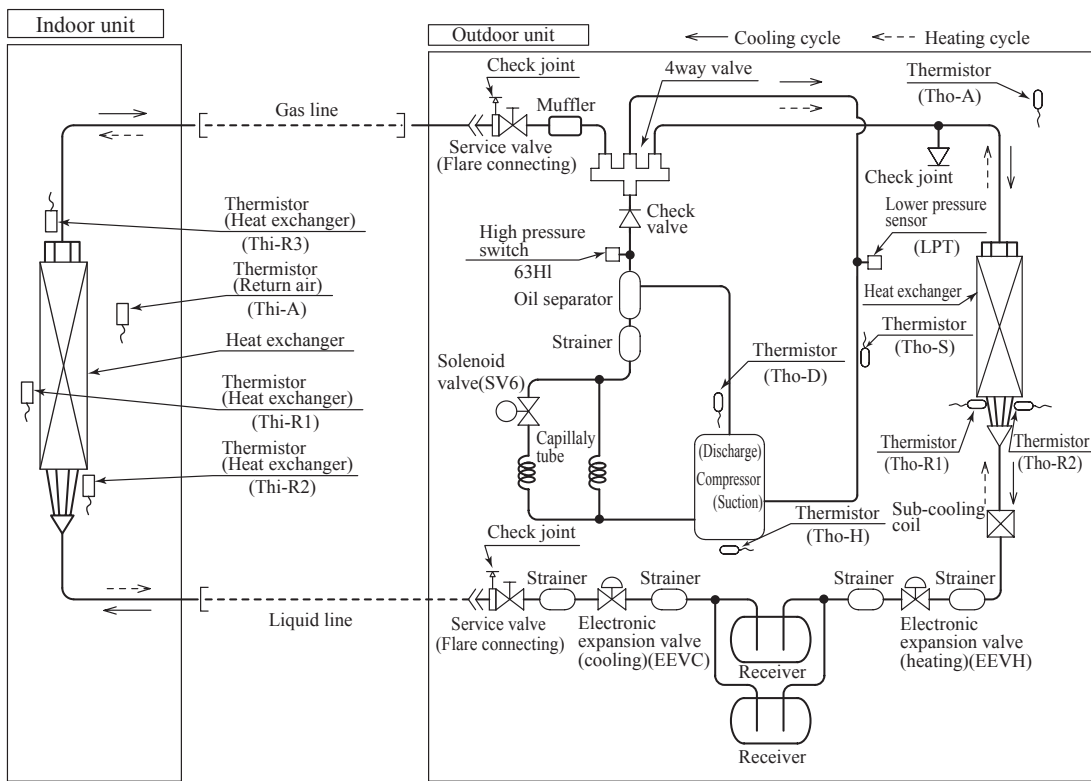
Models 100, 125, 140



Model 200



Model 250

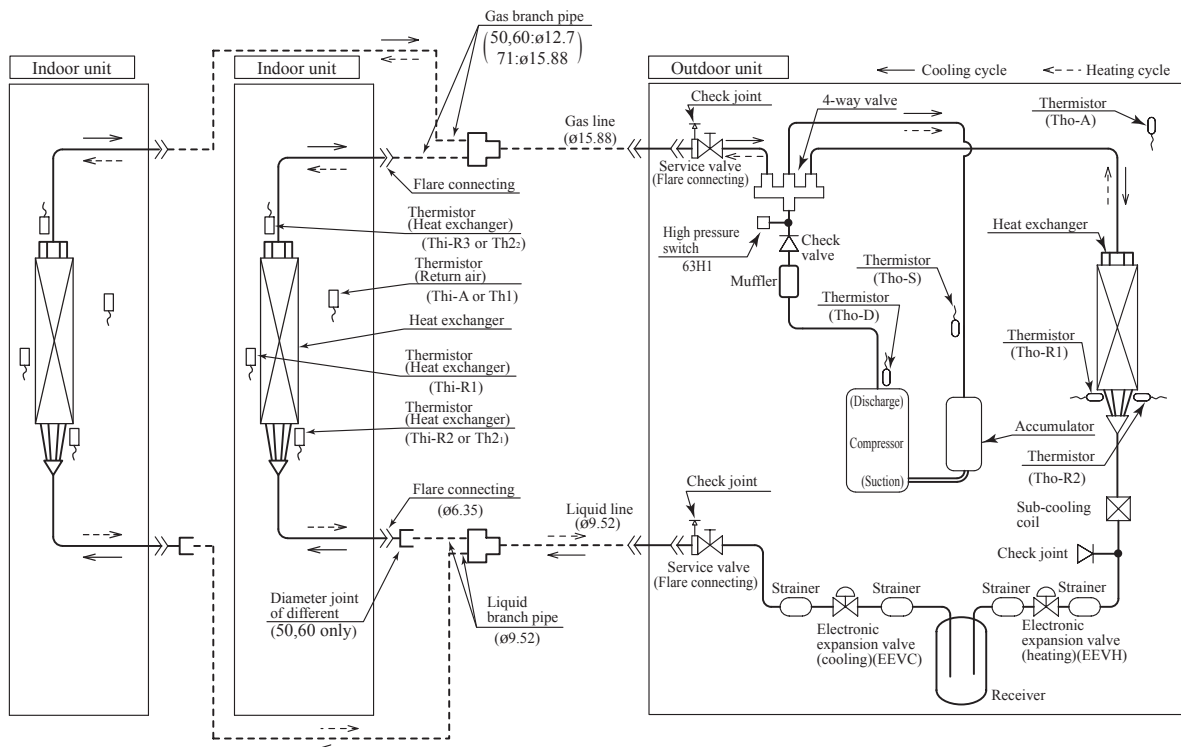


●Refrigerant line (one way) pipe size

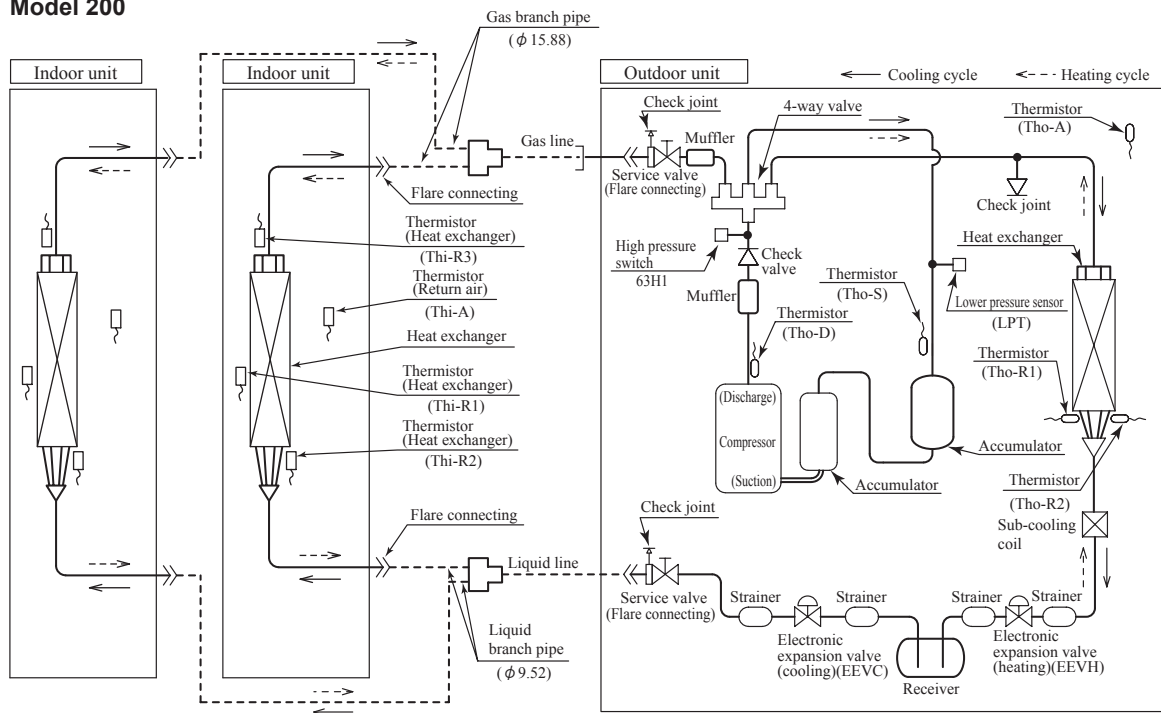
Model	Gas line	Liquid line
200	In case of $\phi 22.22 : 35m$	In case of $\phi 9.52 : 40m$
	In case of $\phi 25.4$ or $\phi 28.58 : 70m$	In case of $\phi 12.7 : 70m$
250		In case of $\phi 12.7 : 70m$

(2) Twin type

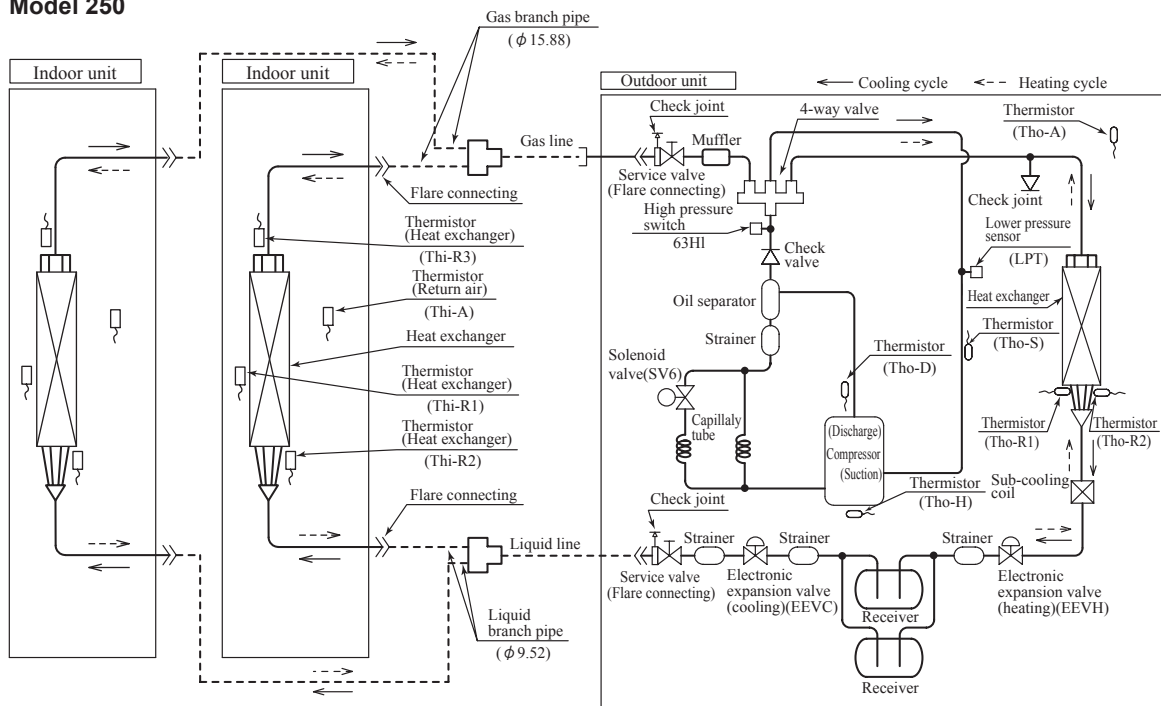
Models 100, 125, 140



Model 200



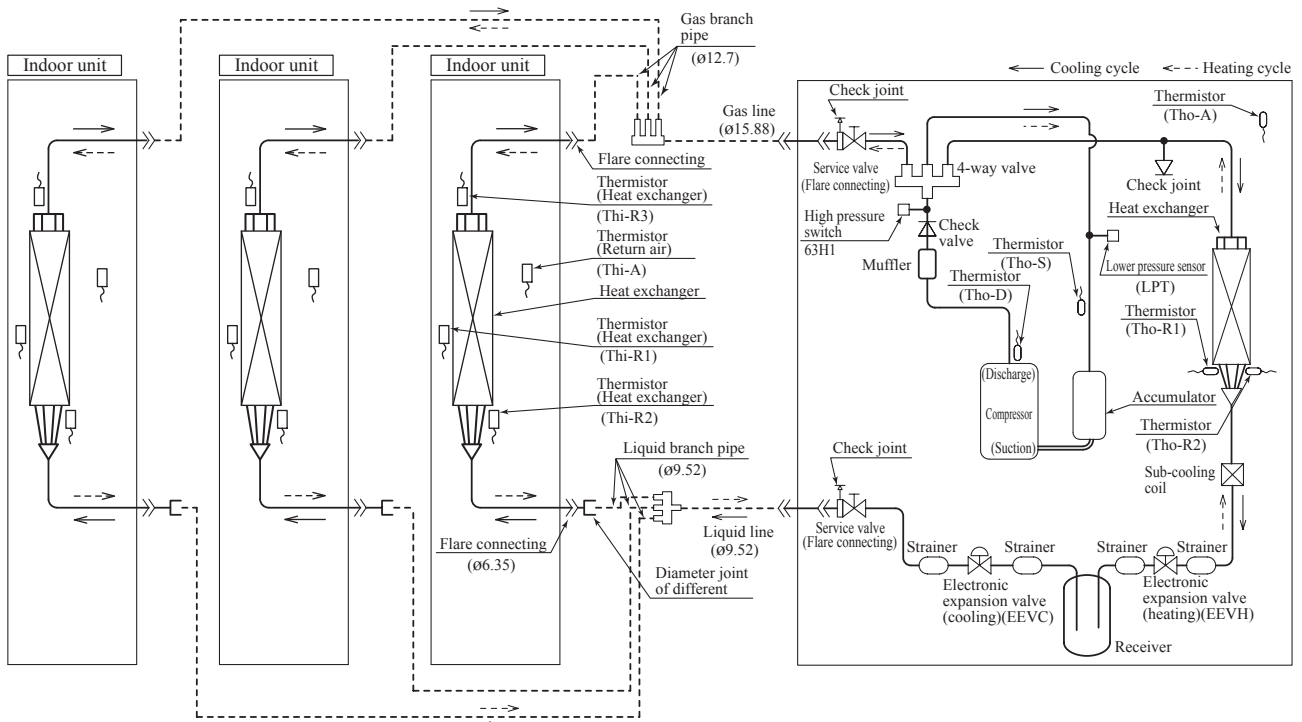
Model 250



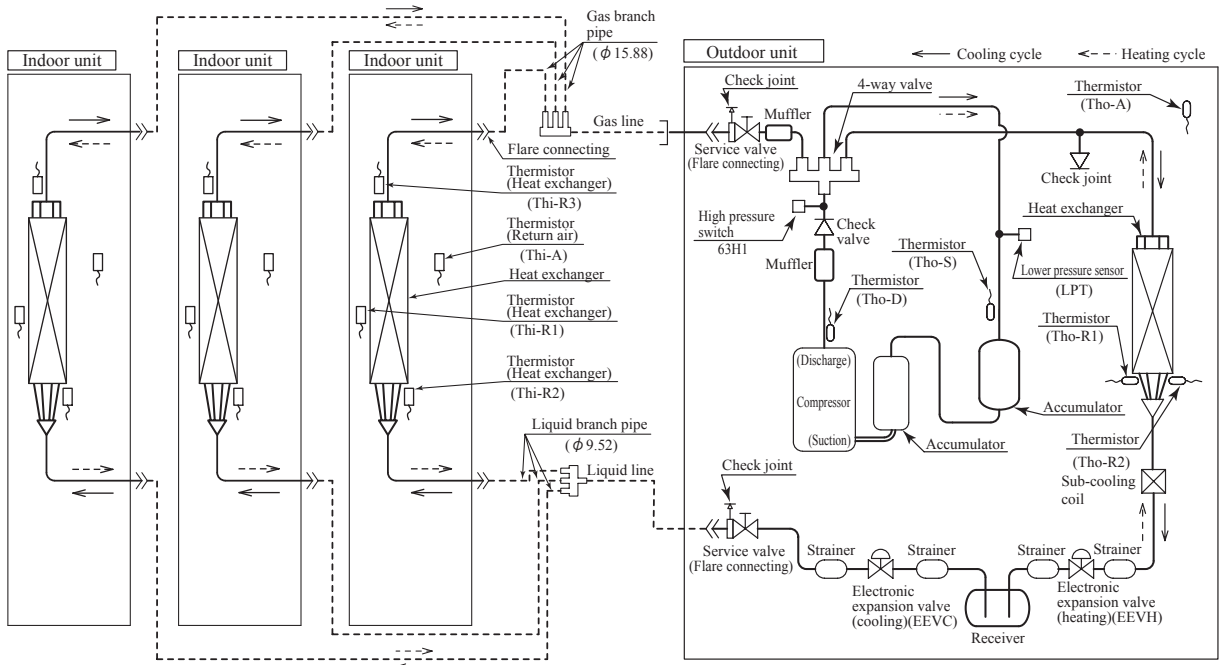
●Refrigerant line (one way) pipe size

Model	Gas line	Liquid line
200	In case of $\phi 22.22$: 35m	In case of $\phi 9.52$: 40m In case of $\phi 12.7$: 70m
250	In case of $\phi 25.4$ or $\phi 28.58$: 70m	In case of $\phi 12.7$: 70m

**(3) Triple type
Model 140**



Model 200

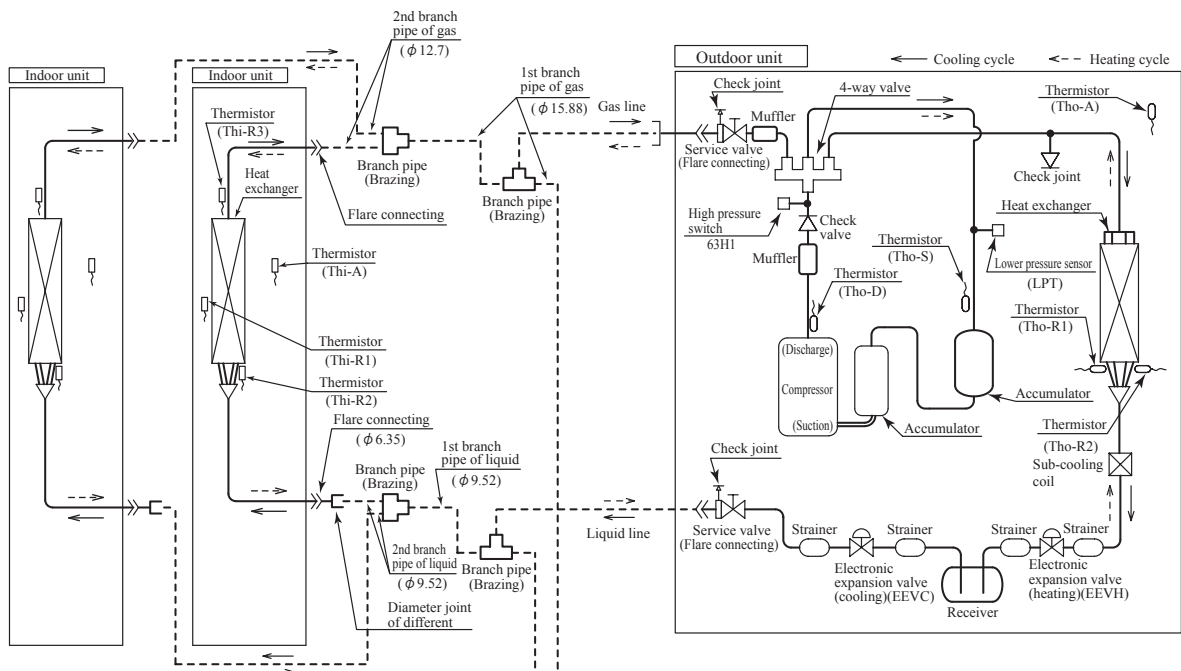


●Refrigerant line (one way) pipe size

Gas line	Liquid line
In case of $\phi 22.22$: 35m	In case of $\phi 9.52$: 40m
In case of $\phi 25.4$ or $\phi 28.58$: 70m	In case of $\phi 12.7$: 70m

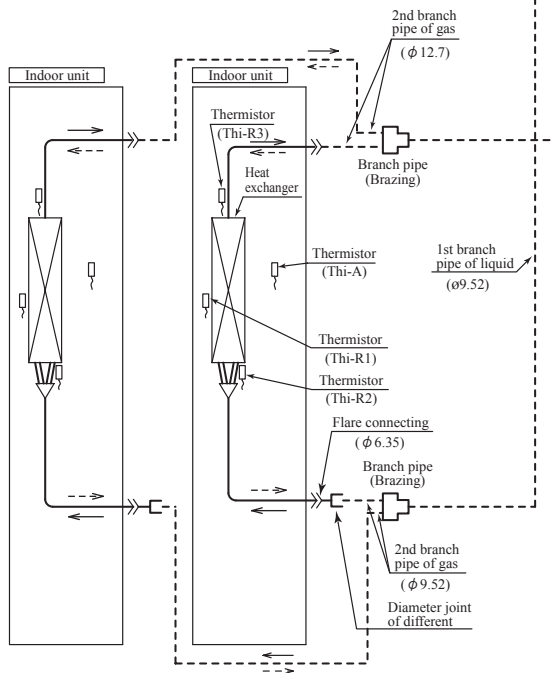
(4) Double twin type

Model 200

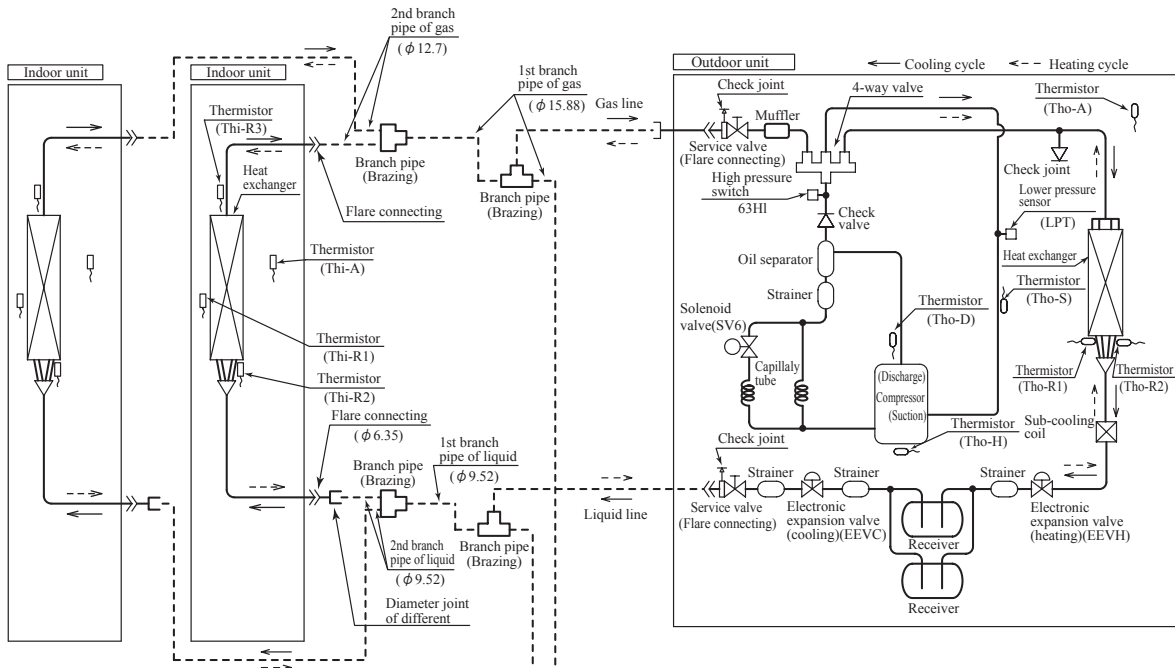


●Refrigerant line (one way) pipe size

Gas line	Liquid line
In case of $\phi 22.22$: 35m	In case of $\phi 9.52$: 40m
In case of $\phi 25.4$ or $\phi 28.58$: 70m	In case of $\phi 12.7$: 70m

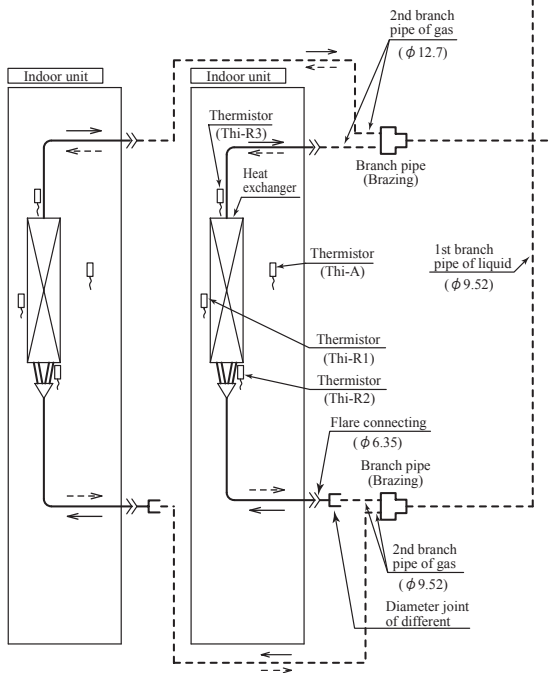


Model 250



●Refrigerant line (one way) pipe size

Gas line	Liquid line
In case of $\phi 22.22$: 35m	In case of $\phi 12.7$: 70m
In case of $\phi 25.4$ or $\phi 28.58$: 70m	



Preset point of the protective devices

Parts name	Mark	Equipped unit	100, 125, 140 model	200, 250 model
Thermistor (for protection overloading in heating)	Thi-R	Indoor unit	OFF 63°C ON 56°C	
Thermistor (for frost prevention)	Thi-R		OFF 1.0°C ON 10°C	
Thermistor (for protection high pressure in cooling.)	Tho-R	Outdoor unit	OFF 65°C ON 51°C	
Thermistor (for detecting discharge pipe temp.)	Tho-D	Outdoor unit	OFF 115°C ON 85°C	OFF 135°C ON 90°C
High pressure switch (for protection)	63H1	Outdoor unit	OFF 4.15MPa ON 3.15MPa	
Low pressure sensor (for protection)	LPT	Outdoor unit	—	OFF 0.079MPa ON 0.227MPa

2.8 RANGE OF USAGE & LIMITATIONS

Operating temperature range		See next page.
		When used below -5°C, install a snow hood (FDC100-250 only).
Recommendable area to install		Considering to get sufficient heating capacity, the area where the averaged lowest ambient air temperature in day time during winter is above 0°C, and it has no accumulation of snow.
Installation site		The limitations of installation space are shown in the page for exterior dimensions. Install the indoor unit at least 2.5m higher than the floor surface.
Temperature and humidity conditions surrounding the indoor unit in the ceiling (Note 2)		Dew point temperature : 28°C (FDE : 23°C) or less, relative humidity : 80% or less
Limitations on unit and piping installation		See pages 313 and 314.
Compressor ON-OFF cycling	Cycle time	7 minutes or more (from OFF to OFF) or (from ON to ON)
	Stop time	3 minutes or more
Power source	Voltage range	Rating ±10%
	Voltage drop at start-up	Min.85% of rating
	Phase-to-phase unbalance	3% or less

Note 1. Do not install the unit in places which :

- 1) Flammable gas may leak.
- 2) Carbon fiber, metal particles, powder, etc. are floating.
- 3) Cosmetic or special sprays are used frequently.
- 4) Exposed to oil splashes or steam (e.g. kitchen and machine plant).
- 5) Exposed to sea breeze (e.g. coastal area) or calcium chloride (e.g. snow melting agent).
- 6) Exposed to ammonia substance (e.g. organic fertilizer).
- 7) Matters affecting devices, such as sulfuric gas, chlorine gas, acid, alkali, etc. may generate or accumulate.
- 8) Chimney smoke is hanging.
- 9) Sucking the exhaust gas from heat exchanger.
- 10) Adjacent to equipment generating electromagnetic waves or high frequency waves.
- 11) There is light beams that affect the receiving device of indoor unit in case of the wireless specification.
- 12) Snow falls heavily.
- 13) At an elevation of 1000 meters or higher.
- 14) On mobile machine (e.g. vehicle, ship, etc.)
- 15) Splashed with water to indoor unit (e.g. laundry room).
- 16) Indoor units of twin, triple and double-twin specifications separately in a room with partition.


Note 2. If ambient temperature and humidity exceed the above values, add polyurethane foam insulation on the outer plate (10mm or thicker) of indoor unit.


Both gas and liquid pipes need to be covered with 20mm or thicker heat insulation materials at the place where humidity exceeds 70%.

Note 3. When used below -5°C, install a snow hood on site.

Regarding outline of a snow hood, refer to our technical manual.

PFA004Z051

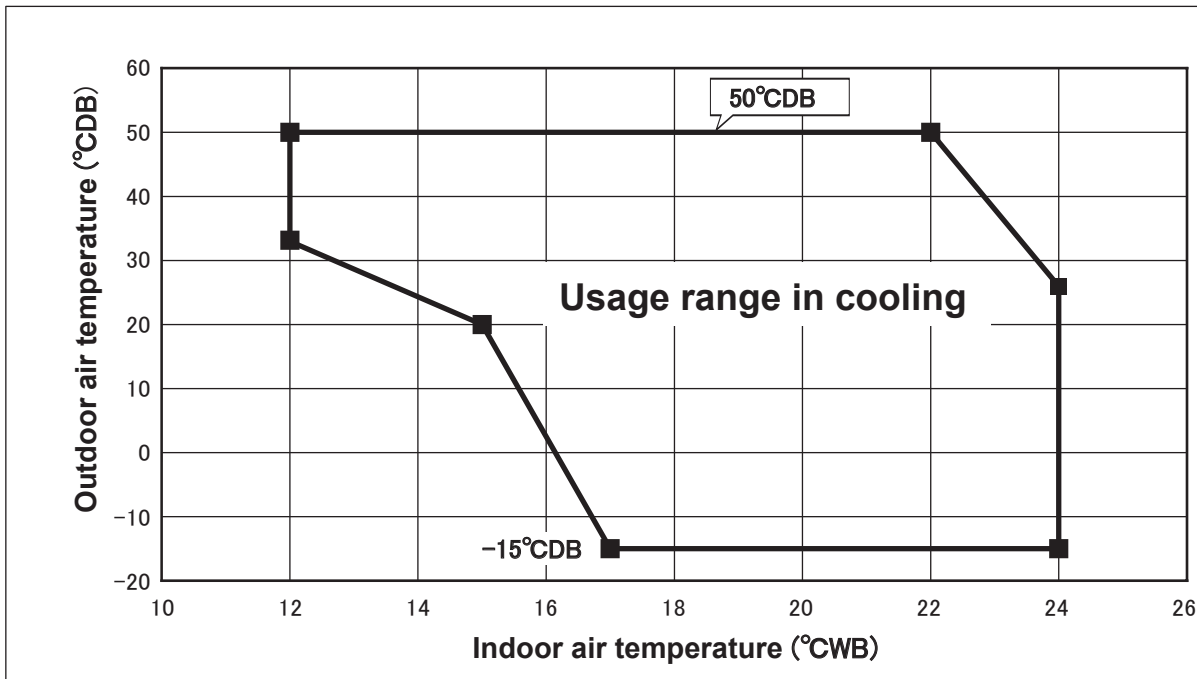
PJG000Z014 
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PJG000Z055 
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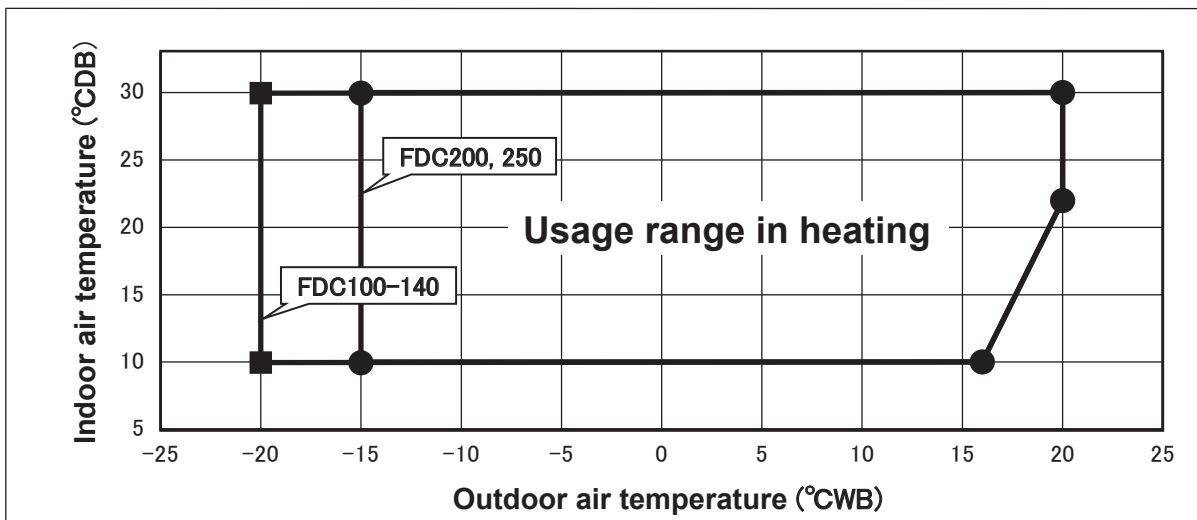
PCA001Z779

Operating temperature range

■ Cooling



■ Heating



Decline in cooling and heating capacity or operation stop may occur when the outdoor unit is installed in places where natural wind can increase or decrease its design air flow rate.

“CAUTION” Cooling operation under low outdoor air temperature conditions

PAC models can be operated in cooling mode at low outdoor air temperature condition within above temperature range. However in case of severely low temperature conditions if the following precaution is not observed, it may not be operated in spite of operable temperature range mentioned above and cooling capacity may not be established under certain conditions.

[Precaution]

In case of severely low temperature condition

- 1) Install the outdoor unit at the place where strong wind cannot blow directly into the outdoor unit.
- 2) If there is no installation place where can prevent strong wind from directly blowing into the outdoor unit, mount the flex flow adapter (prepared as optional part) or like such devices onto the outdoor unit in order to divert the strong wind.

[Reason]

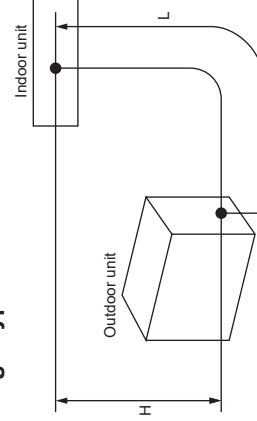
Under the low outdoor air temperature conditions of -5°C or lower, the outdoor fan is controlled at lower or lowest speed by outdoor fan control, but if strong wind directly blow into the outdoor unit, the outdoor heat exchanger temperature will drop more.

This makes high and low pressures to drop as well. This low pressure drop makes the indoor heat exchanger temperature to drop and will activate anti-frost control at indoor heat exchanger at frequent intervals, that cooling operation may not be established for any given time.

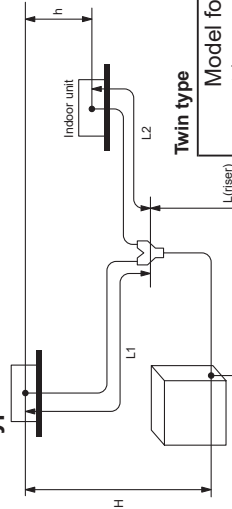
Limitation on unit and piping installation - single,twin,Double twin.

Descriptions	Model for outdoor units		Dimensional limitations	Marks appearing in the drawing	
	Single type	Twin type		Single type	Twin type
One-way pipe length	FDC100 • 125 • 140	FDC100 • 125 • 140	≤ 50m	L	Double twin type
	FDC200	Liquid piping φ 9.52 φ 12.7 φ 12.7	≤ 40m	L+L1 L+L2	L+La+L1 L+La+L2 L+Lb+L3 L+Lb+L4
	FDC250		≤ 40m L ≤ 70m		
	FDC200 • 250	Gas piping φ 22.22 φ 25.4 or φ 28.58	≤ 35m	L	L
	FDC100 • 125 • 140		≤ 35m L ≤ 70m		
	Main pipe length	FDC200	Liquid piping φ 9.52 φ 12.7 φ 12.7	≤ 50m	L
FDC250		≤ 40m			
FDC200 • 250		≤ 40m L ≤ 70m			
One-way pipe length after the first branching point	FDC100 • 125 • 140	Gas piping φ 22.22 φ 25.4 or φ 28.58	≤ 35m	L1, L2	La+L1, La+L2, Lb+L3, Lb+L4
	FDC200 • 250		≤ 35m L ≤ 70m		
Difference of pipe length after the first branching point			≤ 30m	L1-L2, L2-L1, L3-L4, L4-L3	
Total pipe length after the second branching point			≤ 10m	L1-L2 L2-L1	(L1+La)-(L3+Lb), (L1+La)-(L4+Lb) (L2+La)-(L3+Lb), (L2+La)-(L4+Lb)
Elevation difference between indoor and outdoor units	When the outdoor unit is positioned higher	FDC100 - 250	≤ 15m	H	H
	When the outdoor unit is positioned lower	FDC100 - 250	≤ 30m	H	H
Elevation difference among indoor units			≤ 15m	h	h1, h2, h3, h4, h5, h6

Single type

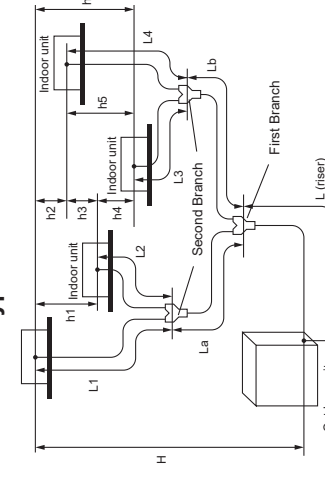


Twin type



Model for outdoor units	Branch piping set(option)
FDC100 • 125 • 140	DIS-WA1
FDC200 • 250	DIS-WB1

Double twin type



(1) A riser pipe must be part of the main.

A branching pipe set should be installed horizontally at a point as close to an indoor unit as possible.

(2) Reduce refrigerant amount by according to table below when refrigerant piping is shorter than 3m.

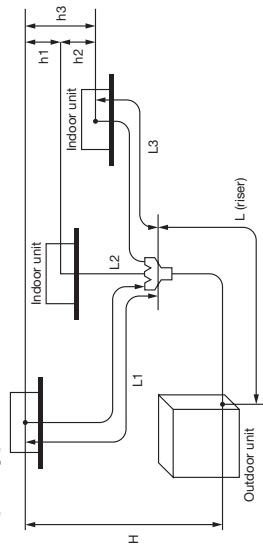
Model for outdoor units	Refrigerant to be reduced
FDC100 • 125 • 140 • 200 • 250	-1.0kg

Double twin type

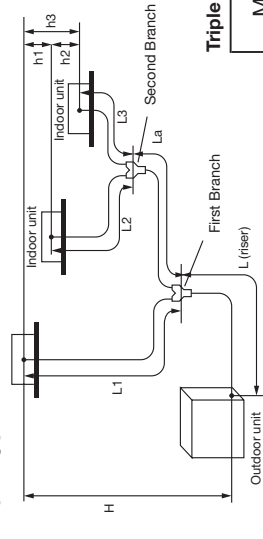
Model for outdoor units	Branch piping set(option)
FDC200 • 250	DIS-WB1
	First branch
	Second branch
	DIS-WA1x2

Limitation on unit and piping installation - triple.		Triple type (in case of FDC140・200)		One-way pipe length difference from the first branching point to the indoor unit		Dimensional limitations		Marks appearing in the drawing	
Descriptions	Model for outdoor units	Model for outdoor units	One-way pipe length difference from the first branching point to the indoor unit	Model for outdoor units	Dimensional limitations	Model for outdoor units	One-way pipe length difference from the first branching point to the indoor unit	Model for outdoor units	Dimensional limitations
One-way pipe length	FDC140	Liquid piping Gas piping	φ9.52	FDC200	Liquid piping Gas piping	φ9.52	FDC140	L	L
			φ12.7			φ12.7			
Main pipe length	FDC140	Liquid piping Gas piping	φ25.4 or φ28.58	FDC200	Liquid piping Gas piping	φ25.4 or φ28.58	FDC140	L	L
			φ22.22			φ22.22			
Piping length between the first branching point and the second branching point									
One-way pipe length between the first branching point and indoor units									
One-way pipe length from the first branching point to indoor units through the second branching point									
Piping length difference from the first branching point to indoor unit									
One-way pipe length difference from the second branching point to indoor unit									
Elevation difference between indoor and outdoor units									
Elevation difference among indoor units									
Triple type (in case of FDC250)									
Restrictions									
One-way pipe length	Gas piping		φ22.22 φ25.4 or φ28.58	Gas piping		φ22.22 φ25.4 or φ28.58	L+L1, L+L2, L+L3 ※ 2	Triple type B	
Main pipe length	Gas piping		φ22.22 φ25.4 or φ28.58	Gas piping		φ22.22 φ25.4 or φ28.58	L	L	
One-way pipe length between the first branching point from to the second branching point							La	La	
One-way pipe length between the first branching point and indoor units							L1, La+L2, La+L3 ※ 2	L1, La+L2, La+L3 ※ 1	
Piping length difference from the first branching point to indoor unit							L1-(La+L2), L1-(La+L3) L2-L3, L3-L2 ※ 2	L1-(La+L2), L1-(La+L3) L2-L3, L3-L2 ※ 1	
Piping length difference from the second branching point to indoor unit							< 3m		
Elevation difference between indoor and outdoor units							When the outdoor unit is positioned higher When the outdoor unit is positioned lower	H	
Elevation difference among indoor units							h1, h2, h3	h1, h2, h3	
Triple type (in case of FDC250)									
Restrictions									
One-way pipe length	Gas piping		φ22.22 φ25.4 or φ28.58	Gas piping		φ22.22 φ25.4 or φ28.58	L+L1, L+L2, L+L3 ※ 2	Triple type B	
Main pipe length	Gas piping		φ22.22 φ25.4 or φ28.58	Gas piping		φ22.22 φ25.4 or φ28.58	L	L	
One-way pipe length between the first branching point from to the second branching point							La	La	
One-way pipe length between the first branching point and indoor units							L1, La+L2, La+L3 ※ 2	L1, La+L2, La+L3 ※ 1	
Piping length difference from the first branching point to indoor unit							L1-(La+L2), L1-(La+L3) L2-L3, L3-L2 ※ 2	L1-(La+L2), L1-(La+L3) L2-L3, L3-L2 ※ 1	
Piping length difference from the second branching point to indoor unit							< 3m		
Elevation difference between indoor and outdoor units							When the outdoor unit is positioned higher When the outdoor unit is positioned lower	H	
Elevation difference among indoor units							h1, h2, h3	h1, h2, h3	

Triple type A



Triple type B



Triple type

Model for outdoor units	Branch piping set(option)	
	Type A	Type B
FDC140	Branch pipe DIS-TA1	Second branch DIS-WA1
FDC200	Branch pipe DIS-TB1	Second branch DIS-WA1

- ※ 1 Install the indoor units so that L+L1 becomes the longest one-way pipe. Keep the pipe length difference between L1 and (La+L2) or (La+L3) within 10m.
- ※ 2 Connect the unit that is the maximum capacity with L1.

- (1) A riser pipe must be part of the main. A branching pipe set should be installed horizontally at a point as close to an indoor unit as possible.
- (2) Reduce refrigerant amount by 1.0kg from the factory charge when refrigerant piping is shorter than 3m.

2.9 SELECTION CHART

Correct the cooling and heating capacity in accordance with the operating conditions. The net cooling and heating capacity can be obtained in the following way.

Net capacity = Capacity shown in the capacity tables (2.9.1) × Correction factors shown in the table (2.9.2) (2.9.3) (2.9.4).

Caution: In case that the cooling operation during low outdoor air temperature below -5°C is expected, install the outdoor unit where it is not influenced by natural wind. Otherwise protection control by low pressure will be activated much more frequently and it will cause insufficient capacity or breakdown of the compressor in worst case.

2.9.1 Capacity tables

(1) Ceiling suspended type (FDE)

(a) Single type

Model **FDE100VNAV** Indoor unit FDE100VG Outdoor unit FDC100VNA


Cooling mode

(kW) Heating mode:HC

(kW)

Outdoor air temp. °CDB	Indoor air temperature															
	18 °CDB		21 °CDB		23 °CDB		26 °CDB		27 °CDB		28 °CDB		31 °CDB		33 °CDB	
	12 °CWB	14 °CWB	16 °CWB	18 °CWB	19 °CWB	20 °CWB	22 °CWB	24 °CWB	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					8.12	7.37	8.59	8.01	8.82	7.95	9.07	7.89	9.56	8.38	10.06	8.23
13					8.50	7.52	9.00	8.17	9.26	8.11	9.52	8.05	10.06	8.53	10.60	8.38
15					8.88	7.67	9.42	8.32	9.69	8.26	9.98	8.20	10.56	8.69	11.14	8.54
17					9.26	7.83	9.84	8.48	10.12	8.42	10.43	8.36	11.05	8.85	11.67	8.69
19					9.46	7.91	10.05	8.56	10.34	8.50	10.65	8.44	11.29	8.92	11.92	8.77
21					9.65	7.99	10.25	8.64	10.56	8.58	10.88	8.52	11.52	9.00	12.16	8.84
23					9.65	7.99	10.28	8.65	10.59	8.59	10.91	8.53	11.56	9.01	12.21	8.85
25			8.93	8.14	9.64	7.99	10.31	8.66	10.62	8.60	10.95	8.54	11.61	9.03	12.27	8.87
27			8.86	8.11	9.64	7.99	10.34	8.68	10.65	8.61	10.96	8.55	11.57	9.01		
29			8.80	8.08	9.50	7.93	10.17	8.61	10.49	8.56	10.81	8.49	11.45	8.98		
31			8.73	8.05	9.35	7.87	9.99	8.54	10.32	8.49	10.66	8.44	11.32	8.93		
33	8.22	7.48	8.58	7.98	9.21	7.81	9.82	8.48	10.16	8.43	10.51	8.39	11.19	8.89		
35	8.05	7.40	8.44	7.92	9.06	7.75	9.64	8.41	10.00	8.38	10.36	8.34	11.07	8.85		
37	7.92	7.34	8.30	7.86	8.91	7.69	9.46	8.34	9.79	8.30	10.13	8.26	10.80	8.77		
39	7.78	7.27	8.16	7.80	8.75	7.62	9.28	8.27	9.59	8.23	9.90	8.18	10.53	8.68		
41	7.64	7.21	8.02	7.74	8.60	7.56	9.09	8.20	9.38	8.15	9.68	8.10	10.26	8.60		
43	7.50	7.14	7.88	7.67	8.45	7.50	8.91	8.13	9.18	8.08	9.45	8.02	9.99	8.51		
46	7.33	7.06	7.67	7.52	8.22	7.41	8.58	8.01	8.83	7.95	9.07	7.89	9.57	8.38		
50	7.09	6.95	7.39	7.24	7.91	7.28	8.19	7.87	8.35	7.79	8.51	7.70	8.83	8.15		

Outdoor air temp. °CDB	°CWB	Indoor air temperature °CDB				
		16	18	20	22	24
-19.8	-20	6.82	6.79	6.77	6.75	6.72
-17.7	-18	7.16	7.14	7.10	7.08	7.04
-15.7	-16	7.50	7.46	7.44	7.40	7.37
-13.5	-14	7.86	7.83	7.79	7.76	7.72
-11.5	-12	8.23	8.19	8.15	8.12	8.08
-9.5	-10	8.58	8.55	8.50	8.47	8.42
-7.5	-8	8.93	8.89	8.85	8.80	8.75
-5.5	-6	9.05	9.00	8.97	8.91	8.86
-3.0	-4	9.17	9.12	9.07	9.03	8.97
-1.0	-2	9.29	9.23	9.19	9.13	9.07
1.0	0	9.40	9.34	9.29	9.23	9.18
2.0	1	9.45	9.39	9.34	9.28	9.22
3.0	2	9.82	9.77	9.71	9.67	9.63
5.0	4	10.21	10.15	10.09	10.08	10.07
7.0	6	11.33	11.27	11.20	11.22	11.23
9.0	8	11.78	11.71	11.64	11.62	11.59
11.5	10	12.23	12.16	12.09	12.02	11.94
13.5	12	12.91	12.83	12.75	12.65	12.60
15.5	14	13.59	13.50	13.42	13.29	13.26
16.5	16	13.93	13.84	13.75	13.61	13.59

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Model **FDE100VSAVG** Indoor unit FDE100VG Outdoor unit FDC100VSA


Cooling mode

(kW) Heating mode:HC

(kW)

Outdoor air temp. °CDB	Indoor air temperature															
	18 °CDB		21 °CDB		23 °CDB		26 °CDB		27 °CDB		28 °CDB		31 °CDB		33 °CDB	
	12 °CWB	14 °CWB	16 °CWB	18 °CWB	19 °CWB	20 °CWB	22 °CWB	24 °CWB	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					8.12	7.37	8.59	8.01	8.82	7.95	9.07	7.89	9.56	8.38	10.06	8.23
13					8.50	7.52	9.00	8.17	9.26	8.11	9.52	8.05	10.06	8.53	10.60	8.38
15					8.88	7.67	9.42	8.32	9.69	8.26	9.98	8.20	10.56	8.69	11.14	8.54
17					9.26	7.83	9.84	8.48	10.12	8.42	10.43	8.36	11.05	8.85	11.67	8.69
19					9.46	7.91	10.05	8.56	10.34	8.50	10.65	8.44	11.29	8.92	11.92	8.77
21					9.65	7.99	10.25	8.64	10.56	8.58	10.88	8.52	11.52	9.00	12.16	8.84
23					9.65	7.99	10.28	8.65	10.59	8.59	10.91	8.53	11.56	9.01	12.21	8.85
25			8.93	8.14	9.64	7.99	10.31	8.66	10.62	8.60	10.95	8.54	11.61	9.03	12.27	8.87
27			8.86	8.11	9.64	7.99	10.34	8.68	10.65	8.61	10.96	8.55	11.57	9.01		
29			8.80	8.08	9.50	7.93	10.17	8.61	10.49	8.56	10.81	8.49	11.45	8.98		
31			8.73	8.05	9.35	7.87	9.99	8.54	10.32	8.49	10.66	8.44	11.32	8.93		
33	8.22	7.48	8.58	7.98	9.21	7.81	9.82	8.48	10.16	8.43	10.51	8.39	11.19	8.89		
35	8.05	7.40	8.44	7.92	9.06	7.75	9.64	8.41	10.00	8.38	10.36	8.34	11.07	8.85		
37	7.92	7.34	8.30	7.86	8.91	7.69	9.46	8.34	9.79	8.30	10.13	8.26	10.80	8.77		
39	7.78	7.27	8.16	7.80	8.75	7.62	9.28	8.27	9.59	8.23	9.90	8.18	10.53	8.68		
41	7.64	7.21	8.02	7.74	8.60	7.56	9.09	8.20	9.38	8.15	9.68	8.10	10.26	8.60		
43	7.50	7.14	7.88	7.67	8.45	7.50	8.91	8.13	9.18	8.08	9.45	8.02	9.99	8.51		
46	7.33	7.06	7.67	7.52	8.22	7.41	8.58	8.01	8.83	7.95	9.07	7.89	9.57	8.38		
50	7.09	6.95	7.39	7.24	7.91	7.28	8.19	7.87	8.35	7.79	8.51	7.70	8.83	8.15		

Outdoor air temp. °CDB	°CWB	Indoor air temperature °CDB				
		16	18	20	22	24
-19.8	-20	6.82	6.79	6.77	6.75	6.72
-17.7	-18	7.16	7.14	7.10	7.08	7.04
-15.7	-16	7.50	7.46	7.44	7.40	7.37
-13.5	-14	7.86	7.83	7.79	7.76	7.72
-11.5	-12	8.23	8.19	8.15	8.12	8.08
-9.5	-10	8.58	8.55	8.50	8.47	8.42
-7.5	-8	8.93	8.89	8.85	8.80	8.75
-5.5	-6	9.05	9.00	8.97	8.91	8.86
-3.0	-4	9.17	9.12	9.07	9.03	8.97
-1.0	-2	9.29	9.23	9.19	9.13	9.07
1.0	0	9.40	9.34	9.29	9.23	9.18
2.0	1	9.45	9.39	9.34	9.28	9.22
3.0	2	9.82	9.77	9.71	9.67	9.63
5.0	4	10.21	10.15	10.09	10.08	10.07
7.0	6	11.33	11.27	11.20	11.22	11.23
9.0	8	11.78	11.71	11.64	11.62	11.59
11.5	10	12.23	12.16	12.09	12.02	11.94
13.5	12	12.91	12.83	12.75	12.65	12.60
15.5	14	13.59	13.50	13.42	13.29	13.26
16.5	16	13.93	13.84	13.75	13.61	13.59

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Notes (1) These data show average status.

Depending on the system control, there may be ranges where the operation is not conducted continuously.

These data show the case where the operation frequency of a compressor is fixed. (Cooling only)
In the heating mode in which the outside air temperature is 0°C DB or less, the compressor operates at maximum frequency.

(2) Capacities are based on the following conditions.

Corresponding refrigerant piping length : 7.5m
Level difference of Zero.

(3) Symbols are as follows

TC : Total cooling capacity (kW)

SHC : Sensible heat capacity (kW)


HC : Heating capacity (kW)

Model **FDE125VNAVG** Indoor unit FDE125VG Outdoor unit FDC125VNA
Cooling mode

(kW) Heating mode:HC (kW)

Outdoor air temp. °CDB	Indoor air temperature																
	18 °CDB		21 °CDB		23 °CDB		26 °CDB		27 °CDB		28 °CDB		31 °CDB		33 °CDB		
	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	
11						10.15	8.20	10.74	8.83	11.03	8.76	11.34	8.68	11.96	9.14	12.57	8.96
13						10.63	8.41	11.26	9.03	11.57	8.96	11.91	8.89	12.58	9.35	13.25	9.16
15						11.10	8.61	11.78	9.24	12.11	9.17	12.47	9.10	13.20	9.56	13.92	9.37
17						11.58	8.82	12.29	9.45	12.65	9.38	13.04	9.31	13.82	9.77	14.59	9.58
19						11.82	8.92	12.56	9.56	12.92	9.48	13.32	9.41	14.11	9.87	14.90	9.68
21						12.06	9.03	12.82	9.66	13.19	9.59	13.60	9.52	14.40	9.97	15.20	9.77
23						12.06	9.03	12.85	9.68	13.23	9.60	13.64	9.53	14.45	9.99	15.27	9.79
25			11.16	9.16	12.06	9.03	12.89	9.69	13.27	9.62	13.68	9.55	14.51	10.01	15.34	9.82	
27			11.08	9.13	12.05	9.02	12.92	9.71	13.31	9.64	13.69	9.55	14.47	9.99			
29			11.00	9.09	11.87	8.94	12.71	9.62	13.11	9.56	13.51	9.48	14.31	9.94			
31			10.92	9.05	11.69	8.87	12.49	9.53	12.90	9.47	13.32	9.41	14.15	9.88			
33	10.27	8.49	10.72	8.96	11.51	8.79	12.27	9.44	12.70	9.40	13.13	9.34	13.99	9.83			
35	10.07	8.39	10.55	8.88	11.33	8.71	12.06	9.35	12.50	9.32	12.94	9.27	13.83	9.77			
37	9.90	8.30	10.38	8.80	11.13	8.62	11.83	9.26	12.24	9.22	12.66	9.17	13.50	9.66			
39	9.72	8.21	10.20	8.71	10.94	8.54	11.60	9.17	11.99	9.12	12.38	9.06	13.16	9.54			
41	9.55	8.13	10.02	8.63	10.75	8.46	11.37	9.08	11.73	9.02	12.09	8.96	12.82	9.43			
43	9.38	8.04	9.85	8.55	10.56	8.38	11.14	8.99	11.47	8.92	11.81	8.85	12.48	9.31			
46	9.21	7.96	9.53	8.41	10.28	8.26	10.88	8.89	11.12	8.79	11.28	8.66	11.96	9.14			
50	7.43	7.11	7.63	7.48	8.25	7.42	8.67	8.04	8.78	7.94	8.80	7.80	9.05	8.22			

Outdoor air temp. °CDB	°CWB	Indoor air temperature °CDB				
		16	18	20	22	24
		-19.8	-20	7.77	7.73	7.70
-17.7	-18	8.16	8.13	8.11	8.06	8.03
-15.7	-16	8.57	8.53	8.50	8.46	8.42
-13.5	-14	9.02	8.98	8.94	8.90	8.86
-11.5	-12	9.46	9.41	9.37	9.33	9.28
-9.5	-10	9.90	9.84	9.80	9.76	9.70
-7.5	-8	10.32	10.28	10.23	10.17	10.12
-5.5	-6	10.50	10.45	10.39	10.33	10.28
-3.0	-4	10.66	10.61	10.55	10.49	10.43
-1.0	-2	10.82	10.77	10.71	10.65	10.58
1.0	0	10.99	10.93	10.87	10.80	10.73
2.0	1	11.07	11.01	10.94	10.88	10.81
3.0	2	11.92	11.85	11.78	11.73	11.68
5.0	4	12.76	12.69	12.61	12.60	12.58
7.0	6	14.16	14.08	14.00	14.02	14.04
9.0	8	14.72	14.64	14.56	14.52	14.49
11.5	10	15.28	15.20	15.11	15.02	14.93
13.5	12	16.13	16.04	15.94	15.82	15.75
15.5	14	16.98	16.88	16.77	16.62	16.58
16.5	16	17.41	17.30	17.19	17.02	16.99


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Model **FDE125VSAVG** Indoor unit FDE125VG Outdoor unit FDC125VSA
Cooling mode

(kW) Heating mode:HC (kW)

Outdoor air temp. °CDB	Indoor air temperature																
	18 °CDB		21 °CDB		23 °CDB		26 °CDB		27 °CDB		28 °CDB		31 °CDB		33 °CDB		
	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	
11						10.15	8.20	10.74	8.83	11.03	8.76	11.34	8.68	11.96	9.14	12.57	8.96
13						10.63	8.41	11.26	9.03	11.57	8.96	11.91	8.89	12.58	9.35	13.25	9.16
15						11.10	8.61	11.78	9.24	12.11	9.17	12.47	9.10	13.20	9.56	13.92	9.37
17						11.58	8.82	12.29	9.45	12.65	9.38	13.04	9.31	13.82	9.77	14.59	9.58
19						11.82	8.92	12.56	9.56	12.92	9.48	13.32	9.41	14.11	9.87	14.90	9.68
21						12.06	9.03	12.82	9.66	13.19	9.59	13.60	9.52	14.40	9.97	15.20	9.77
23						12.06	9.03	12.85	9.68	13.23	9.60	13.64	9.53	14.45	9.99	15.27	9.79
25			11.16	9.16	12.06	9.03	12.89	9.69	13.27	9.62	13.68	9.55	14.51	10.01	15.34	9.82	
27			11.08	9.13	12.05	9.02	12.92	9.71	13.31	9.64	13.69	9.55	14.47	9.99			
29			11.00	9.09	11.87	8.94	12.71	9.62	13.11	9.56	13.51	9.48	14.31	9.94			
31			10.92	9.05	11.69	8.87	12.49	9.53	12.90	9.47	13.32	9.41	14.15	9.88			
33	10.27	8.49	10.72	8.96	11.51	8.79	12.27	9.44	12.70	9.40	13.13	9.34	13.99	9.83			
35	10.07	8.39	10.55	8.88	11.33	8.71	12.06	9.35	12.50	9.32	12.94	9.27	13.83	9.77			
37	9.90	8.30	10.38	8.80	11.13	8.62	11.83	9.26	12.24	9.22	12.66	9.17	13.50	9.66			
39	9.72	8.21	10.20	8.71	10.94	8.54	11.60	9.17	11.99	9.12	12.38	9.06	13.16	9.54			
41	9.55	8.13	10.02	8.63	10.75	8.46	11.37	9.08	11.73	9.02	12.09	8.96	12.82	9.43			
43	9.38	8.04	9.85	8.55	10.56	8.38	11.14	8.99	11.47	8.92	11.81	8.85	12.48	9.31			
46	9.21	7.96	9.53	8.41	10.28	8.26	10.88	8.89	11.12	8.79	11.28	8.66	11.96	9.14			
50	7.43	7.11	7.63	7.48	8.25	7.42	8.67	8.04	8.78	7.94	8.80	7.80	9.05	8.22			

Outdoor air temp. °CDB	°CWB	Indoor air temperature °CDB				
		16	18	20	22	24
		-19.8	-20	7.77	7.73	7.70
-17.7	-18	8.16	8.13	8.11	8.06	8.03
-15.7	-16	8.57	8.53	8.50	8.46	8.42
-13.5	-14	9.02	8.98	8.94	8.90	8.86
-11.5	-12	9.46	9.41	9.37	9.33	9.28
-9.5	-10	9.90	9.84	9.80	9.76	9.70
-7.5	-8	10.32	10.28	10.23	10.17	10.12
-5.5	-6	10.50	10.45	10.39	10.33	10.28
-3.0	-4	10.66	10.61	10.55	10.49	10.43
-1.0	-2	10.82	10.77	10.71	10.65	10.58
1.0	0	10.99	10.93	10.87	10.80	10.73
2.0	1	11.07	11.01	10.94	10.88	10.81
3.0	2	11.92	11.85	11.78	11.73	11.68
5.0	4	12.76	12.69	12.61	12.60	12.58
7.0	6	14.16	14.08	14.00	14.02	14.04
9.0	8	14.72	14.64	14.56	14.52	14.49
11.5	10	15.28	15.20	15.11	15.02	14.93
13.5	12	16.13	16.04	15.94	15.82	15.75
15.5	14	16.98	16.88	16.77	16.62	16.58
16.5	16	17.41	17.30	17.19	17.02	16.99

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- Notes (1) These data show average status.
Depending on the system control, there may be ranges where the operation is not conducted continuously.
These data show the case where the operation frequency of a compressor is fixed. (Cooling only)
In the heating mode in which the outside air temperature is 0°CDB or less, the compressor operates at maximum frequency.
- (2) Capacities are based on the following conditions.
Corresponding refrigerant piping length : 7.5m
Level difference of Zero.
- (3) Symbols are as follows
TC : Total cooling capacity (kW)
SHC : Sensible heat capacity (kW)
HC : Heating capacity (kW)

Model **FDE140VNAVG** Indoor unit FDE140VG Outdoor unit FDC140VNA

Cooling mode (kW) Heating mode:HC (kW)

Outdoor air temp. °CDB	Indoor air temperature														Outdoor air temp.		Indoor air temperature						
	18 °CDB		21 °CDB		23 °CDB		26 °CDB		27 °CDB		28 °CDB		31 °CDB		33 °CDB		°CDB	°CWB	°CDB				
	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC			16	18	20	22	24
11																	-19.8	-20	7.94	7.91	7.88	7.85	7.82
13																	-17.7	-18	8.44	8.41	8.37	8.34	8.30
15																	-15.7	-16	8.94	8.90	8.86	8.82	8.79
17																	-13.5	-14	9.50	9.46	9.41	9.37	9.33
19																	-11.5	-12	10.07	10.02	9.98	9.93	9.88
21																	-9.5	-10	10.64	10.59	10.54	10.49	10.44
23																	-7.5	-8	11.21	11.15	11.10	11.04	10.99
25																	-5.5	-6	11.51	11.45	11.39	11.33	11.27
27																	-3.0	-4	11.80	11.74	11.68	11.62	11.55
29																	-1.0	-2	12.11	12.05	11.98	11.91	11.84
31																	1.0	0	12.42	12.35	12.28	12.20	12.13
33	11.18	9.15	11.67	9.65	12.52	9.46	13.36	10.16	13.82	10.11	14.29	10.05	15.22	10.57			2.0	1	12.58	12.50	12.43	12.35	12.28
35	10.96	9.04	11.48	9.56	12.32	9.37	13.11	10.06	13.60	10.02	14.09	9.98	15.05	10.50			3.0	2	13.35	13.27	13.20	13.13	13.08
37	10.76	8.94	11.29	9.47	12.11	9.29	12.87	9.96	13.32	9.91	13.77	9.86	14.69	10.38			5.0	4	14.12	14.05	13.96	13.95	13.93
39	10.58	8.85	11.10	9.38	11.91	9.20	12.62	9.86	13.05	9.81	13.46	9.74	14.32	10.25			7.0	6	15.68	15.59	15.50	15.52	15.55
41	10.39	8.76	10.91	9.29	11.70	9.10	12.37	9.76	12.76	9.70	13.16	9.63	13.95	10.13			9.0	8	16.30	16.21	16.11	16.07	16.03
43	10.21	8.67	10.71	9.20	11.49	9.02	12.11	9.66	12.48	9.59	12.85	9.52	13.58	10.00			11.5	10	16.91	16.83	16.73	16.63	16.53
46	10.03	8.57	10.47	9.09	11.13	8.86	11.73	9.51	12.10	9.45	12.27	9.31	13.01	9.81			13.5	12	17.86	17.76	17.65	17.52	17.44
50	7.61	7.42	7.88	7.72	8.35	7.72	8.75	8.38	8.97	8.31	8.98	8.16	9.33	8.64			15.5	14	18.80	18.69	18.57	18.40	18.36
																	16.5	16	19.28	19.15	19.03	18.84	18.81

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Model **FDE140VSAVG** Indoor unit FDE140VG Outdoor unit FDC140VSA

Cooling mode (kW) Heating mode:HC (kW)

Outdoor air temp. °CDB	Indoor air temperature														Outdoor air temp.		Indoor air temperature						
	18 °CDB		21 °CDB		23 °CDB		26 °CDB		27 °CDB		28 °CDB		31 °CDB		33 °CDB		°CDB	°CWB	°CDB				
	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC			16	18	20	22	24
11																	-19.8	-20	7.94	7.91	7.88	7.85	7.82
13																	-17.7	-18	8.44	8.41	8.37	8.34	8.30
15																	-15.7	-16	8.94	8.90	8.86	8.82	8.79
17																	-13.5	-14	9.50	9.46	9.41	9.37	9.33
19																	-11.5	-12	10.07	10.02	9.98	9.93	9.88
21																	-9.5	-10	10.64	10.59	10.54	10.49	10.44
23																	-7.5	-8	11.21	11.15	11.10	11.04	10.99
25																	-5.5	-6	11.51	11.45	11.39	11.33	11.27
27																	-3.0	-4	11.80	11.74	11.68	11.62	11.55
29																	-1.0	-2	12.11	12.05	11.98	11.91	11.84
31																	1.0	0	12.42	12.35	12.28	12.20	12.13
33	11.18	9.15	11.67	9.65	12.52	9.46	13.36	10.16	13.82	10.11	14.29	10.05	15.22	10.57			2.0	1	12.58	12.50	12.43	12.35	12.28
35	10.96	9.04	11.48	9.56	12.32	9.37	13.11	10.06	13.60	10.02	14.09	9.98	15.05	10.50			3.0	2	13.35	13.27	13.20	13.13	13.08
37	10.76	8.94	11.29	9.47	12.11	9.29	12.87	9.96	13.32	9.91	13.77	9.86	14.69	10.38			5.0	4	14.12	14.05	13.96	13.95	13.93
39	10.58	8.85	11.10	9.38	11.91	9.20	12.62	9.86	13.05	9.81	13.46	9.74	14.32	10.25			7.0	6	15.68	15.59	15.50	15.52	15.55
41	10.39	8.76	10.91	9.29	11.70	9.10	12.37	9.76	12.76	9.70	13.16	9.63	13.95	10.13			9.0	8	16.30	16.21	16.11	16.07	16.03
43	10.21	8.67	10.71	9.20	11.49	9.02	12.11	9.66	12.48	9.59	12.85	9.52	13.58	10.00			11.5	10	16.91	16.83	16.73	16.63	16.53
46	10.03	8.57	10.47	9.09	11.13	8.86	11.73	9.51	12.10	9.45	12.27	9.31	13.01	9.81			13.5	12	17.86	17.76	17.65	17.52	17.44
50	7.61	7.42	7.88	7.72	8.35	7.72	8.75	8.38	8.97	8.31	8.98	8.16	9.33	8.64			15.5	14	18.80	18.69	18.57	18.40	18.36
																	16.5	16	19.28	19.15	19.03	18.84	18.81

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- Notes (1) These data show average status.
 Depending on the system control, there may be ranges where the operation is not conducted continuously.
 These data show the case where the operation frequency of a compressor is fixed. (Cooling only)
 In the heating mode in which the outside air temperature is 0°C DB or less, the compressor operates at maximum frequency.
- (2) Capacities are based on the following conditions.
 Corresponding refrigerant piping length : 7.5m
 Level difference of Zero.
- (3) Symbols are as follows
 TC : Total cooling capacity (kW)
 SHC : Sensible heat capacity (kW)
 HC : Heating capacity (kW)

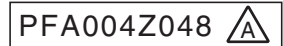
(b) Twin type

Model **FDE100VNAPVG** Indoor unit FDE50VG (2 units) Outdoor unit FDC100VNA

Cooling mode (kW) Heating mode:HC (kW)

Outdoor air temp. °CDB	Indoor air temperature															
	18 °CDB		21 °CDB		23 °CDB		26 °CDB		27 °CDB		28 °CDB		31 °CDB		33 °CDB	
	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					8.12	6.61	8.59	7.12	8.82	7.06	9.07	7.00	9.56	7.38	10.06	7.23
13					8.50	6.77	9.00	7.28	9.26	7.23	9.52	7.17	10.06	7.54	10.60	7.40
15					8.88	6.93	9.42	7.45	9.69	7.39	9.98	7.33	10.56	7.71	11.14	7.56
17					9.26	7.10	9.84	7.62	10.12	7.56	10.43	7.50	11.05	7.88	11.67	7.73
19					9.46	7.19	10.05	7.70	10.34	7.64	10.65	7.58	11.29	7.96	11.92	7.80
21					9.65	7.27	10.25	7.78	10.56	7.73	10.88	7.67	11.52	8.04	12.16	7.88
23					9.65	7.27	10.28	7.80	10.59	7.74	10.91	7.68	11.56	8.05	12.21	7.90
25			8.93	7.38	9.64	7.27	10.31	7.81	10.62	7.75	10.95	7.70	11.61	8.07	12.27	7.91
27			8.86	7.35	9.64	7.27	10.34	7.82	10.65	7.76	10.96	7.70	11.57	8.05		
29			8.80	7.32	9.50	7.20	10.17	7.75	10.49	7.70	10.81	7.64	11.45	8.01		
31			8.73	7.29	9.35	7.14	9.99	7.68	10.32	7.63	10.66	7.59	11.32	7.97		
33	8.22	6.83	8.58	7.22	9.21	7.08	9.82	7.61	10.16	7.57	10.51	7.53	11.19	7.92		
35	8.05	6.75	8.44	7.15	9.06	7.01	9.64	7.54	10.00	7.51	10.36	7.47	11.07	7.88		
37	7.92	6.68	8.30	7.09	8.91	6.95	9.46	7.46	9.79	7.43	10.13	7.39	10.80	7.79		
39	7.78	6.61	8.16	7.02	8.75	6.88	9.28	7.39	9.59	7.35	9.90	7.30	10.53	7.70		
41	7.64	6.54	8.02	6.96	8.60	6.81	9.09	7.32	9.38	7.27	9.68	7.22	10.26	7.61		
43	7.50	6.48	7.88	6.89	8.45	6.75	8.91	7.25	9.18	7.20	9.45	7.14	9.99	7.52		
46	7.33	6.39	7.67	6.80	8.22	6.65	8.58	7.12	8.83	7.07	9.07	7.00	9.57	7.38		
50	7.09	6.28	7.39	6.67	7.91	6.52	8.19	6.97	8.35	6.89	8.51	6.81	8.83	7.14		

Outdoor air temp. °CDB	°CWB	Indoor air temperature °CDB				
		16	18	20	22	24
-19.8	-20	6.82	6.79	6.77	6.75	6.72
-17.7	-18	7.16	7.14	7.10	7.08	7.04
-15.7	-16	7.50	7.46	7.44	7.40	7.37
-13.5	-14	7.86	7.83	7.79	7.76	7.72
-11.5	-12	8.23	8.19	8.15	8.12	8.08
-9.5	-10	8.58	8.55	8.50	8.47	8.42
-7.5	-8	8.93	8.89	8.85	8.80	8.75
-5.5	-6	9.05	9.00	8.97	8.91	8.86
-3.0	-4	9.17	9.12	9.07	9.03	8.97
-1.0	-2	9.29	9.23	9.19	9.13	9.07
1.0	0	9.40	9.34	9.29	9.23	9.18
2.0	1	9.45	9.39	9.34	9.28	9.22
3.0	2	9.82	9.77	9.71	9.67	9.63
5.0	4	10.21	10.15	10.09	10.08	10.07
7.0	6	11.33	11.27	11.20	11.22	11.23
9.0	8	11.78	11.71	11.64	11.62	11.59
11.5	10	12.23	12.16	12.09	12.02	11.94
13.5	12	12.91	12.83	12.75	12.65	12.60
15.5	14	13.59	13.50	13.42	13.29	13.26
16.5	16	13.93	13.84	13.75	13.61	13.59

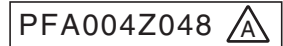


Model **FDE100VSAPVG** Indoor unit FDE50VG (2 units) Outdoor unit FDC100VSA

Cooling mode (kW) Heating mode:HC (kW)

Outdoor air temp. °CDB	Indoor air temperature															
	18 °CDB		21 °CDB		23 °CDB		26 °CDB		27 °CDB		28 °CDB		31 °CDB		33 °CDB	
	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					8.12	6.61	8.59	7.12	8.82	7.06	9.07	7.00	9.56	7.38	10.06	7.23
13					8.50	6.77	9.00	7.28	9.26	7.23	9.52	7.17	10.06	7.54	10.60	7.40
15					8.88	6.93	9.42	7.45	9.69	7.39	9.98	7.33	10.56	7.71	11.14	7.56
17					9.26	7.10	9.84	7.62	10.12	7.56	10.43	7.50	11.05	7.88	11.67	7.73
19					9.46	7.19	10.05	7.70	10.34	7.64	10.65	7.58	11.29	7.96	11.92	7.80
21					9.65	7.27	10.25	7.78	10.56	7.73	10.88	7.67	11.52	8.04	12.16	7.88
23					9.65	7.27	10.28	7.80	10.59	7.74	10.91	7.68	11.56	8.05	12.21	7.90
25			8.93	7.38	9.64	7.27	10.31	7.81	10.62	7.75	10.95	7.70	11.61	8.07	12.27	7.91
27			8.86	7.35	9.64	7.27	10.34	7.82	10.65	7.76	10.96	7.70	11.57	8.05		
29			8.80	7.32	9.50	7.20	10.17	7.75	10.49	7.70	10.81	7.64	11.45	8.01		
31			8.73	7.29	9.35	7.14	9.99	7.68	10.32	7.63	10.66	7.59	11.32	7.97		
33	8.22	6.83	8.58	7.22	9.21	7.08	9.82	7.61	10.16	7.57	10.51	7.53	11.19	7.92		
35	8.05	6.75	8.44	7.15	9.06	7.01	9.64	7.54	10.00	7.51	10.36	7.47	11.07	7.88		
37	7.92	6.68	8.30	7.09	8.91	6.95	9.46	7.46	9.79	7.43	10.13	7.39	10.80	7.79		
39	7.78	6.61	8.16	7.02	8.75	6.88	9.28	7.39	9.59	7.35	9.90	7.30	10.53	7.70		
41	7.64	6.54	8.02	6.96	8.60	6.81	9.09	7.32	9.38	7.27	9.68	7.22	10.26	7.61		
43	7.50	6.48	7.88	6.89	8.45	6.75	8.91	7.25	9.18	7.20	9.45	7.14	9.99	7.52		
46	7.33	6.39	7.67	6.80	8.22	6.65	8.58	7.12	8.83	7.07	9.07	7.00	9.57	7.38		
50	7.09	6.28	7.39	6.67	7.91	6.52	8.19	6.97	8.35	6.89	8.51	6.81	8.83	7.14		

Outdoor air temp. °CDB	°CWB	Indoor air temperature °CDB				
		16	18	20	22	24
-19.8	-20	6.82	6.79	6.77	6.75	6.72
-17.7	-18	7.16	7.14	7.10	7.08	7.04
-15.7	-16	7.50	7.46	7.44	7.40	7.37
-13.5	-14	7.86	7.83	7.79	7.76	7.72
-11.5	-12	8.23	8.19	8.15	8.12	8.08
-9.5	-10	8.58	8.55	8.50	8.47	8.42
-7.5	-8	8.93	8.89	8.85	8.80	8.75
-5.5	-6	9.05	9.00	8.97	8.91	8.86
-3.0	-4	9.17	9.12	9.07	9.03	8.97
-1.0	-2	9.29	9.23	9.19	9.13	9.07
1.0	0	9.40	9.34	9.29	9.23	9.18
2.0	1	9.45	9.39	9.34	9.28	9.22
3.0	2	9.82	9.77	9.71	9.67	9.63
5.0	4	10.21	10.15	10.09	10.08	10.07
7.0	6	11.33	11.27	11.20	11.22	11.23
9.0	8	11.78	11.71	11.64	11.62	11.59
11.5	10	12.23	12.16	12.09	12.02	11.94
13.5	12	12.91	12.83	12.75	12.65	12.60
15.5	14	13.59	13.50	13.42	13.29	13.26
16.5	16	13.93	13.84	13.75	13.61	13.59




- Notes (1) These data show average status.
 Depending on the system control, there may be ranges where the operation is not conducted continuously.
 These data show the case where the operation frequency of a compressor is fixed. (Cooling only)
 In the heating mode in which the outside air temperature is 0°C DB or less, the compressor operates at maximum frequency.
- (2) Capacities are based on the following conditions.
 Corresponding refrigerant piping length : 7.5m
 Level difference of Zero.
- (3) Symbols are as follows
 TC : Total cooling capacity (kW)
 SHC : Sensible heat capacity (kW)
 HC : Heating capacity (kW)

Model **FDE125VNAPVG** Indoor unit FDE60VG (2 units) Outdoor unit FDC125VNA

Cooling mode (kW) Heating mode:HC (kW)


Outdoor air temp. °CDB	Indoor air temperature														Outdoor air temp. °CDB °CWB		Indoor air temperature °CDB						
	18 °CDB		21 °CDB		23 °CDB		26 °CDB		27 °CDB		28 °CDB		31 °CDB				33 °CDB		16	18	20	22	24
	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	°CDB	°CWB					
11					10.15	9.21	10.74	10.02	11.03	9.94	11.34	9.87	11.96	10.47	12.57	10.29	-19.8	-20	7.77	7.73	7.70	7.67	7.65
13					10.63	9.40	11.26	10.21	11.57	10.13	11.91	10.06	12.58	10.67	13.25	10.48	-17.7	-18	8.16	8.13	8.11	8.06	8.03
15					11.10	9.59	11.78	10.41	12.11	10.33	12.47	10.25	13.20	10.86	13.92	10.67	-15.7	-16	8.57	8.53	8.50	8.46	8.42
17					11.58	9.79	12.29	10.60	12.65	10.52	13.04	10.45	13.82	11.06	14.59	10.87	-13.5	-14	9.02	8.98	8.94	8.90	8.86
19					11.82	9.89	12.56	10.70	12.92	10.62	13.32	10.55	14.11	11.15	14.90	10.96	-11.5	-12	9.46	9.41	9.37	9.33	9.28
21					12.06	9.99	12.82	10.80	13.19	10.72	13.60	10.65	14.40	11.25	15.20	11.05	-9.5	-10	9.90	9.84	9.80	9.76	9.70
23					12.06	9.99	12.85	10.81	13.23	10.74	13.64	10.66	14.45	11.26	15.27	11.07	-7.5	-8	10.32	10.28	10.23	10.17	10.12
25			11.16	10.17	12.06	9.99	12.89	10.83	13.27	10.75	13.68	10.68	14.51	11.28	15.34	11.09	-5.5	-6	10.50	10.45	10.39	10.33	10.28
27			11.08	10.13	12.05	9.99	12.92	10.84	13.31	10.77	13.69	10.68	14.47	11.27			-3.0	-4	10.66	10.61	10.55	10.49	10.43
29			11.00	10.10	11.87	9.91	12.71	10.76	13.11	10.69	13.51	10.62	14.31	11.22			-1.0	-2	10.82	10.77	10.71	10.65	10.58
31			10.92	10.06	11.69	9.84	12.49	10.68	12.90	10.62	13.32	10.55	14.15	11.17			1.0	0	10.99	10.93	10.87	10.80	10.73
33	10.27	9.35	10.72	9.97	11.51	9.76	12.27	10.59	12.70	10.54	13.13	10.48	13.99	11.12			2.0	1	11.07	11.01	10.94	10.88	10.81
35	10.07	9.25	10.55	9.90	11.33	9.69	12.06	10.51	12.50	10.47	12.94	10.42	13.83	11.06			3.0	2	11.92	11.85	11.78	11.73	11.68
37	9.90	9.17	10.38	9.82	11.13	9.61	11.83	10.43	12.24	10.37	12.66	10.32	13.50	10.96			5.0	4	12.76	12.69	12.61	12.60	12.58
39	9.72	9.09	10.20	9.75	10.94	9.53	11.60	10.34	11.99	10.28	12.38	10.22	13.16	10.85			7.0	6	14.16	14.08	14.00	14.02	14.04
41	9.55	9.01	10.02	9.67	10.75	9.45	11.37	10.25	11.73	10.19	12.09	10.12	12.82	10.74			9.0	8	14.72	14.64	14.56	14.52	14.49
43	9.38	8.93	9.85	9.59	10.56	9.37	11.14	10.17	11.47	10.10	11.81	10.03	12.48	10.64			11.5	10	15.28	15.20	15.11	15.02	14.93
46	9.21	8.85	9.53	9.34	10.28	9.26	10.88	10.07	11.12	9.97	11.28	9.85	11.96	10.47			13.5	12	16.13	16.04	15.94	15.82	15.75
50	7.43	7.28	7.63	7.48	8.25	8.09	8.67	8.50	8.78	8.60	8.80	8.62	9.05	8.87			15.5	14	16.98	16.88	16.77	16.62	16.58
																	16.5	16	17.41	17.30	17.19	17.02	16.99

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Model **FDE125VSAPVG** Indoor unit FDE60VG (2 units) Outdoor unit FDC125VSA

Cooling mode (kW) Heating mode:HC (kW)


Outdoor air temp. °CDB	Indoor air temperature														Outdoor air temp. °CDB °CWB		Indoor air temperature °CDB						
	18 °CDB		21 °CDB		23 °CDB		26 °CDB		27 °CDB		28 °CDB		31 °CDB				33 °CDB		16	18	20	22	24
	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	°CDB	°CWB					
11					10.15	9.21	10.74	10.02	11.03	9.94	11.34	9.87	11.96	10.47	12.57	10.29	-19.8	-20	7.77	7.73	7.70	7.67	7.65
13					10.63	9.40	11.26	10.21	11.57	10.13	11.91	10.06	12.58	10.67	13.25	10.48	-17.7	-18	8.16	8.13	8.11	8.06	8.03
15					11.10	9.59	11.78	10.41	12.11	10.33	12.47	10.25	13.20	10.86	13.92	10.67	-15.7	-16	8.57	8.53	8.50	8.46	8.42
17					11.58	9.79	12.29	10.60	12.65	10.52	13.04	10.45	13.82	11.06	14.59	10.87	-13.5	-14	9.02	8.98	8.94	8.90	8.86
19					11.82	9.89	12.56	10.70	12.92	10.62	13.32	10.55	14.11	11.15	14.90	10.96	-11.5	-12	9.46	9.41	9.37	9.33	9.28
21					12.06	9.99	12.82	10.80	13.19	10.72	13.60	10.65	14.40	11.25	15.20	11.05	-9.5	-10	9.90	9.84	9.80	9.76	9.70
23					12.06	9.99	12.85	10.81	13.23	10.74	13.64	10.66	14.45	11.26	15.27	11.07	-7.5	-8	10.32	10.28	10.23	10.17	10.12
25			11.16	10.17	12.06	9.99	12.89	10.83	13.27	10.75	13.68	10.68	14.51	11.28	15.34	11.09	-5.5	-6	10.50	10.45	10.39	10.33	10.28
27			11.08	10.13	12.05	9.99	12.92	10.84	13.31	10.77	13.69	10.68	14.47	11.27			-3.0	-4	10.66	10.61	10.55	10.49	10.43
29			11.00	10.10	11.87	9.91	12.71	10.76	13.11	10.69	13.51	10.62	14.31	11.22			-1.0	-2	10.82	10.77	10.71	10.65	10.58
31			10.92	10.06	11.69	9.84	12.49	10.68	12.90	10.62	13.32	10.55	14.15	11.17			1.0	0	10.99	10.93	10.87	10.80	10.73
33	10.27	9.35	10.72	9.97	11.51	9.76	12.27	10.59	12.70	10.54	13.13	10.48	13.99	11.12			2.0	1	11.07	11.01	10.94	10.88	10.81
35	10.07	9.25	10.55	9.90	11.33	9.69	12.06	10.51	12.50	10.47	12.94	10.42	13.83	11.06			3.0	2	11.92	11.85	11.78	11.73	11.68
37	9.90	9.17	10.38	9.82	11.13	9.61	11.83	10.43	12.24	10.37	12.66	10.32	13.50	10.96			5.0	4	12.76	12.69	12.61	12.60	12.58
39	9.72	9.09	10.20	9.75	10.94	9.53	11.60	10.34	11.99	10.28	12.38	10.22	13.16	10.85			7.0	6	14.16	14.08	14.00	14.02	14.04
41	9.55	9.01	10.02	9.67	10.75	9.45	11.37	10.25	11.73	10.19	12.09	10.12	12.82	10.74			9.0	8	14.72	14.64	14.56	14.52	14.49
43	9.38	8.93	9.85	9.59	10.56	9.37	11.14	10.17	11.47	10.10	11.81	10.03	12.48	10.64			11.5	10	15.28	15.20	15.11	15.02	14.93
46	9.21	8.85	9.53	9.34	10.28	9.26	10.88	10.07	11.12	9.97	11.28	9.85	11.96	10.47			13.5	12	16.13	16.04	15.94	15.82	15.75
50	7.43	7.28	7.63	7.48	8.25	8.09	8.67	8.50	8.78	8.60	8.80	8.62	9.05	8.87			15.5	14	16.98	16.88	16.77	16.62	16.58
																	16.5	16	17.41	17.30	17.19	17.02	16.99

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- Notes (1) These data show average status.
Depending on the system control, there may be ranges where the operation is not conducted continuously.
These data show the case where the operation frequency of a compressor is fixed. (Cooling only)
In the heating mode in which the outside air temperature is 0°CDB or less, the compressor operates at maximum frequency.
- (2) Capacities are based on the following conditions.
Corresponding refrigerant piping length : 7.5m
Level difference of Zero.
- (3) Symbols are as follows
TC : Total cooling capacity (kW)
SHC : Sensible heat capacity (kW)
HC : Heating capacity (kW)


Model **FDE140VNAPVG** Indoor unit FDE71VG (2 units) Outdoor unit FDC140VNA
 Cooling mode (kW) Heating mode:HC (kW)

Outdoor air temp. °CDB	Indoor air temperature														Outdoor air temp. °CDB		Indoor air temperature °CDB						
	18 °CDB		21 °CDB		23 °CDB		26 °CDB		27 °CDB		28 °CDB		31 °CDB		33 °CDB		°CDB	°CWB	16	18	20	22	24
	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC							
11					11.05	9.57	11.68	10.37	12.00	10.29	12.34	10.21	13.01	10.80	13.68	10.60	-19.8	-20	7.94	7.91	7.88	7.85	7.82
13					11.56	9.78	12.25	10.58	12.59	10.50	12.95	10.42	13.69	11.02	14.42	10.82	-17.7	-18	8.44	8.41	8.37	8.34	8.30
15					12.07	10.00	12.81	10.80	13.18	10.72	13.57	10.64	14.36	11.23	15.14	11.03	-15.7	-16	8.94	8.90	8.86	8.82	8.79
17					12.59	10.21	13.38	11.02	13.77	10.94	14.19	10.86	15.04	11.46	15.87	11.25	-13.5	-14	9.50	9.46	9.41	9.37	9.33
19					12.86	10.33	13.66	11.13	14.07	11.05	14.49	10.97	15.35	11.56	16.20	11.35	-11.5	-12	10.07	10.02	9.98	9.93	9.88
21					13.12	10.44	13.95	11.24	14.36	11.16	14.79	11.08	15.66	11.66	16.53	11.45	-9.5	-10	10.64	10.59	10.54	10.49	10.44
23					13.12	10.44	13.99	11.26	14.40	11.17	14.84	11.10	15.73	11.69	16.61	11.47	-7.5	-8	11.21	11.15	11.10	11.04	10.99
25			12.14	10.61	13.11	10.43	14.02	11.27	14.44	11.19	14.89	11.11	15.79	11.71	16.69	11.49	-5.5	-6	11.51	11.45	11.39	11.33	11.27
27			12.06	10.57	13.11	10.43	14.06	11.29	14.48	11.21	14.90	11.12	15.74	11.69			-3.0	-4	11.80	11.74	11.68	11.62	11.55
29			11.97	10.53	12.91	10.35	13.82	11.19	14.26	11.12	14.70	11.04	15.56	11.63			-1.0	-2	12.11	12.05	11.98	11.91	11.84
31			11.88	10.49	12.72	10.26	13.59	11.10	14.04	11.04	14.49	10.97	15.40	11.58			1.0	0	12.42	12.35	12.28	12.20	12.13
33	11.18	9.79	11.67	10.40	12.52	10.18	13.36	11.01	13.82	10.96	14.29	10.90	15.22	11.52			2.0	1	12.58	12.50	12.43	12.35	12.28
35	10.96	9.68	11.48	10.31	12.32	10.10	13.11	10.92	13.60	10.88	14.09	10.82	15.05	11.46			3.0	2	13.35	13.27	13.20	13.13	13.08
37	10.76	9.59	11.29	10.23	12.11	10.01	12.87	10.82	13.32	10.77	13.77	10.71	14.69	11.34			4.0	3	14.12	14.05	13.96	13.89	13.83
39	10.58	9.50	11.10	10.14	11.91	9.93	12.62	10.73	13.05	10.67	13.46	10.60	14.32	11.22			5.0	4	15.68	15.59	15.50	15.42	15.35
41	10.39	9.41	10.91	10.06	11.70	9.84	12.37	10.63	12.76	10.57	13.16	10.50	13.95	11.10			6.0	5	16.30	16.21	16.11	16.07	16.03
43	10.21	9.32	10.71	9.97	11.49	9.75	12.11	10.53	12.48	10.46	12.85	10.39	13.58	10.98			7.0	6	16.91	16.83	16.73	16.63	16.53
46	10.03	9.23	10.47	9.87	11.13	9.61	11.73	10.39	12.10	10.33	12.27	10.18	13.01	10.80			8.0	7	17.86	17.76	17.65	17.52	17.44
50	7.61	7.45	7.88	7.72	8.35	8.19	8.75	8.58	8.97	8.79	8.98	8.80	9.33	9.14			9.0	8	18.80	18.69	18.57	18.40	18.36
																	10.0	9	19.28	19.15	19.03	18.84	18.81

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Model **FDE140VSAPVG** Indoor unit FDE71VG (2 units) Outdoor unit FDC140VSA
 Cooling mode (kW) Heating mode:HC (kW)

Outdoor air temp. °CDB	Indoor air temperature														Outdoor air temp. °CDB		Indoor air temperature °CDB						
	18 °CDB		21 °CDB		23 °CDB		26 °CDB		27 °CDB		28 °CDB		31 °CDB		33 °CDB		°CDB	°CWB	16	18	20	22	24
	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC							
11					11.05	9.57	11.68	10.37	12.00	10.29	12.34	10.21	13.01	10.80	13.68	10.60	-19.8	-20	7.94	7.91	7.88	7.85	7.82
13					11.56	9.78	12.25	10.58	12.59	10.50	12.95	10.42	13.69	11.02	14.42	10.82	-17.7	-18	8.44	8.41	8.37	8.34	8.30
15					12.07	10.00	12.81	10.80	13.18	10.72	13.57	10.64	14.36	11.23	15.14	11.03	-15.7	-16	8.94	8.90	8.86	8.82	8.79
17					12.59	10.21	13.38	11.02	13.77	10.94	14.19	10.86	15.04	11.46	15.87	11.25	-13.5	-14	9.50	9.46	9.41	9.37	9.33
19					12.86	10.33	13.66	11.13	14.07	11.05	14.49	10.97	15.35	11.56	16.20	11.35	-11.5	-12	10.07	10.02	9.98	9.93	9.88
21					13.12	10.44	13.95	11.24	14.36	11.16	14.79	11.08	15.66	11.66	16.53	11.45	-9.5	-10	10.64	10.59	10.54	10.49	10.44
23					13.12	10.44	13.99	11.26	14.40	11.17	14.84	11.10	15.73	11.69	16.61	11.47	-7.5	-8	11.21	11.15	11.10	11.04	10.99
25			12.14	10.61	13.11	10.43	14.02	11.27	14.44	11.19	14.89	11.11	15.79	11.71	16.69	11.49	-5.5	-6	11.51	11.45	11.39	11.33	11.27
27			12.06	10.57	13.11	10.43	14.06	11.29	14.48	11.21	14.90	11.12	15.74	11.69			-3.0	-4	11.80	11.74	11.68	11.62	11.55
29			11.97	10.53	12.91	10.35	13.82	11.19	14.26	11.12	14.70	11.04	15.56	11.63			-1.0	-2	12.11	12.05	11.98	11.91	11.84
31			11.88	10.49	12.72	10.26	13.59	11.10	14.04	11.04	14.49	10.97	15.40	11.58			1.0	0	12.42	12.35	12.28	12.20	12.13
33	11.18	9.79	11.67	10.40	12.52	10.18	13.36	11.01	13.82	10.96	14.29	10.90	15.22	11.52			2.0	1	12.58	12.50	12.43	12.35	12.28
35	10.96	9.68	11.48	10.31	12.32	10.10	13.11	10.92	13.60	10.88	14.09	10.82	15.05	11.46			3.0	2	13.35	13.27	13.20	13.13	13.08
37	10.76	9.59	11.29	10.23	12.11	10.01	12.87	10.82	13.32	10.77	13.77	10.71	14.69	11.34			4.0	3	14.12	14.05	13.96	13.89	13.83
39	10.58	9.50	11.10	10.14	11.91	9.93	12.62	10.73	13.05	10.67	13.46	10.60	14.32	11.22			5.0	4	15.68	15.59	15.50	15.42	15.35
41	10.39	9.41	10.91	10.06	11.70	9.84	12.37	10.63	12.76	10.57	13.16	10.50	13.95	11.10			6.0	5	16.30	16.21	16.11	16.07	16.03
43	10.21	9.32	10.71	9.97	11.49	9.75	12.11	10.53	12.48	10.46	12.85	10.39	13.58	10.98			7.0	6	16.91	16.83	16.73	16.63	16.53
46	10.03	9.23	10.47	9.87	11.13	9.61	11.73	10.39	12.10	10.33	12.27	10.18	13.01	10.80			8.0	7	17.86	17.76	17.65	17.52	17.44
50	7.61	7.45	7.88	7.72	8.35	8.19	8.75	8.58	8.97	8.79	8.98	8.80	9.33	9.14			9.0	8	18.80	18.69	18.57	18.40	18.36
																	10.0	9	19.28	19.15	19.03	18.84	18.81


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- Notes (1) These data show average status.
 Depending on the system control, there may be ranges where the operation is not conducted continuously.
 These data show the case where the operation frequency of a compressor is fixed. (Cooling only)
 In the heating mode in which the outside air temperature is 0°C DB or less, the compressor operates at maximum frequency.
- (2) Capacities are based on the following conditions.
 Corresponding refrigerant piping length : 7.5m
 Level difference of Zero.
- (3) Symbols are as follows
 TC : Total cooling capacity (kW)
 SHC : Sensible heat capacity (kW)
 HC : Heating capacity (kW)

Model **FDE200VSAPVG** Indoor unit FDE100VG (2 units) Outdoor unit FDC200VSA
 Cooling mode (kW) Heating mode : HC (kW)

Outdoor air temp. °CDB	Indoor air temperature																
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB		
	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	
11						19.36	14.50	20.45	15.58	20.99	15.34	21.67	15.13	23.02	15.91	24.37	15.39
13						19.46	14.54	20.57	15.62	21.13	15.38	21.78	15.17	23.09	15.93	24.40	15.40
15						19.55	14.57	20.69	15.66	21.26	15.42	21.90	15.20	23.16	15.94	24.43	15.40
17						19.56	14.57	20.77	15.68	21.37	15.46	21.99	15.23	23.23	15.96	24.47	15.41
19						19.64	14.60	20.84	15.70	21.48	15.49	22.09	15.25	23.30	15.98	24.51	15.42
21						19.34	14.49	20.50	15.60	21.11	15.38	21.72	15.15	22.92	15.88	24.13	15.34
23						19.04	14.39	20.16	15.49	20.74	15.27	21.35	15.04	22.55	15.79	23.76	15.26
25			17.82	14.94	18.89	14.33	19.99	15.43	20.56	15.21	21.16	14.99	22.37	15.75	23.57	15.22	
27			17.68	14.89	18.74	14.28	19.82	15.38	20.38	15.16	21.25	15.02	22.13	15.69			
29			17.40	14.78	18.43	14.17	19.49	15.28	20.03	15.06	20.93	14.93	21.83	15.62			
31			17.11	14.67	18.11	14.07	19.15	15.17	19.69	14.96	20.60	14.84	21.52	15.54			
33	15.84	13.56	16.58	14.46	17.80	13.96	18.82	15.07	19.34	14.86	20.28	14.75	21.21	15.47			
35	15.73	13.52	16.37	14.39	17.49	13.85	18.49	14.97	19.00	14.76	19.95	14.66	20.91	15.40			
37	15.52	13.43	16.13	14.30	17.14	13.73	18.05	14.84	18.57	14.63	19.48	14.53	20.39	15.27			
39	15.31	13.34	15.89	14.20	16.78	13.61	17.61	14.70	18.13	14.51	19.00	14.40	19.87	15.15			
41	15.10	13.26	15.65	14.12	16.43	13.49	17.18	14.57	17.70	14.39	18.53	14.28	19.36	15.03			
43	14.89	13.17	15.41	14.03	16.07	13.38	16.74	14.45	17.26	14.27	18.05	14.15	18.84	14.92			
46	14.58	13.04	15.05	13.89	15.54	13.20	16.09	14.25	16.61	14.09	17.34	13.97	18.06	14.74			
50	11.25	11.02	11.78	11.54	12.39	12.14	12.68	12.42	12.88	12.62	13.08	12.82	13.28	13.01			


Outdoor air temp. °CDB	°CWB	Indoor air temperature °CDB					
		16	18	20	22	24	
		-19.8	-20				
-17.7	-18						
-15.7	-16						
-13.5	-14	11.10	10.98	10.86	10.73	10.60	
-11.5	-12	11.93	11.80	11.67	11.54	11.40	
-9.5	-10	12.75	12.61	12.48	12.34	12.20	
-7.5	-8	13.57	13.43	13.29	13.14	13.00	
-5.5	-6	13.78	13.64	13.51	13.37	13.24	
-3.0	-4	13.99	13.86	13.73	13.60	13.47	
-1.0	-2	14.20	14.08	13.95	13.83	13.71	
1.0	0	14.41	14.29	14.18	14.06	13.94	
2.0	1	14.51	14.40	14.29	14.17	14.06	
3.0	2	16.19	16.05	15.91	15.79	15.67	
5.0	4	19.54	19.35	19.15	19.02	18.89	
7.0	6	22.89	22.64	22.40	22.25	22.11	
9.0	8	23.99	23.78	23.58	23.42	23.25	
11.5	10	25.09	24.92	24.75	24.58	24.40	
13.5	12	25.95	25.79	25.63	25.45	25.27	
15.5	14	26.82	26.66	26.50	26.32	26.14	
16.5	16	27.25	27.10	26.94	26.76	26.57	

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Model **FDE250VSAPVG** Indoor unit FDE125VG (2 units) Outdoor unit FDC250VSA
 Cooling mode (kW) Heating mode : HC (kW)

Outdoor air temp. °CDB	Indoor air temperature																
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB		
	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	
11						24.64	16.48	26.08	17.48	26.80	17.20	27.60	16.92	29.20	17.55	30.80	16.88
13						24.67	16.49	26.11	17.49	26.83	17.21	27.63	16.93	29.23	17.56	30.83	16.88
15						24.69	16.50	26.14	17.50	26.86	17.22	27.66	16.94	29.26	17.57	30.86	16.89
17						24.70	16.51	26.23	17.53	26.99	17.26	27.78	16.98	29.34	17.59	30.91	16.90
19						24.81	16.55	26.33	17.57	27.13	17.31	27.90	17.02	29.43	17.62	30.96	16.92
21						24.43	16.40	25.90	17.41	26.67	17.15	27.43	16.87	28.96	17.48	30.48	16.80
23						24.05	16.25	25.47	17.26	26.20	16.99	26.96	16.72	28.49	17.35	30.01	16.68
25			22.51	16.85	23.86	16.17	25.25	17.19	25.97	16.92	26.73	16.64	28.25	17.28	29.77	16.62	
27			22.33	16.77	23.67	16.10	25.04	17.11	25.74	16.84	26.85	16.68	27.96	17.20			
29			21.97	16.62	23.27	15.95	24.61	16.96	25.30	16.70	26.44	16.55	27.57	17.10			
31			21.61	16.47	22.88	15.80	24.19	16.82	24.87	16.55	26.03	16.42	27.18	16.99			
33	20.01	15.38	20.94	16.19	22.49	15.65	23.77	16.67	24.44	16.41	25.62	16.30	26.80	16.89			
35	19.87	15.31	20.68	16.08	22.10	15.50	23.35	16.53	24.00	16.27	25.21	16.17	26.41	16.78			
37	19.61	15.20	20.42	15.98	21.78	15.38	22.94	16.39	23.56	16.13	24.66	16.01	25.76	16.61			
39	19.51	15.15	20.33	15.94	21.65	15.33	22.72	16.32	23.30	16.05	24.30	15.90	25.30	16.49			
41	20.09	15.41	20.57	16.04	21.47	15.27	22.44	16.23	22.98	15.95	23.88	15.77	24.77	16.35			
43	19.02	14.93	19.85	15.74	21.05	15.11	21.92	16.05	22.41	15.77	23.19	15.57	23.96	16.14			
46	17.16	14.12	17.71	14.90	18.29	14.13	18.93	15.11	19.55	14.92	20.41	14.78	21.26	15.48			
50	11.31	11.08	11.84	11.60	12.45	12.20	12.74	12.49	12.94	12.69	13.14	12.88	13.35	13.08			

Outdoor air temp. °CDB	°CWB	Indoor air temperature °CDB					
		16	18	20	22	24	
		-19.8	-20				
-17.7	-18						
-15.7	-16						
-13.5	-14	13.22	13.07	12.93	12.78	12.63	
-11.5	-12	13.88	13.73	13.58	13.43	13.28	
-9.5	-10	14.55	14.39	14.24	14.08	13.93	
-7.5	-8	15.21	15.05	14.89	14.73	14.58	
-5.5	-6	15.48	15.32	15.17	15.02	14.87	
-3.0	-4	15.74	15.59	15.45	15.30	15.16	
-1.0	-2	16.00	15.87	15.73	15.59	15.45	
1.0	0	16.27	16.14	16.01	15.87	15.74	
2.0	1	16.40	16.27	16.14	16.01	15.88	
3.0	2	18.64	18.48	18.32	18.18	18.04	
5.0	4	23.11	22.89	22.66	22.50	22.34	
7.0	6	27.59	27.29	27.00	26.82	26.65	
9.0	8	28.92	28.67	28.42	28.22	28.03	
11.5	10	30.24	30.04	29.84	29.63	29.41	
13.5	12	31.28	31.09	30.89	30.68	30.46	
15.5	14	32.32	32.14	31.95	31.73	31.51	
16.5	16	32.85	32.66	32.47	32.25	32.03	

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- Notes (1) These data show average statuses.
 Depending on the system control, there may be ranges where the operation is not conducted continuously.
 These data show the case where the operation frequency of a compressor is fixed.(Cooling only)
- (2) Capacities are based on the following conditions.
 Corresponding refrigerant piping length :7.5m
 Level difference of Zero.
- (3) Symbols are as follows.
 TC : Total cooling capacity (kW)
 SHC : Sensible heat capacity (kW)
 HC : Heating capacity (kW)


(c) Triple type

Model **FDE140VNATVG** Indoor unit FDE50VG (3 units) Outdoor unit FDC140VNA

Cooling mode (kW) Heating mode:HC (kW)

Outdoor air temp.	Indoor air temperature															
	18 °CDB		21 °CDB		23 °CDB		26 °CDB		27 °CDB		28 °CDB		31 °CDB		33 °CDB	
	12 °CWB	14 °CWB	16 °CWB	18 °CWB	19 °CWB	20 °CWB	22 °CWB	24 °CWB	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					11.05	9.45	11.68	10.22	12.00	10.14	12.34	10.06	13.01	10.63	13.68	10.44
13					11.56	9.66	12.25	10.44	12.59	10.35	12.95	10.27	13.69	10.85	14.42	10.65
15					12.07	9.87	12.81	10.65	13.18	10.57	13.57	10.49	14.36	11.07	15.14	10.87
17					12.59	10.09	13.38	10.87	13.77	10.79	14.19	10.72	15.04	11.29	15.87	11.09
19					12.86	10.20	13.66	10.99	14.07	10.91	14.49	10.83	15.35	11.40	16.20	11.19
21					13.12	10.32	13.95	11.10	14.36	11.02	14.79	10.94	15.66	11.50	16.53	11.29
23					13.12	10.32	13.99	11.12	14.40	11.03	14.84	10.95	15.73	11.53	16.61	11.31
25			12.14	10.49	13.11	10.31	14.02	11.13	14.44	11.05	14.89	10.97	15.79	11.54	16.69	11.33
27			12.06	10.45	13.11	10.31	14.06	11.14	14.48	11.07	14.90	10.98	15.74	11.53		
29			11.97	10.41	12.91	10.23	13.82	11.05	14.26	10.98	14.70	10.90	15.56	11.47		
31			11.88	10.37	12.72	10.14	13.59	10.96	14.04	10.90	14.49	10.83	15.40	11.41		
33	11.18	9.68	11.67	10.27	12.52	10.06	13.36	10.87	13.82	10.81	14.29	10.75	15.22	11.36		
35	10.96	9.57	11.48	10.19	12.32	9.97	13.11	10.77	13.60	10.73	14.09	10.68	15.05	11.30		
37	10.76	9.48	11.29	10.10	12.11	9.89	12.87	10.68	13.32	10.62	13.77	10.57	14.69	11.18		
39	10.58	9.39	11.10	10.02	11.91	9.80	12.62	10.58	13.05	10.52	13.46	10.46	14.32	11.06		
41	10.39	9.30	10.91	9.93	11.70	9.71	12.37	10.48	12.76	10.42	13.16	10.35	13.95	10.94		
43	10.21	9.21	10.71	9.84	11.49	9.63	12.11	10.39	12.48	10.32	12.85	10.24	13.58	10.82		
46	10.03	9.12	10.47	9.73	11.13	9.48	11.73	10.24	12.10	10.18	12.27	10.04	13.01	10.64		
50	7.61	7.45	7.88	7.72	8.35	8.19	8.75	8.58	8.97	8.79	8.98	8.80	9.33	9.14		

Outdoor air temp.	Indoor air temperature					
	°CDB					
	16	18	20	22	24	
-19.8	-20	7.94	7.91	7.88	7.85	7.82
-17.7	-18	8.44	8.41	8.37	8.34	8.30
-15.7	-16	8.94	8.90	8.86	8.82	8.79
-13.5	-14	9.50	9.46	9.41	9.37	9.33
-11.5	-12	10.07	10.02	9.98	9.93	9.88
-9.5	-10	10.64	10.59	10.54	10.49	10.44
-7.5	-8	11.21	11.15	11.10	11.04	10.99
-5.5	-6	11.51	11.45	11.39	11.33	11.27
-3.0	-4	11.80	11.74	11.68	11.62	11.55
-1.0	-2	12.11	12.05	11.98	11.91	11.84
1.0	0	12.42	12.35	12.28	12.20	12.13
2.0	1	12.58	12.50	12.43	12.35	12.28
3.0	2	13.35	13.27	13.20	13.13	13.08
5.0	4	14.12	14.05	13.96	13.95	13.93
7.0	6	15.68	15.59	15.50	15.52	15.55
9.0	8	16.30	16.21	16.11	16.07	16.03
11.5	10	16.91	16.83	16.73	16.63	16.53
13.5	12	17.86	17.76	17.65	17.52	17.44
15.5	14	18.80	18.69	18.57	18.40	18.36
16.5	16	19.28	19.15	19.03	18.84	18.81


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Model **FDE140VSATVG** Indoor unit FDE50VG (3 units) Outdoor unit FDC140VSA

Cooling mode (kW) Heating mode:HC (kW)

Outdoor air temp.	Indoor air temperature															
	18 °CDB		21 °CDB		23 °CDB		26 °CDB		27 °CDB		28 °CDB		31 °CDB		33 °CDB	
	12 °CWB	14 °CWB	16 °CWB	18 °CWB	19 °CWB	20 °CWB	22 °CWB	24 °CWB	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					11.05	9.45	11.68	10.22	12.00	10.14	12.34	10.06	13.01	10.63	13.68	10.44
13					11.56	9.66	12.25	10.44	12.59	10.35	12.95	10.27	13.69	10.85	14.42	10.65
15					12.07	9.87	12.81	10.65	13.18	10.57	13.57	10.49	14.36	11.07	15.14	10.87
17					12.59	10.09	13.38	10.87	13.77	10.79	14.19	10.72	15.04	11.29	15.87	11.09
19					12.86	10.20	13.66	10.99	14.07	10.91	14.49	10.83	15.35	11.40	16.20	11.19
21					13.12	10.32	13.95	11.10	14.36	11.02	14.79	10.94	15.66	11.50	16.53	11.29
23					13.12	10.32	13.99	11.12	14.40	11.03	14.84	10.95	15.73	11.53	16.61	11.31
25			12.14	10.49	13.11	10.31	14.02	11.13	14.44	11.05	14.89	10.97	15.79	11.54	16.69	11.33
27			12.06	10.45	13.11	10.31	14.06	11.14	14.48	11.07	14.90	10.98	15.74	11.53		
29			11.97	10.41	12.91	10.23	13.82	11.05	14.26	10.98	14.70	10.90	15.56	11.47		
31			11.88	10.37	12.72	10.14	13.59	10.96	14.04	10.90	14.49	10.83	15.40	11.41		
33	11.18	9.68	11.67	10.27	12.52	10.06	13.36	10.87	13.82	10.81	14.29	10.75	15.22	11.36		
35	10.96	9.57	11.48	10.19	12.32	9.97	13.11	10.77	13.60	10.73	14.09	10.68	15.05	11.30		
37	10.76	9.48	11.29	10.10	12.11	9.89	12.87	10.68	13.32	10.62	13.77	10.57	14.69	11.18		
39	10.58	9.39	11.10	10.02	11.91	9.80	12.62	10.58	13.05	10.52	13.46	10.46	14.32	11.06		
41	10.39	9.30	10.91	9.93	11.70	9.71	12.37	10.48	12.76	10.42	13.16	10.35	13.95	10.94		
43	10.21	9.21	10.71	9.84	11.49	9.63	12.11	10.39	12.48	10.32	12.85	10.24	13.58	10.82		
46	10.03	9.12	10.47	9.73	11.13	9.48	11.73	10.24	12.10	10.18	12.27	10.04	13.01	10.64		
50	7.61	7.45	7.88	7.72	8.35	8.19	8.75	8.58	8.97	8.79	8.98	8.80	9.33	9.14		

Outdoor air temp.	Indoor air temperature					
	°CDB					
	16	18	20	22	24	
-19.8	-20	7.94	7.91	7.88	7.85	7.82
-17.7	-18	8.44	8.41	8.37	8.34	8.30
-15.7	-16	8.94	8.90	8.86	8.82	8.79
-13.5	-14	9.50	9.46	9.41	9.37	9.33
-11.5	-12	10.07	10.02	9.98	9.93	9.88
-9.5	-10	10.64	10.59	10.54	10.49	10.44
-7.5	-8	11.21	11.15	11.10	11.04	10.99
-5.5	-6	11.51	11.45	11.39	11.33	11.27
-3.0	-4	11.80	11.74	11.68	11.62	11.55
-1.0	-2	12.11	12.05	11.98	11.91	11.84
1.0	0	12.42	12.35	12.28	12.20	12.13
2.0	1	12.58	12.50	12.43	12.35	12.28
3.0	2	13.35	13.27	13.20	13.13	13.08
5.0	4	14.12	14.05	13.96	13.95	13.93
7.0	6	15.68	15.59	15.50	15.52	15.55
9.0	8	16.30	16.21	16.11	16.07	16.03
11.5	10	16.91	16.83	16.73	16.63	16.53
13.5	12	17.86	17.76	17.65	17.52	17.44
15.5	14	18.80	18.69	18.57	18.40	18.36
16.5	16	19.28	19.15	19.03	18.84	18.81

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- Notes (1) These data show average status.
 Depending on the system control, there may be ranges where the operation is not conducted continuously.
 These data show the case where the operation frequency of a compressor is fixed. (Cooling only)
 In the heating mode in which the outside air temperature is 0°C DB or less, the compressor operates at maximum frequency.
- (2) Capacities are based on the following conditions.
 Corresponding refrigerant piping length : 7.5m
 Level difference of Zero.
- (3) Symbols are as follows
 TC : Total cooling capacity (kW)
 SHC : Sensible heat capacity (kW)
 HC : Heating capacity (kW)

Model **FDE200VSATVG** Indoor unit FDE71VG (3 uints) Outdoor unit FDC200VSA
Cooling mode

Outdoor air temp.	Indoor air temperature															
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB	
	12°CWB		14°CWB		16°CWB		18°CWB		19°CWB		20°CWB		22°CWB		24°CWB	
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					19.36	15.16	20.45	16.28	20.99	16.11	21.67	15.98	23.02	16.84	24.37	16.49
13					19.46	15.20	20.57	16.33	21.13	16.16	21.78	16.02	23.09	16.87	24.40	16.50
15					19.55	15.24	20.69	16.37	21.26	16.21	21.90	16.06	23.16	16.89	24.43	16.51
17					19.56	15.24	20.77	16.40	21.37	16.25	21.99	16.10	23.23	16.91	24.47	16.52
19					19.64	15.28	20.84	16.43	21.48	16.29	22.09	16.13	23.30	16.93	24.51	16.53
21					19.34	15.15	20.50	16.30	21.11	16.16	21.72	16.00	22.92	16.82	24.13	16.43
23					19.04	15.03	20.16	16.17	20.74	16.03	21.35	15.87	22.55	16.70	23.76	16.32
25			17.82	15.43	18.89	14.97	19.99	16.11	20.56	15.96	21.16	15.81	22.37	16.64	23.57	16.27
27			17.68	15.37	18.74	14.91	19.82	16.05	20.38	15.89	21.25	15.84	22.13	16.57		
29			17.40	15.24	18.43	14.78	19.49	15.92	20.03	15.77	20.93	15.73	21.83	16.48		
31			17.11	15.12	18.11	14.66	19.15	15.80	19.69	15.65	20.60	15.62	21.52	16.38		
33	15.84	13.97	16.58	14.89	17.80	14.53	18.82	15.68	19.34	15.53	20.28	15.51	21.21	16.29		
35	15.73	13.92	16.37	14.80	17.49	14.41	18.49	15.55	19.00	15.41	19.95	15.40	20.91	16.19		
37	15.52	13.82	16.13	14.70	17.14	14.27	18.05	15.39	18.57	15.26	19.48	15.24	20.39	16.04		
39	15.31	13.72	15.89	14.59	16.78	14.13	17.61	15.24	18.13	15.11	19.00	15.09	19.87	15.88		
41	15.10	13.63	15.65	14.49	16.43	13.99	17.18	15.08	17.70	14.96	18.53	14.93	19.36	15.73		
43	14.89	13.53	15.41	14.39	16.07	13.85	16.74	14.93	17.26	14.81	18.05	14.77	18.84	15.58		
46	14.58	13.39	15.05	14.24	15.54	13.64	16.09	14.69	16.61	14.59	17.34	14.54	18.06	15.35		
50	11.25	11.02	11.78	11.54	12.39	12.14	12.68	12.42	12.88	12.62	13.08	12.82	13.28	13.01		

Heating mode : HC (kW)

Outdoor air temp.	Indoor air temperature					
	°CDB		°CDB		°CDB	
°CDB	°CWB	16	18	20	22	24
-19.8	-20					
-17.7	-18					
-15.7	-16					
-13.5	-14	11.10	10.98	10.86	10.73	10.60
-11.5	-12	11.93	11.80	11.67	11.54	11.40
-9.5	-10	12.75	12.61	12.48	12.34	12.20
-7.5	-8	13.57	13.43	13.29	13.14	13.00
-5.5	-6	13.78	13.64	13.51	13.37	13.24
-3.0	-4	13.99	13.86	13.73	13.60	13.47
-1.0	-2	14.20	14.08	13.95	13.83	13.71
1.0	0	14.41	14.29	14.18	14.06	13.94
2.0	1	14.51	14.40	14.29	14.17	14.06
3.0	2	16.19	16.05	15.91	15.79	15.67
5.0	4	19.54	19.35	19.15	19.02	18.89
7.0	6	22.89	22.64	22.40	22.25	22.11
9.0	8	23.99	23.78	23.58	23.42	23.25
11.5	10	25.09	24.92	24.75	24.58	24.40
13.5	12	25.95	25.79	25.63	25.45	25.27
15.5	14	26.82	26.66	26.50	26.32	26.14
16.5	16	27.25	27.10	26.94	26.76	26.57

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(d) Double twin type

Model **FDE200VSADV** Indoor unit FDE50VG (4 uints) Outdoor unit FDC200VSA
Cooling mode

Outdoor air temp.	Indoor air temperature															
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB	
	12°CWB		14°CWB		16°CWB		18°CWB		19°CWB		20°CWB		22°CWB		24°CWB	
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					19.36	14.79	20.45	15.79	20.99	15.66	21.67	15.58	23.02	16.37	24.37	16.11
13					19.46	14.83	20.57	15.84	21.13	15.72	21.78	15.62	23.09	16.40	24.40	16.12
15					19.55	14.87	20.69	15.89	21.26	15.77	21.90	15.67	23.16	16.43	24.43	16.13
17					19.56	14.88	20.77	15.93	21.37	15.82	21.99	15.70	23.23	16.45	24.47	16.15
19					19.64	14.91	20.84	15.96	21.48	15.86	22.09	15.74	23.30	16.47	24.51	16.16
21					19.34	14.78	20.50	15.81	21.11	15.71	21.72	15.60	22.92	16.34	24.13	16.03
23					19.04	14.64	20.16	15.67	20.74	15.57	21.35	15.45	22.55	16.21	23.76	15.91
25			17.82	14.93	18.89	14.57	19.99	15.60	20.56	15.49	21.16	15.38	22.37	16.14	23.57	15.85
27			17.68	14.87	18.74	14.51	19.82	15.53	20.38	15.42	21.25	15.42	22.13	16.06		
29			17.40	14.73	18.43	14.37	19.49	15.39	20.03	15.28	20.93	15.29	21.83	15.95		
31			17.11	14.59	18.11	14.23	19.15	15.26	19.69	15.14	20.60	15.17	21.52	15.84		
33	15.84	13.53	16.58	14.34	17.80	14.09	18.82	15.12	19.34	15.01	20.28	15.05	21.21	15.74		
35	15.73	13.47	16.37	14.25	17.49	13.96	18.49	14.98	19.00	14.87	19.95	14.92	20.91	15.63		
37	15.52	13.37	16.13	14.13	17.14	13.80	18.05	14.81	18.57	14.71	19.48	14.74	20.39	15.45		
39	15.31	13.26	15.89	14.02	16.78	13.65	17.61	14.63	18.13	14.54	19.00	14.57	19.87	15.27		
41	15.10	13.16	15.65	13.91	16.43	13.49	17.18	14.46	17.70	14.37	18.53	14.39	19.36	15.10		
43	14.89	13.05	15.41	13.80	16.07	13.34	16.74	14.28	17.26	14.20	18.05	14.21	18.84	14.92		
46	14.58	12.90	15.05	13.63	15.54	13.11	16.09	14.02	16.61	13.96	17.34	13.95	18.06	14.66		
50	11.25	11.02	11.78	11.54	12.39	11.81	12.68	12.42	12.88	12.58	13.08	12.45	13.28	13.01		

Heating mode : HC (kW)

Outdoor air temp.	Indoor air temperature					
	°CDB		°CDB		°CDB	
°CDB	°CWB	16	18	20	22	24
-19.8	-20					
-17.7	-18					
-15.7	-16					
-13.5	-14	11.10	10.98	10.86	10.73	10.60
-11.5	-12	11.93	11.80	11.67	11.54	11.40
-9.5	-10	12.75	12.61	12.48	12.34	12.20
-7.5	-8	13.57	13.43	13.29	13.14	13.00
-5.5	-6	13.78	13.64	13.51	13.37	13.24
-3.0	-4	13.99	13.86	13.73	13.60	13.47
-1.0	-2	14.20	14.08	13.95	13.83	13.71
1.0	0	14.41	14.29	14.18	14.06	13.94
2.0	1	14.51	14.40	14.29	14.17	14.06
3.0	2	16.19	16.05	15.91	15.79	15.67
5.0	4	19.54	19.35	19.15	19.02	18.89
7.0	6	22.89	22.64	22.40	22.25	22.11
9.0	8	23.99	23.78	23.58	23.42	23.25
11.5	10	25.09	24.92	24.75	24.58	24.40
13.5	12	25.95	25.79	25.63	25.45	25.27
15.5	14	26.82	26.66	26.50	26.32	26.14
16.5	16	27.25	27.10	26.94	26.76	26.57

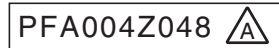
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- Notes (1) These data show average statuses.
Depending on the system control, there may be ranges where the operation is not conducted continuously.
These data show the case where the operation frequency of a compressor is fixed.(Cooling only)
- (2) Capacities are based on the following conditions.
Corresponding refrigerant piping length :7.5m
Level difference of Zero.
- (3) Symbols are as follows.
TC : Total cooling capacity (kW)
SHC : Sensible heat capacity (kW)
HC : Heating capacity (kW)

Model **FDE250VSADVG** Indoor unit FDE60VG (4 units) Outdoor unit FDC250VSA
 Cooling mode (kW) Heating mode : HC (kW)

Outdoor air temp.	Indoor air temperature																Outdoor air temp.		Indoor air temperature				
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB		°CDB	°CWB	°CDB				
	12°CWB		14°CWB		16°CWB		18°CWB		19°CWB		20°CWB		22°CWB		24°CWB				16	18	20	22	24
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC							
11					24.64	18.95	26.08	20.38	26.80	20.13	27.60	19.89	29.20	20.91	30.80	20.32	-19.8	-20					
13					24.67	18.96	26.11	20.39	26.83	20.14	27.63	19.90	29.23	20.92	30.83	20.33	-17.7	-18					
15					24.69	18.97	26.14	20.40	26.86	20.15	27.66	19.91	29.26	20.92	30.86	20.34	-15.7	-16					
17					24.70	18.97	26.23	20.43	26.99	20.19	27.78	19.95	29.34	20.95	30.91	20.35	-13.5	-14	13.22	13.07	12.93	12.78	12.63
19					24.81	19.01	26.33	20.47	27.13	20.24	27.90	19.98	29.43	20.97	30.96	20.36	-11.5	-12	13.88	13.73	13.58	13.43	13.28
21					24.43	18.87	25.90	20.32	26.67	20.09	27.43	19.84	28.96	20.84	30.48	20.24	-9.5	-10	14.55	14.39	14.24	14.08	13.93
23					24.05	18.72	25.47	20.17	26.20	19.94	26.96	19.69	28.49	20.71	30.01	20.13	-7.5	-8	15.21	15.05	14.89	14.73	14.58
25			22.51	19.34	23.86	18.65	25.25	20.10	25.97	19.86	26.73	19.62	28.25	20.65	29.77	20.07	-5.5	-6	15.48	15.32	15.17	15.02	14.87
27			22.33	19.27	23.67	18.58	25.04	20.03	25.74	19.79	26.85	19.66	27.96	20.57			-3.0	-4	15.74	15.59	15.45	15.30	15.16
29			21.97	19.12	23.27	18.44	24.61	19.88	25.30	19.65	26.44	19.53	27.57	20.46			-1.0	-2	16.00	15.87	15.73	15.59	15.45
31			21.61	18.98	22.88	18.29	24.19	19.74	24.87	19.51	26.03	19.41	27.18	20.36			1.0	0	16.27	16.14	16.01	15.87	15.74
33	20.01	17.53	20.94	18.71	22.49	18.15	23.77	19.60	24.44	19.37	25.62	19.28	26.80	20.26			2.0	1	16.40	16.27	16.14	16.01	15.88
35	19.87	17.47	20.68	18.60	22.10	18.00	23.35	19.46	24.00	19.24	25.21	19.16	26.41	20.15			3.0	2	16.40	16.27	16.14	16.01	15.88
37	19.61	17.35	20.42	18.50	21.78	17.89	22.94	19.33	23.56	19.10	24.66	19.00	25.76	19.98			4.0	3	23.11	22.89	22.66	22.50	22.34
39	19.51	17.31	20.33	18.46	21.65	17.84	22.72	19.25	23.30	19.02	24.30	18.89	25.30	19.86			5.0	4	27.59	27.29	27.00	26.82	26.65
41	20.09	17.56	20.57	18.56	21.47	17.77	22.44	19.16	22.98	18.92	23.88	18.77	24.77	19.72			6.0	5	28.92	28.67	28.42	28.22	28.03
43	19.02	17.10	19.85	18.27	21.05	17.62	21.92	18.99	22.41	18.74	23.19	18.57	23.96	19.51			7.0	6	30.24	30.04	29.84	29.63	29.41
46	17.16	16.31	17.71	17.36	18.29	16.65	18.93	18.05	19.55	17.88	20.41	17.77	21.26	18.83			8.0	7	31.28	31.09	30.89	30.68	30.46
50	11.31	11.08	11.84	11.60	12.45	12.20	12.74	12.49	12.94	12.69	13.14	12.88	13.35	13.08			9.0	8	32.32	32.14	31.95	31.73	31.51
																	10.0	9	32.85	32.66	32.47	32.25	32.03

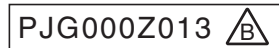
- Notes (1) These data show average statuses.
 Depending on the system control, there may be ranges where the operation is not conducted continuously.
 These data show the case where the operation frequency of a compressor is fixed.(Cooling only)
- (2) Capacities are based on the following conditions.
 Corresponding refrigerant piping length :7.5m
 Level difference of Zero.
- (3) Symbols are as follows.
 TC : Total cooling capacity (kW)
 SHC : Sensible heat capacity (kW)
 HC : Heating capacity (kW)



(2) Duct connected-Low / Middle static pressure type (FDUM)
(a) Single type

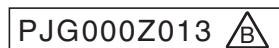
Model **FDUM100VNAVF2** Indoor unit **FDUM100VF2** Outdoor unit **FDC100VNA**
 Cooling mode (kW) Heating mode:HC (kW)

Outdoor air temp.	Indoor air temperature																Outdoor air temp.		Indoor air temperature				
	18 °CDB		21 °CDB		23 °CDB		26 °CDB		27 °CDB		28 °CDB		31 °CDB		33 °CDB		°CDB	°CWB	°CDB				
	12 °CWB	14 °CWB	16 °CWB	18 °CWB	19 °CWB	20 °CWB	22 °CWB	24 °CWB	16	18	20	22	24										
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	°CDB	°CWB	16	18	20	22	24
11					8.12	6.88	8.59	7.50	8.82	7.38	9.07	7.26	9.56	7.69	10.06	7.42	-19.8	-20	6.82	6.79	6.77	6.75	6.72
13					8.50	6.99	9.00	7.61	9.26	7.48	9.52	7.36	10.06	7.78	10.60	7.49	-17.7	-18	7.16	7.14	7.10	7.08	7.04
15					8.88	7.10	9.42	7.71	9.69	7.58	9.98	7.45	10.56	7.87	11.14	7.57	-15.7	-16	7.50	7.46	7.44	7.40	7.37
17					9.26	7.21	9.84	7.82	10.12	7.69	10.43	7.56	11.05	7.96	11.67	7.65	-13.5	-14	7.86	7.83	7.79	7.76	7.72
19					9.46	7.27	10.05	7.88	10.34	7.74	10.65	7.60	11.29	8.01	11.92	7.69	-11.5	-12	8.23	8.19	8.15	8.12	8.08
21					9.65	7.33	10.25	7.93	10.56	7.80	10.88	7.66	11.52	8.06	12.16	7.73	-9.5	-10	8.58	8.55	8.50	8.47	8.42
23					9.65	7.33	10.28	7.94	10.59	7.80	10.91	7.66	11.56	8.06	12.21	7.74	-7.5	-8	8.93	8.89	8.85	8.80	8.75
25			8.93	7.64	9.64	7.33	10.31	7.95	10.62	7.81	10.95	7.67	11.61	8.07	12.27	7.75	-5.5	-6	9.05	9.00	8.97	8.91	8.86
27			8.86	7.62	9.64	7.33	10.34	7.95	10.65	7.82	10.96	7.68	11.57	8.06			-3.0	-4	9.17	9.12	9.07	9.03	8.97
29			8.80	7.59	9.50	7.29	10.17	7.91	10.49	7.78	10.81	7.64	11.45	8.04			-1.0	-2	9.29	9.23	9.19	9.13	9.07
31			8.73	7.57	9.35	7.24	9.99	7.86	10.32	7.74	10.66	7.61	11.32	8.02			1.0	0	9.40	9.34	9.29	9.23	9.18
33	8.22	7.04	8.58	7.52	9.21	7.20	9.82	7.82	10.16	7.70	10.51	7.57	11.19	7.99			2.0	1	9.45	9.39	9.34	9.28	9.22
35	8.05	6.98	8.44	7.47	9.06	7.15	9.64	7.77	10.00	7.66	10.36	7.54	11.07	7.97			3.0	2	9.82	9.77	9.71	9.67	9.63
37	7.92	6.93	8.30	7.43	8.91	7.11	9.46	7.72	9.79	7.61	10.13	7.49	10.80	7.92			5.0	4	10.21	10.15	10.09	10.08	10.07
39	7.78	6.88	8.16	7.38	8.75	7.06	9.28	7.68	9.59	7.56	9.90	7.44	10.53	7.87			7.0	6	11.33	11.27	11.20	11.22	11.23
41	7.64	6.83	8.02	7.33	8.60	7.02	9.09	7.63	9.38	7.51	9.68	7.39	10.26	7.82			9.0	8	11.78	11.71	11.64	11.62	11.59
43	7.50	6.77	7.88	7.29	8.45	6.97	8.91	7.58	9.18	7.46	9.45	7.34	9.99	7.77			11.5	10	12.23	12.16	12.09	12.02	11.94
46	7.33	6.71	7.67	7.22	8.22	6.91	8.58	7.50	8.83	7.38	9.07	7.26	9.57	7.70			13.5	12	12.91	12.83	12.75	12.65	12.60
50	7.09	6.63	7.39	7.13	7.91	6.82	8.19	7.41	8.35	7.28	8.51	7.14	8.83	7.57			15.5	14	13.59	13.50	13.42	13.29	13.26
																	16.5	16	13.93	13.84	13.75	13.61	13.59



Model **FDUM100VSAVF2** Indoor unit **FDUM100VF2** Outdoor unit **FDC100VSA**
 Cooling mode (kW) Heating mode:HC (kW)

Outdoor air temp.	Indoor air temperature																Outdoor air temp.		Indoor air temperature				
	18 °CDB		21 °CDB		23 °CDB		26 °CDB		27 °CDB		28 °CDB		31 °CDB		33 °CDB		°CDB	°CWB	°CDB				
	12 °CWB	14 °CWB	16 °CWB	18 °CWB	19 °CWB	20 °CWB	22 °CWB	24 °CWB	16	18	20	22	24										
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	°CDB	°CWB	16	18	20	22	24
11					8.12	6.88	8.59	7.50	8.82	7.38	9.07	7.26	9.56	7.69	10.06	7.42	-19.8	-20	6.82	6.79	6.77	6.75	6.72
13					8.50	6.99	9.00	7.61	9.26	7.48	9.52	7.36	10.06	7.78	10.60	7.49	-17.7	-18	7.16	7.14	7.10	7.08	7.04
15					8.88	7.10	9.42	7.71	9.69	7.58	9.98	7.45	10.56	7.87	11.14	7.57	-15.7	-16	7.50	7.46	7.44	7.40	7.37
17					9.26	7.21	9.84	7.82	10.12	7.69	10.43	7.56	11.05	7.96	11.67	7.65	-13.5	-14	7.86	7.83	7.79	7.76	7.72
19					9.46	7.27	10.05	7.88	10.34	7.74	10.65	7.60	11.29	8.01	11.92	7.69	-11.5	-12	8.23	8.19	8.15	8.12	8.08
21					9.65	7.33	10.25	7.93	10.56	7.80	10.88	7.66	11.52	8.06	12.16	7.73	-9.5	-10	8.58	8.55	8.50	8.47	8.42
23					9.65	7.33	10.28	7.94	10.59	7.80	10.91	7.66	11.56	8.06	12.21	7.74	-7.5	-8	8.93	8.89	8.85	8.80	8.75
25			8.93	7.64	9.64	7.33	10.31	7.95	10.62	7.81	10.95	7.67	11.61	8.07	12.27	7.75	-5.5	-6	9.05	9.00	8.97	8.91	8.86
27			8.86	7.62	9.64	7.33	10.34	7.95	10.65	7.82	10.96	7.68	11.57	8.06			-3.0	-4	9.17	9.12	9.07	9.03	8.97
29			8.80	7.59	9.50	7.29	10.17	7.91	10.49	7.78	10.81	7.64	11.45	8.04			-1.0	-2	9.29	9.23	9.19	9.13	9.07
31			8.73	7.57	9.35	7.24	9.99	7.86	10.32	7.74	10.66	7.61	11.32	8.02			1.0	0	9.40	9.34	9.29	9.23	9.18
33	8.22	7.04	8.58	7.52	9.21	7.20	9.82	7.82	10.16	7.70	10.51	7.57	11.19	7.99			2.0	1	9.45	9.39	9.34	9.28	9.22
35	8.05	6.98	8.44	7.47	9.06	7.15	9.64	7.77	10.00	7.66	10.36	7.54	11.07	7.97			3.0	2	9.82	9.77	9.71	9.67	9.63
37	7.92	6.93	8.30	7.43	8.91	7.11	9.46	7.72	9.79	7.61	10.13	7.49	10.80	7.92			5.0	4	10.21	10.15	10.09	10.08	10.07
39	7.78	6.88	8.16	7.38	8.75	7.06	9.28	7.68	9.59	7.56	9.90	7.44	10.53	7.87			7.0	6	11.33	11.27	11.20	11.22	11.23
41	7.64	6.83	8.02	7.33	8.60	7.02	9.09	7.63	9.38	7.51	9.68	7.39	10.26	7.82			9.0	8	11.78	11.71	11.64	11.62	11.59
43	7.50	6.77	7.88	7.29	8.45	6.97	8.91	7.58	9.18	7.46	9.45	7.34	9.99	7.77			11.5	10	12.23	12.16	12.09	12.02	11.94
46	7.33	6.71	7.67	7.22	8.22	6.91	8.58	7.50	8.83	7.38	9.07	7.26	9.57	7.70			13.5	12	12.91	12.83	12.75	12.65	12.60
50	7.09	6.63	7.39	7.13	7.91	6.82	8.19	7.41	8.35	7.28	8.51	7.14	8.83	7.57			15.5	14	13.59	13.50	13.42	13.29	13.26
																	16.5	16	13.93	13.84	13.75	13.61	13.59



- Notes (1) These data show average status.
 Depending on the system control, there may be ranges where the operation is not conducted continuously.
 These data show the case where the operation frequency of a compressor is fixed. (Cooling only)
 In the heating mode in which the outside air temperature is 0°CDB or less, the compressor operates at maximum frequency.
- (2) Capacities are based on the following conditions.
 Corresponding refrigerant piping length : 7.5m
 Level difference of Zero.
- (3) Symbols are as follows
 TC : Total cooling capacity (kW)
 SHC : Sensible heat capacity (kW)
 HC : Heating capacity (kW)

Model **FDUM125VNAVF** Indoor unit **FDUM125VF** Outdoor unit **FDC125VNA**

Cooling mode


(kW)

Heating mode:HC

(kW)

Outdoor air temp. °CDB	Indoor air temperature																
	18 °CDB		21 °CDB		23 °CDB		26 °CDB		27 °CDB		28 °CDB		31 °CDB		33 °CDB		
	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	
11						10.15	9.23	10.74	10.04	11.03	9.97	11.34	9.90	11.96	10.51	12.57	10.34
13						10.63	9.44	11.26	10.24	11.57	10.17	11.91	10.11	12.58	10.72	13.25	10.55
15						11.10	9.63	11.78	10.44	12.11	10.37	12.47	10.31	13.20	10.92	13.92	10.75
17						11.58	9.84	12.29	10.64	12.65	10.58	13.04	10.52	13.82	11.13	14.59	10.96
19						11.82	9.94	12.56	10.75	12.92	10.68	13.32	10.62	14.11	11.23	14.90	11.06
21						12.06	10.04	12.82	10.86	13.19	10.79	13.60	10.73	14.40	11.33	15.20	11.15
23						12.06	10.04	12.85	10.87	13.23	10.80	13.64	10.74	14.45	11.35	15.27	11.17
25			11.16	10.20	12.06	10.04	12.89	10.88	13.27	10.82	13.68	10.76	14.51	11.37	15.34	11.20	
27			11.08	10.16	12.05	10.04	12.92	10.90	13.31	10.83	13.69	10.76	14.47	11.35			
29			11.00	10.12	11.87	9.96	12.71	10.81	13.11	10.76	13.51	10.69	14.31	11.30			
31			10.92	10.09	11.69	9.88	12.49	10.72	12.90	10.67	13.32	10.62	14.15	11.24			
33	10.27	9.37	10.72	9.99	11.51	9.81	12.27	10.64	12.70	10.60	13.13	10.55	13.99	11.19			
35	10.07	9.28	10.55	9.92	11.33	9.73	12.06	10.55	12.50	10.52	12.94	10.48	13.83	11.14			
37	9.90	9.19	10.38	9.84	11.13	9.65	11.83	10.46	12.24	10.42	12.66	10.38	13.50	11.02			
39	9.72	9.11	10.20	9.76	10.94	9.57	11.60	10.37	11.99	10.33	12.38	10.28	13.16	10.91			
41	9.55	9.02	10.02	9.68	10.75	9.49	11.37	10.28	11.73	10.23	12.09	10.17	12.82	10.80			
43	9.38	8.94	9.85	9.60	10.56	9.41	11.14	10.19	11.47	10.13	11.81	10.07	12.48	10.68			
46	9.21	8.86	9.53	9.34	10.28	9.29	10.88	10.09	11.12	10.00	11.28	9.88	11.96	10.51			
50	7.43	7.28	7.63	7.48	8.25	8.09	8.67	8.50	8.78	8.60	8.80	8.62	9.05	8.87			

Outdoor air temp. °CDB	°CWB	Indoor air temperature °CDB				
		16	18	20	22	24
		-19.8	-20	7.77	7.73	7.70
-17.7	-18	8.16	8.13	8.11	8.06	8.03
-15.7	-16	8.57	8.53	8.50	8.46	8.42
-13.5	-14	9.02	8.98	8.94	8.90	8.86
-11.5	-12	9.46	9.41	9.37	9.33	9.28
-9.5	-10	9.90	9.84	9.80	9.76	9.70
-7.5	-8	10.32	10.28	10.23	10.17	10.12
-5.5	-6	10.50	10.45	10.39	10.33	10.28
-3.0	-4	10.66	10.61	10.55	10.49	10.43
-1.0	-2	10.82	10.77	10.71	10.65	10.58
1.0	0	10.99	10.93	10.87	10.80	10.73
2.0	1	11.07	11.01	10.94	10.88	10.81
3.0	2	11.92	11.85	11.78	11.73	11.68
5.0	4	12.76	12.69	12.61	12.60	12.58
7.0	6	14.16	14.08	14.00	14.02	14.04
9.0	8	14.72	14.64	14.56	14.52	14.49
11.5	10	15.28	15.20	15.11	15.02	14.93
13.5	12	16.13	16.04	15.94	15.82	15.75
15.5	14	16.98	16.88	16.77	16.62	16.58
16.5	16	17.41	17.30	17.19	17.02	16.99

PJG000Z013 

Model **FDUM125VSAVF** Indoor unit **FDUM125VF** Outdoor unit **FDC125VSA**

Cooling mode

(kW)


Heating mode:HC

(kW)

Outdoor air temp. °CDB	Indoor air temperature																
	18 °CDB		21 °CDB		23 °CDB		26 °CDB		27 °CDB		28 °CDB		31 °CDB		33 °CDB		
	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	
11						10.15	9.23	10.74	10.04	11.03	9.97	11.34	9.90	11.96	10.51	12.57	10.34
13						10.63	9.44	11.26	10.24	11.57	10.17	11.91	10.11	12.58	10.72	13.25	10.55
15						11.10	9.63	11.78	10.44	12.11	10.37	12.47	10.31	13.20	10.92	13.92	10.75
17						11.58	9.84	12.29	10.64	12.65	10.58	13.04	10.52	13.82	11.13	14.59	10.96
19						11.82	9.94	12.56	10.75	12.92	10.68	13.32	10.62	14.11	11.23	14.90	11.06
21						12.06	10.04	12.82	10.86	13.19	10.79	13.60	10.73	14.40	11.33	15.20	11.15
23						12.06	10.04	12.85	10.87	13.23	10.80	13.64	10.74	14.45	11.35	15.27	11.17
25			11.16	10.20	12.06	10.04	12.89	10.88	13.27	10.82	13.68	10.76	14.51	11.37	15.34	11.20	
27			11.08	10.16	12.05	10.04	12.92	10.90	13.31	10.83	13.69	10.76	14.47	11.35			
29			11.00	10.12	11.87	9.96	12.71	10.81	13.11	10.76	13.51	10.69	14.31	11.30			
31			10.92	10.09	11.69	9.88	12.49	10.72	12.90	10.67	13.32	10.62	14.15	11.24			
33	10.27	9.37	10.72	9.99	11.51	9.81	12.27	10.64	12.70	10.60	13.13	10.55	13.99	11.19			
35	10.07	9.28	10.55	9.92	11.33	9.73	12.06	10.55	12.50	10.52	12.94	10.48	13.83	11.14			
37	9.90	9.19	10.38	9.84	11.13	9.65	11.83	10.46	12.24	10.42	12.66	10.38	13.50	11.02			
39	9.72	9.11	10.20	9.76	10.94	9.57	11.60	10.37	11.99	10.33	12.38	10.28	13.16	10.91			
41	9.55	9.02	10.02	9.68	10.75	9.49	11.37	10.28	11.73	10.23	12.09	10.17	12.82	10.80			
43	9.38	8.94	9.85	9.60	10.56	9.41	11.14	10.19	11.47	10.13	11.81	10.07	12.48	10.68			
46	9.21	8.86	9.53	9.34	10.28	9.29	10.88	10.09	11.12	10.00	11.28	9.88	11.96	10.51			
50	7.43	7.28	7.63	7.48	8.25	8.09	8.67	8.50	8.78	8.60	8.80	8.62	9.05	8.87			

Outdoor air temp. °CDB	°CWB	Indoor air temperature °CDB				
		16	18	20	22	24
		-19.8	-20	7.77	7.73	7.70
-17.7	-18	8.16	8.13	8.11	8.06	8.03
-15.7	-16	8.57	8.53	8.50	8.46	8.42
-13.5	-14	9.02	8.98	8.94	8.90	8.86
-11.5	-12	9.46	9.41	9.37	9.33	9.28
-9.5	-10	9.90	9.84	9.80	9.76	9.70
-7.5	-8	10.32	10.28	10.23	10.17	10.12
-5.5	-6	10.50	10.45	10.39	10.33	10.28
-3.0	-4	10.66	10.61	10.55	10.49	10.43
-1.0	-2	10.82	10.77	10.71	10.65	10.58
1.0	0	10.99	10.93	10.87	10.80	10.73
2.0	1	11.07	11.01	10.94	10.88	10.81
3.0	2	11.92	11.85	11.78	11.73	11.68
5.0	4	12.76	12.69	12.61	12.60	12.58
7.0	6	14.16	14.08	14.00	14.02	14.04
9.0	8	14.72	14.64	14.56	14.52	14.49
11.5	10	15.28	15.20	15.11	15.02	14.93
13.5	12	16.13	16.04	15.94	15.82	15.75
15.5	14	16.98	16.88	16.77	16.62	16.58
16.5	16	17.41	17.30	17.19	17.02	16.99

- Notes (1) These data show average status.
Depending on the system control, there may be ranges where the operation is not conducted continuously.
These data show the case where the operation frequency of a compressor is fixed. (Cooling only)
In the heating mode in which the outside air temperature is 0°CDB or less, the compressor operates at maximum frequency.
- (2) Capacities are based on the following conditions.
Corresponding refrigerant piping length : 7.5m
Level difference of Zero.
- (3) Symbols are as follows
TC : Total cooling capacity (kW)
SHC : Sensible heat capacity (kW)
HC : Heating capacity (kW)

PJG000Z013 

Model **FDUM140VNAVF** Indoor unit **FDUM140VF** Outdoor unit **FDC140VNA**

Cooling mode


(kW)

Heating mode:HC

(kW)

Outdoor air temp. °CDB	Indoor air temperature																
	18 °CDB		21 °CDB		23 °CDB		26 °CDB		27 °CDB		28 °CDB		31 °CDB		33 °CDB		
	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	
11						11.05	9.86	11.68	10.75	12.00	10.63	12.34	10.50	13.01	11.15	13.68	10.85
13						11.56	10.03	12.25	10.93	12.59	10.79	12.95	10.66	13.69	11.31	14.42	11.00
15						12.07	10.21	12.81	11.10	13.18	10.97	13.57	10.83	14.36	11.47	15.14	11.15
17						12.59	10.38	13.38	11.27	13.77	11.14	14.19	11.00	15.04	11.64	15.87	11.31
19						12.86	10.48	13.66	11.36	14.07	11.23	14.49	11.09	15.35	11.71	16.20	11.38
21						13.12	10.57	13.95	11.45	14.36	11.31	14.79	11.17	15.66	11.79	16.53	11.45
23						13.12	10.57	13.99	11.47	14.40	11.33	14.84	11.19	15.73	11.81	16.61	11.47
25			12.14	10.90	13.11	10.57	14.02	11.48	14.44	11.34	14.89	11.20	15.79	11.82	16.69	11.49	
27			12.06	10.86	13.11	10.57	14.06	11.49	14.48	11.35	14.90	11.20	15.74	11.81			
29			11.97	10.83	12.91	10.50	13.82	11.41	14.26	11.29	14.70	11.15	15.56	11.77			
31			11.88	10.80	12.72	10.43	13.59	11.34	14.04	11.22	14.49	11.09	15.40	11.73			
33	11.18	10.02	11.67	10.71	12.52	10.36	13.36	11.27	13.82	11.15	14.29	11.03	15.22	11.68			
35	10.96	9.93	11.48	10.64	12.32	10.29	13.11	11.19	13.60	11.09	14.09	10.97	15.05	11.64			
37	10.76	9.85	11.29	10.57	12.11	10.22	12.87	11.12	13.32	11.01	13.77	10.89	14.69	11.55			
39	10.58	9.77	11.10	10.50	11.91	10.15	12.62	11.04	13.05	10.93	13.46	10.80	14.32	11.46			
41	10.39	9.70	10.91	10.43	11.70	10.08	12.37	10.96	12.76	10.85	13.16	10.72	13.95	11.37			
43	10.21	9.62	10.71	10.36	11.49	10.01	12.11	10.89	12.48	10.76	12.85	10.64	13.58	11.29			
46	10.03	9.54	10.47	10.26	11.13	9.89	11.73	10.77	12.10	10.66	12.27	10.48	13.01	11.15			
50	7.61	7.45	7.88	7.72	8.35	8.19	8.75	8.58	8.97	8.79	8.98	8.80	9.33	9.14			

Outdoor air temp. °CDB	°CWB	Indoor air temperature °CDB				
		16	18	20	22	24
		-19.8	-20	7.94	7.91	7.88
-17.7	-18	8.44	8.41	8.37	8.34	8.30
-15.7	-16	8.94	8.90	8.86	8.82	8.79
-13.5	-14	9.50	9.46	9.41	9.37	9.33
-11.5	-12	10.07	10.02	9.98	9.93	9.88
-9.5	-10	10.64	10.59	10.54	10.49	10.44
-7.5	-8	11.21	11.15	11.10	11.04	10.99
-5.5	-6	11.51	11.45	11.39	11.33	11.27
-3.0	-4	11.80	11.74	11.68	11.62	11.55
-1.0	-2	12.11	12.05	11.98	11.91	11.84
1.0	0	12.42	12.35	12.28	12.20	12.13
2.0	1	12.58	12.50	12.43	12.35	12.28
3.0	2	13.35	13.27	13.20	13.13	13.08
5.0	4	14.12	14.05	13.96	13.95	13.93
7.0	6	15.68	15.59	15.50	15.52	15.55
9.0	8	16.30	16.21	16.11	16.07	16.03
11.5	10	16.91	16.83	16.73	16.63	16.53
13.5	12	17.86	17.76	17.65	17.52	17.44
15.5	14	18.80	18.69	18.57	18.40	18.36
16.5	16	19.28	19.15	19.03	18.84	18.81

PJG000Z013 

Model **FDUM140VSAVF** Indoor unit **FDUM140VF** Outdoor unit **FDC140VSA**

Cooling mode


(kW)

Heating mode:HC

(kW)

Outdoor air temp. °CDB	Indoor air temperature																
	18 °CDB		21 °CDB		23 °CDB		26 °CDB		27 °CDB		28 °CDB		31 °CDB		33 °CDB		
	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	
11						11.05	9.86	11.68	10.75	12.00	10.63	12.34	10.50	13.01	11.15	13.68	10.85
13						11.56	10.03	12.25	10.93	12.59	10.79	12.95	10.66	13.69	11.31	14.42	11.00
15						12.07	10.21	12.81	11.10	13.18	10.97	13.57	10.83	14.36	11.47	15.14	11.15
17						12.59	10.38	13.38	11.27	13.77	11.14	14.19	11.00	15.04	11.64	15.87	11.31
19						12.86	10.48	13.66	11.36	14.07	11.23	14.49	11.09	15.35	11.71	16.20	11.38
21						13.12	10.57	13.95	11.45	14.36	11.31	14.79	11.17	15.66	11.79	16.53	11.45
23						13.12	10.57	13.99	11.47	14.40	11.33	14.84	11.19	15.73	11.81	16.61	11.47
25			12.14	10.90	13.11	10.57	14.02	11.48	14.44	11.34	14.89	11.20	15.79	11.82	16.69	11.49	
27			12.06	10.86	13.11	10.57	14.06	11.49	14.48	11.35	14.90	11.20	15.74	11.81			
29			11.97	10.83	12.91	10.50	13.82	11.41	14.26	11.29	14.70	11.15	15.56	11.77			
31			11.88	10.80	12.72	10.43	13.59	11.34	14.04	11.22	14.49	11.09	15.40	11.73			
33	11.18	10.02	11.67	10.71	12.52	10.36	13.36	11.27	13.82	11.15	14.29	11.03	15.22	11.68			
35	10.96	9.93	11.48	10.64	12.32	10.29	13.11	11.19	13.60	11.09	14.09	10.97	15.05	11.64			
37	10.76	9.85	11.29	10.57	12.11	10.22	12.87	11.12	13.32	11.01	13.77	10.89	14.69	11.55			
39	10.58	9.77	11.10	10.50	11.91	10.15	12.62	11.04	13.05	10.93	13.46	10.80	14.32	11.46			
41	10.39	9.70	10.91	10.43	11.70	10.08	12.37	10.96	12.76	10.85	13.16	10.72	13.95	11.37			
43	10.21	9.62	10.71	10.36	11.49	10.01	12.11	10.89	12.48	10.76	12.85	10.64	13.58	11.29			
46	10.03	9.54	10.47	10.26	11.13	9.89	11.73	10.77	12.10	10.66	12.27	10.48	13.01	11.15			
50	7.61	7.45	7.88	7.72	8.35	8.19	8.75	8.58	8.97	8.79	8.98	8.80	9.33	9.14			

Outdoor air temp. °CDB	°CWB	Indoor air temperature °CDB				
		16	18	20	22	24
		-19.8	-20	7.94	7.91	7.88
-17.7	-18	8.44	8.41	8.37	8.34	8.30
-15.7	-16	8.94	8.90	8.86	8.82	8.79
-13.5	-14	9.50	9.46	9.41	9.37	9.33
-11.5	-12	10.07	10.02	9.98	9.93	9.88
-9.5	-10	10.64	10.59	10.54	10.49	10.44
-7.5	-8	11.21	11.15	11.10	11.04	10.99
-5.5	-6	11.51	11.45	11.39	11.33	11.27
-3.0	-4	11.80	11.74	11.68	11.62	11.55
-1.0	-2	12.11	12.05	11.98	11.91	11.84
1.0	0	12.42	12.35	12.28	12.20	12.13
2.0	1	12.58	12.50	12.43	12.35	12.28
3.0	2	13.35	13.27	13.20	13.13	13.08
5.0	4	14.12	14.05	13.96	13.95	13.93
7.0	6	15.68	15.59	15.50	15.52	15.55
9.0	8	16.30	16.21	16.11	16.07	16.03
11.5	10	16.91	16.83	16.73	16.63	16.53
13.5	12	17.86	17.76	17.65	17.52	17.44
15.5	14	18.80	18.69	18.57	18.40	18.36
16.5	16	19.28	19.15	19.03	18.84	18.81


PJG000Z013 

- Notes (1) These data show average status.
Depending on the system control, there may be ranges where the operation is not conducted continuously.
These data show the case where the operation frequency of a compressor is fixed. (Cooling only)
In the heating mode in which the outside air temperature is 0°C DB or less, the compressor operates at maximum frequency.
- (2) Capacities are based on the following conditions.
Corresponding refrigerant piping length : 7.5m
Level difference of Zero.
- (3) Symbols are as follows
TC : Total cooling capacity (kW)
SHC : Sensible heat capacity (kW)
HC : Heating capacity (kW)

(b) Twin type

Model **FDUM100VNAPVF** Indoor unit **FDUM50VF (2 units)** Outdoor unit **FDC100VNA**
 Cooling mode (kW) Heating mode:HC (kW)


Outdoor air temp.	Indoor air temperature																Outdoor air temp.	Indoor air temperature						
	18 °CDB		21 °CDB		23 °CDB		26 °CDB		27 °CDB		28 °CDB		31 °CDB		33 °CDB			°CDB						
	12 °CWB		14 °CWB		16 °CWB		18 °CWB		19 °CWB		20 °CWB		22 °CWB		24 °CWB			°CDB	°CWB	16	18	20	22	24
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					8.12	6.73	8.59	7.25	8.82	7.20	9.07	7.15	9.56	7.54	10.06	7.41	-19.8	-20	6.82	6.79	6.77	6.75	6.72	
13					8.50	6.90	9.00	7.42	9.26	7.37	9.52	7.32	10.06	7.71	10.60	7.58	-17.7	-18	7.16	7.14	7.10	7.08	7.04	
15					8.88	7.06	9.42	7.59	9.69	7.54	9.98	7.49	10.56	7.89	11.14	7.76	-15.7	-16	7.50	7.46	7.44	7.40	7.37	
17					9.26	7.23	9.84	7.77	10.12	7.71	10.43	7.67	11.05	8.06	11.67	7.93	-13.5	-14	7.86	7.83	7.79	7.76	7.72	
19					9.46	7.32	10.05	7.85	10.34	7.80	10.65	7.75	11.29	8.15	11.92	8.01	-11.5	-12	8.23	8.19	8.15	8.12	8.08	
21					9.65	7.41	10.25	7.94	10.56	7.89	10.88	7.84	11.52	8.23	12.16	8.09	-9.5	-10	8.58	8.55	8.50	8.47	8.42	
23					9.65	7.41	10.28	7.95	10.59	7.90	10.91	7.85	11.56	8.24	12.21	8.11	-7.5	-8	8.93	8.89	8.85	8.80	8.75	
25			8.93	7.50	9.64	7.40	10.31	7.96	10.62	7.91	10.95	7.87	11.61	8.26	12.27	8.13	-5.5	-6	9.05	9.00	8.97	8.91	8.86	
27			8.86	7.47	9.64	7.40	10.34	7.98	10.65	7.93	10.96	7.87	11.57	8.25			-3.0	-4	9.17	9.12	9.07	9.03	8.97	
29			8.80	7.44	9.50	7.34	10.17	7.90	10.49	7.86	10.81	7.81	11.45	8.20			-1.0	-2	9.29	9.23	9.19	9.13	9.07	
31			8.73	7.40	9.35	7.27	9.99	7.83	10.32	7.79	10.66	7.76	11.32	8.16			1.0	0	9.40	9.34	9.29	9.23	9.18	
33	8.22	6.94	8.58	7.33	9.21	7.21	9.82	7.76	10.16	7.73	10.51	7.70	11.19	8.11			2.0	1	9.45	9.39	9.34	9.28	9.22	
35	8.05	6.85	8.44	7.27	9.06	7.14	9.64	7.68	10.00	7.66	10.36	7.64	11.07	8.07			3.0	2	9.82	9.77	9.71	9.67	9.63	
37	7.92	6.78	8.30	7.20	8.91	7.08	9.46	7.61	9.79	7.58	10.13	7.55	10.80	7.97			5.0	4	10.21	10.15	10.09	10.08	10.07	
39	7.78	6.71	8.16	7.13	8.75	7.00	9.28	7.53	9.59	7.50	9.90	7.46	10.53	7.88			7.0	6	11.33	11.27	11.20	11.22	11.23	
41	7.64	6.64	8.02	7.07	8.60	6.94	9.09	7.46	9.38	7.42	9.68	7.38	10.26	7.78			9.0	8	11.78	11.71	11.64	11.62	11.59	
43	7.50	6.57	7.88	7.00	8.45	6.87	8.91	7.38	9.18	7.34	9.45	7.29	9.99	7.69			11.5	10	12.23	12.16	12.09	12.02	11.94	
46	7.33	6.49	7.67	6.90	8.22	6.77	8.58	7.25	8.83	7.21	9.07	7.15	9.57	7.54			13.5	12	12.91	12.83	12.75	12.65	12.60	
50	7.09	6.37	7.39	6.77	7.91	6.64	8.19	7.09	8.35	7.02	8.51	6.95	8.83	7.29			15.5	14	13.59	13.50	13.42	13.29	13.26	
																	16.5	16	13.93	13.84	13.75	13.61	13.59	

PJG000Z013 

Model **FDUM100VSAPVF** Indoor unit **FDUM50VF (2 units)** Outdoor unit **FDC100VSA**
 Cooling mode (kW) Heating mode:HC (kW)


Outdoor air temp.	Indoor air temperature																Outdoor air temp.	Indoor air temperature						
	18 °CDB		21 °CDB		23 °CDB		26 °CDB		27 °CDB		28 °CDB		31 °CDB		33 °CDB			°CDB						
	12 °CWB		14 °CWB		16 °CWB		18 °CWB		19 °CWB		20 °CWB		22 °CWB		24 °CWB			°CDB	°CWB	16	18	20	22	24
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					8.12	6.73	8.59	7.25	8.82	7.20	9.07	7.15	9.56	7.54	10.06	7.41	-19.8	-20	6.82	6.79	6.77	6.75	6.72	
13					8.50	6.90	9.00	7.42	9.26	7.37	9.52	7.32	10.06	7.71	10.60	7.58	-17.7	-18	7.16	7.14	7.10	7.08	7.04	
15					8.88	7.06	9.42	7.59	9.69	7.54	9.98	7.49	10.56	7.89	11.14	7.76	-15.7	-16	7.50	7.46	7.44	7.40	7.37	
17					9.26	7.23	9.84	7.77	10.12	7.71	10.43	7.67	11.05	8.06	11.67	7.93	-13.5	-14	7.86	7.83	7.79	7.76	7.72	
19					9.46	7.32	10.05	7.85	10.34	7.80	10.65	7.75	11.29	8.15	11.92	8.01	-11.5	-12	8.23	8.19	8.15	8.12	8.08	
21					9.65	7.41	10.25	7.94	10.56	7.89	10.88	7.84	11.52	8.23	12.16	8.09	-9.5	-10	8.58	8.55	8.50	8.47	8.42	
23					9.65	7.41	10.28	7.95	10.59	7.90	10.91	7.85	11.56	8.24	12.21	8.11	-7.5	-8	8.93	8.89	8.85	8.80	8.75	
25			8.93	7.50	9.64	7.40	10.31	7.96	10.62	7.91	10.95	7.87	11.61	8.26	12.27	8.13	-5.5	-6	9.05	9.00	8.97	8.91	8.86	
27			8.86	7.47	9.64	7.40	10.34	7.98	10.65	7.93	10.96	7.87	11.57	8.25			-3.0	-4	9.17	9.12	9.07	9.03	8.97	
29			8.80	7.44	9.50	7.34	10.17	7.90	10.49	7.86	10.81	7.81	11.45	8.20			-1.0	-2	9.29	9.23	9.19	9.13	9.07	
31			8.73	7.40	9.35	7.27	9.99	7.83	10.32	7.79	10.66	7.76	11.32	8.16			1.0	0	9.40	9.34	9.29	9.23	9.18	
33	8.22	6.94	8.58	7.33	9.21	7.21	9.82	7.76	10.16	7.73	10.51	7.70	11.19	8.11			2.0	1	9.45	9.39	9.34	9.28	9.22	
35	8.05	6.85	8.44	7.27	9.06	7.14	9.64	7.68	10.00	7.66	10.36	7.64	11.07	8.07			3.0	2	9.82	9.77	9.71	9.67	9.63	
37	7.92	6.78	8.30	7.20	8.91	7.08	9.46	7.61	9.79	7.58	10.13	7.55	10.80	7.97			5.0	4	10.21	10.15	10.09	10.08	10.07	
39	7.78	6.71	8.16	7.13	8.75	7.00	9.28	7.53	9.59	7.50	9.90	7.46	10.53	7.88			7.0	6	11.33	11.27	11.20	11.22	11.23	
41	7.64	6.64	8.02	7.07	8.60	6.94	9.09	7.46	9.38	7.42	9.68	7.38	10.26	7.78			9.0	8	11.78	11.71	11.64	11.62	11.59	
43	7.50	6.57	7.88	7.00	8.45	6.87	8.91	7.38	9.18	7.34	9.45	7.29	9.99	7.69			11.5	10	12.23	12.16	12.09	12.02	11.94	
46	7.33	6.49	7.67	6.90	8.22	6.77	8.58	7.25	8.83	7.21	9.07	7.15	9.57	7.54			13.5	12	12.91	12.83	12.75	12.65	12.60	
50	7.09	6.37	7.39	6.77	7.91	6.64	8.19	7.09	8.35	7.02	8.51	6.95	8.83	7.29			15.5	14	13.59	13.50	13.42	13.29	13.26	
																	16.5	16	13.93	13.84	13.75	13.61	13.59	

- Notes (1) These data show average status.
 Depending on the system control, there may be ranges where the operation is not conducted continuously.
 These data show the case where the operation frequency of a compressor is fixed. (Cooling only)
 In the heating mode in which the outside air temperature is 0°C DB or less, the compressor operates at maximum frequency.
- (2) Capacities are based on the following conditions.
 Corresponding refrigerant piping length : 7.5m
 Level difference of Zero.
- (3) Symbols are as follows
 TC : Total cooling capacity (kW)
 SHC : Sensible heat capacity (kW)
 HC : Heating capacity (kW)

PJG000Z013 

Model **FDUM125VNAPVF** Indoor unit **FDUM60VF (2 units)** Outdoor unit **FDC125VNA**
 Cooling mode (kW) Heating mode:HC (kW)


Outdoor air temp. °CDB	Indoor air temperature														Outdoor air temp. °CDB		Indoor air temperature °CDB							
	18 °CDB		21 °CDB		23 °CDB		26 °CDB		27 °CDB		28 °CDB		31 °CDB		33 °CDB		°CDB	°CWB	16	18	20	22	24	
	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC								
11						10.15	8.91	10.74	9.69	11.03	9.59	11.34	9.50	11.96	10.07	12.57	9.84	-19.8	-20	7.77	7.73	7.70	7.67	7.65
13						10.63	9.09	11.26	9.87	11.57	9.77	11.91	9.68	12.58	10.25	13.25	10.02	-17.7	-18	8.16	8.13	8.11	8.06	8.03
15						11.10	9.27	11.78	10.05	12.11	9.95	12.47	9.86	13.20	10.42	13.92	10.19	-15.7	-16	8.57	8.53	8.50	8.46	8.42
17						11.58	9.46	12.29	10.23	12.65	10.13	13.04	10.04	13.82	10.60	14.59	10.36	-13.5	-14	9.02	8.98	8.94	8.90	8.86
19						11.82	9.55	12.56	10.33	12.92	10.23	13.32	10.13	14.11	10.69	14.90	10.45	-11.5	-12	9.46	9.41	9.37	9.33	9.28
21						12.06	9.65	12.82	10.42	13.19	10.32	13.60	10.22	14.40	10.77	15.20	10.52	-9.5	-10	9.90	9.84	9.80	9.76	9.70
23						12.06	9.65	12.85	10.43	13.23	10.33	13.64	10.24	14.45	10.79	15.27	10.54	-7.5	-8	10.32	10.28	10.23	10.17	10.12
25			11.16	9.87	12.06	9.65	12.89	10.44	13.27	10.35	13.68	10.25	14.51	10.81	15.34	10.56	-5.5	-6	10.50	10.45	10.39	10.33	10.28	
27			11.08	9.84	12.05	9.64	12.92	10.46	13.31	10.36	13.69	10.25	14.47	10.80			-3.0	-4	10.66	10.61	10.55	10.49	10.43	
29			11.00	9.80	11.87	9.57	12.71	10.38	13.11	10.29	13.51	10.19	14.31	10.75			-1.0	-2	10.82	10.77	10.71	10.65	10.58	
31			10.92	9.77	11.69	9.50	12.49	10.30	12.90	10.22	13.32	10.13	14.15	10.70			1.0	0	10.99	10.93	10.87	10.80	10.73	
33	10.27	9.09	10.72	9.68	11.51	9.43	12.27	10.22	12.70	10.15	13.13	10.07	13.99	10.65			2.0	1	11.07	11.01	10.94	10.88	10.81	
35	10.07	9.00	10.55	9.61	11.33	9.36	12.06	10.15	12.50	10.08	12.94	10.01	13.83	10.61			3.0	2	11.92	11.85	11.78	11.73	11.68	
37	9.90	8.92	10.38	9.54	11.13	9.29	11.83	10.07	12.24	9.99	12.66	9.92	13.50	10.51			5.0	4	12.76	12.69	12.61	12.60	12.58	
39	9.72	8.84	10.20	9.47	10.94	9.21	11.60	9.99	11.99	9.91	12.38	9.83	13.16	10.41			7.0	6	14.16	14.08	14.00	14.02	14.04	
41	9.55	8.76	10.02	9.39	10.75	9.14	11.37	9.91	11.73	9.82	12.09	9.74	12.82	10.31			9.0	8	14.72	14.64	14.56	14.52	14.49	
43	9.38	8.69	9.85	9.32	10.56	9.07	11.14	9.83	11.47	9.74	11.81	9.65	12.48	10.22			11.5	10	15.28	15.20	15.11	15.02	14.93	
46	9.21	8.61	9.53	9.19	10.28	8.96	10.88	9.74	11.12	9.62	11.28	9.48	11.96	10.07			13.5	12	16.13	16.04	15.94	15.82	15.75	
50	7.43	7.28	7.63	7.48	8.25	8.09	8.67	8.50	8.78	8.60	8.80	8.62	9.05	8.87			15.5	14	16.98	16.88	16.77	16.62	16.58	
																		16.5	16	17.41	17.30	17.19	17.02	16.99

PJG000Z013 

Model **FDUM125VSAPVF** Indoor unit **FDUM60VF (2 units)** Outdoor unit **FDC125VSA**
 Cooling mode (kW) Heating mode:HC (kW)


Outdoor air temp. °CDB	Indoor air temperature														Outdoor air temp. °CDB		Indoor air temperature °CDB							
	18 °CDB		21 °CDB		23 °CDB		26 °CDB		27 °CDB		28 °CDB		31 °CDB		33 °CDB		°CDB	°CWB	16	18	20	22	24	
	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC								
11						10.15	8.91	10.74	9.69	11.03	9.59	11.34	9.50	11.96	10.07	12.57	9.84	-19.8	-20	7.77	7.73	7.70	7.67	7.65
13						10.63	9.09	11.26	9.87	11.57	9.77	11.91	9.68	12.58	10.25	13.25	10.02	-17.7	-18	8.16	8.13	8.11	8.06	8.03
15						11.10	9.27	11.78	10.05	12.11	9.95	12.47	9.86	13.20	10.42	13.92	10.19	-15.7	-16	8.57	8.53	8.50	8.46	8.42
17						11.58	9.46	12.29	10.23	12.65	10.13	13.04	10.04	13.82	10.60	14.59	10.36	-13.5	-14	9.02	8.98	8.94	8.90	8.86
19						11.82	9.55	12.56	10.33	12.92	10.23	13.32	10.13	14.11	10.69	14.90	10.45	-11.5	-12	9.46	9.41	9.37	9.33	9.28
21						12.06	9.65	12.82	10.42	13.19	10.32	13.60	10.22	14.40	10.77	15.20	10.52	-9.5	-10	9.90	9.84	9.80	9.76	9.70
23						12.06	9.65	12.85	10.43	13.23	10.33	13.64	10.24	14.45	10.79	15.27	10.54	-7.5	-8	10.32	10.28	10.23	10.17	10.12
25			11.16	9.87	12.06	9.65	12.89	10.44	13.27	10.35	13.68	10.25	14.51	10.81	15.34	10.56	-5.5	-6	10.50	10.45	10.39	10.33	10.28	
27			11.08	9.84	12.05	9.64	12.92	10.46	13.31	10.36	13.69	10.25	14.47	10.80			-3.0	-4	10.66	10.61	10.55	10.49	10.43	
29			11.00	9.80	11.87	9.57	12.71	10.38	13.11	10.29	13.51	10.19	14.31	10.75			-1.0	-2	10.82	10.77	10.71	10.65	10.58	
31			10.92	9.77	11.69	9.50	12.49	10.30	12.90	10.22	13.32	10.13	14.15	10.70			1.0	0	10.99	10.93	10.87	10.80	10.73	
33	10.27	9.09	10.72	9.68	11.51	9.43	12.27	10.22	12.70	10.15	13.13	10.07	13.99	10.65			2.0	1	11.07	11.01	10.94	10.88	10.81	
35	10.07	9.00	10.55	9.61	11.33	9.36	12.06	10.15	12.50	10.08	12.94	10.01	13.83	10.61			3.0	2	11.92	11.85	11.78	11.73	11.68	
37	9.90	8.92	10.38	9.54	11.13	9.29	11.83	10.07	12.24	9.99	12.66	9.92	13.50	10.51			5.0	4	12.76	12.69	12.61	12.60	12.58	
39	9.72	8.84	10.20	9.47	10.94	9.21	11.60	9.99	11.99	9.91	12.38	9.83	13.16	10.41			7.0	6	14.16	14.08	14.00	14.02	14.04	
41	9.55	8.76	10.02	9.39	10.75	9.14	11.37	9.91	11.73	9.82	12.09	9.74	12.82	10.31			9.0	8	14.72	14.64	14.56	14.52	14.49	
43	9.38	8.69	9.85	9.32	10.56	9.07	11.14	9.83	11.47	9.74	11.81	9.65	12.48	10.22			11.5	10	15.28	15.20	15.11	15.02	14.93	
46	9.21	8.61	9.53	9.19	10.28	8.96	10.88	9.74	11.12	9.62	11.28	9.48	11.96	10.07			13.5	12	16.13	16.04	15.94	15.82	15.75	
50	7.43	7.28	7.63	7.48	8.25	8.09	8.67	8.50	8.78	8.60	8.80	8.62	9.05	8.87			15.5	14	16.98	16.88	16.77	16.62	16.58	
																		16.5	16	17.41	17.30	17.19	17.02	16.99

- Notes (1) These data show average status.
 Depending on the system control, there may be ranges where the operation is not conducted continuously.
 These data show the case where the operation frequency of a compressor is fixed. (Cooling only)
 In the heating mode in which the outside air temperature is 0°CDB or less, the compressor operates at maximum frequency.
- (2) Capacities are based on the following conditions.
 Corresponding refrigerant piping length : 7.5m
 Level difference of Zero.
- (3) Symbols are as follows
 TC : Total cooling capacity (kW)
 SHC : Sensible heat capacity (kW)
 HC : Heating capacity (kW)

PJG000Z013 


Model **FDUM140VNAPVF1** Indoor unit **FDUM71VF1 (2 units)** Outdoor unit **FDC140VNA**
 Cooling mode (kW) Heating mode:HC (kW)

Outdoor air temp. °CDB	Indoor air temperature														Outdoor air temp.		Indoor air temperature °CDB						
	18 °CDB		21 °CDB		23 °CDB		26 °CDB		27 °CDB		28 °CDB		31 °CDB		33 °CDB		°CDB	°CWB	16	18	20	22	24
	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC							
11					11.05	10.16	11.68	11.08	12.00	10.97	12.34	10.86	13.01	11.55	13.68	11.29	-19.8	-20	7.94	7.91	7.88	7.85	7.82
13					11.56	10.34	12.25	11.27	12.59	11.16	12.95	11.04	13.69	11.73	14.42	11.46	-17.7	-18	8.44	8.41	8.37	8.34	8.30
15					12.07	10.53	12.81	11.46	13.18	11.34	13.57	11.23	14.36	11.91	15.14	11.64	-15.7	-16	8.94	8.90	8.86	8.82	8.79
17					12.59	10.72	13.38	11.65	13.77	11.53	14.19	11.42	15.04	12.10	15.87	11.81	-13.5	-14	9.50	9.46	9.41	9.37	9.33
19					12.86	10.82	13.66	11.74	14.07	11.63	14.49	11.51	15.35	12.18	16.20	11.89	-11.5	-12	10.07	10.02	9.98	9.93	9.88
21					13.12	10.92	13.95	11.84	14.36	11.72	14.79	11.60	15.66	12.27	16.53	11.97	-9.5	-10	10.64	10.59	10.54	10.49	10.44
23					13.12	10.92	13.99	11.85	14.40	11.73	14.84	11.62	15.73	12.29	16.61	11.99	-7.5	-8	11.21	11.15	11.10	11.04	10.99
25			12.14	11.20	13.11	10.91	14.02	11.86	14.44	11.75	14.89	11.63	15.79	12.30	16.69	12.01	-5.5	-6	11.51	11.45	11.39	11.33	11.27
27			12.06	11.16	13.11	10.91	14.06	11.88	14.48	11.76	14.90	11.64	15.74	12.29			-3.0	-4	11.80	11.74	11.68	11.62	11.55
29			11.97	11.13	12.91	10.84	13.82	11.80	14.26	11.69	14.70	11.57	15.56	12.24			-1.0	-2	12.11	12.05	11.98	11.91	11.84
31			11.88	11.09	12.72	10.76	13.59	11.72	14.04	11.62	14.49	11.51	15.40	12.19			1.0	0	12.42	12.35	12.28	12.20	12.13
33	11.18	10.28	11.67	11.01	12.52	10.69	13.36	11.64	13.82	11.55	14.29	11.45	15.22	12.15			2.0	1	12.58	12.50	12.43	12.35	12.28
35	10.96	10.19	11.48	10.93	12.32	10.62	13.11	11.56	13.60	11.48	14.09	11.39	15.05	12.10			3.0	2	13.35	13.27	13.20	13.13	13.08
37	10.76	10.10	11.29	10.85	12.11	10.54	12.87	11.48	13.32	11.39	13.77	11.29	14.69	12.00			4.0	3	14.12	14.05	13.96	13.89	13.83
39	10.58	10.02	11.10	10.78	11.91	10.47	12.62	11.39	13.05	11.30	13.46	11.20	14.32	11.90			5.0	4	14.12	14.05	13.96	13.89	13.83
41	10.39	9.94	10.91	10.69	11.70	10.39	12.37	11.31	12.76	11.21	13.16	11.11	13.95	11.80			6.0	5	15.68	15.59	15.50	15.42	15.35
43	10.21	9.86	10.71	10.50	11.49	10.32	12.11	11.23	12.48	11.12	12.85	11.02	13.58	11.70			7.0	6	16.30	16.21	16.11	16.07	16.03
46	10.03	9.78	10.47	10.26	11.13	10.19	11.73	11.10	12.10	11.01	12.27	10.84	13.01	11.55			8.0	7	16.30	16.21	16.11	16.07	16.03
50	7.61	7.45	7.88	7.72	8.35	8.19	8.75	8.58	8.97	8.79	8.98	8.80	9.33	9.14			9.0	8	16.91	16.83	16.73	16.63	16.53
																	10.0	9	17.86	17.76	17.65	17.52	17.44
																	11.0	10	18.80	18.69	18.57	18.40	18.36
																	12.0	11	19.28	19.15	19.03	18.84	18.81

PJG000Z013 

Model **FDUM140VSAPVF1** Indoor unit **FDUM71VF1 (2 units)** Outdoor unit **FDC140VSA**
 Cooling mode (kW) Heating mode:HC (kW)

Outdoor air temp. °CDB	Indoor air temperature														Outdoor air temp.		Indoor air temperature °CDB						
	18 °CDB		21 °CDB		23 °CDB		26 °CDB		27 °CDB		28 °CDB		31 °CDB		33 °CDB		°CDB	°CWB	16	18	20	22	24
	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC							
11					11.05	10.16	11.68	11.08	12.00	10.97	12.34	10.86	13.01	11.55	13.68	11.29	-19.8	-20	7.94	7.91	7.88	7.85	7.82
13					11.56	10.34	12.25	11.27	12.59	11.16	12.95	11.04	13.69	11.73	14.42	11.46	-17.7	-18	8.44	8.41	8.37	8.34	8.30
15					12.07	10.53	12.81	11.46	13.18	11.34	13.57	11.23	14.36	11.91	15.14	11.64	-15.7	-16	8.94	8.90	8.86	8.82	8.79
17					12.59	10.72	13.38	11.65	13.77	11.53	14.19	11.42	15.04	12.10	15.87	11.81	-13.5	-14	9.50	9.46	9.41	9.37	9.33
19					12.86	10.82	13.66	11.74	14.07	11.63	14.49	11.51	15.35	12.18	16.20	11.89	-11.5	-12	10.07	10.02	9.98	9.93	9.88
21					13.12	10.92	13.95	11.84	14.36	11.72	14.79	11.60	15.66	12.27	16.53	11.97	-9.5	-10	10.64	10.59	10.54	10.49	10.44
23					13.12	10.92	13.99	11.85	14.40	11.73	14.84	11.62	15.73	12.29	16.61	11.99	-7.5	-8	11.21	11.15	11.10	11.04	10.99
25			12.14	11.20	13.11	10.91	14.02	11.86	14.44	11.75	14.89	11.63	15.79	12.30	16.69	12.01	-5.5	-6	11.51	11.45	11.39	11.33	11.27
27			12.06	11.16	13.11	10.91	14.06	11.88	14.48	11.76	14.90	11.64	15.74	12.29			-3.0	-4	11.80	11.74	11.68	11.62	11.55
29			11.97	11.13	12.91	10.84	13.82	11.80	14.26	11.69	14.70	11.57	15.56	12.24			-1.0	-2	12.11	12.05	11.98	11.91	11.84
31			11.88	11.09	12.72	10.76	13.59	11.72	14.04	11.62	14.49	11.51	15.40	12.19			1.0	0	12.42	12.35	12.28	12.20	12.13
33	11.18	10.28	11.67	11.01	12.52	10.69	13.36	11.64	13.82	11.55	14.29	11.45	15.22	12.15			2.0	1	12.58	12.50	12.43	12.35	12.28
35	10.96	10.19	11.48	10.93	12.32	10.62	13.11	11.56	13.60	11.48	14.09	11.39	15.05	12.10			3.0	2	13.35	13.27	13.20	13.13	13.08
37	10.76	10.10	11.29	10.85	12.11	10.54	12.87	11.48	13.32	11.39	13.77	11.29	14.69	12.00			4.0	3	14.12	14.05	13.96	13.89	13.83
39	10.58	10.02	11.10	10.78	11.91	10.47	12.62	11.39	13.05	11.30	13.46	11.20	14.32	11.90			5.0	4	14.12	14.05	13.96	13.89	13.83
41	10.39	9.94	10.91	10.69	11.70	10.39	12.37	11.31	12.76	11.21	13.16	11.11	13.95	11.80			6.0	5	15.68	15.59	15.50	15.42	15.35
43	10.21	9.86	10.71	10.50	11.49	10.32	12.11	11.23	12.48	11.12	12.85	11.02	13.58	11.70			7.0	6	16.30	16.21	16.11	16.07	16.03
46	10.03	9.78	10.47	10.26	11.13	10.19	11.73	11.10	12.10	11.01	12.27	10.84	13.01	11.55			8.0	7	16.30	16.21	16.11	16.07	16.03
50	7.61	7.45	7.88	7.72	8.35	8.19	8.75	8.58	8.97	8.79	8.98	8.80	9.33	9.14			9.0	8	16.91	16.83	16.73	16.63	16.53
																	10.0	9	17.86	17.76	17.65	17.52	17.44
																	11.0	10	18.80	18.69	18.57	18.40	18.36
																	12.0	11	19.28	19.15	19.03	18.84	18.81

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- Notes (1) These data show average status.
 Depending on the system control, there may be ranges where the operation is not conducted continuously.
 These data show the case where the operation frequency of a compressor is fixed. (Cooling only)
 In the heating mode in which the outside air temperature is 0°CDB or less, the compressor operates at maximum frequency.
- (2) Capacities are based on the following conditions.
 Corresponding refrigerant piping length : 7.5m
 Level difference of Zero.
- (3) Symbols are as follows
 TC : Total cooling capacity (kW)
 SHC : Sensible heat capacity (kW)
 HC : Heating capacity (kW)

Model **FDUM200VSAPVF2** Indoor unit **FDUM100VF2 (2 unit)** Outdoor unit **FDC200VSA**

Cooling mode


(kW)

Heating mode:HC

(kW)

Outdoor air temp.	Indoor air temperature															
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB	
	12°CWB	14°CWB	16°CWB	18°CWB	19°CWB	20°CWB	22°CWB	24°CWB	TC	SHC	TC	SHC	TC	SHC	TC	SHC
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					19.36	14.68	20.45	15.85	20.99	15.56	21.67	15.29	23.02	16.10	24.37	15.47
13					19.46	14.71	20.57	15.88	21.13	15.59	21.78	15.32	23.09	16.12	24.40	15.47
15					19.55	14.74	20.69	15.91	21.26	15.63	21.90	15.35	23.16	16.13	24.43	15.48
17					19.56	14.74	20.77	15.93	21.37	15.65	21.99	15.37	23.23	16.15	24.47	15.48
19					19.64	14.76	20.84	15.95	21.48	15.68	22.09	15.39	23.30	16.16	24.51	15.49
21					19.34	14.67	20.50	15.86	21.11	15.59	21.72	15.30	22.92	16.09	24.13	15.43
23					19.04	14.58	20.16	15.77	20.74	15.50	21.35	15.22	22.55	16.01	23.76	15.37
25			17.82	15.26	18.89	14.54	19.99	15.72	20.56	15.45	21.16	15.18	22.37	15.98	23.57	15.34
27			17.68	15.22	18.74	14.49	19.82	15.68	20.38	15.41	21.25	15.20	22.13	15.93		
29			17.40	15.12	18.43	14.40	19.49	15.59	20.03	15.32	20.93	15.12	21.83	15.88		
31			17.11	15.02	18.11	14.30	19.15	15.51	19.69	15.24	20.60	15.05	21.52	15.82		
33	15.84	13.86	16.58	14.85	17.80	14.21	18.82	15.42	19.34	15.16	20.28	14.98	21.21	15.76		
35	15.73	13.82	16.37	14.78	17.49	14.12	18.49	15.33	19.00	15.08	19.95	14.91	20.91	15.71		
37	15.52	13.74	16.13	14.70	17.14	14.02	18.05	15.22	18.57	14.98	19.48	14.80	20.39	15.61		
39	15.31	13.66	15.89	14.62	16.78	13.91	17.61	15.11	18.13	14.88	19.00	14.70	19.87	15.52		
41	15.10	13.58	15.65	14.54	16.43	13.81	17.18	15.01	17.70	14.78	18.53	14.60	19.36	15.43		
43	14.89	13.51	15.41	14.46	16.07	13.71	16.74	14.90	17.26	14.68	18.05	14.50	18.84	15.34		
46	14.58	13.39	15.05	14.35	15.54	13.56	16.09	14.74	16.61	14.53	17.34	14.35	18.06	15.21		
50	11.25	11.02	11.78	11.54	12.39	12.14	12.68	12.42	12.88	12.62	13.08	12.82	13.28	13.01		

Outdoor air temp.	Indoor air temperature					
	°CDB		°CWB		°CDB	
	16	18	20	22	24	
-19.8	-20					
-17.7	-18					
-15.7	-16					
-13.5	-14	11.10	10.98	10.86	10.73	10.60
-11.5	-12	11.93	11.80	11.67	11.54	11.40
-9.5	-10	12.75	12.61	12.48	12.34	12.20
-7.5	-8	13.57	13.43	13.29	13.14	13.00
-5.5	-6	13.78	13.64	13.51	13.37	13.24
-3.0	-4	13.99	13.86	13.73	13.60	13.47
-1.0	-2	14.20	14.08	13.95	13.83	13.71
1.0	0	14.41	14.29	14.18	14.06	13.94
2.0	1	14.51	14.40	14.29	14.17	14.06
3.0	2	16.19	16.05	15.91	15.79	15.67
5.0	4	19.54	19.35	19.15	19.02	18.89
7.0	6	22.89	22.64	22.40	22.25	22.11
9.0	8	23.99	23.78	23.58	23.42	23.25
11.5	10	25.09	24.92	24.75	24.58	24.40
13.5	12	25.95	25.79	25.63	25.45	25.27
15.5	14	26.82	26.66	26.50	26.32	26.14
16.5	16	27.25	27.10	26.94	26.76	26.57

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Model **FDUM250VSAPVF** Indoor unit **FDUM125VF (2 unit)** Outdoor unit **FDC250VSA**

Cooling mode

(kW)

Heating mode:HC

(kW)

Outdoor air temp.	Indoor air temperature															
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB	
	12°CWB	14°CWB	16°CWB	18°CWB	19°CWB	20°CWB	22°CWB	24°CWB	TC	SHC	TC	SHC	TC	SHC	TC	SHC
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					24.64	20.31	26.08	21.89	26.80	21.74	27.60	21.60	29.20	22.80	30.80	22.43
13					24.67	20.32	26.11	21.90	26.83	21.75	27.63	21.61	29.23	22.81	30.83	22.44
15					24.69	20.33	26.14	21.91	26.86	21.76	27.66	21.62	29.26	22.82	30.86	22.45
17					24.70	20.34	26.23	21.95	26.99	21.81	27.78	21.67	29.34	22.84	30.91	22.47
19					24.81	20.38	26.33	21.99	27.13	21.86	27.90	21.71	29.43	22.87	30.96	22.48
21					24.43	20.22	25.90	21.81	26.67	21.68	27.43	21.54	28.96	22.71	30.48	22.33
23					24.05	20.05	25.47	21.64	26.20	21.50	26.96	21.36	28.49	22.55	30.01	22.18
25			22.51	20.48	23.86	19.97	25.25	21.55	25.97	21.41	26.73	21.28	28.25	22.47	29.77	22.11
27			22.33	20.40	23.67	19.89	25.04	21.47	25.74	21.33	26.85	21.32	27.96	22.37		
29			21.97	20.23	23.27	19.72	24.61	21.30	25.30	21.16	26.44	21.17	27.57	22.24		
31			21.61	20.07	22.88	19.55	24.19	21.13	24.87	20.99	26.03	21.02	27.18	22.11		
33	20.01	18.49	20.94	19.76	22.49	19.39	23.77	20.97	24.44	20.83	25.62	20.87	26.80	21.98		
35	19.87	18.42	20.68	19.64	22.10	19.22	23.35	20.80	24.00	20.66	25.21	20.72	26.41	21.85		
37	19.61	18.29	20.42	19.53	21.78	19.09	22.94	20.64	23.56	20.50	24.66	20.52	25.76	21.63		
39	19.51	18.24	20.33	19.48	21.65	19.03	22.72	20.56	23.30	20.40	24.30	20.39	25.30	21.48		
41	20.09	18.52	20.57	19.59	21.47	18.96	22.44	20.45	22.98	20.28	23.88	20.24	24.77	21.30		
43	19.02	18.01	19.85	19.27	21.05	18.78	21.92	20.24	22.41	20.07	23.19	19.99	23.96	21.04		
46	17.16	16.81	17.71	17.36	18.29	17.64	18.93	18.56	19.55	19.02	20.41	19.01	21.26	20.16		
50	11.31	11.08	11.84	11.60	12.45	12.20	12.74	12.49	12.94	12.69	13.14	12.88	13.35	13.08		

Outdoor air temp.	Indoor air temperature					
	°CDB		°CWB		°CDB	
	16	18	20	22	24	
-19.8	-20					
-17.7	-18					
-15.7	-16					
-13.5	-14	13.22	13.07	12.93	12.78	12.63
-11.5	-12	13.88	13.73	13.58	13.43	13.28
-9.5	-10	14.55	14.39	14.24	14.08	13.93
-7.5	-8	15.21	15.05	14.89	14.73	14.58
-5.5	-6	15.48	15.32	15.17	15.02	14.87
-3.0	-4	15.74	15.59	15.45	15.30	15.16
-1.0	-2	16.00	15.87	15.73	15.59	15.45
1.0	0	16.27	16.14	16.01	15.87	15.74
2.0	1	16.40	16.27	16.14	16.01	15.88
3.0	2	18.64	18.48	18.32	18.18	18.04
5.0	4	23.11	22.89	22.66	22.50	22.34
7.0	6	27.59	27.29	27.00	26.82	26.65
9.0	8	28.92	28.67	28.42	28.22	28.03
11.5	10	30.24	30.04	29.84	29.63	29.41
13.5	12	31.28	31.09	30.89	30.68	30.46
15.5	14	32.32	32.14	31.95	31.73	31.51
16.5	16	32.85	32.66	32.47	32.25	32.03

Notes (1) These data show average statuses.

Depending on the system control, there may be ranges where the operation is not conducted continuously.

These data show the case where the operation frequency of a compressor is fixed.

(2) Capacities are based on the following conditions.

Corresponding refrigerant piping length :7.5m


Level difference of Zero.

(3) Symbols are as follows.

TC : Total cooling capacity (kW)

SHC : Sensible heat capacity (kW)

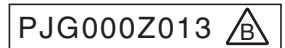
HC : Heating capacity (kW)

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(c) Triple type

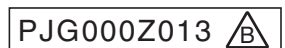
Model **FDUM140VNATVF** Indoor unit **FDUM50VF (3 units)** Outdoor unit **FDC140VNA**
 Cooling mode (kW) Heating mode:HC (kW)

Outdoor air temp.	Indoor air temperature																Outdoor air temp.		Indoor air temperature				
	18 °CDB		21 °CDB		23 °CDB		26 °CDB		27 °CDB		28 °CDB		31 °CDB		33 °CDB				°CDB				
	12 °CWB		14 °CWB		16 °CWB		18 °CWB		19 °CWB		20 °CWB		22 °CWB		24 °CWB		°CDB	°CWB	16	18	20	22	24
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	
11					11.05	9.61	11.68	10.40	12.00	10.33	12.34	10.26	13.01	10.86	13.68	10.68	-19.8	-20	7.94	7.91	7.88	7.85	7.82
13					11.56	9.83	12.25	10.63	12.59	10.56	12.95	10.49	13.69	11.09	14.42	10.91	-17.7	-18	8.44	8.41	8.37	8.34	8.30
15					12.07	10.05	12.81	10.85	13.18	10.78	13.57	10.71	14.36	11.32	15.14	11.14	-15.7	-16	8.94	8.90	8.86	8.82	8.79
17					12.59	10.27	13.38	11.08	13.77	11.01	14.19	10.95	15.04	11.55	15.87	11.37	-13.5	-14	9.50	9.46	9.41	9.37	9.33
19					12.86	10.39	13.66	11.19	14.07	11.13	14.49	11.06	15.35	11.66	16.20	11.47	-11.5	-12	10.07	10.02	9.98	9.93	9.88
21					13.12	10.51	13.95	11.31	14.36	11.24	14.79	11.17	15.66	11.77	16.53	11.58	-9.5	-10	10.64	10.59	10.54	10.49	10.44
23					13.12	10.51	13.99	11.33	14.40	11.26	14.84	11.19	15.73	11.79	16.61	11.60	-7.5	-8	11.21	11.15	11.10	11.04	10.99
25			12.14	10.65	13.11	10.50	14.02	11.34	14.44	11.27	14.89	11.21	15.79	11.81	16.69	11.63	-5.5	-6	11.51	11.45	11.39	11.33	11.27
27			12.06	10.61	13.11	10.50	14.06	11.36	14.48	11.29	14.90	11.21	15.74	11.79			-3.0	-4	11.80	11.74	11.68	11.62	11.55
29			11.97	10.57	12.91	10.41	13.82	11.26	14.26	11.20	14.70	11.14	15.56	11.73			-1.0	-2	12.11	12.05	11.98	11.91	11.84
31			11.88	10.53	12.72	10.33	13.59	11.17	14.04	11.12	14.49	11.06	15.40	11.67			1.0	0	12.42	12.35	12.28	12.20	12.13
33	11.18	9.82	11.67	10.43	12.52	10.24	13.36	11.07	13.82	11.03	14.29	10.98	15.22	11.61			2.0	1	12.58	12.50	12.43	12.35	12.28
35	10.96	9.71	11.48	10.35	12.32	10.15	13.11	10.97	13.60	10.95	14.09	10.91	15.05	11.55			3.0	2	13.35	13.27	13.20	13.13	13.08
37	10.76	9.62	11.29	10.26	12.11	10.07	12.87	10.88	13.32	10.84	13.77	10.79	14.69	11.43			5.0	4	14.12	14.05	13.96	13.95	13.93
39	10.58	9.53	11.10	10.17	11.91	9.98	12.62	10.78	13.05	10.73	13.46	10.68	14.32	11.30			7.0	6	15.68	15.59	15.50	15.52	15.55
41	10.39	9.43	10.91	10.08	11.70	9.89	12.37	10.67	12.76	10.62	13.16	10.56	13.95	11.18			9.0	8	16.30	16.21	16.11	16.07	16.03
43	10.21	9.34	10.71	9.99	11.49	9.80	12.11	10.57	12.48	10.52	12.85	10.45	13.58	11.05			11.5	10	16.91	16.83	16.73	16.63	16.53
46	10.03	9.25	10.47	9.88	11.13	9.65	11.73	10.42	12.10	10.37	12.27	10.24	13.01	10.86			13.5	12	17.86	17.76	17.65	17.52	17.44
50	7.61	7.45	7.88	7.72	8.35	8.19	8.75	8.58	8.97	8.79	8.98	8.80	9.33	9.14			15.5	14	18.80	18.69	18.57	18.40	18.36
																	16.5	16	19.28	19.15	19.03	18.84	18.81



Model **FDUM140VSATVF** Indoor unit **FDUM50VF (3 units)** Outdoor unit **FDC140VSA**
 Cooling mode (kW) Heating mode:HC (kW)

Outdoor air temp.	Indoor air temperature																Outdoor air temp.		Indoor air temperature				
	18 °CDB		21 °CDB		23 °CDB		26 °CDB		27 °CDB		28 °CDB		31 °CDB		33 °CDB				°CDB				
	12 °CWB		14 °CWB		16 °CWB		18 °CWB		19 °CWB		20 °CWB		22 °CWB		24 °CWB		°CDB	°CWB	16	18	20	22	24
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	
11					11.05	9.61	11.68	10.40	12.00	10.33	12.34	10.26	13.01	10.86	13.68	10.68	-19.8	-20	7.94	7.91	7.88	7.85	7.82
13					11.56	9.83	12.25	10.63	12.59	10.56	12.95	10.49	13.69	11.09	14.42	10.91	-17.7	-18	8.44	8.41	8.37	8.34	8.30
15					12.07	10.05	12.81	10.85	13.18	10.78	13.57	10.71	14.36	11.32	15.14	11.14	-15.7	-16	8.94	8.90	8.86	8.82	8.79
17					12.59	10.27	13.38	11.08	13.77	11.01	14.19	10.95	15.04	11.55	15.87	11.37	-13.5	-14	9.50	9.46	9.41	9.37	9.33
19					12.86	10.39	13.66	11.19	14.07	11.13	14.49	11.06	15.35	11.66	16.20	11.47	-11.5	-12	10.07	10.02	9.98	9.93	9.88
21					13.12	10.51	13.95	11.31	14.36	11.24	14.79	11.17	15.66	11.77	16.53	11.58	-9.5	-10	10.64	10.59	10.54	10.49	10.44
23					13.12	10.51	13.99	11.33	14.40	11.26	14.84	11.19	15.73	11.79	16.61	11.60	-7.5	-8	11.21	11.15	11.10	11.04	10.99
25			12.14	10.65	13.11	10.50	14.02	11.34	14.44	11.27	14.89	11.21	15.79	11.81	16.69	11.63	-5.5	-6	11.51	11.45	11.39	11.33	11.27
27			12.06	10.61	13.11	10.50	14.06	11.36	14.48	11.29	14.90	11.21	15.74	11.79			-3.0	-4	11.80	11.74	11.68	11.62	11.55
29			11.97	10.57	12.91	10.41	13.82	11.26	14.26	11.20	14.70	11.14	15.56	11.73			-1.0	-2	12.11	12.05	11.98	11.91	11.84
31			11.88	10.53	12.72	10.33	13.59	11.17	14.04	11.12	14.49	11.06	15.40	11.67			1.0	0	12.42	12.35	12.28	12.20	12.13
33	11.18	9.82	11.67	10.43	12.52	10.24	13.36	11.07	13.82	11.03	14.29	10.98	15.22	11.61			2.0	1	12.58	12.50	12.43	12.35	12.28
35	10.96	9.71	11.48	10.35	12.32	10.15	13.11	10.97	13.60	10.95	14.09	10.91	15.05	11.55			3.0	2	13.35	13.27	13.20	13.13	13.08
37	10.76	9.62	11.29	10.26	12.11	10.07	12.87	10.88	13.32	10.84	13.77	10.79	14.69	11.43			5.0	4	14.12	14.05	13.96	13.95	13.93
39	10.58	9.53	11.10	10.17	11.91	9.98	12.62	10.78	13.05	10.73	13.46	10.68	14.32	11.30			7.0	6	15.68	15.59	15.50	15.52	15.55
41	10.39	9.43	10.91	10.08	11.70	9.89	12.37	10.67	12.76	10.62	13.16	10.56	13.95	11.18			9.0	8	16.30	16.21	16.11	16.07	16.03
43	10.21	9.34	10.71	9.99	11.49	9.80	12.11	10.57	12.48	10.52	12.85	10.45	13.58	11.05			11.5	10	16.91	16.83	16.73	16.63	16.53
46	10.03	9.25	10.47	9.88	11.13	9.65	11.73	10.42	12.10	10.37	12.27	10.24	13.01	10.86			13.5	12	17.86	17.76	17.65	17.52	17.44
50	7.61	7.45	7.88	7.72	8.35	8.19	8.75	8.58	8.97	8.79	8.98	8.80	9.33	9.14			15.5	14	18.80	18.69	18.57	18.40	18.36
																	16.5	16	19.28	19.15	19.03	18.84	18.81




- Notes (1) These data show average status.
 Depending on the system control, there may be ranges where the operation is not conducted continuously.
 These data show the case where the operation frequency of a compressor is fixed. (Cooling only)
 In the heating mode in which the outside air temperature is 0°C DB or less, the compressor operates at maximum frequency.
- (2) Capacities are based on the following conditions.
 Corresponding refrigerant piping length : 7.5m
 Level difference of Zero.
- (3) Symbols are as follows
 TC : Total cooling capacity (kW)
 SHC : Sensible heat capacity (kW)
 HC : Heating capacity (kW)

Model **FDUM200VSATVF1** Indoor unit **FDUM71VF1 (3 unit)** Outdoor unit **FDC200VSA**
 Cooling mode (kW)

Heating mode:HC (kW)

Outdoor air temp. °CDB	Indoor air temperature															
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB	
	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					19.36	16.25	20.45	17.60	20.99	17.40	21.67	17.24	23.02	18.27	24.37	17.85
13					19.46	16.29	20.57	17.64	21.13	17.45	21.78	17.28	23.09	18.29	24.40	17.86
15					19.55	16.32	20.69	17.68	21.26	17.49	21.90	17.31	23.16	18.31	24.43	17.87
17					19.56	16.32	20.77	17.70	21.37	17.53	21.99	17.34	23.23	18.33	24.47	17.88
19					19.64	16.35	20.84	17.73	21.48	17.56	22.09	17.37	23.30	18.35	24.51	17.89
21					19.34	16.24	20.50	17.61	21.11	17.44	21.72	17.26	22.92	18.24	24.13	17.80
23					19.04	16.13	20.16	17.50	20.74	17.32	21.35	17.14	22.55	18.14	23.76	17.70
25			17.82	16.64	18.89	16.08	19.99	17.44	20.56	17.27	21.16	17.09	22.37	18.09	23.57	17.66
27			17.68	16.58	18.74	16.02	19.82	17.38	20.38	17.21	21.25	17.11	22.13	18.03		
29			17.40	16.47	18.43	15.91	19.49	17.27	20.03	17.10	20.93	17.02	21.83	17.94		
31			17.11	16.35	18.11	15.79	19.15	17.16	19.69	16.99	20.60	16.92	21.52	17.86		
33	15.84	15.02	16.58	16.14	17.80	15.68	18.82	17.05	19.34	16.88	20.28	16.82	21.21	17.78		
35	15.73	14.97	16.37	16.05	17.49	15.57	18.49	16.94	19.00	16.77	19.95	16.72	20.91	17.70		
37	15.52	14.88	16.13	15.81	17.14	15.44	18.05	16.80	18.57	16.64	19.48	16.58	20.39	17.56		
39	15.31	14.79	15.89	15.57	16.78	15.31	17.61	16.66	18.13	16.50	19.00	16.44	19.87	17.42		
41	15.10	14.70	15.65	15.34	16.43	15.18	17.18	16.52	17.70	16.37	18.53	16.30	19.36	17.29		
43	14.89	14.59	15.41	15.10	16.07	15.06	16.74	16.38	17.26	16.23	18.05	16.16	18.84	17.15		
46	14.58	14.29	15.05	14.75	15.54	14.87	16.09	15.76	16.61	16.04	17.34	15.96	18.06	16.95		
50	11.25	11.02	11.78	11.54	12.39	12.14	12.68	12.42	12.88	12.62	13.08	12.82	13.28	13.01		

Outdoor air temp.		Indoor air temperature °CDB					
°CDB	°CWB	16	18	20	22	24	
-19.8	-20						
-17.7	-18						
-15.7	-16						
-13.5	-14	11.10	10.98	10.86	10.73	10.60	
-11.5	-12	11.93	11.80	11.67	11.54	11.40	
-9.5	-10	12.75	12.61	12.48	12.34	12.20	
-7.5	-8	13.57	13.43	13.29	13.14	13.00	
-5.5	-6	13.78	13.64	13.51	13.37	13.24	
-3.0	-4	13.99	13.86	13.73	13.60	13.47	
-1.0	-2	14.20	14.08	13.95	13.83	13.71	
1.0	0	14.41	14.29	14.18	14.06	13.94	
2.0	1	14.51	14.40	14.29	14.17	14.06	
3.0	2	16.19	16.05	15.91	15.79	15.67	
5.0	4	19.54	19.35	19.15	19.02	18.89	
7.0	6	22.89	22.64	22.40	22.25	22.11	
9.0	8	23.99	23.78	23.58	23.42	23.25	
11.5	10	25.09	24.92	24.75	24.58	24.40	
13.5	12	25.95	25.79	25.63	25.45	25.27	
15.5	14	26.82	26.66	26.50	26.32	26.14	
16.5	16	27.25	27.10	26.94	26.76	26.57	

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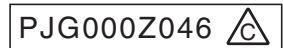
(3) Duct connected-High static pressure type (FDU)

Model **FDU100VNAVF2** Indoor unit **FDU100VF2** Outdoor unit **FDC100VNA**
Cooling mode

(kW) Heating mode:HC (kW)

Outdoor air temp.	Indoor air temperature															
	18 °CDB		21 °CDB		23 °CDB		26 °CDB		27 °CDB		28 °CDB		31 °CDB		33 °CDB	
	12 °CWB	14 °CWB	16 °CWB	18 °CWB	19 °CWB	20 °CWB	22 °CWB	24 °CWB	TC	SHC	TC	SHC	TC	SHC	TC	SHC
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					8.12	6.88	8.59	7.50	8.82	7.38	9.07	7.26	9.56	7.69	10.06	7.42
13					8.50	6.99	9.00	7.61	9.26	7.48	9.52	7.36	10.06	7.78	10.60	7.49
15					8.88	7.10	9.42	7.71	9.69	7.58	9.98	7.45	10.56	7.87	11.14	7.57
17					9.26	7.21	9.84	7.82	10.12	7.69	10.43	7.56	11.05	7.96	11.67	7.65
19					9.46	7.27	10.05	7.88	10.34	7.74	10.65	7.60	11.29	8.01	11.92	7.69
21					9.65	7.33	10.25	7.93	10.56	7.80	10.88	7.66	11.52	8.06	12.16	7.73
23					9.65	7.33	10.28	7.94	10.59	7.80	10.91	7.66	11.56	8.06	12.21	7.74
25			8.93	7.64	9.64	7.33	10.31	7.95	10.62	7.81	10.95	7.67	11.61	8.07	12.27	7.75
27			8.86	7.62	9.64	7.33	10.34	7.95	10.65	7.82	10.96	7.68	11.57	8.06		
29			8.80	7.59	9.50	7.29	10.17	7.91	10.49	7.78	10.81	7.64	11.45	8.04		
31			8.73	7.57	9.35	7.24	9.99	7.86	10.32	7.74	10.66	7.61	11.32	8.02		
33	8.22	7.04	8.58	7.52	9.21	7.20	9.82	7.82	10.16	7.70	10.51	7.57	11.19	7.99		
35	8.05	6.98	8.44	7.47	9.06	7.15	9.64	7.77	10.00	7.66	10.36	7.54	11.07	7.97		
37	7.92	6.93	8.30	7.43	8.91	7.11	9.46	7.72	9.79	7.61	10.13	7.49	10.80	7.92		
39	7.78	6.88	8.16	7.38	8.75	7.06	9.28	7.68	9.59	7.56	9.90	7.44	10.53	7.87		
41	7.64	6.83	8.02	7.33	8.60	7.02	9.09	7.63	9.38	7.51	9.68	7.39	10.26	7.82		
43	7.50	6.77	7.88	7.29	8.45	6.97	8.91	7.58	9.18	7.46	9.45	7.34	9.99	7.77		
46	7.33	6.71	7.67	7.22	8.22	6.91	8.58	7.50	8.83	7.38	9.07	7.26	9.57	7.70		
50	7.09	6.63	7.39	7.13	7.91	6.82	8.19	7.41	8.35	7.28	8.51	7.14	8.83	7.57		

Outdoor air temp.	°CWB	Indoor air temperature				
		16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
-19.8	-20	6.82	6.79	6.77	6.75	6.72
-17.7	-18	7.16	7.14	7.10	7.08	7.04
-15.7	-16	7.50	7.46	7.44	7.40	7.37
-13.5	-14	7.86	7.83	7.79	7.76	7.72
-11.5	-12	8.23	8.19	8.15	8.12	8.08
-9.5	-10	8.58	8.55	8.50	8.47	8.42
-7.5	-8	8.93	8.89	8.85	8.80	8.75
-5.5	-6	9.05	9.00	8.97	8.91	8.86
-3.0	-4	9.17	9.12	9.07	9.03	8.97
-1.0	-2	9.29	9.23	9.19	9.13	9.07
1.0	0	9.40	9.34	9.29	9.23	9.18
2.0	1	9.45	9.39	9.34	9.28	9.22
3.0	2	9.82	9.77	9.71	9.67	9.63
5.0	4	10.21	10.15	10.09	10.08	10.07
7.0	6	11.33	11.27	11.20	11.22	11.23
9.0	8	11.78	11.71	11.64	11.62	11.59
11.5	10	12.23	12.16	12.09	12.02	11.94
13.5	12	12.91	12.83	12.75	12.65	12.60
15.5	14	13.59	13.50	13.42	13.29	13.26
16.5	16	13.93	13.84	13.75	13.61	13.59

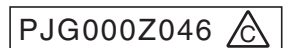


Model **FDU100VSAVF2** Indoor unit **FDU100VF2** Outdoor unit **FDC100VSA**
Cooling mode

(kW) Heating mode:HC (kW)

Outdoor air temp.	Indoor air temperature															
	18 °CDB		21 °CDB		23 °CDB		26 °CDB		27 °CDB		28 °CDB		31 °CDB		33 °CDB	
	12 °CWB	14 °CWB	16 °CWB	18 °CWB	19 °CWB	20 °CWB	22 °CWB	24 °CWB	TC	SHC	TC	SHC	TC	SHC	TC	SHC
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					8.12	6.88	8.59	7.50	8.82	7.38	9.07	7.26	9.56	7.69	10.06	7.42
13					8.50	6.99	9.00	7.61	9.26	7.48	9.52	7.36	10.06	7.78	10.60	7.49
15					8.88	7.10	9.42	7.71	9.69	7.58	9.98	7.45	10.56	7.87	11.14	7.57
17					9.26	7.21	9.84	7.82	10.12	7.69	10.43	7.56	11.05	7.96	11.67	7.65
19					9.46	7.27	10.05	7.88	10.34	7.74	10.65	7.60	11.29	8.01	11.92	7.69
21					9.65	7.33	10.25	7.93	10.56	7.80	10.88	7.66	11.52	8.06	12.16	7.73
23					9.65	7.33	10.28	7.94	10.59	7.80	10.91	7.66	11.56	8.06	12.21	7.74
25			8.93	7.64	9.64	7.33	10.31	7.95	10.62	7.81	10.95	7.67	11.61	8.07	12.27	7.75
27			8.86	7.62	9.64	7.33	10.34	7.95	10.65	7.82	10.96	7.68	11.57	8.06		
29			8.80	7.59	9.50	7.29	10.17	7.91	10.49	7.78	10.81	7.64	11.45	8.04		
31			8.73	7.57	9.35	7.24	9.99	7.86	10.32	7.74	10.66	7.61	11.32	8.02		
33	8.22	7.04	8.58	7.52	9.21	7.20	9.82	7.82	10.16	7.70	10.51	7.57	11.19	7.99		
35	8.05	6.98	8.44	7.47	9.06	7.15	9.64	7.77	10.00	7.66	10.36	7.54	11.07	7.97		
37	7.92	6.93	8.30	7.43	8.91	7.11	9.46	7.72	9.79	7.61	10.13	7.49	10.80	7.92		
39	7.78	6.88	8.16	7.38	8.75	7.06	9.28	7.68	9.59	7.56	9.90	7.44	10.53	7.87		
41	7.64	6.83	8.02	7.33	8.60	7.02	9.09	7.63	9.38	7.51	9.68	7.39	10.26	7.82		
43	7.50	6.77	7.88	7.29	8.45	6.97	8.91	7.58	9.18	7.46	9.45	7.34	9.99	7.77		
46	7.33	6.71	7.67	7.22	8.22	6.91	8.58	7.50	8.83	7.38	9.07	7.26	9.57	7.70		
50	7.09	6.63	7.39	7.13	7.91	6.82	8.19	7.41	8.35	7.28	8.51	7.14	8.83	7.57		

Outdoor air temp.	°CWB	Indoor air temperature				
		16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
-19.8	-20	6.82	6.79	6.77	6.75	6.72
-17.7	-18	7.16	7.14	7.10	7.08	7.04
-15.7	-16	7.50	7.46	7.44	7.40	7.37
-13.5	-14	7.86	7.83	7.79	7.76	7.72
-11.5	-12	8.23	8.19	8.15	8.12	8.08
-9.5	-10	8.58	8.55	8.50	8.47	8.42
-7.5	-8	8.93	8.89	8.85	8.80	8.75
-5.5	-6	9.05	9.00	8.97	8.91	8.86
-3.0	-4	9.17	9.12	9.07	9.03	8.97
-1.0	-2	9.29	9.23	9.19	9.13	9.07
1.0	0	9.40	9.34	9.29	9.23	9.18
2.0	1	9.45	9.39	9.34	9.28	9.22
3.0	2	9.82	9.77	9.71	9.67	9.63
5.0	4	10.21	10.15	10.09	10.08	10.07
7.0	6	11.33	11.27	11.20	11.22	11.23
9.0	8	11.78	11.71	11.64	11.62	11.59
11.5	10	12.23	12.16	12.09	12.02	11.94
13.5	12	12.91	12.83	12.75	12.65	12.60
15.5	14	13.59	13.50	13.42	13.29	13.26
16.5	16	13.93	13.84	13.75	13.61	13.59




- Notes (1) These data show average status.
Depending on the system control, there may be ranges where the operation is not conducted continuously.
These data show the case where the operation frequency of a compressor is fixed. (Cooling only)
In the heating mode in which the outside air temperature is 0°C DB or less, the compressor operates at maximum frequency.
- (2) Capacities are based on the following conditions.
Corresponding refrigerant piping length : 7.5m
Level difference of Zero.
- (3) Symbols are as follows
TC : Total cooling capacity (kW)
SHC : Sensible heat capacity (kW)
HC : Heating capacity (kW)

Model **FDU125VNAVF** Indoor unit **FDU125VF** Outdoor unit **FDC125VNA**

Cooling mode (kW) Heating mode:HC (kW)


Outdoor air temp. °CDB	Indoor air temperature														Outdoor air temp.		Indoor air temperature							
	18 °CDB		21 °CDB		23 °CDB		26 °CDB		27 °CDB		28 °CDB		31 °CDB		33 °CDB		°CDB	°CWB	°CDB					
	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC			16	18	20	22	24	
11						10.15	9.23	10.74	10.04	11.03	9.97	11.34	9.90	11.96	10.51	12.57	10.34	-19.8	-20	7.77	7.73	7.70	7.67	7.65
13						10.63	9.44	11.26	10.24	11.57	10.17	11.91	10.11	12.58	10.72	13.25	10.55	-17.7	-18	8.16	8.13	8.11	8.06	8.03
15						11.10	9.63	11.78	10.44	12.11	10.37	12.47	10.31	13.20	10.92	13.92	10.75	-15.7	-16	8.57	8.53	8.50	8.46	8.42
17						11.58	9.84	12.29	10.64	12.65	10.58	13.04	10.52	13.82	11.13	14.59	10.96	-13.5	-14	9.02	8.98	8.94	8.90	8.86
19						11.82	9.94	12.56	10.75	12.92	10.68	13.32	10.62	14.11	11.23	14.90	11.06	-11.5	-12	9.46	9.41	9.37	9.33	9.28
21						12.06	10.04	12.82	10.86	13.19	10.79	13.60	10.73	14.40	11.33	15.20	11.15	-9.5	-10	9.90	9.84	9.80	9.76	9.70
23						12.06	10.04	12.85	10.87	13.23	10.80	13.64	10.74	14.45	11.35	15.27	11.17	-7.5	-8	10.32	10.28	10.23	10.17	10.12
25			11.16	10.20	12.06	10.04	12.89	10.88	13.27	10.82	13.68	10.76	14.51	11.37	15.34	11.20	-5.5	-6	10.50	10.45	10.39	10.33	10.28	
27			11.08	10.16	12.05	10.04	12.92	10.90	13.31	10.83	13.69	10.76	14.47	11.35			-3.0	-4	10.66	10.61	10.55	10.49	10.43	
29			11.00	10.12	11.87	9.96	12.71	10.81	13.11	10.76	13.51	10.69	14.31	11.30			-1.0	-2	10.82	10.77	10.71	10.65	10.58	
31			10.92	10.09	11.69	9.88	12.49	10.72	12.90	10.67	13.32	10.62	14.15	11.24			1.0	0	10.99	10.93	10.87	10.80	10.73	
33	10.27	9.37	10.72	9.99	11.51	9.81	12.27	10.64	12.70	10.60	13.13	10.55	13.99	11.19			2.0	1	11.07	11.01	10.94	10.88	10.81	
35	10.07	9.28	10.55	9.92	11.33	9.73	12.06	10.55	12.50	10.52	12.94	10.48	13.83	11.14			3.0	2	11.92	11.85	11.78	11.73	11.68	
37	9.90	9.19	10.38	9.84	11.13	9.65	11.83	10.46	12.24	10.42	12.66	10.38	13.50	11.02			5.0	4	12.76	12.69	12.61	12.60	12.58	
39	9.72	9.11	10.20	9.76	10.94	9.57	11.60	10.37	11.99	10.33	12.38	10.28	13.16	10.91			7.0	6	14.16	14.08	14.00	14.02	14.04	
41	9.55	9.02	10.02	9.68	10.75	9.49	11.37	10.28	11.73	10.23	12.09	10.17	12.82	10.80			9.0	8	14.72	14.64	14.56	14.52	14.49	
43	9.38	8.94	9.85	9.60	10.56	9.41	11.14	10.19	11.47	10.13	11.81	10.07	12.48	10.68			11.5	10	15.28	15.20	15.11	15.02	14.93	
46	9.21	8.86	9.53	9.34	10.28	9.29	10.88	10.09	11.12	10.00	11.28	9.88	11.96	10.51			13.5	12	16.13	16.04	15.94	15.82	15.75	
50	7.43	7.28	7.63	7.48	8.25	8.09	8.67	8.50	8.78	8.60	8.80	8.62	9.05	8.87			15.5	14	16.98	16.88	16.77	16.62	16.58	
																		16.5	16	17.41	17.30	17.19	17.02	16.99

PJG000Z046 

Model **FDU125VSAVF** Indoor unit **FDU125VF** Outdoor unit **FDC125VSA**

Cooling mode (kW) Heating mode:HC (kW)

Outdoor air temp. °CDB	Indoor air temperature														Outdoor air temp.		Indoor air temperature							
	18 °CDB		21 °CDB		23 °CDB		26 °CDB		27 °CDB		28 °CDB		31 °CDB		33 °CDB		°CDB	°CWB	°CDB					
	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC			16	18	20	22	24	
11						10.15	9.23	10.74	10.04	11.03	9.97	11.34	9.90	11.96	10.51	12.57	10.34	-19.8	-20	7.77	7.73	7.70	7.67	7.65
13						10.63	9.44	11.26	10.24	11.57	10.17	11.91	10.11	12.58	10.72	13.25	10.55	-17.7	-18	8.16	8.13	8.11	8.06	8.03
15						11.10	9.63	11.78	10.44	12.11	10.37	12.47	10.31	13.20	10.92	13.92	10.75	-15.7	-16	8.57	8.53	8.50	8.46	8.42
17						11.58	9.84	12.29	10.64	12.65	10.58	13.04	10.52	13.82	11.13	14.59	10.96	-13.5	-14	9.02	8.98	8.94	8.90	8.86
19						11.82	9.94	12.56	10.75	12.92	10.68	13.32	10.62	14.11	11.23	14.90	11.06	-11.5	-12	9.46	9.41	9.37	9.33	9.28
21						12.06	10.04	12.82	10.86	13.19	10.79	13.60	10.73	14.40	11.33	15.20	11.15	-9.5	-10	9.90	9.84	9.80	9.76	9.70
23						12.06	10.04	12.85	10.87	13.23	10.80	13.64	10.74	14.45	11.35	15.27	11.17	-7.5	-8	10.32	10.28	10.23	10.17	10.12
25			11.16	10.20	12.06	10.04	12.89	10.88	13.27	10.82	13.68	10.76	14.51	11.37	15.34	11.20	-5.5	-6	10.50	10.45	10.39	10.33	10.28	
27			11.08	10.16	12.05	10.04	12.92	10.90	13.31	10.83	13.69	10.76	14.47	11.35			-3.0	-4	10.66	10.61	10.55	10.49	10.43	
29			11.00	10.12	11.87	9.96	12.71	10.81	13.11	10.76	13.51	10.69	14.31	11.30			-1.0	-2	10.82	10.77	10.71	10.65	10.58	
31			10.92	10.09	11.69	9.88	12.49	10.72	12.90	10.67	13.32	10.62	14.15	11.24			1.0	0	10.99	10.93	10.87	10.80	10.73	
33	10.27	9.37	10.72	9.99	11.51	9.81	12.27	10.64	12.70	10.60	13.13	10.55	13.99	11.19			2.0	1	11.07	11.01	10.94	10.88	10.81	
35	10.07	9.28	10.55	9.92	11.33	9.73	12.06	10.55	12.50	10.52	12.94	10.48	13.83	11.14			3.0	2	11.92	11.85	11.78	11.73	11.68	
37	9.90	9.19	10.38	9.84	11.13	9.65	11.83	10.46	12.24	10.42	12.66	10.38	13.50	11.02			5.0	4	12.76	12.69	12.61	12.60	12.58	
39	9.72	9.11	10.20	9.76	10.94	9.57	11.60	10.37	11.99	10.33	12.38	10.28	13.16	10.91			7.0	6	14.16	14.08	14.00	14.02	14.04	
41	9.55	9.02	10.02	9.68	10.75	9.49	11.37	10.28	11.73	10.23	12.09	10.17	12.82	10.80			9.0	8	14.72	14.64	14.56	14.52	14.49	
43	9.38	8.94	9.85	9.60	10.56	9.41	11.14	10.19	11.47	10.13	11.81	10.07	12.48	10.68			11.5	10	15.28	15.20	15.11	15.02	14.93	
46	9.21	8.86	9.53	9.34	10.28	9.29	10.88	10.09	11.12	10.00	11.28	9.88	11.96	10.51			13.5	12	16.13	16.04	15.94	15.82	15.75	
50	7.43	7.28	7.63	7.48	8.25	8.09	8.67	8.50	8.78	8.60	8.80	8.62	9.05	8.87			15.5	14	16.98	16.88	16.77	16.62	16.58	
																		16.5	16	17.41	17.30	17.19	17.02	16.99


PJG000Z046 

- Notes (1) These data show average status.
 Depending on the system control, there may be ranges where the operation is not conducted continuously.
 These data show the case where the operation frequency of a compressor is fixed. (Cooling only)
 In the heating mode in which the outside air temperature is 0°CDB or less, the compressor operates at maximum frequency.
- (2) Capacities are based on the following conditions.
 Corresponding refrigerant piping length : 7.5m
 Level difference of Zero.
- (3) Symbols are as follows
 TC : Total cooling capacity (kW)
 SHC : Sensible heat capacity (kW)
 HC : Heating capacity (kW)

Model **FDU140VNAVF** Indoor unit **FDU140VF** Outdoor unit **FDC140VNA**

Cooling mode (kW) Heating mode:HC (kW)


Outdoor air temp. °CDB	Indoor air temperature														Outdoor air temp. °CDB		Indoor air temperature °CDB						
	18 °CDB		21 °CDB		23 °CDB		26 °CDB		27 °CDB		28 °CDB		31 °CDB		33 °CDB		°CDB	°CWB	16	18	20	22	24
	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC							
11					11.05	9.86	11.68	10.75	12.00	10.63	12.34	10.50	13.01	11.15	13.68	10.85	-19.8	-20	7.94	7.91	7.88	7.85	7.82
13					11.56	10.03	12.25	10.93	12.59	10.79	12.95	10.66	13.69	11.31	14.42	11.00	-17.7	-18	8.44	8.41	8.37	8.34	8.30
15					12.07	10.21	12.81	11.10	13.18	10.97	13.57	10.83	14.36	11.47	15.14	11.15	-15.7	-16	8.94	8.90	8.86	8.82	8.79
17					12.59	10.38	13.38	11.27	13.77	11.14	14.19	11.00	15.04	11.64	15.87	11.31	-13.5	-14	9.50	9.46	9.41	9.37	9.33
19					12.86	10.48	13.66	11.36	14.07	11.23	14.49	11.09	15.35	11.71	16.20	11.38	-11.5	-12	10.07	10.02	9.98	9.93	9.88
21					13.12	10.57	13.95	11.45	14.36	11.31	14.79	11.17	15.66	11.79	16.53	11.45	-9.5	-10	10.64	10.59	10.54	10.49	10.44
23					13.12	10.57	13.99	11.47	14.40	11.33	14.84	11.19	15.73	11.81	16.61	11.47	-7.5	-8	11.21	11.15	11.10	11.04	10.99
25			12.14	10.90	13.11	10.57	14.02	11.48	14.44	11.34	14.89	11.20	15.79	11.82	16.69	11.49	-5.5	-6	11.51	11.45	11.39	11.33	11.27
27			12.06	10.86	13.11	10.57	14.06	11.49	14.48	11.35	14.90	11.20	15.74	11.81			-3.0	-4	11.80	11.74	11.68	11.62	11.55
29			11.97	10.83	12.91	10.50	13.82	11.41	14.26	11.29	14.70	11.15	15.56	11.77			-1.0	-2	12.11	12.05	11.98	11.91	11.84
31			11.88	10.80	12.72	10.43	13.59	11.34	14.04	11.22	14.49	11.09	15.40	11.73			1.0	0	12.42	12.35	12.28	12.20	12.13
33	11.18	10.02	11.67	10.71	12.52	10.36	13.36	11.27	13.82	11.15	14.29	11.03	15.22	11.68			2.0	1	12.58	12.50	12.43	12.35	12.28
35	10.96	9.93	11.48	10.64	12.32	10.29	13.11	11.19	13.60	11.09	14.09	10.97	15.05	11.64			3.0	2	13.35	13.27	13.20	13.13	13.08
37	10.76	9.85	11.29	10.57	12.11	10.22	12.87	11.12	13.32	11.01	13.77	10.89	14.69	11.55			4.0	3	14.12	14.05	13.96	13.89	13.83
39	10.58	9.77	11.10	10.50	11.91	10.15	12.62	11.04	13.05	10.93	13.46	10.80	14.32	11.46			5.0	4	15.68	15.59	15.50	15.42	15.35
41	10.39	9.70	10.91	10.43	11.70	10.08	12.37	10.96	12.76	10.85	13.16	10.72	13.95	11.37			6.0	5	16.30	16.21	16.11	16.07	16.03
43	10.21	9.62	10.71	10.36	11.49	10.01	12.11	10.89	12.48	10.76	12.85	10.64	13.58	11.29			7.0	6	16.91	16.83	16.73	16.63	16.53
46	10.03	9.54	10.47	10.26	11.13	9.89	11.73	10.77	12.10	10.66	12.27	10.48	13.01	11.15			8.0	7	17.86	17.76	17.65	17.52	17.44
50	7.61	7.45	7.88	7.72	8.35	8.19	8.75	8.58	8.97	8.79	8.98	8.80	9.33	9.14			9.0	8	18.80	18.69	18.57	18.40	18.36
																	10.0	9	19.28	19.15	19.03	18.84	18.81

PJG000Z046 

Model **FDU140VSAVF** Indoor unit **FDU140VF** Outdoor unit **FDC140VSA**

Cooling mode (kW) Heating mode:HC (kW)

Outdoor air temp. °CDB	Indoor air temperature														Outdoor air temp. °CDB		Indoor air temperature °CDB						
	18 °CDB		21 °CDB		23 °CDB		26 °CDB		27 °CDB		28 °CDB		31 °CDB		33 °CDB		°CDB	°CWB	16	18	20	22	24
	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC							
11					11.05	9.86	11.68	10.75	12.00	10.63	12.34	10.50	13.01	11.15	13.68	10.85	-19.8	-20	7.94	7.91	7.88	7.85	7.82
13					11.56	10.03	12.25	10.93	12.59	10.79	12.95	10.66	13.69	11.31	14.42	11.00	-17.7	-18	8.44	8.41	8.37	8.34	8.30
15					12.07	10.21	12.81	11.10	13.18	10.97	13.57	10.83	14.36	11.47	15.14	11.15	-15.7	-16	8.94	8.90	8.86	8.82	8.79
17					12.59	10.38	13.38	11.27	13.77	11.14	14.19	11.00	15.04	11.64	15.87	11.31	-13.5	-14	9.50	9.46	9.41	9.37	9.33
19					12.86	10.48	13.66	11.36	14.07	11.23	14.49	11.09	15.35	11.71	16.20	11.38	-11.5	-12	10.07	10.02	9.98	9.93	9.88
21					13.12	10.57	13.95	11.45	14.36	11.31	14.79	11.17	15.66	11.79	16.53	11.45	-9.5	-10	10.64	10.59	10.54	10.49	10.44
23					13.12	10.57	13.99	11.47	14.40	11.33	14.84	11.19	15.73	11.81	16.61	11.47	-7.5	-8	11.21	11.15	11.10	11.04	10.99
25			12.14	10.90	13.11	10.57	14.02	11.48	14.44	11.34	14.89	11.20	15.79	11.82	16.69	11.49	-5.5	-6	11.51	11.45	11.39	11.33	11.27
27			12.06	10.86	13.11	10.57	14.06	11.49	14.48	11.35	14.90	11.20	15.74	11.81			-3.0	-4	11.80	11.74	11.68	11.62	11.55
29			11.97	10.83	12.91	10.50	13.82	11.41	14.26	11.29	14.70	11.15	15.56	11.77			-1.0	-2	12.11	12.05	11.98	11.91	11.84
31			11.88	10.80	12.72	10.43	13.59	11.34	14.04	11.22	14.49	11.09	15.40	11.73			1.0	0	12.42	12.35	12.28	12.20	12.13
33	11.18	10.02	11.67	10.71	12.52	10.36	13.36	11.27	13.82	11.15	14.29	11.03	15.22	11.68			2.0	1	12.58	12.50	12.43	12.35	12.28
35	10.96	9.93	11.48	10.64	12.32	10.29	13.11	11.19	13.60	11.09	14.09	10.97	15.05	11.64			3.0	2	13.35	13.27	13.20	13.13	13.08
37	10.76	9.85	11.29	10.57	12.11	10.22	12.87	11.12	13.32	11.01	13.77	10.89	14.69	11.55			4.0	3	14.12	14.05	13.96	13.89	13.83
39	10.58	9.77	11.10	10.50	11.91	10.15	12.62	11.04	13.05	10.93	13.46	10.80	14.32	11.46			5.0	4	15.68	15.59	15.50	15.42	15.35
41	10.39	9.70	10.91	10.43	11.70	10.08	12.37	10.96	12.76	10.85	13.16	10.72	13.95	11.37			6.0	5	16.30	16.21	16.11	16.07	16.03
43	10.21	9.62	10.71	10.36	11.49	10.01	12.11	10.89	12.48	10.76	12.85	10.64	13.58	11.29			7.0	6	16.91	16.83	16.73	16.63	16.53
46	10.03	9.54	10.47	10.26	11.13	9.89	11.73	10.77	12.10	10.66	12.27	10.48	13.01	11.15			8.0	7	17.86	17.76	17.65	17.52	17.44
50	7.61	7.45	7.88	7.72	8.35	8.19	8.75	8.58	8.97	8.79	8.98	8.80	9.33	9.14			9.0	8	18.80	18.69	18.57	18.40	18.36
																	10.0	9	19.28	19.15	19.03	18.84	18.81

PJG000Z046 

- Notes (1) These data show average status.
 Depending on the system control, there may be ranges where the operation is not conducted continuously.
 These data show the case where the operation frequency of a compressor is fixed. (Cooling only)
 In the heating mode in which the outside air temperature is 0°C DB or less, the compressor operates at maximum frequency.
- (2) Capacities are based on the following conditions.
 Corresponding refrigerant piping length : 7.5m
 Level difference of Zero.
- (3) Symbols are as follows
 TC : Total cooling capacity (kW)
 SHC : Sensible heat capacity (kW)
 HC : Heating capacity (kW)

Model **FDU200VSAVG** Indoor unit **FDU200VG** Outdoor unit **FDC200VSA**
 Cooling mode (kW) Heating mode:HC (kW)

Outdoor air temp.	Indoor air temperature															
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB	
	12°CWB		14°CWB		16°CWB		18°CWB		19°CWB		20°CWB		22°CWB		24°CWB	
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					19.36	14.17	20.45	15.09	20.99	14.93	21.67	14.81	23.02	15.51	24.37	15.18
13					19.46	14.21	20.57	15.14	21.13	14.98	21.78	14.85	23.09	15.54	24.40	15.19
15					19.55	14.25	20.69	15.19	21.26	15.04	21.90	14.90	23.16	15.56	24.43	15.20
17					19.56	14.25	20.77	15.22	21.37	15.08	21.99	14.93	23.23	15.59	24.47	15.21
19					19.64	14.29	20.84	15.25	21.48	15.12	22.09	14.97	23.30	15.61	24.51	15.22
21					19.34	14.16	20.50	15.11	21.11	14.98	21.72	14.83	22.92	15.48	24.13	15.11
23					19.04	14.03	20.16	14.98	20.74	14.84	21.35	14.69	22.55	15.36	23.76	14.99
25			17.82	14.37	18.89	13.96	19.99	14.91	20.56	14.77	21.16	14.63	22.37	15.30	23.57	14.94
27			17.68	14.31	18.74	13.90	19.82	14.84	20.38	14.70	21.25	14.66	22.13	15.22		
29			17.40	14.18	18.43	13.76	19.49	14.71	20.03	14.57	20.93	14.54	21.83	15.12		
31			17.11	14.04	18.11	13.63	19.15	14.58	19.69	14.44	20.60	14.42	21.52	15.02		
33	15.84	13.05	16.58	13.80	17.80	13.50	18.82	14.45	19.34	14.31	20.28	14.31	21.21	14.92		
35	15.73	12.99	16.37	13.71	17.49	13.37	18.49	14.32	19.00	14.18	19.95	14.19	20.91	14.82		
37	15.52	12.89	16.13	13.60	17.14	13.22	18.05	14.15	18.57	14.02	19.48	14.02	20.39	14.65		
39	15.31	12.79	15.89	13.49	16.78	13.07	17.61	13.98	18.13	13.86	19.00	13.85	19.87	14.49		
41	15.10	12.69	15.65	13.38	16.43	12.93	17.18	13.82	17.70	13.71	18.53	13.69	19.36	14.32		
43	14.89	12.59	15.41	13.28	16.07	12.78	16.74	13.65	17.26	13.55	18.05	13.52	18.84	14.16		
46	14.58	12.44	15.05	13.12	15.54	12.56	16.09	13.41	16.61	13.32	17.34	13.28	18.06	13.92		
50	11.25	10.89	11.78	11.54	12.39	11.32	12.68	12.19	12.88	12.04	13.08	11.88	13.28	12.50		


Outdoor air temp.	Indoor air temperature						
	°CDB	°CWB	16	18	20	22	24
-19.8	-20						
-17.7	-18						
-15.7	-16						
-13.5	-14	11.10	10.98	10.86	10.73	10.60	
-11.5	-12	11.93	11.80	11.67	11.54	11.40	
-9.5	-10	12.75	12.61	12.48	12.34	12.20	
-7.5	-8	13.57	13.43	13.29	13.14	13.00	
-5.5	-6	13.78	13.64	13.51	13.37	13.24	
-3.0	-4	13.99	13.86	13.73	13.60	13.47	
-1.0	-2	14.20	14.08	13.95	13.83	13.71	
1.0	0	14.41	14.29	14.18	14.06	13.94	
2.0	1	14.51	14.40	14.29	14.17	14.06	
3.0	2	16.19	16.05	15.91	15.79	15.67	
5.0	4	19.54	19.35	19.15	19.02	18.89	
7.0	6	22.89	22.64	22.40	22.25	22.11	
9.0	8	23.99	23.78	23.58	23.42	23.25	
11.5	10	25.09	24.92	24.75	24.58	24.40	
13.5	12	25.95	25.79	25.63	25.45	25.27	
15.5	14	26.82	26.66	26.50	26.32	26.14	
16.5	16	27.25	27.10	26.94	26.76	26.57	

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Model **FDU250VSAVG** Indoor unit **FDU250VG** Outdoor unit **FDC250VSA**
 Cooling mode (kW) Heating mode:HC (kW)

Outdoor air temp.	Indoor air temperature															
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB	
	12°CWB		14°CWB		16°CWB		18°CWB		19°CWB		20°CWB		22°CWB		24°CWB	
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					24.64	19.66	26.08	21.18	26.80	20.97	27.60	20.77	29.20	21.89	30.80	21.40
13					24.67	19.67	26.11	21.19	26.83	20.98	27.63	20.78	29.23	21.90	30.83	21.41
15					24.69	19.68	26.14	21.20	26.86	20.99	27.66	20.79	29.26	21.91	30.86	21.42
17					24.70	19.68	26.23	21.23	26.99	21.04	27.78	20.83	29.34	21.93	30.91	21.43
19					24.81	19.73	26.33	21.27	27.13	21.09	27.90	20.87	29.43	21.96	30.96	21.44
21					24.43	19.57	25.90	21.11	26.67	20.92	27.43	20.72	28.96	21.81	30.48	21.31
23					24.05	19.42	25.47	20.95	26.20	20.76	26.96	20.56	28.49	21.67	30.01	21.18
25			22.51	19.96	23.86	19.35	25.25	20.87	25.97	20.68	26.73	20.48	28.25	21.60	29.77	21.12
27			22.33	19.88	23.67	19.27	25.04	20.79	25.74	20.60	26.85	20.52	27.96	21.51		
29			21.97	19.73	23.27	19.11	24.61	20.64	25.30	20.45	26.44	20.39	27.57	21.40		
31			21.61	19.57	22.88	18.96	24.19	20.49	24.87	20.30	26.03	20.25	27.18	21.28		
33	20.01	18.05	20.94	19.29	22.49	18.81	23.77	20.34	24.44	20.15	25.62	20.12	26.80	21.17		
35	19.87	17.99	20.68	19.18	22.10	18.65	23.35	20.19	24.00	20.00	25.21	19.98	26.41	21.05		
37	19.61	17.87	20.42	19.07	21.78	18.53	22.94	20.04	23.56	19.85	24.66	19.80	25.76	20.86		
39	19.51	17.82	20.33	19.03	21.65	18.48	22.72	19.96	23.30	19.76	24.30	19.69	25.30	20.73		
41	20.09	18.09	20.57	19.13	21.47	18.41	22.44	19.87	22.98	19.65	23.88	19.55	24.77	20.57		
43	19.02	17.60	19.85	18.83	21.05	18.25	21.92	19.68	22.41	19.46	23.19	19.33	23.96	20.34		
46	17.16	16.77	17.71	17.36	18.29	17.21	18.93	18.56	19.55	18.52	20.41	18.46	21.26	19.57		
50	11.31	11.08	11.84	11.60	12.45	12.20	12.74	12.49	12.94	12.69	13.14	12.88	13.35	13.08		

Outdoor air temp.	Indoor air temperature						
	°CDB	°CWB	16	18	20	22	24
-19.8	-20						
-17.7	-18						
-15.7	-16						
-13.5	-14	13.22	13.07	12.93	12.78	12.63	
-11.5	-12	13.88	13.73	13.58	13.43	13.28	
-9.5	-10	14.55	14.39	14.24	14.08	13.93	
-7.5	-8	15.21	15.05	14.89	14.73	14.58	
-5.5	-6	15.48	15.32	15.17	15.02	14.87	
-3.0	-4	15.74	15.59	15.45	15.30	15.16	
-1.0	-2	16.00	15.87	15.73	15.59	15.45	
1.0	0	16.27	16.14	16.01	15.87	15.74	
2.0	1	16.40	16.27	16.14	16.01	15.88	
3.0	2	18.64	18.48	18.32	18.18	18.04	
5.0	4	23.11	22.89	22.66	22.50	22.34	
7.0	6	27.59	27.29	27.00	26.82	26.65	
9.0	8	28.92	28.67	28.42	28.22	28.03	
11.5	10	30.24	30.04	29.84	29.63	29.41	
13.5	12	31.28	31.09	30.89	30.68	30.46	
15.5	14	32.32	32.14	31.95	31.73	31.51	
16.5	16	32.85	32.66	32.47	32.25	32.03	

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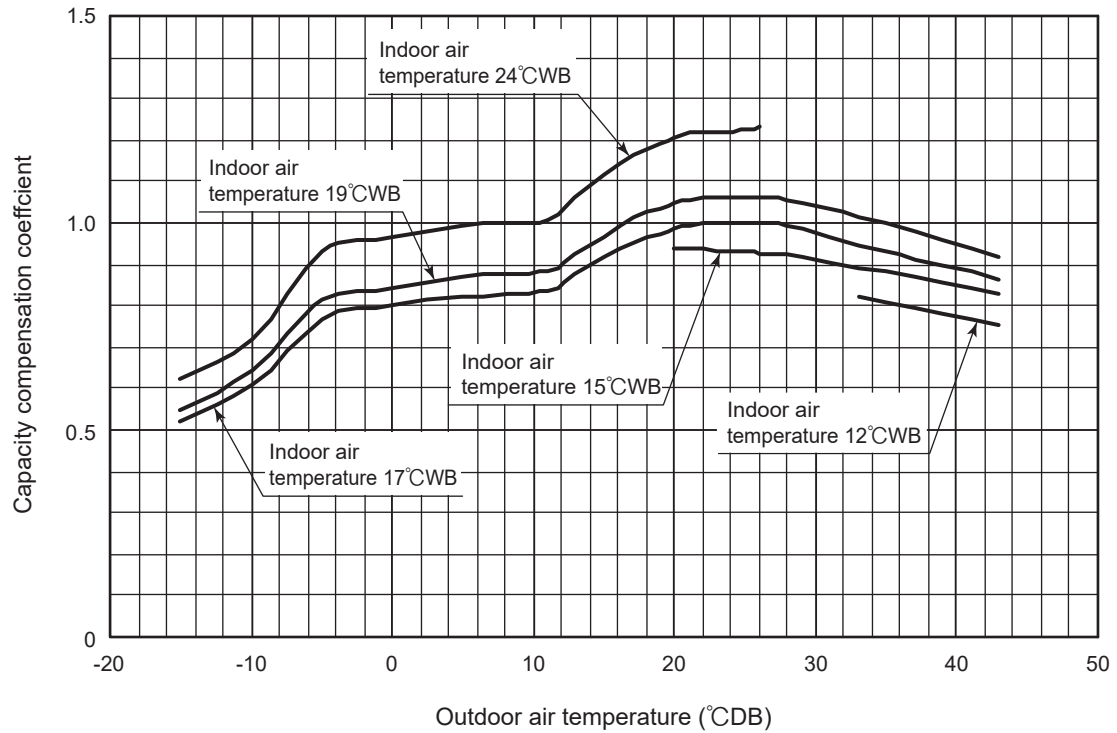
- Notes (1) These data show average statuses.
 Depending on the system control, there may be ranges where the operation is not conducted continuously.
 These data show the case where the operation frequency of a compressor is fixed.
- (2) Capacities are based on the following conditions.
 Corresponding refrigerant piping length :7.5m
 Level difference of Zero.
- (3) Symbols are as follows.
 TC : Total cooling capacity (kW)
 SHC : Sensible heat capacity (kW)
 HC : Heating capacity (kW)

[References data]

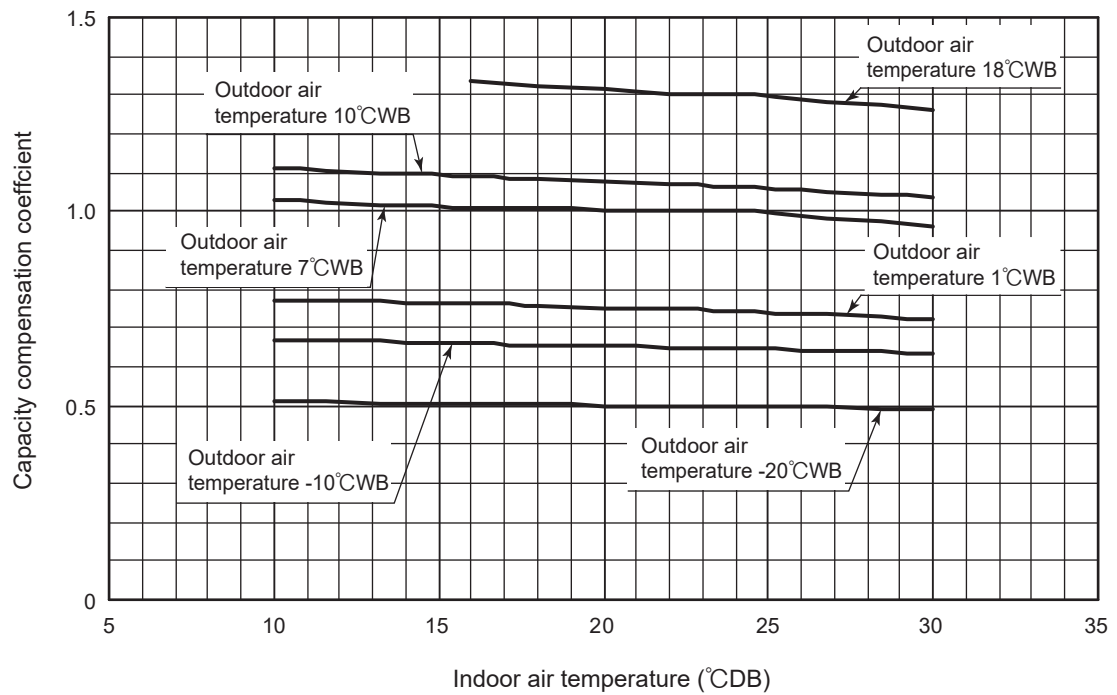
Capacity variation against outdoor and indoor temperature at rated capacity condition.

(I) Models FDC100, 125, 140VNA, 100, 125, 140VSA

① Cooling

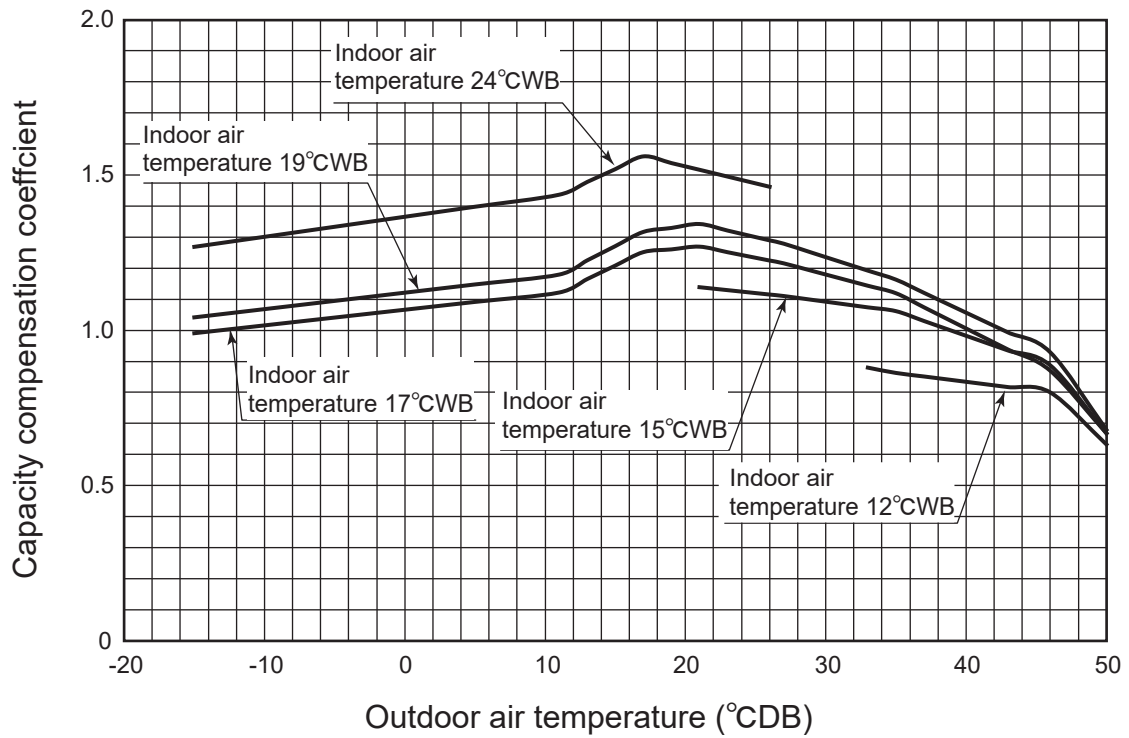


② Heating

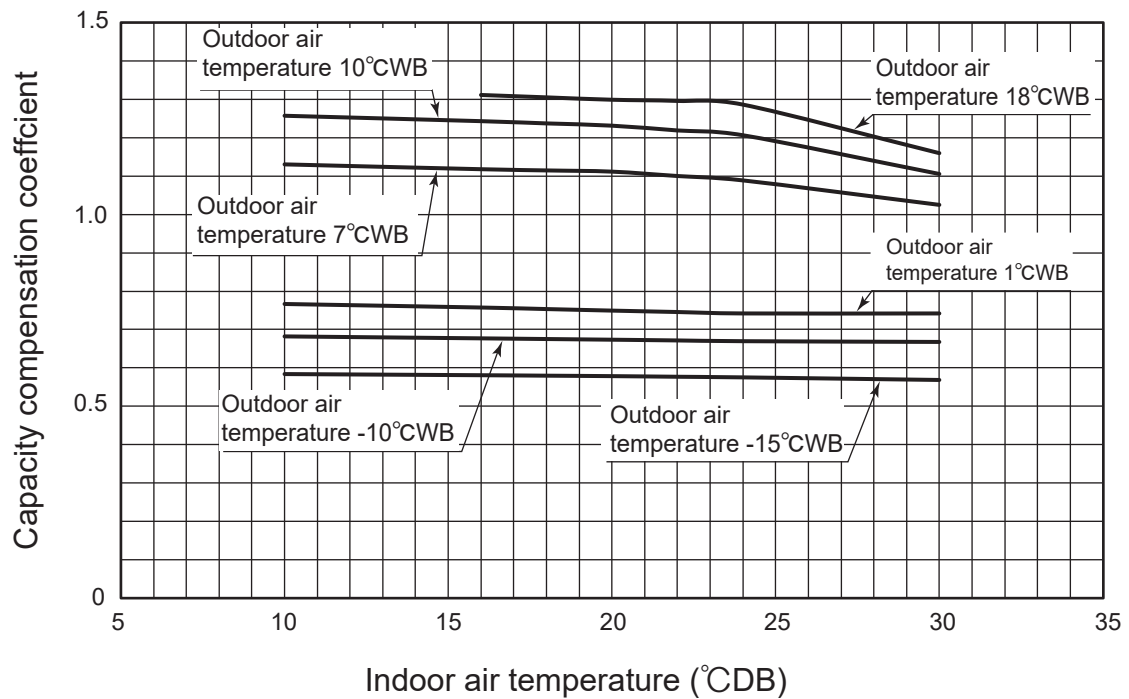


(II) Model FDC200VSA

① Cooling

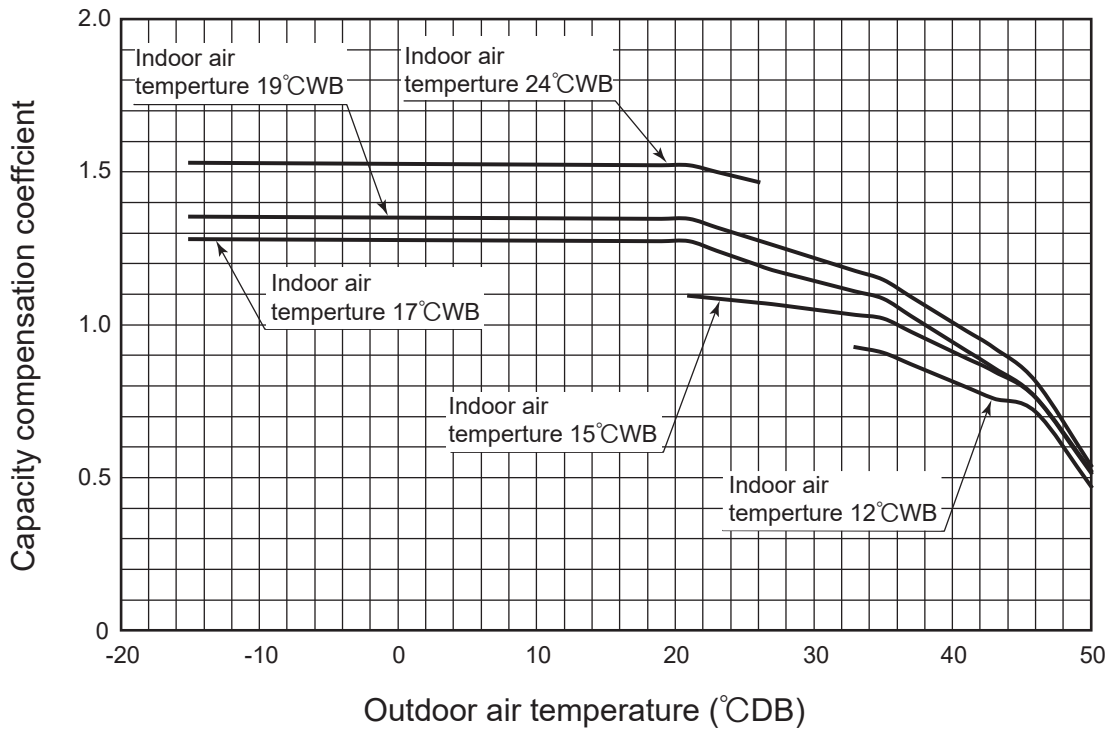


② Heating

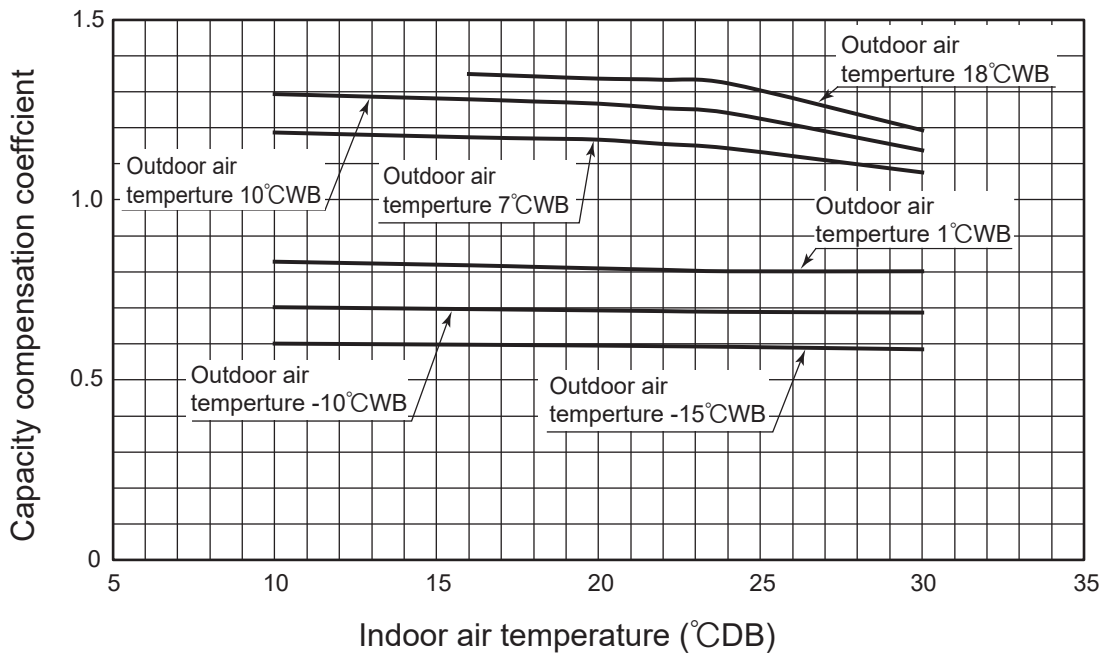


III Model FDC250VSA

① Cooling



② Heating



2.9.2 Correction of cooling and heating capacity in relation to air flow rate control (fan speed)

Fan speed	P-Hi or Hi	Me	Lo
Coefficient	1.00	0.97	0.95

2.9.3 Correction of cooling and heating capacity in relation to one way length of refrigerant piping

It is necessary to correct the cooling and heating capacity in relation to the one way equivalent piping length between the indoor and outdoor units.

(1) Models FDC100 - 140

Equivalent piping length ⁽¹⁾ (m)		7.5	10	15	20	25	30	35	40	45	50	55	
Heating		1	1	1	1	1	0.998	0.998	0.993	0.993	0.988	0.988	
Cooling	FDC100 model	φ 15.88	1	0.991	0.978	0.964	0.951	0.937	0.924	0.910	0.897	0.883	0.870
	FDC125 model		1	0.986	0.968	0.950	0.932	0.914	0.896	0.878	0.860	0.842	0.824
	FDC140 model		1	0.985	0.966	0.946	0.927	0.907	0.888	0.868	0.849	0.829	0.810
	FDC100 model	φ 19.05	1.016	1.013	1.007	1.002	0.996	0.991	0.985	0.980	0.974	0.969	0.963
	FDC125 model		1.022	1.018	1.009	1.001	0.992	0.984	0.975	0.967	0.958	0.950	0.941
	FDC140 model		1.026	1.021	1.011	1.002	0.992	0.983	0.973	0.964	0.954	0.945	0.935

Note (1) Calculate the equivalent length using the following formula.

However, install the piping so that the piping length is within +5 m of the limit length (actual length) for the respective types.

(2) Models FDC200, 250

Equivalent piping length ⁽¹⁾ (m)		7.5	10	15	20	25	30	35	40	45	50	55	60	65	70	75
Heating		1	0.998	0.995	0.991	0.988	0.984	0.981	0.977	0.974	0.970	0.967	0.963	0.960	0.956	0.953
Cooling	FDC200 model	φ 22.22	1	0.997	0.991	0.984	0.978	0.971	0.965	-	-	-	-	-	-	-
	FDC250 model		1	0.995	0.985	0.975	0.965	0.954	0.944	-	-	-	-	-	-	-
	FDC200 model	φ 25.4	-	-	-	-	-	0.988	0.984	0.981	0.977	0.974	0.970	0.967	0.963	0.960
	FDC250 model		-	-	-	-	-	0.978	0.972	0.966	0.960	0.953	0.947	0.941	0.935	0.929
	FDC200 model	φ 28.58	-	-	-	-	-	0.999	0.997	0.995	0.993	0.991	0.989	0.987	0.985	0.983
	FDC250 model		-	-	-	-	-	0.997	0.994	0.990	0.987	0.983	0.980	0.976	0.973	0.969

Note (1) Calculate the equivalent length using the following formula.

However, install the piping so that the piping length is within +5 m of the limit length (actual length) for the respective types.

• Equivalent Length = Actual Length + (Equivalent bend length x number of bends in the piping.)

Equivalent length per bend.

Gas pipe diameter (mm)	φ 12.7	φ 15.88	φ 19.05	φ 22.22	φ 25.4	φ 28.58
Equivalent bend length	0.20	0.25	0.30	0.35	0.40	0.45

2.9.4 Height difference between the indoor unit and outdoor unit

When the outdoor unit is located below indoor units in cooling mode, or when the outdoor unit is located above indoor units in heating mode, the correction coefficient mentioned in the below table should be subtracted from the value in the above table.

Height difference between the indoor unit and outdoor unit in the vertical height difference	5m	10m	15m	20m	25m	30m
Adjustment coefficient	0.99	0.98	0.97	0.96	0.95	0.94

Piping length limitations

Model	FDC100 - 140	FDC200, 250
Item		
Max. one way piping length	50m	70m
Max. vertical height difference	Outdoor unit is higher 30m Outdoor unit is lower 15m	

Note (1) Values in the table indicate the one way piping length between the indoor and outdoor units.


How to obtain the cooling and heating capacity

Example : The net cooling capacity of the model FDE200VSATVG with the air flow “P-High”, the piping length of 15m, the outdoor unit located 5m lower than the indoor unit, indoor wet-bulbtemperature at 19.0°C and outdoor dry-bulb temperature 35°C is

$$\text{Net cooling capacity} = \frac{19.0}{\text{Net cooling total capacity of FDE200VSATVG (Outdoor temp. : 35°CDB Indoor temp. : 19°CWB) shown in 2.9.1}} \times \frac{1.00}{\text{Air flow : P-High shown in 2.9.2}} \times \frac{0.991}{\text{Piping length : 15m (Gas pipe size is } \phi 22.22 \text{) shown in 2.9.3}} \times \frac{0.99}{\text{Height diff. : 5m (Outdoor unit : below) shown in 2.9.4}} \approx 18.6\text{kW}$$

2.10 APPLICATION DATA







2.10.1 Installation of indoor unit (Except FDU200VG, 250VG) See page 122.

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FDU200VG, 250VG

- This manual is for the installation of an indoor unit and an outdoor air processing unit (FDU-F).
 - For electrical wiring work (Indoor), refer to page 348. For remote control installation, refer to page 348. For wireless kit installation, refer to page 562. For electrical wiring work (Outdoor) and refrigerant pipe work installation for outdoor unit, refer to page 357.
- The case of FDU-F
- The total connection capacity of the other air conditioning units and the outdoor air processing units must be from 50% to 100% (the total includes the outdoor air processing unit).
 - The connection capacity of the outdoor air processing unit must not exceed 30% of the capacity of the outdoor unit.
 - Single outdoor air processing unit can be used alone. The connection capacity of the outdoor air processing unit must be from 50% to 100% of the total capacity of the outdoor unit.
 - Maximum number of outdoor air processing units that can be connected to the outdoor unit is 2 units.
 - Capacities of the suction air processing units can be calculated with the following formulas.
FDU1800FKXE1 = 224, FDU2400FKXE1 = 280































SAFETY PRECAUTIONS

- Read the "SAFETY PRECAUTIONS" carefully first of all and then strictly follow it during the installation work in order to protect yourself.
- The precautionary items mentioned below are distinguished into two levels,  **WARNING** and  **CAUTION**.
 **WARNING**: Wrong installation would cause serious consequences such as injuries or death.
 **CAUTION**: Wrong installation might cause serious consequences depending on circumstances.
 Both mentions the important items to protect your health and safety so strictly follow them by any means.
- The meanings of "Marks" used here are as shown on the right:
 Never do it under any circumstances.  Always do it according to the instruction.
- After completing the installation, do commissioning to confirm there are no abnormalities, and explain to the customers about "SAFETY PRECAUTIONS", correct operation method and maintenance method (air filter cleaning, operation method and temperature setting method) with user's manual of this unit.
 Ask your customers to keep this installation manual together with the user's manual. Also, ask them to hand over the user's manual to the new user when the owner is changed.

WARNING

- **Installation should be performed by the specialist.**
 If you install the unit by yourself, it may lead to serious trouble such as water leakage, electric shock, fire, and injury due to overturn of the unit. 
- **Install the system correctly according to these installation manuals.**
 Improper installation may cause explosion, injury, water leakage, electric shock, and fire. 
- **Check the density referred by the formula (accordance with ISO5149).**
 If the density exceeds the limit density, please consult the dealer and install the ventilation system. 
- **Use the genuine accessories and the specified parts for installation.**
 If parts unspecified by our company are used it could cause water leakage, electric shock, fire, and injury due to overturn of the unit. 
- **Ventilate the working area well in case the refrigerant leaks during installation.**
 If the refrigerant contacts the fire, toxic gas is produced. 
- **Install the unit in a location that can hold heavy weight.**
 Improper installation may cause the unit to fall leading to accidents. 
- **Install the unit properly in order to be able to withstand strong winds such as typhoons, and earthquakes.**
 Improper installation may cause the unit to fall leading to accidents. 
- **Do not mix air in to the cooling cycle on installation or removal of the air conditioner.**
 If air is mixed in, the pressure in the cooling cycle will rise abnormally and may cause explosion and injuries. 
- **Be sure to have the electrical wiring work done by qualified electrical installer, and use exclusive circuit.**
 Power source with insufficient capacity and improper work can cause electric shock and fire. 
- **Use specified wire for electrical wiring, fasten the wiring to the terminal securely, and hold the cable securely in order not to apply unexpected stress on the terminal.**
 Loose connections or hold could result in abnormal heat generation or fire. 
- **Arrange the electrical wires in the control box properly to prevent them from rising. Fit the lid of the services panel properly.**
 Improper fitting may cause abnormal heat and fire. 
- **Check for refrigerant gas leakage after installation is completed.**
 If the refrigerant gas leaks into the house and comes in contact with a fan heater, a stove, or an oven, toxic gas is produced. 
- **Use the specified pipe, flare nut, and tools for R410A.**
 Using existing parts (R22) could cause the unit failure and serious accident due to explosion of the cooling cycle. 
- **Tighten the flare nut according to the specified method by with torque wrench.**
 If the flare nut were tightened with excess torque, it could cause burst and refrigerant leakage after a long period. 
- **Do not put the drainage pipe directly into drainage channels where poisonous gases such as sulfide gas can occur.**
 Poisonous gases will flow into the room through drainage pipe and seriously affect the user's health and safety. This can also cause the corrosion of the indoor unit and a resultant unit failure or refrigerant leak. 
- **Connect the pipes for refrigeration circuit securely in installation work before compressor is operated.**
 If the compressor is operated when the service valve is open without connecting the pipe, it could cause explosion and injuries due to abnormal high pressure in the system. 
- **Stop the compressor before removing the pipe after shutting the service valve on pump down work.**
 If the pipe is removed when the compressor is in operation with the service valve open, air would be mixed in the refrigeration circuit and it could cause explosion and injuries due to abnormal high pressure in the cooling cycle. 
- **Only use prescribed option parts. The installation must be carried out by the qualified installer.**
 If you install the system by yourself, it can cause serious trouble such as water leaks, electric shocks, fire. 
- **Do not repair by yourself. And consult with the dealer about repair.**
 Improper repair may cause water leakage, electric shock or fire. 
- **Consult the dealer or a specialist about removal of the air conditioner.**
 Improper installation may cause water leakage, electric shock or fire. 
- **Turn off the power source during servicing or inspection work.**
 If the power is supplied during servicing or inspection work, it could cause electric shock and injury by the operating fan. 
- **Do not run the unit when the panel or protection guard are taken off.**
 Touching the rotating equipment, hot surface, or high voltage section could cause an injury to be caught in the machine, to get burned, or electric shock. 
- **Shut off the power before electrical wiring work.**
 It could cause electric shock, unit failure and improper running. 

CAUTION

- **Perform earth wiring surely.**
 Do not connect the earth wiring to the gas pipe, water pipe, lightning rod and telephone earth wiring. Improper earth could cause unit failure and electric shock or fire due to a short circuit. 
- **Earth leakage breaker must be installed.**
 If the earth leakage breaker is not installed, it could cause electric shocks or fire. 
- **Use the circuit breaker of correct capacity. Circuit breaker should be the one that disconnect all poles under over current.**
 Using the incorrect one could cause the system failure and fire. 
- **Do not use any materials other than a fuse of correct capacity where a fuse should be used.**
 Connecting the circuit by wire or copper wire could cause unit failure and fire. 
- **Do not install the indoor unit near the location where there is possibility of flammable gas leakages.**
 If the gas leaks and gathers around the unit, it could cause fire. 
- **Do not install and use the unit where corrosive gas (such as sulfuric acid gas etc.) or flammable gas (such as thinner, petroleum etc.) may be generated or accumulated, or volatile flammable substances are handled.**
 It could cause the corrosion of heat exchanger, breakage of plastic parts etc. And inflammable gas could cause fire. 
- **Secure a space for installation, inspection and maintenance specified in the manual.**
 Insufficient space can result in accident such as personal injury due to falling from the installation place. 
- **Do not use the indoor unit at the place where water splashes such as laundry.**
 Indoor unit is not waterproof. It could cause electric shock and fire. 
- **Do not use the indoor unit for a special purpose such as food storage, cooling for precision instrument, preservation of animals, plants, and a work of art.**
 It could cause the damage of the items. 
- **Do not install nor use the system near equipments which generate electromagnetic wave or high harmonics.**
 Equipments like inverter equipment, private power generator, high-frequency medical equipment, or telecommunication equipment might influence the air conditioner and cause a malfunction and breakdown. Or the air conditioner might influence medical equipments or telecommunication equipments, and obstruct their medical activity or cause jamming. 
- **Do not install the remote control at the direct sunlight.**
 It could cause breakdown or deformation of the remote control. 
- **Do not install the indoor unit at the place listed below.**
 - Places where flammable gas could leak.
 - Places where carbon fiber, metal powder or any powder is floated.
 - Place where the substances which affect the air conditioner are generated such as sulfide gas, chlorine gas, acid, alkali or ammoniac atmospheres.
 - Places exposed to oil mist or steam directly.
 - On vehicles and ships
 - Places where machinery which generates high harmonics is used.
 - Places where cosmetics or special sprays are frequently used.
 - Highly salted area such as beach.
 - Heavy snow area
 - Places where the system is affected by smoke from a chimney.
 - Altitude over 1000m
- **Do not install the indoor unit in the locations listed below (Be sure to install the indoor unit according to the installation manual for each model because each indoor unit has each limitation)**
 - Locations with any obstacles which can prevent inlet and outlet air of the unit
 - Locations where vibration can be amplified due to insufficient strength of structure.
 - Locations where the infrared receiver is exposed to the direct sunlight or the strong light beam. (in case of the infrared specification unit)
 - Locations where an equipment affected by high harmonics is placed. (TV set or radio receiver is placed within 5m)
 - Locations where drainage cannot run off safely.
 - It can affect performance or function and etc...
- **Do not put any valuables which will break down by getting wet under the air conditioner.**
 Condensation could drop when the relative humidity is higher than 80% or drain pipe is clogged, and it damages user's belongings. 
- **Do not use the base frame for the outdoor unit which is corroded or damaged after a long period of use.**
 It could cause the unit falling down and injury. 
- **Pay attention not to damage the drain pan by weld sputter when brazing work is done near the unit.**
 If sputter entered into the unit during brazing work, it could cause damage (pinhole) of drain pan and leakage of water. To avoid damaging, keep the indoor unit packed or cover the indoor unit. 
- **Install the drain pipe to drain the water surely according to the installation manual.**
 Improper connection of the drain pipe may cause dropping water into room and damaging user's belongings. 
- **Do not share the drain pipe for indoor unit and GHP (Gas Heat Pump system) outdoor unit.**
 Toxic exhaust gas would flow into room and it might cause serious damage (some poisoning or deficiency of oxygen) to user's health and safety. 
- **Be sure to perform air tightness test by pressurizing with nitrogen gas after completed refrigerant piping work.**
 If the density of refrigerant exceeds the limit in the event of refrigerant leakage in the small room, lack of oxygen can occur, which can cause serious accidents. 
- **For drain pipe installation, be sure to make descending slope of greater than 1/100, not to make traps, and not to make air-bleeding.**
 Check if the drainage is correctly done during commissioning and ensure the space for inspection and maintenance. 
- **Ensure the insulation on the pipes for refrigeration circuit so as not to condense water.**
 Incomplete insulation could cause condensation and it would wet ceiling, floor, and any other valuables. 
- **Do not install the outdoor unit where is likely to be a nest for insects and small animals.**
 Insects and small animals could come into the electronic components and cause breakdown and fire. Instruct the user to keep the surroundings clean. 
- **Pay extra attention, carrying the unit by hand.**
 Carry the unit with 2 people if it is heavier than 20kg. Do not use the plastic straps but the grabbing place, moving the unit by hand. Use protective gloves in order to avoid injury by the aluminum fin. 
- **Make sure to dispose of the packaging material.**
 Leaving the materials may cause injury as metals like nail and woods are used in the package. 
- **Do not operate the system without the air filter.**
 It may cause the breakdown of the system due to clogging of the heat exchanger. 
- **Do not touch any button with wet hands.**
 It could cause electric shock. 
- **Do not touch the refrigerant piping with bare hands when in operation.**
 The pipe during operation would become very hot or cold according to the operating condition, and it could cause a burn or frostbite. 
- **Do not clean up the air conditioner with water.**
 It could cause electric shock. 
- **Do not turn off the power source immediately after stopping the operation.**
 Be sure to wait for more than 5 minutes. Otherwise it could cause water leakage or breakdown. 
- **Do not control the operation with the circuit breaker.**
 It could cause fire or water leakage. In addition, the fan may start operation unexpectedly and it may cause injury. 

○ This model is middle static ducted type air conditioning unit. Therefore, do not use this model for direct blow type air conditioning unit.

1 Before installation

- Install correctly according to the installation manual.
- Confirm the following points:
 - Unit type/Power source specification
 - Pipes/Wires/Small parts
 - Accessory items

Accessory item

For hanging	For drain pipe						
	FDU, FDU-F			FDUA			
Flat washer (M10)	Hose clamp	Socket	Pipe cover (big)	Pipe cover (small)	Drain hose	Hose clamp	
8	2	1	1	1	1	1	
For unit hanging	For drain socket mounting	For drain pipe mounting	For heat insulation of drain socket	For heat insulation of drain socket	For drain pipe connecting	For drain hose mounting	



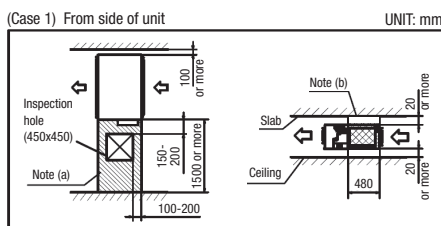
2 Selection of installation location for the indoor unit

- Select the suitable areas to install the unit under approval of the user.
 - Areas where the indoor unit can deliver hot and cold wind sufficiently. Suggest to the user to use a circulator if the ceiling height is over 3m to avoid warm air being accumulated on the ceiling.
 - Areas where there is enough space to install and service.
 - Areas where it can be drained properly. Areas where drain pipe descending slope can be taken.
 - Areas where there is no obstruction of airflow on both air return grille and air supply port.
 - Areas where fire alarm will not be accidentally activated by the air conditioner.
 - Areas where the supply air does not short-circuit.
 - Areas where it is not influenced by draft air.
 - Areas not exposed to direct sunlight.
 - Areas where dew point is lower than around 28°C and relative humidity is lower than 80%.
 (This indoor unit is tested under the condition of JIS (Japan Industrial Standard) high humidity condition and confirmed there is no problem. However, there is some risk of condensation drop if the air conditioner is operated under the severer condition than mentioned above. If there is a possibility to use it under such a condition, attach additional insulation of 10 to 20mm thick for entire surface of indoor unit, refrigeration pipe and drain pipe.)
 - Areas where TV and radio stays away more than 1m. (It could cause jamming and noise.)
 - Areas where any items which will be damaged by getting wet are not placed such as food, table wares, server, or medical equipment under the unit.
 - Areas where there is no influence by the heat which cookware generates.
 - Areas where not exposed to oil mist, powder and/or steam directly such as above fryer.
 - Areas where lighting device such as fluorescent light or incandescent light doesn't affect the operation.
 (A beam from lighting device sometimes affects the infrared receiver for the wireless remote control and the air conditioner might not work properly.)

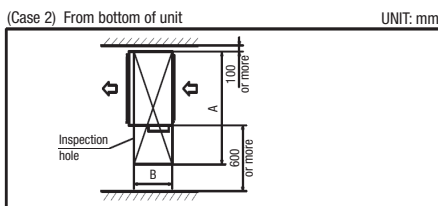
- Check if the place where the air conditioner is installed can hold the weight of the unit. If it is not able to hold, reinforce the structure with boards and beams strong enough to hold it. If the strength is not enough, it could cause injury due to unit falling.

Space for installation and service

- Make installation altitude over 2.5m. (Indoor Unit)
- Select either of two cases to keep space for installation and services.



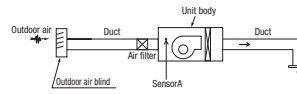
Notes (a) There must not be obstacle to draw out fan motor. (b) Install refrigerant pipe, drain pipe, and wiring so as not to cross marked area.



(Size of inspection hole)		UNIT: mm
Single type	200-250	
Multi type	224-280	
FDU-F	1800-2400	
A	1900	
B	880	

3 Cautions for the handling and installation place of outdoor air processing unit

- This unit monitors the outdoor air temperature at the position of sensor A in the figure, and controls the start and stop with the thermostat based on the value of sensor A and the setting temperature by the remote control.



Remote control's setting temperature indicates the outdoor air temperature that controls the start and stop of operation by the thermostat.

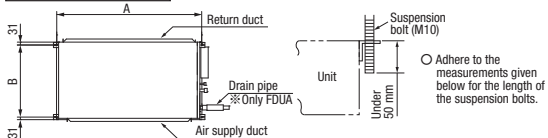
- When the thermostat is turned off, the operation is changed to the fan mode so that the outdoor air is blown out directly into the room. For example if the remote control is set to 22°C in cooling operation, and if the outdoor air temperature is 22°C or lower at that time, the unit will go into fan operation.
- When there is a difference between the air conditioning temperature in the room during cooling operation and the temperature of air blown out from the outdoor air processing unit, dewing water may drip from the unit. To prevent the dewing, provide a sufficient heat insulation means at the air blow outlet.
- Since the air blow outlet on the outdoor air processing unit may blow out the outdoor air directly, orient the outlet in such a way that it will not blow air directly to persons in the room.
- Since the unit controls the thermostat start and stop by monitoring the outdoor air temperature, it is prohibited to monitor the room temperature by means of the room temperature monitoring by changing the thermostat setting at the remote control side and the optional remote thermostat. Otherwise, dewing water may drip from the unit at lower outdoor air temperatures during cooling operation.
- Install the remote control of the outdoor air processing unit at a place closer to the administrator to avoid the end user from using the remote control.

When handing over the unit to the end user, make sure to explain sufficiently about the foregoing cautions, the installation place of the remote control for the outdoor air processing unit and the position of air blow outlet.

4 Preparation before installation

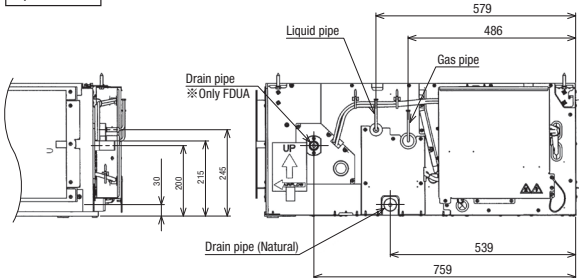
- If suspension bolt becomes longer, do reinforcement of earthquake resistant.
 - For grid ceiling
 - When the suspension bolt length is over 500mm, or the gap between the ceiling and roof is over 700mm, apply earthquake resistant brace to the bolt.
 - In case the unit is hanged directly from the slab and is installed on the ceiling plane which has enough strength.
 - When suspension bolt length is over 1000mm, apply the earthquake resistant brace to the bolt.
- Prepare four (4) sets of suspension bolt, nut and spring washer (M10) on site.

Suspension Bolt Location



UNIT: mm	
Single type	200, 250
Multi type	224, 280
FDU-F	1800, 2400
A	1634
B	831

Pipe locations

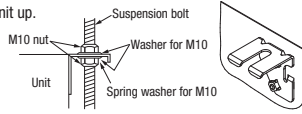


⑤ Installation of indoor unit

Installation

[Hanging]

Hang the unit up.

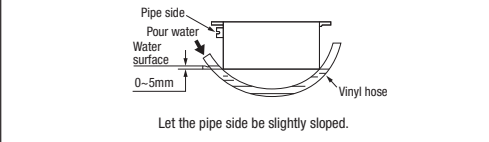


If the measurements between the unit and the ceiling hole do not match upon installation, it may be adjusted with the long holed installation tool.

Adjustment for horizontality

○ Either use a level vial, or adjust the level according to the method below.

- Adjust so the bottom side of the unit will be leveled with the water surface as illustrated below.



○ If the unit is not leveled, it may cause malfunctions or inoperation of the float switch.

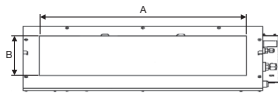
⑥ Duct Work

- ① A corrugated board (for preventing sputtering) is attached to the main body of the air conditioner (on the outlet port). Do not remove it until connecting the duct.
- An air filter can be provided on the main body of the air conditioner (on the inlet port). Remove it when connecting the duct on the inlet port.

② Blowout duct

- Use rectangular duct to connect with unit.
- Duct size for each unit is as shown below.

UNIT: mm	
Single type	200, 250
Multi type	224, 280
FDU-F	1800, 2400
A	1450
B	250

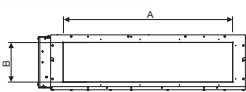


- Duct should be at their minimum length.
- We recommend to use sound and heat insulated duct to prevent it from condensation.
- Connect duct to unit before ceiling attachment.

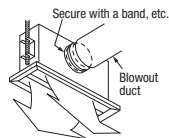
③ Inlet port

- When connecting the duct to the inlet port, remove the air filter if it is fitted to the inlet port.
- Inlet port size for each unit is as shown below.

UNIT: mm	
Single type	200, 250
Multi type	224, 280
FDU-F	1800, 2400
A	1450
B	250

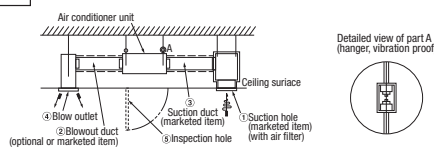


- Make sure to insulate the duct to prevent dewing on it.
- ④ Install the specific blowout duct in a location where the air will circulate to the entire room.
- Conduct the installation of the specific blowout hole and the connection of the duct before attaching them to the ceiling.
- Insulate the area where the duct is secured by a band for dew condensation prevention.



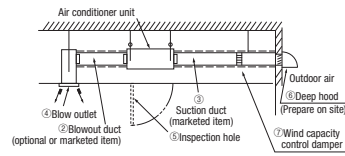
⑤ Make sure provide an inspection hole on the ceiling. It is indispensable to service electric equipment, motor, functional components and cleaning of heat exchanger.

FDU · FDUA



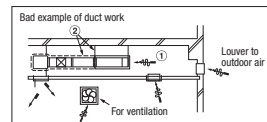
⑥ Duct Work (continued)

FDU-F



Bad example of duct work

- ① If a duct is not provided at the suction side but it is substituted with the space over the ceiling, humidity in the space will increase by the influence of capacity of ventilation fan, strength of wind blowing against the outdoor air louver, weather (rainy day) and others.
 - a) Moisture in air is likely to condense over the external plates of the unit and to drip on the ceiling. Unit should be operated under the conditions as listed in the above table and within the limitation of wind volume. When the building is a concrete structure, especially immediately after the construction, humidity tends to rise even if the space over the ceiling is not substituted in place of a duct. In such occasion, it is necessary to insulate the entire unit with glass wool (25mm). (Use a wire net or equivalent to hold the glass wool in place.)
 - b) It may run out the allowable limit of unit operation (Example: When outdoor air temperature is 35°C DB, suction air temperature is 27°C WB) and it could result in such troubles as compressor overload, etc..
 - c) There is a possibility that the blow air volume may exceed the allowable range of operation due to the capacity of ventilation fan or strength of wind blowing against external air louver so that drainage from the heat exchanger may fall to reach the drain pan but leak outside (Example: drip on to the ceiling) with consequential water leakage in the room.
- ② If vibration damping is not conducted between the unit and the duct, and between the unit and the slab, vibration will be transmitted to the duct and vibration noise may occur. Also, vibration may be transmitted from the unit to the slab. Vibration damping must be performed.



⑦ Refrigerant pipe

Caution

- Use the new refrigerant pipe.
 - When re-using the existing pipe system for R22 or R407C, pay attention to the following items.
 - Change the flare nuts with the attached ones (JIS category 2), and reprocess the flare parts.
 - Do not use thin-walled pipes.
 - Use phosphorus deoxidized copper alloy seamless pipe (C1220T specified in JIS H3300) for refrigeration pipe installation. In addition, make sure there is no damage both inside and outside of the pipe, and no harmful substances such as sulfur, oxide, dust or a contaminant stuck on the pipes.
 - Do not use any refrigerant other than R410A. Using other refrigerant except R410A (R22 etc.) may degrade inside refrigeration oil. And air getting into refrigeration circuit may cause over-pressure and resultant it may result in bursting, etc.
 - Store the copper pipes indoors and seal the both end of them until they are brazed in order to avoid any dust, dirt or water getting into pipe. Otherwise it will cause degradation of refrigeration oil and compressor breakdown, etc.
 - Use special tools for R410 refrigerant.
 - The indoor unit pipes allow the maintenance panel to be removed. Therefore, regardless of the piping direction, there should be a straight section of 400 mm or more.

Work procedure

1. When brazing work, perform it while cool down around the brazing port with wet towels to prevent the overheating.
2. After check the gas leak test, install the heat insulation (prepare on site) to the brazing port of the indoor unit.
 - Be sure to perform the heat insulation both of gas side piping with liquid side piping.
 - ※ If heat insulation does not install to the pipes, dew condensation may occurs and it may cause the water leakage.
 - The thickness of the heat insulation should be more than 20mm.
3. Refrigerant is charged in the outdoor unit.
 - As for the additional refrigerant charge for the indoor unit and piping, refer to the installation manual attached to the outdoor unit.
 - The brazing port size of the indoor unit.

Single unit	Liquid/Gas	Size	Multi unit	Liquid/Gas	Size
Type 200	Liquid piping	φ 9.52	Type 224	Liquid piping	φ 9.52
	Gas piping	φ 25.4		Gas piping	φ 19.05
Type 250	Liquid piping	φ 12.7	Type 280	Liquid piping	φ 9.52
	Gas piping	φ 25.4		Gas piping	φ 22.22

※ Please refer to the installation sheet of outdoor units for details.

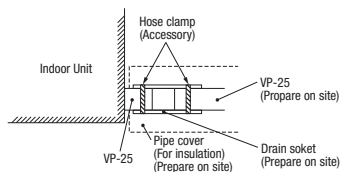
⑧ Drain pipe

Caution

- Install the drain pipe according to the installation manual in order to drain properly. Imperfection in draining may cause flood indoors and wetting the household goods, etc.
- Do not put the drain pipe directly into the ditch where toxic gas such as sulfur, the other harmful and inflammable gas is generated. Toxic gas would flow into the room and it would cause serious damage to user's health and safety (some poisoning or deficiency of oxygen). In addition, it may cause corrosion of heat exchanger and bad smell.
- Connect the pipe securely to avoid water leakage from the joint.
- Insulate the pipe properly to avoid condensation drop.
- Check if the water can flow out properly from both the drain outlet on the indoor unit and the end of the drain pipe after installation.
- Make sure to make descending slope of greater than 1/100 and do not make up-down bend and/or trap in the midway. In addition, do not put air vent on the drain pipe. Check if water is drained out properly from the pipe during commissioning. Also, keep sufficient space for inspection and maintenance.

Work procedure

1. Insert the supplied drain hose (the end made of soft PVC) to the step of the drain socket on the indoor unit and fix it securely with the clamp.
 - Do not apply adhesives on this end.

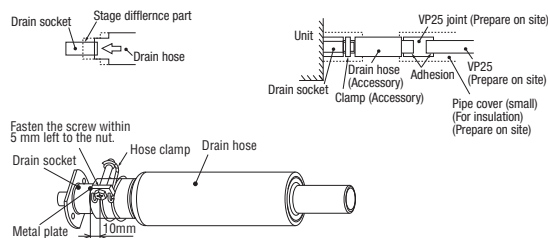


- The cases of FDUA and mounting a Drain-up KIT (option parts)

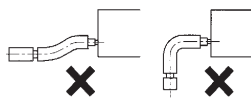
Make sure to insert the drain hose (the end made of soft PVC) to the end of the step part of drain socket.

Attach the hose clamp to the drain hose around 10mm from the end, and fasten the screw within 5mm left to the nut.

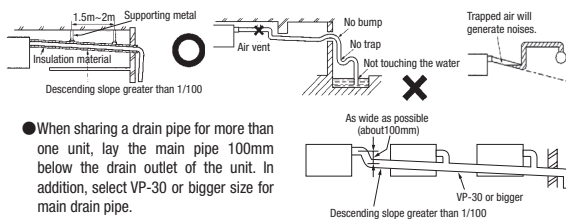
- Do not apply adhesives on this end.
- Do not use acetone-based adhesives to connect to the drain socket.



2. Prepare a joint for connecting VP-25 pipe, adhere and connect the joint to the drain hose (the end made of rigid PVC), and adhere and connect VP-25 pipe (prepare on site).
 - ※As for drain pipe, apply VP-25 made of rigid PVC which is on the market.
 - Make sure that the adhesive will not get into the supplied drain hose. It may cause the flexible part broken after the adhesive is dried up and gets rigid.
 - The flexible drain hose is intended to absorb a small difference at installation of the unit or drain pipes. Intentional bending, expanding may cause the flexible hose broken and water leakage.



3. Make sure to make descending slope of greater than 1/100 and do not make up-down bend and/or trap in the midway.
 - Pay attention not to give stress on the pipe on the indoor unit side, and support and fix the pipe as close place to the unit as possible when connecting the drain pipe.
 - Do not set up air vent.



- When sharing a drain pipe for more than one unit, lay the main pipe 100mm below the drain outlet of the unit. In addition, select VP-30 or bigger size for main drain pipe.

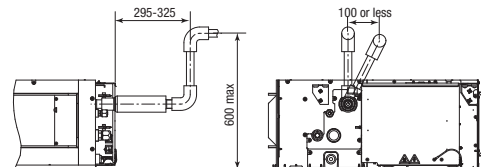
⑧ Drain pipe (continued)

4. Insulate the drain pipe.
 - Be sure to insulate the drain socket and rigid PVC pipe installed indoors otherwise it may cause dew condensation and water leakage.

Drain up

- The cases of FDUA and mounting a drain-up KIT (option parts)

- The position for drain pipe outlet can be raised up to 600mm above the ceiling. Use elbows for installation to avoid obstacles inside ceiling. If the horizontal drain pipe is too long before vertical pipe, the backflow of water will increase when the unit is stopped, and it may cause overflow of water from the drain pan on the indoor unit. In order to avoid overflow, keep the horizontal pipe length and offset of the pipe within the limit shown in the figure below.



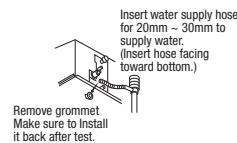
Otherwise, the construction point makes it same as drain pipe construction.

Drain test

1. Conduct a drain test after completion of the electrical work.
2. During the trial, make sure that drain flows properly through the piping and that no water leaks from connections.
3. In case of a new building, conduct the test before it is furnished with the ceiling.
4. Be sure to conduct this test even when the unit is installed in the heating season.

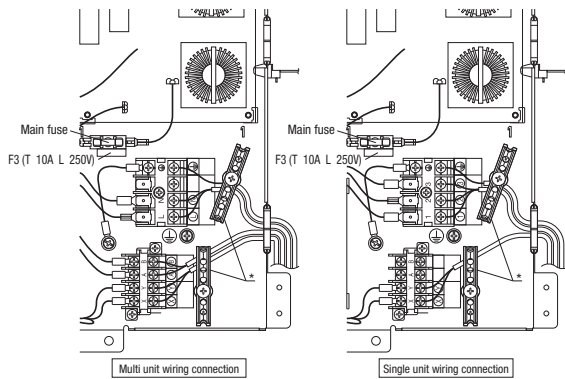
Procedures

1. Supply about 2000 cc of water to the unit through the air outlet by using a feed water pump.
2. Check the drain while cooling operation.



⑨ Wiring-out position and wiring connection

- Electrical installation work must be performed according to the installation manual by an electrical installation service provider qualified by a power provider of the country, and be executed according to the technical standards and other regulations applicable to electrical installation in the country.
Be sure to use an exclusive circuit.
 - Use specified cord, fasten the wiring to the terminal securely, and hold the cord securely in order not to apply unexpected stress on the terminal.
 - Do not put both power source line and signal line on the same route. It may cause miscommunication and malfunction.
 - For the details of electrical wiring work, see attached instruction manual for electrical wiring work.
1. Remove a lid of the control box (2 screws).
 2. Hold each wiring inside the unit and fasten them to terminal block securely.
 3. Fix the wiring with clamps.
 4. Install the removed parts back to original place.



* Please fix the wiring in the band not to move even if it pulls.

Main fuse specification	
Specification	Part No.
T 10A L 250V	SSA 564A149AL

⑩ External static pressure setting

If SW8-4 is turned to "ON", E.S.P. setting range can be changed to 10 – 200 Pa (E.S.P. setting No. 1 – 19). This should not be used when actual E.S.P. cannot be confirmed, because the risk above becomes higher.

Setting No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
E.S.P. (Pa)	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	200

※ If 20 is selected for the setting No. on the remote control, the setting No. shows No. 19.

⑪ Check list after installation

- Check the following items after all installation work completed.

Check if	Expected trouble	Check
The indoor and outdoor units are fixed securely?	Falling, vibration, noise	
Inspection for leakage is done?	Insufficient capacity	
Insulation work is properly done?	Water leakage	
Water is drained properly?	Water leakage	
Power source voltage is same as mentioned in the model name plate?	PCB burnt out, not working at all	
No mis-wiring or mis-connection of piping?	PCB burnt out, not working at all	
Earth wiring is connected properly?	Electric shock	
Cable size comply with specified size?	PCB burnt out, not working at all	
Any obstacle blocks airflow on air inlet and outlet?	Insufficient capacity	
Is setting of E.S.P. finished?	Excessive air flow, water drop blow out	

⑩ External static pressure setting

You can set External Static Pressure (E.S.P.) by method of MANUAL SETTING on remote control. Indoor unit will control fan-speed to keep rated air flow volume at each fan speed setting (Lo-Uhi). You can set required E.S.P. by wired remote control that calculated with the set air flow rate and pressure loss of the duct connected.

- How to set E.S.P. by wired remote control
 - ① Push "◆" marked button (E.S.P. button).
 - ② Select indoor unit No. by using ◀▶ button.
 - ③ Select setting No. by using ◀▶ button and set E.S.P. by □ button.
 See detailed procedure in technical manual.

Notice

You can NOT set E.S.P. by wireless remote control.



With E.S.P. setting, confirm that actual E.S.P. agrees with E.S.P. setting. When E.S.P. setting is higher than actual E.S.P., the airflow rate becomes excessively higher. This will cause water leakage if water splashes. When E.S.P. setting is lower than actual E.S.P., the airflow rate becomes excessively lower and the cooling or heating may become ineffective. In order to reduce the risk above the factory E.S.P. setting is set within the range of 80 – 150 Pa (E.S.P. setting No. 8 – 15). Be sure to use within the range of 80 – 150 Pa in actual operations. If actual E.S.P. is lower than 80 Pa, it may cause water leakage.

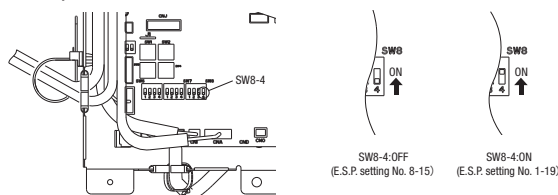
Setting No.	8	9	10	11	12	13	14	15
E.S.P. (Pa)	80	90	100	110	120	130	140	150

※ If 1 – 7 is selected for the setting No. on the remote control, the setting No. shows No. 8.
If 16 – 20 is selected for the setting No. on the remote control, the setting No. shows No. 15.
Factory default is No. 8.

The Case of FDU-F

Setting No.	1	2	3	4	5	6	7	8	9	10	11	12
E.S.P. (Pa)	10	20	30	40	50	60	70	80	90	100	110	120

※ If 13-20 is selected for the setting No. on the remote control, the setting No. shows No. 12.
※ Factory default is No. 8.



- 2.10.2 Electric wiring work installation See page 137.
- 2.10.3 Installation of wired remote control (Option parts) See page 141.
- 2.10.4 Installation of outdoor unit
- (1) Models FDC100-140VNA, 100-140VSA

PSC012D106
Inverter driven split PAC
100VNA-140VNA, 100VSA-140VSA
Designed for R410A refrigerant

ⓘ This installation manual deals with outdoor units and general installation specifications only. For indoor units, refer to the respective installation manuals supplied with the units.
 ⓘ When install the unit, be sure to check whether the selection of installation place, power source specifications, usage limitation (piping length, height differences between indoor and outdoor units, power source voltage and etc.) and installation spaces.

Check before installation work

- Model name and power source
- Refrigerant piping length
- Piping, wiring and miscellaneous small parts
- Indoor unit installation manual

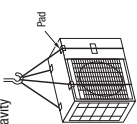
SAFETY PRECAUTIONS

- We recommend you to read this "SAFETY PRECAUTIONS", carefully before the installation work in order to gain full advantage of the functions of the unit and to avoid malfunction due to mishandling.
- The precautions described below are divided into [⚠️WARNING] and [⚠️CAUTION]. The matters with possibilities leading to serious consequences such as death or serious personal injury due to erroneous handling are listed in the [⚠️WARNING] and the matters with possibilities leading to personal injury or damage of the unit due to erroneous handling including probability leading to serious consequences in some cases are listed in [⚠️CAUTION]. These are very important precautions for safety. Be sure to observe all of them without fail.
- The meaning of "Marks" used here are as shown below.
 - ⊘ Never do it under any circumstance.
 - ⓘ Always do it according to the instruction
- For 3 phase power source outdoor unit, EN61000-3-2 is not applicable if consent by the utility company or notification to the utility company is given before usage.
- 3 phase power source unit, both indoor and outdoor, is suitable for installation in a commercial and light industrial environment. If installed as a house-hold appliance it could cause electromagnetic interference.
- 5 and 6 HP units of single phase power source are equipment complying with IEC 61000-3-12.
- Be sure to confirm no anomaly on the equipment by commissioning after completed installation and explain the operating methods as well as the maintenance methods of this equipment to the user according to the owner's manual.
- Keep the installation manual together with owner's manual at a place where any user can read at any time. Moreover if necessary, ask to hand them to a new user.

WARNING	
ⓘ	<p>● Installation must be carried out by the qualified installer. If you install the system by yourself, it may cause serious trouble such as water leaks, electric shocks, fire and personal injury, as a result of a system malfunction.</p> <p>● Install the system in full accordance with the instruction manual. Incorrect installation may cause bursts, personal injury, water leaks, electric shocks and fire.</p> <p>● Use the original accessories and the specified components for installation. If you use other parts than the original parts, it may cause fall of the unit, water leaks, electric shocks, fire, refrigerant leak, substandard performance, control failure and personal injury.</p> <p>● When installing in small rooms, take prevention measures not to exceed the density limit of refrigerant in the event of leakage accordance with ISO5149. Consult the report about prevention measures. If the density of refrigerant exceeds the limit in the event of leakage, lack of oxygen can occur, which can cause serious accidents.</p> <p>● Ventilate the working area well in the event of refrigerant leakage during installation. If the refrigerant comes into contact with naked flames, poisonous gas is produced.</p> <p>● After completed installation, check that no refrigerant leaks from the system. If refrigerant leaks into the room and comes into contact with an oven or other hot surface, poisonous gas is produced.</p> <p>● Hang up the unit at the specified points with ropes which can support the weight in lifting for portage. And to avoid jolting out of alignment, An improper manner of portage such as 3-point support can cause death or serious personal injury due to falling of the unit.</p> <p>● Install the unit in a location with good support. Unsuitable installation locations can cause the unit to fall and cause material damage and personal injury.</p> <p>● Ensure the unit is stable when installed so that it can withstand earthquakes and strong winds. Unsuitable installation locations can cause the unit to fall and cause material damage and personal injury.</p> <p>● The electrical installation must be carried out by the qualified electrician in accordance with "the norm for electrical work" and "national wiring regulation", and the system must be connected to the dedicated circuit. Power source with insufficient capacity and incorrect function due to improper work can cause electric shocks and fire.</p> <p>● Be sure to shut off the power before starting electrical work. Failure to shut off the power can cause electric shocks, unit failure or incorrect function of equipment.</p> <p>● Be sure to use the cables conformed to safety standard and cable ampacity for power distribution work. Uninformable cables can cause electric leak, anomalous heat production or fire.</p> <p>● Use the prescribed cables for electrical connection, tighten the cables securely in terminal block and relieve the cables correctly to prevent overloading the terminal blocks. Loose connections or cable mountings can cause anomalous heat production or fire.</p> <p>● Arrange the wiring in the control box so that it cannot be pushed up further into the box. Install the service panel correctly. Incorrect installation may result in overheating and fire.</p> <p>● Do not perform brazing work in the airtight room It can cause lack of oxygen.</p> <p>● Use the prescribed pipes, flare nuts and tools for R410A. Using existing parts (for R22 or R407C) can cause the unit failure and serious accidents due to burst of the refrigerant circuit.</p>
⚠️	<p>● Tighten the flare nut by using double spanners and torque wrench according to prescribed method. Be sure not to tighten the flare nut too much. Loose flare connection or damage on the flare part by tightening with excess torque can cause burst or refrigerant leaks which may result in leak or oxygen.</p> <p>● Do not open the service valves for liquid line and gas line until completed refrigerant piping work, air tightness test and evacuation. If it is operated in state of opening service valves before completed connection of refrigerant piping work, you may incur frost bite or injury from an abrupt refrigerant outflow and air can be sucked into refrigerant circuit, which can cause burst or personal injury due to anomalously high pressure in the refrigerant.</p> <p>● Only use prescribed option parts. The installation must be carried out by the qualified installer. If you install the system by yourself, it can cause serious trouble such as water leaks, electric shocks, fire.</p> <p>● Do not perform any change of protective device itself or its setup condition. The forced operation by short-circuiting protective device or pressure switch and temperature control or the use of non specified component can cause fire or burst.</p> <p>● Be sure to switch off the power source in the event of installation, inspection or servicing. If the power source is not shut off, there is a risk of electric shocks, unit failure or personal injury due to the unexpected start of fan.</p> <p>● Consult the dealer or an expert regarding removal of the unit. Incorrect installation can cause water leaks, electric shocks or fire.</p> <p>● Stop the compressor before closing valve and disconnecting refrigerant pipes in case of pump down operation. If disconnecting refrigerant pipes in state of opening service valves before compressor stopping, you may incur frost bite or injury from an abrupt refrigerant outflow and air can be sucked, which can cause burst or personal injury due to anomalously high pressure in the refrigerant circuit.</p> <p>● Be sure to wear protective goggles and gloves while at work.</p> <p>● Ensure that no air enters in the refrigerant circuit when the unit is installed and removed. If air enters in the refrigerant circuit, the pressure in the refrigerant circuit becomes too high, which can cause burst and personal injury.</p> <p>● Do not run the unit with removed panels or protections. Touching rotating equipments, hot surfaces or high voltage parts can cause personal injury due to entrapment, burn or electric shocks.</p> <p>● Be sure to fix up the service panels. Incorrect fixing can cause electric shocks or fire due to intrusion of dust or water.</p> <p>● Do not perform any repairs or modifications by yourself. Consult the dealer if the unit requires repair. If you repair or modify the unit, it can cause water leaks, electric shocks or fire.</p> <p>● Do not process or splice the power cord, or share the socket with other power plugs. This may cause fire or electric shock due to deflecting contact, deflecting insulation and over-current etc.</p> <p>● Do not bundle or wind or process the power cord. Do not deform the power cord by treading it. This may cause fire or heating.</p>
⊘	

1. HAULAGE AND INSTALLATION (Take particular care in carrying in or moving the unit, and always perform such an operation with two or more persons.)

CAUTION When a unit is hoisted with slings for haulage, take into consideration the offset of its gravity center, position, if not properly balanced, the unit can be thrown off-balance and fall.



1) Delivery

- Deliver the unit as close as possible to the installation site before removing it from the packaging.
- When some compelling reason necessitates the unpacking of the unit before it is carried in, use nylon slings or protective wood pieces so as not to damage the unit by ropes lifting it.

3) Selection of installation location for the outdoor unit

- Be sure to select a suitable installation place in consideration of following conditions.
- A place where it is horizontal, stable and can endure the unit weight and will not allow vibration transmittance of the unit.
 - A place where it can be free from possibility of boisterous neighbors due to noise or exhaust air from the unit.
 - A place where it can be free from danger of flammable gas leakage.
 - A place where the unit will not be affected by heat radiation from other heat source.
 - A place where the unit will not be affected by heat radiation from other heat source.
 - A place where snow will not accumulate.
 - A place where the unit can be kept away 5m or more from TV set and/or radio receiver in order to avoid any radio or TV interference.
 - A place where good air circulation can be secured, and enough service space can be secured for maintenance and service of the unit safely.
 - A place where the unit will not be affected by electromagnetic waves and/or high-harmonic waves generated by other equipment.
 - A place where chemical substances like sulfuric gas, chloric gas, acid and alkali (including ammonia), which can harm the unit, are not present.
 - A place where strong wind will not blow against the outlet air blow of the unit.
 - Do not install the unit in places which exposed to sea breeze (e.g. coastal area) or calcium chloride (e.g. snow melting agent), exposed to ammonia substance (e.g. organic fertilizer).

4) Caution about selection of installation location

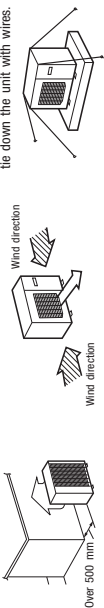
- (1) If the unit is installed in the area where the snow will accumulate, following measures are required.
 - The bottom plate of unit and intake, outlet may be blocked by snow.
2. Provide a snow hood to the outdoor unit on site. Regarding outline of a snow hood, refer to our technical manual.
3. Install the unit under eaves or provide the roof on site.



Since drain water generated by defrost control may freeze, following measures are required.

- Don't execute drain piping work by using a drain elbow and drain grommets (optional parts). [Refer to Drain piping work.]
- Recommend setting Defrost Control (SW3-1) and Snow Guard Fan Control (SW3-2). [Refer to Setting SW3-1, SW3-2.]
- Attach heater on a base plate on site, if there is possibility to freeze drain water. In case that the product has a corrective drainage system, the drainage paths should have suitable measure against freezing but be sure not to melt the material of drainage paths with heat.

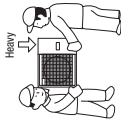
- (2) If the unit can be affected by strong wind, following measures are required.
 - Strong wind can cause damage of fan (fan motor), or can cause performance degradation, or can trigger anomalous stop of the unit, due to rising of high pressure.



1. Install the outlet air blow side of the unit to face a wall of building, or provide a fence or a windbreak screen.
 - 2. Install the outlet air blow side of the unit in a position perpendicular to the direction of wind.
3. The unit should be installed on the stable and level foundation. Please refer to the manual. Tie down the unit with wires.

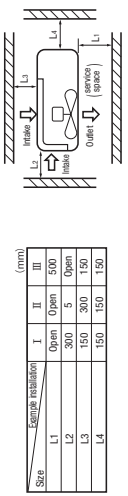
2) Portage

- The right hand side of the unit as viewed from the front (diffuser side) is heavier. A person carrying the right hand side must take head of this fact. A person carrying the left hand side must hold with his right hand the handle provided on the front panel of the unit and with his left hand the corner column section.

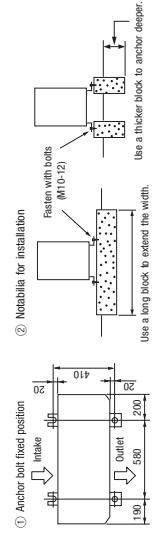


5) Installation space

- Walls surrounding the unit in the four sides are not acceptable.
- There must be a 1-meter or longer space in the above.
- Where a danger of short-circuiting exists, install guide ladders.
- When more than one unit are installed, provide sufficient make space consciously so that short-circuiting may not occur.
- Where piling snow can bury the outdoor unit, provide proper snow guards.
- A barrier wall placed in front of the exhaust diffuser must not be higher than the unit.



6) Installation



- In installing the unit, fix the unit's legs with bolts specified on the left.
 - The protrusion of an anchor bolt on the front side must be kept within 15 mm.
 - Securely install the unit so that it does not fall over during earthquakes or strong winds, etc.
 - Refer to the left illustrations for information regarding concrete foundations.
 - Install the unit in a level area. (With a gradient of 5 mm or less.)
- Improper installation can result in a compressor failure, broken piping within the unit and abnormal noise generation.

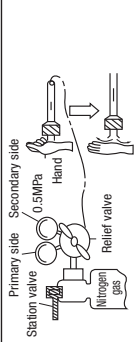
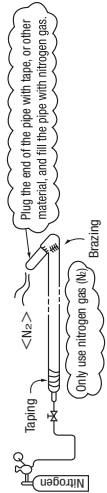
7) To run the unit for a cooling operation, when the outdoor temperature is -5°C or lower.

- When the outdoor air temperature is -5°C or lower, provide a snow hood to the outdoor unit on site. So that strong wind will not blow against the outdoor heat exchanger directly. Regarding outline of a snow hood, refer to our technical manual.

About brazing

Brazing must be performed under a nitrogen gas flow.

Without nitrogen gas, a large quantity of foreign matters (oxidized film) are created, causing a critical failure from capillary tube or expansion valve clogging.



3) Refrigerant pipe wall thickness and material

- Select refrigerant pipes of the table shown on the right wall thickness and material as specified for each pipe size.
- This unit uses R410A. Always use 1/2H pipes having a 1.0mm or thicker wall for φ19.05 or larger pipes, because O-type pipes do not meet the pressure resistance requirement.

Pipe diameter (mm)	6.35	9.52	12.7	15.88	22.22	25.4	28.58
Minimum pipe wall thickness (mm)	0.8	0.8	0.8	1.0	1.0	1.0	1.0
Pipe material*	O-type pipe		O-type pipe	O-type pipe	1/2H-type pipe	1/2H-type pipe	1/2H-type pipe

NOTE

- Select pipes having a wall thickness larger than the specified minimum pipe thickness.

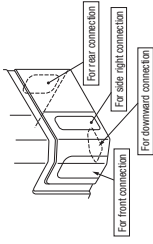
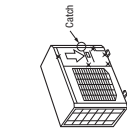
4) On-site piping work

IMPORTANT

- Take care so that installed pipes may not touch components within a unit. If touching with an internal component, it will generate abnormal sounds and/or vibrations.

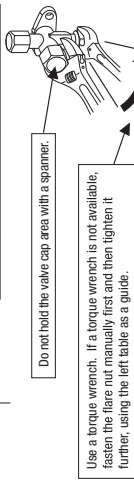
How to remove the service panel

- First remove the five screws (X mark) of the service panel and push it down into the direction of the arrow mark and then remove it by pulling it toward you.
- The pipe can be laid in any of the following directions: side right, front, rear and downward.
- Remove a knock-out plate provided on the pipe penetration to open a minimum necessary area and attach an edging material supplied as an accessory by cutting it to an appropriate length before laying a pipe.
- Carry out the on-site piping work with the operation valve fully closed.
- Give sufficient protection to a pipe end (compressed and blazed, or with an adhesive tape) so that water or foreign matters may not enter the piping.
- Bend a pipe to a radius as large as practical (R100~R150). Do not bend a pipe repeatedly to correct its form.
- Flare connection is used between the unit and refrigerant pipe. Flare a pipe after engaging a flare nut onto it. Flare dimensions for R410A are different from those for conventional R404C. Although we recommend the use of flaring tools designed specifically for R410A, conventional flaring tools can also be used by adjusting the measurement of protrusion B with a protrusion control gauge.
- The pipe should be anchored every 1.5m or less to isolate the vibration.
- Tighten a flare joint securely with a double spanner.



Flared pipe end: A (mm)	0	A	0.4
Copper pipe outer diameter	φ6.35	φ9.52	φ12.7
	φ6.35	φ9.52	φ12.7
	φ15.88	16.6	19.7

Copper pipe protrusion for flaring: B (mm)	0.7~1.3
In the case of a rigid (clutch) type pipe outer diameter	With a conventional tool
φ6.35	0~0.5
φ9.52	
φ12.7	
φ15.88	



CAUTION
Do not apply force beyond proper fastening torque in tightening the flare nut.

Fix both liquid and gas service valves at the valve main bodies as illustrated on the right, and then fasten them, applying appropriate fastening torque.

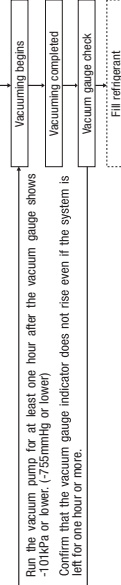
5) Air tightness test

- ① Although outdoor and indoor units themselves have been tested for air tightness at the factory, check the connecting pipes after the installation work for air tightness from the operation valve's check joint equipped on the outdoor unit side. While conducting a test, keep the operation valve shut all the time.
 - a) Raise the pressure to 0.3 MPa, and then stop. Leave it for five minutes to see if the pressure drops.
 - b) Then lower the pressure to the specified level (0.15 MPa) for the pressure drop test.
 - c) The pressure should be held for five minutes to see if the pressure drops.
 - d) If no pressure drop is observed with an installation pressurized to the specified level and left for about one day, it is acceptable. When the ambient temperature fall 1°C, the pressure also fall approximately 0.01 MPa. The pressure, if changed, should be compensated for.
 - e) If a pressure drop is observed in checking e) and a) - d), a leak exists somewhere. Find a leak by applying bubble test liquid to welded parts and flare joints and repair it. After repair, conduct an air-tightness test again.
- ② In conducting an air-tightness test, use nitrogen gas and pressurize the system with nitrogen gas from the gas side. Do not use a medium other than nitrogen gas under any circumstances.

Operation valve size (mm)	Flaring angle (°)	Tightening torque (N·m)	Recommended length of a bolt handle (mm)
φ6.35 (1/4")	14~18	45~60	150
φ9.52 (3/8")	34~42	30~45	200
φ12.7 (1/2")	49~61	30~45	250
φ15.88 (5/8")	66~82	15~20	300

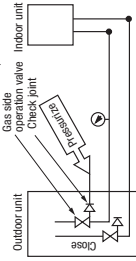
6) Evacuation

<Work flow> When the system has remaining moisture inside or a leaky point, the vacuum gauge indicator will rise. Check the system for a leaky point and then draw air to create a vacuum again.



Pay attention to the following points in addition to the above for the R410A and compatible machines.

- To prevent a different oil from entering, assign dedicated tools, etc. to each refrigerant type. Under no circumstances must a gauge be used for a change from refrigerant types (R22, R407C, R410A).
- Use a counterflow prevention adapter to prevent vacuum pump oil from entering the refrigerant system.



7) Additional refrigerant charge

(1) Calculate a required refrigerant charge volume from the following table.

Item	Standard refrigerant charge volume (kg)	Pipe length for standard refrigerant charge volume (m)	Additional charge volume (kg) per meter of refrigerant piping (liquid pipe)	Refrigerant volume charged for shipment at the factory (kg)	Installation's pipe length (m) covered without additional refrigerant charge
Capacity 100WA~140WA 100SA~140SA	2.0	0	0.06	3.8	30

<Twin, triple type>

Item	Standard refrigerant charge volume (kg)	Pipe length for standard refrigerant charge volume (m)	Additional charge volume (kg) per meter of refrigerant piping (liquid pipe)		Refrigerant volume charged for shipment at the factory (kg)	Installation's pipe length (m) covered without additional refrigerant charge
Capacity 100WA~140WA 100SA~140SA	2.0	0	Main pipe	Branch pipe	3.8	30
			0.06	0.06		

- A standard refrigerant charge volume means a refrigerant charge volume for an installation with 0m long refrigerant piping.
- This unit contains factory charged refrigerant covering 30m of refrigerant piping and additional refrigerant charge on the installation site is not required for an installation with up to 30m refrigerant piping.
- When refrigerant piping exceeds 30m, additionally charge an amount calculated from the pipe length and the above table for the portion in excess of 30m.
- When refrigerant piping is shorter than 3m, reduce refrigerant by 1kg from the factory charged volume and adjust to 2.8kg.
- If an existing pipe system is used, a required refrigerant charge volume will vary depending on the liquid pipe size. For further information, see "6. UTILIZATION OF EXISTING PIPING."

Formula to calculate the volume of additional refrigerant required

$$\text{Additional charge volume (kg)} = \text{Main pipe length (m)} - \text{Length covered without additional charge 30 (m)} \times \text{Length of branch pipes (m)} \times 0.06 \text{ (kg/m)}$$

*When an additional charge volume calculation result is negative, it is not necessary to charge refrigerant additionally.

- In charge refrigerant again, recover refrigerant from the system first and then charge the volume calculated from the above table (Standard refrigerant charge volume + additional charge volume for total pipe length).

(2) Charging refrigerant

- Since R410A refrigerant must be charged in the liquid phase, you should charge it, keeping the container cylinder upside down or using a refrigerant cylinder equipped with a siphon tube.
- This unit contains factory charged refrigerant covering 30m of refrigerant piping and additional refrigerant charge on the installation site is not required for an installation with up to 30m refrigerant piping.
- When refrigerant piping exceeds 30m, additionally charge an amount calculated from the pipe length and the above table for the portion in excess of 30m.
- When refrigerant piping is shorter than 3m, reduce refrigerant by 1kg from the factory charged volume and adjust to 2.8kg.
- If an existing pipe system is used, a required refrigerant charge volume will vary depending on the liquid pipe size. For further information, see "6. UTILIZATION OF EXISTING PIPING."

Formula to calculate the volume of additional refrigerant required

$$\text{Additional charge volume (kg)} = \text{Main pipe length (m)} - \text{Length covered without additional charge 30 (m)} \times \text{Length of branch pipes (m)} \times 0.06 \text{ (kg/m)}$$

*When an additional charge volume calculation result is negative, it is not necessary to charge refrigerant additionally.

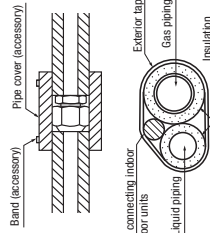
- In charge refrigerant again, recover refrigerant from the system first and then charge the volume calculated from the above table (Standard refrigerant charge volume + additional charge volume for total pipe length).

8) Heating and condensation prevention

(1) Dress refrigerant pipes (both gas and liquid pipes) for heat insulation and prevention of dew condensation.

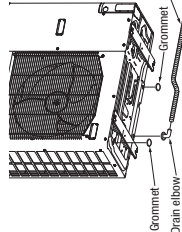
(2) Use a heat insulating material that can withstand 120°C or a higher temperature. Poor heat insulating capacity can cause heat insulation problems or cable deterioration.

- Improper heat insulation/anti-dew dressing can result in a water leak or dripping causing damage to household effects, etc.
- All gas pipes must be securely heat insulated in order to prevent damage from dripping water that comes from the condensation formed on them during a cooling operation or personal injury from burns because their surface can reach quite a high temperature due to discharged gas flowing inside during a heating operation.
- Wrap indoor units' flare joints with heat insulating parts (pipe cover) for heat insulation (both gas and liquid pipes).
- Give heat insulation to both gas and liquid side pipes. Bundle a heat insulating material and a pipe tightly together with a connecting cable by a dressing tape.
- Although it is verified in a test that this air-conditioner unit shows satisfactory performance under JIS condensation test conditions, both gas and liquid pipes need to be dressed with 20 mm or thicker heat insulation materials above the ceiling where relative humidity exceeds 70%.

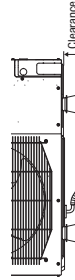


3. DRAIN PIPING WORK

- Execute drain piping by using a drain elbow and drain grommets supplied separately as optional parts, where water drained from the outdoor unit is a problem.
- Water may drip where there is a larger amount of drain water. Seal around the drain elbow and drain grommets with putty or adequate caulking material.
- Condensed water may flow out from vicinity of operation valve or connected pipes.
- Where you are likely to have several days of sub-zero temperatures in a row, do not use a drain elbow and drain grommets. (There is a risk of drain water freezing inside and blocking the drain.)
- Do not use drain elbow and grommet made of plastic for drain piping when base heater is used. Plastic grommet and elbow will be damaged and burnt in worst case.
- Prepare another drain tray made of metallic material for collecting drain when base heater is used.



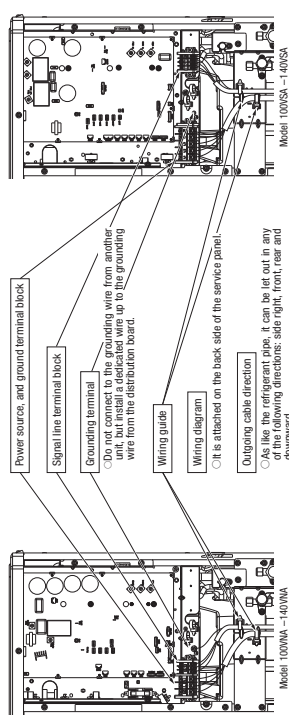
- When condensed water needs to be led to a drain, etc., install the unit on a flat base (supplied separately as an optional part) or concrete blocks. Then, please secure space for the drain elbow and the drain hose.



4. ELECTRICAL WIRING WORK For details of electrical cabling, refer to the indoor unit installation manual.

Electrical installation work must be performed by an electrical installation service provider qualified by a power provider of the country. Electrical installation work must be executed according to the technical standards and other regulations applicable to electrical installations in the country.

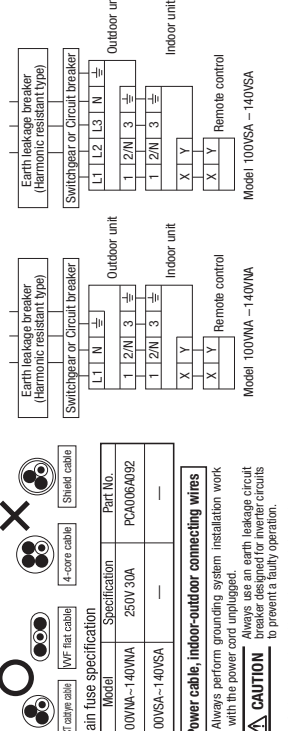
- Do not use any supply cord lighter than one specified in parentheses for each type below.
 - braided cord (code designation 60245 IEC 51).
 - ordinary tough rubber sheathed cord (code designation 60227 IEC 41).
 - flat twin lined cord (code designation 60245 IEC57) for supply cords of parts of appliances for outdoor use.
- Do not use anything lighter than polychloroprene sheathed flexible cord (code designation 60245 IEC57) for supply cords of parts of appliances for outdoor use.
- Ground the unit. Do not connect the grounding wire to a gas pipe, water pipe, lightning rod or telephone grounding wire.
- If impurity grounded, an electric shock or malfunction may result.
- The grounding wire must be connected before connecting the power cable. Provide a grounding wire longer than the power cable.
- The installation of an impulse withstanding type earth leakage breaker is necessary. A failure to install an earth leakage breaker can result in an accident such as an electric shock or a fire.



Model	Power source	Power cable thickness(mm)	MAX. over current (A)	Cable length (m)	Grounding wire thickness	Indoor-outdoor wire thickness X number
100VA-140VA	Single phase 3 wire 220-240V 50Hz 3 2.50V 50Hz	5.5	24	22	φ1.6mm	φ1.6mm x 3
100VSA-140VSA	Single phase 3 wire 380-415V 50Hz 3 3.50V 50Hz	3.5	15	46		

- The specifications shown in the above table are for units without heaters. For units with heaters, refer to the installation instructions or the construction instructions of the indoor unit.
- The cable length which is calculated from MAX. over current should be chosen along the regulations in each country.
- The cable specifications are based on the assumption that a metal or plastic conduit is used with no more than three cables contained in a conduit and a voltage drop is 2%. For an installation falling outside of these conditions, follow the internal cabling regulations. Adapt it to the regulation in effect in each country.

- Do not turn on the power until the electrical work is completed.
 - While it can cause a condensate capacitor for power factor improvement under any circumstances, (It does not improve power factor, it may cause an abnormal overheat accident).
- For power source cables, use conduits.
- Do not lay electronic control cables (remote control and signaling wires) and other cables together outside the unit. Laying them together can result in the malfunctioning or a failure of the unit due to electric noises.
- When cables are connected, make sure that all electrical components within the electrical component box are free of loose connections. Coupling terminal connection and then attach cover securely. (Improper cover attachment can result in the failure of the unit.)
- Always use a 4-core cable for an indoor-outdoor connecting cable. Never use a shield cable.
- Connect a pair bearing a common terminal number with an indoor-outdoor connecting wire.
- In cabling, fasten cables securely with cable clamps so that no external force may work on terminal connections.
- Grounding terminals are provided in the control box.



Model	Power source	Power cable thickness(mm)	MAX. over current (A)	Cable length (m)	Grounding wire thickness	Indoor-outdoor wire thickness X number
100VA125VA	Single phase 3 wire 220-240V 50Hz	5.5	26	20	φ1.6mm	φ1.6mm x 3
140VA	Single phase 3 wire 220-240V 50Hz	5.5	27	40		
100VSA125VSA	Single phase 3 wire 380-415V 50Hz	3.5	18	38		
140VSA	Single phase 3 wire 380-415V 50Hz	3.5	18	38		

- Always perform grounding system installation work with the power cord unplugged.
- Always use an earth leakage circuit breaker designed for inverter circuits to prevent a faulty operation.

5. TEST RUN

⚠ WARNING

- Before conduct a test run, make sure that the operation valves are open.
- Turn on power 6 hours prior to a test run to energize the crankcase heater.
- In case of the first operation after turning on power, even if the unit does not move for 30 minutes, it is not a breakdown.
- Always give a 3-minute or longer interval before you start the unit again whenever it is stopped.
- Removing the service panel will electric shock or burns. Do not leave the unit with the service panel open. Take utmost care not to incur an electric shock or burns.

⚠ CAUTION

- When you operate switches (SW3, SW5) for on-site setting, be careful not to touch a live part.
- The 4-way valve (2WS) is energized during a heating operation.
- When power source is cut off to reset the unit, give 3 or more minutes before you turn on power again after power is cut off. If this procedure is not observed in turning on power again, "Communication error between outdoor and indoor unit" may occur.

1) Test run method

- (1) A test run can be initiated from an outdoor unit by using SW3-3 and SW5-4 for on-site setting.
- (2) Switching SW5-3 to ON will start the compressor.
- (3) The unit will start a cooling operation when SW3-4 is OFF, or a heating operation when SW3-4 is ON.
- (4) **Do not fail to switch SW5-3 to OFF when a test run is completed.**

2) Checking the state of the unit in operation

Use check points provided on the piping before and after the four-way valve installed inside the outdoor unit for checking discharge pressure and suction pressure.

As indicated in the table shown on the right, pressure detected at each point will vary depending on whether a cooling or heating operation has been selected.

SW3-3 / SW5-4	Check point of the pipe	Charge point of the gas operation valve
ON / OFF	Discharge pressure	Suction pressure
OFF / ON	Suction pressure	Discharge pressure (High pressure)
OFF / OFF	—	Normal or after the test operation

3) Setting SW3-1, SW3-2, SW5-2, SW7-3, on-site

- (1) Defrost control switching (SW3-1)
 - When this switch is turned ON, the unit will run in the defrost mode more frequently.
 - Set this switch to ON when installed in a region where outdoor temperature falls below zero during the season the unit is run for a heating operation.
- (2) Snow guard fan control (SW3-2)
 - When this switch is turned ON, the outdoor unit fan will run for 10 seconds in every 10 minutes, when outdoor temperature falls to 3°C or lower and the compressor is not running.
- (3) High height difference operation control (SW5-2)
 - Set this switch to ON when outdoor unit is installed at a position higher than indoor unit by 30m or more.
- (4) Lower noise silent mode (SW7-3)
 - Upper limit of compressor speed and fan speed becomes lower in silent mode.

4) Failure diagnosis in a test run

Error indicated on the remote control unit	Flashed (continuous LED) (The code is 5 seconds)	Failure event	Action
E34	Red LED	Open phase	Check power cables for loose contact or disconnection. 1. Check whether the operation valves are shut. 2. If an error has been cancelled when 3 minutes have elapsed after the error is cancelled, check the wiring diagram of the outdoor unit and the indoor unit.
E40	Blinking once	63Hz actuation or operation with operation valves shut (occurs mainly during a heating operation)	
E57	Blinking once	Short or refrigerant error or operation with operation valves shut (occurs mainly during a heating operation)	

- If an error code other than those listed above is indicated, refer to the wiring diagram of the outdoor unit and the indoor unit.

5) The state of the electronic expansion valve.

The following table illustrates the steady states of the electronic expansion valve.

Valve for a cooling operation	When power is turned on	When the unit comes to a normal stop
Complete shut position	Complete shut position	During a cooling operation
Full open position	Full open position	Full open position
Valve for a heating operation	Full open position	Complete shut position
		Full open position

6) Heed the following on the first operation after turning on the circuit breaker.

This outdoor unit may start in the standby mode (waiting for a compressor startup), which can continue up to 30 minutes, to prevent the oil level in the compressor from lowering on the first operation after turning on the circuit breaker. If that is the case, do not suspect a unit failure.

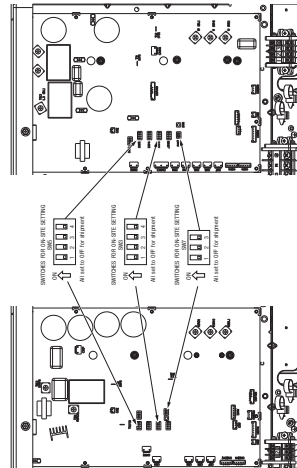
A failure to observe these instructions can result in a compressor breakdown.

- When you leave the outdoor unit with power supplied to it, be sure to close the panel.

Item checked in the installation manual	Item	Check item	Check
2	Refrigerant plumbing	Has the unit been tested under a nitrogen gas flow? Have all pipes been tested and vacuum properly performed? Are heat insulation materials installed on both liquid and gas pipes? Are operation cables safely opened for both liquid and gas pipes? Have you checked the additional refrigerant charge volume and refrigerant pipe length on the panel's label? Is the unit free of cable errors such as uncompleted connection, an absent or reversed phase? Doesn't cable cross-connect between units. Where more than one unit are installed? Are all indoor-outdoor signal wires connected to remote control wires? Do indoor-outdoor connecting cables connect between the same terminal numbers? Are either VCT cable or VFF flat cables used for indoor-outdoor connecting cables? Does grounding satisfy the E type grounding (Does it ground to requirements)? Is the unit grounded with a dedicated grounding, were not connected to another unit's grounding wire? Are cables tied down with cable clamps so that no external force works into terminal connections? Is indoor unit installation work completed? Where a face cover should be attached onto an indoor unit, is the face cover attached to the indoor unit?	
4	Electric wiring		
—	Indoor unit		

- Always carry out a test run and check the following in order as listed.

Turn	The contents of operation	Check
①	Open the gas side operation valve fully.	
②	Open the liquid side operation valve fully.	
③	Close the panel.	
④	When a remote control unit is used for unit setup on the installation site with a remote control unit, SW5-3 ON / SW5-4 OFF: the unit will start a cooling operation. SW5-3 ON / SW5-4 ON: the unit will start a heating operation.	
⑤	When the unit starts operation, press the wind direction button provided on the remote control unit to check its operation.	
⑥	Place your hand before the indoor unit's blower to check whether cold (warm) winds come out in a cooling (heating) operation.	
⑦	Make sure that a red LED is not blinking.	
⑧	When you complete the test run, do not forget to turn SW2-3 to the OFF position.	
⑨	When options are used, check their operation according to the respective instruction manuals.	
⑩		

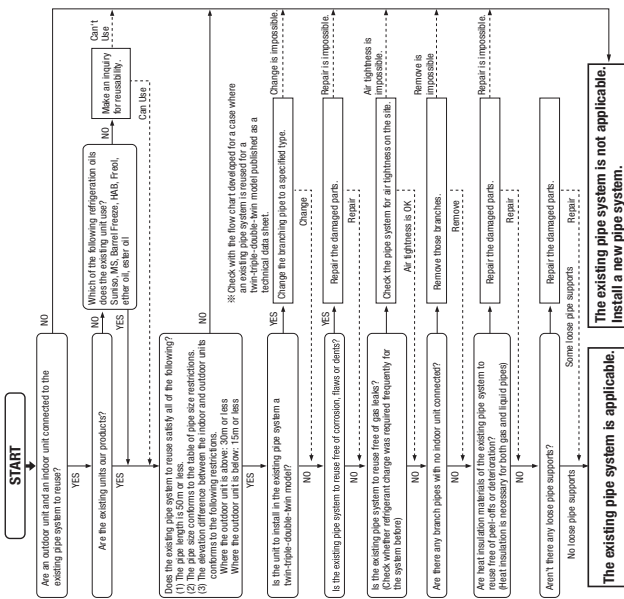


Model 1005A-10V5A

Model 1005A-10V5A

6. UTILIZATION OF EXISTING PIPING

Check whether an existing pipe system is reusable or not by using the following flow chart.



WARNING

- Carry out the following steps with the existing unit (in the order of (1), (2), (3) and (4))
- Run the unit for 30 minutes for a cooling operation.
 - Stop the indoor fan and run the unit for 3 minutes for a cooling operation (returning liquid)
 - Close the liquid side operation valve of the outdoor unit and pump down (refrigerant recovery)
 - Blow with nitrogen gas. ※ If discolored refrigeration oil or any foreign matters is discharged by the blow, wash the pipe system or install a new pipe system.
 - For the flare nut, do not use the old one, but use the one supplied with the outdoor unit.
 - Process a flare to the dimensions specified for R410A.
- ※ Run on-site setting switch SW4-1 to the ON position. (Where this gas pipe size is φ19.05)
- <Where the existing unit cannot be run for a cooling operation.>
- Wash the pipe system or install a new pipe system.
 - If you choose to wash the pipe system, contact our distributor in the area.

<Table of pipe size restrictions>

○: Standard pipe size △: Applicable
 △: Restricted to shorter pipe length limits ×: Not applicable

Pipe size	Liquid pipe	Gas pipe	Additional charging amount of refrigerant per 1m	0.08kg/m
100V	φ9.52	φ12.7	φ12.7	φ12.7
125V	φ15.88	φ19.05	φ15.88	φ19.05
140V	φ19.05	φ25.4	φ19.05	φ25.4

<Pipe system after the branching pipe>

Pipe size	Additional charging amount of refrigerant per 1m		Pipe size
	After 1st branch	After 2nd branch	
100V	φ9.52	φ12.7	φ12.7
125V	φ15.88	φ19.05	φ19.05
140V	φ19.05	φ25.4	φ25.4

- ※1 Because of its insufficient pressure resistance, turn the dip switch SW5-1 provided on the outdoor unit board to the ON position for φ19.05 × 11.0. However, you need not turn the dip switch SW5-1 to the ON position, if 12m pipes or pipes having 1.2 or thicker walls are used (for the branching point).
- ※2 When the main pipe length exceeds 40m, a significant capacity drop may be experienced due to pressure loss in the liquid pipe system. Use φ12.7 for the liquid main.
- ※3 Keep the total pipe length, not one-way pipe length, below the specified maximum pipe length.
- ※4 Piping size after branch should be equal or smaller than main pipe size.
- ※5 Piping size from first branch to indoor unit should be φ9.52 (Liquid) / φ12.7 (Gas).
- ※6 When refrigerant piping is shorter than 3m, reduce refrigerant by 1kg from factory charged volume.
- ※7 Any combinations of pipe sizes not listed in the table or marked with × in the table are not usable.

<The model types of existing units of which branching pipes are reusable.>

- Models later than Type 8.
- FDC * * * 8 □ □ □ □
- FDCP * * * 8 □ □ □ □

The branching pipes used with models other than those listed above are not reusable because of their insufficient pressure resistance. Please use our genuine branching pipes for R410A.

※ * * * are numbers representing horsepower. □ □ □ □ is an alphanumeric letter.

Formula to calculate additional charge volume

Additional charge volume (kg) = (Main pipe length (m) - Length covered without additional charge shown in the table (m)) × Additional charge volume per meter of pipe shown in the table (kg/m)

※ If you obtain a negative figure as a result of calculation, no additional refrigerant needs to be charged.

Example) When an 140V (single installation) is installed in a 20m long existing pipe system liquid φ12.7, gas φ19.05, the quantity of refrigerant to charge additionally should be (20m-15m) × 0.08kg/m = 0.4 kg.

(2) Models FDC200, 250VSA

PSC012D066D
Inverter driven split PAC
FDC200VSA, 250VSA (200V, 250V)
FDCA160VSA, 200VSA (A160V, A200V)
Designed for R410A refrigerant

ⓘ This installation manual deals with outdoor units and general installation specifications only. For indoor units, refer to page 343.
 ⓘ When install the unit, be sure to check whether the selection of installation place, power source specifications, usage limitation (piping length, height differences between indoor and outdoor units, power source voltage and etc.) and installation spaces

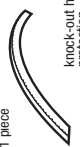
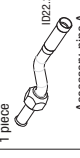

SAFETY PRECAUTIONS

- We recommend you to read this "SAFETY PRECAUTIONS" carefully before the installation work in order to gain full advantage of the functions of the unit and to avoid malfunction due to mishandling.
- The precautions described below are divided into [**WARNING**] and [**CAUTION**]. The matters with possibilities leading to serious consequences such as death or serious personal injury due to erroneous handling are listed in the [**WARNING**] and the matters with possibilities leading to personal injury or damage of the unit due to erroneous handling including probability leading to serious consequences in some cases are listed in [**CAUTION**]. These are very important precautions for safety. Be sure to observe all of them without fail.
- The meaning of "Marks" used here are as shown below.

⚠	⚡	⚠	⚠
Never do it under any circumstance.	Always do it according to the instruction	Always do it according to the instruction	Always do it according to the instruction
- For 3 phase power source outdoor unit:EN61000-3-2 is not applicable if consent by the utility company or notification to the utility company is given before usage.
- 3phase power source unit, both indoor and outdoor, is suitable for installation in a commercial and light industrial environment. If installed as a house-hold appliance it could cause electromagnetic interference.
- Be sure to confirm no anomaly on the equipment by commissioning after completed installation and explain the operating methods as well as the maintenance methods of this equipment to the user according to the owner's manual.
- Keep the installation manual together with owner's manual at a place where any user can read at any time. Moreover if necessary, ask to hand them to a new user.

Check before installation work

[Accessory]

1 piece 	1 piece 	1 piece 
Edging knock-out hole protection	Accessory pipe A	Accessory pipe B

- Model name and power source
- Refrigerant piping length
- Piping, wiring and miscellaneous small parts
- Indoor unit installation manual

WARNING

- **Installation must be carried out by the qualified installer.**
If you install the system by yourself, it may cause serious trouble such as water leaks, electric shocks, fire and personal injury, as a result of a system malfunction.
- **Install the system in full accordance with the instruction manual.**
Incorrect installation may cause bursts, personal injury, water leaks, electric shocks and fire.
- **Use the original accessories and the specified components for installation.**
If parts other than those prescribed by us are used, it may cause fall of the unit, water leaks, electric shocks, fire, refrigerant leak, substandard performance, control failure and personal injury.
- **When installing in small rooms, take prevention measures not to exceed the density limit of refrigerant in the event of leakage**
Consult the expert about prevention measures. If the density of refrigerant exceeds the limit in the event of leakage, lack of oxygen can occur, which can cause serious accidents.
- **Ventilate the working area well in the event of refrigerant leakage during installation.**
If the refrigerant comes into contact with naked flames, poisonous gas is produced.
- **After completed installation, check that no refrigerant leaks from the system.**
If refrigerant leaks into the room and comes into contact with an open or other hot surface, poisonous gas is produced.
- **Hang up the unit at the specified points with ropes which can support the weight in lifting or portage. And to avoid jolting out of alignment, be sure to hang up the unit at 4-point support.**
An improper manner of portage such as 3-point support can cause death or serious personal injury due to falling of the unit.
- **Install the unit in a location with good support.**
Unstable installation locations can cause the unit to fall and cause material damage and personal injury.
- **Ensure the unit is stable when installed, so that it can withstand earthquakes and strong winds.**
Unstable installation locations can cause the unit to fall and cause material damage and personal injury.
- **The electrical installation must be carried out by the qualified electrician in accordance with "the norm for electrical work" and "national wiring regulation", and the system must be connected to the dedicated circuit.**
Power source with insufficient capacity and incorrect function done by improper work, can cause electric shocks and fire.
- **Be sure to shut off the power before starting electrical work.**
Failure to shut off the power can cause electric shocks, unit failure or incorrect function of equipment.
- **Be sure to use the cables conformed to safety standard and cable ampacity for power distribution work.**
Unconformable cables can cause electric leak, anomalous heat production or fire.
- **Use the prescribed cables for electrical connection, tighten the cables securely in terminal block and relieve the cables correctly to prevent compression of the terminal block.**
Loose connections or cable mountings can cause anomalous heat production or fire.
- **Arrange the wiring in the control box so that it cannot be pushed up further into the box. install the service panel correctly.**
Incorrect installation may result in overheating and fire.

- **Do not perform brazing work in the airtight room**
It can cause lack of oxygen.
- **Use the prescribed pipes, flare nuts and tools for R410A.**
Using existing parts (for R22 or R407C) can cause the unit failure and serious accidents due to burst of the refrigerant circuit.
- **Tighten the flare nut by using double spanners and torque wrench according to prescribed method. Be sure not to lose flare connection or damage on the flare part by tightening with excess torque can cause burst or refrigerant leaks which may result in lack of oxygen.**
- **Do not open the service valves for liquid line and gas line until completed refrigerant piping work, air tightness test and evacuation.**
If the compressor is operated in state of opening service valves before completed connection of refrigerant piping work, you may incur frost bite or injury from an abrupt refrigerant outflow and air can be sucked into refrigerant circuit, which can cause burst or personal injury due to anomalously high pressure in the refrigerant.
- **Only use prescribed option parts. The installation must be carried out by the qualified installer.**
If you install the system by yourself, it can cause serious trouble such as water leaks, electric shocks, fire.
- **Do not perform any change of protective device itself or its setup condition**
The forced operation by short-circuiting protective device of pressure switch and temperature controller or the use of non specified component can cause fire or burst.
- **Be sure to switch off the power source in the event of installation, inspection or servicing.**
If the power source is not shut off, there is a risk of electric shocks, unit failure or personal injury due to the unexpected start of fan.
- **Consult the dealer or an expert regarding removal of the unit.**
Incorrect installation can cause water leaks, electric shocks or fire.
- **Stop the compressor before closing valve and disconnecting refrigerant pipes in case of pump down operation.**
If disconnecting refrigerant pipes in state of opening service valves before compressor stopping, you may incur frost bite or injury from an abrupt refrigerant outflow and air can be sucked, which can cause burst or personal injury due to anomalously high pressure in the refrigerant circuit.
- **Ensure that no air enters in the refrigerant circuit when the unit is installed and removed.**
If air enters in the refrigerant circuit, the pressure in the refrigerant circuit becomes too high, which can cause burst and personal injury.
- **Do not run the unit with removed panels or protections**
Touching rotating equipments, hot surfaces or high voltage parts can cause personal injury due to entrapment, burn or electric shocks.
- **Be sure to fix up the service panels.**
Incorrect fixing can cause electric shocks or fire due to intrusion of dust or water.
- **Do not perform any repairs or modifications by yourself. Consult the dealer if the unit requires repair.**
If you repair or modify the unit, it can cause water leaks, electric shocks or fire.

CAUTION



- **Carry out the electrical work for ground lead with care**
Do not connect the ground lead to the gas line, water line, lightning conductor or telephone line's ground lead. Incorrect grounding can cause unit faults such as electric shocks due to short-circuiting. Never connect the grounding wire to a gas pipe because if gas leaks, it could cause explosion or ignition.
- **Use the circuit breaker for all pipe with correct capacity**
Using the incorrect circuit breaker, it can cause the unit malfunction and fire.
- **Install isolator or disconnect switch on the power source wiring in accordance with the local codes and regulations.**
The isolator should be locked in accordance with EN62094-1.
- **Take care when carrying the unit by hand.**
If the unit weighs more than 20kg, it must be carried by two or more persons. Do not carry by the plastic straps, always use the carry handle when carrying the unit by hand. Use gloves to minimize the risk of cuts by the aluminum fins.
- **Dispose of any packing materials correctly.**
Any remaining packing materials can cause personal injury as it contains nails and wood. Act to avoid danger of suffocation, be sure to keep the plastic wrap far away from children and to dispose after tear it up.
- **Pay attention not to damage the drain pan by wet splatter when welding work is done near the indoor unit.**
If weld splatters fall in the drain pan, it can cause fire and indoor air leakage. To prevent such damage, keep the indoor unit in packing or cover it.
- **Be sure to insulate the refrigerant pipes so as not to condense the ambient air moisture on them.**
Insufficient insulation can cause condensation, which can lead to moisture damage on the ceiling, floor, furniture and any other valuables.
- **Be sure to perform air tightness test by pressurizing with nitrogen gas after completing refrigerant piping work.**
If the density of refrigerant leaks, the limit in the event of refrigerant leakage in the small room, lack of oxygen can occur, which can cause serious accidents.
- **Perform installation work properly according to this installation manual.**
Improper installation can cause abnormal vibrations or increased noise generation.
- **Earth leakage breaker must be installed**
If the earth leakage breaker is not installed, it can cause fire or electric shocks.
- **Do not use any materials other than a fuse with the correct rating in the location where fuses are to be used.**
Connecting the circuit with copper wire or other metal thread can cause unit failure and fire.
- **Do not install the unit near the location where leakage of combustible gases can occur.**
If leaked gases accumulate around the unit, it can cause fire.
- **Do not install the unit where corrosive gas (such as sulfuric acid gas etc.) or combustible gas (such as thinner and petroleum gases) can accumulate or collect, or where volatile combustible substances are handled.**
Corrosive gas can cause corrosion of heat exchanger, transformer or plastic parts and etc. And combustible gas can cause fire.
- **Secure a space for installation, inspection and maintenance specified in the manual.**
Insufficient space can result in accident such as personal injury due to falling from the installation place.
- **When the outdoor unit is installed on a roof or a high place, provide permanent ladders and handrails along the access route and fences and handrails around the outdoor unit.**
If safety facilities are not provided, it can cause personal injury due to falling from the installation place.
- **Do not install the unit close to the equipment that generates electromagnetic waves or high frequency harmonics**
Such as mobile phones, cordless phones, and the communication equipment. The system can be affected by the system, and cause malfunctions and breakdown. The system can also affect medical equipment and other equipment, and disturb its function or cause jamming.
- **Do not install the outdoor unit in a location where insects and small animals can pass**
Insects and small animals can enter the electric parts and cause damage or fire. Instruct the user to keep the surroundings clean.



- **Do not use the base frame for outdoor unit which is corroded or damaged due to long periods of operation.**
Using an old and damaged base frame can cause the unit falling down and cause personal injury.
- **Do not install the unit in the locations listed below**
 - Locations where carbon filter, metal powder or any powder is floating.
 - Locations where any substance that can affect the unit such as sulphide gas, chloride gas, acid and alkaline can occur.
 - Holes and slits
 - Locations where acidic or special gases are often used.
 - Locations with direct exposure of oil mist and steam such as kitchen and machine plant.
 - Locations with salty atmospheres which generate high frequency harmonics are used.
 - Locations with heavy snow (if installed, be sure to provide base frame and snow hood mentioned in the manual)
 - Locations where the unit is exposed to heavy smoke
 - Locations where the unit is exposed to direct sunlight
 - Locations with ammoniac atmospheres (e.g. organic fertilizer)
 - Locations with calcium chloride (e.g. snow melting agent).
 - Locations where heat radiation from other heat source can affect the unit
 - Locations where an exhaust fan can prevent inlet and outlet of the unit
 - Locations with an exhaust fan that can cause the occurrence of multiple units (radiation)
 - Locations where strong air blows against the air outlet of outdoor unit
 - Locations where remarkable decrease in performance, corrosion and damage of components, malfunction and fire.
- **Do not install the outdoor unit in the locations listed below.**
 - Locations where discharged hot air or operating sound of the outdoor unit can bother neighborhood.
 - Locations where outlet air of the outdoor unit blows directly to an animal or plants. The outlet air can affect adversely to the plant etc.
 - Locations where vibration can be amplified and transmitted due to insufficient strength of structure.
 - Locations where an equipment affected by high harmonics is placed. (TV set or radio receiver is placed within 5m)
 - Locations where drainage cannot run off safely.
 - Locations that affect surrounding environment and cause a claim
- **Do not use the unit for special purposes such as storing foods, cooling precision instruments and preservation of animals, plants or art.**
It can cause the damage of the items.
- **Do not touch any buttons with wet hands**
It can cause electric shocks
- **Do not touch any refrigerant pipes with your hands when the system is in operation.**
During operation the refrigerant pipes become extremely hot or extremely cold depending the operating condition, and it can cause burn injury or frost injury.
- **Do not clean up the unit with water**
It can cause electric shocks
- **Do not operate the outdoor unit with any article placed on it.**
You may incur property damage or personal injury from a fall of the article.
- **Do not step onto the outdoor unit**
You may incur injury from a step on it.

Notabilia as a unit designed for R410A

- Do not use any refrigerant other than R410A. R410A will rise to pressure about 1.6 times higher than that of a conventional refrigerant.
- A cylinder containing R410A has a pink indication mark on the top.
- A unit designed for R410A has adopted a different size indoor unit service valve charge port and a different size check joint provided in the unit to prevent the charging of a wrong refrigerant by mistake. The R410A tools listed in the table on the right before installing or servicing this unit.
- Do not use a charge cylinder. The use of a charge cylinder will cause the refrigerant composition to change, which results in performance degradation.
- In charging refrigerant, always take it out from a cylinder in the liquid phase.
- All indoor units must be models designed exclusively for R410A. Check connectable indoor unit models in a catalog, etc. (A wrong indoor unit, if connected into the system, will impair proper system operation)

	Dedicated R410A tools
a)	Gauge manifold
b)	Charge hose
c)	Electronic scale for refrigerant charging
d)	Torque wrench
e)	Flare tool
f)	Protrusion control copper pipe gauge
g)	Vacuum pump adapter
h)	Gas leak detector

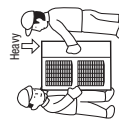
1. HAULAGE AND INSTALLATION (Take particular care in carrying in or moving the unit, and always perform such an operation with two or more persons.)



- 1) Delivery**
- When the unit is hoisted with slings for haulage, take into consideration the offset of its gravity center position.
If not properly balanced, the unit can be thrown off-balance and fall.
 - Deliver the unit as close as possible to the installation site before removing it from the packaging.
 - When some compelling reason necessitates the unpacking of the unit before it is carried in, use nylon slings or protective wood pieces so as not to damage the unit by ropes lifting it.

2) Portage

- The right hand side of the unit as viewed from the front (diffuser side) is heavier. A person carrying the right hand side must take heed of this fact. A person carrying the left hand side must hold with his right hand the handle provided on the front panel of the unit and with his left hand the corner column section.



CAUTION

- For model 200V, always use $\phi 12.7\text{mm}$ liquid main pipe when the one way piping length exceeds 40m. If $\phi 9.52\text{mm}$ pipes are used in an installation having over 40m piping, they can cause a refrigerant leak. If the piping length is less than 40m, use $\phi 9.52\text{mm}$ pipes when the one way piping length is less than 40m.
- Always use $\phi 25.4\text{mm}$ or $\phi 28.58\text{mm}$ gas pipes when the length of the main "L" exceeds 35m.
- If the $\phi 22.22\text{mm}$ pipes are used in an installation having over 35m piping, they can cause performance degradation and/or water leaks from an indoor unit.
- Triple type B is not allowed to be used in case of 250V.
- Note (1) In the indoor units of R410A, L-L1 bases the longest one-way pipe.
- Note (2) Connect the unit that is the maximum capacity with L1.

2) Determination of pipe size

Determine refrigerant pipe size pursuant to the following guidelines based on the indoor unit specifications.

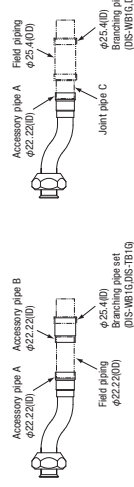
	Model 200V				Model A180V, A200V			
	Gas pipe	Liquid pipe	Gas pipe	Liquid pipe	Gas pipe	Liquid pipe	Gas pipe	Liquid pipe
Outdoor unit connected	$\phi 9.52$	$\phi 12.7$	$\phi 22.22$	$\phi 12.7$	$\phi 22.22$	$\phi 12.7$	$\phi 22.22$	$\phi 12.7$
Refrigerant piping (branch pipe)	$\phi 9.52$	$\phi 12.7$	$\phi 22.22$	$\phi 12.7$	$\phi 22.22$	$\phi 12.7$	$\phi 22.22$	$\phi 12.7$
Indoor unit connected	$\phi 9.52$	$\phi 12.7$	$\phi 22.22$	$\phi 12.7$	$\phi 22.22$	$\phi 12.7$	$\phi 22.22$	$\phi 12.7$
Capacity of indoor unit	$\phi 9.52$	$\phi 12.7$	$\phi 22.22$	$\phi 12.7$	$\phi 22.22$	$\phi 12.7$	$\phi 22.22$	$\phi 12.7$
Branching pipe set	$\phi 9.52$	$\phi 12.7$	$\phi 22.22$	$\phi 12.7$	$\phi 22.22$	$\phi 12.7$	$\phi 22.22$	$\phi 12.7$
Capacity of indoor unit	$\phi 9.52$	$\phi 12.7$	$\phi 22.22$	$\phi 12.7$	$\phi 22.22$	$\phi 12.7$	$\phi 22.22$	$\phi 12.7$
Branching pipe set	$\phi 9.52$	$\phi 12.7$	$\phi 22.22$	$\phi 12.7$	$\phi 22.22$	$\phi 12.7$	$\phi 22.22$	$\phi 12.7$
Capacity of indoor unit	$\phi 9.52$	$\phi 12.7$	$\phi 22.22$	$\phi 12.7$	$\phi 22.22$	$\phi 12.7$	$\phi 22.22$	$\phi 12.7$
Branching pipe set	$\phi 9.52$	$\phi 12.7$	$\phi 22.22$	$\phi 12.7$	$\phi 22.22$	$\phi 12.7$	$\phi 22.22$	$\phi 12.7$
Capacity of indoor unit	$\phi 9.52$	$\phi 12.7$	$\phi 22.22$	$\phi 12.7$	$\phi 22.22$	$\phi 12.7$	$\phi 22.22$	$\phi 12.7$
Branching pipe set	$\phi 9.52$	$\phi 12.7$	$\phi 22.22$	$\phi 12.7$	$\phi 22.22$	$\phi 12.7$	$\phi 22.22$	$\phi 12.7$
Capacity of indoor unit	$\phi 9.52$	$\phi 12.7$	$\phi 22.22$	$\phi 12.7$	$\phi 22.22$	$\phi 12.7$	$\phi 22.22$	$\phi 12.7$
Branching pipe set	$\phi 9.52$	$\phi 12.7$	$\phi 22.22$	$\phi 12.7$	$\phi 22.22$	$\phi 12.7$	$\phi 22.22$	$\phi 12.7$
Capacity of indoor unit	$\phi 9.52$	$\phi 12.7$	$\phi 22.22$	$\phi 12.7$	$\phi 22.22$	$\phi 12.7$	$\phi 22.22$	$\phi 12.7$
Branching pipe set	$\phi 9.52$	$\phi 12.7$	$\phi 22.22$	$\phi 12.7$	$\phi 22.22$	$\phi 12.7$	$\phi 22.22$	$\phi 12.7$
Capacity of indoor unit	$\phi 9.52$	$\phi 12.7$	$\phi 22.22$	$\phi 12.7$	$\phi 22.22$	$\phi 12.7$	$\phi 22.22$	$\phi 12.7$

CAUTION

- When the model 50V or model 60V model is connected as an indoor unit, always use a $\phi 9.52$ liquid pipe for the branch (branching pipe - indoor unit) and a different diameter joint supplied with the branching pipe set for connection with the indoor unit ($\phi 6.35$ on the liquid pipe side).
- If a $\phi 6.35$ pipe is used for connection with a branching pipe, a refrigerant distribution disorder may occur, causing one of the indoor units to fall short of the rated capacity.
- A refrigerant pipe must be a part of the main. A branching pipe set should be installed horizontally at a point as close to an indoor unit as possible.
- A branching joint must be dressed with a heat-insulation material supplied as an accessory.
- If the table work required at and near a branching unit, see the installation manual supplied with your branching pipe set.

3) How to use pipe reducer.

- $\phi 22.22(OD)$ size of the refrigerant gas pipe can be used by using accessory pipe A and joint pipe C.
- $\phi 25.4(OD)$ size of the refrigerant gas pipe can be used by using accessory pipe B.
- Ready joint C yourself. Need not accessory pipe B.



4) Refrigerant pipe wall thickness and material

- Select refrigerant pipes of the table shown on the right wall thickness and material as specified for each pipe size.
- This unit uses R410A. Always use 1/2H pipes having a 1.0mm or thicker wall for $\phi 19.05$ or larger pipes, because O-type pipes do not meet the pressure resistance requirement.

5) On-site piping work

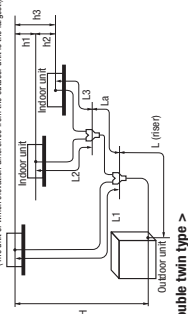
- Take care so that installed pipes may not touch components within a unit. If touching with an internal component, it will generate abnormal sounds and/or vibrations.
- First remove screws (X mark) of the service panel and push it down into the direction of the arrow mark and then remove it by pulling it toward you.

How to remove the service panel

- The pipe can be laid in any of the following directions: side right, front, rear and downward.
- Remove a knock-out plate provided on the pipe penetration to open a minimum necessary area and attach an edging material supplied as an accessory by cutting it to an appropriate length before laying a pipe.
- Carry out the on site piping work with the service valve fully closed.
- Give sufficient protection to a pipe end (compressed and brazed, or with an adhesive tape) so that water or foreign matters may not enter the piping.
- Send a pipe to a radius as large as practical (R100-R150). Do not bend a pipe repeatedly to correct its form.
- Flare connection is used between the unit and refrigerant pipe. Flare a pipe after engaging a flare nut onto it. Flare dimensions shall be different from those for conventional R410A. Although the recommended flare dimensions are designated specifically for R410A, conventional flaring tools can also be used by adjusting the measurement of protubance B with a protubance control gauge.
- The pipe should be anchored every 1.5m or less to isolate the vibration.
- Tighten a flare joint securely with a double spanner.

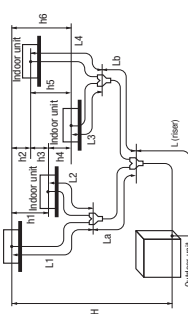
< Triple type >

Indoor unit (The unit of which elevation difference from the outdoor unit is the largest)



< Double twin type >

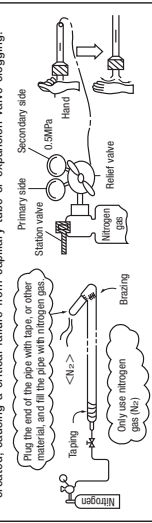
Indoor unit (The unit of which elevation difference from the outdoor unit is the largest)



About brazing

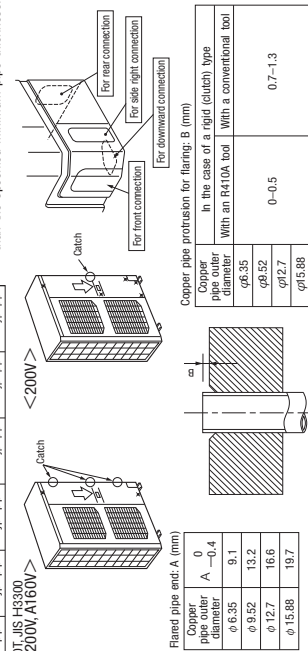
Brazing must be performed under a nitrogen gas flow.

Without nitrogen gas, a large quantity of foreign matters (oxidized film) are created, causing a critical failure from capillary tube or expansion valve clogging.



NOTE

- Select pipes having a wall thickness larger than the specified minimum pipe thickness.



Copper pipe outer diameter	Flared pipe end. A (mm)	Copper pipe outer diameter	Flared pipe end. A (mm)
$\phi 6.35$	0	$\phi 12.7$	19.7
$\phi 9.52$	9.1	$\phi 15.88$	16.6
$\phi 12.7$	13.2	$\phi 19.05$	13.2
$\phi 15.88$	16.6	$\phi 22.22$	10.0
$\phi 19.05$	19.7	$\phi 25.4$	25.4

CAUTION
Do not apply force beyond proper fastening torque in tightening the flare nut.

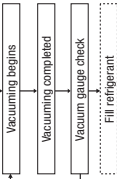
Fix both liquid and gas service valves at the valve main bodies as illustrated on the right, and then fasten them, applying appropriate fastening torque.

6) Air tightness test

- ① Although outdoor and indoor units themselves have been tested for air tightness at the factory, check the connecting pipes after the installation work for air tightness from the service valve's check joint equipped on the outdoor unit side. While conducting a test, keep the service valve shut at the time.
 - a) Raise the pressure to 0.5 MPa, and then stop. Leave it for five more minutes to see if the pressure drops.
 - b) Then raise the pressure to 1.5 MPa, and stop. Leave it for five more minutes to see if the pressure drops.
 - c) Then raise the pressure to the specified level (4.15 MPa), and record the ambient temperature and the pressure.
 - d) If no pressure drop is observed with an installation pressurized to the specified level and left for about one day, it is acceptable. When the ambient temperature falls 1°C, the pressure also falls approximately 0.01 MPa. The pressure, however, should be compensated for.
 - e) If a pressure drop is observed in checking a) and b) - d), a leak exists somewhere. Find a leak by applying bubble test liquid to welded parts and flare joints and repair it. After repair, conduct an air-tightness test again.
- ② In conducting an air-tightness test, use nitrogen gas and pressurize the system with nitrogen gas from the gas side. Do not use a medium other than nitrogen gas under any circumstances.

7) Evacuation

<Work flow> When the system has remaining moisture inside or a leaky point, the vacuum gauge inside the system for a leaky point and then draw air to create a vacuum again.



Run the vacuum pump for at least one hour after the vacuum gauge shows -101kPa or lower. (-755mmHg or lower)
Confirm that the vacuum gauge indicator does not rise even if the system is left for one hour or more.

Air-tightness test completed
Vacuuming begins
Vacuuming completed
Vacuum gauge check
Fill refrigerant.

8) Additional refrigerant charge
(1) Calculate a required refrigerant charge volume from the following table.

Item	Standard refrigerant charge volume (kg)	Pipe length for standard refrigerant charge volume (m)	Refrigerant volume charged for shipment at the factory (kg)	Installation's pipe length (m) covered without additional refrigerant charge
Capacity	200V	3.8	0.06 (Liquid piping φ9.52)	30
	250V, A160V, A200V	3.6	0.12 (Liquid piping φ12.7)	30

- A standard refrigerant charge volume means a refrigerant charge volume for an installation with 0m long refrigerant piping.
- This unit contains factory charged refrigerant covering 30m of refrigerant piping and additional refrigerant charge on the installation site is not required for an installation with up to 30m refrigerant piping.
- When refrigerant piping exceeds 30m, additionally charge an amount calculated from the pipe length and the above table for the portion in excess of 30m.
- If an existing pipe system is used, a required refrigerant charge volume will vary depending on the liquid pipe size. For further information, see "6. UTILIZATION OF EXISTING PIPING."

Formula to calculate the volume of additional refrigerant required

$$\text{Model 200V} \quad \text{In the case of } \phi 9.52\text{mm main liquid piping} \quad \text{Additional charge volume (kg)} = \{ \text{Main pipe length (m)} - 30 \text{ (m)} \} \times 0.06 \text{ (kg/m)} + \text{Total length of branch pipes (m)} \times 0.06 \text{ (kg/m)}$$

$$\text{Model 250V, A160V, A200V} \quad \text{In the case of } \phi 12.7\text{mm main liquid piping} \quad \text{Additional charge volume (kg)} = \{ \text{Main pipe length (m)} - 30 \text{ (m)} \} \times 0.12 \text{ (kg/m)} + \text{Total length of branch pipes (m)} \times 0.06 \text{ (kg/m)}$$

● To charge refrigerant again, recover refrigerant from the system first and then charge the volume calculated from the above table (Standard refrigerant charge volume + additional charge volume for total pipe length).

In case of 200V and using φ12.7 at main liquid piping, calculate the amount as follows

$$\text{Total charge volume(kg)} = \text{Refrigerant volume charged for shipment at the factory} + \{ \text{Main piping length(m)} - 30 \text{ (m)} \} \times 0.12 \text{ (kg/m)} + \text{Total length of branch pipes (m)} \times 0.06 \text{ (kg/m)}$$

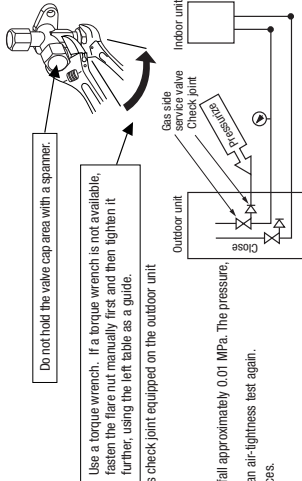
(2) Charging refrigerant

- Since R410A refrigerant must be charged in the liquid phase, you should charge it, keeping the container cylinder upside down or using a refrigerant cylinder equipped with a siphon tube.
- Side service ports from the liquid side service port with the service valve shut. When you find it difficult to charge a required amount fully open the outdoor unit valves on both liquid and gas sides and charge refrigerant from the gas (suction) side service port, while running the unit in the cooling mode. In doing so, care must be taken so that refrigerant may be discharged from the cylinder in the liquid phase all the time. When the cylinder valve is throttled down or a dedicated conversion tool to change liquid-phase refrigerant into mist is used to protect the compressor, however, adjust charge conditions so that refrigerant will gasify upon entering the unit.
- In charging refrigerant, always charge a calculated volume by using a scale to measure the charge volume.
- When refrigerant is charged with the unit being run, complete a charge operation within 30 minutes. Running the unit with an insufficient quantity of refrigerant for a long time can cause a compressor failure.

NOTE Put down the refrigerant volume calculated from the pipe length onto the label attached on the back side of the service panel.

9) Heating and condensation prevention

- (1) Dress refrigerant pipes (both gas and liquid pipes) for heat insulation and prevention of dew condensation.
 - In proper heat insulation/anti-dew dressing can result in a water leak or dripping causing damage to household effects, etc.
 - All gas pipes must be securely heat insulated in order to prevent damage from dripping water that comes from the condensation formed on them during a cooling operation or personal injury from burns because their surface can reach quite a high temperature due to discharged gas flowing inside during a heating operation.
 - Wrap indoor units' flare joints with heat insulating parts (pipe cover) for heat insulation (both gas and liquid piping).
 - Give heat insulation to both gas and liquid side pipes. Bundle a heat insulating material and a pipe tightly together so that no gaps may be left between them and wrap them together with a connecting cable by a dressing tape.
- (2) Use a heat insulating material that can withstand 120°C or a higher temperature. Poor heat insulating capacity can cause heat insulation problems or cable deterioration.
 - Both gas and liquid pipes need to be dressed with 20 mm or thicker heat insulation materials above the ceiling where relative humidity exceeds 70%.



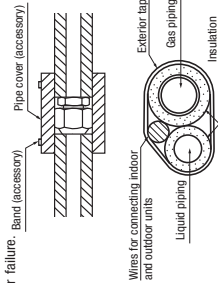
Service valve size (mm)	Tightening torque (N·m)	Tightening angle (°)	Recommended length of a tool handle (mm)
φ 6.35 (1/4")	14-18	45-60	150
φ 9.52 (3/8")	34-42	30-45	200
φ 12.7 (1/2")	49-61	30-45	250
φ 15.88 (5/8")	88-92	15-20	300
φ 19.05 (3/4")	100-120	15-20	450

Pay attention to the following points in addition to the above for the R410A and compatible machines.

- To prevent a different oil from entering, assign dedicated tools, etc. to each refrigerant type. Under no circumstances must a gauge manifold and a charge hose in particular be shared with other refrigerant types (R22, R407C, etc.).
- Use a counterflow prevention adapter to prevent vacuum pump oil from entering the refrigerant system.

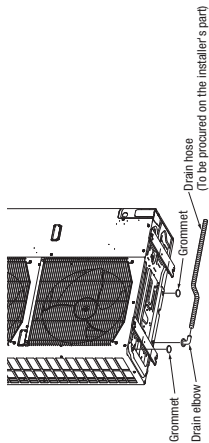
Item	Standard refrigerant charge volume (kg)	Pipe length for standard refrigerant charge volume (m)	Additional charge volume (kg) per meter of refrigerant piping		Refrigerant volume charged for shipment at the factory (kg)	Installation's pipe length (m) covered without additional refrigerant charge
			Main pipe	Branch pipe		
Capacity	200V	3.8	0.06 (Liquid piping φ9.52)	0.06	5.6	30
	250V, A160V, A200V	3.6	0.12 (Liquid piping φ12.7)	0.06	7.2	30

*When an additional charge volume calculation result is negative, it is not necessary to charge refrigerant additionally.

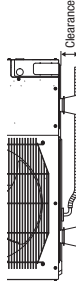


3. DRAIN PIPING WORK

- Execute drain piping by using a drain elbow and drain grommets supplied separately as option parts, where water drained from the outdoor unit is a problem.
- Water may drip where there is a larger amount of drain water. Seal around the drain elbow and drain grommets with putty or adequate caulking material.
- Condensed water may flow out from vicinity of service valve or connected pipes.
- Where you are likely to have several days of sub-zero temperatures in a row, do not use a drain elbow and drain grommets. (There is a risk of drain water freezing inside and blocking the drain.)
- Do not use drain elbow and grommet made of plastic for drain piping when base heater for outdoor unit is used. Plastic grommet and elbow will be damaged and burnt in worst case.
- Prepare another drain tray made of metallic material for collecting drain when base heater is used.



- When condensed water needs to be led to a drain, etc., install the unit on a flat base (supplied separately as an option part) or concrete blocks. Then, please secure space for the drain elbow and the drain hose.

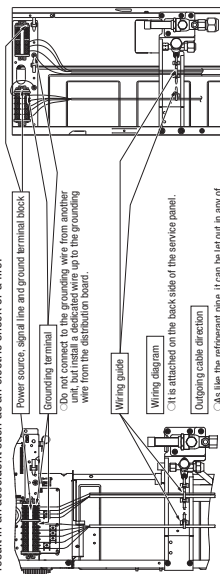


4. ELECTRICAL WIRING WORK

For details of electrical cabling, refer to the indoor unit installation manual.

Electrical installation work must be performed by an electrical installation service provider qualified by a power provider of the country. Electrical installation work must be executed according to the technical standards and other regulations applicable to electrical installations in the country.

- Do not use any supply cord lighter than one specified in parentheses for each type below.
 - braided cord (code designation 60245 IEC 51).
 - ordinary tough rubber sheathed cord (code designation 60245 IEC 53)
 - flat twin tinsel cord (code designation 60227 IEC 41).
- Do not use anything lighter than polychloroprene sheathed flexible cord (code designation 60245 IEC57) for supply cords of parts of appliances for outdoor use.
- Ground the unit. Do not connect the grounding wire to a gas pipe, water pipe, lightning rod or telephone grounding wire.
- If improper grounded, an electric shock or malfunction may result.
- A grounding wire must be connected before connecting the power cable. Provide a grounding wire longer than the power cable.
- The installation of an impulse withstanding type earth leakage breaker is necessary. A failure to install an earth leakage breaker can result in an accident such as an electric shock or a fire.



Model: 200V

Model: 250V
A160V, A200V

Model	Power source 3 phase, 4 wire 380V/400V/415V/480V	Power cable thickness (mm ²)	MAX. over current (A)	Cable length (m)	Grounding wire thickness	Indoor-outdoor wire thickness number
200V		5.5	20	5.4	φ7.6mm	φ7.6mm x 3
250V, A160V, A200V			21	5.1		

- The specifications shown in the above table are for units without heaters. For units with heaters, refer to the installation instructions or the construction.
- Switchgear or Circuit breaker capacity which is calculated from MAX. over current should be chosen along the regulations in each country.
- The cable specifications are based on the assumption that a metal or plastic conduit is used with no more than three cables contained in a conduit and a voltage drop is 2%. For an installation falling outside of these conditions, follow the internal cabling regulations. Adapt it to the regulation in effect in each country.

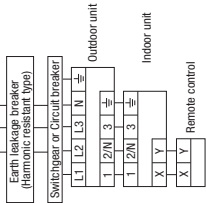
- Do not turn on the power until the electrical work is completed.
- Do not use a condensive capacitor for power factor improvement under any circumstances. (It does not improve power factor, while it can cause an abnormal overheat accident)
- For power source cables, use conduits.
- Do not lay electronic control cables (remote control and signaling wires) and other cables together outside the unit. Laying them together can result in the malfunctioning or a failure of the unit due to electric noises.
- Fasten cables so that they may not touch the piping, etc.
- When cables are connected, make sure that all electrical components within the electrical component box are free of loose connector coupling or terminal connection and then attach the cover securely. (Improper cover attachment can result in malfunctioning or a failure of the unit, if water penetrates into the box.)
- Always use a three-core cable for an indoor-outdoor connecting cable. Never use a shield cable. Separate grounding wire from indoor-outdoor connecting wire.
- Connect a pair bearing a common terminal number with an indoor-outdoor connecting wire.
- In cabling, fasten cables securely with cable clamps so that no external force may work on terminal connections.
- Grounding terminals are provided in the control box.

Power cable, indoor-outdoor connecting wires

- Always perform grounding system installation work with the power cord unplugged.

CAUTION

- Always use an earth leakage circuit breaker designed for inverter circuits to prevent a faulty operation.



Model: 200V, 250V
A160V, A200V

Model	Power source 3 phase, 4 wire 380V/400V/415V/480V	Power cable thickness (mm ²)	MAX. over current (A)	Cable length (m)	Grounding wire thickness	Indoor-outdoor wire thickness number
200V		5.5	25	4.3	φ7.6mm	φ7.6mm x 3
250V, A160V, A200V			27	4.0		

※ At the connection with EDU indoor unit.

Model	Power source 3 phase, 4 wire 380V/400V/415V/480V	Power cable thickness (mm ²)	MAX. over current (A)	Cable length (m)	Grounding wire thickness	Indoor-outdoor wire thickness number
200V		5.5	22	4.9	φ7.6mm	φ7.6mm x 3
250V, A160V, A200V			24	4.5		

※ At the connection with FDUM indoor unit.

5. TEST RUN

⚠ WARNING

- Before conduct a test run, make sure that the service valves are opened.
- Turn on power 6 hours prior to a test run to energize the crank case heater.
- In case of the first operation after turning on power, even if the unit again whenever it is stopped.
- Always give a 3-minute or longer interval before you start the unit again whenever it is stopped.
- Removing the service panel will expose high-voltage live parts and high-temperature parts, which are quite dangerous. Take utmost care not to incur an electric shock or burns. Do not leave the unit with the service panel open.

⚠ CAUTION

- When you operate switches (SW3, SW5) for on-site setting, be careful not to touch a live part.
- The service valve pressure from the electronic expansion valve charge port.
- The service valve (GS) is closed during a heating operation.
- When power source is cut off to reset the unit, give 3 or more minutes before you turn on power, again after power is cut off. If this procedure is not observed in turning on power again, "Communication error between outdoor and indoor unit" will occur.

1) Test run method

- (1) A test run can be initiated from an outdoor unit by using SW3-3 and SW5-4 for on-site setting.
- (2) Switching SW3-3 to ON will start the compressor.
- (3) The unit will start a cooling operation when SW3-4 is OFF or a heating operation when SW3-4 is ON.
- (4) Do not fail to switch SW3-3 to OFF when a test run is completed.

SW3-3	SW3-4	Operation
ON	OFF	Cooling during a test run
ON	ON	Heating during a test run
OFF	—	Normal or After the test operation

2) Checking the state of the unit in operation

Use check points provided on the piping before and after the four-way valve installed inside the outdoor unit for checking discharge pressure and suction pressure. As indicated in the table shown on the right, pressure detected at each point will vary depending on whether a cooling or heating operation has been selected.

Check point of the pipe	Check point of the pipe
Cooling operation	Discharge pressure
Heating operation	Suction pressure
Heating operation (High pressure)	Discharge pressure (High pressure)

3) Setting SW3-1, SW3-2, on-site

- (1) Defrost control switching (SW3-1)
 - Set this switch to ON, when installed in a region where outdoor temperature falls below zero during the season the unit is run for a heating operation.
 - When this switch is turned ON, the unit will run in the defrost mode more frequently.
- (2) Snow guard fan control (SW3-2)
 - When this switch is turned ON, the outdoor unit fan will run for 10 seconds in every 10 minutes, when outdoor temperature falls to 3°C or lower and the compressor is not running.
 - When the unit is used in a very snowy country, set this switch to ON.

4) Failure diagnosis in a test run

Error indicated on the remote control unit	Failure event	Action
E40	Red LED Blinking once	1. Check whether the service valves are open. 2. If an error has been canceled when 3 minutes have elapsed since a compressor stop, you can restart the unit by effecting check reset from the remote control unit.
E49	Green LED Blinking continuously	
	Blinking continuously (occurs many during a heating operation)	
	Blinking continuously (occurs many during a cooling operation)	

- If an error code other than those listed above is indicated, refer to the wiring diagram of the outdoor unit and the indoor unit.

5) The state of the electronic expansion valve.

The following table illustrates the steady states of the electronic expansion valve.

Valve for a cooling operation	When power is turned on	When the unit comes to a normal stop
Complete shut position <td>During a cooling operation <td>During a heating operation </td></td>	During a cooling operation <td>During a heating operation </td>	During a heating operation
Full open position <td>Complete shut position <td>Full open position </td></td>	Complete shut position <td>Full open position </td>	Full open position
Complete shut position <td>Full open position <td>Complete shut position </td></td>	Full open position <td>Complete shut position </td>	Complete shut position
Full open position <td>Complete shut position <td>Full open position </td></td>	Complete shut position <td>Full open position </td>	Full open position

6) Heed the following on the first operation after turning on the circuit breaker.

- This outdoor unit may start in the standby mode (waiting for a compressor startup), which can continue up to 30 minutes, to prevent the oil level in the compressor from lowering on the first operation after turning on the circuit breaker. If that is the case, do not suspect a unit failure.
- At the first operation of heating mode after turning on the circuit breaker, the outdoor unit may start in cooling mode a while to prevent from liquid refrigerant back to compressor, if that is the case, do not suspect a unit failure.

A failure to observe these instructions can result in a compressor breakdown.

- When you leave the outdoor unit with power supplied to it, be sure to close the panel.

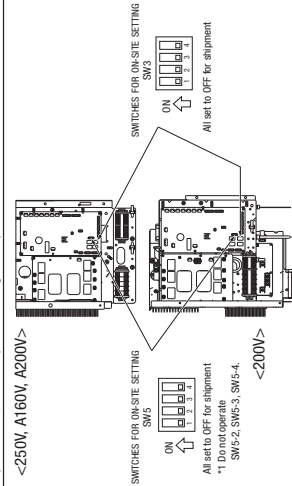
Items to check before a test run

Item No. used in the installation manual	Item	Check item	Check
2	Refrigerant plumbing	Have air-ignited and vacuum evacuation safety performed? Are test insulation materials installed on both liquid and gas pipes? Are service valves safely opened for both liquid and gas systems? Have you recorded the additional refrigerant charge volume and refrigerant pipe length on the panel's label? Is the unit free of rattling noise such as uncompleted connection, an absent or reversed flange? Are temporary rated electrical equipments used for circuit breakers and cables? Doesnt cabling cross-connect between units, where more than one unit are installed? Have indoor-outdoor signal wires connected to remote control wires? Are indoor-outdoor connecting cables connect between the same terminal numbers?	
4	Electric wiring	Are either VCT cable or VV flat cables used for indoor-outdoor connecting cables? Does grounding satisfy the D type grounding (Type II) grounding requirements? Is the unit grounded with a dedicated grounding wire not connected to another unit's grounding wire? Are cables tied or loose screws at their connection points? Are cables tied down with cable clamps so that no external force works onto terminal connections? Is indoor unit insulation work completed? Have a test cover should be attached onto an indoor unit, is the test cover attached to the indoor unit?	
—	Indoor unit		

Test run procedure

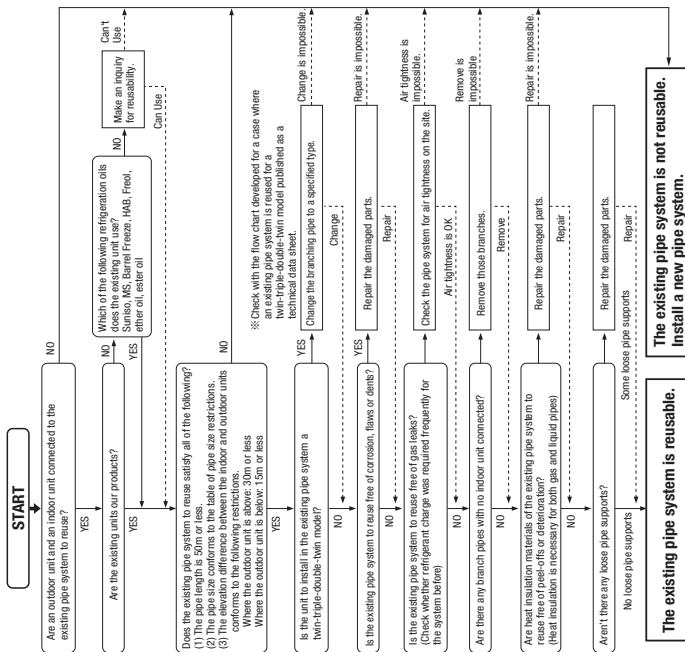
- Always carry out a test run and check the following in order as listed.

Turn	The contents of operation	Check
(1)	Open the gas side service valve fully.	
(2)	Open the liquid side service valve fully.	
(3)	Close the panel.	
(4)	Where a remote control unit is used for unit setup on the installation site. Show instructions for unit setup on the installation site with a remote control unit.	
(5)	SW3-3 ON/ SW3-4 OFF: the unit will start a cooling operation.	
(6)	When the unit starts operation, press the wind direction button provided on the remote control unit to check its operation.	
(7)	Place your hand before the indoor unit's diffuser to check whether cold (warm) winds come out in a cooling (heating) operation.	
(8)	Make sure that a red LED is not blinking.	
(9)	When you complete the test run, do not forget to turn SW3-3 to the OFF position.	
(10)	Where options are used, check their operation according to the respective instruction manuals.	



6. UTILIZATION OF EXISTING PIPING.

Check whether an existing pipe system is reusable or not by using the following flow chart.



WARNING <Where the existing unit can be run for a cooling operation.>
 Carry out the following steps with the existing unit (in the order of (1), (2), (3) and (4)).
 (1) Run the unit for 30 minutes for a cooling operation.
 (2) Stop the indoor fan and run the unit for 3 minutes for a cooling operation (returning liquid).
 (3) Close the liquid side service valve of the outdoor unit and pump down (refrigerant recovery) wash the pipe system with nitrogen gas. ※ If discolored refrigeration oil or any foreign matters is discharged by the blow, wash the pipe system or install a new pipe system.
 ● For the flare nut, do not use the old one, but use the one supplied with the outdoor unit.
 ● Turn on-site setting switch SWS-1 to the ON position. (Where the gas pipe size is φ19.05)
 <Where the existing unit cannot be run for a cooling operation.>
 Wash the pipe system or install a new pipe system.
 ● If you choose to wash the pipe system, contact our distributor in the area.

<Table of pipe size restrictions>

○: Standard pipe size ○: Usable
 △: Restricted to shorter pipe length limits ×: Not usable

Pipe size	0.08kg/m				0.12kg/m ※5				0.2kg/m			
	φ9.52	φ9.52	φ12.7	φ12.7	φ9.52	φ12.7	φ12.7	φ12.7	φ15.88	φ15.88	φ15.88	φ15.88
Liquid pipe	○	○	○	○	○	○	○	○	○	○	○	○
Gas pipe	○	○	○	○	○	○	○	○	○	○	○	○
Usability	○	○	○	○	○	○	○	○	○	○	○	○
Maximum one-way pipe length	35	70	70	35	70	70	30m	30m	30m	30m	30m	30m
Length covered without additional charge	30	30	30	16.5	16.5	16.5	9	9	9	9	9	9
Usability	○	○	○	○	○	○	○	○	○	○	○	○
Maximum one-way pipe length	×	×	×	×	×	×	×	×	×	×	×	×
Length covered without additional charge	×	×	×	×	×	×	×	×	×	×	×	×

<Pipe system after the branching pipe>

Pipe size	After 1st branch ※3				After 2nd branch			
	φ9.52	φ9.52	φ12.7	φ12.7	φ9.52	φ9.52	φ12.7	φ12.7
Liquid pipe	○	○	○	○	○	○	○	○
Gas pipe	○	○	○	○	○	○	○	○
Combination type	○	○	○	○	○	○	○	○
Model	○	○	○	○	○	○	○	○
200V	○	○	○	○	○	○	○	○
250V	○	○	○	○	○	○	○	○
A160V	○	○	○	○	○	○	○	○
A200V	○	○	○	○	○	○	○	○

※1 Because of its insufficient pressure resistance, turn the dip switch SWS-1 provided on the outdoor unit bent to the ON position for φ19.05 × 11.0. (In the case of a twin-triple-double-twin model, this also applies to the case where φ19.05 × 11.0 is used in a pipe system after the first branching point). However, you need not turn the dip switch SWS-1 to the ON position, if 1/2H pipes or pipes having 1.2 or thicker walls are used.
 ※2 When the main pipe length exceeds 40m, a significant capacity drop may be experienced due to pressure loss in the liquid pipe system. Use φ12.7 for the liquid main.
 ※3 Piping size after branch should be equal or smaller than main pipe size.
 ※4 Piping size from first branch to indoor unit should be φ9.52 (Liquid) / φ15.88 (Gas).
 ※5 In case of 200V, change φ1.45 kg/m.

● Any combinations of pipe sizes not listed in the table or marked with × in the table are not usable.
 ● The model types of existing units of which branching pipes are reusable.>
 Models later than Type 8.
 ● FDC * * * * 8 □ □ □ □
 ● FDCP * * * * 8 □ □ □ □

The branching pipes used with models other than those listed above are not reusable because of their insufficient pressure resistance. Please use our genuine branching pipes for R410A.
 ● * * * * numbers representing horsepower. □ □ □ □ is an alphanumeric letter.

Formula to calculate additional charge volume
 Additional charge volume (kg) = (Main pipe length (m) - Length covered without additional charge shown in the table (m)) × Total length of branch pipes (m) × Additional charge volume per meter of pipe shown in the table (kg/m)

※ If you obtain a negative figure as a result of calculation, no additional refrigerant needs to be charged.
Example When an 250V (twin installation) is installed in a 40m long existing pipe system (main pipe length 30m, liquid φ15.88, gas φ25.4; pipe length after branching pipe 5m x 2, liquid φ9.52, gas φ15.88), the quantity of refrigerant to charge additionally should be (30m-18m) x 0.2kg/m + 5m x 2 x 0.06kg/m = 3.0 kg.

2.10.5 Method for connecting the accessory pipe

PSC012D028A 

(1) Model FDC200VSA

- Be sure to use the accessory pipe to connect the service valve on the gas side with the field pipe.
- Be sure to use the straight pipe (Procured at the field) shown in the table 1 applicable.
- When tightening the flare, connect the pipe securely by pressing the flared face of pipe against the service valve.
- When brazing between the pipe in place and the attached pipe, confirm that no excessive force is applied to the flare joint. Otherwise gas could leak from the flare joint.
- Connect the attached pipe according to the following steps ① – ⑤.
 - ① Referring to Table 2 and Table 3, prepare the straight pipe and the elbow in the field, which are used in the construction examples (A) – (D) applicable to the connecting direction.
 - ② Firstly, use the accessory pipe to assemble the connecting pipe assembly outside the outdoor unit.
(As shown in the figure of connecting examples (A) – (D).)
 - ③ After assembling the connecting pipe, connect it to the service valve on the gas side inside the outdoor unit. Tighten the flare nut with appropriate torque.

Proper torque	
φ 19.05	100 – 120N · m

- ④ After connection of the connecting pipe assembly to the service valve on the gas side, braze the connecting pipe assembly and the field pipe.
- ⑤ When connecting pipe contacts wiring, attach heat insulating material to the pipe in order to prevent from contacting of the pipe and wiring. (If the wiring is rubbed with the pipe and the cover of wiring is teared, there is a risk of a short circuit or an electric shock.)

About brazing

- Be sure to braze while supplying nitrogen gas.
If no nitrogen gas is supplied, a large amount of impurity (oxidized film) will be generated, which may clog the capillary tube and the expansion valve, resulting in fatal malfunction.

Table 1 Pipe specification

Refrigerant line (one way)	length (m)
≤ 35 (m)	φ 22.22 x T1.0
≤ 70 (m)	φ 25.4 x T1.0 or φ 28.58 x T1.0

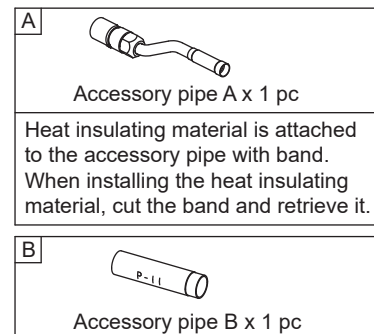
- Be sure to use pipes of 1/2H material, and wall thickness above 1mm. (Pressure resistance of O-type pipe is not enough)

Table 2 Parts used for the connecting pipe assembly

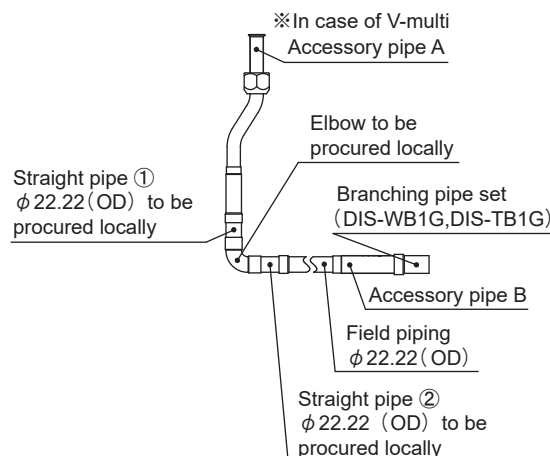
No.	Name	Quantity	Remark
1	Accessory pipe A	1	Accessory
2	Straight pipe ①	1	Procured at the field
3	Straight pipe ②	1 or 0	Procured at the field (Not required for downward direction)
4	Elbow	1 or 0	Procured at the field (Not required for downward direction)

Table 3 Length and specification of straight pipe (Procured in the field)

	Ⓐ Downward	Ⓑ Forward	Ⓒ Rightward	Ⓓ Backward
Straight pipe ①	380mm or more	200mm	155mm	215mm
Straight pipe ②	—	160mm or more	160mm or more	370mm or more

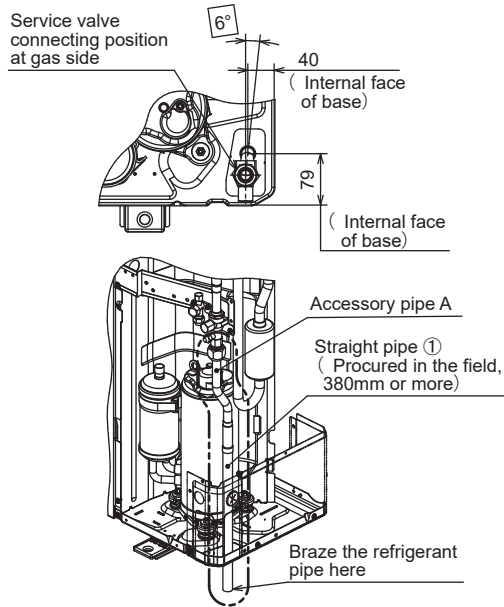


- Branching pipe set can be used by using the accessory pipe B.
When φ 22.22 (OD) size of the indoor unit gas pipe is used, the accessory pipe B is unnecessary.

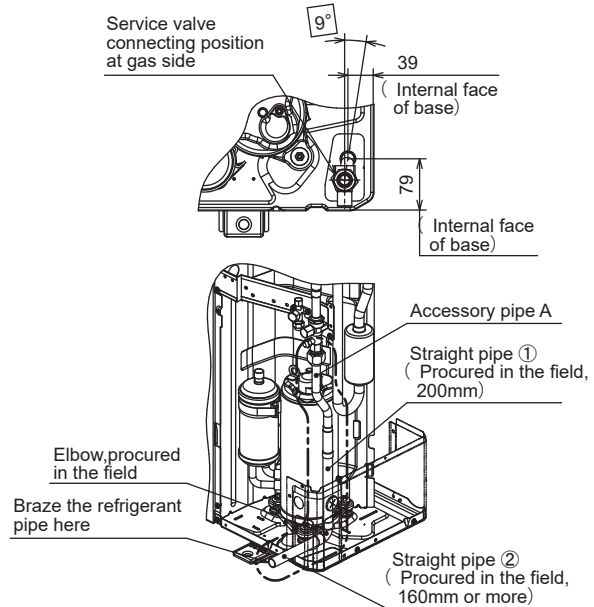


【 Connection example (A) – (D) applicable to the connecting direction.】

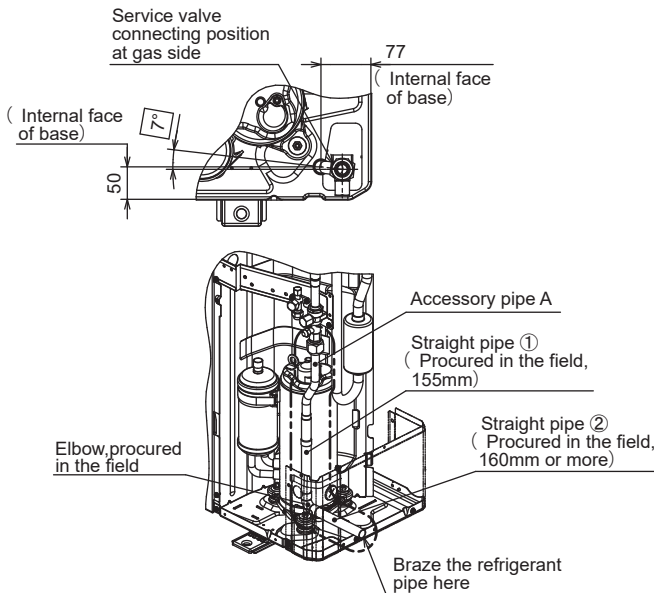
- The piping angle shown below is an example in case of 15mm of heat insulating material.
Adjust an angle, according to the thickness of heat insulating material.
Pass the connecting pipe in a hole after angle adjustment.



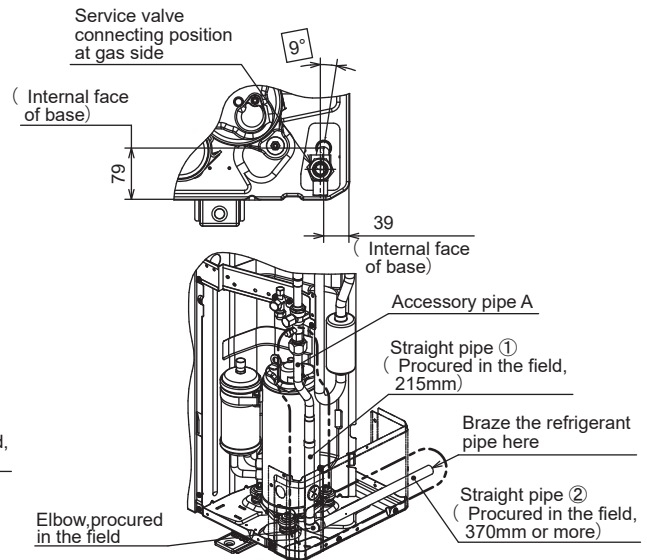
Connection example of refrigerant pipe-(A)
(Downward connection)



Connection example of refrigerant pipe-(B)
(Forward connection)



Connection example of refrigerant pipe-(C)
(Rightward connection)



Connection example of refrigerant pipe-(D)
(Backward connection)

(2) Model FDC250VSA

PSC012D028C 

- Be sure to use the accessory pipe to connect the service valve on the gas side with the field pipe.
- Be sure to use the straight pipe (Procured at the field) shown in the table 1 applicable to the model of outdoor unit.
- When tightening the flare, connect the pipe securely by pressing the flared face of pipe against the service valve.
- When brazing between the pipe in place and the attached pipe, confirm that no excessive force is applied to the flare joint. Otherwise gas could leak from the flare joint.

- Connect the attached pipe according to the following steps ① – ⑤.
 - ① Referring to Table 2 and Table 3, prepare the straight pipe and the elbow in the field, which are used in the construction examples (A) – (D) applicable to the connecting direction.
 - ② Firstly, use the accessory pipe to assemble the connecting pipe assembly outside the outdoor unit. (As shown in the figure of connecting examples (A) – (D).)
 - ③ After assembling the connecting pipe, connect it to the service valve on the gas side inside the outdoor unit. Tighten the flare nut with appropriate torque.

Proper torque	
φ 19.05	100 – 120N · m

- ④ After connection of the connecting pipe assembly to the service valve on the gas side, braze the connecting pipe assembly and the field pipe.
- ⑤ When connecting pipe contacts wiring, attach heat insulating material to the pipe in order to prevent from contacting of the pipe and wiring. (If the wiring is rubbed with the pipe and the cover of wiring is teared, there is a risk of a short circuit or an electric shock.)

About brazing

- Be sure to braze while supplying nitrogen gas. If no nitrogen gas is supplied, a large amount of impurity (oxidized film) will be generated, which may clog the capillary tube and the expansion valve, resulting in fatal malfunction.

Table 1 Pipe specification

		Refrigerant line (one way) length (m)	
Single type	FDC250V	≤ 35 (m)	φ 22.22 x T1.0
		≤ 70 (m)	φ 25.4 x T1.0 or φ 28.58 x T1.0
Multi type	FDC224KXZPE1	≤ 90 (m)	φ 19.05 x T1.0
		≤ 120 (m)	φ 22.22 x T1.0
	FDC280KXZPE1	≤ 90 (m)	φ 22.22 x T1.0
		≤ 120 (m)	φ 25.4 x T1.0 or φ 28.58 x T1.0

- Be sure to use pipes of 1/2H material, and wall thickness above 1mm. (Pressure resistance of O-type pipe is not enough)


Table 2 Parts used for the connecting pipe assembly

No.	Name	Quantity	Remark
1	Accessory pipe A	1	Accessory
2	Straight pipe ①	1	Procured at the field
3	Straight pipe ②	1 or 0	Procured at the field (Not required for downward direction)
4	Elbow	1 or 0	Procured at the field (Not required for downward direction)

Table 3 Length and specification of straight pipe (Procured in the field)

	Ⓐ Downward	Ⓑ Forward	Ⓒ Rightward	Ⓓ Backward
Straight pipe ①	400mm or more	192.5 – 202.5mm	192.5 – 202.5mm	210mm
Straight pipe ②	—	105mm or more	155mm or more	370mm or more

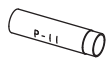
A



Accessory pipe A x 1 pc
(Except FDC224KXZPE1)

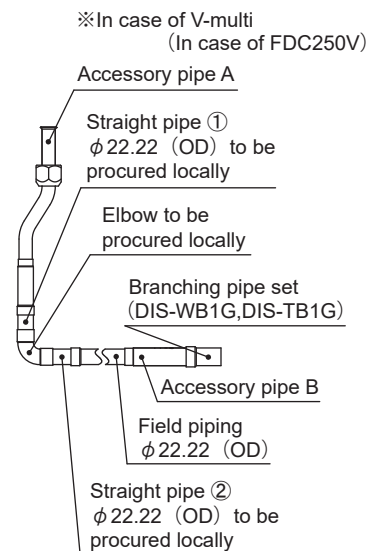
Heat insulating material is attached to the accessory pipe with band. When installing the heat insulating material, cut the band and retrieve it.

B



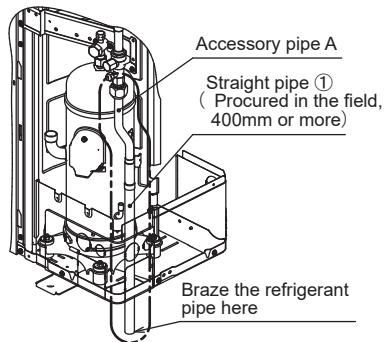
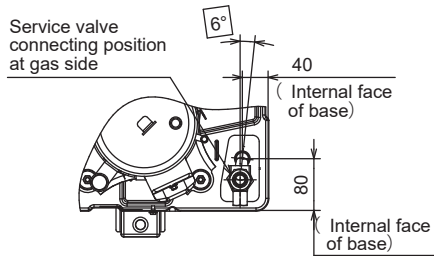
Accessory pipe B x 1 pc
(Only use for FDC250V)

- Branching pipe set can be used by using the accessory pipe B. When φ 22.22 (OD) size of the indoor unit gas pipe is used, the accessory pipe B is unnecessary.

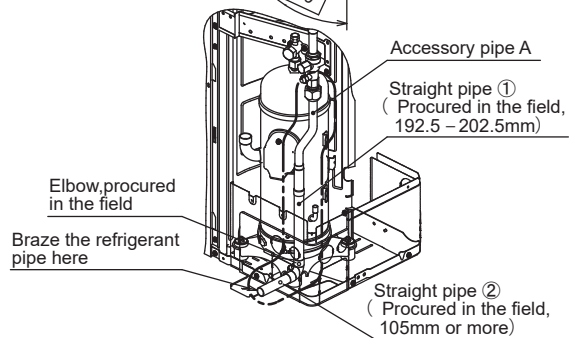
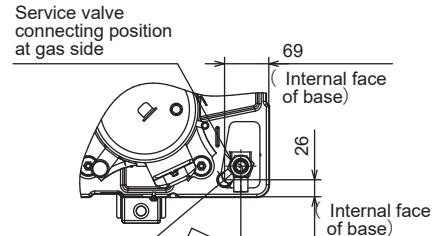


【 Connection example (A) – (D) applicable to the connecting direction.】

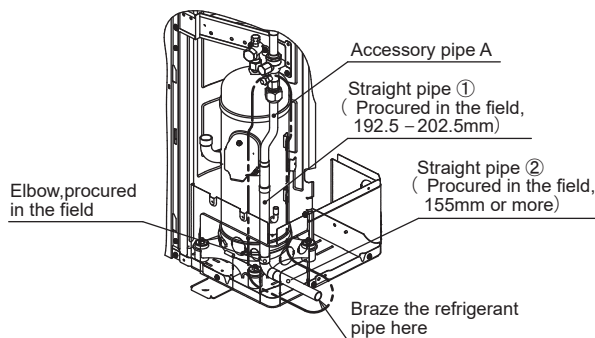
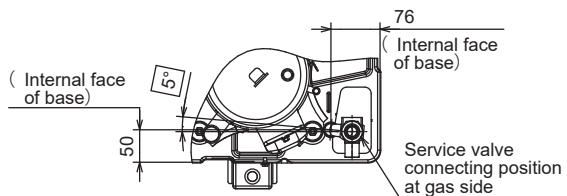
- The piping angle shown below is an example in case of 15mm of heat insulating material.
Adjust an angle, according to the thickness of heat insulating material.
Pass the connecting pipe in a hole after angle adjustment.



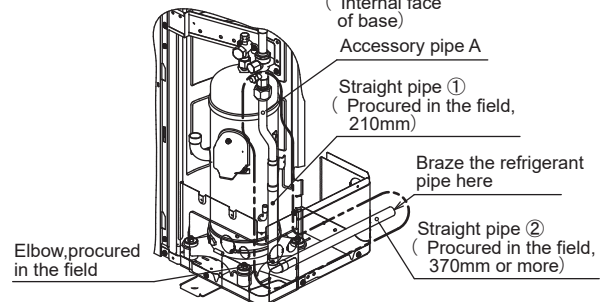
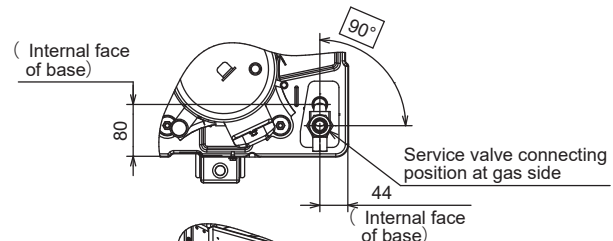
Connection example of refrigerant pipe-**(A)**
(Downward connection)



Connection example of refrigerant pipe-**(B)**
(Forward connection)



Connection example of refrigerant pipe-**(C)**
(Rightward connection)



Connection example of refrigerant pipe-**(D)**
(Backward connection)

2.10.6 Instructions for branching pipe set (DIS-WA1, WB1, TA1, TB1)

See page 173.

2.11 TECHNICAL INFORMATION

(1) Ceiling suspended type (FDE)

FDE100VNAVG

Information to identify the model(s) to which the information relates to:				If function includes heating: Indicate the heating season the information relates to. Indicated values should relate to one heating season at a time. Include at least the heating season 'Average'.			
Indoor unit model name		FDE100VG					
Outdoor unit model name		FDC100VNA					
Function(indicate if present)				Average(mandatory)			
cooling		Yes		Warmer(if designated)		No	
heating		Yes		Colder(if designated)		No	
Item				Item			
		symbol value unit				symbol value class	
Design load				Seasonal efficiency and energy efficiency class			
cooling		Pdesignc 10.0 kW		cooling		SEER 6.35 A++	
heating / Average		Pdesignh 8.5 kW		heating / Average		SCOP/A 4.31 A+	
heating / Warmer		Pdesignh - kW		heating / Warmer		SCOP/W - -	
heating / Colder		Pdesignh - kW		heating / Colder		SCOP/C - -	
Declared capacity at outdoor temperature Tdesignh				Back up heating capacity at outdoor temperature Tdesignh			
heating / Average (-10°C)		Pdh 8.5 kW		heating / Average (-10°C)		elbu 0 kW	
heating / Warmer (2°C)		Pdh - kW		heating / Warmer (2°C)		elbu - kW	
heating / Colder (-22°C)		Pdh - kW		heating / Colder (-22°C)		elbu - kW	
Declared capacity for cooling, at indoor temperature 27(19)°C and outdoor temperature Tj				Declared energy efficiency ratio, at indoor temperature 27(19)°C and outdoor temperature Tj			
Tj=35°C		Pdc 10.00 kW		Tj=35°C		EERd 3.51 -	
Tj=30°C		Pdc 7.37 kW		Tj=30°C		EERd 5.00 -	
Tj=25°C		Pdc 4.74 kW		Tj=25°C		EERd 7.80 -	
Tj=20°C		Pdc 3.48 kW		Tj=20°C		EERd 12.40 -	
Declared capacity for heating / Average season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Average season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C		Pdh 7.52 kW		Tj=-7°C		COPd 3.22 -	
Tj=2°C		Pdh 4.58 kW		Tj=2°C		COPd 4.04 -	
Tj=7°C		Pdh 2.94 kW		Tj=7°C		COPd 5.58 -	
Tj=12°C		Pdh 2.78 kW		Tj=12°C		COPd 6.46 -	
Tj=bivalent temperature		Pdh 6.77 kW		Tj=bivalent temperature		COPd 2.42 -	
Tj=operating limit		Pdh 8.50 kW		Tj=operating limit		COPd 2.75 -	
Declared capacity for heating / Warmer season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Warmer season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=2°C		Pdh - kW		Tj=2°C		COPd - -	
Tj=7°C		Pdh - kW		Tj=7°C		COPd - -	
Tj=12°C		Pdh - kW		Tj=12°C		COPd - -	
Tj=bivalent temperature		Pdh - kW		Tj=bivalent temperature		COPd - -	
Tj=operating limit		Pdh - kW		Tj=operating limit		COPd - -	
Declared capacity for heating / Colder season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Colder season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C		Pdh - kW		Tj=-7°C		COPd - -	
Tj=2°C		Pdh - kW		Tj=2°C		COPd - -	
Tj=7°C		Pdh - kW		Tj=7°C		COPd - -	
Tj=12°C		Pdh - kW		Tj=12°C		COPd - -	
Tj=bivalent temperature		Pdh - kW		Tj=bivalent temperature		COPd - -	
Tj=operating limit		Pdh - kW		Tj=operating limit		COPd - -	
Tj=-15°C		Pdh - kW		Tj=-15°C		COPd - -	
Bivalent temperature				Operating limit temperature			
heating / Average		Tbiv -10 °C		heating / Average		Tol -20 °C	
heating / Warmer		Tbiv - °C		heating / Warmer		Tol - °C	
heating / Colder		Tbiv - °C		heating / Colder		Tol - °C	
Cycling interval capacity				Cycling interval efficiency			
for cooling		Pccyc - kW		for cooling		EERcyc - -	
for heating		Pchyc - kW		for heating		COPcyc - -	
Degradation coefficient cooling				Degradation coefficient heating			
		Cdc 0.25 -				Cdh 0.25 -	
Electric power input in power modes other than 'active mode'				Annual electricity consumption			
off mode		Poff 8 W		cooling		Qce 552 kWh/a	
standby mode		Psb 8 W		heating / Average		Qhe 2,762 kWh/a	
thermostat-off mode		Pto 30 W		heating / Warmer		Qhe - kWh/a	
crankcase heater mode		Pck 8 W		heating / colder		Qhe - kWh/a	
Capacity control(indicate one of three options)				Other items			
fixed		No		Sound power level(indoor)		Lwa 64 dB(A)	
staged		No		Sound power level(outdoor)		Lwa 70 dB(A)	
variable		Yes		Global warming potential		GWP 1,975 kgCO ₂ eq.	
				Rated air flow(indoor)		- 1,920 m ³ /h	
				Rated air flow(outdoor)		- 4,500 m ³ /h	
Contact details for obtaining more information		Name and address of the manufacturer or of its authorised representative. Mitsubishi Heavy Industries Air-Conditioning Europe, Ltd. 5 The Square, Stockley Park, Uxbridge, Middlesex, UB11 1ET, United Kingdom					

FDE100VSAVG

Information to identify the model(s) to which the information relates to:				If function includes heating: Indicate the heating season the information relates to. Indicated values should relate to one heating season at a time. Include at least the heating season 'Average'.			
Indoor unit model name		FDE100VG					
Outdoor unit model name		FDC100VSA					
Function(indicate if present)				Average(mandatory)			
cooling		Yes		Warmer(if designated)		No	
heating		Yes		Colder(if designated)		No	
Item				Item			
		symbol value unit				symbol value class	
Design load				Seasonal efficiency and energy efficiency class			
cooling		Pdesignc 10.0 kW		cooling		SEER 6.35 A++	
heating / Average		Pdesignh 8.5 kW		heating / Average		SCOP/A 4.31 A+	
heating / Warmer		Pdesignh — kW		heating / Warmer		SCOP/W — —	
heating / Colder		Pdesignh — kW		heating / Colder		SCOP/C — —	
				unit			
Declared capacity at outdoor temperature Tdesignh				Back up heating capacity at outdoor temperature Tdesignh			
heating / Average (-10°C)		Pdh 8.5 kW		heating / Average (-10°C)		elbu 0 kW	
heating / Warmer (2°C)		Pdh — kW		heating / Warmer (2°C)		elbu — kW	
heating / Colder (-22°C)		Pdh — kW		heating / Colder (-22°C)		elbu — kW	
Declared capacity for cooling, at indoor temperature 27(19)°C and outdoor temperature Tj				Declared energy efficiency ratio, at indoor temperature 27(19)°C and outdoor temperature Tj			
Tj=35°C		Pdc 10.0 kW		Tj=35°C		EERd 3.51 -	
Tj=30°C		Pdc 7.37 kW		Tj=30°C		EERd 5.00 -	
Tj=25°C		Pdc 4.74 kW		Tj=25°C		EERd 7.80 -	
Tj=20°C		Pdc 3.48 kW		Tj=20°C		EERd 12.40 -	
Declared capacity for heating / Average season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Average season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C		Pdh 7.52 kW		Tj=-7°C		COPd 3.22 -	
Tj=2°C		Pdh 4.58 kW		Tj=2°C		COPd 4.04 -	
Tj=7°C		Pdh 2.94 kW		Tj=7°C		COPd 5.58 -	
Tj=12°C		Pdh 2.78 kW		Tj=12°C		COPd 6.46 -	
Tj=bivalent temperature		Pdh 6.77 kW		Tj=bivalent temperature		COPd 2.42 -	
Tj=operating limit		Pdh 8.50 kW		Tj=operating limit		COPd 2.75 -	
Declared capacity for heating / Warmer season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Warmer season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=2°C		Pdh — kW		Tj=2°C		COPd — -	
Tj=7°C		Pdh — kW		Tj=7°C		COPd — -	
Tj=12°C		Pdh — kW		Tj=12°C		COPd — -	
Tj=bivalent temperature		Pdh — kW		Tj=bivalent temperature		COPd — -	
Tj=operating limit		Pdh — kW		Tj=operating limit		COPd — -	
Declared capacity for heating / Colder season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Colder season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C		Pdh — kW		Tj=-7°C		COPd — -	
Tj=2°C		Pdh — kW		Tj=2°C		COPd — -	
Tj=7°C		Pdh — kW		Tj=7°C		COPd — -	
Tj=12°C		Pdh — kW		Tj=12°C		COPd — -	
Tj=bivalent temperature		Pdh — kW		Tj=bivalent temperature		COPd — -	
Tj=operating limit		Pdh — kW		Tj=operating limit		COPd — -	
Tj=-15°C		Pdh — kW		Tj=-15°C		COPd — -	
Bivalent temperature				Operating limit temperature			
heating / Average		Tbiv -10 °C		heating / Average		Tol -20 °C	
heating / Warmer		Tbiv — °C		heating / Warmer		Tol — °C	
heating / Colder		Tbiv — °C		heating / Colder		Tol — °C	
Cycling interval capacity				Cycling interval efficiency			
for cooling		Pcycc — kW		for cooling		EERcyc — -	
for heating		Pcyh — kW		for heating		COPcyc — -	
Degradation coefficient				Degradation coefficient			
cooling		Cdc 0.25 -		heating		Cdh 0.25 -	
Electric power input in power modes other than 'active mode'				Annual electricity consumption			
off mode		Poff 8 W		cooling		Qce 552 kWh/a	
standby mode		Psb 8 W		heating / Average		Qhe 2,762 kWh/a	
thermostat-off mode		Pto 30 W		heating / Warmer		Qhe — kWh/a	
crankcase heater mode		Pck 8 W		heating / colder		Qhe — kWh/a	
Capacity control(indicate one of three options)				Other items			
fixed		No		Sound power level(indoor)		Lwa 64 dB(A)	
staged		No		Sound power level(outdoor)		Lwa 70 dB(A)	
variable		Yes		Global warming potential		GWP 1,975 kgCO ₂ eq.	
				Rated air flow(indoor)		- 1,920 m ³ /h	
				Rated air flow(outdoor)		- 4,500 m ³ /h	
Contact details for obtaining more information		Name and address of the manufacturer or of its authorised representative. Mitsubishi Heavy Industries Air-Conditioning Europe, Ltd. 5 The Square, Stockley Park, Uxbridge, Middlesex, UB11 1ET, United Kingdom					

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FDE100VNAPVG

Information to identify the model(s) to which the information relates to:				If function includes heating: Indicate the heating season the information relates to. Indicated values should relate to one heating season at a time. Include at least the heating season 'Average'.			
Indoor unit model name		FDE50VG (2 units)		Average(mandatory)		Yes	
Outdoor unit model name		FDC100VNA		Warmer(if designated)		No	
Function(indicate if present)				Colder(if designated)			
cooling		Yes					
heating		Yes					
Item	symbol	value	unit	Item	symbol	value	class
Design load				Seasonal efficiency and energy efficiency class			
cooling	Pdesignc	10.0	kW	cooling	SEER	5.71	A+
heating / Average	Pdesignh	8.5	kW	heating / Average	SCOP/A	4.10	A+
heating / Warmer	Pdesignh	—	kW	heating / Warmer	SCOP/W	—	—
heating / Colder	Pdesignh	—	kW	heating / Colder	SCOP/C	—	—
				unit			
Declared capacity at outdoor temperature Tdesignh				Back up heating capacity at outdoor temperature Tdesignh			
heating / Average (-10°C)	Pdh	8.5	kW	heating / Average (-10°C)	elbu	0	kW
heating / Warmer (2°C)	Pdh	—	kW	heating / Warmer (2°C)	elbu	—	kW
heating / Colder (-22°C)	Pdh	—	kW	heating / Colder (-22°C)	elbu	—	kW
Declared capacity for cooling, at indoor temperature 27(19)°C and outdoor temperature Tj				Declared energy efficiency ratio, at indoor temperature 27(19)°C and outdoor temperature Tj			
Tj=35°C	Pdc	10.0	kW	Tj=35°C	EERd	3.21	-
Tj=30°C	Pdc	7.37	kW	Tj=30°C	EERd	4.49	-
Tj=25°C	Pdc	4.74	kW	Tj=25°C	EERd	6.63	-
Tj=20°C	Pdc	3.30	kW	Tj=20°C	EERd	11.69	-
Declared capacity for heating / Average season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Average season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C	Pdh	7.52	kW	Tj=-7°C	COPd	3.01	-
Tj=2°C	Pdh	4.58	kW	Tj=2°C	COPd	3.84	-
Tj=7°C	Pdh	2.94	kW	Tj=7°C	COPd	5.29	-
Tj=12°C	Pdh	2.70	kW	Tj=12°C	COPd	6.48	-
Tj=bivalent temperature	Pdh	6.77	kW	Tj=bivalent temperature	COPd	2.28	-
Tj=operating limit	Pdh	8.50	kW	Tj=operating limit	COPd	2.62	-
Declared capacity for heating / Warmer season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Warmer season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=2°C	Pdh	—	kW	Tj=2°C	COPd	—	-
Tj=7°C	Pdh	—	kW	Tj=7°C	COPd	—	-
Tj=12°C	Pdh	—	kW	Tj=12°C	COPd	—	-
Tj=bivalent temperature	Pdh	—	kW	Tj=bivalent temperature	COPd	—	-
Tj=operating limit	Pdh	—	kW	Tj=operating limit	COPd	—	-
Declared capacity for heating / Colder season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Colder season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C	Pdh	—	kW	Tj=-7°C	COPd	—	-
Tj=2°C	Pdh	—	kW	Tj=2°C	COPd	—	-
Tj=7°C	Pdh	—	kW	Tj=7°C	COPd	—	-
Tj=12°C	Pdh	—	kW	Tj=12°C	COPd	—	-
Tj=bivalent temperature	Pdh	—	kW	Tj=bivalent temperature	COPd	—	-
Tj=operating limit	Pdh	—	kW	Tj=operating limit	COPd	—	-
Tj=-15°C	Pdh	—	kW	Tj=-15°C	COPd	—	-
Bivalent temperature				Operating limit temperature			
heating / Average	Tbiv	-10	°C	heating / Average	Tol	-20	°C
heating / Warmer	Tbiv	—	°C	heating / Warmer	Tol	—	°C
heating / Colder	Tbiv	—	°C	heating / Colder	Tol	—	°C
Cycling interval capacity				Cycling interval efficiency			
for cooling	Pcycc	—	kW	for cooling	EERcyc	—	-
for heating	Pcyh	—	kW	for heating	COPcyc	—	-
Degradation coefficient				Degradation coefficient			
cooling	Cdc	0.25	-	heating	Cdh	0.25	-
Electric power input in power modes other than 'active mode'				Annual electricity consumption			
off mode	Poff	8	W	cooling	Qce	613	kWh/a
standby mode	Psb	8	W	heating / Average	Qhe	2,904	kWh/a
thermostat-off mode	Pto	30	W	heating / Warmer	Qhe	—	kWh/a
crankcase heater mode	Pck	8	W	heating / colder	Qhe	—	kWh/a
Capacity control(indicate one of three options)				Other items			
fixed		No		Sound power level(indoor)	Lwa	60	dB(A)
staged		No		Sound power level(outdoor)	Lwa	70	dB(A)
variable		Yes		Global warming potential	GWP	1,975	kgCO ₂ eq.
				Rated air flow(indoor)	-	780	m ³ /h
				Rated air flow(outdoor)	-	4,500	m ³ /h
Contact details for obtaining more information	Name and address of the manufacturer or of its authorised representative. Mitsubishi Heavy Industries Air-Conditioning Europe, Ltd. 5 The Square, Stockley Park, Uxbridge, Middlesex, UB11 1ET, United Kingdom						


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FDE100VSAPVG

Information to identify the model(s) to which the information relates to:				If function includes heating: Indicate the heating season the information relates to. Indicated values should relate to one heating season at a time. Include at least the heating season 'Average'.			
Indoor unit model name		FDE50VG (2 units)					
Outdoor unit model name		FDC100VSA					
Function(indicate if present)				Average(mandatory)			
cooling		Yes		Warmer(if designated)		No	
heating		Yes		Colder(if designated)		No	
Item symbol value unit				Item symbol value class			
Design load				Seasonal efficiency and energy efficiency class			
cooling		Pdesignc	10.0 kW	cooling		SEER	5.71 A+
heating / Average		Pdesignh	8.5 kW	heating / Average		SCOP/A	4.10 A+
heating / Warmer		Pdesignh	— kW	heating / Warmer		SCOP/W	— —
heating / Colder		Pdesignh	— kW	heating / Colder		SCOP/C	— —
				unit			
Declared capacity at outdoor temperature Tdesignh				Back up heating capacity at outdoor temperature Tdesignh			
heating / Average (-10°C)		Pdh	8.5 kW	heating / Average (-10°C)		elbu	0 kW
heating / Warmer (2°C)		Pdh	— kW	heating / Warmer (2°C)		elbu	— kW
heating / Colder (-22°C)		Pdh	— kW	heating / Colder (-22°C)		elbu	— kW
Declared capacity for cooling, at indoor temperature 27(19)°C and outdoor temperature Tj				Declared energy efficiency ratio, at indoor temperature 27(19)°C and outdoor temperature Tj			
Tj=35°C		Pdc	10.0 kW	Tj=35°C		EERd	3.21 -
Tj=30°C		Pdc	7.37 kW	Tj=30°C		EERd	4.49 -
Tj=25°C		Pdc	4.74 kW	Tj=25°C		EERd	6.63 -
Tj=20°C		Pdc	3.30 kW	Tj=20°C		EERd	11.69 -
Declared capacity for heating / Average season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Average season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C		Pdh	7.52 kW	Tj=-7°C		COPd	3.01 -
Tj=2°C		Pdh	4.58 kW	Tj=2°C		COPd	3.84 -
Tj=7°C		Pdh	2.94 kW	Tj=7°C		COPd	5.29 -
Tj=12°C		Pdh	2.70 kW	Tj=12°C		COPd	6.48 -
Tj=bivalent temperature		Pdh	6.77 kW	Tj=bivalent temperature		COPd	2.28 -
Tj=operating limit		Pdh	8.50 kW	Tj=operating limit		COPd	2.62 -
Declared capacity for heating / Warmer season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Warmer season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=2°C		Pdh	— kW	Tj=2°C		COPd	— -
Tj=7°C		Pdh	— kW	Tj=7°C		COPd	— -
Tj=12°C		Pdh	— kW	Tj=12°C		COPd	— -
Tj=bivalent temperature		Pdh	— kW	Tj=bivalent temperature		COPd	— -
Tj=operating limit		Pdh	— kW	Tj=operating limit		COPd	— -
Declared capacity for heating / Colder season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Colder season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C		Pdh	— kW	Tj=-7°C		COPd	— -
Tj=2°C		Pdh	— kW	Tj=2°C		COPd	— -
Tj=7°C		Pdh	— kW	Tj=7°C		COPd	— -
Tj=12°C		Pdh	— kW	Tj=12°C		COPd	— -
Tj=bivalent temperature		Pdh	— kW	Tj=bivalent temperature		COPd	— -
Tj=operating limit		Pdh	— kW	Tj=operating limit		COPd	— -
Tj=-15°C		Pdh	— kW	Tj=-15°C		COPd	— -
Bivalent temperature				Operating limit temperature			
heating / Average		Tbiv	-10 °C	heating / Average		Tol	-20 °C
heating / Warmer		Tbiv	— °C	heating / Warmer		Tol	— °C
heating / Colder		Tbiv	— °C	heating / Colder		Tol	— °C
Cycling interval capacity				Cycling interval efficiency			
for cooling		Pcyc	— kW	for cooling		EERcyc	— -
for heating		Pcyc	— kW	for heating		COPcyc	— -
Degradation coefficient				Degradation coefficient			
cooling		Cdc	0.25 -	heating		Cdh	0.25 -
Electric power input in power modes other than 'active mode'				Annual electricity consumption			
off mode		Poff	8 W	cooling		Qce	613 kWh/a
standby mode		Psb	8 W	heating / Average		Qhe	2,904 kWh/a
thermostat-off mode		Pto	30 W	heating / Warmer		Qhe	— kWh/a
crankcase heater mode		Pck	8 W	heating / colder		Qhe	— kWh/a
Capacity control(indicate one of three options)				Other items			
fixed		No		Sound power level(indoor)		Lwa	60 dB(A)
staged		No		Sound power level(outdoor)		Lwa	70 dB(A)
variable		Yes		Global warming potential		GWP	1,975 kgCO ₂ eq.
				Rated air flow(indoor)		-	780 m ³ /h
				Rated air flow(outdoor)		-	4,500 m ³ /h
Contact details for obtaining more information		Name and address of the manufacturer or of its authorised representative. Mitsubishi Heavy Industries Air-Conditioning Europe, Ltd. 5 The Square, Stockley Park, Uxbridge, Middlesex, UB11 1ET, United Kingdom					

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FDE125VNAV

Model(s) : FDC125VNA / FDE125VG							
Outdoor side heat exchanger of air conditioner : air							
Indoor side heat exchanger of air conditioner : air							
Type : vapour compression							
if applicable : electric motor							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	12.5	kW	Seasonal space cooling energy efficiency ηs,c		238.1	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35°C	Pdc	12.5	kW	Tj=+35°C	EERd or GUEc,bin / AEFc,bin	281.0	%
Tj=+30°C	Pdc	9.2	kW	Tj=+30°C	EERd or GUEc,bin / AEFc,bin	448.0	%
Tj=+25°C	Pdc	5.9	kW	Tj=+25°C	EERd or GUEc,bin / AEFc,bin	735.0	%
Tj=+20°C	Pdc	3.4	kW	Tj=+20°C	EERd or GUEc,bin / AEFc,bin	1,097.0	%
Degradation coefficient for air conditioners**	Cdc	0.25	-				
Power consumption in other than 'active mode'							
Off mode	P _{OFF}	0.008	kW	Crankcase heater mode	P _{CK}	0.008	kW
Thermostat-off mode	P _{TO}	0.030	kW	Standby mode	P _{SB}	0.008	kW
Other items				For air-to-air air conditioner: air flow-rate,outdoor measured			
Capacity control		variable				4,500	m ³ /h
Sound power level, outdoor	L _{WA}	71.0	dB				
If engine driven: Emissions of nitrogen oxides	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details Mitsubishi heavy industries thermal systems,LTD							
** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
PFA004Z080 							

Information to identify the model(s) to which the information relates :				FDC125VNA / FDE125VG			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	14.0	kW	Seasonal space heating energy efficiency ηs,h		169.1	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	8.7	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	298.0	%
Tj=+2°C	Pdh	5.3	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	412.0	%
Tj=+7°C	Pdh	3.4	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	567.0	%
Tj=+12°C	Pdh	2.7	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	639.0	%
Tbw=bivalent temperature	Pdh	9.8	kW	Tbw=bivalent temperature	COPd or GUEh,bin / AEFh,bin	247.0	%
TOL=operation limit	Pdh	7.7	kW	TOL=operation limit	COPd or GUEh,bin / AEFh,bin	214.0	%
For air-to-water heat pumps : Tj=-15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj=-15°C (if TOL < -20°C)	COPd or GUEh,bin / AEFh,bin	-	%
Bivalent temperature	Tbw	-10.0	°C	For water-to-air heat pumps: Operation limit TOL temperature		-	°C
Degradation coefficient heat pumps**	Cdh	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.008	kW		elbu	-	kW
Thermostat-off mode	P _{TO}	0.043	kW	Type of energy input Standby mode	P _{SB}	0.008	kW
Crankcase heater mode	P _{CK}	0.008	kW				
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				4,380	m ³ /h
Sound power level, outdoor measured	L _{WA}	71.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		-	m ³ /h
Emissions of nitrogen oxides(if applicable)	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details				Mitsubishi heavy industries thermal systems,LTD			
** If Cdh is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							

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FDE125VSAVG

Model(s) : FDC125VSA / FDE125VG							
Outdoor side heat exchanger of air conditioner : air							
Indoor side heat exchanger of air conditioner : air							
Type : vapour compression							
if applicable : electric motor							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	12.5	kW	Seasonal space cooling energy efficiency ηs,c		238.1	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35°C	Pdc	12.5	kW	Tj=+35°C	EERd or GUEc,bin / AEFc,bin	281.0	%
Tj=+30°C	Pdc	9.2	kW	Tj=+30°C	EERd or GUEc,bin / AEFc,bin	448.0	%
Tj=+25°C	Pdc	5.9	kW	Tj=+25°C	EERd or GUEc,bin / AEFc,bin	735.0	%
Tj=+20°C	Pdc	3.4	kW	Tj=+20°C	EERd or GUEc,bin / AEFc,bin	1,097.0	%
Degradation coefficient for air conditioners**	Cdc	0.25	-				
Power consumption in other than 'active mode'							
Off mode	P _{OFF}	0.008	kW	Crankcase heater mode	P _{CK}	0.008	kW
Thermostat-off mode	P _{TO}	0.030	kW	Standby mode	P _{SB}	0.008	kW
Other items				For air-to-air air conditioner: air flow-rate,outdoor measured			
Capacity control		variable				4,500	m ³ /h
Sound power level, outdoor	L _{WA}	71.0	dB				
If engine driven: Emissions of nitrogen oxides	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
PFA004Z080 							

Information to identify the model(s) to which the information relates :				FDC125VSA / FDE125VG			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	14.0	kW	Seasonal space heating energy efficiency ηs,h		169.1	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	8.7	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	298.0	%
Tj=+2°C	Pdh	5.3	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	412.0	%
Tj=+7°C	Pdh	3.4	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	567.0	%
Tj=+12°C	Pdh	2.7	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	639.0	%
Tbw=bivalent temperature	Pdh	9.8	kW	Tbw=bivalent temperature	COPd or GUEh,bin / AEFh,bin	247.0	%
TOL=operation limit	Pdh	7.7	kW	TOL=operation limit	COPd or GUEh,bin / AEFh,bin	214.0	%
For air-to-water heat pumps : Tj=-15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj=-15°C (if TOL < -20°C)	COPd or GUEh,bin / AEFh,bin	-	%
Bivalent temperature	Tbw	-10.0	°C	For water-to-air heat pumps: Operation limit Tol temperature		-	°C
Degradation coefficient heat pumps**	Cdh	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.008	kW		elbu	-	kW
Thermostat-off mode	P _{TO}	0.043	kW	Type of energy input Standby mode	P _{SB}	0.008	kW
Crankcase heater mode	P _{CK}	0.008	kW				
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				4,380	m ³ /h
Sound power level, outdoor measured	L _{WA}	71.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		-	m ³ /h
Emissions of nitrogen oxides(if applicable)	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details				Mitsubishi heavy industries thermal systems,LTD			
** If Cdh is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							

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FDE140VNAV

Model(s) : FDC140VNA / FDE140VG							
Outdoor side heat exchanger of air conditioner : air							
Indoor side heat exchanger of air conditioner : air							
Type : vapour compression							
if applicable : electric motor							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	13.6	kW	Seasonal space cooling energy efficiency ηs,c		227.6	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35°C	Pdc	13.6	kW	Tj=+35°C	EERd or GUEc,bin / AEFc,bin	261.0	%
Tj=+30°C	Pdc	10.0	kW	Tj=+30°C	EERd or GUEc,bin / AEFc,bin	435.0	%
Tj=+25°C	Pdc	6.4	kW	Tj=+25°C	EERd or GUEc,bin / AEFc,bin	635.0	%
Tj=+20°C	Pdc	3.4	kW	Tj=+20°C	EERd or GUEc,bin / AEFc,bin	1,230.0	%
Degradation coefficient for air conditioners**	Cdc	0.25	-				
Power consumption in other than 'active mode'				Power consumption in other than 'active mode'			
Off mode	P _{OFF}	0.008	kW	Crankcase heater mode	P _{CK}	0.008	kW
Thermostat-off mode	P _{TO}	0.030	kW	Standby mode	P _{SB}	0.008	kW
Other items				Other items			
Capacity control		variable		For air-to-air air conditioner: air flow-rate,outdoor measured		4,500	m ³ /h
Sound power level, outdoor	L _{WA}	73.0	dB				
If engine driven: Emissions of nitrogen oxides	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details Mitsubishi heavy industries thermal systems,LTD							
** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
PFA004Z080 							

Information to identify the model(s) to which the information relates :				FDC140VNA / FDE140VG			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	15.5	kW	Seasonal space heating energy efficiency ηs,h		162.8	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	9.3	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	290.0	%
Tj=+2°C	Pdh	5.7	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	390.0	%
Tj=+7°C	Pdh	3.7	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	550.0	%
Tj=+12°C	Pdh	2.8	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	650.0	%
Tbw=bivalent temperature	Pdh	10.5	kW	Tbw=bivalent temperature	COPd or GUEh,bin / AEFh,bin	250.0	%
TOL=operation limit	Pdh	7.9	kW	TOL=operation limit	COPd or GUEh,bin / AEFh,bin	220.0	%
For air-to-water heat pumps : Tj=-15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj=-15°C (if TOL < -20°C)	COPd or GUEh,bin / AEFh,bin	-	%
Bivalent temperature	Tbw	-10.0	°C	For water-to-air heat pumps: Operation limit TOL temperature		-	°C
Degradation coefficient heat pumps**	Cdh	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.008	kW		elbu	-	kW
Thermostat-off mode	P _{TO}	0.045	kW	Type of energy input Standby mode	P _{SB}	0.008	kW
Crankcase heater mode	P _{CK}	0.008	kW				
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				4,380	m³/h
Sound power level, outdoor measured	L _{WA}	73.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		-	m³/h
Emissions of nitrogen oxides(if applicable)	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details				Mitsubishi heavy industries thermal systems,LTD			
** If Cdh is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							

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FDE140VSAVG

Model(s) : FDC140VSA / FDE140VG							
Outdoor side heat exchanger of air conditioner : air							
Indoor side heat exchanger of air conditioner : air							
Type : vapour compression							
if applicable : electric motor							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	13.6	kW	Seasonal space cooling energy efficiency ηs,c		227.6	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35°C	Pdc	13.6	kW	Tj=+35°C	EERd or GUEc,bin / AEFc,bin	261.0	%
Tj=+30°C	Pdc	10.0	kW	Tj=+30°C	EERd or GUEc,bin / AEFc,bin	435.0	%
Tj=+25°C	Pdc	6.4	kW	Tj=+25°C	EERd or GUEc,bin / AEFc,bin	635.0	%
Tj=+20°C	Pdc	3.4	kW	Tj=+20°C	EERd or GUEc,bin / AEFc,bin	1,230.0	%
Degradation coefficient for air conditioners**	Cdc	0.25	-				
Power consumption in other than 'active mode'				Power consumption in other than 'active mode'			
Off mode	P _{OFF}	0.008	kW	Crankcase heater mode	P _{CK}	0.008	kW
Thermostat-off mode	P _{TO}	0.030	kW	Standby mode	P _{SB}	0.008	kW
Other items				Other items			
Capacity control		variable		For air-to-air air conditioner: air flow-rate,outdoor measured		4,500	m ³ /h
Sound power level, outdoor	L _{WA}	73.0	dB				
If engine driven: Emissions of nitrogen oxides	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details Mitsubishi heavy industries thermal systems,LTD							
** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
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Information to identify the model(s) to which the information relates :				FDC140VSA / FDE140VG			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	15.5	kW	Seasonal space heating energy efficiency ηs,h		162.8	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	9.3	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	290.0	%
Tj=+2°C	Pdh	5.7	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	390.0	%
Tj=+7°C	Pdh	3.7	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	550.0	%
Tj=+12°C	Pdh	2.8	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	650.0	%
Tbw=bivalent temperature	Pdh	10.5	kW	Tbw=bivalent temperature	COPd or GUEh,bin / AEFh,bin	250.0	%
TOL=operation limit	Pdh	7.9	kW	TOL=operation limit	COPd or GUEh,bin / AEFh,bin	220.0	%
For air-to-water heat pumps : Tj=-15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj=-15°C (if TOL < -20°C)	COPd or GUEh,bin / AEFh,bin	-	%
Bivalent temperature	Tbw	-10.0	°C	For water-to-air heat pumps: Operation limit TOL temperature		-	°C
Degradation coefficient heat pumps**	Cdh	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.008	kW		elbu	-	kW
Thermostat-off mode	P _{TO}	0.045	kW	Type of energy input Standby mode	P _{SB}	0.008	kW
Crankcase heater mode	P _{CK}	0.008	kW				
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				4,380	m ³ /h
Sound power level, outdoor measured	L _{WA}	73.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		-	m ³ /h
Emissions of nitrogen oxides(if applicable)	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details				Mitsubishi heavy industries thermal systems,LTD			
** If Cdh is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							

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FDE125VNAPVG

Model(s) : FDC125VNA / FDE60VG (2 units)							
Outdoor side heat exchanger of air conditioner : air							
Indoor side heat exchanger of air conditioner : air							
Type : vapour compression							
if applicable : electric motor							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	12.5	kW	Seasonal space cooling energy efficiency ηs,c		294.7	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35°C	Pdc	12.5	kW	Tj=+35°C	EERd or GUEc,bin / AEFc,bin	308.0	%
Tj=+30°C	Pdc	9.2	kW	Tj=+30°C	EERd or GUEc,bin / AEFc,bin	532.0	%
Tj=+25°C	Pdc	5.9	kW	Tj=+25°C	EERd or GUEc,bin / AEFc,bin	846.0	%
Tj=+20°C	Pdc	3.7	kW	Tj=+20°C	EERd or GUEc,bin / AEFc,bin	1,762.0	%
Degradation coefficient for air conditioners**	Cdc	0.25	-				
Power consumption in other than 'active mode'							
Off mode	P _{OFF}	0.008	kW	Crankcase heater mode	P _{CK}	0.008	kW
Thermostat-off mode	P _{TO}	0.000	kW	Standby mode	P _{SB}	0.008	kW
Other items				For air-to-air air conditioner: air flow-rate,outdoor measured			
Capacity control		variable				4,500	m ³ /h
Sound power level, outdoor	L _{WA}	71.0	dB				
If engine driven: Emissions of nitrogen oxides	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details		Mitsubishi heavy industries thermal systems,LTD					
** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
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Information to identify the model(s) to which the information relates :				FDC125VNA / FDE60VG (2 units)			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	14.0	kW	Seasonal space heating energy efficiency ηs,h		198.8	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	8.7	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	343.0	%
Tj=+2°C	Pdh	5.3	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	467.0	%
Tj=+7°C	Pdh	3.4	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	692.0	%
Tj=+12°C	Pdh	2.7	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	871.0	%
Tbw=bivalent temperature	Pdh	9.8	kW	Tbw=bivalent temperature	COPd or GUEh,bin / AEFh,bin	275.0	%
TOL=operation limit	Pdh	7.7	kW	TOL=operation limit	COPd or GUEh,bin / AEFh,bin	248.0	%
For air-to-water heat pumps : Tj=-15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj=-15°C (if TOL < -20°C)	COPd or GUEh,bin / AEFh,bin	-	%
Bivalent temperature	Tbw	-10.0	°C	For water-to-air heat pumps: Operation limit Tol temperature		-	°C
Degradation coefficient heat pumps**	Cdh	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.008	kW		elbu	-	kW
Thermostat-off mode	P _{TO}	0.015	kW	Type of energy input Standby mode	P _{SB}	0.008	kW
Crankcase heater mode	P _{CK}	0.008	kW				
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				4,380	m ³ /h
Sound power level, outdoor measured	L _{WA}	71.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		-	m ³ /h
Emissions of nitrogen oxides(if applicable)	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details				Mitsubishi heavy industries thermal systems,LTD			
** If Cdh is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							

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FDE125VSAPVG

Model(s) : FDC125VSA / FDE60VG (2 units)							
Outdoor side heat exchanger of air conditioner : air							
Indoor side heat exchanger of air conditioner : air							
Type : vapour compression							
if applicable : electric motor							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	12.5	kW	Seasonal space cooling energy efficiency ηs,c		294.7	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35°C	Pdc	12.5	kW	Tj=+35°C	EERd or GUEc,bin / AEFc,bin	308.0	%
Tj=+30°C	Pdc	9.2	kW	Tj=+30°C	EERd or GUEc,bin / AEFc,bin	532.0	%
Tj=+25°C	Pdc	5.9	kW	Tj=+25°C	EERd or GUEc,bin / AEFc,bin	846.0	%
Tj=+20°C	Pdc	3.7	kW	Tj=+20°C	EERd or GUEc,bin / AEFc,bin	1,762.0	%
Degradation coefficient for air conditioners**	Cdc	0.25	-				
Power consumption in other than 'active mode'							
Off mode	P _{OFF}	0.008	kW	Crankcase heater mode	P _{CK}	0.008	kW
Thermostat-off mode	P _{TO}	0.000	kW	Standby mode	P _{SB}	0.008	kW
Other items				For air-to-air air conditioner: air flow-rate,outdoor measured			
Capacity control		variable				4,500	m ³ /h
Sound power level, outdoor	L _{WA}	71.0	dB				
If engine driven: Emissions of nitrogen oxides	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
PFA004Z080 							

Information to identify the model(s) to which the information relates :				FDC125VSA / FDE60VG (2 units)			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	14.0	kW	Seasonal space heating energy efficiency ηs,h		198.8	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	8.7	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	343.0	%
Tj=+2°C	Pdh	5.3	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	467.0	%
Tj=+7°C	Pdh	3.4	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	692.0	%
Tj=+12°C	Pdh	2.7	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	871.0	%
Tbw=bivalent temperature	Pdh	9.8	kW	Tbw=bivalent temperature	COPd or GUEh,bin / AEFh,bin	275.0	%
TOL=operation limit	Pdh	7.7	kW	TOL=operation limit	COPd or GUEh,bin / AEFh,bin	248.0	%
For air-to-water heat pumps : Tj=-15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj=-15°C (if TOL < -20°C)	COPd or GUEh,bin / AEFh,bin	-	%
Bivalent temperature	Tbw	-10.0	°C	For water-to-air heat pumps: Operation limit TOL temperature		-	°C
Degradation coefficient heat pumps**	Cdh	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.008	kW		elbu	-	kW
Thermostat-off mode	P _{TO}	0.015	kW	Type of energy input Standby mode	P _{SB}	0.008	kW
Crankcase heater mode	P _{CK}	0.008	kW				
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				4,380	m ³ /h
Sound power level, outdoor measured	L _{WA}	71.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		-	m ³ /h
Emissions of nitrogen oxides(if applicable)	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details				Mitsubishi heavy industries thermal systems,LTD			
** If Cdh is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							

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FDE140VNAPVG

Model(s) : FDC140VNA / FDE71VG (2 units)							
Outdoor side heat exchanger of air conditioner : air							
Indoor side heat exchanger of air conditioner : air							
Type : vapour compression							
if applicable : electric motor							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	13.6	kW	Seasonal space cooling energy efficiency ηs,c		268.9	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35°C	Pdc	13.6	kW	Tj=+35°C	EERd or GUEc,bin / AEFc,bin	293.0	%
Tj=+30°C	Pdc	10.0	kW	Tj=+30°C	EERd or GUEc,bin / AEFc,bin	468.0	%
Tj=+25°C	Pdc	6.4	kW	Tj=+25°C	EERd or GUEc,bin / AEFc,bin	740.0	%
Tj=+20°C	Pdc	3.7	kW	Tj=+20°C	EERd or GUEc,bin / AEFc,bin	1,762.0	%
Degradation coefficient for air conditioners**	Cdc	0.25	-				
Power consumption in other than 'active mode'							
Off mode	P _{OFF}	0.008	kW	Crankcase heater mode	P _{CK}	0.008	kW
Thermostat-off mode	P _{TO}	0.000	kW	Standby mode	P _{SB}	0.008	kW
Other items				For air-to-air air conditioner: air flow-rate,outdoor measured			
Capacity control		variable				4,500	m ³ /h
Sound power level, outdoor	L _{WA}	73.0	dB				
If engine driven: Emissions of nitrogen oxides	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
PFA004Z080 							

Information to identify the model(s) to which the information relates :				FDC140VNA / FDE71VG (2 units)			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	15.5	kW	Seasonal space heating energy efficiency ηs,h		188.8	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	9.3	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	316.0	%
Tj=+2°C	Pdh	5.7	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	447.0	%
Tj=+7°C	Pdh	3.7	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	652.0	%
Tj=+12°C	Pdh	2.8	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	875.0	%
Tbw=bivalent temperature	Pdh	10.5	kW	Tbw=bivalent temperature	COPd or GUEh,bin / AEFh,bin	258.0	%
TOL=operation limit	Pdh	8.3	kW	TOL=operation limit	COPd or GUEh,bin / AEFh,bin	236.0	%
For air-to-water heat pumps : Tj=-15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj=-15°C (if TOL < -20°C)	COPd or GUEh,bin / AEFh,bin	-	%
Bivalent temperature	Tbw	-10.0	°C	For water-to-air heat pumps: Operation limit Tol temperature		-	°C
Degradation coefficient heat pumps**	Cdh	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.008	kW		elbu	-	kW
Thermostat-off mode	P _{TO}	0.015	kW	Type of energy input Standby mode	P _{SB}	0.008	kW
Crankcase heater mode	P _{CK}	0.008	kW				
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				4,380	m ³ /h
Sound power level, outdoor measured	L _{WA}	73.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		-	m ³ /h
Emissions of nitrogen oxides(if applicable)	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details				Mitsubishi heavy industries thermal systems,LTD			
** If Cdh is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							

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FDE140VSAPVG

Model(s) : FDC140VSA / FDE71VG (2 units)							
Outdoor side heat exchanger of air conditioner : air							
Indoor side heat exchanger of air conditioner : air							
Type : vapour compression							
if applicable : electric motor							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	13.6	kW	Seasonal space cooling energy efficiency ηs,c		268.9	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35°C	Pdc	13.6	kW	Tj=+35°C	EERd or GUEc,bin / AEFc,bin	293.0	%
Tj=+30°C	Pdc	10.0	kW	Tj=+30°C	EERd or GUEc,bin / AEFc,bin	468.0	%
Tj=+25°C	Pdc	6.4	kW	Tj=+25°C	EERd or GUEc,bin / AEFc,bin	740.0	%
Tj=+20°C	Pdc	3.7	kW	Tj=+20°C	EERd or GUEc,bin / AEFc,bin	1,762.0	%
Degradation coefficient for air conditioners**	Cdc	0.25	-				
Power consumption in other than 'active mode'							
Off mode	P _{OFF}	0.008	kW	Crankcase heater mode	P _{CK}	0.008	kW
Thermostat-off mode	P _{TO}	0.000	kW	Standby mode	P _{SB}	0.008	kW
Other items				For air-to-air air conditioner: air flow-rate,outdoor measured			
Capacity control		variable				4,500	m ³ /h
Sound power level, outdoor	L _{WA}	73.0	dB				
If engine driven: Emissions of nitrogen oxides	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details Mitsubishi heavy industries thermal systems,LTD							
** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
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Information to identify the model(s) to which the information relates :				FDC140VSA / FDE71VG (2 units)			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	15.5	kW	Seasonal space heating energy efficiency ηs,h		188.8	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	9.3	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	316.0	%
Tj=+2°C	Pdh	5.7	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	447.0	%
Tj=+7°C	Pdh	3.7	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	652.0	%
Tj=+12°C	Pdh	2.8	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	875.0	%
Tbw=bivalent temperature	Pdh	10.5	kW	Tbw=bivalent temperature	COPd or GUEh,bin / AEFh,bin	258.0	%
TOL=operation limit	Pdh	8.3	kW	TOL=operation limit	COPd or GUEh,bin / AEFh,bin	236.0	%
For air-to-water heat pumps : Tj=-15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj=-15°C (if TOL < -20°C)	COPd or GUEh,bin / AEFh,bin	-	%
Bivalent temperature	Tbw	-10.0	°C	For water-to-air heat pumps: Operation limit TOL temperature		-	°C
Degradation coefficient heat pumps**	Cdh	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.008	kW		elbu	-	kW
Thermostat-off mode	P _{TO}	0.015	kW	Type of energy input Standby mode	P _{SB}	0.008	kW
Crankcase heater mode	P _{CK}	0.008	kW				
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				4,380	m ³ /h
Sound power level, outdoor measured	L _{WA}	73.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		-	m ³ /h
Emissions of nitrogen oxides(if applicable)	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details				Mitsubishi heavy industries thermal systems,LTD			
** If Cdh is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							

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FDE200VSAPVG

Model(s) : FDC200VSA / FDE100VG (2 units)							
Outdoor side heat exchanger of air conditioner : air							
Indoor side heat exchanger of air conditioner : air							
Type : vapour compression							
if applicable : electric motor							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	19.0	kW	Seasonal space cooling energy efficiency ηs,c		296.4	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35°C	Pdc	19.0	kW	Tj=+35°C	EERd or GUEc,bin / AEFc,bin	311.0	%
Tj=+30°C	Pdc	14.0	kW	Tj=+30°C	EERd or GUEc,bin / AEFc,bin	531.0	%
Tj=+25°C	Pdc	9.0	kW	Tj=+25°C	EERd or GUEc,bin / AEFc,bin	981.0	%
Tj=+20°C	Pdc	4.3	kW	Tj=+20°C	EERd or GUEc,bin / AEFc,bin	1,204.0	%
Degradation coefficient for air conditioners**	Cdc	0.25	-				
Power consumption in other than 'active mode'							
Off mode	P _{OFF}	0.010	kW	Crankcase heater mode	P _{CK}	0.010	kW
Thermostat-off mode	P _{TO}	0.000	kW	Standby mode	P _{SB}	0.010	kW
Other items				For air-to-air air conditioner: air flow-rate,outdoor measured			
Capacity control		variable				8,100	m ³ /h
Sound power level, outdoor	L _{WA}	72.0	dB				
If engine driven: Emissions of nitrogen oxides	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details		Mitsubishi heavy industries thermal systems,LTD					
** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
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Information to identify the model(s) to which the information relates :				FDC200VSA / FDE100VG (2 units)			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	22.4	kW	Seasonal space heating energy efficiency ηs,h		184.9	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	11.1	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	280.0	%
Tj=+2°C	Pdh	6.7	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	498.0	%
Tj=+7°C	Pdh	4.3	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	546.0	%
Tj=+12°C	Pdh	3.5	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	722.0	%
Tbw=bivalent temperature	Pdh	12.5	kW	Tbw=bivalent temperature	COPd or GUEh,bin / AEFh,bin	275.0	%
TOL=operation limit	Pdh	10.5	kW	TOL=operation limit	COPd or GUEh,bin / AEFh,bin	244.0	%
For air-to-water heat pumps : Tj=-15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj=-15°C (if TOL < -20°C)	COPd or GUEh,bin / AEFh,bin	-	%
Bivalent temperature	Tbw	-10.0	°C	For water-to-air heat pumps: Operation limit Tol temperature		-	°C
Degradation coefficient heat pumps**	Cdh	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.010	kW		elbu	-	kW
Thermostat-off mode	P _{TO}	0.010	kW	Type of energy input Standby mode	P _{SB}	0.010	kW
Crankcase heater mode	P _{CK}	0.015	kW				
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				8,100	m ³ /h
Sound power level, outdoor measured	L _{WA}	74.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		-	m ³ /h
Emissions of nitrogen oxides(if applicable)	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details				Mitsubishi heavy industries thermal systems,LTD			
** If Cdh is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							

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FDE250VSAPVG

Model(s) : FDC250VSA / FDE125VG (2 units)							
Outdoor side heat exchanger of air conditioner : air							
Indoor side heat exchanger of air conditioner : air							
Type : vapour compression							
if applicable : electric motor							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	24.0	kW	Seasonal space cooling energy efficiency ηs,c		229.7	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35°C	Pdc	24.0	kW	Tj=+35°C	EERd or GUEc,bin / AEFc,bin	290.0	%
Tj=+30°C	Pdc	17.7	kW	Tj=+30°C	EERd or GUEc,bin / AEFc,bin	426.0	%
Tj=+25°C	Pdc	11.4	kW	Tj=+25°C	EERd or GUEc,bin / AEFc,bin	730.0	%
Tj=+20°C	Pdc	6.5	kW	Tj=+20°C	EERd or GUEc,bin / AEFc,bin	862.0	%
Degradation coefficient for air conditioners**	Cdc	0.25	-				
Power consumption in other than 'active mode'							
Off mode	P _{OFF}	0.010	kW	Crankcase heater mode	P _{CK}	0.010	kW
Thermostat-off mode	P _{TO}	0.000	kW	Standby mode	P _{SB}	0.010	kW
Other items				For air-to-air air conditioner: air flow-rate,outdoor measured			
Capacity control		variable				8,580	m ³ /h
Sound power level, outdoor	L _{WA}	73.0	dB				
If engine driven: Emissions of nitrogen oxides	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
PFA004Z080 							

Information to identify the model(s) to which the information relates :				FDC250VSA / FDE125VG (2 units)			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	27.0	kW	Seasonal space heating energy efficiency ηs,h		174.8	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	12.6	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	298.0	%
Tj=+2°C	Pdh	7.7	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	450.0	%
Tj=+7°C	Pdh	5.6	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	551.0	%
Tj=+12°C	Pdh	6.0	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	676.0	%
Tbw=bivalent temperature	Pdh	14.2	kW	Tbw=bivalent temperature	COPd or GUEh,bin / AEFh,bin	266.0	%
TOL=operation limit	Pdh	12.5	kW	TOL=operation limit	COPd or GUEh,bin / AEFh,bin	270.0	%
For air-to-water heat pumps : Tj=-15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj=-15°C (if TOL < -20°C)	COPd or GUEh,bin / AEFh,bin	-	%
Bivalent temperature	Tbw	-10.0	°C	For water-to-air heat pumps: Operation limit TOL temperature		-	°C
Degradation coefficient heat pumps**	Cdh	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.010	kW		elbu	-	kW
Thermostat-off mode	P _{TO}	0.010	kW	Type of energy input Standby mode	P _{SB}	0.010	kW
Crankcase heater mode	P _{CK}	0.015	kW				
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				9,060	m ³ /h
Sound power level, outdoor measured	L _{WA}	75.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		-	m ³ /h
Emissions of nitrogen oxides(if applicable)	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details				Mitsubishi heavy industries thermal systems,LTD			
** If Cdh is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							

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FDE140VNATVG

Model(s) : FDC140VNA / FDE50VG (3 units)							
Outdoor side heat exchanger of air conditioner : air							
Indoor side heat exchanger of air conditioner : air							
Type : vapour compression							
if applicable : electric motor							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	13.6	kW	Seasonal space cooling energy efficiency ηs,c		268.9	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35°C	Pdc	13.6	kW	Tj=+35°C	EERd or GUEc,bin / AEFc,bin	293.0	%
Tj=+30°C	Pdc	10.0	kW	Tj=+30°C	EERd or GUEc,bin / AEFc,bin	468.0	%
Tj=+25°C	Pdc	6.4	kW	Tj=+25°C	EERd or GUEc,bin / AEFc,bin	740.0	%
Tj=+20°C	Pdc	3.7	kW	Tj=+20°C	EERd or GUEc,bin / AEFc,bin	1,762.0	%
Degradation coefficient for air conditioners**	Cdc	0.25	-				
Power consumption in other than 'active mode'							
Off mode	P _{OFF}	0.008	kW	Crankcase heater mode	P _{CK}	0.008	kW
Thermostat-off mode	P _{TO}	0.000	kW	Standby mode	P _{SB}	0.008	kW
Other items				For air-to-air air conditioner: air flow-rate,outdoor measured			
Capacity control		variable				4,500	m ³ /h
Sound power level, outdoor	L _{WA}	73.0	dB				
If engine driven: Emissions of nitrogen oxides	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details Mitsubishi heavy industries thermal systems,LTD							
** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
PFA004Z080 							

Information to identify the model(s) to which the information relates :				FDC140VNA / FDE50VG (3 units)			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	15.5	kW	Seasonal space heating energy efficiency ηs,h		188.8	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	9.3	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	316.0	%
Tj=+2°C	Pdh	5.7	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	447.0	%
Tj=+7°C	Pdh	3.7	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	652.0	%
Tj=+12°C	Pdh	2.8	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	875.0	%
Tbw=bivalent temperature	Pdh	10.5	kW	Tbw=bivalent temperature	COPd or GUEh,bin / AEFh,bin	258.0	%
TOL=operation limit	Pdh	8.3	kW	TOL=operation limit	COPd or GUEh,bin / AEFh,bin	236.0	%
For air-to-water heat pumps : Tj=-15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj=-15°C (if TOL < -20°C)	COPd or GUEh,bin / AEFh,bin	-	%
Bivalent temperature	Tbw	-10.0	°C	For water-to-air heat pumps: Operation limit TOL temperature		-	°C
Degradation coefficient heat pumps**	Cdh	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.008	kW	elbu		-	kW
Thermostat-off mode	P _{TO}	0.015	kW	Type of energy input Standby mode	P _{SB}	0.008	kW
Crankcase heater mode	P _{CK}	0.008	kW				
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				4,380	m ³ /h
Sound power level, outdoor measured	L _{WA}	73.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		-	m ³ /h
Emissions of nitrogen oxides(if applicable)	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details				Mitsubishi heavy industries thermal systems,LTD			
** If Cdh is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							

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FDE140VSATVG

Model(s) : FDC140VSA / FDE50VG (3 units)							
Outdoor side heat exchanger of air conditioner : air							
Indoor side heat exchanger of air conditioner : air							
Type : vapour compression							
if applicable : electric motor							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	13.6	kW	Seasonal space cooling energy efficiency ηs,c		268.9	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35°C	Pdc	13.6	kW	Tj=+35°C	EERd or GUEc,bin / AEFc,bin	293.0	%
Tj=+30°C	Pdc	10.0	kW	Tj=+30°C	EERd or GUEc,bin / AEFc,bin	468.0	%
Tj=+25°C	Pdc	6.4	kW	Tj=+25°C	EERd or GUEc,bin / AEFc,bin	740.0	%
Tj=+20°C	Pdc	3.7	kW	Tj=+20°C	EERd or GUEc,bin / AEFc,bin	1,762.0	%
Degradation coefficient for air conditioners**	Cdc	0.25	-				
Power consumption in other than 'active mode'				Power consumption in other than 'active mode'			
Off mode	P _{OFF}	0.008	kW	Crankcase heater mode	P _{CK}	0.008	kW
Thermostat-off mode	P _{TO}	0.000	kW	Standby mode	P _{SB}	0.008	kW
Other items				Other items			
Capacity control		variable		For air-to-air air conditioner: air flow-rate,outdoor measured		4,500	m ³ /h
Sound power level, outdoor	L _{WA}	73.0	dB				
If engine driven: Emissions of nitrogen oxides	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details Mitsubishi heavy industries thermal systems,LTD							
** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
PFA004Z080 							

Information to identify the model(s) to which the information relates :				FDC140VSA / FDE50VG (3 units)			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	15.5	kW	Seasonal space heating energy efficiency ηs,h		188.8	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	9.3	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	316.0	%
Tj=+2°C	Pdh	5.7	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	447.0	%
Tj=+7°C	Pdh	3.7	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	652.0	%
Tj=+12°C	Pdh	2.8	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	875.0	%
Tbw=bivalent temperature	Pdh	10.5	kW	Tbw=bivalent temperature	COPd or GUEh,bin / AEFh,bin	258.0	%
TOL=operation limit	Pdh	8.3	kW	TOL=operation limit	COPd or GUEh,bin / AEFh,bin	236.0	%
For air-to-water heat pumps : Tj=-15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj=-15°C (if TOL < -20°C)	COPd or GUEh,bin / AEFh,bin	-	%
Bivalent temperature	Tbw	-10.0	°C	For water-to-air heat pumps: Operation limit Tol temperature		-	°C
Degradation coefficient heat pumps**	Cdh	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.008	kW		elbu	-	kW
Thermostat-off mode	P _{TO}	0.015	kW	Type of energy input Standby mode	P _{SB}	0.008	kW
Crankcase heater mode	P _{CK}	0.008	kW				
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				4,380	m³/h
Sound power level, outdoor measured	L _{WA}	73.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		-	m³/h
Emissions of nitrogen oxides(if applicable)	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details				Mitsubishi heavy industries thermal systems,LTD			
** If Cdh is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							

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FDE200VSATVG

Model(s) : FDC200VSA / FDE71VG (3 units)							
Outdoor side heat exchanger of air conditioner : air							
Indoor side heat exchanger of air conditioner : air							
Type : vapour compression							
if applicable : electric motor							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	19.0	kW	Seasonal space cooling energy efficiency $\eta_{s,c}$		296.4	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35°C	Pdc	19.0	kW	Tj=+35°C	EERd or GUEc,bin / AEFc,bin	311.0	%
Tj=+30°C	Pdc	14.0	kW	Tj=+30°C	EERd or GUEc,bin / AEFc,bin	531.0	%
Tj=+25°C	Pdc	9.0	kW	Tj=+25°C	EERd or GUEc,bin / AEFc,bin	981.0	%
Tj=+20°C	Pdc	4.3	kW	Tj=+20°C	EERd or GUEc,bin / AEFc,bin	1,204.0	%
Degradation coefficient for air conditioners**	Cdc	0.25	-				
Power consumption in other than 'active mode'							
Off mode	P _{OFF}	0.010	kW	Crankcase heater mode	P _{CK}	0.010	kW
Thermostat-off mode	P _{TO}	0.000	kW	Standby mode	P _{SB}	0.010	kW
Other items				For air-to-air air conditioner: air flow-rate,outdoor measured			
Capacity control		variable				8,100	m ³ /h
Sound power level, outdoor	L _{WA}	72.0	dB				
If engine driven: Emissions of nitrogen oxides	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
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Information to identify the model(s) to which the information relates :				FDC200VSA / FDE71VG (3 units)			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	22.4	kW	Seasonal space heating energy efficiency ηs,h		184.9	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	11.1	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	280.0	%
Tj=+2°C	Pdh	6.7	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	498.0	%
Tj=+7°C	Pdh	4.3	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	546.0	%
Tj=+12°C	Pdh	3.5	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	722.0	%
Tbw=bivalent temperature	Pdh	12.5	kW	Tbw=bivalent temperature	COPd or GUEh,bin / AEFh,bin	275.0	%
TOL=operation limit	Pdh	10.5	kW	TOL=operation limit	COPd or GUEh,bin / AEFh,bin	244.0	%
For air-to-water heat pumps : Tj=-15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj=-15°C (if TOL < -20°C)	COPd or GUEh,bin / AEFh,bin	-	%
Bivalent temperature	Tbw	-10.0	°C	For water-to-air heat pumps: Operation limit Tol temperature		-	°C
Degradation coefficient heat pumps**	Cdh	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.010	kW		elbu	-	kW
Thermostat-off mode	P _{TO}	0.010	kW	Type of energy input Standby mode	P _{SB}	0.010	kW
Crankcase heater mode	P _{CK}	0.015	kW				
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				8,100	m³/h
Sound power level, outdoor measured	L _{WA}	74.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		-	m³/h
Emissions of nitrogen oxides(if applicable)	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details				Mitsubishi heavy industries thermal systems,LTD			
** If Cdh is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							

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FDE200VSADVG

Model(s) : FDC200VSA / FDE50VG (4 units)							
Outdoor side heat exchanger of air conditioner : air							
Indoor side heat exchanger of air conditioner : air							
Type : vapour compression							
if applicable : electric motor							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	19.0	kW	Seasonal space cooling energy efficiency ηs,c		296.4	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35°C	Pdc	19.0	kW	Tj=+35°C	EERd or GUEc,bin / AEFc,bin	311.0	%
Tj=+30°C	Pdc	14.0	kW	Tj=+30°C	EERd or GUEc,bin / AEFc,bin	531.0	%
Tj=+25°C	Pdc	9.0	kW	Tj=+25°C	EERd or GUEc,bin / AEFc,bin	981.0	%
Tj=+20°C	Pdc	4.3	kW	Tj=+20°C	EERd or GUEc,bin / AEFc,bin	1,204.0	%
Degradation coefficient for air conditioners**	Cdc	0.25	-				
Power consumption in other than 'active mode'							
Off mode	P _{OFF}	0.010	kW	Crankcase heater mode	P _{CK}	0.010	kW
Thermostat-off mode	P _{TO}	0.000	kW	Standby mode	P _{SB}	0.010	kW
Other items				For air-to-air air conditioner: air flow-rate,outdoor measured			
Capacity control		variable				8,100	m ³ /h
Sound power level, outdoor	L _{WA}	72.0	dB				
If engine driven: Emissions of nitrogen oxides	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details		Mitsubishi heavy industries thermal systems,LTD					
** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
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Information to identify the model(s) to which the information relates :				FDC200VSA / FDE50VG (4 units)			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	22.4	kW	Seasonal space heating energy efficiency ηs,h		184.9	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	11.1	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	280.0	%
Tj=+2°C	Pdh	6.7	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	498.0	%
Tj=+7°C	Pdh	4.3	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	546.0	%
Tj=+12°C	Pdh	3.5	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	722.0	%
Tbw=bivalent temperature	Pdh	12.5	kW	Tbw=bivalent temperature	COPd or GUEh,bin / AEFh,bin	275.0	%
TOL=operation limit	Pdh	10.5	kW	TOL=operation limit	COPd or GUEh,bin / AEFh,bin	244.0	%
For air-to-water heat pumps : Tj=-15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj=-15°C (if TOL < -20°C)	COPd or GUEh,bin / AEFh,bin	-	%
Bivalent temperature	Tbw	-10.0	°C	For water-to-air heat pumps: Operation limit TOL temperature		-	°C
Degradation coefficient heat pumps**	Cdh	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.010	kW		elbu	-	kW
Thermostat-off mode	P _{TO}	0.010	kW	Type of energy input Standby mode	P _{SB}	0.010	kW
Crankcase heater mode	P _{CK}	0.015	kW				
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				8,100	m ³ /h
Sound power level, outdoor measured	L _{WA}	74.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		-	m ³ /h
Emissions of nitrogen oxides(if applicable)	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details				Mitsubishi heavy industries thermal systems,LTD			
** If Cdh is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							

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FDE250VSADVG

Model(s) : FDC250VSA / FDE60VG (4 units)							
Outdoor side heat exchanger of air conditioner : air							
Indoor side heat exchanger of air conditioner : air							
Type : vapour compression							
if applicable : electric motor							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	24.0	kW	Seasonal space cooling energy efficiency ηs,c		229.7	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35°C	Pdc	24.0	kW	Tj=+35°C	EERd or GUEc,bin / AEFc,bin	290.0	%
Tj=+30°C	Pdc	17.7	kW	Tj=+30°C	EERd or GUEc,bin / AEFc,bin	426.0	%
Tj=+25°C	Pdc	11.4	kW	Tj=+25°C	EERd or GUEc,bin / AEFc,bin	730.0	%
Tj=+20°C	Pdc	6.5	kW	Tj=+20°C	EERd or GUEc,bin / AEFc,bin	862.0	%
Degradation coefficient for air conditioners**	Cdc	0.25	-				
Power consumption in other than 'active mode'							
Off mode	P _{OFF}	0.010	kW	Crankcase heater mode	P _{CK}	0.010	kW
Thermostat-off mode	P _{TO}	0.000	kW	Standby mode	P _{SB}	0.010	kW
Other items				For air-to-air air conditioner: air flow-rate,outdoor measured			
Capacity control		variable				8,580	m ³ /h
Sound power level, outdoor	L _{WA}	73.0	dB				
If engine driven: Emissions of nitrogen oxides	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details Mitsubishi heavy industries thermal systems,LTD							
** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
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Information to identify the model(s) to which the information relates :				FDC250VSA / FDE60VG (4 units)			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	27.0	kW	Seasonal space heating energy efficiency ηs,h		174.8	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	12.6	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	298.0	%
Tj=+2°C	Pdh	7.7	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	450.0	%
Tj=+7°C	Pdh	5.6	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	551.0	%
Tj=+12°C	Pdh	6.0	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	676.0	%
Tbw=bivalent temperature	Pdh	14.2	kW	Tbw=bivalent temperature	COPd or GUEh,bin / AEFh,bin	266.0	%
TOL=operation limit	Pdh	12.5	kW	TOL=operation limit	COPd or GUEh,bin / AEFh,bin	270.0	%
For air-to-water heat pumps : Tj=-15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj=-15°C (if TOL < -20°C)	COPd or GUEh,bin / AEFh,bin	-	%
Bivalent temperature	Tbw	-10.0	°C	For water-to-air heat pumps: Operation limit TOL temperature		-	°C
Degradation coefficient heat pumps**	Cdh	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.010	kW		elbu	-	kW
Thermostat-off mode	P _{TO}	0.010	kW	Type of energy input Standby mode	P _{SB}	0.010	kW
Crankcase heater mode	P _{CK}	0.015	kW				
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				9,060	m ³ /h
Sound power level, outdoor measured	L _{WA}	75.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		-	m ³ /h
Emissions of nitrogen oxides(if applicable)	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details				Mitsubishi heavy industries thermal systems,LTD			
** If Cdh is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							

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Models FDE50VG, 60VG, 71VG, 100VG, 125VG, 140VG

Model(s) : FDE50VG							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Cooling capacity (sensible)	$P_{rated,c}$	3.8	kW	Total electric power input	P_{elec}	0.050	kW
Cooling capacity (latent)	$P_{rated,c}$	1.2	kW	Sound power level (per speed setting,if applicable)	L_{WA}	60.0	dB
Heating capacity	$P_{rated,h}$	5.4	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

Model(s) : FDE60VG							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Cooling capacity (sensible)	$P_{rated,c}$	5.0	kW	Total electric power input	P_{elec}	0.080	kW
Cooling capacity (latent)	$P_{rated,c}$	0.6	kW	Sound power level (per speed setting,if applicable)	L_{WA}	60.0	dB
Heating capacity	$P_{rated,h}$	6.7	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

Model(s) : FDE71VG							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Cooling capacity (sensible)	$P_{rated,c}$	5.6	kW	Total electric power input	P_{elec}	0.080	kW
Cooling capacity (latent)	$P_{rated,c}$	1.5	kW	Sound power level (per speed setting,if applicable)	L_{WA}	60.0	dB
Heating capacity	$P_{rated,h}$	8.0	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

Model(s) : FDE100VG							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Cooling capacity (sensible)	$P_{rated,c}$	8.4	kW	Total electric power input	P_{elec}	0.130	kW
Cooling capacity (latent)	$P_{rated,c}$	1.6	kW	Sound power level (per speed setting,if applicable)	L_{WA}	64.0	dB
Heating capacity	$P_{rated,h}$	11.2	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

Model(s) : FDE125VG							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Cooling capacity (sensible)	$P_{rated,c}$	9.3	kW	Total electric power input	P_{elec}	0.130	kW
Cooling capacity (latent)	$P_{rated,c}$	3.2	kW	Sound power level (per speed setting,if applicable)	L_{WA}	64.0	dB
Heating capacity	$P_{rated,h}$	14.0	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

Model(s) : FDE140VG							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Cooling capacity (sensible)	$P_{rated,c}$	10.2	kW	Total electric power input	P_{elec}	0.140	kW
Cooling capacity (latent)	$P_{rated,c}$	3.8	kW	Sound power level (per speed setting,if applicable)	L_{WA}	65.0	dB
Heating capacity	$P_{rated,h}$	16.0	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

(2) Duct connected-Low/Middle static pressure type (FDUM)

FDUM100VNAVF2							
Information to identify the model(s) to which the information relates to:		If function includes heating: Indicate the heating season the information relates to. Indicated values should relate to one heating season at a time. Include at least the heating season 'Average'.					
Indoor unit model name		FDUM100VF2					
Outdoor unit model name		FDC100VNA					
Function(indicate if present)		Average(mandatory)					
cooling		Yes					
heating		Warmer(if designated)					
		No					
		Colder(if designated)					
		No					
Item	symbol	value	unit	Item	symbol	value	class
Design load				Seasonal efficiency and energy efficiency class			
cooling	Pdesignc	10.0	kW	cooling	SEER	6.11	A++
heating / Average	Pdesignh	8.5	kW	heating / Average	SCOP/A	4.19	A+
heating / Warmer	Pdesignh	—	kW	heating / Warmer	SCOP/W	—	—
heating / Colder	Pdesignh	—	kW	heating / Colder	SCOP/C	—	—
Declared capacity at outdoor temperature Tdesignh				Back up heating capacity at outdoor temperature Tdesignh			
heating / Average (-10°C)	Pdh	8.50	kW	heating / Average (-10°C)	elbu	0	kW
heating / Warmer (2°C)	Pdh	—	kW	heating / Warmer (2°C)	elbu	—	kW
heating / Colder (-22°C)	Pdh	—	kW	heating / Colder (-22°C)	elbu	—	kW
Declared capacity for cooling, at indoor temperature 27(19)°C and outdoor temperature Tj				Declared energy efficiency ratio, at indoor temperature 27(19)°C and outdoor temperature Tj			
Tj=35°C	Pdc	10.00	kW	Tj=35°C	EERd	3.52	-
Tj=30°C	Pdc	7.37	kW	Tj=30°C	EERd	4.83	-
Tj=25°C	Pdc	4.74	kW	Tj=25°C	EERd	7.73	-
Tj=20°C	Pdc	3.54	kW	Tj=20°C	EERd	11.60	-
Declared capacity for heating / Average season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Average season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C	Pdh	7.52	kW	Tj=-7°C	COPd	3.21	-
Tj=2°C	Pdh	4.58	kW	Tj=2°C	COPd	3.91	-
Tj=7°C	Pdh	2.94	kW	Tj=7°C	COPd	5.42	-
Tj=12°C	Pdh	2.83	kW	Tj=12°C	COPd	6.23	-
Tj=bivalent temperature	Pdh	6.77	kW	Tj=bivalent temperature	COPd	2.40	-
Tj=operating limit	Pdh	8.50	kW	Tj=operating limit	COPd	2.70	-
Declared capacity for heating / Warmer season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Warmer season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=2°C	Pdh	—	kW	Tj=2°C	COPd	—	-
Tj=7°C	Pdh	—	kW	Tj=7°C	COPd	—	-
Tj=12°C	Pdh	—	kW	Tj=12°C	COPd	—	-
Tj=bivalent temperature	Pdh	—	kW	Tj=bivalent temperature	COPd	—	-
Tj=operating limit	Pdh	—	kW	Tj=operating limit	COPd	—	-
Declared capacity for heating / Colder season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Colder season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C	Pdh	—	kW	Tj=-7°C	COPd	—	-
Tj=2°C	Pdh	—	kW	Tj=2°C	COPd	—	-
Tj=7°C	Pdh	—	kW	Tj=7°C	COPd	—	-
Tj=12°C	Pdh	—	kW	Tj=12°C	COPd	—	-
Tj=bivalent temperature	Pdh	—	kW	Tj=bivalent temperature	COPd	—	-
Tj=operating limit	Pdh	—	kW	Tj=operating limit	COPd	—	-
Tj=-15°C	Pdh	—	kW	Tj=-15°C	COPd	—	-
Bivalent temperature				Operating limit temperature			
heating / Average	Tbiv	-10	°C	heating / Average	Tol	-20	°C
heating / Warmer	Tbiv	—	°C	heating / Warmer	Tol	—	°C
heating / Colder	Tbiv	—	°C	heating / Colder	Tol	—	°C
Cycling interval capacity				Cycling interval efficiency			
for cooling	Pcyc	—	kW	for cooling	EERcyc	—	-
for heating	Pcyc	—	kW	for heating	COPcyc	—	-
Degradation coefficient cooling				Degradation coefficient heating			
cooling	Cdc	0.25	-	heating	Cdh	0.25	-
Electric power input in power modes other than 'active mode'				Annual electricity consumption			
off mode	Poff	8	W	cooling	Qce	573	kWh/a
standby mode	Psb	8	W	heating / Average	Qhe	2,843	kWh/a
thermostat-off mode	Pto	65	W	heating / Warmer	Qhe	—	kWh/a
crankcase heater mode	Pck	8	W	heating / colder	Qhe	—	kWh/a
Capacity control(indicate one of three options)				Other items			
fixed		No		Sound power level(indoor)	Lwa	65	dB(A)
staged		No		Sound power level(outdoor)	Lwa	70	dB(A)
variable		Yes		Global warming potential	GWEP	1,975	kgCO ₂ eq.
				Rated air flow(indoor)	-	2,160	m ³ /h
				Rated air flow(outdoor)	-	4,500	m ³ /h
Contact details for obtaining more information		Name and address of the manufacturer or of its authorised representative. Mitsubishi Heavy Industries Air-Conditioning Europe, Ltd. 5 The Square, Stockley Park, Uxbridge, Middlesex, UB11 1ET, United Kingdom					
		PJG000Z466 A					

FDUM100VSAVF2

Information to identify the model(s) to which the information relates to:		If function includes heating: Indicate the heating season the information relates to. Indicated values should relate to one heating season at a time. Include at least the heating season 'Average'.	
Indoor unit model name	FDUM100VF2		
Outdoor unit model name	FDC100VSA		
Function(indicate if present)		Average(mandatory)	Yes
cooling	Yes	Warmer(if designated)	No
heating	Yes	Colder(if designated)	No
Item	symbol	value	unit
Design load			
cooling	Pdesignc	10.0	kW
heating / Average	Pdesignh	8.5	kW
heating / Warmer	Pdesignh	—	kW
heating / Colder	Pdesignh	—	kW
Item	symbol	value	class
Seasonal efficiency and energy efficiency class			
cooling	SEER	6.11	A++
heating / Average	SCOP/A	4.19	A+
heating / Warmer	SCOP/W	—	—
heating / Colder	SCOP/C	—	—
Declared capacity at outdoor temperature Tdesignh			
heating / Average (-10°C)	Pdh	8.50	kW
heating / Warmer (2°C)	Pdh	—	kW
heating / Colder (-22°C)	Pdh	—	kW
Back up heating capacity at outdoor temperature Tdesignh			
heating / Average (-10°C)	elbu	0	kW
heating / Warmer (2°C)	elbu	—	kW
heating / Colder (-22°C)	elbu	—	kW
Declared capacity for cooling, at indoor temperature 27(19)°C and outdoor temperature Tj			
Tj=35°C	Pdc	10.00	kW
Tj=30°C	Pdc	7.37	kW
Tj=25°C	Pdc	4.74	kW
Tj=20°C	Pdc	3.54	kW
Declared energy efficiency ratio, at indoor temperature 27(19)°C and outdoor temperature Tj			
Tj=35°C	EERd	3.52	-
Tj=30°C	EERd	4.83	-
Tj=25°C	EERd	7.73	-
Tj=20°C	EERd	11.60	-
Declared capacity for heating / Average season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C	Pdh	7.52	kW
Tj=2°C	Pdh	4.58	kW
Tj=7°C	Pdh	2.94	kW
Tj=12°C	Pdh	2.83	kW
Tj=bivalent temperature	Pdh	6.77	kW
Tj=operating limit	Pdh	8.50	kW
Declared coefficient of performance / Average season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C	COPd	3.21	-
Tj=2°C	COPd	3.91	-
Tj=7°C	COPd	5.42	-
Tj=12°C	COPd	6.23	-
Tj=bivalent temperature	COPd	2.40	-
Tj=operating limit	COPd	2.70	-
Declared capacity for heating / Warmer season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=2°C	Pdh	—	kW
Tj=7°C	Pdh	—	kW
Tj=12°C	Pdh	—	kW
Tj=bivalent temperature	Pdh	—	kW
Tj=operating limit	Pdh	—	kW
Declared coefficient of performance / Warmer season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=2°C	COPd	—	-
Tj=7°C	COPd	—	-
Tj=12°C	COPd	—	-
Tj=bivalent temperature	COPd	—	-
Tj=operating limit	COPd	—	-
Declared capacity for heating / Colder season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C	Pdh	—	kW
Tj=2°C	Pdh	—	kW
Tj=7°C	Pdh	—	kW
Tj=12°C	Pdh	—	kW
Tj=bivalent temperature	Pdh	—	kW
Tj=operating limit	Pdh	—	kW
Tj=-15°C	Pdh	—	kW
Declared coefficient of performance / Colder season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C	COPd	—	-
Tj=2°C	COPd	—	-
Tj=7°C	COPd	—	-
Tj=12°C	COPd	—	-
Tj=bivalent temperature	COPd	—	-
Tj=operating limit	COPd	—	-
Tj=-15°C	COPd	—	-
Bivalent temperature			
heating / Average	Tbiv	-10	°C
heating / Warmer	Tbiv	—	°C
heating / Colder	Tbiv	—	°C
Operating limit temperature			
heating / Average	Tol	-20	°C
heating / Warmer	Tol	—	°C
heating / Colder	Tol	—	°C
Cycling interval capacity			
for cooling	Pcycc	—	kW
for heating	Pcyh	—	kW
Cycling interval efficiency			
for cooling	EERcyc	—	-
for heating	COPcyc	—	-
Degradation coefficient			
cooling	Cdc	0.25	-
heating	Cdh	0.25	-
Electric power input in power modes other than 'active mode'			
off mode	Poff	8	W
standby mode	Psb	8	W
thermostat-off mode	Pto	65	W
crankcase heater mode	Pck	8	W
Annual electricity consumption			
cooling	Qce	573	kWh/a
heating / Average	Qhe	2,843	kWh/a
heating / Warmer	Qhe	—	kWh/a
heating / colder	Qhe	—	kWh/a
Capacity control(indicate one of three options)			
fixed		No	
staged		No	
variable		Yes	
Other items			
Sound power level(indoor)	Lwa	65	dB(A)
Sound power level(outdoor)	Lwa	70	dB(A)
Global warming potential	GWp	1,975	kgCO ₂ eq.
Rated air flow(indoor)	-	2,160	m ³ /h
Rated air flow(outdoor)	-	4,500	m ³ /h
Contact details for obtaining more information	Name and address of the manufacturer or of its authorised representative. Mitsubishi Heavy Industries Air-Conditioning Europe, Ltd. 5 The Square, Stockley Park, Uxbridge, Middlesex, UB11 1ET, United Kingdom		

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FDUM100VNAPVF


Information to identify the model(s) to which the information relates to:				If function includes heating: Indicate the heating season the information relates to. Indicated values should relate to one heating season at a time. Include at least the heating season 'Average'.			
Indoor unit model name		FDUM50VF (2 units)		Average (mandatory)		Yes	
Outdoor unit model name		FDC100VNA		Warmer (if designated)		No	
Function (indicate if present)				Colder (if designated)			
cooling		Yes					
heating		Yes					
Item	symbol	value	unit	Item	symbol	value	class
Design load				Seasonal efficiency and energy efficiency class			
cooling	Pdesignc	10.0	kW	cooling	SEER	5.50	A
heating / Average	Pdesignh	8.5	kW	heating / Average	SCOP/A	3.94	A
heating / Warmer	Pdesignh	—	kW	heating / Warmer	SCOP/W	—	—
heating / Colder	Pdesignh	—	kW	heating / Colder	SCOP/C	—	—
Declared capacity at outdoor temperature Tdesignh				Back up heating capacity at outdoor temperature Tdesignh			
heating / Average (-10°C)	Pdh	8.50	kW	heating / Average (-10°C)	elbu	0	kW
heating / Warmer (2°C)	Pdh	—	kW	heating / Warmer (2°C)	elbu	—	kW
heating / Colder (-22°C)	Pdh	—	kW	heating / Colder (-22°C)	elbu	—	kW
Declared capacity for cooling, at indoor temperature 27(19)°C and outdoor temperature Tj				Declared energy efficiency ratio, at indoor temperature 27(19)°C and outdoor temperature Tj			
Tj=35°C	Pdc	10.00	kW	Tj=35°C	EERd	3.08	-
Tj=30°C	Pdc	7.37	kW	Tj=30°C	EERd	4.24	-
Tj=25°C	Pdc	4.74	kW	Tj=25°C	EERd	6.60	-
Tj=20°C	Pdc	3.30	kW	Tj=20°C	EERd	11.05	-
Declared capacity for heating / Average season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Average season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C	Pdh	7.52	kW	Tj=-7°C	COPd	2.93	-
Tj=2°C	Pdh	4.58	kW	Tj=2°C	COPd	3.74	-
Tj=7°C	Pdh	2.94	kW	Tj=7°C	COPd	4.93	-
Tj=12°C	Pdh	2.70	kW	Tj=12°C	COPd	6.18	-
Tj=bivalent temperature	Pdh	6.77	kW	Tj=bivalent temperature	COPd	2.23	-
Tj=operating limit	Pdh	8.50	kW	Tj=operating limit	COPd	2.47	-
Declared capacity for heating / Warmer season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Warmer season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=2°C	Pdh	—	kW	Tj=2°C	COPd	—	-
Tj=7°C	Pdh	—	kW	Tj=7°C	COPd	—	-
Tj=12°C	Pdh	—	kW	Tj=12°C	COPd	—	-
Tj=bivalent temperature	Pdh	—	kW	Tj=bivalent temperature	COPd	—	-
Tj=operating limit	Pdh	—	kW	Tj=operating limit	COPd	—	-
Declared capacity for heating / Colder season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Colder season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C	Pdh	—	kW	Tj=-7°C	COPd	—	-
Tj=2°C	Pdh	—	kW	Tj=2°C	COPd	—	-
Tj=7°C	Pdh	—	kW	Tj=7°C	COPd	—	-
Tj=12°C	Pdh	—	kW	Tj=12°C	COPd	—	-
Tj=bivalent temperature	Pdh	—	kW	Tj=bivalent temperature	COPd	—	-
Tj=operating limit	Pdh	—	kW	Tj=operating limit	COPd	—	-
Tj=-15°C	Pdh	—	kW	Tj=-15°C	COPd	—	-
Bivalent temperature				Operating limit temperature			
heating / Average	Tbiv	-10	°C	heating / Average	Tol	-20	°C
heating / Warmer	Tbiv	—	°C	heating / Warmer	Tol	—	°C
heating / Colder	Tbiv	—	°C	heating / Colder	Tol	—	°C
Cycling interval capacity				Cycling interval efficiency			
for cooling	Pcycc	—	kW	for cooling	EERcyc	—	-
for heating	Pcyh	—	kW	for heating	COPcyc	—	-
Degradation coefficient cooling				Degradation coefficient heating			
cooling	Cdc	0.25	-	heating	Cdh	0.25	-
Electric power input in power modes other than 'active mode'				Annual electricity consumption			
off mode	Poff	8	W	cooling	Qce	637	kWh/a
standby mode	Psb	8	W	heating / Average	Qhe	3,022	kWh/a
thermostat-off mode	Pto	45	W	heating / Warmer	Qhe	—	kWh/a
crankcase heater mode	Pck	8	W	heating / colder	Qhe	—	kWh/a
Capacity control (indicate one of three options)				Other items			
fixed		No		Sound power level (indoor)	Lwa	60	dB(A)
staged		No		Sound power level (outdoor)	Lwa	70	dB(A)
variable		Yes		Global warming potential	GWp	1,975	kgCO ₂ eq.
				Rated air flow (indoor)	-	780	m ³ /h
				Rated air flow (outdoor)	-	4,500	m ³ /h
Contact details for obtaining more information	Name and address of the manufacturer or of its authorised representative. Mitsubishi Heavy Industries Air-Conditioning Europe, Ltd. 5 The Square, Stockley Park, Uxbridge, Middlesex, UB11 1ET, United Kingdom						

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FDUM100VSAPVF


Information to identify the model(s) to which the information relates to:				If function includes heating: Indicate the heating season the information relates to. Indicated values should relate to one heating season at a time. Include at least the heating season 'Average'.			
Indoor unit model name		FDUM50VF (2 units)					
Outdoor unit model name		FDC100VSA					
Function(indicate if present)				Average(mandatory)		Yes	
cooling		Yes		Warmer(if designated)		No	
heating		Yes		Colder(if designated)		No	
Item	symbol	value	unit	Item	symbol	value	class
Design load				Seasonal efficiency and energy efficiency class			
cooling	Pdesignc	10.0	kW	cooling	SEER	5.50	A
heating / Average	Pdesignh	8.5	kW	heating / Average	SCOP/A	3.94	A
heating / Warmer	Pdesignh	—	kW	heating / Warmer	SCOP/W	—	—
heating / Colder	Pdesignh	—	kW	heating / Colder	SCOP/C	—	—
Declared capacity at outdoor temperature Tdesignh				Back up heating capacity at outdoor temperature Tdesignh			
heating / Average (-10°C)	Pdh	8.50	kW	heating / Average (-10°C)	elbu	0	kW
heating / Warmer (2°C)	Pdh	—	kW	heating / Warmer (2°C)	elbu	—	kW
heating / Colder (-22°C)	Pdh	—	kW	heating / Colder (-22°C)	elbu	—	kW
Declared capacity for cooling, at indoor temperature 27(19)°C and outdoor temperature Tj				Declared energy efficiency ratio, at indoor temperature 27(19)°C and outdoor temperature Tj			
Tj=35°C	Pdc	10.00	kW	Tj=35°C	EERd	3.08	-
Tj=30°C	Pdc	7.37	kW	Tj=30°C	EERd	4.24	-
Tj=25°C	Pdc	4.74	kW	Tj=25°C	EERd	6.60	-
Tj=20°C	Pdc	3.30	kW	Tj=20°C	EERd	11.05	-
Declared capacity for heating / Average season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Average season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C	Pdh	7.52	kW	Tj=-7°C	COPd	2.93	-
Tj=2°C	Pdh	4.58	kW	Tj=2°C	COPd	3.74	-
Tj=7°C	Pdh	2.94	kW	Tj=7°C	COPd	4.93	-
Tj=12°C	Pdh	2.70	kW	Tj=12°C	COPd	6.18	-
Tj=bivalent temperature	Pdh	6.77	kW	Tj=bivalent temperature	COPd	2.23	-
Tj=operating limit	Pdh	8.50	kW	Tj=operating limit	COPd	2.47	-
Declared capacity for heating / Warmer season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Warmer season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=2°C	Pdh	—	kW	Tj=2°C	COPd	—	-
Tj=7°C	Pdh	—	kW	Tj=7°C	COPd	—	-
Tj=12°C	Pdh	—	kW	Tj=12°C	COPd	—	-
Tj=bivalent temperature	Pdh	—	kW	Tj=bivalent temperature	COPd	—	-
Tj=operating limit	Pdh	—	kW	Tj=operating limit	COPd	—	-
Declared capacity for heating / Colder season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Colder season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C	Pdh	—	kW	Tj=-7°C	COPd	—	-
Tj=2°C	Pdh	—	kW	Tj=2°C	COPd	—	-
Tj=7°C	Pdh	—	kW	Tj=7°C	COPd	—	-
Tj=12°C	Pdh	—	kW	Tj=12°C	COPd	—	-
Tj=bivalent temperature	Pdh	—	kW	Tj=bivalent temperature	COPd	—	-
Tj=operating limit	Pdh	—	kW	Tj=operating limit	COPd	—	-
Tj=-15°C	Pdh	—	kW	Tj=-15°C	COPd	—	-
Bivalent temperature				Operating limit temperature			
heating / Average	Tbiv	-10	°C	heating / Average	Tol	-20	°C
heating / Warmer	Tbiv	—	°C	heating / Warmer	Tol	—	°C
heating / Colder	Tbiv	—	°C	heating / Colder	Tol	—	°C
Cycling interval capacity				Cycling interval efficiency			
for cooling	Pcyc	—	kW	for cooling	EERcyc	—	-
for heating	Pcyc	—	kW	for heating	COPcyc	—	-
Degradation coefficient cooling				Degradation coefficient heating			
cooling	Cdc	0.25	-	heating	Cdh	0.25	-
Electric power input in power modes other than 'active mode'				Annual electricity consumption			
off mode	Poff	8	W	cooling	Qce	637	kWh/a
standby mode	Psb	8	W	heating / Average	Qhe	3,022	kWh/a
thermostat-off mode	Pto	45	W	heating / Warmer	Qhe	—	kWh/a
crankcase heater mode	Pck	8	W	heating / colder	Qhe	—	kWh/a
Capacity control(indicate one of three options)				Other items			
fixed		No		Sound power level(indoor)	Lwa	60	dB(A)
staged		No		Sound power level(outdoor)	Lwa	70	dB(A)
variable		Yes		Global warming potential	GWp	1,975	kgCO ₂ eq.
				Rated air flow(indoor)	-	780	m ³ /h
				Rated air flow(outdoor)	-	4,500	m ³ /h
Contact details for obtaining more information	Name and address of the manufacturer or of its authorised representative. Mitsubishi Heavy Industries Air-Conditioning Europe, Ltd. 5 The Square, Stockley Park, Uxbridge, Middlesex, UB11 1ET, United Kingdom						
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FDUM125VNAV

Model(s) : FDC125VNA / FDUM125VF			
Outdoor side heat exchanger of air conditioner : air			
Indoor side heat exchanger of air conditioner : air			
Type : vapour compression			
if applicable : electric motor			
Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	12.5	kW
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)			
Tj=+35°C	Pdc	12.5	kW
Tj=+30°C	Pdc	9.2	kW
Tj=+25°C	Pdc	5.9	kW
Tj=+20°C	Pdc	3.5	kW
Degradation coefficient for air conditioners**	Cdc	0.25	-
Power consumption in other than 'active mode'			
Off mode	P _{OFF}	0.010	kW
Thermostat-off mode	P _{TO}	0.075	kW
Other items			
Capacity control		variable	
Sound power level, outdoor	L _{WA}	71.0	dB
If engine driven: Emissions of nitrogen oxides	NOx ***	-	mg/kWh fuel input GCV
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)
Contact details Mitsubishi heavy industries thermal systems,LTD			
<p>** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.</p> <p>*** from 26 September 2018</p> <p>Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.</p>			
PJK000Z466 			

Information to identify the model(s) to which the information relates :				FDC125VNA / FDUM125VF			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	14.0	kW	Seasonal space heating energy efficiency ηs,h		162.1	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	8.7	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	311.0	%
Tj=+2°C	Pdh	5.3	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	391.0	%
Tj=+7°C	Pdh	3.4	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	530.0	%
Tj=+12°C	Pdh	2.9	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	600.0	%
Tbiv=bivalent temperature	Pdh	9.8	kW	Tbiv=bivalent temperature	COPd or GUEh,bin / AEFh,bin	260.0	%
TOL=operation limit	Pdh	7.8	kW	TOL=operation limit	COPd or GUEh,bin / AEFh,bin	231.0	%
For air-to-water heat pumps : Tj=-15°C (if TOL<-20°C)	Pdh	—	kW	For air-to-water heat pumps:Tj=-15°C (if TOL<-20°C)	COPd or GUEh,bin / AEFh,bin	—	%
Bivalent temperature	Tbiv	-10.0	°C	For water-to-air heat pumps:Operation limit TOL temperature		—	°C
Degradation coefficient heat pumps**	Cdh	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.010	kW		elbu	—	kW
Thermostat-off mode	P _{TO}	0.090	kW	Type of energy input Standby mode	P _{SB}	0.010	kW
Crankcase heater mode	P _{CK}	0.008	kW				
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				4,380	m ³ /h
Sound power level, outdoor measured	L _{WA}	71.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		—	m ³ /h
Emissions of nitrogen oxides(if applicable)	NOx ***	—	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdh is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
PJG000Z466							

FDUM125VSAVF


Model(s) : FDC125VSA / FDUM125VF			
Outdoor side heat exchanger of air conditioner : air			
Indoor side heat exchanger of air conditioner : air			
Type : vapour compression			
if applicable : electric motor			
Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	12.5	kW
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)			
Tj=+35°C	Pdc	12.5	kW
Tj=+30°C	Pdc	9.2	kW
Tj=+25°C	Pdc	5.9	kW
Tj=+20°C	Pdc	3.5	kW
Degradation coefficient for air conditioners**	Cdc	0.25	-
Power consumption in other than 'active mode'			
Off mode	P _{OFF}	0.010	kW
Thermostat-off mode	P _{TO}	0.075	kW
Other items			
Capacity control		variable	
Sound power level, outdoor	L _{WA}	71.0	dB
If engine driven: Emissions of nitrogen oxides	NOx ***	-	mg/kWh fuel input GCV
GWP of the refrigerant		2,088	kg CO ₂ eq (100years)
Contact details Mitsubishi heavy industries thermal systems,LTD			
<p>** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.</p> <p>*** from 26 September 2018</p> <p>Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.</p>			
PJK000Z466 			

Information to identify the model(s) to which the information relates :				FDC125VSA / FDUM125VF			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	14.0	kW	Seasonal space heating energy efficiency ηs,h		162.1	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	8.7	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	311.0	%
Tj=+2°C	Pdh	5.3	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	391.0	%
Tj=+7°C	Pdh	3.4	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	530.0	%
Tj=+12°C	Pdh	2.9	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	600.0	%
Tbiv=bivalent temperature	Pdh	9.8	kW	Tbiv=bivalent temperature	COPd or GUEh,bin / AEFh,bin	260.0	%
TOL=operation limit	Pdh	7.8	kW	TOL=operation limit	COPd or GUEh,bin / AEFh,bin	231.0	%
For air-to-water heat pumps : Tj=-15°C (if TOL<-20°C)	Pdh	—	kW	For air-to-water heat pumps:Tj=-15°C (if TOL<-20°C)	COPd or GUEh,bin / AEFh,bin	—	%
Bivalent temperature	Tbiv	-10.0	°C	For water-to-air heat pumps:Operation limit TOL temperature		—	°C
Degradation coefficient heat pumps**	Cdh	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.010	kW		elbu	—	kW
Thermostat-off mode	P _{TO}	0.090	kW	Type of energy input Standby mode	P _{SB}	0.010	kW
Crankcase heater mode	P _{CK}	0.008	kW				
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				4,380	m ³ /h
Sound power level, outdoor measured	L _{WA}	71.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		—	m ³ /h
Emissions of nitrogen oxides(if applicable)	NOx ***	—	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdh is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
PJG000Z466 							


FDUM140VNAV

Model(s) : FDC140VNA / FDUM140VF			
Outdoor side heat exchanger of air conditioner : air			
Indoor side heat exchanger of air conditioner : air			
Type : vapour compression			
if applicable : electric motor			
Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	13.6	kW
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)			
Tj=+35°C	Pdc	13.6	kW
Tj=+30°C	Pdc	10.0	kW
Tj=+25°C	Pdc	6.4	kW
Tj=+20°C	Pdc	3.5	kW
Degradation coefficient for air conditioners**	Cdc	0.25	-
Power consumption in other than 'active mode'			
Off mode	P _{OFF}	0.008	kW
Thermostat-off mode	P _{TO}	0.090	kW
Other items			
Capacity control		variable	
Sound power level, outdoor	L _{WA}	73.0	dB
If engine driven: Emissions of nitrogen oxides	NOx ***	-	mg/kWh fuel input GCV
GWP of the refrigerant		2,088	kg CO ₂ eq (100years)
Seasonal space cooling energy efficiency ηs,c			
		200.0	%
Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35°C	EERd or GUEc,bin / AEFc,bin	276.0	%
Tj=+30°C	EERd or GUEc,bin / AEFc,bin	383.0	%
Tj=+25°C	EERd or GUEc,bin / AEFc,bin	588.0	%
Tj=+20°C	EERd or GUEc,bin / AEFc,bin	970.0	%
Crankcase heater mode			
		0.008	kW
Standby mode			
		0.008	kW
For air-to-air air conditioner: air flow-rate,outdoor measured			
		4,500	m ³ /h
Contact details Mitsubishi heavy industries thermal systems,LTD			
** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.			
*** from 26 September 2018			
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.			

PJG000Z466 


Information to identify the model(s) to which the information relates :				FDC140VNA / FDUM140VF			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	15.5	kW	Seasonal space heating energy efficiency ηs,h		157.4	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	9.3	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	300.0	%
Tj=+2°C	Pdh	5.7	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	380.0	%
Tj=+7°C	Pdh	3.7	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	518.0	%
Tj=+12°C	Pdh	2.8	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	567.0	%
Tbiv=bivalent temperature	Pdh	10.5	kW	Tbiv=bivalent temperature	COPd or GUEh,bin / AEFh,bin	256.0	%
TOL=operation limit	Pdh	7.9	kW	TOL=operation limit	COPd or GUEh,bin / AEFh,bin	229.0	%
For air-to-water heat pumps : Tj=-15°C (if TOL<-20°C)	Pdh	—	kW	For air-to-water heat pumps:Tj=-15°C (if TOL<-20°C)	COPd or GUEh,bin / AEFh,bin	—	%
Bivalent temperature	Tbiv	-10.0	°C	For water-to-air heat pumps:Operation limit TOL temperature		—	°C
Degradation coefficient heat pumps**	Cdh	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.008	kW		elbu	—	kW
Thermostat-off mode	P _{TO}	0.100	kW	Type of energy input Standby mode	P _{SB}	0.008	kW
Crankcase heater mode	P _{CK}	0.008	kW				
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				4,380	m ³ /h
Sound power level, outdoor measured	L _{WA}	73.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		—	m ³ /h
Emissions of nitrogen oxides(if applicable)	NOx ***	—	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdh is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
PJG000Z466 							

FDUM140VSAVF

Model(s) :		FDC140VSA / FDUM140VF	
Outdoor side heat exchanger of air conditioner :		air	
Indoor side heat exchanger of air conditioner :		air	
Type :		vapour compression	
if applicable :		electric motor	
Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	13.6	kW
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)			
Tj=+35°C	Pdc	13.6	kW
Tj=+30°C	Pdc	10.0	kW
Tj=+25°C	Pdc	6.4	kW
Tj=+20°C	Pdc	3.5	kW
Degradation coefficient for air conditioners**	Cdc	0.25	-
Power consumption in other than 'active mode'			
Off mode	P _{OFF}	0.008	kW
Thermostat-off mode	P _{TO}	0.090	kW
Other items			
Capacity control		variable	
Sound power level, outdoor	L _{WA}	73.0	dB
If engine driven: Emissions of nitrogen oxides	NOx ***	-	mg/kWh fuel input GCV
GWP of the refrigerant		2,088	kg CO ₂ eq (100years)
Contact details		Mitsubishi heavy industries thermal systems,LTD	
<p>** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.</p> <p>*** from 26 September 2018</p> <p>Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.</p>			
		PJC000Z466 	

Information to identify the model(s) to which the information relates :				FDC140VSA / FDUM140VF			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	15.5	kW	Seasonal space heating energy efficiency ηs,h		157.4	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	9.3	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	300.0	%
Tj=+2°C	Pdh	5.7	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	380.0	%
Tj=+7°C	Pdh	3.7	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	518.0	%
Tj=+12°C	Pdh	2.8	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	567.0	%
Tbiv=bivalent temperature	Pdh	10.5	kW	Tbiv=bivalent temperature	COPd or GUEh,bin / AEFh,bin	256.0	%
TOL=operation limit	Pdh	7.9	kW	TOL=operation limit	COPd or GUEh,bin / AEFh,bin	229.0	%
For air-to-water heat pumps : Tj=-15°C (if TOL<-20°C)	Pdh	—	kW	For air-to-water heat pumps:Tj=-15°C (if TOL<-20°C)	COPd or GUEh,bin / AEFh,bin	—	%
Bivalent temperature	Tbiv	-10.0	°C	For water-to-air heat pumps:Operation limit TOL temperature		—	°C
Degradation coefficient heat pumps**	Cdh	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.008	kW		elbu	—	kW
Thermostat-off mode	P _{TO}	0.100	kW	Type of energy input Standby mode	P _{SB}	0.008	kW
Crankcase heater mode	P _{CK}	0.008	kW				
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				4,380	m ³ /h
Sound power level, outdoor measured	L _{WA}	73.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		—	m ³ /h
Emissions of nitrogen oxides(if applicable)	NOx ***	—	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdh is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
PJG000Z466							

FDUM125VNAPVF

Model(s) : FDC125VNA / FDUM60VF (2 units)							
Outdoor side heat exchanger of air conditioner : air							
Indoor side heat exchanger of air conditioner : air							
Type : vapour compression							
if applicable : electric motor							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	12.5	kW	Seasonal space cooling energy efficiency ηs,c		248.7	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35°C	Pdc	12.5	kW	Tj=+35°C	EERd or GUEc,bin / AEFc,bin	286.0	%
Tj=+30°C	Pdc	9.2	kW	Tj=+30°C	EERd or GUEc,bin / AEFc,bin	458.0	%
Tj=+25°C	Pdc	5.9	kW	Tj=+25°C	EERd or GUEc,bin / AEFc,bin	688.0	%
Tj=+20°C	Pdc	3.5	kW	Tj=+20°C	EERd or GUEc,bin / AEFc,bin	1,400.0	%
Degradation coefficient for air conditioners**	Cdc	0.25	-				
Power consumption in other than 'active mode'				Crankcase heater mode			
Off mode	P _{OFF}	0.008	kW	Standby mode	P _{CK}	0.008	kW
Thermostat-off mode	P _{TO}	0.000	kW		P _{SB}	0.008	kW
Other items				For air-to-air air conditioner: air flow-rate,outdoor measured			
Capacity control		variable				4,500	m ³ /h
Sound power level, outdoor	L _{WA}	71.0	dB				
If engine driven: Emissions of nitrogen oxides	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO ₂ eq (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
<p>** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.</p> <p>*** from 26 September 2018</p> <p>Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.</p>							
PJK000Z466 							


Information to identify the model(s) to which the information relates :				FDC125VNA / FDUM60VF (2 units)			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	14.0	kW	Seasonal space heating energy efficiency ηs,h		188.3	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	8.7	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	333.0	%
Tj=+2°C	Pdh	5.3	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	459.0	%
Tj=+7°C	Pdh	3.4	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	605.0	%
Tj=+12°C	Pdh	2.7	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	771.0	%
Tbiv=bivalent temperature	Pdh	9.8	kW	Tbiv=bivalent temperature	COPd or GUEh,bin / AEFh,bin	276.0	%
TOL=operation limit	Pdh	7.7	kW	TOL=operation limit	COPd or GUEh,bin / AEFh,bin	248.0	%
For air-to-water heat pumps : Tj=-15°C (if TOL<-20°C)	Pdh	—	kW	For air-to-water heat pumps:Tj=-15°C (if TOL<-20°C)	COPd or GUEh,bin / AEFh,bin	—	%
Bivalent temperature	Tbiv	-10.0	°C	For water-to-air heat pumps:Operation limit TOL temperature		—	°C
Degradation coefficient heat pumps**	Cdh	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.008	kW		elbu	—	kW
Thermostat-off mode	P _{TO}	0.015	kW	Type of energy input Standby mode	P _{SB}	0.008	kW
Crankcase heater mode	P _{CK}	0.008	kW				
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				4,380	m ³ /h
Sound power level, outdoor measured	L _{WA}	71.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		—	m ³ /h
Emissions of nitrogen oxides(if applicable)	NOx ***	—	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdh is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
PJG000Z466							


FDUM125VSAPVF

Model(s) : FDC125VSA / FDUM60VF (2 units)			
Outdoor side heat exchanger of air conditioner : air			
Indoor side heat exchanger of air conditioner : air			
Type : vapour compression			
if applicable : electric motor			
Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	12.5	kW
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)			
Tj=+35°C	Pdc	12.5	kW
Tj=+30°C	Pdc	9.2	kW
Tj=+25°C	Pdc	5.9	kW
Tj=+20°C	Pdc	3.5	kW
Degradation coefficient for air conditioners**	Cdc	0.25	-
Power consumption in other than 'active mode'			
Off mode	P _{OFF}	0.008	kW
Thermostat-off mode	P _{TO}	0.000	kW
Other items			
Capacity control		variable	
Sound power level, outdoor	L _{WA}	71.0	dB
If engine driven: Emissions of nitrogen oxides	NOx ***	-	mg/kWh fuel input GCV
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)
Seasonal space cooling energy efficiency ηs,c			
		248.7	%
Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35°C	EERd or GUEc,bin / AEFc,bin	286.0	%
Tj=+30°C	EERd or GUEc,bin / AEFc,bin	458.0	%
Tj=+25°C	EERd or GUEc,bin / AEFc,bin	688.0	%
Tj=+20°C	EERd or GUEc,bin / AEFc,bin	1,400.0	%
Crankcase heater mode			
		0.008	kW
Standby mode			
		0.008	kW
For air-to-air air conditioner: air flow-rate,outdoor measured			
		4,500	m ³ /h
Contact details Mitsubishi heavy industries thermal systems,LTD			
** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.			
*** from 26 September 2018			
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.			

Information to identify the model(s) to which the information relates :				FDC125VSA / FDUM60VF (2 units)			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	14.0	kW	Seasonal space heating energy efficiency ηs,h		188.3	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	8.7	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	333.0	%
Tj=+2°C	Pdh	5.3	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	459.0	%
Tj=+7°C	Pdh	3.4	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	605.0	%
Tj=+12°C	Pdh	2.7	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	771.0	%
Tbiv=bivalent temperature	Pdh	9.8	kW	Tbiv=bivalent temperature	COPd or GUEh,bin / AEFh,bin	276.0	%
TOL=operation limit	Pdh	7.7	kW	TOL=operation limit	COPd or GUEh,bin / AEFh,bin	248.0	%
For air-to-water heat pumps : Tj=-15°C (if TOL<-20°C)	Pdh	—	kW	For air-to-water heat pumps:Tj=-15°C (if TOL<-20°C)	COPd or GUEh,bin / AEFh,bin	—	%
Bivalent temperature	Tbiv	-10.0	°C	For water-to-air heat pumps:Operation limit TOL temperature		—	°C
Degradation coefficient heat pumps**	Cdh	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.008	kW		elbu	—	kW
Thermostat-off mode	P _{TO}	0.015	kW	Type of energy input Standby mode	P _{SB}	0.008	kW
Crankcase heater mode	P _{CK}	0.008	kW				
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				4,380	m ³ /h
Sound power level, outdoor measured	L _{WA}	71.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		—	m ³ /h
Emissions of nitrogen oxides(if applicable)	NOx ***	—	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdh is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
PJG000Z466							

FDUM140VNAPVF1

Model(s) : FDC140VNA / FDUM71VF1 (2 units)							
Outdoor side heat exchanger of air conditioner : air							
Indoor side heat exchanger of air conditioner : air							
Type : vapour compression							
if applicable : electric motor							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	13.6	kW	Seasonal space cooling energy efficiency ηs,c		288.0	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35°C	Pdc	13.6	kW	Tj=+35°C	EERd or GUEc,bin / AEFc,bin	286.0	%
Tj=+30°C	Pdc	10.0	kW	Tj=+30°C	EERd or GUEc,bin / AEFc,bin	504.0	%
Tj=+25°C	Pdc	6.4	kW	Tj=+25°C	EERd or GUEc,bin / AEFc,bin	740.0	%
Tj=+20°C	Pdc	3.6	kW	Tj=+20°C	EERd or GUEc,bin / AEFc,bin	2,400.0	%
Degradation coefficient for air conditioners**	Cdc	0.25	-				
Power consumption in other than 'active mode'				Crankcase heater mode			
Off mode	P _{OFF}	0.008	kW	Standby mode	P _{CK}	0.008	kW
Thermostat-off mode	P _{TO}	0.000	kW		P _{SB}	0.008	kW
Other items				For air-to-air air conditioner: air flow-rate,outdoor measured			
Capacity control		variable				4,500	m ³ /h
Sound power level, outdoor	L _{WA}	73.0	dB				
If engine driven: Emissions of nitrogen oxides	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO ₂ eq (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
<p>** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.</p> <p>*** from 26 September 2018</p> <p>Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.</p>							
PJK000Z466 							


Information to identify the model(s) to which the information relates :				FDC140VNA / FDUM71VF1 (2 units)			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	15.5	kW	Seasonal space heating energy efficiency ηs,h		208.8	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	9.3	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	329.0	%
Tj=+2°C	Pdh	5.7	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	507.0	%
Tj=+7°C	Pdh	3.7	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	702.0	%
Tj=+12°C	Pdh	2.8	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	1,037.0	%
Tbiv=bivalent temperature	Pdh	10.5	kW	Tbiv=bivalent temperature	COPd or GUEh,bin / AEFh,bin	265.0	%
TOL=operation limit	Pdh	8.3	kW	TOL=operation limit	COPd or GUEh,bin / AEFh,bin	246.0	%
For air-to-water heat pumps : Tj=-15°C (if TOL<-20°C)	Pdh	—	kW	For air-to-water heat pumps:Tj=-15°C (if TOL<-20°C)	COPd or GUEh,bin / AEFh,bin	—	%
Bivalent temperature	Tbiv	-10.0	°C	For water-to-air heat pumps:Operation limit TOL temperature		—	°C
Degradation coefficient heat pumps**	Cdh	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.008	kW		elbu	—	kW
Thermostat-off mode	P _{TO}	0.015	kW	Type of energy input Standby mode	P _{SB}	0.008	kW
Crankcase heater mode	P _{CK}	0.008	kW				
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				4,380	m ³ /h
Sound power level, outdoor measured	L _{WA}	73.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		—	m ³ /h
Emissions of nitrogen oxides(if applicable)	NOx ***	—	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdh is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
PJG000Z466 							


FDUM140VSAPVF1

Model(s) : FDC140VSA / FDUM71VF1 (2 units)			
Outdoor side heat exchanger of air conditioner : air			
Indoor side heat exchanger of air conditioner : air			
Type : vapour compression			
if applicable : electric motor			
Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	13.6	kW
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)			
Tj=+35°C	Pdc	13.6	kW
Tj=+30°C	Pdc	10.0	kW
Tj=+25°C	Pdc	6.4	kW
Tj=+20°C	Pdc	3.6	kW
Degradation coefficient for air conditioners**	Cdc	0.25	-
Power consumption in other than 'active mode'			
Off mode	P _{OFF}	0.008	kW
Thermostat-off mode	P _{TO}	0.000	kW
Other items			
Capacity control		variable	
Sound power level, outdoor	L _{WA}	73.0	dB
If engine driven: Emissions of nitrogen oxides	NOx ***	-	mg/kWh fuel input GCV
GWP of the refrigerant		2,088	kg CO ₂ eq (100years)
Seasonal space cooling energy efficiency ηs,c			
		288.0	%
Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35°C	EERd or GUEc,bin / AEFc,bin	286.0	%
Tj=+30°C	EERd or GUEc,bin / AEFc,bin	504.0	%
Tj=+25°C	EERd or GUEc,bin / AEFc,bin	740.0	%
Tj=+20°C	EERd or GUEc,bin / AEFc,bin	2,400.0	%
Crankcase heater mode			
		0.008	kW
Standby mode			
		0.008	kW
For air-to-air air conditioner: air flow-rate,outdoor measured			
		4,500	m ³ /h
Contact details Mitsubishi heavy industries thermal systems,LTD			
** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.			
*** from 26 September 2018			
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.			

Information to identify the model(s) to which the information relates :				FDC140VSA / FDUM71VF1 (2 units)			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	15.5	kW	Seasonal space heating energy efficiency ηs,h		208.8	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	9.3	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	329.0	%
Tj=+2°C	Pdh	5.7	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	507.0	%
Tj=+7°C	Pdh	3.7	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	702.0	%
Tj=+12°C	Pdh	2.8	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	1,037.0	%
Tbiv=bivalent temperature	Pdh	10.5	kW	Tbiv=bivalent temperature	COPd or GUEh,bin / AEFh,bin	265.0	%
TOL=operation limit	Pdh	8.3	kW	TOL=operation limit	COPd or GUEh,bin / AEFh,bin	246.0	%
For air-to-water heat pumps : Tj=-15°C (if TOL<-20°C)	Pdh	—	kW	For air-to-water heat pumps:Tj=-15°C (if TOL<-20°C)	COPd or GUEh,bin / AEFh,bin	—	%
Bivalent temperature	Tbiv	-10.0	°C	For water-to-air heat pumps:Operation limit TOL temperature		—	°C
Degradation coefficient heat pumps**	Cdh	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.008	kW		elbu	—	kW
Thermostat-off mode	P _{TO}	0.015	kW	Type of energy input Standby mode	P _{SB}	0.008	kW
Crankcase heater mode	P _{CK}	0.008	kW				
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				4,380	m ³ /h
Sound power level, outdoor measured	L _{WA}	73.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		—	m ³ /h
Emissions of nitrogen oxides(if applicable)	NOx ***	—	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdh is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
PJG000Z466							

FDUM200VSAPVF2

Model(s) : FDC200VSA / FDUM100VF2 (2 units)							
Outdoor side heat exchanger of air conditioner : air							
Indoor side heat exchanger of air conditioner : air							
Type : vapour compression							
if applicable : electric motor							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	19.0	kW	Seasonal space cooling energy efficiency ηs,c		291.2	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35°C	Pdc	19.0	kW	Tj=+35°C	EERd or GUEc,bin / AEFc,bin	311.0	%
Tj=+30°C	Pdc	14.0	kW	Tj=+30°C	EERd or GUEc,bin / AEFc,bin	521.0	%
Tj=+25°C	Pdc	9.0	kW	Tj=+25°C	EERd or GUEc,bin / AEFc,bin	962.0	%
Tj=+20°C	Pdc	4.3	kW	Tj=+20°C	EERd or GUEc,bin / AEFc,bin	1,172.0	%
Degradation coefficient for air conditioners**	Cdc	0.25	-				
Power consumption in other than 'active mode'				Crankcase heater mode			
Off mode	P _{OFF}	0.010	kW	Standby mode	P _{CK}	0.010	kW
Thermostat-off mode	P _{TO}	0.000	kW		P _{SB}	0.010	kW
Other items				For air-to-air air conditioner:			
Capacity control		variable		air flow-rate,outdoor measured		8,100	m ³ /h
Sound power level, outdoor	L _{WA}	72.0	dB				
If engine driven: Emissions of nitrogen oxides	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO ₂ eq (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
<p>** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.</p> <p>*** from 26 September 2018</p> <p>Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.</p>							
PJG000Z466 							

Information to identify the model(s) to which the information relates :				FDC200VSA / FDUM100VF2 (2 units)			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	22.4	kW	Seasonal space heating energy efficiency ηs,h		187.9	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	11.1	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	278.0	%
Tj=+2°C	Pdh	6.7	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	508.0	%
Tj=+7°C	Pdh	4.3	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	553.0	%
Tj=+12°C	Pdh	3.5	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	751.0	%
Tbiv=bivalent temperature	Pdh	12.5	kW	Tbiv=bivalent temperature	COPd or GUEh,bin / AEFh,bin	290.0	%
TOL=operation limit	Pdh	10.5	kW	TOL=operation limit	COPd or GUEh,bin / AEFh,bin	259.0	%
For air-to-water heat pumps : Tj=-15°C (if TOL<-20°C)	Pdh	—	kW	For air-to-water heat pumps:Tj=-15°C (if TOL<-20°C)	COPd or GUEh,bin / AEFh,bin	—	%
Bivalent temperature	Tbiv	-10.0	°C	For water-to-air heat pumps:Operation limit TOL temperature		—	°C
Degradation coefficient heat pumps**	Cdh	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.010	kW		elbu	—	kW
Thermostat-off mode	P _{TO}	0.010	kW	Type of energy input Standby mode	P _{SB}	0.010	kW
Crankcase heater mode	P _{CK}	0.015	kW				
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				8,100	m ³ /h
Sound power level, outdoor measured	L _{WA}	74.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		—	m ³ /h
Emissions of nitrogen oxides(if applicable)	NOx ***	—	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdh is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
PJG000Z466 							

FDUM250VSAPVF


Model(s) : FDC250VSA / FDUM125VF (2 units)			
Outdoor side heat exchanger of air conditioner : air			
Indoor side heat exchanger of air conditioner : air			
Type : vapour compression			
if applicable : electric motor			
Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	24.0	kW
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)			
Tj=+35°C	Pdc	24.0	kW
Tj=+30°C	Pdc	17.7	kW
Tj=+25°C	Pdc	11.4	kW
Tj=+20°C	Pdc	6.5	kW
Degradation coefficient for air conditioners**	Cdc	0.25	-
Power consumption in other than 'active mode'			
Off mode	P _{OFF}	0.010	kW
Thermostat-off mode	P _{TO}	0.000	kW
Other items			
Capacity control		variable	
Sound power level, outdoor	L _{WA}	73.0	dB
If engine driven: Emissions of nitrogen oxides	NOx ***	-	mg/kWh fuel input GCV
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)
Seasonal space cooling energy efficiency ηs,c			
		243.0	%
Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35°C	EERd or GUEc,bin / AEFc,bin	304.0	%
Tj=+30°C	EERd or GUEc,bin / AEFc,bin	438.0	%
Tj=+25°C	EERd or GUEc,bin / AEFc,bin	795.0	%
Tj=+20°C	EERd or GUEc,bin / AEFc,bin	905.0	%
Crankcase heater mode			
		0.010	kW
Standby mode			
		0.010	kW
For air-to-air air conditioner: air flow-rate,outdoor measured			
		8,580	m ³ /h
Contact details Mitsubishi heavy industries thermal systems,LTD			
** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.			
*** from 26 September 2018			
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.			

PJG000Z466 


Information to identify the model(s) to which the information relates :				FDC250VSA / FDUM125VF (2 units)			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	27.0	kW	Seasonal space heating energy efficiency ηs,h		176.9	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	12.6	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	303.0	%
Tj=+2°C	Pdh	7.7	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	454.0	%
Tj=+7°C	Pdh	5.7	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	557.0	%
Tj=+12°C	Pdh	6.0	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	692.0	%
Tbiv=bivalent temperature	Pdh	14.2	kW	Tbiv=bivalent temperature	COPd or GUEh,bin / AEFh,bin	281.0	%
TOL=operation limit	Pdh	12.5	kW	TOL=operation limit	COPd or GUEh,bin / AEFh,bin	280.0	%
For air-to-water heat pumps : Tj=-15°C (if TOL<-20°C)	Pdh	—	kW	For air-to-water heat pumps:Tj=-15°C (if TOL<-20°C)	COPd or GUEh,bin / AEFh,bin	—	%
Bivalent temperature	Tbiv	-10.0	°C	For water-to-air heat pumps:Operation limit TOL temperature		—	°C
Degradation coefficient heat pumps**	Cdh	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.010	kW		elbu	—	kW
Thermostat-off mode	P _{TO}	0.010	kW	Type of energy input Standby mode	P _{SB}	0.010	kW
Crankcase heater mode	P _{CK}	0.015	kW				
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				9,060	m ³ /h
Sound power level, outdoor measured	L _{WA}	75.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		—	m ³ /h
Emissions of nitrogen oxides(if applicable)	NOx ***	—	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdh is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
PJG000Z466							


FDUM140VNATVF

Model(s) : FDC140VNA / FDUM50VF (3 units)			
Outdoor side heat exchanger of air conditioner : air			
Indoor side heat exchanger of air conditioner : air			
Type : vapour compression			
if applicable : electric motor			
Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	13.6	kW
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)			
Tj=+35°C	Pdc	13.6	kW
Tj=+30°C	Pdc	10.0	kW
Tj=+25°C	Pdc	6.4	kW
Tj=+20°C	Pdc	3.6	kW
Degradation coefficient for air conditioners**	Cdc	0.25	-
Power consumption in other than 'active mode'			
Off mode	P _{OFF}	0.008	kW
Thermostat-off mode	P _{TO}	0.000	kW
Other items			
Capacity control		variable	
Sound power level, outdoor	L _{WA}	73.0	dB
If engine driven: Emissions of nitrogen oxides	NOx ***	-	mg/kWh fuel input GCV
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)
Seasonal space cooling energy efficiency ηs,c			
		288.0	%
Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35°C	EERd or GUEc,bin / AEFc,bin	286.0	%
Tj=+30°C	EERd or GUEc,bin / AEFc,bin	504.0	%
Tj=+25°C	EERd or GUEc,bin / AEFc,bin	740.0	%
Tj=+20°C	EERd or GUEc,bin / AEFc,bin	2,400.0	%
Crankcase heater mode			
		0.008	kW
Standby mode			
		0.008	kW
For air-to-air air conditioner: air flow-rate,outdoor measured			
		4,500	m ³ /h
Contact details Mitsubishi heavy industries thermal systems,LTD			
** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.			
*** from 26 September 2018			
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.			


Information to identify the model(s) to which the information relates :				FDC140VNA / FDUM50VF (3 units)			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	15.5	kW	Seasonal space heating energy efficiency ηs,h		208.8	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	9.3	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	329.0	%
Tj=+2°C	Pdh	5.7	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	507.0	%
Tj=+7°C	Pdh	3.7	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	702.0	%
Tj=+12°C	Pdh	2.8	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	1,037.0	%
Tbiv=bivalent temperature	Pdh	10.5	kW	Tbiv=bivalent temperature	COPd or GUEh,bin / AEFh,bin	265.0	%
TOL=operation limit	Pdh	8.3	kW	TOL=operation limit	COPd or GUEh,bin / AEFh,bin	246.0	%
For air-to-water heat pumps : Tj=-15°C (if TOL<-20°C)	Pdh	—	kW	For air-to-water heat pumps:Tj=-15°C (if TOL<-20°C)	COPd or GUEh,bin / AEFh,bin	—	%
Bivalent temperature	Tbiv	-10.0	°C	For water-to-air heat pumps:Operation limit TOL temperature		—	°C
Degradation coefficient heat pumps**	Cdh	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.008	kW		elbu	—	kW
Thermostat-off mode	P _{TO}	0.015	kW	Type of energy input Standby mode	P _{SB}	0.008	kW
Crankcase heater mode	P _{CK}	0.008	kW				
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				4,380	m ³ /h
Sound power level, outdoor measured	L _{WA}	73.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		—	m ³ /h
Emissions of nitrogen oxides(if applicable)	NOx ***	—	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdh is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
PJG000Z466 							


FDUM140VSATVF

Model(s) : FDC140VSA / FDUM50VF (3 units)							
Outdoor side heat exchanger of air conditioner : air							
Indoor side heat exchanger of air conditioner : air							
Type : vapour compression							
if applicable : electric motor							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	13.6	kW	Seasonal space cooling energy efficiency ηs,c		288.0	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35°C	Pdc	13.6	kW	Tj=+35°C	EERd or GUEc,bin / AEFc,bin	286.0	%
Tj=+30°C	Pdc	10.0	kW	Tj=+30°C	EERd or GUEc,bin / AEFc,bin	504.0	%
Tj=+25°C	Pdc	6.4	kW	Tj=+25°C	EERd or GUEc,bin / AEFc,bin	740.0	%
Tj=+20°C	Pdc	3.6	kW	Tj=+20°C	EERd or GUEc,bin / AEFc,bin	2,400.0	%
Degradation coefficient for air conditioners**	Cdc	0.25	-				
Power consumption in other than 'active mode'				Crankcase heater mode			
Off mode	P _{OFF}	0.008	kW	Standby mode	P _{CK} P _{SB}	0.008	kW
Thermostat-off mode	P _{TO}	0.000	kW			0.008	kW
Other items				For air-to-air air conditioner: air flow-rate,outdoor measured			
Capacity control		variable				4,500	m ³ /h
Sound power level, outdoor	L _{WA}	73.0	dB				
If engine driven: Emissions of nitrogen oxides	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
<p>** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.</p> <p>*** from 26 September 2018</p> <p>Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.</p>							
PJM000Z466 							

Information to identify the model(s) to which the information relates :				FDC140VSA / FDUM50VF (3 units)			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	15.5	kW	Seasonal space heating energy efficiency ηs,h		208.8	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	9.3	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	329.0	%
Tj=+2°C	Pdh	5.7	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	507.0	%
Tj=+7°C	Pdh	3.7	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	702.0	%
Tj=+12°C	Pdh	2.8	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	1,037.0	%
Tbiv=bivalent temperature	Pdh	10.5	kW	Tbiv=bivalent temperature	COPd or GUEh,bin / AEFh,bin	265.0	%
TOL=operation limit	Pdh	8.3	kW	TOL=operation limit	COPd or GUEh,bin / AEFh,bin	246.0	%
For air-to-water heat pumps : Tj=-15°C (if TOL<-20°C)	Pdh	—	kW	For air-to-water heat pumps:Tj=-15°C (if TOL<-20°C)	COPd or GUEh,bin / AEFh,bin	—	%
Bivalent temperature	Tbiv	-10.0	°C	For water-to-air heat pumps:Operation limit TOL temperature		—	°C
Degradation coefficient heat pumps**	Cdh	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.008	kW		elbu	—	kW
Thermostat-off mode	P _{TO}	0.015	kW	Type of energy input Standby mode	P _{SB}	0.008	kW
Crankcase heater mode	P _{CK}	0.008	kW				
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				4,380	m ³ /h
Sound power level, outdoor measured	L _{WA}	73.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		—	m ³ /h
Emissions of nitrogen oxides(if applicable)	NOx ***	—	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdh is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
PJG000Z466 							

FDUM200VSATVF1

Model(s) : FDC200VSA / FDUM71VF1 (3 units)							
Outdoor side heat exchanger of air conditioner : air							
Indoor side heat exchanger of air conditioner : air							
Type : vapour compression							
if applicable : electric motor							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	19.0	kW	Seasonal space cooling energy efficiency ηs,c		291.2	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35°C	Pdc	19.0	kW	Tj=+35°C	EERd or GUEc,bin / AEFc,bin	311.0	%
Tj=+30°C	Pdc	14.0	kW	Tj=+30°C	EERd or GUEc,bin / AEFc,bin	521.0	%
Tj=+25°C	Pdc	9.0	kW	Tj=+25°C	EERd or GUEc,bin / AEFc,bin	962.0	%
Tj=+20°C	Pdc	4.3	kW	Tj=+20°C	EERd or GUEc,bin / AEFc,bin	1,172.0	%
Degradation coefficient for air conditioners**	Cdc	0.25	-				
Power consumption in other than 'active mode'				Crankcase heater mode			
Off mode	P _{OFF}	0.010	kW	Standby mode	P _{CK}	0.010	kW
Thermostat-off mode	P _{TO}	0.000	kW		P _{SB}	0.010	kW
Other items				For air-to-air air conditioner:			
Capacity control		variable		air flow-rate,outdoor measured		8,100	m ³ /h
Sound power level, outdoor	L _{WA}	72.0	dB				
If engine driven: Emissions of nitrogen oxides	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO ₂ eq (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
<p>** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.</p> <p>*** from 26 September 2018</p> <p>Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.</p>							
PJG000Z466 							

Information to identify the model(s) to which the information relates :				FDC200VSA / FDUM71VF1 (3 units)			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	22.4	kW	Seasonal space heating energy efficiency ηs,h		187.9	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	11.1	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	278.0	%
Tj=+2°C	Pdh	6.7	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	508.0	%
Tj=+7°C	Pdh	4.3	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	553.0	%
Tj=+12°C	Pdh	3.5	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	751.0	%
Tbiv=bivalent temperature	Pdh	12.5	kW	Tbiv=bivalent temperature	COPd or GUEh,bin / AEFh,bin	290.0	%
TOL=operation limit	Pdh	10.5	kW	TOL=operation limit	COPd or GUEh,bin / AEFh,bin	259.0	%
For air-to-water heat pumps : Tj=-15°C (if TOL<-20°C)	Pdh	—	kW	For air-to-water heat pumps:Tj=-15°C (if TOL<-20°C)	COPd or GUEh,bin / AEFh,bin	—	%
Bivalent temperature	Tbiv	-10.0	°C	For water-to-air heat pumps:Operation limit Tol temperature		—	°C
Degradation coefficient heat pumps**	Cdh	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.010	kW		elbu	—	kW
Thermostat-off mode	P _{TO}	0.010	kW	Type of energy input Standby mode	P _{SB}	0.010	kW
Crankcase heater mode	P _{CK}	0.015	kW				
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				8,100	m ³ /h
Sound power level, outdoor measured	L _{WA}	74.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		—	m ³ /h
Emissions of nitrogen oxides(if applicable)	NOx ***	—	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdh is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
PJG000Z466 							

Models FDUM100VF2, 125VF, 140VF

Model(s) : FDUM100VF2							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Cooling capacity (sensible)	Prated,c	7.7	kW	Total electric power input	Pelec	0.290	kW
Cooling capacity (latent)	Prated,c	2.3	kW	Sound power level (per speed setting,if applicable)	LWA	65.0	dB
Heating capacity	Prated,h	11.2	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

Model(s) : FDUM125VF							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Cooling capacity (sensible)	Prated,c	10.5	kW	Total electric power input	Pelec	0.330	kW
Cooling capacity (latent)	Prated,c	2.0	kW	Sound power level (per speed setting,if applicable)	LWA	67.0	dB
Heating capacity	Prated,h	14.0	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

Model(s) : FDUM140VF							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Cooling capacity (sensible)	Prated,c	11.2	kW	Total electric power input	Pelec	0.450	kW
Cooling capacity (latent)	Prated,c	2.8	kW	Sound power level (per speed setting,if applicable)	LWA	70.0	dB
Heating capacity	Prated,h	16.0	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

(3) Duct connected-High static pressure (FDU)

FDU100VNAVF2			
Information to identify the model(s) to which the information relates to:		If function includes heating: Indicate the heating season the information relates to. Indicated values should relate to one heating season at a time. Include at least the heating season 'Average'.	
Indoor unit model name	FDU100VF2		
Outdoor unit model name	FDC100VNA		
Function(indicate if present)		Average(mandatory)	
cooling	Yes	Warmer(if designated)	No
heating	Yes	Colder(if designated)	No
Item	symbol	value	unit
Design load			
cooling	Pdesignc	10.0	kW
heating / Average	Pdesignh	8.5	kW
heating / Warmer	Pdesignh	—	kW
heating / Colder	Pdesignh	—	kW
Seasonal efficiency and energy efficiency class			
cooling	SEER	6.11	A++
heating / Average	SCOP/A	4.19	A+
heating / Warmer	SCOP/W	—	—
heating / Colder	SCOP/C	—	—
unit			
Declared capacity at outdoor temperature Tdesignh		Back up heating capacity at outdoor temperature Tdesignh	
heating / Average (-10°C)	Pdh	8.5	kW
heating / Warmer (2°C)	Pdh	—	kW
heating / Colder (-22°C)	Pdh	—	kW
heating / Average (-10°C)	elbu	0	kW
heating / Warmer (2°C)	elbu	—	kW
heating / Colder (-22°C)	elbu	—	kW
Declared capacity for cooling, at indoor temperature 27(19)°C and outdoor temperature Tj		Declared energy efficiency ratio, at indoor temperature 27(19)°C and outdoor temperature Tj	
Tj=35°C	Pdc	10.0	kW
Tj=30°C	Pdc	7.37	kW
Tj=25°C	Pdc	4.74	kW
Tj=20°C	Pdc	3.54	kW
Tj=35°C	EERd	3.52	-
Tj=30°C	EERd	4.83	-
Tj=25°C	EERd	7.73	-
Tj=20°C	EERd	11.6	-
Declared capacity for heating / Average season, at indoor temperature 20°C and outdoor temperature Tj		Declared coefficient of performance / Average season, at indoor temperature 20°C and outdoor temperature Tj	
Tj=-7°C	Pdh	7.52	kW
Tj=2°C	Pdh	4.58	kW
Tj=7°C	Pdh	2.94	kW
Tj=12°C	Pdh	2.83	kW
Tj=bivalent temperature	Pdh	6.77	kW
Tj=operating limit	Pdh	8.5	kW
Tj=-7°C	COPd	3.21	-
Tj=2°C	COPd	3.91	-
Tj=7°C	COPd	5.42	-
Tj=12°C	COPd	6.23	-
Tj=bivalent temperature	COPd	2.40	-
Tj=operating limit	COPd	2.70	-
Declared capacity for heating / Warmer season, at indoor temperature 20°C and outdoor temperature Tj		Declared coefficient of performance / Warmer season, at indoor temperature 20°C and outdoor temperature Tj	
Tj=2°C	Pdh	—	kW
Tj=7°C	Pdh	—	kW
Tj=12°C	Pdh	—	kW
Tj=bivalent temperature	Pdh	—	kW
Tj=operating limit	Pdh	—	kW
Tj=2°C	COPd	—	-
Tj=7°C	COPd	—	-
Tj=12°C	COPd	—	-
Tj=bivalent temperature	COPd	—	-
Tj=operating limit	COPd	—	-
Declared capacity for heating / Colder season, at indoor temperature 20°C and outdoor temperature Tj		Declared coefficient of performance / Colder season, at indoor temperature 20°C and outdoor temperature Tj	
Tj=-7°C	Pdh	—	kW
Tj=2°C	Pdh	—	kW
Tj=7°C	Pdh	—	kW
Tj=12°C	Pdh	—	kW
Tj=bivalent temperature	Pdh	—	kW
Tj=operating limit	Pdh	—	kW
Tj=-15°C	Pdh	—	kW
Tj=-7°C	COPd	—	-
Tj=2°C	COPd	—	-
Tj=7°C	COPd	—	-
Tj=12°C	COPd	—	-
Tj=bivalent temperature	COPd	—	-
Tj=operating limit	COPd	—	-
Tj=-15°C	COPd	—	-
Bivalent temperature		Operating limit temperature	
heating / Average	Tbiv	-10	°C
heating / Warmer	Tbiv	—	°C
heating / Colder	Tbiv	—	°C
heating / Average	Tol	-20	°C
heating / Warmer	Tol	—	°C
heating / Colder	Tol	—	°C
Cycling interval capacity		Cycling interval efficiency	
for cooling	Pcycc	—	kW
for heating	Pcyh	—	kW
for cooling	EERcyc	—	-
for heating	COPcyc	—	-
Degradation coefficient cooling		Degradation coefficient heating	
	Cdc	0.25	-
	Cdh	0.25	-
Electric power input in power modes other than 'active mode'		Annual electricity consumption	
off mode	Poff	8	W
standby mode	Psb	8	W
thermostat-off mode	Pto	65	W
crankcase heater mode	Pck	8	W
cooling	Qce	573	kWh/a
heating / Average	Qhe	2,843	kWh/a
heating / Warmer	Qhe	—	kWh/a
heating / colder	Qhe	—	kWh/a
Capacity control(indicate one of three options)		Other items	
fixed		Lwa	65
staged	No	Lwa	70
variable	No	Global warming potential	1,975
	Yes	Rated air flow(indoor)	2,160
		Rated air flow(outdoor)	4,500
Contact details for obtaining more information		Name and address of the manufacturer or of its authorised representative. Mitsubishi Heavy Industries Air-Conditioning Europe, Ltd. 5 The Square, Stockley Park, Uxbridge, Middlesex, UB11 1ET, United Kingdom	

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FDU100VSAVF2

Information to identify the model(s) to which the information relates to:				If function includes heating: Indicate the heating season the information relates to. Indicated values should relate to one heating season at a time. Include at least the heating season 'Average'.			
Indoor unit model name		FDU100VF2					
Outdoor unit model name		FDC100VSA					
Function(indicate if present)				Average(mandatory)			
cooling		Yes		Warmer(if designated)		No	
heating		Yes		Colder(if designated)		No	
Item				Item			
Design load		symbol value unit		Seasonal efficiency and energy efficiency class		symbol value class	
cooling		Pdesignc 10.0 kW		cooling		SEER 6.11 A++	
heating / Average		Pdesignh 8.5 kW		heating / Average		SCOP/A 4.19 A+	
heating / Warmer		Pdesignh - kW		heating / Warmer		SCOP/W - -	
heating / Colder		Pdesignh - kW		heating / Colder		SCOP/C - -	
				unit			
Declared capacity at outdoor temperature Tdesignh				Back up heating capacity at outdoor temperature Tdesignh			
heating / Average (-10°C)		Pdh 8.5 kW		heating / Average (-10°C)		elbu 0 kW	
heating / Warmer (2°C)		Pdh - kW		heating / Warmer (2°C)		elbu - kW	
heating / Colder (-22°C)		Pdh - kW		heating / Colder (-22°C)		elbu - kW	
Declared capacity for cooling, at indoor temperature 27(19)°C and outdoor temperature Tj				Declared energy efficiency ratio, at indoor temperature 27(19)°C and outdoor temperature Tj			
Tj=35°C		Pdc 10.0 kW		Tj=35°C		EERd 3.52 -	
Tj=30°C		Pdc 7.37 kW		Tj=30°C		EERd 4.83 -	
Tj=25°C		Pdc 4.74 kW		Tj=25°C		EERd 7.73 -	
Tj=20°C		Pdc 3.54 kW		Tj=20°C		EERd 11.60 -	
Declared capacity for heating / Average season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Average season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C		Pdh 7.52 kW		Tj=-7°C		COPd 3.21 -	
Tj=2°C		Pdh 4.58 kW		Tj=2°C		COPd 3.91 -	
Tj=7°C		Pdh 2.94 kW		Tj=7°C		COPd 5.42 -	
Tj=12°C		Pdh 2.83 kW		Tj=12°C		COPd 6.23 -	
Tj=bivalent temperature		Pdh 6.77 kW		Tj=bivalent temperature		COPd 2.40 -	
Tj=operating limit		Pdh 8.5 kW		Tj=operating limit		COPd 2.70 -	
Declared capacity for heating / Warmer season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Warmer season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=2°C		Pdh - kW		Tj=2°C		COPd - -	
Tj=7°C		Pdh - kW		Tj=7°C		COPd - -	
Tj=12°C		Pdh - kW		Tj=12°C		COPd - -	
Tj=bivalent temperature		Pdh - kW		Tj=bivalent temperature		COPd - -	
Tj=operating limit		Pdh - kW		Tj=operating limit		COPd - -	
Declared capacity for heating / Colder season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Colder season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C		Pdh - kW		Tj=-7°C		COPd - -	
Tj=2°C		Pdh - kW		Tj=2°C		COPd - -	
Tj=7°C		Pdh - kW		Tj=7°C		COPd - -	
Tj=12°C		Pdh - kW		Tj=12°C		COPd - -	
Tj=bivalent temperature		Pdh - kW		Tj=bivalent temperature		COPd - -	
Tj=operating limit		Pdh - kW		Tj=operating limit		COPd - -	
Tj=-15°C		Pdh - kW		Tj=-15°C		COPd - -	
Bivalent temperature				Operating limit temperature			
heating / Average		Tbiv -10 °C		heating / Average		Tol -20 °C	
heating / Warmer		Tbiv - °C		heating / Warmer		Tol - °C	
heating / Colder		Tbiv - °C		heating / Colder		Tol - °C	
Cycling interval capacity				Cycling interval efficiency			
for cooling		Pcycc - kW		for cooling		EERcyc - -	
for heating		Pcyh - kW		for heating		COPcyc - -	
Degradation coefficient cooling				Degradation coefficient heating			
cooling		Cdc 0.25 -		heating		Cdh 0.25 -	
Electric power input in power modes other than 'active mode'				Annual electricity consumption			
off mode		Poff 8 W		cooling		Qce 573 kWh/a	
standby mode		Psb 8 W		heating / Average		Qhe 2,843 kWh/a	
thermostat-off mode		Pto 65 W		heating / Warmer		Qhe - kWh/a	
crankcase heater mode		Pck 8 W		heating / colder		Qhe - kWh/a	
Capacity control(indicate one of three options)				Other items			
fixed		No		Sound power level(indoor)		Lwa 65 dB(A)	
staged		No		Sound power level(outdoor)		Lwa 70 dB(A)	
variable		Yes		Global warming potential		GWP 1,975 kgCO ₂ eq.	
				Rated air flow(indoor)		- 2,160 m ³ /h	
				Rated air flow(outdoor)		- 4,500 m ³ /h	
Contact details for obtaining more information		Name and address of the manufacturer or of its authorised representative. Mitsubishi Heavy Industries Air-Conditioning Europe, Ltd. 5 The Square, Stockley Park, Uxbridge, Middlesex, UB11 1ET, United Kingdom					

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FDU125VNAVF

Model(s) : FDC125VNA / FDU125VF							
Outdoor side heat exchanger of air conditioner : air							
Indoor side heat exchanger of air conditioner : air							
Type : vapour compression							
if applicable : electric motor							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	12.5	kW	Seasonal space cooling energy efficiency ηs,c		207.3	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35°C	Pdc	12.5	kW	Tj=+35°C	EERd or GUEc,bin / AEFc,bin	287.0	%
Tj=+30°C	Pdc	9.2	kW	Tj=+30°C	EERd or GUEc,bin / AEFc,bin	409.0	%
Tj=+25°C	Pdc	5.9	kW	Tj=+25°C	EERd or GUEc,bin / AEFc,bin	650.0	%
Tj=+20°C	Pdc	3.5	kW	Tj=+20°C	EERd or GUEc,bin / AEFc,bin	865.0	%
Degradation coefficient for air conditioners**	Cdc	0.25	-				
Power consumption in other than 'active mode'							
Off mode	P _{OFF}	0.010	kW	Crankcase heater mode	P _{CK}	0.008	kW
Thermostat-off mode	P _{TO}	0.075	kW	Standby mode	P _{SB}	0.010	kW
Other items				For air-to-air air conditioner: air flow-rate,outdoor measured			
Capacity control		variable				4,500	m ³ /h
Sound power level, outdoor	L _{WA}	71.0	dB				
If engine driven: Emissions of nitrogen oxides	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							

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Information to identify the model(s) to which the information relates :				FDC125VNA / FDU125VF			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	14.0	kW	Seasonal space heating energy efficiency ηs,h		162.1	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	8.7	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	311.0	%
Tj=+2°C	Pdh	5.3	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	391.0	%
Tj=+7°C	Pdh	3.4	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	530.0	%
Tj=+12°C	Pdh	2.9	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	600.0	%
T _{biv} =bivalent temperature	Pdh	9.8	kW	T _{biv} =bivalent temperature	COPd or GUEh,bin / AEFh,bin	260.0	%
T _{OL} =operation limit	Pdh	7.8	kW	T _{OL} =operation limit	COPd or GUEh,bin / AEFh,bin	231.0	%
For air-to-water heat pumps : Tj=-15°C (if T _{OL} <-20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj=-15°C (if T _{OL} <-20°C)	COPd or GUEh,bin / AEFh,bin	-	%
Bivalent temperature	T _{biv}	-10.0	°C	For water-to-air heat pumps: Operation limit T _{ol} temperature		-	°C
Degradation coefficient heat pumps**	C _{dh}	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.010	kW		elbu	-	kW
Thermostat-off mode	P _{TO}	0.090	kW	Type of energy input Standby mode	P _{SB}	0.010	kW
Crankcase heater mode	P _{CK}	0.008	kW				
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				4,380	m ³ /h
Sound power level, outdoor measured	L _{WA}	71.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		-	m ³ /h
Emissions of nitrogen oxides(if applicable)	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2088	kg CO _{2eq} (100years)				
Contact details				Mitsubishi heavy industries thermal systems,LTD			
** If Cdh is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
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FDU125VSAVF

Model(s) : FDC125VSA / FDU125VF							
Outdoor side heat exchanger of air conditioner : air							
Indoor side heat exchanger of air conditioner : air							
Type : vapour compression							
if applicable : electric motor							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	12.5	kW	Seasonal space cooling energy efficiency ηs,c		207.3	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35°C	Pdc	12.5	kW	Tj=+35°C	EERd or GUEc,bin / AEFc,bin	287.0	%
Tj=+30°C	Pdc	9.2	kW	Tj=+30°C	EERd or GUEc,bin / AEFc,bin	409.0	%
Tj=+25°C	Pdc	5.9	kW	Tj=+25°C	EERd or GUEc,bin / AEFc,bin	650.0	%
Tj=+20°C	Pdc	3.5	kW	Tj=+20°C	EERd or GUEc,bin / AEFc,bin	865.0	%
Degradation coefficient for air conditioners**	Cdc	0.25	-				
Power consumption in other than 'active mode'							
Off mode	P _{OFF}	0.010	kW	Crankcase heater mode	P _{CK}	0.008	kW
Thermostat-off mode	P _{TO}	0.075	kW	Standby mode	P _{SB}	0.010	kW
Other items				For air-to-air air conditioner: air flow-rate,outdoor measured			
Capacity control		variable				4,500	m ³ /h
Sound power level, outdoor	L _{WA}	71.0	dB				
If engine driven: Emissions of nitrogen oxides	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							

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Information to identify the model(s) to which the information relates :				FDC125VSA / FDU125VF			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	14.0	kW	Seasonal space heating energy efficiency ηs,h		162.1	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	8.7	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	311.0	%
Tj=+2°C	Pdh	5.3	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	391.0	%
Tj=+7°C	Pdh	3.4	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	530.0	%
Tj=+12°C	Pdh	2.9	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	600.0	%
T _{biv} =bivalent temperature	Pdh	9.8	kW	T _{biv} =bivalent temperature	COPd or GUEh,bin / AEFh,bin	260.0	%
T _{OL} =operation limit	Pdh	7.8	kW	T _{OL} =operation limit	COPd or GUEh,bin / AEFh,bin	231.0	%
For air-to-water heat pumps : Tj=-15°C (if T _{OL} <-20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj=-15°C (if T _{OL} <-20°C)	COPd or GUEh,bin / AEFh,bin	-	%
Bivalent temperature	T _{biv}	-10.0	°C	For water-to-air heat pumps: Operation limit T _{ai} temperature		-	°C
Degradation coefficient heat pumps**	C _{dh}	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.010	kW		elbu	-	kW
Thermostat-off mode	P _{TO}	0.090	kW	Type of energy input Standby mode	P _{SB}	0.010	kW
Crankcase heater mode	P _{CK}	0.008	kW				
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				4,380	m ³ /h
Sound power level, outdoor measured	L _{WA}	71.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		-	m ³ /h
Emissions of nitrogen oxides(if applicable)	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2088	kg CO _{2eq} (100years)				
Contact details				Mitsubishi heavy industries thermal systems,LTD			
** If Cdh is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							

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FDU140VNAVF

Model(s) : FDC140VNA / FDU140VF							
Outdoor side heat exchanger of air conditioner : air							
Indoor side heat exchanger of air conditioner : air							
Type : vapour compression							
if applicable : electric motor							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	13.6	kW	Seasonal space cooling energy efficiency ηs,c		200.0	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35°C	Pdc	13.6	kW	Tj=+35°C	EERd or GUEc,bin / AEFc,bin	276.0	%
Tj=+30°C	Pdc	10.0	kW	Tj=+30°C	EERd or GUEc,bin / AEFc,bin	383.0	%
Tj=+25°C	Pdc	6.4	kW	Tj=+25°C	EERd or GUEc,bin / AEFc,bin	588.0	%
Tj=+20°C	Pdc	3.5	kW	Tj=+20°C	EERd or GUEc,bin / AEFc,bin	970.0	%
Degradation coefficient for air conditioners**	Cdc	0.25	-				
Power consumption in other than 'active mode'							
Off mode	P _{OFF}	0.008	kW	Crankcase heater mode	P _{CK}	0.008	kW
Thermostat-off mode	P _{TO}	0.090	kW	Standby mode	P _{SB}	0.008	kW
Other items				For air-to-air air conditioner: air flow-rate,outdoor measured			
Capacity control		variable				4,500	m ³ /h
Sound power level, outdoor	L _{WA}	73.0	dB				
If engine driven: Emissions of nitrogen oxides	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
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Information to identify the model(s) to which the information relates :				FDC140VNA / FDU140VF			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	15.5	kW	Seasonal space heating energy efficiency ηs,h		157.4	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	9.3	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	300.0	%
Tj=+2°C	Pdh	5.7	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	380.0	%
Tj=+7°C	Pdh	3.7	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	518.0	%
Tj=+12°C	Pdh	2.8	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	567.0	%
T _{biv} =bivalent temperature	Pdh	10.5	kW	T _{biv} =bivalent temperature	COPd or GUEh,bin / AEFh,bin	256.0	%
T _{OL} =operation limit	Pdh	7.9	kW	T _{OL} =operation limit	COPd or GUEh,bin / AEFh,bin	229.0	%
For air-to-water heat pumps : Tj=-15°C (if T _{OL} <-20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj=-15°C (if T _{OL} <-20°C)	COPd or GUEh,bin / AEFh,bin	-	%
Bivalent temperature	T _{biv}	-10.0	°C	For water-to-air heat pumps: Operation limit T _{ol} temperature		-	°C
Degradation coefficient heat pumps**	C _{dh}	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.008	kW		elbu	-	kW
Thermostat-off mode	P _{TO}	0.100	kW	Type of energy input Standby mode	P _{SB}	0.008	kW
Crankcase heater mode	P _{CK}	0.008	kW				
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				4,380	m ³ /h
Sound power level, outdoor measured	L _{WA}	73.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		-	m ³ /h
Emissions of nitrogen oxides(if applicable)	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2088	kg CO _{2eq} (100years)				
Contact details				Mitsubishi heavy industries thermal systems,LTD			
** If Cdh is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							

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FDU140VSAVF

Model(s) : FDC140VSA / FDU140VF							
Outdoor side heat exchanger of air conditioner : air							
Indoor side heat exchanger of air conditioner : air							
Type : vapour compression							
if applicable : electric motor							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	13.6	kW	Seasonal space cooling energy efficiency $\eta_{s,c}$		200.0	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35°C	Pdc	13.6	kW	Tj=+35°C	EERd or GUEc,bin / AEFc,bin	276.0	%
Tj=+30°C	Pdc	10.0	kW	Tj=+30°C	EERd or GUEc,bin / AEFc,bin	383.0	%
Tj=+25°C	Pdc	6.4	kW	Tj=+25°C	EERd or GUEc,bin / AEFc,bin	588.0	%
Tj=+20°C	Pdc	3.5	kW	Tj=+20°C	EERd or GUEc,bin / AEFc,bin	970.0	%
Degradation coefficient for air conditioners**	Cdc	0.25	-				
Power consumption in other than 'active mode'							
Off mode	P _{OFF}	0.008	kW	Crankcase heater mode	P _{CK}	0.008	kW
Thermostat-off mode	P _{TO}	0.090	kW	Standby mode	P _{SB}	0.008	kW
Other items				For air-to-air air conditioner: air flow-rate,outdoor measured			
Capacity control		variable				4,500	m ³ /h
Sound power level, outdoor	L _{WA}	73.0	dB				
If engine driven: Emissions of nitrogen oxides	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
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Information to identify the model(s) to which the information relates :				FDC140VSA / FDU140VF			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	15.5	kW	Seasonal space heating energy efficiency ηs,h		157.4	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	9.3	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	300.0	%
Tj=+2°C	Pdh	5.7	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	380.0	%
Tj=+7°C	Pdh	3.7	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	518.0	%
Tj=+12°C	Pdh	2.8	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	567.0	%
T _{biv} =bivalent temperature	Pdh	10.5	kW	T _{biv} =bivalent temperature	COPd or GUEh,bin / AEFh,bin	256.0	%
T _{OL} =operation limit	Pdh	7.9	kW	T _{OL} =operation limit	COPd or GUEh,bin / AEFh,bin	229.0	%
For air-to-water heat pumps : Tj=-15°C (if T _{OL} <-20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj=-15°C (if T _{OL} <-20°C)	COPd or GUEh,bin / AEFh,bin	-	%
Bivalent temperature	T _{biv}	-10.0	°C	For water-to-air heat pumps: Operation limit T _{ol} temperature		-	°C
Degradation coefficient heat pumps**	C _{dh}	0.25	-				
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.008	kW		elbu	-	kW
Thermostat-off mode	P _{TO}	0.100	kW	Type of energy input Standby mode	P _{SB}	0.008	kW
Crankcase heater mode	P _{CK}	0.008	kW				
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				4,380	m ³ /h
Sound power level, outdoor measured	L _{WA}	73.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		-	m ³ /h
Emissions of nitrogen oxides(if applicable)	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2088	kg CO _{2eq} (100years)				
Contact details				Mitsubishi heavy industries thermal systems,LTD			
** If Cdh is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							

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FDU200VSAVG

Model(s) : FDC200VSA / FDU200VG							
Outdoor side heat exchanger of air conditioner : air							
Indoor side heat exchanger of air conditioner : air							
Type : vapour compression							
if applicable : electric motor							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	19.0	kW	Seasonal space cooling energy efficiency ηs,c		199.5	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35°C	Pdc	19.0	kW	Tj=+35°C	EERd or GUEc,bin / AEFc,bin	308.0	%
Tj=+30°C	Pdc	14.0	kW	Tj=+30°C	EERd or GUEc,bin / AEFc,bin	440.0	%
Tj=+25°C	Pdc	9.0	kW	Tj=+25°C	EERd or GUEc,bin / AEFc,bin	667.0	%
Tj=+20°C	Pdc	4.5	kW	Tj=+20°C	EERd or GUEc,bin / AEFc,bin	647.0	%
Degradation coefficient for air conditioners**	Cdc	0.25	-				
Power consumption in other than 'active mode'							
Off mode	P _{OFF}	0.020	kW	Crankcase heater mode	P _{CK}	0.010	kW
Thermostat-off mode	P _{TO}	0.190	kW	Standby mode	P _{SB}	0.020	kW
Other items				For air-to-air air conditioner: air flow-rate,outdoor measured			
Capacity control		variable				8,100	m ³ /h
Sound power level, outdoor	L _{WA}	72.0	dB				
If engine driven: Emissions of nitrogen oxides	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
							PJG000Z462 A

Information to identify the model(s) to which the information relates :				FDC200VSA / FDU200VG			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	22.4	kW	Seasonal space heating energy efficiency ηs,h		137.6	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	11.1	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	310.0	%
Tj=+2°C	Pdh	6.7	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	327.0	%
Tj=+7°C	Pdh	4.3	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	440.0	%
Tj=+12°C	Pdh	3.9	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	438.0	%
T _{biv} =bivalent temperature	Pdh	12.5	kW	T _{biv} =bivalent temperature	COPd or GUEh,bin / AEFh,bin	263.0	%
T _{OL} =operation limit	Pdh	10.5	kW	T _{OL} =operation limit	COPd or GUEh,bin / AEFh,bin	239.0	%
For air-to-water heat pumps : Tj=-15°C (if T _{OL} <-20°C)	Pdh	—	kW	For air-to-water heat pumps: Tj=-15°C (if T _{OL} <-20°C)	COPd or GUEh,bin / AEFh,bin	—	%
Bivalent temperature	T _{biv}	-10.0	°C	For water-to-air heat pumps: Operation limit T _{ai} temperature		—	°C
Degradation coefficient heat pumps**	C _{dh}	0.25					
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.020	kW		elbu	—	kW
Thermostat-off mode	P _{TO}	0.210	kW	Type of energy input Standby mode	P _{SB}	0.020	kW
Crankcase heater mode	P _{CK}	0.010	kW				
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				8,100	m ³ /h
Sound power level, outdoor measured	L _{WA}	74.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		—	m ³ /h
Emissions of nitrogen oxides(if applicable)	NOx ***	—	mg/kWh fuel input GCV				
GWP of the refrigerant		2088	kg CO _{2eq} (100years)				
Contact details				Mitsubishi heavy industries thermal systems,LTD			
** If Cdh is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							

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FDU250VSAVG

Model(s) : FDC250VSA / FDU250VG							
Outdoor side heat exchanger of air conditioner : air							
Indoor side heat exchanger of air conditioner : air							
Type : vapour compression							
if applicable : electric motor							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	Prated,c	24.0	kW	Seasonal space cooling energy efficiency $\eta_{s,c}$		189.9	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27°C/19°C(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35°C	Pdc	24.0	kW	Tj=+35°C	EERd or GUEc,bin / AEFc,bin	301.0	%
Tj=+30°C	Pdc	17.7	kW	Tj=+30°C	EERd or GUEc,bin / AEFc,bin	395.0	%
Tj=+25°C	Pdc	11.4	kW	Tj=+25°C	EERd or GUEc,bin / AEFc,bin	622.0	%
Tj=+20°C	Pdc	6.5	kW	Tj=+20°C	EERd or GUEc,bin / AEFc,bin	638.0	%
Degradation coefficient for air conditioners**	Cdc	0.25	-				
Power consumption in other than 'active mode'							
Off mode	P _{OFF}	0.020	kW	Crankcase heater mode	P _{CK}	0.010	kW
Thermostat-off mode	P _{TO}	0.190	kW	Standby mode	P _{SB}	0.020	kW
Other items				For air-to-air air conditioner: air flow-rate,outdoor measured			
Capacity control		variable				8,580	m ³ /h
Sound power level, outdoor	L _{WA}	73.0	dB				
If engine driven: Emissions of nitrogen oxides	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		2,088	kg CO _{2eq} (100years)				
Contact details	Mitsubishi heavy industries thermal systems,LTD						
** If Cdc is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							
PJG000Z462 A							

Information to identify the model(s) to which the information relates :				FDC250VSA / FDU250VG			
Outdoor side heat exchanger of heat pump :				air			
Indoor side heat exchanger of heat pump :				air			
Indication if the heater is equipped with a supplementary heater :				No			
if applicable :				electric motor			
Parameters shall be declared for the average heating season , parameters for the warmer and colder heating seasons are optional.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	Prated,h	27.0	kW	Seasonal space heating energy efficiency ηs,h		137.5	%
Declared heating capacity for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=-7°C	Pdh	12.6	kW	Tj=-7°C	COPd or GUEh,bin / AEFh,bin	269.0	%
Tj=+2°C	Pdh	7.7	kW	Tj=+2°C	COPd or GUEh,bin / AEFh,bin	351.0	%
Tj=+7°C	Pdh	4.9	kW	Tj=+7°C	COPd or GUEh,bin / AEFh,bin	402.0	%
Tj=+12°C	Pdh	6.4	kW	Tj=+12°C	COPd or GUEh,bin / AEFh,bin	527.0	%
T _{biv} =bivalent temperature	Pdh	14.2	kW	T _{biv} =bivalent temperature	COPd or GUEh,bin / AEFh,bin	260.0	%
T _{OL} =operation limit	Pdh	12.5	kW	T _{OL} =operation limit	COPd or GUEh,bin / AEFh,bin	254.0	%
For air-to-water heat pumps : Tj=-15°C (if T _{OL} <-20°C)	Pdh	—	kW	For air-to-water heat pumps: Tj=-15°C (if T _{OL} <-20°C)	COPd or GUEh,bin / AEFh,bin	—	%
Bivalent temperature	T _{biv}	-10.0	°C	For water-to-air heat pumps: Operation limit T _{ol} temperature		—	°C
Degradation coefficient heat pumps**	C _{dh}	0.25					
Power consumption in modes other than 'active mode'				Supplementary heater back-up heating capacity			
Off mode	P _{OFF}	0.020	kW		elbu	—	kW
Thermostat-off mode	P _{TO}	0.210	kW	Type of energy input Standby mode	P _{SB}	0.020	kW
Crankcase heater mode	P _{CK}	0.010	kW				
Other items				For air-to-air heat pumps: air flow-rate,outdoor measured			
Capacity control		variable				9,060	m ³ /h
Sound power level, outdoor measured	L _{WA}	75.0	dB	For water-/brine-to-air heat pumps : Rated brine or water flow-rate, outdoor side heat exchanger		—	m ³ /h
Emissions of nitrogen oxides(if applicable)	NOx ***	—	mg/kWh fuel input GCV				
GWP of the refrigerant		2088	kg CO _{2eq} (100years)				
Contact details				Mitsubishi heavy industries thermal systems,LTD			
** If Cdh is not determined by measurement then the default degradation coefficient air conditioners shall be 0,25.							
*** from 26 September 2018							
Where information relates to multi-split air conditioners,the test result and performance data be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.							

PJG0002462

Models FDU100VF2, 125VF, 140VF, 200VG, 250VG

Model(s) : FDU100VF2							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Cooling capacity (sensible)	$P_{rated,c}$	7.7	kW	Total electric power input	P_{elec}	0.350	kW
Cooling capacity (latent)	$P_{rated,c}$	2.3	kW	Sound power level (per speed setting,if applicable)	L_{WA}	65.0	dB
Heating capacity	$P_{rated,h}$	11.2	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

Model(s) : FDU125VF							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Cooling capacity (sensible)	$P_{rated,c}$	10.5	kW	Total electric power input	P_{elec}	0.400	kW
Cooling capacity (latent)	$P_{rated,c}$	2.0	kW	Sound power level (per speed setting,if applicable)	L_{WA}	67.0	dB
Heating capacity	$P_{rated,h}$	14.0	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

Model(s) : FDU140VF							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Cooling capacity (sensible)	$P_{rated,c}$	11.2	kW	Total electric power input	P_{elec}	0.550	kW
Cooling capacity (latent)	$P_{rated,c}$	2.8	kW	Sound power level (per speed setting,if applicable)	L_{WA}	70.0	dB
Heating capacity	$P_{rated,h}$	16.0	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

Model(s) : FDU200VG							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Cooling capacity (sensible)	$P_{rated,c}$	14.2	kW	Total electric power input	P_{elec}	1.180	kW
Cooling capacity (latent)	$P_{rated,c}$	4.8	kW	Sound power level (per speed setting,if applicable)	L_{WA}	75.0	dB
Heating capacity	$P_{rated,h}$	22.4	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

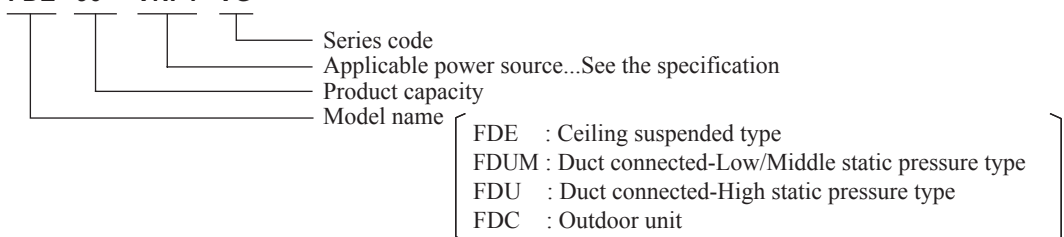
Model(s) : FDU250VG							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Cooling capacity (sensible)	$P_{rated,c}$	20.0	kW	Total electric power input	P_{elec}	1.180	kW
Cooling capacity (latent)	$P_{rated,c}$	4.0	kW	Sound power level (per speed setting,if applicable)	L_{WA}	75.0	dB
Heating capacity	$P_{rated,h}$	27.0	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

3. STANDARD INVERTER PACKAGED AIR-CONDITIONERS

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Example: FDE 90 VNP1 VG



3.1 SPECIFICATIONS


(1) Ceiling suspended type (FDE)

Single type

Item		Model	FDE71VNPVG			
			Indoor unit FDE71VG	Outdoor unit FDC71VNP		
Power source			1 Phase 220-240V 50Hz / 220V 60Hz			
Operation data	Nominal cooling capacity (range)	kW	7.1 [1.4(Min.)-7.1(Max.)]			
	Nominal heating capacity (range)	kW	7.1 [1.0(Min.)-7.1(Max.)]			
	Power consumption	Cooling	kW	2.50		
		Heating		1.96		
	Max power consumption		3.27			
	Running current	Cooling	A	11.3 / 11.8		
		Heating		8.8 / 9.2		
	Inrush current, max current		5 , 14.5			
	Power factor	Cooling	%	96		
		Heating		97		
	EER	Cooling		2.84		
	COP	Heating		3.62		
	Sound power level	Cooling	dB(A)	60	67	
Heating		P-Hi : 47 Hi : 41 Me : 37 Lo : 32				
Sound pressure level	Cooling	dB(A)	54			
	Heating		49			
Silent mode sound pressure level			49			
Exterior dimensions (Height x Width x Depth)		mm	210 × 1,320 × 690	640×800(+71)×290		
Exterior appearance (Munsell color)			Plaster white (6.8Y8.9/0.2) near equivalent	Stucco white (4.2Y7.5/1.1) near equivalent		
Net weight		kg	33	45		
Compressor type & Q'ty			—	RMT5113MCE2 (Twin rotary type)×1		
Compressor motor (Starting method)		kW	—	Direct line start		
Refrigerant oil (Amount, type)		ℓ	—	0.45 (M-MA68)		
Refrigerant (Type, amount, pre-charge length)		kg	R410A 1.6kg in outdoor unit (Incl. the amount for the piping of : 15m)			
Heat exchanger			Louver fin & inner grooved tubing	M shape fin & inner grooved tubing		
Refrigerant control			Capillary tubes + Electronic expansion valve			
Fan type & Q'ty			Centrifugal fan ×4	Propeller fan ×1		
Fan motor (Starting method)		W	50 < Direct line start >	34 < Direct line start >		
Air flow	Cooling	m ³ /min	P-Hi : 20 Hi : 16 Me : 13 Lo : 10			
	Heating		36			
Available external static pressure		Pa	0	—		
Outside air intake			Not possible	—		
Air filter, Quality / Quantity			Pocket plastic net ×2(Washable)	—		
Shock & vibration absorber			Rubber sleeve(for fan motor)	Rubber sleeve(for compressor)		
Electric heater		W	—	—		
Operation control	Remote control		(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-E-E3			
	Room temperature control		Thermostat by electronics			
	Operation display		—			
Safety equipments			Compressor overheat protection, Overcurrent protection, Frost protection, Serial signal error protection, Indoor fan motor error protection, Heating overload protection(High pressure control), Cooling overload protection			
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 9.52 (3/8") Pipe φ 6.35(1/4")×0.8 O/U φ 6.35 (1/4") Gas line: I/U φ 15.88 (5/8") Pipe φ 12.7(1/2")×0.8 O/U φ 12.7 (1/2")			
	Connecting method		Flare piping	Flare piping		
	Attached length of piping	m	—	—		
	Insulation for piping		Necessary (both Liquid & Gas lines)			
	Refrigerant line (one way) length	m	Max.30m			
	Vertical height diff. between O/U and I/U	m	Max.20m (Outdoor unit is higher)	Max.20m (Outdoor unit is lower)		
Drain hose		Hose connectable with VP20(O.D.26)		Hole size φ 20 x 5 pcs		
Drain pump, max lift height		mm	—	—		
Recommended breaker size		A	—			
L.R.A. (Locked rotor ampere)		A	5.0			
Interconnecting wires Size x Core number			1.5mm ² ×4 cores (Including earth cable) / Terminal block (Screw fixing type)			
IP number			IPX0	IPX4		
Standard accessories			Mounting kit, Drain hose	Drain elbow, Drain hole grommet		
Option parts			Motion sensor : LB-E			
Notes (1) The data are measured at the following conditions. The pipe length is 7.5m.						
Operation	Item	Indoor air temperature		Outdoor air temperature		Standards
		DB	WB	DB	WB	
	Cooling	27°C	19°C	35°C	24°C	
Heating	20°C	—	7°C	6°C		
(2) This air-conditioner is manufactured and tested in conformity with the ISO.						
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.						
(4) Select the breaker size according to the own national standard.						
(5) The operation data indicate when the air-conditioner is operated at 230V 50Hz or 220V 60Hz.						

Item		Model	FDE90VNP1VG			
			Indoor unit FDE100VG	Outdoor unit FDC90VNP1		
Power source			1 Phase 220-240V 50Hz / 220V 60Hz			
Operation data	Nominal cooling capacity (range)	kW	9.0 [1.9(Min.)-9.0(Max.)]			
	Nominal heating capacity (range)	kW	9.0 [1.5(Min.)-9.0(Max.)]			
	Power consumption	Cooling	kW	2.75		
		Heating		2.22		
	Max power consumption		4.19			
	Running current	Cooling	A	12.3 / 12.9		
		Heating		10.0 / 10.5		
	Inrush current, max current		5 , 18.0			
	Power factor	Cooling	%	97		
		Heating		97		
	EER	Cooling		3.27		
	COP	Heating		4.05		
	Sound power level	Cooling	dB(A)	64	69	
Heating						
Sound pressure level	Cooling	dB(A)	P-Hi : 48 Hi : 43 Me : 38 Lo : 34			
	Heating		57			
Silent mode sound pressure level			55			
Exterior dimensions (Height x Width x Depth)		mm	250 x 1,620 x 690	750 x 880(+88) x 340		
Exterior appearance (Munsell color)			Plaster white (6.8Y8.9/0.2) near equivalent	Stucco white (4.2Y7.5/1.1) near equivalent		
Net weight		kg	43	57		
Compressor type & Q'ty			—	RMT5118MDE2 (Twin rotary type)x1		
Compressor motor (Starting method)		kW	—	Direct line start		
Refrigerant oil (Amount, type)		ℓ	—	0.675 (M-MA68)		
Refrigerant (Type, amount, pre-charge length)		kg	R410A 2.1kg in outdoor unit (Incl. the amount for the piping of : 15m)			
Heat exchanger			Louver fin & inner grooved tubing	M shape fin & inner grooved tubing		
Refrigerant control			Capillary tubes + Electronic expansion valve			
Fan type & Q'ty			Centrifugal fan x4	Propeller fan x1		
Fan motor (Starting method)		W	80 < Direct line start >	86 < Direct line start >		
Air flow	Cooling	m³/min	P-Hi : 32 Hi : 26 Me : 21 Lo : 16.5			
	Heating		63			
Available external static pressure		Pa	0	—		
Outside air intake			Not possible			
Air filter, Quality / Quantity			Pocket plastic net x2(Washable)			
Shock & vibration absorber			Rubber sleeve(for fan motor)			
Electric heater		W	—	Rubber sleeve (for fan motor & compressor)		
Operation control	Remote control		(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-E-E3			
	Room temperature control		Thermostat by electronics			
	Operation display		—			
Safety equipments			Compressor overheat protection, Overcurrent protection, Frost protection, Serial signal error protection, Indoor fan motor error protection, Heating overload protection(High pressure control), Cooling overload protection			
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 9.52 (3/8") Pipe φ 6.35(1/4")x0.8 O/U φ 6.35 (1/4")			
			Gas line: I/U φ 15.88 (5/8") Pipe φ 15.88 (5/8")x1.0 O/U φ 15.88 (5/8")			
	Connecting method		Flare piping			
	Attached length of piping	m	—			
	Insulation for piping		Necessary (both Liquid & Gas lines)			
	Refrigerant line (one way) length	m	Max.30m			
Vertical height diff. between O/U and I/U	m	Max.20m (Outdoor unit is higher) Max.20m (Outdoor unit is lower)				
Drain hose		Hose connectable with VP20(O.D.26) Hole size φ 20 x 3 pcs				
Drain pump, max lift height		mm	—	—		
Recommended breaker size		A	—			
L.R.A. (Locked rotor ampere)		A	5.0			
Interconnecting wires		Size x Core number	1.5mm²x4 cores (Including earth cable) / Terminal block (Screw fixing type)			
IP number			IPX0	IPX4		
Standard accessories			Mounting kit, Drain hose	Drain elbow, Drain hole grommet		
Option parts			Motion sensor : LB-E			
Notes		(1) The data are measured at the following				
		The pipe length is 7.5m.				
Operation	Item	Indoor air temperature		Outdoor air temperature		Standards
		DB	WB	DB	WB	
	Cooling	27°C	19°C	35°C	24°C	
Heating	20°C	—	7°C	6°C		
(2) This air-conditioner is manufactured and tested in conformity with the ISO.						
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.						
(4) Select the breaker size according to the own national standard.						
(5) The operation data indicate when the air-conditioner is operated at 230V 50Hz or 220V 60Hz.						

Item		Model	FDE100VNP1VG		
			Indoor unit FDE100VG	Outdoor unit FDC100VNP	
Power source			1 Phase 220-240V 50Hz / 220V 60Hz		
Operation data	Nominal cooling capacity (range)	kW	10.0 [2.8(Min.)-11.2(Max.)]		
	Nominal heating capacity (range)	kW	11.2 [2.5(Min.)-12.5(Max.)]		
	Power consumption	Cooling	kW	2.66	
		Heating		2.94	
	Max power consumption		4.28		
	Running current	Cooling	A	11.7 / 12.2	
		Heating		12.9 / 13.5	
	Inrush current, max current		5, 21.0		
	Power factor	Cooling	%	99	
		Heating		99	
	EER	Cooling		3.76	
	COP	Heating		3.81	
Sound power level	Cooling	dB(A)	64	70	
	Heating				
Sound pressure level	Cooling	dB(A)	P-Hi : 48 Hi : 43 Me : 38 Lo : 34	57	
	Heating			61	
Silent mode sound pressure level			—	Cooling:50 / Heating:49	
Exterior dimensions (Height × Width × Depth)	mm		250 × 1,620 × 690	845×970×370	
Exterior appearance (Munsell color)			Plaster white (6.8Y8.9/0.2)near equivalent	Stucco white (4.2Y7.5/1.1)near equivalent	
Net weight	kg		43	70	
Compressor type & Q'ty			—	RMT5126MCE1 (Twin rotary type)×1	
Compressor motor (Starting method)	kW		—	Direct line start	
Refrigerant oil (Amount, type)	ℓ		—	0.90 (M-MA68)	
Refrigerant (Type, amount, pre-charge length)	kg		R410A 2.55kg in outdoor unit (Incl. the amount for the piping of : 15m)		
Heat exchanger			Louver fin & inner grooved tubing	M shape fin & inner grooved tubing	
Refrigerant control			Capillary tubes + Electronic expansion valve		
Fan type & Q'ty			Centrifugal fan ×4	Propeller fan ×1	
Fan motor (Starting method)	W		80 < Direct line start >	86 < Direct line start >	
Air flow	Cooling	m³/min	P-Hi : 32 Hi : 26 Me : 21 Lo : 16.5	75	
	Heating			79	
Available external static pressure	Pa		0	—	
Outside air intake			Not possible		
Air filter, Quality / Quantity			Pocket plastic net ×2(Washable)		
Shock & vibration absorber			Rubber sleeve(for fan motor)		
Electric heater	W		—	—	
Operation control	Remote control		(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-E-E3		
	Room temperature control		Thermostat by electronics		
	Operation display		—		
Safety equipments			Compressor overheat protection, Overcurrent protection, Frost protection, Serial signal error protection, Indoor fan motor error protection, Heating overload protection(High pressure control), Cooling overload protection		
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 9.52 (3/8") Pipe φ 9.52(3/8")×0.8 O/U φ 9.52 (3/8") Gas line: I/U φ 15.88 (5/8") Pipe φ 15.88(5/8")×1.0 O/U φ 15.88 (5/8")		
	Connecting method		Flare piping	Flare piping	
	Attached length of piping	m	—	—	
	Insulation for piping		Necessary (both Liquid & Gas lines)		
	Refrigerant line (one way) length	m	Max.30m		
	Vertical height diff. between O/U and I/U	m	Max.20m (Outdoor unit is higher)	Max.20m (Outdoor unit is lower)	
Drain hose			Hose connectable with VP20 (O.D.26)	Hole size φ 20 × 3 pcs	
Drain pump, max lift height	mm		—	—	
Recommended breaker size	A		—		
L.R.A. (Locked rotor ampere)	A		5.0		
Interconnecting wires	Size × Core number		φ 1.6mm×3 cores + earth cable / Terminal block (Screw fixing type)		
IP number			IPX0	IPX4	
Standard accessories			Mounting kit, Drain hose	Edging	
Option parts			Motion sensor : LB-E		
Notes		(1) The data are measured at the following conditions.	The pipe length is 7.5m.		
	Item	Indoor air temperature	Outdoor air temperature		
Operation		DB	DB	WB	
		WB	DB	WB	
Cooling		27°C	19°C	35°C	
Heating		20°C	—	7°C	
				Standards	
				ISO5151-T1	
(2) This air-conditioner is manufactured and tested in conformity with the ISO.					
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.					
(4) Select the breaker size according to the own national standard.					
(5) The operation data indicate when the air-conditioner is operated at 230V 50Hz or 220V 60Hz.					

PFA004Z080 

(2) Duct connected-Low / Middle static pressure type (FDUM)
Single type

Item		Model	FDUM71VNPVF1				
			Indoor unit FDUM71VF1	Outdoor unit FDC71VNP			
Power source			1 phase 220-240V 50Hz / 220V 60Hz				
Operation data	Nominal cooling capacity (range)	kW	7.1 [1.4(Min.)-7.1(Max.)]				
	Nominal heating capacity (range)	kW	7.1 [1.0(Min.)-7.1(Max.)]				
	Power consumption	Cooling	kW	2.60			
		Heating		1.89			
	Max power consumption		3.27				
	Running current	Cooling	A	11.5 / 12.0			
		Heating		8.5 / 8.9			
	Inrush current, max current		5, 14.5				
	Power factor	Cooling	%	98 / 98			
		Heating		97 / 97			
	EER	Cooling		2.73			
	COP	Heating		3.76			
	Sound power level	Cooling	dB(A)	65	67		
Heating							
Sound pressure level	Cooling	dB(A)	P-Hi : 38 Hi : 33 Me : 29 Lo : 25				
	Heating		54				
Silent mode sound pressure level			—	49			
Exterior dimensions (Height × Width × Depth)	mm		280 × 950 × 635	640×800(+71)×290			
Exterior appearance (Munsell color)			—	Stucco white (4.2Y7.5/1.1)near equivalent			
Net weight	kg		34	45			
Compressor type & Q'ty			—	RMT5113MDE2 (Twin rotary type)×1			
Compressor motor (Starting method)	kW		—	Direct line start			
Refrigerant oil (Amount, type)	ℓ		—	0.45 (M-MA68)			
Refrigerant (Type, amount, pre-charge length)	kg		R410A 1.6kg in outdoor unit (Incl. the amount for the piping of : 15m)				
Heat exchanger			Louver fin & inner grooved tubing	M shape fin & inner grooved tubing			
Refrigerant control			Capillary tubes + Electronic expansion valve				
Fan type & Q'ty			Centrifugal fan ×2	Propeller fan ×1			
Fan motor (Starting method)	W		130 < Direct line start >	34 < Direct line start >			
Air flow	Cooling	m ³ /min	P-Hi : 24 Hi : 19 Me : 15 Lo : 10				
	Heating		36				
Available external static pressure	Pa		Standard : 35 Max : 100	—			
Outside air intake			Possible	—			
Air filter, Quality / Quantity			Procure locally	—			
Shock & vibration absorber			Rubber sleeve(for fan motor)	Rubber sleeve(for compressor)			
Electric heater	W		—	—			
Operation control	Remote control		(Option) Wired : RC-EX3, RC-E5,RCH-E3 Wireless : RCN-KIT4-E2				
	Room temperature control		Thermostat by electronics				
	Operation display		—				
Safety equipments			Compressor overheat protection, Overcurrent protection, Frost protection, Serial signal error protection, Indoor fan motor error protection, Heating overload protection(High pressure control), Cooling overload protection				
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U ϕ 9.52 (3/8") Pipe ϕ 6.35(1/4")×0.8 O/U ϕ 6.35 (1/4") Gas line: I/U ϕ 15.88 (5/8") Pipe ϕ 12.7(1/2")×0.8 O/U ϕ 12.7 (1/2")				
	Connecting method		Flare piping	Flare piping			
	Attached length of piping	m	—	—			
	Insulation for piping		Necessary (both Liquid & Gas lines)				
	Refrigerant line (one way) length	m	Max.30m				
	Vertical height diff. between O/U and I/U	m	Max.20m (Outdoor unit is higher)	Max.20m (Outdoor unit is lower)			
Drain hose			Hose connectable VP25 (I.D.25, O.D.32)	Hole size ϕ 20 x 5 pcs			
Drain pump, max lift height	mm		Built-in Drain pump,600	—			
Recommended breaker size	A		—				
L.R.A. (Locked rotor ampere)	A		5.0				
Interconnecting wires	Size × Core number		1.5mm ² ×4 cores (including earth cable)/ Terminal block (Screw fixing type)				
IP number			IPX0	IPX4			
Standard accessories			Mounting kit, Drain hose	Drain elbow, Drain hole grommet			
Option parts			Filter set : UM-FL2EF, Motion sensor : LB-KIT				
Notes		(1) The data are measured at the following conditions.			The pipe length is 7.5m.		
Operation	Item	Indoor air temperature		Outdoor air temperature		External static pressure of indoor unit	Standards
		DB	WB	DB	WB		
	Cooling	27°C	19°C	35°C	24°C		
Heating	20°C	—	7°C	6°C	35Pa	ISO5151-T1	
(2) This air-conditioner is manufactured and tested in conformity with the ISO. (3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions. (4) Select the breaker size according to the own national standard. (5) The operation data indicates when the air-conditioner is operated at 230V 50Hz or 220V 60Hz. (6) Static pressure of optional air filter "UM-FL2EF" is 5Pa initially. (7) The external static pressure setting can be changed to 10-100Pa. (For RC-EX3 and RC-E5 only)							

Item		Model	FDUM90VNP1VF2				
			Indoor unit FDUM100VF2	Outdoor unit FDC90VNP1			
Power source			1 phase 220-240V 50Hz / 220V 60Hz				
Operation data	Nominal cooling capacity (range)	kW	9.0 [1.9(Min.)-9.0(Max.)]				
	Nominal heating capacity (range)	kW	9.0 [1.5(Min.)-9.0(Max.)]				
	Power consumption	Cooling	kW	2.69			
		Heating		2.25			
	Max power consumption		4.19				
	Running current	Cooling	A	12.0 / 12.5			
		Heating		10.1 / 10.6			
	Inrush current, max current		5, 18.0				
	Power factor	Cooling	%	97 / 97			
		Heating		97 / 97			
	EER	Cooling		3.35			
	COP	Heating		4.00			
	Sound power level	Cooling	dB(A)	65	69		
Heating							
Sound pressure level	Cooling	dB(A)	P-Hi : 44 Hi : 38 Me : 36 Lo : 30	57			
	Heating			55			
Silent mode sound pressure level				Cooling:52 / Heating:50			
Exterior dimensions (Height × Width × Depth)	mm		280 × 1370 × 740	750 × 880(+88) × 340			
Exterior appearance (Munsell color)			—	Stucco white (4.2Y7.5/1.1)near equivalent			
Net weight	kg		54	57			
Compressor type & Q'ty			—	RMT5118MDE2 (Twin rotary type)×1			
Compressor motor (Starting method)	kW		—	Direct line start			
Refrigerant oil (Amount, type)	ℓ		—	0.675 (M-MA68)			
Refrigerant (Type, amount, pre-charge length)	kg		R410A 2.1kg in outdoor unit (Incl. the amount for the piping of : 15m)				
Heat exchanger			Louver fin & inner grooved tubing	M shape fin & inner grooved tubing			
Refrigerant control			Capillary tubes + Electronic expansion valve				
Fan type & Q'ty			Centrifugal fan ×3	Propeller fan ×1			
Fan motor (Starting method)	W		100 + 130 < Direct line start >	86 < Direct line start >			
Air flow	Cooling	m ³ /min	P-Hi : 36 Hi : 28 Me : 25 Lo : 19				
	Heating						
Available external static pressure	Pa		Standard : 60 Max : 100	—			
Outside air intake			Possible	—			
Air filter, Quality / Quantity			Procure locally	—			
Shock & vibration absorber			Rubber sleeve(for fan motor)	Rubber sleeve (for fan motor & compressor)			
Electric heater	W		—	—			
Operation control	Remote control		(Option) Wired : RC-EX3, RC-E5,RCH-E3 Wireless : RCN-KIT4-E2				
	Room temperature control		Thermostat by electronics				
	Operation display		—				
Safety equipments			Compressor overheat protection, Overcurrent protection, Frost protection, Serial signal error protection, Indoor fan motor error protection, Heating overload protection(High pressure control), Cooling overload protection				
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 9.52 (3/8") Pipe φ 6.35(1/4")×0.8 O/U φ 6.35 (1/4") Gas line: I/U φ 15.88 (5/8") Pipe φ 15.88(5/8")×1.0 O/U φ 15.88 (5/8")				
	Connecting method		Flare piping	Flare piping			
	Attached length of piping	m	—	—			
	Insulation for piping		Necessary (both Liquid & Gas lines)				
	Refrigerant line (one way) length	m	Max.30m				
	Vertical height diff. between O/U and I/U	m	Max.20m (Outdoor unit is higher)	Max.20m (Outdoor unit is lower)			
Drain hose			Hose connectable VP25(I.D.25, O.D.32)	Hole size φ 20 × 3 pcs			
Drain pump, max lift height	mm		Built-in Drain pump,600	—			
Recommended breaker size	A		—				
L.R.A. (Locked rotor ampere)	A		5.0				
Interconnecting wires	Size × Core number		1.5mm ² ×4 cores (Including earth cable)/ Terminal block (Screw fixing type)				
IP number			IPX0	IPX4			
Standard accessories			Mounting kit, Drain hose	Drain elbow, Drain hole grommet			
Option parts			Filter set : UM-FL3EF, Motion sensor : LB-KIT				
Notes		(1) The data are measured at the following conditions.		The pipe length is 7.5m.			
Operation	Item	Indoor air temperature		Outdoor air temperature		External static pressure of indoor unit	Standards
		DB	WB	DB	WB		
	Cooling	27°C	19°C	35°C	24°C		
Heating	20°C	—	7°C	6°C	60Pa	ISO5151-T1	
<p>(2) This air-conditioner is manufactured and tested in conformity with the ISO.</p> <p>(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.</p> <p>(4) Select the breaker size according to the own national standard.</p> <p>(5) The operation data indicates when the air-conditioner is operated at 230V 50Hz or 220V 60Hz.</p> <p>(6) Static pressure of optional air filter "UM-FL3EF" is 5Pa initially.</p> <p>(7) The external static pressure setting can be changed to 10-100Pa. (For RC-EX3 and RC-E5 only)</p>							

Item		Model	FDUM100VNP1VF2																										
			Indoor unit FDUM100VF2	Outdoor unit FDC100VNP																									
Power source			1 Phase 220-240V 50Hz / 220V 60Hz																										
Operation data	Nominal cooling capacity (range)	kW	10.0 [2.8(Min.)-11.2(Max.)]																										
	Nominal heating capacity (range)	kW	11.2 [2.5(Min.)-12.5(Max.)]																										
	Power consumption	Cooling	kW	3.00																									
		Heating		2.93																									
	Max power consumption		4.60																										
	Running current	Cooling	A	13.2 / 13.8																									
		Heating		12.9 / 13.5																									
	Inrush current, max current		5, 22.0																										
	Power factor	Cooling	%	99																									
		Heating		99																									
	EER	Cooling		3.33																									
	COP	Heating		3.82																									
	Sound power level	Cooling	dB(A)	65																									
		Heating		70																									
Sound pressure level	Cooling		P-Hi : 44 Hi : 38 Me : 36 Lo : 30																										
	Heating		57																										
Silent mode sound pressure level			Cooling:50 / Heating:49																										
Exterior dimensions (Height × Width × Depth)		mm	280 × 1,370 × 740																										
Exterior appearance (Munsell color)			Stucco white (4.2Y7.5/1.1)near equivalent																										
Net weight		kg	54																										
Compressor type & Q'ty			RMT5126MCE1 (Twin rotary type)×1																										
Compressor motor (Starting method)		kW	Direct line start																										
Refrigerant oil (Amount, type)		ℓ	0.90 (M-MA68)																										
Refrigerant (Type, amount, pre-charge length)		kg	R410A 2.55kg in outdoor unit (Incl. the amount for the piping of : 15m)																										
Heat exchanger			Louver fin & inner grooved tubing M shape fin & inner grooved tubing																										
Refrigerant control			Capillary tubes + Electronic expansion valve																										
Fan type & Q'ty			Centrifugal fan ×3 Propeller fan ×1																										
Fan motor (Starting method)		W	100 + 130 < Direct line start > 86 < Direct line start >																										
Air flow	Cooling	m³/min	P-Hi : 36 Hi : 28 Me : 25 Lo : 19																										
	Heating		75																										
Available external static pressure		Pa	Standard : 60 Max : 100																										
Outside air intake			Possible																										
Air filter, Quality / Quantity			Procure locally																										
Shock & vibration absorber			Rubber sleeve(for fan motor) Rubber sleeve (for fan motor & compressor)																										
Electric heater		W	-																										
Operation control	Remote control		(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-KIT4-E2																										
	Room temperature control		Thermostat by electronics																										
	Operation display		-																										
Safety equipments			Compressor overheat protection, Overcurrent protection, Frost protection, Serial signal error protection, Indoor fan motor error protection, Heating overload protection(High pressure control), Cooling overload protection																										
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 9.52 (3/8") Pipe φ 9.52(3/8")×0.8 O/U φ 9.52 (3/8") Gas line: I/U φ 15.88 (5/8") Pipe φ 15.88(5/8")×1.0 O/U φ 15.88 (5/8")																										
	Connecting method		Flare piping																										
	Attached length of piping	m	-																										
	Insulation for piping		Necessary (both Liquid & Gas lines)																										
	Refrigerant line (one way) length	m	Max.30m																										
	Vertical height diff. between O/U and I/U	m	Max.20m (Outdoor unit is higher) Max.20m (Outdoor unit is lower)																										
Drain hose			Hose connectable VP25 (I.D.25,O.D.32) Hole size φ 20 × 3 pcs																										
Drain pump, max lift height		mm	Built-in drain pump , 600																										
Recommended breaker size		A	-																										
L.R.A. (Locked rotor ampere)		A	5.0																										
Interconnecting wires Size × Core number			φ 1.6mm×3 cores + earth cable / Terminal block (Screw fixing type)																										
IP number			IPX0 IPX4																										
Standard accessories			Mounting kit, Drain hose																										
Option parts			Filter set : UM-FL3EF, Motion sensor : LB-KIT																										
Notes (1) The data are measured at the following conditions.			The pipe length is 7.5m.																										
<table border="1"> <thead> <tr> <th rowspan="2">Item</th> <th colspan="2">Indoor air temperature</th> <th colspan="2">Outdoor air temperature</th> <th rowspan="2">External static pressure of indoor unit</th> <th rowspan="2">Standards</th> </tr> <tr> <th>DB</th> <th>WB</th> <th>DB</th> <th>WB</th> </tr> </thead> <tbody> <tr> <td>Cooling</td> <td>27°C</td> <td>19°C</td> <td>35°C</td> <td>24°C</td> <td rowspan="2">60Pa</td> <td rowspan="2">ISO5151-T1</td> </tr> <tr> <td>Heating</td> <td>20°C</td> <td>-</td> <td>7°C</td> <td>6°C</td> </tr> </tbody> </table>		Item	Indoor air temperature		Outdoor air temperature		External static pressure of indoor unit	Standards	DB	WB	DB	WB	Cooling	27°C	19°C	35°C	24°C	60Pa	ISO5151-T1	Heating	20°C	-	7°C	6°C					
Item	Indoor air temperature		Outdoor air temperature		External static pressure of indoor unit	Standards																							
	DB	WB	DB	WB																									
Cooling	27°C	19°C	35°C	24°C	60Pa	ISO5151-T1																							
Heating	20°C	-	7°C	6°C																									
(2) This air-conditioner is manufactured and tested in conformity with the ISO.																													
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.																													
(4) Select the breaker size according to the own national standard.																													
(5) The operation data indicate when the air-conditioner is operated at 230V 50Hz or 220V 60Hz.																													
(6) Static pressure of optional air filter "UM-FL3EF" is 5Pa initially.																													
(7) The external static pressure setting can be changed to 10-100Pa. (For RC-EX3 and RC-E5 only)																													

(3) Duct connected-High static pressure type (FDU)
Single type

Item		Model	FDU71VNPVF1			
			Indoor unit FDU71VF1	Outdoor unit FDC71VNP		
Power source			1 phase 220-240V 50Hz / 220V 60Hz			
Operation data	Nominal cooling capacity (range)	kW	7.1 [1.4(Min.)-7.1(Max.)]			
	Nominal heating capacity (range)	kW	7.1 [1.0(Min.)-7.1(Max.)]			
	Power consumption	Cooling	kW	2.60		
		Heating		1.89		
	Max power consumption		3.27			
	Running current	Cooling	A	11.5 / 12.0		
		Heating		8.5/ 8.9		
	Inrush current, max current		5, 14.5			
	Power factor	Cooling	%	98 / 98		
		Heating		97 / 97		
	EER	Cooling		2.73		
	COP	Heating		3.76		
	Sound power level	Cooling	dB(A)	65	67	
Heating						
Sound pressure level	Cooling	dB(A)	P-Hi : 38 Hi : 33 Me : 29 Lo : 25			
	Heating		54			
Silent mode sound pressure level			—	49		
Exterior dimensions (Height × Width × Depth)	mm		280 × 950 × 635	640×800(+71)×290		
Exterior appearance (Munsell color)			—	Stucco white (4.2Y7.5/1.1) near equivalent		
Net weight	kg		34	45		
Compressor type & Q'ty			—	RMT5113MDE2 (Twin rotary type)×1		
Compressor motor (Starting method)	kW		—	Direct line start		
Refrigerant oil (Amount, type)	ℓ		—	0.45 (M-MA68)		
Refrigerant (Type, amount, pre-charge length)	kg		R410A 1.6kg in outdoor unit (Incl. the amount for the piping of : 15m)			
Heat exchanger			Louver fin & inner grooved tubing	M shape fin & inner grooved tubing		
Refrigerant control			Capillary tubes + Electronic expansion valve			
Fan type & Q'ty			Centrifugal fan ×2	Propeller fan ×1		
Fan motor (Starting method)	W		130 < Direct line start >	34 < Direct line start >		
Air flow	Cooling	m ³ /min	P-Hi : 24 Hi : 19 Me : 15 Lo : 10			
	Heating		36			
Available external static pressure	Pa		Standard : 35 Max : 200	—		
Outside air intake			Possible	—		
Air filter, Quality / Quantity			Procure locally	—		
Shock & vibration absorber			Rubber sleeve(for fan motor)	Rubber sleeve(for compressor)		
Electric heater	W		—	—		
Operation control	Remote control		(Option) Wired : RC-EX3, RC-E5,RCH-E3 Wireless : RCN-KIT4-E2			
	Room temperature control		Thermostat by electronics			
	Operation display		—			
Safety equipments			Compressor overheat protection, Overcurrent protection, Frost protection, Serial signal error protection, Indoor fan motor error protection, Heating overload protection(High pressure control), Cooling overload protection			
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U ϕ 9.52 (3/8") Pipe ϕ 6.35(1/4")×0.8 O/U ϕ 6.35 (1/4") Gas line: I/U ϕ 15.88 (5/8") Pipe ϕ 12.7(1/2")×0.8 O/U ϕ 12.7 (1/2")			
	Connecting method		Flare piping	Flare piping		
	Attached length of piping	m	—	—		
	Insulation for piping		Necessary (both Liquid & Gas lines)			
	Refrigerant line (one way) length	m	Max.30m			
	Vertical height diff. between O/U and I/U	m	Max.20m (Outdoor unit is higher)	Max.20m (Outdoor unit is lower)		
Drain hose			Hose connectable VP25 (I.D.25, O.D.32)	Hole size ϕ 20 × 5 pcs		
Drain pump, max lift height	mm		Built-in Drain pump,600	—		
Recommended breaker size	A		—			
L.R.A. (Locked rotor ampere)	A		5.0			
Interconnecting wires	Size × Core number		1.5mm ² ×4 cores(Including earth cable)/ Terminal block(Screw fixing type)			
IP number			IPX0	IPX4		
Standard accessories			Mounting kit, Drain hose	Drain elbow, Drain hole grommet		
Option parts			Motion sensor : LB-KIT			
Notes		(1) The data are measured at the following conditions.			The pipe length is 7.5m.	
	Item	Indoor air temperature	Outdoor air temperature		External static pressure of indoor unit	Standards
Operation		DB	DB	WB	35Pa	ISO5151-T1
	Cooling	27°C	35°C	24°C		
	Heating	20°C	—	7°C		
(2) This air-conditioner is manufactured and tested in conformity with the ISO. (3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions. (4) Select the breaker size according to the own national standard. (5) When wireless remote control is used, fan is 3 speed setting (Hi-Me-Lo) only. (6) The operation data indicates when the air-conditioner is operated at 230V 50Hz or 220V 60Hz. (7) The factory E.S.P. setting is set within the range of 80 - 150 Pa.If SW8-4 is turned to "ON", E.S.P. setting range can be changed to 10 - 200 Pa.(For RC-EX3 and RC-E5 only)						

Item		Model		FDU90VNP1VF2			
				Indoor unit FDU100VF2	Outdoor unit FDC90VNP1		
Power source		1 phase 220-240V 50Hz / 220V 60Hz					
Operation data	Nominal cooling capacity (range)	kW	9.0 [1.9(Min.)-9.0(Max.)]				
	Nominal heating capacity (range)	kW	9.0 [1.5(Min.)-9.0(Max.)]				
	Power consumption	Cooling	kW	2.69			
		Heating	kW	2.25			
	Max power consumption		4.19				
	Running current	Cooling	A	12.0 / 12.5			
		Heating	A	10.1 / 10.6			
	Inrush current, max current		5, 18.0				
	Power factor	Cooling	%	97 / 97			
		Heating	%	97 / 97			
	EER	Cooling		3.35			
	COP	Heating		4.00			
	Sound power level	Cooling	dB(A)	65		69	
		Heating		P-Hi : 44 Hi : 38 Me : 36 Lo : 30		57	
Sound pressure level	Cooling	dB(A)			55		
	Heating				55		
Silent mode sound pressure level			Cooling:52 / Heating:50				
Exterior dimensions (Height × Width × Depth)	mm	280 × 1,370 × 740		750 × 880(+88) × 340			
Exterior appearance (Munsell color)		-		Stucco white (4.2Y7.5/1.1)near equivalent			
Net weight	kg	54		57			
Compressor type & Q'ty		-		RMT5118MDE2 (Twin rotary type)×1			
Compressor motor (Starting method)	kW	-		Direct line start			
Refrigerant oil (Amount, type)	ℓ	-		0.675 (M-MA68)			
Refrigerant (Type, amount, pre-charge length)	kg	R410A 2.1kg in outdoor unit (Incl. the amount for the piping of : 15m)					
Heat exchanger		Louver fin & inner grooved tubing		M shape fin & inner grooved tubing			
Refrigerant control		Capillary tubes + Electronic expansion valve					
Fan type & Q'ty		Centrifugal fan ×3		Propeller fan ×1			
Fan motor (Starting method)	W	100 + 130 < Direct line start >		86 < Direct line start >			
Air flow	Cooling	m³/min	P-Hi : 36 Hi : 28 Me : 25 Lo : 19				
	Heating					63	
Available external static pressure	Pa	Standard : 60 Max : 200		-			
Outside air intake		Possible		-			
Air filter, Quality / Quantity		Procure locally		-			
Shock & vibration absorber		Rubber sleeve(for fan motor)		Rubber sleeve (for fan motor & compressor)			
Electric heater	W	-		-			
Operation control	Remote control	(Option) Wired : RC-EX3, RC-E5,RCH-E3 Wireless : RCN-KIT4-E2					
	Room temperature control	Thermostat by electronics					
	Operation display	-					
Safety equipments		Compressor overheat protection, Overcurrent protection, Frost protection, Serial signal error protection, Indoor fan motor error protection, Heating overload protection(High pressure control), Cooling overload protection					
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 9.52 (3/8") Pipe φ 6.35(1/4")×0.8 O/U φ 6.35 (1/4") Gas line: I/U φ 15.88 (5/8") Pipe φ 15.88(5/8")×1.0 O/U φ 15.88 (5/8")				
	Connecting method		Flare piping		Flare piping		
	Attached length of piping	m	-		-		
	Insulation for piping		Necessary (both Liquid & Gas lines)				
	Refrigerant line (one way) length	m	Max.30m				
	Vertical height diff. between O/U and I/U	m	Max.20m (Outdoor unit is higher)		Max.20m (Outdoor unit is lower)		
Drain hose		Hose connectable VP25(I.D.25, O.D.32)		Hole size φ 20 × 3 pcs			
Drain pump, max lift height	mm	Built-in Drain pump,600		-			
Recommended breaker size	A	-					
L.R.A. (Locked rotor ampere)	A	5.0					
Interconnecting wires	Size × Core number	1.5mm²×4 cores (Including earth cable)/ Terminal block (Screw fixing type)					
IP number		IPX0		IPX4			
Standard accessories		Mounting kit, Drain hose		Drain elbow, Drain hole grommet			
Option parts		Motion sensor : LB-KIT					
Notes		(1) The data are measured at the following conditions.		The pipe length is 7.5m.			
Operation	Cooling	Indoor air temperature		Outdoor air temperature		External static pressure of indoor unit	Standards
		DB	WB	DB	WB		
	27°C	19°C	35°C	24°C			
Heating	Indoor air temperature		Outdoor air temperature		60Pa	ISO5151-T1	
	20°C	-	7°C	6°C			
<p>(2) This air-conditioner is manufactured and tested in conformity with the ISO.</p> <p>(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.</p> <p>(4) Select the breaker size according to the own national standard.</p> <p>(5) When wireless remote control is used, fan is 3 speed setting (Hi-Me-Lo) only.</p> <p>(6) The operation data indicates when the air-conditioner is operated at 230V 50Hz or 220V 60Hz.</p> <p>(7) The factory E.S.P. setting is set within the range of 80 - 150 Pa.If SW8-4 is turned to "ON", E.S.P. setting range can be changed to 10 - 200 Pa.(For RC-EX3 and RC-E5 only)</p>							

Item		Model	FDU100VNP1VF2			
			Indoor unit FDU100VF2	Outdoor unit FDC100VNP		
Power source			1 Phase 220-240V 50Hz / 220V 60Hz			
Operation data	Nominal cooling capacity (range)	kW	10.0 [2.8(Min.)-11.2(Max.)]			
	Nominal heating capacity (range)	kW	11.2 [2.5(Min.)-12.5(Max.)]			
	Power consumption	Cooling	kW	3.00		
		Heating		2.93		
	Max power consumption		4.60			
	Running current	Cooling	A	13.2 / 13.8		
		Heating		12.9 / 13.5		
	Inrush current, max current		5, 22.0			
	Power factor	Cooling	%	99		
		Heating		99		
	EER	Cooling		3.33		
	COP	Heating		3.82		
	Sound power level	Cooling	dB(A)	65		
Heating		70				
Sound pressure level	Cooling		P-Hi : 44 Hi : 38 Me : 36 Lo : 30			
	Heating		57			
Silent mode sound pressure level			61			
Exterior dimensions (Height × Width × Depth)		mm	280 × 1,370 × 740			
Exterior appearance (Munsell color)			Stucco white (4.2Y7.5/1.1)near equivalent			
Net weight		kg	54			
Compressor type & Q'ty			RMT5126MCE1 (Twin rotary type)×1			
Compressor motor (Starting method)		kW	—			
Refrigerant oil (Amount, type)		ℓ	—			
Refrigerant (Type, amount, pre-charge length)		kg	R410A 2.55kg in outdoor unit (Incl. the amount for the piping of : 15m)			
Heat exchanger			Louver fin & inner grooved tubing M shape fin & inner grooved tubing			
Refrigerant control			Capillary tubes + Electronic expansion valve			
Fan type & Q'ty			Centrifugal fan ×3 Propeller fan ×1			
Fan motor (Starting method)		W	100 + 130 < Direct line start > 86 < Direct line start >			
Air flow	Cooling	m³/min	P-Hi : 36 Hi : 28 Me : 25 Lo : 19			
	Heating		75			
Available external static pressure		Pa	Standard : 60 Max : 200			
Outside air intake			Possible			
Air filter, Quality / Quantity			Procure locally			
Shock & vibration absorber			Rubber sleeve(for fan motor) Rubber sleeve (for fan motor & compressor)			
Electric heater		W	—			
Operation control	Remote control		(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-KIT4-E2			
	Room temperature control		Thermostat by electronics			
	Operation display		—			
Safety equipments			Compressor overheat protection, Overcurrent protection, Frost protection, Serial signal error protection, Indoor fan motor error protection, Heating overload protection(High pressure control), Cooling overload protection			
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: I/U φ 9.52 (3/8") Pipe φ 9.52(3/8")×0.8 O/U φ 9.52 (3/8") Gas line: I/U φ 15.88 (5/8") Pipe φ 15.88(5/8")×1.0 O/U φ 15.88 (5/8")			
	Connecting method		Flare piping			
	Attached length of piping	m	—			
	Insulation for piping		Necessary (both Liquid & Gas lines)			
	Refrigerant line (one way) length	m	Max.30m			
	Vertical height diff. between O/U and I/U	m	Max.20m (Outdoor unit is higher) Max.20m (Outdoor unit is lower)			
Drain hose			Hose connectable VP25 (I.D.25,O.D.32) Hole size φ 20 × 3 pcs			
Drain pump, max lift height		mm	Built-in drain pump , 600			
Recommended breaker size		A	—			
L.R.A. (Locked rotor ampere)		A	5.0			
Interconnecting wires Size × Core number			φ 1.6mm×3 cores + earth cable / Terminal block (Screw fixing type)			
IP number			IPX0 IPX4			
Standard accessories			Mounting kit, Drain hose Edging			
Option parts			Motion sensor : LB-KIT			
Notes (1) The data are measured at the following conditions.			The pipe length is 7.5m.			
Operation	Cooling	Indoor air temperature	Outdoor air temperature		External static pressure of indoor unit	Standards
		DB	WB	DB		
	27°C	19°C	35°C	24°C		
Heating	20°C	—	7°C	6°C		

- (2) This air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.
- (4) Select the breaker size according to the own national standard.
- (5) When wireless remote control is used, fan is 3 speed setting (Hi-Me-Lo) only.
- (6) The operation data indicate when the air-conditioner is operated at 230V 50Hz or 220V 60Hz.
- (7) The factory E.S.P. setting is set within the range of 80 - 150 Pa.If SW8-4 is turned to "ON", E.S.P. setting range can be changed to 10 - 200 Pa.(For RC-EX3 and RC-E5 only)

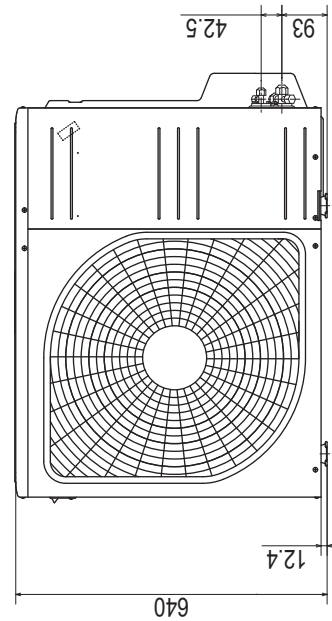
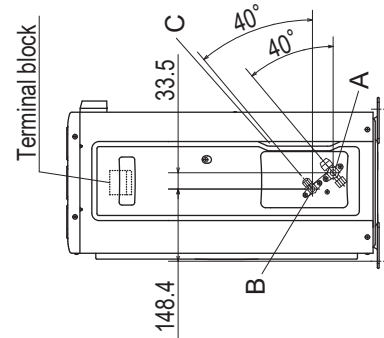
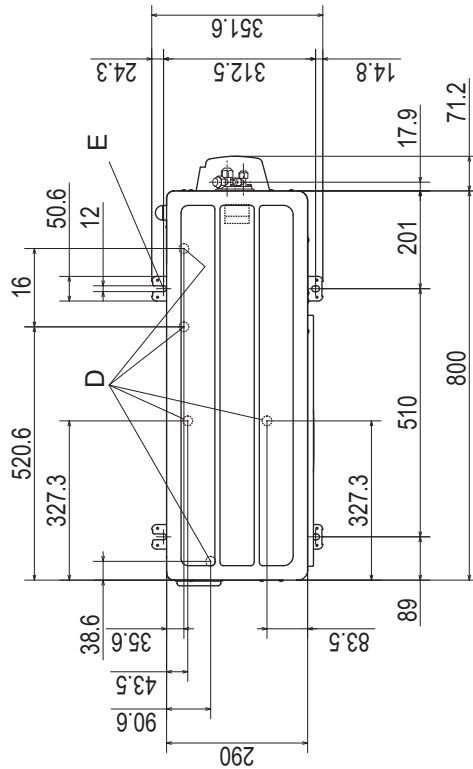
3.2 EXTERIOR DIMENSIONS

- (1) Indoor units See page 48.
- (2) Outdoor units
Model FDC71VNP

Notes

- (1) It must not be surrounded by walls on the four sides.
- (2) The unit must be fixed with anchor bolts. An anchor bolt must not protrude more than 15mm.
- (3) Where the unit is subject to strong winds, lay it in such a direction that the blower outlet faces perpendicularly to the dominant wind direction.
- (4) Leave 1m or more space above the unit.
- (5) A wall in front of the blower outlet must not exceed the units height.
- (6) The model name label is attached on the lower right corner of the front panel.

Symbol	Content
A	Service valve connection (gas side) $\phi 12.7 (1/2")$ (Flare)
B	Service valve connection (liquid side) $\phi 6.35 (1/4")$ (Flare)
C	Pipe / cable draw-out hole
D	Drain discharge hole
E	Anchor bolt hole



Minimum installation space

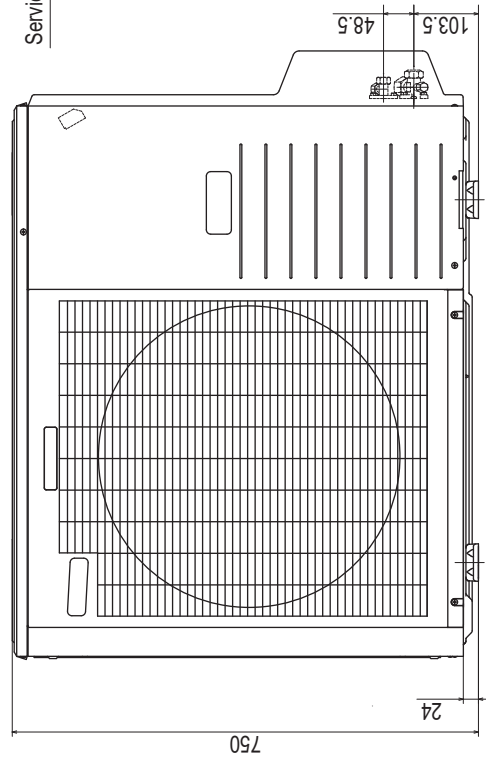
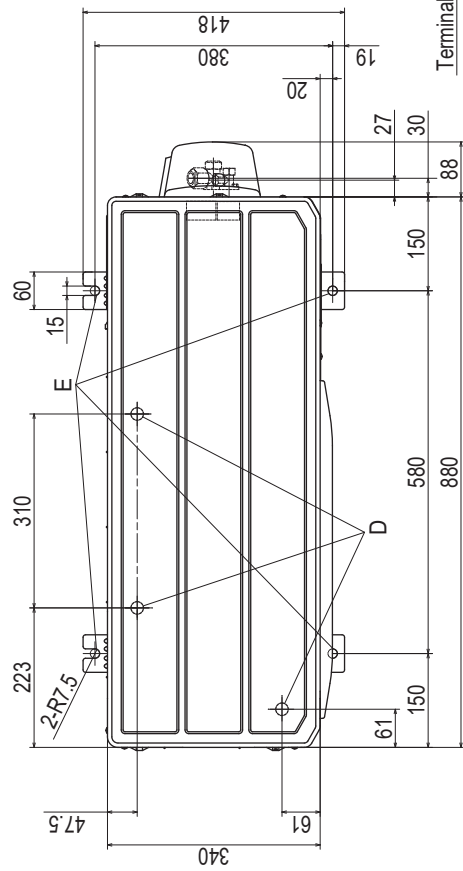
Examples of installation Dimensions	I	II	III	IV
L1	Open	280	280	180
L2	100	75	Open	Open
L3	100	80	80	80
L4	250	Open	250	Open

Unit:mm

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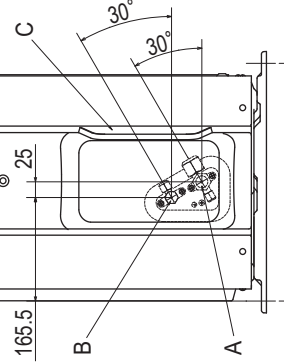
Model FDC90VNP1

Symbol	Content
A	Service valve connection (gas side) φ 15.88 (5/8") (Flare)
B	Service valve connection (liquid side) φ 6.35 (1/4") (Flare)
C	Pipe / cable draw-out hole
D	Drain discharge hole φ 20 x 3 places
E	Anchor bolt hole M10 x 4 places



Terminal block

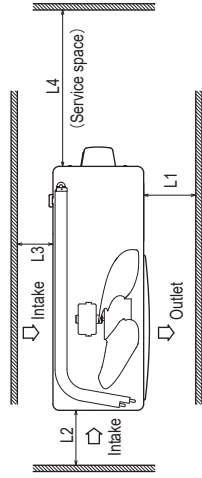
Service panel



Unit:mm

Notes

- (1) It must not be surrounded by walls on four sides.
- (2) The unit must be fixed with anchor bolts. An anchor bolt must not protrude more than 15mm.
- (3) Where the unit is subjected to strong winds, lay it in such a direction that the blower outlet faces perpendicularly to the dominant wind direction.
- (4) Leave 1m or more space above the unit.
- (5) A wall in front of the blower outlet must not exceed the unit's height.
- (6) The model name label is attached on the lower right corner of the front panel.



Minimum installation space

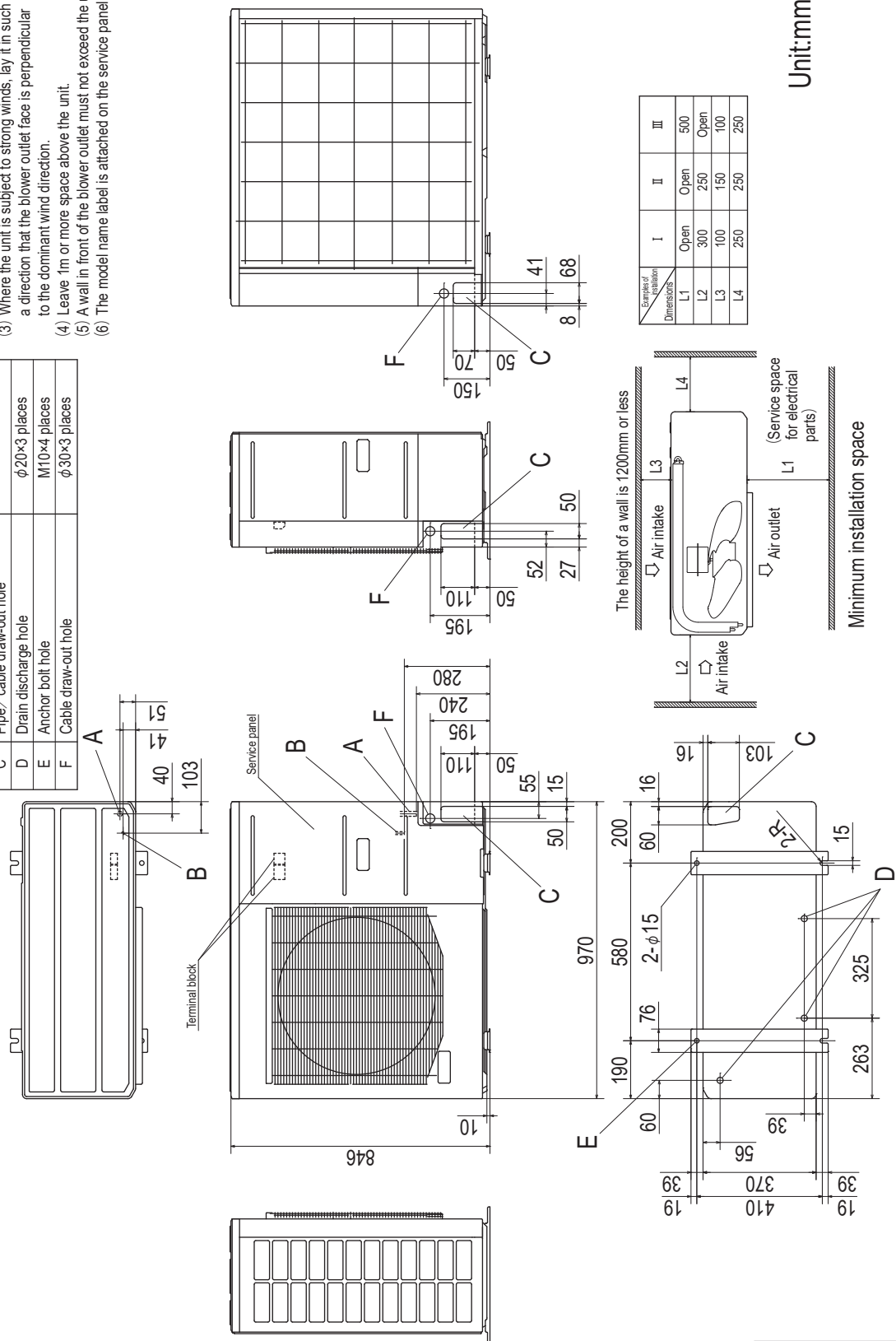
Examples of installation	I	II	III
Dimensions	Open	Open	500
L1	300	250	Open
L2	100	150	100
L3	250	250	250
L4	250	250	250

PCA001Z714

Model FDC100VNP

- Notes**
- (1) It must not be surrounded by walls on the four sides.
 - (2) The unit must be fixed with anchor bolts. An anchor bolt must not protrude more than 15mm.
 - (3) Where the unit is subject to strong winds, lay it in such a direction that the blower outlet face is perpendicular to the dominant wind direction.
 - (4) Leave 1m or more space above the unit.
 - (5) A wall in front of the blower outlet must not exceed the units height.
 - (6) The model name label is attached on the service panel.

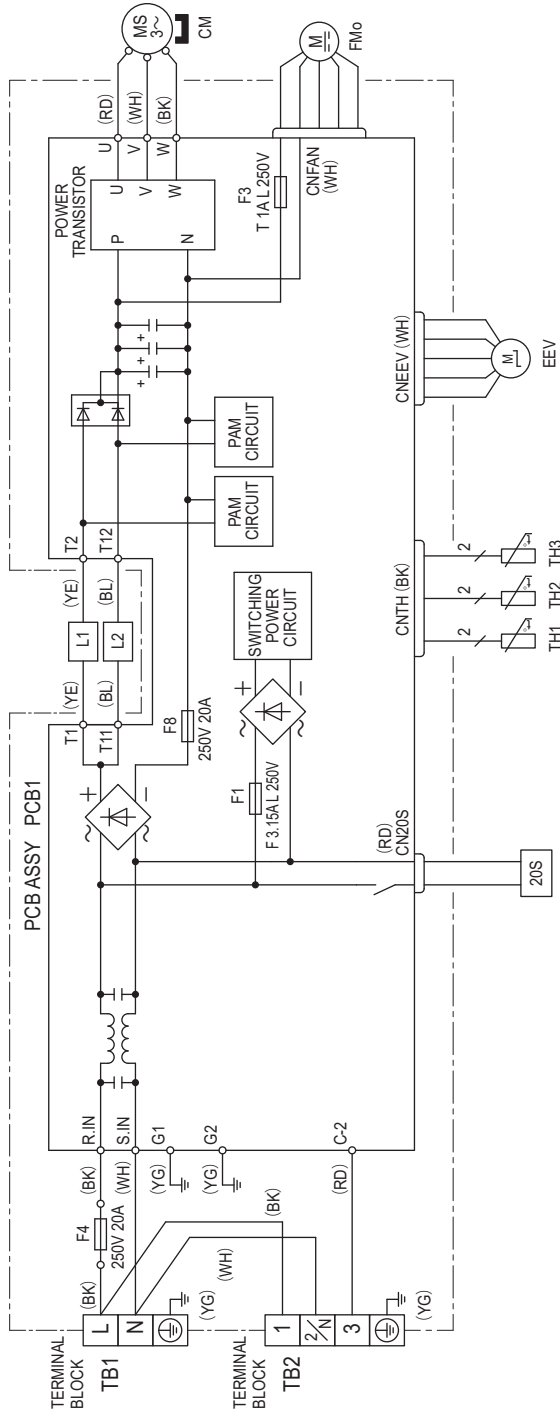
Symbol	Content
A	Service valve connection (gas side) $\phi 15.88(5/8")$ (Flare)
B	Service valve connection (liquid side) $\phi 9.52(3/8")$ (Flare)
C	Pipe/ cable draw-out hole
D	Drain discharge hole $\phi 20 \times 3$ places
E	Anchor bolt hole M10 \times 4 places
F	Cable draw-out hole $\phi 30 \times 3$ places



PCA001Z787

3.3 ELECTRICAL WIRING

- (1) Indoor units See page 62.
- (2) Outdoor units
Model FDC71VNP



Power cable, indoor-outdoor connecting wires

Model	MAX running current (A)	Power cable size (mm ²)	Power cable length (m)	Indoor-outdoor wire size x number	Earth wire size (mm ²)
71	14.5	2.0	15	1.5mm ² x4	1.5

- The specifications shown in the above table are for units without heaters. For units with heaters, refer to the installation instructions or the construction instructions of the indoor unit.
- Switchgear of Circuit breaker capacity which is calculated from MAX. over current should be chosen along the regulations in each country.
- The cable specifications are based on the assumption that a metal or plastic conduit is used with no more than three cables contained in a conduit and a voltage drop is 2%. For an installation falling outside of these conditions, please follow the internal cabling regulations. Adapt it to the regulation in effect in each country.

Meaning of marks

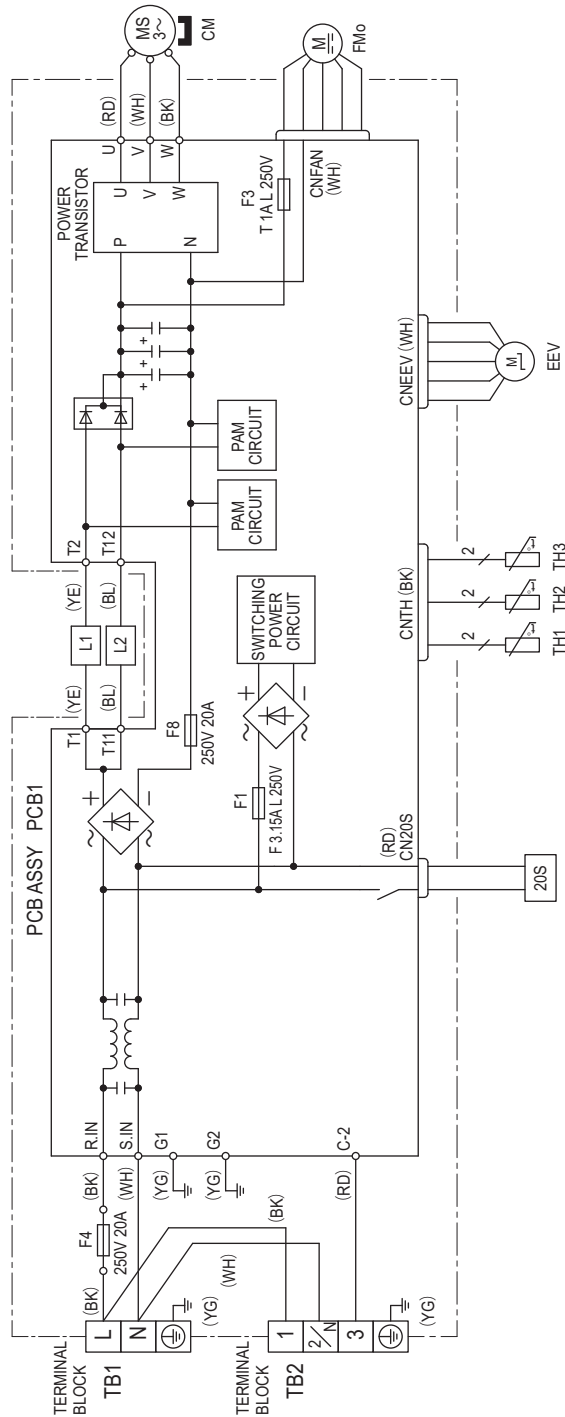
20S	4-WAY VALVE (COIL)
CM	COMPRESSOR MOTOR
EEV	ELECTRIC EXPANSION VALVE (COIL)
FM0	FAN MOTOR
L1,2	REACTOR
TH1	HEAT EXCHANGER SENSOR
TH2	OUTDOOR AIR TEMP. SENSOR
TH3	DISCHARGE PIPE TEMP. SENSOR

Color of marks

Mark	Color	MARK	COLOR
BK	BLACK	YE	YELLOW
BL	BLUE	YG	YELLOW/ GREEN
RD	RED		
WH	WHITE		

PCA001Z837

Model FDC90VNP1



Power cable, indoor-outdoor connecting wires

Model	MAX running current (A)	Power cable size (mm ²)	Power cable length (m)	Indoor-outdoor wire size x number	Earth wire size (mm ²)
90	18	2.5	15	1.5mm ² x 4	1.5

- The specifications shown in the above table are for units without heaters. For units with heaters, refer to the installation instructions or the construction instructions of the indoor unit.
- Switchgear of Circuit breaker capacity which is calculated from MAX. over current should be chosen along the regulations in each country.
- The cable specifications are based on the assumption that a metal or plastic conduit is used with no more than three cables contained in a conduit and a voltage drop is 2%. For an installation falling outside of these conditions, please follow the internal cabling regulations. Adapt it to the regulation in effect in each country.

Meaning of marks

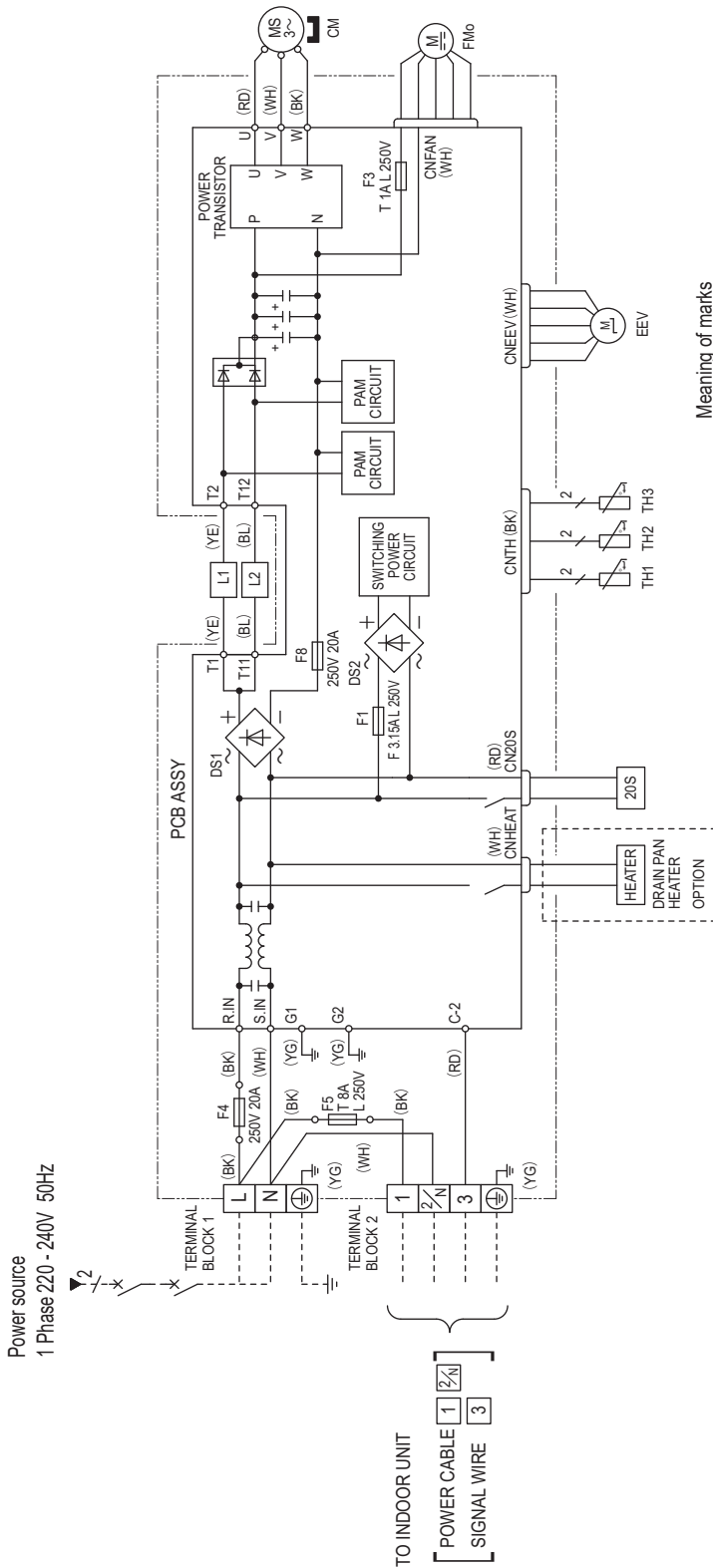
20S	4-WAY VALVE (COIL)
CM	COMPRESSOR MOTOR
EEV	ELECTRIC EXPANSION VALVE (COIL)
FMo	FAN MOTOR
L1,2	REACTOR
TH1	HEAT EXCHANGER SENSOR
TH2	OUTDOOR AIR TEMP. SENSOR
TH3	DISCHARGE PIPE TEMP. SENSOR

Color of marks

Mark	Color	MARK	COLOR
BK	BLACK	YE	YELLOW
BL	BLUE	YG	YELLOW / GREEN
RD	RED		
WH	WHITE		

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Model FDC100VNP



Meaning of marks

Item	Description
20S	Solenoid coil for 4-way valve
CN20S	Connector
CNEEV	Compressor motor
CNFAN	Diode stack
CNHEAT	Electric expansion valve (coil)
CNTH	Fan motor
CM	Reactor
DS1,2	Heat exchanger sensor
EEV	Outdoor air temp. sensor
FMo	Discharge pipe temp. sensor
L1,2	Jumper (※)
TH1	
TH2	
TH3	
J2	

Note(1) ※ By cutting J2, the operation of cooling start in heating mode is disablement.

Color marks

Mark	Color
BK	Black
BL	Blue
RD	Red
WH	White
YE	Yellow
YG	Yellow / Green

Power cable, indoor-outdoor connecting wires

MODEL NAME	MAX running current (A)	Power cable size (mm ²)	Power cable length (m)	Indoor-outdoor wire size x number (mm)	Earth wire size (mm)
FDC100VNP	21	5.5	25	φ1.6 × 3	φ1.6

- The specifications shown in the above table are for units without heaters. For units with heaters, refer to the installation instructions or the construction instructions of the indoor unit.
- Switchgear of circuit breaker capacity which is calculated from MAX. over current should be chosen along the regulations in each country.
- The cable specifications are based on the assumption that a metal or plastic conduit is used with no more than three cables contained in a conduit and a voltage drop is 2%. For an installation falling outside of these conditions, please follow the internal cabling regulations. Adapt it to the regulation in effect in each country.

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3.4 NOISE LEVEL

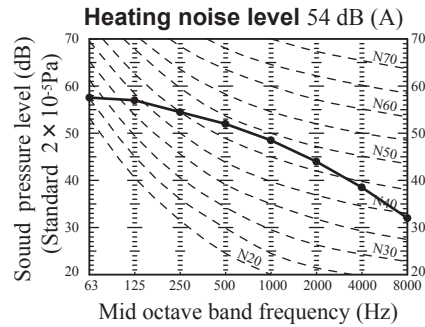
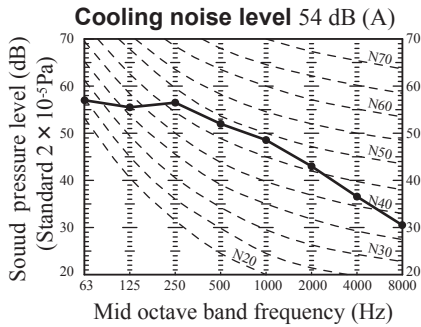
- Notes(1) The data are based on the following conditions.
 Ambient air temperature: Indoor unit 27°CWB. Outdoor unit 35°CDB.
 (2) The data in the chart are measured in an anechoic room.
 (3) The noise levels measured in the field are usually higher than the data because of reflection.

(1) Indoor units See page 72.

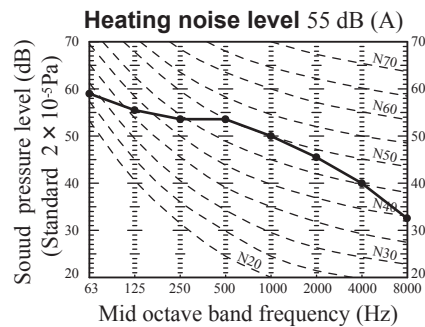
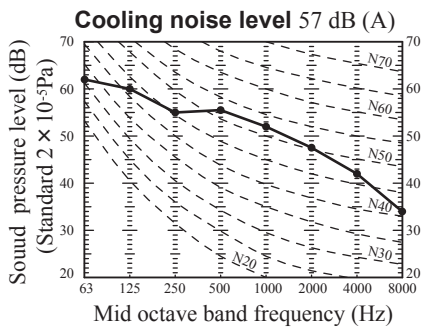
(2) Outdoor units

Measured based on ISO-T1, JIS B 8616
 Mike position: at highest noise level in position as mentined below
 Distance from front side 1m
 Height 1m

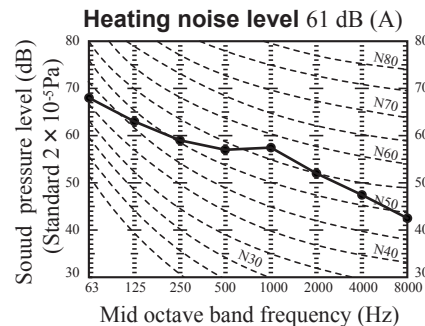
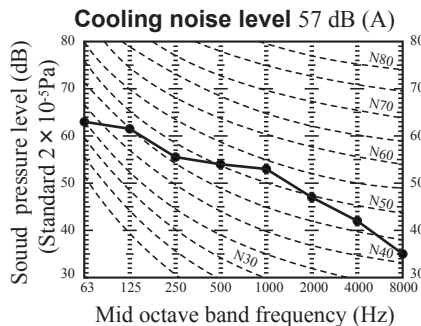
Model FDC71VNP



Model FDC90VNP1



Model FDC100VNP



3.5 CHARACTERISTIC OF FAN

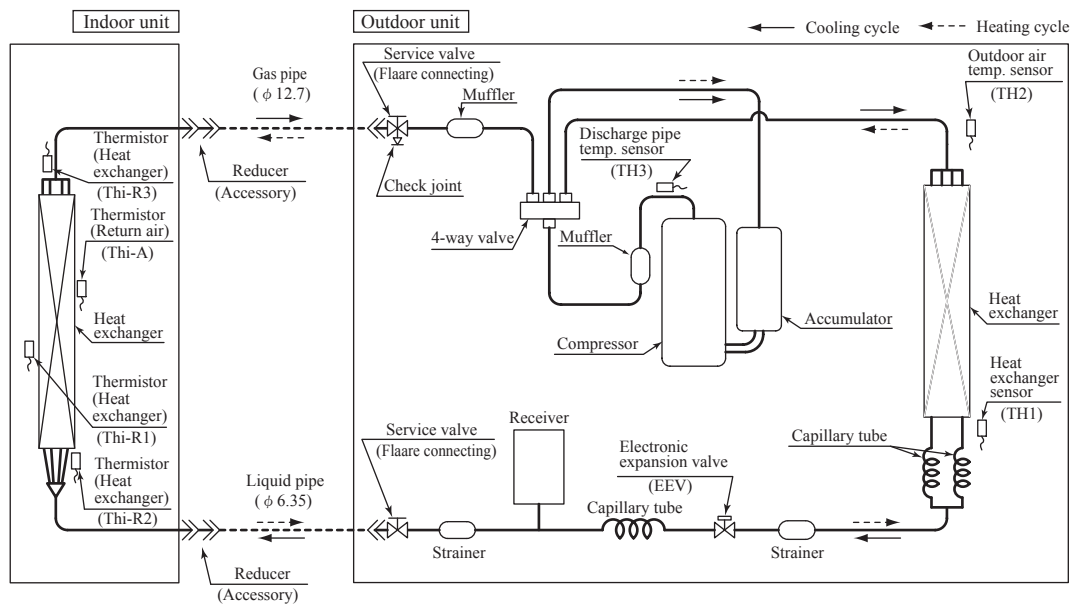
See page 76 of 1.5 chapter.

3.6 TEMPERATURE AND VELOCITY DISTRIBUTION

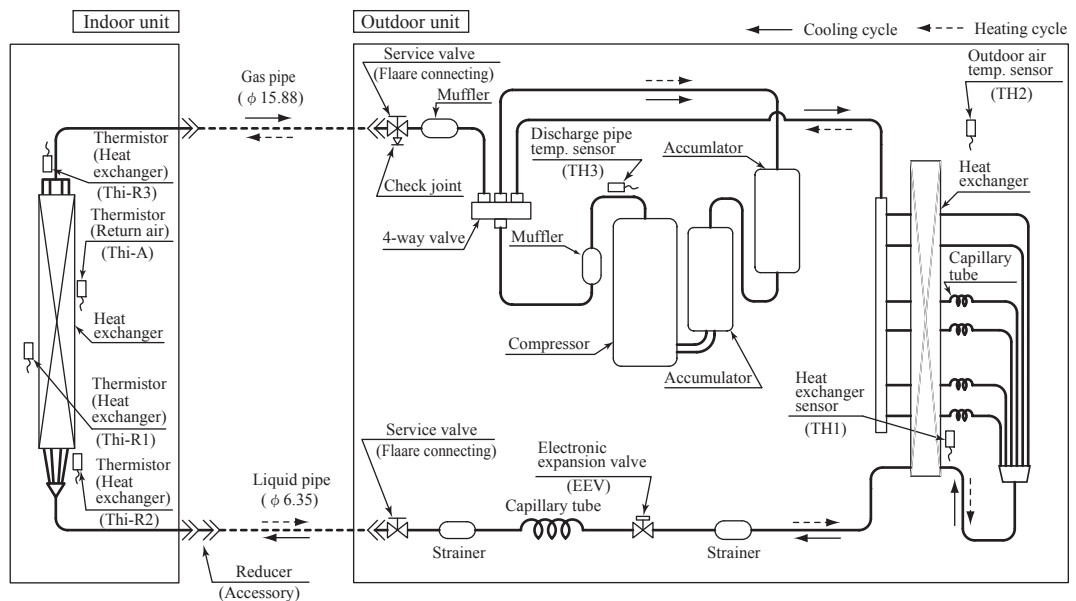
See page 83 of 1.6 chapter.

3.7 PIPING SYSTEM

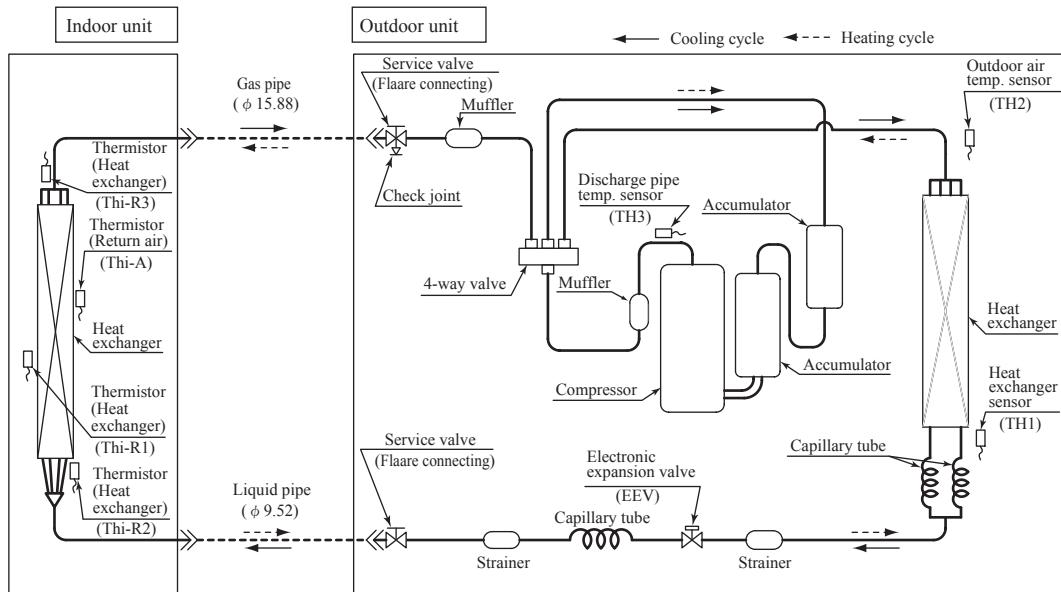
Model 71



Model 90



Model 100



Preset point of the protective devices

Parts name	Mark	Equipped unit	All models
Thermistor (for protection overloading in heating)	Thi-R	Indoor unit	OFF 63°C , ON 56°C
Thermistor (for frost prevention)			OFF 1.0°C , ON 10°C
Thermistor (for protection high pressure in cooling)	TH1	Outdoor unit	OFF 63°C , ON 53°C
Thermistor (for detecting discharge pipe temperature)	TH3		OFF 115°C , ON 95°C

3.8. RANGE OF USAGE & LIMITATIONS

Operating temperature range		See next page.
		When used below -5°C, install a snow hood (prepared on site).
Recommendable area to install		Considering to get sufficient heating capacity, the area where the averaged lowest ambient air temperature in day time during winter is above 0°C, and it has no accumulation of snow.
Installation site		The limitations of installation space are shown in the page for exterior dimensions. Install the indoor unit at least 2.5m higher than the floor surface.
Temperature and humidity conditions surrounding the indoor unit (Note 2)		Model FDE : Dew point temperature : 23°C or less, relative humidity : 80% or less Other models : Dew point temperature : 28°C or less, relative humidity : 80% or less
Limitations on unit and piping installation		See page 471.
Compressor ON-OFF cycling	Cycle Time	10 minutes or more (from OFF to OFF) or (from ON to ON)
	Stop Time	3 minutes or more
Power source	Voltage range	Rating \pm 10%
	Voltage drop at start-up	Min.85% of rating
	Phase-to-phase imbalance	3% or less

Note 1. Do not install the unit in places which :

- 1) Flammable gas may leak.
- 2) Carbon fiber, metal particles, powder, etc. are floating.
- 3) Cosmetic or special sprays are used frequently.
- 4) Exposed to oil splashes or steam (e.g. kitchen and machine plant).
- 5) Exposed to sea breeze (e.g. coastal area) or calcium chloride (e.g. snow melting agent).
- 6) Exposed to ammonia substance (e.g. organic fertilizer).
- 7) Matters affecting devices, such as sulfuric gas, chlorine gas, acid, alkali, etc. may generate or accumulate.
- 8) Chimney smoke is hanging.
- 9) Sucking the exhaust gas from heat exchanger.
- 10) Adjacent to equipment generating electromagnetic waves or high frequency waves.
- 11) There is light beams that affect the receiving device of indoor unit in case of the wireless specification.
- 12) Snow falls heavily.
- 13) At an elevation of 1000 meters or higher.
- 14) On mobile machine (e.g. vehicle, ship, etc.)
- 15) Splashed with water to indoor unit (e.g. laundry room).

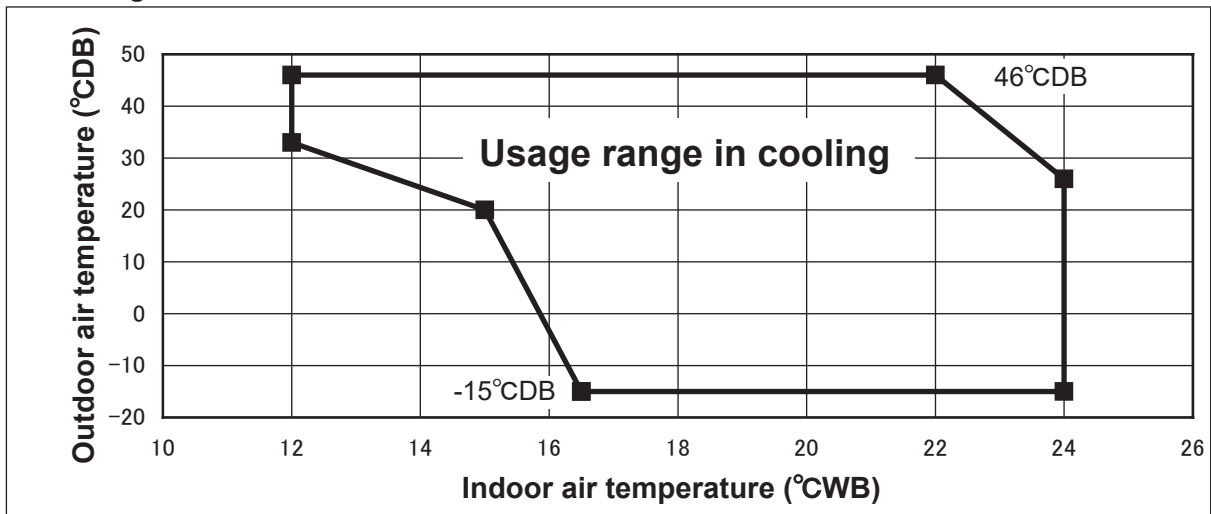
Note 2. If ambient temperature and humidity exceed the above conditions, add polyurethane foam insulation on the outer plate (10mm or thicker) of indoor unit.

Note 3. Both gas and liquid pipes need to be covered with 20mm or thicker heat insulation materials at the place where humidity exceeds 70%.

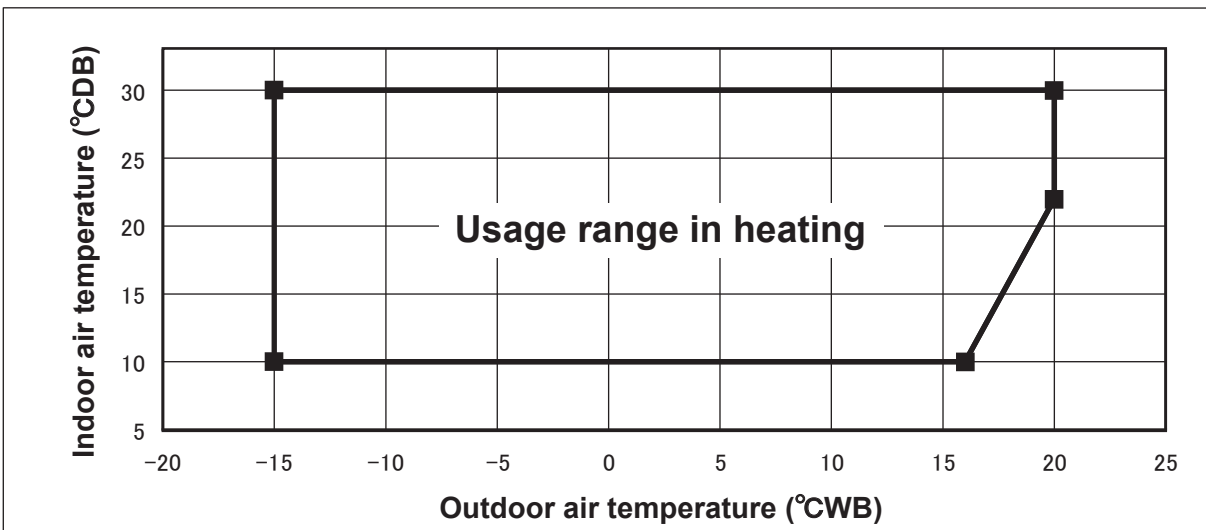
PJF000Z317

Operating temperature range

■ Cooling



■ Heating



Decline in cooling and heating capacity or operation stop may occur when the outdoor unit is installed in places where natural wind can increase or decrease its design air flow rate.

PJF000Z317

“CAUTION” Cooling operation under low outdoor air temperature conditions

PAC models can be operated in cooling mode at low outdoor air temperature condition within above temperature range. However in case of severely low temperature conditions if the following precaution is not observed, it may not be operated in spite of operable temperature range mentioned above and cooling capacity may not be established under certain conditions.

[Precaution]

In case of severely low temperature condition

- 1) Install the outdoor unit at the place where strong wind cannot blow directly into the outdoor unit.
- 2) If there is no installation place where can prevent strong wind from directly blowing into the outdoor unit, mount the flex flow adapter (prepared as option part) or like such devices onto the outdoor unit in order to divert the strong wind.

[Reason]

Under the low outdoor air temperature conditions of -5°C or lower, the outdoor fan is controlled at lower or lowest speed by outdoor fan control, but if strong wind directly blow into the outdoor unit, the outdoor heat exchanger temperature will drop more.

This makes high and low pressures to drop as well. This low pressure drop makes the indoor heat exchanger temperature to drop and will activate anti-frost control at indoor heat exchanger at frequent intervals, that cooling operation may not be established for any given time.

Limitation on unit and piping installation				
Descriptions		Model for outdoor unit	Dimensional limitations	Marks appearing in the drawing
One-way pipe length		FDC71VNP FDC90VNP1 FDC100VNP	$\leq 30\text{m}$	L
Elevation difference between indoor and outdoor unit	When the outdoor unit is positioned higher		$\leq 20\text{m}$	H
	When the outdoor unit is positioned lower		$\leq 20\text{m}$	

The diagram illustrates the piping installation between an indoor unit and an outdoor unit. The outdoor unit is shown as a 3D rectangular box on the left, and the indoor unit is a 2D rectangular box on the right. A horizontal line represents the main piping connecting the two units. A vertical dimension line labeled 'H' shows the elevation difference between the top of the outdoor unit and the top of the indoor unit. A curved line labeled 'L' represents the one-way pipe length from the outdoor unit to the indoor unit, following the path of the piping.

PJF000Z317

3.9 SELECTION CHART

Correct the cooling and heating capacity in accordance with the operating conditions. The net cooling and heating capacity can be obtained in the following way.

Net capacity = Capacity shown in the capacity tables (3.9.1) × Correction factors shown in the table (3.9.2) (3.9.3) (3.9.4).

Caution: In case that the cooling operation during low outdoor air temperature below -5°C is expected, install the outdoor unit where it is not influenced by natural wind. Otherwise protection control by low pressure will be activated much more frequently and it will cause insufficient capacity or breakdown of the compressor in worst case.

3.9.1 Capacity tables

(1) Ceiling suspended type (FDE)

Model **FDE71VNPVG** Indoor unit **FDE71VG** Outdoor unit **FDC71VNP**
Cooling mode

Outdoor air temp. °CDB	Indoor air temperature																
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB		
	12°CWB	14°CWB	16°CWB	18°CWB	19°CWB	20°CWB	22°CWB	24°CWB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	
11				4.71	4.37	5.34	4.89	5.65	4.90	5.78	4.85	6.04	5.12	6.30	5.00		
13				5.00	4.48	5.58	4.98	5.87	4.98	5.99	4.92	6.23	5.18	6.48	5.05		
15				5.30	4.59	5.83	5.06	6.09	5.05	6.20	4.99	6.43	5.24	6.66	5.10		
17				5.59	4.71	6.07	5.15	6.31	5.13	6.41	5.06	6.62	5.29	6.83	5.14		
19				5.73	4.76	6.13	5.17	6.34	5.14	6.48	5.08	6.76	5.33	7.04	5.20		
21				5.80	4.79	6.20	5.20	6.36	5.15	6.54	5.10	6.89	5.37	7.25	5.25		
23				6.23	4.96	6.63	5.36	6.81	5.30	6.96	5.24	7.26	5.49	7.56	5.34		
25			6.26	5.28	6.67	5.14	7.07	5.52	7.26	5.47	7.38	5.38	7.63	5.60	7.88	5.43	
27			6.72	5.49	7.11	5.33	7.51	5.69	7.71	5.63	7.91	5.57	8.31	5.82			
29			6.60	5.44	6.98	5.27	7.36	5.64	7.56	5.57	7.75	5.51	8.13	5.76			
31			6.47	5.38	6.85	5.22	7.22	5.58	7.40	5.52	7.59	5.45	7.95	5.70			
33	6.01	5.00	6.27	5.29	6.72	5.16	7.08	5.53	7.25	5.46	7.43	5.40	7.77	5.65			
35	5.89	4.94	6.15	5.23	6.59	5.11	6.94	5.47	7.10	5.41	7.26	5.34	7.59	5.59			
37	5.62	4.81	5.86	5.11	6.27	4.98	6.59	5.34	6.75	5.28	6.91	5.22	7.23	5.48			
39	5.35	4.69	5.57	4.98	5.95	4.85	6.25	5.22	6.40	5.16	6.55	5.10	6.86	5.37			
41	5.08	4.56	5.29	4.86	5.62	4.72	5.90	5.09	6.05	5.04	6.20	4.98	6.50	5.26			
43	4.99	4.52	5.18	4.81	5.47	4.66	5.73	5.03	5.88	4.98	6.04	4.93	6.35	5.21			

(kW) Heating mode : HC (kW)

Outdoor air temp. °CDB	°CWB	Indoor air temperature °CDB					
		16	18	20	22	24	
-14.5	-15	4.17	4.15	4.13	4.11	4.09	
-13.5	-14	4.23	4.21	4.19	4.17	4.14	
-11.5	-12	4.35	4.33	4.31	4.29	4.26	
-9.5	-10	4.47	4.45	4.43	4.40	4.38	
-7.5	-8	4.59	4.57	4.55	4.52	4.50	
-5.5	-6	4.94	4.92	4.89	4.87	4.84	
-3.0	-4	5.29	5.26	5.24	5.21	5.18	
-1.0	-2	5.64	5.61	5.58	5.55	5.52	
1.0	0	5.99	5.96	5.93	5.89	5.86	
2.0	1	6.16	6.13	6.10	6.06	6.03	
3.0	2	6.37	6.33	6.30	6.26	6.22	
5.0	4	6.77	6.74	6.70	6.66	6.62	
7.0	6	7.18	7.14	7.10	7.05	7.01	
9.0	8	7.28	7.24	7.19	7.14	7.09	
11.5	10	7.38	7.33	7.29	7.23	7.17	
13.5	12	7.34	7.29	7.24	7.18	7.12	
15.5	14	7.30	7.25	7.19	7.13	7.07	
16.5	16	7.28	7.23	7.17	7.10	7.04	

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Model **FDE90VNP1VG** Indoor unit **FDE100VG** Outdoor unit **FDC90VNP1**
Cooling mode

Outdoor air temp. °CDB	Indoor air temperature																
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB		
	12°CWB	14°CWB	16°CWB	18°CWB	19°CWB	20°CWB	22°CWB	24°CWB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	
11				8.35	7.46	8.93	8.14	9.21	8.09	9.59	8.07	10.34	8.62	11.09	8.52		
13				8.42	7.49	8.94	8.14	9.20	8.09	9.55	8.06	10.25	8.59	10.96	8.48		
15				8.48	7.51	8.96	8.15	9.19	8.08	9.52	8.04	10.17	8.57	10.83	8.45		
17				8.54	7.54	8.97	8.15	9.18	8.08	9.49	8.03	10.09	8.54	10.70	8.41		
19				8.51	7.52	8.96	8.15	9.19	8.08	9.48	8.03	10.06	8.53	10.63	8.39		
21				8.32	7.45	8.96	8.15	9.20	8.09	9.47	8.03	10.02	8.52	10.57	8.37		
23				8.52	7.53	9.04	8.18	9.21	8.09	9.47	8.03	10.00	8.51	10.52	8.36		
25			8.10	7.77	8.72	7.61	9.13	8.22	9.23	8.10	9.48	8.03	9.97	8.51	10.47	8.35	
27			8.38	7.89	8.92	7.69	9.22	8.25	9.24	8.10	9.27	7.96	9.31	8.30			
29			8.25	7.83	8.77	7.63	9.11	8.21	9.18	8.08	9.26	7.96	9.41	8.33			
31			8.11	7.77	8.62	7.57	9.00	8.16	9.12	8.06	9.25	7.95	9.50	8.36			
33	7.53	7.16	7.88	7.67	8.46	7.51	8.88	8.12	9.06	8.04	9.24	7.95	9.59	8.39			
35	7.41	7.10	7.74	7.59	8.31	7.44	8.77	8.08	9.00	8.02	9.23	7.95	9.68	8.41			
37	7.15	6.98	7.47	7.32	8.00	7.32	8.44	7.96	8.66	7.90	8.88	7.83	9.33	8.30			
39	6.89	6.75	7.20	7.05	7.70	7.20	8.11	7.84	8.32	7.78	8.54	7.71	8.97	8.20			
41	6.63	6.49	6.92	6.78	7.39	7.08	7.77	7.62	7.98	7.66	8.20	7.60	8.62	8.09			
43	6.36	6.24	6.65	6.52	7.08	6.94	7.44	7.29	7.65	7.49	7.85	7.48	8.26	7.98			

(kW) Heating mode : HC (kW)

Outdoor air temp. °CDB	°CWB	Indoor air temperature °CDB					
		16	18	20	22	24	
-14.5	-15	5.26	5.24	5.21	5.18	5.15	
-13.5	-14	5.38	5.35	5.32	5.29	5.26	
-11.5	-12	5.61	5.58	5.55	5.52	5.49	
-9.5	-10	5.84	5.81	5.78	5.74	5.71	
-7.5	-8	6.07	6.04	6.00	5.97	5.93	
-5.5	-6	6.25	6.21	6.17	6.13	6.09	
-3.0	-4	6.42	6.37	6.33	6.29	6.25	
-1.0	-2	6.59	6.54	6.50	6.45	6.41	
1.0	0	6.76	6.71	6.66	6.61	6.56	
2.0	1	6.84	6.79	6.74	6.69	6.64	
3.0	2	7.30	7.25	7.19	7.14	7.08	
5.0	4	8.22	8.16	8.10	8.04	7.97	
7.0	6	9.13	9.07	9.00	8.93	8.86	
9.0	8	9.61	9.54	9.47	9.39	9.32	
11.5	10	10.09	10.01	9.93	9.85	9.77	
13.5	12	10.26	10.18	10.10	10.01	9.93	
15.5	14	10.42	10.34	10.26	10.17	10.08	
16.5	16	10.51	10.42	10.34	10.25	10.16	

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Notes (1) These data show average statuses.
Depending on the system control, there may be ranges where the operation is not conducted continuously.
These data show the case where the operation frequency of a compressor is fixed.

(2) Capacities are based on the following conditions.
Corresponding refrigerant piping length : 7.5m
Level difference of Zero.

(3) Symbols are as follows.
TC : Total cooling capacity (kW)
SHC : Sensible heat capacity (kW)
HC : Heating capacity (kW)

Model **FDE100VNP1VG** Indoor unit FDE100VG Outdoor unit FDC100VNP

Cooling mode

(kW)

Heating mode : HC

(kW)

Outdoor air temperature	Indoor air temperature															
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB	
	12°CWB		14°CWB		16°CWB		18°CWB		19°CWB		20°CWB		22°CWB		24°CWB	
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					9.71	8.14	10.21	8.62	10.46	8.54	10.66	8.44	11.06	8.85	11.46	8.63
13					9.71	8.14	10.21	8.62	10.46	8.54	10.66	8.44	11.06	8.85	11.46	8.63
15					9.71	8.14	10.21	8.62	10.46	8.54	10.66	8.44	11.06	8.85	11.46	8.63
17					9.71	8.14	10.21	8.62	10.46	8.54	10.66	8.44	11.06	8.85	11.46	8.63
19					9.65	8.11	10.18	8.61	10.45	8.54	10.66	8.44	11.08	8.86	11.51	8.64
21					9.59	8.09	10.16	8.60	10.44	8.54	10.67	8.44	11.11	8.87	11.56	8.66
23					9.60	8.09	10.17	8.61	10.46	8.55	10.69	8.45	11.14	8.88	11.60	8.67
25			9.03	8.18	9.60	8.09	10.19	8.62	10.48	8.55	10.71	8.46	11.17	8.89	11.63	8.68
27			9.02	8.18	9.61	8.10	10.20	8.62	10.51	8.56	10.81	8.49	11.41	8.96		
29			8.92	8.13	9.49	8.05	10.08	8.57	10.38	8.51	10.68	8.45	11.28	8.92		
31			8.81	8.08	9.38	8.00	9.96	8.53	10.25	8.47	10.55	8.40	11.14	8.88		
33	8.24	7.49	8.61	7.99	9.26	7.95	9.83	8.48	10.13	8.42	10.42	8.36	11.01	8.83		
35	8.08	7.41	8.47	7.93	9.14	7.90	9.71	8.43	10.00	8.38	10.29	8.31	10.87	8.79		
37	7.85	7.31	8.23	7.83	8.84	7.78	9.37	8.31	9.67	8.25	9.96	8.20	10.54	8.68		
39	7.62	7.20	7.98	7.72	8.54	7.66	9.03	8.18	9.33	8.13	9.62	8.08	10.21	8.58		
41	7.39	7.09	7.74	7.58	8.24	7.54	8.70	8.05	8.99	8.01	9.29	7.97	9.89	8.48		
43	7.16	6.98	7.10	6.96	7.54	7.26	7.93	7.77	8.66	7.89	8.47	7.69	9.00	8.20		

Outdoor air temperature	Indoor air temperature					
	°CDB		°CDB			
	°CDB	°CWB	16	18	20	22
-14.5	-15	6.20	6.18	6.16	6.14	6.11
-13.5	-14	6.26	6.23	6.21	6.19	6.16
-11.5	-12	6.36	6.34	6.31	6.29	6.26
-9.5	-10	6.47	6.44	6.42	6.39	6.36
-7.5	-8	6.58	6.55	6.52	6.49	6.46
-5.5	-6	7.16	7.13	7.10	7.06	7.02
-3.0	-4	7.75	7.71	7.67	7.63	7.59
-1.0	-2	8.33	8.29	8.24	8.20	8.15
1.0	0	8.92	8.87	8.81	8.77	8.72
2.0	1	9.21	9.15	9.10	9.05	9.00
3.0	2	9.63	9.58	9.52	9.47	9.41
5.0	4	10.48	10.42	10.36	10.30	10.24
7.0	6	11.33	11.26	11.20	11.14	11.07
9.0	8	11.49	11.42	11.36	11.29	11.22
11.5	10	11.64	11.58	11.51	11.44	11.36
13.5	12	10.42	10.35	10.29	10.22	10.14
15.5	14	9.20	9.13	9.06	8.99	8.92
16.5	16	8.58	8.52	8.45	8.38	8.31

- Notes (1) These data show average statuses.
 Depending on the system control, there may be ranges where the operation is not conducted continuously.
 These data show the case where the operation frequency of a compressor is fixed.
- (2) Capacities are based on the following conditions.
 Corresponding refrigerant piping length : 7.5m
 Level difference of Zero.
- (3) Symbols are as follows.
 TC : Total cooling capacity (kW)
 SHC : Sensible heat capacity (kW)
 HC : Heating capacity (kW)



(2) Duct connected-Low/Middle static pressure type (FDUM)

Model **FDUM71VNPVF1** Indoor unit **FDUM71VF1** Outdoor unit **FDC71VNP**

Cooling mode

(kW)

Heating mode : HC

(kW)

Outdoor air temp.	Indoor air temperature															
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB	
	12°CWB	14°CWB	16°CWB	18°CWB	19°CWB	20°CWB	22°CWB	24°CWB	TC	SHC	TC	SHC	TC	SHC	TC	SHC
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					4.71	4.62	5.34	5.23	5.65	5.38	5.78	5.32	6.04	5.66	6.30	5.52
13					5.00	4.89	5.58	5.46	5.87	5.45	5.99	5.38	6.23	5.71	6.48	5.56
15					5.30	5.00	5.83	5.54	6.09	5.52	6.20	5.44	6.43	5.76	6.66	5.60
17					5.59	5.10	6.07	5.62	6.31	5.58	6.41	5.50	6.62	5.81	6.83	5.64
19					5.73	5.15	6.13	5.64	6.34	5.59	6.48	5.52	6.76	5.84	7.04	5.69
21					5.80	5.18	6.20	5.66	6.36	5.60	6.54	5.54	6.89	5.88	7.25	5.74
23					6.23	5.34	6.63	5.80	6.81	5.74	6.96	5.67	7.26	5.98	7.56	5.82
25			6.26	5.68	6.67	5.50	7.07	5.95	7.26	5.89	7.38	5.80	7.63	6.08	7.88	5.89
27			6.72	5.87	7.11	5.67	7.51	6.10	7.71	6.03	7.91	5.96	8.31	6.27		
29			6.60	5.82	6.98	5.62	7.36	6.05	7.56	5.98	7.75	5.91	8.13	6.22		
31			6.47	5.76	6.85	5.57	7.22	6.00	7.40	5.93	7.59	5.86	7.95	6.17		
33	6.01	5.33	6.27	5.68	6.72	5.52	7.08	5.96	7.25	5.88	7.43	5.81	7.77	6.12		
35	5.89	5.27	6.15	5.63	6.59	5.47	6.94	5.91	7.10	5.83	7.26	5.76	7.59	6.07		
37	5.62	5.15	5.86	5.51	6.27	5.35	6.59	5.79	6.75	5.72	6.91	5.65	7.23	5.97		
39	5.35	5.04	5.57	5.40	5.95	5.23	6.25	5.68	6.40	5.61	6.55	5.55	6.86	5.87		
41	5.08	4.92	5.29	5.18	5.62	5.11	5.90	5.56	6.05	5.50	6.20	5.44	6.50	5.77		
43	4.99	4.88	5.18	5.07	5.47	5.06	5.73	5.51	5.88	5.45	6.04	5.39	6.35	5.74		

Outdoor air temp.	Indoor air temperature					
	°CDB		°CWB		°CDB	
	16	18	20	22	24	
-14.5	-15	4.17	4.15	4.13	4.11	4.09
-13.5	-14	4.23	4.21	4.19	4.17	4.14
-11.5	-12	4.35	4.33	4.31	4.29	4.26
-9.5	-10	4.47	4.45	4.43	4.40	4.38
-7.5	-8	4.59	4.57	4.55	4.52	4.50
-5.5	-6	4.94	4.92	4.89	4.87	4.84
-3.0	-4	5.29	5.26	5.24	5.21	5.18
-1.0	-2	5.64	5.61	5.58	5.55	5.52
1.0	0	5.99	5.96	5.93	5.89	5.86
2.0	1	6.16	6.13	6.10	6.06	6.03
3.0	2	6.37	6.33	6.30	6.26	6.22
5.0	4	6.77	6.74	6.70	6.66	6.62
7.0	6	7.18	7.14	7.10	7.05	7.01
9.0	8	7.28	7.24	7.19	7.14	7.09
11.5	10	7.38	7.33	7.29	7.23	7.17
13.5	12	7.34	7.29	7.24	7.18	7.12
15.5	14	7.30	7.25	7.19	7.13	7.07
16.5	16	7.28	7.23	7.17	7.10	7.04

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Model **FDUM90VNP1VF2** Indoor unit **FDUM100VF2** Outdoor unit **FDC90VNP1**

Cooling mode

(kW)

Heating mode : HC

(kW)

Outdoor air temp.	Indoor air temperature															
	18 °CDB		21 °CDB		23 °CDB		26 °CDB		27 °CDB		28 °CDB		31 °CDB		33 °CDB	
	12 °CWB	14 °CWB	16 °CWB	18 °CWB	19 °CWB	20 °CWB	22 °CWB	24 °CWB	TC	SHC	TC	SHC	TC	SHC	TC	SHC
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					8.35	7.08	8.93	7.59	9.21	7.47	9.59	7.37	10.34	7.83	11.09	7.56
13					8.42	7.10	8.94	7.59	9.20	7.47	9.55	7.36	10.25	7.82	10.96	7.54
15					8.48	7.12	8.96	7.59	9.19	7.47	9.52	7.35	10.17	7.80	10.83	7.53
17					8.54	7.14	8.97	7.60	9.18	7.46	9.49	7.35	10.09	7.79	10.70	7.51
19					8.51	7.13	8.96	7.60	9.19	7.47	9.48	7.35	10.06	7.78	10.63	7.50
21					8.32	7.07	8.96	7.59	9.20	7.47	9.47	7.34	10.02	7.78	10.57	7.49
23					8.52	7.13	9.04	7.62	9.21	7.47	9.47	7.34	10.00	7.77	10.52	7.48
25			8.10	7.36	8.72	7.19	9.13	7.64	9.23	7.48	9.48	7.35	9.97	7.77	10.47	7.47
27			8.38	7.45	8.92	7.25	9.22	7.66	9.24	7.48	9.27	7.30	9.31	7.65		
29			8.25	7.41	8.77	7.20	9.11	7.63	9.18	7.46	9.26	7.30	9.41	7.67		
31			8.11	7.36	8.62	7.16	9.00	7.60	9.12	7.45	9.25	7.30	9.50	7.68		
33	7.53	6.79	7.88	7.29	8.46	7.11	8.88	7.58	9.06	7.44	9.24	7.29	9.59	7.70		
35	7.41	6.74	7.74	7.24	8.31	7.07	8.77	7.55	9.00	7.42	9.23	7.29	9.68	7.72		
37	7.15	6.65	7.47	7.16	8.00	6.98	8.44	7.47	8.66	7.35	8.88	7.22	9.33	7.65		
39	6.89	6.55	7.20	7.05	7.70	6.90	8.11	7.39	8.32	7.27	8.54	7.15	8.97	7.59		
41	6.63	6.46	6.92	6.78	7.39	6.81	7.77	7.31	7.98	7.20	8.20	7.08	8.62	7.53		
43	6.36	6.24	6.65	6.52	7.08	6.73	7.44	7.23	7.65	7.12	7.85	7.01	8.26	7.48		

Outdoor air temp.	Indoor air temperature					
	°CDB		°CWB		°CDB	
	16	18	20	22	24	
-14.5	-15	5.26	5.24	5.21	5.18	5.15
-13.5	-14	5.38	5.35	5.32	5.29	5.26
-11.5	-12	5.61	5.58	5.55	5.52	5.49
-9.5	-10	5.84	5.81	5.78	5.74	5.71
-7.5	-8	6.07	6.04	6.00	5.97	5.93
-5.5	-6	6.25	6.21	6.17	6.13	6.09
-3.0	-4	6.42	6.37	6.33	6.29	6.25
-1.0	-2	6.59	6.54	6.50	6.45	6.41
1.0	0	6.76	6.71	6.66	6.61	6.56
2.0	1	6.84	6.79	6.74	6.69	6.64
3.0	2	7.30	7.25	7.19	7.14	7.08
5.0	4	8.22	8.16	8.10	8.04	7.97
7.0	6	9.13	9.07	9.00	8.93	8.86
9.0	8	9.61	9.54	9.47	9.39	9.32
11.5	10	10.09	10.01	9.93	9.85	9.77
13.5	12	10.26	10.18	10.10	10.01	9.93
15.5	14	10.42	10.34	10.26	10.17	10.08
16.5	16	10.51	10.42	10.34	10.25	10.16

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Notes (1) These data show average statuses.

Depending on the system control, there may be ranges where the operation is not conducted continuously.

These data show the case where the operation frequency of a compressor is same as nominal condition frequency or follows the protection controls.

(2) Capacities are based on the following conditions.

Corresponding refrigerant piping length : 7.5m

Level difference : 0m

Indoor fan speed : PHi

(3) Symbols are as follows.

TC : Total cooling capacity (kW), SHC : Sensible heat capacity (kW), HC : Heating capacity (kW)

Model **FDUM100VNP1VF2** Indoor unit **FDUM100VF2** Outdoor unit **FDC100VNP**

Cooling mode

(kW)

Heating mode : HC

(kW)

Outdoor air temperature	Indoor air temperature																Outdoor air temperature		Indoor air temperature					
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB		°CDB	°CWB	°CDB					
	12°CWB		14°CWB		16°CWB		18°CWB		19°CWB		20°CWB		22°CWB		24°CWB				16	18	20	22	24	
	°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	°CDB	°CWB	16	18	20	22	24
11					9.71	7.49	10.21	7.92	10.46	7.77	10.66	7.61	11.06	7.97	11.46	7.62	-14.5	-15	6.20	6.18	6.16	6.14	6.11	
13					9.71	7.49	10.21	7.92	10.46	7.77	10.66	7.61	11.06	7.97	11.46	7.62	-13.5	-14	6.26	6.23	6.21	6.19	6.16	
15					9.71	7.49	10.21	7.92	10.46	7.77	10.66	7.61	11.06	7.97	11.46	7.62	-11.5	-12	6.36	6.34	6.31	6.29	6.26	
17					9.71	7.49	10.21	7.92	10.46	7.77	10.66	7.61	11.06	7.97	11.46	7.62	-9.5	-10	6.47	6.44	6.42	6.39	6.36	
19					9.65	7.47	10.18	7.91	10.45	7.77	10.66	7.61	11.08	7.97	11.51	7.63	-7.5	-8	6.58	6.55	6.52	6.49	6.46	
21					9.59	7.45	10.16	7.90	10.44	7.77	10.67	7.61	11.11	7.98	11.56	7.63	-5.5	-6	7.16	7.13	7.10	7.06	7.02	
23					9.60	7.45	10.17	7.91	10.46	7.77	10.69	7.61	11.14	7.98	11.60	7.64	-3.0	-4	7.75	7.71	7.67	7.63	7.59	
25			9.03	7.67	9.60	7.45	10.19	7.91	10.48	7.78	10.71	7.62	11.17	7.99	11.63	7.65	-1.0	-2	8.33	8.29	8.24	8.20	8.15	
27			9.02	7.67	9.61	7.45	10.20	7.92	10.51	7.78	10.81	7.64	11.41	8.03			1.0	0	8.92	8.87	8.81	8.77	8.72	
29			8.92	7.63	9.49	7.42	10.08	7.88	10.38	7.75	10.68	7.61	11.28	8.01			2.0	1	9.21	9.15	9.10	9.05	9.00	
31			8.81	7.60	9.38	7.38	9.96	7.85	10.25	7.72	10.55	7.58	11.14	7.98			3.0	2	9.63	9.58	9.52	9.47	9.41	
33	8.24	7.05	8.61	7.53	9.26	7.35	9.83	7.82	10.13	7.69	10.42	7.55	11.01	7.96			4.0	4	10.48	10.42	10.36	10.30	10.24	
35	8.08	6.99	8.47	7.48	9.14	7.31	9.71	7.79	10.00	7.66	10.29	7.52	10.87	7.93			5.0	6	11.33	11.26	11.20	11.14	11.07	
37	7.85	6.90	8.23	7.40	8.84	7.23	9.37	7.70	9.67	7.58	9.96	7.45	10.54	7.87			6.0	8	11.49	11.42	11.36	11.29	11.22	
39	7.62	6.82	7.98	7.32	8.54	7.14	9.03	7.61	9.33	7.50	9.62	7.38	10.21	7.81			7.0	10	11.64	11.58	11.51	11.44	11.36	
41	7.39	6.73	7.74	7.24	8.24	7.05	8.70	7.53	8.99	7.42	9.29	7.31	9.89	7.75			8.0	12	10.42	10.35	10.29	10.22	10.14	
43	7.16	6.65	7.10	6.96	7.54	6.85	7.93	6.34	8.66	7.34	8.47	7.13	9.00	7.60			9.0	14	9.20	9.13	9.06	8.99	8.92	
																		10.0	16	8.58	8.52	8.45	8.38	8.31

Notes (1) These data show average statuses.

Depending on the system control, there may be ranges where the operation is not conducted continuously.

These data show the case where the operation frequency of a compressor is fixed.(Cooling only)

(2) Capacities are based on the following conditions.

Corresponding refrigerant piping length :7.5m

Level difference of Zero.

(3) Symbols are as follows.

TC : Total cooling capacity (kW)

SHC : Sensible heat capacity (kW)

HC : Heating capacity (kW)

PJG00Z189 

(3) Duct connected-High static pressure type (FDU)

Model **FDU71VNPVF1** Indoor unit **FDU71VF1** Outdoor unit **FDC71VNP**
 Cooling mode (kW) Heating mode : HC (kW)

Outdoor air temp.	Indoor air temperature																Outdoor air temp.						Indoor air temperature					
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB		°CDB	°CWB	°CDB									
	12°CWB		14°CWB		16°CWB		18°CWB		19°CWB		20°CWB		22°CWB		24°CWB				16	18	20	22	24					
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	°CDB	°CWB	16	18	20	22	24					
11					4.71	4.62	5.34	5.23	5.65	5.38	5.78	5.32	6.04	5.66	6.30	5.52	-14.5	-15	4.17	4.15	4.13	4.11	4.09					
13					5.00	4.89	5.58	5.46	5.87	5.45	5.99	5.38	6.23	5.71	6.48	5.56	-13.5	-14	4.23	4.21	4.19	4.17	4.14					
15					5.30	5.00	5.83	5.54	6.09	5.52	6.20	5.44	6.43	5.76	6.66	5.60	-11.5	-12	4.35	4.33	4.31	4.29	4.26					
17					5.59	5.10	6.07	5.62	6.31	5.58	6.41	5.50	6.62	5.81	6.83	5.64	-9.5	-10	4.47	4.45	4.43	4.40	4.38					
19					5.73	5.15	6.13	5.64	6.34	5.59	6.48	5.52	6.76	5.84	7.04	5.69	-7.5	-8	4.59	4.57	4.55	4.52	4.50					
21					5.80	5.18	6.20	5.66	6.36	5.60	6.54	5.54	6.89	5.88	7.25	5.74	-5.5	-6	4.94	4.92	4.89	4.87	4.84					
23					6.23	5.34	6.63	5.80	6.81	5.74	6.96	5.67	7.26	5.98	7.56	5.82	-3.0	-4	5.29	5.26	5.24	5.21	5.18					
25			6.26	5.68	6.67	5.50	7.07	5.95	7.26	5.89	7.38	5.80	7.63	6.08	7.88	5.89	-1.0	-2	5.64	5.61	5.58	5.55	5.52					
27			6.72	5.87	7.11	5.67	7.51	6.10	7.71	6.03	7.91	5.96	8.31	6.27			1.0	0	5.99	5.96	5.93	5.89	5.86					
29			6.60	5.82	6.98	5.62	7.36	6.05	7.56	5.98	7.75	5.91	8.13	6.22			2.0	1	6.16	6.13	6.10	6.06	6.03					
31			6.47	5.76	6.85	5.57	7.22	6.00	7.40	5.93	7.59	5.86	7.95	6.17			3.0	2	6.37	6.33	6.30	6.26	6.22					
33	6.01	5.33	6.27	5.68	6.72	5.52	7.08	5.96	7.25	5.88	7.43	5.81	7.77	6.12			5.0	4	6.77	6.74	6.70	6.66	6.62					
35	5.89	5.27	6.15	5.63	6.59	5.47	6.94	5.91	7.10	5.83	7.26	5.76	7.59	6.07			7.0	6	7.18	7.14	7.10	7.05	7.01					
37	5.62	5.15	5.86	5.51	6.27	5.35	6.59	5.79	6.75	5.72	6.91	5.65	7.23	5.97			9.0	8	7.28	7.24	7.19	7.14	7.09					
39	5.35	5.04	5.57	5.40	5.95	5.23	6.25	5.68	6.40	5.61	6.55	5.55	6.86	5.87			11.5	10	7.38	7.33	7.29	7.23	7.17					
41	5.08	4.92	5.29	5.18	5.62	5.11	5.90	5.56	6.05	5.50	6.20	5.44	6.50	5.77			13.5	12	7.34	7.29	7.24	7.18	7.12					
43	4.99	4.88	5.18	5.07	5.47	5.06	5.73	5.51	5.88	5.45	6.04	5.39	6.35	5.74			15.5	14	7.30	7.25	7.19	7.13	7.07					
																	16.5	16	7.28	7.23	7.17	7.10	7.04					

PJG000Z190 

Model **FDU90VNP1VF2** Indoor unit **FDU100VF2** Outdoor unit **FDC90VNP1**
 Cooling mode (kW) Heating mode : HC (kW)

Outdoor air temp.	Indoor air temperature																Outdoor air temp.		Indoor air temperature					
	18°CDB		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB		°CDB	°CWB	°CDB					
	12°CWB		14°CWB		16°CWB		18°CWB		19°CWB		20°CWB		22°CWB		24°CWB				16	18	20	22	24	
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	°CDB	°CWB	16	18	20	22	24	
11					8.35	7.08	8.93	7.59	9.21	7.47	9.59	7.37	10.34	7.83	11.09	7.56	-14.5	-15	5.26	5.24	5.21	5.18	5.15	
13					8.42	7.10	8.94	7.59	9.20	7.47	9.55	7.36	10.25	7.82	10.96	7.54	-13.5	-14	5.38	5.35	5.32	5.29	5.26	
15					8.48	7.12	8.96	7.59	9.19	7.47	9.52	7.35	10.17	7.80	10.83	7.53	-11.5	-12	5.61	5.58	5.55	5.52	5.49	
17					8.54	7.14	8.97	7.60	9.18	7.46	9.49	7.35	10.09	7.79	10.70	7.51	-9.5	-10	5.84	5.81	5.78	5.74	5.71	
19					8.51	7.13	8.96	7.60	9.19	7.47	9.48	7.35	10.06	7.78	10.63	7.50	-7.5	-8	6.07	6.04	6.00	5.97	5.93	
21					8.32	7.07	8.96	7.59	9.20	7.47	9.47	7.34	10.02	7.78	10.57	7.49	-5.5	-6	6.25	6.21	6.17	6.13	6.09	
23					8.52	7.13	9.04	7.62	9.21	7.47	9.47	7.34	10.00	7.77	10.52	7.48	-3.0	-4	6.42	6.37	6.33	6.29	6.25	
25			8.10	7.36	8.72	7.19	9.13	7.64	9.23	7.48	9.48	7.35	9.97	7.77	10.47	7.47	-1.0	-2	6.59	6.54	6.50	6.45	6.41	
27			8.38	7.45	8.92	7.25	9.22	7.66	9.24	7.48	9.27	7.30	9.31	7.65			1.0	0	6.76	6.71	6.66	6.61	6.56	
29			8.25	7.41	8.77	7.20	9.11	7.63	9.18	7.46	9.26	7.30	9.41	7.67			2.0	1	6.84	6.79	6.74	6.69	6.64	
31			8.11	7.36	8.62	7.16	9.00	7.60	9.12	7.45	9.25	7.30	9.50	7.68			3.0	2	7.30	7.25	7.19	7.14	7.08	
33	7.53	6.79	7.88	7.29	8.46	7.11	8.88	7.58	9.06	7.44	9.24	7.29	9.59	7.70			5.0	4	8.22	8.16	8.10	8.04	7.97	
35	7.41	6.74	7.74	7.24	8.31	7.07	8.77	7.55	9.00	7.42	9.23	7.29	9.68	7.72			7.0	6	9.13	9.07	9.00	8.93	8.86	
37	7.15	6.65	7.47	7.16	8.00	6.98	8.44	7.47	8.66	7.35	8.88	7.22	9.33	7.65			9.0	8	9.61	9.54	9.47	9.39	9.32	
39	6.89	6.55	7.20	7.05	7.70	6.90	8.11	7.39	8.32	7.27	8.54	7.15	8.97	7.59			11.5	10	10.09	10.01	9.93	9.85	9.77	
41	6.63	6.46	6.92	6.78	7.39	6.81	7.77	7.31	7.98	7.20	8.20	7.08	8.62	7.53			13.5	12	10.26	10.18	10.10	10.01	9.93	
43	6.36	6.24	6.65	6.52	7.08	6.73	7.44	7.23	7.65	7.12	7.85	7.01	8.26	7.48			15.5	14	10.42	10.34	10.26	10.17	10.08	
																	16.5	16	10.51	10.42	10.34	10.25	10.16	

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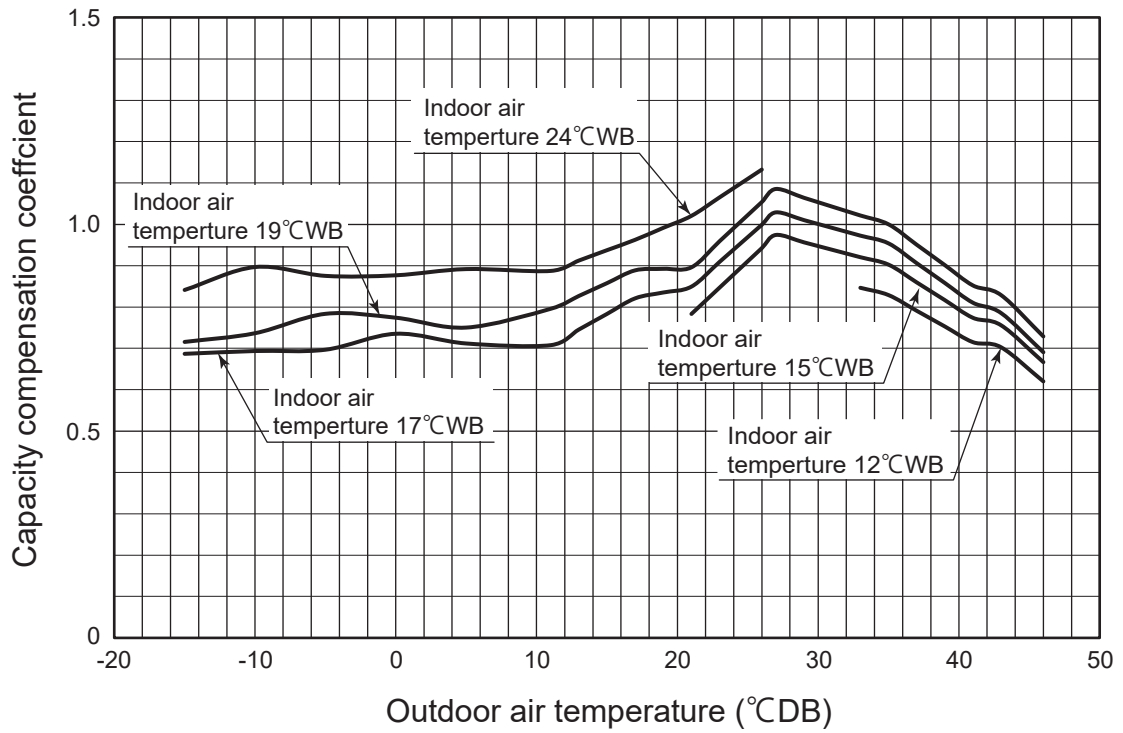
- Notes (1) These data show average statuses.
 Depending on the system control, there may be ranges where the operation is not conducted continuously.
 These data show the case where the operation frequency of a compressor is same as nominal condition frequency or follows the protection controls.
- (2) Capacities are based on the following conditions.
 Corresponding refrigerant piping length : 7.5m
 Level difference : 0m
 Indoor fan speed : PHi
- (3) Symbols are as follows.
 TC : Total cooling capacity (kW), SHC : Sensible heat capacity (kW), HC : Heating capacity (kW)

[References data]

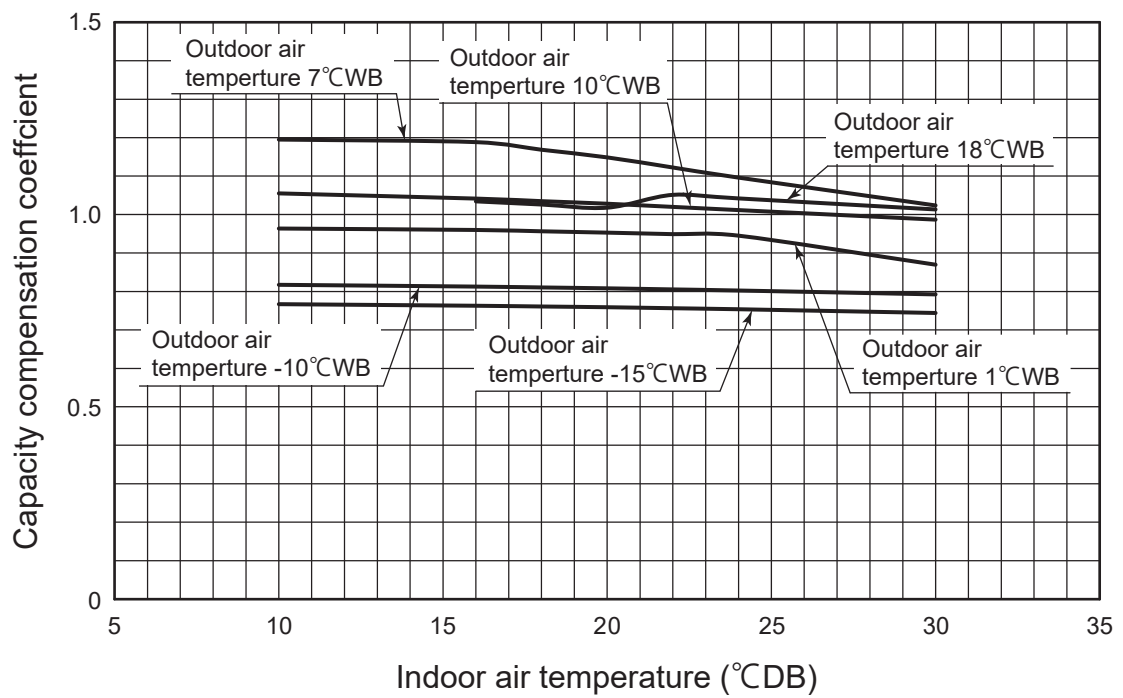
Capacity variation against outdoor and indoor temperature at the maximum compressor speed capacity compensation coefficient shows the ratio to nominal capacity.

(I) Model FDC71VNP

① Cooling

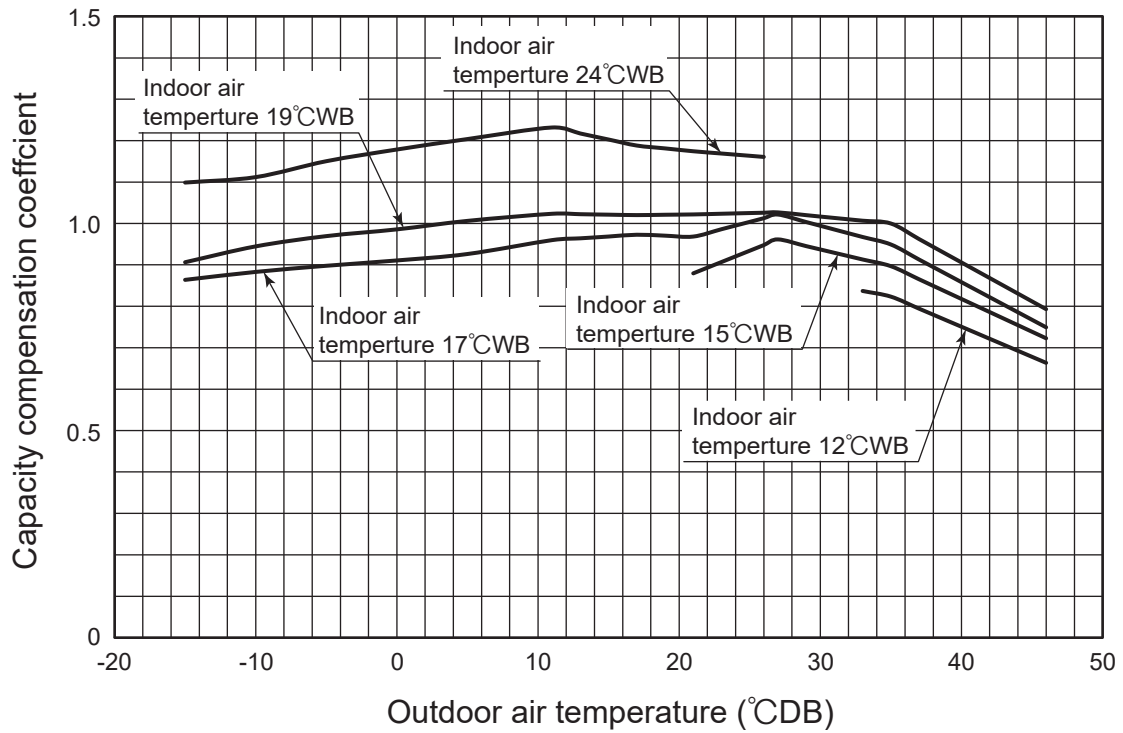


② Heating

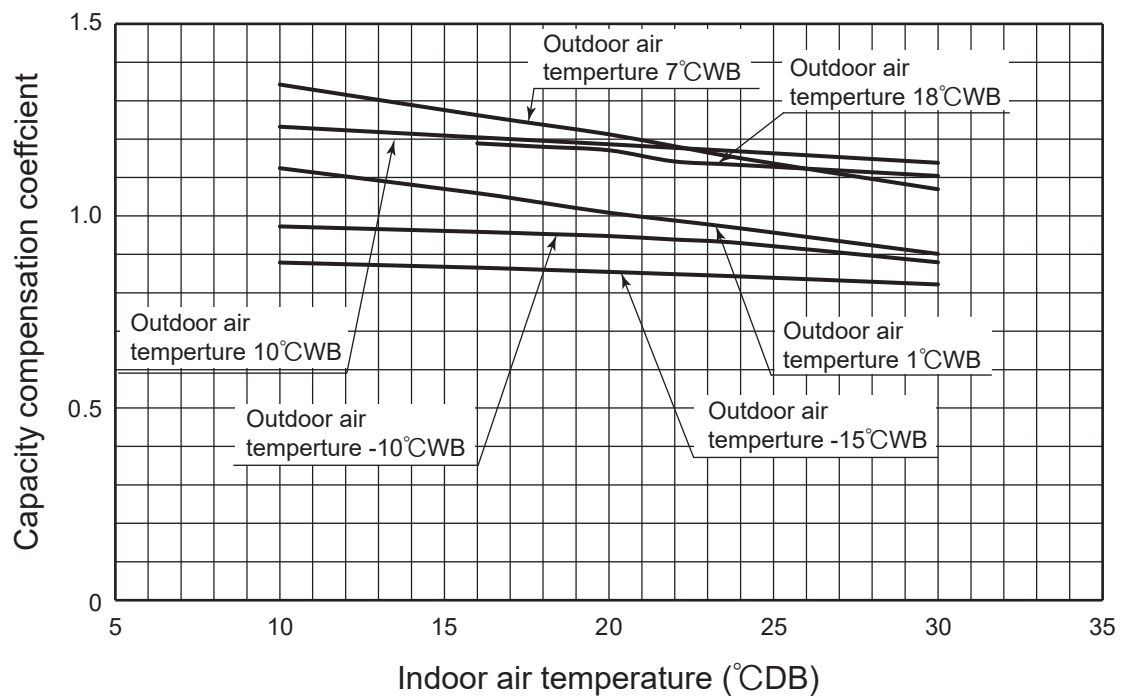


(II) Model FDC90VNP1

① Cooling

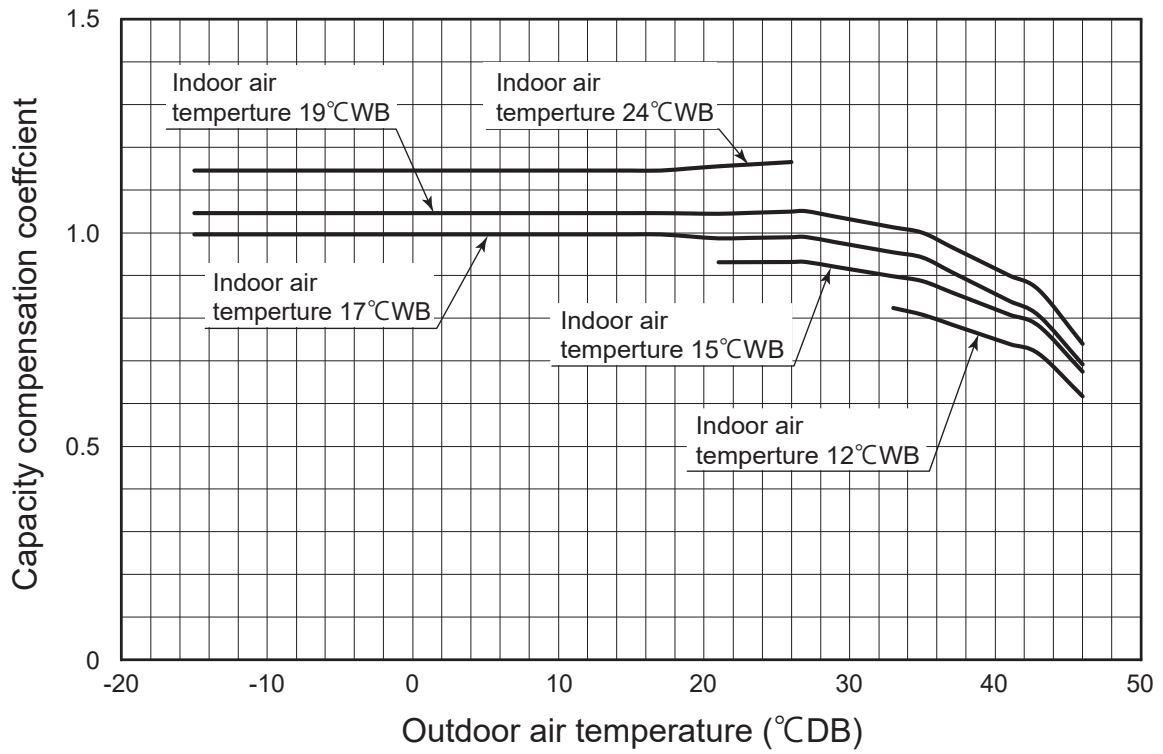


② Heating

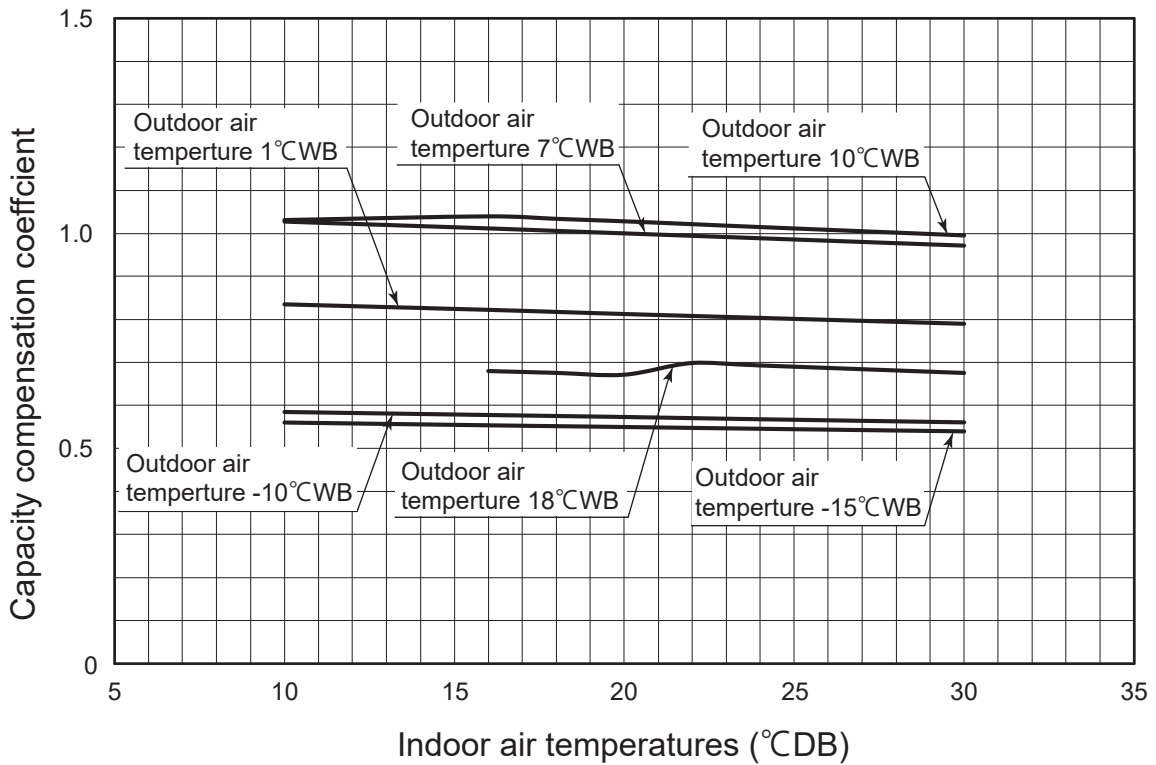


(III) Model FDC100VNP

① Cooling



② Heating



3.9.2 Correction of cooling and heating capacity in relation to air flow rate control Fan speed

Fan speed		P-Hi	Hi	Me	Lo
Coefficient	Cooling	1.00	0.95	0.93	0.90
	Heating	1.00	0.97	0.96	0.94

3.9.3 Correction of cooling and heating capacity in relation to one way length of refrigerant piping

It is necessary to correct the cooling and heating capacity in relation to the one way equivalent piping length between the indoor and outdoor units.

Equivalent piping length (m)	7.5	10	15	20	25	30
Cooling	1	0.99	0.97	0.96	0.94	0.92
Heating	1	1	1	1	1	1

3.9.4 Height difference between the indoor unit and outdoor unit

When the outdoor unit is located below indoor units in cooling mode, or when the outdoor unit is located above indoor units in heating mode, the correction coefficient mentioned in the below table should be subtracted from the value in the above table.

Height difference between the indoor unit and outdoor unit in the vertical height difference	5m	10m	15m	20m
Adjustment coefficient	0.99	0.98	0.97	0.96

Piping length limitations

Item	Model	All models
Max. one way piping length		30m
Max. vertical height difference		Outdoor unit is higher 20m Outdoor unit is lower 20m

Note (1) Values in the table indicate the one way piping length between the indoor and outdoor units.

How to obtain the cooling and heating capacity

Example : The net cooling capacity of the model FDE100VNP1VG with the air flow “P-Hi”, the piping length of 15m, the outdoor unit located 5m lower than the indoor unit, indoor wet-bulb temperature at 19.0°C and outdoor dry-bulb temperature 35°C is

$$\text{Net cooling capacity} = 10.0 \times 1.00 \times 0.97 \times 0.99 \approx 9.6 \text{ kW}$$

↑

Net cooling total capacity of FDE100VNP1VG (Outdoor temp. : 35°CDB Indoor temp. : 19°CWB) shown in table 3.9.1

↑

Air flow : P-Hi shown in table 3.9.2

↑

Piping length : 15m (Gas pipe size is φ 15.88) shown in table 3.9.3

↑

Height difference : 5m (Outdoor unit : below) shown in table 3.9.4

3.10 APPLICATION DATA

- 3.10.1 Installation of indoor unit See page 122.
 - 3.10.2 Electric wiring work installation See page 137.
 - 3.10.3 Installation of wired remote control (Option parts) See page 141.
 - 3.10.4 Installation of outdoor unit
- (1) Model FDC71VNP

PSC012D053

R410A REFRIGERANT USED

- This installation manual deals with outdoor units and general installation specifications only. For indoor units, refer to page 122.
- When install the unit, be sure to check whether the selection of installation place, power source specifications, usage limitation (piping length, height differences between indoor and outdoor units, power source voltage and etc.) and installation spaces.

SAFETY PRECAUTIONS

- Read the "SAFETY PRECAUTIONS" carefully first of all and strictly follow it during the installation work in order to protect yourself.
- The precautionary items mentioned below are distinguished into two levels. **WARNING** and **CAUTION**.
- **WARNING**: Wrong installation would cause serious consequences such as injuries or death.
- **CAUTION**: Wrong installation might cause serious consequences depending on circumstances.
- Both mentions the important items to protect your health and safety so strictly follow them by any means.
- Be sure to confirm no anomaly on the equipment by commissioning after completed installation and explain the operating methods as well as the maintenance methods of this equipment to the user according to the owner's manual.
- Keep the installation manual together with owner's manual at a place where any user can read at any time. Moreover if necessary, ask to hand them to a new user.
- For installing qualified personnel, take precautions in respect to themselves by using suitable protective clothing, gloves, etc., and then perform the installation works.
- Please pay attention not to fall down the tools, etc. when installing the unit at the high position.
- If unusual noise can be heard during operation, consult the dealer.
- The meanings of "Marks" used here are shown as follows:

⊘ Never do it under any circumstances. ⚠ Always do it according to the instruction.

⚠ WARNING	
<p>If the refrigerant comes into contact with naked flames, poisonous gas is produced.</p> <ul style="list-style-type: none"> • Use the prescribed pipes, flare nuts and tools for R410A. Using existing parts (for R22 or R407C) can cause the unit failure and serious accidents due to burst of the refrigerant circuit. • Tighten the flare nut by torque wrench with specified method. If the flare nut were tightened with excess torque, this may cause burst and refrigerant leakage after a long period. • Do not open the service valves for liquid line and gas line until completed refrigerant piping work, air tightness test and evacuation. If the compressor is operated in state of opening service valves before completed connection of refrigerant piping work, air can be sucked into refrigerant circuit, which can cause burst or personal injury due to anomalously high pressure in the refrigerant. • The electrical installation must be carried out by the qualified electrician in accordance with "the norm for electrical work" and "national wiring regulation", and the system must be connected to the dedicated circuit. Power source with insufficient capacity and incorrect function done by improper work can cause electric shocks and fire. • Be sure to shut off the power before starting electrical work. Failure to shut off the power can cause electric shocks, unit failure or incorrect function of equipment. • Be sure to use the cables conformed to safety standard and cable ampacity for power distribution work. Unconformable cables can cause electric leak, anomalous heat production or fire. • This appliance must be connected to main power source by means of a circuit breaker or switch (fuse:20A) with a contact separation of at least 3mm. • Arrange the wiring in the control box so that it cannot be pushed up further into the box. Install the service panel correctly. 	<p>Incorrect installation may result in overheating and fire.</p> <ul style="list-style-type: none"> • Use the prescribed cables for electrical connection, tighten the cables securely in terminal block and relieve the cables correctly to prevent overloading the terminal blocks. Loose connections or cable mountings can cause anomalous heat production or fire. • Be sure to fix up the service panels. Incorrect fixing can cause electric shocks or fire due to intrusion of dust or water. • Be sure to switch off the power source in the event of installation, inspection or servicing. If the power source is not shut off, there is a risk of electric shocks, unit failure or personal injury due to the unexpected start of fan. • Stop the compressor before removing the pipe after shutting the service valve on pump down work. If the pipe is removed when the compressor is in operation with the service valve open, air would be mixed in the refrigeration circuit and it could cause explosion and injuries due to abnormal high pressure in the cooling cycle. • Only use prescribed option parts. The installation must be carried out by the qualified installer. If you install the system by yourself, it can cause serious trouble such as water leaks, electric shocks, fire. • Be sure to wear protective goggles and gloves while at work. Earth leakage breaker must be installed. • Earth leakage breaker is not installed, it can cause electric shocks. • Appliance is not to be used by children or persons with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction. Children being supervised not to play with appliance.
<p>ⓘ</p> <ul style="list-style-type: none"> • Installation must be carried out by the qualified installer. If you install the system by yourself, it may cause serious trouble such as water leaks, electric shocks, fire and personal injury, as a result of a system malfunction. Do not carry out the installation and maintenance work except by the qualified installer. • Install the system in full accordance with the installation manual. Incorrect installation may cause bursts, personal injury, water leaks, electric shocks and fire. • Be sure to use only for household and residence. If this appliance is installed in inferior environment such as machine shop and etc., it can cause malfunction. • When installing in small rooms, take prevention measures not to exceed the density limit of refrigerant in the event of leakage, referred by the formula (accordance with ISO5149). If the density of refrigerant exceeds the limit, please consult the dealer and install the ventilation system, otherwise lack of oxygen can occur, which can cause serious accident. • Use the original accessories and the specified components for installation. If parts other than those prescribed by us are used, it may cause water leaks, electric shocks, fire and personal injury. • Install the unit in a location with good support. Unsuitable installation locations can cause the unit to fall and cause material damage and personal injury. • Ensure the unit is stable when installed, so that it can withstand earthquakes and strong winds. Unsuitable installation locations can cause the unit to fall and cause material damage and personal injury. • Ventilate the working area well in the event of refrigerant leakage during installation. 	<ul style="list-style-type: none"> • Do not bundling, winding or processing for the power cord. Or, do not deforming the power plug due to treat it. This may cause fire or heating. • Do not run the unit with removed panels or protections. Touching rotating equipments, hot surfaces or high voltage parts can cause personal injury due to entrapment, burn or electric shocks.
<p>⊘</p> <ul style="list-style-type: none"> • Ensure that no air enters in the refrigerant circuit when the unit is installed and removed. If air enters in the refrigerant circuit, the pressure in the refrigerant circuit becomes too high, which can cause burst and personal injury. • Do not processing, splice the power cord, or share a socket with other power plugs. This may cause fire or electric shock due to defecting contact, defecting insulation and over-current etc. 	<ul style="list-style-type: none"> • Do not perform any change of protective device itself or its setup condition. The forced operation by short-circuiting protective device of pressure switch and temperature controller or the use of non specified component can cause fire or burst.

CAUTION	
	<p>• Carry out the electrical work for ground lead with care. Do not connect the ground lead to the gas line, water line, lightning conductor or telephone line's ground lead. Incorrect grounding can cause unit faults such as electric shocks due to short-circuiting.</p>
	<p>• Take care when carrying the unit by hand. If the unit weighs more than 20kg, it must be carried by two or more persons. Do not carry by the plastic straps, always use the carry handle when carrying the unit by hand. Use gloves to minimize the risk of cuts by the aluminum fins.</p> <p>• Dispose of any packing materials correctly. Any remaining packing materials can cause personal injury as it contains nails and wood. And to avoid danger of suffocation, be sure to keep the plastic wrapper away from children and to dispose after tear it up.</p> <p>• Be sure to insulate the refrigerant pipes so as not to condense the ambient air moisture on them. Insufficient insulation can cause condensation, which can lead to moisture damage on the ceiling, floor, furniture and any other valuables.</p>
	<p>• Do not install the outdoor unit in the locations listed below.</p> <ul style="list-style-type: none"> Locations where carbon fiber, metal powder or any powder is floating. Locations where any substances that can affect the unit such as sulphide gas, chloride gas, acid and alkaline can occur. Vehicles and ships. Locations where cosmetic or special sprays are often used. Locations with direct exposure of oil mist and steam such as kitchen and machine plant. Locations where any machines which generate high frequency harmonics are used. Locations with salty atmospheres such as coastlines. Locations with heavy snow (if installed, be sure to provide base flame and snow hood mentioned in the manual). Locations where the unit is exposed to chimney smoke. Locations at high altitude (more than 1 000m high). Locations with ammoniac atmospheres. (e.g. organic fertilizer) Locations with calcium chloride (e.g. snow melting agent). Locations where heat radiation from other heat source can affect the unit. Locations without good air circulation. Locations with any obstacles which can prevent inlet and outlet air of the unit. Locations where short circuit of air can occur (in case of multiple units installation). Locations where strong air blows against the air outlet of outdoor unit. Locations where something located above the unit could fall. <p>It can cause remarkable decrease in performance, corrosion and damage of components, malfunction and fire.</p>
	<p>• When perform the air-conditioner operation (cooling or drying operation) in which ventilator is installed in the room. In this case, using the air-conditioner in parallel with the ventilator, there is the possibility that drain water may backflow in accordance with the room lapse into the negative pressure status. Therefore, set up the opening port such as incorporate the air into the room that may appropriate to ventilation (For example; Open the door a little). In addition, just as above, so set up the opening port if the room lapse into negative pressure status due to register of the wind for the high rise apartment etc.</p> <p>• Do not install the outdoor unit in a location where insects and small animals can inhabit. Insects and small animals can enter the electric parts and cause damage or fire. Instruct the user to keep the surroundings clean.</p> <p>• Do not use the base flame for outdoor unit which is corroded or damaged due to long periods of operation. Using an old and damage base flame can cause the unit falling down and cause personal injury.</p> <p>• Do not use any materials other than a fuse with the correct rating in the location where fuses are to be used. Connecting the circuit with copper wire or other metal thread can cause unit failure and fire.</p> <p>• Do not touch any buttons with wet hands. It can cause electric shocks.</p> <p>• Do not touch any refrigerant pipes with your hands when the system is in operation. During operation the refrigerant pipes become extremely hot or extremely cold depending the operating condition, and it can cause burn injury or frost injury.</p> <p>• Do not touch the suction or aluminum fin on the outdoor unit. This may cause injury.</p> <p>• Do not put anything on the outdoor unit and operating unit. This may cause damage the objects or injury due to falling to the object.</p> <p>• Do not use the unit for special purposes such as storing foods, cooling precision instruments and preservation of animals, plants or art.</p> <p>• Do not clean up the unit with water.</p>

Notabilia as a unit designed for R410A

- Do not use any refrigerant other than R410A. R410A will rise to pressure about 1.6 times higher than that of a conventional refrigerant.
- A cylinder containing R410A has a pink indication mark on the top.
- A unit designed for R410A has adopted a different size indoor unit service valve charge port and a different size check joint provided in the unit to prevent the charging of a wrong refrigerant by mistake.
- The processed dimension of the flange part of a refrigerant pipe and a flare nut's parallel side measurement have also been altered to raise strength against pressure.
- Accordingly, you are required to arrange dedicated R410A tools listed in the table on the left before installing or servicing this unit.
- In charging refrigerant, always take it out from a cylinder in the liquid phase.
- All indoor units must be models designed exclusively for R410A. Check connectable indoor unit models in a catalog, etc. (A wrong indoor unit, if connected to the system, will impair proper system operation)

Check before installation work	
• Model name and power source	
• Refrigerant piping length	
• Piping, wiring and miscellaneous small parts	
• Indoor unit installation manual	

Accessories for outdoor unit	
① Grommet (Heat pump type only)	4
② Drain elbow (Heat pump type only)	1
③ Reducer set φ9.52 φ6.35	1
④ Reducer set φ15.88 φ12.7	1

Option parts	
③ Sealing plate	1
④ Sleeve	1
⑤ Inclination plate	1
⑥ Putty	1
⑦ Drain hose (extension hose)	1
⑧ Piping cover (for insulation of connection piping)	1

Necessary tools for the installation work	
1 Plus headed driver	9 Wrench key (Hexagon) [4mm]
2 Knife	10 Vacuum pump
3 Saw	11 Vacuum pump adapter (Anti-reverse flow type) (Designed specifically for R410A)
4 Tape measure	12 Gauge manifold (Designed specifically for R410A)
5 Hammer	13 Charge hose (Designed specifically for R410A)
6 Spanner wrench	14 Flaring tool set (Designed specifically for R410A)
7 Torque wrench [1.4-82.0N·m (1.4-8.2kgf·m)]	15 Gas leak detector (Designed specifically for R410A) Gauge for projection adjustment
8 Hole core drill (φ5mm in diameter)	16 Gauge for projection adjustment (Used when flare is made by using conventional flare tool)

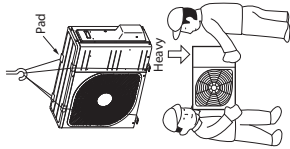
1. HAULAGE AND INSTALLATION (Take particular care in carrying in or moving the unit, and always perform such an operation with two or more persons.)

CAUTION

When a unit is hoisted with slings for haulage, take into consideration the offset of its gravity center position. If not properly balanced the unit can be thrown off-balance and fall.

1) Delivery

- Deliver the unit as close as possible to the installation site before removing it from the packaging.
- When you have to unpack the unit for a compelling reason before you haul it to the installation point, hoist the unit with nylon slings or ropes and protection pads so that you may not damage the unit.



2) Portage

- The right hand side of the unit as viewed from the front (diffuser side) is heavier. A person carrying the right hand side must take heed of this fact. A person carrying the left hand side must hold with his right hand the handle provided on the front panel of the unit and with his left hand the corner column section.

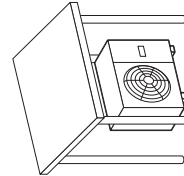
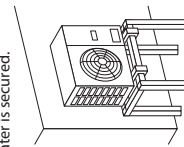
3) Selection of installation location for the outdoor unit

Be sure to select a suitable installation place in consideration of following conditions.

- A place where it is horizontal, stable and can endure the unit weight and will not allow vibration transmittance of the unit.
- A place where it can be free from possibility of bothering neighbors due to noise or exhaust air from the unit.
- A place where the unit is not exposed to oil splashes.
- A place where it can be free from danger of flammable gas leakage.
- A place where drain water can be disposed without any trouble.
- A place where the unit will not be affected by heat radiation from other heat source.
- A place where snow will not accumulate.
- A place where the unit can be kept away 5m or more from TV set and/or radio receiver in order to avoid any radio or TV interference.
- A place where good air circulation can be secured, and enough service space can be secured for maintenance and service of the unit safely.
- A place where the unit will not be affected by electromagnetic waves and/or high-harmonic waves generated by other equipment.
- A place where chemical substances like sulfuric gas, chloric gas, acid and alkali (including ammonia), which can harm the unit, will not be generated and not remain.
- If a operation is conducted when the outdoor air temperature is -5°C lower, the outdoor unit should be installed at a place where it is not influenced by natural wind.
- A place where strong wind will not blow against the outlet air blow of the unit.
- Do not install the unit in places which exposed to sea breeze (e.g. coastal area) or calcium chloride (e.g. snow melting agent), exposed to ammonia substance (e.g. organic fertilizer).

4) Caution about selection of installation location

- (1) If the unit is installed in the area where the snow will accumulate, following measures are required.
 - 1 Install the unit on the base so that the bottom is higher than snow cover surface, and draining water is secured.
 - 2 Provide a snow hood to the outdoor unit on site.
 - 3 Install the unit under eaves or provide the roof on site.

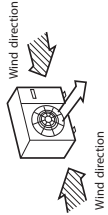
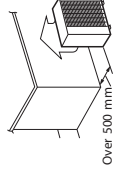


Since drain water generated by defrost control may freeze, following measures are required.

- Don't execute drain piping work by using a drain elbow and drain grommets (accessories). [Refer to Drain piping work.]
- Attached heater on a base plate on site, if there is possibility to freeze drain water. In case that the product has a corrective drainage system, the drainage paths should have suitable treatment against freezing but be sure not to melt the material of drainage paths with heat.

- (2) If the unit can be affected by strong wind, following measures are required.
 - Strong wind can cause damage of fan (fan motor), or can cause performance degradation, or can trigger anomalous stop of the unit due to rising of high pressure.

- 1 Install the outlet air blow side of the unit to face a wall of building, or provide a fence or a windbreak screen, to the direction of wind.
- 2 Install the outlet air blow side of the unit in a position perpendicular to the direction of wind.
- 3 The unit should be installed on the stable and level foundation. If the foundation is not level, the down the unit with wires.

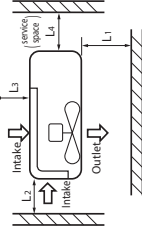


5) Installation space

- Walls surrounding the unit in the four sides are not acceptable.
- There must be a 1-meter or larger space in the above.
- When more than one unit are installed side by side, provide a 250mm or wider interval between them as a service space. In order to facilitate servicing of controllers, please provide a sufficient space between units so that their top plates can be removed easily.
- Where a danger of short-circuiting exists, install guide louvers.
- When more than one unit are installed, provide sufficient intake space consciously so that short-circuiting may not occur.
- Where piling snow can bury the outdoor unit, provide proper snow guards.

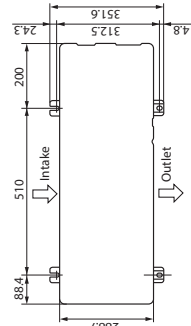
Size	I	II	III	IV
L1	Open	280	280	180
L2	100	75	Open	Open
L3	100	80	80	80
L4	250	Open	250	Open

The height of a wall is 1200mm or less.

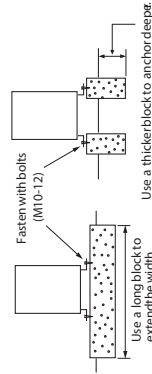


6) Installation

- ① Anchor bolt fixed position



- ② Notabli for installation



- In installing the unit, fix the unit's legs with bolts specified on the above.
- The protrusion of an anchor bolt on the front side must be kept within 15 mm.
- Securely install the unit so that it does not fall over during earthquakes or strong winds, etc.
- Refer to the above illustrations for information regarding concrete foundations.
- Install the unit in a level area. (With a gradient of 5 mm or less.)

Improper installation can result in a compressor failure, broken piping within the unit and abnormal noise generation.

7) To run the unit for a cooling operation,

when the outdoor temperature is -5°C or lower.

- When the outdoor air temperature is -5°C or lower, provide a snow hood to the outdoor unit on site. So that strong wind will not blow against the outdoor heat exchanger directly.

2. REFRIGERANT PIPING WORK

1) Restrictions on unit installation and use

- Check the following points in light of the indoor unit specifications and the installation site.
- Observe the following restrictions on unit installation and use. Improper installation can result in a compressor failure or performance degradation.

Restrictions	Dimensional restrictions	Marks appearing in the drawing on the right
Indoor unit	30m or less	L
Elevation difference between indoor and outdoor units	23m or less 20m or less	L H

● The use restrictions appearing in the table above are applicable to the standard pipe size combinations shown in the table below. Where an existing pipe system is utilized, different one-way pipe length restrictions should apply depending on its pipe size. For more information, please see "5. UTILIZATION OF EXISTING PIPING."

2) Determination of pipe size

- Determine refrigerant pipe size pursuant to the following guidelines based on the indoor unit specifications.

	Gas pipe	Liquid pipe
Outdoor unit connected	ø12.7 Flare	ø6.35 Flare
Refrigerant piping (branch pipe)	ø12.7	ø6.35
Indoor unit connected	FDT, FDBN, FDU, FDUIM, FDF, SRK	ø15.88 ø15.88

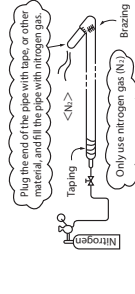
When pipe is brazing.

About brazing

Brazing must be performed under a nitrogen gas flow.

Without nitrogen gas, a large quantity of foreign matters (oxidized film) are created, causing a critical failure from capillary tube or expansion valve clogging.

If the refrigerant is existing in the pipe at brazing, poisonous gas is produced.



3) Refrigerant pipe wall thickness and material

- Select refrigerant pipes of the table shown on the right wall thickness and material as specified for each pipe size.

NOTE ● Select pipes having a wall thickness larger than the specified minimum pipe thickness.

Pipe diameter (mm)	ø6.35	ø12.7
Minimum pipe wall thickness (mm)	0.8	0.8
Pipe material*	O-type pipe	O-type pipe

*Phosphorus deoxidized seamless copper pipe (CS 23,040.15, JCS 77.150.30)

[Usage of reducer set]

① Except SRK Liquid side joint (ø9.52) [SRK Liquid side joint (ø6.35)]

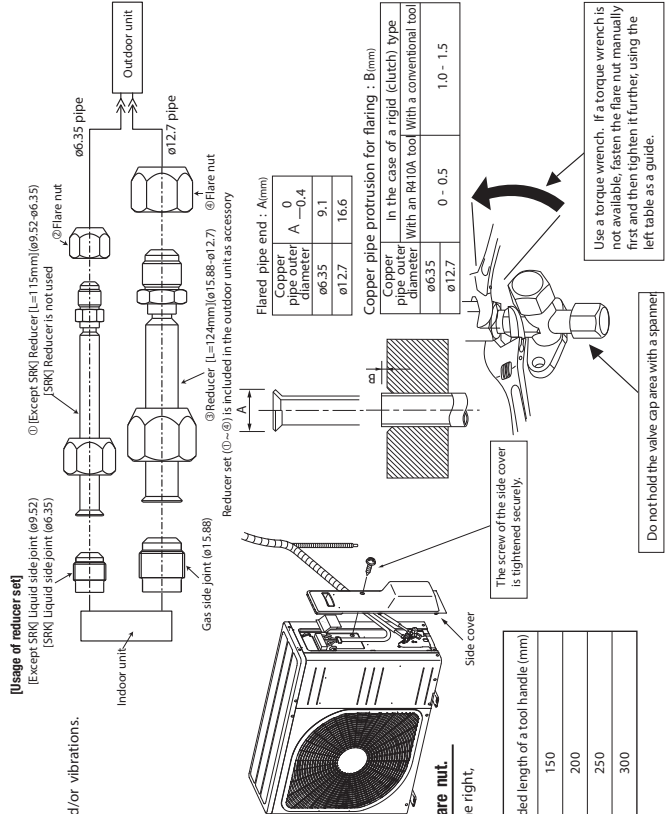
② Except SRK Reducer (L=115mm) (ø5.52-ø6.35) [SRK Reducer is not used]

③ Flare nut

④ Reducer (L=124mm) (ø15.88-ø12.7)

⑤ Flare nut

⑥ Reducer set (④-⑤) is included in the outdoor unit as accessory



4) On-site piping work

IMPORTANT Take care so that installed pipes may not touch components within a unit. If touching with an internal component will generate abnormal sounds and/or vibrations.

- Except SRK Regarding the change in the size of liquid/gas pipe: Use the reducer at indoor unit side. Reducer set is available in the outdoor unit as an accessory.
- SRK Regarding the change in the size of gas pipe: Use the reducer at indoor unit side. Reducer set is available in the outdoor unit as an accessory.

How to remove the side cover

- Please remove the screw of a side cover and remove to the front.
- Carry out the on site piping work with the service valve fully closed.
- Give sufficient protection to a pipe end (compressed and brazed, or with an adhesive tape) so that water or foreign matters may not enter the piping.
- Bend a pipe to a radius as large as practical (R100-R150). Do not bend a pipe repeatedly to correct its form.
- Flare connection is used between the unit and refrigerant pipe. Flare a pipe after engaging a flare nut onto it. Flare dimensions for R410A are different from those for conventional R407C. Although we recommend the use of flaring tools designed specifically for R410A, conventional flaring tools can also be used by adjusting the measurement of protrusion B with a protrusion control gauge.
- The pipe should be anchored every 1.5m or less to isolate the vibration.
- Tighten a flare joint securely with a double spanner.

CAUTION

Do not apply force beyond proper fastening torque in tightening the flare nut.

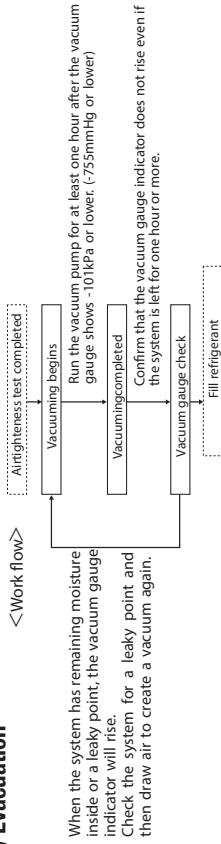
Fix both liquid and gas service valves at the valve main bodies as illustrated on the right, and then fasten them, applying appropriate fastening torque.

Service valve size (mm)	Tightening torque (Nm)	Tightening angle (°)	Recommended length of a tool handle (mm)
ø6.35	14 - 18	45 - 60	150
ø9.52	34 - 42	30 - 45	200
ø12.7	49 - 61	30 - 45	250
ø15.88	68 - 82	15 - 20	300

5) Air tightness test

- ① Although outdoor and indoor units themselves have been tested for air tightness at the factory, check the connecting pipes after the installation work for air tightness from the service valve's check joint equipped on the outdoor unit side. While conducting a test, keep the service valve shut all the time.
 - a) Raise the pressure to 0.5 MPa, and then stop. Leave it for five minutes to see if the pressure drops.
 - b) Then raise the pressure to 1.5 MPa, and stop. Leave it for five more minutes to see if the pressure drops.
 - c) Then raise the pressure to the specified level (4.15 MPa), and record the ambient temperature and the pressure.
 - d) If no pressure drop is observed with an installation pressurized to the specified level and left for about one day, it is acceptable. When the ambient temperature fall 1°C, the pressure also fall approximately 0.01 MPa. The pressure, if changed, should be compensated for.
 - e) If a pressure drop is observed in checking e) and a) - d), a leak exists somewhere. Find a leak by applying bubble test liquid to welded parts and flare joints and repair it. After repair, conduct an air-tightness test again.
- ② In conducting an air-tightness test, use nitrogen gas and pressurize the system with nitrogen gas from the gas side. Do not use a medium other than nitrogen gas under any circumstances.

6) Evacuation



Pay attention to the following points in addition to the above for the R410A and compatible machines.

- To prevent a different oil from entering, assign dedicated tools, etc. to each refrigerant type. Under no circumstances must a gauge manifold and a charge hose in particular be shared with other refrigerant types (R22, R407C, etc.).
- Use a counterflow prevention adapter to prevent vacuum pump oil from entering the refrigerant system.

7) Additional refrigerant charge

(1) Calculate a required refrigerant charge volume from the following table.

Indoor unit	Additional charge volume (kg) per meter of refrigerant piping (liquid pipe ø6.35)	Refrigerant volume charged for shipment at the factory (kg)	Installation's pipe length (m) covered without additional refrigerant charge
FDT, FDEN	0.02	1.6	15
FDU, FDUIM, SRK	0.02	1.6	8

- This unit contains factory charged refrigerant covering 15m/8m of refrigerant piping and additional refrigerant charge on the installation site is not required for an installation with up to 15m/8m refrigerant piping. When refrigerant piping exceeds 15m/8m, additionally charge an amount calculated from the pipe length and the above table for the portion in excess of 15m/8m.
- If an existing pipe system is used, a required refrigerant charge volume will vary depending on the liquid pipe size. For further information, please see "5. UTILIZATION OF EXISTING PIPING."

Formula to calculate the volume of additional refrigerant required

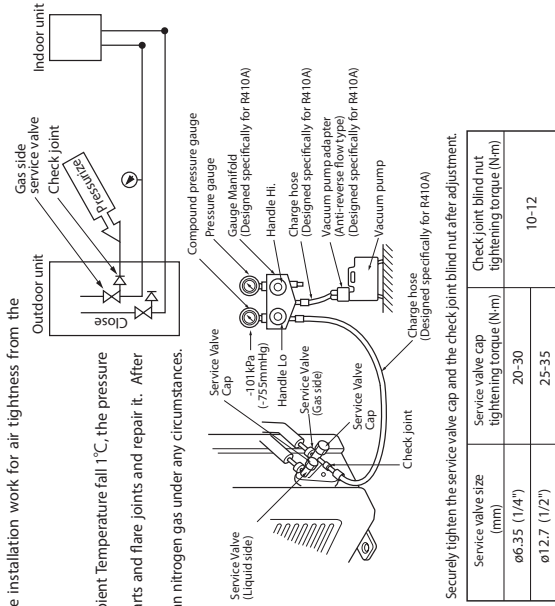
$$\text{Additional charge volume (kg)} = \{ \text{Main length (m)} - \text{Factory charged volume} \} \times 0.02 \text{ (kg/m)}$$

*When an additional charge volume calculation result is negative, it is not necessary to charge refrigerant additionally.

- For an installation measuring 1.5m/8m or shorter in pipe length, please charge the refrigerant volume charged for shipment at the factory, when you recharge refrigerant after servicing etc.

8) Heating and condensation prevention

- (1) Dress refrigerant pipes (both gas and liquid pipes) for heat insulation and prevention of dew condensation.
 - Improper heat insulation/anti-dew dressing can result in a water leak or dripping causing damage to household effects, etc.
- (2) Use a heat insulating material that can withstand 120°C or a higher temperature. Poor heat insulating capacity can cause heat insulation problems or cable deterioration.
 - All gas pipes must be securely heat insulated in order to prevent damage from dripping water that comes from the condensation formed on them during a cooling operation or personal injury from burns because their surface can reach quite a high temperature due to discharged gas flowing inside during a heating operation.
 - Wrap indoor units' flare joints with heat insulating parts (pipe cover) for heat insulation (both gas and liquid pipes).
 - Give heat insulation to both gas and liquid side pipes. Bundle a heat insulating material and a pipe tightly together so that no gaps may be left between them and wrap them together with a connecting cable by a dressing tape.
 - Both gas and liquid pipes need to be dressed with 20 mm or thicker heat insulation materials above the ceiling where relative humidity exceeds 70%.

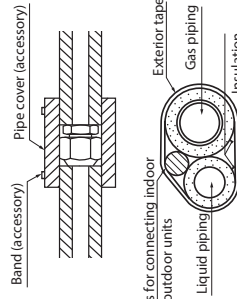


Service valve size (mm)	Service valve cap tightening torque (N·m)	Check joint blind nut tightening torque (N·m)
ø6.35 (1/4")	20-30	10-12
ø12.7 (1/2")	25-35	

(2) Charging refrigerant

- Since R410A refrigerant must be charged in the liquid phase, you should charge it, keeping the container cylinder upside down or using a refrigerant cylinder equipped with a siphon tube.
- Charge refrigerant always from the liquid side service port with the service valve shut. When you find it difficult to charge a required amount, fully open the outdoor unit valves on both liquid and gas sides and charge refrigerant from the gas (suction) side service port, while running the unit in the cooling mode. In doing so, care must be taken so that refrigerant may be discharged from the cylinder in the liquid phase all the time. When the cylinder valve is throttled down or a dedicated conversion tool to change liquid-phase refrigerant into mist is used to protect the compressor, however, adjust charge conditions so that refrigerant will gasify upon entering the unit.
- In charging refrigerant, always charge a calculated volume by using a scale to measure the charge volume.
- When refrigerant is charged with the unit being run, complete a charge operation within 30 minutes. Running the unit with an insufficient quantity of refrigerant for a long time can cause a compressor failure.

NOTE Put down the refrigerant volume calculated from the pipe length onto the caution label attached on the back side of the service panel.

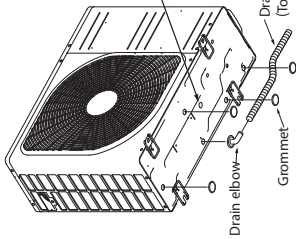


Wires for connecting indoor and outdoor units

Liquid piping

3. DRAIN PIPING WORK

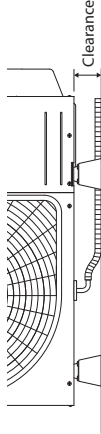
- Execute drain piping by using a drain elbow and drain grommets supplied separately as accessories, where water drained from the outdoor unit is a problem.
- Water may drip where there is a larger amount of drain water. Seal around the drain elbow and drain grommets with putty or adequate caulking material.
- Condensed water may flow out from vicinity of service valve or connected pipes.
- Where you are likely to have several days of sub-zero temperatures in a row, do not use a drain elbow and drain grommets. (There is a risk of drain water freezing inside and blocking the drain.)



CAUTION

Do not put a grommet on this hole. This is a supplementary drain hole to discharge drain water, when a large quantity of it is gathered.

○ When condensed water needs to be led to a drain, etc., install the unit on a flat base or concrete blocks.
Then, please secure space for the drain elbow and the drain hose.



4. ELECTRICAL WIRING WORK

For details of electrical cabling, refer to the indoor unit installation manual.

Electrical installation work must be performed by an electrical installation service provider qualified by a power provider of the country. Electrical installation work must be executed according to the technical standards and other regulations applicable to electrical installations in the country.

- Do not use any supply cord lighter than one specified in parentheses for each type below.
 - braided cord (code designation 60245 IEC 51).
 - ordinary tough rubber sheathed cord (code designation 60245 IEC 53)
 - flat twin tinsel cord (code designation 60227 IEC 41).
- Use polychloroprene sheathed flexible cord (code designation 60245 IEC57) for supply cords of parts of appliances for outdoor use.
- Ground the unit. Do not connect the grounding wire to a gas pipe, water pipe, lightning rod or telephone grounding wire.
- If improperly grounded, an electric shock or malfunction may result.
- A grounding wire must be connected before connecting the power cable. Provide a grounding wire longer than the power cable.
- The installation of an impulse withstanding type earth leakage breaker is necessary. A failure to install an earth leakage breaker can result in an accident such as an electric shock or a fire.
- Do not turn on the power until the electrical work is completed.
- Do not use a condensive capacitor for power factor improvement under any circumstances. (It dose not improve power factor, while it can cause an abnormal overheat accident)
- For power source cables, use conduits.
- Do not lay electronic control cables (remote control and signaling wires) and other cables together outside the unit. Laying them together can result in the malfunctioning or a failure of the unit due to electric noises.
- Fasten cables so that they may not touch the piping, etc.
- When cables are connected, make sure that all electrical components within the electrical component box are free of loose connector coupling or terminal connection and then attach the cover securely. (Improper cover attachment can result in malfunctioning or a failure of the unit, if water penetrates into the box.)
- Always use a three-core cable for an indoor-outdoor connecting cable. Never use a shield cable.

CAUTION

In case of faulty wiring connection, the indoor unit stops, and then the run lamp turns on and the timer lamp blinks.

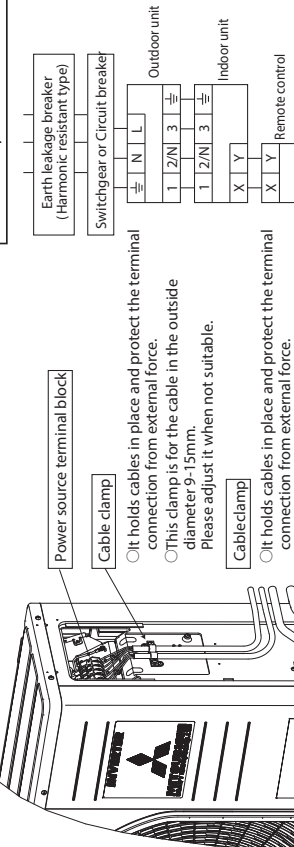
Use cables for interconnection wiring to avoid loosening of the wires. CENELEC code for cables Required field cables.

- H05RN4G1.5 (Example) or 245IEC57
- H Harmonized cable type
- 05 300/500 volts
- R Natural-and/or synth. rubber wire insulation
- N Polychloroprene rubber conductors insulation
- R Stranded core
- 4or5 Number of conductors
- G One conductor of the cable is the earth conductor (yellow/green)
- 1.5 Section of copper wire (mm²)

Main fuse specification

Specification	Part No.
250V/20A	SSA654A136A

Power cable, indoor-outdoor connecting wires



- Always perform grounding system installation work with the power cord unplugged.
- Connect a pair bearing a common terminal number with an indoor-outdoor connecting wire.
- In cabling, fasten cables securely with cable clamps so that no external force may work on terminal connections.
- Grounding terminals are provided in the control box.

Always use an earth leakage circuit breaker designed for inverter circuits to prevent a faulty operation.

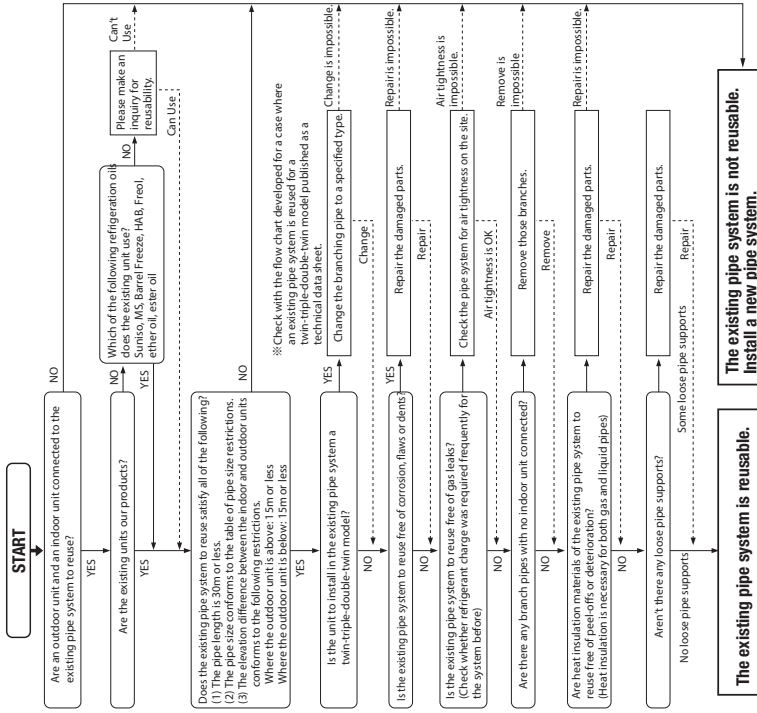
CAUTION

Phase	Earth leakage breaker	Switchgear or Circuit Breaker		Power source (minimum)	Interconnecting and grounding wires (minimum)
		Switch breaker	Over current protector rated capacity		
Single-phase	20A,30mA, 0.1 sec or less	30A	20A	2.0mm ²	1.5mm ² x4

- The specifications shown in the above table are for units without heaters. For units with heaters, refer to the installation instructions or the construction instructions of the indoor unit.
- Switchgear or Circuit breaker capacity which is calculated from MAX. over current should be chosen along the regulations in each country.
- The cable specifications are based on the assumption that a metal or plastic conduit is used with no more than three cables contained in a conduit and a voltage drop is 2%. For an installation falling outside of these conditions, please follow the internal cabling regulations. Adapt it to the regulation in effect in each country.

5. UTILIZATION OF EXISTING PIPING

Check whether an existing pipe system is reusable or not by using the following flow chart.



<Table of pipe size restrictions>

◎Standard pipe size ○Usable △Restricted to shorter pipe length limits

Indoor unit	Additional charge volume per meter of pipe		0.025kg/m		0.06kg/m	
	Pipe size	Liquid pipe	Gas pipe	Usability	Pipe size	Usability
FDT, FDEN FDU, FDUM, SRK	Maximum one-way pipe length Length covered without additional charge	◎	○	○	◎	△
		◎	○	○	◎	△
PDF	Maximum one-way pipe length Length covered without additional charge	◎	○	○	◎	△
		◎	○	○	◎	△

- Please consult with our distributor in the area, if you need to recover refrigerant and change it again.
- Any combinations of pipe sizes not listed in the table are not usable.

Formula to calculate additional charge volume

Additional charge volume (kg) = (Main pipe length (m) - Length covered without additional charge shown in the table (m)) × Additional charge volume per meter of pipe shown in the table (kg/m)

※ If you obtain a negative figure as a result of calculation, no additional refrigerant needs to be charged.

Example When FDT is installed in a 10m long existing pipe system (liquid ø9.52, gas ø12.7), the quantity of refrigerant to charge additionally should be (10m-5m) x 0.06kg/m = 0.3 kg.

WARNING

<Where the existing unit can be run for a cooling operation.>

Carry out the following steps with the existing unit. (in the order of (1), (2), (3) and (4))

- Run the unit for 30 minutes for a cooling operation.
- Stop the indoor fan and run the unit for 3 minutes for a cooling operation (returning liquid)
- Close the liquid side service valve of the outdoor unit and pump down (refrigerant recovery)
- Blow with nitrogen gas. ※ If discolored refrigeration oil or any foreign matters is discharged by the blow, wash the pipe system or install a new pipe system.

- For the flare nut, do not use the old one, but use the one supplied with the outdoor unit. Process a flare to the dimensions specified for R410A.

<Where the existing unit cannot be run for a cooling operation.>

- Wash the pipe system or install a new pipe system.
- If you choose to wash the pipe system, please contact our distributor in the area.

INSTALLATION TEST CHECK POINTS

Check the following points again after completion of the installation, and before turning on the power. Conduct a test run again and ensure that the unit operates properly. Explain to the customer how to use the unit and how to take care of the unit following the instruction manual.

After installation

- Power cables and connecting wires are securely fixed to the terminal block.
- The power source voltage is correct as the rating.
- The drain hose is fixed securely.
- Service valve is fully open.
- No gas leaks from the joints of the service valve and joint.
- The pipe joints for indoor and outdoor pipes have been insulated.
- The reverse flow check cap is attached.
- The cover of the pipe cover (A) faces downward to prevent rain from entering.
- Gaps are properly sealed between the pipe covers (A) (B) and the wall surface / pipes.
- The screw of the side cover is tightened securely.





(2) Model FDC90VNP1

PSC012D054 

R410A REFRIGERANT USED

- This installation manual deals with outdoor units and general installation specifications only. For indoor units, refer to page 122.
- When install the unit, be sure to check whether the selection of installation place, power source specifications, usage limitation (piping length, height differences between indoor and outdoor units, power source voltage and etc.) and installation spaces.

SAFETY PRECAUTIONS

- Read the "SAFETY PRECAUTIONS" carefully first of all and strictly follow it during the installation work in order to protect yourself.
 - The precautionary items mentioned below are distinguished into two levels.  **WARNING** and  **CAUTION**.
 -  **WARNING** : Wrong installation would cause serious consequences such as injuries or death.
 -  **CAUTION** : Wrong installation might cause serious consequences depending on circumstances.
- Both mentions the important items to protect your health and safety so strictly follow them by any means.
- Be sure to confirm no anomaly on the equipment by commissioning after completed installation and explain the operating methods as well as the maintenance methods of this equipment to the user according to the owner's manual.

 Never do it under any circumstances.  Always do it according to the instruction.

 **WARNING**

- If the refrigerant comes into contact with naked flames, poisonous gas is produced.
- **Use the prescribed pipes, flare nuts and tools for R410A.**
Using existing parts (for R22 or R407C) can cause the unit failure and serious accidents due to burst of the refrigerant circuit.
 - **Tighten the flare nut by torque wrench with specified method.**
If the flare nut were tightened with excess torque, this may cause burst and refrigerant leakage after a long period.
 - **Do not open the operation valves for liquid line and gas line until completed refrigerant piping work, air tightness test and evacuation.**
If the compressor is operated in state of opening operation valves before completed connection of refrigerant piping work, air can be sucked into refrigerant circuit, which can cause burst or personal injury due to anomalously high pressure in the refrigerant.
 - **The electrical installation must be carried out by the qualified electrician in accordance with "the norm for electrical work" and "national wiring regulation", and the system must be connected to the dedicated circuit.**
Power source with insufficient capacity and incorrect function done by improper work can cause electric shocks and fire.
 - **Be sure to shut off the power before starting electrical work.**
Failure to shut off the power can cause electric shocks, unit failure or incorrect function of equipment.
 - **Be sure to use the cables conformed to safety standard and cable ampacity for power distribution work.**
Unconformable cables can cause electric leak, anomalous heat production or fire.
 - **This appliance must be connected to main power source by means of a circuit breaker or switch (fuse:20A) with a contact separation of at least 3mm.**
 - **Arrange the wiring in the control box so that it cannot be pushed up further into the box. Install the service panel correctly.**
- If you install the system by yourself, it can cause serious trouble such as water leaks, electric shocks, fire.
- **Earth leakage breaker must be installed.**
If the earth leakage breaker is not installed, it can cause electric shocks.
 - **Appliance is not to be used by children or persons with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction.**
Children being supervised not to play with appliance.
- If the density of refrigerant exceeds the limit, please consult the dealer and install the ventilation system, otherwise lack of oxygen can occur, which can cause serious accident.
- **Use the original accessories and the specified components for installation.**
If parts other than those prescribed by us are used, it may cause water leaks, electric shocks, fire and personal injury.
 - **Install the unit in a location with good support.**
Unsuitable installation locations can cause the unit to fall and cause material damage and personal injury.
 - **Ensure the unit is stable when installed, so that it can withstand earthquakes and strong winds.**
Unsuitable installation locations can cause the unit to fall and cause material damage and personal injury.
 - **Ventilate the working area well in the event of refrigerant leakage during installation.**
- If air enters in the refrigerant circuit, the pressure in the refrigerant circuit becomes too high, which can cause burst and personal injury.
- **Do not processing, splice the power cord, or share a socket with other power plugs.**
This may cause fire or electric shock due to defecting contact, defecting insulation and over-current etc.
- Incorrect installation may result in overheating and fire.
- **Use the prescribed cables for electrical connection, tighten the cables securely in terminal block and relieve the cables correctly to prevent overloading the terminal blocks.**
Loose connections or cable mountings can cause anomalous heat production or fire.
 - **Be sure to fix up the service panels.**
Incorrect fixing can cause electric shocks or fire due to intrusion of dust or water.
 - **Be sure to switch off the power source in the event of installation, inspection or servicing.**
If the power source is not shut off, there is a risk of electric shocks, unit failure or personal injury due to the unexpected start of fan.
 - **Stop the compressor before removing the pipe after shutting the service valve on pump down work.**
If the pipe is removed when the compressor is in operation with the service valve open, air would be mixed in the refrigeration circuit and it could cause explosion and injuries due to abnormal high pressure in the cooling cycle.
 - **Only use prescribed option parts. The installation must be carried out by the qualified installer.**

- **Do not perform any change of protective device itself or its setup condition.**
The forced operation by short-circuiting protective device or pressure switch and temperature control or the use of non specified component can cause fire or burst.

CAUTION

	<ul style="list-style-type: none"> ● Carry out the electrical work for ground lead with care. Do not connect the ground lead to the gas line, water line, lightning conductor or telephone line's ground lead. Incorrect grounding can cause unit faults such as electric shocks due to short-circuiting.
	<ul style="list-style-type: none"> ● Use the circuit breaker for all pole correct capacity. Circuit breaker should be the one that disconnect all poles under over current. Using the incorrect circuit breaker, it can cause the unit malfunction and fire. ● Install isolator or disconnect switch on the power source wiring in accordance with the local codes and regulations. The isolator should be locked in OFF state in accordance with EN60204-1. ● After maintenance, all wiring, wiring ties and the like, should be returned to their original state and wiring route, and the necessary clearance from all metal parts should be secured. ● Secure a space for installation, inspection and maintenance specified in the manual. Insufficient space can result in accident such as personal injury due to falling from the installation place.
	<ul style="list-style-type: none"> ● Do not install the unit in the locations listed below. <ul style="list-style-type: none"> ● Locations where carbon fiber, metal powder or any powder is floating. ● Locations where any substances that can affect the unit such as sulphide gas, chloride gas, acid and alkaline can occur. ● Vehicles and ships. ● Locations where cosmetic or special sprays are often used. ● Locations with direct exposure of oil mist and steam such as kitchen and machine plant. ● Locations where any machines which generate high frequency harmonics are used. ● Locations with salty atmospheres such as coastlines. ● Locations with heavy snow (if installed, be sure to provide base flame and snow hood mentioned in the manual). ● Locations where the unit is exposed to chimney smoke. ● Locations at high altitude (more than 1000m high). ● Locations with ammoniac atmospheres. (e.g. organic fertilizer) ● Locations with calcium chloride (e.g. snow melting agent) ● Locations where heat radiation from other heat source can affect the unit. ● Locations without good air circulation. ● Locations with any obstacles which can prevent inlet and outlet air of the unit. ● Locations where short circuit of air can occur (in case of multiple units installation). ● Locations where strong air blows against the air outlet of outdoor unit. ● Locations where something located above the unit could fall. It can cause remarkable decrease in performance, corrosion and damage of components, malfunction and fire.

Notabilia as a unit designed for R410A

- Do not use any refrigerant other than R410A. R410A will rise to pressure about 1.6 times higher than that of a conventional refrigerant.
- A cylinder containing R410A has a pink indication mark on the top.
- A unit designed for R410A has adopted a different size indoor unit operation valve charge port and a different size check joint provided in the unit to prevent the charging of a wrong refrigerant by mistake. The processed dimension of the flared part of a refrigerant pipe and a flare nut's parallel side measurement have also been altered to raise strength against pressure.
- Accordingly, you are required to arrange dedicated R410A tools listed in the table on the left before installing or servicing this unit.
- In charging refrigerant, always take it out from a cylinder in the liquid phase.
- All indoor units must be models designed exclusively for R410A. Check connectable indoor unit models in a catalog, etc. (A wrong indoor unit, if connected into the system, will impair proper system operation.)

Check before installation work

- Model name and power source
- Refrigerant piping length
- Piping, wiring and miscellaneous small parts
- Indoor unit installation manual

Accessories for outdoor unit	Qty
① Grommet (Heat pump type only)	2
② Drain elbow (Heat pump type only)	1
③ Reducer set ø9.52 → ø6.35	1

Option parts	Qty
Ⓐ Sealing plate	1
Ⓑ Sleeve	1
Ⓒ Inclination plate	1
Ⓓ Putty	1
Ⓔ Drain hose (extension hose)	1
Ⓕ Piping cover (for insulation of connection piping)	1

Necessary tools for the installation work	
1 Plus headed driver	
2 Knife	
3 Saw	
4 Tape measure	
5 Hammer	
6 Spanner wrench	
7 Torque wrench [14.0-82.0N·m (1.4-8.2kgf·m)]	
8 Hole core drill (65mm in diameter)	
9 Wrench key (Hexagon) [4mm]	
10 Vacuum pump	
11 Vacuum pump adapter (Anti-reverse flow type) (Designed specifically for R410A)	
12 Gauge manifold (Designed specifically for R410A)	
13 Charge hose (Designed specifically for R410A)	
14 Flaring tool set (Designed specifically for R410A)	
15 Gas leak detector (Designed specifically for R410A)	
16 Gauge for projection adjustment (Used when flare is made by using conventional flare tool)	

- **When perform the air-conditioner operation (cooling or drying operation) in which ventilator is installed in the room. In this case, using the air-conditioner in parallel with the ventilator, there is the possibility that drain water may backflow in accordance with the room lapse into the negative pressure status. Therefore, set up the opening port such as incorporate the air into the room that may appropriate to ventilation (For example; Open the door a little). In addition, just as above, so set up the opening port if the room lapse into negative pressure status due to register of the wind for the high rise apartment etc.**
- **Do not install the outdoor unit in a location where insects and small animals can inhabit.**
Insects and small animals can enter the electric parts and cause damage or fire. Instruct the user to keep the surroundings clean.
- **Do not use the base flame for outdoor unit which is corroded or damaged due to long periods of operation.**
Using an old and damage base flame can cause the unit falling down and cause personal injury.
- **Do not use any materials other than a fuse with the correct rating in the location where fuses are to be used.**
Connecting the circuit with copper wire or other metal thread can cause unit failure or fire.
- **Do not touch any buttons with wet hands.**
It can cause electric shocks.
- **Do not touch any refrigerant pipes with your hands when the system is in operation.**
During operation the refrigerant pipes become extremely hot or extremely cold depending the operating condition, and it can cause burn injury or frost injury.
- **Do not touch the suction or aluminum fin on the outdoor unit.**
This may cause injury.
- **Do not put anything on the outdoor unit and operating unit.**
This may cause damage the objects or injury due to falling to the object.
- **Do not use the unit for special purposes such as storing foods, cooling precision instruments and preservation of animals, plants or art.**
Do not clean up the unit with water.

- **Take care when carrying the unit by hand.**
If the unit weights more than 20kg, it must be carried by two or more persons. Do not carry by the plastic straps, always use the carry handle when carrying the unit by hand. Use gloves to minimize the risk of cuts by the aluminum fins.
- **Dispose of any packing materials correctly.**
Any remaining packing materials can cause personal injury as it contains nails and wood. And to avoid danger of suffocation, be sure to keep the plastic wrapper away from children and to dispose after tear it up.
- **Be sure to insulate the refrigerant pipes so as not to condense the ambient air moisture on them.**
Insufficient insulation can cause condensation, which can lead to moisture damage on the ceiling, floor, furniture and any other valuables.
- **Do not install the outdoor unit in the locations listed below.**
 - Locations where discharged hot air or operating sound of the outdoor unit can bother neighborhood.
 - Locations where outlet air of the outdoor unit blows directly to an animal or plants. The outlet air can affect adversely to the plant etc.
 - Locations where vibration can be amplified and transmitted due to insufficient strength of structure.
 - Locations where vibration and operation sound generated by the outdoor unit can affect seriously (on the wall or at the place near bed room).
 - Locations where an equipment affected by high harmonics is placed (TV set or radio receiver is placed within 5m).
 - Locations where drainage cannot run off safely.
 - It can affect surrounding environment and cause a claim.
- **Do not install the unit near the location where leakage of combustible gases can occur.**
If leaked gases accumulate around the unit, it can cause fire.
- **Do not install the unit where corrosive gas (such as sulfuric acid gas etc.) or combustible gas (such as thinner and petroleum gases) can accumulate or collect, or where volatile combustible substances are handled.**
Corrosive gas can cause corrosion of heat exchanger, breakage of plastic parts and etc. And combustible gas can cause fire.
- **Do not install nor use the system close to the equipment that generates electromagnetic fields or high frequency harmonics.**
Equipment such as inverters, standby generators, medical high frequency equipments and telecommunication equipments can affect the system, and cause malfunctions and breakdowns. The system can also affect medical equipment and telecommunication equipment, and obstruct its function or cause jamming.

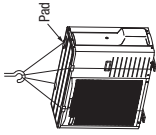
1. HAULAGE AND INSTALLATION (Take particular care in carrying in or moving the unit, and always perform such an operation with two or more persons.)

CAUTION

When a unit is hoisted with slings for haulage, take into consideration the offset of its gravity center position. If not properly balanced, the unit can be thrown off-balance and fall.

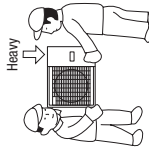
1) Delivery

- Deliver the unit as close as possible to the installation site before removing it from the packaging.
- When you have to unpack the unit for a compelling reason before you haul it to the installation point, hoist the unit with nylon slings or ropes and protection pads so that you may not damage the unit.



2) Portage

- The right hand side of the unit as viewed from the front (diffuser side) is heavier. A person carrying the right hand side must take heed of this fact. A person carrying the left hand side must hold with his right hand the handle provided on the front panel of the unit and with his left hand the corner column section.

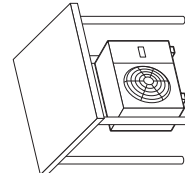
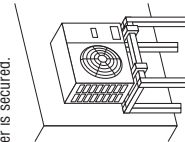


3) Selection of installation location for the outdoor unit

- Be sure to select a suitable installation place in consideration of following conditions.
- A place where it is horizontal, stable and can endure the unit weight and will not allow vibration transmittance of the unit.
 - A place where it can be free from possibility of bothering neighbors due to noise or exhaust air from the unit.
 - A place where the unit is not exposed to oil splashes.
 - A place where it can be free from danger of flammable gas leakage.
 - A place where drain water can be disposed without any trouble.
 - A place where the unit will not be affected by heat radiation from other heat source.
 - A place where the unit can be kept away 5m or more from TV set and/or radio receiver in order to avoid any radio or TV interference.
 - A place where good air circulation can be secured, and enough service space can be secured for maintenance and service of the unit safely.
 - A place where the unit will not be affected by electromagnetic waves and/or high-harmonic waves generated by other equipment.
 - A place where chemical substances like sulfuric gas, chloric gas, acid and alkali (including ammonia), which can harm the unit, will not be generated and not remain.
 - If a operation is conducted when the outdoor air temperature is -5°C lower, the outdoor unit should be installed at a place where it is not influenced by natural wind.
 - A place where strong wind will not blow against the outlet air blow of the unit.
- Do not install the unit in places which exposed to sea breeze (e.g. coastal area) or calcium chloride (e.g. snow melting agent), exposed to ammonia substance (e.g. organic fertilizer).

4) Caution about selection of installation location

- (1) If the unit is installed in the area where the snow will accumulate, following measures are required.
 - The bottom plate of unit and intake, outlet may be blocked by snow.
- 1 Install the unit on the base so that the bottom is higher than snow cover surface, and draining water is secured.
- 2 Provide a snow hood to the outdoor unit on site.
- 3 Install the unit under eaves or provide the roof on site.

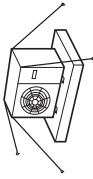
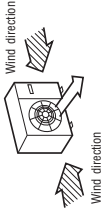
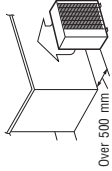


Since drain water generated by defrost control may freeze, following measures are required.

- Don't execute drain piping work by using a drain elbow and drain grommets (accessories). [Refer to DRAIN PIPING WORK.]
- Attached heater on a base plate on site, if there is possibility to freeze drain water. In case that the product has a corrective drainage system, the drainage paths should have suitable threatment against freezing but be sure not to melt the material or drainage paths with heat.

- (2) If the unit can be affected by strong wind, following measures are required. Strong wind can cause damage of fan (fan motor), or can cause performance degradation, or can trigger anomalous stop of the unit due to rising of high pressure.

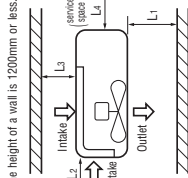
1. Install the outlet air blow side of the unit to face a wall of building, or provide a fence or a windbreak screen.
2. Install the outlet air blow side of the unit in a position perpendicular to the direction of wind.
3. The unit should be installed on the stable and level foundation. If the foundation is not level, the down the unit with wires.



5) Installation space

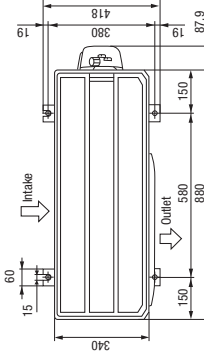
- Walls surrounding the unit in the four sides are not acceptable.
- There must be a 1-meter or larger space in the above.
- When more than one unit are installed side by side, provide a 250mm or wider interval between them as a service space. In order to facilitate servicing of controls, please provide a sufficient space between units so that their top plates can be removed easily.
- Where a danger of short-circuiting exists, install guide ladders.
- When more than one unit are installed, provide sufficient intake space consciously so that short-circuiting may not occur.
- Where piling snow can bury the outdoor unit, provide proper snow guards.

Size	I	II	III
L1	Open	Open	500
L2	300	250	Open
L3	100	150	100
L4	250	250	250



6) Installation

- ① Anchor bolt fixed position
 - Fasten with bolts (M10-12)
 - Use a long block to extend the width.
 - Use a thicker block to anchor deeper.
- ② Notabilia for installation



- In installing the unit, fix the unit's legs with bolts specified on the above.
- The protrusion of an anchor bolt on the front side must be kept within 15 mm.
- Securely install the unit so that it does not fall over during earthquakes or strong winds, etc.
- Refer to the above illustrations for information regarding concrete foundations.
- Install the unit in a level area. (With a gradient of 5 mm or less.)

7) To run the unit for a cooling operation, when the outdoor temperature is -5°C or lower.

- When the outdoor air temperature is -5°C or lower, provide a snow hood to the outdoor unit on site. So that strong wind will not blow against the outdoor heat exchanger directly.

2. REFRIGERANT PIPING WORK

1) Restrictions on unit installation and use

- Check the following points in light of the indoor unit specifications and the installation site.
- Observe the following restrictions on unit installation and use. Improper installation can result in a compressor failure or performance degradation.

Restrictions	Dimensional restrictions		Marks appearing in the drawing on the right
	FDT, FDE, FDU, FDUIM, FDF	Main pipe length	
Indoor unit	30m or less	L	
Elevation difference between indoor and outdoor units	When the outdoor unit is positioned higher 20m or less	H	
	When the outdoor unit is positioned lower 20m or less	H	
		H	

- The use restrictions appearing in the table above are applicable to the standard pipe size combinations shown in the table below. Where an existing pipe system is utilized, different one-way pipe length restrictions should apply depending on its pipe size. For more information, please see '5. UTILIZATION OF EXISTING PIPING.'

2) Determination of pipe size

- Determine refrigerant pipe size pursuant to the following guidelines based on the indoor unit specifications.

	Gas pipe	Liquid pipe
Outdoor unit connected	ø15.88 Flare	ø6.35 Flare
Refrigerant piping (branch pipe)	ø15.88	ø6.35
Indoor unit connected	ø15.88	ø9.52

3) Refrigerant pipe wall thickness and material

- Select refrigerant pipes of the table shown on the right wall thickness and material as specified for each pipe size.

NOTE ● Select pipes having a wall thickness larger than the specified minimum pipe thickness.

Pipe diameter [mm]	ø6.35	ø15.88
Minimum pipe wall thickness [mm]	0.8	1.0
Pipe material*	O-type pipe	O-type pipe

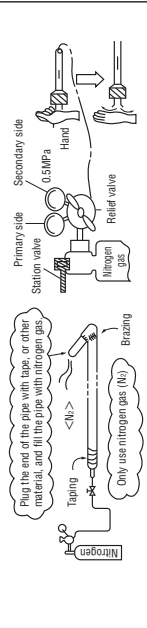
* Phosphorus deoxidized seamless copper pipe ICS 23.040.15, ICS 77.150.30

When pipe is brazing.

About brazing

Brazing must be performed under a nitrogen gas flow.

Without nitrogen gas, a large quantity of foreign matters (oxidized film) are created, causing a critical failure from capillary tube or expansion valve clogging. If the refrigerant is existing in the pipe at brazing, poisonous gas is produced.



4) On-site piping work

- Take care so that installed pipes may not touch components within a unit. If touching with an internal component, it will generate abnormal sounds and/or vibrations.

IMPORTANT

- Regarding the change in the size of liquid pipe:

Use the reducer at indoor unit side. Reducer set is available in the outdoor unit as accessory.

How to remove the side cover

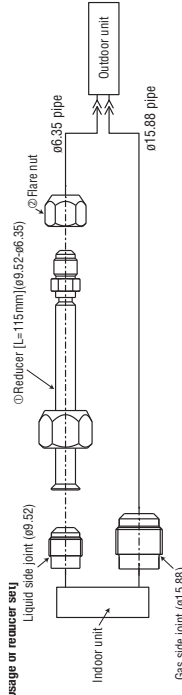
Please remove the screw of a side cover and remove to the front.

- Carry out the on site piping work with the operation valve fully closed.
- Give sufficient protection to a pipe end (compressed and blazed, or with an adhesive tape) so that water or foreign matters may not enter the piping.
- Bend a pipe to a radius as large as practical (R100-R150). Do not bend a pipe repeatedly to correct its form.
- Flare connection is used between the unit and refrigerant pipe. Flare a pipe after engaging a flare nut onto it. Flare dimensions for R410A are different from those for conventional R407C. Although we recommend the use of flaring tools designed specifically for R410A, conventional flaring tools can also be used by adjusting the measurement of protrusion B with a protrusion control gauge.
- The pipe should be anchored every 1.5m or less to isolate the vibration.
- Tighten a flare joint securely with a double spanner.

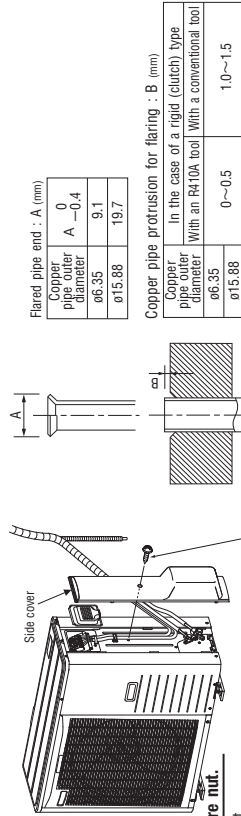
CAUTION

- Do not apply force beyond proper fastening torque in tightening the flare nut. Fix both liquid and gas service valves at the valve main bodies as illustrated on the right, and then fasten them, applying appropriate fastening torque.

Service valve size (mm)	Tightening torque (N·m)	Tightening angle (°)	Recommended length of a tool handle (mm)
ø6.35	14-18	45-60	150
ø9.52	34-42	30-45	200
ø12.7	49-61	30-45	250
ø15.88	68-82	15-20	300



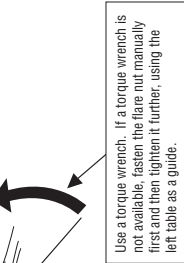
Reducer set (①, ②) is included in the outdoor unit as accessory



Flared pipe end : A (mm)	
Copper pipe outer diameter	A
ø6.35	0~0.4
ø6.35	9.1
ø15.88	19.7

Copper pipe protrusion for flaring : B (mm)	
Copper pipe outer diameter	B
ø6.35	0~0.5
ø15.88	1.0~1.5

In the case of a rigid (clutch) type With an R410A tool With a conventional tool



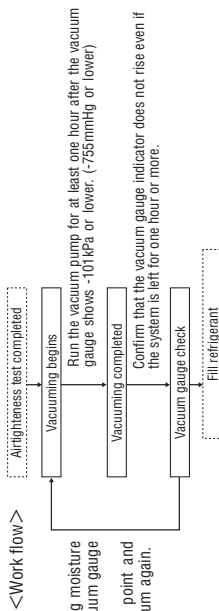
The screw of the side cover is tightened securely.

Do not hold the valve cap area with a spanner.

5) Air tightness test

- ① Although outdoor and indoor units themselves have been tested for air tightness at the factory, check the connecting pipes after the installation work for air tightness from the service valve's check joint equipped on the outdoor unit side. While conducting a test, keep the service valve shut all the time.
 - a) Raise the pressure to 0.5 MPa, and then stop. Leave it for five minutes to see if the pressure drops.
 - b) Then raise the pressure to 1.5 MPa, and stop. Leave it for five more minutes to see if the pressure drops.
 - c) If no pressure drop is observed with an installation pressurized to the specified level and left for about one day, it is acceptable. When the ambient temperature fall 1°C, the pressure also fall approximately 0.01 MPa. The pressure, if changed, should be compensated for.
 - e) If a pressure drop is observed in checking e) and a) - d), a leak exists somewhere. Find a leak by applying bubble test liquid to welded parts and flare joints and repair it. After repair, conduct an air-tightness test again.
- ② In conducting an air-tightness test, use nitrogen gas and pressurize the system with nitrogen gas from the gas side. Do not use a medium other than nitrogen gas under any circumstances.

6) Evacuation



When the system has remaining moisture inside or a leaky point, the vacuum gauge indicator will rise. Check the system for a leaky point and then draw air to create a vacuum again.

7) Additional refrigerant charge

- (1) Calculate a required refrigerant charge volume from the following table.
 - To prevent a different oil from entering, assign dedicated tools, etc. to each refrigerant type. Under no circumstances must a gauge manifold and a charge hose in particular be shared with other refrigerant types (R22, R407C, etc.)
 - Use a counterflow prevention adapter to prevent vacuum pump oil from entering the refrigerant system.

Indoor unit	Additional charge volume (kg) per meter of refrigerant piping (liquid pipe ø6.35)	Refrigerant volume charged for shipment at the factory (kg)	Installation's pipe length (m) covered without additional refrigerant charge
FDT, FDE, FDU, FDUIM	0.025	2.1	15
FDE	0.025	2.1	8

- This unit contains factory charged refrigerant covering 15m/8m of refrigerant piping and additional refrigerant charge on the installation site is not required for an installation with up to 15m/8m refrigerant piping. When refrigerant piping exceeds 15m/8m, additionally charge an amount calculated from the pipe length and the above table for the portion in excess of 15m/8m.
- If an existing pipe system is used, a required refrigerant charge volume will vary depending on the liquid pipe size. For further information, please see "5. UTILIZATION OF EXISTING PIPING."

Formula to calculate the volume of additional refrigerant required

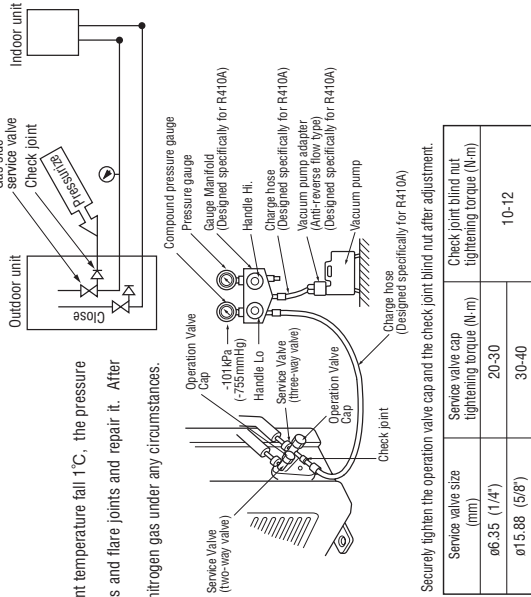
$$\text{Additional charge volume (kg)} = (\text{Main length (m)} - \text{Factory charged volume}) \times 0.025 \text{ (kg/m)}$$

*When an additional charge volume calculation result is negative, it is not necessary to charge refrigerant additionally.

- For an installation measuring 15m/8m or shorter in pipe length, please charge the refrigerant volume charged for shipment at the factory, when you recharge refrigerant after servicing etc.

8) Heating and condensation prevention

- (1) Dress refrigerant pipes (both gas and liquid pipes) for heat insulation and prevention of dew condensation.
 - Improper heat insulation/anti-dew dressing can result in a water leak or dripping causing damage to household effects, etc.
- (2) Use a heat insulating material that can withstand 120°C or a higher temperature. Poor heat insulating capacity can cause heat insulation problems or cable deterioration.
 - All gas pipes must be securely heat insulated in order to prevent damage from dripping water that comes from the condensation formed on them during a cooling operation or personal injury from burns because their surface can reach quite a high temperature due to discharged gas flowing inside during a heating operation.
 - Wrap indoor units' flare joints with heat insulating parts (pipe cover) for heat insulation (both gas and liquid pipes).
 - Give heat insulation to both gas and liquid side pipes. Bundle a heat insulating material and a pipe tightly together so that no gaps may be left between them and wrap them together with a connecting cable by a dressing tape.
 - **Both gas and liquid pipes need to be dressed with 20 mm or thicker heat insulation materials above the ceiling where relative humidity exceeds 70%.**

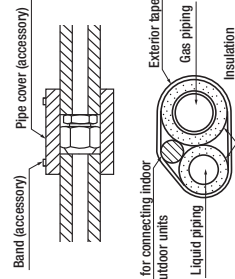


Service valve size (mm)	Service valve cap tightening torque (N·m)	Check joint blind nut tightening torque (N·m)
ø6.35 (1/4")	20-30	10-12
ø15.88 (5/8")	30-40	

(2) Charging refrigerant

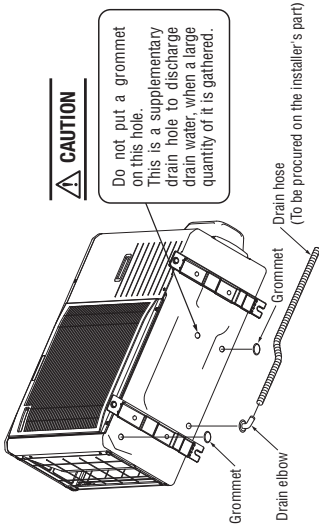
- Since R410A refrigerant must be charged in the liquid phase, you should charge it, keeping the container cylinder upside down or using a refrigerant cylinder equipped with a siphon tube.
- Charge refrigerant always from the liquid side service port with the service valve shut. When you find it difficult to charge a required amount, fully open the outdoor unit valves on both liquid and gas sides and charge refrigerant from the gas (suction) side service port, while running the unit in the cooling mode. In doing so, care must be taken so that refrigerant may be discharged from the cylinder in the liquid phase all the time. When the cylinder valve is throttled down or a dedicated conversion tool to change liquid-phase refrigerant into mist is used to protect the compressor, however, adjust charge conditions so that refrigerant will gasify upon entering the unit.
- In charging refrigerant, always charge a calculated volume by using a scale to measure the charge volume. Running the unit with an insufficient quantity of refrigerant for a long time can cause a compressor failure.

NOTE Put down the refrigerant volume calculated from the pipe length onto the caution label attached on the back side of the service panel.



3. DRAIN PIPING WORK

- Execute drain piping by using a drain elbow and drain grommets supplied separately as accessories, where water drained from the outdoor unit is a problem.
- Water may drip where there is a larger amount of drain water. Seal around the drain elbow and drain grommets with putty or adequate caulking material.
- Condensed water may flow out from vicinity of operation valve or connected pipes.
- Where you are likely to have several days of sub-zero temperatures in a row, do not use a drain elbow and drain grommets. (There is a risk of drain water freezing inside and blocking the drain.)



- When condensed water needs to be led to a drain, etc., install the unit on a flat base or concrete blocks. Then, please secure space for the drain elbow and the drain hose.



4. ELECTRICAL WIRING WORK

For details of electrical cabling, refer to the indoor unit installation manual.

Electrical installation work must be performed by an electrical installation service provider, qualified by a power provider of the country. Electrical installation work must be executed according to the technical standards and other regulations applicable to electrical installations in the country.

- Do not use any supply cord lighter than one specified in parentheses for each type below.
 - braided cord (code designation 60245 IEC 51).
 - ordinary tough rubber sheathed cord (code designation 60227 IEC 41).
 - flat twin tinsel cord (code designation 60227 IEC 41).
- Use polychloroprene sheathed flexible cord (code designation 60245 IEC57) for supply cords of parts of appliances for outdoor use.
- Ground the unit. Do not connect the grounding wire to a gas pipe, water pipe, lightning rod or telephone grounding wire.
- If improper grounded, an electric shock or malfunction may result.
- A grounding wire must be connected before connecting the power cable. Provide a grounding wire longer than the power cable.
- The installation of an impulse withstanding type earth leakage breaker is necessary. A failure to install an earth leakage breaker can result in an accident such as an electric shock or a fire.
- Do not turn on the power until the electrical work is completed.
- Do not use a condensive capacitor for power factor improvement under any circumstances. (It does not improve power factor, while it can cause an abnormal overheat accident)
- For power source cables, use conduits.
- Do not lay electronic control cables (remote control and signaling wires) and other cables together outside the unit. Laying them together can result in the malfunctioning or a failure of the unit due to electric noises.
- Fasten cables so that may not touch the piping, etc.
- When cables are connected, make sure that all electrical components within the electrical component box are free of loose connector coupling or terminal connection and then attach the cover securely. (Improper cover attachment can result in malfunctioning or a failure of the unit, if water penetrates into the box.)
- Always use a three-core cable for an indoor-outdoor connecting cable. Never use a shield cable.

CAUTION

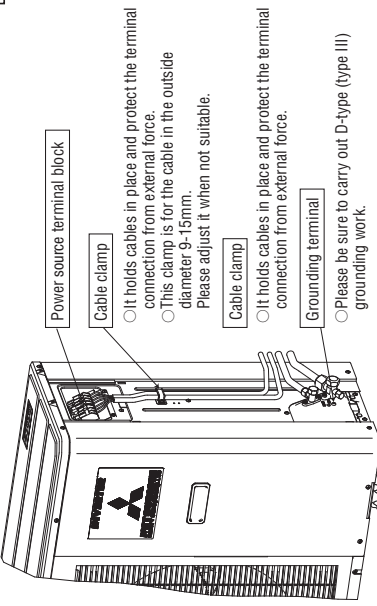
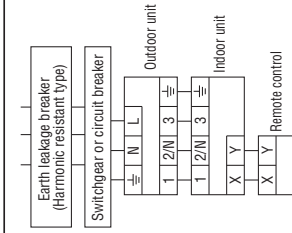
In case of faulty wiring connection, the indoor unit stops, and then the run lamp turns on and the timer lamp blinks.

Use cables for interconnection wiring to avoid loosening of the wires.
 CENELEC code for cables Required field cables.
 H05RN4G1.5 (Example) or 245IEC57
 H Harmonized cable type
 05 300/500 volts
 R Natural-and/or synth. rubber wire insulation
 N Polychloroprene rubber conductors insulation
 R Stranded core
 4or5 Number of conductors
 G One conductor of the cable is the earth conductor (yellow/green)
 1.5 Section of copper wire (mm²)

Main fuse specification

Specification	Part No.
250V 20A	SSA564A136A

Power cable, indoor-outdoor connecting wires



- Always perform grounding system installation work with the power cable unplugged.
- Connect a pair bearing a common terminal number with an indoor-outdoor connecting wire.
- In cabling, fasten cables securely with cable clamps so that no external force may work on terminal connections.
- Grounding terminals are provided in the control box.

Always use an earth leakage circuit breaker designed for inverter circuits to prevent a faulty operation.

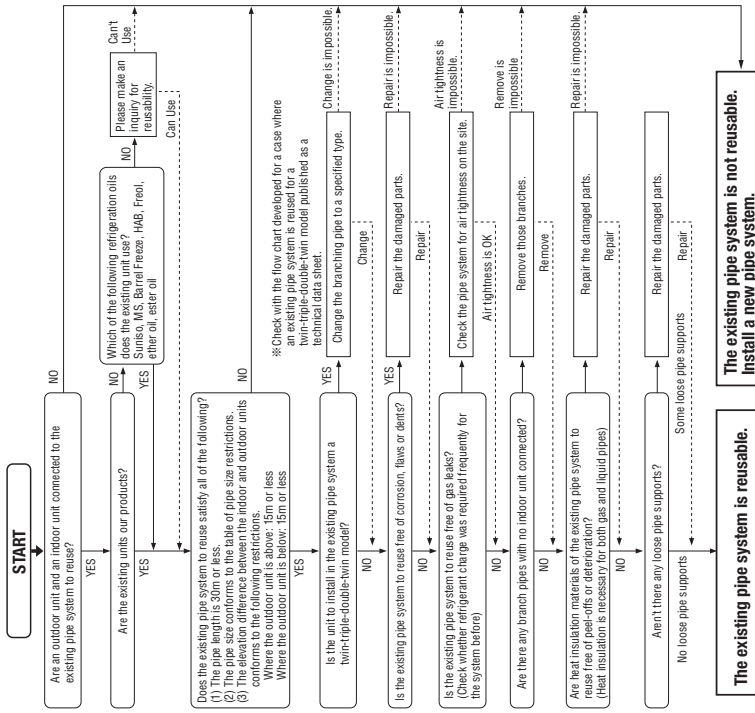
CAUTION

Phase	Earth leakage breaker	Switchgear or circuit breaker		Interconnecting and grounding wires (minimum)
		Switch breaker	Over current protector rated capacity	
Single-phase	20A, 30mA, 0.1sec or less	30A	20A	2.5 mm ² 1.5 mm ² × 4

- The specifications shown in the above table are for units without heaters. For units with heaters, refer to the installation instructions or the construction instructions of the indoor unit.
- Switchgear or circuit breaker capacity which is calculated from MAX. over current should be chosen along the regulations in each country.
- The cable specifications are based on the assumption that a metal or p plastic conduit is used with no more than three cables contained in a conduit and a voltage drop is 2%. For an installation falling outside of these conditions, please follow the internal cabling regulations. Adapt it to the regulation in effect in each country.

5. UTILIZATION OF EXISTING PIPING

Check whether an existing pipe system is reusable or not by using the following flow chart.



<Table of pipe size restrictions>

◎:Standard pipe size ○:Usable △:Restricted to shorter pipe length limits

Indoor unit	Additional charge volume per meter of pipe		0.025kg/m	0.06kg/m
	Liquid pipe	Gas pipe		
FDT, FDE FDU, FDUM	Pipe size	φ6.35	φ9.52	φ9.52
	Usability	◎	△	△
FDF	Maximum one-way pipe length	30	12	12
	Length covered without additional charge	15	6	6
FDF	Usability	◎	△	△
	Maximum one-way pipe length	23	10	10
FDF	Length covered without additional charge	8	3	3

- Please consult with our distributor in the area, if you need to recover refrigerant and charge it again.
- Any combinations of pipe sizes not listed in the table are not usable.

Formula to calculate additional charge volume

Additional charge volume (kg) = (Main pipe length (m) - Length covered without additional charge shown in the table (m)) × Additional charge volume per meter of pipe shown in the table (kg/m)

※ If you obtain a negative figure as a result of calculation, no additional refrigerant needs to be charged.

Example) When FDT is installed in a 10m long existing pipe system (liquid φ9.52, gas φ12.7), the quantity of refrigerant to charge additionally should be (10m-6m) × 0.06kg/m = 0.24 kg.

WARNING

<Where the existing unit can be run for a cooling operation.>

Carry out the following steps with the existing unit (in the order of (1), (2), (3) and (4))

- Run the unit for 30 minutes for a cooling operation.
- Stop the indoor fan and run the unit for 3 minutes for a cooling operation (returning liquid)
- Close the liquid side operation valve of the outdoor unit and pump down (refrigerant recovery)
- Blow with nitrogen gas. ※ If discolored refrigeration oil or any foreign matters is discharged by the blow, wash the pipe system or install a new pipe system.
 - For the flare nut, do not use the old one, but use the one supplied with the outdoor unit. Process a flare to the dimensions specified for R410A.

<Where the existing unit cannot be run for a cooling operation.>

- Wash the pipe system or install a new pipe system.
- If you choose to wash the pipe system, please contact our distributor in the area.

INSTALLATION TEST CHECK POINTS

Check the following points again after completion of the installation, and before turning on the power. Conduct a test run again and ensure that the unit operates properly. Explain to the customer how to use the unit and how to take care of the unit following the instruction manual.

After installation

- Power cables and connecting wires are securely fixed to the terminal block.
- The power source voltage is correct as the rating.
- The drain hose is fixed securely.
- Service valve is fully open.
- No gas leaks from the joints of the service valve and joint.
- The pipe joints for indoor and outdoor pipes have been insulated.
- The reverse flow check cap is attached.
- The cover of the pipe cover (A) faces downward to prevent rain from entering.
- Gaps are properly sealed between the pipe covers (A) (B) and the wall surface / pipes.
- The screw of the side cover is tightened securely.

(3) Model FDC100VNP

PSC012D055

R410A REFRIGERANT USED

- This installation manual deals with outdoor units and general installation specifications only. For indoor units, refer to page 122.
- While install the unit, be sure to check the selection of installation place, power source specifications, usage limitation (piping length, height differences between indoor and outdoor units, power source voltage etc.) and installation spaces.

SAFETY PRECAUTIONS

- Before installation, read the "SAFETY PRECAUTIONS" carefully and strictly follow it during the installation work in order to protect yourself.
- The precautionary items mentioned below are distinguished into two levels, **WARNING** and **CAUTION**.
 - **WARNING**: Wrong installation would cause serious consequences such as injuries or death.
 - **CAUTION**: Wrong installation might cause serious consequences depending on circumstances.
- Both mention the important items to protect your health and safety so strictly follow them by any means.
- Be sure to confirm no anomaly on the equipment by commissioning after completing installation and explain the operating methods as well as the maintenance methods of this equipment to the user according to the owner's manual.
- Keep the installation manual together with owner's manual at a place where any user can read at any time.
- Moreover if necessary, ask to hand them to a new user.
- Before starting the installation work, proper precautions (using suitable protective clothing, groves etc.) should be taken by qualified installer.
- Pay attention not to fall down the tools, etc. when installing the unit at the high position.
- If unusual noise can be heard during operation, consult the dealer.
- The meanings of "Marks" used here are shown as follows:

⊘ Never do it under any circumstances.  Always do it according to the instruction. 

<p>⚠ WARNING</p> <p>connection of refrigerant piping work, air can be sucked into refrigerant circuit, which can cause burst or personal injury due to anomalously high pressure in the refrigerant.</p> <ul style="list-style-type: none"> • The electrical installation must be carried out by the qualified electrician in accordance with "the norm for electrical work" and "national wiring regulation", and the system must be connected to the dedicated circuit. <p>Power source with insufficient capacity and incorrect function done by improper work can cause electric shocks and fire.</p> <ul style="list-style-type: none"> • Be sure to shut off the power before starting electrical work. <p>Failure to shut off the power can cause electric shocks, unit failure or incorrect function of equipment.</p> <ul style="list-style-type: none"> • Be sure to use the cables conformed to safety standard and cable ampacity for power distribution work. <p>Unconformable cables can cause electric leak, anomalous heat production or fire.</p> <ul style="list-style-type: none"> • This appliance must be connected to main power source by means of a circuit breaker or switch (fuse: 30A) with a contact separation of at least 3mm. • Arrange the wiring in the control box so that it cannot be pushed up further into the box. Install the service panel correctly. <p>Incorrect installation may result in overheating and fire.</p> <ul style="list-style-type: none"> • Use the prescribed cables for electrical connection, tighten the cables securely in terminal block and relieve the cables correctly to prevent overloading the terminal blocks. • Loose connections or cable mountings can cause anomalous heat production or fire. • Be sure to fix up the service panels. • Incorrect wiring can cause electric shocks or fire due to intrusion of dust or water. • Be sure to switch off the power source in the event of installation, inspection or servicing. <p>If the power source is not shut off, there is a risk of electric shocks, unit failure or personal injury due to the unexpected start of fan.</p> <ul style="list-style-type: none"> • Stop the compressor before removing the pipe after shutting the service valve on pump down work. <ul style="list-style-type: none"> • Do not bundle or wind or process the power cord. Do not deform the power cord by heating it. • This may cause fire or heating. • Do not run the unit with removed panels or protections. <p>Touching rotating equipments, hot surfaces or high voltage parts can cause personal injury due to entrapment, burn or electric shocks.</p>	<p>If the pipes is removed when the compressor is in operation with the service valve open, air would be mixed in the refrigeration circuit and it could cause explosion and injuries due to anomalous high pressure in the cooling cycle.</p> <ul style="list-style-type: none"> • Only use prescribed option parts. The installation must be carried out by the qualified installer. <p>If you install the system by yourself, it can cause serious trouble such as water leaks, electric shocks, fire.</p> <ul style="list-style-type: none"> • Be sure to wear protective goggles and gloves while at work. • Earth leakage breaker must be installed <p>If the earth leakage breaker is not installed, it can cause electric shocks.</p> <ul style="list-style-type: none"> • Do not perform any change of protective device itself or its setup condition. <p>The forced operation by short-circuiting protective device of pressure switch and temperature controller or the use of non specified component can cause fire or burst.</p> <ul style="list-style-type: none"> • After completed installation, check that no refrigerant leaks from the system. <p>If refrigerant leaks into the room and comes into contact with an oven or other hot surface, poisonous gas is produced.</p> <ul style="list-style-type: none"> • Hang up the unit at the specified points with ropes which can support the weight in lifting for portage. And to avoid jolting out of alignment, be sure to hang up the unit at 4-point support. <p>An improper manner of portage such as 3-point support can cause death or serious personal injury due to falling of the unit.</p> <ul style="list-style-type: none"> • Do not perform brazing work in the airtight room <p>It can cause lack of oxygen.</p> <ul style="list-style-type: none"> • Tighten the flare nut by using double spanners and torque wrench according to prescribed method. Be sure not to tighten the flare nut too much. <p>Loose flare connection or damage on the flare part by tightening with excess torque can cause burst or refrigerant leaks which may result in lack of oxygen.</p> <ul style="list-style-type: none"> • Consult the dealer or an expert regarding removal of the unit. <p>Incorrect installation can cause water leaks, electric shocks or fire.</p> <ul style="list-style-type: none"> • Do not perform any repairs or modifications by yourself. Consult the dealer if the unit requires repair. <p>If you repair or modify the unit, it can cause water leaks, electric shocks or fire.</p>
<p>⊘</p> <p>Installation must be carried out by the qualified installer.</p> <p>If you install the system by yourself, it may cause serious trouble such as water leaks, electric shocks, fire and personal injury, as a result of a system malfunction. Do not carry out the installation and maintenance work except the by qualified installer.</p> <ul style="list-style-type: none"> • Install the system in full accordance with the installation manual. <p>Incorrect installation may cause bursts, personal injury, water leaks, electric shocks and fire.</p> <ul style="list-style-type: none"> • When installing in small rooms, take prevention measures not to exceed the density limit of refrigerant in the event of leakage, referred by the formula (accordance with ISO5149). <p>If the density of refrigerant exceeds the limit, consult the dealer and install the ventilation system, otherwise lack of oxygen can occur, which can cause serious accident.</p> <ul style="list-style-type: none"> • Use the original accessories and the specified components for installation. <p>If parts other than those prescribed by us are used, it may cause water leaks, electric shocks, fire and personal injury.</p> <ul style="list-style-type: none"> • Install the unit in a location with good support. <p>Unsuitable installation locations can cause the unit to fall resulting in material damage and personal injury.</p> <ul style="list-style-type: none"> • Ensure the unit is stable when installed, so that it can withstand earthquakes and strong winds. <p>Unsuitable installation locations can cause the unit to fall and cause material damage and personal injury.</p> <ul style="list-style-type: none"> • Ventilate the working area well in the event of refrigerant leakage during installation. <p>If the refrigerant comes into contact with naked flames, poisonous gas is produced.</p> <ul style="list-style-type: none"> • Use the prescribed pipes, flare nuts and tools for R410A. <p>Using existing parts (for R22 or R407C) can cause the unit failure and serious accidents, due to burst of the refrigerant circuit.</p> <ul style="list-style-type: none"> • Do not open the service valves for liquid line and gas line until completed refrigerant piping work, air tightness test and evacuation. <p>If the compressor is operated in state of opening service valves before completing</p>	<p>⊘</p> <p>Ensure that no air enters in the refrigerant circuit when the unit is installed and removed.</p> <p>If air enters in the refrigerant circuit, the pressure in the refrigerant circuit becomes too high, which can cause burst and personal injury.</p> <ul style="list-style-type: none"> • Do not process or splice the power cord, or share the socket with other power plugs. <p>This may cause fire or electric shock due to deflecting contact, deflecting insulation and over-current etc.</p>

CAUTION	
	<p>Carry out the electrical work for ground lead with care.</p> <p>Do not connect the ground lead to the gas line, water line, lightning conductor or telephone line's ground lead. Incorrect grounding can cause unit faults such as electric shocks due to short-circuiting. Never connect the grounding wire to a gas pipe because if gas leaks, it could cause explosion or ignition.</p>
	<p>Use the circuit breaker for all pole correct capacity. Circuit breaker should be able to disconnect all poles under over current.</p> <p>Using the incorrect circuit breaker, it can cause the unit malfunction and fire.</p> <ul style="list-style-type: none"> Install isolator or disconnect switch on the power source wiring in accordance with the local codes and regulations. The isolator should be locked in OFF state in accordance with EN60204-1. After maintenance, all wiring, wiring ties and the like, should be returned to their original state and wiring route, and the necessary clearance from all metal parts should be secured. Secure a space for installation, inspection and maintenance specified in the manual. <p>Insufficient space can result in accident such as personal injury due to falling from the installation place.</p>
	<p>Do not install the unit in the locations listed below.</p> <ul style="list-style-type: none"> Locations where carbon fiber, metal powder or any powder is floating. Locations where any substances that can affect the unit such as sulphide gas, chloride gas, acid and alkaline can occur. Vehicles and ships. Locations where cosmetic or special sprays are often used. Locations with direct exposure of oil mist and steam such as kitchen and machine plant. Locations where any machines which generate high frequency harmonics are used. Locations with salty atmospheres such as coastlines. Locations with heavy snow (if installed, be sure to provide base flame and snow hood mentioned in the manual). Locations where the unit is exposed to chimney smoke. Locations at high altitude (more than 1000m high). Locations with ammoniac atmospheres (e.g. organic fertilizer). Locations with calcium chloride (e.g. snow melting agent). Locations where heat radiation from their heat source can affect the unit. Locations without good air circulation. Locations with any obstacles which can prevent inlet and outlet air of the unit. Locations where short circuit of air can occur (In case of multiple units installation). Locations where strong air blows against the air outlet of outdoor unit. Locations where something located above the unit could fall. It can cause remarkable decrease in performance, corrosion and damage of components, malfunction and fire. <p>Do not install the outdoor unit in the locations listed below.</p> <ul style="list-style-type: none"> Locations where discharged hot air or operating sound of the outdoor unit can bother neighborhood. Locations where outlet air of the outdoor unit blows directly to an animal or plants.
	<p>Take care when carrying the unit by hand.</p> <p>If the unit weighs more than 20kg, it must be carried by two or more persons. Do not carry by the plastic straps, always use the carry handle when carrying the unit by hand. Use gloves to minimize the risk of cuts by the aluminum fins.</p> <ul style="list-style-type: none"> Dispose of any packing materials correctly. <p>Any remaining packing materials can cause personal injury as it contains nails and wood. And to avoid danger of suffocation, be sure to keep the plastic wrapper away from children and to dispose after tear it up.</p> <ul style="list-style-type: none"> Be sure to insulate the refrigerant pipes so as not to condense the ambient air moisture on them. <p>Insufficient insulation can cause condensation, which can lead to moisture damage on the ceiling, floor, furniture and any other variables.</p> <p>The outlet air can affect adversely to the plant etc.</p> <ul style="list-style-type: none"> Locations where vibration can be amplified and transmitted due to insufficient strength of structure. Locations where vibration and operation sound generated by the outdoor unit can affect seriously (on the wall or at the place near bed room). Locations where an equipment affected by high harmonics is placed (TV set or radio receiver is placed within 5m). Locations where drainage cannot run off safely. It can affect surrounding environment and cause a claim. <p>Do not install the unit near the location where leakage of combustible gases can occur.</p> <p>If leaked gases accumulate around the unit, it can cause fire.</p> <ul style="list-style-type: none"> Do not install the unit where corrosive gas (such as sulfuric acid gas etc.) or combustible gas (such as thinner and petroleum gases) can accumulate or collect, or where volatile combustible substances are handled. <p>Corrosive gas can cause corrosion of heat exchanger, breakage of plastic parts and etc. And combustible gas can cause fire.</p> <ul style="list-style-type: none"> Do not install nor use the system close to the equipment that generates electromagnetic fields or high frequency harmonics. <p>Equipment such as inverters, standby generators, medical high frequency equipments and telecommunication equipments can affect the system, and cause malfunctions and breakdowns. The system can also affect medical equipment and telecommunication equipment, and obstruct its function or cause jamming.</p> <ul style="list-style-type: none"> Do not install the outdoor unit in a location where insects and small animals can inhabit. <p>Insects and small animals can enter the electric parts and cause damage or fire. Instruct the user to keep the surroundings clean.</p> <ul style="list-style-type: none"> Do not use the base flame for outdoor unit which is corroded or damaged

Check before installation work	
Model name and power source	
Refrigerant piping length	
Piping, wiring and miscellaneous small parts	
Indoor unit installation manual	
Accessories for outdoor unit	
Qty	1
① Edging	
Necessary tools for the installation work	
Qty	
① Plus headed driver	1
② Knife	1
③ Saw	1
④ Tape measure	1
⑤ Hammer	1
⑥ Spanner wrench [14.0-82.0N·m (1.4-8.2kgf·m)]	1
⑦ Torque wrench [14.0-82.0N·m (1.4-8.2kgf·m)]	1
⑧ Hole core drill (65mm in diameter)	2
⑨ Wrench key (Hexagon) [4m/m]	
⑩ Vacuum pump	
⑪ Vacuum pump adapter (Anti-reverse flow type) (Designed specifically for R410A)	
⑫ Gauge manifold (Designed specifically for R410A)	
⑬ Charge hose (Designed specifically for R410A)	
⑭ Flaring tool set (Designed specifically for R410A)	
⑮ Gas leak detector (Designed specifically for R410A)	
⑯ Gauge for projection adjustment (Used when flare is made by using conventional flare tool)	

Note as a unit designed for R410A

- Do not use any refrigerant other than R410A. R410A will rise to pressure about 1.6 times higher than that of a conventional refrigerant.
- A cylinder containing R410A has a pink indication mark on the top.
- A unit designed for R410A has adopted a different size indoor unit service valve charge port and a flare nut's parallel side measurement have also been altered to raise strength against pressure. The processed dimension of the flared part of a refrigerant pipe and a flare nut's parallel side measurement have also been altered to raise strength against pressure. Accordingly, you are required to arrange dedicated R410A tools listed in the table on the left before installing or servicing this unit.
- Do not use a charge cylinder. The use of a charge cylinder will cause the refrigerant composition to change, which results in performance degradation.
- In charging refrigerant, always take it out from a cylinder in the liquid phase.
- All indoor units must be models designed exclusively for R410A. Check connectable indoor unit models in a catalog, etc. (A wrong indoor unit, if connected into the system, will impair proper system operation)

Head the following the heating operation

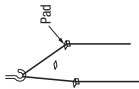
- In the case when this unit has stopped for a long time, heating operation may start and operate in cooling mode by 7 minutes; after that, heating operation keep oil quality in compressor by preventing liquid refrigerant come into compressor. If that is the case, do not suspect a unit failure. (In this case, remote control displays "DEFROST" or "In operation for defrosting".)

1. HAULAGE AND INSTALLATION (Take particular care in carrying in or moving the unit, and always perform such an operation with two or more persons.)

CAUTION When a unit is hoisted with slings for haulage, take into consideration the offset of its gravity center position. If not properly balanced, the unit can be thrown off-balance and fall.

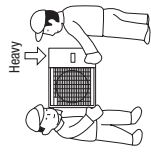
1) Delivery

- Deliver the unit as close as possible to the installation site before removing it from the packaging.
- When you have to unpack the unit for a compelling reason before you haul it to the installation point, hoist the unit with nylon slings or ropes and protection pads so that you may not damage the unit.



2) Portage

- The right hand side of the unit as viewed from the front (fan side) is heavier. A person carrying the right hand side must take heed of this fact. A person carrying the left hand side must hold with his right hand the handle provided on the front panel of the unit and with his left hand the corner column section.



3) Selecting the installation location

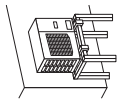
- Be sure to select a suitable installation place in consideration of following conditions.
 - A place where it is horizontal, stable and can endure the unit weight and will not allow vibration transmittance of the unit.
 - A place where it can be free from possibility of bothering neighbors due to noise or exhaust air from the unit.
 - A place where the unit is not exposed to oil splashes.
 - A place where it can be free from danger of flammable gas leakage.
 - A place where drain water can be disposed without any trouble.
 - A place where the unit will not be affected by heat radiation from other heat source.
 - A place where snow will not accumulate.
 - A place where the unit can be kept away 5m or more from TV set and/or radio receiver in order to avoid any TV set or radio receiver interference.
 - A place where good air circulation can be secured, and enough service space can be secured for maintenance and service of the unit safely.
 - A place where the unit will not be affected by electromagnetic waves and/or high-harmonic waves generated by other equipment.
 - A place where chemical substances like sulfuric gas, chloric gas, acid and alkali (including ammonia), which can harm the unit, will not be generated and not remain.
 - If a operation is conducted when the outdoor air temperature is -5 or lower, the outdoor unit should be installed at a place where it is not influenced by natural wind.
 - A place where strong wind will not blow against the outlet air blow of the unit.
 - A place where stringent regulation of electric noises is not applicable.

Do not install the unit in places which exposed to sea breeze (e.g. coastal area) or calcium chloride (e.g. snow melting agent), exposed to ammonia substance (e.g. organic fertilizer).

4) Caution about selection of installation location

- (1) If the unit is installed in the area where the snow will accumulate, following measures are required.
 - The bottom plate of unit and intake, outlet may be blocked by snow.

1. Install the unit on the base so that the bottom is higher than snow cover surface.
2. Provide a snow hood to the outdoor unit on site. Regarding outline of a snow hood, refer to our technical manual.
3. Install the unit under eaves or provide the roof on site.



- Since drain water generated by defrost control may freeze, following measures are required.
 - Don't execute drain piping work by using a drain elbow and drain grommets (optional parts). (Refer to Drain piping work.)

- Attach heater on a base plate on site, if there is possibility to freeze drain water. In case that the product has a corrective drainage system, the drainage paths should have suitable measure against freezing but be sure not to melt the material of drainage paths with heat.

- (2) If the unit can be affected by strong wind, following measures are required. Strong wind can cause damage of fan (fan motor), or can cause performance degradation, or can trigger anomalous stop of the unit due to rising of high pressure.

1. Install the outlet air blow side of the unit to face a wall of building, or provide a fence or a windbreak screen.
2. Install the unit in a position perpendicular to the direction of wind.
3. The unit should be installed on the stable and level foundation. If the foundation is not level, tie down the unit with wires.

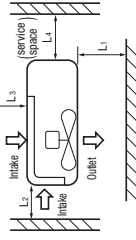


5) Installation space

- Walls surrounding the unit in the four sides are not acceptable.
- There must be a 1-meter or larger space in the above.
- When more than one unit are installed side by side, provide a 250mm or wider interval between them as a service space. In order to facilitate servicing of controllers, provide a sufficient space between units so that their top plates can be removed easily.
- Where a danger of short-circuiting exists, install guide louvers.
- When more than one unit are installed, provide sufficient intake space consciously so that short-circuiting may not occur.
- Where piling snow can bury the outdoor unit, provide proper snow guards.

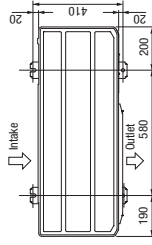
Example installation Size	I	II	III
L1	Open	Open	500
L2	300	250	Open
L3	100	150	100
L4	250	250	250

The height of a wall is 1200mm or less.

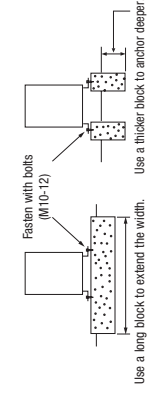


6) Installation

- ① Anchor bolt fixed position



- ② Notes for installation



- In installing the unit, fix the unit's legs with bolts specified on the above.
- The protrusion of an anchor bolt on the front side must be kept within 15mm.
- Securely install the unit so that it does not fall over during earthquakes or strong winds, etc.
- Refer to the above illustrations for information regarding concrete foundations.
- Install the unit in a level area. (With a gradient of 5mm or less.) Improper installation can result in a compressor failure, broken piping within the unit and abnormal noise generation.

7) To run the unit for a cooling operation, when the outdoor temperature is -5°C or lower.

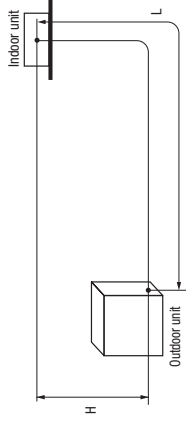
- When the outdoor air temperature is -5°C or lower, provide a snow hood to the outdoor unit on site. So that strong wind will not blow against the outdoor heat exchanger directly. Regarding outline of a snow hood, refer to our technical manual.

2. REFRIGERANT PIPING WORK

1) Restrictions on unit installation and use

- Check the following points in light of the indoor unit specifications and the installation site.
- Observe the following restrictions on unit installation and use. Improper installation can result in a compressor failure or performance degradation.

Restrictions	Dimensional restrictions	Marks appearing in the drawing on the right
Main pipe length	30m or less	L
Elevation difference between indoor and outdoor units	When the outdoor unit is positioned higher,	H
	When the outdoor unit is positioned lower,	H



- The use restrictions appearing in the table above are applicable to the standard pipe size combinations shown in the table below. Where an existing pipe system is utilized, different one-way pipe length restrictions should apply depending on its pipe size. For more information, see "5. UTILIZATION OF EXISTING PIPING."

CAUTION

2) Determination of pipe size

Determine refrigerant pipe size according to the following guidelines based on the indoor unit specifications.

Gas pipe	Liquid pipe
Outdoor unit connected	Flare
Refrigerant piping (branch pipe L)	Flare
Indoor unit connected	Flare

3) Refrigerant pipe wall thickness and material

- Select refrigerant pipes of the table shown on the right wall thickness and material as specified for each pipe size.

Pipe diameter [mm]	ø9.52	ø15.88
Minimum pipe wall thickness [mm]	0.8	1.0
Pipe material*	O-type pipe	O-type pipe

*Phosphorus deoxidized seamless copper pipe (CS 23.040.15, (CS 77.150.30

NOTE Select pipes having a wall thickness larger than the specified minimum pipe thickness.

4) On-site piping work

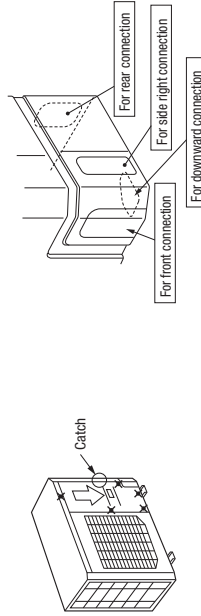
IMPORTANT

Take care so that installed pipes may not touch components within a unit. If pipes touch internal components, abnormal sounds and/or vibrations.

First remove the five screws (X mark) of the service panel and push it down into the direction of the arrow mark and then remove it by pulling it toward you.

How to remove the side cover

- The pipe can be laid in any of the following directions: side-right, front, rear and downward.
- Remove a knock-out plate provided on the pipe penetration to open a minimum necessary area and attach an edging material supplied as an accessory by cutting it to an appropriate length before laying a pipe.
- Carry out the on site piping work with the service valve fully closed.
- Give sufficient protection to a pipe end (compressed and brazed, or with an adhesive tape) so that water or foreign matters may not enter the piping.
- Bend a pipe to a radius as large as practical (R100-R150). Do not bend a pipe repeatedly to correct its form.
- Flare connection is used between the unit and refrigerant pipe. Flare a pipe after engaging a flare nut onto it. Flare dimensions for R410A are different from those for conventional R407C. Although we recommend the use of flaring tools designed specifically for R410A, conventional flaring tools can also be used by adjusting the measurement of protrusion B with a protrusion control gauge.
- The pipe should be anchored every 1.5m or less to isolate the vibration.
- Tighten the flare joint securely with a double spanner.



Flared pipe end : A	(mm)
Copper pipe outer diameter	0
A -04	0
ø9.52	013.2
ø15.88	19.7

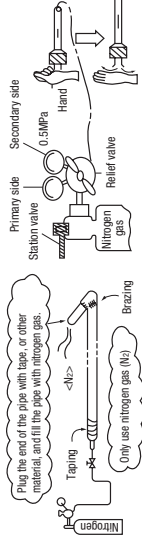
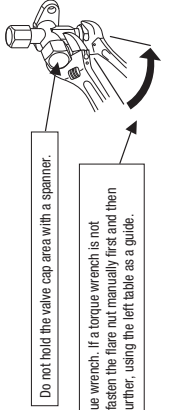
Copper pipe protrusion for flaring : B	(mm)
In the case of a rigid (clutch) type	
With an R410A tool	0-0.5
With a conventional tool	1.0-1.5

CAUTION

Do not apply force beyond proper fastening torque in tightening the flare nut.

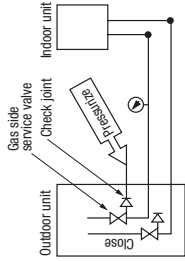
Fix both liquid and gas service valves at the valve main bodies as illustrated on the right, and then fasten them, applying appropriate fastening torque.

Service valve size (mm)	Tightening torque (N·m)	Tightening angle (°)	Recommended length of a bolt handle (mm)
ø9.52 (3/8")	34-42	30-45	200
ø15.88 (5/8")	68-82	15-20	300

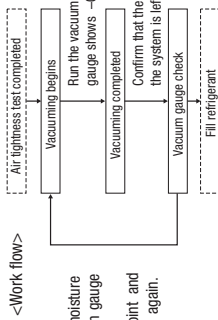


5) Air tightness test

- ① Although outdoor and indoor units themselves have been tested for air tightness at the factory, check the connecting pipes after the installation work for air tightness from the service valve's check joint equipped on the outdoor unit side. While conducting a test, keep the service valve shut all the time.
 - a) Raise the pressure to 0.5MPa, and then stop. Leave it for five minutes to see if the pressure drops.
 - b) Then raise the pressure to 1.5MPa, and stop. Leave it for five more minutes to see if the pressure drops.
 - c) Then raise the pressure to the specified level (4.15MPa), and record the ambient temperature and the pressure.
 - d) If no pressure drop is observed with an installation pressurized to the specified level and left for about one day, it is acceptable. When the ambient temperature fall 1°C, the pressure also fall approximately 0.01MPa. The pressure, if changed, should be compensated for.
 - e) If a pressure drop is observed in checking e) and a)~d), a leak exists somewhere. Find a leak by applying bubble test liquid to welded parts and flare joints and repair it. After repair, conduct an air tightness test again.
- ② In conducting an air tightness test, use nitrogen gas and pressurize the system with nitrogen gas from the gas side. Do not use a medium other than nitrogen gas under any circumstances.



6) Evacuation



When the system has remaining moisture inside or a leaky point, the vacuum gauge indicator will rise. Check the system for a leaky point and then draw air to create a vacuum again.

Pay attention to the following points in addition to the above for the R410A and compatible machines.

- To prevent a different oil from entering, use dedicated tools, etc. to each refrigerant type. Under no circumstances must a gauge manifold and a charge hose in particular be shared with other refrigerant types (R22, R407C, etc.).
- Use a counterflow prevention adapter to prevent vacuum pump oil from entering the refrigerant system.

7) Additional refrigerant charge

- (1) Calculate a required refrigerant charge volume from the following table.

Additional charge volume (g) per meter of refrigerant piping (liquid pipe ø9.52)	Refrigerant volume charged for shipment at the factory (kg)	Installation's pipe length (m) covered without additional refrigerant charge
60	2.55	15

- This unit contains factory charged refrigerant covering 15m of refrigerant piping and additional refrigerant charge on the installation site is not required for an installation with up to 15m refrigerant piping. When refrigerant piping exceeds 15m, additionally charge an amount calculated from the pipe length and the above table for the portion in excess of 15m.
- If an existing pipe system is used, required refrigerant charge volume will vary depending on the liquid pipe size. For further information, see "5. UTILIZATION OF EXISTING PIPING."

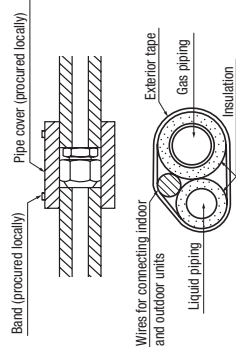
Formula to calculate the volume of additional refrigerant required

$$\text{Additional charge volume (g)} = (\text{Main length (m)} - \text{Factory charged volume 15 (m)}) \times 60 \text{ (g/m)}$$

- When an additional charge volume calculation result is negative, it is not necessary to charge refrigerant additionally.
- For an installation measuring 15m or shorter in pipe length, charge the refrigerant volume charged for shipment at the factory, when you recharge refrigerant after servicing etc.

8) Heating and condensation prevention

- (1) Dress refrigerant pipes (both gas and liquid pipes) for heat insulation and prevention of dew condensation.
 - Improper heat insulation/anti-dew dressing can result in a water leak or dripping causing damage to household effects, etc.
- (2) Use a heat insulating material that can withstand 120°C or a higher temperature. Poor heat insulating capacity can cause heat insulation problems or cable deterioration.
 - All gas pipes must be securely heat insulated in order to prevent damage from dripping water that comes from the condensation formed on them during a cooling operation or personal injury from burns because their surface can reach quite a high temperature due to discharged gas flowing inside during a heating operation.
 - Wrap indoor units' flare joints with heat insulating parts (pipe cover) for heat insulation (both gas and liquid pipes).
 - Give heat insulation to both gas and liquid side pipes. Bundle a heat insulating material and a pipe tightly together so that no gaps may be left between them and wrap them together with a connecting cable by a dressing tape.
 - Both gas and liquid pipes need to be dressed with 20mm or thicker heat insulation materials above the ceiling where relative humidity exceeds 70%.



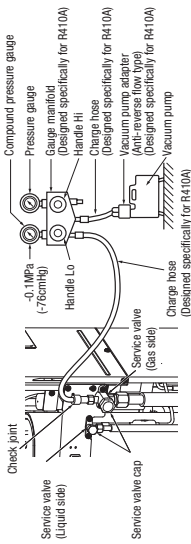
(2) Charging refrigerant

- Since R410A refrigerant must be charged in the liquid phase, you should charge it keeping the container cylinder upside down or using a refrigerant cylinder equipped with a siphon tube
- Charge refrigerant always from the liquid side service port with the service valve shut. When you find it difficult to charge a required amount, fully open the outdoor unit valves on both liquid and gas sides and discharge refrigerant from the gas (suction) side service port, while running the unit in the cooling mode. In doing so, care must be taken so that refrigerant may be discharged from the cylinder in the liquid phase all the time. When the cylinder valve is throttled down or a dedicated conversion tool to change liquid phase refrigerant into mist is used to protect the compressor, however, adjust charge conditions so that refrigerant will gassy upon entering the unit.
- In charging refrigerant, always charge a calculated volume by using a scale to measure the charge volume.
- When refrigerant is charged with the unit being run, complete a charge operation within 30minutes. Running the unit with an insufficient quantity of refrigerant for a long time can cause a compressor failure.

NOTE Put down the refrigerant volume calculated from the pipe length onto the caution label attached on the service panel.

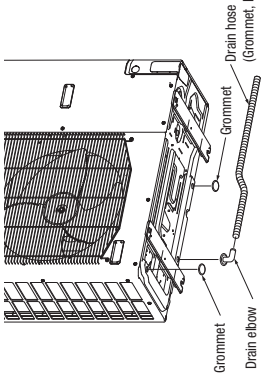
Service valve size (mm)	Service valve cap tightening torque (N·m)	Check joint blind nut tightening torque (N·m)
ø9.52 (3/8")	20~30	10~12
ø15.88 (5/8")	30~40	

Securely tighten the service valve cap and the check joint blind nut after adjustment.

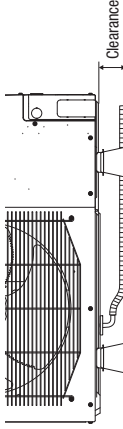


3. DRAIN PIPING WORK

- Execute drain piping by using a drain elbow and drain grommets supplied separately as accessories, where water drained from the outdoor unit is a problem.
- Water may drip where there is a larger amount of drain water. Seal around the drain elbow and drain grommets with putty or adequate caulking material.
- Condensed water may flow out from vicinity of service valve or connected pipes.
- Where you are likely to have several days of sub-zero temperatures in a row, do not use a drain elbow and drain grommets. (There is a risk of drain water freezing inside and blocking the drain.)
- Do not use drain elbow and grommet made of plastic for drain piping when base heater for outdoor unit is used. Plastic grommet and elbow will be damaged and burnt in worst case.
- Prepare another drain tray made of metallic material for collecting drain when base heater is used.



- When condensed water needs to be led to a drain, etc., install the unit on a flat base (supplied separately as a locally procured part) or concrete blocks. Then, secure space for the drain elbow and the drain hose.



4. ELECTRICAL WIRING WORK

For details of electrical cabling, refer to the indoor unit installation manual.

Electrical installation work must be performed by an electrical installation service provider qualified by a power provider of the country.

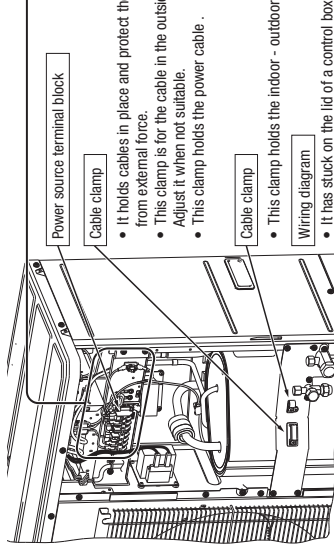
- Electrical installation work must be executed according to the technical standards and other regulations applicable to electrical installations in the country.
- Do not lay electronic control cables (remote control and signaling wires) and other cables together outside the unit. Laying them together can result in the malfunctioning or a failure of the unit due to electric noises.
- Fasten the cables so that those may not touch the piping, etc.
- When cables are connected, make sure that all electrical components within the electrical component box are free of loose connector coupling or terminal connection and then attach the cover securely. (Improper cover attachment can result in malfunctioning or a failure of the unit, if water penetrates into the box.)
- Never use a shield cable.
- Always use a three-core cable for an indoor-outdoor connecting cable. Never use a shield cable.
- Connect a pair bearing a common terminal number with an indoor-outdoor connecting wire.
- In cabling, fasten cables securely with cable clamps so that no external force may work on terminal connections.

In case of faulty wiring connection, indoor unit does not operate. Then, run lamp turns on and timer lamp blinks.

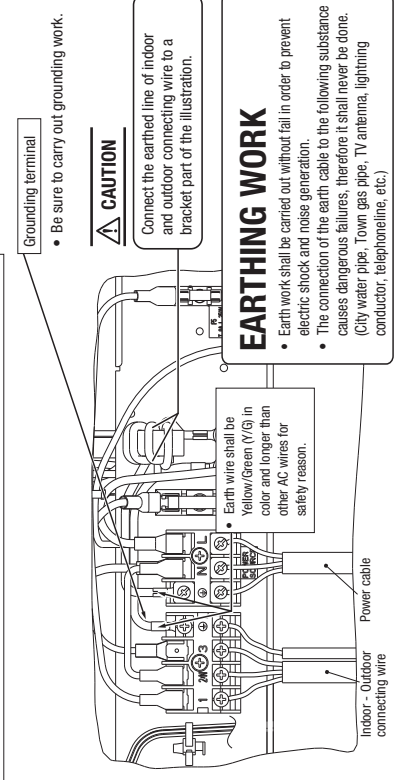
Use cables for interconnection wiring to avoid loosening of the wires. CENELEC code for cables Required field cables.

H05RN4RG1.5	(Example) or 245IEC57
H	Harmonized cable type
05	300/500 volts
R	Natural-and/or synth. rubber wire insulation
N	Polychloroprene rubber conductors insulation
R	Stranded core
4x0.5	Number of conductors
G	One conductor of the cable is the earth conductor (yellow/green)
1.5	Section of copper wire (mm ²)

Specification	Part No.
250V 20A	SSA564A136A



Power cable, indoor - outdoor connecting wire circuit diagram



- It holds cables in place and protect the terminal connection from external force.
- This clamp is for the cable in the outside diameter 9 - 15mm. Adjust it when not suitable.
- This clamp holds the power cable.

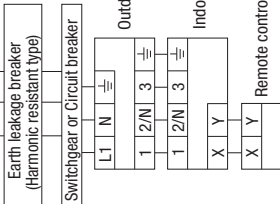
CAUTION

Connect the earthed line of indoor and outdoor connecting wire to a bracket part of the illustration.

EARTHING WORK

- Earth work shall be carried out without fail in order to prevent electric shock and noise generation.
- The connection of the earth cable to the following substance causes dangerous failures, therefore it shall never be done. (City water pipe, Town gas pipe, TV antenna, lightning conductor, telephone line, etc.)

Power cable, indoor-outdoor connecting wires

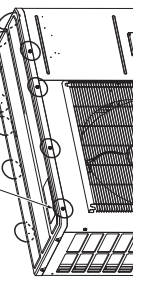


- Always perform grounding system installation work with the power cable unplugged.
- Connect a pair bearing a common terminal number with an indoor-outdoor connecting wire.
- In cabling, fasten cables securely with cable clamps so that no external force may work on terminal connections.
- Grounding terminals are provided in the terminal block.

When change the Printed circuit board, take off the top panel.

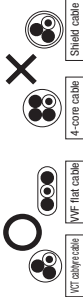
How to remove the top panel

Remove the screws of the top panel.
Screw x11



- Use Polychloroprene sheathed flexible cord (code designation 60245 IEC57, IEC60335-2-40) with cross-sectional area of 5.5 mm² for power cable of outdoor unit.

(POWER CABLE)
GENELEC code for cables requiring fields cables.
H05RN3G5.5



Always use an earth leakage circuit breaker designed for inverter circuits to prevent a faulty operation.

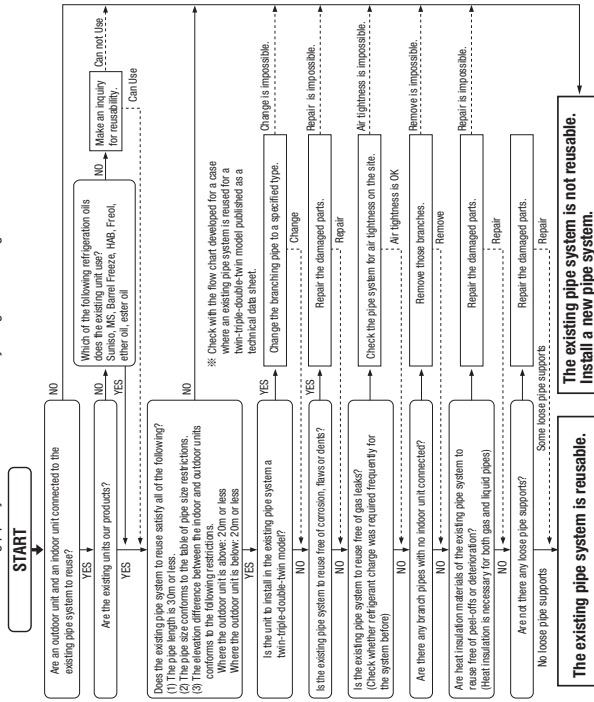
CAUTION

Power source	Power cable thickness (mm ²)	Max. over current (A)	Cable length (m)	Grounding wire thickness	Indoor-outdoor wire thickness × number
Single phase 3 wire 220-240V/50Hz (2N) (6Hz)	5.5	21	25	φ1.6	φ1.6x3
Single phase 3 wire 220-240V/50Hz (2N) (6Hz)	5.5	22	24	φ1.6	φ1.6x3

- At the connection with the duct type indoor unit.
- The specifications shown in the above table are for units without heaters. For units with heaters, refer to the installation instructions or the construction instructions of the indoor unit.
- Switchgear or Circuit breaker capacity which is calculated from maximum over current should be chosen along the regulations in each country.
- The cable specifications are based on the assumption that a metal or plastic conduit is used with no more than three cables contained in a conduit and a voltage drop is 2%. For an installation falling outside of these conditions, follow the internal cabling regulations. Adapt it to the regulation in effect in each country.

5. UTILIZATION OF EXISTING PIPING

Check whether an existing pipe system is reusable or not by using the following flow chart.



INSTALLATION TEST CHECK POINTS

- Power cables and connecting wires are securely fixed to the terminal block.
- The power source voltage is correct as the rating.
- The drain hose is fixed securely.
- Service valve is fully open.

After installation

- No gas leaks from the joints of the service valve.
- The pipe joints for indoor and outdoor pipes have been insulated.
- The screw of the side cover is tightened securely.

<Table of pipe size restrictions>

○: Standard pipe size ◯: Usable △: Restricted to shorter pipe length limits

Additional charge volume per meter of pipe	60g/m	80g/m
Liquid pipe	φ9.52	φ12.7
Gas pipe	φ15.88	φ15.88
Usability	○	△
Maximum one-way pipe length	30	15
Length covered without additional charge	15	7

- Consult with our distributor in the area, if you need to recover refrigerant and charge it again.
- Any combinations of pipe sizes not listed in the table are not usable.

Formula to calculate additional charge volume

Additional charge volume (g) = (Main pipe length (m) - Length covered without additional charge shown in the table (m)) X Additional charge volume per meter of pipe shown in the table (g/m)

Example: When an R410A is installed in a 10m long existing pipe system (liquid φ12.7, gas φ15.88), the quantity of refrigerant to charge additionally should be (10m-7m) x 80g/m = 240g.

WARNING

- If you obtain a negative figure as a result of calculation, no additional refrigerant needs to be charged.
- Example: When an R410A is installed in a 10m long existing pipe system (liquid φ12.7, gas φ15.88), the quantity of refrigerant to charge additionally should be (10m-7m) x 80g/m = 240g.
- Where the existing unit can be run for a cooling operation -> Carry out the following steps with the existing unit (in the order of (1), (2), (3) and (4))
 - (1) Run the unit for 30 minutes for a cooling operation.
 - (2) Stop the indoor fan and run the unit for 3 minutes for a cooling operation (returning liquid)
 - (3) Close the liquid side service valve of the outdoor unit and pump down (refrigerant recovery)
 - (4) Blow with nitrogen gas. ※ If discolored refrigeration oil or any foreign matters is discharged by the blow, wash the pipe system or install a new pipe system.
- For the flare nut, do not use the old one, but use the one supplied with the outdoor unit. Process a flare to the dimensions specified for R410A.
- Where the existing unit cannot be run for a cooling operation -> Wash the pipe system or install a new pipe system.
- If you choose to wash the pipe system, contact our distributor in the area.

3.11 TECHNICAL INFORMATION

(1) Ceiling suspended type (FDE)

FDE71VNPVG

Information to identify the model(s) to which the information relates to:				If function includes heating: Indicate the heating season the information relates to. Indicated values should relate to one heating season at a time. Include at least the heating season 'Average'.			
Indoor unit model name		FDE71VG					
Outdoor unit model name		FDC71VNP					
Function(indicate if present)				Average(mandatory)			
cooling		Yes		Warmer(if designated)		No	
heating		Yes		Colder(if designated)		No	
Item				Item			
symbol		value		symbol		value	
unit		unit		class		class	
Design load				Seasonal efficiency and energy efficiency class			
cooling		Pdesignc		cooling		SEER	
		7.1				6.35	
heating / Average		Pdesignh		heating / Average		SCOP/A	
		5.8				4.22	
heating / Warmer		Pdesignh		heating / Warmer		SCOP/W	
		-				-	
heating / Colder		Pdesignh		heating / Colder		SCOP/C	
		-				-	
Declared capacity at outdoor temperature Tdesignh				Back up heating capacity at outdoor temperature Tdesignh			
heating / Average (-10°C)		Pdh		heating / Average (-10°C)		elbu	
		5.8				0	
heating / Warmer (2°C)		Pdh		heating / Warmer (2°C)		elbu	
		-				-	
heating / Colder (-22°C)		Pdh		heating / Colder (-22°C)		elbu	
		-				-	
Declared capacity for cooling, at indoor temperature 27(19)°C and outdoor temperature Tj				Declared energy efficiency ratio, at indoor temperature 27(19)°C and outdoor temperature Tj			
Tj=35°C		Pdc		Tj=35°C		EERd	
		7.10				2.84	
Tj=30°C		Pdc		Tj=30°C		EERd	
		5.23				4.43	
Tj=25°C		Pdc		Tj=25°C		EERd	
		3.37				7.49	
Tj=20°C		Pdc		Tj=20°C		EERd	
		1.55				15.50	
Declared capacity for heating / Average season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Average season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C		Pdh		Tj=-7°C		COPd	
		5.13				2.73	
Tj=2°C		Pdh		Tj=2°C		COPd	
		3.12				4.27	
Tj=7°C		Pdh		Tj=7°C		COPd	
		2.01				5.15	
Tj=12°C		Pdh		Tj=12°C		COPd	
		1.02				5.96	
Tj=bivalent temperature		Pdh		Tj=bivalent temperature		COPd	
		5.80				2.28	
Tj=operating limit		Pdh		Tj=operating limit		COPd	
		5.17				2.17	
Declared capacity for heating / Warmer season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Warmer season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=2°C		Pdh		Tj=2°C		COPd	
		-				-	
Tj=7°C		Pdh		Tj=7°C		COPd	
		-				-	
Tj=12°C		Pdh		Tj=12°C		COPd	
		-				-	
Tj=bivalent temperature		Pdh		Tj=bivalent temperature		COPd	
		-				-	
Tj=operating limit		Pdh		Tj=operating limit		COPd	
		-				-	
Declared capacity for heating / Colder season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Colder season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C		Pdh		Tj=-7°C		COPd	
		-				-	
Tj=2°C		Pdh		Tj=2°C		COPd	
		-				-	
Tj=7°C		Pdh		Tj=7°C		COPd	
		-				-	
Tj=12°C		Pdh		Tj=12°C		COPd	
		-				-	
Tj=bivalent temperature		Pdh		Tj=bivalent temperature		COPd	
		-				-	
Tj=operating limit		Pdh		Tj=operating limit		COPd	
		-				-	
Tj=-15°C		Pdh		Tj=-15°C		COPd	
		-				-	
Bivalent temperature				Operating limit temperature			
heating / Average		Tbiv		heating / Average		Tol	
		-10				-15	
heating / Warmer		Tbiv		heating / Warmer		Tol	
		-				-	
heating / Colder		Tbiv		heating / Colder		Tol	
		-				-	
Cycling interval capacity				Cycling interval efficiency			
for cooling		Pccyc		for cooling		EERcyc	
		-				-	
for heating		Pchyc		for heating		COPcyc	
		-				-	
Degradation coefficient cooling				Degradation coefficient heating			
		Cdc				Cdh	
		0.25				0.25	
Electric power input in power modes other than 'active mode'				Annual electricity consumption			
off mode		Poff		cooling		Qce	
		9				392	
standby mode		Psb		heating / Average		Qhe	
		9				1,925	
thermostat-off mode		Pto		heating / Warmer		Qhe	
		20				-	
crankcase heater mode		Pck		heating / colder		Qhe	
		0				-	
Capacity control(indicate one of three options)				Other items			
fixed		No		Sound power level(indoor)		Lwa	
						60	
staged		No		Sound power level(outdoor)		Lwa	
						67	
variable		Yes		Global warming potential		GWP	
						1,975	
				Rated air flow(indoor)		-	
						1,200	
				Rated air flow(outdoor)		-	
						2,160	
Contact details for obtaining more information		Name and address of the manufacturer or of its authorised representative.					
		Mitsubishi Heavy Industries Air-Conditioning Europe, Ltd. 5 The Square, Stockley Park, Uxbridge, Middlesex, UB11 1ET, United Kingdom					

FDE90VNP1VG				Information to identify the model(s) to which the information relates to:				If function includes heating: Indicate the heating season the information relates to. Indicated values should relate to one heating season at a time. Include at least the heating season 'Average'.					
Indoor unit model name		FDE100VG		Outdoor unit model name		FDC90VNP1							
Function(indicate if present)				Average(mandatory)		Yes							
cooling		Yes		Warmer(if designated)		No							
heating		Yes		Colder(if designated)		No							
Item	symbol	value	unit	Item	symbol	value	class						
Design load				Seasonal efficiency and energy efficiency class									
cooling	Pdesignc	9.0	kW	cooling	SEER	6.63	A++						
heating / Average	Pdesignh	8.2	kW	heating / Average	SCOP/A	4.25	A+						
heating / Warmer	Pdesignh	—	kW	heating / Warmer	SCOP/W	—	—						
heating / Colder	Pdesignh	—	kW	heating / Colder	SCOP/C	—	—						
								unit					
Declared capacity at outdoor temperature Tdesignh				Back up heating capacity at outdoor temperature Tdesignh									
heating / Average (-10°C)	Pdh	8.2	kW	heating / Average (-10°C)	elbu	0	kW						
heating / Warmer (2°C)	Pdh	—	kW	heating / Warmer (2°C)	elbu	—	kW						
heating / Colder (-22°C)	Pdh	—	kW	heating / Colder (-22°C)	elbu	—	kW						
Declared capacity for cooling, at indoor temperature 27(19)°C and outdoor temperature Tj				Declared energy efficiency ratio, at indoor temperature 27(19)°C and outdoor temperature Tj									
Tj=35°C	Pdc	9.00	kW	Tj=35°C	EERd	3.27	-						
Tj=30°C	Pdc	6.63	kW	Tj=30°C	EERd	5.10	-						
Tj=25°C	Pdc	4.27	kW	Tj=25°C	EERd	8.54	-						
Tj=20°C	Pdc	2.20	kW	Tj=20°C	EERd	10.63	-						
Declared capacity for heating / Average season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Average season, at indoor temperature 20°C and outdoor temperature Tj									
Tj=-7°C	Pdh	7.26	kW	Tj=-7°C	COPd	2.90	-						
Tj=2°C	Pdh	4.41	kW	Tj=2°C	COPd	4.20	-						
Tj=7°C	Pdh	2.84	kW	Tj=7°C	COPd	5.30	-						
Tj=12°C	Pdh	1.45	kW	Tj=12°C	COPd	5.58	-						
Tj=bivalent temperature	Pdh	8.20	kW	Tj=bivalent temperature	COPd	2.60	-						
Tj=operating limit	Pdh	7.20	kW	Tj=operating limit	COPd	2.31	-						
Declared capacity for heating / Warmer season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Warmer season, at indoor temperature 20°C and outdoor temperature Tj									
Tj=2°C	Pdh	—	kW	Tj=2°C	COPd	—	-						
Tj=7°C	Pdh	—	kW	Tj=7°C	COPd	—	-						
Tj=12°C	Pdh	—	kW	Tj=12°C	COPd	—	-						
Tj=bivalent temperature	Pdh	—	kW	Tj=bivalent temperature	COPd	—	-						
Tj=operating limit	Pdh	—	kW	Tj=operating limit	COPd	—	-						
Declared capacity for heating / Colder season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Colder season, at indoor temperature 20°C and outdoor temperature Tj									
Tj=-7°C	Pdh	—	kW	Tj=-7°C	COPd	—	-						
Tj=2°C	Pdh	—	kW	Tj=2°C	COPd	—	-						
Tj=7°C	Pdh	—	kW	Tj=7°C	COPd	—	-						
Tj=12°C	Pdh	—	kW	Tj=12°C	COPd	—	-						
Tj=bivalent temperature	Pdh	—	kW	Tj=bivalent temperature	COPd	—	-						
Tj=operating limit	Pdh	—	kW	Tj=operating limit	COPd	—	-						
Tj=-15°C	Pdh	—	kW	Tj=-15°C	COPd	—	-						
Bivalent temperature				Operating limit temperature									
heating / Average	Tbiv	-10	°C	heating / Average	Tol	-15	°C						
heating / Warmer	Tbiv	—	°C	heating / Warmer	Tol	—	°C						
heating / Colder	Tbiv	—	°C	heating / Colder	Tol	—	°C						
Cycling interval capacity				Cycling interval efficiency									
for cooling	Pcycc	—	kW	for cooling	EERcyc	—	-						
for heating	Pcyh	—	kW	for heating	COPcyc	—	-						
Degradation coefficient				Degradation coefficient									
cooling	Cdc	0.25	-	heating	Cdh	0.25	-						
Electric power input in power modes other than 'active mode'				Annual electricity consumption									
off mode	Poff	9	W	cooling	Qce	475	kWh/a						
standby mode	Psb	9	W	heating / Average	Qhe	2,704	kWh/a						
thermostat-off mode	Pto	30	W	heating / Warmer	Qhe	—	kWh/a						
crankcase heater mode	Pck	0	W	heating / colder	Qhe	—	kWh/a						
Capacity control(indicate one of three options)				Other items									
fixed		No		Sound power level(indoor)	Lwa	64	dB(A)						
staged		No		Sound power level(outdoor)	Lwa	69	dB(A)						
variable		Yes		Global warming potential	GWP	1,975	kgCO ₂ eq.						
				Rated air flow(indoor)	-	1,920	m ³ /h						
				Rated air flow(outdoor)	-	3,780	m ³ /h						
Contact details for obtaining more information				Name and address of the manufacturer or of its authorised representative.									
				Mitsubishi Heavy Industries Air-Conditioning Europe, Ltd.									
				5 The Square, Stockley Park, Uxbridge, Middlesex, UB11 1ET,									
				United Kingdom									

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FDE100VNP1VG

Information to identify the model(s) to which the information relates to:				If function includes heating: Indicate the heating season the information relates to. Indicated values should relate to one heating season at a time. Include at least the heating season 'Average'.			
Indoor unit model name		FDE100VG					
Outdoor unit model name		FDC100VNP					
Function(indicate if present)				Average(mandatory)			
cooling		Yes		Warmer(if designated)		No	
heating		Yes		Colder(if designated)		No	
Item				Item			
		symbol value unit				symbol value class	
Design load				Seasonal efficiency and energy efficiency class			
cooling		Pdesignc 10.0 kW		cooling		SEER 6.73 A++	
heating / Average		Pdesignh 8.1 kW		heating / Average		SCOP/A 4.44 A+	
heating / Warmer		Pdesignh — kW		heating / Warmer		SCOP/W — —	
heating / Colder		Pdesignh — kW		heating / Colder		SCOP/C — —	
Declared capacity at outdoor temperature Tdesignh				Back up heating capacity at outdoor temperature Tdesignh			
heating / Average (-10°C)		Pdh 8.1 kW		heating / Average (-10°C)		elbu 0 kW	
heating / Warmer (2°C)		Pdh — kW		heating / Warmer (2°C)		elbu — kW	
heating / Colder (-22°C)		Pdh — kW		heating / Colder (-22°C)		elbu — kW	
Declared capacity for cooling, at indoor temperature 27(19)°C and outdoor temperature Tj				Declared energy efficiency ratio, at indoor temperature 27(19)°C and outdoor temperature Tj			
Tj=35°C		Pdc 10.0 kW		Tj=35°C		EERd 3.76 -	
Tj=30°C		Pdc 7.37 kW		Tj=30°C		EERd 5.30 -	
Tj=25°C		Pdc 4.80 kW		Tj=25°C		EERd 8.14 -	
Tj=20°C		Pdc 3.50 kW		Tj=20°C		EERd 11.67 -	
Declared capacity for heating / Average season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Average season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C		Pdh 7.20 kW		Tj=-7°C		COPd 2.58 -	
Tj=2°C		Pdh 4.40 kW		Tj=2°C		COPd 4.44 -	
Tj=7°C		Pdh 2.80 kW		Tj=7°C		COPd 5.96 -	
Tj=12°C		Pdh 2.90 kW		Tj=12°C		COPd 7.07 -	
Tj=bivalent temperature		Pdh 8.10 kW		Tj=bivalent temperature		COPd 2.71 -	
Tj=operating limit		Pdh 7.17 kW		Tj=operating limit		COPd 2.56 -	
Declared capacity for heating / Warmer season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Warmer season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=2°C		Pdh — kW		Tj=2°C		COPd — -	
Tj=7°C		Pdh — kW		Tj=7°C		COPd — -	
Tj=12°C		Pdh — kW		Tj=12°C		COPd — -	
Tj=bivalent temperature		Pdh — kW		Tj=bivalent temperature		COPd — -	
Tj=operating limit		Pdh — kW		Tj=operating limit		COPd — -	
Declared capacity for heating / Colder season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Colder season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C		Pdh — kW		Tj=-7°C		COPd — -	
Tj=2°C		Pdh — kW		Tj=2°C		COPd — -	
Tj=7°C		Pdh — kW		Tj=7°C		COPd — -	
Tj=12°C		Pdh — kW		Tj=12°C		COPd — -	
Tj=bivalent temperature		Pdh — kW		Tj=bivalent temperature		COPd — -	
Tj=operating limit		Pdh — kW		Tj=operating limit		COPd — -	
Tj=-15°C		Pdh — kW		Tj=-15°C		COPd — -	
Bivalent temperature				Operating limit temperature			
heating / Average		Tbiv -10 °C		heating / Average		Tol -15 °C	
heating / Warmer		Tbiv — °C		heating / Warmer		Tol — °C	
heating / Colder		Tbiv — °C		heating / Colder		Tol — °C	
Cycling interval capacity				Cycling interval efficiency			
for cooling		Pcycc — kW		for cooling		EERcyc — -	
for heating		Pcyhc — kW		for heating		COPcyc — -	
Degradation coefficient				Degradation coefficient			
cooling		Cdc 0.25 -		heating		Cdh 0.25 -	
Electric power input in power modes other than 'active mode'				Annual electricity consumption			
off mode		Poff 10 W		cooling		Qce 521 kWh/a	
standby mode		Psb 10 W		heating / Average		Qhe 2,556 kWh/a	
thermostat-off mode		Pto 36 W		heating / Warmer		Qhe — kWh/a	
crankcase heater mode		Pck 0 W		heating / colder		Qhe — kWh/a	
Capacity control(indicate one of three options)				Other items			
fixed		No		Sound power level(indoor)		Lwa 64 dB(A)	
staged		No		Sound power level(outdoor)		Lwa 70 dB(A)	
variable		Yes		Global warming potential		GWP 1,975 kgCO ₂ eq.	
				Rated air flow(indoor)		- 1,920 m ³ /h	
				Rated air flow(outdoor)		- 4,500 m ³ /h	
Contact details for obtaining more information		Name and address of the manufacturer or of its authorised representative. Mitsubishi Heavy Industries Air-Conditioning Europe, Ltd. 5 The Square, Stockley Park, Uxbridge, Middlesex, UB11 1ET, United Kingdom					

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Models FDE71VG, 100VG

Model(s) : FDE71VG							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Cooling capacity (sensible)	$P_{rated,c}$	5.6	kW	Total electric power input	P_{elec}	0.080	kW
Cooling capacity (latent)	$P_{rated,c}$	1.5	kW	Sound power level (per speed setting,if applicable)	L_{WA}	60.0	dB
Heating capacity	$P_{rated,h}$	8.0	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

Model(s) : FDE100VG							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Cooling capacity (sensible)	$P_{rated,c}$	8.4	kW	Total electric power input	P_{elec}	0.130	kW
Cooling capacity (latent)	$P_{rated,c}$	1.6	kW	Sound power level (per speed setting,if applicable)	L_{WA}	64.0	dB
Heating capacity	$P_{rated,h}$	11.2	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						


(2) Duct connected-Low/Middle static pressure type (FDUM)

FDUM71VNPVF1

Information to identify the model(s) to which the information relates to:		FDUM71VF1		If function includes heating; Indicate the heating season the information relates to. Indicated values should relate to one heating season at a time. Include at least the heating season 'Average'.			
Indoor unit model name		FDUM71VF1					
Outdoor unit model name		FDC71VNP					
Function(indicate if present)				Average(mandatory)			
cooling		Yes		Warmer(if designated)			
heating		Yes		Colder(if designated)			
				Yes			
				No			
				No			
Item	symbol	value	unit	Item	symbol	value	class
Design load				Seasonal efficiency and energy efficiency class			
cooling	Pdesignc	7.1	kW	cooling	SEER	5.73	A+
heating / Average	Pdesignh	5.7	kW	heating / Average	SCOP/A	4.00	A+
heating / Warmer	Pdesignh	—	kW	heating / Warmer	SCOP/W	—	—
heating / Colder	Pdesignh	—	kW	heating / Colder	SCOP/C	—	—
				unit			
Declared capacity at outdoor temperature Tdesignh				Back up heating capacity at outdoor temperature Tdesignh			
heating / Average (-10°C)	Pdh	5.70	kW	heating / Average (-10°C)	elbu	0	kW
heating / Warmer (2°C)	Pdh	—	kW	heating / Warmer (2°C)	elbu	—	kW
heating / Colder (-22°C)	Pdh	—	kW	heating / Colder (-22°C)	elbu	—	kW
Declared capacity for cooling, at indoor temperature 27(19)°C and outdoor temperature Tj				Declared energy efficiency ratio, at indoor temperature 27(19)°C and outdoor temperature Tj			
Tj=35°C	Pdc	7.10	kW	Tj=35°C	EERd	2.70	-
Tj=30°C	Pdc	5.20	kW	Tj=30°C	EERd	4.30	-
Tj=25°C	Pdc	3.40	kW	Tj=25°C	EERd	7.40	-
Tj=20°C	Pdc	1.50	kW	Tj=20°C	EERd	9.80	-
Declared capacity for heating / Average season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Average season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C	Pdh	5.00	kW	Tj=-7°C	COPd	2.50	-
Tj=2°C	Pdh	3.00	kW	Tj=2°C	COPd	3.90	-
Tj=7°C	Pdh	2.00	kW	Tj=7°C	COPd	5.40	-
Tj=12°C	Pdh	1.40	kW	Tj=12°C	COPd	6.00	-
Tj=bivalent temperature	Pdh	5.70	kW	Tj=bivalent temperature	COPd	2.40	-
Tj=operating limit	Pdh	5.10	kW	Tj=operating limit	COPd	2.10	-
Declared capacity for heating / Warmer season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Warmer season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=2°C	Pdh	—	kW	Tj=2°C	COPd	—	-
Tj=7°C	Pdh	—	kW	Tj=7°C	COPd	—	-
Tj=12°C	Pdh	—	kW	Tj=12°C	COPd	—	-
Tj=bivalent temperature	Pdh	—	kW	Tj=bivalent temperature	COPd	—	-
Tj=operating limit	Pdh	—	kW	Tj=operating limit	COPd	—	-
Declared capacity for heating / Colder season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Colder season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C	Pdh	—	kW	Tj=-7°C	COPd	—	-
Tj=2°C	Pdh	—	kW	Tj=2°C	COPd	—	-
Tj=7°C	Pdh	—	kW	Tj=7°C	COPd	—	-
Tj=12°C	Pdh	—	kW	Tj=12°C	COPd	—	-
Tj=bivalent temperature	Pdh	—	kW	Tj=bivalent temperature	COPd	—	-
Tj=operating limit	Pdh	—	kW	Tj=operating limit	COPd	—	-
Tj=-15°C	Pdh	—	kW	Tj=-15°C	COPd	—	-
Bivalent temperature		Tbiv		Operating limit temperature		Tol	
heating / Average		-10	°C	heating / Average		-15	°C
heating / Warmer		—	°C	heating / Warmer		—	°C
heating / Colder		—	°C	heating / Colder		—	°C
Cycling interval capacity		Pccyc		Cycling interval efficiency		EERcyc	
for cooling		—	kW	for cooling		—	-
for heating	Pchyc	—	kW	for heating	COPcyc	—	-
Degradation coefficient cooling		Cdc		Degradation coefficient heating		Cdh	
		0.25	-			0.25	-
Electric power input in power modes other than 'active mode'		Poff		Annual electricity consumption		Qce	
off mode		10	W	cooling		434	kWh/a
standby mode	Psb	10	W	heating / Average	Qhe	1,995	kWh/a
thermostat-off mode	Pto	25	W	heating / Warmer	Qhe	—	kWh/a
crankcase heater mode	Pck	0	W	heating / colder	Qhe	—	kWh/a
Capacity control(indicate one of three options)				Other items			
fixed		No		Sound power level(indoor)	Lwa	65	dB(A)
staged		No		Sound power level(outdoor)	Lwa	67	dB(A)
variable		Yes		Global warming potential	GWP	1,975	kgCO ₂ eq.
				Rated air flow(indoor)	-	1,440	m ³ /h
				Rated air flow(outdoor)	-	2,160	m ³ /h
Contact details for obtaining more information	Name and address of the manufacturer or of its authorised representative. Mitsubishi Heavy Industries Air-Conditioning Europe, Ltd. 5 The Square, Stockley Park, Uxbridge, Middlesex, UB11 1ET, United Kingdom						

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FDUM90VNP1VF2			
Information to identify the model(s) to which the information relates to:		If function includes heating: Indicate the heating season the information relates to. Indicated values should relate to one heating season at a time. Include at least the heating season 'Average'.	
Indoor unit model name	FDUM100VF2		
Outdoor unit model name	FDC90VNP1		
Function(indicate if present)		Average(mandatory)	
cooling	Yes	Warmer(if designated)	No
heating	Yes	Colder(if designated)	No
Item	symbol	value	unit
Design load			
cooling	Pdesignc	9.0	kW
heating / Average	Pdesignh	8.1	kW
heating / Warmer	Pdesignh	—	kW
heating / Colder	Pdesignh	—	kW
Declared capacity at outdoor temperature Tdesignh			
heating / Average (-10°C)	Pdh	8.10	kW
heating / Warmer (2°C)	Pdh	—	kW
heating / Colder (-22°C)	Pdh	—	kW
Declared capacity for cooling, at indoor temperature 27(19)°C and outdoor temperature Tj			
Tj=35°C	Pdc	9.00	kW
Tj=30°C	Pdc	6.60	kW
Tj=25°C	Pdc	4.30	kW
Tj=20°C	Pdc	2.20	kW
Declared capacity for heating / Average season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C	Pdh	7.10	kW
Tj=2°C	Pdh	4.30	kW
Tj=7°C	Pdh	2.70	kW
Tj=12°C	Pdh	1.80	kW
Tj=bivalent temperature	Pdh	8.10	kW
Tj=operating limit	Pdh	7.10	kW
Declared capacity for heating / Warmer season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=2°C	Pdh	—	kW
Tj=7°C	Pdh	—	kW
Tj=12°C	Pdh	—	kW
Tj=bivalent temperature	Pdh	—	kW
Tj=operating limit	Pdh	—	kW
Declared capacity for heating / Colder season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C	Pdh	—	kW
Tj=2°C	Pdh	—	kW
Tj=7°C	Pdh	—	kW
Tj=12°C	Pdh	—	kW
Tj=bivalent temperature	Pdh	—	kW
Tj=operating limit	Pdh	—	kW
Tj=-15°C	Pdh	—	kW
Bivalent temperature		Operating limit temperature	
heating / Average	Tbiv	-10	°C
heating / Warmer	Tbiv	—	°C
heating / Colder	Tbiv	—	°C
heating / Average	Tol	-15	°C
heating / Warmer	Tol	—	°C
heating / Colder	Tol	—	°C
Cycling interval capacity		Cycling interval efficiency	
for cooling	Pcyc	—	kW
for heating	Pcyc	—	kW
for cooling	EERcyc	—	-
for heating	COPcyc	—	-
Degradation coefficient cooling		Degradation coefficient heating	
	Cdc	0.25	-
	Cdh	0.25	-
Electric power input in power modes other than 'active mode'		Annual electricity consumption	
off mode	Poff	8	W
standby mode	Psb	8	W
thermostat-off mode	Pto	50	W
crankcase heater mode	Pck	0	W
cooling	Qce	480	kWh/a
heating / Average	Qhe	2,848	kWh/a
heating / Warmer	Qhe	—	kWh/a
heating / colder	Qhe	—	kWh/a
Capacity control(indicate one of three options)		Other items	
fixed		Lwa	65 dB(A)
staged	No	Lwa	69 dB(A)
variable	Yes	GWP	1,975 kgCO ₂ eq.
			Rated air flow(indoor) 2,160 m ³ /h
			Rated air flow(outdoor) 3,780 m ³ /h
Contact details for obtaining more information	Name and address of the manufacturer or of its authorised representative. Mitsubishi Heavy Industries Air-Conditioning Europe, Ltd. 5 The Square, Stockley Park, Uxbridge, Middlesex, UB11 1ET, United Kingdom		

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FDUM100VNP1VF2

Information to identify the model(s) to which the information relates to: Indoor unit model name FDUM100VF2 Outdoor unit model name FDC100VNP				If function includes heating: Indicate the heating season the information relates to. Indicated values should relate to one heating season at a time. Include at least the heating season 'Average'.			
Function(indicate if present) cooling Yes heating Yes				Average(mandatory) Yes Warmer(if designated) No Colder(if designated) No			
Item symbol value unit				Item symbol value class			
Design load cooling Pdesignc 10.0 kW heating / Average Pdesignh 8.1 kW heating / Warmer Pdesignh — kW heating / Colder Pdesignh — kW				Seasonal efficiency and energy efficiency class cooling SEER 6.36 A++ heating / Average SCOP/A 4.13 A+ heating / Warmer SCOP/W — — heating / Colder SCOP/C — —			
Declared capacity at outdoor temperature Tdesignh heating / Average (-10°C) Pdh 8.10 kW heating / Warmer (2°C) Pdh — kW heating / Colder (-22°C) Pdh — kW				Back up heating capacity at outdoor temperature Tdesignh heating / Average (-10°C) elbu 0 kW heating / Warmer (2°C) elbu — kW heating / Colder (-22°C) elbu — kW			
Declared capacity for cooling, at indoor temperature 27(19)°C and outdoor temperature Tj Tj=35°C Pdc 10.00 kW Tj=30°C Pdc 7.37 kW Tj=25°C Pdc 4.74 kW Tj=20°C Pdc 3.50 kW				Declared energy efficiency ratio, at indoor temperature 27(19)°C and outdoor temperature Tj Tj=35°C EERd 3.33 - Tj=30°C EERd 4.75 - Tj=25°C EERd 8.03 - Tj=20°C EERd 11.67 -			
Declared capacity for heating / Average season, at indoor temperature 20°C and outdoor temperature Tj Tj=-7°C Pdh 7.17 kW Tj=2°C Pdh 4.36 kW Tj=7°C Pdh 2.83 kW Tj=12°C Pdh 2.90 kW Tj=bivalent temperature Pdh 8.10 kW Tj=operating limit Pdh 7.15 kW				Declared coefficient of performance / Average season, at indoor temperature 20°C and outdoor temperature Tj Tj=-7°C COPd 2.79 - Tj=2°C COPd 4.04 - Tj=7°C COPd 5.34 - Tj=12°C COPd 6.17 - Tj=bivalent temperature COPd 2.52 - Tj=operating limit COPd 2.38 -			
Declared capacity for heating / Warmer season, at indoor temperature 20°C and outdoor temperature Tj Tj=2°C Pdh — kW Tj=7°C Pdh — kW Tj=12°C Pdh — kW Tj=bivalent temperature Pdh — kW Tj=operating limit Pdh — kW				Declared coefficient of performance / Warmer season, at indoor temperature 20°C and outdoor temperature Tj Tj=2°C COPd — - Tj=7°C COPd — - Tj=12°C COPd — - Tj=bivalent temperature COPd — - Tj=operating limit COPd — -			
Declared capacity for heating / Colder season, at indoor temperature 20°C and outdoor temperature Tj Tj=-7°C Pdh — kW Tj=2°C Pdh — kW Tj=7°C Pdh — kW Tj=12°C Pdh — kW Tj=bivalent temperature Pdh — kW Tj=operating limit Pdh — kW Tj=-15°C Pdh — kW				Declared coefficient of performance / Colder season, at indoor temperature 20°C and outdoor temperature Tj Tj=-7°C COPd — - Tj=2°C COPd — - Tj=7°C COPd — - Tj=12°C COPd — - Tj=bivalent temperature COPd — - Tj=operating limit COPd — - Tj=-15°C COPd — -			
Bivalent temperature heating / Average Tbiv -10 °C heating / Warmer Tbiv — °C heating / Colder Tbiv — °C				Operating limit temperature heating / Average Tol -15 °C heating / Warmer Tol — °C heating / Colder Tol — °C			
Cycling interval capacity for cooling Pcycc — kW for heating Pcyh — kW				Cycling interval efficiency for cooling EERcyc — - for heating COPcyc — -			
Degradation coefficient cooling Cdc 0.25 -				Degradation coefficient heating Cdh 0.25 -			
Electric power input in power modes other than 'active mode' off mode Poff 10 W standby mode Psb 10 W thermostat-off mode Pto 50 W crankcase heater mode Pck 0 W				Annual electricity consumption cooling Qce 551 kWh/a heating / Average Qhe 2,746 kWh/a heating / Warmer Qhe — kWh/a heating / colder Qhe — kWh/a			
Capacity control(indicate one of three options) fixed No staged No variable Yes				Other items Sound power level(indoor) Lwa 65 dB(A) Sound power level(outdoor) Lwa 70 dB(A) Global warming potential GWP 1,975 kgCO ₂ eq. Rated air flow(indoor) 2,160 m ³ /h Rated air flow(outdoor) 4,500 m ³ /h			
Contact details for obtaining more information	Name and address of the manufacturer or of its authorised representative. Mitsubishi Heavy Industries Air-Conditioning Europe, Ltd. 5 The Square, Stockley Park, Uxbridge, Middlesex, UB11 1ET, United Kingdom						

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Models FDUM71VF1, 100VF2

Model(s) : FDUM71VF1							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Cooling capacity (sensible)	Prated,c	5.8	kW	Total electric power input	Pelec	0.200	kW
Cooling capacity (latent)	Prated,c	1.3	kW	Sound power level (per speed setting,if applicable)	LWA	65.0	dB
Heating capacity	Prated,h	8.0	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						


Model(s) : FDUM100VF2							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Cooling capacity (sensible)	Prated,c	7.7	kW	Total electric power input	Pelec	0.290	kW
Cooling capacity (latent)	Prated,c	2.3	kW	Sound power level (per speed setting,if applicable)	LWA	65.0	dB
Heating capacity	Prated,h	11.2	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

(3) Duct connected-High static pressure type (FDU)

FDU71VNPVF1			
Information to identify the model(s) to which the information relates to:		If function includes heating: Indicate the heating season the information relates to. Indicated values should relate to one heating season at a time. Include at least the heating season 'Average'.	
Indoor unit model name	FDU71VF1		
Outdoor unit model name	FDC71VNP		
Function(indicate if present)		Average(mandatory)	
cooling	Yes	Warmer(if designated)	No
heating	Yes	Colder(if designated)	No
Item	symbol	value	unit
Design load			
cooling	Pdesignc	7.1	kW
heating / Average	Pdesignh	5.7	kW
heating / Warmer	Pdesignh	—	kW
heating / Colder	Pdesignh	—	kW
Seasonal efficiency and energy efficiency class			
cooling	SEER	5.73	A+
heating / Average	SCOP/A	4.00	A+
heating / Warmer	SCOP/W	—	—
heating / Colder	SCOP/C	—	—
unit			
Declared capacity at outdoor temperature Tdesignh		Back up heating capacity at outdoor temperature Tdesignh	
heating / Average (-10°C)	Pdh	5.70	kW
heating / Warmer (2°C)	Pdh	—	kW
heating / Colder (-22°C)	Pdh	—	kW
heating / Average (-10°C)	elbu	0.00	kW
heating / Warmer (2°C)	elbu	—	kW
heating / Colder (-22°C)	elbu	—	kW
Declared capacity for cooling, at indoor temperature 27(19)°C and outdoor temperature Tj		Declared energy efficiency ratio, at indoor temperature 27(19)°C and outdoor temperature Tj	
Tj=35°C	Pdc	7.10	kW
Tj=30°C	Pdc	5.20	kW
Tj=25°C	Pdc	3.40	kW
Tj=20°C	Pdc	1.50	kW
Tj=35°C	EERd	2.70	-
Tj=30°C	EERd	4.30	-
Tj=25°C	EERd	7.40	-
Tj=20°C	EERd	9.80	-
Declared capacity for heating / Average season, at indoor temperature 20°C and outdoor temperature Tj		Declared coefficient of performance / Average season, at indoor temperature 20°C and outdoor temperature Tj	
Tj=-7°C	Pdh	5.00	kW
Tj=2°C	Pdh	3.00	kW
Tj=7°C	Pdh	2.00	kW
Tj=12°C	Pdh	1.40	kW
Tj=bivalent temperature	Pdh	5.70	kW
Tj=operating limit	Pdh	5.10	kW
Tj=-7°C	COPd	2.50	-
Tj=2°C	COPd	3.90	-
Tj=7°C	COPd	5.40	-
Tj=12°C	COPd	6.00	-
Tj=bivalent temperature	COPd	2.40	-
Tj=operating limit	COPd	2.10	-
Declared capacity for heating / Warmer season, at indoor temperature 20°C and outdoor temperature Tj		Declared coefficient of performance / Warmer season, at indoor temperature 20°C and outdoor temperature Tj	
Tj=2°C	Pdh	—	kW
Tj=7°C	Pdh	—	kW
Tj=12°C	Pdh	—	kW
Tj=bivalent temperature	Pdh	—	kW
Tj=operating limit	Pdh	—	kW
Tj=2°C	COPd	—	-
Tj=7°C	COPd	—	-
Tj=12°C	COPd	—	-
Tj=bivalent temperature	COPd	—	-
Tj=operating limit	COPd	—	-
Declared capacity for heating / Colder season, at indoor temperature 20°C and outdoor temperature Tj		Declared coefficient of performance / Colder season, at indoor temperature 20°C and outdoor temperature Tj	
Tj=-7°C	Pdh	—	kW
Tj=2°C	Pdh	—	kW
Tj=7°C	Pdh	—	kW
Tj=12°C	Pdh	—	kW
Tj=bivalent temperature	Pdh	—	kW
Tj=operating limit	Pdh	—	kW
Tj=-15°C	Pdh	—	kW
Tj=-7°C	COPd	—	-
Tj=2°C	COPd	—	-
Tj=7°C	COPd	—	-
Tj=12°C	COPd	—	-
Tj=bivalent temperature	COPd	—	-
Tj=operating limit	COPd	—	-
Tj=-15°C	COPd	—	-
Bivalent temperature		Operating limit temperature	
heating / Average	Tbiv	-10	°C
heating / Warmer	Tbiv	—	°C
heating / Colder	Tbiv	—	°C
heating / Average	Tol	-15	°C
heating / Warmer	Tol	—	°C
heating / Colder	Tol	—	°C
Cycling interval capacity		Cycling interval efficiency	
for cooling	Pcycc	—	kW
for heating	Pcyh	—	kW
for cooling	EERcyc	—	-
for heating	COPcyc	—	-
Degradation coefficient cooling		Degradation coefficient heating	
	Cdc	0.25	-
	Cdh	0.25	-
Electric power input in power modes other than 'active mode'		Annual electricity consumption	
off mode	Poff	10	W
standby mode	Psb	10	W
thermostat-off mode	Pto	25	W
crankcase heater mode	Pck	0	W
cooling	Qce	434	kWh/a
heating / Average	Qhe	1,995	kWh/a
heating / Warmer	Qhe	—	kWh/a
heating / colder	Qhe	—	kWh/a
Capacity control(indicate one of three options)		Other items	
fixed		Lwa	65 dB(A)
staged		Lwa	67 dB(A)
variable		Global warming potential	1,975 kgCO ₂ eq.
		Rated air flow(indoor)	1,440 m ³ /h
		Rated air flow(outdoor)	2,160 m ³ /h
Contact details for obtaining more information	Name and address of the manufacturer or of its authorised representative. Mitsubishi Heavy Industries Air-Conditioning Europe, Ltd. 5 The Square, Stockley Park, Uxbridge, Middlesex, UB11 1ET, United Kingdom		

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FDU90VNP1VF2

Information to identify the model(s) to which the information relates to:				If function includes heating: Indicate the heating season the information relates to. Indicated values should relate to one heating season at a time. Include at least the heating season 'Average'.			
Indoor unit model name		FDU100VF2		Average(mandatory)		Yes	
Outdoor unit model name		FDC90VNP1		Warmer(if designated)		No	
Function(indicate if present)				Colder(if designated)			
cooling		Yes					
heating		Yes					
Item				Item			
symbol		value		symbol		value	
unit				class			
Design load				Seasonal efficiency and energy efficiency class			
cooling		Pdesignc 9.0 kW		cooling		SEER 6.56 A++	
heating / Average		Pdesignh 8.1 kW		heating / Average		SCOP/A 3.98 A	
heating / Warmer		Pdesignh — kW		heating / Warmer		SCOP/W — —	
heating / Colder		Pdesignh — kW		heating / Colder		SCOP/C — —	
				unit			
Declared capacity at outdoor temperature Tdesignh				Back up heating capacity at outdoor temperature Tdesignh			
heating / Average (-10°C)		Pdh 8.10 kW		heating / Average (-10°C)		elbu 0 kW	
heating / Warmer (2°C)		Pdh — kW		heating / Warmer (2°C)		elbu — kW	
heating / Colder (-22°C)		Pdh — kW		heating / Colder (-22°C)		elbu — kW	
Declared capacity for cooling, at indoor temperature 27(19)°C and outdoor temperature Tj				Declared energy efficiency ratio, at indoor temperature 27(19)°C and outdoor temperature Tj			
Tj=35°C		Pdc 9.00 kW		Tj=35°C		EERd 3.35 -	
Tj=30°C		Pdc 6.60 kW		Tj=30°C		EERd 5.05 -	
Tj=25°C		Pdc 4.30 kW		Tj=25°C		EERd 7.97 -	
Tj=20°C		Pdc 2.20 kW		Tj=20°C		EERd 11.75 -	
Declared capacity for heating / Average season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Average season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C		Pdh 7.10 kW		Tj=-7°C		COPd 2.69 -	
Tj=2°C		Pdh 4.30 kW		Tj=2°C		COPd 3.93 -	
Tj=7°C		Pdh 2.70 kW		Tj=7°C		COPd 5.12 -	
Tj=12°C		Pdh 1.80 kW		Tj=12°C		COPd 5.25 -	
Tj=bivalent temperature		Pdh 8.10 kW		Tj=bivalent temperature		COPd 2.50 -	
Tj=operating limit		Pdh 7.10 kW		Tj=operating limit		COPd 2.36 -	
Declared capacity for heating / Warmer season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Warmer season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=2°C		Pdh — kW		Tj=2°C		COPd — -	
Tj=7°C		Pdh — kW		Tj=7°C		COPd — -	
Tj=12°C		Pdh — kW		Tj=12°C		COPd — -	
Tj=bivalent temperature		Pdh — kW		Tj=bivalent temperature		COPd — -	
Tj=operating limit		Pdh — kW		Tj=operating limit		COPd — -	
Declared capacity for heating / Colder season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Colder season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C		Pdh — kW		Tj=-7°C		COPd — -	
Tj=2°C		Pdh — kW		Tj=2°C		COPd — -	
Tj=7°C		Pdh — kW		Tj=7°C		COPd — -	
Tj=12°C		Pdh — kW		Tj=12°C		COPd — -	
Tj=bivalent temperature		Pdh — kW		Tj=bivalent temperature		COPd — -	
Tj=operating limit		Pdh — kW		Tj=operating limit		COPd — -	
Tj=-15°C		Pdh — kW		Tj=-15°C		COPd — -	
Bivalent temperature				Operating limit temperature			
heating / Average		Tbiv -10 °C		heating / Average		Tol -15 °C	
heating / Warmer		Tbiv — °C		heating / Warmer		Tol — °C	
heating / Colder		Tbiv — °C		heating / Colder		Tol — °C	
Cycling interval capacity				Cycling interval efficiency			
for cooling		Pcycc — kW		for cooling		EERcyc — -	
for heating		Pcyh — kW		for heating		COPcyc — -	
Degradation coefficient				Degradation coefficient			
cooling		Cdc 0.25 -		heating		Cdh 0.25 -	
Electric power input in power modes other than 'active mode'				Annual electricity consumption			
off mode		Poff 8 W		cooling		Qce 480 kWh/a	
standby mode		Psb 8 W		heating / Average		Qhe 2,848 kWh/a	
thermostat-off mode		Pto 50 W		heating / Warmer		Qhe — kWh/a	
crankcase heater mode		Pck 0 W		heating / colder		Qhe — kWh/a	
Capacity control(indicate one of three options)				Other items			
fixed		No		Sound power level(indoor)		Lwa 65 dB(A)	
staged		No		Sound power level(outdoor)		Lwa 69 dB(A)	
variable		Yes		Global warming potential		GWP 1,975 kgCO ₂ eq.	
				Rated air flow(indoor)		- 2,160 m ³ /h	
				Rated air flow(outdoor)		- 3,780 m ³ /h	
Contact details for obtaining more information		Name and address of the manufacturer or of its authorised representative. Mitsubishi Heavy Industries Air-Conditioning Europe, Ltd. 5 The Square, Stockley Park, Uxbridge, Middlesex, UB11 1ET, United Kingdom					
		PJG000Z462 					

FDU100VNP1VF2

Information to identify the model(s) to which the information relates to:		FDU100VF2		If function includes heating: Indicate the heating season the information relates to. Indicated values should relate to one heating season at a time. Include at least the heating season 'Average'.			
Indoor unit model name		FDU100VF2					
Outdoor unit model name		FDC100VNP					
Function(indicate if present)				Average(mandatory)			
cooling		Yes		Warmer(if designated)			
heating		Yes		Colder(if designated)			
				Yes			
				No			
				No			
Item	symbol	value	unit	Item	symbol	value	class
Design load				Seasonal efficiency and energy efficiency class			
cooling	Pdesignc	10.0	kW	cooling	SEER	6.36	A++
heating / Average	Pdesignh	8.1	kW	heating / Average	SCOP/A	4.13	A+
heating / Warmer	Pdesignh	—	kW	heating / Warmer	SCOP/W	—	—
heating / Colder	Pdesignh	—	kW	heating / Colder	SCOP/C	—	—
				unit			
Declared capacity at outdoor temperature Tdesignh				Back up heating capacity at outdoor temperature Tdesignh			
heating / Average (-10°C)	Pdh	8.10	kW	heating / Average (-10°C)	elbu	0.00	kW
heating / Warmer (2°C)	Pdh	—	kW	heating / Warmer (2°C)	elbu	—	kW
heating / Colder (-22°C)	Pdh	—	kW	heating / Colder (-22°C)	elbu	—	kW
Declared capacity for cooling, at indoor temperature 27(19)°C and outdoor temperature Tj				Declared energy efficiency ratio, at indoor temperature 27(19)°C and outdoor temperature Tj			
Tj=35°C	Pdc	10.00	kW	Tj=35°C	EERd	3.33	-
Tj=30°C	Pdc	7.37	kW	Tj=30°C	EERd	4.75	-
Tj=25°C	Pdc	4.74	kW	Tj=25°C	EERd	8.03	-
Tj=20°C	Pdc	3.50	kW	Tj=20°C	EERd	11.67	-
Declared capacity for heating / Average season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Average season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C	Pdh	7.17	kW	Tj=-7°C	COPd	2.79	-
Tj=2°C	Pdh	4.36	kW	Tj=2°C	COPd	4.04	-
Tj=7°C	Pdh	2.83	kW	Tj=7°C	COPd	5.34	-
Tj=12°C	Pdh	2.90	kW	Tj=12°C	COPd	6.17	-
Tj=bivalent temperature	Pdh	8.10	kW	Tj=bivalent temperature	COPd	2.52	-
Tj=operating limit	Pdh	7.15	kW	Tj=operating limit	COPd	2.38	-
Declared capacity for heating / Warmer season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Warmer season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=2°C	Pdh	—	kW	Tj=2°C	COPd	—	-
Tj=7°C	Pdh	—	kW	Tj=7°C	COPd	—	-
Tj=12°C	Pdh	—	kW	Tj=12°C	COPd	—	-
Tj=bivalent temperature	Pdh	—	kW	Tj=bivalent temperature	COPd	—	-
Tj=operating limit	Pdh	—	kW	Tj=operating limit	COPd	—	-
Declared capacity for heating / Colder season, at indoor temperature 20°C and outdoor temperature Tj				Declared coefficient of performance / Colder season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C	Pdh	—	kW	Tj=-7°C	COPd	—	-
Tj=2°C	Pdh	—	kW	Tj=2°C	COPd	—	-
Tj=7°C	Pdh	—	kW	Tj=7°C	COPd	—	-
Tj=12°C	Pdh	—	kW	Tj=12°C	COPd	—	-
Tj=bivalent temperature	Pdh	—	kW	Tj=bivalent temperature	COPd	—	-
Tj=operating limit	Pdh	—	kW	Tj=operating limit	COPd	—	-
Tj=-15°C	Pdh	—	kW	Tj=-15°C	COPd	—	-
Bivalent temperature				Operating limit temperature			
heating / Average	Tbiv	-10	°C	heating / Average	Tol	-15	°C
heating / Warmer	Tbiv	—	°C	heating / Warmer	Tol	—	°C
heating / Colder	Tbiv	—	°C	heating / Colder	Tol	—	°C
Cycling interval capacity				Cycling interval efficiency			
for cooling	Pcycc	—	kW	for cooling	EERcyc	—	-
for heating	Pcyh	—	kW	for heating	COPcyc	—	-
Degradation coefficient cooling				Degradation coefficient heating			
	Cdc	0.25	-		Cdh	0.25	-
Electric power input in power modes other than 'active mode'				Annual electricity consumption			
off mode	Poff	10	W	cooling	Qce	551	kWh/a
standby mode	Psb	10	W	heating / Average	Qhe	2,746	kWh/a
thermostat-off mode	Pto	50	W	heating / Warmer	Qhe	—	kWh/a
crankcase heater mode	Pck	0	W	heating / colder	Qhe	—	kWh/a
Capacity control(indicate one of three options)				Other items			
fixed		No		Sound power level(indoor)	Lwa	65	dB(A)
staged		No		Sound power level(outdoor)	Lwa	70	dB(A)
variable		Yes		Global warming potential	GWp	1,975	kgCO ₂ eq.
				Rated air flow(indoor)	-	2,160	m ³ /h
				Rated air flow(outdoor)	-	4,500	m ³ /h
Contact details for obtaining more information	Name and address of the manufacturer or of its authorised representative. Mitsubishi Heavy Industries Air-Conditioning Europe, Ltd. 5 The Square, Stockley Park, Uxbridge, Middlesex, UB11 1ET, United Kingdom						

PJG000Z462 

Models FDU71VF1, 100VF2

Model(s) : FDU71VF1							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Cooling capacity (sensible)	$P_{rated,c}$	5.8	kW	Total electric power input	P_{elec}	0.250	kW
Cooling capacity (latent)	$P_{rated,c}$	1.3	kW	Sound power level (per speed setting,if applicable)	L_{WA}	65.0	dB
Heating capacity	$P_{rated,h}$	8.0	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

Model(s) : FDU100VF2							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Cooling capacity (sensible)	$P_{rated,c}$	7.7	kW	Total electric power input	P_{elec}	0.350	kW
Cooling capacity (latent)	$P_{rated,c}$	2.3	kW	Sound power level (per speed setting,if applicable)	L_{WA}	65.0	dB
Heating capacity	$P_{rated,h}$	11.2	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

4. V MULTI SYSTEM

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4.1 HYPER INVERTER PACKAGED AIR-CONDITIONERS

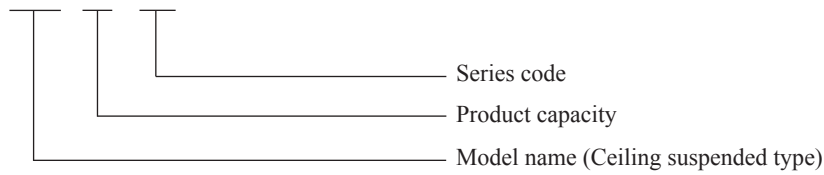
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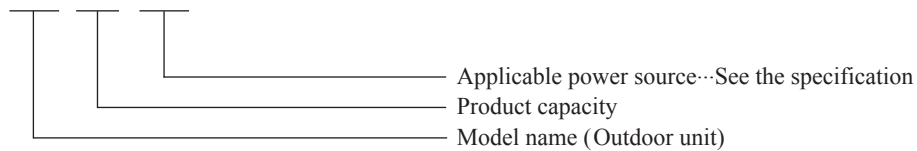
4.1.1 GENERAL INFORMATION

(1) How to read the model name

Example: **FDE 40 VG**



Example: **FDC 100 VNX**



(2) Table of models

Model \ Capacity	40	50	60	71
Ceiling suspended type (FDE)	○	○	○	○
Outdoor unit to be combined (FDC)	FDC71VNX (3 Horse Power)	FDC100VNX FDC100VSX (4 Horse Power)	FDC125VNX FDC125VSX (5 Horse Power)	FDC140VNX FDC140VSX (6 Horse Power)

(3) Table of system combinations

Outdoor unit	Type	Indoor unit assembly capacity	Branch pipe set (Option)
FDC71VNX	Twin	40+40	DIS-WA1
FDC100VNX FDC100VSX		50+50	
FDC125VNX FDC125VSX		60+60 50+71	
FDC140VNX FDC140VSX	Twin	71+71	DIS-TA1 or DIS-WA1×2set
	Triple	50+50+50	

- Notes(1) Always use the branch piping set (option) at branches in the refrigerant piping.
 (2) If wireless specifications are used, use 1 wireless indoor unit in combination with wired indoor units.
 (3) The combinations except the above table forbids.

4.1.2 SPECIFICATIONS (1) Indoor units

Item		Model		FDE40VG		
Power source		1 Phase 220-240V 50Hz / 220V 60Hz				
Operation data	Nominal cooling capacity	kW	4.0			
	Nominal heating capacity	kW	4.5			
	Sound power level	Cooling	dB(A)	60		
		Heating				
	Sound pressure level	Cooling	dB(A)	P-Hi : 46 Hi : 38 Me : 36 Lo : 31		
		Heating				
Silent mode sound pressure level		—				
Exterior dimensions (Height x Width x Depth)		mm	210 × 1,070 × 690			
Exterior appearance (Munsell color)		Plaster white (6.8Y8.9/0.2) near equivalent				
Net weight		kg	28			
Heat exchanger		Louver fin & inner grooved tubing				
Fan type & Q'ty		Centrifugal fan ×2				
Fan motor (Starting method)		W	30 < Direct line start >			
Air flow	Cooling	m ³ /min	P-Hi : 13 Hi : 10 Me : 9 Lo : 7			
	Heating					
Available external static pressure		Pa	0			
Outside air intake		Not possible				
Air filter, Quality / Quantity		Pocket plastic net ×2(Washable)				
Shock & vibration absorber		Rubber sleeve(for fan motor)				
Electric heater		W	—			
Operation control	Remote control	(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-E-E3				
	Room temperature control	Thermostat by electronics				
	Operation display	—				
Safety equipments		Overload protection for fan motor Frost protection thermostat				
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: φ 6.35 (1/4") Gas line: φ 12.7 (1/2")			
	Connecting method	Flare piping				
	Attached length of piping	m	—			
	Insulation for piping	Necessary (both Liquid & Gas lines)				
Drain hose		Hose connectable VP20(O.D.26)				
Drain pump, max lift height		mm	—			
IP number		IPX0				
Standard accessories		Mounting kit, Drain hose				
Option parts		Motion sensor : LB-E				

Notes (1) The data are measured at the following conditions.

Operation \ Item	Indoor air temperature		Outdoor air temperature		Standards
	DB	WB	DB	WB	
Cooling	27°C	19°C	35°C	24°C	ISO5151-T1
Heating	20°C	—	7°C	6°C	

(2) This air-conditioner is manufactured and tested in conformity with the ISO.

(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.

(4) The operation data indicate when the air-conditioner is operated at 230V 50Hz or 220V 60Hz.

Item		Model	FDE50VG	
Power source			1 Phase 220-240V 50Hz / 220V 60Hz	
Operation data	Nominal cooling capacity		kW 5.0	
	Nominal heating capacity		kW 5.4	
	Sound power level	Cooling	dB(A)	60
		Heating		
	Sound pressure level	Cooling	P-Hi : 46 Hi : 38 Me : 36 Lo : 31	
Heating				
Silent mode sound pressure level			—	
Exterior dimensions (Height x Width x Depth)		mm	210 x 1,070 x 690	
Exterior appearance (Munsell color)			Plaster white (6.8Y8.9/0.2) near equivalent	
Net weight		kg	28	
Heat exchanger			Louver fin & inner grooved tubing	
Fan type & Q'ty			Centrifugal fan x2	
Fan motor (Starting method)		W	30 < Direct line start >	
Air flow	Cooling	m³/min	P-Hi : 13 Hi : 10 Me : 9 Lo : 7	
	Heating			
Available external static pressure		Pa	0	
Outside air intake			Not possible	
Air filter, Quality / Quantity			Pocket plastic net x2(Washable)	
Shock & vibration absorber			Rubber sleeve(for fan motor)	
Electric heater		W	—	
Operation control	Remote control		(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-E-E3	
	Room temperature control		Thermostat by electronics	
	Operation display		—	
Safety equipments			Overload protection for fan motor Frost protection thermostat	
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: ϕ 6.35 (1/4") Gas line: ϕ 12.7 (1/2")	
	Connecting method		Flare piping	
	Attached length of piping	m	—	
	Insulation for piping		Necessary (both Liquid & Gas lines)	
Drain hose			Hose connectable VP20(O.D.26)	
Drain pump, max lift height		mm	—	
IP number			IPX0	
Standard accessories			Mounting kit, Drain hose	
Option parts			Motion sensor : LB-E	

Notes (1) The data are measured at the following conditions.

Item	Indoor air temperature		Outdoor air temperature		Standards
	DB	WB	DB	WB	
Cooling	27°C	19°C	35°C	24°C	ISO5151-T1
Heating	20°C	—	7°C	6°C	

(2) This air-conditioner is manufactured and tested in conformity with the ISO.

(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.

(4) The operation data indicate when the air-conditioner is operated at 230V 50Hz or 220V 60Hz.

Item		Model	FDE60VG																					
Power source			1 Phase 220-240V 50Hz / 220V 60Hz																					
Operation data	Nominal cooling capacity	kW	5.6																					
	Nominal heating capacity	kW	6.7																					
	Sound power level	Cooling	dB(A)	60																				
		Heating																						
	Sound pressure level	Cooling	P-Hi : 47 Hi : 41 Me : 37 Lo : 32																					
Heating																								
Silent mode sound pressure level			—																					
Exterior dimensions (Height x Width x Depth)		mm	210 × 1,320 × 690																					
Exterior appearance (Munsell color)			Plaster white (6.8Y8.9/0.2) near equivalent																					
Net weight		kg	33																					
Heat exchanger			Louver fin & inner grooved tubing																					
Fan type & Q'ty			Centrifugal fan ×4																					
Fan motor (Starting method)		W	50 < Direct line start >																					
Air flow	Cooling	m ³ /min	P-Hi : 20 Hi : 16 Me : 13 Lo : 10																					
	Heating																							
Available external static pressure		Pa	0																					
Outside air intake			Not possible																					
Air filter, Quality / Quantity			Pocket plastic net ×2(Washable)																					
Shock & vibration absorber			Rubber sleeve(for fan motor)																					
Electric heater		W	—																					
Operation control	Remote control		(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-E-E3																					
	Room temperature control		Thermostat by electronics																					
	Operation display		—																					
Safety equipments			Overload protection for fan motor Frost protection thermostat																					
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: ϕ 6.35 (1/4") Gas line: ϕ 12.7 (1/2")																					
	Connecting method		Flare piping																					
	Attached length of piping	m	—																					
	Drain hose		Hose connectable VP20(O.D.26)																					
Drain pump, max lift height		mm	—																					
IP number			IPX0																					
Standard accessories			Mounting kit, Drain hose																					
Option parts			Motion sensor : LB-E																					
Notes (1) The data are measured at the following conditions.																								
<table border="1"> <thead> <tr> <th rowspan="2">Operation \ Item</th> <th colspan="2">Indoor air temperature</th> <th colspan="2">Outdoor air temperature</th> <th rowspan="2">Standards</th> </tr> <tr> <th>DB</th> <th>WB</th> <th>DB</th> <th>WB</th> </tr> </thead> <tbody> <tr> <td>Cooling</td> <td>27°C</td> <td>19°C</td> <td>35°C</td> <td>24°C</td> <td rowspan="2">ISO5151-T1</td> </tr> <tr> <td>Heating</td> <td>20°C</td> <td>—</td> <td>7°C</td> <td>6°C</td> </tr> </tbody> </table>				Operation \ Item	Indoor air temperature		Outdoor air temperature		Standards	DB	WB	DB	WB	Cooling	27°C	19°C	35°C	24°C	ISO5151-T1	Heating	20°C	—	7°C	6°C
Operation \ Item	Indoor air temperature		Outdoor air temperature		Standards																			
	DB	WB	DB	WB																				
Cooling	27°C	19°C	35°C	24°C	ISO5151-T1																			
Heating	20°C	—	7°C	6°C																				
(2) This air-conditioner is manufactured and tested in conformity with the ISO.																								
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.																								
(4) The operation data indicate when the air-conditioner is operated at 230V 50Hz or 220V 60Hz.																								

Item		Model		FDE71VG		
Power source		1 Phase 220-240V 50Hz / 220V 60Hz				
Operation data	Nominal cooling capacity (range)	kW	7.1			
	Nominal heating capacity (range)	kW	8.0			
	Sound power level	Cooling	dB(A)	60		
		Heating				
	Sound pressure level	Cooling	P-Hi : 47 Hi : 41 Me : 37 Lo : 32			
Heating						
Silent mode sound pressure level		—				
Exterior dimensions (Height x Width x Depth)		mm	210 x 1,320 x 690			
Exterior appearance (Munsell color)		Plaster white (6.8Y8.9/0.2) near equivalent				
Net weight		kg	33			
Heat exchanger		Louver fin & inner grooved tubing				
Fan type & Q'ty		Centrifugal fan x4				
Fan motor (Starting method)		W	50 < Direct line start >			
Air flow	Cooling	m³/min	P-Hi : 20 Hi : 16 Me : 13 Lo : 10			
	Heating					
Available external static pressure		Pa	0			
Outside air intake		Not possible				
Air filter, Quality / Quantity		Pocket plastic net x2(Washable)				
Shock & vibration absorber		Rubber sleeve(for fan motor)				
Electric heater		W	—			
Operation control	Remote control	(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-E-E3				
	Room temperature control	Thermostat by electronics				
	Operation display	—				
Safety equipments		Overload protection for fan motor Frost protection thermostat				
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: ϕ 9.52 (3/8") Gas line: ϕ 15.88 (5/8")			
	Connecting method	Flare piping				
	Attached length of piping	m	—			
	Insulation for piping	Necessary (both Liquid & Gas lines)				
Drain hose		Hose connectable VP20(O.D.26)				
Drain pump, max lift height		mm	—			
IP number		IPX0				
Standard accessories		Mounting kit, Drain hose				
Option parts		Motion sensor : LB-E				

Notes (1) The data are measured at the following conditions.

Item	Indoor air temperature		Outdoor air temperature		Standards
	DB	WB	DB	WB	
Cooling	27°C	19°C	35°C	24°C	ISO5151-T1
Heating	20°C	—	7°C	6°C	


(2) This air-conditioner is manufactured and tested in conformity with the ISO.

(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.

(4) The operation data indicate when the air-conditioner is operated at 230V 50Hz or 220V 60Hz.

(2) Outdoor units

Item		Model		FDC71VNX		
Power source				1 Phase 220-240V 50Hz / 220V 60Hz		
Operation data	Nominal cooling capacity (range)	kW	7.1 [3.2(Min.)-8.0(Max.)]			
	Nominal heating capacity (range)	kW	8.0 [3.6(Min.)-9.0(Max.)]			
	Sound power level	Cooling	dB(A)	66		
		Heating		51		
	Sound pressure level	Cooling		48		
		Heating		—		
Silent mode sound pressure level				—		
Exterior dimensions (Height x Width x Depth)		mm		750×880(+88)×340		
Exterior appearance (Munsell color)				Stucco white (4.2Y7.5/1.1) near equivalent		
Net weight		kg	60			
Compressor type & Q'ty				RMT5118MDE2(Twin rotary type)×1		
Compressor motor (Starting method)		kW	Direct line start			
Refrigerant oil (Amount, type)		ℓ	0.675 (M-MA68)			
Refrigerant (Type, amount, pre-charge length)		kg	R410A 2.95kg in outdoor unit (Incl. the amount for the piping of : 30m)			
Heat exchanger				M shape fin & inner grooved tubing		
Refrigerant control				Electronic expansion valve		
Fan type & Q'ty				Propeller fan ×1		
Fan motor (Starting method)		W	86 < Direct line start >			
Air flow	Cooling	m³/min	60			
	Heating		50			
Shock & vibration absorber				Rubber sleeve(for compressor)		
Electric heater		W	20(Crank case heater)			
Safety equipments				Internal thermostat for fan motor Abnormal discharge temperature protection		
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: ϕ 9.52 (3/8") Gas line: ϕ 15.88 (5/8")			
	Connecting method			Flare piping		
	Attached length of piping	m	—			
	Insulation for piping			Necessary (both Liquid & Gas lines)		
	Refrigerant line (one way) length	m	Max.50m			
	Vertical height diff. between O/U and I/U	m	Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)			
Drain hose				Hole size ϕ 20 x 3 pcs		
IP number				IP24		
Standard accessories				—		
Option parts				—		
Notes (1) The data are measured at the following conditions. The pipe length is 7.5m.						
	Item	Indoor air temperature		Outdoor air temperature		Standards
Operation		DB	WB	DB	WB	
	Cooling	27°C	19°C	35°C	24°C	ISO5151-T1
	Heating	20°C	—	7°C	6°C	
(2) This air-conditioner is manufactured and tested in conformity with the ISO.						
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.						
(4) The operation data indicate when the air-conditioner is operated at 230V 50Hz or 220V 60Hz.						

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Item		Model	FDC100VNX			
Power source			1 Phase 220-240V 50Hz / 220V 60Hz			
Operation data	Nominal cooling capacity (range)	kW	10.0 [4.0(Min.)-11.2(Max.)]			
	Nominal heating capacity (range)	kW	11.2 [4.0(Min.)-12.5(Max.)]			
	Sound power level	Cooling	dB(A)	70		
		Heating		48		
	Sound pressure level	Cooling	50			
Heating		—				
Silent mode sound pressure level			—			
Exterior dimensions (Height x Width x Depth)		mm	1300×970×370			
Exterior appearance (Munsell color)			Stucco white (4.2Y7.5/1.1) near equivalent			
Net weight		kg	105			
Compressor type & Q'ty			RMT5134MDE2(Twin rotary type)×1			
Compressor motor (Starting method)		kW	Direct line start			
Refrigerant oil (Amount, type)		ℓ	0.9 (M-MA68)			
Refrigerant (Type, amount, pre-charge length)		kg	R410A 4.5kg in outdoor unit (Incl. the amount for the piping of : 30m)			
Heat exchanger			M shape fin & inner grooved tubing			
Refrigerant control			Electronic expansion valve			
Fan type & Q'ty			Propeller fan ×2			
Fan motor (Starting method)		W	86 x 2 < Direct line start >			
Air flow	Cooling	m ³ /min	100			
	Heating					
Shock & vibration absorber			Rubber sleeve(for compressor)			
Electric heater		W	20(Crank case heater)			
Safety equipments			Internal thermostat for fan motor Abnormal discharge temperature protection			
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: φ 9.52 (3/8") Gas line: φ 15.88 (5/8")			
	Connecting method		Flare piping			
	Attached length of piping	m	—			
	Insulation for piping		Necessary (both Liquid & Gas lines)			
	Refrigerant line (one way) length	m	Max.100m			
	Vertical height diff. between O/U and I/U	m	Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)			
Drain hose			Hole size φ 20 x 3 pcs			
IP number			IP24			
Standard accessories			Edging			
Option parts			—			
Notes		(1) The data are measured at the following conditions. The pipe length is 7.5m.				
Operation	Item	Indoor air temperature		Outdoor air temperature		Standards
		DB	WB	DB	WB	
	Cooling	27°C	19°C	35°C	24°C	
Heating	20°C	—	7°C	6°C		
(2) This air-conditioner is manufactured and tested in conformity with the ISO.						
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.						
(4) The operation data indicate when the air-conditioner is operated at 230V 50Hz or 220V 60Hz.						

Item		Model	FDC100VSX			
Power source			3 Phase 380-415V 50Hz / 380V 60Hz			
Operation data	Nominal cooling capacity (range)	kW	10.0 [4.0(Min.)-11.2(Max.)]			
	Nominal heating capacity (range)	kW	11.2 [4.0(Min.)-16.0(Max.)]			
	Sound power level	Cooling	dB(A)	70		
		Heating		48		
	Sound pressure level	Cooling	50			
Heating		—				
Silent mode sound pressure level			—			
Exterior dimensions (Height x Width x Depth)		mm	1300×970×370			
Exterior appearance (Munsell color)			Stucco white (4.2Y7.5/1.1) near equivalent			
Net weight		kg	105			
Compressor type & Q'ty			RMT5134MDE3(Twin rotary type)×1			
Compressor motor (Starting method)		kW	Direct line start			
Refrigerant oil (Amount, type)		ℓ	0.9 (M-MA68)			
Refrigerant (Type, amount, pre-charge length)		kg	R410A 4.5kg in outdoor unit (Incl. the amount for the piping of : 30m)			
Heat exchanger			M shape fin & inner grooved tubing			
Refrigerant control			Electronic expansion valve			
Fan type & Q'ty			Propeller fan ×2			
Fan motor (Starting method)		W	86 x 2 < Direct line start >			
Air flow	Cooling	m ³ /min	100			
	Heating					
Shock & vibration absorber			Rubber sleeve(for compressor)			
Electric heater		W	20(Crank case heater)			
Safety equipments			Internal thermostat for fan motor Abnormal discharge temperature protection			
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: φ 9.52 (3/8") Gas line: φ 15.88 (5/8")			
	Connecting method		Flare piping			
	Attached length of piping	m	—			
	Insulation for piping		Necessary (both Liquid & Gas lines)			
	Refrigerant line (one way) length	m	Max.100m			
	Vertical height diff. between O/U and I/U	m	Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)			
Drain hose			Hole size φ 20 x 3 pcs			
IP number			IP24			
Standard accessories			Edging			
Option parts			—			
Notes (1) The data are measured at the following conditions. The pipe length is 7.5m.						
Operation	Item	Indoor air temperature		Outdoor air temperature		Standards
		DB	WB	DB	WB	
	Cooling	27°C	19°C	35°C	24°C	
Heating	20°C	—	7°C	6°C		
(2) This air-conditioner is manufactured and tested in conformity with the ISO.						
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.						
(4) The operation data indicate when the air-conditioner is operated at 400V 50Hz or 380V 60Hz.						

Item		Model	FDC125VNX			
Power source			1 Phase 220-240V 50Hz / 220V 60Hz			
Operation data	Nominal cooling capacity (range)	kW	12.5 [5.0(Min.)-14.0(Max.)]			
	Nominal heating capacity (range)	kW	14.0 [4.0(Min.)-17.0(Max.)]			
	Sound power level	Cooling	dB(A)	70		
		Heating		48		
	Sound pressure level	Cooling		50		
Heating		—				
Silent mode sound pressure level			—			
Exterior dimensions (Height x Width x Depth)		mm	1300×970×370			
Exterior appearance (Munsell color)			Stucco white (4.2Y7.5/1.1) near equivalent			
Net weight		kg	105			
Compressor type & Q'ty			RMT5134MDE2(Twin rotary type)×1			
Compressor motor (Starting method)		kW	Direct line start			
Refrigerant oil (Amount, type)		ℓ	0.9 (M-MA68)			
Refrigerant (Type, amount, pre-charge length)		kg	R410A 4.5kg in outdoor unit (Incl. the amount for the piping of : 30m)			
Heat exchanger			M shape fin & inner grooved tubing			
Refrigerant control			Electronic expansion valve			
Fan type & Q'ty			Propeller fan ×2			
Fan motor (Starting method)		W	86 x 2 < Direct line start >			
Air flow	Cooling	m ³ /min	100			
	Heating					
Shock & vibration absorber			Rubber sleeve(for compressor)			
Electric heater		W	20(Crank case heater)			
Safety equipments			Internal thermostat for fan motor Abnormal discharge temperature protection			
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: φ 9.52 (3/8") Gas line: φ 15.88 (5/8")			
	Connecting method		Flare piping			
	Attached length of piping	m	—			
	Insulation for piping		Necessary (both Liquid & Gas lines)			
	Refrigerant line (one way) length	m	Max.100m			
	Vertical height diff. between O/U and I/U	m	Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)			
Drain hose			Hole size φ 20 x 3 pcs			
IP number			IP24			
Standard accessories			Edging			
Option parts			—			
Notes		(1) The data are measured at the following conditions. The pipe length is 7.5m.				
Operation	Item	Indoor air temperature		Outdoor air temperature		Standards
		DB	WB	DB	WB	
	Cooling	27°C	19°C	35°C	24°C	
Heating	20°C	—	7°C	6°C		
(2) This air-conditioner is manufactured and tested in conformity with the ISO.						
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.						
(4) The operation data indicate when the air-conditioner is operated at 230V 50Hz or 220V 60Hz.						

Item		Model	FDC125VSX			
Power source			3 Phase 380-415V 50Hz / 380V 60Hz			
Operation data	Nominal cooling capacity (range)	kW	12.5 [5.0(Min.)-14.0(Max.)]			
	Nominal heating capacity (range)	kW	14.0 [4.0(Min.)-18.0(Max.)]			
	Sound power level	Cooling	dB(A)	70		
		Heating		48		
	Sound pressure level	Cooling		50		
Heating		—				
Silent mode sound pressure level			—			
Exterior dimensions (Height x Width x Depth)		mm	1300×970×370			
Exterior appearance (Munsell color)			Stucco white (4.2Y7.5/1.1) near equivalent			
Net weight		kg	105			
Compressor type & Q'ty			RMT5134MDE3 (Twin rotary type)×1			
Compressor motor (Starting method)		kW	Direct line start			
Refrigerant oil (Amount, type)		ℓ	0.9 (M-MA68)			
Refrigerant (Type, amount, pre-charge length)		kg	R410A 4.5kg in outdoor unit (Incl. the amount for the piping of : 30m)			
Heat exchanger			M shape fin & inner grooved tubing			
Refrigerant control			Electronic expansion valve			
Fan type & Q'ty			Propeller fan ×2			
Fan motor (Starting method)		W	86 x 2 < Direct line start >			
Air flow	Cooling	m ³ /min	100			
	Heating					
Shock & vibration absorber			Rubber sleeve(for compressor)			
Electric heater		W	20(Crank case heater)			
Safety equipments			Internal thermostat for fan motor Abnormal discharge temperature protection			
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: φ 9.52 (3/8") Gas line: φ 15.88 (5/8")			
	Connecting method		Flare piping			
	Attached length of piping	m	—			
	Insulation for piping		Necessary (both Liquid & Gas lines)			
	Refrigerant line (one way) length	m	Max.100m			
	Vertical height diff. between O/U and I/U	m	Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)			
Drain hose			Hole size φ 20 x 3 pcs			
IP number			IP24			
Standard accessories			Edging			
Option parts			—			
Notes (1) The data are measured at the following conditions. The pipe length is 7.5m.						
Operation	Item	Indoor air temperature		Outdoor air temperature		Standards
		DB	WB	DB	WB	
	Cooling	27°C	19°C	35°C	24°C	
Heating	20°C	—	7°C	6°C		
(2) This air-conditioner is manufactured and tested in conformity with the ISO.						
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.						
(4) The operation data indicate when the air-conditioner is operated at 400V 50Hz or 380V 60Hz.						

Item		Model	FDC140VNX			
Power source			1 Phase 220-240V 50Hz / 220V 60Hz			
Operation data	Nominal cooling capacity (range)	kW	14.0 [5.0(Min.)-16.0(Max.)]			
	Nominal heating capacity (range)	kW	16.0 [4.0(Min.)-18.0(Max.)]			
	Sound power level	Cooling	dB(A)	72		
		Heating		49		
	Sound pressure level	Cooling		52		
Heating		—				
Silent mode sound pressure level			—			
Exterior dimensions (Height x Width x Depth)		mm	1300×970×370			
Exterior appearance (Munsell color)			Stucco white (4.2Y7.5/1.1) near equivalent			
Net weight		kg	105			
Compressor type & Q'ty			RMT5134MDE2(Twin rotary type)×1			
Compressor motor (Starting method)		kW	Direct line start			
Refrigerant oil (Amount, type)		ℓ	0.9 (M-MA68)			
Refrigerant (Type, amount, pre-charge length)		kg	R410A 4.5kg in outdoor unit (Incl. the amount for the piping of : 30m)			
Heat exchanger			M shape fin & inner grooved tubing			
Refrigerant control			Electronic expansion valve			
Fan type & Q'ty			Propeller fan ×2			
Fan motor (Starting method)		W	86 x 2 < Direct line start >			
Air flow	Cooling	m ³ /min	100			
	Heating					
Shock & vibration absorber			Rubber sleeve(for compressor)			
Electric heater		W	20(Crank case heater)			
Safety equipments			Internal thermostat for fan motor Abnormal discharge temperature protection			
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: φ 9.52 (3/8") Gas line: φ 15.88 (5/8")			
	Connecting method		Flare piping			
	Attached length of piping	m	—			
	Insulation for piping		Necessary (both Liquid & Gas lines)			
	Refrigerant line (one way) length	m	Max.100m			
	Vertical height diff. between O/U and I/U	m	Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)			
Drain hose			Hole size φ 20 x 3 pcs			
IP number			IP24			
Standard accessories			Edging			
Option parts			—			
Notes (1) The data are measured at the following conditions. The pipe length is 7.5m.						
Operation	Item	Indoor air temperature		Outdoor air temperature		Standards
		DB	WB	DB	WB	
	Cooling	27°C	19°C	35°C	24°C	
Heating	20°C	—	7°C	6°C		
(2) This air-conditioner is manufactured and tested in conformity with the ISO.						
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.						
(4) The operation data indicate when the air-conditioner is operated at 230V 50Hz or 220V 60Hz.						

Item		Model		FDC140VSX		
Power source		3 Phase 380-415V 50Hz / 380V 60Hz				
Operation data	Nominal cooling capacity (range)	kW	14.0 [5.0(Min.)-16.0(Max.)]			
	Nominal heating capacity (range)	kW	16.0 [4.0(Min.)-20.0(Max.)]			
	Sound power level	Cooling	dB(A)	72		
		Heating		49		
	Sound pressure level	Cooling		52		
Heating		—				
Silent mode sound pressure level		—				
Exterior dimensions (Height x Width x Depth)		mm	1300×970×370			
Exterior appearance (Munsell color)		Stucco white (4.2Y7.5/1.1) near equivalent				
Net weight		kg	105			
Compressor type & Q'ty		RMT5134MDE3(Twin rotary type)×1				
Compressor motor (Starting method)		kW	Direct line start			
Refrigerant oil (Amount, type)		ℓ	0.9 (M-MA68)			
Refrigerant (Type, amount, pre-charge length)		kg	R410A 4.5kg in outdoor unit (Incl. the amount for the piping of : 30m)			
Heat exchanger		M shape fin & inner grooved tubing				
Refrigerant control		Electronic expansion valve				
Fan type & Q'ty		Propeller fan ×2				
Fan motor (Starting method)		W	86 x 2 < Direct line start >			
Air flow		Cooling	m ³ /min	100		
		Heating				
Shock & vibration absorber		Rubber sleeve(for compressor)				
Electric heater		W	20(Crank case heater)			
Safety equipments		Internal thermostat for fan motor Abnormal discharge temperature protection				
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: φ 9.52 (3/8") Gas line: φ 15.88 (5/8")			
	Connecting method	Flare piping				
	Attached length of piping	m	—			
	Insulation for piping	Necessary (both Liquid & Gas lines)				
	Refrigerant line (one way) length	m	Max.100m			
	Vertical height diff. between O/U and I/U	m	Max.30m (Outdoor unit is higher)		Max.15m (Outdoor unit is lower)	
Drain hose		Hole size φ 20 x 3 pcs				
IP number		IP24				
Standard accessories		Edging				
Option parts		—				
Notes		(1) The data are measured at the following conditions. The pipe length is 7.5m.				
Operation	Item	Indoor air temperature		Outdoor air temperature		Standards
		DB	WB	DB	WB	
	Cooling	27°C	19°C	35°C	24°C	ISO5151-T1
Heating	20°C	—	7°C	6°C		
(2) This air-conditioner is manufactured and tested in conformity with the ISO.						
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.						
(4) The operation data indicate when the air-conditioner is operated at 400V 50Hz or 380V 60Hz.						

(3) Operation chart

The V Multi is a system that allows for different models and capacities of indoor units to be connected so the individual operating characteristics of the indoor and outdoor are provided. Use the procedure shown in item (c) to calculate the combined operating characteristics.

(a) Operating characteristic of outdoor unit

(220-240V 50Hz/220V 60Hz)

Item		Model	FDC71VNX	FDC100VNX	FDC125VNX	FDC140VNX
Cooling power consumption	kW		1.95	2.33	3.11	4.02
Heating power consumption			1.85	2.41	3.26	4.03
Cooling running current	A		8.5/8.9	10.3/10.8	13.7/14.3	17.6/18.4
Heating running current			8.1/8.5	10.6/11.1	14.3/15.0	17.6/18.4
Inrush current <Max. running current>	A		5 <17>	5 <24>	5 <26>	

(380-415V 50Hz/380V 60Hz)

Item		Model	FDC100VSX	FDC125VSX	FDC140VSX
Cooling power consumption	kW		2.33	3.11	4.02
Heating power consumption			2.41	3.26	4.03
Cooling running current	A		5.9/6.2	7.9/8.3	10.1/10.7
Heating running current			6.1/6.4	8.2/8.7	10.1/10.7
Inrush current <Max. running current>	A		5 <15>		

Note(1) This packaged air-conditioner is manufactured and tested in conformity with the following standard.
ISO5151-T1 "UNITARY AIR-CONDITIONERS"

(b) Operating characteristic of indoor unit

(220-240V 50Hz/220V 60Hz)

Item		Model	FDE40VG	FDE50VG	FDE60VG	FDE71VG
Cooling power consumption	kW		0.05/0.05	0.05/0.05	0.08/0.08	0.08/0.08
Heating power consumption			0.05/0.05	0.05/0.05	0.08/0.08	0.08/0.08
Cooling running current	A		0.50/0.50	0.50/0.50	0.75/0.75	0.75/0.75
Heating running current			0.50/0.50	0.50/0.50	0.75/0.75	0.75/0.75

Notes(1) This packaged air-conditioner is manufactured and tested in conformity with the following standard.
ISO5151-T1 "UNITARY AIR-CONDITIONERS"

(2) The values shown in the above table are common to both cooling and heating operations.

4.1.3 EXTERIOR DIMENSIONS

- (1) Indoor units See page 48.
- (2) Outdoor units See page 56.
- (3) Remote controller (Option parts) See page 59.

4.1.4 ELECTRICAL WIRING

- (1) Indoor units See page 62.
- (2) Outdoor units See page 68.

4.1.5 NOISE LEVEL

- (1) Indoor units See page 72.
- (2) Outdoor units See page 74.

4.1.6 TEMPERATURE AND VELOCITY DISTRIBUTION See page 83.

4.1.7 PIPING SYSTEM See page 87.

4.1.8 RANGE OF USAGE & LIMITATIONS See page 90.

4.1.9 SELECTION CHART See page 94.

4.1.10 APPLICATION DATA

- (1) Installation of indoor unit See page 122.**
- (2) Electric wiring work installation See page 137.**
- (3) Installation of wired remote control (Option parts)..... See page 141.**
- (4) Installation of outdoor unit**
 - (a) Model FDC71VNX See page 157.
 - (b) Models FDC100–140VNX,100–140VSX See page 165.
- (5) Instructions for branching pipe set (DIS-WA1,WB1,TA1,TB1) See page 173.**

4.1.11 TECHNICAL INFORMATION

Models FDE40VG, 50VG, 60VG, 71VG

Model(s) : FDE40VG							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Cooling capacity (sensible)	$P_{rated,c}$	3.4	kW	Total electric power input	P_{elec}	0.050	kW
Cooling capacity (latent)	$P_{rated,c}$	0.6	kW	Sound power level (per speed setting,if applicable)	L_{WA}	60.0	dB
Heating capacity	$P_{rated,h}$	4.5	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

Model(s) : FDE50VG							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Cooling capacity (sensible)	$P_{rated,c}$	3.8	kW	Total electric power input	P_{elec}	0.050	kW
Cooling capacity (latent)	$P_{rated,c}$	1.2	kW	Sound power level (per speed setting,if applicable)	L_{WA}	60.0	dB
Heating capacity	$P_{rated,h}$	5.4	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

Model(s) : FDE60VG							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Cooling capacity (sensible)	$P_{rated,c}$	5.0	kW	Total electric power input	P_{elec}	0.080	kW
Cooling capacity (latent)	$P_{rated,c}$	0.6	kW	Sound power level (per speed setting,if applicable)	L_{WA}	60.0	dB
Heating capacity	$P_{rated,h}$	6.7	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

Model(s) : FDE71VG							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Cooling capacity (sensible)	$P_{rated,c}$	5.6	kW	Total electric power input	P_{elec}	0.080	kW
Cooling capacity (latent)	$P_{rated,c}$	1.5	kW	Sound power level (per speed setting,if applicable)	L_{WA}	60.0	dB
Heating capacity	$P_{rated,h}$	8.0	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

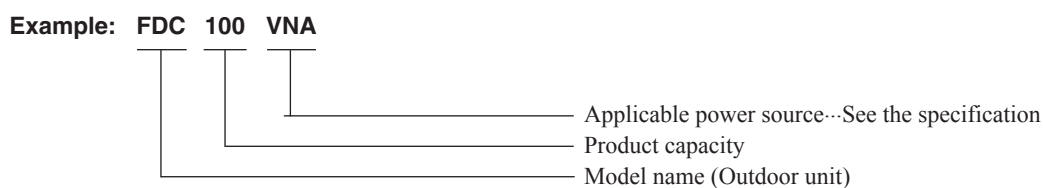
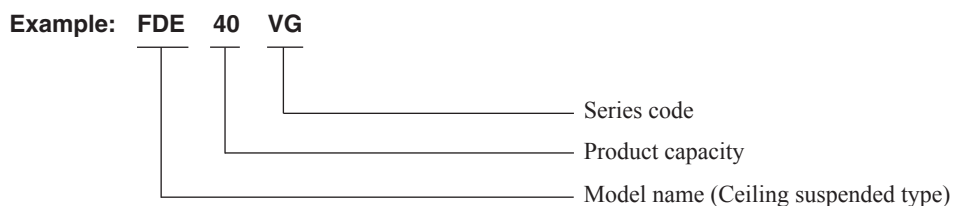
4.2 MICRO INVERTER PACKAGED AIR-CONDITIONERS

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4.2.1 GENERAL INFORMATION

(1) How to read the model name



(2) Table of models

Model \ Capacity	50	60	71	100	125
Ceiling suspended type (FDE)	○	○	○	○	○
Outdoor unit to be combined (FDC)	FDC100VNA FDC100VSA (4 Horse Power)	FDC125VNA FDC125VSA (5 Horse Power)	FDC140VNA FDC140VSA (6 Horse Power)	FDC200VSA (8 Horse Power)	FDC250VSA (10 Horse Power)

(3) Table of system combinations

Outdoor unit	Type	Indoor unit assembly capacity	Branch pipe set (Option)
FDC100VNA FDC100VSA	Twin	50+50	DIS-WA1
		FDC125VNA FDC125VSA	
FDC140VNA FDC140VSA	Twin	71+71	
	Triple	50+50+50	DIS-TA1 or DIS-WA1 × 2set
FDC200VSA	Twin	100+100	DIS-WB1
		71+125	
	Triple	71+71+71	DIS-TB1 or DIS-WA1 × 1set DIS-WB1 × 1set
	Double twin	50+50+50+50	DIS-WA1 × 2set DIS-WB1 × 1set
FDC250VSA	Twin	125+125	DIS-WB1
	Triple	60+60+125	DIS-TB1 or DIS-WA1 × 1set DIS-WB1 × 1set
		71+71+100	
	Double twin	60+60+60+60	DIS-WA1 × 2set DIS-WB1 × 1set

Notes(1) Always use the branch piping set (option) at branches in the refrigerant piping.

(2) If wireless specifications are used, use 1 wireless indoor unit in combination with wired indoor units.

(3) The combinations except the above table forbids.

4.2.2 SPECIFICATIONS

(1) Indoor units

Item		Model		FDE50VG																					
Power source				1 Phase 220-240V 50Hz / 220V 60Hz																					
Operation data	Sound power level	Cooling	dB(A)	60																					
		Heating																							
	Sound pressure level	Cooling		P-Hi : 46 Hi : 39 Me : 36 Lo : 31																					
	Silent mode sound pressure level	Heating		—																					
Exterior dimensions (Height × Width × Depth)		mm		210 × 1,070 × 690																					
Exterior appearance (Munsell color)				Plaster white (6.8Y8.9/0.2) near equivalent																					
Net weight		kg		28																					
Heat exchanger				Louver fin & inner grooved tubing																					
Fan type & Q'ty				Centrifugal fan x2																					
Fan motor (Starting method)		W		30 < Direct line start >																					
Air flow		Cooling	m ³ /min	P-Hi : 13 Hi : 10 Me : 9 Lo : 7																					
		Heating																							
Available external static pressure		Pa		0																					
Outside air intake				Not possible																					
Air filter, Quality / Quantity				Pocket plastic net x2 (Washable)																					
Shock & vibration absorber				Rubber sleeve (for fan motor)																					
Electric heater		W		—																					
Operation control	Remote control		(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-E-E3																						
	Room temperature control		Thermostat by electronics																						
	Operation display		—																						
Safety equipments				Overload protection for fan motor Frost protection thermostat																					
Installation data	Refrigerant piping size (O.D.)	mm		Liquid line: ϕ 6.35 (1/4") Gas line: ϕ 12.7 (1/2")																					
	Connecting method			Flare piping																					
	Attached length of piping	m		—																					
	Insulation for piping			Necessary (both Liquid & Gas lines)																					
Drain hose				Hose connectable VP20 (O.D.26)																					
Drain pump, max lift height		mm		—																					
IP number				IPX0																					
Standard accessories				Mounting kit, Drain hose																					
Option parts				Motion sensor : LB-E																					
Notes (1) The data are measured at the following conditions.				The pipe length is 7.5m.																					
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Operation	Indoor air temperature		Outdoor air temperature			Standards																			
	DB	WB	DB	WB																					
Cooling	27°C	19°C	35°C	24°C	ISO5151-T1																				
Heating	20°C	—	7°C	6°C																					
(2) This air-conditioner is manufactured and tested in conformity with the ISO.																									
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.																									
(4) The operation data indicate when the air-conditioner is operated at 230V 50Hz or 220V 60Hz.																									

Item		Model		FDE71VG																						
Power source				1 Phase 220-240V 50Hz / 220V 60Hz																						
Operation data	Sound power level	Cooling	dB(A)	60																						
		Heating		P-Hi : 47 Hi : 41 Me : 37 Lo : 32																						
	Silent mode sound pressure level	—																								
Exterior dimensions (Height × Width × Depth)		mm		210 × 1,320 × 690																						
Exterior appearance (Munsell color)				Plaster white (6.8Y8.9/0.2) near equivalent																						
Net weight		kg		33																						
Heat exchanger				Louver fin & inner grooved tubing																						
Fan type & Q'ty				Centrifugal fan x4																						
Fan motor (Starting method)		W		50 < Direct line start >																						
Air flow		Cooling	m ³ /min	P-Hi : 20 Hi : 16 Me : 13 Lo : 10																						
		Heating																								
Available external static pressure		Pa		0																						
Outside air intake				Not possible																						
Air filter, Quality / Quantity				Pocket plastic net x2 (Washable)																						
Shock & vibration absorber				Rubber sleeve (for fan motor)																						
Electric heater		W		—																						
Operation control	Remote control		(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-E-E3																							
	Room temperature control		Thermostat by electronics																							
	Operation display		—																							
Safety equipments				Overload protection for fan motor Frost protection thermostat																						
Installation data	Refrigerant piping size (O.D.)	mm		Liquid line: ϕ 9.52 (3/8") Gas line: ϕ 15.88 (5/8")																						
	Connecting method			Flare piping																						
	Attached length of piping	m		—																						
	Insulation for piping			Necessary (both Liquid & Gas lines)																						
Drain hose				Hose connectable VP20 (O.D.26)																						
Drain pump, max lift height		mm		—																						
IP number				IPX0																						
Standard accessories				Mounting kit, Drain hose																						
Option parts				Motion sensor : LB-E																						
Notes (1) The data are measured at the following conditions.				The pipe length is 7.5m.																						
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Heating	20°C	—	7°C	6°C																						
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(4) The operation data indicate when the air-conditioner is operated at 400V 50Hz or 380V 60Hz.																										

Item			Model	FDE100VG																					
Power source				1 Phase 220-240V 50Hz / 220V 60Hz																					
Operation data	Sound power level	Cooling	dB(A)	64																					
		Heating																							
	Sound pressure level	Cooling			P-Hi : 48 Hi : 43 Me : 38 Lo : 34																				
	Heating																								
Silent mode sound pressure level				—																					
Exterior dimensions (Height × Width × Depth)			mm	250 × 1,620 × 690																					
Exterior appearance (Munsell color)				Plaster white (6.8Y8.9/0.2) near equivalent																					
Net weight			kg	43																					
Heat exchanger				Louver fin & inner grooved tubing																					
Fan type & Q'ty				Centrifugal fan x4																					
Fan motor (Starting method)			W	80 < Direct line start >																					
Air flow		Cooling	m ³ /min	P-Hi : 32 Hi : 26 Me : 21 Lo : 16.5																					
		Heating																							
Available external static pressure			Pa	0																					
Outside air intake				Not possible																					
Air filter, Quality / Quantity				Pocket plastic net x2 (Washable)																					
Shock & vibration absorber				Rubber sleeve (for fan motor)																					
Electric heater			W	—																					
Operation control	Remote control			(Option) Wired : RC-EX3 , RC-E5 , RCH-E3 Wireless : RCN-E-E3																					
	Room temperature control			Thermostat by electronics																					
	Operation display			—																					
Safety equipments				Overload protection for fan motor Frost protection thermostat																					
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	Connecting method			Flare piping																					
	Attached length of piping	m		—																					
	Insulation for piping			Necessary (both Liquid & Gas lines)																					
Drain hose				Hose connectable VP20 (O.D.26)																					
Drain pump, max lift height			mm	—																					
IP number				IPX0																					
Standard accessories				Mounting kit, Drain hose																					
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Item		Model		FDE125VG																						
Power source				1 Phase 220-240V 50Hz / 220V 60Hz																						
Operation data	Sound power level	Cooling	dB(A)	64																						
		Heating																								
	Sound pressure level	Cooling		P-Hi : 48 Hi : 45 Me : 40 Lo : 35																						
		Heating																								
Silent mode sound pressure level				—																						
Exterior dimensions (Height × Width × Depth)		mm		250 × 1,620 × 690																						
Exterior appearance (Munsell color)				Plaster white (6.8Y8.9/0.2) near equivalent																						
Net weight		kg		43																						
Heat exchanger				Louver fin & inner grooved tubing																						
Fan type & Q'ty				Centrifugal fan x4																						
Fan motor (Starting method)		W		80 < Direct line start >																						
Air flow		Cooling	m³/min	P-Hi : 32 Hi : 29 Me : 23 Lo : 17																						
		Heating																								
Available external static pressure		Pa		0																						
Outside air intake				Not possible																						
Air filter, Quality / Quantity				Pocket plastic net x2 (Washable)																						
Shock & vibration absorber				Rubber sleeve (for fan motor)																						
Electric heater		W		—																						
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	Operation display			—																						
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	Attached length of piping	m		—																						
	Insulation for piping			Necessary (both Liquid & Gas lines)																						
Drain hose				Hose connectable VP20 (O.D.26)																						
Drain pump, max lift height		mm		—																						
IP number				IPX0																						
Standard accessories				Mounting kit, Drain hose																						
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(4) The operation data indicate when the air-conditioner is operated at 230V 50Hz or 220V 60Hz.																										

(2) Outdoor units

Item		Model	FDC100VNA																					
Power source			1 Phase 220-240V 50Hz / 220V 60Hz																					
Operation data	Nominal cooling capacity (range)	kW	10.0 [4.0(Min.)-11.2(Max.)]																					
	Nominal heating capacity (range)	kW	11.2 [4.0(Min.)-12.5(Max.)]																					
	Sound power level	Cooling	dB(A)	70																				
		Heating		54																				
	Sound pressure level	Cooling	56																					
Heating		56																						
Silent mode sound pressure level			50/44 (Normal/Silent)																					
Exterior dimensions (Height × Width × Depth)		mm	845×970×370																					
Exterior appearance (Munsell color)			Stucco white (4.2Y7.5/1.1) near equivalent																					
Net weight		kg	80																					
Compressor type & Q'ty			RMT5126MCE3(Twin rotary type)×1																					
Compressor motor (Starting method)		kW	Direct line start																					
Refrigerant oil (Amount, type)		ℓ	0.9 (M-MA68)																					
Refrigerant (Type, amount, pre-charge length)		kg	R410A 3.8kg in outdoor unit (Incl. the amount for the piping of : 30m)																					
Heat exchanger			Straight fin & inner grooved tubing																					
Refrigerant control			Electronic expansion valve																					
Fan type & Q'ty			Propeller fan ×1																					
Fan motor (Starting method)		W	86 < Direct line start >																					
Air flow	Cooling Heating	m ³ /min	75																					
			73																					
Shock & vibration absorber			Rubber sleeve (for compressor)																					
Electric heater		W	20 (Crank case heater)																					
Safety equipments			Internal thermostat for fan motor Abnormal discharge temperature protection																					
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: φ 9.52 (3/8") Gas line: φ 15.88 (5/8")																					
	Connecting method		Flare piping																					
	Attached length of piping	m	—																					
	Insulation for piping		Necessary (both Liquid & Gas lines)																					
	Refrigerant line (one way) length	m	Max.50m																					
	Vertical height diff. between O/U and I/U	m	Max.50m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)																					
Drain hose			Hole size φ20 × 3 pcs																					
IP number			IP24																					
Standard accessories			—																					
Option parts			—																					
Notes (1) The data are measured at the following conditions.			The pipe length is 7.5m.																					
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Item		Model	FDC100VSA																							
Power source			3 Phase 380-415V 50Hz / 380V 60Hz																							
Operation data	Nominal cooling capacity (range)	kW	10.0 [4.0(Min.)-11.2(Max.)]																							
	Nominal heating capacity (range)	kW	11.2 [4.0(Min.)-12.5(Max.)]																							
	Sound power level	Cooling	dB(A)	70																						
		Heating		54																						
	Sound pressure level	Cooling		56																						
Heating		50/44 (Normal/Silent)																								
Silent mode sound pressure level			50/44 (Normal/Silent)																							
Exterior dimensions (Height × Width × Depth)		mm	845×970×370																							
Exterior appearance (Munsell color)			Stucco white (4.2Y7.5/1.1) near equivalent																							
Net weight		kg	82																							
Compressor type & Q'ty			RMT5126MCE4 (Twin rotary type)×1																							
Compressor motor (Starting method)		kW	Direct line start																							
Refrigerant oil (Amount, type)		ℓ	0.9 (M-MA68)																							
Refrigerant (Type, amount, pre-charge length)		kg	R410A 3.8kg in outdoor unit (Incl. the amount for the piping of : 30m)																							
Heat exchanger			Straight fin & inner grooved tubing																							
Refrigerant control			Electronic expansion valve																							
Fan type & Q'ty			Propeller fan ×1																							
Fan motor (Starting method)		W	86 < Direct line start >																							
Air flow	Cooling	m ³ /min	75																							
			73																							
Shock & vibration absorber			Rubber sleeve (for compressor)																							
Electric heater		W	20 (Crank case heater)																							
Safety equipments			Internal thermostat for fan motor Abnormal discharge temperature protection																							
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: φ 9.52 (3/8") Gas line: φ 15.88 (5/8")																							
	Connecting method		Flare piping																							
	Attached length of piping	m	—																							
	Insulation for piping		Necessary (both Liquid & Gas lines)																							
	Refrigerant line (one way) length	m	Max.50m																							
	Vertical height diff. between O/U and I/U	m	Max.50m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)																							
Drain hose			Hole size φ 20 × 3 pcs																							
IP number			IP24																							
Standard accessories			—																							
Option parts			—																							
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		(4) The operation data indicate when the air-conditioner is operated at 400V 50Hz or 380V 60Hz.																								

Item		Model	FDC125VNA																					
Power source			1 Phase 220-240V 50Hz / 220V 60Hz																					
Operation data	Nominal cooling capacity (range)	kW	12.5 [5.0(Min.)-14.0(Max.)]																					
	Nominal heating capacity (range)	kW	14.0 [4.0(Min.)-16.0(Max.)]																					
	Sound power level	Cooling	dB(A)	71																				
		Heating																						
	Sound pressure level	Cooling		55																				
Heating		57																						
Silent mode sound pressure level		51/45 (Normal/Silent)																						
Exterior dimensions (Height × Width × Depth)		mm	845×970×370																					
Exterior appearance (Munsell color)			Stucco white (4.2Y7.5/1.1) near equivalent																					
Net weight		kg	80																					
Compressor type & Q'ty			RMT5126MCE3 (Twin rotary type)×1																					
Compressor motor (Starting method)		kW	Direct line start																					
Refrigerant oil (Amount, type)		ℓ	0.9 (M-MA68)																					
Refrigerant (Type, amount, pre-charge length)		kg	R410A 3.8kg in outdoor unit (Incl. the amount for the piping of : 30m)																					
Heat exchanger			Straight fin & inner grooved tubing																					
Refrigerant control			Electronic expansion valve																					
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Shock & vibration absorber			Rubber sleeve (for compressor)																					
Electric heater		W	20 (Crank case heater)																					
Safety equipments			Internal thermostat for fan motor Abnormal discharge temperature protection																					
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: φ 9.52 (3/8") Gas line: φ 15.88 (5/8")																					
	Connecting method		Flare piping																					
	Attached length of piping	m	—																					
	Insulation for piping		Necessary (both Liquid & Gas lines)																					
	Refrigerant line (one way) length	m	Max.50m																					
	Vertical height diff. between O/U and I/U	m	Max.50m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)																					
Drain hose			Hole size φ 20 × 3 pcs																					
IP number			IP24																					
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Item		Model	FDC125VSA																					
Power source			3 Phase 380-415V 50Hz / 380V 60Hz																					
Operation data	Nominal cooling capacity (range)	kW	12.5 [5.0(Min.)-14.0(Max.)]																					
	Nominal heating capacity (range)	kW	14.0 [4.0(Min.)-16.0(Max.)]																					
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Refrigerant oil (Amount, type)		ℓ	0.9 (M-MA68)																					
Refrigerant (Type, amount, pre-charge length)		kg	R410A 3.8kg in outdoor unit (Incl. the amount for the piping of : 30m)																					
Heat exchanger			Straight fin & inner grooved tubing																					
Refrigerant control			Electronic expansion valve																					
Fan type & Q'ty			Propeller fan ×1																					
Fan motor (Starting method)		W	86 < Direct line start >																					
Air flow	Cooling Heating	m ³ /min	75																					
			73																					
Shock & vibration absorber			Rubber sleeve (for compressor)																					
Electric heater		W	20 (Crank case heater)																					
Safety equipments			Internal thermostat for fan motor Abnormal discharge temperature protection																					
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: φ 9.52 (3/8") Gas line: φ 15.88 (5/8")																					
	Connecting method		Flare piping																					
	Attached length of piping	m	—																					
	Insulation for piping		Necessary (both Liquid & Gas lines)																					
	Refrigerant line (one way) length	m	Max.50m																					
	Vertical height diff. between O/U and I/U	m	Max.50m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)																					
Drain hose			Hole size φ 20 × 3 pcs																					
IP number			IP24																					
Standard accessories			—																					
Option parts			—																					
Notes (1) The data are measured at the following conditions.			The pipe length is 7.5m.																					
<table border="1"> <thead> <tr> <th rowspan="2">Operation</th> <th colspan="2">Indoor air temperature</th> <th colspan="2">Outdoor air temperature</th> <th rowspan="2">Standards</th> </tr> <tr> <th>DB</th> <th>WB</th> <th>DB</th> <th>WB</th> </tr> </thead> <tbody> <tr> <td>Cooling</td> <td>27°C</td> <td>19°C</td> <td>35°C</td> <td>24°C</td> <td rowspan="2">ISO5151-T1</td> </tr> <tr> <td>Heating</td> <td>20°C</td> <td>—</td> <td>7°C</td> <td>6°C</td> </tr> </tbody> </table>		Operation	Indoor air temperature		Outdoor air temperature		Standards	DB	WB	DB	WB	Cooling	27°C	19°C	35°C	24°C	ISO5151-T1	Heating	20°C	—	7°C	6°C		
Operation	Indoor air temperature		Outdoor air temperature		Standards																			
	DB	WB	DB	WB																				
Cooling	27°C	19°C	35°C	24°C	ISO5151-T1																			
Heating	20°C	—	7°C	6°C																				
(2) This air-conditioner is manufactured and tested in conformity with the ISO.																								
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.																								
(4) The operation data indicate when the air-conditioner is operated at 400V 50Hz or 380V 60Hz.																								

Item		Model	FDC140VNA			
Power source			1 Phase 220-240V 50Hz / 220V 60Hz			
Operation data	Nominal cooling capacity (range)	kW	13.6 [5.0(Min.)-14.5(Max.)]			
	Nominal heating capacity (range)	kW	15.5 [4.0(Min.)-16.5(Max.)]			
	Sound power level	Cooling	dB(A)	73		
		Heating		57		
	Sound pressure level	Cooling		59		
Heating		53/47 (Normal/Silent)				
Silent mode sound pressure level			53/47 (Normal/Silent)			
Exterior dimensions (Height × Width × Depth)		mm	845×970×370			
Exterior appearance (Munsell color)			Stucco white (4.2Y7.5/1.1) near equivalent			
Net weight		kg	80			
Compressor type & Q'ty			RMT5126MCE3 (Twin rotary type)×1			
Compressor motor (Starting method)		kW	Direct line start			
Refrigerant oil (Amount, type)		ℓ	0.9 (M-MA68)			
Refrigerant (Type, amount, pre-charge length)		kg	R410A 3.8kg in outdoor unit (Incl. the amount for the piping of : 30m)			
Heat exchanger			Straight fin & inner grooved tubing			
Refrigerant control			Electronic expansion valve			
Fan type & Q'ty			Propeller fan ×1			
Fan motor (Starting method)		W	86 < Direct line start >			
Air flow	Cooling	m ³ /min	75			
			73			
Shock & vibration absorber			Rubber sleeve (for compressor)			
Electric heater		W	20 (Crank case heater)			
Safety equipments			Internal thermostat for fan motor Abnormal discharge temperature protection			
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: φ 9.52 (3/8") Gas line: φ 15.88 (5/8")			
	Connecting method		Flare piping			
	Attached length of piping	m	—			
	Insulation for piping		Necessary (both Liquid & Gas lines)			
	Refrigerant line (one way) length	m	Max.50m			
	Vertical height diff. between O/U and I/U	m	Max.50m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)			
Drain hose			Hole size φ 20 × 3 pcs			
IP number			IP24			
Standard accessories			—			
Option parts			—			
Notes		(1) The data are measured at the following conditions. The pipe length is 7.5m.				
	Item	Indoor air temperature		Outdoor air temperature		Standards
Operation		DB	WB	DB	WB	
	Cooling	27°C	19°C	35°C	24°C	
	Heating	20°C	—	7°C	6°C	
ISO5151-T1						
(2) This air-conditioner is manufactured and tested in conformity with the ISO.						
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.						
(4) The operation data indicate when the air-conditioner is operated at 230V 50Hz or 220V 60Hz.						

Item		Model	FDC140VSA																						
Power source			3 Phase 380-415V 50Hz / 380V 60Hz																						
Operation data	Nominal cooling capacity (range)	kW	13.6 [5.0(Min.)-14.5(Max.)]																						
	Nominal heating capacity (range)	kW	15.5 [4.0(Min.)-16.5(Max.)]																						
	Sound power level	Cooling	dB(A)	73																					
		Heating		57																					
	Sound pressure level	Cooling	59																						
Heating		59																							
Silent mode sound pressure level			53/47 (Normal/Silent)																						
Exterior dimensions (Height × Width × Depth)		mm	845×970×370																						
Exterior appearance (Munsell color)			Stucco white (4.2Y7.5/1.1) near equivalent																						
Net weight		kg	82																						
Compressor type & Q'ty			RMT5126MCE4 (Twin rotary type)×1																						
Compressor motor (Starting method)		kW	Direct line start																						
Refrigerant oil (Amount, type)		ℓ	0.9 (M-MA68)																						
Refrigerant (Type, amount, pre-charge length)		kg	R410A 3.8kg in outdoor unit (Incl. the amount for the piping of : 30m)																						
Heat exchanger			Straight fin & inner grooved tubing																						
Refrigerant control			Electronic expansion valve																						
Fan type & Q'ty			Propeller fan ×1																						
Fan motor (Starting method)		W	86 < Direct line start >																						
Air flow	Cooling Heating	m ³ /min	75																						
			73																						
Shock & vibration absorber			Rubber sleeve (for compressor)																						
Electric heater		W	20 (Crank case heater)																						
Safety equipments			Internal thermostat for fan motor. Abnormal discharge temperature protection.																						
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: φ 9.52 (3/8") Gas line: φ 15.88 (5/8")																						
	Connecting method		Flare piping																						
	Attached length of piping	m	—																						
	Insulation for piping		Necessary (both Liquid & Gas lines)																						
	Refrigerant line (one way) length	m	Max.50m																						
	Vertical height diff. between O/U and I/U	m	Max.50m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)																						
Drain hose			Hole size φ 20 × 3 pcs																						
IP number			IP24																						
Standard accessories			—																						
Option parts			—																						
Notes (1) The data are measured at the following conditions.			The pipe length is 7.5m.																						
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Operation	Indoor air temperature		Outdoor air temperature		Standards																				
	DB	WB	DB	WB																					
Cooling	27°C	19°C	35°C	24°C	ISO5151-T1																				
Heating	20°C	—	7°C	6°C																					
(2) This air-conditioner is manufactured and tested in conformity with the ISO.																									
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.																									
(4) The operation data indicate when the air-conditioner is operated at 400V 50Hz or 380V 60Hz.																									

Item		Model	FDC200VSA			
Power source			3 Phase 380-415V 50Hz / 380V 60Hz			
Operation data	Nominal cooling capacity (range)	kW	19.0 [5.2(Min.)-22.4(Max.)]			
	Nominal heating capacity (range)	kW	22.4 [3.3(Min.)-25.0(Max.)]			
	Sound power level	Cooling	dB(A)	72		
		Heating		74		
	Sound pressure level	Cooling		58		
		Heating		59		
Silent mode sound pressure level				52		
Exterior dimensions (Height × Width × Depth)		mm		1,300×970×370		
Exterior appearance (Munsell color)			Stucco white (4.2Y7.5/1.1) near equivalent			
Net weight		kg	115			
Compressor type & Q'ty			RMT5134MDE3 (Twin rotary type)×1			
Compressor motor (Starting method)		kW	Direct line start			
Refrigerant oil (Amount, type)		ℓ	0.9 (compressor) + 0.6 (unit) (M-MA32R)			
Refrigerant (Type, amount, pre-charge length)		kg	R410A 5.6kg in outdoor unit (Incl. the amount for the piping of : 30m)			
Heat exchanger			M shape fin & inner grooved tubing			
Refrigerant control			Electronic expansion valve			
Fan type & Q'ty			Propeller fan ×2			
Fan motor (Starting method)		W	86×2 < Direct line start >			
Air flow	Cooling	m³/min	135			
	Heating					
Shock & vibration absorber			Rubber sleeve (for compressor)			
Electric heater		W	20 (Crank case heater)			
Safety equipments			Internal thermostat for fan motor. Abnormal discharge temperature protection.			
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: φ 9.52 (3/8")			
			Gas line: φ 22.22 (7/8")			
	Connecting method		Liquid line : Flare / Gas : Brazing			
	Attached length of piping		—			
	Insulation for piping		Necessary (both Liquid & Gas lines)			
	Refrigerant line (one way) length		m	Max.70m (Liquid piping : φ 12.7, Gas piping φ 25.4 or φ 28.58), Max.40m (Liquid piping : φ 9.52, Max.35m (Gas piping : φ 22.22),		
Vertical height diff. between O/U and I/U		m	Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)			
Drain hose			Hole size φ 20 × 3 pcs			
IP number			IP24			
Standard accessories			Connecting pipe, Edging			
Option parts			—			
Notes (1) The data are measured at the following conditions.			The pipe length is 7.5m.			
Operation	Cooling	Indoor air temperature		Outdoor air temperature		Standards
		DB	WB	DB	WB	
	27°C	19°C	35°C	24°C		
Heating		20°C	—	7°C	6°C	ISO5151-T1
(2) This air-conditioner is manufactured and tested in conformity with the ISO.						
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.						
(4) The operation data indicate when the air-conditioner is operated at 400V 50Hz or 380V 60Hz.						

Item		Model	FDC250VSA		
Power source			3 Phase 380-415V 50Hz / 380V 60Hz		
Operation data	Nominal cooling capacity (range)	kW	24.0 [6.9(Min.)-28.0(Max.)]		
	Nominal heating capacity (range)	kW	27.0 [5.5(Min.)-31.5(Max.)]		
	Sound power level	Cooling	dB(A)	73	
		Heating		75	
	Sound pressure level	Cooling		59	
		Heating		62	
Silent mode sound pressure level		54			
Exterior dimensions (Height × Width × Depth)		mm		1,505×970×370	
Exterior appearance (Munsell color)			Stucco white (4.2Y7.5/1.1) near equivalent		
Net weight		kg	143		
Compressor type & Q'ty			GTC5150NC40KF (Scroll type)×1		
Compressor motor (Starting method)		kW	Direct line start		
Refrigerant oil (Amount, type)		ℓ	1.45 (M-MA32R)		
Refrigerant (Type, amount, pre-charge length)		kg	R410A 7.2kg in outdoor unit (Incl. the amount for the piping of : 30m)		
Heat exchanger			M shape & inner grooved tubing		
Refrigerant control			Electronic expansion valve		
Fan type & Q'ty			Propeller fan ×2		
Fan motor (Starting method)		W	86x2 < Direct line start >		
Air flow	Cooling	m ³ /min	143		
	Heating		151		
Shock & vibration absorber			Rubber sleeve (for compressor)		
Electric heater		W	20 (Crank case heater)		
Safety equipments			Internal thermostat for fan motor. Abnormal discharge temperature protection.		
Installation data	Refrigerant piping size (O.D.)	mm	Liquid line: φ 12.7 (1/2") Gas line: φ 22.22 (7/8")		
	Connecting method		Liquid line : Flare / Gas : Brazing		
	Attached length of piping	m	—		
	Insulation for piping		Necessary (both Liquid & Gas lines)		
	Refrigerant line (one way) length	m	Max.70m (Gas piping : φ 25.4 or φ 28.58, Max.35m (Gas piping : φ 22.22)		
	Vertical height diff. between O/U and I/U	m	Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)		
Drain hose			Hole size φ 20 × 3 pcs		
IP number			IP24		
Standard accessories			Connecting pipe, Edging		
Option parts			—		
Notes		(1) The data are measured at the following conditions. The pipe length is 7.5m.			
	Item	Indoor air temperature	Outdoor air temperature	Standards	
Operation		DB	WB		ISO5151-T1
Cooling		27°C	19°C		
Heating		20°C	—	ISO5151-T1	
			7°C		ISO5151-T1
			6°C		
(2) This air-conditioner is manufactured and tested in conformity with the ISO.					
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.					
(4) The operation data indicate when the air-conditioner is operated at 400V 50Hz or 380V 60Hz.					

(3) Operation chart

The V Multi is a system that allows for different models and capacities of indoor units to be connected so the individual operating characteristics of the indoor and outdoor are provided. Use the procedure shown in item (c) to calculate the combined operating characteristics.

(a) Operating characteristic of outdoor unit

(220-240V 50Hz/220V 60Hz)

Model		FDC100VNA	FDC125VNA	FDC140VNA
Cooling power consumption	kW	2.60/2.62	3.91/3.91	4.70/4.70
Heating power consumption		2.51/2.51	3.60/3.60	4.29/4.29
Cooling running current	A	12.8-11.7/12.8	18.5-16.9/18.5	21.6-19.8/21.6
Heating running current		12.5-11.4/12.5	17.2-15.8/17.2	19.4-17.8/19.4
Inrush current (L.R.A) <Max. running current>	A	5 <24>		

(380-415V 50Hz/380V 60Hz)

Model		FDC100VSA	FDC125VSA	FDC140VSA
Cooling power consumption	kW	2.60/2.62	3.91/3.91	4.70/4.70
Heating power consumption		2.51/2.51	3.60/3.60	4.29/4.29
Cooling running current	A	3.8-3.5/3.8	5.9-5.4/5.9	7.2-6.6/7.2
Heating running current		3.7-3.3/3.7	5.4-4.9/5.4	6.8-6.2/6.8
Inrush current (L.R.A) <Max. running current>	A	5 <15>		

(380-415V 50Hz/380V 60Hz)

Model		FDC200VSA	FDC250VSA
Cooling power consumption	kW	7.05/7.05	8.22/8.16
Heating power consumption		7.02/7.02	7.42/7.38
Cooling running current	A	10.2/10.5	11.8/12.3
Heating running current		10.0/10.5	10.8/11.2
Inrush current (L.R.A) <Max. running current>	A	5 <20>	5 <21>

Note(1) This packaged air-conditioner is manufactured and tested in conformity with the following standard.
ISO-T1 "UNITARY AIR-CONDITIONERS"

(b) Operating characteristic of indoor unit

FDE Series

(220-240V 50Hz/220V 60Hz)

Model		FDE50VG	FDE60VG	FDE71VG	FDE100VG	FDE125VG
Cooling power consumption	kW	0.05-0.06/0.06	0.10-0.11/0.11	0.11-0.12/0.14	0.13/0.13	0.13/0.13
Heating power consumption		0.05-0.06/0.06	0.09-0.10/0.10	0.10-0.11/0.13	0.13/0.13	0.13/0.13
Cooling running current	A	0.25-0.26/0.29	0.46-0.48/0.50	0.50-0.53/0.67	1.20/1.20	1.20/1.20
Heating running current		0.23-0.25/0.28	0.42-0.44/0.46	0.46-0.48/0.63	1.20/1.20	1.20/1.20

Notes(1) This packaged air-conditioner is manufactured and tested in conformity with the following standard.
ISO-T1 "UNITARY AIR-CONDITIONERS"

(2) The values shown in the above table are common to both cooling and heating operations.

4.2.3 EXTERIOR DIMENSIONS

- (1) Indoor units See page 292.
- (2) Outdoor units See page 293.
- (3) Remote control (Option parts) See page 295.

4.2.4 ELECTRICAL WIRING

- (1) Indoor units See page 296.
- (2) Outdoor units See page 297.

4.2.5 NOISE LEVEL

- (1) Indoor units See page 301.
- (2) Outdoor units See page 301.

4.2.6 TEMPERATURE AND VELOCITY DISTRIBUTION See page 303.

4.2.7 PIPING SYSTEM See page 304.

4.2.8 RANGE OF USAGE & LIMITATIONS See page 311.

4.2.9 SELECTION CHART See page 315.

4.2.10 APPLICATION DATA

- (1) Installation of indoor unit See page 343.
- (2) Electric wiring work installation See page 348.
- (3) Installation of wired remote control (Option parts) See page 348.
- (4) Installation of outdoor unit
 - (a) Models FDC100-140VNA, 100 -140VSA..... See page 348.
 - (b) Models FDC200,250VSA See page 357.
 - (c) Method for connecting the accessory pipe
 (Models FDC200,250VSA) See page 365.
- (5) Instructions for branching pipe set (DIS-WA1,WB1,TA1,TB1) See page 368.

4.2.11 TECHNICAL INFORMATION

Models FDE50VG, 60VG, 71VG, 100VG, 125VG

Model(s) : FDE50VG							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Cooling capacity (sensible)	$P_{rated,c}$	3.8	kW	Total electric power input	P_{elec}	0.050	kW
Cooling capacity (latent)	$P_{rated,c}$	1.2	kW	Sound power level (per speed setting,if applicable)	L_{WA}	60.0	dB
Heating capacity	$P_{rated,h}$	5.4	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

Model(s) : FDE60VG							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Cooling capacity (sensible)	$P_{rated,c}$	5.0	kW	Total electric power input	P_{elec}	0.080	kW
Cooling capacity (latent)	$P_{rated,c}$	0.6	kW	Sound power level (per speed setting,if applicable)	L_{WA}	60.0	dB
Heating capacity	$P_{rated,h}$	6.7	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

Model(s) : FDE71VG							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Cooling capacity (sensible)	$P_{rated,c}$	5.6	kW	Total electric power input	P_{elec}	0.080	kW
Cooling capacity (latent)	$P_{rated,c}$	1.5	kW	Sound power level (per speed setting,if applicable)	L_{WA}	60.0	dB
Heating capacity	$P_{rated,h}$	8.0	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

Model(s) : FDE100VG							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Cooling capacity (sensible)	$P_{rated,c}$	8.4	kW	Total electric power input	P_{elec}	0.130	kW
Cooling capacity (latent)	$P_{rated,c}$	1.6	kW	Sound power level (per speed setting,if applicable)	L_{WA}	64.0	dB
Heating capacity	$P_{rated,h}$	11.2	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

Model(s) : FDE125VG							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Cooling capacity (sensible)	$P_{rated,c}$	9.3	kW	Total electric power input	P_{elec}	0.130	kW
Cooling capacity (latent)	$P_{rated,c}$	3.2	kW	Sound power level (per speed setting,if applicable)	L_{WA}	64.0	dB
Heating capacity	$P_{rated,h}$	14.0	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

5. OPTION PARTS

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5.1 WIRELESS KIT

5.1.1 FDE series (RCN-E-E3)

PFA012D635

Safety precautions

• Please read this manual carefully before starting installation work to install the unit properly. Every one of the followings is important information to be observed strictly.

⚠ WARNING Failure to follow these instructions properly may result in serious consequences such as death, severe injury, etc.

⚠ CAUTION Failure to follow these instructions properly may cause injury or property damage. It could have serious consequences depending on the circumstances.

• The following pictograms are used in the text.



Never do.



Always follow the instructions given.

• Keep this manual at a safe place where you can consult with whenever necessary. Show this manual to installers when moving or repairing the unit. When the ownership of the unit is transferred, this manual should be given to a new owner.

⚠ WARNING



• **Consult your dealer or a professional contractor to install the unit.**
Improper installation made on your own may cause electric shocks, fire or dropping of the unit.



• **Installation work should be performed properly according to this installation manual.**
Improper installation work may result in electric shocks, fire or break-down.



• **Be sure to use accessories and specified parts for installation work.**
Use of unspecified parts may result in drop, fire or electric shocks.



• **Install the unit properly to a place with sufficient strength to hold the weight.**
If the place is not strong enough, the unit may drop and cause injury.



• **Be sure to have the electrical wiring work done by qualified electrical installer, and use exclusive circuit.**
Power source with insufficient and improper work can cause electric shock and fire.



• **Shut OFF the main power source before starting electrical work.**
Otherwise, it could result in electric shocks, break-down or malfunction.



• **Do not modify the unit.**
It could cause electric shocks, fire, or break-down.



• **Be sure to turn OFF the power circuit breaker before repairing/inspecting the unit.**
Repairing/inspecting the unit with the power circuit breaker turned ON could cause electric shocks or injury.



• **Do not install the unit in appropriate environment or where inflammable gas could generate, flow in, accumulate or leak.**
If the unit is used at places where air contains dense oil mist, steam, organic solvent vapor, corrosive gas (ammonium, sulfuric compound, acid, etc) or where acidic or alkaline solution, special spray, etc. are used, it could cause electric shocks, break-down, smoke or fire as a result of significant deterioration of its performance or corrosion.



• **Do not install the unit where water vapor is generated excessively or condensation occurs.**
It could cause electric shocks, fire, or break-down.







• **Do not use the unit in a place where it gets wet, such as laundry room.**
It could cause electric shocks, fire, or break-down.




• **Do not operate the unit with wet hands.**
It could cause electric shocks.

⚠ WARNING









- 
 - **Do not wash the unit with water.**
It could cause electric shocks, fire, or break-down.
- 
 - **Use the specified cables for wiring, and connect them securely with care to protect electronic parts from external forces.**
Improper connections or fixing could cause heat generation, fire, etc.
- 
 - **When installing the unit at a hospital, telecommunication facility, etc., take measures to suppress electric noises.**
It could cause malfunction or break-down due to hazardous effects on the inverter, private power generator, high frequency medical equipment, radio communication equipment, etc.
The influences transmitted from the remote control to medical or communication equipment could disrupt medical activities, video broadcasting or cause noise interference.
- 
 - **Do not leave the remote control with its PCB case removed.**
If dew, water, insect, etc. enters through the hole, it could cause electric shocks, fire or break-down.

⚠ CAUTION

- 
 - **Do not install the wireless kit at the following places in order to avoid malfunction.**
It could cause break-down or deformation of remote control.
- | | |
|--|---|
| <ul style="list-style-type: none"> (1) Places exposed to direct sunlight (2) Places near heat devices (3) High humidity places (4) Hot surface or cold surface enough to generate condensation (5) Places exposed to oil mist or steam directly (6) Uneven surface (7) Places affected by the direct air flow of the AC unit. | <ul style="list-style-type: none"> (8) Places where the receiver is influenced by the fluorescent lamp (especially inverter type) or sunlight. (9) Places where the receiver is affected by infrared rays of any other communication devices. (10) Places where some object may obstruct the communication with the remote control |
|--|---|

① Accessories

Please make sure that you have all of the following accessories.

① Receiver		1		① Wireless remote control		1
② Parts set		1	→	② Remote control holder		1
③ Installation manual		1		③ Screw for holder		2
④ Wiring		1		④ AAA dry cell battery (LR03)		2
				⑤ User's manual		1

② Preparation before installation

Setting on site

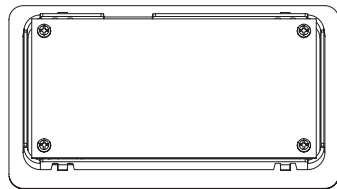
PCB on the receiver has the following switches to set the function.
Default setting is shown with mark.

SW1	Prevents interference during plural setting	<input type="checkbox"/> ON : Normal <input type="checkbox"/> OFF : Customized
SW2	Receiver master/slave setting	<input type="checkbox"/> ON : Master <input type="checkbox"/> OFF : Slave
SW3	Buzzer	<input type="checkbox"/> ON : Valid <input type="checkbox"/> OFF : Invalid
SW4	Auto restart	<input type="checkbox"/> ON : Valid <input type="checkbox"/> OFF : Invalid

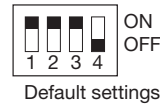
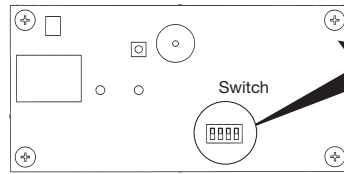
② Preparation before installation (continued)

To change setting

1. Remove four screws located on the back of the receiver and detach the board.
2. Change the setting by the switch on PCB.



Receiver backside



Default settings

Master/Slave setting when using plural remote controls

Up to two receiver or wired remote control can be installed in one indoor unit group. When two receiver or wired remote control are used, it is necessary to change SW on the PCB to set it as slave.

3. When SW1 is turned to OFF position, change the wireless remote control setting. For the method of changing the setting, refer to [Setting to avoid mixed communication](#) of

⑤ Wireless remote control

*The receivable area of the signal refer to [⑥ Receiver](#).

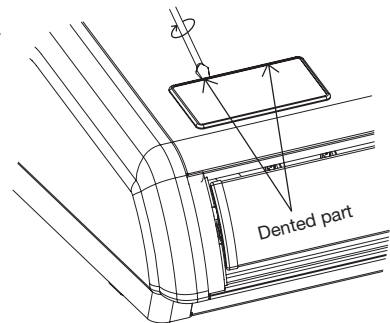
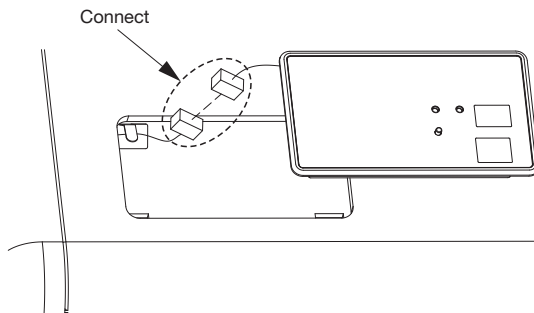
③ How to install the receiver

The receiver can be installed by replacing with a cover of the panel.

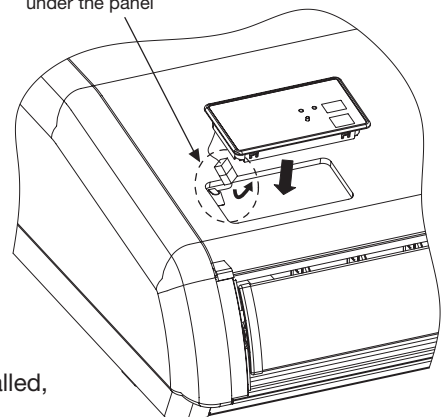
CAUTION: When installing the receiver after unit has been fixed, injury due to falling may result because of working at high place.

- ① **Remove the cover**
Insert a flat-blade screwdriver into the dented part (2 places), and wrench slightly so as not to damage panel surface.
- ② **Connect the wiring**
Connect wiring of the receiver to the wiring in the back.

ATTENTION: Do not remove the clamp fixed the wiring.



Place the connectors under the panel



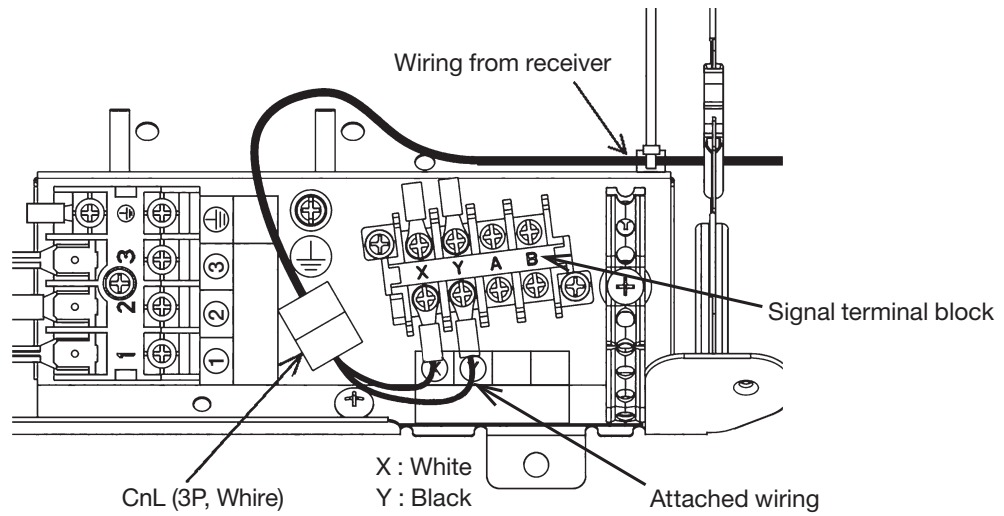
- ③ **Installation of the receiver**
Check direction of the receiver, and fix to the panel.

CAUTION: Connect the connectors before installing the receiver. In case of connecting after the receiver had been installed, it will be necessary to remove the panel.

④ How to connect the wiring for control box

Connect the attached wiring to the signal terminal block primary side XY (for grill side) in the control box, and connect to the CNL connector (3P white) from the receiver .

* This installation is unnecessary for indoor unit that have wiring is already connected from the signal terminal block to the receiver.



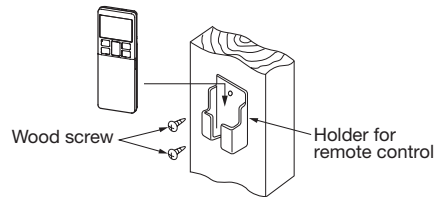
⑤ Wireless remote control

Installation tips for the remote control holder

Fix the remote control holder using the screws supplied with this product.

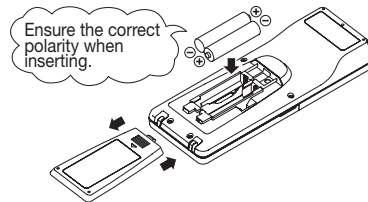
* Precautions for installing the holder

- Adjust the position so that it is upright.
- Ensure that the screw heads are not protruding.
- Do not attach the holder on plaster wall.



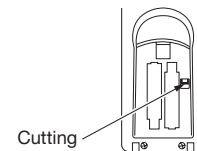
How to insert batteries

1. Detach the back lid.
2. Insert the batteries. (two AAA batteries)
3. Reattach the back lid.



Setting to avoid mixed communication

1. Detach the back lid, and remove the batteries.
2. Cut off the switching wire in the battery compartment using nippers.
3. Insert the batteries, and attach the back lid.



Changing the remote control setting

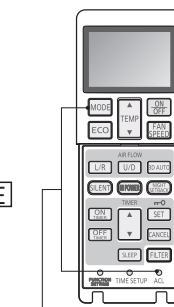
How to change the Auto Run setting

The Auto Run mode is not available on the building air conditioning and gas heat pump series (excluding the cooling/heating free multi system).

When using the remote control to operate those models, set the remote control to disable the Auto Run mode.

To disable the Auto Run mode, press the **ACL** switch while holding down the **MODE** button, or insert batteries while holding down the **MODE** button.

* Note: Once the batteries are removed, the setting is reset to the factory default. When the batteries are removed, repeat the steps described above.



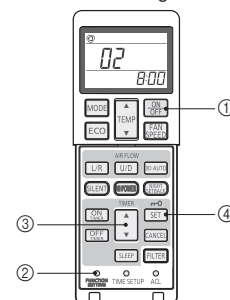
Auto Run setting

Indoor function settings

1. How to set indoor functions

- ① Press the ON/OFF button to stop the unit.
- ② Press the desired one of the buttons shown item 2. while holding down the FUNCTION SETTING switch.
- ③ Use the selection buttons, ▲ and ▼, to change the setting.
- ④ Press the SET button.

The buzzer on the remote control signal receiver beeps twice, and the LED lamp flashes four times at two-second intervals.



⑤ Wireless remote control (continued)

2. Setting details

The following functions can be set.

Button	Number indicator	Function setting
FAN SPEED	00	Fan speed setting : Standard
	01	Fan speed setting : Setting 1 *
	02	Fan speed setting : Setting 2 *
MODE	00	Room heating temperature adjustment : Disable
	01	Room heating temperature adjustment : +1°C
	02	Room heating temperature adjustment : +2°C
	03	Room heating temperature adjustment : +3°C
FILTER	00	Filter sign display : OFF
	01	Filter sign display : 180 hours
	02	Filter sign display : 600 hours
	03	Filter sign display : 1000 hours
	04	Filter sign display : Operation stop after 1000 hours have elapsed
U/P (Up/Down)	00	Anti draft setting : Disable
	01	Anti draft setting : Enable
SILENT	00	Infrared sensor setting (Motion sensor setting) : Disable
	01	Infrared sensor setting (Motion sensor setting) : Enable
HI POWER	00	Infrared sensor control (Motion sensor control) : Disable
	01	Infrared sensor control (Motion sensor control) : Power control only
	02	Infrared sensor control (Motion sensor control) : Auto OFF only
	03	Infrared sensor control (Motion sensor control) : Power control + Auto OFF
ON TIMER	00	Cooling fan residual-period running : Disable
	01	Cooling fan residual-period running : 0.5 hours
	02	Cooling fan residual-period running : 2 hours
	03	Cooling fan residual-period running : 6 hours
OFF TIMER	00	Heating fan residual-period running : Disable
	01	Heating fan residual-period running : 0.5 hours
	02	Heating fan residual-period running : 2 hours
	03	Heating fan residual-period running : 6 hours
NIGHT SETBACK	00	Remote control signal receiver LED : Brightness High
	01	Remote control signal receiver LED : Brightness Low
	02	Remote control signal receiver LED : OFF

* Refer to technical data.

⑥ Receiver

1 Control plural indoor units with one remote control

Up to 16 indoor units can be connected.

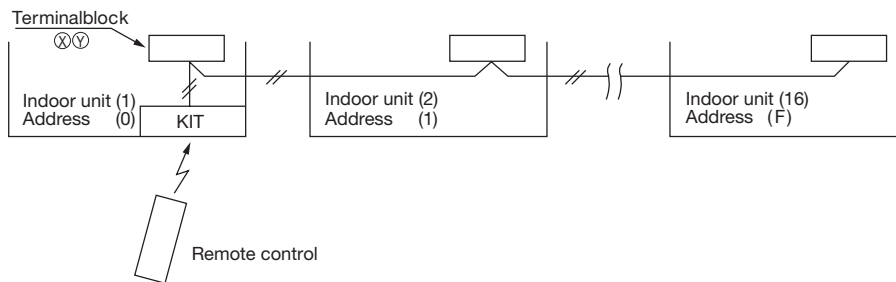
1. Connect the XY terminal with 2 cores wire. As for the size, refer to the following note.
2. For Packaged air conditioner series, set the indoor unit address with SW2 on the indoor unit PCB from [1] to [F] so as not to duplicate.

Restrictions on the thickness and length of wire (Maximum total extension 600m.)

Standard	Within	0.3 mm ² × 100m
	Within	0.5 mm ² × 200m
	Within	0.75mm ² × 300m
	Within	1.25mm ² × 400m
	Within	2.0 mm ² × 600m

For the shop series

For VRF series, set the indoor unit address with SW1, SW2 and SW5-2 on the indoor unit PCB from [000] to [127] so as not to duplicate.



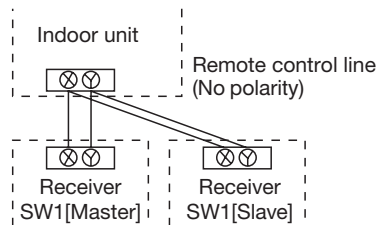
For the building air-conditioning and gas heat pump series

Set the indoor unit and outdoor unit numbers by manually specifying the addresses.

Use the rotary switches SW1 and SW2 provided on the indoor unit PCB (printed circuit board) to set the indoor unit numbers so that they are not duplicated.

Master/Slave setting when using plural remote control

Up to two receivers can be installed in one indoor unit group.



Switch	Setting	Function
SW2	ON	Master
	OFF	Slave

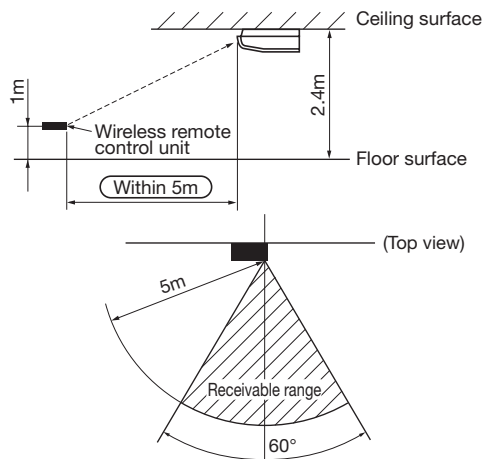
⑥ Receiver (continued)

Wireless remote control's operable area

1. Standard signal receiving range

[Condition]

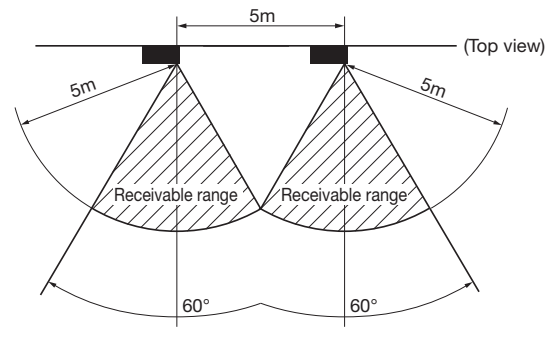
Illuminance at the receiver area: 300 lux.
(When no lighting fixture is located within 1m of indoor unit in an ordinary office)



2. Points for attention in connecting a plural number of indoor units

[Condition]

Illuminance at the receiver area: 300 lux.

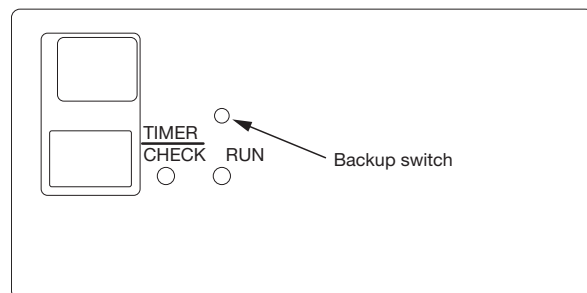


Backup switch

A backup switch is provided on the receiver section of the panel surface.

When operation from the wireless remote control unit is not possible (due to flat batteries, a mislaid unit, a unit failure), you can use it as an emergency means. You should operate this switch manually.

- If pressed while the air-conditioner is in a halt, it will cause the air-conditioner to start operation in the automatic mode (in the case of cooling only, in the cooling mode).
Wind speed: Hi fan, Temperature setting: 23°C, Louver: horizontal.
- If pressed while the air-conditioner is in operation, it will stop the air-conditioner.



Cooling test run operation


- After safety confirmation, turn on the power.
- Transmit a cooling operation command with the wireless remote control unit, while the backup switch on the receiver is depressed.
- If the backup switch on the receiver is pressed during a test run, it will end the test run.
- If you cannot operate the unit properly during a test run, please check wiring by consulting with inspection guides.

How to read the two-digit display

A two-digit indicator (7-segment indicator) is provided on the receiver section.

- An indication will be displayed for one hour after power on.
- An indication appears for 3.5 seconds when a "Stop" command is sent from the wireless remote control unit while the air-conditioner is not running.
- An indication appearing in (1) or (2) above will go off as soon as the unit starts operation.
- When there are no error records to indicate, addresses are displayed for all of the connected units.
- When there are some error records remaining, the error records are displayed.
- Error records can be cleared by transmitting a "Stop" command from the wireless remote control unit, while the backup switch is depressed.

5.1.2 FDUM, FDU series (RCN-KIT4-E2)

PJZ012D112 













Safety precautions

- Please read this manual carefully before starting installation work to install the unit properly. Every one of the followings is important information to be observed strictly.
 - ⚠ **WARNING** Failure to follow these instructions properly may result in serious consequences such as death, severe injury, etc.
 - ⚠ **CAUTION** Failure to follow these instructions properly may cause injury or property damage. It could have serious consequences depending on the circumstances.
- The following pictograms are used in the text.

	Never do.		Always follow the instructions given.
---	-----------	---	---------------------------------------

- Keep this manual at a safe place where you can consult with whenever necessary. Show this manual to installers when moving or repairing the unit. When the ownership of the unit is transferred, this manual should be given to a new owner.

WARNING

-  • **Consult your dealer or a professional contractor to install the unit.**
Improper installation made on your own may cause electric shocks, fire or dropping of the unit.
-  • **Installation work should be performed properly according to this installation manual.**
Improper installation work may result in electric shocks, fire or break-down.
-  • **Be sure to use accessories and specified parts for installation work.**
Use of unspecified parts may result in drop, fire or electric shocks.
-  • **Install the unit properly to a place with sufficient strength to hold the weight.**
If the place is not strong enough, the unit may drop and cause injury.
-  • **Be sure to have the electrical wiring work done by qualified electrical installer, and use exclusive circuit.**
Power source with insufficient and improper work can cause electric shock and fire.
-  • **Shut OFF the main power source before starting electrical work.**
Otherwise, it could result in electric shocks, break-down or malfunction.
-  • **Do not modify the unit.**
It could cause electric shocks, fire, or break-down.
-  • **Be sure to turn OFF the power circuit breaker before repairing/inspecting the unit.**
Repairing/inspecting the unit with the power circuit breaker turned ON could cause electric shocks or injury.
-  • **Do not install the unit in appropriate environment or where inflammable gas could generate, flow in, accumulate or leak.**
If the unit is used at places where air contains dense oil mist, steam, organic solvent vapor, corrosive gas (ammonium, sulfuric compound, acid, etc) or where acidic or alkaline solution, special spray, etc. are used, it could cause electric shocks, break-down, smoke or fire as a result of significant deterioration of its performance or corrosion.
-  • **Do not install the unit where water vapor is generated excessively or condensation occurs.**
It could cause electric shocks, fire, or break-down.
-  • **Do not use the unit in a place where it gets wet, such as laundry room.**
It could cause electric shocks, fire, or break-down.
-  • **Do not operate the unit with wet hands.**
It could cause electric shocks.

⚠ WARNING



• **Do not wash the unit with water.**
It could cause electric shocks, fire, or break-down.



• **Use the specified cables for wiring, and connect them securely with care to protect electronic parts from external forces.**
Improper connections or fixing could cause heat generation, fire, etc.



• **When installing the unit at a hospital, telecommunication facility, etc., take measures to suppress electric noises.**
It could cause malfunction or break-down due to hazardous effects on the inverter, private power generator, high frequency medical equipment, radio communication equipment, etc.
The influences transmitted from the remote control to medical or communication equipment could disrupt medical activities, video broadcasting or cause noise interference.



• **Do not leave the remote control with its PCB case removed.**
If dew, water, insect, etc. enters through the hole, it could cause electric shocks, fire or break-down.

⚠ CAUTION



• Do not install the wireless kit at the following places in order to avoid malfunction. It could cause break-down or deformation of remote control.

(1) Places exposed to direct sunlight	(8) Places where the receiver is influenced by the fluorescent lamp (especially inverter type) or sunlight
(2) Places near heat devices	(9) Places where the receiver is affected by infrared rays of any other communication devices
(3) High humidity places	(10) Places where some object may obstruct the communication with the remote control
(4) Hot surface or cold surface enough to generate condensation	
(5) Places exposed to oil mist or steam directly	
(6) Uneven surface	
(7) Places affected by the direct air flow of the AC unit	

① Accessories

Please make sure that you have all of the following accessories.

① Receiver		1		① Wireless remote control		1
② Wiring (3m)		1		② Remote control holder		1
③ Parts set (A)		1		③ Screw for holder		2
④ Parts set (B)		1		④ AAA dry cell battery (LR03)		2
⑤ Parts set (C)		1		⑤ User's manual		1
⑥ Installation manual		1		① Screw for receiver		2
				② Fixing band		1
				③ Clamp		5
				④ Screw for clamp		5
				① Receiver installation bracket		1
				② Screw for the bracket		2
				③ Installation fitting		2

② Preparation before installation

Setting on site

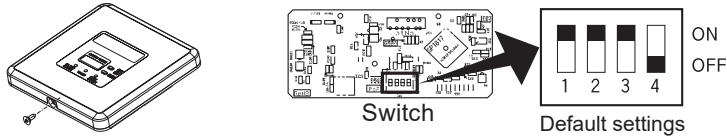
PCB on the receiver has the following switches to set the function. Default setting is shown with mark.

SW1	Prevents interference during plural setting	ON : Normal	OFF : Customized
SW2	Receiver master/slave setting	ON : Master	OFF : Slave
SW3			
SW4	Auto restart	ON : Valid	OFF : Invalid

② Preparation before installation (continued)

To change setting

1. Remove one screws located on the under of the receiver and detach the board.
2. Change the setting by the switch on PCB.



3. When SW1 is turned to OFF position, change the wireless remote control setting. For the method of changing the setting, refer to **Setting to avoid mixed communication** of ④ **Wireless remote control**.

*The receivable area of the signal refer to ⑤ **Receiver**.

Master/Slave setting when using plural remote controls

Up to two receiver or wired remote control can be installed in one indoor unit group.

When two receiver or wired remote control are used, it is necessary to change SW on the PCB to set it as slave.

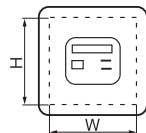
③ How to install the receiver

The following two methods can be used to install the receiver onto a ceiling or a wall. Select a method according to the installation position.

- <Installation position>** (A) Direct installation onto the ceiling with wood screws.
(B) Installation with accessory's bracket

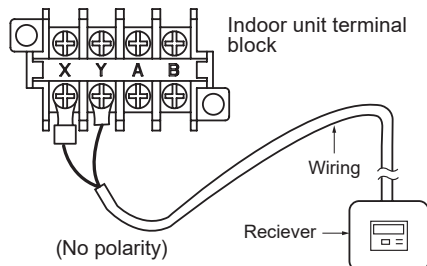
(1) Drilling of the ceiling (ceiling opening)

Drill the receiver installation holes with the dimensions shown right at the ceiling position where wires can be connected.



(A) Direct installation onto the ceiling with wood screws.	88mm(H)×101mm(W)
(B) Installation with enclosed bracket	108mm(H)×108mm(W)

(2) Wiring connection of receiver



⚠ Caution

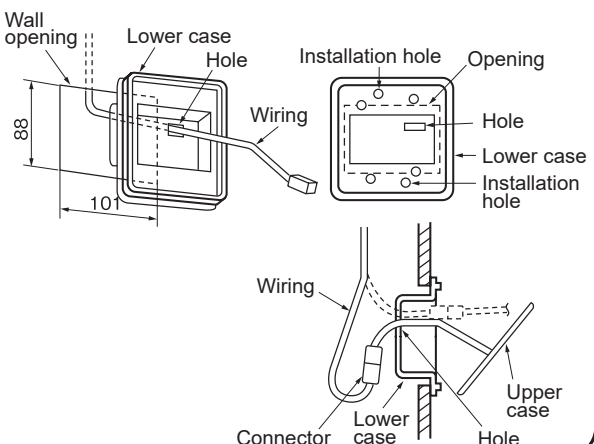
Do not connect the wiring to the power source of the terminal block. If it is connected, printed board will be damaged.

(3) Installation of the receiver

Remove the screw on the side of the receiver and split it into the upper case and lower case. Install the receiver with one of the two installation methods (A) to (C) shown below.

(A) Direct installation onto the ceiling with screws

- ▷ Use this installation method when the ceiling is wooden, and there is no problem for strength in installing directly with wood screws.
- ① Put through the wiring from the back side to the hole of the lower case.
 - ② Fit the lower case into the ceiling opening. Make sure that the clearance between the convex part of the back of the lower case and the ceiling opening must be as equal as possible on both sides.
 - ③ Using the two installation holes shown right, fix the lower case onto the ceiling with the enclosed wood screws. (The other four holes are not used.)
 - ④ Connect the wiring with the wiring from the upper case by the connector.

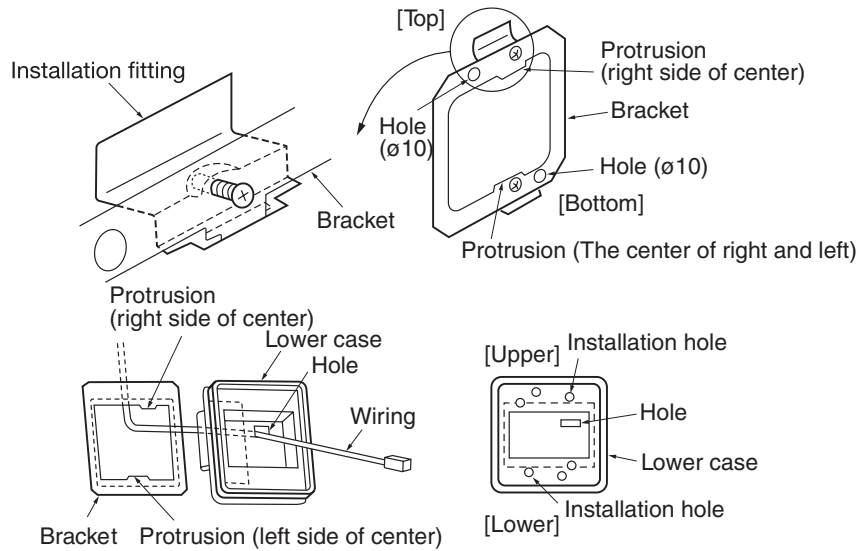


③ How to install the receiver(continued)

- ⑤ Take out the connector to the backside from the hole of the lower case putting through the wiring at ①.
- ⑥ Fit the upper case and the lower case, and tighten the screws.

(B) Installation with enclosed bracket

Use this method when installaing onto a gypsum board (7 to 18mm), etc.

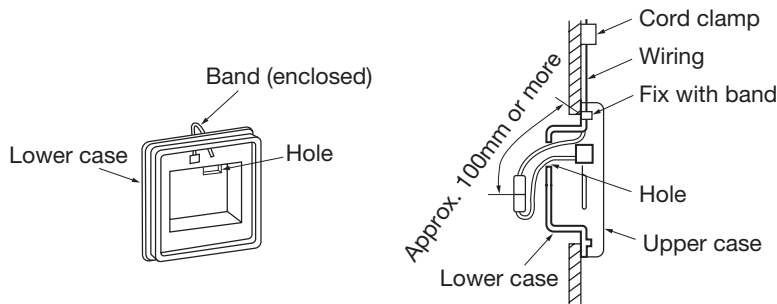


- ① Catch the two protrusion of the enclosed bracket onto the fitting as shown above, and temporarily fix with the screws. (The bracket has an Upper/Lower and front/back orientation. Confirm the Upper/Lower protrusion positions and the positional relation of the ø10 holes on the bracket and the installation hole on the lower case with the above drawing.)
- ② Insert the end of the installation fitting into the back of the ceiling from the opening, and tighten the screws to fix the bracket onto the ceiling.
- ③ Pass the wiring from the rear side through the hole on the lower case.
- ④ Fit the lower case onto the bracket, and fix the lower case to the bracket using the two installation holes shown above. (The other four holes are not used.)
- ⑤ Follow step ① to ⑥ for (A) to complete the installation.

③ How to install the receiver (continued)

(C) Exposed installation

Use the following procedure when installing the case with the wiring exposed.



- ① Cut off the thin section on the side of the upper case with a pair of nippers or a knife, and remove the burrs with a file, etc. (The wiring is passed through this section.)
- ② Pass the enclosed band through the wiring outlet hole on the lower case.
- ③ Use one of the light detection adaptor installation methods (A) or (B) explained in section 3, and fix the lower case onto the wall. Do not pass the wiring through the hole on the lower case.
- ④ Fix the wiring using the band while leaving the wiring length from the band fixing section to the end of the wiring connector at 100mm or more.
- ⑤ Connect the wiring with the wiring protruding from the upper case using a connector.
- ⑥ Pass the connected connector and the excess wiring through the hole on the lower case.
- ⑦ Fit the upper case onto the lower case, and tighten the screws.
- ⑧ Adequately fix the wiring with the enclosed cord clamp.

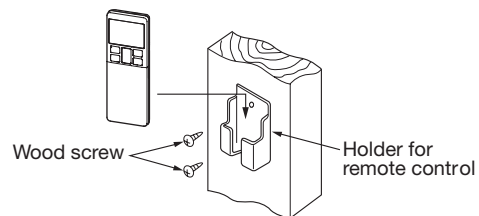
④ Wireless remote control

Installation tips for the remote control holder

Fix the remote control holder using the screws supplied with this product.

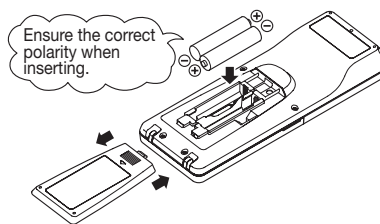
* Precautions for installing the holder

- Adjust the position so that it is upright.
- Ensure that the screw heads are not protruding.
- Do not attach the holder on plaster wall.



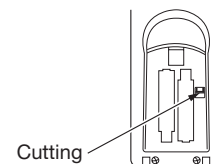
How to insert batteries

1. Detach the back lid.
2. Insert the batteries. (two AAA batteries)
3. Reattach the back lid.



Setting to avoid mixed communication

1. Detach the back lid, and remove the batteries.
2. Cut off the switching wire in the battery compartment using nippers.
3. Insert the batteries, and attach the back lid.



④ Wireless remote control (continued)

Changing the wireless remote control setting

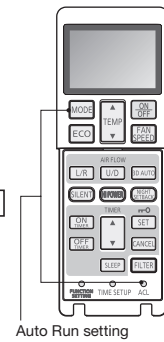
How to change the Auto Run setting

The Auto Run mode is not available on the building air-conditioner and gas heat pump series (excluding the cooling/heating free multi system).

When using the wireless remote control to operate those models, set the wireless remote control to disable the Auto Run mode.

To disable the Auto Run mode, press the **ACL** switch while holding down the **MODE** button, or insert batteries while holding down the **MODE** button.

* Note: Once the batteries are removed, the setting is reset to the factory default. When the batteries are removed, repeat the steps described above.



Auto Run setting

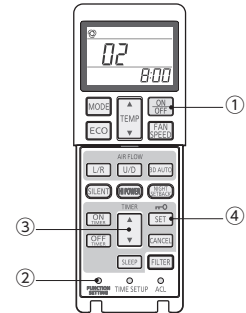
Indoor function settings

1. How to set indoor functions

- ① Press the ON/OFF to stop the unit.
 - ② Press the desired one of the buttons shown below while holding down the FUNCTION SETTING switch.
 - ③ Use the selection buttons, ▲ and ▼, to change the setting.
 - ④ Press the SET button.
- The buzzer on the wireless remote control signal receiver beeps twice, and the LED lamp flashes four times at two-second intervals.

2. Setting details

The following functions can be set.



Button	Number indicator	Function setting	Button	Number indicator	Function setting
FAN SPEED	00	Fun speed setting : Standard	ON TIMER	00	Cooling fan residual-period running : Disable
	01	Fun speed setting : Setting 1 *		01	Cooling fan residual-period running : 0.5 hours
	02	Fun speed setting : Setting 2 *		02	Cooling fan residual-period running : 2 hours
MODE	00	Room heating temperature adjustment : Disable	OFF TIMER	03	Cooling fan residual-period running : 6 hours
	01	Room heating temperature adjustment : +1°C		00	Heating fan residual-period running : Disable
	02	Room heating temperature adjustment : +2°C		01	Heating fan residual-period running : 0.5 hours
	03	Room heating temperature adjustment : +3°C		02	Heating fan residual-period running : 2 hours
FILTER	00	Filter sign display : OFF	NIGHT SETBACK	03	Heating fan residual-period running : 6 hours
	01	Filter sign display : 180 hours		00	Remote control signal receiver LED : Brightness High
	02	Filter sign display : 600 hours		01	Remote control signal receiver LED : Brightness Low
	03	Filter sign display : 1000 hours		02	Remote control signal receiver LED : OFF
U/P	04	Filter sign display : Operation stop after 1000 hours have elapsed	* Refer to technical data.		
	00	Anti draft setting : Disable			
SILENT	01	Anti draft setting : Enable			
	00	Infrared sensor setting (Motion sensor setting) : Disable			
HI POWER	01	Infrared sensor setting (Motion sensor setting) : Enable			
	00	Infrared sensor control (Motion sensor control) : Disable			
	01	Infrared sensor control (Motion sensor control) : Power control only			
	02	Infrared sensor control (Motion sensor control) : Auto OFF only			
	03	Infrared sensor control (Motion sensor control) : Power control and Auto OFF			

⑤ Receiver

1 Control plural indoor units with one remote control

Up to 16 indoor units can be connected.

1. Connect the XY terminal with 2 cores wire. As for the size, refer to the following note.
2. For Packaged air-conditioner series, set the indoor unit address with SW2 on the indoor unit PCB from [0] to [F] so as not to duplicate.

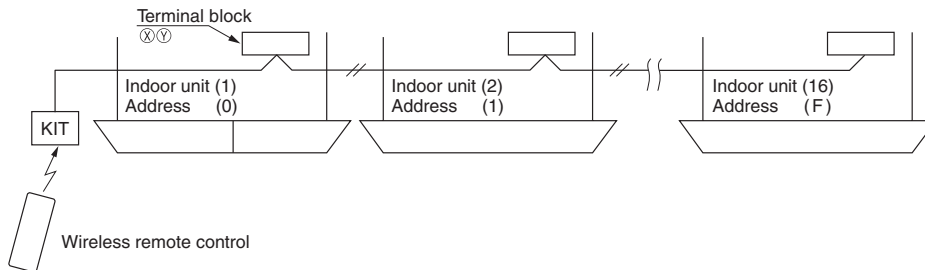
Restrictions on the thickness and length of wire (Maximun total extension 600m.)

Standard	Within	Thickness	Length
	0.3 mm ²	× 100m	
	0.5 mm ²	× 200m	
	0.75mm ²	× 300m	
	1.25mm ²	× 400m	
	2.0 mm ²	× 600m	

⑤ Receiver (continued)

For the shop series

For VRF series, set the indoor unit address with SW1, SW2 and SW5-2 on the indoor unit PCB from [000] to [127] so as not to duplicate.

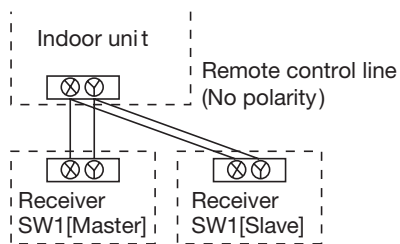


For the building air-conditioner and gas heat pump series

Set the indoor unit and outdoor unit numbers by manually specifying the addresses. Use the rotary switches SW1 and SW2 provided on the indoor unit PCB (printed circuit board) to set the indoor unit numbers so that they are not duplicated.

Master/Slave setting when using plural remote control

Up to two receivers can be installed in one indoor unit group.

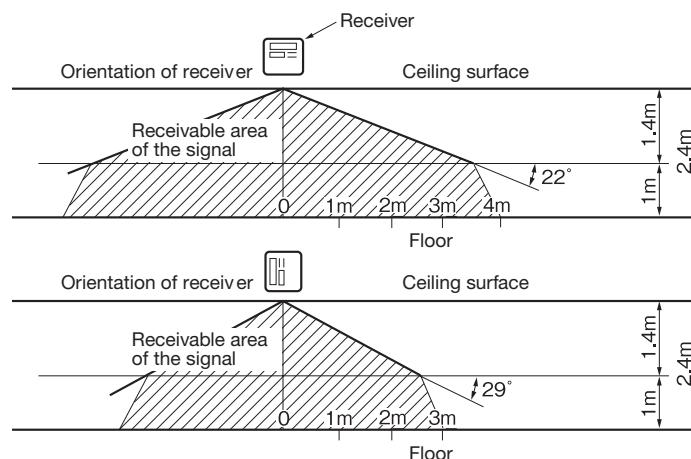


Switch	Setting	Function
SW2	ON	Master
	OFF	Slave

When installed on ceiling

1. Standard reachable area of the signal

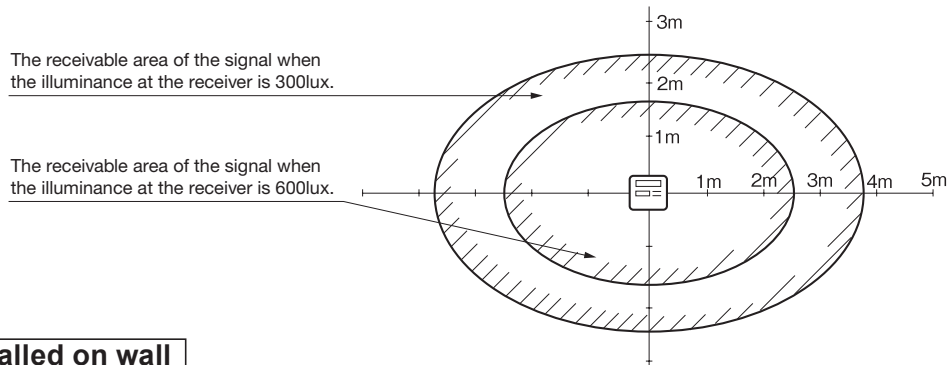
[Condition] Illuminance at the receiver : **300lux** (when no lighting is installed within 1m of the receiver in an ordinary office.)



2. Correlation between illuminance at the receiver and reachable area of the signal in a plain view.

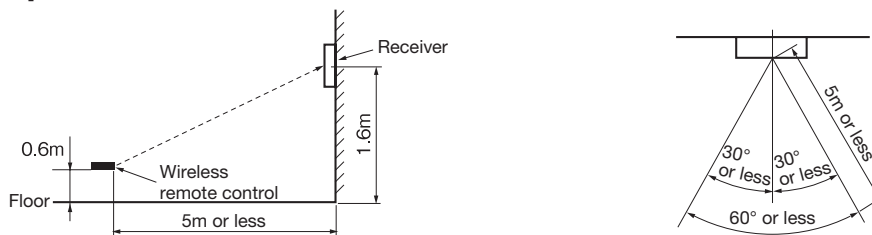
[Condition] Correlation between the reachable area of the signal and illuminance at the receiver when the wireless remote control is operated at 1m high under the condition of ceiling height of 2.4m. When the illuminance becomes double, the area is narrowed down to two third.

⑤ Receiver (continued)



When installed on wall

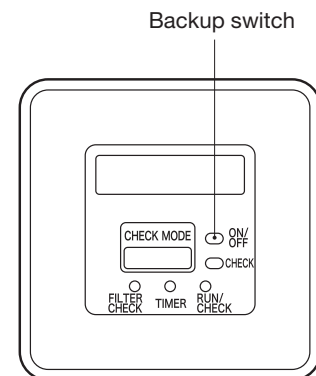
[Condition] Illuminance at the receiver : 800lux.



Backup switch

A backup switch is provided on the receiver section of the panel surface. When operation from the wireless remote control unit is not possible (due to flat batteries, a mislaid unit, a unit failure), you can use it as an emergency means. You should operate this switch manually.

1. If pressed while the air-conditioner is in a halt, it will cause the air-conditioner to start operation in the automatic mode (in the case of cooling only, in the cooling mode). Wind speed: Hi fan, Temperature setting: 23°C, Louver: horizontal
2. If pressed while the air-conditioner is in operation, it will stop the air-conditioner.



Cooling test run operation


- After safety confirmation, turn on the power.
- Transmit a cooling operation command with the wireless remote control unit, while the backup switch on the receiver is depressed.
- If the backup switch on the receiver is pressed during a test run, it will end the test run.
- If you cannot operate the unit properly during a test run, please check wiring by consulting with inspection guides.

How to read the 6-digit display

A 6-digit indicator (7-segment indicator) is provided on the receiver section.



1. An indication will be displayed for one hour after power on.
2. An indication appears for 3.5 seconds when a "Stop" command is sent from the wireless remote control unit while the air-conditioner is not running.
3. An indication appearing in (1) or (2) above will go off as soon as the unit starts operation.
4. When there are no error records to indicate, addresses are displayed for all of the connected units.
5. When there are some error records remaining, the error records are displayed.
6. Error records can be cleared by transmitting a "Stop" command from the wireless remote control unit, while the backup switch is depressed.

5.2 MOTION SENSOR KIT

PFA012D633 



5.2.1 FDE series (LB-E)

WARNING

- Connect the wiring to the PCB in the control box on the indoor unit and hold the wiring securely so as not to apply unexpected stress on the PCB. Loose connection or hold will cause abnormal heat generation or fire. 
- Make sure the power source is turned off when electric wiring work. Otherwise, electric shock, malfunction and improper running may occur. 

CAUTION

- Do not install the motion sensor kit at the following places in order to avoid malfunction.

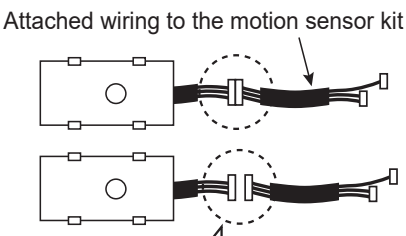

<ul style="list-style-type: none"> (1) Places exposed to direct sunlight (2) Places near heat devices (3) High humidity places (4) Hot surface or cold surface enough to generate condensation (5) Places exposed to oil mist or steam directly (6) Places affected by the direct air flow of the Indoor unit (7) Places where the motion sensor is influenced by the fluorescent lamp or sunlight 	<ul style="list-style-type: none"> (8) Places where the motion sensor is affected by infrared rays of any other communication devices (9) Places where some object may obstruct the motion sensor (10) Place that the motion sensor have a shock (11) Place with the strong radio wave or Static electricity (12) Place that motion sensor lens become tainted or have damaged. Dusty place
---	--
- Do not leave the motion sensor without the cover. In case the cover needs to be detached, protect the motion sensor with a packaging or bag. In order to keep it away from water and dust. 


Attention

- This manual describes how to install the motion sensor kit.
- Instruct the customer how to operate it correctly referring to the instruction manual.
- For the installation method of the air-conditioner itself, refer to the installation manual enclosed in the package.

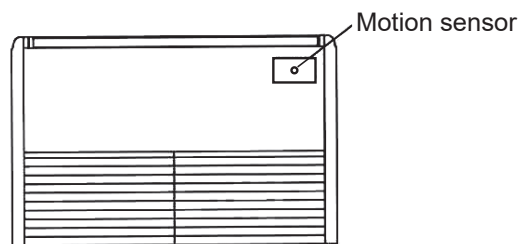
① Accessories

Please make sure that all components are in the package.

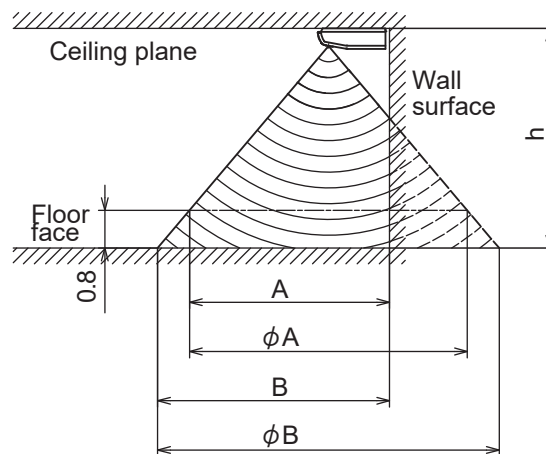
Motion sensor (×)	Manual
<p>Attached wiring to the motion sensor kit</p>  <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>× Wiring from the motion sensor and the attached wiring to the motion sensor kit have been connected when shipped from the factory. Remove the connector at the position of ○ mark and connect it to the attached wiring to the indoor unit before use.</p> </div>	

② Installing the motion sensor

- It is possible to install the motion sensor by replacing the indoor unit.
- The recommended height is lower than 4000 mm for motion sensor. When the installation height is higher, motion detection accuracy might be reduced.
- Sensor will detect the object with a different temperature from the surrounding.
- Sensor may not detect small children or infants with little motion.
- Use the separate motion sensor so that person's activity can be detected when the detectable area differs from the person's activity area.
- Use the separate motion sensor when using both wireless remote control and motion sensor together.



The detectable area



Height of the ceiling	h (m)	2.7	3.5	4.0
Detectable area	A (m)	2.9	3.9	4.5
Detectable area	ϕA (m)	4.5	6.4	7.6
Detectable area	B (m)	3.9	4.8	5.4
Detectable area	ϕB (m)	6.4	8.3	9.5

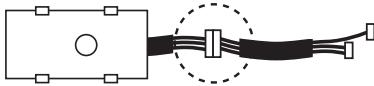
Installing the motion sensor (before installing the unit)

Motion sensor can be installed by replacing with a cover of the panel.

CAUTION: Install the motion sensor before installing the unit.

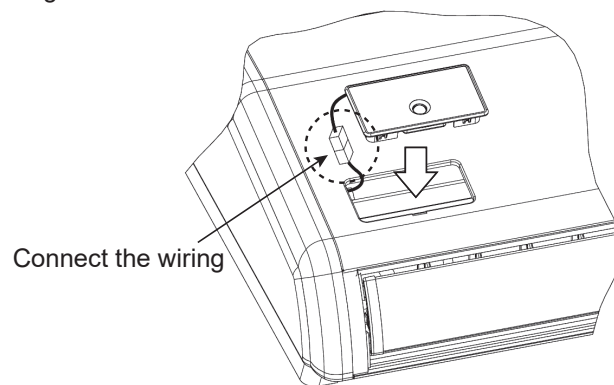
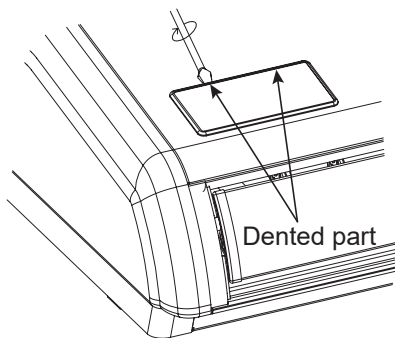
When installing the motion sensor after unit has been fixed, in ury due to falling may result because of working at high place.

- ① Remove the connector that connects the motion sensor and the wiring.



- ② Insert a tool into the dented part (2 places) of the panel cover, and wrench slightly not to damage the paintwork of the panel to remove the cover.
- ③ Connect the wiring from the panel's hole (attached to the indoor unit, color of the wiring: white, red and black, connector: 3P, white) to the wiring from the motion sensor. Make sure to install the motion sensor in the correct direction.

CAUTION: Do not remove the clamp fixed the wiring.



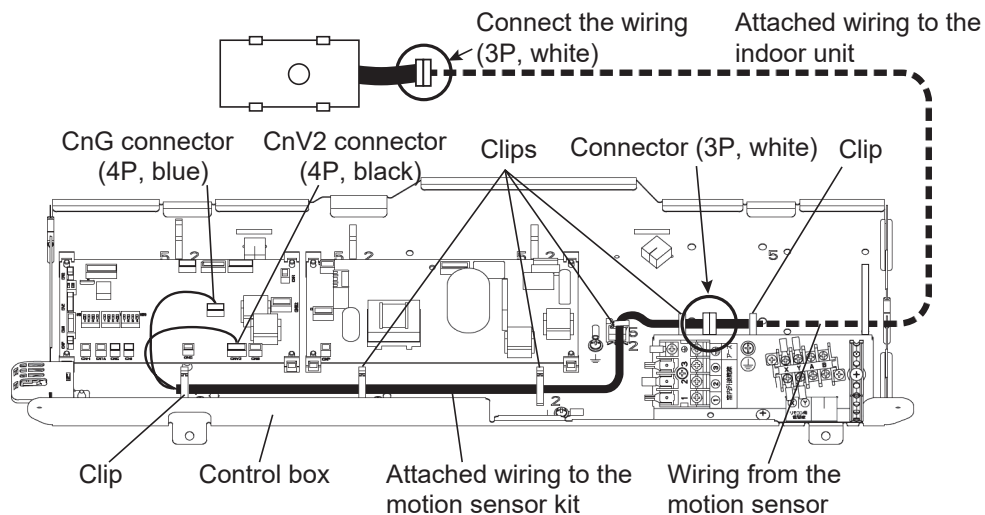
- ④ Install the motion sensor
Place the connector under the panel and install it to the panel with careful attention to the direction of the motion sensor.

CAUTION: Connect the connectors before installing the motion sensor.

In case of connecting after the motion sensor has been installed, it will be necessary to remove the panel.

Wiring connection in the control box

- ① Connect the wiring from the motion sensor (attached to the indoor unit, color of the wiring: white, red and black, connector: 3P, white) to the attached wiring to the motion sensor kit.
- ② Fix the wiring with clips (6 places).
- ③ Connect CnG connector (4P, blue) to the PCB.
- ④ Connect CnV2 connector (4P, black) to the PCB.



③ Setting the motion sensor

The motion sensor will not function if it is only installed.


Set the function of the motion sensor by the wired or wireless remote control. Refer to the manual instruction of each remote control for the setting procedure.

Note: It is not possible to set by the following remote control models or older.



Wired: RC-EX1A, RC-E5, RCH-E3

Wireless: RCN-E1R

5.2.2 FDUM, FDU series (LB-KIT)


PJZ012D122 

WARNING

- Connect the wiring to the PCB in the control box on the indoor unit and hold the wiring securely so as not to apply unexpected stress on the PCB. Loose connection or hold will cause abnormal heat generation or fire. 
- Make sure the power source is turned off when electric wiring work. Otherwise, electric shock, malfunction and improper running may occur. 

CAUTION

- Do not install the motion sensor kit at the following places in order to avoid malfunction.






<ul style="list-style-type: none"> (1) Places exposed to direct sunlight (2) Places near heat devices (3) High humidity places (4) Hot surface or cold surface enough to generate condensation (5) Places exposed to oil mist or steam directly (6) Places affected by the direct air flow of the Indoor unit (7) Places where the motion sensor is influenced by the fluorescent lamp or sunlight 	<ul style="list-style-type: none"> (8) Places where the motion sensor is affected by infrared rays of any other communication devices (9) Places where some object may obstruct the motion sensor (10) Place that the motion sensor have a shock (11) Place with the strong radio wave or Static electricity (12) Place that motion sensor lens become tainted or have damaged. Dusty place (13) Place where it runs in parallel with strong voltage lines such as power source wiring
---	--
- Do not leave the motion sensor without the cover. In case the cover needs to be detached, protect the motion sensor with a packaging or bag. In order to keep it away from water and dust. 

Attention

- This manual describes how to install the motion sensor kit.
- Instruct the customer how to operate it correctly referring to the instruction manual.
- For the installation method of the air-conditioner itself, refer to the installation manual enclosed in the package.

Accessories

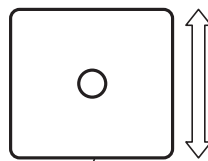
Please make sure that all components are in the package.

Motion sensor	Wiring <1>	Wiring <2>	2 screws	Manual
	In case of CnL connector on the indoor unit PCB (FDT/FDK/FDTC) 	In case of CnL connector is not on the indoor unit PCB 		

※ Please prepare a relay wiring for connecting the motion sensor and indoor unit on site. (0.2 mm² or thicker, triplex (red, white and black) cable for communication, with the maximum length of 8 m.)

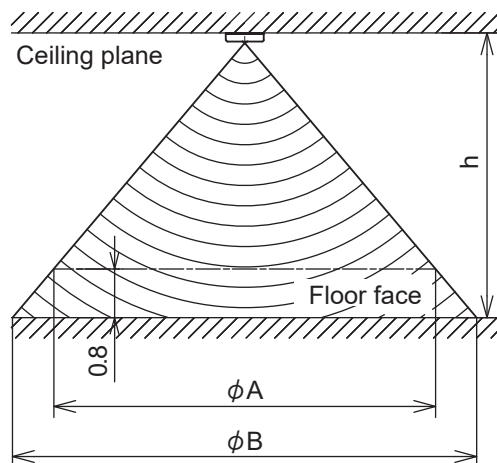
② Installing the motion sensor

- The recommended height is lower than 4000 mm for motion sensor. When the installation height is higher, motion detection accuracy might be reduced.
- Sensor will detect the object with a different temperature from the surrounding.
- Motion sensor is more sensitive to motions in the direction of ⇄ mark.
- Sensor may not detect small children or infants with little motion.
- Although motion sensor can be installed on a wall, it is recommended to install it on the ceiling plane.
- If the sensor is installed on the wall, the sensing distance in the front direction is about 5 m, covering the angle of about 100 degrees.



Side of screws for fixing the case

The detectable area



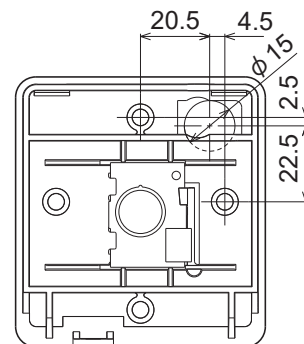
Height of the ceiling	h (m)	2.7	3.5	4.0
Detectable area	φ A (m)	4.5	6.4	7.6
Detectable area	φ B (m)	6.4	8.3	9.5

Installing the motion sensor

There are the following 3 methods to install the motion sensor on the ceiling plane or wall surface (hereinafter called "ceiling plane"). Select the method according to the installation position.

<How to install>

- Direct installation by screws to the ceiling plane with the wiring in the ceiling space.
- Direct installation by screws to the ceiling plane with the wiring in the room.
- Installation with switch box (prepare at the site)

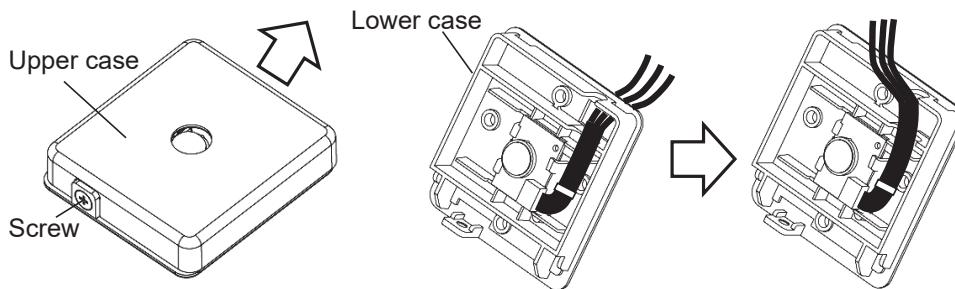
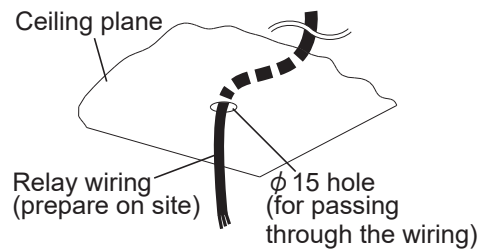


Positional relation for pulling out relay wiring hole and installing holes.

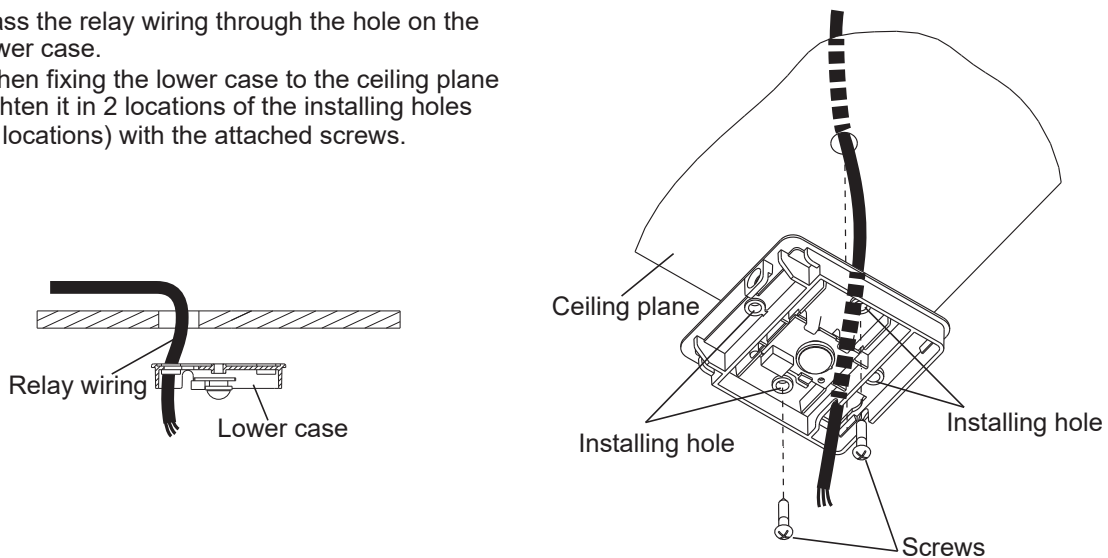
Option (A)

►Select this method if the ceiling plane has sufficient strength to install the motion sensor directly with screws.

- ① Prepare a relay wiring on site and lay out the wiring in advance.
- ② Remove the screw at the side of the motion sensor and slide the upper case in the direction of the arrow.
- ③ Pull the wiring of the motion sensor as below.



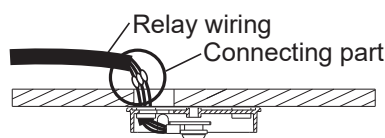
- ④ Pass the relay wiring through the hole on the lower case.
- ⑤ When fixing the lower case to the ceiling plane tighten it in 2 locations of the installing holes (4 locations) with the attached screws.



- ⑥ Using a crimping terminal, etc., connect the same color to the relay wiring (prepare on site) and the wiring of motion sensor.



- ⑦ Place the connecting part inside of the ceiling space.
- ⑧ Seal the wiring hole on the lower case with putty.
- ⑨ Taking care not to pinch the wirings, slip the upper case into the lower case, and tighten the screws.

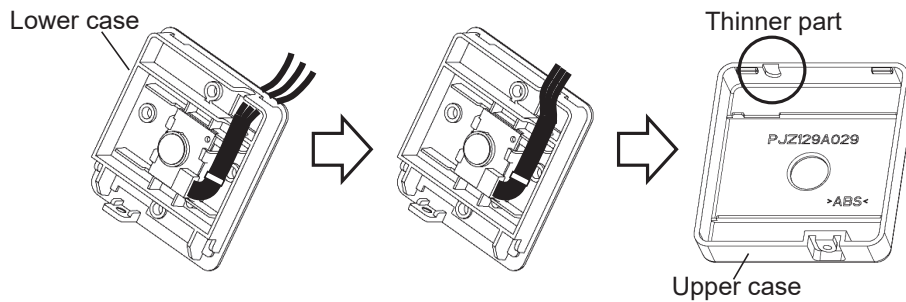


Caution:
In order to prevent tracking, be sure to perform construction so as not to clog up the connecting part with dust, etc.

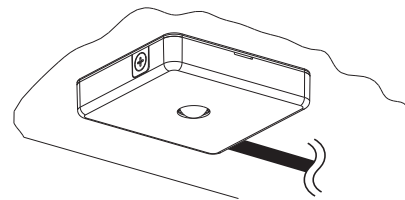
Option (B)

▶ Select this method if the ceiling plane has sufficient strength to install the motion sensor directly with screws.

- ① Remove the screw at the side of the motion sensor and slide the upper case in the direction of the arrow.
(The same as ② of Option (A))
- ② Pull the wiring of the motion sensor toward the side. Cut off the thinner part of the upper case.

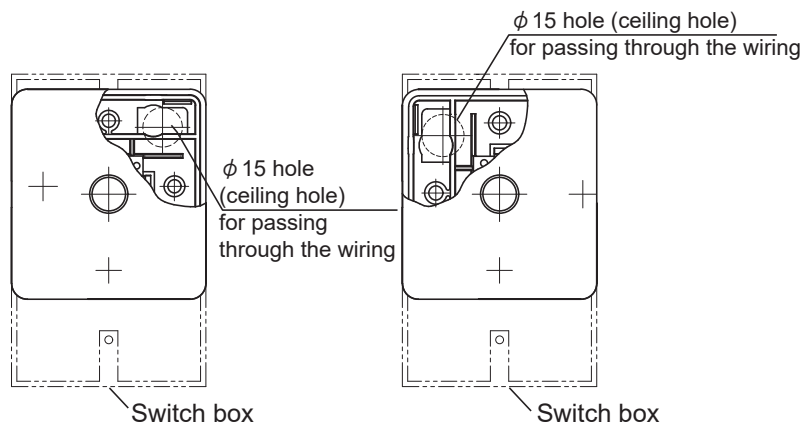


- ③ When fixing the lower case to the ceiling plane, tighten it in 2 locations of the installing holes (4 locations) with the attached screws. (The same as ⑤ of Option (A))
- ④ Using a crimping terminal, etc., connect the same color to the relay wiring (prepare on site) and the wiring of motion sensor.
(The same as ⑥ of Option (A))
- ⑤ Taking care not to pinch the wirings, slip the upper case into the lower case, and tighten the screws.
(The same as ⑨ of Option (A))
- ⑥ Seal the cut part at Step ② with putty.

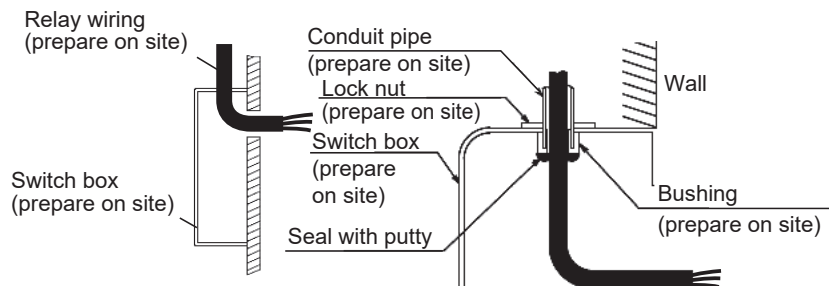


Option (C)

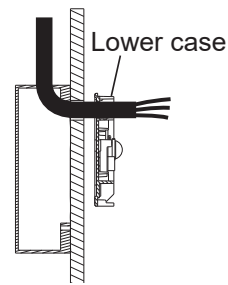
- ① Set up the switch box and relay wiring (prepare on site) in advance.
Seal the relay wiring inlet with putty.



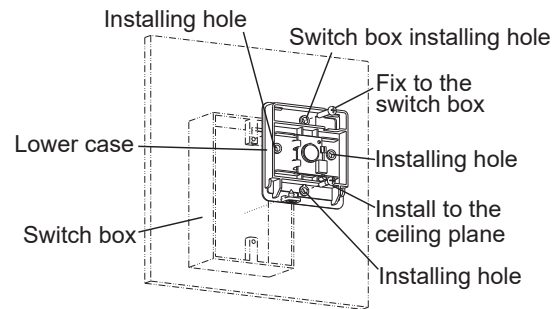
Positional relation for the switch box and installing holes



- ② Remove the screw at the side of the motion sensor and slide the upper case in the direction of the arrow. (The same as ② of Option (A))
- ③ Pull the wiring of the motion sensor. (The same as ③ of Option (A))
- ④ Pass the relay wiring through the hole on the lower case from switch box.

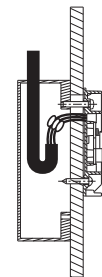


- ⑤ Fix the lower case to switch box using the installing hole (1 place).

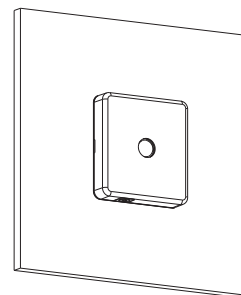


- ⑥ Connect the same color to the relay wiring (prepare on site) and the wiring of motion sensor. (The same as ⑥ of Option (A))

- ⑦ Place the connecting part between switch box and the hole of the lower case through passed the wiring at step ④ .



- ⑧ Taking care not to pinch the wirings, slip the upper case into the lower case, and tighten the screws. (The same as ⑧ of Option (A))

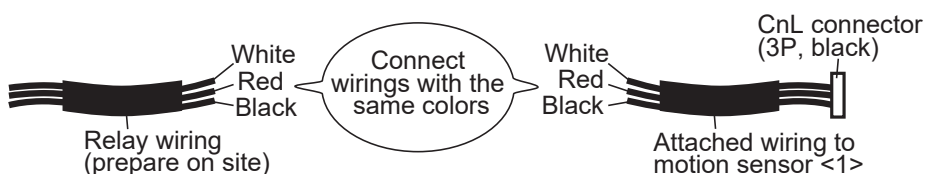


Wiring connection in the control box of indoor unit

CAUTION: Attached wirings to the motion sensor vary depending on the model of the indoor unit. Make sure your model before installing.

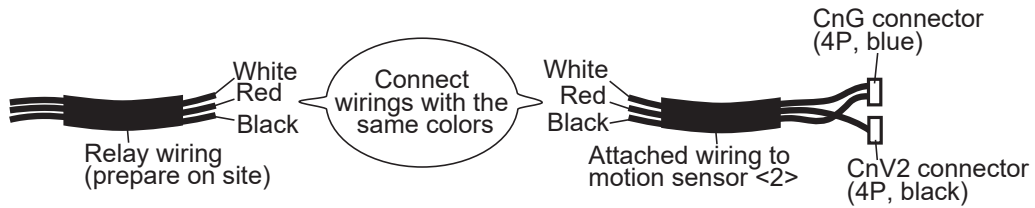
<In case of the CnL connector is on the indoor unit PCB (FDT/FDK/FDTC)>

- ① Connect the same color to the relay wiring (prepare on site) and the attached wiring <1>.
- ② Remove the control box cover from the indoor unit.
- ③ Connect CnL connector (3P, black) to the PCB.

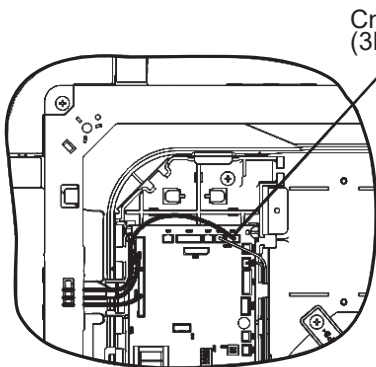


<Incase of the CnL connector is not on the indoor unit PCB>

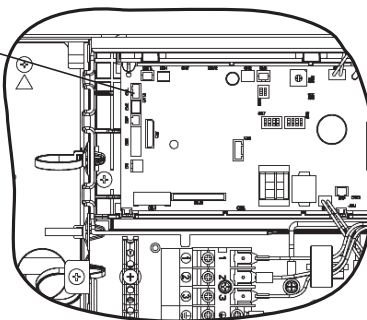
- ① Connect the same color to the relay wiring (prepare on site) and the attached wiring <2>.
- ② Remove the control box cover from the indoor unit.
- ③ Connect CnG connector (4P, blue) to the PCB.
- ④ Connect CnV2 connector (4P, black) to the PCB.



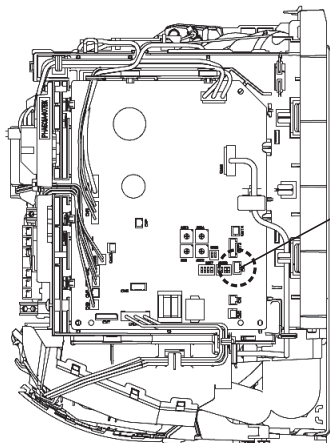
<For FDT>



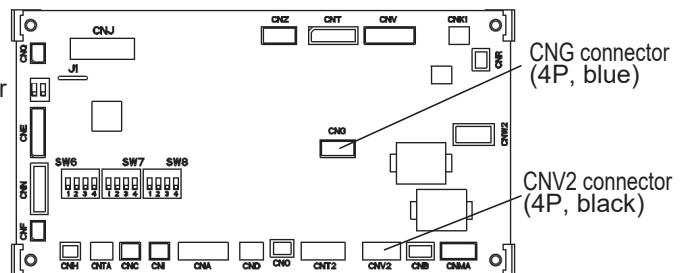
<For FDTC>



<For FDK>



<For the other indoor units>



③ Setting the motion sensor

The motion sensor will not function if it is only installed.

Set the function of the motion sensor by the wired or wireless remote control. Refer to the manual instruction of each remote control for the setting procedure.

Note: It is not possible to set by the following remote control models or older.

Wired: RC-EX1A, RC-E5, RCH-E3

Wireless: RCN-E1R

5.2.3 USER'S MANUAL (FDE, FDUM, FDU series)

PJZ012A164

SAFETY PRECAUTIONS

⚠ WARNING

- **If a child, person with disease or other persons needed for assist uses this product, people around the person should take sufficient care.**

A halt of the air-conditioner due to abnormal situation or motion sensor's control may cause a feeling of sickness or accident.

ATTENTION

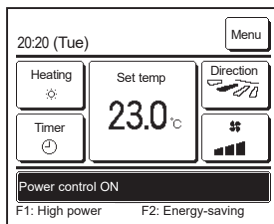
- The sensor may not detect a person near the border of detection range.
- Installation near an object with a different temperature from the surrounding may cause a false detection of human.
- Due to correction of temperature setting, some people may feel chilly.

This product uses infrared sensor to detect person's activity level to support control of air-conditioner. Please set the control you like from the remote control.

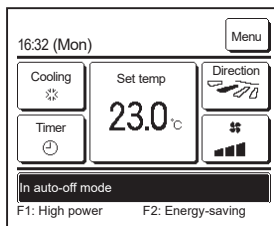
Indoor unit control	Detective situation	Description of control	Display of eco touch remote control
① Power control	Activity level is large	Lower the indoor temperature setting for comfort.	Power control ON
	Activity level is small	Raise the indoor temperature setting for energy-saving.	Power control ON
② Auto-off	No one is detected for 1 hour	Stop operation and stand by	In auto-off mode
	No one is detected for 12 hours	Stop operation	-
① + ②	Any combination of the above	Any of the above	Any of the above
All disabled (default setting)	-	Standard control	-

If the sensor is disconnected or defective, the control will be set as if it no detects (or less) activity level.

Refer to the next section for setting method.



- When power control is enabled
The amount of human motion is detected by a motion sensor to adjust the Set temp.
During power control, "Power control ON" will be displayed on the message display.

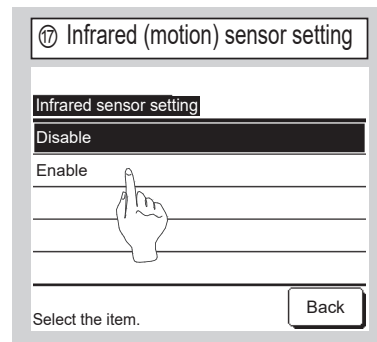
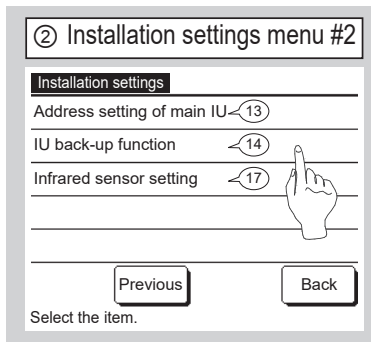
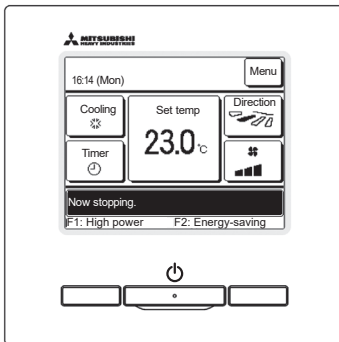


- When auto-off is enabled
The unit will enter the "Operation wait" state when an hour has elapsed since the last time a human presence was detected and will be in "Complete stop" state after another 12 hours.
"Operation wait"...The unit stops but will resume operation when human presence is detected. When the unit is in "Complete stop", "In auto-off mode" will be displayed on the message display.
"Complete stop"...When auto-off is enabled, the unit stops. The unit will not resume operation even when human presence is detected. The message "In auto-off mode" will disappear from the message display, and the operation lamp will turn off.

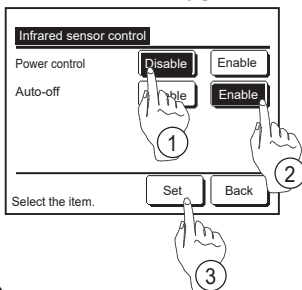
Control setting (from eco touch remote control)

- Refer to the installation manual for eco touch remote control to activate the infrared sensor (motion sensor).

TOP screen **Menu** ⇒ **Service setting** ⇒ **Installation settings** ⇒ **Service password**



- Refer to the installation manual for eco touch remote control to set control mode.
 - Infrared sensor (motion sensor) control (for IUs with motion sensors)
Presence of humans and the amount of motion are detected by a motion sensor to perform various controls.
 - When the R/C is set as the sub R/C, the infrared sensor (motion sensor) control cannot be set.



Tap the **Menu** button on the TOP screen and select **Energy-saving setting** ⇒ **Infrared sensor control** or **Motion sensor control**.

The Infrared sensor control screen and contents of the current settings are displayed.

- ① Enable/disable power control.
- ② Enable/disable auto-off.
- ③ After you set each item, tap the **Set** button.
The display returns to the Energy-saving setting menu screen.

Control setting (from wireless remote control)

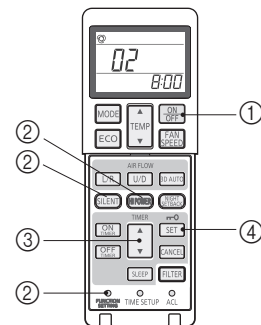
- Refer to the installation manual for wireless remote control to enable motion sensor in **Indoor function settings**

Indoor function settings

1. How to set indoor functions

- ① Press the ON/OFF button to stop the unit.
- ② Press the desired one of the buttons shown item 2. while holding down the FUNCTION SETTING switch.
- ③ Use the selection buttons, ▲ and ▼, to change the setting.
- ④ Press the SET button.

The buzzer on the remote control signal receiver beeps twice, and the LED lamp flashes four times at two-second intervals.



2. Setting details

Button	Number indicator	Function setting
SILENT	00	Infrared sensor setting (Motion sensor setting) : Disable
	01	Infrared sensor setting (Motion sensor setting) : Enable
HI POWER	00	Infrared sensor control (Motion sensor control) : Disable
	01	Infrared sensor control (Motion sensor control) : Power control only
	02	Infrared sensor control (Motion sensor control) : Auto OFF only
	03	Infrared sensor control (Motion sensor control) : Power control and Auto OFF

5.3 CURRENT AND NEW MODELS COMPATIBILITY (Indoor unit, FDE wireless kit, Motion sensor kit)

(1) New model code/service code

(a) Indoor unit

PAC indoor unit with motion sensor function control will have the service code "/F".

PAC

Current model	New model	Compatibility	Remark
FDU71VF1/1	FDU71VF1/F	Fig. 1	Change service code to "/F" ① Change PCB(CTR)
FDU100VF2/1	FDU100VF2/F		
FDU125VF/1	FDU125VF/F		
FDU140VF/1	FDU140VF/F		
FDU200VG/1	FDU200VG/F		
FDU250VG/1	FDU250VG/F		
FDUM40VF/C	FDUM40VF/F		
FDUM50VF/C	FDUM50VF/F		
FDUM60VF/C	FDUM60VF/F		
FDUM71VF1/1	FDUM71VF1/F		
FDUM100VF2/1	FDUM100VF2/F		
FDUM125VF/C	FDUM125VF/F		
FDUM140VF/C	FDUM140VF/F		
FDE40VG/E	FDE40VG/F	Fig. 2	Change service code to "/F" ① Change PCB(CTR) ② Wiring specification changed
FDE50VG/E	FDE50VG/F		
FDE60VG/E	FDE60VG/F		
FDE71VG/E	FDE71VG/F		
FDE100VG/E	FDE100VG/F		
FDE125VG/E	FDE125VG/F		
FDE140VG/E	FDE140VG/F		

(b) FDE wireless kit

FDE wireless kit model code will change.

Current model	New model	Compatibility	Remark
RCN-E-E2/1	RCN-E-E3/1	Fig. 2	New model code

(2) Compatibility

There is no compatibility between new Indoor unit and current wireless kit, since the details of the reason was shown in attached appendix.

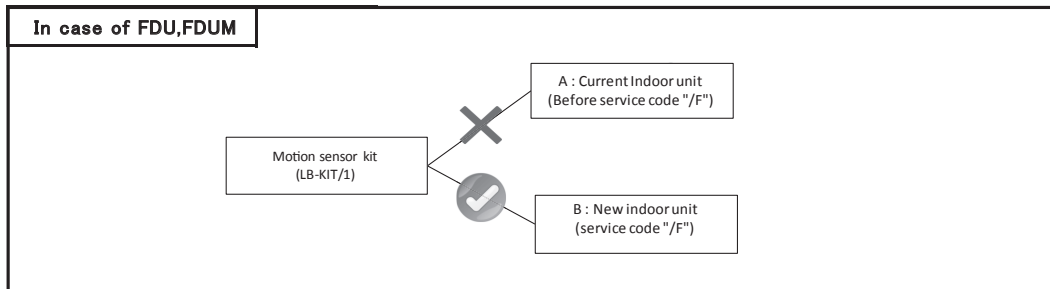


Fig. 1

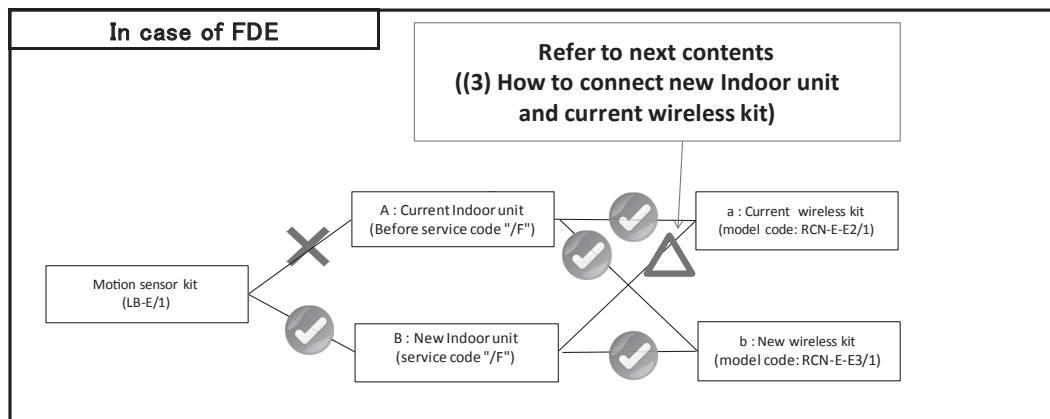
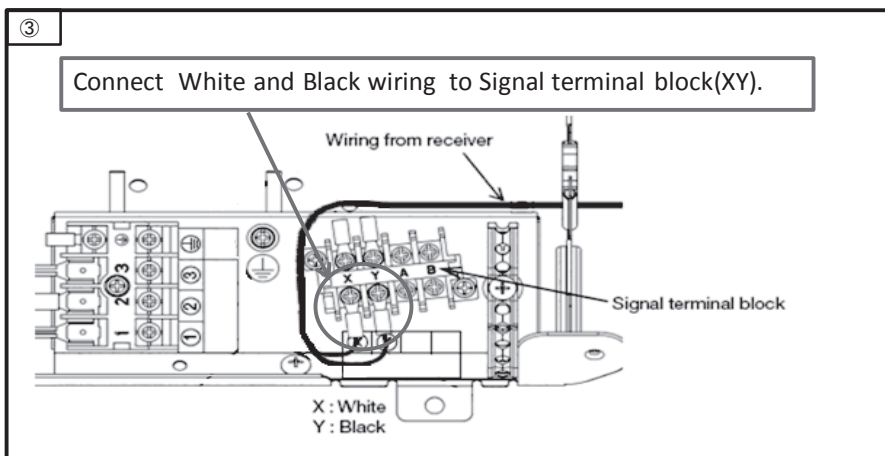
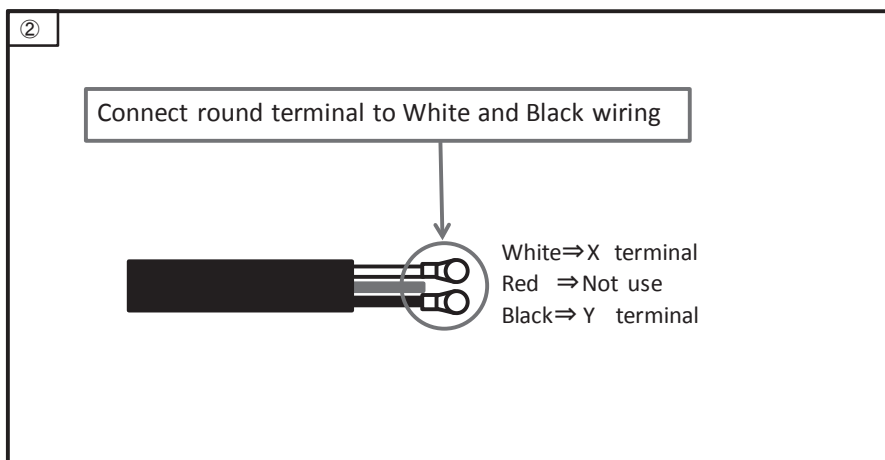
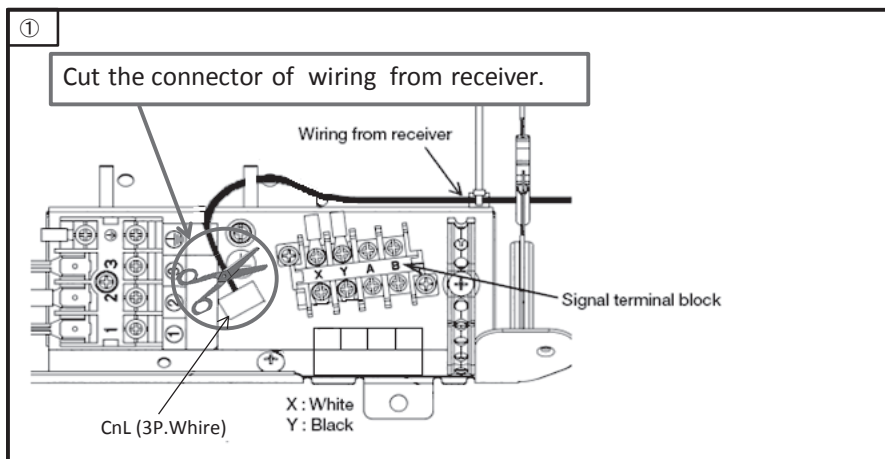


Fig. 2

(3) How to connect new Indoor unit (FDE—VG/F) and current wireless kit (RCN-E-E2/1)
When connecting new Indoor unit (FDE—VG/F) and current wireless kit (RCN-E-E2/1),
Please use wiring kit ((WR-RCN-E/1). (Refer to appendix)

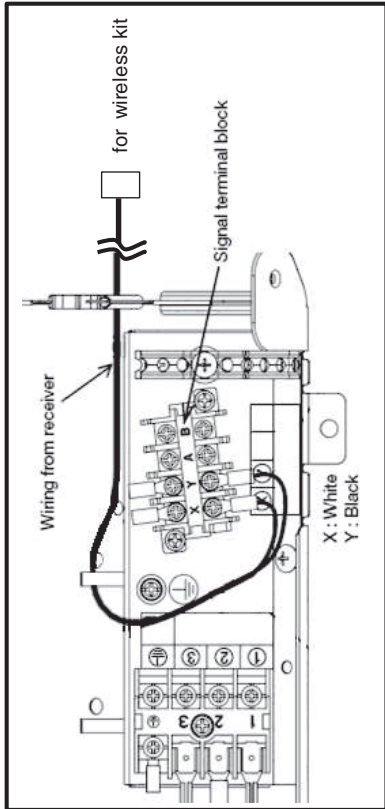
In case of connection with a new Indoor unit (FDE--VG/F) and current wireless kit (RCN-E-E2/1) without wiring kit (WR-RCN-E/1), please use the following method.

- ① Cut off the CnL connector of the wiring from the receiver. (3P, white)
- ② Connect round terminals to the WHITE and BLACK wiring.
 ※ Don't connect the RED wiring, make it safe by taping it up.
- ③ Connect the white and black wiring to the XY terminals.
 White wiring is to X terminal.
 Black wiring is to Y terminal.

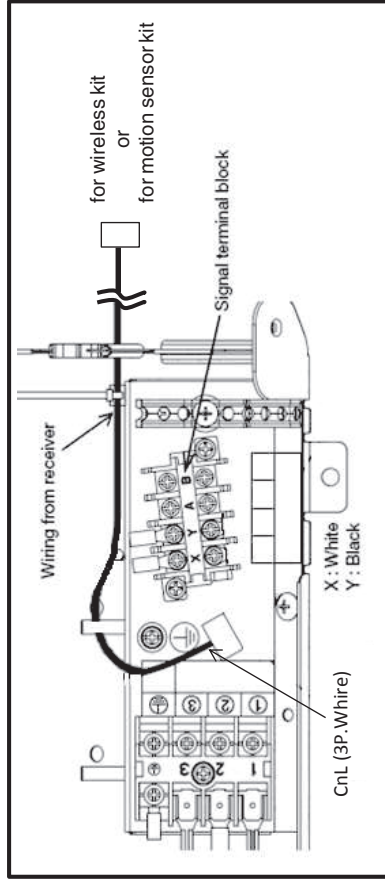


Appendix

The cable in the FDE wireless kit will be changed to make it common for both wireless kit and motion sensor kit.
 (The cable in the FDE will be changed with service code . Please refer to Section 2 below.)

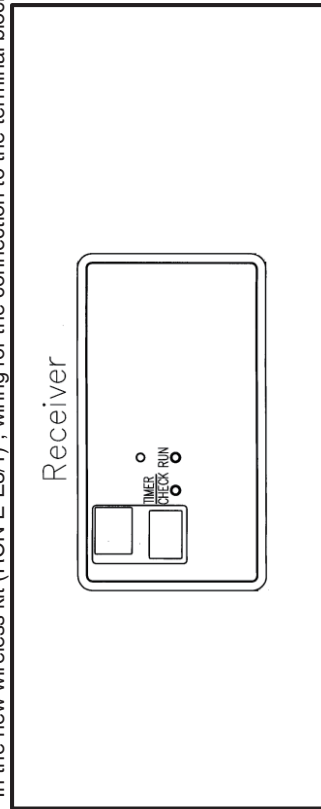


A: Current Indoor unit (FDE--VG/E)
Wiring connected to Signal terminal block

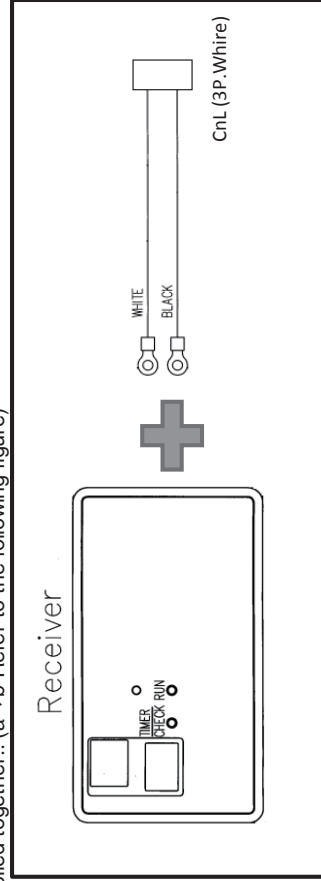


B :New Indoor unit (FDE--VG/F)
Wiring not connected to Signal terminal block

In the new wireless kit (RCN-E-E3/1) , wiring for the connection to the terminal block will be supplied together.. (a⇒b Refer to the following figure)



a : Current wireless kit (RCN-E-E2/1)
Receiver only



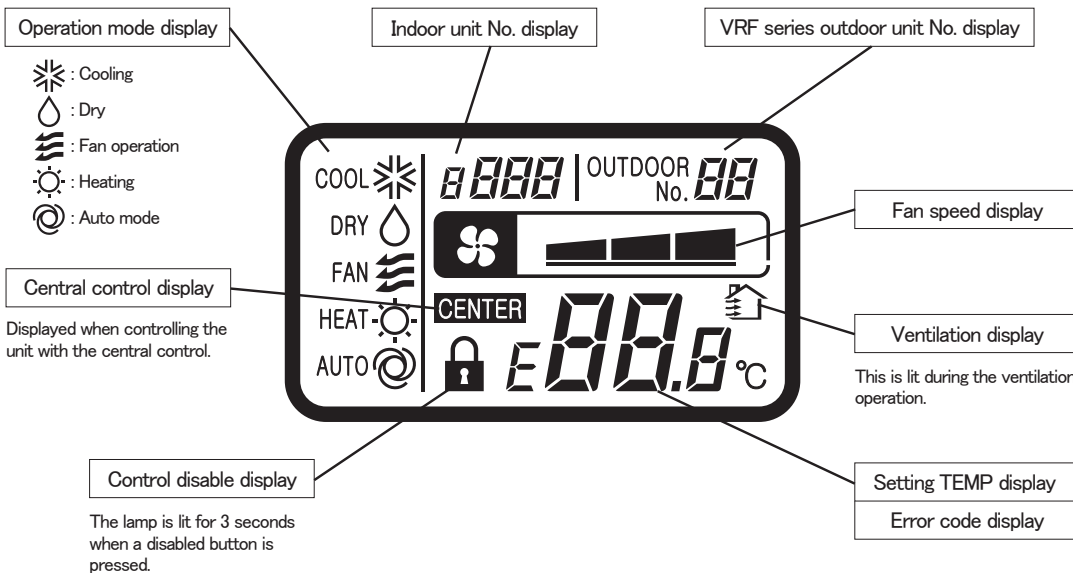
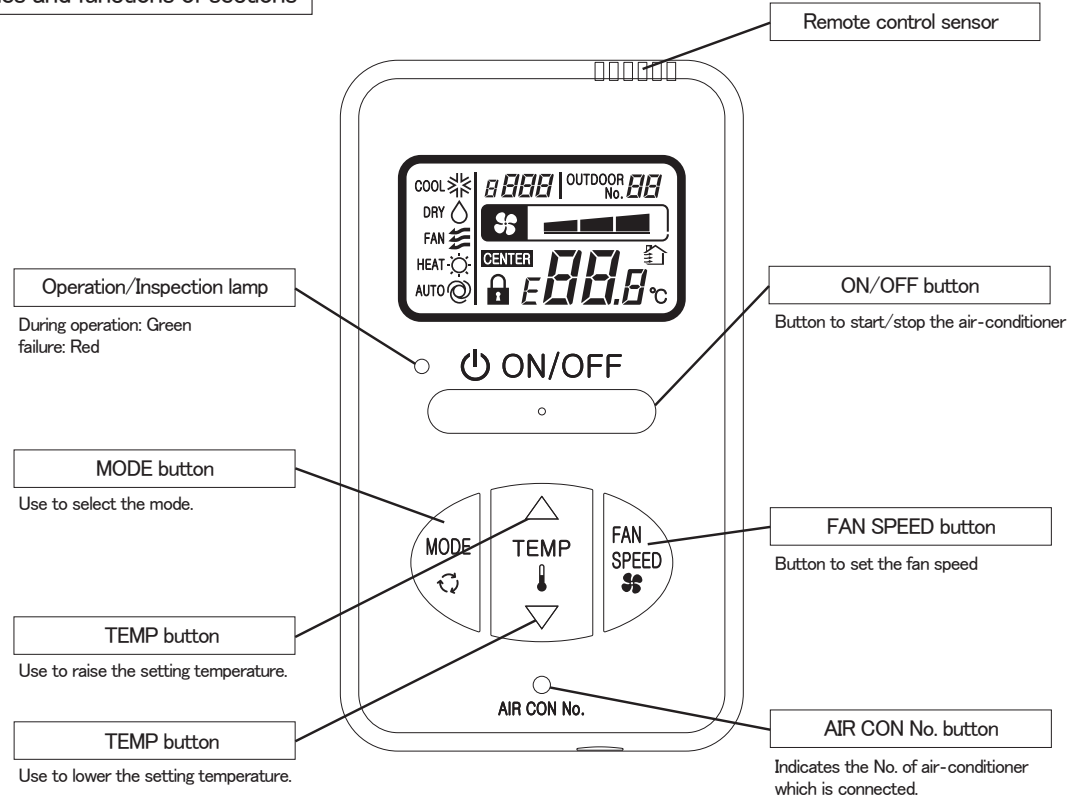
b : New wireless kit (RCN-E-E3/1)
Receiver and wiring

5.4 SIMPLE WIRED REMOTE CONTROL (RCH-E3)

Note:

Following functions of FDU indoor unit series are not able to be set with this simple wired remote control (RCH-E3).
 1. 4-fan speed setting (P-Hi/Hi/Me/Lo) → 3-fan speed setting (Hi/Me/Lo)

Names and functions of sections



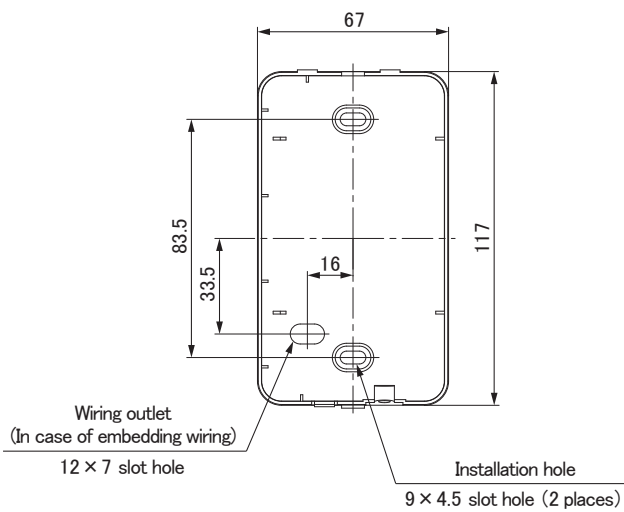
Installation of remote control

Do not install the remote control at the following places in order to avoid malfunction.

- (1) Places exposed to direct sunlight
- (2) Places near heat devices
- (3) High humidity places
- (4) Hot surface or cold surface enough to generate condensation
- (5) Places exposed to oil mist or steam directly
- (6) Uneven surface

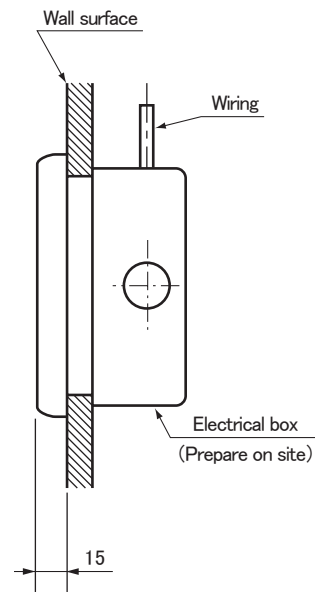
PJZ000Z272

Remote control installation dimensions

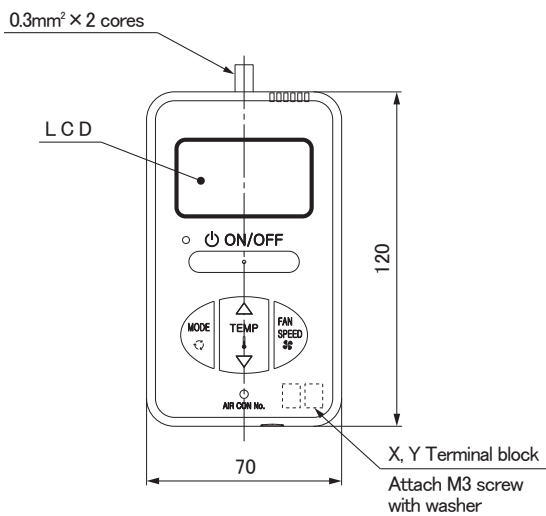


Note: Installation screw for remote control
M4 screw (2 pieces)

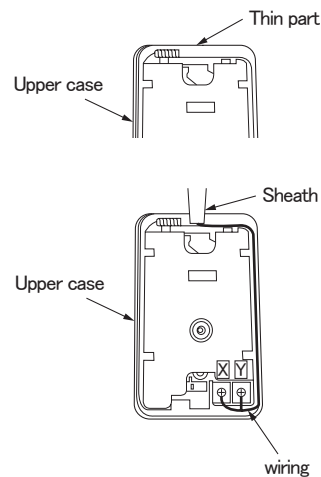
In case of embedding wiring



In case of exposing wiring

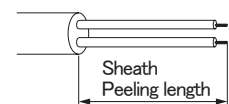


The remote control wiring can be extracted from the upper center. After the thin part in the upper side of the remote control upper case is scraped with a nipper or knife, remove burr with a file.



The peeling length of each wiring is as follows:

X wiring : 160mm
Y wiring : 150mm



Wiring specifications


- (1) Wiring of remote control should use 0.3mm² × 2 cores wires or cables. (on-site configuration)
- (2) Maximum prolongation of remote control wiring is 600m.
If the prolongation is over 100m, change to the size below.
But, the wiring in the remote control case should be 0.3mm² (recommended) to 0.5mm².
Change the wire size outside of the case according to wire connecting. Waterproof treatment is necessary at the wire connecting section. Be careful about contact failure.

Unit:mm

Length	Wiring thickness
100 to 200m	0.5mm ² × 2 cores
Under 300m	0.75mm ² × 2 cores
Under 400m	1.25mm ² × 2 cores
Under 600m	2.0mm ² × 2 cores



Adapted to **RoHS** directive

Simple Remote Control Installation Manual



PJZ012D069 

Read together with indoor unit's installation manual.

WARNING

- **Fasten the wiring to the terminal securely and hold the cable securely so as not to apply unexpected stress on the terminal.** 
Loose connection or hold will cause abnormal heat generation or fire.
- **Make sure the power source is turned off when electric wiring work.** 
Otherwise, electric shock, malfunction and improper running may occur.

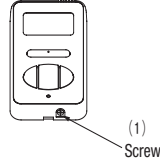
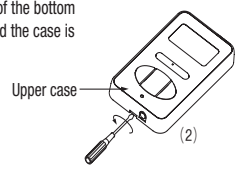
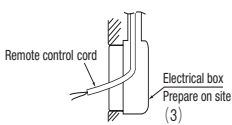
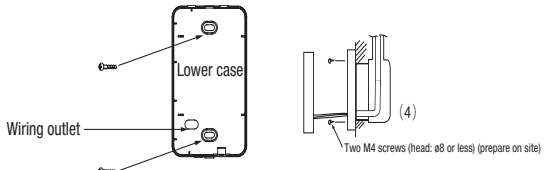
CAUTION

- **Do not install the remote control at the following places in order to avoid malfunction.** 
 - (1) Places exposed to direct sunlight
 - (2) Places near heat devices
 - (3) High humidity places
 - (4) Hot surface or cold surface enough to generate condensation
 - (5) Places exposed to oil mist or steam directly
 - (6) Uneven surface
- **Do not leave the remote control without the upper case.** 
In case the upper case needs to be detached, protect the remote control with a packaging box or bag in order to keep it away from water and dust.

Accessories	Remote control, wood screw ($\phi 3.5 \times 16$) 2 pieces
Prepare on site	Remote control cord (2 cores) (Refer to [2. Installation and wiring of remote control]) [In case of embedding cord] Electrical box, M4 screw (2 pieces) [In case of exposing cord] Cord clamp (if needed)

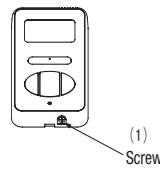
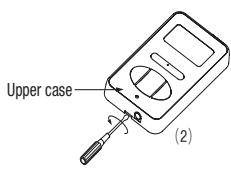
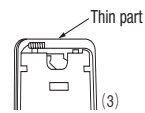
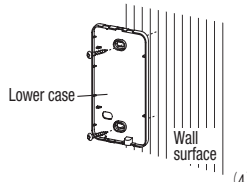
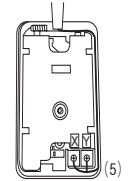
1. Installation procedure

In case of embedding cord

- (1) **Make certain to remove** the screw on the bottom surface of the remote control. 
- (2) Remove the upper case of the remote control. Insert a flat-blade screwdriver to a concave portion of the bottom surface of the remote control and slightly twist it, and the case is removed. 
- (3) Pre-bury the electrical box and remote control cord. 
- (4) Prepare two M4 screws (recommended length: 12 – 16mm), and install the lower case to the electrical box. Do not use a screw whose screw head is larger than the height of the wall around the screw hole. 

- (5) Connect the remote control cord to the terminal block. Connect the terminals (X and Y) of the remote control and the terminals (X and Y) of the indoor unit. (No polarity of X and Y)
- (6) Mount the upper case for restoring to its former state so as not to crimp the remote control cord, and secure with the removed screw.

In case of exposing cord

- (1) **Make certain to remove** a screw on the bottom surface of the remote control. 
- (2) Remove the upper case of the remote control. Insert a flat-blade screwdriver to a concave portion of the bottom surface of the remote control and slightly twist it, and the case is removed. 
- (3) The remote control cord can be extracted from the upper center. After the thin part in the upper side of the remote control upper case is scraped with a nipper or knife, remove burr with a file. 
- (4) The lower case of the remote control is mounted to a flat wall with two accessory wood screws. 
- (5) Connect the remote control cord to the terminal block. Connect the terminals (X and Y) of the remote control and the terminals (X and Y) of the indoor unit. (No polarity of X and Y)
The wiring route is as shown in the right. 

The wiring in the remote control case should be 0.3 mm² (recommended) to 0.5 mm² at maximum.

Further, peel off the sheath.

The peeling length of each wiring is as follows:

X wiring : 160mm
Y wiring : 150mm



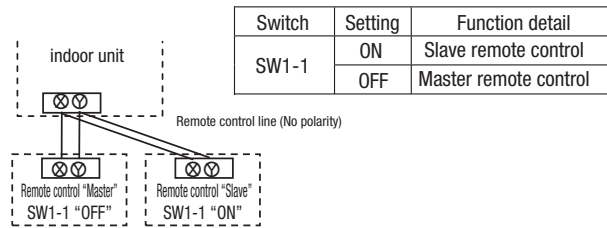
- (6) Mount the upper case for restoring to its former state so as not to crimp the remote control cord, and secure with the removed screw.
- (7) In the case of exposing installation, secure the remote control cord to the wall surface with a cord clamp so as not to loosen the remote control cord.

2. Installation and wiring of remote control

- (1) Wiring of remote control should use 0.3mm² × 2 cores wires or cables. (on-site configuration)
- (2) Maximum prolongation of remote control wiring is 600 m.
If the prolongation is over 100m, change to the size below.
But, the wiring in the remote control case should be 0.3mm² (recommended) to 0.5mm².
Change the wire size outside of the case according to wire connecting. Waterproof treatment is necessary at the wire connecting section. Be careful about contact failure.
 - 100 - 200m ······ 0.5mm² × 2 cores
 - Under 300m ······ 0.75mm² × 2 cores
 - Under 400m ······ 1.25mm² × 2 cores
 - Under 600m ······ 2.0mm² × 2 cores

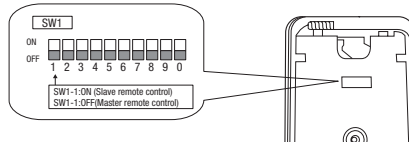
3. Master/ slave setting when more than one remote control are used

- (1) Up to two remote controls can be connected to one unit (or one group) of indoor unit.



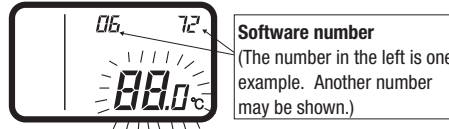
- (2) Set the switch SW1-1 of the slave remote control is "Slave" (ON). The factory default is set as "Master" (OFF).

- (Note) • The remote control thermistor enabled setting can be set only to the master remote control.
 • Install the master remote control at the position to detect room temperature.
 • The air-conditioner operation follows the last operation of the remote control in case of the master / slave setting.



4. The indication when power source is supplied

- (1) At the time of turning the power source on, after the light is on for the first 2 seconds, the display becomes as shown below.
 The number displayed on the upper side of LCD in the remote control is the software number, and this is not an error code.



- (2) Then, "88.0 °C" blinks on the remote control until the communication between the remote control and the indoor unit is established.
 (3) In the case of connecting one remote control with one unit (or one group) of indoor unit, make certain to set the master remote control (factory default).
 If the slave remote control is set, a communication cannot be established.
 (4) If a state where the communication between the remote control and the indoor unit cannot be established continues about for 30 minutes, "E" is displayed. Confirm the wiring of the indoor unit and the outdoor unit and master/slave setting of the remote control.



5. Confirmation method for return air temperature

Return air temperature can be confirmed by the remote control operation.

- (1) Press **AIR CON No.** button for over 5 seconds.

"88" blinks on the temperature setting indicator.
 ("88" blinks for approximately 2 seconds while data is read.)



Then, the return air temperature is displayed.
 (Example) return air temperature: "27 °C" (blinking)

(Note) For the return air temperature, in the normal case, the return air temperature of the indoor unit is displayed; however, in the case that the remote control thermistor is effective, detected temperature by the remote control thermistor is displayed.

- (2) Press **ON/OFF** button.
 End.

[In the case that the remote thermistor is ineffective and plural indoor units are connected to one remote control]

- (1) Press **AIR CON No.** button for over 5 seconds.

indoor unit No. indicator: "U 000" (blinking)
 (Among the connected indoor units, the lowest number is displayed.)



- (2) Press **TEMP▲** or **TEMP▼** button.

Select the indoor unit No.

- (3) Press **MODE** button.

Decider the indoor unit No.

(Example) indoor unit No. indicator: "U 000"

"88" blinks on the temperature setting indicator. (blinking for approximately 2 to 10 seconds while data is read) Then, the return air temperature is displayed. When **AIR CON No.** is pressed, return to the indoor unit selection display (example, "U 000").

- (4) Press **ON/OFF** button.
 End.

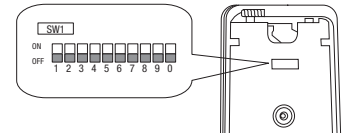
6. Function setting

Each function of the remote control and the indoor unit is automatically set to the initial setting, which is the standard use, on the occasion of connecting the remote control with the indoor unit. In the case of the standard use, the setting change is unnecessary. However, if you would like to change the initial setting "○", change the setting for only the item of the function number. **Record the setting contents and stored them.**

(1) Function setting item by switch on PCB

Switch No.	Setting	Setting detail	Initial setting
SW1-1	ON	Slave remote control	
	OFF	Master remote control	○
SW1-2	ON	Remote control thermistor enabled	
	OFF	Remote control thermistor disabled	○
SW1-3	ON	"MODE" button prohibited	
	OFF	"MODE" button enabled	○
SW1-4	ON	"ON/OFF" button prohibited	
	OFF	"ON/OFF" button enabled	○

Switch No.	Setting	Setting detail	Initial setting
SW1-5	ON	"TEMP" button prohibited	
	OFF	"TEMP" button enabled	○
SW1-6	ON	"FAN SPEED" button prohibited	※ Note 1
	OFF	"FAN SPEED" button enabled	※ Note 1
SW1-7	ON	Auto restart function enabled	
	OFF	Auto restart function disabled	○
SW1-8, 9, 0	ON	Not used	
	OFF	Not used	



- As for the slave remote control, function setting is impossible other than SW1-1.
- In the indoor unit with only one fan speed, "FAN SPEED" button cannot be enabled.

(2) Function setting item by button operation

Classification	Function No.	Function	Setting No.	Setting	Initial setting	Remarks
Remote control function	01	Indoor unit fan speed	01	Fan speed: three steps	※ Note 1	The fan speed is three steps. ■■■■ - ■■■■ - ■■■■.
			02	Fan speed: two steps (Hi-Lo)	※ Note 1	The fan speed is two steps, ■■■■ - ■■■■.
			03	Fan speed: two steps (Hi-Me)		The fan speed is two steps, ■■■■ - ■■■■.
			04	Fan: one step	※ Note 1	The fan speed is fixed to one step.
	03	Remote control thermistor at the time of cooling	01	Remote control thermistor: no offset	○	
			02	Remote control thermistor: +3.0 °C		At the time of cooling, in the case of remote control thermistor enabled, offset temperature at +3.0°C.
			03	Remote control thermistor: +2.0 °C		At the time of cooling, in the case of remote control thermistor enabled, offset temperature at +2.0°C.
			04	Remote control thermistor: +1.0 °C		At the time of cooling, in the case of remote control thermistor enabled, offset temperature at +1.0°C.
			05	Remote control thermistor: -1.0 °C		At the time of cooling, in the case of remote control thermistor enabled, offset temperature at -1.0°C.
			06	Remote control thermistor: -2.0 °C		At the time of cooling, in the case of remote control thermistor enabled, offset temperature at -2.0°C.
			07	Remote control thermistor: -3.0 °C		At the time of cooling, in the case of remote control thermistor enabled, offset temperature at -3.0°C.
	04	Remote control thermistor at the time of heating	01	Remote control thermistor: no offset	○	
			02	Remote control thermistor: +3.0 °C		At the time of heating, in the case of remote control thermistor enabled, offset temperature at +3.0°C.
			03	Remote control thermistor: +2.0 °C		At the time of heating, in the case of remote control thermistor enabled, offset temperature at +2.0°C.
04			Remote control thermistor: +1.0 °C		At the time of heating, in the case of remote control thermistor enabled, offset temperature at +1.0°C.	
05			Remote control thermistor: -1.0 °C		At the time of heating, in the case of remote control thermistor enabled, offset temperature at -1.0°C.	
06			Remote control thermistor: -2.0 °C		At the time of heating, in the case of remote control thermistor enabled, offset temperature at -2.0°C.	
07			Remote control thermistor: -3.0 °C		At the time of heating, in the case of remote control thermistor enabled, offset temperature at -3.0°C.	
05	Ventilator setting	01	No ventilator connection	○		
		02	Ventilator links air-conditioner		In case of Single split series, by connecting ventilation device to CNT of the indoor printed circuit board (in case of VRF series, by connecting it to CND of the indoor printed circuit board), the operation of ventilation device is linked with the operation of indoor unit.	
06	"Auto" operation setting	01	"Auto" operation enabled	※ Note 1		
		02	"Auto" operation disabled	※ Note 1	"Auto" operation disabled	
Indoor unit function	07	Operation permission/prohibition	01	Disabled	○	
			02	Enabled		Operation permission/prohibition control is enabled.
	08	External input	01	Level input	○	
			02	Pulse input		
	09	Fan speed setting	01	Standard	Note2	
			02	High speed 1	Note2	
			03	High speed 2	Note2	
	10	Fan remaining operation at the time of cooling	01	No remaining operation	○	After cooling stopped, no fan remaining operation
			02	0.5 hours		After cooling stopped, fan remaining operation for 0.5 hours
			03	1 hour		After cooling stopped, fan remaining operation for 1 hour
			04	6 hours		After cooling stopped, fan remaining operation for 6 hours
	11	Fan remaining operation at the time of heating	01	No remaining operation	○	After heating stopped or after heating thermostat OFF, no fan remaining operation
			02	0.5 hours		After heating stopped or after heating thermostat OFF, fan remaining operation for 0.5 hours
			03	2 hours		After heating stopped or after heating thermostat OFF, fan remaining operation for 2 hours
04			6 hours		After heating stopped or after heating thermostat OFF, fan remaining operation for 6 hours	
12	Setting temperature offset at the time of heating	01	No offset	○		
		02	Setting temperature offset + 3.0 °C		The setting temperature at the time of heating is offset by +3.0 °C.	
		03	Setting temperature offset + 2.0 °C		The setting temperature at the time of heating is offset by +2.0 °C.	
		04	Setting temperature offset + 1.0 °C		The setting temperature at the time of heating is offset by +1.0 °C.	
13	Heating fan controller	01	Low fan speed	※ Note 1	At the time of heating thermostat OFF, operate with low fan speed.	
		02	Setting fan speed		At the time of heating thermostat OFF, operate with the setting fan speed.	
		03	Intermittent operation	※ Note 1	At the time of heating thermostat OFF, intermittently operate.	
		04	Fan off		At the time of heating thermostat OFF, a fan will be stopped. When the remote control thermistor is enabled, automatically set to "Fan off". Do not set at the time of the indoor unit thermistor.	
14	Return air temperature offset	01	No offset	○		
		02	Return air temperature offset +2.0 °C		Offset the return air temperature of the indoor unit by +2.0 °C.	
		03	Return air temperature offset +1.5 °C		Offset the return air temperature of the indoor unit by +1.5 °C.	
		04	Return air temperature offset +1.0 °C		Offset the return air temperature of the indoor unit by +1.0 °C.	
		05	Return air temperature offset -1.0 °C		Offset the return air temperature of the indoor unit by -1.0 °C.	
		06	Return air temperature offset -1.5 °C		Offset the return air temperature of the indoor unit by -1.5 °C.	
		07	Return air temperature offset -2.0 °C		Offset the return air temperature of the indoor unit by -2.0 °C.	

Note 1: The symbol "※" in the initial setting varies depending upon the indoor unit and the outdoor unit to be connected, and this is automatically determined as follows:

Switch No. / Function No.	Function	Setting	Product model
SW1-6	"FAN SPEED" button	"FAN SPEED" button prohibited	Product model whose indoor fan speed is only one step
		"FAN SPEED" button enabled	Product model whose indoor fan speed is two steps or three steps
Remote control function 01	Indoor unit fan speed	Fan speed: three steps	Product model whose indoor unit fan speed is three steps
		Fan speed: two steps (Hi-Lo)	Product model whose indoor unit fan speed is two steps
Remote control function 06	"Auto" operation setting	Fan: one step	Product model whose indoor unit fan speed is only one step
		"Auto" operation enabled	Product model where "Auto" mode is selectable
Indoor unit function 13	Heating fan control	"Auto" operation disabled	Product model without "Auto" mode
		Low fan speed / Intermittent operation	Product model except FDUS

Note 2: Fan speed of "High speed" setting

Fan speed setting	Indoor unit fan speed setting		
	■■■■ - ■■■■ - ■■■■	■■■■ - ■■■■	■■■■ - ■■■■
Standard	Hi - Mid - Lo	Hi - Lo	Hi - Mid
High speed 1・2	UHI - Hi - Mid	UHI - Mid	UHI - Hi

Initial setting of some indoor unit is "High speed".

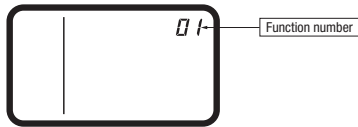
Note 3: As for plural indoor unit, set indoor functions to each master and slave indoor unit.

But only master indoor unit is received the setting change of indoor unit function "07 Operation permission/prohibition" and "08 External input".

7. How to set functions by button operation

- (1) Stop air-conditioner, and simultaneously press **AIR CON No.** and **MODE** buttons at the same time for over three seconds.

The function number "01" blinks in the upper right.



- (2) Press **TEMP▲** or **TEMP▼** button. Select the function number.

- (3) Press **MODE** button. Decide the function number.

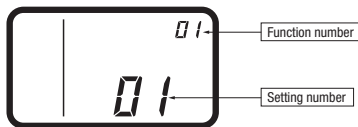
- (4) [In the case of selecting the remote control function (01-06)]

- ① The current setting number of the selected function number blinks

(Example)

Function number: "01" (lighting)

Setting number: "01" (blinking)



- ② Press **TEMP▲** or **TEMP▼** button. Select the setting number.

- ③ Press **MODE** button.

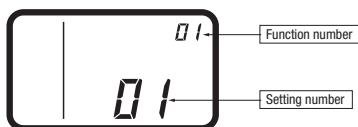
The setting is completed.

Light is on for approximately 3 to 20 seconds while data of the decided function No. and setting No. is transmitted.

(Example)

Function number: "01" (lighting for 3 to 20 seconds)

Setting number: "01" (lighting for 3 to 20 seconds)



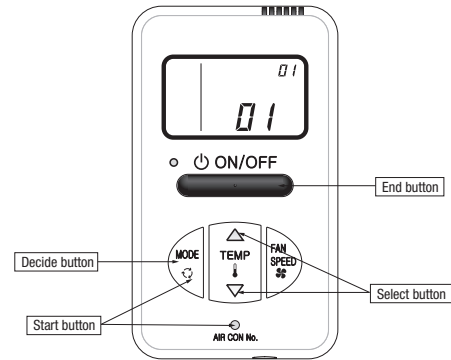
Then, the screen goes back to the function number blinking indication (1), if the setting is sequentially conducted, continue with the same procedures. If the setting is finished, proceed to (5).

- (5) Press **ON/OFF** button. The setting is completed.

- Even if **ON/OFF** button is pressed during setting, the setting is ended. However, any details where the setting has not been completed will be ineffective.
- The setting contents are stored in the control, and even if the power failure occur, this will not be lost.

[Confirmation method for current setting]

According to the operation, the "setting number" displayed first after selecting "function number" and pressing **MODE** button is the currently set content. (However, in the case of selecting "U ALL" (all units), the setting number of the lowest number among the indoor units is displayed.)



- [In the case of selecting the indoor unit function (07-14)]

- ① "88" blinks on the temperature setting indicators.

(blinking for approximately 2 to 10 seconds while data are read)

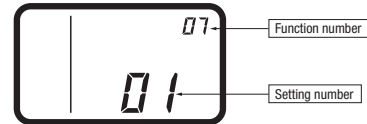


After that, the current setting number of the selected function number blinks.

(Example)

Function number: "07" (lighting)

Setting number: "01" (blinking)



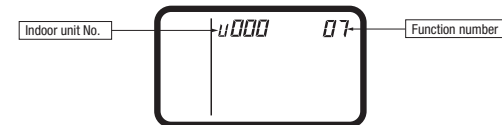
Proceed to ②.

[Note]

- In the case of connecting one remote control to plural indoor units, the display will be as follows:

Indoor unit No. display: "U 000" (blinking)

(Display the lowest number among the connected indoor units.)



- Press **TEMP▲** or **TEMP▼** button. Select the indoor unit No. to be set.

If "U ALL" is selected, the same setting can be set to all units.

- Press **MODE** button.

Decide the indoor unit No.

"88" blinks on the temperature setting indicators. (blinking for 2 to 10 seconds while data is read)

When **AIR CON No.** button is pressed, go back to the indoor unit selection display (for example, "U 000" blinking).

- ② Press **TEMP▲** or **TEMP▼** button. Select the setting number

- ③ Press **MODE** button.

The setting is completed.

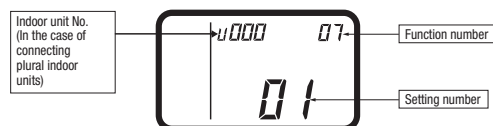
Light is on for approximately 3 to 20 seconds while data of the decided function No. and setting No. is transmitted.

(Example)

Indoor unit No.: "U 000" (lighting for 3 to 20 seconds)

Function number: "07" (lighting for 3 to 20 seconds)

Setting number: "01" (lighting for 3 to 20 seconds)



Then, the screen goes back to the function number blinking indication (1), if the setting is sequentially conducted, continue with the same procedures. If the setting is finished, proceed to (5).

5.5 FILTER KIT (FDUM series)

PJZ012D076A 

This manual contains installation points and operating instructions for the filter kit manufactured by MHI. Carry out the work following the instructions below.

This manual also contains information on the usage after installation, so keep this manual properly with USER'S MANUAL provided with the indoor unit.

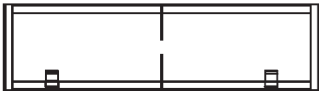
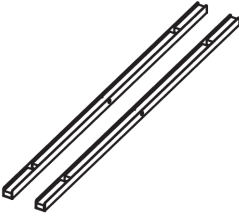
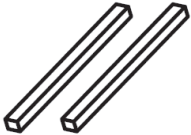



CAUTION

- After unpacking, carry out this work on the ground.
- Do not carry out the work during operation, or there is a danger of being entangled in the rotating parts and getting injured.
- Clean the air filter regularly.
- Be sure to entrust qualified serviceman to performance on the air filter.
- Be sure to cut off the power and stop the unit before performing maintenance.

1. Table of filter kit parts No. and corresponding object models

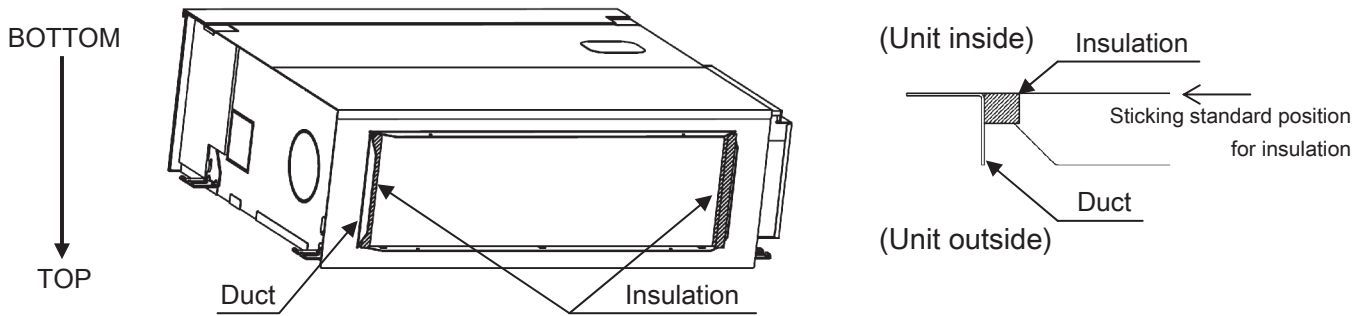
	Small model	Medium model	Large model
Single type	40, 50	60, 71	100 - 140
Multi type	22 - 56	71, 90	112 - 160
Filter Kit	UM-FL1EF	UM-FL2EF	UM-FL3EF

2. Parts list of filter kit

Filter	Rail	Insulation
		
1pc	2pc	2pc
Bracket	Parts set (screw)	
		
1pc	(small and medium model : 5pcs.) 1pc	(large model : 7pcs.) 1pc

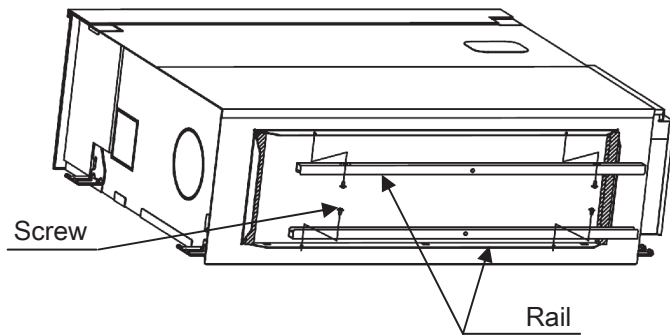
3. Installation Points

(1) Stick the insulation on both inner sides of the duct, leaving no space up and down.

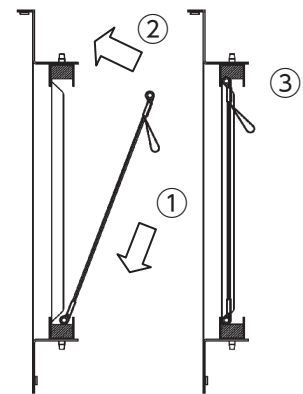
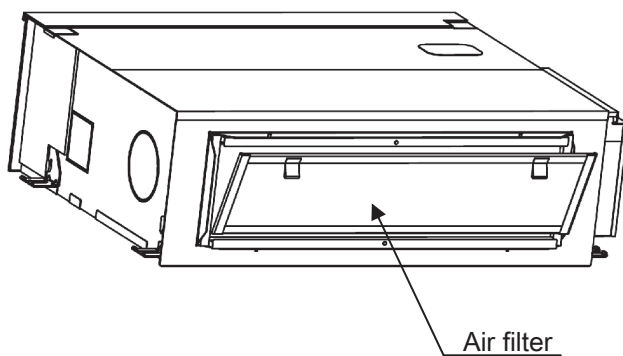


(*) After unpacking, bottom side of the unit is located at the upper side.

(2) Install the rail on both inner sides of the duct with the screw.

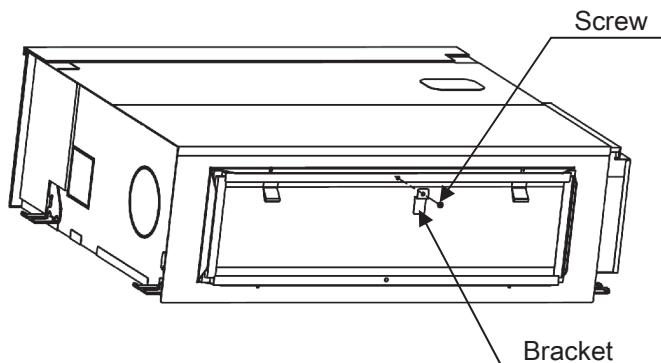


(3) Install the air filter on the rails.



Installation procedure

(4) Install the bracket on the rail with the screw.



(**) When the unit is installed, bottom side of the unit is located at the lower side.

5.6 BASE HEATER KIT (CW-H-E1)

PCZ012D007A

Model Name: CW-H-E1

WARNING

- Follow the instruction and installation manual for outdoor unit when installing the heater.
- This heater must be installed by authorized personnel.
- Turn off the power source when the kit is installed.
- Failure to follow the above will result in serious accident like electrical shock or fire.

AREAS TO BE APPLIED

This kit is to be used in an area where the lowest temperature drops below zero.

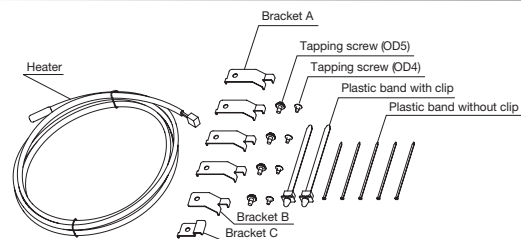
Caution: In case the heater is not applied on the unit which is installed in an area mentioned above, it may be regarded as installation failure and warranty may not be given.

CAUTION

- Follow the law or regulation of the country where it is installed.
- Do not alter the heater.
- Lay down the heater so that the edge of the sheet metal does not damage the heater.
- Bending radius must be bigger than 25mm.
- Do not use the heater near flammable substances.
- Be sure to check the electrical insulation before use.
- Be sure to check the drain is not trapped by the heater.
- Do not leave refrigerant oil on the base.

Components

- Heater : 1pc
- Bracket A : 4pcs
- Bracket B : 1pcs
- Bracket C : 1pcs
- Tapping screw (OD5) : 4pcs
- Tapping screw (OD4) : 4pcs
- Plastic band with clip : 2pcs
- Plastic band : 5pcs

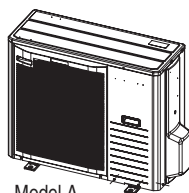


Applicable model

This heater kit is applicable for 3 different models.

<Model A>

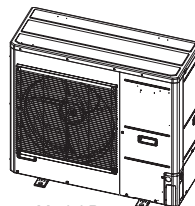
Single fan with plastic fan guard model



Model A

<Model B>

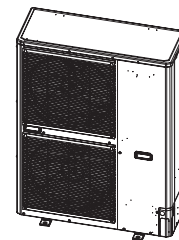
Single fan model



Model B

<Model C>

Double fan model

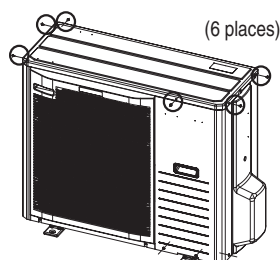


Model C

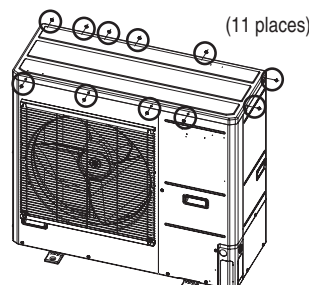
Installation procedure

Step 1

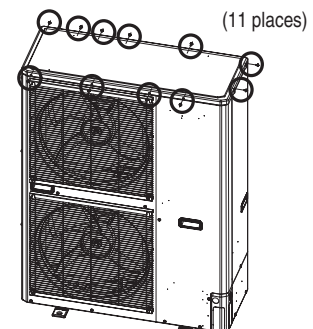
1. Remove the top panel of the outdoor unit.



Model A

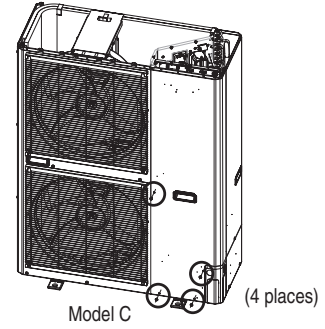
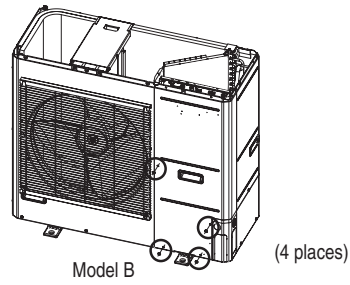
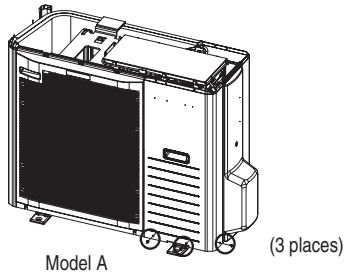


Model B

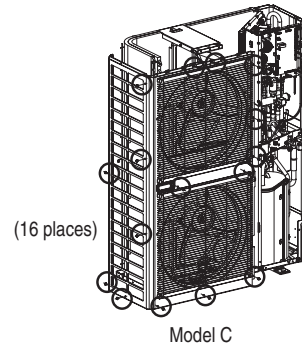
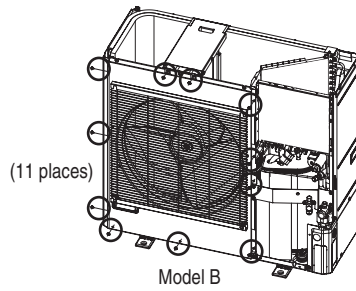
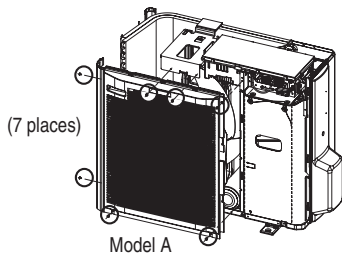


Model C

Step 2 2. Remove the service panel.

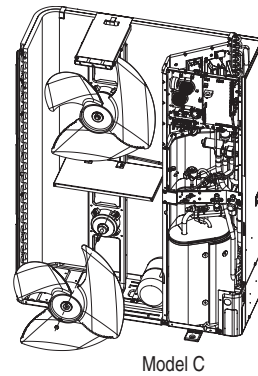
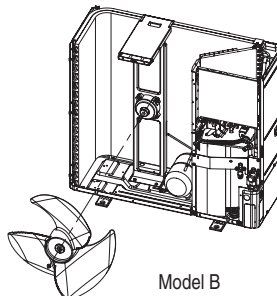
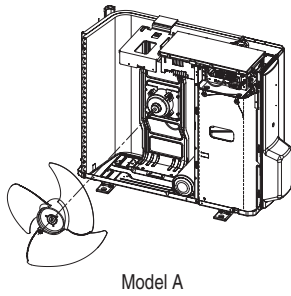


Step 3 3. Remove the front panel.
Pull the panel straightforward so that the panel doesn't touch the fan blade.

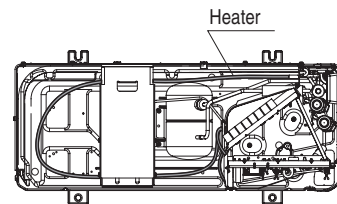
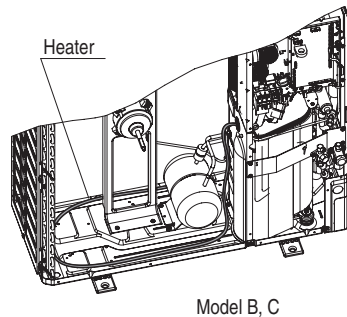
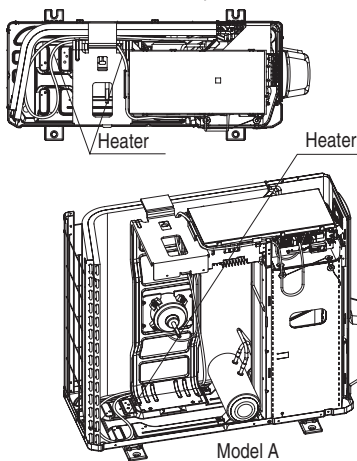


Step 4 4. Remove the fan blade if necessary. **<Note>**

Do not rotate the axis of fan motor when removing the fan blade. It may cause malfunction of the fan motor.

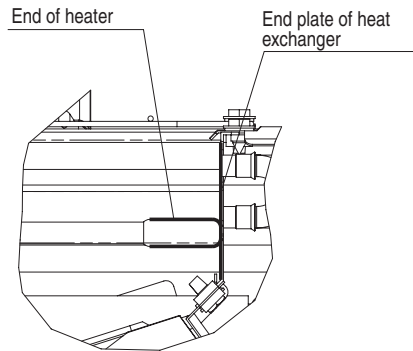


Step 5 5. Lay down the drain pan heater on the base.
For model A, put the cables rear the fan motor bracket.



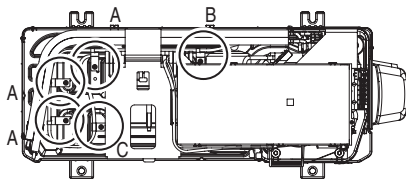
Step 6

6. Put the heater underneath the heat exchanger and align the end of heater with the end plate of heat exchanger.

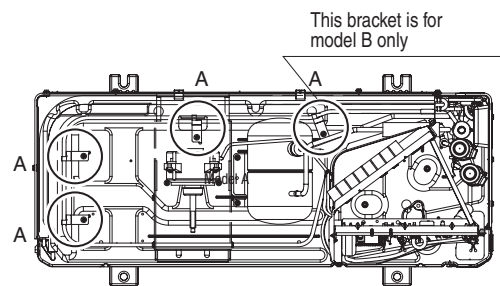


Step 7

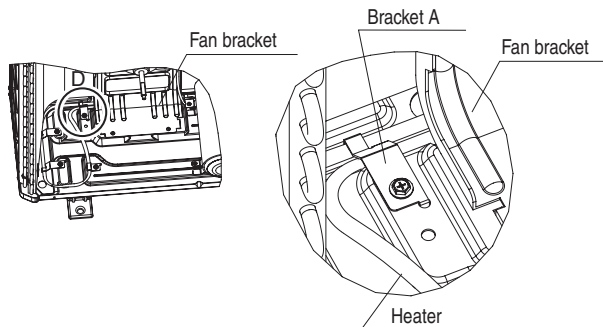
7. Fix the heater with brackets.



For model A, use 3 pcs of bracket A, 1pc of bracket B and C. Fix bracket A and C with the attached screw (OD4), and fix bracket B with the removed screw which is fastened at the same place.

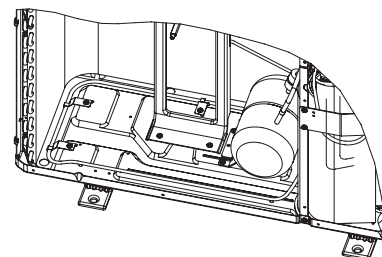


For model B and C, fix bracket A with the attached screw (OD5).



Model A

Detail view D



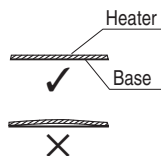
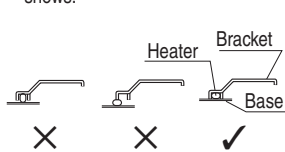
Model B, C

<Note for model A>

- 1) Put the end of heating part just after the bracket C.
- 2) Fix the incoming and out going cable with one bracket A on the left of fan bracket as figure shows.

<Note>

- 1) Fix the heater so that the bracket doesn't pinch the heater as figure shows.
- 2) Place the heater so as to touch the base completely.
- 3) In bending position, twist the heater to make it easier to bend, and get back to be able to fix it with bracket.
- 4) Be careful not to be injured by aluminum fin when fixing the heater with screw.



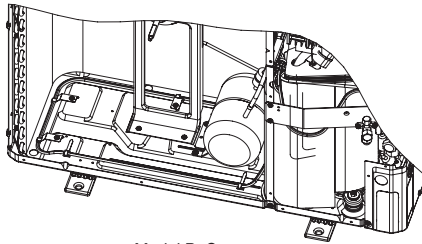
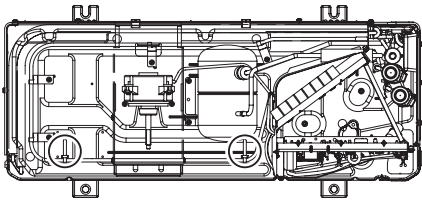
Step 8

8. Insert the plastic band with clip on the designated place (2 places), and fix the heater. (Model B, C only)

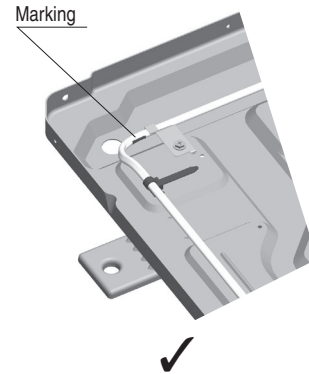
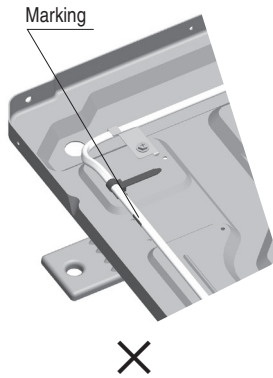
<Note>

1) Do not fasten the heating part with the plastic band. There is a marking on the end of heating part.

2) When the heater is laid down correctly, the end of heating part comes to the corner of the base.



Model B, C



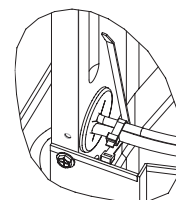
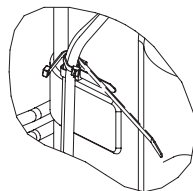
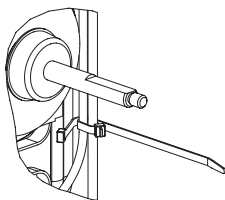
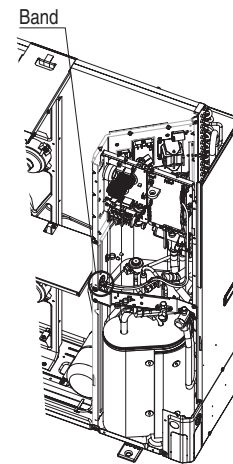
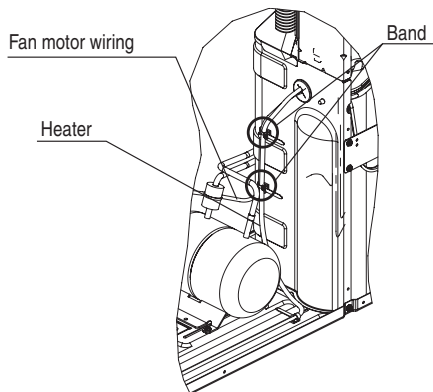
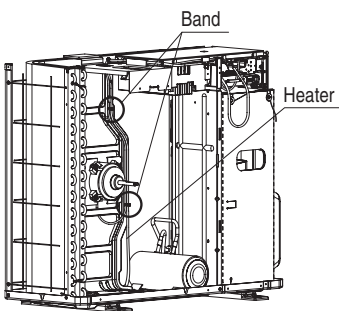
Step 9

9. Lay down the wiring on the same route of fan motor wiring, and fix the wire with attached plastic band at the same place where the fan motor wiring is banded.

Model A

Model B

Model C



<Note>

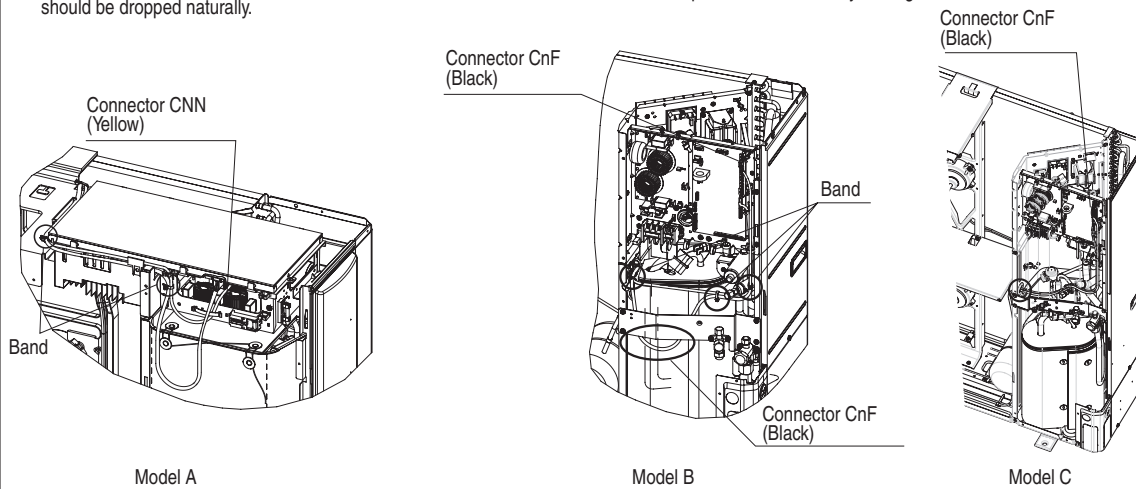
Fan motor wiring is banded on the bracket so that it doesn't loosen. Do not loose the band for the motor wiring to band the heater wire together but use the attached plastic band.

Step 10

10. Insert the connector to the port (Model A: CNN, Model B,C:CNF) on the PCB, and fix the wire with bands. Excess part of the wire should be dropped naturally.

<Note>

Be sure to cut the excess part of plastic band. It may cause abnormal noise when hit by fan blade or misassembling of panels. Do not bundle excess part of the wire. It may damage the heater.



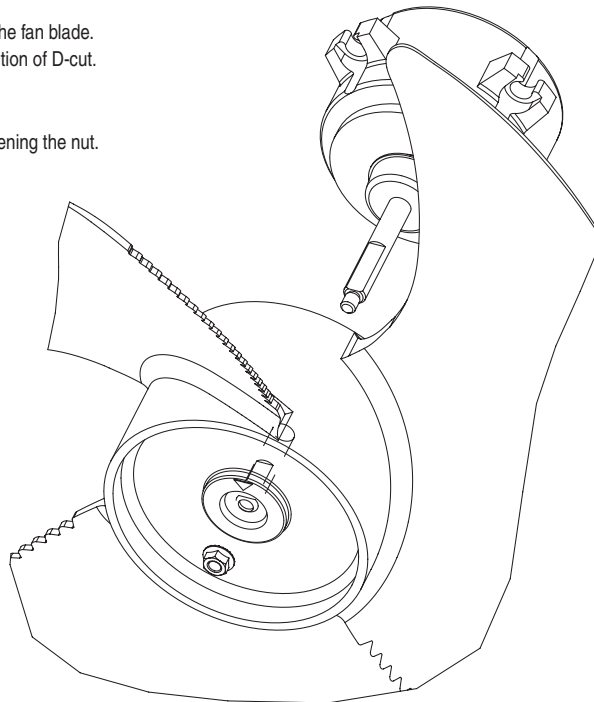
Step 11

11. Reassemble the fan blade.

Take care to align the D-cut of motor shaft and the fan blade. ▽ mark on the center of the fan shows the position of D-cut.

<Note>

1. Tightening torque of the nut is 4.0-4.9 N·m.
2. Do not rotate the axis of fan motor when tightening the nut.
It may cause malfunction of the fan motor.



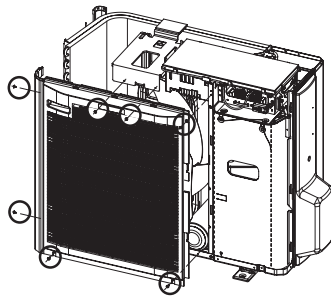
<Note>

- This heater should have bending radius of at least 25mm including non-heating part. Do not bundle the excess part of the wire. It may cause disconnection of the heater or insufficient capacity.
- Be sure to prevent the heater from touching any refrigerant piping. Especially, pay close attention not to make it touch with pipes which are close to the wiring route such as suction pipe, check valve and check joint.

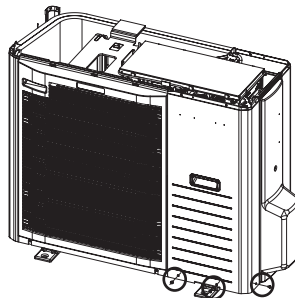
Step 12

12. Reassemble the panels.

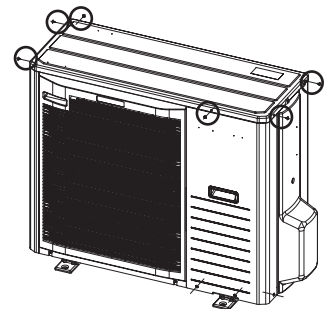
[Model A]



Front panel

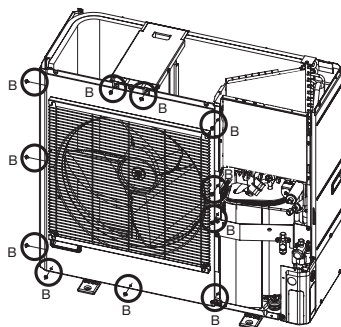


Service panel

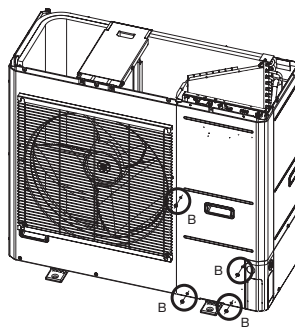


Top panel

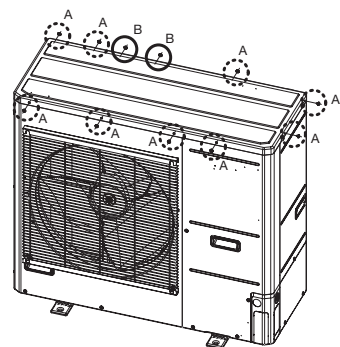
[Model B]



Front panel

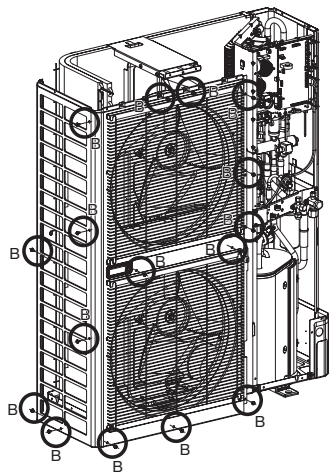


Service panel

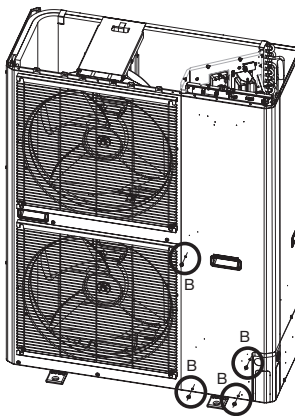


Top panel

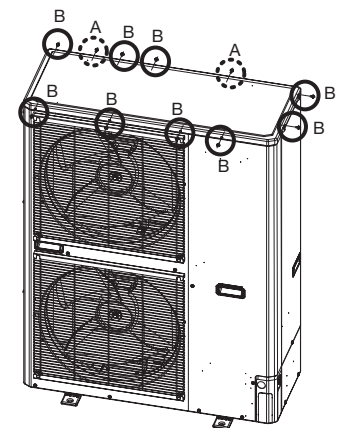
[Model C]



Front panel



Service panel



Top panel

<Note>

- 1) When reassembling the service panel, take care not to damage the front panel with the edge.
- 2) Top panel of model B and model C is fixed with two different screws.
Be sure to use correct screw as figure shows.



A



B

5.7 INTERFACE KIT (SC-BIKN2-E)

※ When RC-EX3 is connected, please use SC-BIKN2-E by all means.

RKZ012A099

Accessories included in package

Be sure to check all the accessories included in package.

No.	Part name	Quantity
①	Indoor unit's connection cable (cable length: 1.8m)	1
②	Wood screws (for mounting the interface: ø4x 25)	2
③	Tapping screws (for the cable clamp and the interface mounting bracket)	3
④	Interface mounting bracket	1
⑤	Cable clamp (for the indoor unit's connection cable)	1
⑥	CnT terminal connection cable (total cable length: 0.5m)	1

Safety precautions

Before use, please read these Safety precautions thoroughly before installation.

- All the cautionary items mentioned below are important safety related items to be taken into consideration, so be sure to observe them at all times.

Warning Incorrect installation could lead to serious consequences such as death, major injury or environmental destruction.

- Symbols used in these precautions



Always go along these instruction.

- After completed installation, carry out trial operation to confirm no anomaly, and ask the user to keep this installation manual in a good place for future reference.

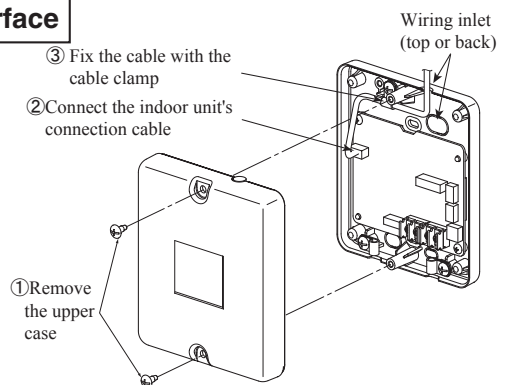
Warnings



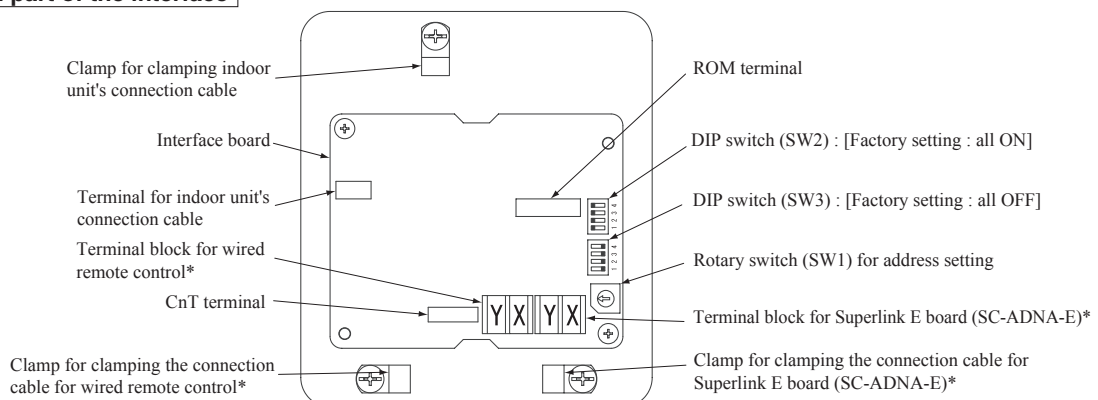
- **Installation must be carried out by a qualified installer.**
If you install it by yourself, it may cause an electric shock, fire and personal injury, as a result of a system malfunction.
- **Install it in full accordance with the installation manual.**
Incorrect installation may cause an electric shock, fire and personal injury.
- **Electrical work must be carried out by a qualified electrician in accordance with the technical standard for electrical equipment, the indoor wiring standard and this installation manual.**
Incorrect installation may cause an electric shock, fire and personal injury.
- **Use the specific cables for wiring. And connect all the cables to terminals or connectors securely and clamp them with cable clamps in order for external forces not to be transmitted to the terminals directly.**
Incomplete connection may cause malfunction, and lead to heat generation and fire.
- **Use the original accessories and specified components for installation.**
If the parts other than those prescribed by us are used, it may cause an electric shock, fire and personal injury.

Connecting the indoor unit's connection cable to the interface

- Remove the upper case of the interface.
 - Remove 2 screws from the interface casing before removal of upper casing.
- Connect the indoor unit's connection cable to the interface.
 - Connect the connector of the indoor unit connection cable to the connector on the interface's circuit board.
- Fix the indoor unit's connection cable with the cable clamp.
 - Cable can be brought in from the top or from the back.
 - Cut out the punch-outs for the connection cables running into the casing with cutter.
- Connect the indoor unit's connection cable to the indoor control PCB.
 - Connect the indoor unit's connection cable to the indoor control PCB securely.
 - Clamp the connection cable to the indoor control box securely with the cable clamp provided as an accessory.
 - Regarding the cable connection to the indoor unit, refer to the installation manual for indoor unit.



Name of each part of the interface



*Either the connection cables of Superlink E board (SC-ADNA-E) or of wired remote control is connectable.

Switch	Setting	Function	Switch	Setting	Function
SW2-1	ON**	CnT level input	SW2-3	ON**	External input (CnT input)
	OFF	CnT pulse input		OFF	Operation permission/prohibition (CnT input)
SW2-2	ON**	Wired remote control : Enable	SW2-4	ON**	Annual cooling : Enable***
	OFF	Wired remote control : Disable		OFF	Annual cooling : Disable***

** Factory setting

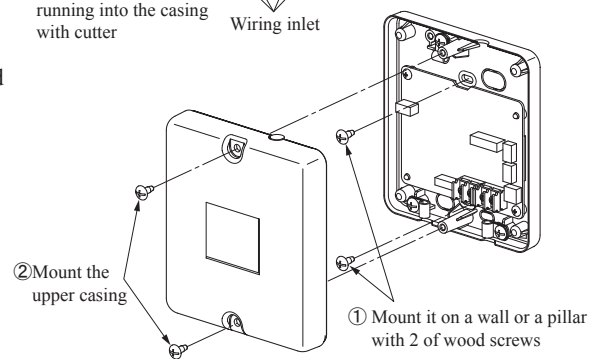
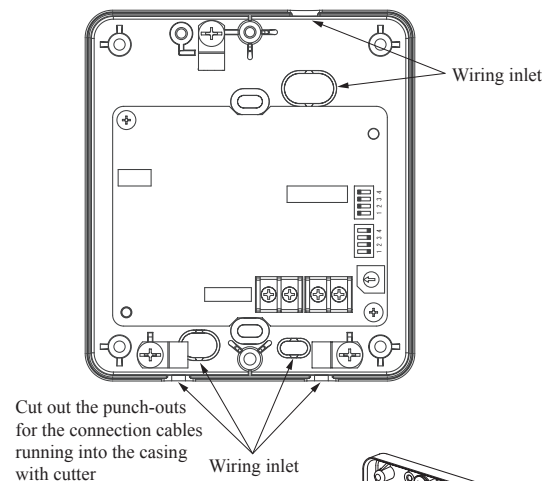
*** Indoor fan control at low outdoor air temperature in cooling

Installation of the interface

- Install the interface within the range of the connection cable length (approximately 1.3m) from the indoor unit.
 - Be sure not to extend the connection cable on site. If the connection cable is extended, malfunction may occur.
 - Fix the interface on the wall, pillar or the like.
- Don't install the interface and wired remote control at the following places.
- Places exposed to direct sunlight
 - Places near heating devices
 - High humidity places
 - Surfaces where are enough hot or cold to generate condensation
 - Places exposed to oil mist or steam directly
 - Uneven surface

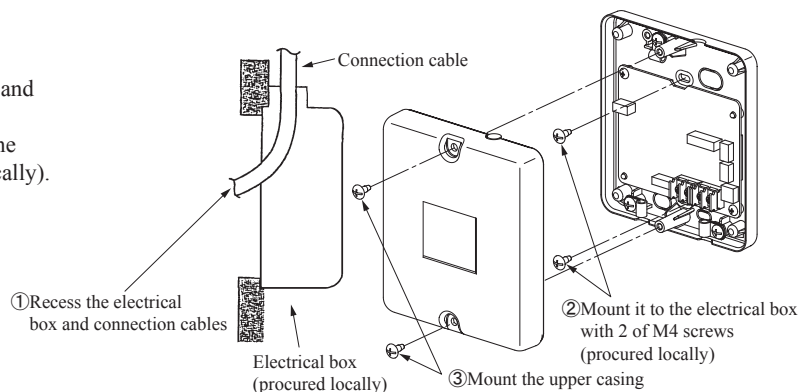
Mounting the interface directly on a wall

- ① Mount the lower casing of the interface on a flat surface with wood screws provided as standard accessory.
- ② Mount the upper casing.



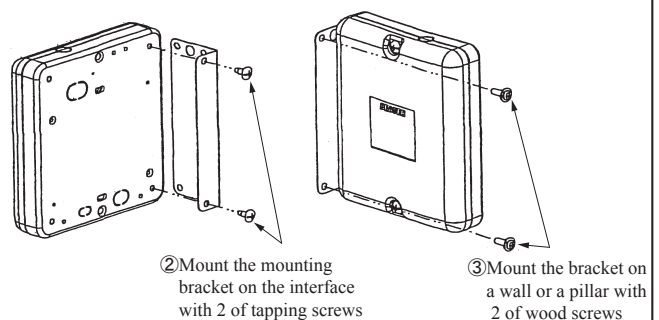
Recessing the interface in the wall

- ① Recess the electrical box (procured locally) and connection cables in the wall.
- ② Mount the lower casing of the interface to the electrical box with M4 screws (procured locally).
- ③ Mount the upper casing.



Mounting the interface with the mounting bracket

- ① Mount the upper casing.
- ② Mount the mounting bracket to the interface with tapping screws provided as standard accessory.
- ③ Mount the mounting bracket on wall or the like with wood screws provided as standard accessory.



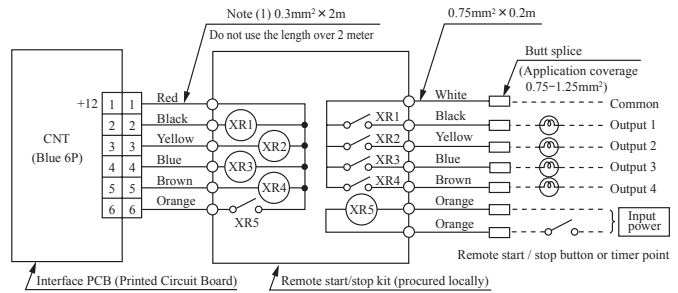
Installation check items

- Are the connection cables connected securely to the terminal blocks and connectors?
- Are the thickness and length of the connection cables conformed with the standard?

Functions of CnT connector

It is available to operate the air-conditioner and to monitor the operation status with the external control unit (remote display) by sending the input/output signal through CnT connector on the indoor control PCB.

- ① Connect a external remote control unit (procured locally) to CnT terminal.
- ② In case of the pulse input, switch OFF the DIP switch SW2-1 on the interface PCB.
- ③ When setting operation permission/prohibition mode, switch OFF the DIP switch SW2-3 on the interface PCB.



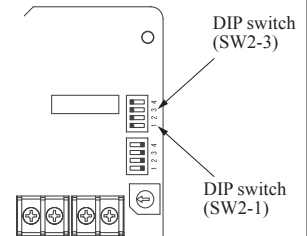
Input/Output	Function	Output signal		Content
		Relay	ON/OFF	
Output 1	Operation output	XR ₁	ON	During air-conditioner operation
Output 2	Heating output	XR ₂	ON	During heating operation
Output 3	Compressor operation output	XR ₃	ON	During compressor running
Output 4	Malfunction output	XR ₄	ON	During anomalous stop

- XR₁₋₄ are for the DC 12V relay
- XR₅ is a DC 12/24V or AC 220-240V relay
- CnT connector (local) maker, model

Connector	Molex	5264-06
Terminals	Molex	5263T

Input/Output	Function	SW2-1		SW2-3		Air-conditioner	Operation by remote control			
		Setting		Input signal						
				Level/Pulse	XR ₅					
Input	External control input	ON*	Level input	ON*	Level	OFF→ON ON→OFF	External input	ON OFF	Allowed	
				OFF	Level	OFF→ON ON→OFF	Operation permission Operation prohibition	OFF OFF		Not allowed
		OFF	Pulse input	ON*	Pulse	OFF→ON	External input	OFF→ON ON→OFF	ON OFF	
				OFF	Level	OFF→ON ON→OFF	Operation permission Operation prohibition	ON OFF	Not allowed	

* Factory setting



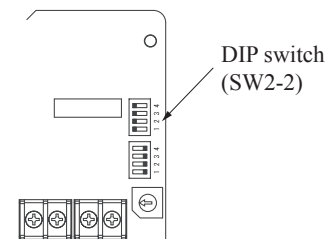
In case of the remote control (RC-EX3 or later model), the external outputs (1 – 4) and the external input can be changed using the function setting of remote control. For the setting method, refer to the installation manual. Also refer to the technical manual to know how it is adapted to the function setting for the external outputs and input, at the indoor unit side.

Connection of Superlink E board

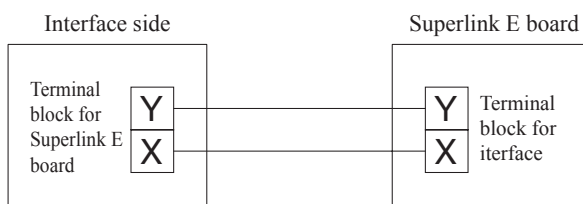
Regarding the connection of Superlink E board, refer to the installation manual of Superlink E board.

For electrical work, power source for all of units in the Superlink system must be turned OFF.

- ① Switch ON the DIP switch SW2-2 (Factory setting: ON) on the interface PCB.
Caution: Wireless remote control attached to the indoor unit can be used in parallel, after connecting the wired remote control. However, some of functions other than the basic functions such as RUN/STOP, temperature setting, etc. may not work properly and may have a mismatch between the display and the actual behavior.



- ② Wiring connection between the interface and the Superlink E board.



No.	Names of recommended signal wires
1	Shielded wire
2	Vinyl cabtyre round cord
3	Vinyl cabtyre round cable
4	Vinyl insulated wire vinyl sheathed cable for control

Within 200 m 0.5 mm² × 2 cores
 Within 300 m 0.75 mm² × 2 cores
 Within 400 m 1.25 mm² × 2 cores
 Within 600 m 2.0 mm² × 2 cores

- ③ Clamp the connection cables with cable clamps.

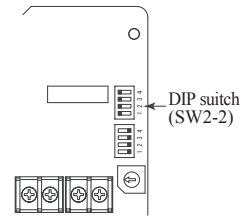
Connection of wired remote control

Regarding the connection of wired remote control, refer to the installation manual of wired remote control.

- ① Switch ON the DIP switch SW2-2 (Factory setting : ON) on the interface PCB.

Caution: Wireless remote control attached to the indoor unit can be used in parallel, after connecting the wired remote control. However, some of functions other than the basic functions such as RUN/STOP, temperature setting, etc. may not work properly and may have a mismatch between the display and the actual behavior.

- ② Wiring connection between the interface and the wired remote control.



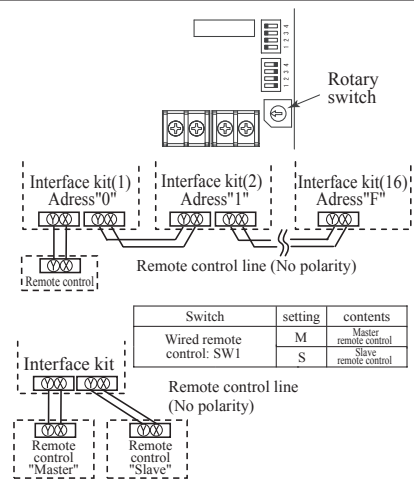
Installation and wiring of wired remote control

- Install the wired remote control with reference to the attached installation manual of wired remote control.
 - 0.3mm² × 2 cores cable should be used for the wiring of wired remote control.
 - Maximum length of wiring is 600m.
If the length of wiring exceeds 100m, change the size of cable as mentioned below.
100m-200m: 0.5mm² × 2 cores, 300m or less: 0.75mm² × 2 cores, 400m or less: 1.25mm² × 2 cores, 600m or less: 2.0mm² × 2 cores
However, cable size connecting to the terminal of wired remote control should not exceed 0.5mm². Accordingly if the size of connection cable exceeds 0.5mm², be sure to downsize it to 0.5mm² at the nearest section of the wired remote control and waterproof treatment should be done at the connecting section in order to avoid contact failure.
 - Don't use the multi-core cable to avoid malfunction.
 - Keep the wiring of wired remote control away from grounding (Don't touch it to any metal frame of building, etc.).
 - Connect the connection cables to the terminal blocks of the wired remote control and the interface securely (No polarity).
- ③ Clamp the connection cables with cable clamps.

Control of multiple units by a single wired remote control

Multiple units (up to 16) can be controlled by a single wired remote control. In this case, all units connected with a single wired remote control will operate under the same mode and same setting temperature.

- ① Connect all the interface with 2 cores cables of wired remote control line.
- ② Set the address of indoor unit for remote control communication from "0" to "F" with the rotary switch SW1 on the interface PCB.
- ③ After turning the power ON, the address of indoor unit can be displayed by pressing [AIR CON No.] button on the wired remote control.
Make sure all indoor units connected are displayed in order by pressing [▲] or [▼] button.



Master/Slave setting wired when 2 of wired remote control are used

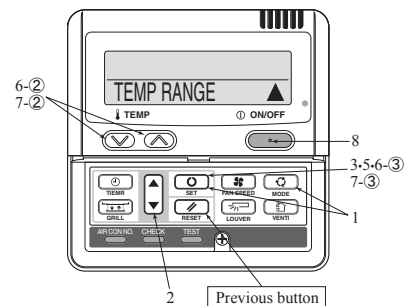
Maximum two wired remote control can be connected to one indoor unit (or one group of indoor units)

- ① Set the DIP switch SW1 on the wired remote control to "Slave" for the slave remote control. (Factory setting : Master)
○ Caution : Remote control sensor of the slave remote control is invalid.

- When using the wireless remote control in parallel with the wired remote control; Since temperature setting range of wired remote control is different from that of wireless remote control, please adjust the setting range of wired remote control to be the same setting range of wireless remote control by following procedure. (The set temperature may not be displayed correctly on the wireless remote control, unless change of temperature setting range is done.) Changing procedure of temperature setting range is as follows.

How to set upper and lower limit of temperature setting range

1. Stop the air-conditioner, and press [○] (SET) and [▽] (MODE) button at the same time for 3 seconds or more.
The indication changes to "FUNCTION SET ▼"
2. Press [▼] button once, and change to the "TEMP RANGE ▲" indication.
3. Press [○] (SET) button, and enter the temperature range setting mode.
4. Confirm that the "Upper limit ▼" is shown on the display.
5. Press [○] (SET) button to fix.
6. ① Indication: "UPPER 28°C ▼ ▲"
② Select the upper limit value 30°C with temperature setting button [▲]. "UPPER 30°C ▼" (blinking)
③ Press [○] (SET) button to fix. "UPPER 30°C" (Displayed for two seconds)
After the fixed upper limit value displayed for two seconds, the indication will return to "UPPER LIMIT ▼".
7. Press [▼] button once, "LOWER LIMIT ▲" is selected, press [○] (SET) button to fix.
① Indication: "LOWER 20°C ▼ ▲"
② Select the lower limit value 18°C with temperature setting button [▼]. "LOWER 18°C ▲" (blinking)
③ Press [○] (SET) button to fix. "LOWER 18°C" (Displayed for two seconds)
After the fixed lower limit value displayed for two seconds, the indication will return to "LOWER LIMIT ▼"
8. Press [ON/OFF] button to finish.
Temperature setting range



- It is possible to quit in the middle by pressing [ON/OFF] button, but the change of setting is incompleated.
- During setting, if pressing [RESET] button, it returns to the previous screen.

Mode	Temperature setting range
Cooling, Heating, Dry, Auto	18-30°C

5.8 SUPERLINK E BOARD (SC-ADNA-E)

PJZ012D029K

- Read and understand the instructions completely before starting installation.
- Refer to the instructions for both indoor and outdoor units.

Safety precautions

- Carefully read "Safety precautions" first. Follow the instructions for installation.
- Precautions are grouped into "Warning and "Caution ". The "Warning group includes items that may lead to serious injury or death if not observed. The items included in the "Caution group also may lead to serious results under certain conditions. Both groups are crucial for safety installation. Read and understand them carefully.
- After installation, conduct the test operation of the device to check for any abnormalities. Describe how to operate the device to the customer following the installation instruction manual. Instruct the customer to keep this installation instruction for future reference.

Warning

- This device should be installed by the dealer where you purchase the device or a licensed professional shop. If the device is incorrectly installed by the customer, it may result in electric shock or fire.
- Install the device carefully following the installation instruction. If the device is incorrectly installed, it may result in electric shock or fire.
- Use the accessory parts and specified parts for installation. If any parts that do not match the specifications are used, it may result in electric shock or fire.
- A person with the electrical service certification should conduct the service based on the "Technical standards for electrical facilities", "Electrical Wiring Code", and the installation instruction. If the work is done incorrectly, it may result in electric shock or fire.
- Wiring should be securely connected using the specified types of wire. No external force on the wire should be applied to any terminals. If a secure connection is not achieved, it may result in electric shock or fire.

Caution

- Provide ground connection.
The ground line should never be connected to the gas supply piping, the water supply piping, the lightning conductor rod, nor the telephone ground. If the grounding is improper, it may result in electric shock.
- Do not install the device in the following locations.
 1. Where there is mist/spray of oil or steam such as kitchens.
 2. Where there is corrosive gases such as sulfurous acid gas.
 3. Where there is a device generating electromagnetic waves.
These may interfere with the control system resulting in the device becoming uncontrollable.
 4. Where flammable volatile materials such as paint thinner and gasoline may exist or where they are handled. This may cause a fire.

1 Application

Indoor-to-outdoor three core communication specification type 3 (since October 2007)

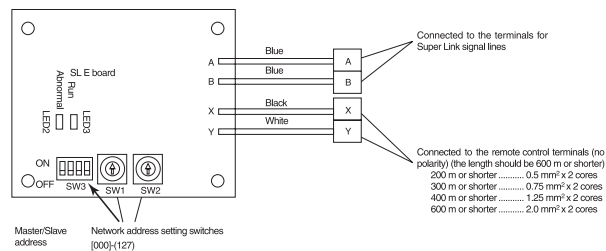
2 Accessories

SL E board 	Metal box 	Metal cover 	Screw for ground M4x8L 2 pieces
Pan head screws φ4x8L 2 pieces 	Locking supports To secure the print board and the metal box Made of nylon 4 pieces 	Binding band 	Grommet

5 Connection Outline

Note for setting the address

- Set the address between 00 and 47 for the previous Superlink connection and between 000 and 127 for the new Superlink connection. (*1)
- Do not set the address overlapping with those of the other devices in the network. (The default is 000)



(*1) Whether the actual link is either the new Superlink or the previous Superlink depends on the models of the connected outdoor and indoor units. Consult the agent or the dealer.

3 Function

Allowing the center console SL1N-E, SL2N-E, and SL3N-AE/BE to control and monitor the commercial air-conditioner unit.

4 Control switching

Settings can be changed by the switch SW3 on the SL E board as in the following.

Switch	Symbol	Switch	Remarks
SW3	1	ON	Master
		OFF (default)	Slave
	2	ON	Fixed previous protocol
		OFF (default)	Automatic adjustment of Superlink protocol
	3	ON	Indicates the forced operation stop when abnormality has occurred.
		OFF (default)	Indicates the status of running/stop as it is, when abnormality has occurred.
	4	ON	The hundredth address activated "1"
		OFF (default)	The hundredth address activated "0"

Signal line specification

Communication method	Previous Superlink	New Superlink
Line type	MVVS	MVVS
Line diameter	0.75 - 1.25mm ²	0.75/1.25mm ²
Signal line (total length)	up to 1000m	up to 1500/1000m (*2)
Signal line (maximum length)	up to 1000m	up to 1000m

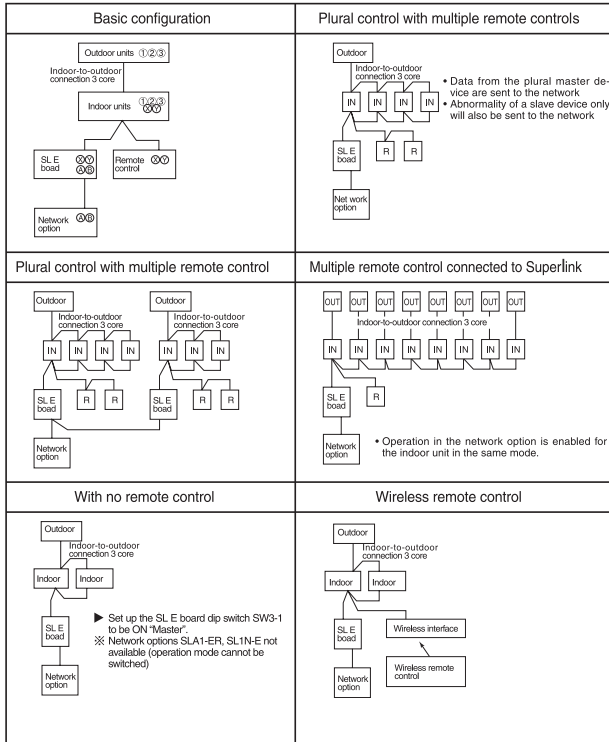
(*2) Up to 1500 m for 0.75 mm², and up to 1000 m for 1.25 mm².

Do not use 2.0 mm². It may cause an error.

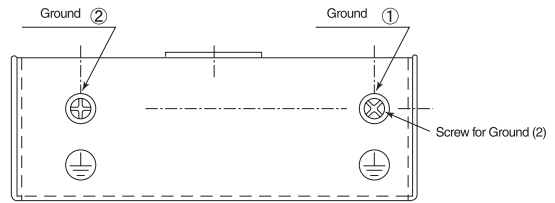
(*3) Connect grounding on both ends of the shielding wire.

For the grounding method, refer to the section "6 Installation".

- (1) Set the Superlink network address with SW1 (tens place), SW2 (ones place), and SW3 (hundreds place).
- (2) Set the SL E board SW3-1 to be ON (Master) when using this without any remote control (no wired remote controller nor wireless remote control).
- (3) Set up the plural master/slave device using the dip switches on the indoor unit board.
- (4) Set up the remote control master/slave device using the slide switch on the remote control board.
- (5) Set up "0" to "F" using the address rotary switch on the indoor unit board when controlling the indoor unit with the multiple remote control.

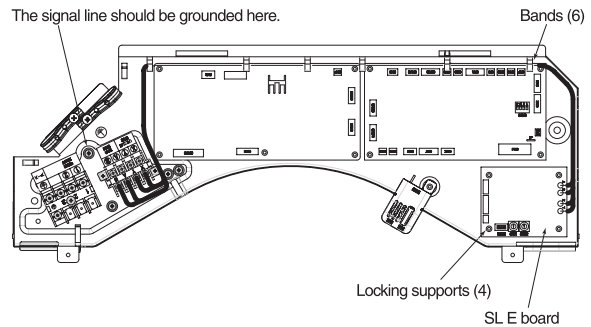


Connect grounding. Connect grounding for the power line to Ground ①, and grounding for the signal line to Ground ② or to the Ground on the indoor unit control box.



2. When connecting to the indoor unit control box (ceiling-concealed type and FDT type only):

- (1) Mount the SL E board in the control box using the locking supports.
- (2) Remove 6 bands from the box and put the wiring through the bands to be secured.



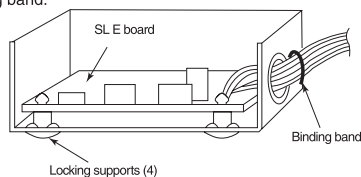
Electrical shock hazard! Make sure to turn the power off for servicing. Be cautious so that no abnormal force should be applied to the wiring. Do not let the SL E board hung by the wiring. Do not damage the board with a screw driver. The board is sensitive to static electricity. Release the static electricity of your body before servicing. (you can do this by touching the control board which is grounded).

Location of installation

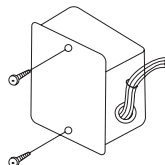
Install the device at the location where there are no electromagnetic waves nor where there is water and dust. The specified temperature range of the device is 0 to 40°C. Install the device at the location where the ambient temperature stays within the range. If it exceeds the specification, make sure to provide solution such as installing a cooling fan. When used outside of the range, it may cause abnormal operation.

6 Installation

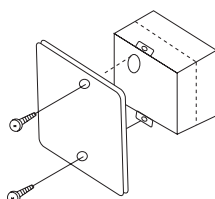
1. When using the metal box (mounted on the indoor unit / mounted on the back of the remote control):
 - (1) Mount the SL E board in the metal box using the locking supports.
 - (2) Wiring should go through the provided grommet since then through the wiring to the hole on the Metal box. Secure the grommet after inserting the grommet into the Metal box as shown in below figure, then tie the wiring at the outlet of the unit using a binding band.



▲ When installed outside the indoor unit, put the metal cover on.



▲ When installed on the back of the remote control, mount it directly on the remote control bottom case.



7 Indicator display

Check the LED 3 (green) and LED 2 (red) on the SL E board for flashing.

SL E board LEDs		Inspection mode	Display on the integrated network control device
Red	Green		
Off	Flashing	Normal communication	
Off	Off	<ul style="list-style-type: none"> • Disconnection in the remote control communication line (X or Y) • Short-circuit in the remote control communication line (between X and Y) • Faulty indoor unit remote control power • Faulty remote control communication circuit • Faulty CPU on SL E board 	No corresponding unit number
One flash	Flashing	<ul style="list-style-type: none"> • Disconnection in the Superlink signal line (A or B) • Short-circuit in the Superlink signal line (between A and B) • Faulty Superlink signal circuit 	
Two flashes	Flashing	<ul style="list-style-type: none"> • Faulty address setting for the SL E board (Set up the address for previous SL E board : more than 48 new SL E board : more than 128) 	
Three flashes	Flashing	<ul style="list-style-type: none"> • SL E board parent not set up when used without a remote control • Faulty remote control communication circuit 	E1
Four flashes	Flashing	<ul style="list-style-type: none"> • Address overlapping for the SL E board and the Superlink network connected indoor unit 	E2
Off	Flashing	<ul style="list-style-type: none"> • Number of connected devices exceeds the specification for the multiple indoor unit control 	E10

INVERTER PACKAGED AIR-CONDITIONERS



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