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MITSUBISHI HEAVY INDUSTRIES

TECHNICAL MANUAL

VRF INVERTER MULTI-SYSTEM AIR-CONDITIONERS

(OUTDOOR UNIT)

KXZ series **(Heat pump type)**

FDC121KXZEN1-W, 140KXZEN1-W, FDC155KXZEN1-W (1 Phase)
FDC121KXZES1-W, 140KXZES1-W, FDC155KXZES1-W (3 Phase)

(INDOOR UNIT)

Ceiling cassette-4 way type
- **FDT28KXZE1-W**
- **36KXZE1-W**
- **45KXZE1-W**
- **56KXZE1-W**
- **71KXZE1-W**
- **90KXZE1-W**
- **112KXZE1-W**
- **140KXZE1-W**
- **160KXZE1-W**

Ceiling cassette-4 way compact type
- **FDTC15KXZE1-W**
- **22KXZE1-W**
- **28KXZE1-W**
- **36KXZE1-W**
- **45KXZE1-W**
- **56KXZE1-W**

Wall mounted type
- **FDK15KXZE1-W**
- **22KXZE1-W**
- **28KXZE1-W**
- **36KXZE1-W**
- **45KXZE1-W**
- **56KXZE1-W**
- **71KXZE1-W**
- **90KXZE1-W**

Note : (1) Outdoor unit in this technical manual will have the service code “/1” or "/A".

FDC121KXZEN1-W	→	FDC121KXZEN1-W/1	FDC121KXZES1-W	→	FDC121KXZES1-W/1
140KXZEN1-W	→	140KXZEN1-W/A	140KXZES1-W	→	140KXZES1-W/A
155KXZEN1-W	→	155KXZEN1-W/1	155KXZES1-W	→	155KXZES1-W/1

(2) Indoor unit in this technical manual will have the service code "/A".

FDT28KXZE1-W	→	FDT28KXZE1-W/A	FDTC15KXZE1-W	→	FDTC15KXZE1-W/A	FDK15KXZE1-W	→	FDK15KXZE1-W/A
36KXZE1-W	→	36KXZE1-W/A	22KXZE1-W	→	22KXZE1-W/A	22KXZE1-W	→	22KXZE1-W/A
45KXZE1-W	→	45KXZE1-W/A	28KXZE1-W	→	28KXZE1-W/A	28KXZE1-W	→	28KXZE1-W/A
56KXZE1-W	→	56KXZE1-W/A	36KXZE1-W	→	36KXZE1-W/A	36KXZE1-W	→	36KXZE1-W/A
71KXZE1-W	→	71KXZE1-W/A	45KXZE1-W	→	45KXZE1-W/A	45KXZE1-W	→	45KXZE1-W/A
90KXZE1-W	→	90KXZE1-W/A	56KXZE1-W	→	56KXZE1-W/A	56KXZE1-W	→	56KXZE1-W/A
112KXZE1-W	→	112KXZE1-W/A				71KXZE1-W	→	71KXZE1-W/A
140KXZE1-W	→	140KXZE1-W/A				90KXZE1-W	→	90KXZE1-W/A
160KXZE1-W	→	160KXZE1-W/A						

MITSUBISHI HEAVY INDUSTRIES THERMAL SYSTEMS, LTD.

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PREFACE

Combination table for KXZE1 series and KXZE1-W series

( ) Date of launching in the market

Category	Outdoor unit	Indoor unit				
		Connectable remote control		Same series	Mixed series	Same series
		2-wire type	RC-E3 RC-E4 RC-E5 RC-EX1A RC-EX3 RC-EX3A	KXZE1	KXZE1 KXZE1-W	KXZE1-W
Heat pump (2-pipe) systems	FDC-KXZE1	10-60HP	(2017.4-)	YES	NO	NO
	FDC-KXZME1	8-12HP	(2019.1-)	YES	NO	NO
	FDC-KXZEN/S1	4,5, 5.5HP	(2019.4-)	YES	NO	NO
	FDC-KXZEN/S1-W	4,5, 5.5HP	(2020.12-)	NO	NO	YES

Notes (1) YES : Connectable, NO : Not connectable

(2) Combination with new central control, PC windows central control and BMS interface unit

		Central control, PC windows central control and BMS interface unit					
		SC-SL1N-E	SC-SL2NA-E	SC-SL4N-AE/BE	SC-WGWN-A/B	SC-LGWN-A	SC-BGWN-A/B
YES	Connectable I/U	16	64	128 (128×1)	128 (64×2)*1	96 (48×2)	128 (64×2)*1
	Superlink protocol	New	New	New	New	New	New
	Connectable network	1	1	1	2	2	2

*1 Maximum number of AC cell is limited up to 96.
In case the number of connected indoor units are more than 96, some AC cells should hold 2 or more indoor units.

CONTENTS

1. GENERAL INFORMATION 3
1.1 Increased indoor unit connection capacity 3
1.2 How to read the model name 3
1.3 Table of models 3
1.4 Model description (Option parts) 4
1.5 Branch pipe set and Header pipe set 4
2. OUTDOOR UNIT 5
2.1 Specifications 5
2.2 Exterior dimensions 7
2.3 Electrical wiring 8
2.4 Noise level 10
2.5 Application data 12
3. INDOOR UNIT 31
3.1 Specifications 31
3.2 Exterior dimensions 36
3.2.1 Indoor units 36
3.2.2 Remote control (Option parts) 42
3.3 Electrical wiring 45
3.4 Noise level 48
3.5 Temperature and velocity distribution 57
3.6 Capacity tables 72
3.7 Application data 95
3.7.1 Installation of indoor unit 95
3.7.2 Electric wiring work instruction 113
3.7.3 Installation of wired remote control (Option parts) 117
(1) Model RC-EX3A 117
(2) Model RC-E5 124
4. PIPING SYSTEM 129
5. RANGE OF USAGE & LIMITATIONS 130
6. SELECTION CHART 132
7. TECHNICAL INFORMATION 141
7.1 Outdoor units 141
7.2 Indoor units 153

8. OUTLINE OF OPERATION CONTROL BY MICROCOMPUTER 158
8.1 Remote control (Option parts) 158
8.2 Operation control function by the wired remote control 161
8.3 Operation control function by the indoor control 164
8.4 Operation control function by the outdoor control 182
9. SYSTEM TROUBLESHOOTING PROCEDURE 216
9.1 Basics of troubleshooting 216
9.2 Explanation of troubleshooting 217
9.3 Contents of troubleshooting 218
9.4 Outdoor unit control PCB replacement procedure 270
9.5 Indoor unit control PCB replacement procedure 278
10. OUTDOOR UNIT DISASSEMBLY PROCEDURE 282
11. INDOOR UNIT DISASSEMBLY PROCEDURE 284
12. OPTION PARTS 293
12.1 Wireless kit 293
12.2 Motion sensor kit 319
12.3 Simple wired remote control (RCH-E3) 338
12.4 OA spacer (FDTC series) 344
12.5 Duct joint (FDTC series) 348
12.6 EEV-SET (FDK series) 349

1. GENERAL INFORMATION

1.1 Increased indoor unit connection capacity

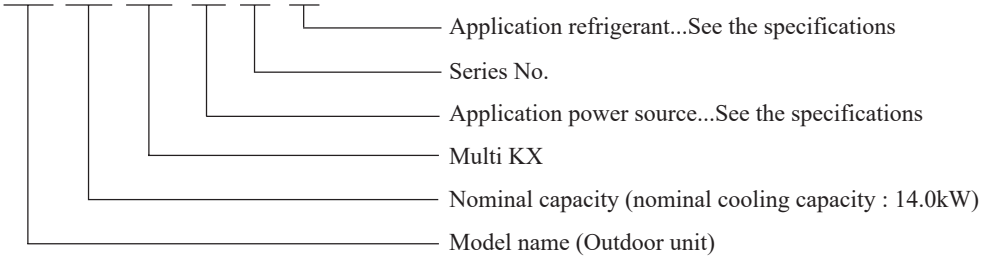
Micro KXZ-W series can connect indoor unit capacity up to 150%.
• Capacity from 80% to 150% is possible

Item / Model	Number of connectable	Connectable capacity
FDC121KXZEN1-W	1 to 8 units	90 - 181
FDC121KXZES1-W		
FDC140KXZEN1-W	1 to 10 units	112 - 210
FDC140KXZES1-W		
FDC155KXZEN1-W		124 - 232
FDC155KXZES1-W		

1.2 How to read the model name

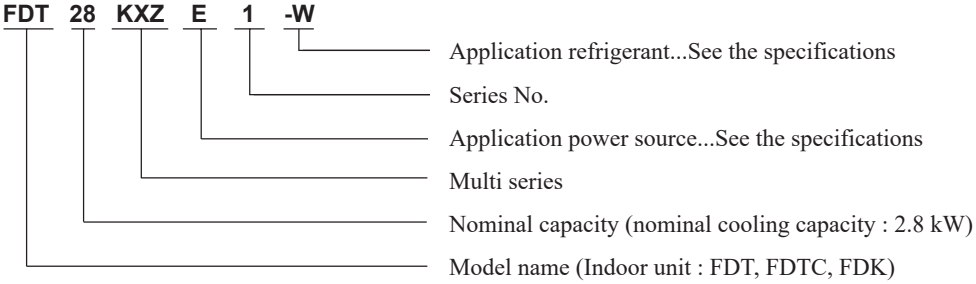
(1) Outdoor unit

Example: FDC 140 KXZ EN 1 -W



(2) Indoor unit

Example: FDT 28 KXZ E 1 -W



Note

For outdoor unit, EN60552-2 and EN60555-3 are not applicable as consent by the utility company or notification to the utility company is given before usage.

1.3 Table of models

Capacity / Model	15	22	28	36	45	56	71	90	112	140	160
Ceiling cassette-4 way type (FDT)			○	○	○	○	○	○	○	○	○
Ceiling cassette-4 way compact type (FDTC)	○	○	○	○	○	○					
Wall mounted type (FDK)	○	○	○	○	○	○	○	○			
Outdoor units to be combined FDC	FDC121KXZEN1-W, 140KXZEN1-W, 155KXZEN1-W FDC121KXZES1-W, 140KXZES1-W, 155KXZES1-W										

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1.4 Model description (Option parts)

(1) Table of indoor units panel (Option)

Model	Capacity	Parts Model	
FDT	28,36,45,56,71,90,112,140,160	Standard	T-PSA-5BW-E T-PSA-5BB-E
		Prevention	T-PSAE-5BW-E T-PSAE-5BB-E
FDTC	15,22,28,36,45,56	Standard	TC-PSAG-5AW-E TC-PSA-5AW-E
		Prevention	TC-PSAGE-5AW-E TC-PSAE-5AW-E

(2) Table of remote control (Option)

(a) Wired remote control

Model	Remote control model	Type
All models	RC-EX3A	Eco touch
	RC-E5	Standard
	RCH-E3	Simple

(b) Wireless kit (Wireless remote control)

Model		Wireless kit
FDT		RCN-T-5BW-E2 RCN-T-5BB-E2
FDTC		RCN-TC-5AW-E3
FDK	15-56	RCN-K-E2
	71,90	RCN-K71-E2

(c) Motion sensor kit

Model	
FDT	LB-T-5BW-E LB-T-5BB-E
FDTC	LB-TC-5W-E
FDK	LB-KIT2

1.5 Branch pipe set and Header pipe set

(a) Branch pipe set (Option)

Total capacity downstream	Branching pipe set
Less than 180	DIS-22-1G
180 or more but less than 371	DIS-180-1G

(b) Header pipe set (Option)

Total capacity downstream	Header set model type	Number of branches
Less than 180	HEAD4-22-1G	4 branches at the most
180 or more but less than 371	HEAD6-180-1G	6 branches at the most

2. OUTDOOR UNIT

2.1 Specifications

Models FDC121KXZEN1-W, 140KXZEN1-W, 155KXZEN1-W, FDC121KXZES1-W, 140KXZES1-W, 155KXZES1-W

Models			FDC121KXZEN1-W	FDC140KXZEN1-W	FDC155KXZEN1-W	FDC121KXZES1-W	FDC140KXZES1-W	FDC155KXZES1-W
Nominal cooling capacity*1		kW	12.1	14.0	15.5	12.1	14.0	15.5
Nominal heating capacity*2			12.1	14.0	15.5	12.1	14.0	15.5
Maximum heating capacity			12.5	16.0	16.3	12.5	16.0	16.3
Power source			1 Phase 220~240V 50Hz , 220V 60Hz			3 Phase 380~415V 50Hz , 380V 60Hz		
Power consumption	Cooling	kW	2.97	4.00	5.20	2.97	4.00	5.20
	Heating		2.88	3.52	4.06	2.88	3.52	4.06
Running current	Cooling	A	12.5/13.6	16.8/18.4	21.9/23.0	4.4/4.8	6.0/6.6	7.9/8.6
	Heating		12.1/13.2	14.8/16.2	17.1/18.6	4.3/4.7	5.4/5.9	6.2/6.8
Power factor	Cooling	%	99	99	99	94	92	92
	Heating		99	99	99	93	91	91
EER			4.08	3.50	2.98	4.08	3.50	2.98
COP			4.20	3.98	3.82	4.20	3.98	3.82
Sound Pressure Level	(Cooling/Heating)	dB (A)	54/56	54/58	54/58	54/56	54/58	54/58
Sound Power Level	(Cooling/Heating)	dB (A)	68/71	69/73	70/73	68/71	69/73	70/73
Starting current		A	5					
Maximum current			23	23	23	13.5	13.5	13.5
Exterior dimensions Height x Width x Depth		mm	845x970x370					
Exterior appearance (Munsell color)			Stucco white (4.2Y7.5/1.1) near equivalent					
Net weight		kg	85			87		
Refrigerant equipment compressor type & Q'ty			RMT5126SWP31 × 1			RMT5126SWP41 × 1		
Motor		kW	2.5	3.6	4.6	2.5	3.6	4.6
Starting method			Direct line start					
Capacity control		%	29-100	24-100	20-100	29-100	24-100	20-100
Crankcase heater		W	20					
Refrigerant equipment Heat exchanger			Straight fin & inner grooved tubing					
Refrigerant control			Electronic expansion valve					
Refrigerant type			R32					
Refrigerant amount		kg	4.2					
Refrigerant oil		ℓ	1.0 (M-MB75)					
Defrost control			Microcomputer controlled De-Icer					
Air handling equipment fan type & Q'ty			Propeller fan × 1					
Motor		W	86					
Starting method			Direct line start					
Air flow (Standard)		m³/min	75/75	75/82	75/82	75/75	75/82	75/82
Shock & vibration absorber			Rubber mount (for compressor & fan motor)					
Safety equipment			Compressor over current protection /abnormal high pressure protection abnormal low pressure protection / abnormal discharge temperature protection / over current protection					
Installation data Refrigerant piping size		mm (in)	Liquid line: ø9.52 (3/8") Gas line: ø15.88 (5/8")					
Connecting method			Flare (both Liquid & Gas lines)					
MAX. Pressure		MPa	High 4.15 Low 2.26					
Drain			Hole for drain (ø20 x 3pcs)					
Insulation for piping			Necessary (both Liquid & Gas line)					
IP number			IP24					
Accessories			–	–	–	–	–	–
Exterior dimensions			PCA0012900					
Electrical wiring			PCA001Z901			PCA001Z902		

Notes (1) The data are measured at the following conditions.

Item	Indoor air temperature		Outdoor air temperature		Standards
Operation	DB	WB	DB	WB	
Cooling*1	27 ℃	19 ℃	35 ℃	24 ℃	ISO5151-T1,H1
Heating*2	20 ℃	-	7 ℃	6 ℃	

(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) Refrigerant piping size applicable to European installations are shown parentheses.
(5) This air-conditioner is adapted RoHS directive.

PCA001Z899 C

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Weights of packing parts

Unit :kg

		Gross Weight	Packing Parts weight (Total)	Paper	Foam Polystyrene	Plastic	Metal		Wood	Glass	Other
							Aluminium	Steel			
Outdoor unit	FDC121KXZEN1-W	93.00	8.00	3.63	-	0.14	-	0.07	4.13	-	0.03
	FDC140KXZEN1-W	93.00	8.00	3.63	-	0.14	-	0.07	4.13	-	0.03
	FDC155KXZEN1-W	93.00	8.00	3.63	-	0.14	-	0.07	4.13	-	0.03
	FDC121KXZES1-W	94.00	8.00	3.63	-	0.14	-	0.07	4.13	-	0.03
	FDC140KXZES1-W	94.00	8.00	3.63	-	0.14	-	0.07	4.13	-	0.03
	FDC155KXZES1-W	94.00	8.00	3.63	-	0.14	-	0.07	4.13	-	0.03

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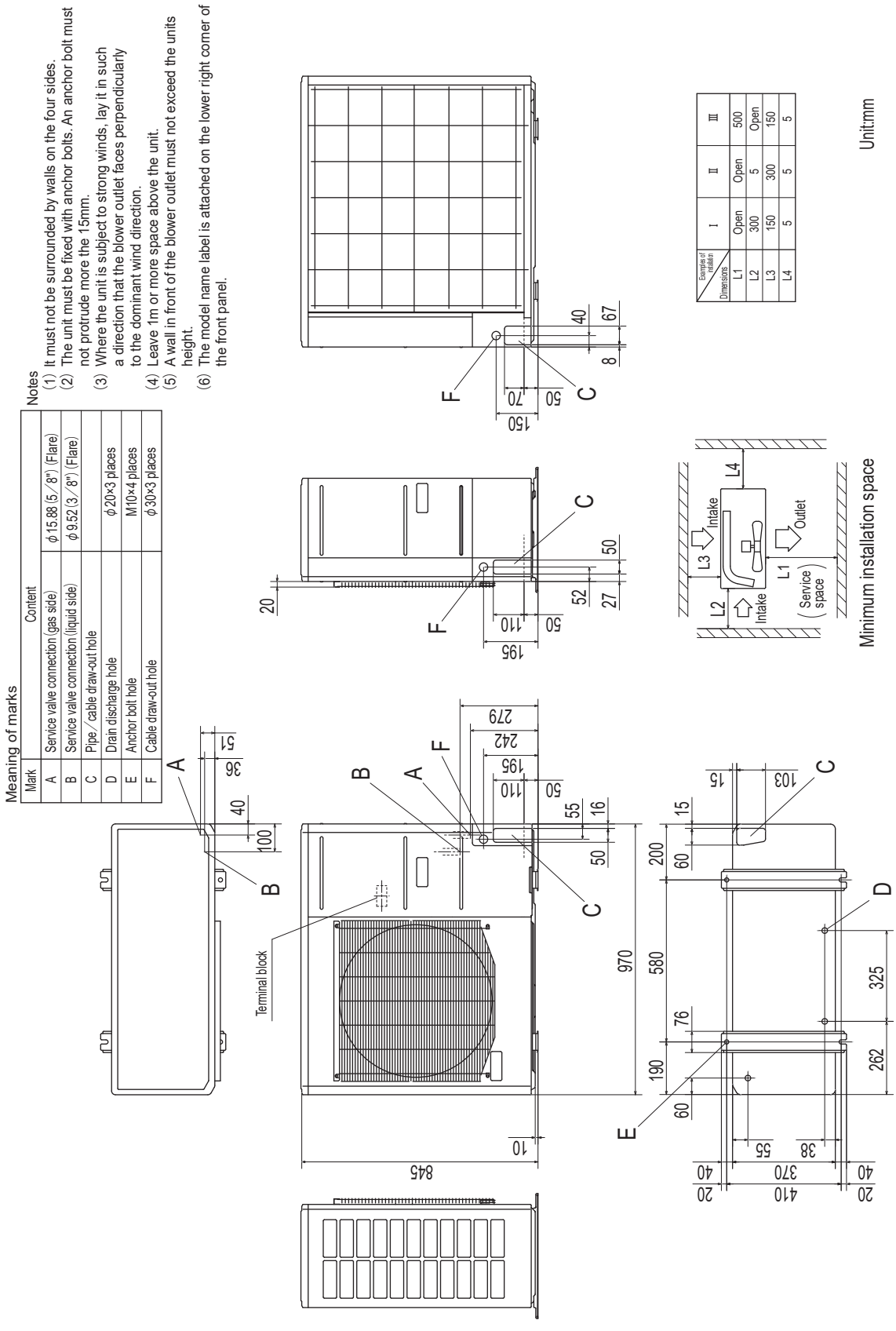
2.2 Exterior dimensions

All models



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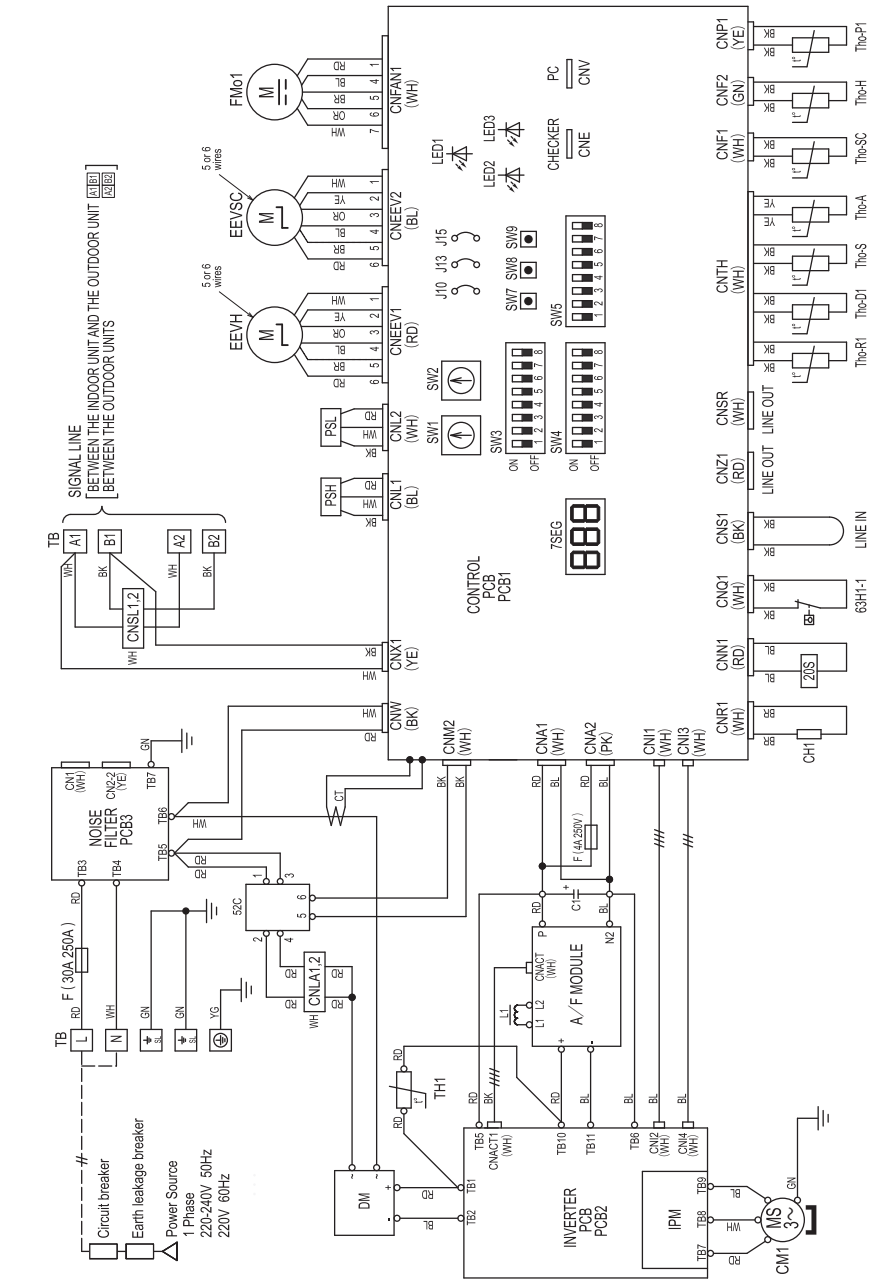
2.3 Electrical wiring

Models FDC121KXZEN1-W, 140KXZEN1-W, 155KXZEN1-W

Meaning of marks

Mark	Name
CH1	Crankcase heater
CM1	Compressor motor
CNA - Z	Connector
CT	Current sensor
C1	Electrolytic capacitor
DM	Diode module
EEVH	Heating expansion valve
EEVSC	Sub-cooling coil expansion valve
FMo1	Blower motor
F	Fuse
IPM	Intelligent power module
J10	Superlink terminal setting (spare/normal)
J13	External input switching (pulse/level)
J15	Defrost start temperature (cold weather district/normal)
LED1	Inspection (Red)
LED2	Normal (Green)
LED3	Service (Green)
L1	Reactor
PCB1 - 3	PCB
PSH	High pressure sensor
PSL	Low pressure sensor
SW1	Address setting SW outdoor unit No. (tens place)
SW2	Address setting SW outdoor unit No. (units place)
SW3-1	Inspection LED reset
SW3-5	Check operation start
SW3-7	Forced cooling/heating switching
SW4-7	Demand switching
SW4-8	Demand switching
SW5-1	Test run start (normal/start)
SW5-2	Test run cooling setting (heating/cooling)
SW5-3	Pump down (normal/valid)
SW5-5	Superlink protocol setting (new/previous)
SW7 (Button)	Data erasing/writing
SW8 (Button)	7-segment indication up (units place)
SW9 (Button)	7-segment indication up (tens place)
TB	Terminal block
TH1	Thermistor
Tho-A	External air temperature sensor
Tho-D1	Discharge pipe temperature sensor
Tho-H	Sub-cooling coil temperature sensor (gas)
Tho-P1	Active filter temperature sensor
Tho-R1	Heat exchanger temperature sensor
Tho-S	Suction pipe temperature sensor
Tho-SC	Sub-cooling coil temperature sensor (liquid)
20S	4-way switching solenoid
52C	Relay
63H1-1	High pressure switch (Protection)



Color mark

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

PCA001Z901 B

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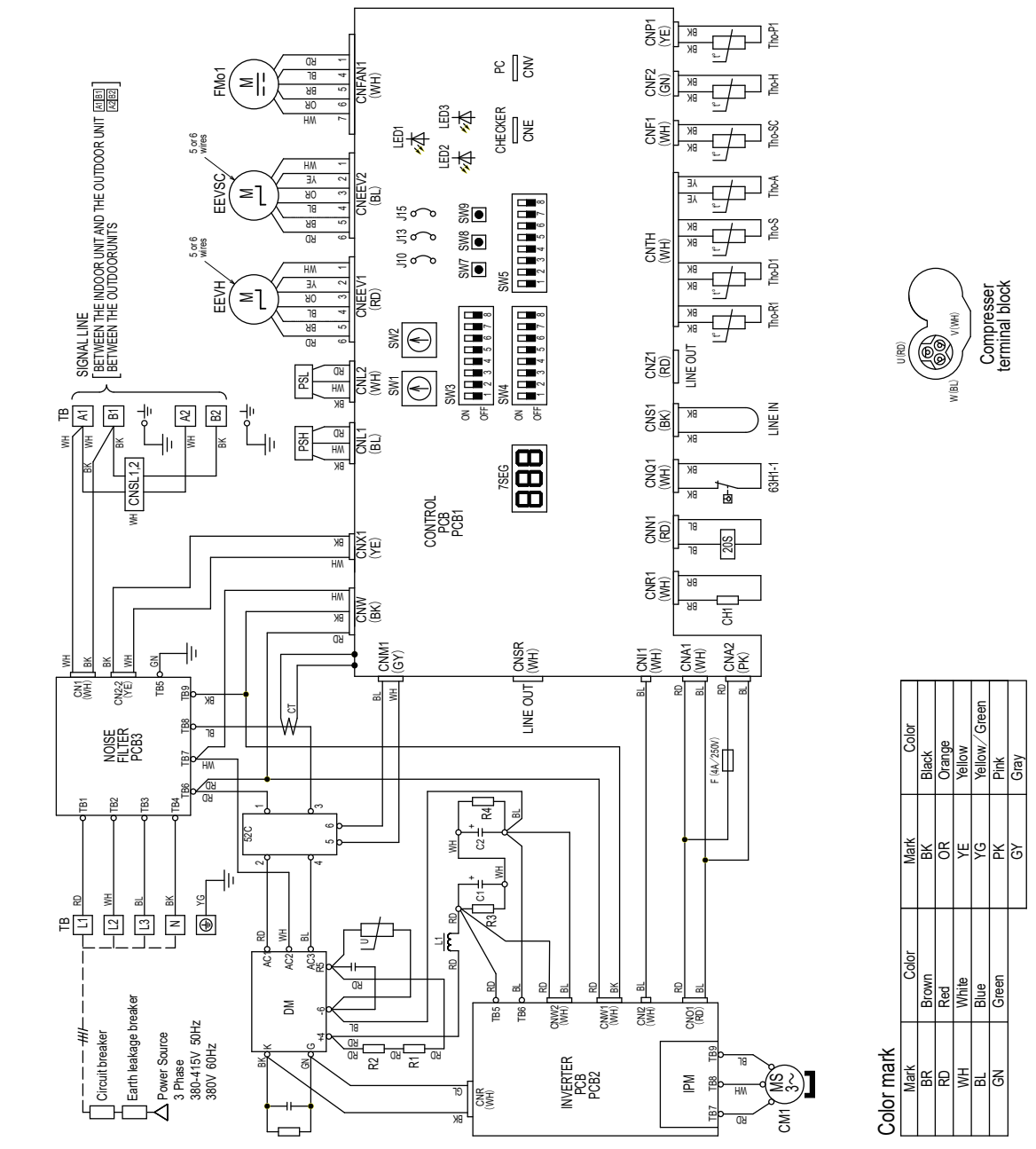
Models FDC121KXZES1-W, 140KXZES1-W, 155KXZES1-W

Meaning of marks

Mark	Name
CH1	Crankcase heater
CM1	Compressor motor
CNA - Z	Connector
CT	Current sensor
C1	Electrolytic capacitor
DM	Diode module
EEVH	Heating expansion valve
EEVSC	Sub-cooling coil expansion valve
FMo1	Blower motor
F	Fuse
IPM	Intelligent power module
J10	Superlink terminal setting (spare/normal)
J13	External input switching (pulse/level)
J15	Defrost start temperature (cold weather district/normal)
LED1	Inspection (Red)
LED2	Normal (Green)
LED3	Service (Green)
L1	Reactor
PCB1 - 3	PCB
PSH	High pressure sensor
PSL	Low pressure sensor
R1 - 4	Rush current suppression resistor
SW1	Address setting SW outdoor unit No. (tens place)
SW2	Address setting SW outdoor unit No. (units place)
SW3-1	Inspection LED reset
SW3-5	Check operation start
SW3-7	Forced cooling/heating switching
SW4-7	Demand switching
SW4-8	Demand switching
SW5-1	Test run start (normal/start)
SW5-2	Test run cooling setting (heating/cooling)
SW5-3	Pump down (normal/valid)
SW5-5	Superlink protocol setting (new/previous)
SW7 (Button)	Data erasing/writing
SW8 (Button)	7-segment indication up (units place)
SW9 (Button)	7-segment indication up (tens place)
TB	Terminal block
Tho-A	External air temperature sensor
Tho-D1	Discharge pipe temperature sensor
Tho-H	Sub-cooling coil temperature sensor (gas)
Tho-P1	Power transistor temperature sensor
Tho-R1	Heat exchanger temperature sensor
Tho-S	Suction pipe temperature sensor
Tho-SC	Sub-cooling coil temperature sensor (liquid)
20S	4-way switching solenoid
52C	Relay
63H1-1	High pressure switch (Protection)



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2.4 Noise level

Measured based on JIS B 8616

Mike position as highest noise level in position as below

Distance from front side 1m

Height 1m

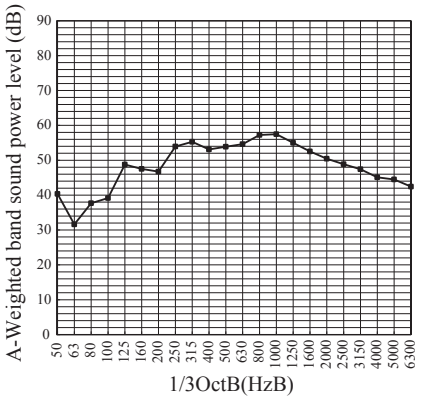
(a) Sound power level

Models FDC121KXZEN1-W

121KXZES1-W

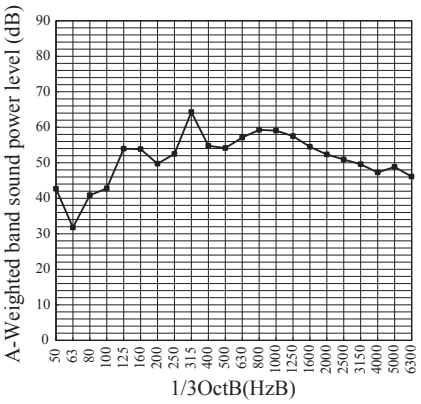
Cooling

Noise level 68 dB (A)



Heating

Noise level 71 dB (A)

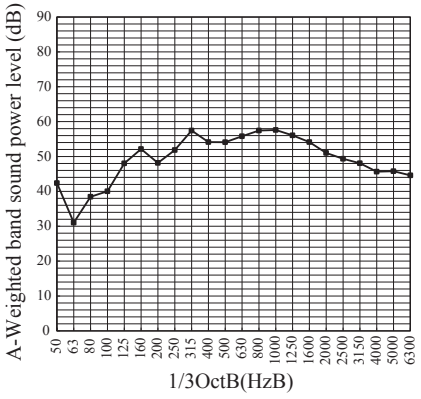


Models FDC140KXZEN1-W

140KXZES1-W

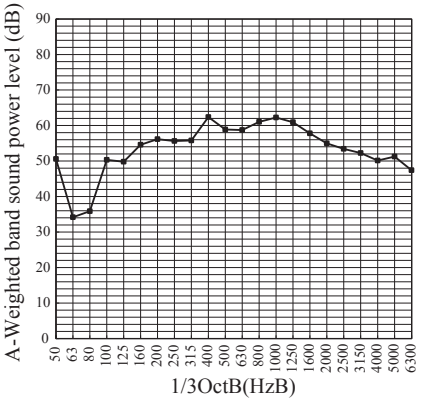
Cooling

Noise level 69 dB (A)



Heating

Noise level 73 dB (A)

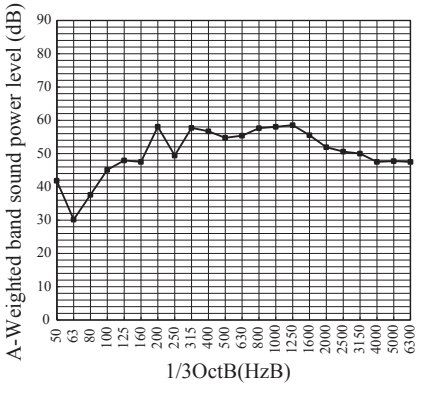


Models FDC155KXZEN1-W

155KXZES1-W

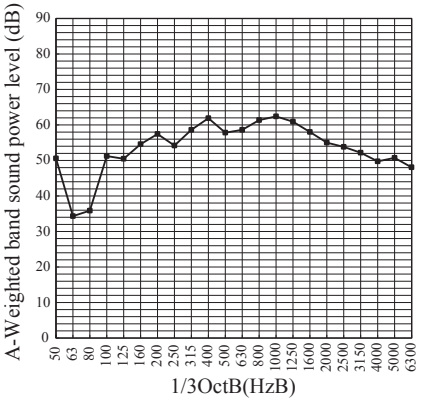
Cooling

Noise level 70 dB (A)



Heating

Noise level 73 dB (A)



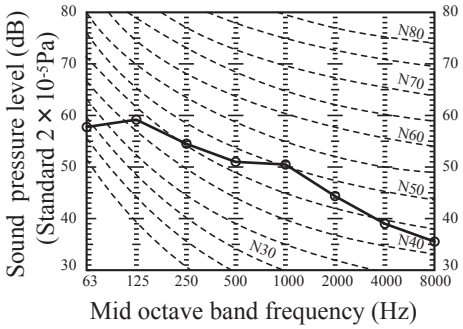
(b) Sound pressure level

Models FDC121KXZEN1-W

121KXZES1-W

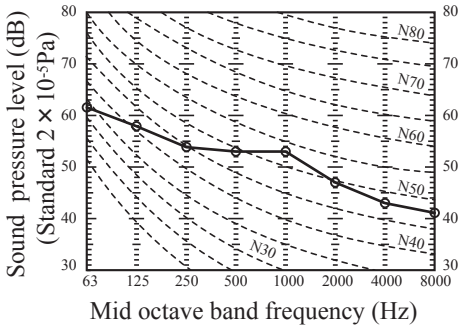
Cooling

Noise level 54 dB(A)



Heating

Noise level 56 dB(A)

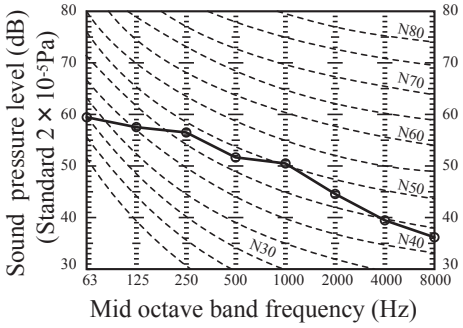


Models FDC140KXZEN1-W

140KXZES1-W

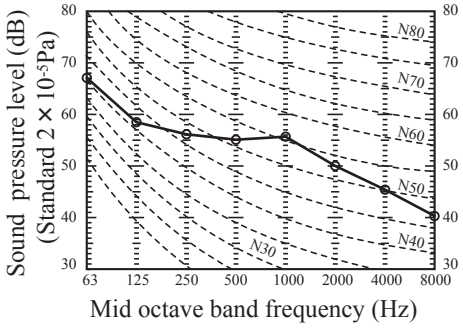
Cooling

Noise level 54 dB(A)



Heating

Noise level 58 dB(A)

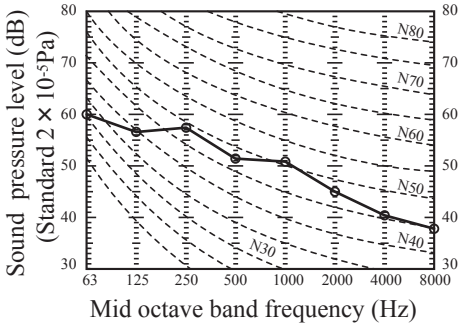


Models FDC155KXZEN1-W

155KXZES1-W

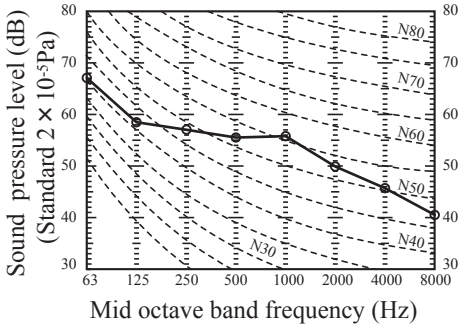
Cooling

Noise level 54 dB(A)



Heating

Noise level 58 dB(A)



2.5 Application data
2.5.1 Installation of outdoor unit

◎This manual describes outdoor unit installation work.
◎For indoor unit installation and electrical cabling, please refer to page 95.
◎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

Designed for R32 refrigerant

Outdoor unit capacity
FDC90 – 155

PSC012D165

Precautions for safety

●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 ⚠WARNINGS and ⚠CAUTIONS . The matters with possibilities leading to serious consequences such as death or serious personal injury due to erroneous handling are listed in the ⚠WARNINGS 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 ⚠CAUTIONS . **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 on the right.

⃠	**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
●For 3phase outdoor unit, EN61000-3-2 is not applicable as consent by the utility company or notification to the utility company is given before usage.
●5 and 6HP units of single phase power source are equipment complying with IEC61000-3-12.

⚠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, substanard performance, contrl 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 ISO5149.
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.
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.
●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.
●In connecting the power cable, make sure that no anomakies such as dust deposits, socket clogging or wobble are found and insert the plug securely.
Accumulation of dust, clogging on the socket, or looseness of plugging can cause electric shocks and fire.
●Be sure not to reuse existing refrigerant pipes
Conventional refrigerant oil or chlorine contained in the conventional refrigerant which is remaining in the existing refrigerant pipes can cause deterioration of refrigerant oil of new unit. And 1.6 times higher pressure of R32 refrigerant than conventional one can cause burst of existing pipe, personal injury or serious accident.
●Do not perform brazing work in the airtight room
It can cause lack of oxygen.
●Use the prescribed pipes, flare nuts and tools for R32.
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 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.
●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.
●Do not put the drainage pipe directly into drainage channels where poisonous gases such as sulphide gas can occur.
Poisonous gases will flow into the room through drainage pipe and seriously affect the user's health and safety. It can also cause the corrosion of the indoor unit and resultant unit failure or refrigerant leak.
●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 control 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

❗
●Use the circuit breaker for all pole with correct capacity.
Using the incorrect circuit breaker, it can cause the unit malfunction and fire.
●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.
●Pay attention not to damage the drain pan by weld spatter when welding work is done near the indoor unit.
If weld spatter entered into the indoor unit during welding work, it can cause pin-hole 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 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 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.
●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.

⏚
●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 or fire due to short-circuiting. Never connect the grounding wire to a gas pipe because if gas leaks, it could cause explosion or ignition.

⃠
●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 sulfurous 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 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 install the unit in the locations listed below
• 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 ammonic 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
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.
• 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 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 shut off the power supply immediately after stopping the operation.
Wait at least 5 minutes, otherwise there is a risk of water leakage or breakdown.
●Do not control the system with main power switch.
It can cause fire or water leakage. In addition, the fan can start unexpectedly, which can cause personal injury.
●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 operate the outdoor unit with any article placed on it.
You may incur property damage or personal injure from a fall of the article.
●Do not step onto the outdoor unit.
You may incur injury from a drop or fall.
●Do not clean up the unit with water.
It can cause electric shocks.

#

Notabilia as a unit designed for R32

- Do not use any refrigerant other than R32. R32 will rise to pressure about 1.6 times higher than that of a conventional refrigerant.
- A unit designed for R32 has adopted a different size outdoor 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 R32 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 R32. Please check connectable indoor unit models in a catalog, etc. (A wrong indoor unit, if connected into the system, will impair proper system operation.)

	Dedicated R32 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. BEFORE BEGINNING INSTALLATION (Check that the models, power source specifications, piping, wiring are correct.)

Indoor and outdoor unit combinations

(1) Combination can be arranged with the conditions (number of units, capacity) shown below.

Indoor unit	Remote control	Connectability
FD○△△KXE6 KXZ Series indoor unit	RC—EX1A(2 cores) RC—E5(2 cores) RC—E4(2 cores) RC—E3(2 cores)	OK
FD○A△△KXE4 Series indoor unit	RC—E1(3 cores)	×

* Only indoor units of the above-listed series can be connected in the refrigerant system.

(2) The combination is possible if in the table below condition (number of units,capacity).

Indoor unit	Outdoor unit				
	90	112	121	140	155
Number of connectable units	1—8	1—8	1—8	1—10	1—10
Total capacity of indoor units	90—135	90—168	90—182	112—210	124—232

[Accessory]

Name	Quantity	Usage location	Attachment position
Edging	1	Use it for protection of a knock-out hole.	It is attached to the bracket with an adhesive tape in the proximity of the service valve.
User's manual	1	When the installation work is completed, give instructions to the customer and ask him/her to keep it.	It is attached to the front of a unit.
Round terminal (FDC90～155KXZEN1-W only)	3	Use it for power source wiring. (One is a backup)	It is attached in the unit.

[Items sold separately]

Refrigerant pipe distribution parts, which are not contained in the package, will be required for installation.
As for refrigerant pipe distribution parts, we offer branching pipe sets (Model type: DIS) and header sets (Model type: HEAD) as parts used on the indoor side of piping.
Please select one suiting your application. In selecting distribution parts, please also refer to "4. REFRIGERANT PIPING."
If you are not sure which parts to select, please consult with your dealer or the manufacturer.
Use refrigerant branching pipe sets and header sets designed exclusively for R32 without fail.

2. INSTALLATION LOCATION (Obtain approval from the customer when selecting the installation area.)

2-1. Selecting the installation location

○ Where air is not trapped.
○ Where the installation fittings can be firmly installed.
○ Where any object does not prevent inlet or outlet air.
○ Out of the heat range of other heat sources.
○ Where strong winds will not blow against the outlet air.
○ A place where stringent regulation of electric noises is applicable.
○ Where it is safe for the drain water to be discharged.
○ Where noise and hot air will not bother neighboring residents.
○ Where snow will not accumulate.
○ A place where no TV set or radio receiver is placed within 5m.
(If electrical interference is caused, seek a place less likely to cause the problem)

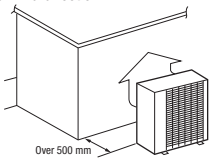
Please note

a) If there is a possibility of a short-circuit, then install a flex flow adapter.
b) When installing multiple units, provide sufficient intake space so that a short-circuit does not occur.
c) In areas where there is snowfall, install the unit in a frame or under a snow hood to prevent snow from accumulating on it.
(Inhibition of collective drain discharge in a snowy country)
d) Do not install the equipment in areas where there is a danger for potential explosive atmosphere.
e) Install the equipment in a location that can sufficiently support the weight of the equipment.
f) If a unit is installed into a special environment as shown below, there will be a danger that the corrosion of the outdoor unit or its malfunctioning is caused. If this is the case, please consult with the distributor from whom you have purchased the unit.
- Where corrosive gas is generated (such as a hot-spring resort area).
- Where the unit is subject to sea breezes (coastal area).
- Where the unit is subject to oil mists.
- Where equipment generating electromagnetic waves exists in the vicinity.

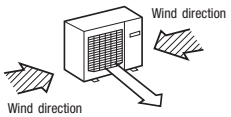
g) When strong winds occur
- Where it is likely that the unit is subjected to strong winds, provide wind guards according to the following guidelines. Strong winds can cause performance degradation, an accidental stop due to a rise of high pressure and a broken fan.

CAUTION
Please leave sufficient clearance around the unit without fail.
Otherwise, a risk of compressor and/or electric component failure may arise.

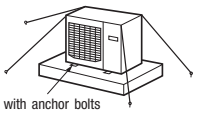
①Place the unit outlet pipe perpendicular to the wind direction.



②Please install so the direction of the air from the blowing outlet will be perpendicular to the direction of the wind.

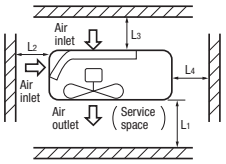


③When the foundation is not level, use wires to tie down the unit.



2-2. Installation space (Ex. servicing space)

a) Minimum installation space
(Please select an installation point with due attention to the direction of installation of the refrigerant pipe)
(If the installation conditions shown in this drawing are not satisfied, please consult with your dealer or the manufacturer.)
b) When units are installed side by side, leave a 10mm or wider service space between the units.
c) Walls surrounding the unit in the four sides are not acceptable.
d) There must be a 1-meter or larger space in the above.
e) A barrier wall placed in front of the exhaust diffuser must not be higher than the unit.
*Please ask to the dealer regarding the options such as the flex flow adapter and the snow guard hood.



(Unit : mm)

Size \ Sample	Ⅰ	Ⅱ	Ⅲ
L 1	Open	Open	500
L 2	300	5	Open
L 3	150	300	150
L 4	5	5	5

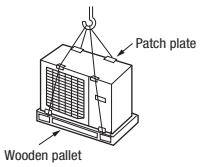
#

3. UNIT DELIVERY 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 you sling the unit for portage, do not fail to take into consideration the deviation of the gravity center from its center. Improper slinging may cause the unit to lose balance and fall.

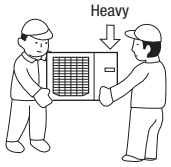
Delivery

- Deliver the unit as close as possible to the installation site before removing it from the packaging.
- If unpacked and deliver cannot be avoided, use a nylon sling or a rope with pads placed where the rope contacts the unit so it is not scratched.

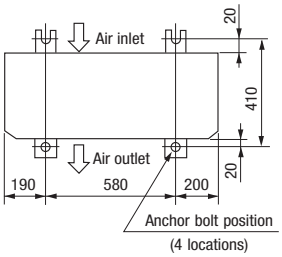


Portage

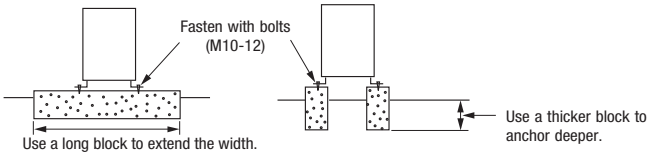
- The right hand side of the unit as viewed from the front (diffuser side) is heavier. A person carrying the right hand side must take heed of this fact. A person carrying the left hand side must hold with his right hand the handle provided on the front panel of the unit and with his left hand the corner column section.



Bolt fastening positions



- In installing the unit, fix the unit's legs with bolts specified below.



- 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.

⚠Important **In case that the unit operates in cooling mode, when the outdoor temperature is –5°C or lower, please equip a flex flow adapter and a snow guard hood (option) on the unit.**

4. REFRIGERANT PIPING

4-1. Determination of piping specifications (Please select from the following matrix according to indoor unit specifications and installation site conditions)

Refrigerant piping restrictions Please do not fail to observe the following pipe sizes and limitations of use. A failure to observe this instruction can result in a compressor failure or performance degradation.

- Please avoid forming any trap ( ) or bump ( ) in piping as they can cause fluid stagnation.

- Maximum length (To the farthest indoor unit) ····· Within 70m
- Equivalent length (To the farthest indoor unit) ····· Within 95m
- Total pipe length (Combined total length of pipes) ····· Within 100m
- φ9.52 pipe length ····· Within 50m

- Height difference
  (1) When the outdoor unit is above the indoor unit ····· Within 30m
  (2) When the outdoor unit is below the indoor unit ····· Within 15m
  (3) Height difference between indoor units in the same system ····· Within 15m
  (4) Height difference between indoor units and first branch ····· Within 15m

Refrigerant piping size selection

- Please use pipes clean on both the inside and outside and free from contaminants harmful to operation such as sulfur, oxides, dust, chips, oil, fat and water.
- Use the following material for refrigerant piping.
  Material: phosphorus deoxidized seamless copper pipe (C1120T-0, JIS H3300)
- Thickness and size: Please select proper pipes according to the pipe size selection guideline.
  (Since this unit uses R32, Select pipes having a wall thickness larger than the specified minimum pipe thickness.
- For branching pipes, use a genuine branching pipe set or header set at all times.
- Install a branching pipe set, paying attention to the direction of attachment, after you have perused through the installation manual supplied with it.
- The length of piping from outdoor unit to first branch is 1.5m or more.
- For the handling of service valves, please refer to 4-2. Piping work.

(1) Individual flow division method

- For determination of appropriate branching joint or different diameter pipe joint sizes, please refer to "Branching Pipe Set," (which can be purchased separately).

Item	Model	Gas pipe	Liquid pipe
Outdoor unit Main pipe	90, 112, 121 140, 155	φ15.88	φ9.52
Total capacity of indoor units	less than 70	φ12.7	φ9.52
	70 or more	φ15.88	φ9.52

Attention

- Please use pipes of the pipe size specified for the outdoor unit for the section between the outdoor unit and the first branching joint.
- An appropriate pipe size between branching joints can vary depending on the connected indoor unit capacity (total capacity connected downstream), please select an appropriate pipe size from the table shown on the right.
- The pipe size between the branch pipe and the indoor unit should match that of the indoor unit.
- Always install branch pipes either horizontally or vertically.

(2) Header Method

- Depending on the number of units connected, connect blind pipes to header branching points (on the indoor unit connection side).
- For determination of appropriate header, different diameter pipe joint and blind pipe sizes, please refer to "Header Set," (which can be purchased separately).

Attention

- For the section between an indoor unit and the header, use a pipe of the diameter specified for the indoor unit.
- To couple with the header, use a different diameter pipe joint to adjust to the pipe diameter specified for the indoor unit.
- The header must be so installed that it branches horizontally (for both gas and liquid)

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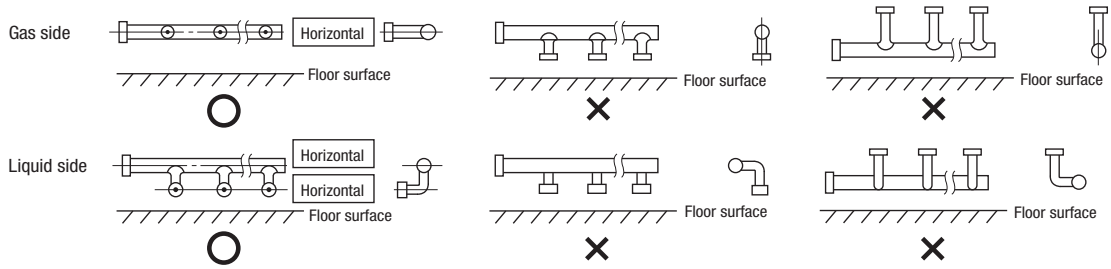


Unit piping specifications The piping material should be phosphorus deoxidized copper seamless steel pipes. (C1220T, JIS H 3300)

Item	Model	Gas side			Liquid side		
		Pipe diameter (mm)	Minimum pipe wall thickness (mm)	Connection method	Pipe diameter (mm)	Minimum pipe wall thickness (mm)	Connection method
Outdoor unit	90, 112, 121, 140, 155	ϕ15.88	1.0	Flare	ϕ9.52	0.8	Flare
Indoor unit	15	ϕ 9.52	0.8		ϕ6.35	0.8	
	22	ϕ 9.52	0.8		ϕ6.35	0.8	
	28	ϕ 9.52	0.8		ϕ6.35	0.8	
	36	ϕ12.7	0.8		ϕ6.35	0.8	
	45	ϕ12.7	0.8		ϕ6.35	0.8	
	56	ϕ12.7	0.8		ϕ6.35	0.8	
	71	ϕ15.88	1.0		ϕ9.52	0.8	
	90	ϕ15.88	1.0		ϕ9.52	0.8	
	112	ϕ15.88	1.0		ϕ9.52	0.8	
	140	ϕ15.88	1.0		ϕ9.52	0.8	
	160	ϕ15.88	1.0		ϕ9.52	0.8	

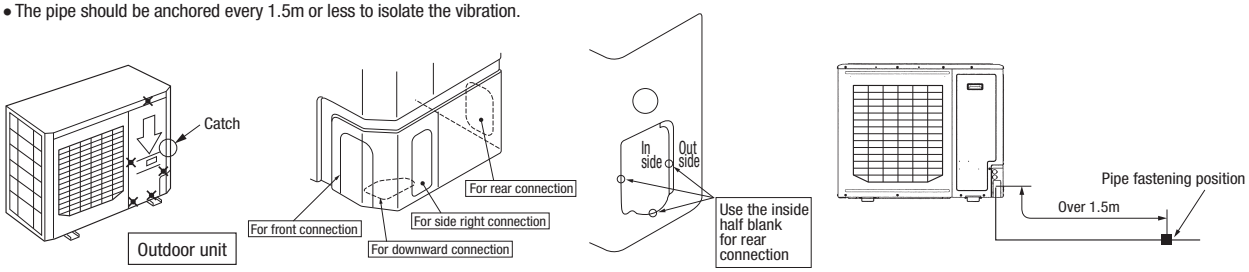
Attention

- Always select pipes meeting the minimum wall thickness requirement.

4-2. Piping work

Piping connection position and the piping remove direction

- First remove the five screws (✕ 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.
- In laying pipes on the installation site, cut off the casing's half blank that covers a hole for pipe penetration with nippers.
- If there is a risk of small animals entering from the pipe penetration part, close the part with some sealing material or the like (to be arranged on the installer's part).
- In the case of an installation using a collective drain system, use a port other than the bottom one to take out cables and pipes. If the bottom port is used, seal it thoroughly so that drain water may not spill out.
- Use an elbow (to be arranged on the user's part) to connect control valves to the piping.
- In anchoring piping on the installation site, give 1.5m or a longer distance between an outdoor unit and an anchoring point where the piping is secured as illustrated below. (A failure to observe this instruction may result in a pipe fracture depending on a method of isolating vibrations employed.)
- The pipe should be anchored every 1.5m or less to isolate the vibration.

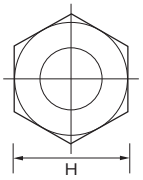


(1) On-site piping work

Important

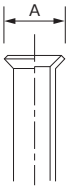
CAUTION
If you tighten it without using double spanners, you may deform the service valve, which can cause an inflow of nitrogen gas into the outdoor unit.

- Please take care so that installed pipes may not touch components within a unit.
- **During the pipe installation at site, keep the service valves shut all the time.**
- Give **sufficient protections** (compressed and brazed or by an adhesive tape) **to pipe ends so that any water or foreign matters may not enter the pipes.**
- In bending a pipe, bend it **to the largest possible radius (at least four times the pipe diameter).** Do not bend a pipe repeatedly to correct its form.
- An outdoor unit's pipe and refrigerant piping are to be flare connected. Flare a pipe after engaging a flare nut onto it. A flare size for R32 is different from that for conventional R407C. Although we recommend the use of flaring tools developed specifically for R32, conventional flaring tools can also be used by adjusting the measurement of protrusion B with a protrusion control gauge.
  ※Do not reuse exiting flare, make new flare.
- Tighten a flare joint securely **with two spanners.** Observe flare nut tightening torque specified in the table below.



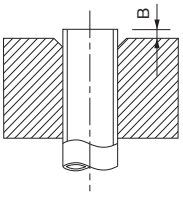
Flare nut parallel side measurement: H (mm)

Copper pipe outer diameter	H
ϕ6.35	17
ϕ9.52	22
ϕ12.7	26
ϕ15.88	29



Flared pipe end: A (mm)

Copper pipe outer diameter	A 0 -0.4
ϕ6.35	9.1
ϕ9.52	13.2
ϕ12.7	16.6
ϕ15.88	19.7



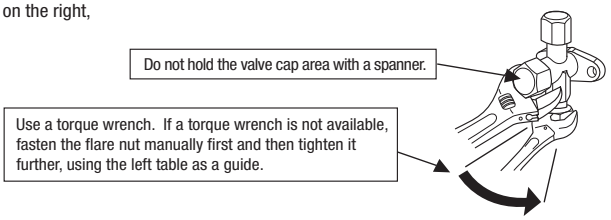
Copper pipe protrusion for flaring: B (mm)

Copper pipe outer diameter	In the case of a rigid (clutch) type	
	With an R32 tool	With a conventional tool
ϕ6.35	0—0.5	0.7—1.3
ϕ9.52		
ϕ12.7		
ϕ15.88		

#

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

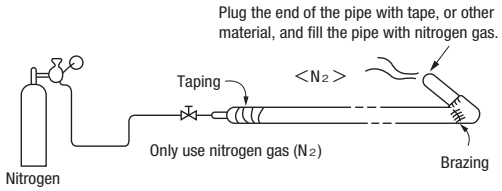


- Do not apply any oil on a flare joint.
- **Blazing must be performed under a nitrogen gas flow**. Without nitrogen gas, a large quantity of foreign matters (oxidized film) are created, causing a critical failure from capillary tube or expansion valve clogging.
- Brazing of the service valve and the pipes should be performed while cooling the valve body with a wet towel.
- Perform flushing. To flush the piping, charge nitrogen gas at about 0.02MPa with a pipe end closed with a hand. When pressure inside builds up to a sufficient level, remove the hand to flush. (in flushing a pipe, close the other end of the pipe with a plug).

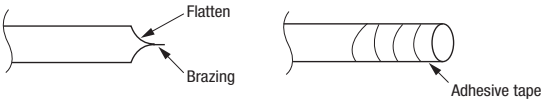
Operation procedure

① **During the pipe installation at site, keep the service valves shut all the time**.

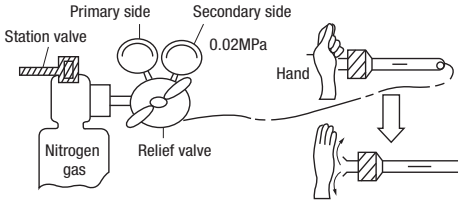
② **Blazing must be performed under a nitrogen gas flow**. Without nitrogen gas, a large quantity of foreign matters (oxidized film) are created, causing a critical failure from capillary tube or expansion valve clogging.



③ Give **sufficient protections** (compressed and brazed or with an adhesive tape) **so that water or foreign matters may not enter the piping**.



④ Perform flushing. To flush the piping, charge nitrogen gas at about 0.02MPa with a pipe end closed with a hand. When pressure inside builds up to a sufficient level, remove the hand to flush. (in flushing a pipe, close the other end of the pipe with a plug).



4-3. Air tightness test and air purge (Carry them out according to the following steps.)

Air tightness test

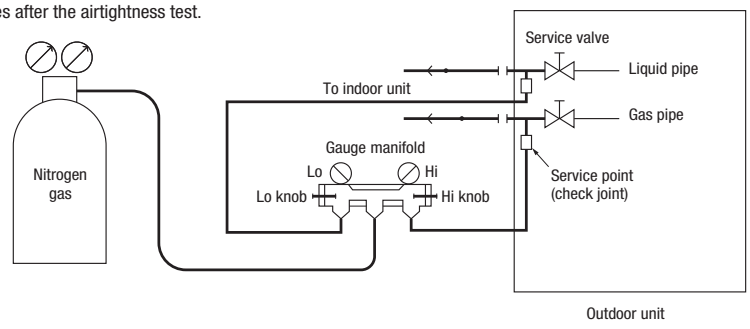
① Although an outdoor unit itself has been tested for air tightness at the factory, please check the connected pipes and indoor units for air tightness from the check joint of the service valve on the outdoor unit side. While conducting a test, **keep the service valve shut all the time**.

② Since refrigerant piping is pressurized to the design pressure of a unit with nitrogen gas for testing air tightness, please connect instruments according the drawing below. Under no circumstances should chlorine-based refrigerant, oxygen or any other combustible gas be used to pressurize a system
Keep the service valve shut all the time. Do not open it under any circumstances.
Be sure to pressurize all of the liquid, gas pipes.

CAUTION
Applying excessive pressure can cause an inflow of nitrogen gas into an outdoor unit.

③ In pressurizing the piping, do not apply the specified level of pressure all at once, but gradually raise pressure.
a) **Raise the pressure to 0.5 MPa, and then stop. Leave it for five minutes or more** 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 changes 1°C, the pressure also changes 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.

④ Always pull air from the pipes after the airtightness test.



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Vacuuming Please pull air **from the check joints of the service valves on both liquid and gas sides.**

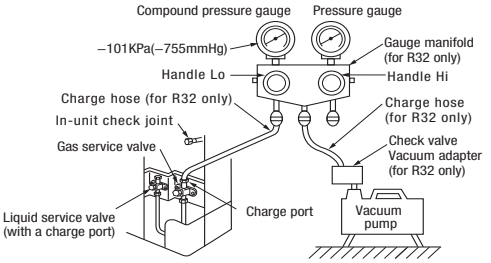
＜**Work flow**＞

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.

Airtightness test completed
↓
Vacuuming begins
↓
Please run the vacuum pump for at least one hour after the vacuum gauge shows -101kPa or lower. (-755mmHg or lower)
↓
Vacuuming completed
↓
Confirm that the vacuum gauge indicator does not rise **after leaving the system for an hour or more**.
↓
Vacuum gauge check
↓
Fill refrigerant

CAUTION
Insufficient vacuuming may result in poor performance falling short of the design capacity, pipe clogging due to residue moisture and/or a compressor failure.

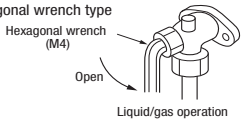
Pay attention to the following points in addition to the above for the R32 and compatible machines.
○To prevent a different oil from entering, please assign dedicated tools, etc. to each refrigerant type. Under no circumstances must a gauge manifold and a charge hose in particular be shared with other refrigerant types (R22, R407C, R410A etc.).
○Use a counterflow prevention adapter to prevent vacuum pump oil from entering the refrigerant system.



● You can purge air with either liquid service valve or gas service valve.

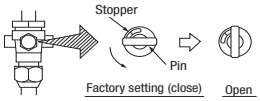
When a vacuum air purge is completed, remove the valve rod cap nuts and open the service valves (both liquid and gas sides) as illustrated below. After you have made sure that the valves are in the full-open position, tighten the cap nuts (for the valve rods and charge ports).

▶ Hexagonal wrench type



● Open the valve rod until it touches the stopper. You need not apply force to push it further.

▶ Pin type
Remove the hexagon cap nut, set it as illustrated in the drawing below.



For tightening torque, refer to the table below.

Service valve size (mm)	Tightening torque (N-m)	Cap tightening torque (N・m)	Cap nut tightening torque of check joint (N・m)
φ9.52 (3/8")	34－42	20－30	13
φ15.88(5/8")	68－95	30－35	13

・When an operation is completed, replace the cap nut and tighten it as before.
・Shaft operation, cap and cap nut is performed by excessive torque, it will become failure and a cause of a leak, please follow a table.

4–4. Additional refrigerant charge

Additional refrigerant charge

Charge additional refrigerant **in the liquid state**.
Be sure to measure the quantity **with a scale in adding refrigerant**.
If you cannot charge all refrigerant with the outdoor unit lying idle, charge it with the unit running in the test run mode. (For the test run method, please refer to Section 8)
If operated for a long time with insufficient refrigerant the compressor will be damaged. (In particular, when adding refrigerant during operation, complete the job within 30min.)
Fill this unit only with the standard amount of refrigerant (piping length 0m fill quantity).
Determine the amount of refrigerant to be charged additionally using the following formula and put down the amount of refrigerant added on the refrigerant charge volume recording plate provided on the back of the side panel.

●Adding additional refrigerant

Charge additional refrigerant according to the size and length of the liquid piping.
Determine additional charge volume by rounding to the nearest 0.1kg.
Additional fill quantity (kg)=P+I
P: Additional refrigerant quantity for piping (kg)

Item / Capacity	Standard refrigerant charge volume (kg)	Pipe length for baseline 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
90, 112, 121, 140, 155	3.2	0	0.050 (Liquid piping φ9.52)	4.2	20

Refrigerant pipe size	φ9.52	φ6.35
Additional charge volume (kg)	0.050	0.020

● 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 20m of refrigerant piping and additional refrigerant charge on the installation site is not required for an installation with up to 20m refrigerant piping.**
When refrigerant piping exceeds 20m, additionally charge an amount calculated from the pipe length and the above table for the portion in excess of 20m.

Formula to calculate the volume of additional refrigerant required

Model 90, 112, 121, 140, 155	Refrigerant (necessary) charge volume for piping (kg) = Standard refrigerant charge 3.2kg + φ9.52 Total length of liquid pipes (m) x 0.050 (kg/m) + φ6.35 Total length of liquid pipes (m) x 0.020 (kg/m) **P = Refrigerant (necessary) charge volume for piping (kg) - Factory charged volume 4.2 (kg)**

*When an additional charge volume calculation result is negative, it is not necessary to charge refrigerant additionally.

● **If the pipe length is shorter than 5 m, you should charge a reduced refrigerant volume.**
Recover the refrigerant from the system and charge the standard refrigerant charge + the amount for liquid pipe.

I: Additional refrigerant quantity for indoor units (kg)
If the total indoor units capacity is larger than outdoor unit capacity, then calculate the additional refrigerant quantity for indoor units.
D = {(Total indoor units capacity) - (outdoor unit capacity)}
I = D x 0.005
When D > 0, calculate I using the above equation;
When D ≦ 0, take it as I = 0.

<Example>
When you connect FDC140 to FDT45 x 4 units:
D= 45 x 4 - 140= 40 (> 0)
I = 40 x 0.005 = 0.2 (kg)

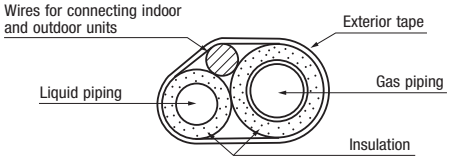
Pay attention to the following points in addition to the above for the R32 and compatible machines.
● To prevent a different oil from entering, please assign dedicated tools, etc. to each refrigerant type. Under no circumstances must a gauge manifold and a charge hose in particular be shared with other refrigerant types (R22, R407C, R410A etc.).
● Do not use a charge cylinder under any circumstances. There is a danger that the composition of the refrigerant will change when R32 is transferred to a cylinder.
● When charging refrigerant, use liquid refrigerant from a cylinder.
● Use a Adverse current prevention adapter so that vacuum pump oil does not mix in a system.

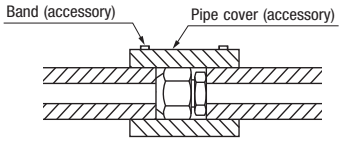
#

4-5. Heat insulation for prevention of dew condensation

(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.

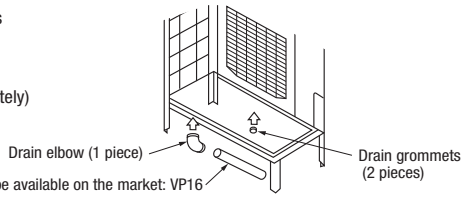
- All gas pipes must be securely heat insulated in order to prevent damage from dripping water that comes from the condensation formed on them during a cooling operation or personal injury from burns because their surface can reach quite a high temperature due to discharged gas flowing inside during 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 10-20mm heat insulation materials additionally above the ceiling where relative humidity exceeds 70%.





5. DRAINAGE

- Where drain water from the outdoor unit causes problems, implement drain piping with drain elbows and drain grommets.
- There are 3 holes in the bottom panel of the outdoor unit to drain condensation.
- Where condensate is guided to a drain, install the unit on a flat base (an option part supplied separately) or concrete blocks.
- Connect a drain elbow as illustrated and plug the other holes with grommets.



6. ELECTRICAL WIRING WORK

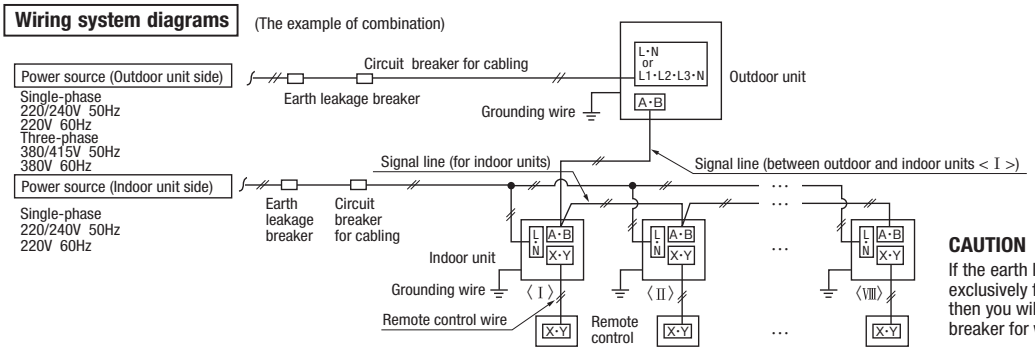
Electrical installation work must be performed by an electrical installation service provider qualified by a power provider of the country.
Electrical installation work must be executed according to the technical standards and other regulations applicable to electrical installations in the country.
⚠ **Please install an earth leakage breaker without fail**. The installation of an earth leakage breaker is compulsory in order to prevent electric shocks or fire accidents. (Since this unit employs inverter control, please **use an impulse withstanding type** to prevent an earth leakage breaker's false actuation.)

Please note

a) Use only copper wires.
Do not use any supply cord 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).

Please do not use anything lighter than polychloroprene sheathed flexible cord (cord designation 60245 IEC57) for supply cords of parts of appliances for outdoor use.
b) **Use separate power sources for the indoor and outdoor units** .
c) **The power sources for indoor units in the same system should turn on and off simultaneously** .
d) Ground the unit. Do not connect the grounding wire to a gas pipe, water pipe, lightning rod or telephone grounding wire.
A grounding wire must be connected before connecting the power cable. Provide a grounding wire longer than the power cable.
If improperly grounded, an electric shock or malfunction may result. Don't connect the grounding wire to a gas pipe because it could cause explosion or ignition if gas leaks.
e) **The installation of an impulse with standing 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. Be sure to turn off the power when servicing.
f) Please 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)
g) For power source cables, use conduits.
h) Please **do not lay electronic control cables (remote control and signaling lines) and other high current cables together outside the unit**. Laying them together can result in malfunctioning or a failure of the unit due to electric noises.
i) Power cables and signaling lines must always be connected to the terminal block and secured by cable fastening clamps provided in the unit.
j) Fasten cables so that they may not touch the piping, etc.
k) **When cables are connected, please make sure that all electrical components within the electrical component box are not free or not loose on the 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.)
l) Make sure to use circuit breakers (earth leakage breaker and circuit breaker) of proper capacity. Use of breakers of larger capacity could result in trouble on components or fire accident. The circuit breaker should isolate all poles under over current.
m) 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.
n) 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.

Wiring system diagrams (The example of combination)



CAUTION
If the earth leakage breaker is exclusively for ground fault protection, then you will need to install a circuit breaker for wiring work.

#

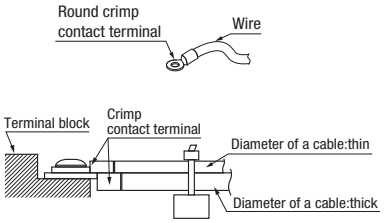
Method of connecting power cables

(1) Method of leading out cables

- As shown on the drawing in Section 4-2, cables can be laid through the front, right, left or bottom casing.
- In wiring on the installation site, cut off a half-blank covering a penetration of the casing with nippers.
- In the case of an installation using a collective drain system, use a port other than the bottom one to take out cables and pipes. If the bottom port is used, seal it thoroughly so that drain water may not spill out.

(2) Notabilia in connecting power cables

- Connect the ground wire before you connect the power cable. When you connect a grounding wire to a terminal block, use a grounding wire longer than the power cable so that it may not be subject to tension.
- Do not turn on power until installation work is completed. Turn off power to the unit before you service the unit.
- Always connect power cables to the power terminal block.
- To connect a cable to the power terminal block, use a round crimp contact terminal. If two cables are to be connected to one terminal, arrange cables in such a manner that you put their crimp contact terminals together back to back. Further, put the thinner cable above the thicker one in arranging cables for such connection.
- Use specified wires in wiring, and fasten them securely in such a manner that the terminal blocks are not subject to external force.
- In fastening a screw of a terminal block, use a correct-size driver. Fastening a screw of a terminal block with excessive force can break the screw.
- When electrical installation work is completed, make sure that all electrical components within the electrical component box are free of loose connector coupling or terminal connection.



Power source specifications

(1) Outdoor unit power source (Indoor unit is another power source.)

Model	Power source	Cable size for power source (mm^2)	Wire length (m)	Moulded-case circuit breaker (A)		Earth leakage breaker	Earth wire	
				Rated current	Switch capacity		Size (mm^2)	Screw type
90KXZEN1-W	Single-phase 220/240V 50Hz 220V 60Hz	8	32	40	50	40A, 30mA less than 0.1 sec	2	M4
112KXZEN1-W								
121KXZEN1-W								
140KXZEN1-W								
155KXZEN1-W								
112KXZES1-W	Three-phase 380/415V 50Hz 380V 60Hz	3.5	46	20	30	20A, 30mA less than 0.1 sec	2	M4
121KXZES1-W								
140KXZES1-W								
155KXZES1-W								

(2) Indoor unit power source (Outdoor unit is another power source.) & signal line

Combined total capacity of indoor units	Cable size for power source(mm^2)	Wire length(m)	Moulded-case circuit breaker (A)		Earth leakage breaker	Signal line (mm^2)	
			Rated current	Switch capacity		outdoor-indoor	indoor-indoor
less than 7A	2	21	20	30	20A, 30mA less than 0.1 sec	2 core × 0.75 ※	
less than 11A	3.5						
less than 12A	5.5	33					
less than 16A	5.5	24	30		30A, 30mA less than 0.1 sec		

※Please use a shielded cable.

Please note

a) The method of laying cables has been determined pursuant to the Japanese indoor wiring regulations (JEAC8001). (Please adapt it to the regulations in effect in each country)
b) Wire length in the table above is the value for when the indoor unit is connect to the power cable in series also the wire size and minimum length when the power drop is less than 2% are shown. If the current exceeds the value in the table above, change the wire size according to the indoor wiring regulations. (Please adapt it to the regulations in effect in each country)
c) For details, please refer to the installation manual supplied with the indoor unit.

How to connect signal cables

The communication protocol can be choosen from following two types. One of them is the conventional Superlink (hereinafter previous SL) and the other is the new Superlink Ⅱ (hereinafter new SL) . These two communication protocols have the following advantages and restrictions, so please choose a desirable one meeting your installation conditions such as connected indoor units and center control. When signal cables are connected into a network involving outdoor units, indoor units or center control equipment that do not support new SL, please select communications in the previous SL mode, even if the refrigerant system is separated from theirs.

Communication protocol	Conventional communication protocol (previous SL)	New communication protocol (new SL)
Outdoor unit setting (SW5-5)	ON	OFF (factory setting)
No. of connectable indoor units in a network	Max. 48	Max. 128
No. of connectable outdoor unitsin a network	Max. 48	Max. 32
Signal cable (total length)	Up to 1000m	Up to 1500m (When 0.75mm^2 shielded cable used) Up to 1000m (When 1.25mm^2 shielded cable used)
Signal cable (furthest length)	Up to 1000m	Up to 1000m
Connectable units to a network	Units not supporting new SL (FD○A△△KXE4 series) Units supporting new SL (FD○△△KXE6 series) Can be used together. (*1)	Units supporting new SL (FD○△△KXE6 KXZ series)

※1 New SL supporting units and non-supporting units cannot be used together in a same refrigerant system.

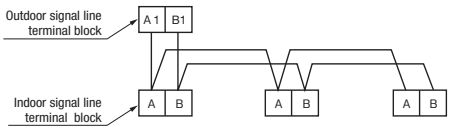
●**A signal cable system is operated at DC5V, so never connect it to the power source 220/240V or 380/415V.** If the power source is applied, a protective fuse provided on the board will be actuated. If the protective fuse is actuated, follow the procedure set out below.
(1) Turn off power and make sure that 220/240V or 380/415V is not applied to signaling wires.
(2) In the case of an indoor unit, switch from CNK1 to CNK2 and cut the jumper line JSL1.
(3) In the case of an outdoor unit, switch from CNX1 to CNX2 and cut the jumper line J10.
(4) Check signal cable terminal block resistance before you turn on power. If the resistance value is 100 ohms or less, there is possibility that a power cable is connected to a signal cable terminal block.
A typical resistance value is [46000 / (No. of connected FD○A△△KXE4 and KXE5 series units x 5) + (No. of connected FD○△△KXE6 and KXZ series units x 9)].
If the resistance value is 100 ohms or less, tentatively detach signal cables and thus, divide the network into more than one block (to reduce the number of indoor units connected in a network) to check for cabling errors in each such block.

#

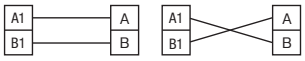
Indoor and outdoor signal wires

- Connect the signal line between indoor unit and outdoor unit to A1 and B1.
- Connect the signal line between outdoor units to A2 and B2.
- Please use a shielded cable for a signal line and connect a shielding earth at all the indoor units and outdoor units.

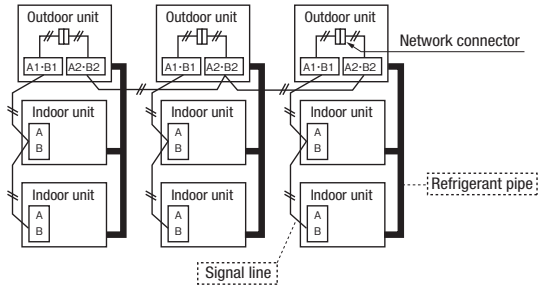
(1) When one outdoor unit is used.



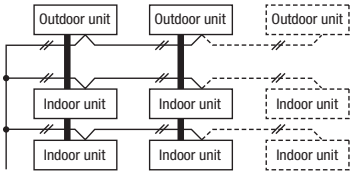
○Indoor and outdoor signal lines do not have a polarity.
Any of the connections in the following illustration can be made.



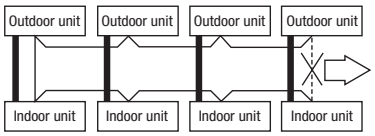
(2) When plural outdoor units are used



(1) The signal lines can also be connected using the method shown below.



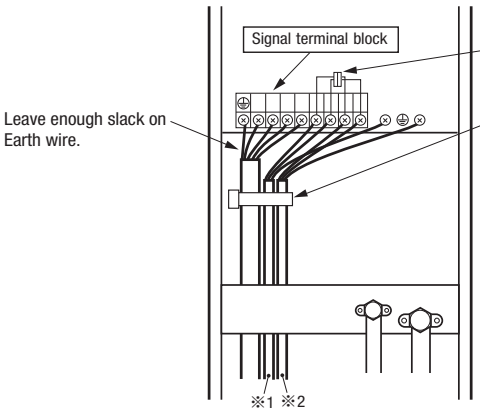
Important ○Loop wiring prohibited.



The signal lines cannot form a loop, so the wirings shown as ····· in the diagram are prohibited.

Power cable and signal line connection

FDC112—155KXZES1-W (Three-phase)



Cable clamp

- It holds cables in place and protect the terminal connection from external force.
- Give adequate slack to cables in fastening them.

Outgoing cable direction

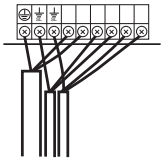
- As like the refrigerant pipe, it can be let out in any of the following directions: side right, front, rear and downward.

Wiring label

- The wiring label is attached on the back side of the service panel.

※1 Signal line between the indoor unit and the outdoor unit.
※2 Signal line between the outdoor units.

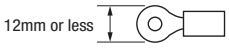
FDC90—155KXZEN1-W (Single-phase)



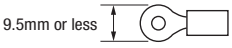
Attention

- For cabling of the power source terminal block, use crimp terminals of the figure shown below.

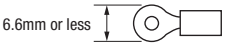
FDC90—155KXZEN1-W (Single-phase)



FDC112—155KXZES1-W (Three-phase)



- For cabling of the signal line terminal block, use crimp terminals of the figure shown below.



Remote control wiring specifications

(1) For the remote control the standard wire is 0.3mm² × 2 cores. The max. length is up to 600m. When the wire is more than 100m long, use the wire shown in the table.

Length (m)	Wire size
100 to 200	0.5mm² × 2 cores
to 300	0.75mm² × 2 cores
to 400	1.25mm² × 2 cores
to 600	2.0mm² × 2 cores

Main fuse specification

Specification	Part No.
250V 30A	SSA564A161

7. CONTROL SETTINGS

7-1. Unit address setting

This control system controls the controls of more than one air-conditioner's outdoor unit, indoor unit and remote control unit through communication control, using the microcomputers built in the respective controllers. Address setting needs to be done for both outdoor and indoor units. Turn on power in the order of the outdoor units and then the indoor units.

Use 1 minute as the rule of thumb for an interval between them.

The communication protocol can be choosen from following two types. One of them is the conventional Superlink (hereinafter previous SL) and the other is the new Superlink Ⅱ (hereinafter new SL). These two communication protocols have their advantages and restrictions as summarized in a table in "6. ELECTRICAL WIRING WORK" so please choose a desirable one meeting your installation conditions such as connected indoor units and center control.

When signal cables are connected into a network involving outdoor units, indoor units or center control equipment that do not support new SL, please select communications in the previous SL mode, even if the refrigerant system is separated from theirs.

When communication is established after setting addresses, check the communication protocol with the 7 segment display panel of the outdoor unit.

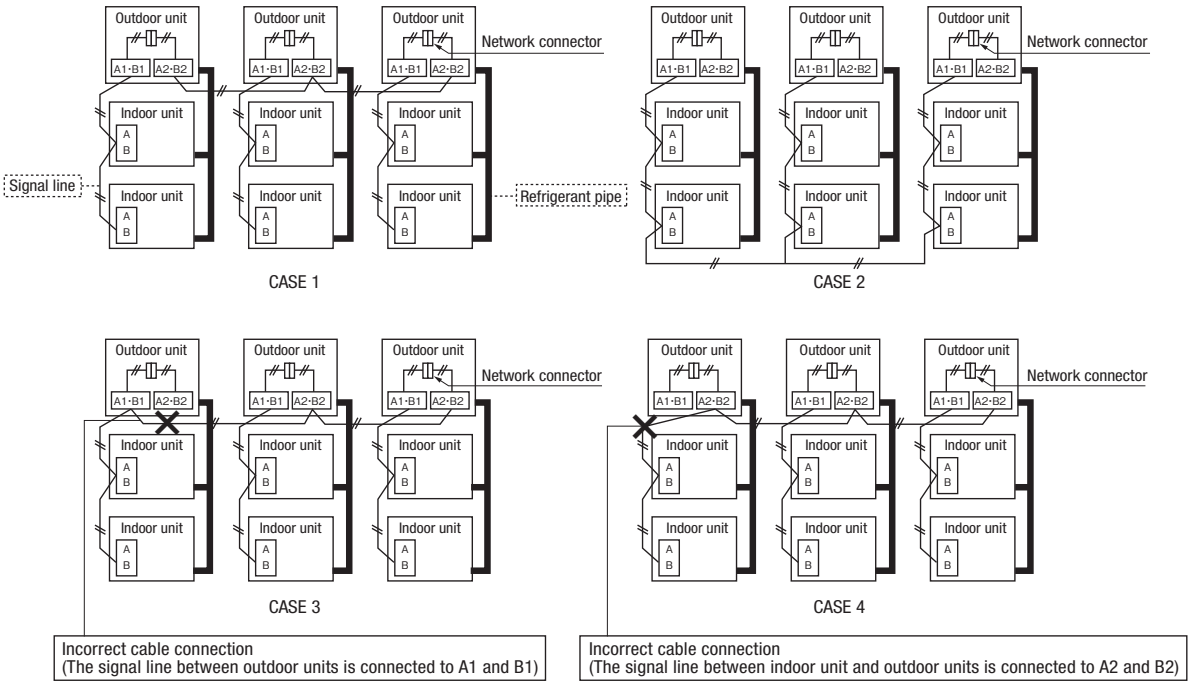
#

●Address setting methods

The following address setting methods can be used. The procedure for automatic address setting is different from the conventional one.
Please use the automatic address setting function after reading this manual carefully.

Communication protocol		new SL		previous SL	
Address setting method		Automatic	Manual	Automatic	Manual
When only one refrigerant system is involved (signal lines do not link with plural refrigerant systems)		OK	OK	OK	OK
When plural refrigerant systems are linked with signal lines (e.g., to implement center control)	Case 1 When signal lines linking plural refrigerant systems are provided between outdoor units. (When the network connector is disconnected, refrigerant systems are separated each other)	OK※1	OK	×	OK
	Case 2 When signal lines linking plural refrigerant systems are provided between indoor units.	×※2	OK	×	OK

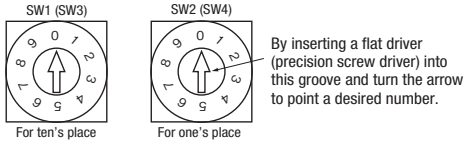
※1 Do not connect the signal line between outdoor units to A1 and B1. This may interrupt proper address setting. (Case 3)
Do not connect the signal line between indoor unit and outdoor unit to A2 and B2. This may interrupt proper address setting. (Case 4)
※2 In Case 2, automatic address setting is not available. Set addresses manually.



●Address No. setting

Set SW1 through 4 and SW5-2 provided on the PCB and SW1 & 2 provided on the outdoor unit PCB as shown in the drawings below.

Indoor PCB	SW1, 2 (blue)	For setting indoor No. (The ten's and one's)
	SW3, 4 (green)	For setting outdoor No. (The ten's and one's)
	SW5-2	Indoor No. switch (The hundred's Place) [OFF : 0, ON : 1]
Outdoor PCB	SW1, 2 (green)	For setting outdoor No. (The ten's and one's)



●Summary of address setting methods (figures in [ ] should be used with previous SL)

	Units supporting new SL			Units NOT supporting new SL		
	Indoor unit address setting		Outdoor unit address setting	Indoor unit address setting		Outdoor unit address setting
	Indoor No. switch	Outdoor No. switch	Outdoor No. switch	Indoor No. switch	Outdoor No. switch	Outdoor No. switch
Manual address setting (previous SL/new SL)	000—127[47](*1)	00—31[47]	00—31[47]	00—47	00—47	00—47
Automatic address setting for single refrigerant system installation (previous SL/new SL)	000	49	49	49	49	49
Automatic address setting for multiple refrigerant systems installation (with new SL only)	000	49	00—31	×	×	×

(*1) Do not set numbers other than those shown in the table, or an error may be generated.
Note: When units supporting new SL are added to a network using previous SL such as one involving FD◯A△△KXE4 series units, choose previous SL for the communication protocol and set addresses manually.

- An outdoor unit No., which is used to identify which outdoor unit and indoor units are connected in a refrigerant system, is set on outdoor unit PCB and indoor unit PCB. Give the same outdoor unit No. to all outdoor unit and indoor units connected in same refrigerant system.
- An indoor unit No. is used to identify individual indoor units. Assign a unique number that is not assigned to any other indoor units on the network.

#

Unless stated otherwise, the following procedures apply, when new SL is chosen for the communication protocol.
When previous SL is chosen, use figures shown in [ ] in carrying out these procedures.

Manual address setting Generally applicable to new SL/previous SL, use figures in [ ] with previous SL.

① Outdoor unit address setting
Set as follows before you turn on power. Upon turning on power, the outdoor unit address is registered.
Set **the Outdoor Unit No. switch to a number 00 - 31 [in the case of previous SL: 00 - 47]**.
Set a unique number by avoiding the numbers assigned to other outdoor units on the network.

② Indoor unit address setting
Set as follows before you turn on power. Upon turning on power, the indoor unit address is registered.
Set **the Indoor Unit No. switch to a number 000 - 127 [in the case of previous SL: 00 - 47]**.
Set **the Outdoor Unit No. switch** to the outdoor unit No. of the associated outdoor unit within the range of **00 - 31 [in the case of previous SL: 00 - 47].**
Set a unique number by avoiding the numbers assigned to other indoor units on the network.

③ Turn on power in order from the outdoor unit to indoor units. Give a one-minute or longer interval for them.
* When there are some units not supporting new SL connected in the network, set SW5-5 to ON to choose the previous SL communication mode.
In the case of previous SL, the maximum number of indoor units connectable in a network is 48.

Automatic address setting Generally applicable to new SL/previous SL, use figures in [ ] with previous SL.

With new SL, you can set indoor unit addresses automatically even for an installation involving multiple refrigerant systems connected with same network, in addition to the conventional automatic address setting of a single refrigerant system installation.
However, an installation must satisfy some additional requirements such as for wiring methods, so please read this manual carefully before you carry out automatic address setting.

(1) In the case of a single refrigerant system installation (Generally applicable to new SL/previous SL, use figures in [ ] with previous SL.)

① Outdoor unit address setting
Set as follows before you turn on power.
Make sure that the **Outdoor Unit No. switch** is set to **49 (factory setting)**

② Indoor unit address setting
Set as follows before you turn on power.
Make sure that the **Indoor Unit No. switch** is set to **000 [in the case of previous SL: 49] (factory setting)**
Make sure that the **Outdoor Unit No. switch** is set to **49 (factory setting)**

③ Turn on power in order from the outdoor unit to indoor units. Give a one-minute or longer interval for them. Unlike the procedure set out in (2) below, you need not change settings from the 7-segment display panel.

④ Make sure that the number of indoor units indicated on the 7-segment display panel agrees with the number of the indoor units that are actually connected to the refrigerant system.

(2) In the case of a multiple refrigerant systems installation (Applicable to new SL only. In the case of previous SL, set addresses with some other method.)

(This option is available when the interconnection wiring among refrigerant systems is on the outdoor side and new SL is chosen as the communication protocol.)

Address setting procedure (perform these steps for each outdoor unit)

[STEP1] (Items set before turning on power)

① Outdoor unit address setting
Set as follows before you turn on power.
Set the **Outdoor Unit No. switch** to a number **00 - 31**. Set a unique number by avoiding the numbers assigned to other outdoor units on the network.

② Indoor unit address setting
Set as follows before you turn on power.
Make sure that the **Indoor Unit No. switch** is set to **000 (factory setting)**
Make sure that the **Outdoor Unit No. switch** is set to **49 (factory setting)**

③ Isolate the present refrigerant system from the network.
Disengage the **network connectors (white 2P)** of the outdoor units. (Turning on power without isolating each refrigerant system will result in erroneous address setting.)

[STEP2] (Power on and automatic address setting)

④ Turn on power to the outdoor unit
Turn on power in order from the outdoor unit to indoor units. Give a one-minute or longer interval for them.

⑤ Select and enter "1" in P31 on the 7-segment display panel of each outdoor unit to input "Automatic address start."

⑥ Input a starting address and the number of connected indoor units.
Input a starting address in P32 on the 7-segment display panel of each outdoor unit.

⑦ When a starting address is entered, the display indication will switch back to the "Number of Connected Indoor Units Input" screen.
Input the number of connected indoor units from the 7-segment display panel of each outdoor unit. Please input the number of connected indoor units for each outdoor unit. (You can input it from P33 on the 7-segment display panel.)When the number of connected indoor units is entered, the 7-segment display panel indication will switch to "AUX" and start flickering.

[STEP3] (Automatic address setting completion check)

⑧ Indoor unit address determination

When the indoor unit addresses are all set, the 7-segment display panel indication will switch to "AUE" and start flickering.
If an error is detected in this process, the display will show "A○○."
Check the 7-segment display panel of each outdoor unit.
Depending on the number of connected indoor units, it may take **about 30 minutes** before the indoor unit addresses are all set.

[STEP4] (Network definition setting)

⑨ Network connection
When you have confirmed an "AUE" indication on the display of each outdoor unit, **engage the network connectors** again.

⑩ Network polarity setting

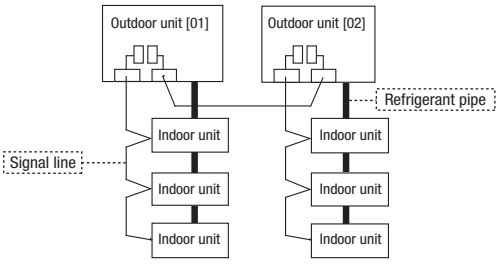
After you have made sure that the network connectors are engaged, select and enter "1" in P34 on the 7-segment display panel of **any outdoor unit (on only 1 unit)** to specify network polarity.

⑪ Network setting completion check
When the network is defined, "End" will appear on the 7-segment display panel. An "End" indication will go off, when some operation is made from the 7-segment display panel or 3 minutes after.

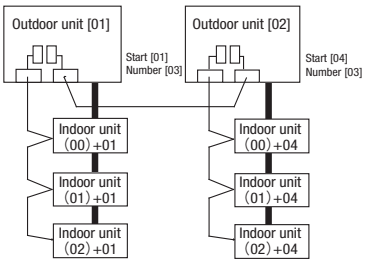
#

	STEP1	STEP2	STEP3	STEP4
Indoor unit power source	②OFF	④ON	—	—
Outdoor unit power source	①OFF	④ON	—	—
Indoor unit (indoor/outdoor No.Switch)	②indoor000/outdoor 49 (factory setting)	—	—	—
Outdoor unit (outdoor No.Switch)	①01,02(Ex)	—	—	—
Network connectors	③Disconnect(each outdoor unit)	—	—	⑨Connect(each outdoor unit)
Start automatic address setting		⑤ Select "Automatic Address Start" on each outdoor unit.		
Set starting address		⑥outdoor 01:「01」(Ex) outdoor 02:「04」(Ex)	—	—
Set the number of indoor unit		⑦outdoor 01:「03」(Ex) outdoor 02:「03」(Ex)	—	—
Polarity setting		—	—	⑩ Set in P34 on the 7-segment display panel of any outdoor unit.
7-segment display		⑦ 「AUX」 (Blink)	⑧ "AUE"(blink), or "A○○" in error events.	⑪ 「End」

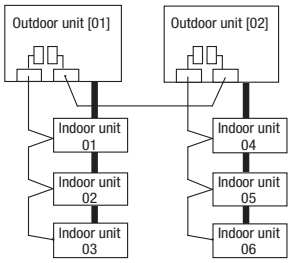
[STEP1]



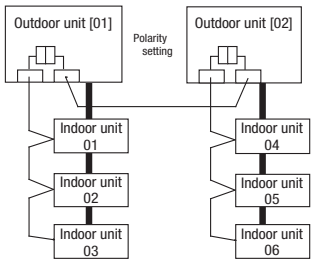
[STEP2]



[STEP3]



[STEP4]



- Within a refrigerant system, indoor units are assigned addresses in the order they are recognized by the outdoor unit. Therefore, they are not necessarily assigned addresses in order from the nearest to the outdoor unit first as depicted in drawings above.
- Make sure that power has been turned on to all indoor units.
- When addresses are set, you can have the registered indoor unit address No.'s and the outdoor unit address No. displayed on the remote control unit by pressing its Inspection switch.
- Automatic address setting can be used for an installation in which prulal indoor units are controlled from one remote control unit.
- Once they are registered, addresses are stored in microcomputers, even if power is turned off.
- If you want to change an address after automatic address setting, you can change it from the remote control unit with its "Address Change" function or by means of manual setting. Set a unique address by avoiding the address assigned to other indoor unit on the network when the address is changed.
- Do not turn on power to central control equipment until automatic address setting is completed.
- When addresses are set, be sure to perform a test run and ensure that you can operate all indoor and outdoor units normally. Also check the addresses assigned to the indoor units.

Address change (available only with new SL)

"Address Change" is used, **when you want to change an indoor unit address assigned with the "Automatic Address Setting" function from a remote control unit**. Accordingly, the conditions that permit an address change from a remote control unit are as follows.

	Indoor unit address setting		Outdoor unit address setting
	Indoor No.SW	Outdoor No.SW	Outdoor No.SW
Automatic address setting forsingle refrigerant system installation	000	49	49
Automatic address setting for multiple refrigerant systems installation	000	49	00—31

If "CHANGE ADD. ▼" is selected with some addresses falling outside these conditions, the following indication will appear for 3 seconds on the remote control "INVALID OPER".

#

Operating procedure

(1) When single indoor unit is connected to the remote control.

	Item	Operation	Display
1	Address change mode	① Press the AIR CON No. switch for 3 seconds or longer.	[CHANGE ADD.▼]
		② Each time when you press the ▲▼ switch, the display indication will be switched.	[CHANGE ADD.▼] ⇔[MASTER I/U▲]
		③ Press the Set switch when the display shows "CHANGE ADD. ▼" and then start the address change mode, changing the display indication to the "Indoor Unit No. Setting" screen from the currently assigned address.	[I/U 001 O/U 01] (1sec) →[▲▼ SET I/U ADD.] (1sec) →[I/U 001 ▲▼] (Blink)
2	To set a new indoor unit No.	④ Set a new indoor unit No. with the ▲▼ switch. A number indicated on the display will increase or decrease by 1 upon pressing the ▲ or ▼ switch respectively.	[I/U 000▲] ⇔[I/U 001] ⇔[I/U 002] ⇔ ・・・ ⇔[I/U 127▼]
		⑤ After selecting an address, press the Set switch, and then the indoor unit address No. is defined.	[I/U 002] (2sec)
3	To set a new outdoor unit No.	⑥ After showing the defined indoor address No. for 2 seconds, the display will change to the "Outdoor Address No. Setting" screen. The currently assigned address is shown as a default value.	[I/U 002] (2sec Lighting) →[▲▼ SET O/U ADD.] (1sec) →[O/U 01 ▲▼] (Blink)
		⑦ Set a new outdoor unit No. with the ▲▼ switch. A number indicated on the display will increase or decrease by 1 upon pressing the ▲ or ▼ switch respectively.	[O/U 00▲] ⇔[O/U 01 ▲▼] ⇔[O/U 02 ▲▼] ⇔ ・・・ ⇔[O/U 31▼]
		⑧ After selecting an address, press the Set switch, and then the outdoor unit No. and the indoor unit No. are defined.	[I/U 002 O/U 02] (2sec Lighting) →[SET COMPLETE] (2sec Lighting) →Returns to normal condition.

(2) When plural indoor units are connected to the remote control.

When plural indoor units are connected, you can change their addresses without altering their cable connection.

	Item	Operation	Display
1	Address change mode	① Press the AIR CON Unit No. switch for 3 seconds or longer.	[CHANGE ADD▼]
		② Each time when you press the ▲▼ switch, the display indication will be switched.	[CHANGE ADD▼] ⇔[MASTER I/U▲]
		③ Press the Set switch when the display shows "CHANGE ADD. ▼" The lowest indoor unit No. among the indoor units connected to the remote control unit will be shown.	[▲▼ SELECT I/U] (1sec) →[I/U 001 O/U 01▲] (Blink)
2	Selecting an indoor unit to be changed address	④ Pressing the ▲▼ switch will change the display indication cyclically to show the unit No.'s of the indoor units connected to the remote control and the unit No.'s of the outdoor units connected with them.	[I/U 001 O/U 01▲] ⇔[I/U 002 O/U 01 ▲▼] ⇔[I/U 003 O/U 01 ▲▼] ⇔ ・・・ ⇔[I/U 016 O/U 01▼]
		⑤ Then the address No. of the indoor unit to be changed is determined and the screen switches to the display " ▲▼ SET I/U ADD."	[▲▼ SET I/U ADD.] (1sec) →[I/U 001▲▼](Blink)
3	Setting a new indoor unit No.	⑥ Set a new indoor unit No. with the ▲▼ switch. A number indicated on the display will increase or decrease by 1 upon pressing the ▲ or ▼ switch respectively.	[I/U 000▲] ⇔[I/U 001 ▲▼] ⇔[I/U 002 ▲▼] ⇔ ・・・ ⇔[I/U 127▼]
		⑦ After selecting an address, press the Set switch. Then the address No.of the indoor unit is determined.	[I/U 002] (2sec)
4	Setting a new outdoor unit No.	⑧ The display will indicate the determined indoor address No. for 2 seconds and then switch to the " ▲▼ SET O/U ADD." screen. A default value shown on the display is the current address.	[I/U 002] (2sec lighting) ⇔[▲▼ SET O/U ADD.](1sec) ⇔[O/U 01 ▲▼] (Blink)
		⑨ Set a new outdoor unit No. with the ▲▼ switch. A number indicated on the display will increase or decrease by 1 upon pressing the ▲ or ▼ switch respectively.	[O/U 00▲] ⇔[O/U 01 ▲▼] ⇔[O/U 02 ▲▼] ⇔ ・・・ ⇔[O/U 31▼]
		⑩ After selecting an address, press the Set switch. Then the address of the indoor unit and outdoor unit are determined.	[I/U 002 O/U 02](2sec lighting) →[▲▼ SELECT](1sec lighting) →[I/U SELECTION▼](lighting)
		⑪ If you want to continue to change addresses, return to step ④.	[Press the ▲▼ switch](1sec) →[SET COMPLETE] (2—10sec lighting)
5	Ending the session	⑫ If you want to end the session (and reflect new address settings) In Step ⑩, press the ▼ switch to select "END ▲." If you have finished changing addresses, press the Set switch while "END ▲" is shown. While new settings are being transmitted, "SET COMPLETE" will be indicated. Then the remote control display will change to the normal state.	[END▲] →[SET COMPLETE] (2—10sec lighting) →Normal state
		⑬ If you want to end the session (without reflecting new address settings) Before you complete the present address setting session, press the "ON/OFF" switch. Then the display is change to exit from this mode and switch the display to the normal state. All address settings changed in the session will be aborted and not reflected.	[ON/OFF] →Forced termination

The ▲▼ switch will continuously change the display indication to the next one in every 0.25 seconds when it is pressed for 0.75 seconds or longer.
If the Reset switch is pressed during an operation, the display indication returns to the one that was shown before the last Set switch operation.
Even if an indoor unit No. is changed in this mode, the registered indoor unit No. before address change mode is displayed when [I/U SELECTION▼] is shown.
When "SET COMPLETE" is shown, indoor unit No.'s are registered.

NOTICE Turn on power to centralized control equipment after the addresses are determined.
Turning on power in wrong order may result in a failure to recognize addresses.

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● 7-segment display indication in automatic address setting

Items that are to be set by the customer

Code	Contents of a display
P30	Communication protocol 1: New SL mode 0: previos SL mode (The communication plotocol is displayed ; display only)
P31	Automatic address start 0: Automatic address standby 1: Automatic address start
P32	Input starting address Specify a starting indoor unit address in automatic address setting.
P33	Input number of connected indoor units Specify the number of indoor units connected in the refrigerant system in automatic address setting.
P34	Polarity difinition 0: Network polarity not defined. 1: Network polarity defined.

7-segment display indication in automatic address setting.

Code	Contents of a display
AUX	During automatic address setting. X: The number of indoor units recognized by the outdoor unit.
AUE	Indoor unit address setting is completed normally.
End	Polarity is defined. (Automatic address) Completed normally.

Address setting failure indication

Code	Contents of a display	Please check
A00	Unable to find any indoor unit that can be actually communicated with.	Are signal lines connected properly without any loose connections? Is power for indoor units all turned on?
A01	The number of the indoor units that can be actually communicated with is less than the number specified in P33 on the 7-segment display panel.	Are signal lines connected properly without any loose connections? Are the network connectors coupled properly? Input the number of connected indoor units again.
A02	The number of the indoor units that can be actually communicated with is more than the number specified in P33 on the 7-segment display panel.	Are signal lines connected properly without any loose connections? Are the network connectors coupled properly? Input the number of connected indoor units again.
A03	Starting address (P32) + Number of connected indoor units (P33) > 128	Input the starting address again. Input the number of connected indoor units again.
A04	While some units are operating in the previous SL mode on the network, the automatic address setting on multiple refrigerant systems is attempted.	Perform manual address setting. Arrange all units to operate in the new SL.

Error indication

Code	Contents of a display	Cause
E2	Duplicating indoor unit address.	・Incorrect manual address setting
E3	Incorrect pairing of indoor-outdoor units.	・An outdoor unit number that does not exist in the network is specified ・No master unit exists in combination outdoor unit.
E11	Address setting for plural remote controllers.	・Indoor unit address is set from plural remote controls.
E12	Incorrect adderess setting of indoor units.	・Automatic address setting and manual address setting are mixed.
E31	Duplicating outdoor unit address.	・Plural outdoor units are exist as same address in same network.
E46	Incorrect setting.	・Automatic address setting and manual address setting are mixed.

7-2. CONTROL SWITCHING

Outdoor unit control settings can be changed with the dipswitch and 7-segment display P○○ setting on the PCB. In changing settings in P○○ on the 7-segment display panel, you can use SW8 (increasing a number shown on the 7-segment display panel: one's place), SW9 (increasing a number shown on the 7-segment display panel: tens place) and SW7 (data write/enter) by pressing them for a prolonged time.

Contents of Control switching	Method of control setting	
	Dipswitch SW setting	P○○ setting on the 7-segment display panel.
Forced cooling/heating mode*2	Switch SW3-7 to ON※1	Select "2" in P07. *1
Cooling test operation	Switch SW5-1 to ON + SW5-2 to ON	—
Heating test operation	Switch SW5-1 to ON + SW5-2 to OFF	—
Pump down	Close the outdoor unit service valves and perform the following operations in the stated order: (1) Switch SW5-2 to ON (2) Switch SW5-3 to ON (3) Switch SW5-1 to ON	—
Demand mode *2 (J13 closed: level input / J13 opened: pulse input)	SW4-7:OFF, SW4-8:OFF※1 80% (factory setting) SW4-7:ON , SW4-8:OFF※1 60% SW4-7:OFF, SW4-8:ON※1 40% SW4-7:ON , SW4-8:ON※1 00%	Select "1" in P07. *1
Communication protocol setting	SW5-5 ON: previous SL communication, OFF: new SL communication	—
CnS1 input setting	J13: closed (factory setting) for level input, J13: opened for pulse input	—
Defrost setting	J15: closed (factory setting) for normal defrost, J15: opened for enhanced defrost	—
Operation priority change	—	P01 0: First unit's operation mode 1: Last unit's operation mode 2: Priority of master unit's setting operation mode 3: Priority of required major operation mode
Outdoor fan snow guard control	—	P02 0: invalid (factory setting) 1: valid
Outdoor fan snow guard control operation time setting	—	P03 30sec (factory setting) 10, 30—600sec
Capacity save mode *3	—	P04 OFF: invalid (factory setting) 000, 040, 060, 080 [%]
Silent mode setting *2	—	P05 0 (factory setting) – 3: the larger the number, the stronger the effect.
External output (CnZ1) function assignment	—	P06
External input (CnS1) function assignment	—	P07
Spare	—	P08—29

*1 The switching is activated when both SW and P○○ are changed.
*2 The switching is activated when a signal is input to CnS1.
*3 Capacity restriction is effected without a signal input to CnS1 in the capacity save mode.

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The external input function of CnS1 can be changed by changing the setting in P07 on the 7-segment display panel. When a signal is input to CnS1, the following functions are enabled.

	CnS1 closed	CnS1 opened
"0" : External operation input	Operation permitted	Operation prohibition
"1" : Demand input	Invalid	Valid
"2" : Cooling/heating forced input	Heating	Cooling
"3" : Silent mode input 1 *1	Valid	Invalid
"4" : Spare	–	–
"5" : Outdoor fan snow guard control input	Valid	Invalid
"6" : Test run external input 1 (equivalent to SW5-1)	Test run start	Normal operation
"7" : Test run external input 2 (equivalent to SW5-2)	Cooling test run	Heating test run
"8" : Silent mode 2 *2	Valid	Invalid
"9" : Spare	–	–

*1 Switch valid/invalid depending on the outdoor temperature.
*2 Any time valid not depending on the outdoor temperature.

The external output function of CnZ1 can be changed by changing the setting in P06 on the 7-segment display panel.

"0" : Operation output
"1" : Error output
"2" : Compressor ON output
"3" : Fan ON output
"4 – 9" : Spare

7-3. External input and output specifications.

Contents	Specification	Connector on PCB
External input CnS1	Non-voltage contact (DC12V)	J.S.T(NICHIATSU) B02B-XAKS-1-T
External output CnZ1	DC12V output	MOLEX 5566-02A-RE

8. TEST OPERATION

Before beginning operation

(1) **Make sure that a measurement between the power source terminal block and ground, when measured with a 500V megger tester, is greater than 1 MΩ.**
When the unit is left for a long time with power OFF or just after the installation, there is possibility that the refrigerant is accumulated in the compressor and the insulation resistance between the contact terminals for power source and grounding decreases to 1MΩ or around.
When the insulation resistance is 1MΩ or more, the insulation resistance will rise with crank case heater power ON for 6 hours or more because the refrigerant in the compressor is evaporated.
(2) Please check the resistance of the signaling line terminal block before power is turned on. If a resistance measurement is 100Ω or less, it suggests a possibility that power cables are connected to the signaling line terminal block. (Please check wiring refer to section 6.ELECTRICAL WIRING WORK)
(3) **Be sure to turn on the crank case heater 6 hours before operation.**
(4) **Make sure that the bottom of the compressor casing is warm.** (Outdoor temperature + 5℃ or more)
(5) Be sure to fully open the service valves (liquid, gas) for the outdoor unit.
Operating the outdoor unit with the valves closed may damage the compressor.
(6) **Check that the power to all indoor units has been turned on. If not, a failure may occur.**

> **CAUTION**
> Please make sure that the service valves (gas, liquid) are full open before a test run. Conducing a test run with any of them in a closed position can result in a compressor failure.

Check operation

It is recommended to practice the check operation before the test run.
(You may test run or perform normal operation even if the check operation is not performed.)
For details of check operation, refer to the technical manual.

Important:

- Before starting the check operation, complete the address setting of indoor and outdoor units and the refrigerant charge.
- You cannot check precisely unless proper quantity of refrigerant is charged.
- You cannot perform the check operation when the system is stopped under abnormal condition.
- You cannot perform the check operation when total capacity of connected indoor units is less than 80% of outdoor units.
- You cannot perform the check operation if the communication protocol is previous SL.
- Don't perform the check operation at the same time on a plural number of refrigerant systems. You cannot check precisely.
- Perform the check operation within the applicable temperature range (Outdoor air temperature: 0 - 43℃, indoor air temperature: 10 - 32℃). You cannot start the check operation if it is out of the applicable temperature range.
- You cannot check the fresh air ventilation indoor unit. (You can check indoor units other than the fresh air ventilation indoor unit on the same refrigerant system.)
- You cannot performe the check operation if the connected indoor unit is only one in one refrigerant system.
- You cannot performe the check operation if it is set at 0% in the demand mode or capacity save mode.

(1) Check item

Check operation allows confirming the following points.

- Whether the service valve is closed or not (Open/close check)
- Whether refrigerant pipes and signal line are connected properly on indoor/outdoor units or not (Mismatch check)
- Whether the indoor unit expansion valve operates properly or not (Expansion valve failure check)

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(2) Procedure of check operation

(a) Start of check operation

- Confirm that all of SW3-7 (Forced cooling/heating mode), SW-5-1 (Test run), SW5-2 (Test run cooling setting) and SW5-3 (Pump-down operation) are turned OFF.
- Change then SW3-5 (Check operation) OFF→ON to start the check operation.
- It takes normally about 15 - 30 minutes from the start to the end of check operation. (Max. 80 minutes)

(b) Termination of check operation and result display

- As the check operation terminates, the system stops automatically and displays the result on the 7-segment indicator.

<Normal termination>

- "CHO End" is shown on the 7-segment indicator.
- Return SW3-5 to OFF setting. 7-segment indicator returns to normal display.

<Termination by error>

- Error is displayed on the 7-segment indicator.
- Correct the abnormal condition referring to the "Check Point" column, and return SW3-5 to OFF.
- Restart then the check operation from (2) (a).

7-segment display during check operation

Code	Data	Content
H1	Max. remaining time	• Preparing for check operation. Indicates the maximum remaining time (minute).
H2	Max. remaining time	• During the check operation. Indicates the maximum remaining time (minute).
CHO	End	• Normal termination of check operation.

Display on 7-segment indicator after check operation

Code	Data	Content	Check Point
CHL	– – –	Service valve is closed. (Refrigerant circuit is choked somewhere.)	• Is the service valve of outdoor unit closed? • Is the low pressure sensor normal? (Detection pressure can be confirmed on 7-segment indicator.) • Is the coil connector of indoor unit expansion valve connected? • Is the expansion valve coil of indoor unit detached from the valve body? • Is the heat exchanger sensor of indoor unit normal? (Check for sensor disconnection.)
CHU	Abnormal indoor unit No.	Mismatch of refrigrant pipes/signal line. Refrigerant is not circulated in the abnormal indoor unit.	• Are refrigerant pipes/signal line connected properly between indoor and outdoor units? • Is the coil connector of indoor unit expansion valve connected? • Is the expansion valve coil of indoor unit detached from the valve body? • Is the heat exchanger sensor of indoor unit normal? (Check for sensor disconnection.)
CHJ	Abnormal indoor unit No.	Expansion valve does not operate properly on the abnormal indoor unit.	• Is the coil connector of indoor unit expansion valve connected? • Is the expansion valve coil of indoor unit detached from the valve body? • Is the heat exchanger sensor of indoor unit normal? (Check for sensor disconnection.)
CHE	– – –	Termination of check operation by error	• Is any error (E??) indicated on indoor or outdoor units? • Is signal line connected without loose? • Was any SW setting changed during check operation?
CHE	Abnormal indoor unit No.	Termination of check operation by error. Indicated indoor unit is under abnormal condition.	• Is any error (E??) indicated on indoor or outdoor units? • Is signal line connected without loose? • Is the power source turned ON at the indoor unit side?

*Errors other than the above may be indicated by the detection of error. In such occasion, correct the matter by referring to the technical manual.
*Code and Data are indicated alternately by 4-second intervals.

Test operation

(1) Test run from an outdoor unit.

Whether CnS1 is set to ON or OFF, you can start a test run by using the SW5-1 and SW5-2 switches provided on the outdoor unit PCB.
Select the test run mode first.
Please set SW5-2 to ON for a cooling test run or OFF for a heating test run. (It is set to OFF at the factory for shipment)
Turning SW5-1 from OFF to ON next will cause all connected indoor units to start.
When a test run is completed, please set SW5-1 to OFF.
Note: During a test run, an indoor unit cannot be operated from the remote control unit (to change settings). ("Under centralized control" is indicated)

(2) Method of starting a test run for a cooling operation from an outdoor unit: please operate a remote control unit according to the following steps.

(a) Start of a cooling test run

○Operate the unit by pressing the START/STOP button.
○Select the "COOLING" mode with the MODE button.
○Press the TEST RUN button for 3 seconds or longer.
The screen display will be switched from "Select with ITEM ◆" →"Determine with SET"→"Cooling test run▼."
○When the SET button is pressed while "Cooling test run▼ " is displayed, a cooling test run will start. The screen display will be switched to "COOLING TEST RUN."

(b) Termination of a cooling test run

○When the START/STOP button or the "TEMP SET ▽△ " button is pressed, a cooling test run will be terminated.

Transfer

- Use the instruction manual that came with the outdoor unit to explain the operation method to the customer.
  Please ask the customer to keep this installation manual together with the user's manual of his indoor units.
- Instruct the customer that the power should not be turned off even if the unit is not to be used for a long time. This will enable operation of the air-conditioner any time. (Since the compressor bottom is warmed by the crank case heater, seasonal compressor trouble can be prevented.)

9. CAUTIONS FOR SERVICING (for R32 and compatible machines)

(1) To avoid mixing of different types of oil, use separate tools for each type of refrigerant.
(2) To avoid moisture from being absorbed by the ice machine oil, the time for when the refrigerant circuit is open should be kept as short as possible.
(Within 10 min. is ideal.)
(3) For other piping work, airtighteness testing , vacuuming, and refrigerant charging, refer to section 4, REFRIGERANT PIPING.
(4) Diagnostic Inspection Procedures
For the meanings of failure diagnosis messages, please refer to the technical manual.
(5) 7-segment LED indication
Data are indicated when so chosen with the indication selector switch. For the details of indication, please refer to the technical manual.

2.5.2 Safety precautions in handling air-conditioners with flammable refrigerant

R32 REFRIGERANT USED

PSA012B839G G

	This equipment uses flammable refrigerants. If the refrigerant is leaked, together with an external ignition source, there is a possibility of ignition.		There is information included in the user's manual and/or installation manual.
	The user's manual should be read carefully.		A service personnel should be handing this equipment with reference to the installation manual.

- This safety precaution sheet is for R32 refrigerant. If you want to know the type of refrigerant in the unit, check the label attached to the outdoor unit.
- 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.

⚠ WARNING

- Strict compliance of the domestic laws must be observed when disposing the appliance.
- Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer.
- The appliance shall be stored in a room without continuously operating ignition sources (for example: open flames, an operating gas appliance or an operating electric heater.
- Do not pierce or burn.
- Be aware that refrigerants may not contain an odour.
- The ducts connected to an appliance shall not contain a potential ignition source.

⚠ CAUTION

1. General

- The installation of pipe-work shall be kept to a minimum.
- Pipe-work shall be protected from physical damage.
- Compliance with national gas regulations shall be observed.
- Mechanical connections shall be accessible for maintenance purposes.
- Keep any required ventilation openings clear of obstruction.
- Servicing shall be performed only as recommended by the manufacturer.
- Equipment piping in the occupied space shall be installed in such a way to protect against accidental damage in operation and service.
- Precautions shall be taken to avoid excessive vibration or pulsation to refrigerating piping.
- Protection devices, piping and fitting shall be protected as far as possible against adverse effects for example, the danger of water collection and freezing in relief pipes or the accumulation of dirt and debris.
- Provision shall be made for expansion and contraction of long runs of piping.
- Piping in refrigerating systems shall be designed and installed to minimize the likelihood hydraulic shock damaging the system.
- The indoor equipment and pipes shall be securely mounted and guarded to avoid accidental rupture of equipment from moving furniture or reconstruction activities.
- Instructions for wiring to external zoning dampers and/or mechanical ventilation, to ensure that upon detection of a leak, the zoning dampers are driven fully open and additional mechanical ventilation is activated.
- For appliances using A2L refrigerants, connected via an air duct system to one or more rooms, the supply and return air shall be directly ducted to the space. Open areas such as false ceilings shall not be used as a return air duct.
- The following information requirements apply for enhanced tightness refrigerating systems using A2L refrigerants.
- Where safety shut off valves are specified, the minimum room area may be determined based on the maximum amount of refrigerant that can be leaked as determined in GG.12.2. (IEC 60335-2-40:2018)
- Where safety shut off valves are specified, the location of the valve in the refrigerating system relative to the occupied spaces shall be as described in GG.12.1.(IEC 60335-2-40:2018)

2. Unventilated areas

- The appliance shall be stored in a well-ventilated area where the room size corresponds to the room area as specified for operation.
- If the refrigerant charge amount in the system is ≧1.84 kg, an unventilated area where the appliance is installed shall be so constructed that should any refrigerant leak, it will not stagnate so as to create a fire or explosion hazard.

3. Qualification of workers

- The staff in servicing operations must hold the national qualification or other relevant qualifications.

4. Information on servicing

4.1 Checks to the area
- Prior to beginning work on systems containing flammable refrigerants, safety checks are necessary to ensure that the risk of ignition is minimised.
- For repair to the refrigerating system, 4.2 to 4.6 shall be completed prior to conducting work on the system.

4.2 Work procedure
- Work shall be undertaken under a controlled procedure so as to minimise the risk of a flammable gas or vapour being present while the work is being performed.

4.3 General work area
- All maintenance staff and others working in the local area shall be instructed on the nature of work being carried out.
- Work in confined spaces shall be avoided.

4.4 Checking for presence of refrigerant
- The area shall be checked with an appropriate refrigerant detector prior to and during work, to ensure the technician is aware of potentially toxic or flammable atmospheres.
- Ensure that the leak detection equipment being used is suitable for use with all applicable refrigerants, i.e. non-sparking, adequately sealed or intrinsically safe.

4.5 Presence of fire extinguisher
- If any hot work is to be conducted on the refrigerating equipment or any associated parts, appropriate fire extinguishing equipment shall be available to hand. Have a dry powder or CO_2 fire extinguisher adjacent to the charging area.

4.6 No ignition sources
- No person carrying out work in relation to a refrigerating system which involves exposing any pipe work shall use any sources of ignition such a manner that it may lead to the risk of fire or explosion.
- All possible ignition sources, including cigarette smoking, should be kept sufficiently far away from the site of installation, repairing, removing and disposal, during which refrigerant can possibly be released to the surrounding space.
- Prior to work taking place, the area around the equipment is to be surveyed to make sure that there are no flammable hazards or ignition risks.
- "No Smoking" signs shall be displayed.

4.7 Ventilated area
- Ensure that the area is in the open or that it is adequately ventilated before breaking into the system or conducting any hot work.
- A degree of ventilation shall continue during the period that the work is carried out.
- The ventilation should safely disperse any released refrigerant and preferably expel it externally into the atmosphere.

4.8 Checks to the refrigerating equipment
- Where electrical components are being changed, they shall be fit for the purpose and to the correct specification.
- At all times the manufacturer's maintenance and service guidelines shall be followed.
- If in doubt consult the manufacturer's technical department for assistance.

- The following checks shall be applied to installations using flammable refrigerants:
  - the actual refrigerant charge size is in accordance with the room size within which the refrigerant containing parts are installed.
  - the ventilation machinery and outlets are operating adequately and are not obstructed;
  - if an indirect refrigerating circuit is being used, the secondary circuit shall be checked for the presence of refrigerant,
  - marking to the equipment continues to the visible and legible. Markings and signs that are illegible shall be corrected,
  - refrigerating pipe or components are installed in a position where they are unlikely to e exposed to any substance which may corrode refrigerant containing components, unless the components are constructed of materials which are inherently resistant to being corroded or are suitably protected against being so corroded.

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⚠ CAUTION

4.9 Checks to electrical devices
- Repair and maintenance to electrical components shall include initial safety checks and component inspection procedures.
- If a fault exists that could compromise safety, then no electrical supply shall be connected to the circuit until it is satisfactorily dealt with.
- It the fault cannot be corrected immediately but it is necessary to continue operation, an adequate temporary solution shall be used.
- This shall be reported to the owner of the equipment so all parties are advised.
- Initial safety checks shall include:
  – that capacitors are discharged: this shall be done in a safe manner to avoid possibility of sparking;
  – that no live electrical components and wiring are exposed while changing, recovering or purging the system.
  – that there is continuity of earth bonding.

5. Repairs to sealed components

- During repairs to sealed components, all electrical supplies shall be disconnected from the equipment being worked upon prior to any removal of sealed covers, etc.
- If it is absolutely necessary to have an electrical supply to equipment during servicing then a permanently operating from of leak detection shall be located at the most critical point to warm of a potentially hazardous situation.
- Particular attention shall be paid to the following to ensure that by working on electrical components, the casing is not altered in such a way that the level of protection is affected.
  This shall include damage to cables, excessive number of connections, terminals not made to original specification, damage to seals, incorrect fitting of glands, etc.
- Ensure that the apparatus is mounted securely.
- Ensure that seals or sealing materials have not degraded to the point that they no longer serve the purpose of preventing the ingress of flammable atmospheres.
- Replacement parts shall be in accordance with the manufacturer's specifications.

6. Repair to intrinsically safe components

- Do not apply any permanent inductive or capacitance loads to the circuit without ensuring that this will not exceed the permissible voltage and current permitted for the equipment in use.
- Intrinsically safe components are the only types that can be worked on while live in the presence of a flammable atmosphere.
- The test apparatus shall be at the correct rating.
- Replace components only with parts specified by the manufacturer.
- Other parts may result in the ignition of refrigerant in the atmosphere from a leak.

NOTE
The use of silicone sealant can inhibit the effectiveness of some types of leak detection equipment. Intrinsically sate components do not have to be insulated prior to working on them.

7. Cabling

- Check that cabling will not be subject to wear, corrosion, excessive pressure, vibration, sharp edges or any other adverse environmental effects. The check shall also take into account the effects of aging or continual vibration from sources such as compressors or fans.

8. Detection of flammable refrigerants

- Under no circumstances shall potential sources of ignition be used in the searching for or detection of refrigerant leaks.
- A halide torch (or any other detector using a naked flame) shall not be used.
- Electronic leak detectors may be used to detect refrigerant leaks but, in the case of flammable refrigerants, the sensitivity may not be adequate, or may need re-calibration. (Detection equipment shall be calibrated in a refrigerant-free area.)
- Ensure that the detector is not a potential source of ignition and is suitable for the refrigerant used.
- Leak detection equipment shall be set at a percentage of the LFL of the refrigerant and shall be calibrated to the refrigerant employed, and the appropriate percentage of gas (25 % maximum) is confirmed.
- Leak detection fluids are suitable for use with most refrigerants but the use of detergents containing chlorine shall be avoided as the chlorine may react with the refrigerant and corrode the copper pipe-work.

Examples of leak detection fluids are
– bubble method
– fluorescent method agents

- If a leak is suspected, all naked flames shall be removed/extinguished.
- If a leakage of refrigerant is found which requires brazing, all of the refrigerant shall be recovered from the system, or isolated (by means of shut off valves) in a part of the system remote from the leak.
- Removal of refrigerant shall be according to Item.9.

9. Removal and evacuation

- When breaking into the refrigerant circuit to make repairs - or for any other purpose - conventional procedures shall be used. However, for flammable refrigerants it is important that best practice is followed since flammability is a consideration.
- The following procedure shall be adhered to:
  – remove refrigerant;
  – purge the circuit with inert gas; (optional for A2L)
  – evacuate;(optional for A2L)
  – purge with inert gas ;(optional for A2L)
  – open the circuit by cutting or brazing.
- The refrigerant charge shall be recovered into the correct recovery cylinders.
- For appliances containing flammable refrigerants, other than A2L refrigerants, the system shall be "flushed" with OFN to render the unit safe for flammable refrigerants.
- This process may need to be repeated several times.
- Compressed air or oxygen shall not be used for purging refrigerant systems.
- For appliances containing flammable refrigerants. other than A2L refrigerants, refrigerants purging shall be achieved by breaking the vacuum in the to system with oxygen-free nitrogen and continuing fill until the working pressure is achieved, then venting to atmosphere, and finally pulling down to a vacuum.
- This process shall be repeated until no refrigerant is within the system.
- When the final oxygen-free nitrogen charge is used, the system shall be vented down to atmospheric pressure to enable work to take place.
- This operation is absolutely vital if brazing operations on the pipe-work are to take place.
- Ensure that the outlet for the vacuum pump is not close to any ignition sources and that ventilation is available.

10. Charging procedures

- In addition to conventional charging procedures, the following requirements shall be followed.
  – Ensure that contamination of different refrigerants dose not occur when using charging equipment. Hoses of lines shall be as short as possible to minimise the amount of refrigerant contained in them.
  – Cylinders shall be kept in an appropriate according to the instructions.
  – Ensure that the refrigerating system is earthed prior to charging the system with refrigerant.
  – Label the system when charging is complete (if not already).
  – Extreme care shall be taken not to overfill the refrigerating system.
- Prior to recharging the system, it shall be pressure-tested with the appropriate purging gas.
- The system shall be leak-tested on completion of charging but prior to commissioning.
- A follow up leak test shall be carried out prior to leaving the site.

11. Decommissioning

- Before carrying out this procedure, it is essential that the technician is' completely familiar with the equipment and all its detail.
- It is recommended good practice that all refrigerants are recovered safely.
- Prior to the task being carried out, an oil and refrigerant sample shall be taken in case analysis is required prior to re-use of recovered refrigerant.
- It is essential that electrical power is available before the task is commenced.

a) Become familiar with the equipment and its operation.
b) Isolate system electrically.
c) Before attempting the procedure ensure that
  – mechanical handling equipment is available, if required, for handling refrigerant cylinders,
  – all personal protective equipment is available and being used correctly,
  – the recovery process is supervised at all times by a competent person,
  – recovery equipment and cylinders conform to the appropriate standards.
d) Pump down refrigerant system, if possible.
e) If a vacuum is not possible, make a manifold so that refrigerant can be removed from various parts of the system.
f) Make sure that cylinder is situated on the scales before recovery takes place.
g) Start the recovery machine and operate in accordance with instructions.
h) Do not overfill cylinders. (No more than 80 % volume liquid charge).
i) Do not exceed the maximum working pressure of the cylinder, even temporarily .
j) When the cylinders have been filled correctly and the process completed, make sure that the cylinders and the equipment are removed from site promptly and all isolation valves on the equipment are closed off.
k) Recovered refrigerant shall not be charged into another refrigerating system unless it has been cleaned and checked.

12. Labelling

- Equipment shall be labelled stating that it has been de-commissioned and emptied of refrigerant. The label shall be dated and signed.
- For appliances containing flammable refrigerants. ensure that there are labels on the equipment stating the equipment contains flammable refrigerant.

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⚠ CAUTION

13. Recovery

- When removing refrigerant from a system, either for servicing or decommissioning, it is recommended good practice that all refrigerants are removed safely.
- When transferring refrigerant into cylinders, ensure that only appropriate refrigerant recovery cylinders are employed.
- Ensure that the correct number of cylinders for holding the total system charge is available.
- All cylinders to be used are designated for the recovered refrigerant and labelled for that refrigerant (i.e. special cylinders for the recovery of refrigerant).
- Cylinders shall be complete with pressure relief valve and associated shut-off valves in good working order.
- Empty recovery cylinders are evacuated and, if possible, cooled before recovery occurs.
- The recovery equipment shall be in good working order with a set of instructions concerning the equipment that is at hand and shall be suitable for the recovery of all appropriate refrigerants including, when applicable, flammable refrigerants.
- In addition, a set of calibrated weighing scales shall be available and in good working order.
- Hoses shall be complete with leak-free disconnect couplings and in good condition.
- Before using the recovery machine, check that it is in satisfactory working order, has been properly maintained and that any associated electrical components are sealed to prevent ignition in the event of a refrigerant release.
  Consult manufacturer if in doubt.
- The recovered refrigerant shall be returned to the refrigerant supplier in the correct recovery cylinder, and the relevant Waste Transfer Note arranged.Do not mix refrigerants in recovery units and especially not in cylinders.
- If compressors or compressor oils are to be removed, ensure that they have been evacuated to an acceptable level to make certain that flammable refrigerant dose not remain within the lubricant.
- The evacuation process shall be carried out prior to returning the compressor to the suppliers.
- Only electric heating to the compressor body shall be employed to accelerate this process.
- When oil is drained from a system, it shall be carried out safely.

14. Other safety precautions

- A brazed, welded, or mechanical connection shall be made before opening the valves to permit refrigerant to flow between the refrigerating system parts.
- Flammable refrigerant used, refrigerant tubing protected or enclosed to avoid mechanical damage (IEC/EN 60335-2-40/A1).
- Tubing protected to extent that it will not be handled or used for carrying during moving of product (IEC/EN 60335-2-40/A1).
- Flammable refrigerant used, low temperature solder alloys, such as lead/tin alloys, not acceptable for pipe connections (IEC/EN 60335-2-40/A1).
- Do not use flare nut indoor which is locally procured.

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Selection of installation location for the indoor unit

● Minimum installation area for indoor unit

⚠ CAUTION

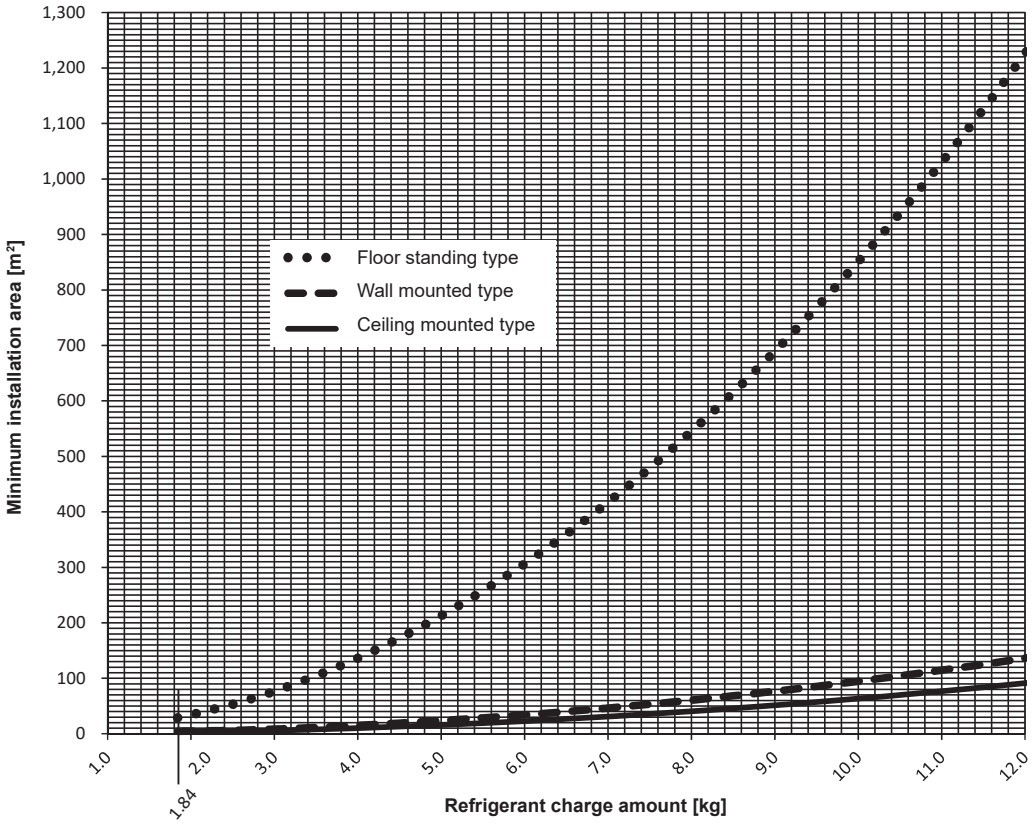
The indoor unit shall be installed in a room with minimum installation area or more according to the refrigerant charge amount (factory refrigerant charge +additional refrigerant charge).
For factory refrigerant charge, refer to the outdoor unit label model name or installation sheet.
For additional refrigerant charge, refer to the outdoor unit installation sheet.

• If the refrigerant charge amount in the system is < 1.84kg, there are no additional minimum floor area requirements.
• If the refrigerant charge amount in the system is ≧ 1.84kg, you need to comply with additional minimum floor area requirements as described in the following table.
• For further details regarding the installation location of indoor unit, refer to technical manual.

Refrigerant charge amount [kg]		1.00	1.50	1.84	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50
minimum installation area [m²]	Ceiling mounted type H=2.2m	No requirements		3.7	4.0	4.5	5.0	5.5	6.0	6.7	7.8	9.0	10.2	11.5	12.9
	Wall mounted type H=1.8m			3.7	4.0	4.5	5.0	7.2	8.6	10.0	11.6	13.3	15.2	17.1	19.2
	Floor standing type H=0.6m*			29	34	43	53	64	77	90	104	120	136	154	172

Refrigerant charge amount [kg]		5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0	12.0
minimum installation area [m²]	Ceiling mounted type H=2.2m	16	19	23	27	31	36	41	46	51	57	63	70	77	91
	Wall mounted type H=1.8m	24	29	34	40	46	53	61	68	77	85	95	104	115	136
	Floor standing type H=0.6m*	213	258	306	360	417	479	545	615	689	768	851	938	1030	1226

*For floor standing units, the value of installation height (H) is considered 0.6m to comply to IEC 60335-2-40:2018 Clause GG.2.



● Ceiling opening area

⚠ CAUTION

In case of installing the indoor unit in an enclosed ceiling space, ensure there is a sufficient ventilation opening around the unit.
In the event of refrigerant leakage, this countermeasure would prevent an increased concentration of refrigerant.

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3. INDOOR UNIT

3.1 Specifications

(1) Ceiling cassette-4 way type (FDT)

Models FDT28KXZE1-W, 36KXZE1-W, 45KXZE1-W, 56KXZE1-W, 71KXZE1-W

Model			FDT28KXZE1-W	FDT36KXZE1-W	FDT45KXZE1-W	FDT56KXZE1-W	FDT71KXZE1-W
Panel model (Option)			Standard : T-PSA-5BW-E Draft prevention : T-PSAE-5BW-E	Standard : T-PSA-5BW-E Draft prevention : T-PSAE-5BW-E	Standard : T-PSA-5BW-E Draft prevention : T-PSAE-5BW-E	Standard : T-PSA-5BW-E Draft prevention : T-PSAE-5BW-E	Standard : T-PSA-5BW-E Draft prevention : T-PSAE-5BW-E
Nominal cooling capacity*1		kW	2.8	3.6	4.5	5.6	7.1
Nominal heating capacity*2			3.2	4.0	5.0	6.3	8.0
Power source			1 Phase 220-240V 50Hz / 220V 60Hz	1 Phase 220-240V 50Hz / 220V 60Hz	1 Phase 220-240V 50Hz / 220V 60Hz	1 Phase 220-240V 50Hz / 220V 60Hz	1 Phase 220-240V 50Hz / 220V 60Hz
Power consumption	Cooling	kW	0.04 - 0.04 / 0.04	0.04 - 0.04 / 0.04	0.04 - 0.04 / 0.04	0.07 - 0.07 / 0.07	0.08 - 0.08 / 0.08
	Heating		0.04 - 0.04 / 0.04	0.04 - 0.04 / 0.04	0.04 - 0.04 / 0.04	0.07 - 0.07 / 0.07	0.08 - 0.08 / 0.08
Running current	Cooling	A	0.36 - 0.33 / 0.36	0.36 - 0.33 / 0.36	0.36 - 0.33 / 0.36	0.62 - 0.57 / 0.62	0.70 - 0.64 / 0.70
	Heating		0.36 - 0.33 / 0.36	0.36 - 0.33 / 0.36	0.36 - 0.33 / 0.36	0.62 - 0.57 / 0.62	0.70 - 0.64 / 0.70
Sound Pressure Level	Cooling	dB(A)	P-Hi : 40 Hi : 32 Me :30 Lo :28	P-Hi : 40 Hi : 34 Me : 30 Lo : 28	P-Hi : 40 Hi : 34 Me : 31 Lo : 28	P-Hi : 44 Hi : 34 Me : 31 Lo : 28	P-Hi : 47 Hi : 35 Me : 32 Lo : 28
	Heating		P-Hi : 40 Hi : 31 Me :29 Lo :26	P-Hi : 40 Hi : 33 Me : 29 Lo : 26	P-Hi : 40 Hi : 33 Me : 30 Lo : 26	P-Hi : 44 Hi : 34 Me : 30 Lo : 27	P-Hi : 47 Hi : 35 Me : 32 Lo : 28
Sound Power Level	Cooling		55	55	55	60	62
	Heating		55	55	55	60	62
Exterior dimensions Height x Width x Depth		mm	Unit : 236 × 840 × 840 Panel : 35 × 950 × 950	Unit : 236 × 840 × 840 Panel : 35 × 950 × 950	Unit : 236 × 840 × 840 Panel : 35 × 950 × 950	Unit : 236 × 840 × 840 Panel : 35 × 950 × 950	Unit : 236 × 840 × 840 Panel : 35 × 950 × 950
Exterior appearance (Munsell color) (RAL color)			Fine snow (8.0Y9.3 / 0.1) near equivalent (RAL 9003) near equivalent	Fine snow (8.0Y9.3 / 0.1) near equivalent (RAL 9003) near equivalent	Fine snow (8.0Y9.3 / 0.1) near equivalent (RAL 9003) near equivalent	Fine snow (8.0Y9.3 / 0.1) near equivalent (RAL 9003) near equivalent	Fine snow (8.0Y9.3 / 0.1) near equivalent (RAL 9003) near equivalent
Net weight*3		kg	Unit : 20 Standard panel : 5	Unit : 20 Standard panel : 5	Unit : 20 Standard panel : 5	Unit : 21.5 Standard panel : 5	Unit : 21.5 Standard panel : 5
Refrigerant equipment Heat exchanger			Louver fin & inner grooved tubing	Louver fin & inner grooved tubing	Louver fin & inner grooved tubing	Louver fin & inner grooved tubing	Louver fin & inner grooved tubing
Refrigerant control			Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Air handling equipment Fan type & Q'ty			Turbo fan × 1	Turbo fan × 1	Turbo fan × 1	Turbo fan × 1	Turbo fan × 1
Fan motor		W	58	58	58	58	58
Starting method			Direct line start	Direct line start	Direct line start	Direct line start	Direct line start
Air flow(Standard)	Cooling	m^3/min	P-Hi : 20 Hi : 14 Me : 12 Lo : 10	P-Hi : 20 Hi : 15 Me : 12 Lo : 10	P-Hi : 20 Hi : 15 Me : 13 Lo : 10	P-Hi : 26 Hi : 16 Me : 13 Lo : 11	P-Hi : 28 Hi : 17 Me : 14 Lo : 12
	Heating		P-Hi : 20 Hi : 14 Me : 12 Lo : 11	P-Hi : 20 Hi : 15 Me : 12 Lo : 11	P-Hi : 20 Hi : 15 Me : 13 Lo : 11	P-Hi : 26 Hi : 16 Me : 13 Lo : 11	P-Hi : 28 Hi : 17 Me : 14 Lo : 12
Available static pressure		Pa	0	0	0	0	0
Outside air intake			Possible	Possible	Possible	Possible	Possible
Air filter, Q'ty			Pocket plastic net × 1 (Washable)	Pocket plastic net × 1 (Washable)	Pocket plastic net × 1 (Washable)	Pocket plastic net × 1 (Washable)	Pocket plastic net × 1 (Washable)
Shock & vibration absorber			Rubber sleeve (for fan motor)	Rubber sleeve (for fan motor)	Rubber sleeve (for fan motor)	Rubber sleeve (for fan motor)	Rubber sleeve (for fan motor)
Insulation (Noise & heat)			Polyurethane form	Polyurethane form	Polyurethane form	Polyurethane form	Polyurethane form
Operation control Remote control switch (Option)			Wired : RC-EX3A, RC-E5, RCH-E3 Wireless : RCN-T-5BW-E2	Wired : RC-EX3A, RC-E5, RCH-E3 Wireless : RCN-T-5BW-E2	Wired : RC-EX3A, RC-E5, RCH-E3 Wireless : RCN-T-5BW-E2	Wired : RC-EX3A, RC-E5, RCH-E3 Wireless : RCN-T-5BW-E2	Wired : RC-EX3A, RC-E5, RCH-E3 Wireless : RCN-T-5BW-E2
Room temperature control			Thermostat by electronics	Thermostat by electronics	Thermostat by electronics	Thermostat by electronics	Thermostat by electronics
Safety equipment			Overload protection for fan motor Frost protection thermostat	Overload protection for fan motor Frost protection thermostat	Overload protection for fan motor Frost protection thermostat	Overload protection for fan motor Frost protection thermostat	Overload protection for fan motor Frost protection thermostat
Installation data Refrigerant piping size			Liquid line : ϕ6.35 (1/4") Gas line : ϕ9.52 (3/8")	Liquid line : ϕ6.35 (1/4") Gas line : ϕ12.7 (1/2")	Liquid line : ϕ6.35 (1/4") Gas line : ϕ12.7 (1/2")	Liquid line : ϕ6.35 (1/4") Gas line : ϕ12.7 (1/2")	Liquid line : ϕ9.52 (3/8") Gas line : ϕ15.88 (5/8")
Connecting method			Flare piping	Flare piping	Flare piping	Flare piping	Flare piping
Refrigerant			R32	R32	R32	R32	R32
Drain pump			Built-in drain pump	Built-in drain pump	Built-in drain pump	Built-in drain pump	Built-in drain pump
Drain hose			Connectable with VP25	Connectable with VP25	Connectable with VP25	Connectable with VP25	Connectable with VP25
Insulation for piping			Necessary(both Liquid & Gas line)	Necessary(both Liquid & Gas line)	Necessary (both Liquid & Gas line)	Necessary (both Liquid & Gas line)	Necessary (both Liquid & Gas line)
Accessories			Mounting kit, Drain hose	Mounting kit, Drain hose	Mounting kit, Drain hose	Mounting kit, Drain hose	Mounting kit, Drain hose
Exterior dimensions			PJF000Z759	PJF000Z759	PJF000Z759	PJF000Z759	PJF000Z759
Electrical wiring			PJF000Z761	PJF000Z761	PJF000Z761	PJF000Z761	PJF000Z761

Notes

(1) The data are measured at the following conditions.

Item	Indoor air temperature		Outdoor air temperature		Standards
Operation	DB	WB	DB	WB	ISO5151-T1
Cooling*1	27°C	19°C	35°C	24°C	
Heating*2	20°C		7°C	6°C	

(2) This packaged air-conditioner is manufactured and tested in conformity with the following standard. ISO-T1 "UNITARY AIR-CONDITIONERS"

(3) Draft prevention panel weight*3 : 6kg

(4) Option : Motion sensor kit (LB-T-5BW-E, LB-T-5BB-E)

(5) Panel color

Panel color	Panel model	Panel type	(Munsell color)	Remote control wireless
Fine snow	T-PSA-5BW-E	Standard	(8.0Y9.3 / 0.1) near equivalent	RCN-T-5BW-E2
	T-PSAE-5BW-E	Draft prevention		
Shadow black	T-PSA-5BB-E	Standard	(7.2BG2.9 / 0.6) near equivalent	RCN-T-5BB-E2
	T-PSAE-5BB-E	Draft prevention		

Adapted to **RoHS** directive

PJF000Z757 C

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Models FDT90KXZE1-W, 112KXZE1-W, 140KXZE1-W, 160KXZE1-W

Model			FDT90KXZE1-W	FDT112KXZE1-W	FDT140KXZE1-W	FDT160KXZE1-W
Panel model (Option)			Standard : T-PSA-5BW-E Draft prevention : T-PSAE-5BW-E	Standard : T-PSA-5BW-E Draft prevention : T-PSAE-5BW-E	Standard : T-PSA-5BW-E Draft prevention : T-PSAE-5BW-E	Standard : T-PSA-5BW-E Draft prevention : T-PSAE-5BW-E
Nominal cooling capacity*1		kW	9.0	11.2	14.0	16.0
Nominal heating capacity*2			10.0	12.5	16.0	18.0
Power source			1 Phase 220-240V 50Hz / 220V 60Hz	1 Phase 220-240V 50Hz / 220V 60Hz	1 Phase 220-240V 50Hz / 220V 60Hz	1 Phase 220-240V 50Hz / 220V 60Hz
Power consumption	Cooling	kW	0.13 - 0.13 / 0.13	0.14 - 0.14 / 0.14	0.14 - 0.14 / 0.14	0.14 - 0.14 / 0.14
	Heating		0.13 - 0.13 / 0.13	0.14 - 0.14 / 0.14	0.14 - 0.14 / 0.14	0.14 - 0.14 / 0.14
Running current	Cooling	A	1.04 - 0.95 / 1.04	1.12 - 1.02 / 1.12	1.12 - 1.02 / 1.12	1.12 - 1.02 / 1.12
	Heating		1.04 - 0.95 / 1.04	1.12 - 1.02 / 1.12	1.12 - 1.02 / 1.12	1.12 - 1.02 / 1.12
Sound Pressure Level	Cooling	dB(A)	P-Hi : 49 Hi : 38 Me : 36 Lo : 31	P-Hi : 49 Hi : 39 Me : 37 Lo : 31	P-Hi : 49 Hi : 42 Me : 39 Lo : 32	P-Hi : 49 Hi : 42 Me : 39 Lo : 32
	Heating		P-Hi : 49 Hi : 38 Me : 36 Lo : 30	P-Hi : 49 Hi : 39 Me : 37 Lo : 30	P-Hi : 49 Hi : 42 Me : 39 Lo : 31	P-Hi : 49 Hi : 42 Me : 39 Lo : 31
Sound Power Level	Cooling		65	65	66	66
	Heating		65	65	66	66
Exterior dimensions Height x Width x Depth		mm	Unit : 298 × 840 × 840 Panel : 35 × 950 × 950	Unit : 298 × 840 × 840 Panel : 35 × 950 × 950	Unit : 298 × 840 × 840 Panel : 35 × 950 × 950	Unit : 298 × 840 × 840 Panel : 35 × 950 × 950
Exterior appearance (Munsell color) (RAL color)			Fine snow (8.0Y9.3 / 0.1) near equivalent (RAL 9003) near equivalent	Fine snow (8.0Y9.3/0.1) near equivalent (RAL 9003) near equivalent	Fine snow (8.0Y9.3 / 0.1) near equivalent (RAL 9003) near equivalent	Fine snow (8.0Y9.3 / 0.1) near equivalent (RAL 9003) near equivalent
Net weight*3		kg	Unit : 25 Standard panel : 5	Unit : 25 Standard panel : 5	Unit : 25 Standard panel : 5	Unit : 25 Standard panel : 5
Refrigerant equipment Heat exchanger			Louver fin & inner grooved tubin	Louver fin & inner grooved tubin	Louver fin & inner grooved tubin	Louver fin & inner grooved tubin
Refrigerant control			Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Air handling equipment Fan type & Qty			Turbo fan × 1	Turbo fan × 1	Turbo fan × 1	Turbo fan × 1
Motor		W	120	120	120	120
Starting method			Direct line start	Direct line start	Direct line start	Direct line start
Air flow(Standard	Cooling	m^3/min	P-Hi : 37 Hi : 25 Me : 22 Lo : 15	P-Hi : 38 Hi : 26 Me : 23 Lo : 17	P-Hi : 38 Hi : 28 Me : 25 Lo : 18	P-Hi : 38 Hi : 29 Me : 26 Lo : 19
	Heating		P-Hi : 37 Hi : 25 Me : 22 Lo : 15	P-Hi : 38 Hi : 26 Me : 23 Lo : 17	P-Hi : 38 Hi : 28 Me : 25 Lo : 18	P-Hi : 38 Hi : 29 Me : 26 Lo : 19
Available static pressure		Pa	0	0	0	0
Outside air intake			Possible	Possible	Possible	Possible
Air filte , Qty			Pocket plastic net × 1 (Washable)	Pocket plastic net × 1 (Washable)	Pocket plastic net × 1 (Washable)	Pocket plastic net × 1 (Washable)
Shock & vibration absorber			Rubber sleeve(for fan motor)	Rubber sleeve (for fan motor)	Rubber sleeve(for fan motor)	Rubber sleeve (for fan motor)
Insulation (Noise & heat)			Polyurethane form	Polyurethane form	Polyurethane form	Polyurethane form
Operation control Remote control switch (Option)			Wired : RC-EX3A, RC-E5, RCH-E3 Wireless : RCN-T-5BW-E2	Wired : RC-EX3A, RC-E5, RCH-E3 Wireless : RCN-T-5BW-E2	Wired : RC-EX3A, RC-E5, RCH-E3 Wireless : RCN-T-5BW-E2	Wired : RC-EX3A, RC-E5, RCH-E3 Wireless : RCN-T-5BW-E2
Room temperature control			Thermostat by electronics	Thermostat by electronics	Thermostat by electronics	Thermostat by electronics
Safety equipment			Overload protection for fan motor Frost protection thermostat	Overload protection for fan motor Frost protection thermostat	Overload protection for fan motor Frost protection thermostat	Overload protection for fan motor Frost protection thermostat
Installation data Refrigerant piping size			Liquid line : ϕ9.52 (3/8") Gas line : ϕ15.88 (5/8")	Liquid line : ϕ9.52 (3/8") Gas line : ϕ15.88 (5/8")	Liquid line : ϕ9.52 (3/8") Gas line : ϕ15.88 (5/8")	Liquid line: ϕ9.52 (3/8") Gas line: ϕ15.88 (5/8")
Connecting method			Flare piping	Flare piping	Flare piping	Flare piping
Refrigerant			R32	R32	R32	R32
Drain pump			Built-in drain pump	Built-in drain pump	Built-in drain pump	Built-in drain pump
Drain hose			Connectable with VP25	Connectable with VP25	Connectable with VP25	Connectable with VP25
Insulation for piping			Necessary (both Liquid & Gas line)	Necessary (both Liquid & Gas line)	Necessary (both Liquid & Gas line)	Necessary (both Liquid & Gas line)
Accessories			Mounting kit, Drain hose	Mounting kit, Drain hose	Mounting kit, Drain hose	Mounting kit, Drain hose
Exterior dimensions			PJF000Z760	PJF000Z760	PJF000Z760	PJF000Z760
Electrical wiring			PJF000Z761	PJF000Z761	PJF000Z761	PJF000Z761

Adapted to **RoHS** directive

Notes

(1) The data are measured at the following conditions.

Item	Indoor air temperature		Outdoor air temperature		Standards
	DB	WB	DB	WB	
Operation	27°C	19°C	35°C	24°C	ISO5151-T1
Cooling*1					
Heating*2	20°C		7°C	6°C	

(2) This packaged air-conditioner is manufactured and tested in conformity with the following standard.
ISO-T1 "UNITARY AIR-CONDITIONERS"

(3) Draft prevention panel weight*3 : 6kg

(4) Option : Motion sensor kit (LB-T-5BW-E, LB-T-5BB-E)

(5) Panel color

Panel color	Panel model	Panel type	(Munsell color)
Fine snow	T-PSA-5BW-E	Standard	(8.0Y9.3 / 0.1) near equivalent
	T-PSAE-5BW-E	Draft prevention	
Shadow black	T-PSA-5BB-E	Standard	(7.2BG2.9 / 0.6) near equivalent
	T-PSAE-5BB-E	Draft prevention	

PJF000Z757 B

(2) Ceiling cassette-4 way compact type (FDTC)

Models FDTC15KXZE1-W, 22KXZE1-W, 28KXZE1-W, 36KXZE1-W, 45KXZE1-W, 56KXZE1-W

Model			FDTC15KXZE1-W	FDTC22KXZE1-W	FDTC28KXZE1-W	FDTC36KXZE1-W	FDTC45KXZE1-W	FDTC56KXZE1-W
Panel model (Option)			Standard : TC-PSA-5AW-E Draft prevention : TC-PSAE-5AW-E	Standard : TC-PSA-5AW-E Draft prevention : TC-PSAE-5AW-E	Standard : TC-PSA-5AW-E Draft prevention : TC-PSAE-5AW-E	Standard : TC-PSA-5AW-E Draft prevention : TC-PSAE-5AW-E	Standard : TC-PSA-5AW-E Draft prevention : TC-PSAE-5AW-E	Standard : TC-PSA-5AW-E Draft prevention : TC-PSAE-5AW-E
Nominal cooling capacity*1		kW	1.5	2.2	2.8	3.6	4.5	5.6
Nominal heating capacity*2			1.7	2.5	3.2	4.0	5.0	6.3
Power source			1 Phase 220-240V 50Hz / 220V 60Hz	1 Phase 220-240V 50Hz / 220V 60Hz	1 Phase 220-240V 50Hz / 220V 60Hz	1 Phase 220-240V 50Hz / 220V 60Hz	1 Phase 220-240V 50Hz / 220V 60Hz	1 Phase 220-240V 50Hz / 220V 60Hz
Power consumption	Cooling	kW	0.03 - 0.03 / 0.03	0.03 - 0.03 / 0.03	0.03 - 0.03 / 0.03	0.04 - 0.04 / 0.04	0.05 - 0.05 / 0.05	0.06 - 0.06 / 0.06
	Heating		0.03 - 0.03 / 0.03	0.03 - 0.03 / 0.03	0.03 - 0.03 / 0.03	0.04 - 0.04 / 0.04	0.05 - 0.05 / 0.05	0.06 - 0.06 / 0.06
Running current	Cooling	A	0.25 - 0.22 / 0.25	0.25 - 0.22 / 0.25	0.25 - 0.22 / 0.25	0.38 - 0.35 / 038	0.43 - 0.40 / 0.43	0.54 - 0.50 / 0.54
	Heating		0.25 - 0.22 / 0.25	0.25 - 0.22 / 0.25	0.25 - 0.22 / 0.25	0.38 - 0.35 / 038	0.43 - 0.40 / 0.43	0.54 - 0.50 / 0.54
Sound Pressure Level	Cooling	dB(A)	P-Hi : 33 Hi : 32 Me : 29 Lo : 25	P-Hi : 35 Hi : 32 Me : 29 Lo : 25	P-Hi : 35 Hi : 32 Me : 29 Lo : 25	P-Hi : 39 Hi : 36 Me : 31 Lo : 26	P-Hi : 43 Hi : 39 Me : 36 Lo : 28	P-Hi : 47 Hi : 43 Me : 39 Lo : 31
	Heating		P-Hi : 33 Hi : 30 Me : 26 Lo : 22	P-Hi : 35 Hi : 32 Me : 29 Lo : 25	P-Hi : 35 Hi : 32 Me : 29 Lo : 25	P-Hi : 39 Hi : 36 Me : 31 Lo : 26	P-Hi : 43 Hi : 39 Me : 36 Lo : 28	P-Hi : 47 Hi : 43 Me : 39 Lo : 31
Sound Power Level	Cooling		47	49	49	54	58	60
	Heating		46	49	49	53	57	60
Exterior dimensions Height x Width x Depth		mm	Unit : 248 × 570 × 570 Panel : 10 × 620 × 620	Unit : 248 × 570 × 570 Panel : 10 × 620 × 620	Unit : 248 × 570 × 570 Panel : 10 × 620 × 620	Unit : 248 × 570 × 570 Panel : 10 × 620 × 620	Unit : 248 × 570 × 570 Panel : 10 × 620 × 620	Unit : 248 × 570 × 570 Panel : 10 × 620 × 620
Exterior appearance (Munsell color) (RAL color)			Fine snow (8.0Y9.3 / 0.1) near equivalent (RAL 9003) near equivalent	Fine snow (8.0Y9.3 / 0.1) near equivalent (RAL 9003) near equivalent	Fine snow (8.0Y9.3 / 0.1) near equivalent (RAL 9003) near equivalent	Fine snow (8.0Y9.3 / 0.1) near equivalent (RAL 9003) near equivalent	Fine snow (8.0Y9.3 / 0.1) near equivalent (RAL 9003) near equivalent	Fine snow (8.0Y9.3 / 0.1) near equivalent (RAL 9003) near equivalent
Net weight*3		kg	Unit : 12.5 Standard panel : 2.5	Unit : 13 Standard panel : 2.5	Unit : 13 Standard panel : 2.5	Unit : 14 Standard panel : 2.5	Unit : 14 Standard panel : 2.5	Unit : 14 Standard panel : 2.5
Refrigerant equipment	Heat exchanger		Louver fin & inner grooved tubin	Louver fin & inner grooved tubin	Louver fin & inner grooved tubin	Louver fin & inner grooved tubin	Louver fin & inner grooved tubin	Louver fin & inner grooved tubin
Refrigerant control			Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Air handling equipment	Fan type & Q'ty		Turbo fan × 1	Turbo fan × 1	Turbo fan × 1	Turbo fan × 1	Turbo fan × 1	Turbo fan × 1
Fan motor		W	50	50	50	50	50	50
Starting method			Direct line start	Direct line start	Direct line start	Direct line start	Direct line start	Direct line start
Air flow(Standard	Cooling	m^3/min	P-Hi : 8 Hi : 7 Me : 6 Lo : 5	P-Hi : 9 Hi : 8 Me : 7 Lo : 6	P-Hi : 9 Hi : 8 Me : 7 Lo : 6	P-Hi : 10 Hi : 9 Me : 8 Lo : 6	P-Hi : 12 Hi : 10 Me : 9 Lo : 7	P-Hi : 14 Hi : 12 Me : 10 Lo : 8
	Heating		P-Hi : 8 Hi : 7 Me : 6 Lo : 5	P-Hi : 9 Hi : 8 Me : 7 Lo : 6	P-Hi : 9 Hi : 8 Me : 7 Lo : 6	P-Hi : 10 Hi : 9 Me : 8 Lo : 6	P-Hi : 12 Hi : 10 Me : 9 Lo : 7	P-Hi : 14 Hi : 12 Me : 10 Lo : 8
Available static pressure		Pa	0	0	0	0	0	0
Outside air intake			Possible	Possible	Possible	Possible	Possible	Possible
Air filte , Q'ty			Pocket plastic net × 1 (Washable)	Pocket plastic net × 1 (Washable)	Pocket plastic net × 1 (Washable)	Pocket plastic net × 1 (Washable)	Pocket plastic net × 1 (Washable)	Pocket plastic net × 1 (Washable)
Shock & vibration absorber			Rubber sleeve (for fan motor)	Rubber sleeve (for fan motor)	Rubber sleeve (for fan motor)	Rubber sleeve (for fan motor)	Rubber sleeve (for fan motor)	Rubber sleeve (for fan motor)
Insulation (Noise & heat)			Polyurethane form	Polyurethane form	Polyurethane form	Polyurethane form	Polyurethane form	Polyurethane form
Operation control Remote control switch (Option)			Wired : RC-E5, RC-EX3A, RCH-E3 Wireless : RCN-TC-5AW-E3	Wired : RC-E5, RC-EX3A, RCH-E3 Wireless : RCN-TC-5AW-E3	Wired : RC-E5, RC-EX3A, RCH-E3 Wireless : RCN-TC-5AW-E3	Wired : RC-E5, RC-EX3A, RCH-E3 Wireless : RCN-TC-5AW-E3	Wired : RC-E5, RC-EX3A, RCH-E3 Wireless : RCN-TC-5AW-E3	Wired : RC-E5, RC-EX3A, RCH-E3 Wireless : RCN-TC-5AW-E3
Room temperature control			Thermostat by electronics	Thermostat by electronics	Thermostat by electronics	Thermostat by electronics	Thermostat by electronics	Thermostat by electronics
Safety equipment			Overload protection for fan motor Frost protection thermostat	Overload protection for fan motor Frost protection thermostat	Overload protection for fan motor Frost protection thermostat	Overload protection for fan motor Frost protection thermostat	Overload protection for fan motor Frost protection thermostat	Overload protection for fan motor Frost protection thermostat
Installation data Refrigerant piping size			Liquid line : ϕ6.35 (1/4") Gas line : ϕ9.52 (3/8")	Liquid line : ϕ6.35 (1/4") Gas line : ϕ9.52 (3/8")	Liquid line : ϕ6.35 (1/4") Gas line : ϕ9.52 (3/8")	Liquid line : ϕ6.35 (1/4") Gas line : ϕ12.7 (1/2")	Liquid line : ϕ6.35 (1/4") Gas line : ϕ12.7 (1/2")	Liquid line: ϕ6.35 (1/4") Gas line: ϕ12.7 (1/2")
Connecting method			Flare piping	Flare piping	Flare piping	Flare piping	Flare piping	Flare piping
Refrigerant			R32	R32	R32	R32	R32	R32
Drain pump			Built-in drain pump	Built-in drain pump	Built-in drain pump	Built-in drain pump	Built-in drain pump	Built-in drain pump
Drain hose			Connectable with VP25	Connectable with VP25	Connectable with VP25	Connectable with VP25	Connectable with VP25	Connectable with VP25
Insulation for piping			Necessary (both Liquid & Gas line)	Necessary (both Liquid & Gas line)	Necessary (both Liquid & Gas line)	Necessary (both Liquid & Gas line)	Necessary (both Liquid & Gas line)	Necessary (both Liquid & Gas line)
Accessories			Mounting kit, Drain hose	Mounting kit, Drain hose	Mounting kit, Drain hose	Mounting kit, Drain hose	Mounting kit, Drain hose	Mounting kit, Drain hose
Exterior dimensions			PJF000Z762, PJF000Z764	PJF000Z762, PJF000Z764	PJF000Z762, PJF000Z764	PJF000Z762, PJF000Z764	PJF000Z762, PJF000Z764	PJF000Z762, PJF000Z764
Electrical wiring			PJF000Z763	PJF000Z763	PJF000Z763	PJF000Z763	PJF000Z763	PJF000Z763

Notes

(1) The data are measured at the following conditions.

Item	Indoor air temperature		Outdoor air temperature		Standards
	DB	WB	DB	WB	
Operation	27℃	19℃	35℃	24℃	ISO5151-T1
Cooling*1					
Heating*2	20℃		7℃	6℃	

(2) This packaged air-conditioner is manufactured and tested in conformity with the following standard. ISO-T1 "UNITARY AIR-CONDITIONERS"

(3) Draft prevention panel weight*3 : 3kg

(4) Option : Motion sensor kit (LB-TC-5W-E)

(5) Grille type

Grille type	Panel model	Panel type	Panel color (Munsell color)	Remote control wireless
Honeycomb	TC-PSA-5AW-E	Standard	(8.0Y9.3 / 0.1) near equivalent	RCN-TC-5AW-E3
	TC-PSAE-5AW-E	Draft prevention		
Grid	TC-PSAG-5AW-E	Standard		
	TC-PSAGE-5AW-E	Draft prevention		

Adapted to **RoHS** directive

PJF000Z758

(3) Wall mounted type (FDK)

Models FDK15KXZE1-W, 22KXZE1-W, 28KXZE1-W, 36KXZE1-W, 45KXZE1-W

Model			FDK15KXZE1-W	FDK22KXZE1-W	FDK28KXZE1-W	FDK36KXZE1-W	FDK45KXZE1-W
Nominal cooling capacity*1		kW	1.5	2.2	2.8	3.6	4.5
Nominal heating capacity*2			1.7	2.5	3.2	4.0	5.0
Power source			1 Phase 220-240V 50Hz / 220V 60Hz	1 Phase 220-240V 50Hz / 220V 60Hz	1 Phase 220-240V 50Hz / 220V 60Hz	1 Phase 220-240V 50Hz / 220V 60Hz	1 Phase 220-240V 50Hz / 220V 60Hz
Power consumption	Cooling	kW	0.020 - 0.020 / 0.020	0.020 - 0.020 / 0.020	0.020 - 0.020 / 0.020	0.030 - 0.030 / 0.030	0.030 - 0.030 / 0.030
	Heating		0.020 - 0.020 / 0.020	0.020 - 0.020 / 0.020	0.020 - 0.020 / 0.020	0.030 - 0.030 / 0.030	0.030 - 0.030 / 0.030
Running current	Cooling	A	0.18 - 0.16 / 0.18	0.18 - 0.16 / 0.18	0.18 - 0.16 / 0.18	0.27 - 0.25 / 0.27	0.27 - 0.25 / 0.27
	Heating		0.18 - 0.16 / 0.18	0.18 - 0.16 / 0.18	0.18 - 0.16 / 0.18	0.27 - 0.25 / 0.27	0.27 - 0.25 / 0.27
Sound Power Level	Cooling	dB(A)	54	55	55	58	58
	Heating		54	55	55	58	58
Sound Pressure Level	Cooling		P-Hi : 38 Hi : 36 Me : 30 Lo : 28	P-Hi : 38 Hi : 36 Me : 30 Lo : 27	P-Hi : 38 Hi : 36 Me : 30 Lo : 27	P-Hi : 40 Hi : 38 Me : 33 Lo : 28	P-Hi : 43 Hi : 41 Me : 36 Lo : 33
	Heating		P-Hi : 38 Hi : 34 Me : 31 Lo : 28	P-Hi : 38 Hi : 36 Me : 30 Lo : 27	P-Hi : 38 Hi : 36 Me : 30 Lo : 27	P-Hi : 40 Hi : 38 Me : 33 Lo : 28	P-Hi : 43 Hi : 41 Me : 36 Lo : 33
Exterior dimensions Height x Width x Depth		mm	290 × 870 × 230	290 × 870 × 230	290 × 870 × 230	290 × 870 × 230	290 × 870 × 230
Exterior appearance (Munsell color)			Fine Snow (8.0Y9.3 / 0.1) near equivalent	Fine Snow (8.0Y9.3 / 0.1) near equivalent	Fine Snow (8.0Y9.3 / 0.1) near equivalent	Fine Snow (8.0Y9.3 / 0.1) near equivalent	Fine Snow (8.0Y9.3 / 0.1) near equivalent
Net weight*3		kg	11.5	11	11	11.5	11.5
Refrigerant equipment Heat exchanger			Louver fin & inner grooved tubing	Louver fin & inner grooved tubing	Louver fin & inner grooved tubing	Louver fin & inner grooved tubing	Louver fin & inner grooved tubing
Refrigerant control			Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Air handling equipment Fan type & Q'ty			Tangential fan × 1	Tangential fan × 1	Tangential fan × 1	Tangential fan ×1	Tangential fan ×1
Fan motor		W	42	42	42	42	42
Starting method			Direct line start	Direct line start	Direct line start	Direct line start	Direct line start
Air flow	Cooling	m^3/min	P-Hi : 5.7 Hi : 5 Me : 4.5 Lo : 3.6	P-Hi : 8.5 Hi : 8 Me : 6 Lo : 5	P-Hi : 8.5 Hi : 8 Me : 6 Lo : 5	P-Hi : 11 Hi : 10 Me : 8 Lo : 7	P-Hi : 12 Hi : 11 Me : 9 Lo : 8
	Heating		P-Hi : 5.7 Hi : 5 Me : 4.5 Lo : 3.6	P-Hi : 8.5 Hi : 8 Me : 6 Lo : 5	P-Hi : 8.5 Hi : 8 Me : 6 Lo : 5	P-Hi : 11 Hi : 10 Me : 8 Lo : 7	P-Hi : 12 Hi : 11 Me : 9 Lo : 8
Available static pressure		Pa	0	0	0	0	0
Outdoor air intake			Not Possible	Not Possible	Not Possible	Not Possible	Not Possible
Air filter, Q'ty			Polypropylene net × 2 (Washable)	Polypropylene net × 2 (Washable)	Polypropylene net × 2 (Washable)	Polypropylene net × 2 (Washable)	Polypropylene net × 2 (Washable)
Shock & vibration absorber			Rubber sleeve (for fan motor)	Rubber sleeve (for fan motor)	Rubber sleeve (for fan motor)	Rubber sleeve (for fan motor)	Rubber sleeve (for fan motor)
Insulation (Noise & heat)			Polyurethane form	Polyurethane form	Polyurethane form	Polyurethane form	Polyurethane form
Operation control Remote control switch (Option)			Wired : RC-EX3A Wireless : RCN-K-E2	Wired : RC-EX3A Wireless : RCN-K-E2	Wired : RC-EX3A Wireless : RCN-K-E2	Wired : RC-EX3A Wireless : RCN-K-E2	Wired : RC-EX3A Wireless : RCN-K-E2
Room temperature control			Thermostat by electronics	Thermostat by electronics	Thermostat by electronics	Thermostat by electronics	Thermostat by electronics
Safety equipment			Overload protection for fan motor Frost protection thermostat	Overload protection for fan motor Frost protection thermostat	Overload protection for fan motor Frost protection thermostat	Overload protection for fan motor Frost protection thermostat	Overload protection for fan motor Frost protection thermostat
Installation data Refrigerant piping size			Liquid line : ϕ6.35 (1/4") Gas line : ϕ9.52 (3/8")	Liquid line : ϕ6.35 (1/4") Gas line : ϕ9.52 (3/8")	Liquid line : ϕ6.35 (1/4") Gas line : ϕ9.52 (3/8")	Liquid line : ϕ6.35 (1/4") Gas line : ϕ12.7 (1/2")	Liquid line : ϕ6.35 (1/4") Gas line : ϕ12.7 (1/2")
Connecting method			Flare piping	Flare piping	Flare piping	Flare piping	Flare piping
Refrigerant			R32	R32	R32	R32	R32
Drain hose			Connectable with VP16 (I.D.16)	Connectable with VP16 (I.D.16)	Connectable with VP16 (I.D.16)	Connectable with VP16 (I.D.16)	Connectable with VP16 (I.D.16)
Insulation for piping			Necessary (both Liquid & Gas line)	Necessary (both Liquid & Gas line)	Necessary (both Liquid & Gas line)	Necessary (both Liquid & Gas line)	Necessary (both Liquid & Gas line)
Accessories			Mounting kit, Drain hose	Mounting kit, Drain hose	Mounting kit, Drain hose	Mounting kit, Drain hose	Mounting kit, Drain hose
Exterior dimensions			PHA001Z176	PHA001Z176	PHA001Z176	PHA001Z176	PHA001Z176
Electrical wiring			PHA001Z178	PHA001Z178	PHA001Z178	PHA001Z178	PHA001Z178

Notes

(1) The data are measured at the following conditions.

Item	Indoor air temperature		Outdoor air temperature		Standards
	DB	WB	DB	WB	
Operation	27°C	19°C	35°C	24°C	ISO5151-T1
Cooling*1					
Heating*2	20°C		7°C	6°C	

(2) This packaged air-conditioner is manufactured and tested in conformity with the standard.
ISO-T1 "UNITARY AIR-CONDITIONERS"

(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.

OPTION

		Model	Specificatio
Remote control	Wired	RC-EX3A	PJZ000Z333
	Wired	RC-E5	PJZ000Z295
	Wired	RCH-E3	PJZ000Z272
Wireless FDK15-56		RCN-K-E2	PHA001Z123
Wireless FDK71-90		RCN-K71-E2	PHA001Z124
Motion sensor		LB-KIT2	PJZ000Z341

Adapted to **RoHS** directive

PHA001Z173

Models FDK56KXZE1-W, 71KXZE1-W, 90KXZE1-W

Model			FDK56KXZE1-W	FDK71KXZE1-W	FDK90KXZE1-W
Nominal cooling capacity*1		kW	5.6	7.1	9.0
Nominal heating capacity*2			6.3	8.0	10.0
Power source			1 Phase 220-240V 50Hz / 220V 60Hz	1 Phase 220-240V 50Hz / 220V 60Hz	1 Phase 2220-240V 50Hz / 220V 60Hz
Power consumption	Cooling	kW	0.030 - 0.030 / 0.030	0.040 - 0.040 / 0.040	0.050 - 0.050 / 0.050
	Heating		0.030 - 0.030 / 0.030	0.040 - 0.040 / 0.040	0.050 - 0.050 / 0.050
Running current	Cooling	A	0.27 - 0.25 / 0.27	0.34 - 0.31 / 0.34	0.42 - 0.39 / 0.42
	Heating		0.27 - 0.25 / 0.27	0.34 - 0.31 / 0.34	0.42 - 0.39 / 0.42
Sound Power Level	Cooling	dB(A)	58	59	61
	Heating		61	59	61
Sound Pressure Level	Cooling		P-Hi : 43 Hi : 41 Me : 36 Lo : 33	P-Hi : 42 Hi : 40 Me : 37 Lo : 35	P-Hi : 44 Hi : 42 Me : 39 Lo : 35
	Heating		P-Hi : 44 Hi : 42 Me : 37 Lo : 33	P-Hi : 42 Hi : 40 Me : 37 Lo : 35	P-Hi : 44 Hi : 42 Me : 39 Lo : 35
Exterior dimensions Height x Width x Depth		mm	290 × 870 × 230	339 × 1,197 × 262	339 × 1,197 × 262
Exterior appearance (Munsell color)			Fine Snow (8.0Y9.3 / 0.1) near equivalent	Fine Snow (8.0Y9.3 / 0.1) near equivalent	Fine Snow (8.0Y9.3 / 0.1) near equivalent
Net weight*3		kg	11.5	17	17
Refrigerant equipment Heat exchanger			Louver fin & inner grooved tubing	Louver fin & inner grooved tubing	Louver fin & inner grooved tubing
Refrigerant control			Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Air handling equipment Fan type & Q'ty			Tangential fan ×1	Tangential fan ×1	Tangential fan ×1
Fan motor <Starting method>		W	42 < Direct line start >	56 < Direct line start >	56 < Direct line start >
Starting method			Direct line start	Direct line start	Direct line start
Air flow	Cooling	m^3/min	P-Hi : 12 Hi : 11 Me : 9 Lo : 8	P-Hi : 21 Hi : 19 Me : 16 Lo : 14	P-Hi : 23 Hi : 21 Me : 19 Lo : 16
	Heating		P-Hi : 13 Hi : 12 Me : 10 Lo : 8	P-Hi : 21 Hi : 19 Me : 16 Lo : 14	P-Hi : 23 Hi : 21 Me : 19 Lo : 16
Available static pressure		Pa	0	0	0
Outdoor air intake			Not Possible	Not Possible	Not Possible
Air filter, Q'ty			Polypropylene net × 2 (Washable)	Polypropylene net × 2 (Washable)	Polypropylene net × 2 (Washable)
Shock & vibration absorber			Rubber sleeve (for fan motor)	Rubber sleeve (for fan motor)	Rubber sleeve (for fan motor)
Insulation (Noise & heat)			Polyurethane form	Polyurethane form	Polyurethane form
Operation control Remote control switch (Option)			Wired : RC-EX3A Wireless : RCN-K-E2	Wired : RC-EX3A Wireless : RCN-K71-E2	Wired : RC-EX3A Wireless : RCN-K71-E2
Room temperature control			Thermostat by electronics	Thermostat by electronics	Thermostat by electronics
Safety equipment			Overload protection for fan motor Frost protection thermostat	Overload protection for fan motor Frost protection thermostat	Overload protection for fan motor Frost protection thermostat
Installation data Refrigerant piping size			Liquid line : ϕ6.35 (1/4") Gas line : ϕ12.7 (1/2")	Liquid line : ϕ9.52 (3/8") Gas line : ϕ15.88 (5/8")	Liquid line : ϕ9.52 (3/8") Gas line : ϕ15.88 (5/8")
Connecting method			Flare piping	Flare piping	Flare piping
Refrigerant			R32	R32	R32
Drain hose			Connectable with VP16 (I.D.16)	Connectable with VP16 (I.D.16)	Connectable with VP16 (I.D.16)
Insulation for piping			Necessary (both Liquid & Gas line)	Necessary (both Liquid & Gas line)	Necessary (both Liquid & Gas line)
Accessories			Mounting kit, Drain hose	Mounting kit, Drain hose	Mounting kit, Drain hose
Exterior dimensions			PHA001Z176	PHA001Z177	PHA001Z177
Electrical wiring			PHA001Z178	PHA001Z178	PHA001Z178

Notes
(1) The data are measured at the following conditions.

Item	Indoor air temperature		Outdoor air temperature		Standards
	DB	WB	DB	WB	
Operation	27°C	19°C	35°C	24°C	ISO5151-T1
Cooling*1					
Heating*2	20°C		7°C	6°C	

(2) This packaged air-conditioner is manufactured and tested in conformity with the standard.
ISO-T1 "UNITARY AIR-CONDITIONERS"
(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.

OPTION

	Model	Specificatio
Remote control	Wired	RC-EX3A	PJZ000Z333
	Wired	RC-E5	PJZ000Z295
	Wired	RCH-E3	PJZ000Z272
Wireless FDK15-56		RCN-K-E2	PHA001Z123
Wireless FDK71-90		RCN-K71-E2	PHA001Z124
Motion sensor		LB-KIT2	PJZ000Z341

Adapted to **RoHS** directive

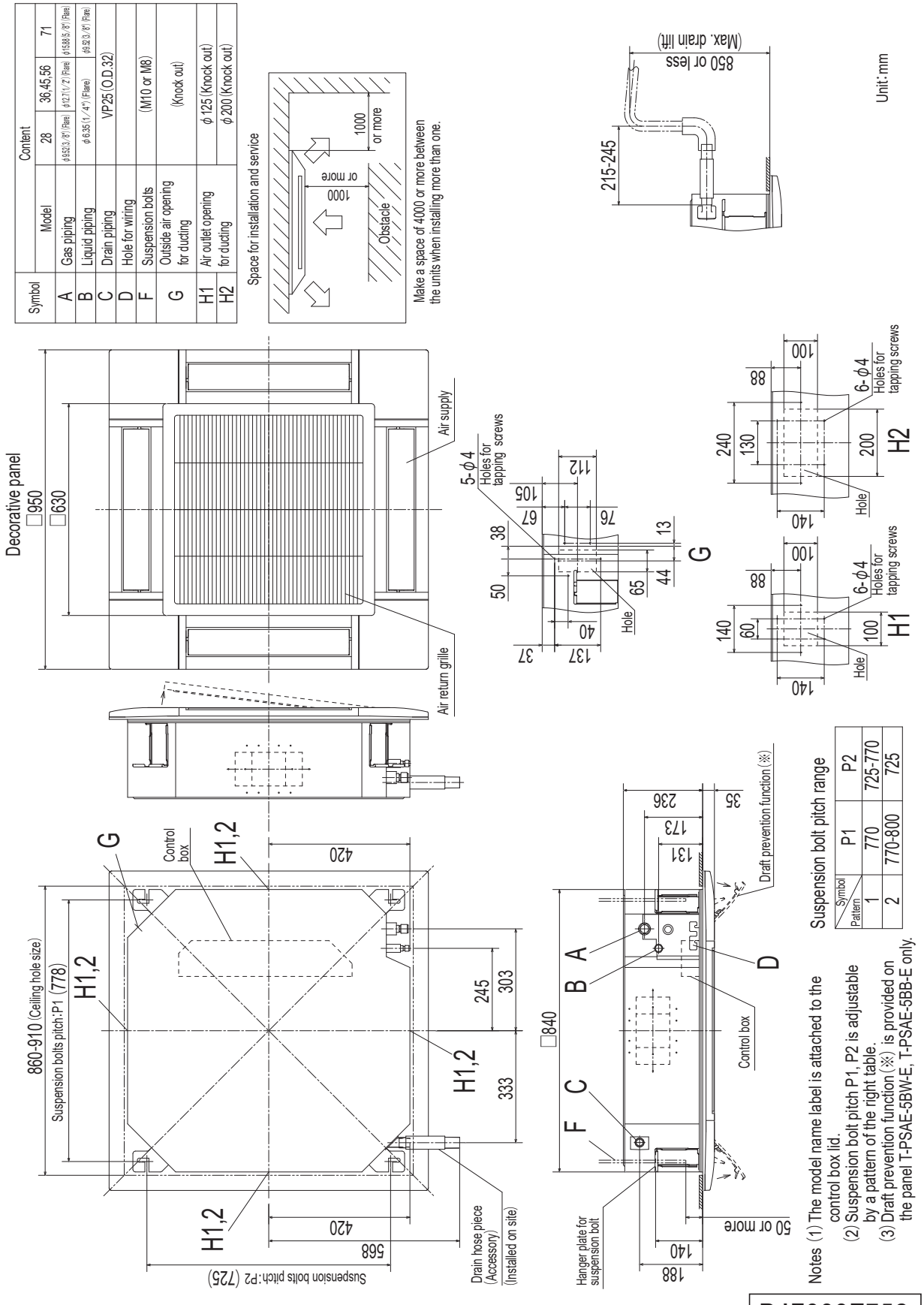
PHA001Z173

3.2 Exterior dimensions

3.2.1 Indoor unit

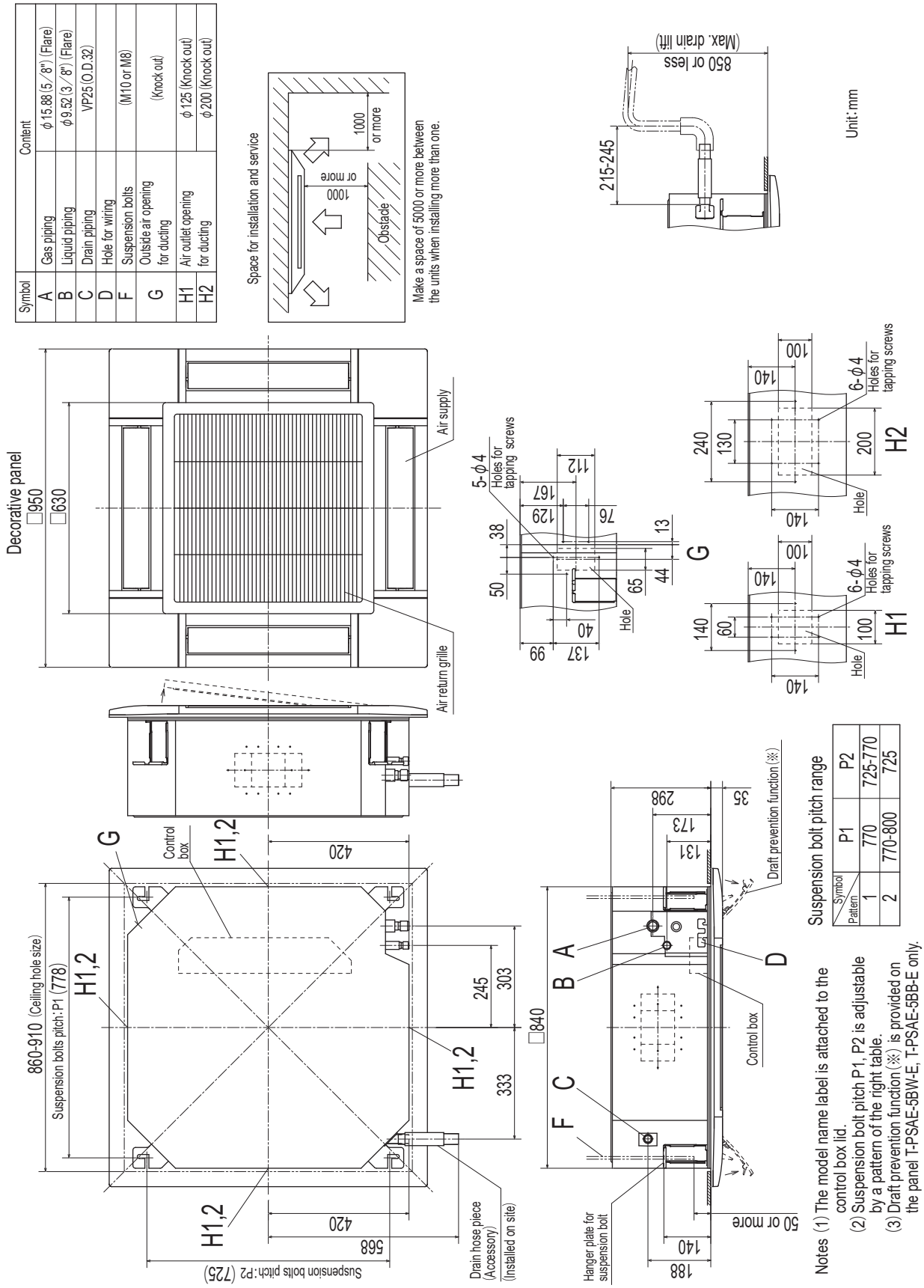
(1) Ceiling cassette-4 way type (FDT)

Models FDT28KXZE1-W, 36KXZE1-W, 45KXZE1-W, 56KXZE1-W, 71KXZE1-W



PJF000Z759

Models FDT90KXZE1-W, 112KXZE1-W, 140KXZE1-W, 160KXZE1-W

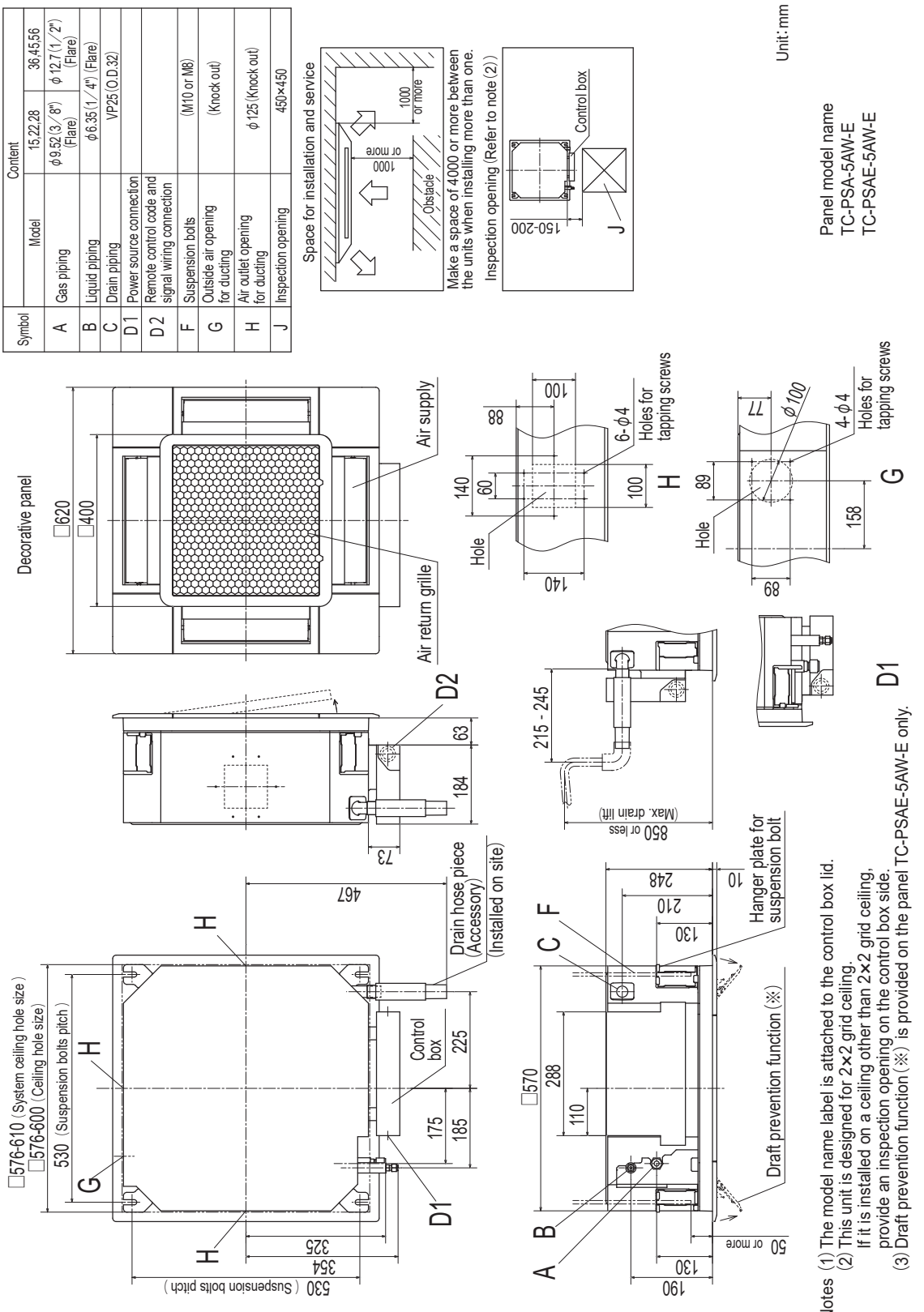


PJF000Z760

(2) Ceiling cassette-4 way compact type (FDTC)

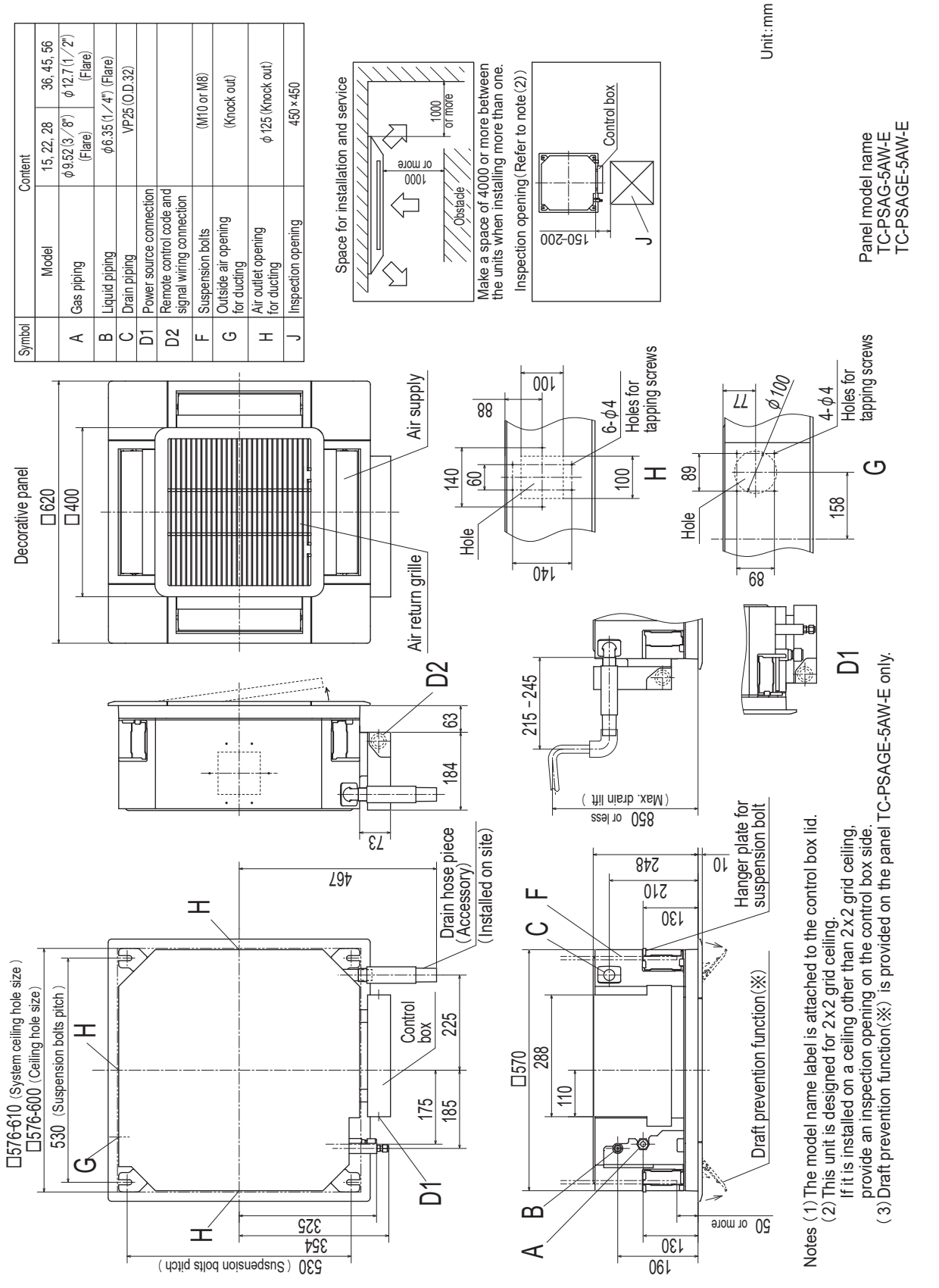
All models

(a) Honeycomb type



PJF000Z762

(b) Grid type

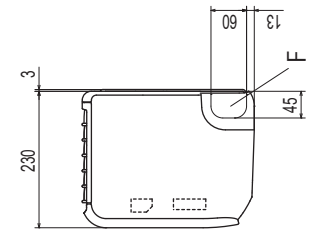


PJF000Z764

(3) Wall mounted type (FDK)

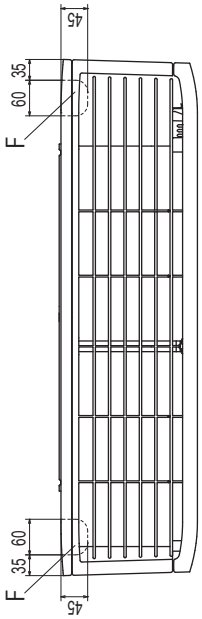
Models FDK15KXZE1-W, 22KXZE1-W, 28KXZE1-W, 36KXZE1-W, 45KXZE1-W, 56KXZE1-W

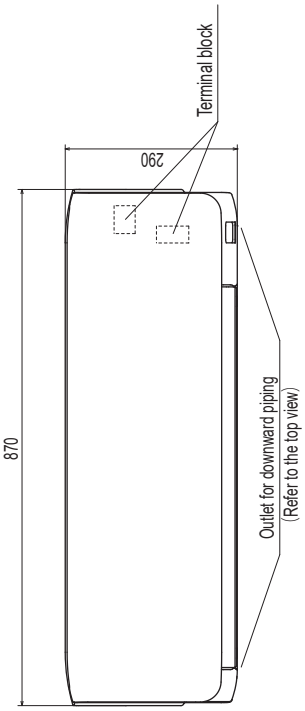
Symbol	Content		
	Model	15,22,28	36,45,56
A	Gas piping	φ9.52 (3/8") (Flare)	φ12.7 (1/2") (Flare)
B	Liquid piping	φ6.35 (1/4") (Flare)	
C	Hole on wall for right rear piping	(φ65)	
D	Hole on wall for left rear piping	(φ65)	
E	Drain hose	VP16 (O.D.22)	
F	Outlet for wiring (on both side)		

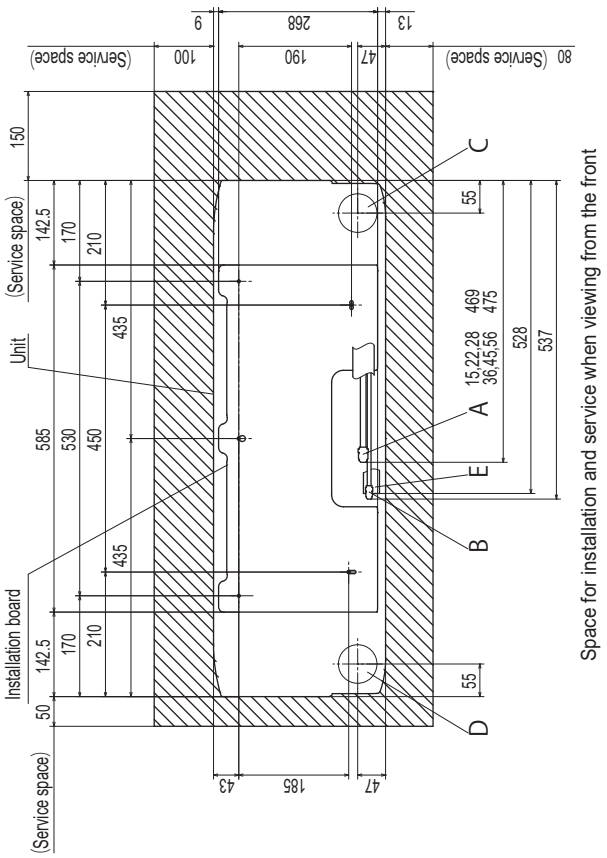


Unit:mm

Note (1) The model name label is attached on the right side of the unit.





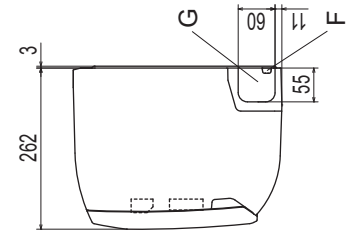


Space for installation and service when viewing from the front

PHA001Z176

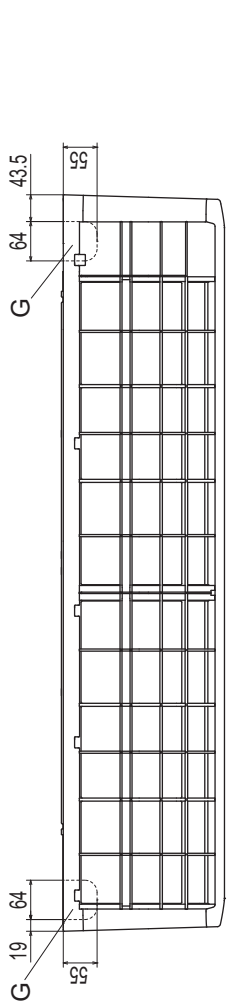
Models FDK71KXZE1-W, 90KXZE1-W

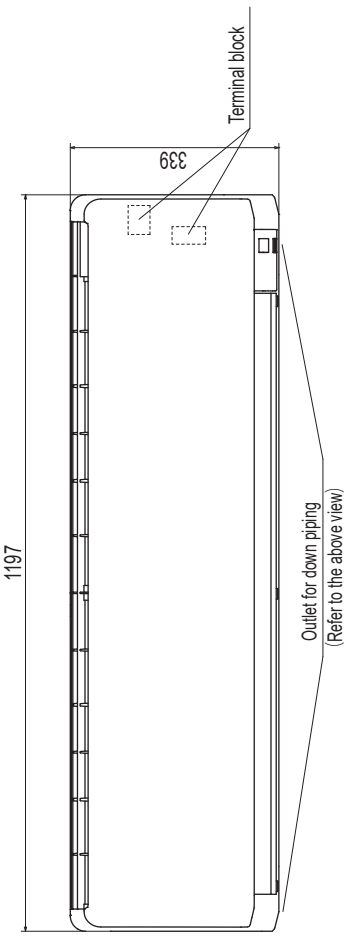
Symbol	Content	
A	Gas piping	ϕ15.88 (5/8") (Flare)
B	Liquid piping	ϕ9.52 (3/8") (Flare)
C	Hole on wall for right rear piping	(ϕ65)
D	Hole on wall for left rear piping	(ϕ65)
E	Drain hose	VP16 (O.D.22)
F	Outlet for wiring (on both side)	
G	Outlet for piping (on both side)	

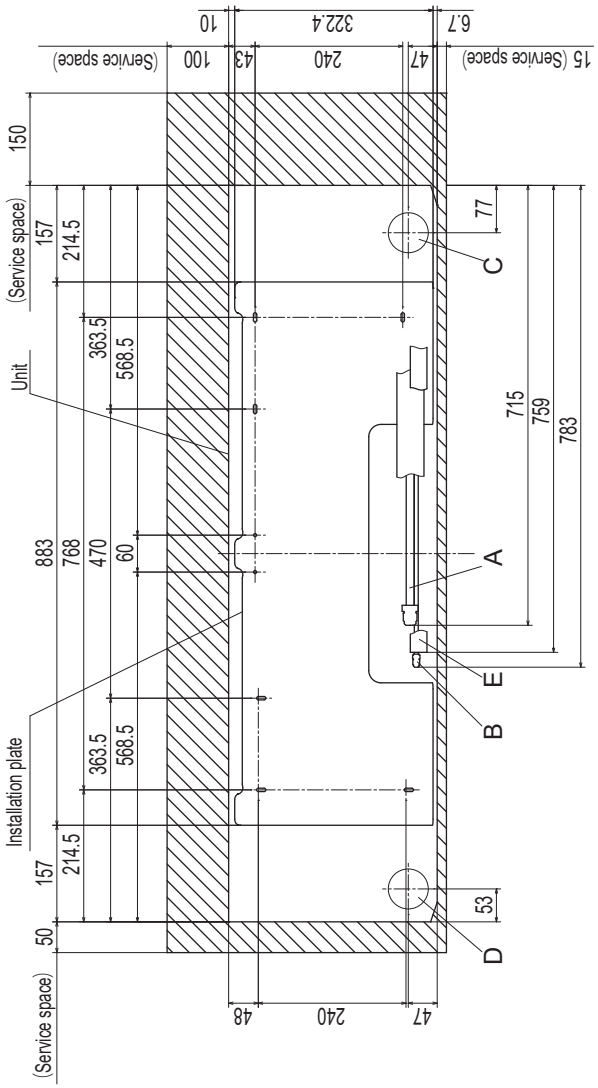


Unit:mm

Note (1) The model name label is attached on the underside of the indoor unit.







Space for installation and service when viewing from the front

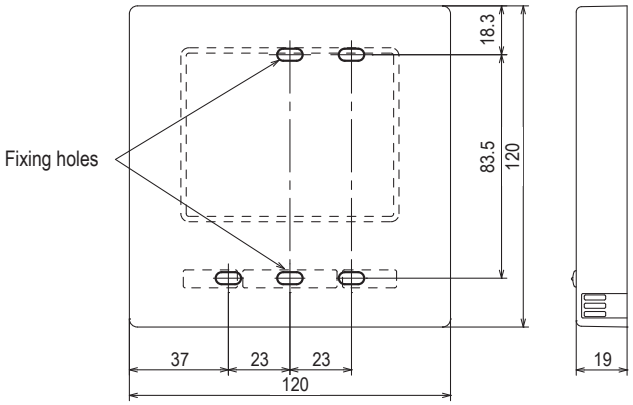
PHA001Z177

3.2.2 Remote control (Option parts)

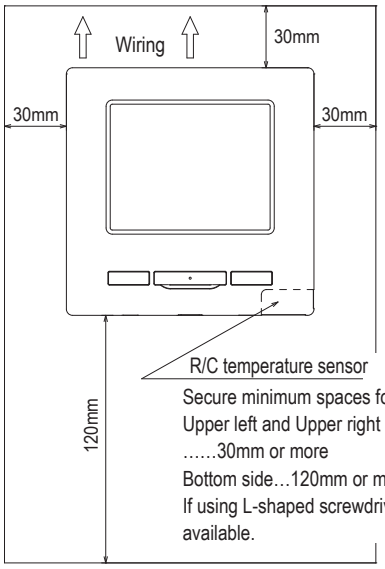
(1) Wired remote control

Model RC-EX3A

Dimensions (Viewed from front)



Installation space



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 screwdriver, 50mm or more is available.

● 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

(4) When you are using the automatic grille up and down panel in the IU, you may not be able to confirm the up and down motion.
- Where the IU cannot be visually confirmed

● 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.

R/C cable:0.3mm^{2}x2 cores

When the cable length is longer than 100m, the max size for wires used in the R/C case is 0.5mm^2 . 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.

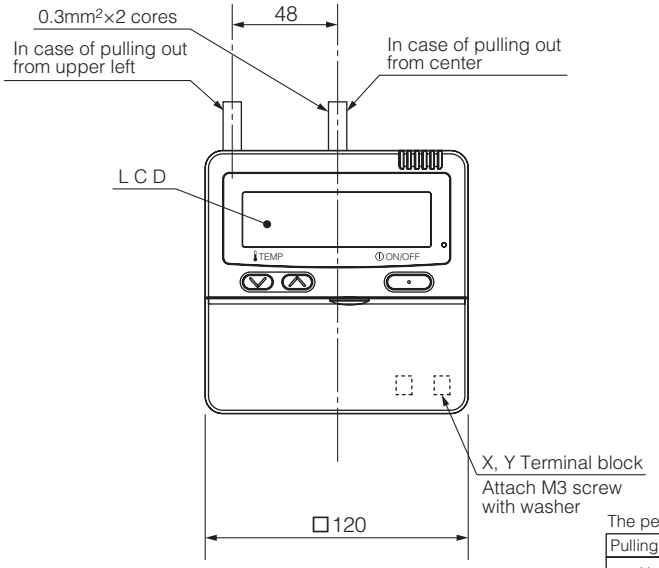
≦ 200 m	0.5mm^2 x 2 cores
≦ 300m	0.75mm^2 x 2 cores
≦ 400m	1.25mm^2 x 2 cores
≦ 600m	2.0mm^2 x 2 cores

Adapted **RoHS** directive

PJZ000Z333

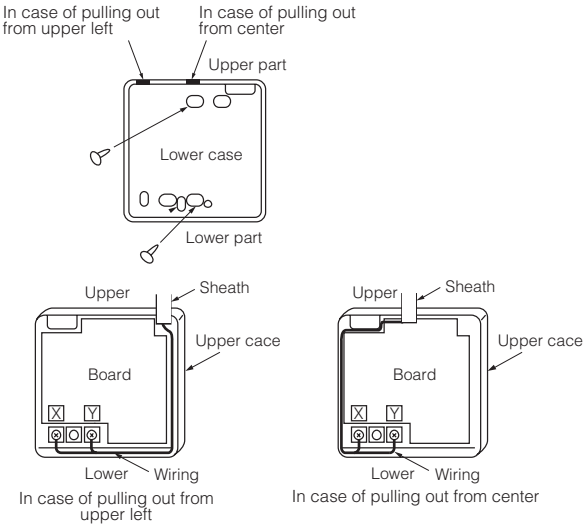
Model RC-E5

Exposed mounting



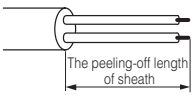
Exterior appearance (Munsell color)	Pearl white (N8.5) near equivalent

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.

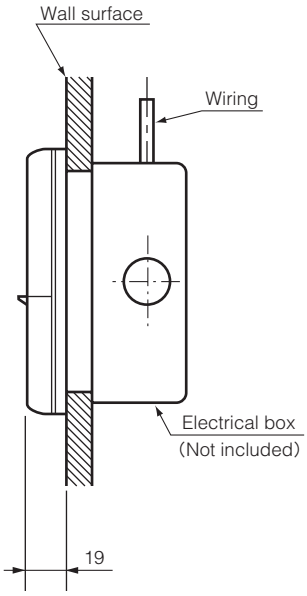


The peeling-off length of sheath

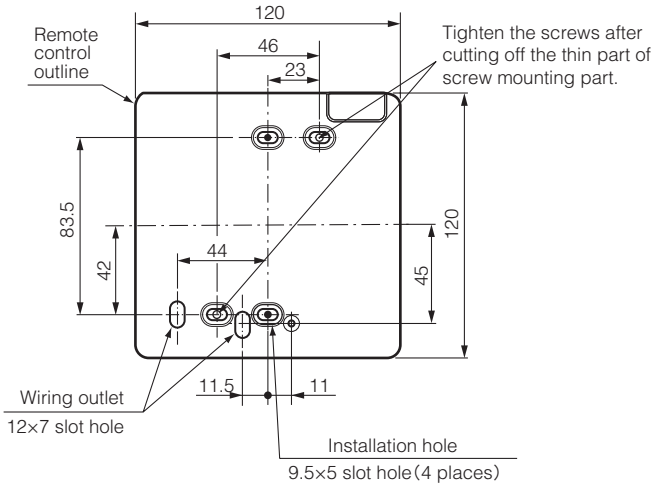
Pulling out from upper left	Pulling out from center
X wiring : 215mm Y wiring : 195mm	X wiring : 170mm Y wiring : 190mm



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.

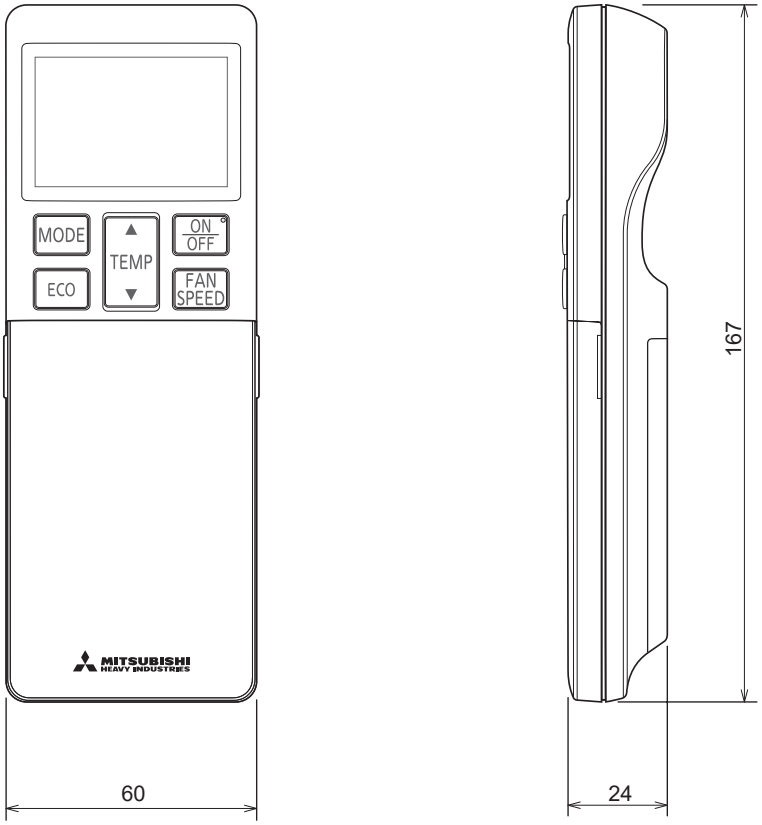
Length	Wiring thickness
100 to 200m	0.5mm² × 2 cores
Under 300m	0.75mm² × 2 cores
Under 400m	1.25mm² × 2 cores
Under 600m	2.0mm² × 2 cores

PJZ000Z295

(2) Wireless remote control (RCN-E2, RCN-EK2)

This remote control is an accessory of the wireless remote control kit. (Refer to 12.1 wireless kit)

Unit: mm



3.3 Electrical wiring

(1) Ceiling cassette-4 way type (FDT)

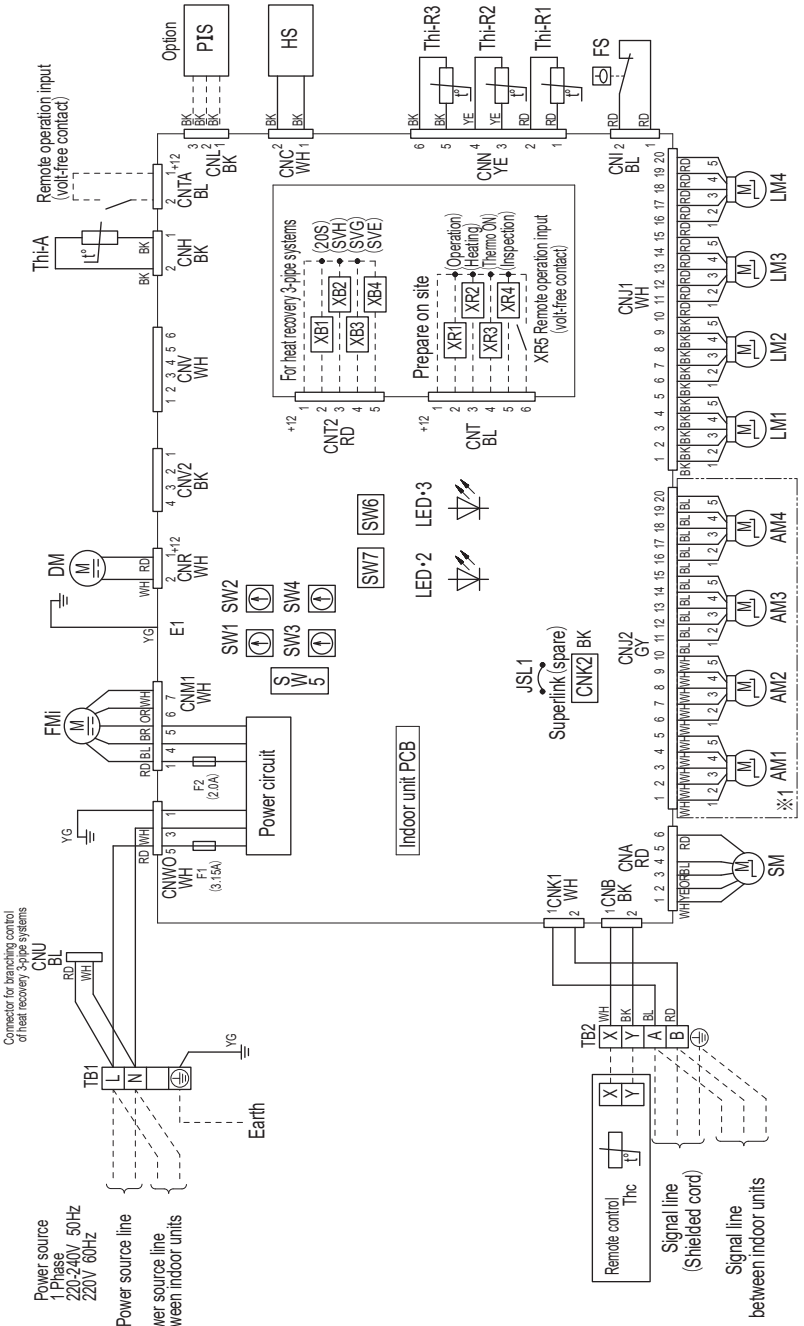
All models

Meaning of marks

Item	Description
AM1-4	Draft prevention function motor
CNA-Z	Connector
DM	Drain pump motor
F1,2	Fuse
FMi	Fan motor
FS	Float switch
HS	Humidity sensor
JSL1	Spare Superlink connector change
LED･2	Indication lamp (Green-Normal operation)
LED･3	Indication lamp (Red-Inspection)
LM1-4	Louver motor
PIS	Motion sensor
SM	Stepping motor (For electronic expansion valve)
SW1	Indoor unit address:tens place
SW2	Indoor unit address:ones place
SW3	Outdoor unit address:tens place
SW4	Outdoor unit address:ones place
SW5-1	Automatic adjustment ／ Fixed previous version of Superlink protocol
SW5-2	Indoor unit address:hundreds place
SW6	Model capacity setting
SW7-1	Operation check,drain pump motor test run
TB1	Terminal block (Power source)
TB2	Terminal block (Signal line)
Thc	Temperature sensor (Remote control)
Thi-A	Temperature sensor (Return air)
Thi-R1,2,3	Temperature sensor (Heat exchanger)

Color marks

Mark	Color	Mark	Color
BK	Black	WH	White
BL	Blue	YE	Yellow
BR	Brown	GY	Gray
OR	Orange	YG	Yellow Green
RD	Red		



Notes
1. - - - indicates wiring on site.
2. Use twin core shielded cord (0.75-1.25mm^2) at signal line between indoor unit and outdoor unit, and signal line between indoor units.
3. Use twin core cord (0.3mm^2) at remote control line.
   See spec sheet of remote control in case that the total length is more than 100m.
4. Do not put signal line and remote control line alongside power source line.
5. Draft prevention function (※1) is provided on the panel T-PSAE-5BW-E, T-PSAE-5BB-E only.

PJF000Z761

(2) Ceiling cassette-4 way compact type (FDTC)

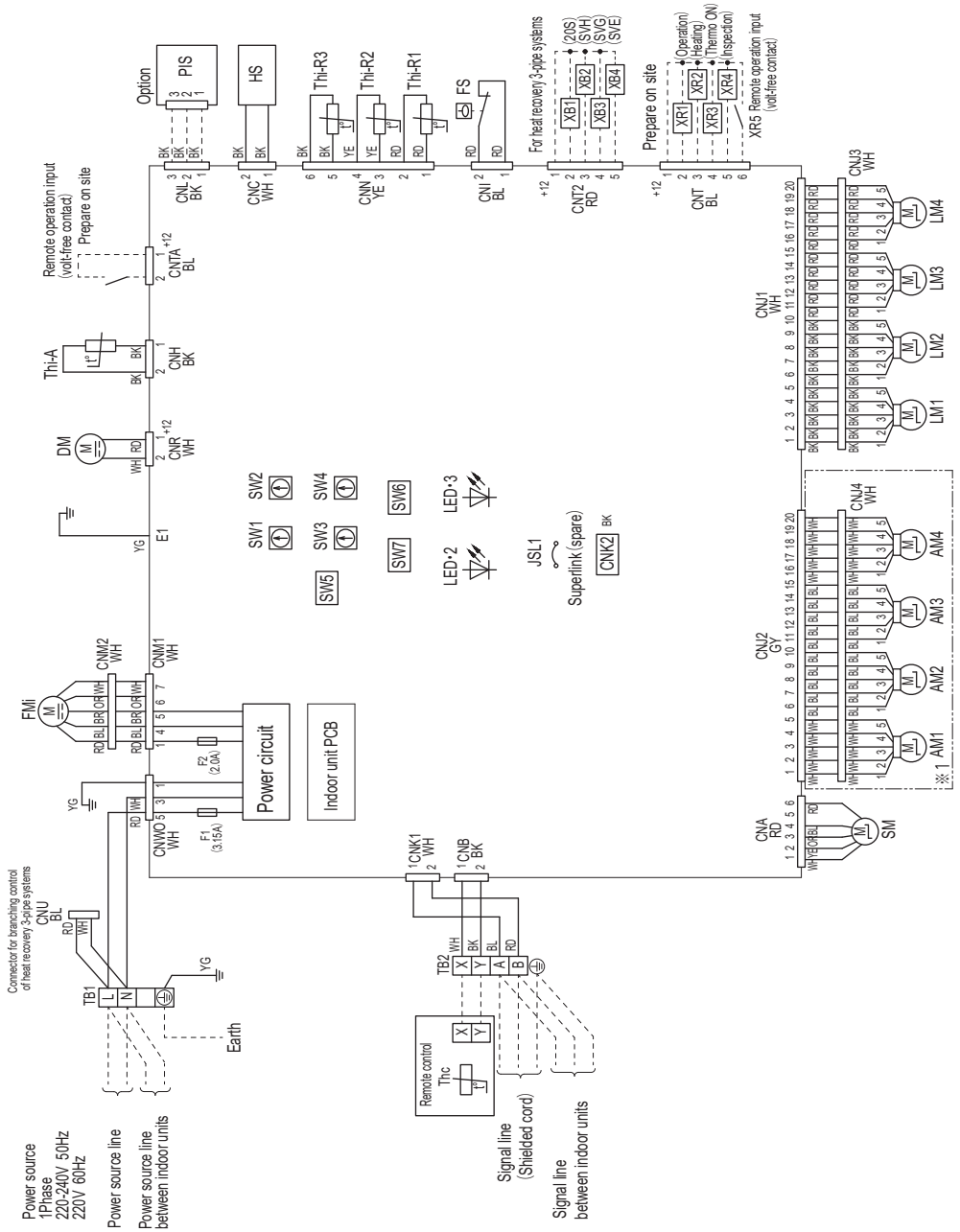
All models

Meaning of marks

Item	Description
AM1-4	Draft prevention function motor
CNA-Z	Connector
DM	Drain pump motor
F1,2	Fuse
FMi	Fan motor
FS	Float switch
HS	Humidity sensor
JSL1	Spare Superlink connector change
LED・2	Indication lamp (Green-Normal operation)
LED・3	Indication lamp (Red-Inspection)
LM1-4	Louver motor
PIS	Motion sensor
SM	Stepping motor (For electronic expansion valve)
SW1	Indoor unit address:tens place
SW2	Indoor unit address:ones place
SW3	Outdoor unit address:tens place
SW4	Outdoor unit address:ones place
SW5-1	Automatic adjustment ／ Fixed previous version of Superlink protocol
SW5-2	Indoor unit address:hundreds place
SW6,SW7-2	Model capacity setting
SW7-1	Operation check,drain pump motor test run
TB1	Terminal block (Power source) (□mark)
TB2	Terminal block (Signal line) (□mark)
Thc	Temperature sensor (Remote control)
Thi-A	Temperature sensor (Return air)
Thi-R1,2,3	Temperature sensor (Heat exchanger)

Color marks

Mark	Color	Mark	Color
BK	Black	WH	White
BL	Blue	YE	Yellow
BR	Brown	GY	Gray
OR	Orange	YG	Yellow Green
RD	Red		



Notes

1. - - - indicates wiring on site.
2. Use twin core shielded cord (0.75-1.25mm^2) at signal line between indoor unit and outdoor unit, and signal line between indoor units.
3. Use twin core cord (0.3mm^2) at remote control line.
   See spec sheet of remote control in case that the total length is more than 100m.
4. Do not put signal line and remote control line alongside power source line.
5. Draft prevention function (※1) is provided on the panel TC-PSAE-5AW-E, TC-PSAGE-5AW-E only.

PJF000Z763

(3) Wall mounted type (FDK)

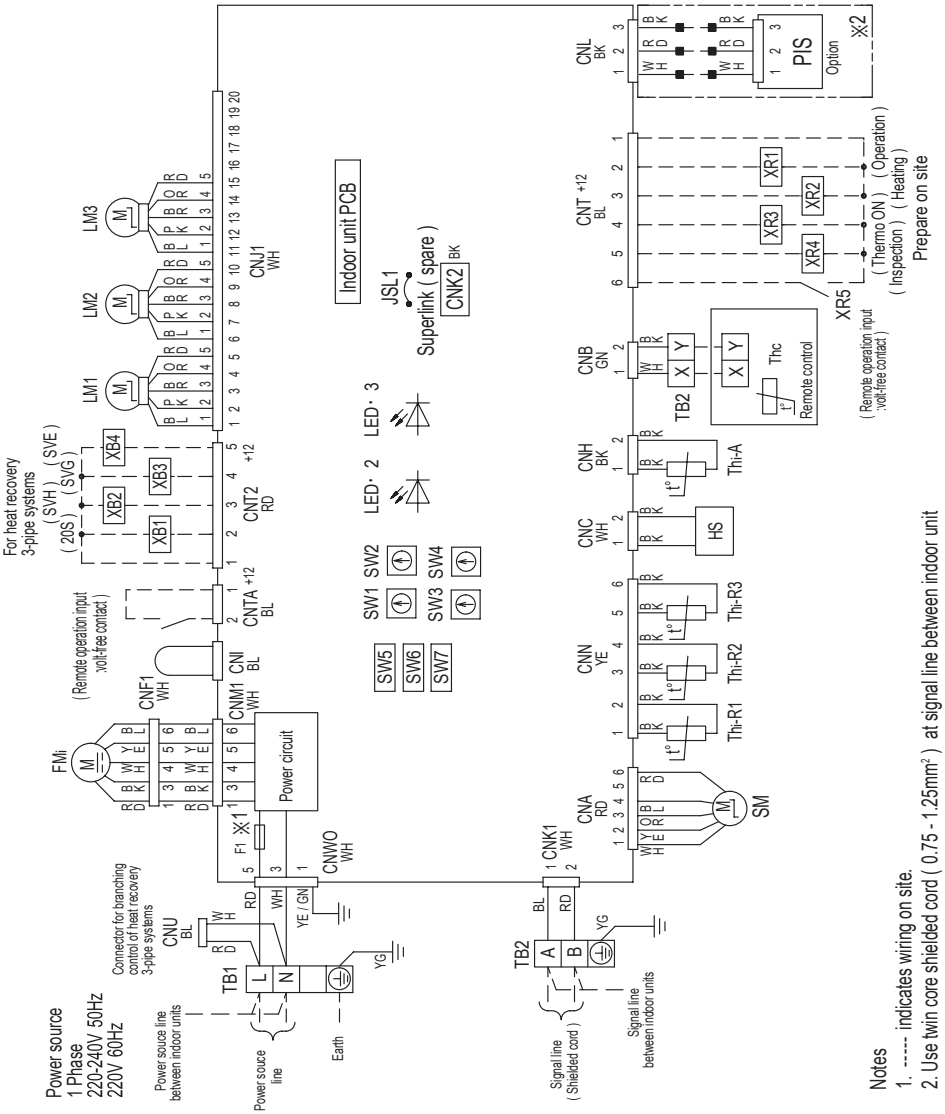
All models

Meaning of marks

Item	Description
CNA-Z	Connector
F1	Fuse
FMi	Fan motor
HS	Humidity sensor
JSL1	Spare Superlink connector change
LED・2	Indication lamp (Green-Normal operation)
LED・3	Indication lamp (Red-Inspection)
LM1	Flap motor
LM2	Louver motor (Left)
LM3	Louver motor (Right)
PIS	Motion sensor
SM	Stepping motor (For electronic expansion valve)
SW1	Indoor unit address:tens place
SW2	Indoor unit address:ones place
SW3	Outdoor unit address:tens place
SW4	Outdoor unit address:ones place
SW5 -1	Automatic adjustment / Fixed previous version of Superlink protocol
SW5 -2	Indoor unit address:hundreds place
SW6,SW7-2	Model capacity setting
SW7 -1	Operation check
TB1	Terminal block (Power source) (□ mark)
TB2	Terminal block (Signal line) (□ mark)
Thc	Temperature sensor (Remote control)
Thi-A	Temperature sensor (Return air)
Thi-R1,2,3	Temperature sensor (Heat exchanger)
■mark	Closed-end connector

Color marks

Mark	Color	Mark	Color
BK	Black	RD	Red
BL	Blue	WH	White
BR	Brown	YE	Yellow
OR	Orange	YG	Yellow Green
PK	Pink		



Notes

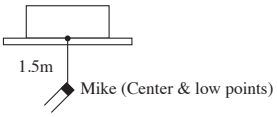
1. ----- indicates wiring on site.
2. Use twin core shielded cord (0.75 - 1.25mm^2) at signal line between indoor unit and outdoor unit, and signal line between indoor units.
3. Use twin core cord (0.3mm^2) at remote control line.
   See spec sheet of remote control in case that the total length is more than 100m.
4. Do not put signal line and remote control line alongside power source line.
5. Fuse (F1) (※1) is 3.15A in case of FDK15 ~ 56 ,and 5A in case of FDK71,90.
6. Section 1 (※2) shows electric circuit of motion sensor (option) .

PHA001Z178

3.4 Noise level

Note (1) The data are based on the following conditions.
Ambient air tempetature: Indoor unit 27˚C DB, 19˚C WB. Outdoor unit 35˚C DB
(2) The data in the chart are measuted in an unechonic room.
(3) The noise levels measured in the field are usually higher than the data because of reflection.

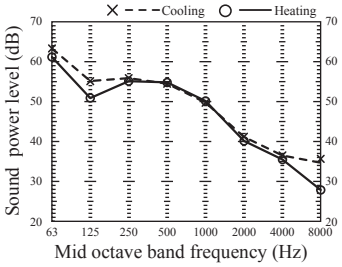
(1) Ceiling cassette-4 way type (FDT)



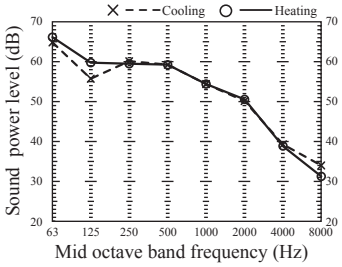
Measured based on JIS B 8616
Mike position as right

(a) Sound power level

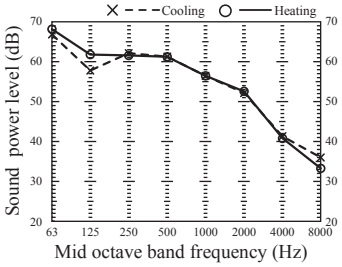
Models FDT28,36,45KXZE1-W
Noise level Cooling:55 dB (A)
Heating:55 dB (A)



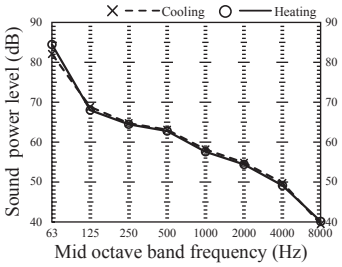
Model FDT56KXZE1-W
Noise level Cooling:60 dB (A)
Heating:60 dB (A)



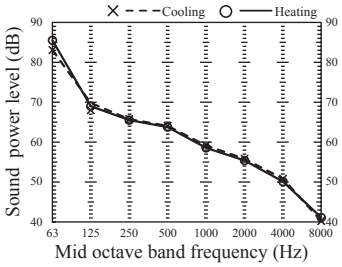
Model FDT71KXZE1-W
Noise level Cooling:62 dB (A)
Heating:62 dB (A)



Models FDT90,112KXZE1-W
Noise level Cooling:65 dB (A)
Heating:65 dB (A)



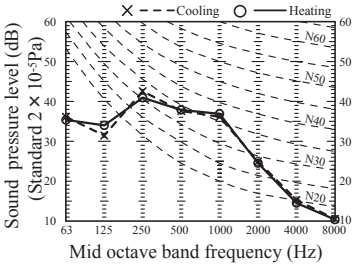
Models FDT140,160KXZE1-W
Noise level Cooling:66 dB (A)
Heating:66 dB (A)



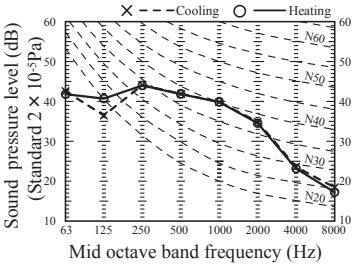
(b) Sound pressure level

(i) Air flow : P-Hi

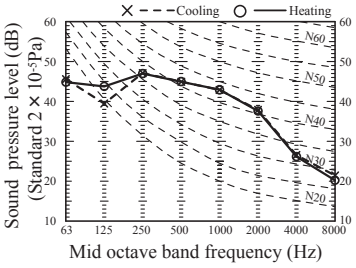
Models FDT28,36,45KXZE1-W
Noise level Cooling:40 dB (A)
Heating:40 dB (A)



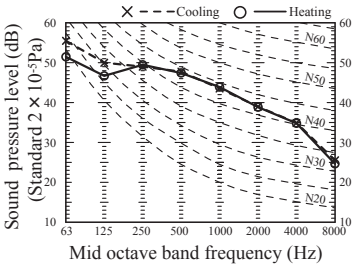
Model FDT56KXZE1-W
Noise level Cooling:44 dB (A)
Heating:44 dB (A)



Model FDT71KXZE1-W
Noise level Cooling:47 dB (A)
Heating:47 dB (A)



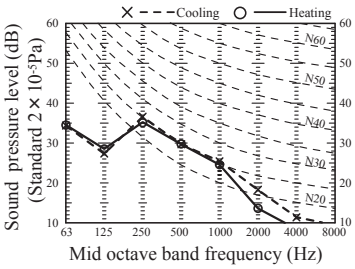
Models FDT90,112,140,160KXZE1-W
Noise level Cooling:49 dB (A)
Heating:49 dB (A)



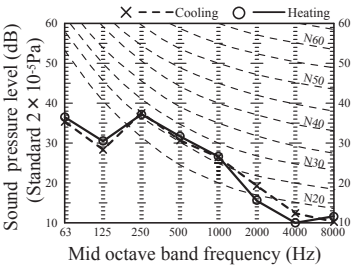
ISD20378

(ii) Air flow : Hi

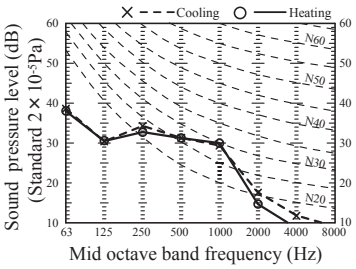
Models FDT28,36KXZE1-W
Noise level Cooling:32 dB (A)
Heating:31 dB (A)



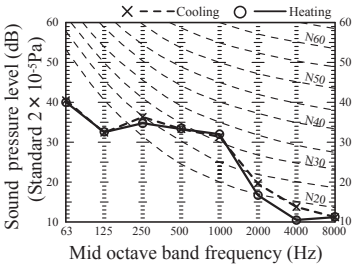
Model FDT45KXZE1-W
Noise level Cooling:33 dB (A)
Heating:33 dB (A)



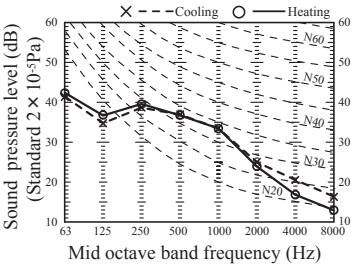
Model FDT56KXZE1-W
Noise level Cooling:33 dB (A)
Heating:33 dB (A)



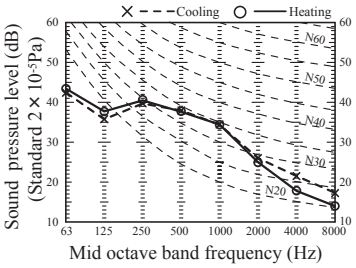
Model FDT71KXZE1-W
Noise level Cooling:35 dB (A)
Heating:35 dB (A)



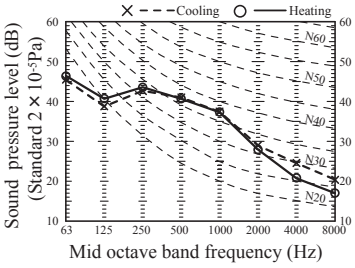
Model FDT90KXZE1-W
Noise level Cooling:38 dB (A)
Heating:38 dB (A)



Model FDT112KXZE1-W
Noise level Cooling:39 dB (A)
Heating:39 dB (A)

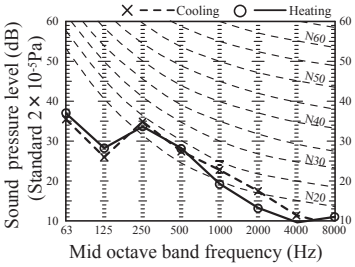


Models FDT140,160KXZE1-W
Noise level Cooling:42 dB (A)
Heating:42 dB (A)

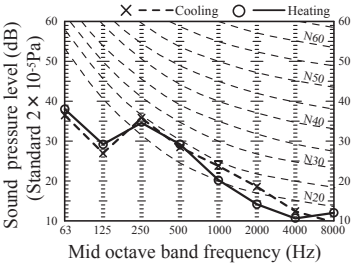


(iii) Air flow : Me

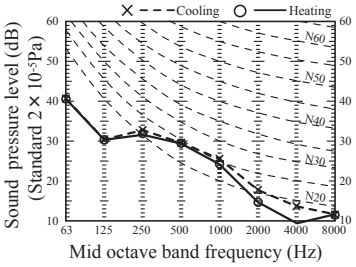
Models FDT28,36KXZE1-W
Noise level Cooling:30 dB (A)
Heating:29 dB (A)



Model FDT45KXZE1-W
Noise level Cooling:31 dB (A)
Heating:30 dB (A)

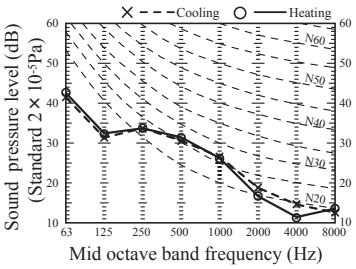


Model FDT56KXZE1-W
Noise level Cooling:31 dB (A)
Heating:30 dB (A)

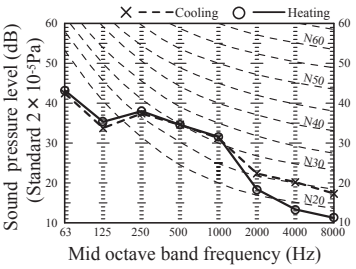


ISD20378

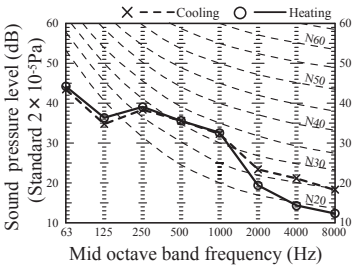
Model FDT71KXZE1-W
Noise level Cooling:32 dB (A)
Heating:32 dB (A)



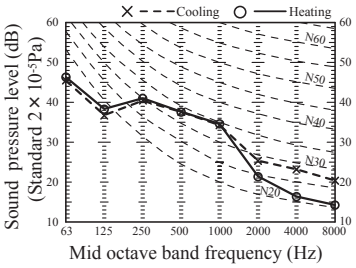
Model FDT90KXZE1-W
Noise level Cooling:36 dB (A)
Heating:36 dB (A)



Model FDT112KXZE1-W
Noise level Cooling:37 dB (A)
Heating:37 dB (A)

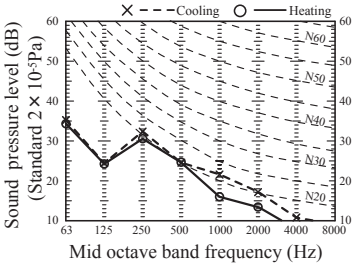


Models FDT140,160KXZE1-W
Noise level Cooling:39 dB (A)
Heating:39 dB (A)

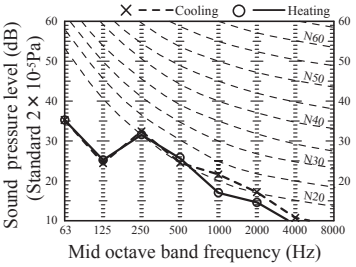


(iv) Air flow : Lo

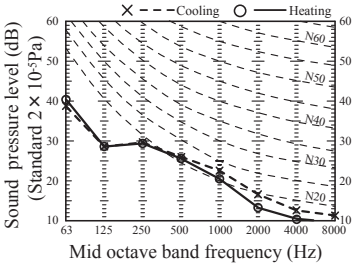
Models FDT28,36KXZE1-W
Noise level Cooling:28 dB (A)
Heating:26 dB (A)



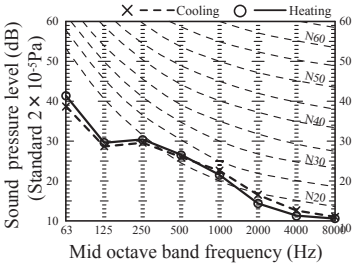
Model FDT45KXZE1-W
Noise level Cooling:28 dB (A)
Heating:27 dB (A)



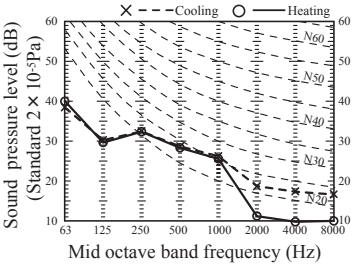
Model FDT56KXZE1-W
Noise level Cooling:28 dB (A)
Heating:27 dB (A)



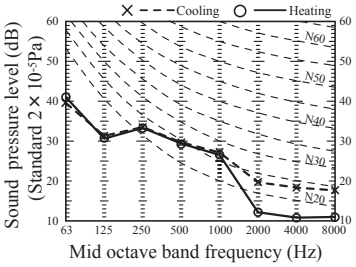
Model FDT71KXZE1-W
Noise level Cooling:28 dB (A)
Heating:28 dB (A)



Models FDT90,112KXZE1-W
Noise level Cooling:31 dB (A)
Heating:30 dB (A)

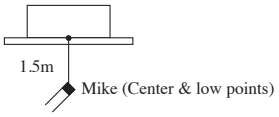


Models FDT140,160KXZE1-W
Noise level Cooling:32 dB (A)
Heating:31 dB (A)



ISD20378

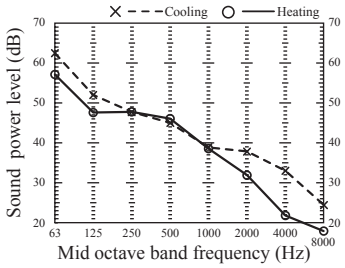
(2) Ceiling cassette-4 way compact type (FDTC)



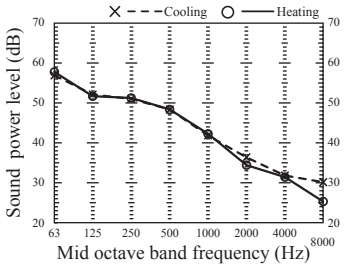
Measured based on JIS B 8616
Mike position as right

(a) Sound power level

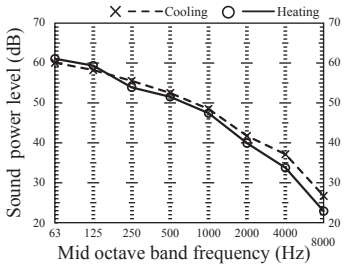
Model FDTC15KXZE1-W
Noise level Cooling:47 dB (A)
Heating:46 dB (A)



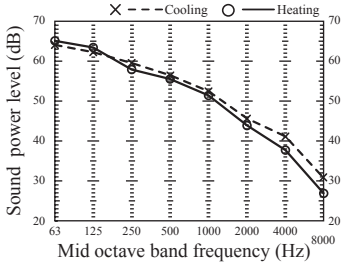
Models FDTC22,28KXZE1-W
Noise level Cooling:49 dB (A)
Heating:49 dB (A)



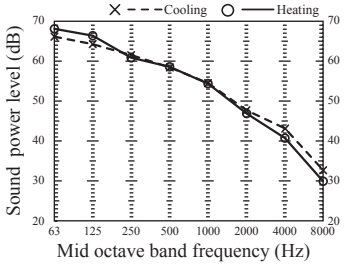
Model FDTC36KXZE1-W
Noise level Cooling:54 dB (A)
Heating:53 dB (A)



Model FDTC45KXZE1-W
Noise level Cooling:58 dB (A)
Heating:57 dB (A)



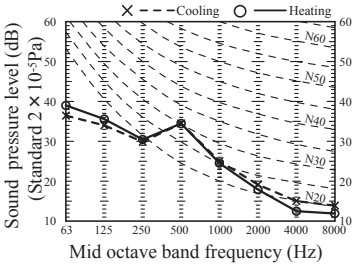
Model FDTC56KXZE1-W
Noise level Cooling:60 dB (A)
Heating:60 dB (A)



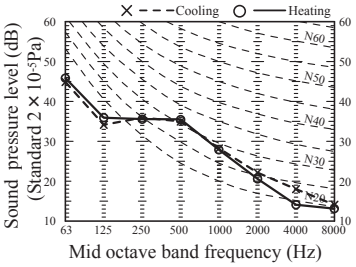
(b) Sound pressure level

(i) Air flow : P-Hi

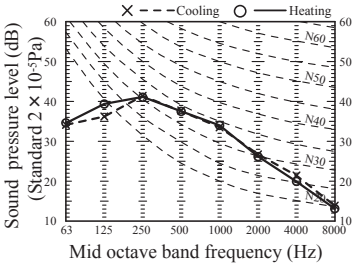
Model FDTC15KXZE1-W
Noise level Cooling:33 dB (A)
Heating:33 dB (A)



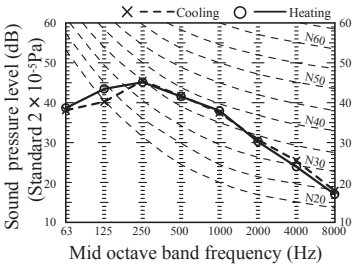
Models FDTC22,28KXZE1-W
Noise level Cooling:35 dB (A)
Heating:35 dB (A)



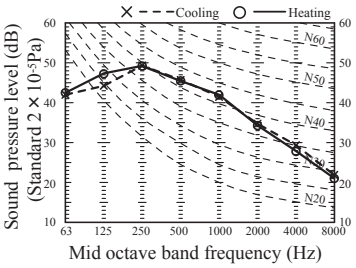
Model FDTC36KXZE1-W
Noise level Cooling:39 dB (A)
Heating:39 dB (A)



Model FDTC45KXZE1-W
Noise level Cooling:43 dB (A)
Heating:43 dB (A)



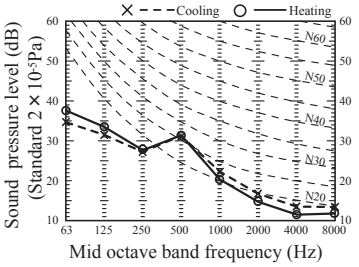
Model FDTC56KXZE1-W
Noise level Cooling:47 dB (A)
Heating:47 dB (A)



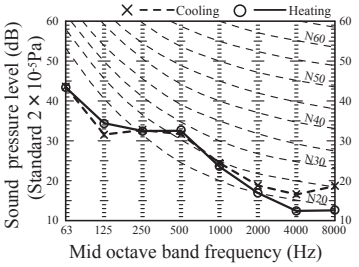
ISD20379

(ii) Air flow : Hi

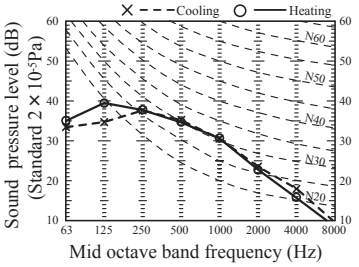
Model FDTC15KXZE1-W
Noise level Cooling:30 dB (A)
Heating:30 dB (A)



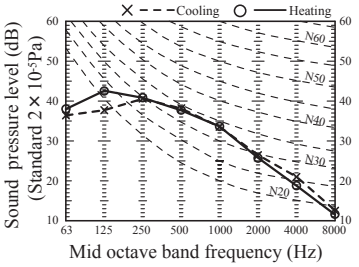
Models FDTC22,28KXZE1-W
Noise level Cooling:32 dB (A)
Heating:32 dB (A)



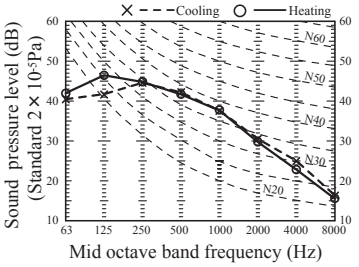
Model FDTC36KXZE1-W
Noise level Cooling:36 dB (A)
Heating:36 dB (A)



Model FDTC45KXZE1-W
Noise level Cooling:39 dB (A)
Heating:39 dB (A)

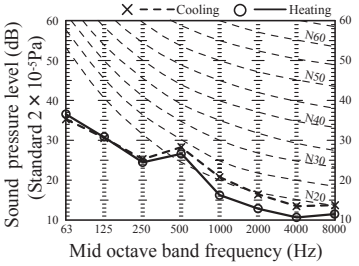


Model FDTC56KXZE1-W
Noise level Cooling:43 dB (A)
Heating:43 dB (A)

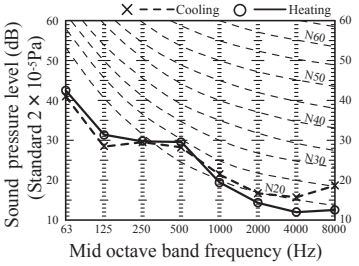


(iii) Air flow : Me

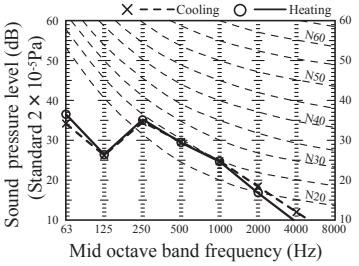
Model FDTC15KXZE1-W
Noise level Cooling:28 dB (A)
Heating:26 dB (A)



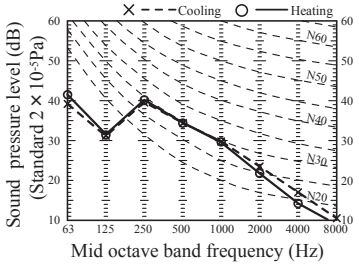
Models FDTC22,28KXZE1-W
Noise level Cooling:29 dB (A)
Heating:29 dB (A)



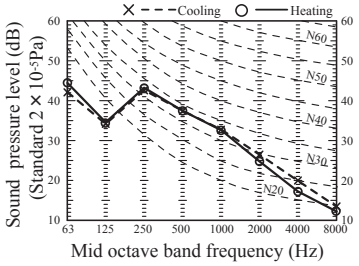
Model FDTC36KXZE1-W
Noise level Cooling:31 dB (A)
Heating:31 dB (A)



Model FDTC45KXZE1-W
Noise level Cooling:36 dB (A)
Heating:36 dB (A)



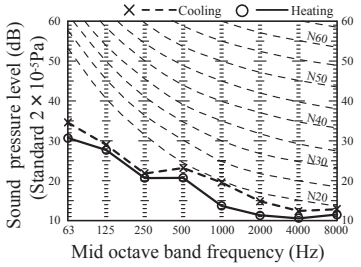
Model FDTC56KXZE1-W
Noise level Cooling:39 dB (A)
Heating:39 dB (A)



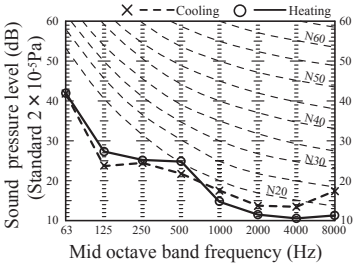
ISD20379

(iv) Air flow : Lo

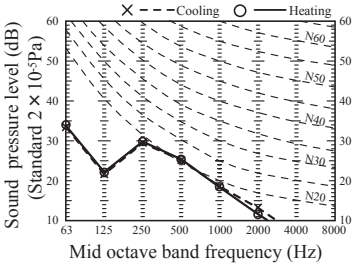
Model FDTC15KXZE1-W
Noise level Cooling:25 dB (A)
Heating:22 dB (A)



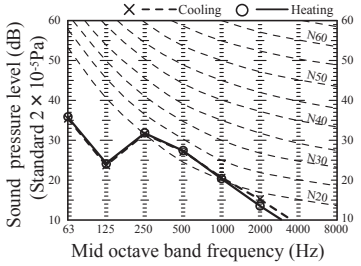
Models FDTC22,28KXZE1-W
Noise level Cooling:25 dB (A)
Heating:25 dB (A)



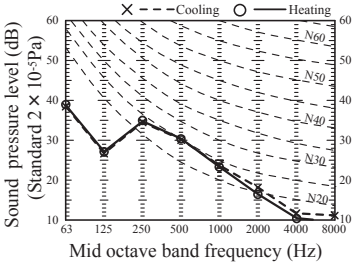
Model FDTC36KXZE1-W
Noise level Cooling:26 dB (A)
Heating:26 dB (A)



Model FDTC45KXZE1-W
Noise level Cooling:28 dB (A)
Heating:28 dB (A)



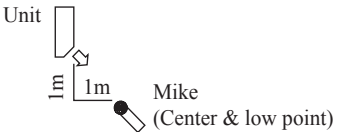
Model FDTC56KXZE1-W
Noise level Cooling:31 dB (A)
Heating:31 dB (A)



ISD20379

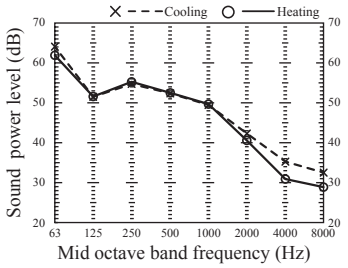
(3) Wall mounted type (FDK)

Measured based on JIS B 8616
Mike position as right

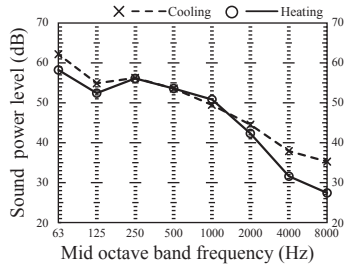


(a) Sound power level

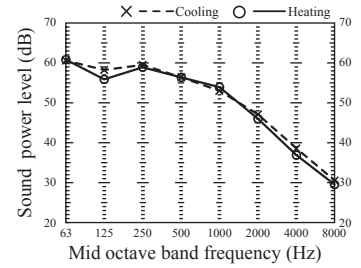
Model FDK15KXZE1-W
Noise level Cooling:54 dB (A)
Heating:54 dB (A)



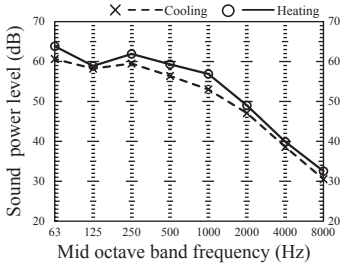
Models FDK22,28KXZE1-W
Noise level Cooling:55 dB (A)
Heating:55 dB (A)



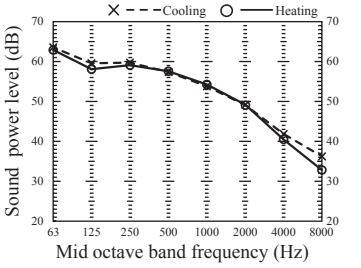
Models FDK36,45KXZE1-W
Noise level Cooling:58 dB (A)
Heating:58 dB (A)



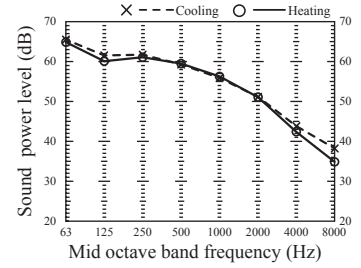
Model FDK56KXZE1-W
Noise level Cooling:58 dB (A)
Heating:61 dB (A)



Model FDK71KXZE1-W
Noise level Cooling:59 dB (A)
Heating:59 dB (A)



Model FDK90KXZE1-W
Noise level Cooling:61 dB (A)
Heating:61 dB (A)

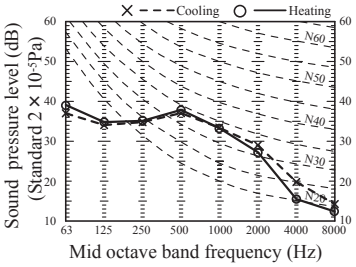


ISD20380

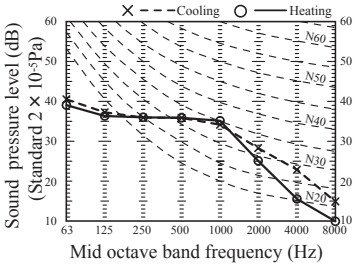
(b) Sound pressure level

(i) Air flow : P-Hi

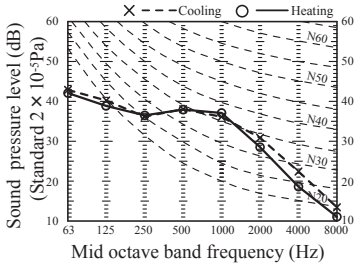
Model FDK15KXZE1-W
Noise level Cooling:38 dB (A)
Heating:38 dB (A)



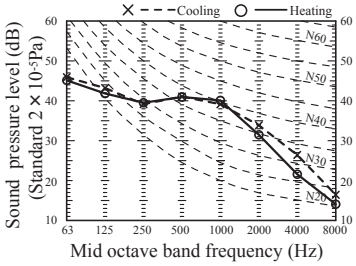
Models FDK22,28KXZE1-W
Noise level Cooling:38 dB (A)
Heating:38 dB (A)



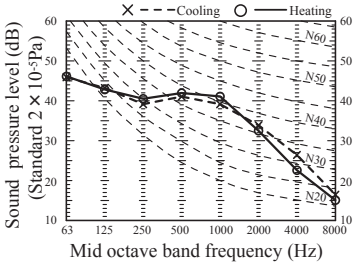
Model FDK36KXZE1-W
Noise level Cooling:40 dB (A)
Heating:40 dB (A)



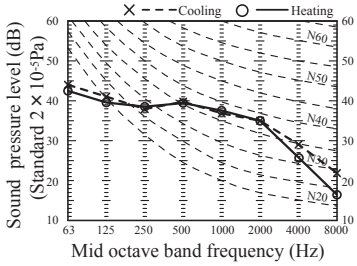
Model FDK45KXZE1-W
Noise level Cooling:43 dB (A)
Heating:43 dB (A)



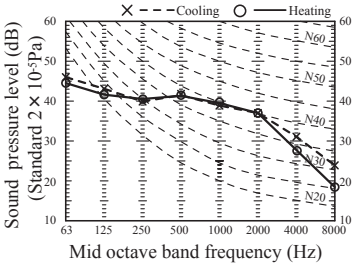
Model FDK56KXZE1-W
Noise level Cooling:43 dB (A)
Heating:44 dB (A)



Model FDK71KXZE1-W
Noise level Cooling:42 dB (A)
Heating:42 dB (A)

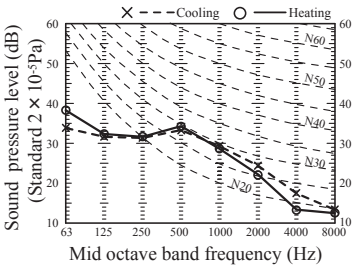


Model FDK90KXZE1-W
Noise level Cooling:44 dB (A)
Heating:44 dB (A)

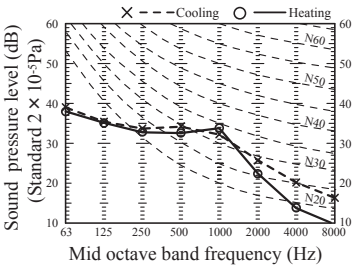


(ii) Air flow : Hi

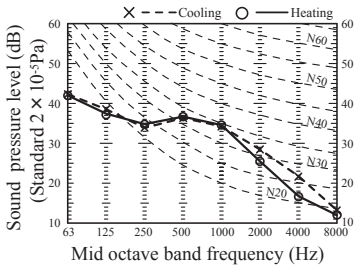
Model FDK15KXZE1-W
Noise level Cooling:34 dB (A)
Heating:34 dB (A)



Models FDK22,28KXZE1-W
Noise level Cooling:36 dB (A)
Heating:36 dB (A)

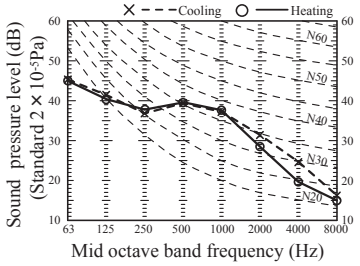


Model FDK36KXZE1-W
Noise level Cooling:38 dB (A)
Heating:38 dB (A)

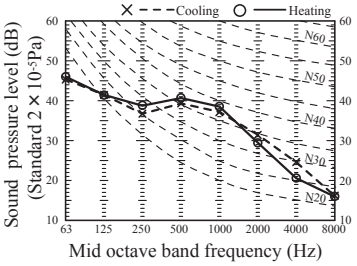


ISD20380

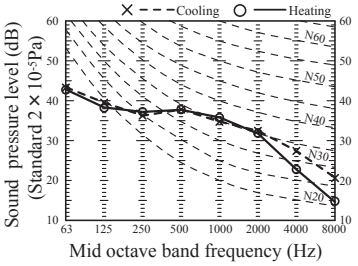
Model FDK45KXZE1-W
Noise level Cooling:41 dB (A)
Heating:41 dB (A)



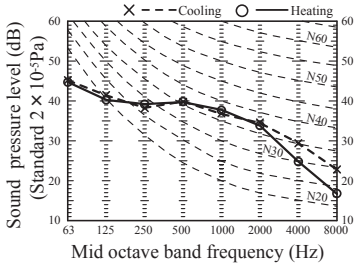
Model FDK56KXZE1-W
Noise level Cooling:41 dB (A)
Heating:42 dB (A)



Model FDK71KXZE1-W
Noise level Cooling:40 dB (A)
Heating:40 dB (A)

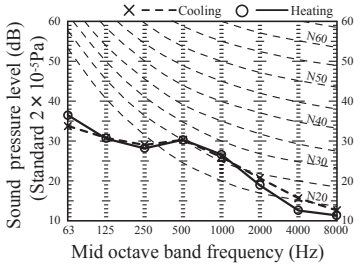


Model FDK90KXZE1-W
Noise level Cooling:42 dB (A)
Heating:42 dB (A)

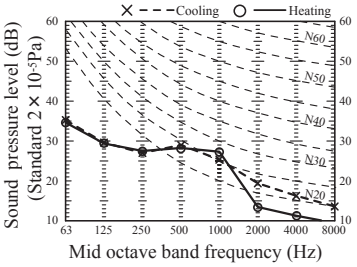


(iii) Air flow : Me

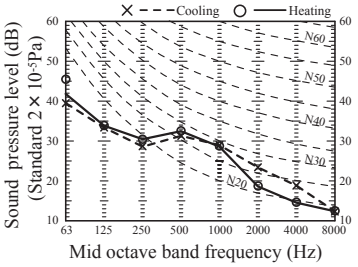
Model FDK15KXZE1-W
Noise level Cooling:31 dB (A)
Heating:31 dB (A)



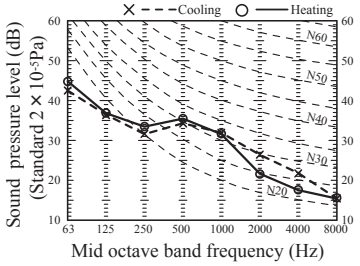
Models FDK22,28KXZE1-W
Noise level Cooling:30 dB (A)
Heating:30 dB (A)



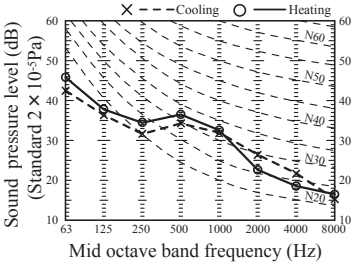
Model FDK36KXZE1-W
Noise level Cooling:33 dB (A)
Heating:33 dB (A)



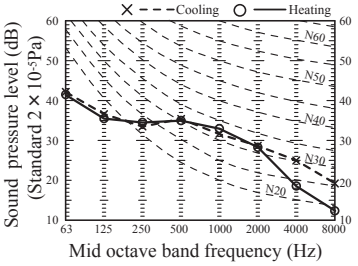
Model FDK45KXZE1-W
Noise level Cooling:36 dB (A)
Heating:36 dB (A)



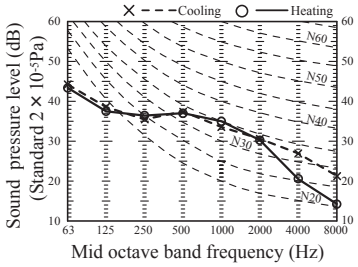
Model FDK56KXZE1-W
Noise level Cooling:36 dB (A)
Heating:37 dB (A)



Model FDK71KXZE1-W
Noise level Cooling:37 dB (A)
Heating:37 dB (A)

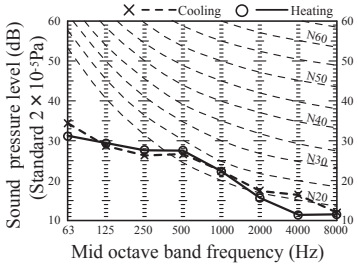


Model FDK90KXZE1-W
Noise level Cooling:39 dB (A)
Heating:39 dB (A)

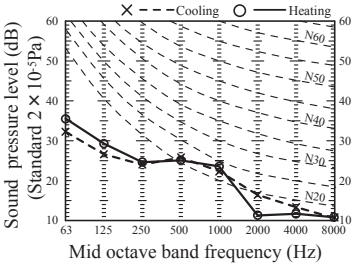


(iv) Air flow : Lo

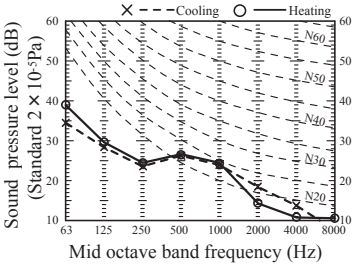
Model FDK15KXZE1-W
Noise level Cooling:28 dB (A)
Heating:28 dB (A)



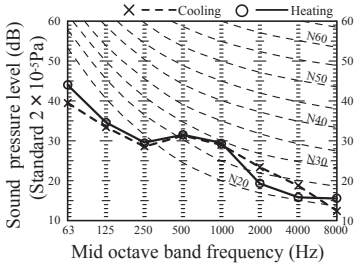
Models FDK22,28KXZE1-W
Noise level Cooling:27 dB (A)
Heating:27 dB (A)



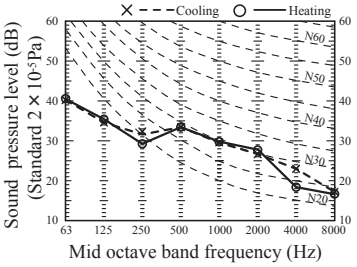
Model FDK36KXZE1-W
Noise level Cooling:28 dB (A)
Heating:28 dB (A)



Models FDK45,56KXZE1-W
Noise level Cooling:33 dB (A)
Heating:33 dB (A)



Models FDK71,90KXZE1-W
Noise level Cooling:35 dB (A)
Heating:35 dB (A)



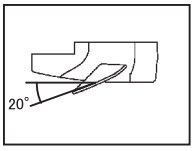
3.5 Temperature and velocity distribution

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.

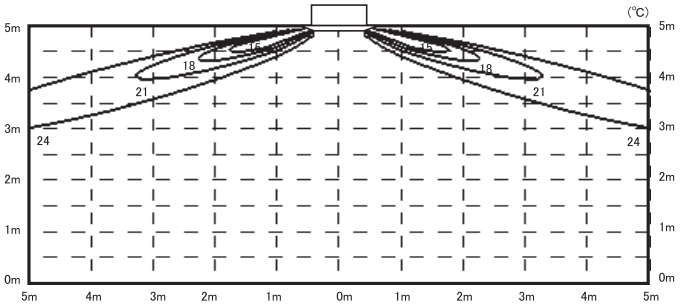
(1) Ceiling cassette-4 way (FDT)
Models FDT28KXZE1-W, 36KXZE1-W, 45KXZE1-W

Cooling Air flow:P-Hi

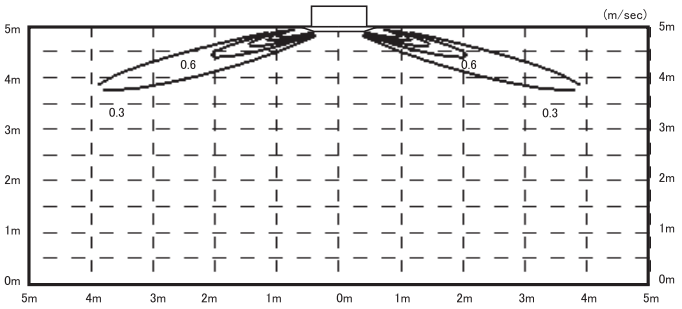
Louver position



Temperature distribution

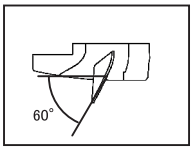


Velocity distribution

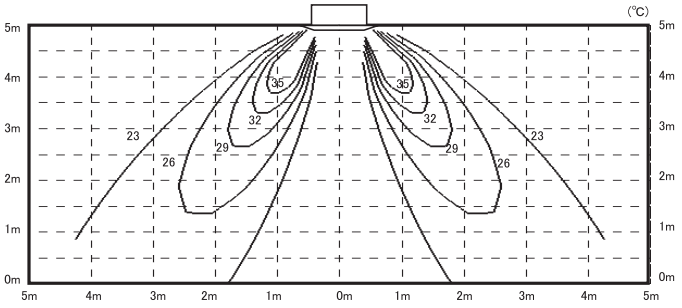


Heating Air flow:P-Hi

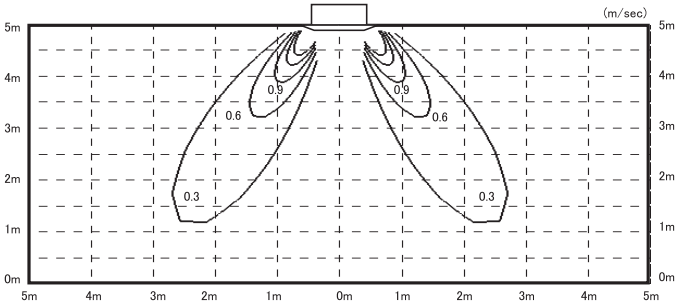
Louver position



Temperature distribution



Velocity distribution

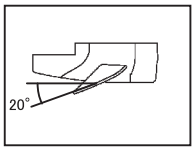


ISD16448

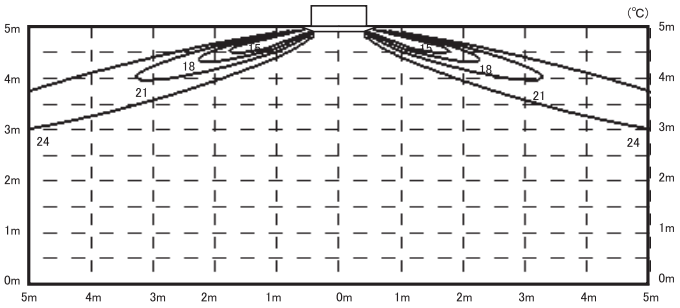
Models FDT56KXZE1-W, 71KXZE1-W

Cooling Air flow:P-Hi

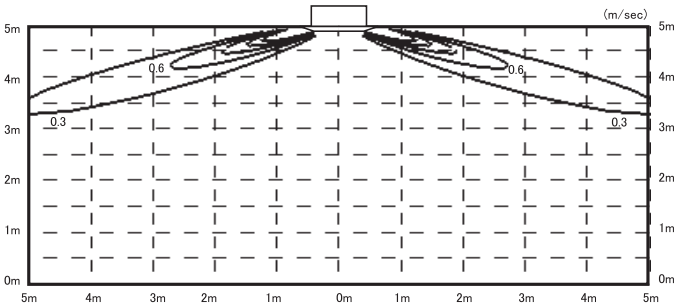
Louver position



Temperature distribution

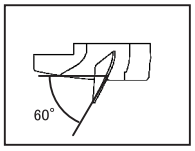


Velocity distribution

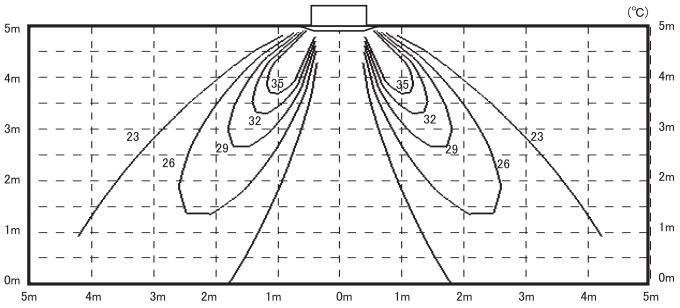


Heating Air flow:P-Hi

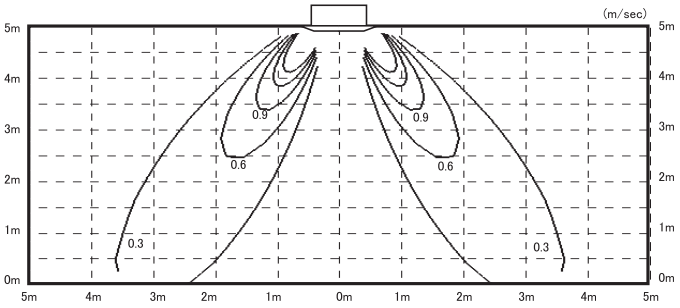
Louver position



Temperature distribution



Velocity distribution

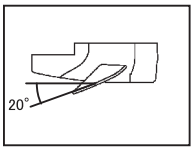


ISD16448

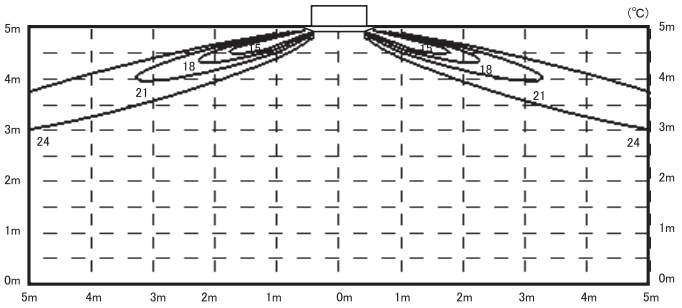
Models FDT90KXZE1-W, 112KXZE1-W, 140KXZE1-W, 160KXZE1-W

Cooling Air flow:P-Hi

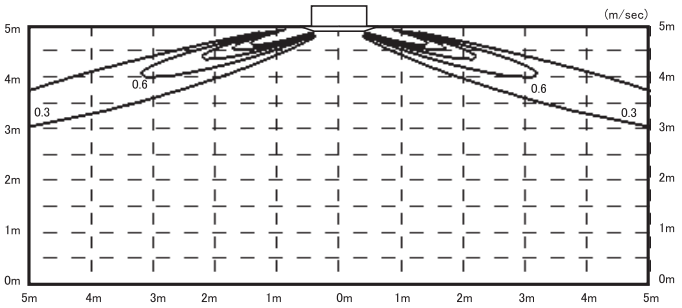
Louver position



Temperature distribution

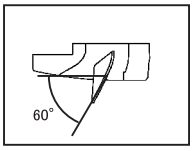


Velocity distribution

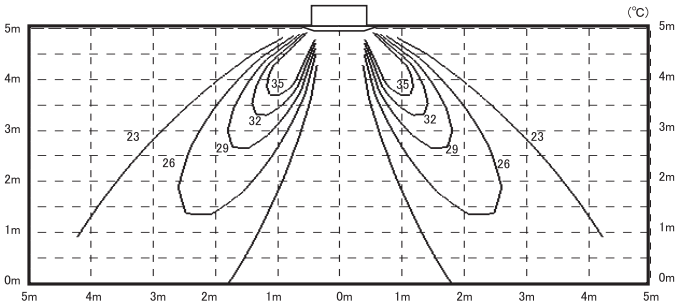


Heating Air flow:P-Hi

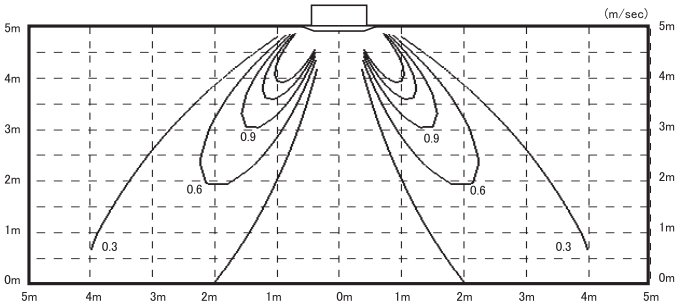
Louver position



Temperature distribution



Velocity distribution

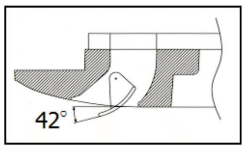


ISD16448

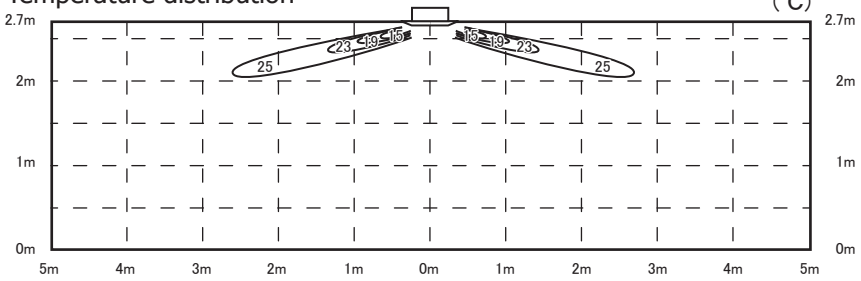
(2) Ceiling cassette-4 way compact (FDTC)
Model FDTC15KXZE1-W

Cooling Air flow: P-Hi

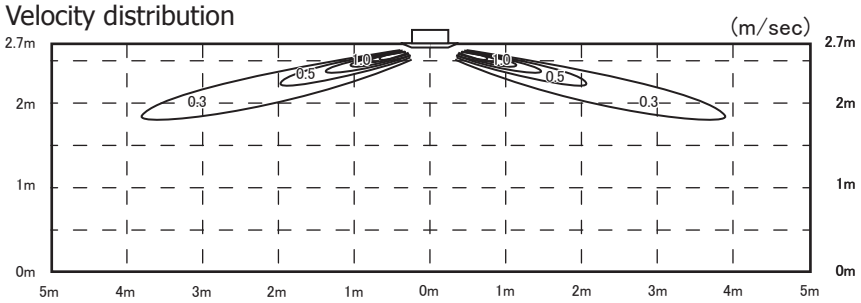
Louver position



Temperature distribution

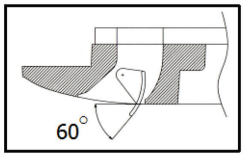


Velocity distribution

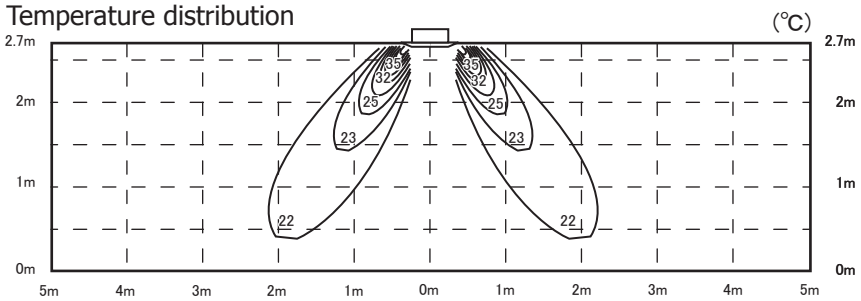


Heating Air flow: P-Hi

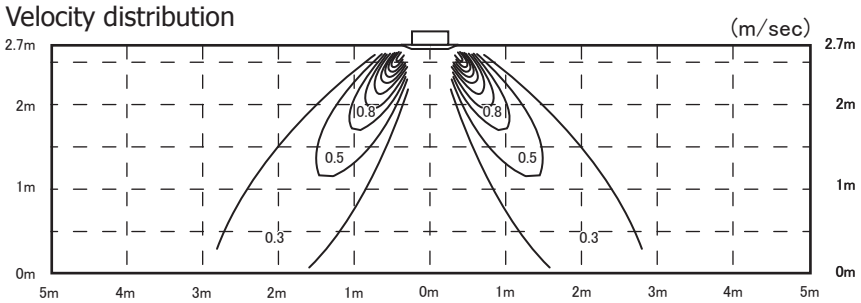
Louver position



Temperature distribution



Velocity distribution



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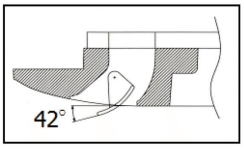
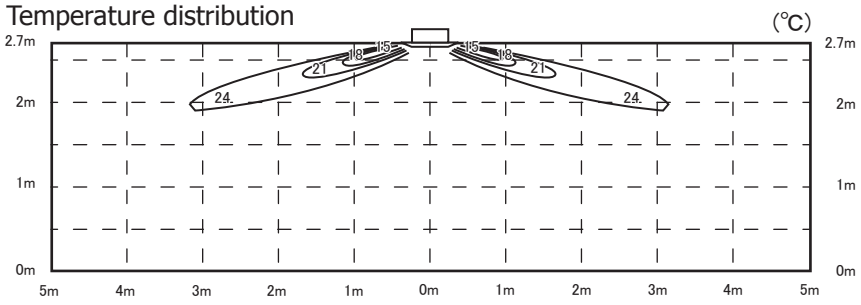
Models FDTC22KXZE1-W, 28KXZE1-W

Cooling Air flow: P-Hi

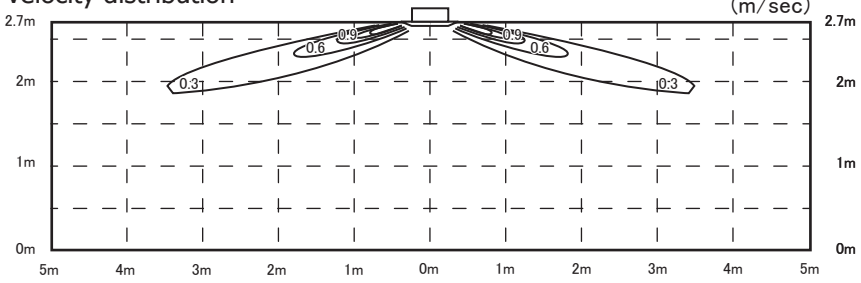
Louver position



Temperature distribution

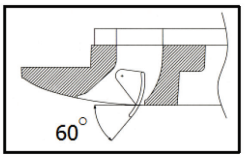


Velocity distribution

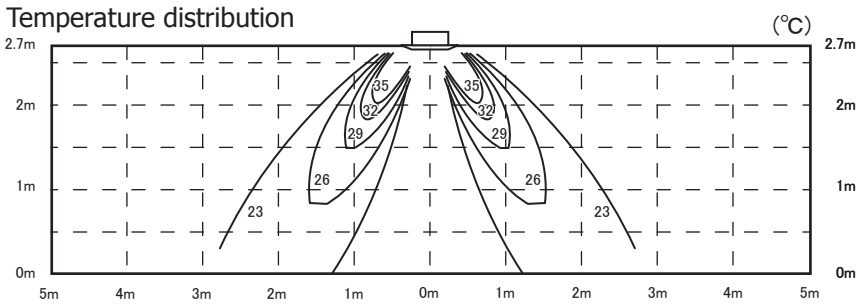


Heating Air flow: P-Hi

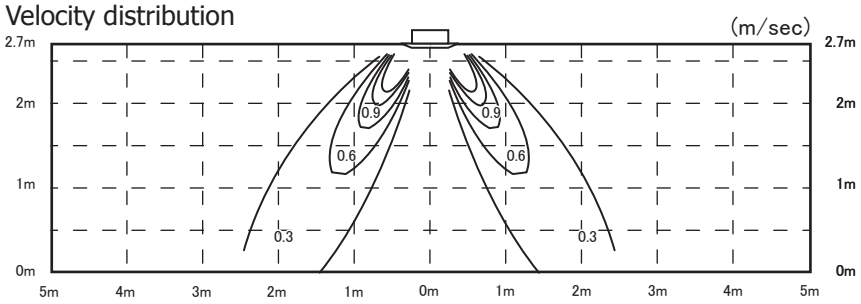
Louver position



Temperature distribution



Velocity distribution

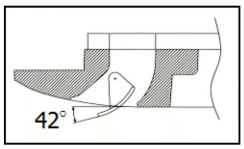


ISD18195 B

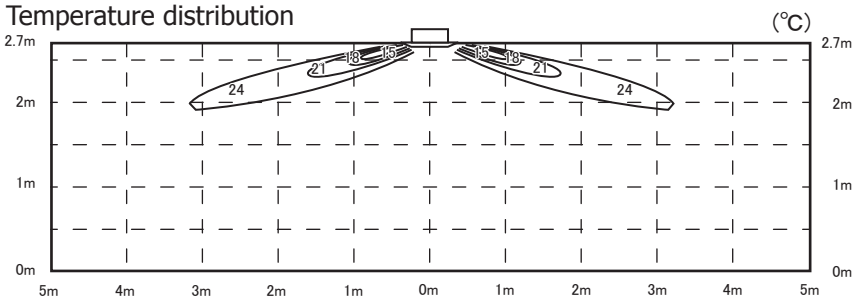
Model FDTC36KXZE1-W

Cooling Air flow: P-Hi

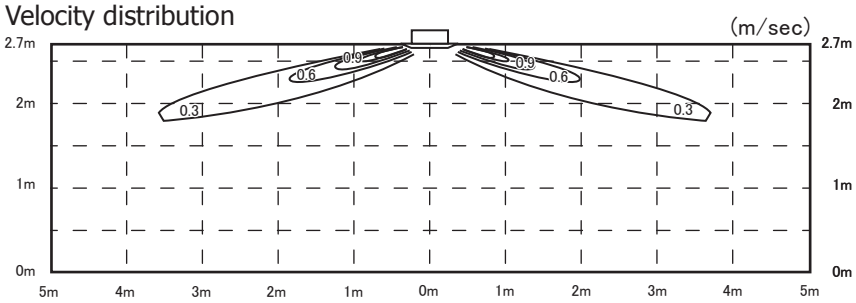
Louver position



Temperature distribution

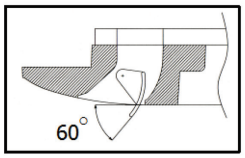


Velocity distribution

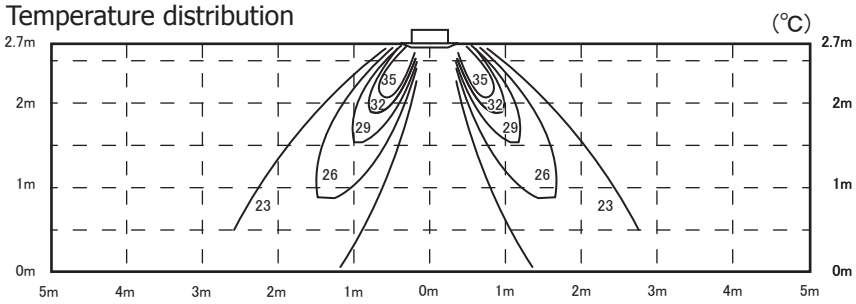


Heating Air flow: P-Hi

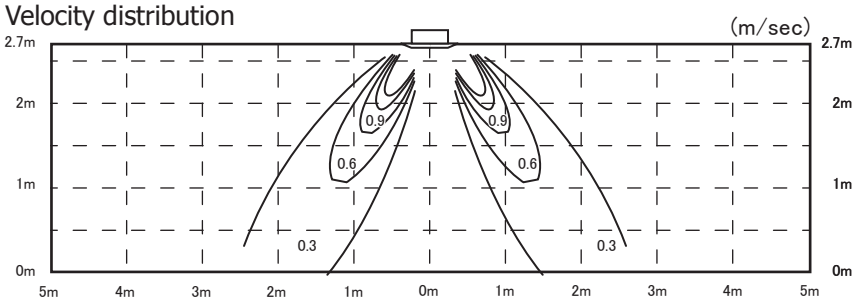
Louver position



Temperature distribution



Velocity distribution

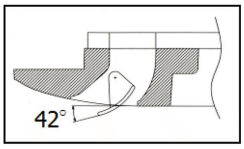


ISD18195 B

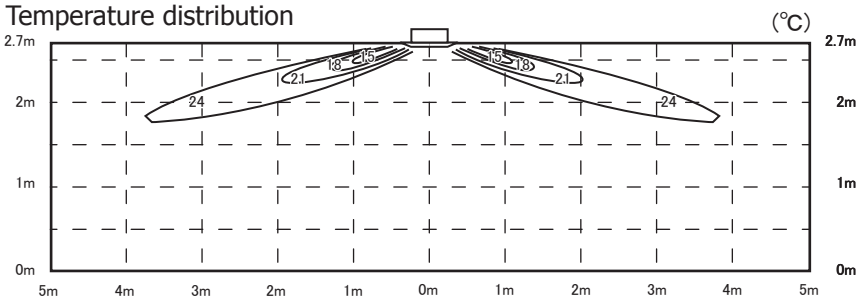
Model FDTC45KXZE1-W

Cooling Air flow: P-Hi

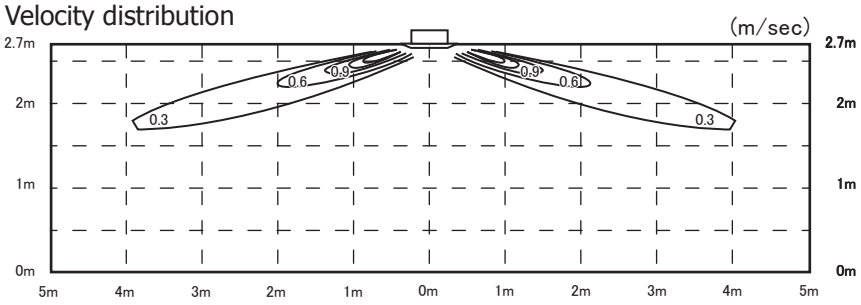
Louver position



Temperature distribution

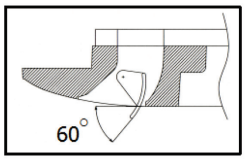


Velocity distribution

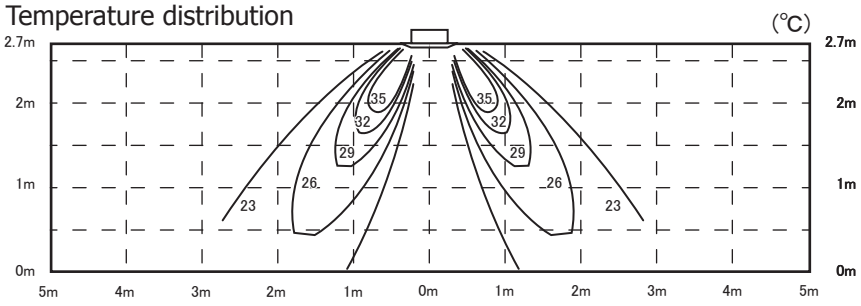


Heating Air flow: P-Hi

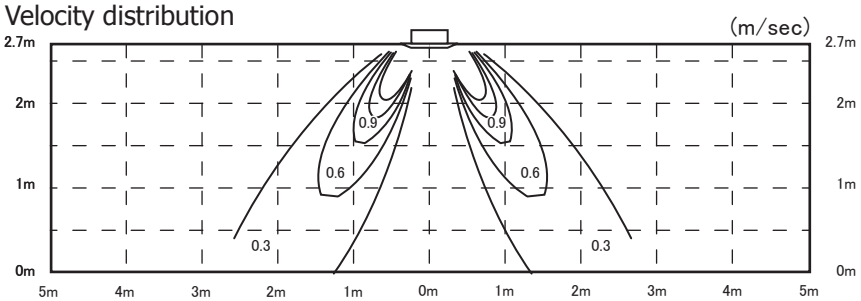
Louver position



Temperature distribution



Velocity distribution

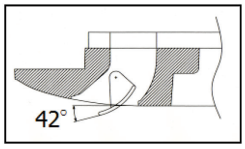


ISD18195 B

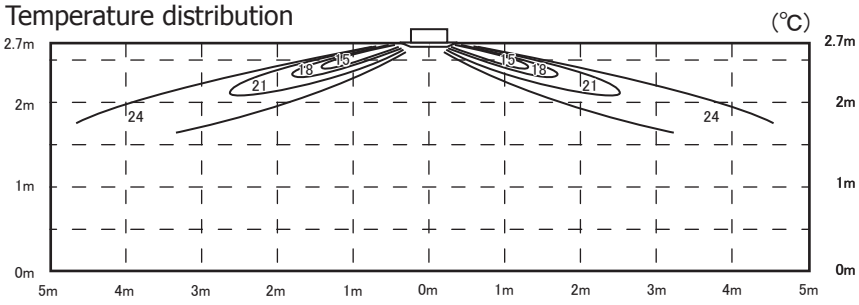
Model FDTC56KXZE1-W

Cooling Air flow: P-Hi

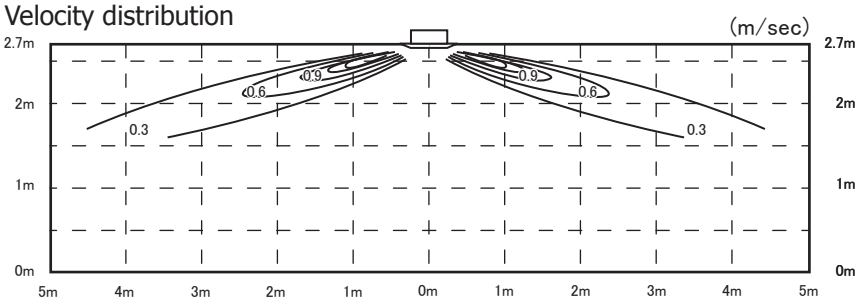
Louver position



Temperature distribution

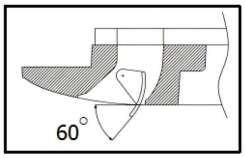


Velocity distribution

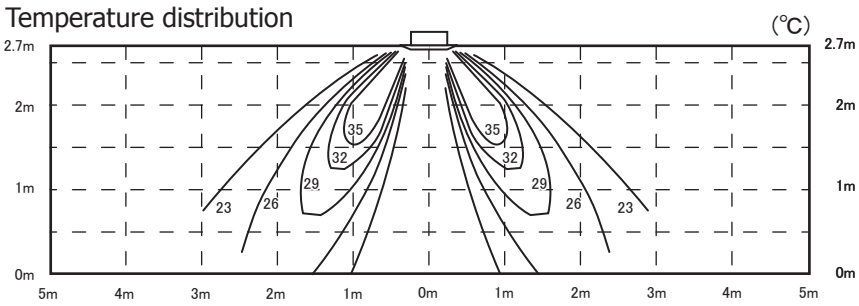


Heating Air flow: P-Hi

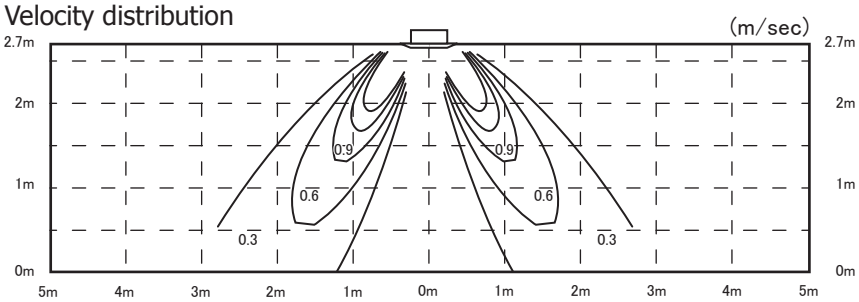
Louver position



Temperature distribution



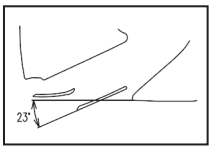
Velocity distribution



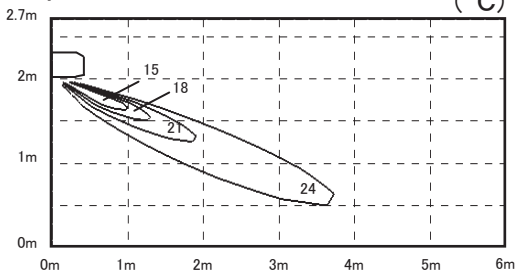
(3) Wall mounded type (FDK)
Model FDK15KXZE1-W

Cooling Air flow:P-Hi

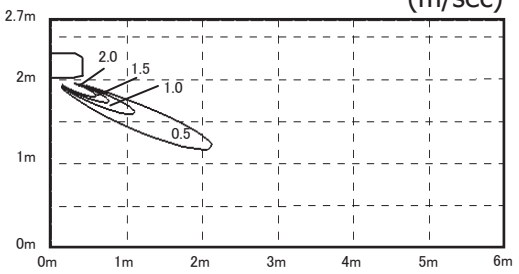
Louver position



Temperature distribution (°C)

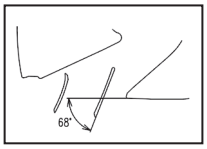


Velocity distribution (m/sec)

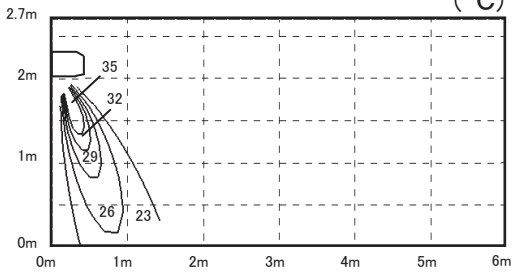


Heating Air flow:P-Hi

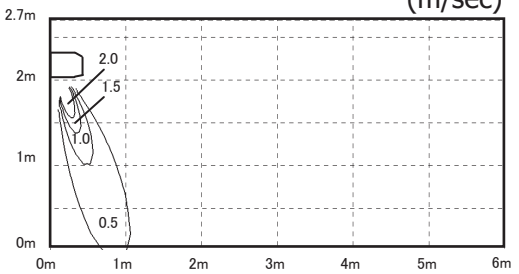
Louver position



Temperature distribution (°C)



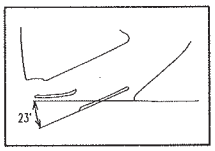
Velocity distribution (m/sec)



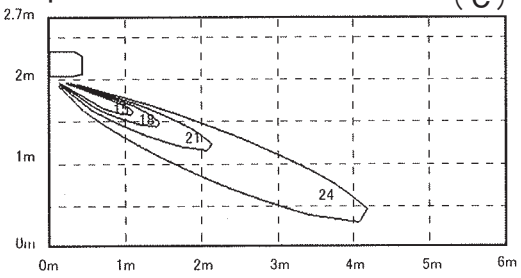
Models FDK22KXZE1-W, 28KXZE1-W

Cooling Air flow:P-Hi

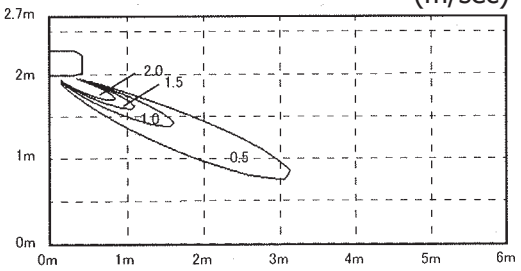
Louver position



Temperature distribution (°C)

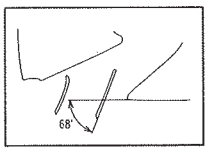


Velocity distribution (m/sec)

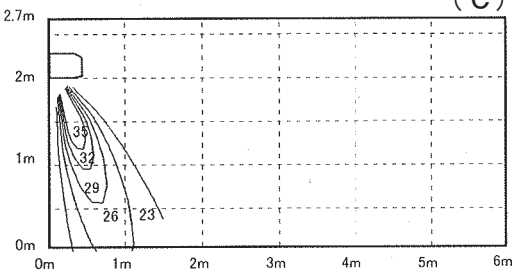


Heating Air flow:P-Hi

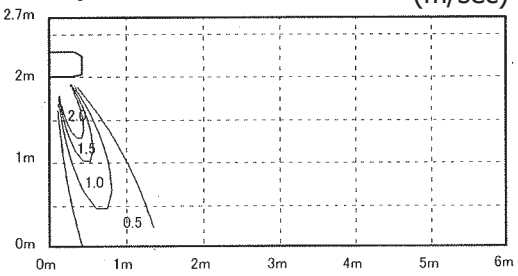
Louver position



Temperature distribution (°C)



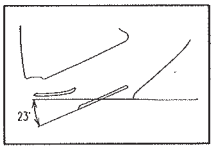
Velocity distribution (m/sec)



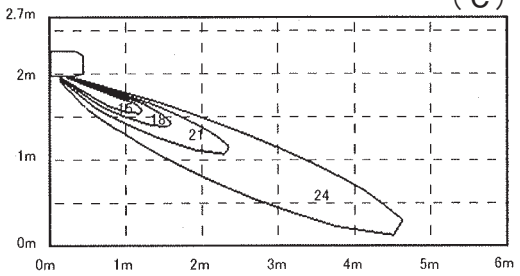
Model FDK36KXZE1-W

Cooling Air flow:P-Hi

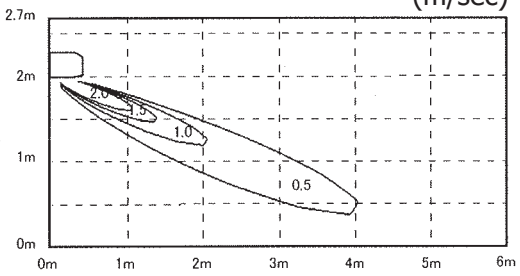
Louver position



Temperature distribution (°C)

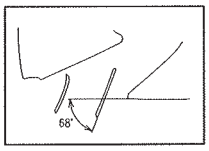


Velocity distribution (m/sec)

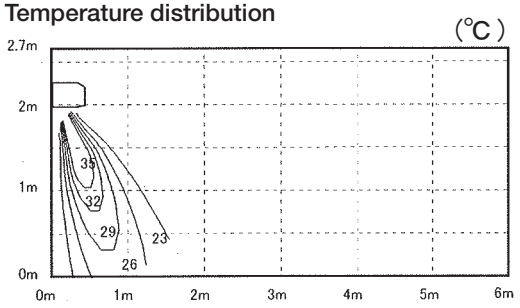


Heating Air flow:P-Hi

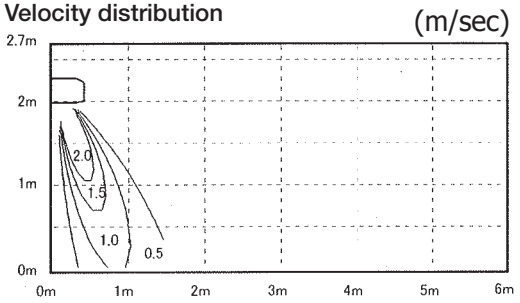
Louver position



Temperature distribution (°C)



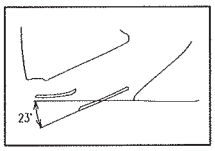
Velocity distribution (m/sec)



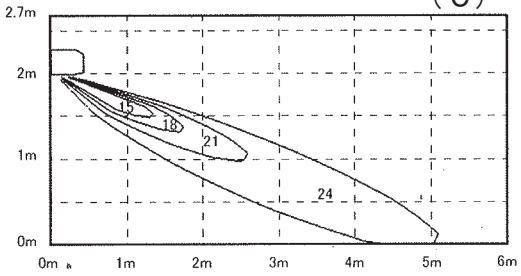
Model FDK45KXZE1-W

Cooling Air flow:P-Hi

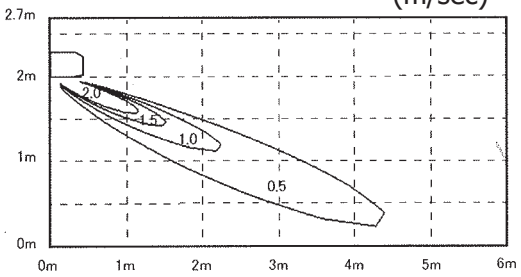
Louver position



Temperature distribution (°C)

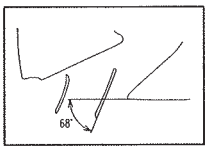


Velocity distribution (m/sec)

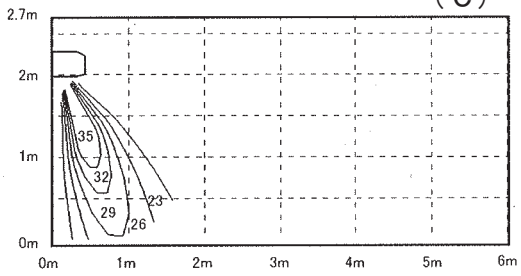


Heating Air flow:P-Hi

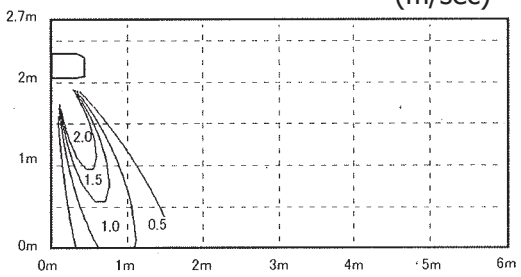
Louver position



Temperature distribution (°C)



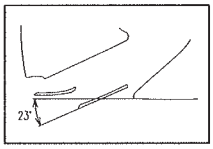
Velocity distribution (m/sec)



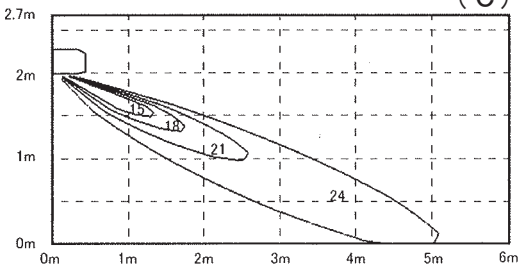
Model FDK56KXZE1-W

Cooling Air flow:P-Hi

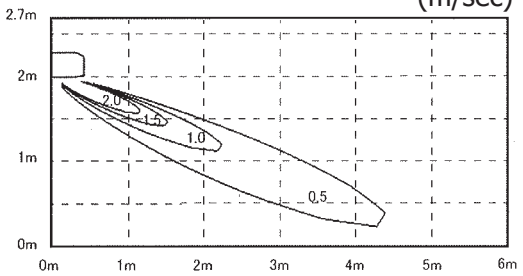
Louver position



Temperature distribution (°C)

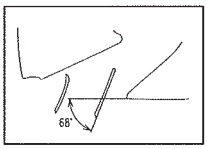


Velocity distribution (m/sec)

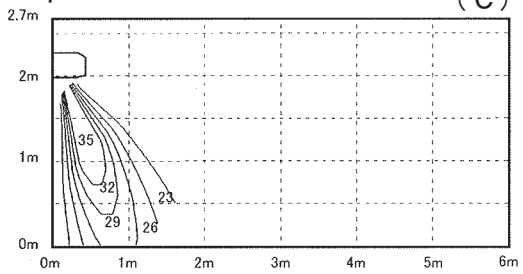


Heating Air flow:P-Hi

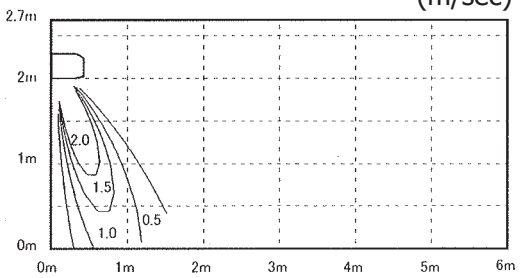
Louver position



Temperature distribution (°C)



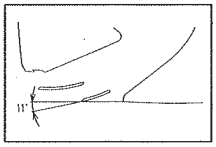
Velocity distribution (m/sec)



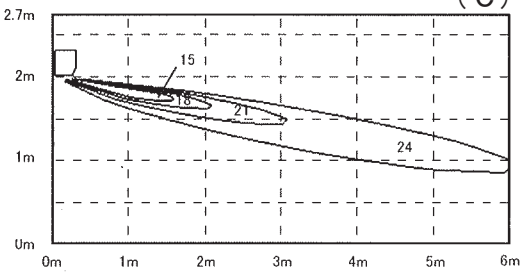
Model FDK71KXZE1-W

Cooling Air flowP-Hi

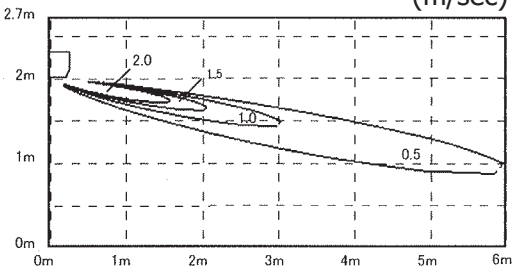
Louver position



Temperature distribution (°C)

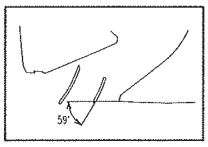


Velocity distribution (m/sec)

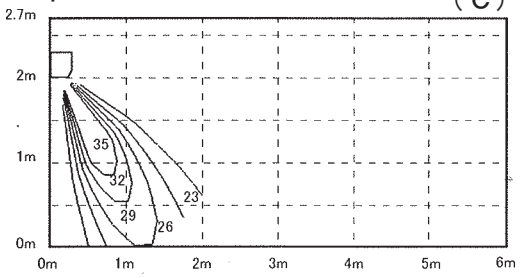


Heating Air flow:P-Hi

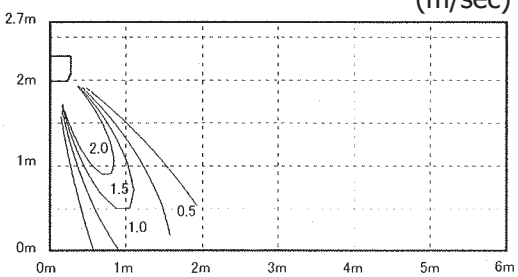
Louver position



Temperature distribution (°C)



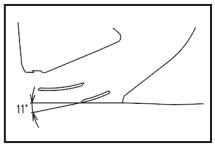
Velocity distribution (m/sec)



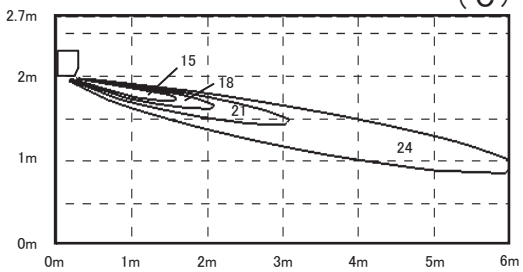
Model FDK90KXZE1-W

Cooling Air flow:P-Hi

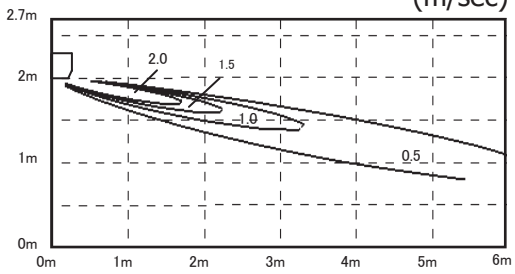
Louver position



Temperature distribution (°C)

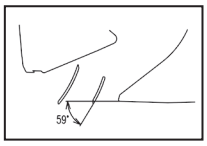


Velocity distribution (m/sec)

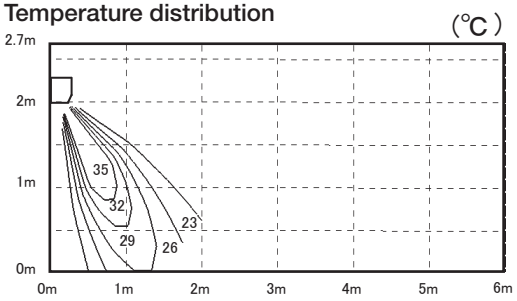


Heating Air flow:P-Hi

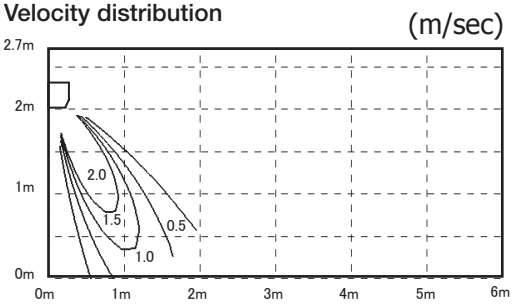
Louver position



Temperature distribution (°C)



Velocity distribution (m/sec)



3.6 Capacity tables

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) Ceiling cassette-4 way type (FDT)

Model **FDT28KXZE1-W** Cooling Mode (kW)

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature													
		21 °CDB 14 °CWB		23 °CDB 16 °CWB		26 °CDB 18 °CWB		27 °CDB 19 °CWB		28 °CDB 20 °CWB		31 °CDB 22 °CWB		33 °CDB 24 °CWB	
		TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
	10			3.07	2.79	3.25	3.00	3.35	3.00	3.44	2.98	3.64	3.16	3.84	3.12
	12			3.03	2.78	3.21	2.99	3.30	2.97	3.39	2.96	3.59	3.14	3.79	3.10
	14			2.99	2.77	3.16	2.98	3.25	2.96	3.35	2.94	3.54	3.13	3.73	3.09
	16			2.95	2.75	3.12	2.95	3.21	2.94	3.30	2.93	3.49	3.12	3.68	3.08
	18			2.91	2.74	3.08	2.94	3.17	2.93	3.26	2.91	3.44	3.09	3.63	3.05
P-Hi	20			2.87	2.73	3.04	2.92	3.12	2.91	3.21	2.89	3.39	3.08	3.58	3.04
	22			2.84	2.71	3.00	2.88	3.08	2.90	3.17	2.88	3.34	3.07	3.53	3.03
20	24			2.80	2.69	2.96	2.84	3.04	2.88	3.12	2.86	3.30	3.04	3.48	3.01
(m^3/min)	26	2.61	2.51	2.76	2.65	2.92	2.80	3.00	2.86	3.08	2.85	3.25	3.03	3.44	3.00
	28	2.58	2.48	2.72	2.61	2.87	2.76	2.95	2.83	3.03	2.83	3.20	3.02		
	30	2.54	2.44	2.68	2.57	2.83	2.72	2.91	2.79	2.99	2.81	3.15	2.99		
	32	2.50	2.40	2.64	2.53	2.79	2.68	2.87	2.76	2.94	2.80	3.10	2.98		
	34	2.46	2.36	2.60	2.50	2.74	2.63	2.82	2.71	2.90	2.78	3.05	2.93		
	35	2.44	2.34	2.57	2.47	2.72	2.61	2.80	2.69	2.87	2.76	3.03	2.91		
	36	2.39	2.29	2.52	2.42	2.66	2.55	2.74	2.63	2.80	2.69	2.93	2.81		
	38	2.29	2.20	2.42	2.32	2.55	2.45	2.62	2.52	2.67	2.56	2.74	2.63		
	39	2.24	2.15	2.36	2.27	2.49	2.39	2.57	2.47	2.60	2.50	2.65	2.54		
	41	2.11	2.03	2.22	2.13	2.33	2.24	2.39	2.29	2.40	2.30	2.43	2.33		
	43	1.94	1.86	2.05	1.97	2.13	2.04	2.14	2.05	2.15	2.06	2.17	2.08		

Heating Mode (kW)

Air flow	Outdoor air temperature		Indoor air temperature				
	°CDB	°CWB	16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	1.79	1.78	1.76	1.75	1.74
	-17.8	-18	1.91	1.90	1.88	1.86	1.85
	-15.7	-16	2.02	2.01	1.99	1.98	1.96
	-13.7	-14	2.15	2.13	2.12	2.10	2.08
	-11.7	-12	2.28	2.26	2.25	2.23	2.21
P-Hi	-9.6	-10	2.41	2.39	2.38	2.35	2.34
	-7.5	-8	2.56	2.54	2.52	2.50	2.48
20	-5.5	-6	2.70	2.68	2.66	2.64	2.62
(m^3/min)	-3.4	-4	2.78	2.75	2.73	2.71	2.69
	-1.3	-2	2.78	2.75	2.73	2.70	2.67
	0.8	0	2.77	2.74	2.72	2.69	2.66
	3.9	3	3.02	2.98	2.96	2.92	2.89
	7.0	6	3.27	3.23	3.20	3.14	3.05
	10.1	9	3.54	3.50	3.47	3.33	3.09
	13.2	12	3.83	3.76	3.61	3.40	3.10
	16.9	15.5	4.13	4.01	3.70	3.40	3.09

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature													
		21 °CDB 14 °CWB		23 °CDB 16 °CWB		26 °CDB 18 °CWB		27 °CDB 19 °CWB		28 °CDB 20 °CWB		31 °CDB 22 °CWB		33 °CDB 24 °CWB	
		TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
	10			2.92	2.64	3.09	2.83	3.18	2.81	3.27	2.80	3.45	2.96	3.65	2.93
	12			2.88	2.61	3.05	2.81	3.14	2.80	3.22	2.78	3.41	2.95	3.60	2.91
	14			2.84	2.60	3.01	2.79	3.09	2.78	3.18	2.76	3.36	2.94	3.55	2.89
	16			2.80	2.58	2.97	2.78	3.05	2.76	3.13	2.74	3.31	2.91	3.50	2.88
	18			2.77	2.57	2.93	2.77	3.01	2.75	3.09	2.73	3.27	2.90	3.45	2.87
Hi	20			2.73	2.56	2.89	2.75	2.97	2.74	3.05	2.72	3.22	2.89	3.40	2.85
	22			2.69	2.54	2.85	2.73	2.93	2.72	3.01	2.70	3.18	2.87	3.35	2.83
14	24			2.66	2.53	2.81	2.70	2.89	2.70	2.97	2.69	3.13	2.86	3.30	2.82
(m^3/min)	26	2.48	2.38	2.62	2.52	2.77	2.66	2.85	2.69	2.92	2.67	3.09	2.84	3.27	2.81
	28	2.45	2.35	2.59	2.49	2.73	2.62	2.81	2.68	2.88	2.66	3.04	2.80		
	30	2.41	2.31	2.55	2.45	2.69	2.58	2.77	2.66	2.84	2.64	2.99	2.79		
	32	2.37	2.28	2.51	2.41	2.65	2.54	2.72	2.61	2.80	2.63	2.95	2.78		
	34	2.33	2.24	2.47	2.37	2.61	2.51	2.68	2.57	2.75	2.61	2.90	2.76		
	35	2.31	2.22	2.45	2.35	2.58	2.48	2.66	2.55	2.73	2.60	2.88	2.76		
	36	2.27	2.18	2.39	2.29	2.53	2.43	2.60	2.50	2.66	2.55	2.79	2.68		
	38	2.17	2.08	2.29	2.20	2.42	2.32	2.49	2.39	2.53	2.43	2.61	2.51		
	39	2.13	2.04	2.24	2.15	2.37	2.28	2.44	2.34	2.47	2.37	2.52	2.42		
	41	2.00	1.92	2.11	2.03	2.22	2.13	2.27	2.18	2.28	2.19	2.30	2.21		
	43	1.84	1.77	1.95	1.87	2.02	1.94	2.04	1.96	2.04	1.96	2.06	1.98		

Air flow	Outdoor air temperature		Indoor air temperature				
	°CDB	°CWB	16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	1.70	1.68	1.67	1.66	1.64
	-17.8	-18	1.81	1.79	1.78	1.76	1.75
	-15.7	-16	1.92	1.90	1.89	1.87	1.86
	-13.7	-14	2.03	2.02	2.00	1.99	1.97
	-11.7	-12	2.16	2.14	2.13	2.11	2.09
Hi	-9.6	-10	2.28	2.27	2.25	2.23	2.21
	-7.5	-8	2.42	2.40	2.39	2.36	2.35
14	-5.5	-6	2.56	2.54	2.52	2.50	2.48
(m^3/min)	-3.4	-4	2.63	2.61	2.59	2.56	2.54
	-1.3	-2	2.63	2.60	2.58	2.56	2.53
	0.8	0	2.63	2.60	2.58	2.55	2.52
	3.9	3	2.86	2.82	2.80	2.77	2.73
	7.0	6	3.09	3.06	3.03	2.97	2.89
	10.1	9	3.35	3.32	3.28	3.15	2.92
	13.2	12	3.63	3.56	3.42	3.22	2.93
	16.9	15.5	3.91	3.79	3.50	3.22	2.92

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature													
		21 °CDB 14 °CWB		23 °CDB 16 °CWB		26 °CDB 18 °CWB		27 °CDB 19 °CWB		28 °CDB 20 °CWB		31 °CDB 22 °CWB		33 °CDB 24 °CWB	
		TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
	10			2.70	2.40	2.86	2.56	2.94	2.55	3.02	2.53	3.19	2.67	3.37	2.63
	12			2.66	2.38	2.82	2.54	2.90	2.53	2.98	2.52	3.15	2.65	3.33	2.62
	14			2.63	2.37	2.78	2.52	2.86	2.50	2.94	2.48	3.11	2.64	3.28	2.61
	16			2.59	2.36	2.74	2.50	2.82	2.49	2.90	2.47	3.06	2.63	3.23	2.59
	18			2.56	2.34	2.71	2.49	2.78	2.47	2.86	2.46	3.02	2.62	3.19	2.58
Me	20			2.52	2.31	2.67	2.48	2.75	2.46	2.82	2.45	2.98	2.60	3.14	2.57
	22			2.49	2.30	2.63	2.46	2.71	2.45	2.78	2.43	2.94	2.59	3.10	2.56
12	24			2.46	2.29	2.60	2.45	2.67	2.44	2.74	2.42	2.90	2.58	3.05	2.55
(m^3/min)	26	2.30	2.21	2.43	2.28	2.56	2.44	2.63	2.42	2.70	2.41	2.86	2.57	3.03	2.54
	28	2.26	2.17	2.39	2.26	2.53	2.43	2.59	2.41	2.67	2.40	2.81	2.56		
	30	2.23	2.14	2.36	2.25	2.49	2.39	2.56	2.40	2.63	2.39	2.77	2.54		
	32	2.19	2.10	2.32	2.23	2.45	2.35	2.52	2.39	2.59	2.37	2.72	2.52		
	34	2.16	2.07	2.28	2.19	2.41	2.31	2.48	2.37	2.54	2.36	2.68	2.51		
	35	2.14	2.05	2.26	2.17	2.39	2.29	2.46	2.36	2.52	2.35	2.66	2.50		
	36	2.10	2.02	2.21	2.12	2.34	2.25	2.41	2.31	2.46	2.33	2.58	2.47		
	38	2.01	1.93	2.12	2.04	2.24	2.15	2.31	2.22	2.34	2.25	2.41	2.31		
	39	1.97	1.89	2.08	2.00	2.19	2.10	2.26	2.17	2.28	2.19	2.33	2.24		
	41	1.85	1.78	1.95	1.87	2.05	1.97	2.10	2.02	2.11	2.03	2.13	2.04		
	43	1.71	1.64	1.80	1.73	1.87	1.80	1.88	1.80	1.89	1.81	1.90	1.82		

Air flow	Outdoor air temperature		Indoor air temperature				
	°CDB	°CWB	16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	1.55	1.54	1.53	1.51	1.50
	-17.8	-18	1.65	1.64	1.63	1.61	1.60
	-15.7	-16	1.75	1.74	1.73	1.71	1.70
	-13.7	-14	1.86	1.85	1.83	1.82	1.80
	-11.7	-12	1.97	1.96	1.94	1.93	1.91
Me	-9.6	-10	2.08	2.07	2.06	2.04	2.02
	-7.5	-8	2.21	2.20	2.18	2.16	2.15
12	-5.5	-6	2.34	2.32	2.31	2.29	2.27
(m^3/min)	-3.4	-4	2.40	2.38	2.37	2.34	2.32
	-1.3	-2	2.40	2.38	2.36	2.34	2.31
	0.8	0	2.40	2.38	2.36	2.33	2.30
	3.9	3	2.61	2.58	2.56	2.53	2.50
	7.0	6	2.83	2.80	2.77	2.72	2.64
	10.1	9	3.06	3.03	3.00	2.88	2.67
	13.2	12	3.31	3.26	3.13	2.94	2.68
	16.9	15.5	3.57	3.47	3.20	2.94	2.67

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature													
		21 °CDB 14 °CWB		23 °CDB 16 °CWB		26 °CDB 18 °CWB		27 °CDB 19 °CWB		28 °CDB 20 °CWB		31 °CDB 22 °CWB		33 °CDB 24 °CWB	
		TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
	10			2.39	2.08	2.53	2.22	2.60	2.21	2.68	2.20	2.83	2.32	2.99	2.29
	12			2.36	2.07	2.50	2.21	2.57	2.20	2.64	2.19	2.79	2.31	2.95	2.28
	14			2.33	2.06	2.46	2.19	2.53	2.18	2.60	2.17	2.75	2.29	2.91	2.27
	16			2.30	2.05	2.43	2.18	2.50	2.17	2.57	2.16	2.71	2.28	2.87	2.26
	18			2.27	2.03	2.40	2.17	2.47	2.16	2.53	2.14	2.68	2.27	2.82	2.24
Lo	20			2.24	2.02	2.36	2.15	2.43	2.14	2.50	2.13	2.64	2.26	2.78	2.23
	22			2.21	2.01	2.33	2.14	2.40	2.13	2.47	2.12	2.60	2.24	2.75	2.22
10	24			2.18	2.00	2.30	2.13	2.37	2.12	2.43	2.11	2.57	2.24	2.71	2.21
(m^3/min)	26	2.03	1.95	2.15	1.98	2.27	2.12	2.33	2.11	2.40	2.10	2.53	2.22	2.68	2.20
	28	2.01	1.93	2.12	1.97	2.24	2.11	2.30	2.09	2.36	2.08	2.49	2.21		
	30	1.98	1.90	2.09	1.96	2.21	2.09	2.27	2.08	2.33	2.07	2.45	2.19		
	32	1.94	1.86	2.06	1.95	2.17	2.08	2.23	2.07	2.29	2.06	2.41	2.18		
	34	1.91	1.83	2.02	1.93	2.14	2.05	2.20	2.06	2.26	2.05	2.38	2.17		
	35	1.90	1.82	2.00	1.92	2.12	2.04	2.18	2.05	2.24	2.04	2.36	2.17		
	36	1.86	1.79	1.96	1.88	2.07	1.99	2.13	2.03	2.18	2.01	2.28	2.14		
	38	1.78	1.71	1.88	1.80	1.98	1.90	2.04	1.96	2.08	1.98	2.14	2.05		
	39	1.74	1.67	1.84	1.77	1.94	1.86	2.00	1.92	2.02	1.94	2.06	1.98		
	41	1.64	1.57	1.73	1.66	1.82	1.75	1.86	1.79	1.87	1.80	1.89	1.81		
	43	1.51	1.45	1.60	1.54	1.66	1.59	1.67	1.60	1.67	1.60	1.69	1.62		

Air flow	Outdoor air temperature		Indoor air temperature				
	°CDB	°CWB	16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	1.45	1.44	1.43	1.42	1.40
	-17.8	-18	1.54	1.53	1.52	1.51	1.50
	-15.7	-16	1.64	1.63	1.61	1.60	1.59
	-13.7	-14	1.74	1.73	1.71	1.70	1.68
	-11.7	-12	1.84	1.83	1.82	1.80	1.79
Lo	-9.6	-10	1.95	1.94	1.92	1.91	1.89
	-7.5	-8	2.07	2.05	2.04	2.02	2.01
11	-5.5	-6	2.19	2.17	2.16	2.14	2.12
(m^3/min)	-3.4	-4	2.25	2.23	2.21	2.19	2.17
	-1.3	-2	2.25	2.22	2.21	2.19	2.16
	0.8	0	2.25	2.22	2.20	2.18	2.15
	3.9	3	2.44	2.41	2.39	2.37	2.34
	7.0	6	2.64	2.62	2.59	2.54	2.47
	10.1	9	2.87	2.84	2.81	2.70	2.50
	13.2	12	3.10	3.04	2.92	2.75	2.51
	16.9	15.5	3.34	3.24	2.99	2.75	2.50

Note(1) This data shows average statuses out of those possible to occur in the system control.
(Depending on controls, there may be ranges where the operation is not conducted continuously.)
(2) Symbols are as follows
TC :Total cooling capacity(kW)
SHC :Sensible heat capacity(kW)

PJF000Z765A

Model **FDT36KXZE1-W** Cooling Mode (kW)

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			3.95	3.56	4.18	3.79	4.30	3.77	4.42	3.75	4.67	3.96	4.94	3.91
	12			3.90	3.54	4.12	3.77	4.24	3.75	4.36	3.73	4.61	3.94	4.87	3.89
	14			3.85	3.51	4.07	3.76	4.18	3.73	4.30	3.71	4.55	3.93	4.80	3.87
	16			3.79	3.49	4.01	3.73	4.13	3.71	4.24	3.69	4.48	3.91	4.73	3.86
	18			3.74	3.47	3.96	3.71	4.07	3.69	4.19	3.67	4.42	3.89	4.67	3.84
P-Hi	20			3.69	3.44	3.91	3.69	4.02	3.67	4.13	3.65	4.36	3.87	4.60	3.83
	22			3.65	3.43	3.85	3.66	3.96	3.65	4.07	3.63	4.30	3.86	4.53	3.81
20	24			3.60	3.41	3.80	3.65	3.91	3.62	4.01	3.60	4.24	3.83	4.47	3.78
(m^3/min)	26	3.36	3.23	3.55	3.39	3.75	3.60	3.85	3.61	3.96	3.58	4.18	3.81	4.43	3.77
	28	3.31	3.18	3.50	3.36	3.70	3.55	3.80	3.59	3.90	3.57	4.11	3.79		
	30	3.26	3.13	3.45	3.31	3.64	3.49	3.74	3.56	3.84	3.54	4.05	3.78		
	32	3.21	3.08	3.39	3.25	3.58	3.44	3.68	3.53	3.78	3.52	3.99	3.75		
	34	3.16	3.03	3.34	3.21	3.53	3.39	3.63	3.48	3.72	3.50	3.92	3.73		
	35	3.13	3.00	3.31	3.18	3.50	3.36	3.60	3.46	3.69	3.49	3.89	3.72		
	36	3.07	2.95	3.24	3.11	3.42	3.28	3.52	3.38	3.61	3.46	3.77	3.62		
	38	2.94	2.82	3.11	2.99	3.28	3.15	3.37	3.24	3.43	3.29	3.53	3.39		
	39	2.88	2.76	3.04	2.92	3.20	3.07	3.30	3.17	3.34	3.21	3.41	3.27		
	41	2.71	2.60	2.86	2.75	3.00	2.88	3.07	2.95	3.09	2.97	3.12	3.00		
	43	2.50	2.40	2.64	2.53	2.74	2.63	2.76	2.65	2.76	2.65	2.78	2.67		

Heating Mode (kW)

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	2.24	2.22	2.20	2.19	2.17
	-17.8	-18	2.38	2.37	2.35	2.33	2.31
	-15.7	-16	2.53	2.51	2.49	2.47	2.45
	-13.7	-14	2.69	2.67	2.65	2.63	2.60
	-11.7	-12	2.85	2.83	2.81	2.78	2.76
P-Hi	-9.6	-10	3.01	2.99	2.97	2.94	2.92
	-7.5	-8	3.19	3.17	3.15	3.12	3.10
20	-5.5	-6	3.38	3.35	3.33	3.30	3.28
(m^3/min)	-3.4	-4	3.47	3.44	3.42	3.38	3.36
	-1.3	-2	3.47	3.44	3.41	3.38	3.34
	0.8	0	3.47	3.43	3.40	3.37	3.33
	3.9	3	3.77	3.73	3.70	3.65	3.61
	7.0	6	4.08	4.04	4.00	3.92	3.81
	10.1	9	4.43	4.38	4.33	4.16	3.86
	13.2	12	4.79	4.70	4.51	4.24	3.87
	16.9	15.5	5.16	5.01	4.62	4.25	3.86

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			3.69	3.12	3.90	3.32	4.01	3.30	4.13	3.28	4.36	3.46	4.61	3.41
	12			3.64	3.10	3.85	3.29	3.96	3.28	4.07	3.26	4.30	3.44	4.54	3.40
	14			3.59	3.08	3.80	3.26	3.91	3.24	4.01	3.22	4.24	3.42	4.48	3.37
	16			3.54	3.06	3.75	3.24	3.85	3.22	3.96	3.20	4.18	3.40	4.42	3.35
	18			3.49	3.03	3.70	3.23	3.80	3.20	3.91	3.18	4.13	3.38	4.35	3.33
Hi	20			3.45	3.02	3.65	3.21	3.75	3.19	3.85	3.16	4.07	3.36	4.29	3.32
	22			3.40	3.00	3.60	3.19	3.70	3.17	3.80	3.15	4.01	3.34	4.23	3.29
14	24			3.36	2.98	3.55	3.17	3.65	3.15	3.75	3.13	3.96	3.32	4.17	3.27
(m^3/min)	26	3.13	2.99	3.31	2.96	3.50	3.15	3.59	3.13	3.69	3.11	3.90	3.30	4.13	3.26
	28	3.09	2.97	3.27	2.94	3.45	3.13	3.54	3.11	3.64	3.09	3.84	3.29		
	30	3.05	2.93	3.22	2.92	3.40	3.12	3.49	3.10	3.59	3.08	3.78	3.26		
	32	3.00	2.88	3.17	2.90	3.35	3.10	3.44	3.08	3.53	3.06	3.72	3.24		
	34	2.95	2.83	3.11	2.87	3.29	3.08	3.39	3.06	3.48	3.04	3.66	3.22		
	35	2.92	2.80	3.09	2.86	3.26	3.07	3.36	3.05	3.45	3.03	3.63	3.21		
	36	2.86	2.75	3.03	2.84	3.20	3.04	3.29	3.02	3.37	3.00	3.52	3.17		
	38	2.74	2.63	2.90	2.78	3.06	2.94	3.15	2.97	3.20	2.94	3.29	3.08		
	39	2.69	2.58	2.83	2.72	2.99	2.87	3.08	2.94	3.12	2.91	3.18	3.05		
	41	2.53	2.43	2.67	2.56	2.80	2.69	2.86	2.75	2.88	2.76	2.91	2.79		
	43	2.33	2.24	2.46	2.36	2.56	2.46	2.57	2.47	2.58	2.48	2.60	2.50		

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	2.11	2.10	2.08	2.07	2.05
	-17.8	-18	2.25	2.24	2.22	2.20	2.18
	-15.7	-16	2.39	2.38	2.35	2.34	2.32
	-13.7	-14	2.54	2.52	2.50	2.48	2.46
	-11.7	-12	2.69	2.67	2.65	2.63	2.61
Hi	-9.6	-10	2.84	2.83	2.81	2.78	2.76
	-7.5	-8	3.02	3.00	2.98	2.95	2.93
14	-5.5	-6	3.19	3.17	3.15	3.12	3.10
(m^3/min)	-3.4	-4	3.28	3.25	3.23	3.20	3.17
	-1.3	-2	3.28	3.25	3.22	3.19	3.16
	0.8	0	3.28	3.24	3.22	3.18	3.14
	3.9	3	3.56	3.52	3.49	3.45	3.41
	7.0	6	3.86	3.82	3.78	3.71	3.60
	10.1	9	4.18	4.14	4.09	3.93	3.65
	13.2	12	4.52	4.44	4.27	4.01	3.66
	16.9	15.5	4.87	4.73	4.37	4.02	3.65

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			3.35	2.78	3.54	2.93	3.64	2.92	3.75	2.90	3.96	3.07	4.18	3.02
	12			3.30	2.76	3.49	2.92	3.59	2.90	3.70	2.88	3.91	3.05	4.12	3.00
	14			3.26	2.73	3.45	2.90	3.55	2.88	3.64	2.86	3.85	3.03	4.07	2.98
	16			3.21	2.71	3.40	2.88	3.50	2.87	3.59	2.84	3.80	3.01	4.01	2.97
	18			3.17	2.70	3.35	2.86	3.45	2.85	3.55	2.83	3.75	2.99	3.95	2.94
Me	20			3.13	2.68	3.31	2.85	3.40	2.83	3.50	2.81	3.69	2.97	3.90	2.93
	22			3.09	2.66	3.27	2.83	3.36	2.82	3.45	2.80	3.64	2.95	3.84	2.91
12	24			3.05	2.64	3.22	2.81	3.31	2.79	3.40	2.77	3.59	2.94	3.79	2.90
(m^3/min)	26	2.85	2.65	3.01	2.63	3.18	2.80	3.26	2.77	3.35	2.76	3.54	2.92	3.75	2.88
	28	2.81	2.63	2.97	2.61	3.13	2.78	3.22	2.76	3.30	2.74	3.49	2.90		
	30	2.76	2.61	2.92	2.59	3.09	2.76	3.17	2.74	3.26	2.73	3.43	2.88		
	32	2.72	2.60	2.88	2.57	3.04	2.74	3.12	2.72	3.21	2.70	3.38	2.86		
	34	2.68	2.57	2.83	2.55	2.99	2.72	3.07	2.70	3.16	2.69	3.32	2.84		
	35	2.65	2.54	2.80	2.54	2.96	2.71	3.05	2.70	3.13	2.68	3.30	2.84		
	36	2.60	2.50	2.75	2.51	2.90	2.69	2.99	2.67	3.06	2.65	3.19	2.78		
	38	2.49	2.39	2.63	2.45	2.78	2.64	2.86	2.62	2.91	2.60	2.99	2.72		
	39	2.44	2.34	2.57	2.43	2.71	2.60	2.80	2.60	2.83	2.57	2.89	2.69		
	41	2.29	2.20	2.42	2.32	2.54	2.44	2.60	2.50	2.62	2.49	2.64	2.53		
	43	2.11	2.03	2.24	2.15	2.32	2.23	2.33	2.24	2.34	2.25	2.36	2.27		

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	1.90	1.89	1.87	1.86	1.84
	-17.8	-18	2.03	2.01	1.99	1.98	1.96
	-15.7	-16	2.15	2.14	2.12	2.10	2.08
	-13.7	-14	2.28	2.27	2.25	2.23	2.21
	-11.7	-12	2.42	2.40	2.39	2.37	2.35
Me	-9.6	-10	2.56	2.54	2.52	2.50	2.48
	-7.5	-8	2.71	2.70	2.68	2.65	2.63
12	-5.5	-6	2.87	2.85	2.83	2.80	2.78
(m^3/min)	-3.4	-4	2.95	2.92	2.90	2.88	2.85
	-1.3	-2	2.95	2.92	2.90	2.87	2.84
	0.8	0	2.95	2.92	2.89	2.86	2.83
	3.9	3	3.20	3.17	3.14	3.11	3.07
	7.0	6	3.47	3.43	3.40	3.34	3.24
	10.1	9	3.76	3.72	3.68	3.54	3.28
	13.2	12	4.07	4.00	3.84	3.61	3.29
	16.9	15.5	4.38	4.26	3.93	3.61	3.28

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			2.96	2.41	3.14	2.56	3.23	2.54	3.32	2.53	3.51	2.66	3.70	2.62
	12			2.92	2.39	3.09	2.54	3.18	2.53	3.27	2.51	3.46	2.64	3.65	2.60
	14			2.88	2.38	3.05	2.52	3.14	2.51	3.23	2.50	3.41	2.63	3.60	2.59
	16			2.85	2.36	3.01	2.50	3.10	2.49	3.18	2.47	3.36	2.61	3.55	2.57
	18			2.81	2.34	2.97	2.49	3.05	2.47	3.14	2.46	3.32	2.59	3.50	2.55
Lo	20			2.77	2.33	2.93	2.47	3.01	2.46	3.10	2.44	3.27	2.58	3.45	2.52
	22			2.73	2.31	2.89	2.46	2.97	2.44	3.05	2.42	3.22	2.54	3.40	2.51
10	24			2.70	2.30	2.85	2.44	2.93	2.43	3.01	2.41	3.18	2.53	3.35	2.49
(m^3/min)	26	2.52	2.30	2.66	2.28	2.81	2.43	2.89	2.41	2.97	2.39	3.13	2.52	3.32	2.48
	28	2.48	2.29	2.63	2.27	2.77	2.41	2.85	2.40	2.93	2.38	3.09	2.50		
	30	2.45	2.27	2.59	2.25	2.73	2.39	2.81	2.38	2.88	2.36	3.04	2.49		
	32	2.41	2.25	2.55	2.23	2.69	2.38	2.76	2.36	2.84	2.34	2.99	2.47		
	34	2.37	2.24	2.50	2.21	2.65	2.36	2.72	2.34	2.79	2.33	2.94	2.46		
	35	2.35	2.23	2.48	2.20	2.62	2.35	2.70	2.34	2.77	2.32	2.92	2.45		
	36	2.30	2.20	2.43	2.18	2.57	2.33	2.64	2.31	2.70	2.29	2.83	2.42		
	38	2.21	2.12	2.33	2.14	2.46	2.29	2.53	2.27	2.57	2.25	2.65	2.37		
	39	2.16	2.07	2.28	2.12	2.40	2.26	2.48	2.25	2.51	2.21	2.56	2.33		
	41	2.03	1.95	2.14	2.05	2.25	2.16	2.30	2.18	2.32	2.15	2.34	2.25		
	43	1.87	1.80	1.98	1.90	2.05	1.97	2.07	1.99	2.07	1.99	2.09	2.01		

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	1.80	1.79	1.77	1.76	1.75
	-17.8	-18	1.92	1.91	1.89	1.88	1.86
	-15.7	-16	2.04	2.02	2.01	1.99	1.97
	-13.7	-14	2.16	2.15	2.13	2.11	2.09
	-11.7	-12	2.29	2.28	2.26	2.24	2.22
Lo	-9.6	-10	2.42	2.41	2.39	2.37	2.35
	-7.5	-8	2.57	2.55	2.54	2.51	2.49
11	-5.5	-6	2.72	2.70	2.68	2.66	2.64
(m^3/min)	-3.4	-4	2.79	2.77	2.75	2.72	2.70
	-1.3	-2	2.79	2.77	2.75	2.72	2.69
	0.8	0	2.79	2.76	2.74	2.71	2.68
	3.9	3	3.03	3.00	2.97	2.94	2.91
	7.0	6	3.29	3.25	3.22	3.16	3.07
	10.1	9	3.56	3.53	3.49	3.35	3.11
	13.2	12	3.85	3.78	3.63	3.42	3.12
	16.9	15.5	4.15	4.03	3.72	3.42	3.11

Note(1) This data shows average statuses out of those possible to occur in the system control.
(Depending on controls, there may be ranges where the operation is not conducted continuously.)
(2) Symbols are as follows
TC :Total cooling capacity(kW)
SHC :Sensible heat capacity(kW)

PJF000Z765A

Model **FDT45KXZE1-W** Cooling Mode (kW)

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			4.94	4.08	5.23	4.34	5.38	4.31	5.53	4.28	5.84	4.50	6.17	4.44
	12			4.87	4.06	5.16	4.31	5.30	4.29	5.45	4.26	5.76	4.48	6.08	4.41
	14			4.81	4.03	5.08	4.28	5.23	4.25	5.38	4.22	5.68	4.45	6.00	4.39
	16			4.74	4.00	5.02	4.26	5.16	4.23	5.30	4.20	5.60	4.43	5.92	4.37
	18			4.68	3.97	4.95	4.22	5.09	4.19	5.23	4.18	5.53	4.41	5.83	4.35
P-Hi	20			4.62	3.95	4.88	4.20	5.02	4.17	5.16	4.14	5.45	4.38	5.75	4.32
	22			4.56	3.92	4.82	4.18	4.95	4.15	5.09	4.12	5.37	4.35	5.67	4.30
20	24			4.50	3.90	4.75	4.14	4.88	4.11	5.02	4.09	5.30	4.32	5.59	4.26
(m^3/min)	26	4.20	3.91	4.44	3.87	4.69	4.12	4.81	4.09	4.95	4.07	5.22	4.30	5.54	4.25
	28	4.14	3.88	4.38	3.84	4.62	4.09	4.75	4.07	4.88	4.05	5.14	4.28		
	30	4.08	3.85	4.31	3.82	4.55	4.04	4.68	4.02	4.80	3.99	5.06	4.24		
	32	4.01	3.82	4.24	3.78	4.48	4.02	4.61	3.99	4.73	3.96	4.98	4.22		
	34	3.95	3.79	4.17	3.75	4.41	3.99	4.53	3.97	4.66	3.94	4.90	4.20		
	35	3.91	3.75	4.14	3.74	4.37	3.98	4.50	3.96	4.62	3.93	4.87	4.18		
	36	3.83	3.68	4.05	3.70	4.28	3.95	4.40	3.92	4.51	3.90	4.71	4.13		
	38	3.68	3.53	3.88	3.64	4.10	3.89	4.22	3.87	4.29	3.83	4.41	4.02		
	39	3.60	3.46	3.80	3.60	4.00	3.84	4.13	3.84	4.18	3.78	4.26	3.98		
	41	3.38	3.24	3.57	3.43	3.75	3.60	3.84	3.69	3.86	3.67	3.90	3.74		
	43	3.12	3.00	3.30	3.17	3.42	3.28	3.44	3.30	3.46	3.32	3.48	3.34		

Heating Mode (kW)

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	2.80	2.78	2.75	2.73	2.71
	-17.8	-18	2.98	2.96	2.93	2.91	2.89
	-15.7	-16	3.16	3.14	3.11	3.09	3.06
	-13.7	-14	3.36	3.34	3.31	3.28	3.25
	-11.7	-12	3.56	3.54	3.51	3.48	3.45
P-Hi	-9.6	-10	3.76	3.74	3.71	3.68	3.65
	-7.5	-8	3.99	3.96	3.94	3.90	3.87
20	-5.5	-6	4.22	4.19	4.16	4.12	4.09
(m^3/min)	-3.4	-4	4.34	4.30	4.27	4.23	4.20
	-1.3	-2	4.34	4.29	4.26	4.22	4.18
	0.8	0	4.34	4.29	4.25	4.21	4.16
	3.9	3	4.71	4.66	4.62	4.57	4.51
	7.0	6	5.10	5.05	5.00	4.91	4.77
	10.1	9	5.53	5.48	5.42	5.20	4.83
	13.2	12	5.98	5.88	5.64	5.31	4.84
	16.9	15.5	6.45	6.26	5.78	5.31	4.83

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			4.61	3.64	4.88	3.85	5.02	3.82	5.16	3.80	5.45	3.98	5.76	3.92
	12			4.55	3.60	4.81	3.81	4.95	3.80	5.09	3.77	5.38	3.95	5.68	3.90
	14			4.49	3.57	4.75	3.79	4.88	3.76	5.02	3.74	5.30	3.93	5.60	3.87
	16			4.43	3.55	4.68	3.77	4.82	3.74	4.95	3.72	5.23	3.91	5.52	3.85
	18			4.37	3.53	4.62	3.74	4.75	3.71	4.88	3.68	5.16	3.88	5.44	3.83
Hi	20			4.31	3.50	4.56	3.71	4.69	3.69	4.82	3.66	5.09	3.85	5.36	3.79
	22			4.25	3.48	4.50	3.69	4.62	3.67	4.75	3.64	5.02	3.83	5.29	3.78
15	24			4.20	3.46	4.44	3.66	4.56	3.64	4.68	3.61	4.95	3.80	5.21	3.74
(m^3/min)	26	3.92	3.47	4.14	3.43	4.37	3.64	4.49	3.61	4.62	3.59	4.87	3.78	5.17	3.73
	28	3.86	3.44	4.08	3.40	4.31	3.61	4.43	3.59	4.55	3.57	4.80	3.76		
	30	3.81	3.41	4.03	3.38	4.25	3.58	4.37	3.56	4.48	3.53	4.73	3.73		
	32	3.75	3.39	3.96	3.35	4.18	3.56	4.30	3.54	4.41	3.51	4.65	3.70		
	34	3.68	3.36	3.89	3.32	4.11	3.52	4.23	3.51	4.34	3.49	4.58	3.68		
	35	3.65	3.34	3.86	3.31	4.08	3.50	4.20	3.48	4.31	3.45	4.54	3.66		
	36	3.58	3.31	3.78	3.27	4.00	3.47	4.11	3.45	4.21	3.42	4.40	3.62		
	38	3.43	3.23	3.62	3.20	3.82	3.40	3.94	3.39	4.00	3.35	4.12	3.52		
	39	3.36	3.20	3.54	3.16	3.74	3.37	3.85	3.36	3.90	3.31	3.98	3.47		
	41	3.16	3.03	3.34	3.08	3.50	3.29	3.58	3.26	3.61	3.21	3.64	3.36		
	43	2.91	2.79	3.08	2.96	3.19	3.06	3.21	3.08	3.23	3.08	3.25	3.12		

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	2.65	2.63	2.60	2.58	2.56
	-17.8	-18	2.82	2.80	2.78	2.76	2.73
	-15.7	-16	2.99	2.97	2.95	2.93	2.90
	-13.7	-14	3.18	3.16	3.13	3.10	3.07
	-11.7	-12	3.37	3.35	3.32	3.29	3.26
Hi	-9.6	-10	3.56	3.54	3.51	3.48	3.45
	-7.5	-8	3.78	3.75	3.73	3.69	3.66
15	-5.5	-6	4.00	3.96	3.94	3.90	3.87
(m^3/min)	-3.4	-4	4.10	4.07	4.04	4.00	3.97
	-1.3	-2	4.10	4.06	4.03	3.99	3.95
	0.8	0	4.10	4.06	4.02	3.98	3.93
	3.9	3	4.46	4.41	4.37	4.32	4.27
	7.0	6	4.83	4.78	4.73	4.64	4.51
	10.1	9	5.23	5.18	5.12	4.92	4.57
	13.2	12	5.66	5.56	5.34	5.02	4.58
	16.9	15.5	6.10	5.92	5.46	5.02	4.56

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			4.25	3.30	4.49	3.48	4.62	3.46	4.75	3.44	5.02	3.60	5.31	3.55
	12			4.19	3.28	4.43	3.44	4.56	3.42	4.69	3.41	4.96	3.59	5.23	3.53
	14			4.13	3.25	4.37	3.42	4.50	3.40	4.62	3.37	4.89	3.56	5.16	3.50
	16			4.08	3.22	4.31	3.40	4.44	3.38	4.56	3.35	4.82	3.53	5.09	3.48
	18			4.03	3.20	4.26	3.38	4.38	3.35	4.50	3.33	4.75	3.50	5.01	3.45
Me	20			3.97	3.17	4.20	3.35	4.32	3.33	4.44	3.31	4.69	3.48	4.94	3.43
	22			3.92	3.15	4.14	3.33	4.26	3.31	4.38	3.29	4.62	3.46	4.87	3.40
13	24			3.87	3.13	4.09	3.31	4.20	3.29	4.32	3.27	4.56	3.44	4.81	3.38
(m^3/min)	26	3.61	3.14	3.82	3.11	4.03	3.29	4.14	3.27	4.25	3.24	4.49	3.41	4.76	3.37
	28	3.56	3.11	3.76	3.08	3.97	3.26	4.08	3.24	4.19	3.22	4.42	3.38		
	30	3.51	3.09	3.71	3.06	3.91	3.24	4.02	3.22	4.13	3.19	4.35	3.36		
	32	3.45	3.06	3.65	3.03	3.85	3.22	3.96	3.20	4.07	3.17	4.29	3.34		
	34	3.39	3.02	3.59	2.99	3.79	3.19	3.90	3.17	4.00	3.14	4.22	3.31		
	35	3.37	3.02	3.56	2.98	3.76	3.18	3.87	3.16	3.97	3.13	4.18	3.30		
	36	3.30	2.99	3.48	2.95	3.68	3.15	3.79	3.13	3.88	3.10	4.05	3.26		
	38	3.16	2.93	3.34	2.89	3.52	3.08	3.63	3.06	3.69	3.03	3.79	3.15		
	39	3.09	2.89	3.27	2.86	3.44	3.04	3.55	3.04	3.59	2.99	3.66	3.11		
	41	2.91	2.79	3.07	2.78	3.22	2.96	3.30	2.93	3.32	2.89	3.35	3.01		
	43	2.68	2.57	2.84	2.68	2.94	2.82	2.96	2.81	2.97	2.77	2.99	2.87		

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	2.42	2.41	2.38	2.37	2.35
	-17.8	-18	2.58	2.56	2.54	2.52	2.50
	-15.7	-16	2.74	2.72	2.70	2.68	2.65
	-13.7	-14	2.91	2.89	2.86	2.84	2.81
	-11.7	-12	3.08	3.06	3.04	3.01	2.99
Me	-9.6	-10	3.26	3.24	3.22	3.19	3.16
	-7.5	-8	3.46	3.43	3.41	3.38	3.35
13	-5.5	-6	3.66	3.63	3.61	3.57	3.55
(m^3/min)	-3.4	-4	3.76	3.72	3.70	3.66	3.63
	-1.3	-2	3.76	3.72	3.69	3.65	3.62
	0.8	0	3.75	3.71	3.68	3.64	3.60
	3.9	3	4.08	4.04	4.00	3.96	3.91
	7.0	6	4.42	4.37	4.33	4.25	4.13
	10.1	9	4.79	4.74	4.69	4.51	4.18
	13.2	12	5.18	5.09	4.89	4.59	4.19
	16.9	15.5	5.58	5.42	5.00	4.60	4.18

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			3.69	2.79	3.90	2.94	4.01	2.92	4.13	2.90	4.36	3.03	4.61	2.98
	12			3.64	2.77	3.85	2.92	3.96	2.90	4.07	2.88	4.30	3.01	4.54	2.96
	14			3.59	2.75	3.80	2.89	3.91	2.88	4.01	2.85	4.24	2.99	4.48	2.94
	16			3.54	2.72	3.75	2.87	3.85	2.85	3.96	2.83	4.18	2.97	4.42	2.92
	18			3.49	2.70	3.70	2.85	3.80	2.83	3.91	2.82	4.13	2.95	4.35	2.90
Lo	20			3.45	2.68	3.65	2.83	3.75	2.81	3.85	2.79	4.07	2.92	4.29	2.88
	22			3.40	2.66	3.60	2.81	3.70	2.79	3.80	2.77	4.01	2.90	4.23	2.86
10	24			3.36	2.64	3.55	2.79	3.65	2.77	3.75	2.75	3.96	2.89	4.17	2.84
(m^3/min)	26	3.13	2.65	3.31	2.62	3.50	2.77	3.59	2.74	3.69	2.72	3.90	2.87	4.13	2.83
	28	3.09	2.63	3.27	2.60	3.45	2.75	3.54	2.72	3.64	2.71	3.84	2.84		
	30	3.05	2.61	3.22	2.58	3.40	2.73	3.49	2.71	3.59	2.69	3.78	2.82		
	32	3.00	2.58	3.17	2.55	3.35	2.71	3.44	2.69	3.53	2.67	3.72	2.80		
	34	2.95	2.56	3.11	2.53	3.29	2.68	3.39	2.66	3.48	2.64	3.66	2.78		
	35	2.92	2.54	3.09	2.52	3.26	2.67	3.36	2.65	3.45	2.63	3.63	2.77		
	36	2.86	2.52	3.03	2.50	3.20	2.64	3.29	2.63	3.37	2.60	3.52	2.73		
	38	2.74	2.46	2.90	2.44	3.06	2.58	3.15	2.57	3.20	2.54	3.29	2.65		
	39	2.69	2.43	2.83	2.41	2.99	2.56	3.08	2.54	3.12	2.51	3.18	2.61		
	41	2.53	2.36	2.67	2.34	2.80	2.48	2.86	2.46	2.88	2.42	2.91	2.52		
	43	2.33	2.24	2.46	2.24	2.56	2.38	2.57	2.35	2.58	2.31	2.60	2.42		

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	2.25	2.23	2.21	2.20	2.18
	-17.8	-18	2.40	2.38	2.36	2.34	2.32
	-15.7	-16	2.54	2.53	2.50	2.49	2.46
	-13.7	-14	2.70	2.68	2.66	2.64	2.61
	-11.7	-12	2.86	2.84	2.82	2.80	2.77
Lo	-9.6	-10	3.02	3.01	2.99	2.96	2.94
	-7.5	-8	3.21	3.19	3.17	3.14	3.11
11	-5.5	-6	3.40	3.37	3.35	3.32	3.29
(m^3/min)	-3.4	-4	3.49	3.46	3.43	3.40	3.37
	-1.3	-2	3.49	3.45	3.43	3.39	3.36
	0.8	0	3.49	3.45	3.42	3.38	3.34
	3.9	3	3.79	3.75	3.71	3.67	3.63
	7.0	6	4.10	4.06	4.02	3.94	3.83
	10.1	9	4.45	4.40	4.35	4.18	3.88
	13.2	12	4.81	4.72	4.54	4.27	3.89
	16.9	15.5	5.18	5.03	4.64	4.27	3.88

Note(1) This data shows average statuses out of those possible to occur in the system control.
(Depending on controls, there may be ranges where the operation is not conducted continuously.)
(2) Symbols are as follows
TC :Total cooling capacity(kW)
SHC :Sensible heat capacity(kW)

PJF000Z765A

Model **FDT56KXZE1-W** Cooling Mode (kW)

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			6.15	5.23	6.50	5.53	6.69	5.50	6.88	5.46	7.27	5.80	7.68	5.72
	12			6.06	5.19	6.42	5.50	6.60	5.47	6.79	5.43	7.17	5.77	7.57	5.69
	14			5.98	5.16	6.33	5.47	6.51	5.44	6.69	5.40	7.07	5.72	7.47	5.65
	16			5.90	5.11	6.24	5.44	6.42	5.41	6.60	5.37	6.97	5.69	7.36	5.62
	18			5.82	5.08	6.16	5.41	6.34	5.38	6.51	5.34	6.88	5.67	7.26	5.59
P-Hi	20			5.75	5.06	6.08	5.39	6.25	5.35	6.42	5.32	6.78	5.63	7.15	5.55
	22			5.67	5.01	5.99	5.35	6.16	5.32	6.33	5.29	6.69	5.60	7.05	5.52
26	24			5.60	4.99	5.91	5.31	6.08	5.30	6.25	5.26	6.60	5.57	6.95	5.50
(m^3/min)	26	5.22	5.00	5.52	4.96	5.83	5.28	5.99	5.25	6.16	5.22	6.50	5.53	6.89	5.46
	28	5.15	4.94	5.44	4.93	5.75	5.26	5.91	5.23	6.07	5.19	6.40	5.50		
	30	5.08	4.88	5.37	4.89	5.66	5.21	5.82	5.20	5.98	5.16	6.30	5.47		
	32	4.99	4.79	5.28	4.83	5.58	5.19	5.73	5.15	5.89	5.12	6.20	5.43		
	34	4.91	4.71	5.19	4.80	5.49	5.16	5.64	5.12	5.79	5.09	6.10	5.40		
	35	4.87	4.68	5.15	4.78	5.44	5.14	5.60	5.11	5.75	5.08	6.05	5.39		
	36	4.77	4.58	5.04	4.74	5.33	5.09	5.48	5.05	5.61	5.02	5.87	5.32		
	38	4.57	4.39	4.83	4.64	5.10	4.90	5.25	4.98	5.33	4.93	5.49	5.16		
	39	4.48	4.30	4.72	4.53	4.98	4.78	5.13	4.92	5.20	4.88	5.30	5.09		
	41	4.21	4.04	4.45	4.27	4.66	4.47	4.77	4.58	4.81	4.62	4.85	4.66		
	43	3.88	3.72	4.11	3.95	4.26	4.09	4.29	4.12	4.30	4.13	4.33	4.16		

Heating Mode (kW)

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	3.52	3.50	3.47	3.44	3.42
	-17.8	-18	3.76	3.73	3.70	3.67	3.64
	-15.7	-16	3.99	3.96	3.92	3.90	3.86
	-13.7	-14	4.23	4.20	4.17	4.14	4.10
	-11.7	-12	4.48	4.46	4.42	4.39	4.35
P-Hi	-9.6	-10	4.74	4.71	4.68	4.64	4.60
	-7.5	-8	5.03	4.99	4.96	4.92	4.88
26	-5.5	-6	5.32	5.28	5.25	5.20	5.16
(m^3/min)	-3.4	-4	5.47	5.42	5.38	5.33	5.29
	-1.3	-2	5.46	5.41	5.37	5.32	5.26
	0.8	0	5.46	5.40	5.36	5.30	5.24
	3.9	3	5.94	5.87	5.82	5.75	5.69
	7.0	6	6.43	6.36	6.30	6.18	6.01
	10.1	9	6.97	6.90	6.82	6.56	6.08
	13.2	12	7.54	7.40	7.11	6.69	6.10
	16.9	15.5	8.12	7.89	7.28	6.69	6.08

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			5.67	4.33	6.00	4.56	6.18	4.53	6.35	4.50	6.71	4.71	7.09	4.64
	12			5.60	4.30	5.92	4.53	6.09	4.50	6.26	4.47	6.62	4.68	6.99	4.61
	14			5.52	4.27	5.84	4.50	6.01	4.47	6.18	4.44	6.53	4.65	6.89	4.57
	16			5.45	4.24	5.76	4.46	5.93	4.44	6.09	4.40	6.44	4.62	6.80	4.55
	18			5.38	4.21	5.69	4.44	5.85	4.41	6.01	4.38	6.35	4.59	6.70	4.52
Hi	20			5.31	4.18	5.61	4.41	5.77	4.38	5.93	4.35	6.26	4.56	6.60	4.49
	22			5.24	4.15	5.53	4.37	5.69	4.35	5.85	4.32	6.17	4.53	6.51	4.46
16	24			5.17	4.12	5.46	4.35	5.61	4.32	5.77	4.29	6.09	4.50	6.42	4.43
(m^3/min)	26	4.82	4.12	5.10	4.08	5.38	4.31	5.53	4.29	5.68	4.26	6.00	4.47	6.36	4.41
	28	4.75	4.09	5.03	4.05	5.31	4.28	5.45	4.25	5.60	4.22	5.91	4.44		
	30	4.69	4.06	4.96	4.02	5.23	4.25	5.38	4.22	5.52	4.19	5.82	4.40		
	32	4.61	4.02	4.87	3.98	5.15	4.22	5.29	4.19	5.43	4.16	5.73	4.38		
	34	4.53	3.99	4.79	3.94	5.06	4.17	5.21	4.16	5.35	4.13	5.64	4.35		
	35	4.50	3.97	4.75	3.92	5.02	4.16	5.17	4.14	5.31	4.11	5.59	4.33		
	36	4.41	3.92	4.65	3.88	4.92	4.12	5.06	4.10	5.18	4.06	5.42	4.26		
	38	4.22	3.84	4.46	3.80	4.71	4.03	4.85	4.01	4.92	3.96	5.07	4.14		
	39	4.13	3.80	4.36	3.76	4.60	3.99	4.74	3.97	4.80	3.92	4.89	4.09		
	41	3.89	3.69	4.11	3.65	4.31	3.87	4.41	3.84	4.44	3.79	4.48	3.95		
	43	3.58	3.44	3.79	3.51	3.93	3.72	3.96	3.67	3.97	3.62	4.00	3.79		

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	3.18	3.16	3.13	3.10	3.08
	-17.8	-18	3.39	3.36	3.33	3.31	3.28
	-15.7	-16	3.59	3.57	3.54	3.51	3.48
	-13.7	-14	3.81	3.79	3.76	3.73	3.69
	-11.7	-12	4.04	4.02	3.99	3.95	3.92
Hi	-9.6	-10	4.27	4.25	4.22	4.18	4.15
	-7.5	-8	4.54	4.50	4.47	4.43	4.40
16	-5.5	-6	4.80	4.76	4.73	4.69	4.65
(m^3/min)	-3.4	-4	4.93	4.89	4.85	4.81	4.77
	-1.3	-2	4.93	4.88	4.84	4.79	4.75
	0.8	0	4.93	4.87	4.83	4.78	4.72
	3.9	3	5.35	5.29	5.25	5.19	5.13
	7.0	6	5.80	5.74	5.68	5.57	5.42
	10.1	9	6.28	6.22	6.15	5.91	5.48
	13.2	12	6.80	6.67	6.41	6.03	5.50
	16.9	15.5	7.32	7.11	6.56	6.03	5.48

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			5.20	3.81	5.50	4.00	5.66	3.97	5.82	3.94	6.15	4.11	6.50	4.04
	12			5.13	3.78	5.43	3.96	5.59	3.94	5.74	3.91	6.07	4.08	6.41	4.01
	14			5.06	3.74	5.36	3.93	5.51	3.91	5.66	3.88	5.98	4.04	6.32	3.98
	16			5.00	3.71	5.28	3.89	5.44	3.87	5.59	3.85	5.90	4.01	6.23	3.95
	18			4.93	3.68	5.21	3.87	5.36	3.84	5.51	3.81	5.82	3.98	6.14	3.91
Me	20			4.86	3.65	5.14	3.83	5.29	3.81	5.44	3.79	5.74	3.95	6.05	3.89
	22			4.80	3.62	5.07	3.80	5.22	3.78	5.36	3.75	5.66	3.92	5.97	3.85
13	24			4.74	3.59	5.01	3.78	5.14	3.75	5.29	3.72	5.58	3.89	5.89	3.83
(m^3/min)	26	4.42	3.59	4.67	3.56	4.94	3.74	5.07	3.71	5.21	3.69	5.50	3.86	5.83	3.81
	28	4.36	3.56	4.61	3.52	4.87	3.70	5.00	3.68	5.14	3.65	5.42	3.82		
	30	4.30	3.53	4.54	3.49	4.79	3.67	4.93	3.65	5.06	3.62	5.33	3.79		
	32	4.23	3.50	4.47	3.46	4.72	3.64	4.85	3.62	4.98	3.59	5.25	3.76		
	34	4.16	3.47	4.39	3.43	4.64	3.61	4.78	3.59	4.90	3.56	5.17	3.73		
	35	4.12	3.45	4.36	3.41	4.61	3.60	4.74	3.58	4.86	3.55	5.12	3.71		
	36	4.04	3.41	4.27	3.37	4.51	3.56	4.64	3.54	4.75	3.51	4.97	3.67		
	38	3.87	3.33	4.09	3.29	4.31	3.48	4.44	3.46	4.52	3.42	4.65	3.55		
	39	3.79	3.29	4.00	3.25	4.22	3.44	4.35	3.42	4.40	3.37	4.49	3.49		
	41	3.57	3.18	3.76	3.15	3.95	3.33	4.04	3.30	4.07	3.25	4.11	3.36		
	43	3.29	3.05	3.47	3.02	3.61	3.19	3.63	3.14	3.64	3.09	3.67	3.22		

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	2.85	2.83	2.80	2.78	2.76
	-17.8	-18	3.03	3.01	2.99	2.96	2.94
	-15.7	-16	3.22	3.20	3.17	3.15	3.12
	-13.7	-14	3.42	3.40	3.37	3.34	3.31
	-11.7	-12	3.62	3.60	3.57	3.54	3.51
Me	-9.6	-10	3.83	3.81	3.78	3.74	3.72
	-7.5	-8	4.06	4.04	4.01	3.97	3.94
13	-5.5	-6	4.30	4.27	4.24	4.20	4.17
(m^3/min)	-3.4	-4	4.42	4.38	4.35	4.31	4.27
	-1.3	-2	4.42	4.37	4.34	4.30	4.25
	0.8	0	4.41	4.37	4.33	4.28	4.23
	3.9	3	4.80	4.74	4.70	4.65	4.59
	7.0	6	5.20	5.14	5.09	4.99	4.85
	10.1	9	5.63	5.57	5.51	5.30	4.91
	13.2	12	6.09	5.98	5.74	5.40	4.93
	16.9	15.5	6.56	6.37	5.88	5.41	4.91

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			4.46	3.26	4.71	3.42	4.85	3.40	4.99	3.38	5.27	3.52	5.57	3.46
	12			4.40	3.23	4.65	3.38	4.79	3.37	4.92	3.35	5.20	3.49	5.49	3.43
	14			4.34	3.21	4.59	3.36	4.72	3.33	4.85	3.31	5.13	3.46	5.41	3.41
	16			4.28	3.18	4.53	3.33	4.66	3.31	4.78	3.28	5.06	3.44	5.34	3.38
	18			4.22	3.15	4.47	3.31	4.59	3.28	4.72	3.26	4.99	3.40	5.26	3.34
Lo	20			4.17	3.13	4.40	3.28	4.53	3.26	4.66	3.24	4.92	3.37	5.19	3.32
	22			4.11	3.10	4.35	3.26	4.47	3.24	4.59	3.21	4.85	3.35	5.11	3.29
11	24			4.06	3.07	4.29	3.23	4.41	3.21	4.53	3.19	4.78	3.32	5.04	3.27
(m^3/min)	26	3.79	3.08	4.00	3.05	4.23	3.20	4.34	3.18	4.46	3.16	4.71	3.30	4.99	3.25
	28	3.73	3.05	3.95	3.02	4.17	3.18	4.28	3.16	4.40	3.13	4.64	3.28		
	30	3.68	3.03	3.89	2.99	4.11	3.16	4.22	3.13	4.33	3.11	4.57	3.25		
	32	3.62	3.00	3.83	2.97	4.04	3.12	4.16	3.10	4.27	3.08	4.50	3.23		
	34	3.56	2.97	3.76	2.94	3.98	3.10	4.09	3.08	4.20	3.05	4.43	3.20		
	35	3.53	2.95	3.73	2.92	3.95	3.09	4.06	3.07	4.17	3.04	4.39	3.19		
	36	3.46	2.92	3.66	2.89	3.86	3.05	3.97	3.03	4.07	3.00	4.25	3.13		
	38	3.32	2.85	3.50	2.82	3.70	2.98	3.81	2.97	3.87	2.93	3.98	3.04		
	39	3.25	2.82	3.43	2.79	3.61	2.94	3.72	2.93	3.77	2.89	3.84	2.99		
	41	3.05	2.72	3.22	2.69	3.38	2.85	3.46	2.82	3.48	2.78	3.52	2.88		
	43	2.82	2.62	2.98	2.59	3.09	2.73	3.11	2.69	3.12	2.65	3.14	2.75		

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	2.68	2.66	2.64	2.62	2.60
	-17.8	-18	2.86	2.84	2.81	2.79	2.77
	-15.7	-16	3.03	3.01	2.98	2.96	2.93
	-13.7	-14	3.22	3.20	3.17	3.14	3.11
	-11.7	-12	3.41	3.39	3.36	3.33	3.31
Lo	-9.6	-10	3.60	3.58	3.56	3.52	3.50
	-7.5	-8	3.82	3.80	3.77	3.74	3.71
11	-5.5	-6	4.05	4.01	3.99	3.95	3.92
(m^3/min)	-3.4	-4	4.16	4.12	4.09	4.05	4.02
	-1.3	-2	4.15	4.11	4.08	4.04	4.00
	0.8	0	4.15	4.11	4.08	4.03	3.98
	3.9	3	4.51	4.46	4.43	4.38	4.32
	7.0	6	4.89	4.84	4.79	4.70	4.57
	10.1	9	5.30	5.25	5.19	4.98	4.62
	13.2	12	5.73	5.63	5.41	5.08	4.63
	16.9	15.5	6.18	6.00	5.53	5.09	4.62

Note(1) This data shows average statuses out of those possible to occur in the system control.
(Depending on controls, there may be ranges where the operation is not conducted continuously.)
(2) Symbols are as follows
TC :Total cooling capacity(kW)
SHC :Sensible heat capacity(kW)

PJF000Z765 A

Model **FDT71KXZE1-W** Cooling Mode (kW)

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			7.79	6.39	8.24	6.78	8.48	6.74	8.72	6.69	9.22	7.05	9.73	6.95
	12			7.69	6.35	8.13	6.74	8.37	6.70	8.60	6.65	9.09	7.01	9.60	6.91
	14			7.58	6.30	8.02	6.68	8.25	6.64	8.48	6.60	8.96	6.97	9.47	6.87
	16			7.48	6.25	7.91	6.64	8.14	6.60	8.37	6.56	8.84	6.92	9.33	6.82
	18			7.38	6.21	7.81	6.61	8.03	6.56	8.25	6.52	8.72	6.88	9.20	6.78
P-Hi	20			7.29	6.15	7.70	6.55	7.92	6.51	8.14	6.47	8.60	6.84	9.07	6.73
	22			7.19	6.11	7.60	6.52	7.81	6.47	8.03	6.43	8.48	6.79	8.94	6.69
28	24			7.10	6.07	7.50	6.48	7.70	6.44	7.92	6.40	8.36	6.75	8.82	6.66
(m^3/min)	26	6.62	6.10	7.00	6.03	7.40	6.43	7.60	6.39	7.81	6.34	8.24	6.72	8.73	6.63
	28	6.53	6.06	6.90	5.99	7.29	6.39	7.49	6.35	7.69	6.30	8.11	6.66		
	30	6.44	6.02	6.80	5.95	7.18	6.35	7.38	6.31	7.58	6.27	7.99	6.63		
	32	6.33	5.98	6.69	5.91	7.07	6.29	7.27	6.27	7.46	6.23	7.86	6.59		
	34	6.23	5.93	6.58	5.87	6.96	6.26	7.15	6.21	7.34	6.17	7.74	6.53		
	35	6.18	5.90	6.53	5.85	6.90	6.23	7.10	6.20	7.29	6.16	7.68	6.52		
	36	6.05	5.81	6.39	5.78	6.75	6.18	6.95	6.15	7.11	6.10	7.44	6.44		
	38	5.80	5.57	6.12	5.67	6.46	6.03	6.66	6.00	6.76	5.93	6.96	6.28		
	39	5.67	5.44	5.99	5.61	6.32	5.98	6.51	5.95	6.59	5.88	6.72	6.20		
	41	5.34	5.13	5.64	5.41	5.91	5.67	6.05	5.79	6.09	5.72	6.15	5.90		
	43	4.92	4.72	5.20	4.99	5.40	5.18	5.43	5.21	5.45	5.23	5.49	5.27		

Heating Mode (kW)

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	4.48	4.45	4.40	4.37	4.34
	-17.8	-18	4.77	4.74	4.69	4.66	4.62
	-15.7	-16	5.06	5.03	4.98	4.95	4.90
	-13.7	-14	5.37	5.34	5.29	5.25	5.20
	-11.7	-12	5.69	5.66	5.62	5.57	5.52
P-Hi	-9.6	-10	6.02	5.98	5.94	5.89	5.84
	-7.5	-8	6.39	6.34	6.30	6.24	6.20
28	-5.5	-6	6.76	6.70	6.66	6.60	6.55
(m^3/min)	-3.4	-4	6.94	6.88	6.83	6.77	6.71
	-1.3	-2	6.94	6.87	6.82	6.75	6.68
	0.8	0	6.94	6.86	6.81	6.73	6.65
	3.9	3	7.54	7.46	7.39	7.31	7.22
	7.0	6	8.17	8.08	8.00	7.85	7.63
	10.1	9	8.85	8.76	8.66	8.32	7.72
	13.2	12	9.57	9.40	9.03	8.49	7.74
	16.9	15.5	10.31	10.02	9.24	8.50	7.72

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			6.97	5.12	7.37	5.37	7.59	5.33	7.80	5.30	8.24	5.53	8.71	5.44
	12			6.88	5.06	7.27	5.32	7.48	5.29	7.69	5.25	8.13	5.48	8.59	5.40
	14			6.78	5.02	7.18	5.28	7.38	5.25	7.59	5.21	8.02	5.44	8.47	5.35
	16			6.69	4.98	7.08	5.23	7.28	5.21	7.48	5.17	7.91	5.40	8.35	5.31
	18			6.60	4.94	6.98	5.19	7.18	5.16	7.38	5.12	7.80	5.36	8.23	5.27
Hi	20			6.52	4.90	6.89	5.16	7.09	5.12	7.28	5.08	7.69	5.31	8.11	5.22
	22			6.43	4.86	6.80	5.12	6.99	5.08	7.18	5.05	7.58	5.27	8.00	5.19
17	24			6.35	4.83	6.71	5.07	6.89	5.04	7.08	5.00	7.48	5.24	7.88	5.15
(m^3/min)	26	5.92	4.83	6.26	4.79	6.61	5.03	6.79	5.00	6.98	4.96	7.37	5.19	7.81	5.12
	28	5.84	4.79	6.17	4.74	6.52	5.00	6.70	4.96	6.88	4.92	7.26	5.15		
	30	5.76	4.76	6.09	4.70	6.42	4.95	6.60	4.92	6.78	4.89	7.15	5.11		
	32	5.66	4.71	5.99	4.66	6.32	4.91	6.50	4.87	6.67	4.84	7.03	5.06		
	34	5.57	4.66	5.89	4.62	6.22	4.85	6.40	4.82	6.57	4.78	6.92	5.03		
	35	5.52	4.64	5.84	4.59	6.17	4.83	6.35	4.80	6.52	4.76	6.87	5.01		
	36	5.41	4.58	5.72	4.53	6.04	4.78	6.21	4.75	6.36	4.70	6.65	4.93		
	38	5.19	4.48	5.48	4.43	5.78	4.67	5.95	4.65	6.05	4.59	6.23	4.78		
	39	5.08	4.42	5.36	4.37	5.65	4.62	5.82	4.60	5.89	4.53	6.01	4.70		
	41	4.78	4.28	5.04	4.23	5.29	4.48	5.41	4.44	5.45	4.37	5.50	4.50		
	43	4.40	4.11	4.65	4.06	4.83	4.29	4.86	4.23	4.88	4.16	4.91	4.31		

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	4.06	4.03	3.99	3.96	3.93
	-17.8	-18	4.32	4.29	4.25	4.22	4.19
	-15.7	-16	4.59	4.56	4.52	4.48	4.44
	-13.7	-14	4.87	4.84	4.79	4.76	4.71
	-11.7	-12	5.16	5.13	5.09	5.05	5.00
Hi	-9.6	-10	5.45	5.42	5.38	5.33	5.29
	-7.5	-8	5.79	5.75	5.71	5.66	5.62
17	-5.5	-6	6.12	6.08	6.04	5.98	5.94
(m^3/min)	-3.4	-4	6.29	6.24	6.19	6.13	6.08
	-1.3	-2	6.29	6.23	6.18	6.12	6.06
	0.8	0	6.29	6.22	6.17	6.10	6.03
	3.9	3	6.83	6.76	6.70	6.62	6.54
	7.0	6	7.40	7.32	7.25	7.11	6.91
	10.1	9	8.02	7.94	7.85	7.54	7.00
	13.2	12	8.68	8.52	8.18	7.69	7.01
	16.9	15.5	9.35	9.08	8.38	7.70	7.00

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			5.91	4.30	6.26	4.51	6.44	4.48	6.62	4.44	7.00	4.63	7.39	4.56
	12			5.84	4.26	6.17	4.47	6.35	4.44	6.53	4.41	6.90	4.59	7.29	4.52
	14			5.76	4.23	6.09	4.43	6.27	4.41	6.44	4.37	6.81	4.56	7.19	4.48
	16			5.68	4.18	6.01	4.39	6.18	4.36	6.35	4.33	6.71	4.52	7.08	4.45
	18			5.61	4.14	5.93	4.36	6.10	4.33	6.27	4.30	6.62	4.48	6.98	4.41
Me	20			5.53	4.11	5.85	4.32	6.02	4.30	6.18	4.27	6.53	4.45	6.88	4.37
	22			5.46	4.08	5.77	4.29	5.93	4.26	6.10	4.23	6.44	4.42	6.79	4.35
14	24			5.39	4.05	5.69	4.25	5.85	4.22	6.01	4.19	6.35	4.38	6.69	4.31
(m^3/min)	26	5.03	4.06	5.32	4.01	5.61	4.22	5.77	4.19	5.93	4.16	6.26	4.35	6.63	4.29
	28	4.96	4.03	5.24	3.98	5.53	4.18	5.69	4.15	5.84	4.12	6.16	4.31		
	30	4.89	3.99	5.17	3.95	5.45	4.15	5.60	4.12	5.75	4.09	6.06	4.27		
	32	4.81	3.95	5.08	3.90	5.37	4.11	5.52	4.09	5.67	4.06	5.97	4.24		
	34	4.73	3.91	5.00	3.87	5.28	4.07	5.43	4.05	5.58	4.02	5.87	4.21		
	35	4.69	3.89	4.95	3.84	5.24	4.05	5.39	4.03	5.53	4.00	5.83	4.19		
	36	4.59	3.84	4.85	3.80	5.13	4.00	5.28	3.97	5.40	3.93	5.65	4.12		
	38	4.40	3.75	4.65	3.71	4.91	3.91	5.05	3.88	5.13	3.83	5.28	3.99		
	39	4.31	3.70	4.55	3.66	4.80	3.86	4.94	3.84	5.00	3.79	5.10	3.93		
	41	4.05	3.58	4.28	3.54	4.49	3.74	4.59	3.71	4.63	3.65	4.67	3.76		
	43	3.74	3.44	3.95	3.40	4.10	3.58	4.13	3.53	4.14	3.47	4.17	3.59		

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	3.31	3.29	3.25	3.23	3.20
	-17.8	-18	3.52	3.50	3.47	3.44	3.41
	-15.7	-16	3.74	3.72	3.68	3.66	3.62
	-13.7	-14	3.97	3.94	3.91	3.88	3.84
	-11.7	-12	4.21	4.18	4.15	4.11	4.08
Me	-9.6	-10	4.45	4.42	4.39	4.35	4.32
	-7.5	-8	4.72	4.69	4.65	4.61	4.58
14	-5.5	-6	4.99	4.95	4.92	4.88	4.84
(m^3/min)	-3.4	-4	5.13	5.08	5.05	5.00	4.96
	-1.3	-2	5.13	5.08	5.04	4.99	4.94
	0.8	0	5.12	5.07	5.03	4.97	4.92
	3.9	3	5.57	5.51	5.46	5.40	5.33
	7.0	6	6.03	5.97	5.91	5.80	5.64
	10.1	9	6.54	6.47	6.40	6.15	5.71
	13.2	12	7.07	6.94	6.67	6.27	5.72
	16.9	15.5	7.62	7.40	6.83	6.28	5.70

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			5.29	3.83	5.60	4.02	5.76	3.99	5.92	3.96	6.26	4.11	6.61	4.04
	12			5.22	3.80	5.52	3.98	5.68	3.96	5.84	3.93	6.17	4.08	6.52	4.01
	14			5.15	3.76	5.45	3.95	5.60	3.92	5.76	3.89	6.09	4.05	6.43	3.98
	16			5.08	3.73	5.37	3.91	5.53	3.89	5.68	3.86	6.00	4.01	6.34	3.95
	18			5.01	3.69	5.30	3.88	5.45	3.85	5.60	3.83	5.92	3.98	6.25	3.92
Lo	20			4.95	3.67	5.23	3.85	5.38	3.83	5.53	3.80	5.84	3.95	6.16	3.89
	22			4.88	3.63	5.16	3.81	5.30	3.79	5.45	3.77	5.76	3.92	6.07	3.86
12	24			4.82	3.61	5.09	3.78	5.23	3.76	5.38	3.73	5.68	3.90	5.98	3.83
(m^3/min)	26	4.50	3.62	4.75	3.57	5.02	3.75	5.16	3.73	5.30	3.70	5.59	3.86	5.93	3.81
	28	4.43	3.58	4.69	3.55	4.95	3.72	5.08	3.70	5.22	3.67	5.51	3.83		
	30	4.37	3.55	4.62	3.51	4.88	3.69	5.01	3.67	5.15	3.64	5.42	3.80		
	32	4.30	3.51	4.54	3.47	4.80	3.66	4.93	3.63	5.07	3.61	5.34	3.77		
	34	4.23	3.48	4.47	3.44	4.72	3.62	4.86	3.61	4.99	3.58	5.25	3.74		
	35	4.19	3.46	4.43	3.42	4.68	3.61	4.82	3.59	4.95	3.56	5.21	3.73		
	36	4.11	3.42	4.34	3.38	4.58	3.56	4.72	3.54	4.83	3.51	5.05	3.66		
	38	3.94	3.34	4.16	3.30	4.39	3.49	4.52	3.47	4.59	3.42	4.73	3.55		
	39	3.85	3.29	4.07	3.26	4.29	3.44	4.42	3.43	4.47	3.38	4.56	3.49		
	41	3.63	3.19	3.83	3.15	4.02	3.32	4.11	3.29	4.14	3.23	4.18	3.36		
	43	3.34	3.05	3.53	3.02	3.67	3.18	3.69	3.13	3.70	3.07	3.73	3.20		

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	3.21	3.19	3.16	3.14	3.11
	-17.8	-18	3.42	3.40	3.37	3.34	3.31
	-15.7	-16	3.63	3.61	3.58	3.55	3.52
	-13.7	-14	3.85	3.83	3.80	3.77	3.73
	-11.7	-12	4.09	4.06	4.03	4.00	3.96
Lo	-9.6	-10	4.32	4.29	4.26	4.22	4.19
	-7.5	-8	4.58	4.55	4.52	4.48	4.45
12	-5.5	-6	4.85	4.81	4.78	4.74	4.70
(m^3/min)	-3.4	-4	4.98	4.94	4.90	4.86	4.82
	-1.3	-2	4.98	4.93	4.89	4.84	4.80
	0.8	0	4.98	4.92	4.88	4.83	4.77
	3.9	3	5.41	5.35	5.30	5.24	5.18
	7.0	6	5.86	5.80	5.74	5.63	5.47
	10.1	9	6.35	6.29	6.22	5.97	5.54
	13.2	12	6.87	6.75	6.48	6.09	5.55
	16.9	15.5	7.40	7.19	6.63	6.10	5.54

Note(1) This data shows average statuses out of those possible to occur in the system control.
(Depending on controls, there may be ranges where the operation is not conducted continuously.)
(2) Symbols are as follows
TC :Total cooling capacity(kW)
SHC :Sensible heat capacity(kW)

PJF000Z765A

Model **FDT90KXZE1-W** Cooling Mode (kW)

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB		23 °CDB 16 °CWB		26 °CDB 18 °CWB		27 °CDB 19 °CWB		28 °CDB 20 °CWB		31 °CDB 22 °CWB		33 °CDB 24 °CWB	
		TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
	10			9.88	8.17	10.45	8.64	10.75	8.59	11.06	8.53	11.68	9.03	12.34	8.90
	12			9.75	8.12	10.31	8.59	10.61	8.54	10.90	8.48	11.52	8.92	12.17	8.78
	14			9.61	8.05	10.17	8.54	10.46	8.48	10.75	8.43	11.36	8.86	12.00	8.74
	16			9.49	8.00	10.03	8.49	10.32	8.44	10.61	8.38	11.21	8.82	11.83	8.69
	18			9.36	7.95	9.90	8.44	10.18	8.39	10.46	8.33	11.05	8.77	11.66	8.65
P-Hi	20			9.24	7.88	9.76	8.39	10.04	8.34	10.32	8.28	10.90	8.73	11.50	8.60
	22			9.12	7.84	9.63	8.32	9.90	8.27	10.18	8.24	10.75	8.68	11.33	8.56
37	24			9.00	7.79	9.51	8.28	9.77	8.23	10.04	8.17	10.60	8.64	11.17	8.51
(m^3/min)	26	8.40	7.81	8.88	7.72	9.37	8.23	9.63	8.18	9.90	8.13	10.45	8.59	11.07	8.49
	28	8.28	7.76	8.75	7.67	9.24	8.17	9.49	8.13	9.75	8.08	10.29	8.55		
	30	8.16	7.71	8.63	7.63	9.10	8.12	9.36	8.07	9.61	8.01	10.13	8.48		
	32	8.03	7.64	8.48	7.57	8.96	8.06	9.21	8.02	9.46	7.96	9.97	8.43		
	34	7.89	7.57	8.34	7.50	8.82	8.02	9.07	7.97	9.31	7.92	9.81	8.38		
	35	7.83	7.52	8.27	7.47	8.75	7.97	9.00	7.92	9.24	7.89	9.73	8.36		
	36	7.67	7.36	8.10	7.41	8.56	7.90	8.81	7.86	9.01	7.80	9.43	8.25		
	38	7.35	7.06	7.76	7.26	8.19	7.76	8.44	7.71	8.57	7.63	8.82	8.04		
	39	7.19	6.90	7.59	7.19	8.01	7.69	8.25	7.65	8.35	7.56	8.52	7.93		
	41	6.77	6.50	7.15	6.86	7.50	7.20	7.67	7.36	7.73	7.34	7.80	7.49		
	43	6.24	5.99	6.60	6.34	6.85	6.58	6.89	6.61	6.91	6.63	6.96	6.68		

Heating Mode (kW)

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	5.59	5.56	5.51	5.46	5.42
	-17.8	-18	5.96	5.92	5.87	5.82	5.77
	-15.7	-16	6.33	6.29	6.23	6.19	6.12
	-13.7	-14	6.71	6.67	6.61	6.56	6.50
	-11.7	-12	7.12	7.07	7.02	6.96	6.90
P-Hi	-9.6	-10	7.52	7.48	7.43	7.36	7.30
	-7.5	-8	7.98	7.93	7.88	7.80	7.75
37	-5.5	-6	8.45	8.38	8.33	8.25	8.19
(m^3/min)	-3.4	-4	8.68	8.60	8.54	8.46	8.39
	-1.3	-2	8.67	8.59	8.53	8.44	8.35
	0.8	0	8.67	8.58	8.51	8.42	8.32
	3.9	3	9.42	9.32	9.24	9.13	9.02
	7.0	6	10.21	10.10	10.00	9.81	9.54
	10.1	9	11.06	10.95	10.83	10.41	9.65
	13.2	12	11.97	11.75	11.29	10.61	9.68
	16.9	15.5	12.89	12.52	11.55	10.62	9.65

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB		23 °CDB 16 °CWB		26 °CDB 18 °CWB		27 °CDB 19 °CWB		28 °CDB 20 °CWB		31 °CDB 22 °CWB		33 °CDB 24 °CWB	
		TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
	10			8.93	6.94	9.45	7.31	9.73	7.27	10.00	7.22	10.57	7.58	11.16	7.47
	12			8.81	6.88	9.33	7.27	9.59	7.22	9.86	7.17	10.42	7.52	11.01	7.40
	14			8.70	6.83	9.20	7.21	9.46	7.17	9.73	7.12	10.28	7.47	10.85	7.35
	16			8.58	6.77	9.07	7.16	9.33	7.12	9.59	7.07	10.13	7.42	10.70	7.31
	18			8.47	6.72	8.95	7.11	9.21	7.07	9.46	7.02	10.00	7.37	10.55	7.26
Hi	20			8.35	6.67	8.83	7.05	9.08	7.00	9.33	6.97	9.86	7.32	10.40	7.21
	22			8.25	6.63	8.71	7.00	8.96	6.96	9.21	6.91	9.72	7.23	10.25	7.12
25	24			8.14	6.58	8.60	6.96	8.83	6.91	9.08	6.86	9.59	7.19	10.11	7.08
(m^3/min)	26	7.59	6.59	8.03	6.53	8.48	6.91	8.71	6.86	8.95	6.81	9.45	7.14	10.01	7.04
	28	7.49	6.54	7.91	6.48	8.36	6.86	8.59	6.82	8.82	6.77	9.30	7.09		
	30	7.38	6.49	7.80	6.42	8.23	6.81	8.46	6.77	8.69	6.72	9.16	7.04		
	32	7.26	6.44	7.67	6.37	8.10	6.75	8.33	6.72	8.56	6.67	9.02	7.00		
	34	7.14	6.38	7.55	6.31	7.97	6.70	8.20	6.66	8.42	6.61	8.87	6.95		
	35	7.08	6.36	7.48	6.29	7.91	6.67	8.14	6.63	8.35	6.58	8.80	6.92		
	36	6.94	6.29	7.33	6.22	7.74	6.61	7.97	6.57	8.15	6.51	8.53	6.83		
	38	6.65	6.15	7.02	6.08	7.41	6.48	7.63	6.44	7.75	6.37	7.98	6.65		
	39	6.51	6.09	6.87	6.02	7.24	6.40	7.46	6.38	7.55	6.28	7.71	6.56		
	41	6.12	5.88	6.47	5.83	6.78	6.22	6.94	6.17	6.99	6.08	7.05	6.35		
	43	5.64	5.41	5.97	5.62	6.19	5.94	6.23	5.90	6.25	5.81	6.29	6.04		

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	5.07	5.04	4.99	4.95	4.91
	-17.8	-18	5.40	5.37	5.32	5.28	5.23
	-15.7	-16	5.73	5.70	5.64	5.60	5.55
	-13.7	-14	6.08	6.04	5.99	5.95	5.89
	-11.7	-12	6.45	6.41	6.36	6.31	6.25
Hi	-9.6	-10	6.81	6.77	6.73	6.67	6.62
	-7.5	-8	7.23	7.18	7.14	7.07	7.02
25	-5.5	-6	7.65	7.59	7.54	7.47	7.42
(m^3/min)	-3.4	-4	7.86	7.79	7.74	7.67	7.60
	-1.3	-2	7.86	7.78	7.72	7.65	7.57
	0.8	0	7.86	7.77	7.71	7.62	7.54
	3.9	3	8.54	8.44	8.37	8.28	8.18
	7.0	6	9.25	9.15	9.06	8.89	8.64
	10.1	9	10.02	9.92	9.81	9.43	8.75
	13.2	12	10.84	10.65	10.22	9.61	8.77
	16.9	15.5	11.68	11.34	10.47	9.62	8.74

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB		23 °CDB 16 °CWB		26 °CDB 18 °CWB		27 °CDB 19 °CWB		28 °CDB 20 °CWB		31 °CDB 22 °CWB		33 °CDB 24 °CWB	
		TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
	10			8.13	6.22	8.60	6.56	8.85	6.52	9.10	6.48	9.62	6.78	10.16	6.68
	12			8.02	6.18	8.49	6.52	8.73	6.48	8.98	6.43	9.49	6.74	10.02	6.63
	14			7.92	6.13	8.37	6.46	8.61	6.42	8.85	6.38	9.36	6.69	9.88	6.59
	16			7.81	6.08	8.26	6.41	8.50	6.37	8.73	6.33	9.23	6.65	9.74	6.54
	18			7.71	6.04	8.15	6.37	8.38	6.33	8.62	6.29	9.10	6.59	9.60	6.49
Me	20			7.60	5.99	8.04	6.32	8.27	6.28	8.50	6.24	8.97	6.54	9.46	6.44
	22			7.51	5.94	7.93	6.28	8.15	6.24	8.38	6.20	8.85	6.50	9.33	6.40
22	24			7.41	5.90	7.83	6.23	8.04	6.19	8.26	6.15	8.73	6.46	9.20	6.36
(m^3/min)	26	6.91	5.92	7.31	5.85	7.72	6.18	7.93	6.14	8.15	6.10	8.60	6.42	9.11	6.29
	28	6.82	5.88	7.20	5.81	7.61	6.14	7.82	6.10	8.03	6.05	8.47	6.34		
	30	6.72	5.82	7.10	5.76	7.50	6.10	7.70	6.05	7.91	6.01	8.34	6.29		
	32	6.61	5.77	6.99	5.72	7.38	6.05	7.58	6.01	7.79	5.96	8.21	6.25		
	34	6.50	5.72	6.87	5.65	7.26	6.00	7.47	5.96	7.67	5.92	8.08	6.21		
	35	6.44	5.69	6.81	5.63	7.20	5.98	7.41	5.94	7.60	5.90	8.01	6.18		
	36	6.31	5.63	6.67	5.57	7.05	5.91	7.25	5.87	7.42	5.82	7.76	6.10		
	38	6.05	5.50	6.39	5.45	6.74	5.78	6.95	5.76	7.06	5.69	7.26	5.93		
	39	5.92	5.44	6.25	5.39	6.59	5.73	6.79	5.70	6.88	5.62	7.02	5.85		
	41	5.57	5.29	5.89	5.23	6.17	5.55	6.32	5.51	6.36	5.43	6.42	5.66		
	43	5.14	4.93	5.43	5.02	5.64	5.35	5.67	5.27	5.69	5.18	5.73	5.43		

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	4.50	4.47	4.43	4.39	4.36
	-17.8	-18	4.79	4.76	4.72	4.68	4.64
	-15.7	-16	5.09	5.05	5.01	4.97	4.92
	-13.7	-14	5.40	5.36	5.32	5.28	5.23
	-11.7	-12	5.72	5.69	5.64	5.60	5.55
Me	-9.6	-10	6.05	6.01	5.97	5.92	5.87
	-7.5	-8	6.42	6.37	6.33	6.27	6.23
22	-5.5	-6	6.79	6.74	6.69	6.63	6.58
(m^3/min)	-3.4	-4	6.98	6.92	6.87	6.80	6.75
	-1.3	-2	6.97	6.91	6.85	6.78	6.72
	0.8	0	6.97	6.90	6.84	6.77	6.69
	3.9	3	7.58	7.49	7.43	7.34	7.26
	7.0	6	8.21	8.12	8.04	7.89	7.67
	10.1	9	8.89	8.81	8.71	8.37	7.76
	13.2	12	9.62	9.45	9.07	8.53	7.78
	16.9	15.5	10.37	10.07	9.29	8.54	7.76

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB		23 °CDB 16 °CWB		26 °CDB 18 °CWB		27 °CDB 19 °CWB		28 °CDB 20 °CWB		31 °CDB 22 °CWB		33 °CDB 24 °CWB	
		TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
	10			6.32	4.63	6.69	4.86	6.88	4.83	7.08	4.80	7.48	5.00	7.90	4.92
	12			6.24	4.59	6.60	4.82	6.79	4.78	6.98	4.76	7.38	4.96	7.79	4.88
	14			6.15	4.55	6.51	4.78	6.70	4.75	6.88	4.71	7.27	4.92	7.68	4.84
	16			6.07	4.51	6.42	4.74	6.61	4.71	6.79	4.67	7.17	4.88	7.57	4.80
	18			5.99	4.47	6.33	4.70	6.52	4.67	6.70	4.64	7.07	4.84	7.46	4.76
Lo	20			5.91	4.44	6.25	4.66	6.43	4.64	6.61	4.60	6.97	4.80	7.36	4.73
	22			5.83	4.40	6.17	4.63	6.34	4.59	6.51	4.56	6.88	4.77	7.25	4.69
15	24			5.76	4.35	6.08	4.59	6.25	4.56	6.42	4.52	6.78	4.71	7.15	4.63
(m^3/min)	26	5.37	4.37	5.68	4.32	6.00	4.55	6.16	4.52	6.33	4.49	6.69	4.68	7.08	4.61
	28	5.30	4.33	5.60	4.28	5.91	4.52	6.08	4.49	6.24	4.45	6.58	4.64		
	30	5.22	4.29	5.52	4.25	5.83	4.48	5.99	4.45	6.15	4.42	6.48	4.61		
	32	5.14	4.25	5.43	4.21	5.73	4.44	5.90	4.41	6.05	4.37	6.38	4.57		
	34	5.05	4.21	5.34	4.17	5.64	4.40	5.80	4.37	5.96	4.34	6.28	4.54		
	35	5.01	4.19	5.29	4.14	5.60	4.38	5.76	4.35	5.91	4.32	6.23	4.52		
	36	4.91	4.15	5.19	4.10	5.48	4.33	5.64	4.31	5.77	4.27	6.03	4.45		
	38	4.71	4.05	4.97	4.00	5.24	4.23	5.40	4.21	5.49	4.15	5.65	4.32		
	39	4.60	4.00	4.86	3.95	5.12	4.18	5.28	4.16	5.35	4.10	5.45	4.25		
	41	4.33	3.87	4.57	3.82	4.80	4.05	4.91	4.02	4.94	3.94	4.99	4.09		
	43	3.99	3.71	4.22	3.67	4.38	3.88	4.41	3.82	4.42	3.76	4.45	3.91		

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	4.08	4.05	4.01	3.98	3.95
	-17.8	-18	4.35	4.32	4.28	4.25	4.21
	-15.7	-16	4.61	4.58	4.54	4.51	4.46
	-13.7	-14	4.89	4.86	4.82	4.79	4.74
	-11.7	-12	5.19	5.16	5.12	5.07	5.03
Lo	-9.6	-10	5.48	5.45	5.41	5.36	5.32
	-7.5	-8	5.82	5.78	5.74	5.69	5.65
15	-5.5	-6	6.16	6.11	6.07	6.01	5.97
(m^3/min)	-3.4	-4	6.33	6.27	6.23	6.17	6.12
	-1.3	-2	6.32	6.26	6.21	6.15	6.09
	0.8	0	6.32	6.25	6.20	6.14	6.06
	3.9	3	6.87	6.79	6.73	6.66	6.58
	7.0	6	7.44	7.36	7.29	7.15	6.95
	10.1	9	8.06	7.98	7.90	7.59	7.04
	13.2	12	8.72	8.57	8.23	7.74	7.05
	16.9	15.5	9.40	9.13	8.42	7.74	7.04

Note(1) This data shows average statuses out of those possible to occur in the system control.
(Depending on controls, there may be ranges where the operation is not conducted continuously.)
(2) Symbols are as follows
TC :Total cooling capacity(kW)
SHC :Sensible heat capacity(kW)

PJF000Z765A

Model **FDT112KXZE1-W** Cooling Mode (kW)

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature													
		21 °CDB 14 °CWB		23 °CDB 16 °CWB		26 °CDB 18 °CWB		27 °CDB 19 °CWB		28 °CDB 20 °CWB		31 °CDB 22 °CWB		33 °CDB 24 °CWB	
		TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
	10			12.29	9.74	13.01	10.29	13.38	10.22	13.76	10.15	14.54	10.61	15.35	10.45
	12			12.13	9.65	12.83	10.21	13.20	10.15	13.57	10.08	14.34	10.55	15.14	10.39
	14			11.96	9.58	12.66	10.13	13.02	10.06	13.38	10.02	14.14	10.48	14.93	10.32
	16			11.80	9.51	12.48	10.02	12.84	9.96	13.20	9.89	13.94	10.42	14.72	10.26
	18			11.65	9.43	12.32	9.96	12.67	9.90	13.02	9.83	13.75	10.35	14.51	10.20
P-Hi	20			11.49	9.36	12.15	9.90	12.50	9.83	12.84	9.76	13.56	10.29	14.31	10.14
	22			11.34	9.27	11.99	9.83	12.33	9.77	12.67	9.70	13.38	10.24	14.11	10.08
38	24			11.20	9.21	11.83	9.77	12.15	9.70	12.49	9.64	13.19	10.17	13.91	10.02
(m^3/min)	26	10.45	9.25	11.05	9.15	11.67	9.71	11.98	9.64	12.31	9.58	13.00	10.11	13.78	9.98
	28	10.30	9.18	10.89	9.08	11.50	9.65	11.81	9.58	12.14	9.52	12.80	10.05		
	30	10.15	9.11	10.73	9.01	11.33	9.58	11.64	9.52	11.96	9.45	12.60	9.96		
	32	9.99	9.04	10.56	8.94	11.15	9.51	11.46	9.45	11.77	9.39	12.40	9.90		
	34	9.82	8.97	10.38	8.87	10.97	9.44	11.28	9.39	11.59	9.32	12.21	9.84		
	35	9.74	8.93	10.30	8.84	10.88	9.41	11.20	9.36	11.49	9.29	12.11	9.81		
	36	9.54	8.85	10.08	8.75	10.65	9.31	10.96	9.25	11.22	9.18	11.73	9.66		
	38	9.15	8.66	9.66	8.58	10.19	9.13	10.50	9.09	10.67	8.99	10.98	9.43		
	39	8.95	8.57	9.45	8.47	9.96	9.03	10.27	9.00	10.39	8.87	10.60	9.29		
	41	8.42	8.08	8.90	8.25	9.33	8.79	9.55	8.73	9.61	8.60	9.71	8.99		
	43	7.77	7.46	8.21	7.88	8.52	8.18	8.57	8.23	8.60	8.24	8.66	8.31		

Heating Mode (kW)

Air flow	Outdoor air temperature		Indoor air temperature				
	°CDB	°CWB	16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	6.99	6.95	6.88	6.83	6.78
	-17.8	-18	7.45	7.40	7.33	7.28	7.22
	-15.7	-16	7.91	7.86	7.79	7.73	7.66
	-13.7	-14	8.39	8.34	8.27	8.21	8.13
	-11.7	-12	8.90	8.84	8.77	8.70	8.63
P-Hi	-9.6	-10	9.40	9.35	9.28	9.20	9.13
	-7.5	-8	9.98	9.91	9.84	9.75	9.68
38	-5.5	-6	10.56	10.48	10.41	10.31	10.24
(m^3/min)	-3.4	-4	10.85	10.75	10.68	10.58	10.49
	-1.3	-2	10.84	10.74	10.66	10.55	10.44
	0.8	0	10.84	10.72	10.64	10.52	10.40
	3.9	3	11.78	11.65	11.55	11.42	11.28
	7.0	6	12.76	12.62	12.50	12.26	11.92
	10.1	9	13.83	13.69	13.54	13.01	12.07
	13.2	12	14.96	14.69	14.11	13.26	12.09
	16.9	15.5	16.12	15.65	14.44	13.28	12.06

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature													
		21 °CDB 14 °CWB		23 °CDB 16 °CWB		26 °CDB 18 °CWB		27 °CDB 19 °CWB		28 °CDB 20 °CWB		31 °CDB 22 °CWB		33 °CDB 24 °CWB	
		TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
	10			10.94	8.05	11.58	8.45	11.91	8.39	12.25	8.34	12.94	8.67	13.67	8.53
	12			10.80	7.98	11.42	8.38	11.75	8.33	12.08	8.27	12.77	8.61	13.48	8.47
	14			10.65	7.91	11.27	8.31	11.59	8.26	11.91	8.20	12.59	8.54	13.29	8.40
	16			10.51	7.84	11.11	8.23	11.43	8.18	11.75	8.13	12.41	8.48	13.11	8.34
	18			10.37	7.78	10.96	8.17	11.28	8.12	11.59	8.06	12.24	8.42	12.92	8.28
Hi	20			10.23	7.71	10.82	8.11	11.13	8.06	11.43	8.00	12.07	8.36	12.73	8.22
	22			10.10	7.66	10.67	8.05	10.97	7.99	11.28	7.94	11.91	8.30	12.56	8.16
26	24			9.97	7.59	10.53	7.99	10.82	7.93	11.12	7.88	11.74	8.24	12.38	8.10
(m^3/min)	26	9.30	7.61	9.83	7.52	10.38	7.92	10.67	7.87	10.96	7.81	11.57	8.17	12.26	8.06
	28	9.17	7.54	9.69	7.46	10.23	7.85	10.52	7.81	10.80	7.75	11.39	8.11		
	30	9.04	7.48	9.56	7.40	10.08	7.79	10.37	7.74	10.64	7.68	11.22	8.05		
	32	8.89	7.41	9.40	7.33	9.93	7.72	10.20	7.67	10.48	7.62	11.04	7.97		
	34	8.74	7.33	9.24	7.26	9.77	7.66	10.04	7.61	10.31	7.55	10.87	7.91		
	35	8.67	7.29	9.16	7.22	9.69	7.63	9.97	7.58	10.23	7.52	10.78	7.88		
	36	8.50	7.21	8.98	7.14	9.48	7.54	9.76	7.50	9.99	7.43	10.44	7.76		
	38	8.14	7.04	8.60	6.96	9.07	7.36	9.35	7.32	9.50	7.23	9.77	7.52		
	39	7.97	6.96	8.41	6.88	8.87	7.28	9.14	7.21	9.25	7.11	9.44	7.41		
	41	7.50	6.73	7.92	6.67	8.30	7.03	8.50	6.97	8.56	6.86	8.64	7.14		
	43	6.91	6.46	7.31	6.40	7.58	6.74	7.63	6.64	7.66	6.53	7.71	6.81		

Air flow	Outdoor air temperature		Indoor air temperature				
	°CDB	°CWB	16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	6.31	6.27	6.21	6.16	6.12
	-17.8	-18	6.72	6.68	6.62	6.57	6.51
	-15.7	-16	7.14	7.09	7.03	6.98	6.91
	-13.7	-14	7.57	7.52	7.46	7.40	7.33
	-11.7	-12	8.03	7.98	7.92	7.85	7.78
Hi	-9.6	-10	8.48	8.43	8.38	8.30	8.24
	-7.5	-8	9.01	8.94	8.88	8.80	8.74
26	-5.5	-6	9.53	9.45	9.39	9.31	9.24
(m^3/min)	-3.4	-4	9.79	9.70	9.64	9.54	9.47
	-1.3	-2	9.78	9.69	9.62	9.52	9.42
	0.8	0	9.78	9.68	9.60	9.49	9.38
	3.9	3	10.63	10.51	10.42	10.30	10.18
	7.0	6	11.52	11.39	11.28	11.07	10.76
	10.1	9	12.48	12.35	12.22	11.74	10.89
	13.2	12	13.50	13.26	12.73	11.97	10.91
	16.9	15.5	14.54	14.12	13.03	11.98	10.89

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature													
		21 °CDB 14 °CWB		23 °CDB 16 °CWB		26 °CDB 18 °CWB		27 °CDB 19 °CWB		28 °CDB 20 °CWB		31 °CDB 22 °CWB		33 °CDB 24 °CWB	
		TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
	10			10.22	7.38	10.81	7.73	11.12	7.68	11.44	7.63	12.09	7.91	12.76	7.78
	12			10.08	7.31	10.67	7.67	10.97	7.62	11.28	7.56	11.92	7.85	12.59	7.72
	14			9.95	7.25	10.52	7.59	10.82	7.54	11.12	7.50	11.75	7.79	12.41	7.66
	16			9.81	7.19	10.38	7.53	10.68	7.48	10.97	7.43	11.59	7.73	12.24	7.60
	18			9.68	7.13	10.24	7.47	10.53	7.42	10.82	7.37	11.43	7.67	12.06	7.54
Me	20			9.55	7.06	10.10	7.41	10.39	7.36	10.68	7.31	11.27	7.61	11.89	7.48
	22			9.43	7.00	9.97	7.36	10.25	7.31	10.53	7.25	11.12	7.55	11.73	7.43
23	24			9.31	6.94	9.83	7.28	10.10	7.23	10.38	7.19	10.96	7.49	11.56	7.37
(m^3/min)	26	8.69	6.96	9.18	6.88	9.70	7.23	9.96	7.18	10.24	7.12	10.81	7.44	11.45	7.33
	28	8.56	6.89	9.05	6.83	9.56	7.17	9.82	7.12	10.09	7.07	10.64	7.38		
	30	8.44	6.83	8.92	6.77	9.42	7.11	9.68	7.06	9.94	7.01	10.48	7.32		
	32	8.30	6.76	8.78	6.69	9.27	7.05	9.53	7.00	9.79	6.95	10.31	7.26		
	34	8.17	6.70	8.63	6.62	9.12	6.97	9.38	6.94	9.63	6.89	10.15	7.20		
	35	8.10	6.67	8.56	6.59	9.05	6.94	9.31	6.91	9.55	6.85	10.07	7.17		
	36	7.93	6.59	8.38	6.51	8.86	6.87	9.11	6.82	9.33	6.76	9.75	7.05		
	38	7.61	6.42	8.03	6.36	8.47	6.70	8.73	6.67	8.87	6.58	9.13	6.83		
	39	7.44	6.34	7.85	6.27	8.28	6.63	8.53	6.59	8.64	6.50	8.81	6.71		
	41	7.00	6.14	7.39	6.07	7.76	6.38	7.94	6.33	7.99	6.22	8.07	6.46		
	43	6.46	5.88	6.82	5.81	7.08	6.11	7.13	6.02	7.15	5.91	7.20	6.15		

Air flow	Outdoor air temperature		Indoor air temperature				
	°CDB	°CWB	16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	5.68	5.64	5.59	5.55	5.50
	-17.8	-18	6.05	6.01	5.96	5.91	5.86
	-15.7	-16	6.42	6.38	6.32	6.28	6.22
	-13.7	-14	6.81	6.77	6.71	6.66	6.60
	-11.7	-12	7.22	7.18	7.12	7.07	7.00
Me	-9.6	-10	7.63	7.59	7.54	7.47	7.41
	-7.5	-8	8.10	8.05	7.99	7.92	7.86
23	-5.5	-6	8.57	8.51	8.45	8.37	8.31
(m^3/min)	-3.4	-4	8.81	8.73	8.67	8.59	8.52
	-1.3	-2	8.80	8.72	8.65	8.57	8.48
	0.8	0	8.80	8.71	8.64	8.54	8.44
	3.9	3	9.56	9.46	9.38	9.27	9.16
	7.0	6	10.36	10.25	10.15	9.96	9.68
	10.1	9	11.23	11.12	10.99	10.56	9.80
	13.2	12	12.15	11.93	11.45	10.77	9.82
	16.9	15.5	13.09	12.71	11.73	10.78	9.80

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature													
		21 °CDB 14 °CWB		23 °CDB 16 °CWB		26 °CDB 18 °CWB		27 °CDB 19 °CWB		28 °CDB 20 °CWB		31 °CDB 22 °CWB		33 °CDB 24 °CWB	
		TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
	10			7.56	5.46	8.00	5.72	8.23	5.68	8.46	5.64	8.95	5.86	9.45	5.76
	12			7.46	5.41	7.89	5.67	8.12	5.64	8.35	5.60	8.82	5.81	9.32	5.71
	14			7.36	5.36	7.79	5.62	8.01	5.58	8.23	5.55	8.70	5.76	9.19	5.67
	16			7.26	5.32	7.68	5.57	7.90	5.54	8.12	5.49	8.58	5.72	9.06	5.62
	18			7.17	5.27	7.58	5.53	7.80	5.49	8.01	5.45	8.46	5.67	8.93	5.58
Lo	20			7.07	5.22	7.47	5.48	7.69	5.45	7.90	5.41	8.34	5.63	8.80	5.53
	22			6.98	5.18	7.38	5.44	7.58	5.40	7.79	5.36	8.23	5.59	8.68	5.49
17	24			6.89	5.14	7.28	5.39	7.48	5.35	7.68	5.32	8.11	5.54	8.55	5.45
(m^3/min)	26	6.43	5.15	6.79	5.09	7.18	5.35	7.37	5.31	7.58	5.27	8.00	5.50	8.47	5.42
	28	6.34	5.10	6.70	5.05	7.07	5.30	7.27	5.27	7.47	5.23	7.87	5.45		
	30	6.25	5.06	6.60	5.00	6.97	5.26	7.16	5.22	7.36	5.18	7.75	5.41		
	32	6.14	5.00	6.50	4.95	6.86	5.21	7.05	5.18	7.24	5.14	7.63	5.37		
	34	6.04	4.95	6.39	4.90	6.75	5.17	6.94	5.13	7.13	5.09	7.51	5.33		
	35	5.99	4.93	6.33	4.87	6.69	5.13	6.89	5.11	7.07	5.07	7.45	5.30		
	36	5.87	4.87	6.20	4.82	6.55	5.07	6.74	5.04	6.90	5.00	7.22	5.21		
	38	5.63	4.75	5.94	4.70	6.27	4.96	6.46	4.93	6.56	4.87	6.75	5.05		
	39	5.51	4.69	5.81	4.63	6.13	4.90	6.32	4.88	6.39	4.80	6.52	4.96		
	41	5.18	4.54	5.47	4.49	5.74	4.72	5.87	4.68	5.91	4.60	5.97	4.77		
	43	4.78	4.35	5.05	4.30	5.24	4.52	5.27	4.45	5.29	4.37	5.33	4.55		

Air flow	Outdoor air temperature		Indoor air temperature				
	°CDB	°CWB	16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	4.64	4.61	4.57	4.53	4.50
	-17.8	-18	4.95	4.92	4.87	4.83	4.79
	-15.7	-16	5.25	5.22	5.17	5.13	5.08
	-13.7	-14	5.57	5.54	5.49	5.45	5.40
	-11.7	-12	5.91	5.87	5.83	5.78	5.73
Lo	-9.6	-10	6.24	6.21	6.16	6.11	6.06
	-7.5	-8	6.63	6.58	6.54	6.48	6.43
17	-5.5	-6	7.01	6.96	6.91	6.85	6.80
(m^3/min)	-3.4	-4	7.20	7.14	7.09	7.02	6.97
	-1.3	-2	7.20	7.13	7.08	7.00	6.93
	0.8	0	7.20	7.12	7.06	6.99	6.90
	3.9	3	7.82	7.73	7.67	7.58	7.49
	7.0	6	8.47	8.38	8.30	8.14	7.91
	10.1	9	9.18	9.09	8.99	8.64	8.01
	13.2	12	9.93	9.75	9.37	8.81	8.03
	16.9	15.5	10.70	10.39	9.59	8.82	8.01

Note(1) This data shows average statuses out of those possible to occur in the system control.
(Depending on controls, there may be ranges where the operation is not conducted continuously.)
(2) Symbols are as follows
TC :Total cooling capacity(kW)
SHC :Sensible heat capacity(kW)

PJF000Z765A

Model **FDT140KXZE1-W** Cooling Mode (kW)

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			15.36	11.38	16.26	11.93	16.73	11.85	17.20	11.76	18.18	12.31	19.19	12.11
	12			15.16	11.29	16.04	11.83	16.50	11.76	16.96	11.67	17.93	12.22	18.93	12.03
	14			14.96	11.20	15.82	11.74	16.27	11.66	16.73	11.58	17.68	12.11	18.66	11.92
	16			14.76	11.09	15.61	11.65	16.05	11.57	16.50	11.49	17.43	12.02	18.40	11.83
	18			14.56	11.00	15.40	11.57	15.84	11.49	16.28	11.41	17.19	11.94	18.14	11.75
P-Hi	20			14.37	10.91	15.19	11.48	15.62	11.40	16.05	11.32	16.95	11.85	17.88	11.66
	22			14.18	10.83	14.99	11.39	15.41	11.32	15.83	11.23	16.72	11.75	17.63	11.56
38	24			14.00	10.73	14.79	11.31	15.19	11.23	15.61	11.15	16.49	11.67	17.38	11.48
(m^3/min)	26	13.06	10.77	13.81	10.65	14.58	11.23	14.98	11.15	15.39	11.07	16.25	11.59	17.22	11.43
	28	12.88	10.68	13.61	10.56	14.37	11.12	14.77	11.04	15.17	10.96	16.00	11.50		
	30	12.69	10.59	13.42	10.47	14.16	11.04	14.56	10.96	14.95	10.88	15.75	11.39		
	32	12.48	10.47	13.20	10.38	13.94	10.94	14.33	10.87	14.71	10.79	15.51	11.31		
	34	12.28	10.38	12.98	10.26	13.72	10.86	14.10	10.78	14.48	10.70	15.26	11.22		
	35	12.18	10.33	12.87	10.22	13.60	10.81	14.00	10.74	14.37	10.66	15.14	11.18		
	36	11.93	10.22	12.60	10.10	13.32	10.68	13.70	10.61	14.02	10.51	14.67	10.96		
	38	11.44	9.97	12.08	9.87	12.74	10.44	13.12	10.39	13.34	10.26	13.72	10.64		
	39	11.19	9.86	11.81	9.74	12.46	10.33	12.83	10.28	12.99	10.13	13.25	10.48		
	41	10.53	9.56	11.12	9.45	11.66	10.00	11.93	9.92	12.02	9.76	12.13	10.11		
	43	9.71	9.17	10.26	9.07	10.65	9.59	10.72	9.45	10.75	9.29	10.83	9.69		

Heating Mode (kW)

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	8.95	8.89	8.81	8.74	8.68
	-17.8	-18	9.54	9.48	9.39	9.32	9.24
	-15.7	-16	10.12	10.06	9.97	9.90	9.80
	-13.7	-14	10.74	10.67	10.58	10.50	10.40
	-11.7	-12	11.39	11.32	11.23	11.14	11.04
P-Hi	-9.6	-10	12.03	11.96	11.88	11.77	11.68
	-7.5	-8	12.78	12.69	12.60	12.49	12.39
38	-5.5	-6	13.52	13.41	13.32	13.20	13.10
(m^3/min)	-3.4	-4	13.88	13.76	13.67	13.54	13.43
	-1.3	-2	13.88	13.74	13.64	13.50	13.37
	0.8	0	13.87	13.72	13.61	13.47	13.31
	3.9	3	15.08	14.91	14.78	14.61	14.44
	7.0	6	16.33	16.16	16.00	15.70	15.26
	10.1	9	17.70	17.52	17.33	16.65	15.45
	13.2	12	19.15	18.80	18.06	16.98	15.48
	16.9	15.5	20.63	20.03	18.48	17.00	15.44

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			13.76	9.63	14.56	10.07	14.98	10.00	15.40	9.93	16.28	10.29	17.19	10.12
	12			13.58	9.55	14.37	9.97	14.78	9.90	15.19	9.84	16.06	10.21	16.96	10.03
	14			13.40	9.46	14.17	9.88	14.58	9.81	14.98	9.74	15.83	10.12	16.72	9.95
	16			13.22	9.37	13.98	9.79	14.38	9.73	14.78	9.65	15.61	10.02	16.48	9.85
	18			13.04	9.28	13.79	9.71	14.19	9.64	14.58	9.57	15.40	9.94	16.25	9.77
Hi	20			12.87	9.20	13.60	9.61	13.99	9.55	14.38	9.49	15.19	9.86	16.02	9.68
	22			12.70	9.12	13.42	9.53	13.80	9.46	14.18	9.39	14.98	9.76	15.79	9.61
28	24			12.54	9.03	13.24	9.45	13.61	9.38	13.99	9.31	14.77	9.65	15.57	9.48
(m^3/min)	26	11.70	9.05	12.37	8.95	13.06	9.37	13.42	9.30	13.79	9.23	14.55	9.57	15.42	9.43
	28	11.53	8.97	12.19	8.87	12.87	9.27	13.23	9.21	13.59	9.15	14.33	9.49		
	30	11.37	8.88	12.02	8.79	12.68	9.19	13.04	9.13	13.39	9.06	14.11	9.41		
	32	11.18	8.78	11.82	8.69	12.48	9.10	12.84	9.04	13.18	8.97	13.89	9.32		
	34	11.00	8.69	11.63	8.59	12.28	9.02	12.63	8.96	12.97	8.89	13.67	9.24		
	35	10.91	8.64	11.53	8.55	12.19	8.98	12.54	8.92	12.87	8.85	13.56	9.20		
	36	10.69	8.53	11.29	8.43	11.93	8.85	12.27	8.80	12.56	8.71	13.14	9.05		
	38	10.24	8.30	10.82	8.22	11.41	8.63	11.75	8.58	11.95	8.47	12.29	8.74		
	39	10.02	8.20	10.58	8.10	11.16	8.53	11.50	8.48	11.64	8.35	11.87	8.58		
	41	9.43	7.91	9.96	7.82	10.45	8.22	10.69	8.14	10.76	8.00	10.87	8.23		
	43	8.69	7.55	9.19	7.47	9.54	7.81	9.60	7.68	9.63	7.53	9.70	7.82		

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	7.54	7.49	7.42	7.36	7.30
	-17.8	-18	8.03	7.98	7.90	7.85	7.78
	-15.7	-16	8.52	8.47	8.39	8.33	8.25
	-13.7	-14	9.04	8.98	8.91	8.84	8.76
	-11.7	-12	9.59	9.53	9.46	9.38	9.30
Hi	-9.6	-10	10.13	10.07	10.00	9.91	9.84
	-7.5	-8	10.76	10.68	10.61	10.51	10.43
28	-5.5	-6	11.38	11.29	11.22	11.11	11.03
(m^3/min)	-3.4	-4	11.69	11.59	11.51	11.40	11.30
	-1.3	-2	11.68	11.57	11.48	11.37	11.25
	0.8	0	11.68	11.55	11.46	11.34	11.20
	3.9	3	12.69	12.55	12.44	12.30	12.16
	7.0	6	13.75	13.60	13.47	13.22	12.84
	10.1	9	14.90	14.75	14.59	14.02	13.00
	13.2	12	16.12	15.83	15.20	14.29	13.03
	16.9	15.5	17.37	16.87	15.56	14.31	13.00

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			12.55	8.75	13.28	9.12	13.67	9.06	14.05	8.99	14.85	9.33	15.68	9.17
	12			12.39	8.65	13.11	9.04	13.48	8.98	13.86	8.91	14.65	9.23	15.47	9.08
	14			12.22	8.57	12.93	8.95	13.30	8.90	13.67	8.83	14.44	9.15	15.25	9.00
	16			12.06	8.49	12.75	8.86	13.12	8.81	13.48	8.74	14.24	9.07	15.04	8.92
	18			11.90	8.41	12.58	8.79	12.94	8.73	13.30	8.66	14.05	8.99	14.82	8.83
Me	20			11.74	8.34	12.41	8.71	12.77	8.65	13.12	8.59	13.85	8.91	14.61	8.76
	22			11.59	8.26	12.25	8.63	12.59	8.58	12.94	8.51	13.66	8.84	14.41	8.68
25	24			11.44	8.19	12.08	8.55	12.41	8.49	12.76	8.43	13.47	8.76	14.20	8.61
(m^3/min)	26	10.67	8.19	11.28	8.11	11.92	8.48	12.24	8.41	12.58	8.35	13.28	8.68	14.07	8.55
	28	10.52	8.12	11.12	8.03	11.74	8.40	12.07	8.34	12.40	8.28	13.07	8.58		
	30	10.37	8.04	10.96	7.95	11.57	8.31	11.89	8.27	12.21	8.20	12.87	8.50		
	32	10.20	7.96	10.79	7.87	11.39	8.23	11.71	8.18	12.02	8.11	12.67	8.43		
	34	10.03	7.86	10.61	7.79	11.21	8.16	11.53	8.10	11.83	8.03	12.47	8.35		
	35	9.95	7.82	10.52	7.74	11.12	8.12	11.44	8.06	11.74	8.00	12.37	8.31		
	36	9.75	7.72	10.30	7.63	10.88	8.01	11.20	7.97	11.46	7.89	11.98	8.17		
	38	9.35	7.52	9.87	7.43	10.41	7.80	10.72	7.76	10.90	7.65	11.21	7.89		
	39	9.14	7.41	9.65	7.33	10.18	7.70	10.49	7.66	10.62	7.54	10.83	7.76		
	41	8.61	7.15	9.09	7.07	9.53	7.42	9.75	7.35	9.82	7.22	9.91	7.42		
	43	7.93	6.82	8.39	6.75	8.70	7.07	8.76	6.93	8.79	6.80	8.85	7.04		

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	6.90	6.85	6.79	6.74	6.69
	-17.8	-18	7.35	7.30	7.23	7.18	7.12
	-15.7	-16	7.80	7.75	7.68	7.63	7.55
	-13.7	-14	8.28	8.22	8.15	8.09	8.02
	-11.7	-12	8.78	8.72	8.65	8.58	8.51
Me	-9.6	-10	9.27	9.22	9.16	9.07	9.00
	-7.5	-8	9.84	9.78	9.71	9.62	9.55
25	-5.5	-6	10.42	10.33	10.27	10.17	10.10
(m^3/min)	-3.4	-4	10.70	10.61	10.53	10.43	10.35
	-1.3	-2	10.70	10.59	10.51	10.40	10.30
	0.8	0	10.69	10.58	10.49	10.38	10.25
	3.9	3	11.62	11.49	11.39	11.26	11.13
	7.0	6	12.59	12.45	12.33	12.10	11.76
	10.1	9	13.64	13.50	13.35	12.83	11.90
	13.2	12	14.75	14.49	13.91	13.08	11.93
	16.9	15.5	15.90	15.44	14.24	13.10	11.90

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			9.27	6.44	9.81	6.71	10.10	6.67	10.38	6.61	10.97	6.84	11.58	6.72
	12			9.15	6.37	9.68	6.64	9.96	6.60	10.24	6.55	10.82	6.78	11.43	6.66
	14			9.03	6.31	9.55	6.58	9.82	6.54	10.10	6.49	10.67	6.72	11.27	6.60
	16			8.91	6.25	9.42	6.52	9.69	6.48	9.96	6.43	10.52	6.66	11.11	6.54
	18			8.79	6.19	9.29	6.46	9.56	6.41	9.82	6.36	10.38	6.60	10.95	6.48
Lo	20			8.67	6.13	9.17	6.40	9.43	6.36	9.69	6.31	10.23	6.54	10.79	6.43
	22			8.56	6.07	9.05	6.35	9.30	6.30	9.56	6.25	10.09	6.49	10.64	6.37
18	24			8.45	6.02	8.93	6.29	9.17	6.24	9.42	6.19	9.95	6.43	10.49	6.32
(m^3/min)	26	7.88	6.03	8.33	5.96	8.80	6.23	9.04	6.18	9.29	6.14	9.81	6.38	10.39	6.28
	28	7.77	5.97	8.22	5.91	8.67	6.17	8.91	6.12	9.16	6.08	9.66	6.32		
	30	7.66	5.91	8.10	5.85	8.55	6.11	8.79	6.07	9.02	6.02	9.51	6.25		
	32	7.54	5.84	7.97	5.79	8.41	6.03	8.65	5.99	8.88	5.94	9.36	6.20		
	34	7.41	5.78	7.83	5.71	8.28	5.98	8.51	5.93	8.74	5.89	9.21	6.14		
	35	7.35	5.75	7.77	5.69	8.21	5.95	8.45	5.91	8.67	5.86	9.14	6.11		
	36	7.20	5.67	7.61	5.61	8.04	5.87	8.27	5.83	8.46	5.77	8.85	6.01		
	38	6.90	5.52	7.29	5.46	7.69	5.72	7.92	5.69	8.05	5.61	8.28	5.79		
	39	6.75	5.44	7.13	5.38	7.52	5.65	7.75	5.62	7.84	5.53	8.00	5.69		
	41	6.36	5.25	6.71	5.19	7.04	5.44	7.20	5.39	7.25	5.30	7.32	5.44		
	43	5.86	5.00	6.19	4.95	6.43	5.19	6.47	5.10	6.49	5.00	6.53	5.15		

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	5.51	5.47	5.42	5.38	5.34
	-17.8	-18	5.87	5.83	5.77	5.73	5.68
	-15.7	-16	6.23	6.19	6.13	6.09	6.03
	-13.7	-14	6.61	6.56	6.51	6.46	6.40
	-11.7	-12	7.00	6.96	6.91	6.85	6.79
Lo	-9.6	-10	7.40	7.36	7.31	7.24	7.19
	-7.5	-8	7.86	7.80	7.75	7.68	7.62
18	-5.5	-6	8.31	8.25	8.19	8.12	8.06
(m^3/min)	-3.4	-4	8.54	8.46	8.41	8.33	8.26
	-1.3	-2	8.54	8.45	8.39	8.30	8.22
	0.8	0	8.53	8.44	8.37	8.28	8.18
	3.9	3	9.27	9.17	9.09	8.99	8.88
	7.0	6	10.05	9.94	9.84	9.65	9.38
	10.1	9	10.89	10.78	10.66	10.24	9.50
	13.2	12	11.77	11.56	11.10	10.44	9.52
	16.9	15.5	12.69	12.32	11.37	10.45	9.50

Note(1) This data shows average statuses out of those possible to occur in the system control.
(Depending on controls, there may be ranges where the operation is not conducted continuously.)
(2) Symbols are as follows
TC :Total cooling capacity(kW)
SHC :Sensible heat capacity(kW)

PJF000Z765A

Model **FDT160KXZE1-W** Cooling Mode (kW)

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			17.56	12.38	18.58	12.92	19.12	12.84	19.66	12.75	20.77	13.23	21.94	13.01
	12			17.32	12.26	18.33	12.80	18.86	12.73	19.39	12.64	20.49	13.11	21.63	12.89
	14			17.09	12.14	18.08	12.69	18.60	12.61	19.12	12.51	20.20	13.00	21.33	12.79
	16			16.86	12.03	17.84	12.55	18.35	12.47	18.86	12.37	19.92	12.88	21.03	12.67
	18			16.64	11.91	17.60	12.45	18.10	12.36	18.60	12.27	19.65	12.78	20.73	12.57
P-Hi	20			16.42	11.81	17.36	12.34	17.86	12.26	18.35	12.17	19.37	12.66	20.44	12.45
	22			16.21	11.71	17.13	12.25	17.61	12.16	18.10	12.07	19.11	12.57	20.15	12.35
38	24			16.00	11.60	16.90	12.15	17.36	12.06	17.84	11.97	18.84	12.41	19.87	12.20
(m^3/min)	26	14.93	11.62	15.78	11.50	16.66	12.03	17.12	11.94	17.59	11.87	18.57	12.32	19.68	12.13
	28	14.72	11.52	15.56	11.38	16.42	11.93	16.88	11.84	17.34	11.75	18.29	12.22		
	30	14.50	11.41	15.33	11.28	16.18	11.81	16.63	11.74	17.08	11.65	18.00	12.11		
	32	14.27	11.28	15.08	11.17	15.93	11.70	16.38	11.63	16.82	11.54	17.72	12.01		
	34	14.03	11.17	14.83	11.04	15.67	11.60	16.12	11.52	16.55	11.43	17.44	11.92		
	35	13.92	11.11	14.71	10.98	15.55	11.53	16.00	11.47	16.42	11.38	17.30	11.87		
	36	13.63	10.96	14.41	10.85	15.22	11.39	15.66	11.32	16.03	11.21	16.76	11.66		
	38	13.07	10.67	13.80	10.56	14.56	11.11	15.00	11.04	15.24	10.90	15.69	11.27		
	39	12.79	10.54	13.50	10.41	14.23	10.95	14.67	10.91	14.85	10.73	15.15	11.06		
	41	12.04	10.18	12.71	10.05	13.33	10.57	13.64	10.48	13.73	10.30	13.86	10.59		
	43	11.09	9.71	11.73	9.60	12.17	10.10	12.25	9.94	12.29	9.74	12.37	10.08		

Heating Mode (kW)

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	10.07	10.01	9.91	9.83	9.76
	-17.8	-18	10.73	10.66	10.56	10.48	10.39
	-15.7	-16	11.39	11.32	11.21	11.13	11.02
	-13.7	-14	12.08	12.01	11.90	11.82	11.70
	-11.7	-12	12.81	12.73	12.63	12.53	12.42
P-Hi	-9.6	-10	13.54	13.46	13.37	13.24	13.14
	-7.5	-8	14.37	14.27	14.18	14.05	13.94
38	-5.5	-6	15.21	15.09	14.99	14.85	14.74
(m^3/min)	-3.4	-4	15.62	15.48	15.38	15.23	15.11
	-1.3	-2	15.61	15.46	15.35	15.19	15.04
	0.8	0	15.61	15.44	15.31	15.15	14.97
	3.9	3	16.96	16.77	16.63	16.44	16.24
	7.0	6	18.38	18.18	18.00	17.66	17.16
	10.1	9	19.91	19.71	19.49	18.73	17.38
	13.2	12	21.54	21.15	20.31	19.10	17.42
	16.9	15.5	23.21	22.54	20.80	19.12	17.37

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			15.68	10.75	16.59	11.19	17.07	11.12	17.55	11.03	18.55	11.42	19.59	11.22
	12			15.47	10.65	16.37	11.08	16.84	11.01	17.31	10.93	18.30	11.30	19.32	11.10
	14			15.26	10.54	16.15	10.97	16.61	10.90	17.07	10.82	18.04	11.17	19.05	10.97
	16			15.06	10.44	15.93	10.86	16.39	10.79	16.84	10.71	17.79	11.06	18.78	10.87
	18			14.86	10.34	15.72	10.76	16.17	10.69	16.61	10.61	17.55	10.97	18.52	10.77
Hi	20			14.66	10.22	15.50	10.66	15.95	10.59	16.39	10.51	17.30	10.86	18.25	10.67
	22			14.47	10.13	15.30	10.55	15.73	10.49	16.16	10.41	17.07	10.77	18.00	10.58
29	24			14.29	10.04	15.09	10.46	15.51	10.38	15.94	10.32	16.83	10.68	17.74	10.48
(m^3/min)	26	13.33	10.04	14.09	9.94	14.88	10.36	15.29	10.29	15.71	10.21	16.59	10.58	17.58	10.42
	28	13.14	9.94	13.89	9.84	14.67	10.26	15.07	10.19	15.48	10.11	16.33	10.48		
	30	12.95	9.84	13.70	9.74	14.45	10.16	14.86	10.10	15.26	10.01	16.08	10.38		
	32	12.74	9.73	13.47	9.63	14.23	10.05	14.63	10.00	15.02	9.91	15.83	10.29		
	34	12.53	9.62	13.25	9.52	14.00	9.95	14.40	9.88	14.78	9.80	15.58	10.19		
	35	12.43	9.56	13.14	9.47	13.89	9.90	14.29	9.84	14.66	9.75	15.45	10.13		
	36	12.18	9.43	12.87	9.34	13.59	9.76	13.99	9.71	14.31	9.58	14.97	9.94		
	38	11.67	9.17	12.33	9.07	13.01	9.48	13.40	9.43	13.61	9.29	14.01	9.57		
	39	11.42	9.05	12.06	8.94	12.71	9.35	13.10	9.30	13.26	9.15	13.53	9.39		
	41	10.75	8.71	11.35	8.60	11.90	9.00	12.18	8.92	12.27	8.76	12.38	8.96		
	43	9.91	8.30	10.48	8.21	10.87	8.57	10.94	8.42	10.98	8.26	11.05	8.50		

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	7.96	7.91	7.83	7.77	7.72
	-17.8	-18	8.48	8.43	8.35	8.29	8.22
	-15.7	-16	9.00	8.95	8.86	8.80	8.72
	-13.7	-14	9.55	9.49	9.41	9.34	9.25
	-11.7	-12	10.13	10.07	9.99	9.91	9.82
Hi	-9.6	-10	10.70	10.64	10.57	10.47	10.39
	-7.5	-8	11.36	11.28	11.21	11.10	11.02
29	-5.5	-6	12.02	11.93	11.85	11.74	11.65
(m^3/min)	-3.4	-4	12.35	12.24	12.16	12.04	11.94
	-1.3	-2	12.34	12.22	12.13	12.01	11.89
	0.8	0	12.34	12.21	12.11	11.98	11.83
	3.9	3	13.41	13.26	13.15	13.00	12.84
	7.0	6	14.53	14.37	14.23	13.96	13.57
	10.1	9	15.74	15.59	15.41	14.81	13.74
	13.2	12	17.03	16.72	16.06	15.10	13.77
	16.9	15.5	18.35	17.82	16.44	15.12	13.73

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			14.75	10.03	15.61	10.42	16.06	10.35	16.51	10.27	17.45	10.61	18.43	10.42
	12			14.55	9.93	15.40	10.31	15.84	10.24	16.28	10.17	17.21	10.51	18.17	10.32
	14			14.36	9.83	15.19	10.21	15.62	10.14	16.06	10.07	16.97	10.41	17.92	10.22
	16			14.17	9.73	14.98	10.11	15.41	10.04	15.84	9.97	16.73	10.31	17.67	10.13
	18			13.98	9.63	14.78	10.01	15.21	9.95	15.63	9.87	16.50	10.20	17.42	10.03
Me	20			13.79	9.52	14.58	9.91	15.00	9.85	15.41	9.77	16.27	10.10	17.17	9.92
	22			13.61	9.42	14.39	9.82	14.79	9.76	15.20	9.68	16.05	10.01	16.93	9.83
26	24			13.44	9.33	14.20	9.72	14.58	9.66	14.99	9.59	15.83	9.92	16.69	9.74
(m^3/min)	26	12.54	9.34	13.25	9.24	14.00	9.63	14.38	9.56	14.78	9.50	15.60	9.83	16.53	9.68
	28	12.36	9.25	13.07	9.15	13.80	9.53	14.18	9.46	14.56	9.39	15.36	9.73		
	30	12.18	9.15	12.88	9.05	13.59	9.44	13.97	9.37	14.35	9.30	15.12	9.62		
	32	11.99	9.05	12.67	8.95	13.38	9.34	13.76	9.28	14.13	9.20	14.89	9.53		
	34	11.79	8.94	12.46	8.84	13.17	9.24	13.54	9.18	13.90	9.10	14.65	9.44		
	35	11.69	8.89	12.35	8.79	13.06	9.19	13.44	9.13	13.79	9.06	14.53	9.39		
	36	11.45	8.77	12.10	8.67	12.78	9.05	13.15	9.01	13.46	8.92	14.08	9.22		
	38	10.98	8.52	11.59	8.42	12.23	8.80	12.60	8.76	12.80	8.63	13.18	8.86		
	39	10.74	8.40	11.34	8.30	11.96	8.69	12.32	8.64	12.47	8.49	12.72	8.68		
	41	10.11	8.07	10.67	7.98	11.20	8.35	11.46	8.27	11.54	8.12	11.65	8.28		
	43	9.32	7.68	9.85	7.60	10.22	7.92	10.29	7.78	10.32	7.63	10.39	7.83		

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	7.30	7.25	7.18	7.12	7.07
	-17.8	-18	7.77	7.72	7.65	7.60	7.53
	-15.7	-16	8.25	8.20	8.12	8.07	7.99
	-13.7	-14	8.75	8.70	8.62	8.56	8.48
	-11.7	-12	9.28	9.22	9.15	9.08	9.00
Me	-9.6	-10	9.81	9.75	9.68	9.59	9.52
	-7.5	-8	10.41	10.34	10.27	10.18	10.10
26	-5.5	-6	11.02	10.93	10.86	10.76	10.68
(m^3/min)	-3.4	-4	11.32	11.22	11.14	11.03	10.94
	-1.3	-2	11.31	11.20	11.12	11.00	10.89
	0.8	0	11.31	11.19	11.09	10.97	10.85
	3.9	3	12.29	12.15	12.05	11.91	11.77
	7.0	6	13.31	13.17	13.04	12.79	12.43
	10.1	9	14.43	14.28	14.12	13.57	12.59
	13.2	12	15.60	15.32	14.72	13.84	12.62
	16.9	15.5	16.81	16.33	15.06	13.85	12.58

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			11.09	7.51	11.74	7.81	12.08	7.76	12.42	7.70	13.13	7.94	13.86	7.80
	12			10.95	7.44	11.58	7.73	11.92	7.68	12.25	7.62	12.95	7.86	13.67	7.72
	14			10.80	7.36	11.42	7.65	11.75	7.60	12.08	7.54	12.76	7.78	13.48	7.65
	16			10.66	7.28	11.27	7.56	11.59	7.52	11.91	7.46	12.59	7.71	13.29	7.57
	18			10.52	7.21	11.12	7.49	11.44	7.45	11.75	7.39	12.42	7.64	13.10	7.50
Lo	20			10.37	7.13	10.97	7.42	11.28	7.37	11.59	7.32	12.24	7.56	12.91	7.42
	22			10.24	7.06	10.82	7.34	11.13	7.30	11.43	7.24	12.07	7.49	12.73	7.35
19	24			10.11	7.00	10.68	7.28	10.97	7.22	11.28	7.17	11.91	7.42	12.55	7.28
(m^3/min)	26	9.43	7.00	9.97	6.92	10.53	7.20	10.82	7.15	11.12	7.10	11.73	7.34	12.44	7.24
	28	9.30	6.93	9.83	6.85	10.38	7.13	10.66	7.08	10.95	7.02	11.55	7.26		
	30	9.16	6.85	9.69	6.78	10.23	7.06	10.51	7.01	10.79	6.95	11.38	7.19		
	32	9.02	6.77	9.53	6.70	10.07	6.98	10.35	6.94	10.63	6.88	11.20	7.12		
	34	8.87	6.69	9.37	6.62	9.90	6.91	10.19	6.86	10.46	6.81	11.02	7.05		
	35	8.79	6.65	9.29	6.58	9.82	6.87	10.11	6.83	10.37	6.77	10.93	7.01		
	36	8.62	6.56	9.10	6.48	9.62	6.78	9.89	6.73	10.13	6.66	10.59	6.88		
	38	8.26	6.37	8.72	6.29	9.20	6.58	9.48	6.55	9.63	6.45	9.91	6.61		
	39	8.08	6.28	8.53	6.20	8.99	6.48	9.27	6.45	9.38	6.35	9.57	6.48		
	41	7.60	6.03	8.03	5.96	8.42	6.23	8.62	6.17	8.68	6.05	8.76	6.17		
	43	7.01	5.74	7.41	5.67	7.69	5.91	7.74	5.80	7.76	5.69	7.82	5.83		

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	5.67	5.64	5.58	5.54	5.50
	-17.8	-18	6.04	6.01	5.95	5.91	5.85
	-15.7	-16	6.42	6.37	6.32	6.27	6.21
	-13.7	-14	6.81	6.76	6.71	6.66	6.59
	-11.7	-12	7.22	7.17	7.12	7.06	7.00
Lo	-9.6	-10	7.63	7.58	7.53	7.46	7.40
	-7.5	-8	8.10	8.04	7.99	7.91	7.85
19	-5.5	-6	8.57	8.50	8.44	8.37	8.30
(m^3/min)	-3.4	-4	8.80	8.72	8.66	8.58	8.51
	-1.3	-2	8.80	8.71	8.64	8.56	8.47
	0.8	0	8.79	8.70	8.63	8.53	8.43
	3.9	3	9.55	9.45	9.37	9.26	9.15
	7.0	6	10.35	10.24	10.14	9.95	9.67
	10.1	9	11.22	11.11	10.98	10.55	9.79
	13.2	12	12.13	11.92	11.44	10.76	9.81
	16.9	15.5	13.07	12.70	11.71	10.77	9.79

Note(1) This data shows average statuses out of those possible to occur in the system control.
(Depending on controls, there may be ranges where the operation is not conducted continuously.)
(2) Symbols are as follows
TC :Total cooling capacity(kW)
SHC :Sensible heat capacity(kW)

PJF000Z765A

(2) Ceiling cassette-4 way compact type (FDTC)

Model **FDTC15KXZE1-W** Cooling Mode (kW)

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			1.65	1.58	1.74	1.67	1.79	1.72	1.84	1.77	1.95	1.87	2.06	1.92
	12			1.62	1.56	1.72	1.65	1.77	1.70	1.82	1.75	1.92	1.84	2.03	1.91
	14			1.60	1.54	1.69	1.62	1.74	1.67	1.79	1.72	1.89	1.81	2.00	1.90
	16			1.58	1.52	1.67	1.60	1.72	1.65	1.77	1.70	1.87	1.80	1.97	1.89
	18			1.56	1.50	1.65	1.58	1.70	1.63	1.74	1.67	1.84	1.77	1.94	1.86
P-Hi	20			1.54	1.48	1.63	1.56	1.67	1.60	1.72	1.65	1.82	1.75	1.92	1.84
	22			1.52	1.46	1.61	1.55	1.65	1.58	1.70	1.63	1.79	1.72	1.89	1.81
8	24			1.50	1.44	1.58	1.52	1.63	1.56	1.67	1.60	1.77	1.70	1.86	1.79
(m^3/min)	26	1.40	1.34	1.48	1.42	1.56	1.50	1.60	1.54	1.65	1.58	1.74	1.67	1.85	1.78
	28	1.38	1.32	1.46	1.40	1.54	1.48	1.58	1.52	1.63	1.56	1.71	1.64		
	30	1.36	1.31	1.44	1.38	1.52	1.46	1.56	1.50	1.60	1.54	1.69	1.62		
	32	1.34	1.29	1.41	1.35	1.49	1.43	1.54	1.48	1.58	1.52	1.66	1.59		
	34	1.32	1.27	1.39	1.33	1.47	1.41	1.51	1.45	1.55	1.49	1.63	1.56		
	35	1.30	1.25	1.38	1.32	1.46	1.40	1.50	1.44	1.54	1.48	1.62	1.56		
	36	1.28	1.23	1.35	1.30	1.43	1.37	1.47	1.41	1.50	1.44	1.57	1.51		
	38	1.23	1.18	1.29	1.24	1.37	1.32	1.41	1.35	1.43	1.37	1.47	1.41		
	39	1.20	1.15	1.27	1.22	1.33	1.28	1.38	1.32	1.39	1.33	1.42	1.36		
	41	1.13	1.08	1.19	1.14	1.25	1.20	1.28	1.23	1.29	1.24	1.30	1.25		
	43	1.04	1.00	1.10	1.06	1.14	1.09	1.15	1.10	1.15	1.10	1.16	1.11		

Heating Mode (kW)

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	0.95	0.94	0.94	0.93	0.92
	-17.8	-18	1.01	1.01	1.00	0.99	0.98
	-15.7	-16	1.08	1.07	1.06	1.05	1.04
	-13.7	-14	1.14	1.13	1.12	1.12	1.11
	-11.7	-12	1.21	1.20	1.19	1.18	1.17
P-Hi	-9.6	-10	1.28	1.27	1.26	1.25	1.24
	-7.5	-8	1.36	1.35	1.34	1.33	1.32
8	-5.5	-6	1.44	1.42	1.42	1.40	1.39
(m^3/min)	-3.4	-4	1.48	1.46	1.45	1.44	1.43
	-1.3	-2	1.47	1.46	1.45	1.43	1.42
	0.8	0	1.47	1.46	1.45	1.43	1.41
	3.9	3	1.60	1.58	1.57	1.55	1.53
	7.0	6	1.74	1.72	1.70	1.67	1.62
	10.1	9	1.88	1.86	1.84	1.77	1.64
	13.2	12	2.03	2.00	1.92	1.80	1.64
	16.9	15.5	2.19	2.13	1.96	1.81	1.64

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			1.52	1.46	1.61	1.55	1.66	1.59	1.70	1.63	1.80	1.73	1.90	1.72
	12			1.50	1.44	1.59	1.53	1.63	1.56	1.68	1.61	1.77	1.70	1.87	1.71
	14			1.48	1.42	1.57	1.51	1.61	1.55	1.65	1.58	1.75	1.68	1.85	1.71
	16			1.46	1.40	1.54	1.48	1.59	1.53	1.63	1.56	1.72	1.65	1.82	1.70
	18			1.44	1.38	1.52	1.46	1.57	1.51	1.61	1.55	1.70	1.63	1.79	1.69
Hi	20			1.42	1.36	1.50	1.44	1.55	1.49	1.59	1.53	1.68	1.61	1.77	1.69
	22			1.40	1.34	1.48	1.42	1.52	1.46	1.57	1.51	1.65	1.58	1.74	1.67
7	24			1.38	1.32	1.46	1.40	1.50	1.44	1.54	1.48	1.63	1.56	1.72	1.65
(m^3/min)	26	1.29	1.24	1.37	1.32	1.44	1.38	1.48	1.42	1.52	1.46	1.61	1.55	1.70	1.63
	28	1.27	1.22	1.35	1.30	1.42	1.36	1.46	1.40	1.50	1.44	1.58	1.52		
	30	1.26	1.21	1.33	1.28	1.40	1.34	1.44	1.38	1.48	1.42	1.56	1.50		
	32	1.24	1.19	1.31	1.26	1.38	1.32	1.42	1.36	1.46	1.40	1.53	1.47		
	34	1.21	1.16	1.28	1.23	1.36	1.31	1.40	1.34	1.43	1.37	1.51	1.45		
	35	1.20	1.15	1.27	1.22	1.35	1.30	1.39	1.33	1.42	1.36	1.50	1.44		
	36	1.18	1.13	1.25	1.20	1.32	1.27	1.36	1.31	1.39	1.33	1.45	1.39		
	38	1.13	1.08	1.19	1.14	1.26	1.21	1.30	1.25	1.32	1.27	1.36	1.31		
	39	1.11	1.07	1.17	1.12	1.23	1.18	1.27	1.22	1.29	1.24	1.31	1.26		
	41	1.04	1.00	1.10	1.06	1.15	1.10	1.18	1.13	1.19	1.14	1.20	1.15		
	43	0.96	0.92	1.02	0.98	1.05	1.01	1.06	1.02	1.06	1.02	1.07	1.03		

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	0.87	0.86	0.85	0.85	0.84
	-17.8	-18	0.92	0.92	0.91	0.90	0.89
	-15.7	-16	0.98	0.97	0.96	0.96	0.95
	-13.7	-14	1.04	1.03	1.02	1.02	1.01
	-11.7	-12	1.10	1.09	1.09	1.08	1.07
Hi	-9.6	-10	1.16	1.16	1.15	1.14	1.13
	-7.5	-8	1.24	1.23	1.22	1.21	1.20
7	-5.5	-6	1.31	1.30	1.29	1.28	1.27
(m^3/min)	-3.4	-4	1.34	1.33	1.32	1.31	1.30
	-1.3	-2	1.34	1.33	1.32	1.31	1.29
	0.8	0	1.34	1.33	1.32	1.30	1.29
	3.9	3	1.46	1.44	1.43	1.41	1.40
	7.0	6	1.58	1.56	1.55	1.52	1.48
	10.1	9	1.71	1.69	1.68	1.61	1.49
	13.2	12	1.85	1.82	1.75	1.64	1.50
	16.9	15.5	1.99	1.94	1.79	1.64	1.49

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			1.38	1.32	1.46	1.40	1.50	1.44	1.54	1.44	1.63	1.53	1.72	1.51
	12			1.36	1.31	1.44	1.38	1.48	1.42	1.52	1.43	1.61	1.52	1.70	1.51
	14			1.34	1.29	1.42	1.36	1.46	1.40	1.50	1.42	1.58	1.51	1.67	1.50
	16			1.32	1.27	1.40	1.34	1.44	1.38	1.48	1.41	1.56	1.50	1.65	1.49
	18			1.30	1.25	1.38	1.32	1.42	1.36	1.46	1.40	1.54	1.48	1.62	1.48
Me	20			1.29	1.24	1.36	1.31	1.40	1.34	1.44	1.38	1.52	1.46	1.60	1.48
	22			1.27	1.22	1.34	1.29	1.38	1.32	1.42	1.36	1.50	1.44	1.58	1.47
6	24			1.25	1.20	1.32	1.27	1.36	1.31	1.40	1.34	1.48	1.42	1.56	1.46
(m^3/min)	26	1.17	1.12	1.24	1.19	1.31	1.26	1.34	1.29	1.38	1.32	1.46	1.40	1.54	1.46
	28	1.15	1.10	1.22	1.17	1.29	1.24	1.32	1.27	1.36	1.31	1.43	1.37		
	30	1.14	1.09	1.20	1.15	1.27	1.22	1.30	1.25	1.34	1.29	1.41	1.35		
	32	1.12	1.08	1.18	1.13	1.25	1.20	1.28	1.23	1.32	1.27	1.39	1.33		
	34	1.10	1.06	1.16	1.11	1.23	1.18	1.26	1.21	1.30	1.25	1.37	1.32		
	35	1.09	1.05	1.15	1.10	1.22	1.17	1.25	1.20	1.29	1.24	1.36	1.31		
	36	1.07	1.03	1.13	1.08	1.19	1.14	1.23	1.18	1.26	1.21	1.31	1.26		
	38	1.02	0.98	1.08	1.04	1.14	1.09	1.18	1.13	1.19	1.14	1.23	1.18		
	39	1.00	0.96	1.06	1.02	1.12	1.08	1.15	1.10	1.16	1.11	1.19	1.14		
	41	0.94	0.90	1.00	0.96	1.04	1.00	1.07	1.03	1.08	1.04	1.09	1.05		
	43	0.87	0.84	0.92	0.88	0.95	0.91	0.96	0.92	0.96	0.92	0.97	0.93		

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	0.77	0.77	0.76	0.75	0.75
	-17.8	-18	0.82	0.82	0.81	0.80	0.80
	-15.7	-16	0.87	0.87	0.86	0.85	0.85
	-13.7	-14	0.93	0.92	0.91	0.91	0.90
	-11.7	-12	0.98	0.98	0.97	0.96	0.95
Me	-9.6	-10	1.04	1.03	1.02	1.02	1.01
	-7.5	-8	1.10	1.09	1.09	1.08	1.07
6	-5.5	-6	1.17	1.16	1.15	1.14	1.13
(m^3/min)	-3.4	-4	1.20	1.19	1.18	1.17	1.16
	-1.3	-2	1.20	1.19	1.18	1.16	1.15
	0.8	0	1.20	1.18	1.17	1.16	1.15
	3.9	3	1.30	1.29	1.27	1.26	1.25
	7.0	6	1.41	1.39	1.38	1.35	1.32
	10.1	9	1.53	1.51	1.49	1.44	1.33
	13.2	12	1.65	1.62	1.56	1.46	1.34
	16.9	15.5	1.78	1.73	1.59	1.47	1.33

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			1.21	1.16	1.28	1.23	1.32	1.24	1.35	1.23	1.43	1.30	1.51	1.28
	12			1.19	1.14	1.26	1.21	1.30	1.23	1.34	1.22	1.41	1.29	1.49	1.28
	14			1.18	1.13	1.25	1.20	1.28	1.22	1.32	1.22	1.39	1.29	1.47	1.27
	16			1.16	1.11	1.23	1.18	1.26	1.21	1.30	1.21	1.37	1.28	1.45	1.27
	18			1.15	1.10	1.21	1.16	1.25	1.20	1.28	1.20	1.35	1.28	1.43	1.26
Lo	20			1.13	1.08	1.20	1.15	1.23	1.18	1.26	1.20	1.34	1.27	1.41	1.25
	22			1.12	1.08	1.18	1.13	1.21	1.16	1.25	1.19	1.32	1.27	1.39	1.25
5	24			1.10	1.06	1.16	1.11	1.20	1.15	1.23	1.18	1.30	1.25	1.37	1.24
(m^3/min)	26	1.03	0.99	1.09	1.05	1.15	1.10	1.18	1.13	1.21	1.16	1.28	1.23	1.36	1.24
	28	1.01	0.97	1.07	1.03	1.13	1.08	1.16	1.11	1.19	1.14	1.26	1.21		
	30	1.00	0.96	1.06	1.02	1.12	1.08	1.15	1.10	1.18	1.13	1.24	1.19		
	32	0.98	0.94	1.04	1.00	1.10	1.06	1.13	1.08	1.16	1.11	1.22	1.17		
	34	0.97	0.93	1.02	0.98	1.08	1.04	1.11	1.07	1.14	1.09	1.20	1.15		
	35	0.96	0.92	1.01	0.97	1.07	1.03	1.10	1.06	1.13	1.08	1.19	1.14		
	36	0.94	0.90	0.99	0.95	1.05	1.01	1.08	1.04	1.10	1.06	1.16	1.11		
	38	0.90	0.86	0.95	0.91	1.00	0.96	1.03	0.99	1.05	1.01	1.08	1.04		
	39	0.88	0.84	0.93	0.89	0.98	0.94	1.01	0.97	1.02	0.98	1.04	1.00		
	41	0.83	0.80	0.88	0.84	0.92	0.88	0.94	0.90	0.95	0.91	0.96	0.92		
	43	0.76	0.73	0.81	0.78	0.84	0.81	0.84	0.81	0.85	0.82	0.85	0.82		

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	0.67	0.66	0.66	0.65	0.65
	-17.8	-18	0.71	0.71	0.70	0.70	0.69
	-15.7	-16	0.76	0.75	0.75	0.74	0.73
	-13.7	-14	0.80	0.80	0.79	0.79	0.78
	-11.7	-12	0.85	0.85	0.84	0.83	0.83
Lo	-9.6	-10	0.90	0.89	0.89	0.88	0.87
	-7.5	-8	0.95	0.95	0.94	0.93	0.93
5	-5.5	-6	1.01	1.00	1.00	0.99	0.98
(m^3/min)	-3.4	-4	1.04	1.03	1.02	1.01	1.00
	-1.3	-2	1.04	1.03	1.02	1.01	1.00
	0.8	0	1.04	1.03	1.02	1.01	0.99
	3.9	3	1.13	1.11	1.10	1.09	1.08
	7.0	6	1.22	1.21	1.20	1.17	1.14
	10.1	9	1.32	1.31	1.30	1.24	1.15
	13.2	12	1.43	1.41	1.35	1.27	1.16
	16.9	15.5	1.54	1.50	1.38	1.27	1.15

Note(1) This data shows average statuses out of those possible to occur in the system control.
(Depending on controls, there may be ranges where the operation is not conducted continuously.)
(2) Symbols are as follows
TC :Total cooling capacity(kW)
SHC :Sensible heat capacity(kW)

PJF000Z766 A

Model **FDTC22KXZE1-W** Cooling Mode (kW)

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			2.41	2.16	2.55	2.31	2.63	2.30	2.70	2.28	2.86	2.42	3.02	2.39
	12			2.38	2.15	2.52	2.30	2.59	2.28	2.67	2.27	2.82	2.41	2.97	2.37
	14			2.35	2.14	2.49	2.28	2.56	2.27	2.63	2.26	2.78	2.39	2.93	2.36
	16			2.32	2.12	2.45	2.26	2.52	2.26	2.59	2.24	2.74	2.38	2.89	2.34
	18			2.29	2.11	2.42	2.25	2.49	2.24	2.56	2.23	2.70	2.36	2.85	2.33
P-Hi	20			2.26	2.10	2.39	2.24	2.46	2.23	2.52	2.21	2.66	2.35	2.81	2.32
	22			2.23	2.09	2.36	2.23	2.42	2.21	2.49	2.20	2.63	2.34	2.77	2.31
9	24			2.20	2.07	2.32	2.21	2.39	2.20	2.45	2.19	2.59	2.33	2.73	2.30
(m^3/min)	26	2.05	1.97	2.17	2.06	2.29	2.20	2.35	2.19	2.42	2.18	2.55	2.31	2.71	2.29
	28	2.02	1.94	2.14	2.04	2.26	2.17	2.32	2.18	2.38	2.16	2.51	2.30		
	30	1.99	1.91	2.11	2.03	2.23	2.14	2.29	2.17	2.35	2.15	2.48	2.29		
	32	1.96	1.88	2.07	1.99	2.19	2.10	2.25	2.15	2.31	2.14	2.44	2.28		
	34	1.93	1.85	2.04	1.96	2.16	2.07	2.22	2.13	2.28	2.13	2.40	2.27		
	35	1.91	1.83	2.02	1.94	2.14	2.05	2.20	2.11	2.26	2.12	2.38	2.26		
	36	1.87	1.80	1.98	1.90	2.09	2.01	2.15	2.06	2.20	2.10	2.30	2.21		
	38	1.80	1.73	1.90	1.82	2.00	1.92	2.06	1.98	2.10	2.02	2.16	2.07		
	39	1.76	1.69	1.86	1.79	1.96	1.88	2.02	1.94	2.04	1.96	2.08	2.00		
	41	1.65	1.58	1.75	1.68	1.83	1.76	1.88	1.80	1.89	1.81	1.91	1.83		
	43	1.53	1.47	1.61	1.55	1.67	1.60	1.68	1.61	1.69	1.62	1.70	1.63		

Heating Mode (kW)

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	1.40	1.39	1.38	1.37	1.36
	-17.8	-18	1.49	1.48	1.47	1.46	1.44
	-15.7	-16	1.58	1.57	1.56	1.55	1.53
	-13.7	-14	1.68	1.67	1.65	1.64	1.63
	-11.7	-12	1.78	1.77	1.75	1.74	1.73
P-Hi	-9.6	-10	1.88	1.87	1.86	1.84	1.83
	-7.5	-8	2.00	1.98	1.97	1.95	1.94
9	-5.5	-6	2.11	2.10	2.08	2.06	2.05
(m^3/min)	-3.4	-4	2.17	2.15	2.14	2.12	2.10
	-1.3	-2	2.17	2.15	2.13	2.11	2.09
	0.8	0	2.17	2.14	2.13	2.10	2.08
	3.9	3	2.36	2.33	2.31	2.28	2.26
	7.0	6	2.55	2.52	2.50	2.45	2.38
	10.1	9	2.77	2.74	2.71	2.60	2.41
	13.2	12	2.99	2.94	2.82	2.65	2.42
	16.9	15.5	3.22	3.13	2.89	2.66	2.41

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			2.23	1.97	2.36	2.10	2.43	2.09	2.50	2.08	2.64	2.18	2.79	2.15
	12			2.20	1.95	2.33	2.08	2.40	2.08	2.46	2.06	2.60	2.17	2.75	2.14
	14			2.17	1.94	2.30	2.07	2.36	2.06	2.43	2.05	2.57	2.16	2.71	2.13
	16			2.14	1.93	2.27	2.06	2.33	2.05	2.40	2.03	2.53	2.15	2.67	2.12
	18			2.12	1.92	2.24	2.05	2.30	2.03	2.36	2.02	2.50	2.14	2.64	2.11
Hi	20			2.09	1.91	2.21	2.04	2.27	2.02	2.33	2.01	2.46	2.12	2.60	2.10
	22			2.06	1.89	2.18	2.02	2.24	2.01	2.30	2.00	2.43	2.11	2.56	2.08
8	24			2.03	1.88	2.15	2.01	2.21	2.00	2.27	1.99	2.40	2.11	2.53	2.07
(m^3/min)	26	1.90	1.82	2.01	1.87	2.12	2.00	2.18	1.99	2.24	1.98	2.36	2.09	2.50	2.07
	28	1.87	1.80	1.98	1.86	2.09	1.99	2.14	1.98	2.20	1.96	2.32	2.08		
	30	1.84	1.77	1.95	1.85	2.06	1.98	2.11	1.96	2.17	1.95	2.29	2.07		
	32	1.81	1.74	1.92	1.83	2.02	1.94	2.08	1.95	2.14	1.94	2.25	2.06		
	34	1.78	1.71	1.89	1.81	1.99	1.91	2.05	1.94	2.10	1.93	2.22	2.05		
	35	1.77	1.70	1.87	1.80	1.98	1.90	2.03	1.94	2.09	1.92	2.20	2.04		
	36	1.73	1.66	1.83	1.76	1.93	1.85	1.99	1.91	2.04	1.91	2.13	2.02		
	38	1.66	1.59	1.75	1.68	1.85	1.78	1.91	1.83	1.94	1.86	1.99	1.91		
	39	1.63	1.56	1.72	1.65	1.81	1.74	1.86	1.79	1.89	1.81	1.93	1.85		
	41	1.53	1.47	1.62	1.56	1.69	1.62	1.73	1.66	1.75	1.68	1.76	1.69		
	43	1.41	1.35	1.49	1.43	1.55	1.49	1.56	1.50	1.56	1.50	1.57	1.51		

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	1.29	1.28	1.27	1.26	1.25
	-17.8	-18	1.37	1.36	1.35	1.34	1.33
	-15.7	-16	1.46	1.45	1.43	1.42	1.41
	-13.7	-14	1.54	1.53	1.52	1.51	1.50
	-11.7	-12	1.64	1.63	1.62	1.60	1.59
Hi	-9.6	-10	1.73	1.72	1.71	1.69	1.68
	-7.5	-8	1.84	1.82	1.81	1.80	1.78
8	-5.5	-6	1.94	1.93	1.92	1.90	1.88
(m^3/min)	-3.4	-4	2.00	1.98	1.97	1.95	1.93
	-1.3	-2	2.00	1.98	1.96	1.94	1.92
	0.8	0	2.00	1.97	1.96	1.94	1.91
	3.9	3	2.17	2.14	2.13	2.10	2.08
	7.0	6	2.35	2.32	2.30	2.26	2.19
	10.1	9	2.55	2.52	2.49	2.39	2.22
	13.2	12	2.75	2.70	2.60	2.44	2.23
	16.9	15.5	2.97	2.88	2.66	2.44	2.22

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			2.03	1.76	2.15	1.87	2.21	1.86	2.27	1.85	2.40	1.96	2.54	1.93
	12			2.00	1.75	2.12	1.86	2.18	1.85	2.24	1.84	2.37	1.95	2.50	1.92
	14			1.98	1.74	2.09	1.85	2.15	1.84	2.21	1.83	2.34	1.94	2.47	1.91
	16			1.95	1.73	2.06	1.84	2.12	1.83	2.18	1.82	2.30	1.92	2.43	1.90
	18			1.92	1.71	2.04	1.83	2.09	1.82	2.15	1.81	2.27	1.91	2.40	1.89
Me	20			1.90	1.70	2.01	1.82	2.07	1.81	2.12	1.79	2.24	1.90	2.36	1.88
	22			1.87	1.69	1.98	1.81	2.04	1.80	2.09	1.78	2.21	1.89	2.33	1.87
7	24			1.85	1.68	1.95	1.80	2.01	1.79	2.06	1.77	2.18	1.89	2.30	1.86
(m^3/min)	26	1.73	1.66	1.83	1.68	1.93	1.79	1.98	1.77	2.03	1.76	2.15	1.88	2.28	1.85
	28	1.70	1.63	1.80	1.66	1.90	1.78	1.95	1.76	2.01	1.75	2.12	1.87		
	30	1.68	1.61	1.77	1.65	1.87	1.76	1.92	1.75	1.98	1.74	2.08	1.85		
	32	1.65	1.58	1.74	1.64	1.84	1.75	1.89	1.74	1.95	1.73	2.05	1.84		
	34	1.62	1.56	1.72	1.63	1.81	1.74	1.86	1.73	1.91	1.72	2.02	1.83		
	35	1.61	1.55	1.70	1.62	1.80	1.73	1.85	1.73	1.90	1.72	2.00	1.83		
	36	1.58	1.52	1.67	1.60	1.76	1.69	1.81	1.71	1.85	1.70	1.94	1.81		
	38	1.51	1.45	1.60	1.54	1.68	1.61	1.73	1.66	1.76	1.67	1.81	1.74		
	39	1.48	1.42	1.56	1.50	1.65	1.58	1.70	1.63	1.72	1.65	1.75	1.68		
	41	1.39	1.33	1.47	1.41	1.54	1.48	1.58	1.52	1.59	1.53	1.60	1.54		
	43	1.28	1.23	1.36	1.31	1.41	1.35	1.42	1.36	1.42	1.36	1.43	1.37		

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	1.17	1.16	1.15	1.14	1.13
	-17.8	-18	1.24	1.24	1.22	1.22	1.20
	-15.7	-16	1.32	1.31	1.30	1.29	1.28
	-13.7	-14	1.40	1.39	1.38	1.37	1.36
	-11.7	-12	1.48	1.48	1.46	1.45	1.44
Me	-9.6	-10	1.57	1.56	1.55	1.53	1.52
	-7.5	-8	1.67	1.65	1.64	1.63	1.62
7	-5.5	-6	1.76	1.75	1.74	1.72	1.71
(m^3/min)	-3.4	-4	1.81	1.79	1.78	1.77	1.75
	-1.3	-2	1.81	1.79	1.78	1.76	1.74
	0.8	0	1.81	1.79	1.78	1.76	1.74
	3.9	3	1.97	1.94	1.93	1.91	1.88
	7.0	6	2.13	2.11	2.09	2.05	1.99
	10.1	9	2.31	2.28	2.26	2.17	2.01
	13.2	12	2.50	2.45	2.35	2.21	2.02
	16.9	15.5	2.69	2.61	2.41	2.22	2.01

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			1.81	1.55	1.91	1.64	1.97	1.63	2.03	1.62	2.14	1.71	2.26	1.69
	12			1.79	1.54	1.89	1.63	1.94	1.62	2.00	1.61	2.11	1.70	2.23	1.68
	14			1.76	1.52	1.86	1.62	1.92	1.61	1.97	1.60	2.08	1.69	2.20	1.67
	16			1.74	1.52	1.84	1.61	1.89	1.60	1.94	1.59	2.05	1.68	2.17	1.66
	18			1.72	1.51	1.81	1.60	1.87	1.59	1.92	1.58	2.03	1.68	2.14	1.65
Lo	20			1.69	1.49	1.79	1.59	1.84	1.58	1.89	1.57	2.00	1.67	2.11	1.64
	22			1.67	1.49	1.77	1.59	1.81	1.57	1.87	1.57	1.97	1.66	2.08	1.63
6	24			1.65	1.48	1.74	1.57	1.79	1.56	1.84	1.55	1.94	1.65	2.05	1.62
(m^3/min)	26	1.54	1.48	1.63	1.47	1.72	1.57	1.76	1.55	1.81	1.54	1.91	1.64	2.03	1.62
	28	1.52	1.46	1.60	1.46	1.69	1.55	1.74	1.55	1.79	1.54	1.88	1.63		
	30	1.49	1.43	1.58	1.45	1.67	1.55	1.71	1.53	1.76	1.53	1.86	1.62		
	32	1.47	1.41	1.55	1.44	1.64	1.53	1.69	1.53	1.73	1.51	1.83	1.61		
	34	1.45	1.39	1.53	1.43	1.62	1.53	1.66	1.52	1.71	1.51	1.80	1.60		
	35	1.43	1.37	1.52	1.42	1.60	1.52	1.65	1.51	1.69	1.50	1.78	1.59		
	36	1.41	1.35	1.48	1.41	1.57	1.51	1.61	1.50	1.65	1.49	1.73	1.58		
	38	1.35	1.30	1.42	1.36	1.50	1.44	1.55	1.48	1.57	1.46	1.62	1.54		
	39	1.32	1.27	1.39	1.33	1.47	1.41	1.51	1.45	1.53	1.44	1.56	1.50		
	41	1.24	1.19	1.31	1.26	1.37	1.32	1.41	1.35	1.42	1.36	1.43	1.37		
	43	1.14	1.09	1.21	1.16	1.25	1.20	1.26	1.21	1.27	1.22	1.28	1.23		

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	1.04	1.03	1.02	1.01	1.00
	-17.8	-18	1.10	1.10	1.09	1.08	1.07
	-15.7	-16	1.17	1.16	1.15	1.15	1.13
	-13.7	-14	1.24	1.24	1.23	1.22	1.20
	-11.7	-12	1.32	1.31	1.30	1.29	1.28
Lo	-9.6	-10	1.39	1.39	1.38	1.36	1.35
	-7.5	-8	1.48	1.47	1.46	1.45	1.44
6	-5.5	-6	1.57	1.55	1.54	1.53	1.52
(m^3/min)	-3.4	-4	1.61	1.59	1.58	1.57	1.55
	-1.3	-2	1.61	1.59	1.58	1.56	1.55
	0.8	0	1.61	1.59	1.58	1.56	1.54
	3.9	3	1.75	1.73	1.71	1.69	1.67
	7.0	6	1.89	1.87	1.85	1.82	1.77
	10.1	9	2.05	2.03	2.01	1.93	1.79
	13.2	12	2.22	2.18	2.09	1.97	1.79
	16.9	15.5	2.39	2.32	2.14	1.97	1.79

Note(1) This data shows average statuses out of those possible to occur in the system control.
(Depending on controls, there may be ranges where the operation is not conducted continuously.)
(2) Symbols are as follows
TC :Total cooling capacity(kW)
SHC :Sensible heat capacity(kW)

PJF000Z766 A

Model **FDTC28KXZE1-W** Cooling Mode (kW)

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			3.07	2.45	3.25	2.59	3.35	2.58	3.44	2.56	3.64	2.69	3.84	2.65
	12			3.03	2.43	3.21	2.57	3.30	2.56	3.39	2.54	3.59	2.67	3.79	2.63
	14			2.99	2.41	3.16	2.55	3.25	2.54	3.35	2.52	3.54	2.65	3.73	2.61
	16			2.95	2.40	3.12	2.54	3.21	2.52	3.30	2.50	3.49	2.64	3.68	2.60
	18			2.91	2.38	3.08	2.52	3.17	2.51	3.26	2.49	3.44	2.62	3.63	2.58
P-Hi	20			2.87	2.36	3.04	2.50	3.12	2.49	3.21	2.47	3.39	2.60	3.58	2.57
	22			2.84	2.35	3.00	2.49	3.08	2.47	3.17	2.46	3.34	2.59	3.53	2.55
9	24			2.80	2.33	2.96	2.47	3.04	2.46	3.12	2.44	3.30	2.57	3.48	2.53
(m^3/min)	26	2.61	2.33	2.76	2.31	2.92	2.45	3.00	2.44	3.08	2.42	3.25	2.55	3.44	2.52
	28	2.58	2.32	2.72	2.30	2.87	2.43	2.95	2.42	3.03	2.40	3.20	2.53		
	30	2.54	2.30	2.68	2.27	2.83	2.42	2.91	2.40	2.99	2.39	3.15	2.52		
	32	2.50	2.28	2.64	2.26	2.79	2.40	2.87	2.39	2.94	2.37	3.10	2.50		
	34	2.46	2.26	2.60	2.24	2.74	2.38	2.82	2.37	2.90	2.35	3.05	2.48		
	35	2.44	2.26	2.57	2.23	2.72	2.37	2.80	2.36	2.87	2.34	3.03	2.48		
	36	2.39	2.23	2.52	2.21	2.66	2.35	2.74	2.34	2.80	2.32	2.93	2.44		
	38	2.29	2.19	2.42	2.16	2.55	2.31	2.62	2.29	2.67	2.27	2.74	2.38		
	39	2.24	2.15	2.36	2.14	2.49	2.28	2.57	2.27	2.60	2.24	2.65	2.35		
	41	2.11	2.03	2.22	2.08	2.33	2.22	2.39	2.20	2.40	2.17	2.43	2.28		
	43	1.94	1.86	2.05	1.97	2.13	2.04	2.14	2.05	2.15	2.06	2.17	2.08		

Heating Mode (kW)

Air flow	Outdoor air temperature °CDB	Outdoor air temperature °CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	1.79	1.78	1.76	1.75	1.74
	-17.8	-18	1.91	1.90	1.88	1.86	1.85
	-15.7	-16	2.02	2.01	1.99	1.98	1.96
	-13.7	-14	2.15	2.13	2.12	2.10	2.08
	-11.7	-12	2.28	2.26	2.25	2.23	2.21
P-Hi	-9.6	-10	2.41	2.39	2.38	2.35	2.34
	-7.5	-8	2.56	2.54	2.52	2.50	2.48
9	-5.5	-6	2.70	2.68	2.66	2.64	2.62
(m^3/min)	-3.4	-4	2.78	2.75	2.73	2.71	2.69
	-1.3	-2	2.78	2.75	2.73	2.70	2.67
	0.8	0	2.77	2.74	2.72	2.69	2.66
	3.9	3	3.02	2.98	2.96	2.92	2.89
	7.0	6	3.27	3.23	3.20	3.14	3.05
	10.1	9	3.54	3.50	3.47	3.33	3.09
	13.2	12	3.83	3.76	3.61	3.40	3.10
	16.9	15.5	4.13	4.01	3.70	3.40	3.09

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			2.84	2.24	3.01	2.36	3.09	2.35	3.18	2.33	3.36	2.45	3.55	2.41
	12			2.80	2.22	2.97	2.35	3.05	2.33	3.14	2.32	3.31	2.43	3.50	2.40
	14			2.76	2.20	2.92	2.33	3.01	2.32	3.09	2.30	3.27	2.42	3.45	2.38
	16			2.73	2.19	2.89	2.32	2.97	2.30	3.05	2.28	3.22	2.40	3.40	2.36
	18			2.69	2.17	2.85	2.30	2.93	2.28	3.01	2.27	3.18	2.38	3.35	2.34
Hi	20			2.66	2.16	2.81	2.28	2.89	2.27	2.97	2.25	3.13	2.36	3.31	2.33
	22			2.62	2.14	2.77	2.26	2.85	2.25	2.93	2.24	3.09	2.35	3.26	2.32
8	24			2.59	2.13	2.73	2.25	2.81	2.23	2.89	2.22	3.05	2.34	3.21	2.30
(m^3/min)	26	2.41	2.13	2.55	2.10	2.70	2.23	2.77	2.22	2.85	2.20	3.00	2.32	3.18	2.29
	28	2.38	2.11	2.52	2.09	2.66	2.22	2.73	2.20	2.80	2.19	2.96	2.31		
	30	2.35	2.10	2.48	2.07	2.62	2.20	2.69	2.19	2.76	2.17	2.91	2.29		
	32	2.31	2.08	2.44	2.06	2.58	2.19	2.65	2.17	2.72	2.16	2.87	2.28		
	34	2.27	2.06	2.40	2.04	2.54	2.17	2.61	2.16	2.68	2.14	2.82	2.26		
	35	2.25	2.05	2.38	2.03	2.52	2.16	2.59	2.15	2.66	2.13	2.80	2.25		
	36	2.21	2.03	2.33	2.01	2.46	2.14	2.53	2.13	2.59	2.11	2.71	2.21		
	38	2.11	1.99	2.23	1.97	2.36	2.10	2.43	2.09	2.47	2.06	2.54	2.15		
	39	2.07	1.97	2.18	1.95	2.30	2.07	2.37	2.06	2.40	2.03	2.45	2.12		
	41	1.95	1.87	2.06	1.89	2.16	2.02	2.21	2.00	2.22	1.97	2.24	2.05		
	43	1.79	1.72	1.90	1.82	1.97	1.89	1.98	1.90	1.99	1.89	2.00	1.92		

Air flow	Outdoor air temperature °CDB	Outdoor air temperature °CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	1.65	1.64	1.62	1.61	1.60
	-17.8	-18	1.76	1.74	1.73	1.72	1.70
	-15.7	-16	1.86	1.85	1.83	1.82	1.80
	-13.7	-14	1.98	1.96	1.95	1.93	1.91
	-11.7	-12	2.10	2.08	2.07	2.05	2.03
Hi	-9.6	-10	2.22	2.20	2.19	2.17	2.15
	-7.5	-8	2.35	2.34	2.32	2.30	2.28
8	-5.5	-6	2.49	2.47	2.45	2.43	2.41
(m^3/min)	-3.4	-4	2.56	2.53	2.52	2.49	2.47
	-1.3	-2	2.55	2.53	2.51	2.49	2.46
	0.8	0	2.55	2.53	2.51	2.48	2.45
	3.9	3	2.78	2.74	2.72	2.69	2.66
	7.0	6	3.01	2.97	2.95	2.89	2.81
	10.1	9	3.26	3.23	3.19	3.06	2.84
	13.2	12	3.52	3.46	3.32	3.13	2.85
	16.9	15.5	3.80	3.69	3.40	3.13	2.84

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			2.58	2.01	2.74	2.11	2.81	2.10	2.89	2.08	3.06	2.20	3.23	2.16
	12			2.55	1.99	2.70	2.10	2.78	2.08	2.85	2.07	3.02	2.18	3.18	2.14
	14			2.52	1.98	2.66	2.08	2.74	2.07	2.81	2.05	2.97	2.16	3.14	2.13
	16			2.48	1.96	2.63	2.07	2.70	2.05	2.78	2.04	2.93	2.15	3.10	2.11
	18			2.45	1.95	2.59	2.05	2.66	2.04	2.74	2.02	2.89	2.13	3.05	2.10
Me	20			2.42	1.93	2.56	2.04	2.63	2.02	2.70	2.01	2.85	2.12	3.01	2.09
	22			2.39	1.92	2.52	2.02	2.59	2.01	2.66	1.99	2.81	2.10	2.97	2.07
7	24			2.35	1.90	2.49	2.01	2.56	2.00	2.63	1.98	2.77	2.09	2.92	2.06
(m^3/min)	26	2.20	1.91	2.32	1.89	2.45	1.99	2.52	1.98	2.59	1.97	2.73	2.07	2.90	2.05
	28	2.17	1.90	2.29	1.88	2.42	1.98	2.48	1.97	2.55	1.95	2.69	2.06		
	30	2.14	1.88	2.26	1.86	2.38	1.97	2.45	1.95	2.51	1.94	2.65	2.05		
	32	2.10	1.87	2.22	1.84	2.35	1.95	2.41	1.94	2.48	1.93	2.61	2.03		
	34	2.07	1.85	2.18	1.83	2.31	1.94	2.37	1.92	2.44	1.91	2.57	2.02		
	35	2.05	1.84	2.17	1.82	2.29	1.93	2.36	1.92	2.42	1.90	2.55	2.01		
	36	2.01	1.82	2.12	1.80	2.24	1.91	2.31	1.90	2.36	1.88	2.47	1.98		
	38	1.92	1.78	2.03	1.76	2.14	1.87	2.21	1.86	2.24	1.84	2.31	1.93		
	39	1.88	1.76	1.99	1.74	2.10	1.85	2.16	1.84	2.19	1.82	2.23	1.90		
	41	1.77	1.70	1.87	1.69	1.96	1.80	2.01	1.79	2.02	1.76	2.04	1.84		
	43	1.63	1.56	1.73	1.63	1.79	1.72	1.80	1.71	1.81	1.68	1.82	1.75		

Air flow	Outdoor air temperature °CDB	Outdoor air temperature °CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	1.49	1.48	1.47	1.46	1.45
	-17.8	-18	1.59	1.58	1.57	1.56	1.54
	-15.7	-16	1.69	1.68	1.66	1.65	1.64
	-13.7	-14	1.79	1.78	1.77	1.75	1.74
	-11.7	-12	1.90	1.89	1.87	1.86	1.84
Me	-9.6	-10	2.01	2.00	1.98	1.96	1.95
	-7.5	-8	2.13	2.12	2.10	2.08	2.07
7	-5.5	-6	2.26	2.24	2.22	2.20	2.19
(m^3/min)	-3.4	-4	2.32	2.30	2.28	2.26	2.24
	-1.3	-2	2.32	2.29	2.28	2.25	2.23
	0.8	0	2.32	2.29	2.27	2.25	2.22
	3.9	3	2.52	2.49	2.47	2.44	2.41
	7.0	6	2.73	2.70	2.67	2.62	2.55
	10.1	9	2.95	2.92	2.89	2.78	2.58
	13.2	12	3.20	3.14	3.01	2.83	2.58
	16.9	15.5	3.44	3.34	3.09	2.84	2.58

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			2.30	1.77	2.44	1.86	2.51	1.85	2.58	1.84	2.73	1.93	2.88	1.89
	12			2.27	1.75	2.40	1.85	2.47	1.83	2.54	1.82	2.69	1.91	2.84	1.88
	14			2.24	1.74	2.37	1.83	2.44	1.82	2.51	1.81	2.65	1.90	2.80	1.87
	16			2.21	1.72	2.34	1.82	2.41	1.81	2.47	1.79	2.61	1.88	2.76	1.85
	18			2.18	1.71	2.31	1.81	2.37	1.79	2.44	1.78	2.58	1.87	2.72	1.84
Lo	20			2.15	1.70	2.28	1.79	2.34	1.78	2.41	1.77	2.54	1.86	2.68	1.83
	22			2.13	1.69	2.25	1.78	2.31	1.77	2.37	1.76	2.51	1.85	2.64	1.81
6	24			2.10	1.68	2.22	1.77	2.28	1.76	2.34	1.74	2.47	1.83	2.61	1.80
(m^3/min)	26	1.96	1.68	2.07	1.66	2.19	1.76	2.25	1.75	2.31	1.73	2.44	1.82	2.58	1.80
	28	1.93	1.66	2.04	1.65	2.15	1.74	2.21	1.73	2.27	1.72	2.40	1.81		
	30	1.90	1.65	2.01	1.63	2.12	1.73	2.18	1.72	2.24	1.71	2.36	1.79		
	32	1.87	1.64	1.98	1.62	2.09	1.71	2.15	1.71	2.21	1.69	2.32	1.78		
	34	1.84	1.62	1.95	1.61	2.06	1.70	2.11	1.69	2.17	1.68	2.29	1.77		
	35	1.83	1.62	1.93	1.60	2.04	1.69	2.10	1.68	2.15	1.67	2.27	1.76		
	36	1.79	1.60	1.89	1.58	2.00	1.68	2.05	1.66	2.10	1.65	2.20	1.73		
	38	1.71	1.56	1.81	1.55	1.91	1.64	1.97	1.63	2.00	1.61	2.06	1.69		
	39	1.68	1.55	1.77	1.53	1.87	1.63	1.92	1.61	1.95	1.59	1.99	1.66		
	41	1.58	1.50	1.67	1.49	1.75	1.58	1.79	1.56	1.80	1.54	1.82	1.61		
	43	1.46	1.40	1.54	1.43	1.60	1.52	1.61	1.50	1.61	1.47	1.62	1.54		

Air flow	Outdoor air temperature °CDB	Outdoor air temperature °CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	1.33	1.32	1.31	1.30	1.29
	-17.8	-18	1.41	1.40	1.39	1.38	1.37
	-15.7	-16	1.50	1.49	1.48	1.47	1.45
	-13.7	-14	1.59	1.58	1.57	1.56	1.54
	-11.7	-12	1.69	1.68	1.66	1.65	1.64
Lo	-9.6	-10	1.78	1.77	1.76	1.74	1.73
	-7.5	-8	1.89	1.88	1.87	1.85	1.84
6	-5.5	-6	2.00	1.99	1.97	1.96	1.94
(m^3/min)	-3.4	-4	2.06	2.04	2.03	2.01	1.99
	-1.3	-2	2.06	2.04	2.02	2.00	1.98
	0.8	0	2.06	2.03	2.02	2.00	1.97
	3.9	3	2.23	2.21	2.19	2.17	2.14
	7.0	6	2.42	2.39	2.37	2.33	2.26
	10.1	9	2.62	2.60	2.57	2.47	2.29
	13.2	12	2.84	2.79	2.68	2.52	2.29
	16.9	15.5	3.06	2.97	2.74	2.52	2.29

Note(1) This data shows average statuses out of those possible to occur in the system control.
(Depending on controls, there may be ranges where the operation is not conducted continuously.)
(2) Symbols are as follows
TC :Total cooling capacity(kW)
SHC :Sensible heat capacity(kW)

PJF000Z766A

Model **FDTC36KXZE1-W** Cooling Mode (kW)

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			3.95	3.00	4.18	3.15	4.30	3.13	4.42	3.11	4.67	3.26	4.94	3.21
	12			3.90	2.98	4.12	3.13	4.24	3.11	4.36	3.09	4.61	3.24	4.87	3.19
	14			3.85	2.96	4.07	3.11	4.18	3.09	4.30	3.06	4.55	3.22	4.80	3.17
	16			3.79	2.93	4.01	3.08	4.13	3.06	4.24	3.04	4.48	3.19	4.73	3.14
	18			3.74	2.91	3.96	3.06	4.07	3.04	4.19	3.02	4.42	3.17	4.67	3.12
P-Hi	20			3.69	2.89	3.91	3.04	4.02	3.02	4.13	3.00	4.36	3.15	4.60	3.10
	22			3.65	2.87	3.85	3.01	3.96	2.99	4.07	2.97	4.30	3.13	4.53	3.08
10	24			3.60	2.84	3.80	2.99	3.91	2.97	4.01	2.95	4.24	3.11	4.47	3.06
(m^3/min)	26	3.36	2.85	3.55	2.82	3.75	2.97	3.85	2.95	3.96	2.93	4.18	3.08	4.43	3.04
	28	3.31	2.83	3.50	2.80	3.70	2.95	3.80	2.93	3.90	2.91	4.11	3.06		
	30	3.26	2.80	3.45	2.78	3.64	2.93	3.74	2.91	3.84	2.88	4.05	3.04		
	32	3.21	2.78	3.39	2.75	3.58	2.90	3.68	2.88	3.78	2.86	3.99	3.02		
	34	3.16	2.75	3.34	2.73	3.53	2.88	3.63	2.86	3.72	2.84	3.92	2.99		
	35	3.13	2.74	3.31	2.72	3.50	2.87	3.60	2.85	3.69	2.83	3.89	2.98		
	36	3.07	2.71	3.24	2.68	3.42	2.84	3.52	2.82	3.61	2.80	3.77	2.94		
	38	2.94	2.65	3.11	2.62	3.28	2.78	3.37	2.76	3.43	2.73	3.53	2.86		
	39	2.88	2.62	3.04	2.59	3.20	2.75	3.30	2.73	3.34	2.70	3.41	2.82		
	41	2.71	2.54	2.86	2.52	3.00	2.67	3.07	2.65	3.09	2.60	3.12	2.72		
	43	2.50	2.40	2.64	2.42	2.74	2.57	2.76	2.53	2.76	2.49	2.78	2.61		

Heating Mode (kW)

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	2.24	2.22	2.20	2.19	2.17
	-17.8	-18	2.38	2.37	2.35	2.33	2.31
	-15.7	-16	2.53	2.51	2.49	2.47	2.45
	-13.7	-14	2.69	2.67	2.65	2.63	2.60
	-11.7	-12	2.85	2.83	2.81	2.78	2.76
P-Hi	-9.6	-10	3.01	2.99	2.97	2.94	2.92
	-7.5	-8	3.19	3.17	3.15	3.12	3.10
10	-5.5	-6	3.38	3.35	3.33	3.30	3.28
(m^3/min)	-3.4	-4	3.47	3.44	3.42	3.38	3.36
	-1.3	-2	3.47	3.44	3.41	3.38	3.34
	0.8	0	3.47	3.43	3.40	3.37	3.33
	3.9	3	3.77	3.73	3.70	3.65	3.61
	7.0	6	4.08	4.04	4.00	3.92	3.81
	10.1	9	4.43	4.38	4.33	4.16	3.86
	13.2	12	4.79	4.70	4.51	4.24	3.87
	16.9	15.5	5.16	5.01	4.62	4.25	3.86

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			3.64	2.75	3.85	2.89	3.96	2.87	4.07	2.85	4.30	2.97	4.54	2.92
	12			3.59	2.72	3.80	2.87	3.90	2.84	4.01	2.82	4.24	2.95	4.48	2.90
	14			3.54	2.70	3.74	2.84	3.85	2.82	3.96	2.80	4.18	2.92	4.42	2.88
	16			3.49	2.68	3.69	2.82	3.80	2.80	3.90	2.78	4.12	2.90	4.35	2.86
	18			3.45	2.66	3.64	2.80	3.75	2.78	3.85	2.76	4.07	2.88	4.29	2.83
Hi	20			3.40	2.63	3.59	2.78	3.70	2.76	3.80	2.74	4.01	2.86	4.23	2.81
	22			3.36	2.62	3.55	2.76	3.65	2.74	3.75	2.72	3.96	2.84	4.17	2.79
9	24			3.31	2.59	3.50	2.74	3.59	2.72	3.69	2.70	3.90	2.82	4.11	2.77
(m^3/min)	26	3.09	2.60	3.27	2.58	3.45	2.72	3.54	2.70	3.64	2.68	3.85	2.80	4.07	2.76
	28	3.05	2.58	3.22	2.55	3.40	2.70	3.49	2.68	3.59	2.66	3.79	2.78		
	30	3.00	2.56	3.18	2.53	3.35	2.67	3.44	2.66	3.54	2.64	3.73	2.76		
	32	2.95	2.53	3.12	2.51	3.30	2.65	3.39	2.64	3.48	2.62	3.67	2.74		
	34	2.91	2.51	3.07	2.49	3.25	2.63	3.34	2.62	3.43	2.60	3.61	2.72		
	35	2.88	2.50	3.05	2.48	3.22	2.62	3.31	2.60	3.40	2.59	3.58	2.71		
	36	2.82	2.47	2.98	2.45	3.15	2.59	3.24	2.58	3.32	2.55	3.47	2.67		
	38	2.71	2.42	2.86	2.39	3.02	2.53	3.11	2.52	3.16	2.49	3.25	2.59		
	39	2.65	2.39	2.80	2.36	2.95	2.51	3.04	2.49	3.07	2.46	3.14	2.55		
	41	2.49	2.32	2.63	2.29	2.76	2.43	2.82	2.41	2.84	2.36	2.87	2.46		
	43	2.30	2.21	2.43	2.20	2.52	2.33	2.54	2.29	2.54	2.25	2.56	2.36		

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	2.04	2.03	2.01	1.99	1.98
	-17.8	-18	2.17	2.16	2.14	2.12	2.10
	-15.7	-16	2.31	2.29	2.27	2.25	2.23
	-13.7	-14	2.45	2.43	2.41	2.39	2.37
	-11.7	-12	2.59	2.58	2.56	2.54	2.51
Hi	-9.6	-10	2.74	2.72	2.71	2.68	2.66
	-7.5	-8	2.91	2.89	2.87	2.84	2.82
9	-5.5	-6	3.08	3.05	3.03	3.01	2.98
(m^3/min)	-3.4	-4	3.16	3.13	3.11	3.08	3.06
	-1.3	-2	3.16	3.13	3.11	3.07	3.04
	0.8	0	3.16	3.13	3.10	3.07	3.03
	3.9	3	3.43	3.40	3.37	3.33	3.29
	7.0	6	3.72	3.68	3.64	3.58	3.47
	10.1	9	4.03	3.99	3.95	3.79	3.52
	13.2	12	4.36	4.28	4.11	3.87	3.53
	16.9	15.5	4.70	4.56	4.21	3.87	3.52

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			3.30	2.47	3.49	2.60	3.60	2.59	3.70	2.57	3.91	2.68	4.13	2.64
	12			3.26	2.45	3.45	2.58	3.55	2.56	3.65	2.55	3.85	2.66	4.07	2.62
	14			3.22	2.43	3.40	2.56	3.50	2.54	3.60	2.52	3.80	2.64	4.01	2.59
	16			3.17	2.41	3.35	2.53	3.45	2.52	3.55	2.50	3.75	2.62	3.96	2.57
	18			3.13	2.39	3.31	2.52	3.41	2.50	3.50	2.48	3.70	2.59	3.90	2.55
Me	20			3.09	2.37	3.27	2.50	3.36	2.48	3.45	2.46	3.64	2.57	3.84	2.53
	22			3.05	2.35	3.22	2.48	3.31	2.46	3.40	2.44	3.59	2.55	3.79	2.51
8	24			3.01	2.34	3.18	2.46	3.27	2.45	3.36	2.43	3.54	2.53	3.74	2.49
(m^3/min)	26	2.81	2.34	2.97	2.32	3.13	2.44	3.22	2.43	3.31	2.41	3.49	2.51	3.70	2.48
	28	2.77	2.32	2.93	2.30	3.09	2.42	3.17	2.41	3.26	2.39	3.44	2.50		
	30	2.73	2.30	2.88	2.28	3.04	2.40	3.13	2.39	3.21	2.37	3.39	2.48		
	32	2.68	2.28	2.84	2.26	3.00	2.39	3.08	2.37	3.16	2.35	3.33	2.46		
	34	2.64	2.26	2.79	2.24	2.95	2.36	3.03	2.35	3.11	2.33	3.28	2.44		
	35	2.62	2.25	2.77	2.23	2.92	2.35	3.01	2.34	3.09	2.32	3.25	2.43		
	36	2.56	2.22	2.71	2.20	2.86	2.33	2.95	2.32	3.01	2.29	3.15	2.39		
	38	2.46	2.18	2.60	2.15	2.74	2.28	2.82	2.27	2.87	2.24	2.95	2.32		
	39	2.41	2.15	2.54	2.13	2.68	2.25	2.76	2.24	2.79	2.21	2.85	2.29		
	41	2.26	2.08	2.39	2.06	2.51	2.19	2.57	2.17	2.58	2.13	2.61	2.21		
	43	2.09	2.00	2.21	1.98	2.29	2.10	2.30	2.07	2.31	2.03	2.33	2.11		

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	1.83	1.82	1.80	1.79	1.78
	-17.8	-18	1.95	1.94	1.92	1.91	1.89
	-15.7	-16	2.07	2.06	2.04	2.03	2.01
	-13.7	-14	2.20	2.18	2.17	2.15	2.13
	-11.7	-12	2.33	2.32	2.30	2.28	2.26
Me	-9.6	-10	2.46	2.45	2.43	2.41	2.39
	-7.5	-8	2.62	2.60	2.58	2.56	2.54
8	-5.5	-6	2.77	2.75	2.73	2.70	2.68
(m^3/min)	-3.4	-4	2.84	2.82	2.80	2.77	2.75
	-1.3	-2	2.84	2.81	2.79	2.76	2.74
	0.8	0	2.84	2.81	2.79	2.76	2.72
	3.9	3	3.09	3.05	3.03	2.99	2.96
	7.0	6	3.34	3.31	3.28	3.21	3.12
	10.1	9	3.62	3.59	3.55	3.41	3.16
	13.2	12	3.92	3.85	3.70	3.48	3.17
	16.9	15.5	4.22	4.10	3.78	3.48	3.16

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			2.58	1.90	2.73	2.00	2.81	1.99	2.89	1.97	3.05	2.06	3.22	2.02
	12			2.55	1.89	2.69	1.98	2.77	1.97	2.85	1.96	3.01	2.04	3.18	2.01
	14			2.51	1.87	2.66	1.97	2.73	1.95	2.81	1.94	2.97	2.03	3.14	2.00
	16			2.48	1.86	2.62	1.95	2.70	1.94	2.77	1.92	2.93	2.01	3.09	1.98
	18			2.45	1.84	2.59	1.94	2.66	1.92	2.73	1.91	2.89	1.99	3.05	1.97
Lo	20			2.41	1.82	2.55	1.92	2.62	1.91	2.70	1.89	2.85	1.98	3.00	1.94
	22			2.38	1.81	2.52	1.91	2.59	1.89	2.66	1.88	2.81	1.96	2.96	1.93
6	24			2.35	1.80	2.48	1.89	2.55	1.88	2.62	1.86	2.77	1.95	2.92	1.92
(m^3/min)	26	2.19	1.80	2.32	1.78	2.45	1.88	2.52	1.86	2.59	1.85	2.73	1.94	2.89	1.91
	28	2.16	1.78	2.29	1.77	2.41	1.86	2.48	1.85	2.55	1.83	2.69	1.92		
	30	2.13	1.77	2.25	1.75	2.38	1.85	2.44	1.83	2.51	1.82	2.65	1.91		
	32	2.10	1.76	2.22	1.74	2.34	1.83	2.41	1.82	2.47	1.80	2.60	1.89		
	34	2.06	1.74	2.18	1.72	2.30	1.81	2.37	1.80	2.43	1.79	2.56	1.87		
	35	2.05	1.73	2.16	1.71	2.28	1.80	2.35	1.79	2.41	1.78	2.54	1.87		
	36	2.00	1.71	2.12	1.69	2.24	1.79	2.30	1.77	2.36	1.76	2.46	1.84		
	38	1.92	1.67	2.03	1.65	2.14	1.75	2.20	1.73	2.24	1.71	2.31	1.78		
	39	1.88	1.65	1.98	1.63	2.09	1.72	2.16	1.72	2.18	1.69	2.23	1.76		
	41	1.77	1.60	1.87	1.58	1.96	1.67	2.00	1.66	2.02	1.63	2.04	1.69		
	43	1.63	1.53	1.72	1.51	1.79	1.60	1.80	1.58	1.81	1.55	1.82	1.61		

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	1.40	1.39	1.38	1.37	1.36
	-17.8	-18	1.49	1.48	1.47	1.46	1.45
	-15.7	-16	1.58	1.57	1.56	1.55	1.53
	-13.7	-14	1.68	1.67	1.66	1.64	1.63
	-11.7	-12	1.78	1.77	1.76	1.74	1.73
Lo	-9.6	-10	1.88	1.87	1.86	1.84	1.83
	-7.5	-8	2.00	1.98	1.97	1.95	1.94
6	-5.5	-6	2.11	2.10	2.08	2.07	2.05
(m^3/min)	-3.4	-4	2.17	2.15	2.14	2.12	2.10
	-1.3	-2	2.17	2.15	2.13	2.11	2.09
	0.8	0	2.17	2.15	2.13	2.11	2.08
	3.9	3	2.36	2.33	2.31	2.29	2.26
	7.0	6	2.56	2.53	2.50	2.46	2.39
	10.1	9	2.77	2.74	2.71	2.61	2.42
	13.2	12	3.00	2.94	2.83	2.66	2.42
	16.9	15.5	3.23	3.13	2.89	2.66	2.42

Note(1) This data shows average statuses out of those possible to occur in the system control.
(Depending on controls, there may be ranges where the operation is not conducted continuously.)
(2) Symbols are as follows
TC :Total cooling capacity(kW)
SHC :Sensible heat capacity(kW)

PJF000Z766 A

Model **FDTC45KXZE1-W** Cooling Mode (kW)

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			4.94	3.69	5.23	3.88	5.38	3.86	5.53	3.83	5.84	4.00	6.17	3.94
	12			4.87	3.66	5.16	3.85	5.30	3.82	5.45	3.80	5.76	3.97	6.08	3.91
	14			4.81	3.63	5.08	3.82	5.23	3.79	5.38	3.77	5.68	3.94	6.00	3.88
	16			4.74	3.60	5.02	3.79	5.16	3.76	5.30	3.74	5.60	3.91	5.92	3.85
	18			4.68	3.57	4.95	3.76	5.09	3.74	5.23	3.71	5.53	3.89	5.83	3.82
P-Hi	20			4.62	3.54	4.88	3.73	5.02	3.71	5.16	3.68	5.45	3.86	5.75	3.80
	22			4.56	3.51	4.82	3.70	4.95	3.68	5.09	3.65	5.37	3.83	5.67	3.77
12	24			4.50	3.49	4.75	3.67	4.88	3.65	5.02	3.63	5.30	3.80	5.59	3.74
(m^3/min)	26	4.20	3.50	4.44	3.46	4.69	3.65	4.81	3.62	4.95	3.60	5.22	3.77	5.54	3.73
	28	4.14	3.47	4.38	3.43	4.62	3.62	4.75	3.60	4.88	3.57	5.14	3.74		
	30	4.08	3.44	4.31	3.40	4.55	3.59	4.68	3.57	4.80	3.54	5.06	3.71		
	32	4.01	3.41	4.24	3.37	4.48	3.56	4.61	3.54	4.73	3.51	4.98	3.68		
	34	3.95	3.38	4.17	3.34	4.41	3.53	4.53	3.51	4.66	3.49	4.90	3.65		
	35	3.91	3.36	4.14	3.32	4.37	3.52	4.50	3.50	4.62	3.47	4.87	3.64		
	36	3.83	3.32	4.05	3.28	4.28	3.48	4.40	3.46	4.51	3.43	4.71	3.59		
	38	3.68	3.25	3.88	3.21	4.10	3.40	4.22	3.39	4.29	3.35	4.41	3.48		
	39	3.60	3.21	3.80	3.17	4.00	3.36	4.13	3.34	4.18	3.30	4.26	3.43		
	41	3.38	3.11	3.57	3.07	3.75	3.26	3.84	3.23	3.86	3.18	3.90	3.31		
	43	3.12	2.99	3.30	2.96	3.42	3.13	3.44	3.08	3.46	3.03	3.48	3.16		

Heating Mode (kW)

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	2.80	2.78	2.75	2.73	2.71
	-17.8	-18	2.98	2.96	2.93	2.91	2.89
	-15.7	-16	3.16	3.14	3.11	3.09	3.06
	-13.7	-14	3.36	3.34	3.31	3.28	3.25
	-11.7	-12	3.56	3.54	3.51	3.48	3.45
P-Hi	-9.6	-10	3.76	3.74	3.71	3.68	3.65
	-7.5	-8	3.99	3.96	3.94	3.90	3.87
12	-5.5	-6	4.22	4.19	4.16	4.12	4.09
(m^3/min)	-3.4	-4	4.34	4.30	4.27	4.23	4.20
	-1.3	-2	4.34	4.29	4.26	4.22	4.18
	0.8	0	4.34	4.29	4.25	4.21	4.16
	3.9	3	4.71	4.66	4.62	4.57	4.51
	7.0	6	5.10	5.05	5.00	4.91	4.77
	10.1	9	5.53	5.48	5.42	5.20	4.83
	13.2	12	5.98	5.88	5.64	5.31	4.84
	16.9	15.5	6.45	6.26	5.78	5.31	4.83

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			4.31	3.17	4.56	3.33	4.69	3.31	4.83	3.29	5.10	3.42	5.38	3.37
	12			4.25	3.14	4.50	3.30	4.63	3.28	4.76	3.26	5.03	3.40	5.31	3.34
	14			4.20	3.12	4.44	3.28	4.57	3.26	4.69	3.23	4.96	3.37	5.24	3.32
	16			4.14	3.09	4.38	3.25	4.50	3.22	4.63	3.20	4.89	3.34	5.16	3.29
	18			4.09	3.07	4.32	3.22	4.44	3.19	4.57	3.17	4.82	3.32	5.09	3.26
Hi	20			4.03	3.04	4.26	3.19	4.38	3.17	4.50	3.14	4.76	3.30	5.02	3.24
	22			3.98	3.02	4.20	3.16	4.32	3.14	4.44	3.12	4.69	3.27	4.95	3.22
10	24			3.93	3.00	4.15	3.14	4.26	3.12	4.38	3.10	4.63	3.25	4.88	3.19
(m^3/min)	26	3.66	3.00	3.87	2.97	4.09	3.12	4.20	3.09	4.32	3.07	4.56	3.22	4.83	3.18
	28	3.61	2.98	3.82	2.94	4.03	3.09	4.14	3.07	4.26	3.05	4.49	3.20		
	30	3.56	2.95	3.76	2.92	3.97	3.06	4.08	3.04	4.19	3.02	4.42	3.17		
	32	3.50	2.92	3.70	2.89	3.91	3.04	4.02	3.02	4.13	3.00	4.35	3.15		
	34	3.45	2.90	3.64	2.86	3.85	3.01	3.96	2.99	4.06	2.97	4.28	3.12		
	35	3.42	2.88	3.61	2.85	3.82	3.00	3.93	2.98	4.03	2.96	4.25	3.11		
	36	3.35	2.84	3.54	2.82	3.74	2.97	3.84	2.95	3.93	2.92	4.11	3.06		
	38	3.21	2.78	3.39	2.75	3.58	2.90	3.68	2.88	3.74	2.85	3.85	2.97		
	39	3.14	2.74	3.31	2.72	3.49	2.86	3.60	2.85	3.65	2.81	3.72	2.92		
	41	2.95	2.66	3.12	2.63	3.27	2.77	3.35	2.75	3.37	2.71	3.40	2.81		
	43	2.72	2.55	2.88	2.52	2.99	2.66	3.01	2.62	3.02	2.58	3.04	2.69		

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	2.39	2.38	2.35	2.34	2.32
	-17.8	-18	2.55	2.53	2.51	2.49	2.47
	-15.7	-16	2.71	2.69	2.66	2.64	2.62
	-13.7	-14	2.87	2.85	2.83	2.81	2.78
	-11.7	-12	3.04	3.02	3.00	2.98	2.95
Hi	-9.6	-10	3.22	3.20	3.17	3.15	3.12
	-7.5	-8	3.41	3.39	3.37	3.34	3.31
10	-5.5	-6	3.61	3.58	3.56	3.53	3.50
(m^3/min)	-3.4	-4	3.71	3.68	3.65	3.62	3.59
	-1.3	-2	3.71	3.67	3.65	3.61	3.57
	0.8	0	3.71	3.67	3.64	3.60	3.56
	3.9	3	4.03	3.98	3.95	3.91	3.86
	7.0	6	4.36	4.32	4.28	4.20	4.08
	10.1	9	4.73	4.68	4.63	4.45	4.13
	13.2	12	5.12	5.02	4.83	4.54	4.14
	16.9	15.5	5.51	5.35	4.94	4.54	4.13

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			3.97	2.90	4.20	3.04	4.32	3.02	4.44	3.00	4.69	3.13	4.96	3.08
	12			3.91	2.87	4.14	3.01	4.26	3.00	4.38	2.97	4.63	3.10	4.89	3.04
	14			3.86	2.85	4.08	2.99	4.20	2.97	4.32	2.95	4.56	3.07	4.82	3.02
	16			3.81	2.83	4.03	2.97	4.14	2.94	4.26	2.93	4.50	3.04	4.75	2.99
	18			3.76	2.80	3.98	2.94	4.09	2.92	4.20	2.90	4.44	3.02	4.68	2.97
Me	20			3.71	2.78	3.92	2.92	4.03	2.90	4.15	2.88	4.38	3.00	4.62	2.95
	22			3.66	2.75	3.87	2.90	3.98	2.88	4.09	2.86	4.32	2.98	4.55	2.92
9	24			3.61	2.73	3.82	2.87	3.92	2.85	4.03	2.83	4.26	2.95	4.49	2.90
(m^3/min)	26	3.37	2.74	3.56	2.71	3.76	2.85	3.87	2.83	3.97	2.81	4.20	2.93	4.45	2.89
	28	3.32	2.71	3.51	2.69	3.71	2.83	3.81	2.81	3.92	2.79	4.13	2.91		
	30	3.28	2.69	3.46	2.66	3.66	2.81	3.76	2.79	3.86	2.76	4.07	2.88		
	32	3.22	2.67	3.41	2.64	3.60	2.78	3.70	2.76	3.80	2.74	4.00	2.86		
	34	3.17	2.64	3.35	2.61	3.54	2.75	3.64	2.74	3.74	2.72	3.94	2.84		
	35	3.14	2.63	3.32	2.60	3.51	2.74	3.61	2.73	3.71	2.71	3.91	2.82		
	36	3.08	2.60	3.25	2.57	3.44	2.71	3.54	2.70	3.62	2.67	3.79	2.78		
	38	2.95	2.53	3.12	2.51	3.29	2.65	3.39	2.64	3.44	2.60	3.54	2.69		
	39	2.89	2.50	3.05	2.48	3.22	2.62	3.31	2.60	3.35	2.57	3.42	2.65		
	41	2.72	2.42	2.87	2.39	3.01	2.53	3.08	2.51	3.10	2.47	3.13	2.55		
	43	2.51	2.32	2.65	2.30	2.75	2.43	2.77	2.38	2.78	2.34	2.80	2.44		

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	2.18	2.17	2.14	2.13	2.11
	-17.8	-18	2.32	2.31	2.29	2.27	2.25
	-15.7	-16	2.46	2.45	2.43	2.41	2.39
	-13.7	-14	2.61	2.60	2.58	2.56	2.53
	-11.7	-12	2.77	2.76	2.73	2.71	2.69
Me	-9.6	-10	2.93	2.91	2.89	2.87	2.84
	-7.5	-8	3.11	3.09	3.07	3.04	3.02
9	-5.5	-6	3.29	3.26	3.24	3.21	3.19
(m^3/min)	-3.4	-4	3.38	3.35	3.33	3.30	3.27
	-1.3	-2	3.38	3.35	3.32	3.29	3.25
	0.8	0	3.38	3.34	3.31	3.28	3.24
	3.9	3	3.67	3.63	3.60	3.56	3.52
	7.0	6	3.98	3.93	3.90	3.82	3.71
	10.1	9	4.31	4.27	4.22	4.05	3.76
	13.2	12	4.66	4.58	4.40	4.13	3.77
	16.9	15.5	5.02	4.88	4.50	4.14	3.76

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			3.22	2.32	3.41	2.43	3.51	2.42	3.60	2.40	3.81	2.50	4.02	2.46
	12			3.18	2.30	3.36	2.41	3.46	2.40	3.55	2.38	3.76	2.48	3.97	2.44
	14			3.13	2.28	3.32	2.39	3.41	2.37	3.51	2.36	3.70	2.46	3.91	2.42
	16			3.09	2.26	3.27	2.37	3.36	2.35	3.46	2.34	3.65	2.44	3.86	2.40
	18			3.05	2.24	3.23	2.35	3.32	2.33	3.41	2.32	3.60	2.42	3.80	2.38
Lo	20			3.01	2.22	3.18	2.33	3.27	2.31	3.36	2.30	3.55	2.39	3.75	2.36
	22			2.97	2.20	3.14	2.31	3.23	2.30	3.32	2.28	3.50	2.38	3.69	2.34
7	24			2.93	2.18	3.10	2.29	3.18	2.27	3.27	2.26	3.46	2.36	3.64	2.32
(m^3/min)	26	2.74	2.19	2.89	2.16	3.06	2.28	3.14	2.26	3.23	2.24	3.40	2.34	3.61	2.31
	28	2.70	2.17	2.85	2.15	3.01	2.25	3.09	2.24	3.18	2.22	3.35	2.32		
	30	2.66	2.15	2.81	2.13	2.97	2.24	3.05	2.22	3.13	2.20	3.30	2.30		
	32	2.62	2.13	2.77	2.11	2.92	2.21	3.00	2.20	3.08	2.18	3.25	2.28		
	34	2.57	2.11	2.72	2.09	2.87	2.19	2.96	2.18	3.03	2.16	3.20	2.26		
	35	2.55	2.10	2.70	2.08	2.85	2.18	2.93	2.17	3.01	2.15	3.17	2.25		
	36	2.50	2.07	2.64	2.05	2.79	2.16	2.87	2.15	2.94	2.13	3.07	2.22		
	38	2.40	2.02	2.53	2.00	2.67	2.11	2.75	2.10	2.79	2.07	2.88	2.15		
	39	2.34	1.99	2.48	1.98	2.61	2.08	2.69	2.07	2.72	2.04	2.78	2.11		
	41	2.21	1.93	2.33	1.91	2.44	2.01	2.50	2.00	2.52	1.96	2.54	2.03		
	43	2.03	1.85	2.15	1.83	2.23	1.93	2.25	1.90	2.25	1.86	2.27	1.92		

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	1.73	1.72	1.70	1.69	1.68
	-17.8	-18	1.84	1.83	1.82	1.80	1.79
	-15.7	-16	1.96	1.95	1.93	1.91	1.90
	-13.7	-14	2.08	2.06	2.05	2.03	2.01
	-11.7	-12	2.20	2.19	2.17	2.15	2.14
Lo	-9.6	-10	2.33	2.31	2.30	2.28	2.26
	-7.5	-8	2.47	2.45	2.44	2.42	2.40
7	-5.5	-6	2.61	2.59	2.58	2.55	2.53
(m^3/min)	-3.4	-4	2.69	2.66	2.64	2.62	2.60
	-1.3	-2	2.68	2.66	2.64	2.61	2.59
	0.8	0	2.68	2.65	2.63	2.60	2.57
	3.9	3	2.92	2.88	2.86	2.83	2.79
	7.0	6	3.16	3.13	3.09	3.04	2.95
	10.1	9	3.42	3.39	3.35	3.22	2.99
	13.2	12	3.70	3.64	3.49	3.28	2.99
	16.9	15.5	3.99	3.88	3.58	3.29	2.99

Note(1) This data shows average statuses out of those possible to occur in the system control.
(Depending on controls, there may be ranges where the operation is not conducted continuously.)
(2) Symbols are as follows
TC :Total cooling capacity(kW)
SHC :Sensible heat capacity(kW)

PJF000Z766 A

Model **FDTC56KXZE1-W** Cooling Mode (kW)

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			6.15	4.49	6.50	4.70	6.69	4.67	6.88	4.64	7.27	4.83	7.68	4.76
	12			6.06	4.44	6.42	4.67	6.60	4.63	6.79	4.60	7.17	4.80	7.57	4.72
	14			5.98	4.41	6.33	4.63	6.51	4.59	6.69	4.56	7.07	4.76	7.47	4.68
	16			5.90	4.37	6.24	4.59	6.42	4.56	6.60	4.52	6.97	4.72	7.36	4.64
	18			5.82	4.33	6.16	4.55	6.34	4.52	6.51	4.49	6.88	4.69	7.26	4.61
P-Hi	20			5.75	4.29	6.08	4.51	6.25	4.49	6.42	4.45	6.78	4.65	7.15	4.57
	22			5.67	4.26	5.99	4.47	6.16	4.44	6.33	4.42	6.69	4.61	7.05	4.54
14	24			5.60	4.22	5.91	4.44	6.08	4.41	6.25	4.38	6.60	4.57	6.95	4.50
(m^3/min)	26	5.22	4.23	5.52	4.19	5.83	4.40	5.99	4.37	6.16	4.34	6.50	4.54	6.89	4.48
	28	5.15	4.20	5.44	4.15	5.75	4.37	5.91	4.34	6.07	4.30	6.40	4.50		
	30	5.08	4.16	5.37	4.12	5.66	4.33	5.82	4.30	5.98	4.27	6.30	4.47		
	32	4.99	4.12	5.28	4.08	5.58	4.30	5.73	4.26	5.89	4.23	6.20	4.43		
	34	4.91	4.08	5.19	4.04	5.49	4.26	5.64	4.23	5.79	4.20	6.10	4.39		
	35	4.87	4.06	5.15	4.02	5.44	4.24	5.60	4.21	5.75	4.18	6.05	4.37		
	36	4.77	4.01	5.04	3.97	5.33	4.19	5.48	4.16	5.61	4.13	5.87	4.31		
	38	4.57	3.91	4.83	3.87	5.10	4.09	5.25	4.07	5.33	4.02	5.49	4.17		
	39	4.48	3.87	4.72	3.82	4.98	4.04	5.13	4.02	5.20	3.96	5.30	4.10		
	41	4.21	3.74	4.45	3.70	4.66	3.91	4.77	3.88	4.81	3.82	4.85	3.95		
	43	3.88	3.59	4.11	3.55	4.26	3.75	4.29	3.69	4.30	3.63	4.33	3.78		

Heating Mode (kW)

Air flow	Outdoor air temperature °CDB	Outdoor air temperature °CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	3.52	3.50	3.47	3.44	3.42
	-17.8	-18	3.76	3.73	3.70	3.67	3.64
	-15.7	-16	3.99	3.96	3.92	3.90	3.86
	-13.7	-14	4.23	4.20	4.17	4.14	4.10
	-11.7	-12	4.48	4.46	4.42	4.39	4.35
P-Hi	-9.6	-10	4.74	4.71	4.68	4.64	4.60
	-7.5	-8	5.03	4.99	4.96	4.92	4.88
14	-5.5	-6	5.32	5.28	5.25	5.20	5.16
(m^3/min)	-3.4	-4	5.47	5.42	5.38	5.33	5.29
	-1.3	-2	5.46	5.41	5.37	5.32	5.26
	0.8	0	5.46	5.40	5.36	5.30	5.24
	3.9	3	5.94	5.87	5.82	5.75	5.69
	7.0	6	6.43	6.36	6.30	6.18	6.01
	10.1	9	6.97	6.90	6.82	6.56	6.08
	13.2	12	7.54	7.40	7.11	6.69	6.10
	16.9	15.5	8.12	7.89	7.28	6.69	6.08

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			5.51	3.97	5.84	4.16	6.00	4.13	6.17	4.10	6.52	4.27	6.89	4.20
	12			5.44	3.93	5.76	4.12	5.92	4.09	6.09	4.06	6.43	4.23	6.79	4.16
	14			5.37	3.89	5.68	4.09	5.84	4.06	6.00	4.03	6.34	4.20	6.70	4.13
	16			5.30	3.86	5.60	4.05	5.76	4.02	5.92	3.99	6.26	4.16	6.61	4.10
	18			5.23	3.83	5.53	4.02	5.69	3.99	5.84	3.96	6.17	4.13	6.51	4.06
Hi	20			5.16	3.79	5.45	3.98	5.61	3.96	5.76	3.93	6.09	4.10	6.42	4.03
	22			5.09	3.76	5.38	3.95	5.53	3.93	5.68	3.90	6.00	4.06	6.33	3.99
12	24			5.02	3.73	5.31	3.92	5.45	3.89	5.60	3.86	5.92	4.03	6.24	3.96
(m^3/min)	26	4.69	3.74	4.96	3.70	5.23	3.88	5.38	3.86	5.53	3.83	5.83	4.00	6.18	3.94
	28	4.62	3.70	4.89	3.67	5.16	3.85	5.30	3.82	5.45	3.80	5.74	3.96		
	30	4.56	3.67	4.82	3.63	5.08	3.82	5.22	3.79	5.37	3.76	5.65	3.93		
	32	4.48	3.63	4.74	3.60	5.00	3.78	5.14	3.76	5.28	3.73	5.57	3.90		
	34	4.41	3.60	4.66	3.56	4.92	3.75	5.06	3.72	5.20	3.70	5.48	3.87		
	35	4.37	3.58	4.62	3.54	4.88	3.73	5.03	3.71	5.16	3.68	5.43	3.85		
	36	4.28	3.54	4.52	3.49	4.78	3.69	4.92	3.67	5.03	3.63	5.26	3.78		
	38	4.11	3.45	4.33	3.41	4.57	3.60	4.71	3.58	4.79	3.54	4.93	3.66		
	39	4.02	3.41	4.24	3.37	4.47	3.56	4.61	3.54	4.66	3.49	4.76	3.60		
	41	3.78	3.30	3.99	3.26	4.19	3.44	4.28	3.41	4.31	3.35	4.35	3.46		
	43	3.48	3.15	3.68	3.12	3.82	3.29	3.85	3.24	3.86	3.18	3.89	3.31		

Air flow	Outdoor air temperature °CDB	Outdoor air temperature °CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	3.11	3.09	3.06	3.03	3.01
	-17.8	-18	3.31	3.29	3.26	3.23	3.21
	-15.7	-16	3.51	3.49	3.46	3.43	3.40
	-13.7	-14	3.73	3.70	3.67	3.64	3.61
	-11.7	-12	3.95	3.93	3.90	3.86	3.83
Hi	-9.6	-10	4.18	4.15	4.12	4.08	4.05
	-7.5	-8	4.43	4.40	4.37	4.33	4.30
12	-5.5	-6	4.69	4.65	4.62	4.58	4.55
(m^3/min)	-3.4	-4	4.82	4.78	4.74	4.70	4.66
	-1.3	-2	4.82	4.77	4.73	4.68	4.64
	0.8	0	4.81	4.76	4.72	4.67	4.62
	3.9	3	5.23	5.17	5.13	5.07	5.01
	7.0	6	5.67	5.61	5.55	5.45	5.29
	10.1	9	6.14	6.08	6.01	5.78	5.36
	13.2	12	6.64	6.52	6.27	5.89	5.37
	16.9	15.5	7.16	6.95	6.41	5.90	5.36

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			4.81	3.42	5.09	3.57	5.24	3.55	5.39	3.53	5.69	3.65	6.01	3.59
	12			4.75	3.39	5.02	3.54	5.17	3.52	5.31	3.49	5.62	3.63	5.93	3.56
	14			4.69	3.36	4.96	3.51	5.10	3.49	5.24	3.46	5.54	3.59	5.85	3.53
	16			4.62	3.33	4.89	3.48	5.03	3.46	5.17	3.43	5.46	3.56	5.77	3.50
	18			4.56	3.30	4.82	3.45	4.96	3.43	5.10	3.41	5.39	3.54	5.68	3.47
Me	20			4.50	3.26	4.76	3.42	4.90	3.40	5.03	3.38	5.31	3.50	5.60	3.44
	22			4.44	3.24	4.70	3.39	4.83	3.37	4.96	3.34	5.24	3.48	5.52	3.41
10	24			4.39	3.21	4.63	3.36	4.76	3.34	4.89	3.31	5.17	3.45	5.45	3.39
(m^3/min)	26	4.09	3.21	4.33	3.18	4.57	3.33	4.69	3.31	4.82	3.28	5.09	3.42	5.40	3.37
	28	4.03	3.18	4.26	3.15	4.50	3.30	4.63	3.28	4.75	3.26	5.01	3.39		
	30	3.98	3.16	4.20	3.12	4.44	3.28	4.56	3.25	4.68	3.23	4.94	3.36		
	32	3.91	3.12	4.14	3.09	4.37	3.25	4.49	3.21	4.61	3.19	4.86	3.33		
	34	3.85	3.09	4.07	3.06	4.30	3.21	4.42	3.18	4.54	3.16	4.78	3.30		
	35	3.82	3.08	4.03	3.04	4.26	3.19	4.39	3.17	4.50	3.14	4.74	3.29		
	36	3.74	3.04	3.95	3.00	4.17	3.15	4.29	3.13	4.39	3.10	4.59	3.23		
	38	3.58	2.96	3.78	2.93	3.99	3.07	4.11	3.06	4.18	3.02	4.30	3.13		
	39	3.51	2.93	3.70	2.89	3.90	3.04	4.02	3.02	4.07	2.97	4.15	3.07		
	41	3.30	2.82	3.48	2.79	3.65	2.93	3.74	2.91	3.77	2.86	3.80	2.95		
	43	3.04	2.70	3.22	2.67	3.34	2.80	3.36	2.76	3.37	2.71	3.39	2.81		

Air flow	Outdoor air temperature °CDB	Outdoor air temperature °CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	2.66	2.64	2.61	2.59	2.57
	-17.8	-18	2.83	2.81	2.79	2.77	2.74
	-15.7	-16	3.00	2.98	2.96	2.94	2.91
	-13.7	-14	3.19	3.17	3.14	3.12	3.09
	-11.7	-12	3.38	3.36	3.33	3.30	3.28
Me	-9.6	-10	3.57	3.55	3.53	3.49	3.47
	-7.5	-8	3.79	3.76	3.74	3.70	3.68
10	-5.5	-6	4.01	3.98	3.95	3.92	3.89
(m^3/min)	-3.4	-4	4.12	4.08	4.06	4.02	3.98
	-1.3	-2	4.12	4.08	4.05	4.01	3.97
	0.8	0	4.12	4.07	4.04	4.00	3.95
	3.9	3	4.47	4.42	4.39	4.34	4.28
	7.0	6	4.85	4.79	4.75	4.66	4.53
	10.1	9	5.25	5.20	5.14	4.94	4.58
	13.2	12	5.68	5.58	5.36	5.04	4.59
	16.9	15.5	6.12	5.94	5.48	5.04	4.58

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			4.02	2.82	4.26	2.95	4.38	2.93	4.50	2.91	4.76	3.01	5.03	2.97
	12			3.97	2.80	4.20	2.92	4.32	2.90	4.44	2.88	4.70	2.99	4.96	2.94
	14			3.92	2.77	4.14	2.89	4.26	2.87	4.38	2.85	4.63	2.96	4.89	2.91
	16			3.87	2.75	4.09	2.87	4.21	2.85	4.32	2.83	4.57	2.94	4.82	2.89
	18			3.81	2.72	4.03	2.84	4.15	2.82	4.26	2.80	4.50	2.91	4.75	2.86
Lo	20			3.76	2.69	3.98	2.82	4.09	2.80	4.21	2.78	4.44	2.89	4.68	2.84
	22			3.71	2.67	3.93	2.80	4.04	2.78	4.15	2.75	4.38	2.86	4.62	2.81
8	24			3.67	2.65	3.87	2.77	3.98	2.75	4.09	2.73	4.32	2.84	4.55	2.79
(m^3/min)	26	3.42	2.65	3.62	2.63	3.82	2.75	3.92	2.72	4.03	2.70	4.26	2.82	4.51	2.77
	28	3.37	2.62	3.57	2.60	3.76	2.72	3.87	2.70	3.97	2.68	4.19	2.79		
	30	3.32	2.60	3.51	2.57	3.71	2.70	3.81	2.68	3.92	2.66	4.13	2.77		
	32	3.27	2.57	3.46	2.55	3.65	2.67	3.75	2.65	3.85	2.63	4.06	2.74		
	34	3.22	2.55	3.40	2.52	3.59	2.64	3.69	2.62	3.79	2.60	4.00	2.72		
	35	3.19	2.53	3.37	2.50	3.56	2.63	3.67	2.61	3.76	2.59	3.96	2.70		
	36	3.12	2.50	3.30	2.47	3.49	2.60	3.59	2.58	3.67	2.56	3.84	2.66		
	38	3.00	2.44	3.16	2.40	3.34	2.53	3.44	2.52	3.49	2.48	3.59	2.55		
	39	2.93	2.40	3.09	2.37	3.26	2.50	3.36	2.48	3.40	2.44	3.47	2.51		
	41	2.76	2.32	2.91	2.29	3.05	2.41	3.13	2.39	3.15	2.35	3.18	2.40		
	43	2.54	2.21	2.69	2.19	2.79	2.30	2.81	2.26	2.82	2.22	2.84	2.29		

Air flow	Outdoor air temperature °CDB	Outdoor air temperature °CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	2.18	2.16	2.14	2.12	2.11
	-17.8	-18	2.32	2.30	2.28	2.26	2.24
	-15.7	-16	2.46	2.44	2.42	2.40	2.38
	-13.7	-14	2.61	2.59	2.57	2.55	2.53
	-11.7	-12	2.77	2.75	2.73	2.71	2.68
Lo	-9.6	-10	2.92	2.91	2.89	2.86	2.84
	-7.5	-8	3.10	3.08	3.06	3.03	3.01
8	-5.5	-6	3.28	3.26	3.24	3.21	3.18
(m^3/min)	-3.4	-4	3.37	3.34	3.32	3.29	3.26
	-1.3	-2	3.37	3.34	3.31	3.28	3.25
	0.8	0	3.37	3.33	3.31	3.27	3.23
	3.9	3	3.66	3.62	3.59	3.55	3.51
	7.0	6	3.97	3.93	3.89	3.81	3.71
	10.1	9	4.30	4.26	4.21	4.05	3.75
	13.2	12	4.65	4.57	4.39	4.13	3.76
	16.9	15.5	5.01	4.87	4.49	4.13	3.75

Note(1) This data shows average statuses out of those possible to occur in the system control.
(Depending on controls, there may be ranges where the operation is not conducted continuously.)
(2) Symbols are as follows
TC :Total cooling capacity(kW)
SHC :Sensible heat capacity(kW)

PJF000Z766 A

(3) Wall mounted type (FDK)

Model **FDK15KXZE1-W** Cooling Mode (kW)

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			1.65	1.27	1.74	1.33	1.79	1.33	1.84	1.32	1.95	1.38	2.06	1.36
	12			1.62	1.25	1.72	1.33	1.77	1.32	1.82	1.31	1.92	1.37	2.03	1.35
	14			1.60	1.24	1.69	1.31	1.74	1.31	1.79	1.30	1.89	1.36	2.00	1.34
	16			1.58	1.24	1.67	1.30	1.72	1.30	1.77	1.29	1.87	1.35	1.97	1.33
	18			1.56	1.23	1.65	1.30	1.70	1.29	1.74	1.28	1.84	1.35	1.94	1.32
P-Hi	20			1.54	1.22	1.63	1.29	1.67	1.28	1.72	1.27	1.82	1.34	1.92	1.32
	22			1.52	1.21	1.61	1.28	1.65	1.27	1.70	1.26	1.79	1.32	1.89	1.31
5.7	24			1.50	1.20	1.58	1.27	1.63	1.26	1.67	1.25	1.77	1.32	1.86	1.30
(m^3/min)	26	1.40	1.20	1.48	1.19	1.56	1.26	1.60	1.25	1.65	1.24	1.74	1.31	1.85	1.29
	28	1.38	1.20	1.46	1.18	1.54	1.25	1.58	1.24	1.63	1.23	1.71	1.29		
	30	1.36	1.18	1.44	1.17	1.52	1.24	1.56	1.23	1.60	1.22	1.69	1.29		
	32	1.34	1.18	1.41	1.16	1.49	1.23	1.54	1.22	1.58	1.21	1.66	1.28		
	34	1.32	1.17	1.39	1.15	1.47	1.22	1.51	1.21	1.55	1.20	1.63	1.27		
	35	1.30	1.16	1.38	1.15	1.46	1.22	1.50	1.21	1.54	1.20	1.62	1.27		
	36	1.28	1.15	1.35	1.14	1.43	1.20	1.47	1.20	1.50	1.19	1.57	1.25		
	38	1.23	1.12	1.29	1.11	1.37	1.18	1.41	1.17	1.43	1.16	1.47	1.21		
	39	1.20	1.11	1.27	1.10	1.33	1.16	1.38	1.16	1.39	1.14	1.42	1.19		
	41	1.13	1.08	1.19	1.06	1.25	1.13	1.28	1.13	1.29	1.11	1.30	1.16		
	43	1.04	1.00	1.10	1.03	1.14	1.09	1.15	1.07	1.15	1.06	1.16	1.11		

Heating Mode (kW)

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	0.95	0.94	0.94	0.93	0.92
	-17.8	-18	1.01	1.01	1.00	0.99	0.98
	-15.7	-16	1.08	1.07	1.06	1.05	1.04
	-13.7	-14	1.14	1.13	1.12	1.12	1.11
	-11.7	-12	1.21	1.20	1.19	1.18	1.17
P-Hi	-9.6	-10	1.28	1.27	1.26	1.25	1.24
	-7.5	-8	1.36	1.35	1.34	1.33	1.32
5.7	-5.5	-6	1.44	1.42	1.42	1.40	1.39
(m^3/min)	-3.4	-4	1.48	1.46	1.45	1.44	1.43
	-1.3	-2	1.47	1.46	1.45	1.43	1.42
	0.8	0	1.47	1.46	1.45	1.43	1.41
	3.9	3	1.60	1.58	1.57	1.55	1.53
	7.0	6	1.74	1.72	1.70	1.67	1.62
	10.1	9	1.88	1.86	1.84	1.77	1.64
	13.2	12	2.03	2.00	1.92	1.80	1.64
	16.9	15.5	2.19	2.13	1.96	1.81	1.64

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			1.49	1.14	1.58	1.20	1.63	1.19	1.67	1.18	1.77	1.24	1.87	1.22
	12			1.47	1.13	1.56	1.19	1.61	1.19	1.65	1.18	1.74	1.23	1.84	1.21
	14			1.45	1.12	1.54	1.18	1.58	1.17	1.63	1.17	1.72	1.22	1.82	1.21
	16			1.44	1.11	1.52	1.17	1.56	1.16	1.60	1.15	1.70	1.21	1.79	1.20
	18			1.42	1.11	1.50	1.16	1.54	1.15	1.58	1.15	1.67	1.20	1.76	1.18
Hi	20			1.40	1.10	1.48	1.16	1.52	1.15	1.56	1.14	1.65	1.20	1.74	1.18
	22			1.38	1.09	1.46	1.15	1.50	1.14	1.54	1.13	1.63	1.19	1.71	1.17
5.0	24			1.36	1.08	1.44	1.14	1.48	1.13	1.52	1.12	1.60	1.18	1.69	1.16
(m^3/min)	26	1.27	1.08	1.34	1.07	1.42	1.13	1.46	1.12	1.50	1.12	1.58	1.17	1.67	1.16
	28	1.25	1.07	1.32	1.06	1.40	1.12	1.44	1.12	1.48	1.11	1.56	1.16		
	30	1.23	1.06	1.31	1.05	1.38	1.11	1.42	1.11	1.45	1.10	1.53	1.15		
	32	1.21	1.05	1.28	1.04	1.36	1.11	1.39	1.10	1.43	1.09	1.51	1.14		
	34	1.19	1.04	1.26	1.03	1.33	1.09	1.37	1.09	1.41	1.08	1.48	1.13		
	35	1.18	1.04	1.25	1.03	1.32	1.09	1.36	1.08	1.40	1.08	1.47	1.13		
	36	1.16	1.03	1.23	1.02	1.30	1.08	1.33	1.07	1.36	1.06	1.43	1.12		
	38	1.11	1.00	1.17	0.99	1.24	1.06	1.28	1.05	1.30	1.04	1.33	1.08		
	39	1.09	1.00	1.15	0.98	1.21	1.04	1.25	1.04	1.26	1.02	1.29	1.07		
	41	1.02	0.96	1.08	0.95	1.13	1.01	1.16	1.00	1.17	0.99	1.18	1.03		
	43	0.94	0.90	1.00	0.92	1.04	0.98	1.04	0.96	1.05	0.95	1.05	0.99		

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	0.86	0.86	0.85	0.84	0.83
	-17.8	-18	0.92	0.91	0.90	0.90	0.89
	-15.7	-16	0.97	0.97	0.96	0.95	0.94
	-13.7	-14	1.03	1.03	1.02	1.01	1.00
	-11.7	-12	1.10	1.09	1.08	1.07	1.06
Hi	-9.6	-10	1.16	1.15	1.14	1.13	1.12
	-7.5	-8	1.23	1.22	1.21	1.20	1.19
5.0	-5.5	-6	1.30	1.29	1.28	1.27	1.26
(m^3/min)	-3.4	-4	1.34	1.32	1.31	1.30	1.29
	-1.3	-2	1.33	1.32	1.31	1.30	1.29
	0.8	0	1.33	1.32	1.31	1.30	1.28
	3.9	3	1.45	1.43	1.42	1.41	1.39
	7.0	6	1.57	1.55	1.54	1.51	1.47
	10.1	9	1.70	1.69	1.67	1.60	1.49
	13.2	12	1.84	1.81	1.74	1.63	1.49
	16.9	15.5	1.98	1.93	1.78	1.63	1.49

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			1.38	1.04	1.46	1.10	1.50	1.09	1.54	1.08	1.63	1.13	1.72	1.12
	12			1.36	1.03	1.44	1.09	1.48	1.08	1.52	1.08	1.61	1.13	1.70	1.11
	14			1.34	1.02	1.42	1.08	1.46	1.08	1.50	1.07	1.59	1.12	1.67	1.09
	16			1.32	1.02	1.40	1.07	1.44	1.07	1.48	1.06	1.56	1.10	1.65	1.09
	18			1.31	1.01	1.38	1.06	1.42	1.06	1.46	1.05	1.54	1.10	1.63	1.08
Me	20			1.29	1.00	1.36	1.06	1.40	1.05	1.44	1.04	1.52	1.09	1.60	1.07
	22			1.27	0.99	1.34	1.05	1.38	1.04	1.42	1.03	1.50	1.09	1.58	1.07
4.5	24			1.26	0.99	1.33	1.04	1.36	1.03	1.40	1.03	1.48	1.08	1.56	1.06
(m^3/min)	26	1.17	0.99	1.24	0.98	1.31	1.03	1.34	1.03	1.38	1.02	1.46	1.07	1.54	1.06
	28	1.15	0.98	1.22	0.97	1.29	1.03	1.32	1.01	1.36	1.01	1.44	1.06		
	30	1.14	0.97	1.20	0.96	1.27	1.01	1.31	1.01	1.34	1.00	1.41	1.05		
	32	1.12	0.97	1.18	0.95	1.25	1.01	1.29	1.00	1.32	0.99	1.39	1.05		
	34	1.10	0.95	1.16	0.94	1.23	1.00	1.26	0.99	1.30	0.99	1.37	1.04		
	35	1.09	0.95	1.15	0.94	1.22	1.00	1.26	0.99	1.29	0.98	1.36	1.04		
	36	1.07	0.94	1.13	0.93	1.19	0.98	1.23	0.98	1.26	0.97	1.32	1.02		
	38	1.03	0.92	1.08	0.90	1.14	0.96	1.18	0.96	1.20	0.95	1.23	0.98		
	39	1.00	0.91	1.06	0.90	1.12	0.95	1.15	0.95	1.17	0.94	1.19	0.97		
	41	0.94	0.88	1.00	0.87	1.05	0.93	1.07	0.92	1.08	0.90	1.09	0.94		
	43	0.87	0.84	0.92	0.84	0.96	0.89	0.96	0.88	0.96	0.85	0.97	0.90		

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	0.79	0.79	0.78	0.77	0.77
	-17.8	-18	0.84	0.84	0.83	0.83	0.82
	-15.7	-16	0.90	0.89	0.88	0.88	0.87
	-13.7	-14	0.95	0.95	0.94	0.93	0.92
	-11.7	-12	1.01	1.00	0.99	0.99	0.98
Me	-9.6	-10	1.07	1.06	1.05	1.04	1.03
	-7.5	-8	1.13	1.12	1.12	1.11	1.10
4.5	-5.5	-6	1.20	1.19	1.18	1.17	1.16
(m^3/min)	-3.4	-4	1.23	1.22	1.21	1.20	1.19
	-1.3	-2	1.23	1.22	1.21	1.20	1.18
	0.8	0	1.23	1.22	1.21	1.19	1.18
	3.9	3	1.34	1.32	1.31	1.29	1.28
	7.0	6	1.45	1.43	1.42	1.39	1.35
	10.1	9	1.57	1.55	1.53	1.47	1.37
	13.2	12	1.70	1.66	1.60	1.50	1.37
	16.9	15.5	1.83	1.77	1.64	1.51	1.37

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			1.15	0.86	1.22	0.91	1.25	0.90	1.29	0.89	1.36	0.93	1.44	0.92
	12			1.14	0.86	1.20	0.90	1.24	0.89	1.27	0.89	1.34	0.92	1.42	0.91
	14			1.12	0.85	1.18	0.89	1.22	0.89	1.25	0.88	1.32	0.92	1.40	0.90
	16			1.11	0.84	1.17	0.88	1.20	0.88	1.24	0.87	1.31	0.91	1.38	0.90
	18			1.09	0.83	1.15	0.88	1.19	0.87	1.22	0.87	1.29	0.91	1.36	0.89
Lo	20			1.08	0.83	1.14	0.87	1.17	0.87	1.20	0.86	1.27	0.90	1.34	0.88
	22			1.06	0.82	1.12	0.86	1.15	0.85	1.19	0.85	1.25	0.89	1.32	0.88
3.6	24			1.05	0.81	1.11	0.86	1.14	0.85	1.17	0.84	1.24	0.89	1.30	0.87
(m^3/min)	26	0.98	0.82	1.03	0.81	1.09	0.85	1.12	0.84	1.15	0.84	1.22	0.88	1.29	0.87
	28	0.96	0.81	1.02	0.80	1.08	0.85	1.11	0.84	1.14	0.83	1.20	0.87		
	30	0.95	0.80	1.01	0.80	1.06	0.84	1.09	0.83	1.12	0.83	1.18	0.87		
	32	0.94	0.79	0.99	0.79	1.04	0.83	1.07	0.82	1.10	0.82	1.16	0.86		
	34	0.92	0.79	0.97	0.78	1.03	0.82	1.06	0.82	1.08	0.81	1.14	0.85		
	35	0.91	0.78	0.96	0.77	1.02	0.82	1.05	0.81	1.08	0.81	1.13	0.85		
	36	0.89	0.77	0.94	0.76	1.00	0.81	1.03	0.81	1.05	0.80	1.10	0.84		
	38	0.86	0.76	0.90	0.75	0.95	0.79	0.98	0.79	1.00	0.78	1.03	0.81		
	39	0.84	0.75	0.88	0.74	0.93	0.78	0.96	0.78	0.97	0.77	0.99	0.80		
	41	0.79	0.72	0.83	0.72	0.87	0.76	0.89	0.75	0.90	0.74	0.91	0.77		
	43	0.73	0.70	0.77	0.69	0.80	0.73	0.80	0.72	0.81	0.71	0.81	0.74		

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	0.73	0.73	0.72	0.71	0.71
	-17.8	-18	0.78	0.77	0.77	0.76	0.75
	-15.7	-16	0.83	0.82	0.81	0.81	0.80
	-13.7	-14	0.88	0.87	0.86	0.86	0.85
	-11.7	-12	0.93	0.92	0.92	0.91	0.90
Lo	-9.6	-10	0.98	0.98	0.97	0.96	0.95
	-7.5	-8	1.04	1.04	1.03	1.02	1.01
3.6	-5.5	-6	1.10	1.09	1.09	1.08	1.07
(m^3/min)	-3.4	-4	1.13	1.12	1.12	1.10	1.10
	-1.3	-2	1.13	1.12	1.11	1.10	1.09
	0.8	0	1.13	1.12	1.11	1.10	1.09
	3.9	3	1.23	1.22	1.21	1.19	1.18
	7.0	6	1.33	1.32	1.31	1.28	1.24
	10.1	9	1.44	1.43	1.41	1.36	1.26
	13.2	12	1.56	1.53	1.47	1.39	1.26
	16.9	15.5	1.68	1.63	1.51	1.39	1.26

Note(1) This data shows average statuses out of those possible to occur in the system control.
(Depending on controls, there may be ranges where the operation is not conducted continuously.)
(2) Symbols are as follows
TC :Total cooling capacity(kW)
SHC :Sensible heat capacity(kW)

PHA001Z179 A

Model **FDK22KXZE1-W** Cooling Mode (kW)

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			2.41	1.89	2.55	2.00	2.63	1.98	2.70	1.97	2.86	2.07	3.02	2.04
	12			2.38	1.88	2.52	1.98	2.59	1.97	2.67	1.96	2.82	2.06	2.97	2.02
	14			2.35	1.86	2.49	1.97	2.56	1.96	2.63	1.94	2.78	2.04	2.93	2.01
	16			2.32	1.84	2.45	1.96	2.52	1.94	2.59	1.93	2.74	2.03	2.89	2.00
	18			2.29	1.83	2.42	1.94	2.49	1.93	2.56	1.92	2.70	2.02	2.85	1.99
P-Hi	20			2.26	1.82	2.39	1.93	2.46	1.92	2.52	1.90	2.66	2.00	2.81	1.97
	22			2.23	1.81	2.36	1.92	2.42	1.90	2.49	1.89	2.63	1.99	2.77	1.96
8.5	24			2.20	1.80	2.32	1.90	2.39	1.89	2.45	1.88	2.59	1.97	2.73	1.94
(m^3/min)	26	2.05	1.80	2.17	1.78	2.29	1.89	2.35	1.87	2.42	1.86	2.55	1.96	2.71	1.94
	28	2.02	1.78	2.14	1.77	2.26	1.88	2.32	1.86	2.38	1.85	2.51	1.94		
	30	1.99	1.77	2.11	1.76	2.23	1.86	2.29	1.85	2.35	1.84	2.48	1.93		
	32	1.96	1.76	2.07	1.74	2.19	1.85	2.25	1.84	2.31	1.82	2.44	1.92		
	34	1.93	1.74	2.04	1.73	2.16	1.83	2.22	1.82	2.28	1.81	2.40	1.90		
	35	1.91	1.73	2.02	1.71	2.14	1.83	2.20	1.81	2.26	1.80	2.38	1.90		
	36	1.87	1.71	1.98	1.70	2.09	1.80	2.15	1.79	2.20	1.78	2.30	1.88		
	38	1.80	1.68	1.90	1.67	2.00	1.76	2.06	1.75	2.10	1.73	2.16	1.83		
	39	1.76	1.66	1.86	1.65	1.96	1.75	2.02	1.74	2.04	1.71	2.08	1.80		
	41	1.65	1.58	1.75	1.60	1.83	1.70	1.88	1.69	1.89	1.67	1.91	1.74		
	43	1.53	1.47	1.61	1.54	1.67	1.60	1.68	1.61	1.69	1.59	1.70	1.63		

Heating Mode (kW)

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	1.40	1.39	1.38	1.37	1.36
	-17.8	-18	1.49	1.48	1.47	1.46	1.44
	-15.7	-16	1.58	1.57	1.56	1.55	1.53
	-13.7	-14	1.68	1.67	1.65	1.64	1.63
	-11.7	-12	1.78	1.77	1.75	1.74	1.73
P-Hi	-9.6	-10	1.88	1.87	1.86	1.84	1.83
	-7.5	-8	2.00	1.98	1.97	1.95	1.94
8.5	-5.5	-6	2.11	2.10	2.08	2.06	2.05
(m^3/min)	-3.4	-4	2.17	2.15	2.14	2.12	2.10
	-1.3	-2	2.17	2.15	2.13	2.11	2.09
	0.8	0	2.17	2.14	2.13	2.10	2.08
	3.9	3	2.36	2.33	2.31	2.28	2.26
	7.0	6	2.55	2.52	2.50	2.45	2.38
	10.1	9	2.77	2.74	2.71	2.60	2.41
	13.2	12	2.99	2.94	2.82	2.65	2.42
	16.9	15.5	3.22	3.13	2.89	2.66	2.41

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			2.32	1.81	2.46	1.91	2.53	1.90	2.60	1.88	2.75	1.97	2.90	1.94
	12			2.29	1.79	2.42	1.89	2.49	1.88	2.56	1.87	2.71	1.96	2.86	1.93
	14			2.26	1.78	2.39	1.88	2.46	1.87	2.53	1.86	2.67	1.95	2.82	1.92
	16			2.23	1.77	2.36	1.87	2.42	1.85	2.49	1.84	2.63	1.93	2.78	1.90
	18			2.20	1.75	2.33	1.85	2.39	1.83	2.46	1.82	2.60	1.92	2.74	1.89
Hi	20			2.17	1.74	2.29	1.83	2.36	1.82	2.42	1.81	2.56	1.91	2.70	1.88
	22			2.14	1.73	2.26	1.82	2.33	1.81	2.39	1.80	2.53	1.90	2.66	1.87
8	24			2.11	1.71	2.23	1.81	2.29	1.80	2.36	1.79	2.49	1.88	2.63	1.86
(m^3/min)	26	1.97	1.72	2.09	1.70	2.20	1.80	2.26	1.79	2.32	1.78	2.45	1.87	2.60	1.85
	28	1.94	1.70	2.06	1.69	2.17	1.79	2.23	1.77	2.29	1.76	2.42	1.86		
	30	1.92	1.69	2.03	1.67	2.14	1.78	2.20	1.76	2.26	1.75	2.38	1.84		
	32	1.89	1.68	1.99	1.65	2.11	1.76	2.16	1.75	2.22	1.74	2.34	1.83		
	34	1.85	1.66	1.96	1.64	2.07	1.75	2.13	1.74	2.19	1.73	2.30	1.82		
	35	1.84	1.66	1.94	1.63	2.05	1.74	2.11	1.73	2.17	1.72	2.29	1.81		
	36	1.80	1.64	1.90	1.62	2.01	1.72	2.07	1.71	2.12	1.70	2.21	1.78		
	38	1.73	1.60	1.82	1.58	1.92	1.69	1.98	1.68	2.01	1.66	2.07	1.73		
	39	1.69	1.59	1.78	1.57	1.88	1.67	1.94	1.66	1.96	1.64	2.00	1.71		
	41	1.59	1.53	1.68	1.52	1.76	1.62	1.80	1.61	1.81	1.58	1.83	1.65		
	43	1.47	1.41	1.55	1.47	1.61	1.55	1.62	1.53	1.62	1.51	1.64	1.57		

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	1.33	1.32	1.31	1.30	1.29
	-17.8	-18	1.42	1.41	1.40	1.39	1.37
	-15.7	-16	1.51	1.50	1.48	1.47	1.46
	-13.7	-14	1.60	1.59	1.57	1.56	1.55
	-11.7	-12	1.69	1.68	1.67	1.66	1.64
Hi	-9.6	-10	1.79	1.78	1.77	1.75	1.74
	-7.5	-8	1.90	1.89	1.87	1.86	1.84
8	-5.5	-6	2.01	2.00	1.98	1.96	1.95
(m^3/min)	-3.4	-4	2.07	2.05	2.03	2.01	2.00
	-1.3	-2	2.07	2.04	2.03	2.01	1.99
	0.8	0	2.06	2.04	2.03	2.00	1.98
	3.9	3	2.24	2.22	2.20	2.17	2.15
	7.0	6	2.43	2.40	2.38	2.34	2.27
	10.1	9	2.63	2.61	2.58	2.48	2.30
	13.2	12	2.85	2.80	2.69	2.53	2.30
	16.9	15.5	3.07	2.98	2.75	2.53	2.30

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			1.89	1.44	2.00	1.51	2.06	1.50	2.12	1.49	2.24	1.56	2.37	1.54
	12			1.87	1.43	1.98	1.50	2.03	1.49	2.09	1.48	2.21	1.56	2.33	1.53
	14			1.84	1.42	1.95	1.49	2.01	1.48	2.06	1.47	2.18	1.54	2.30	1.52
	16			1.82	1.40	1.92	1.48	1.98	1.47	2.03	1.46	2.15	1.53	2.27	1.51
	18			1.79	1.39	1.90	1.47	1.95	1.46	2.01	1.45	2.12	1.52	2.24	1.50
Me	20			1.77	1.38	1.87	1.46	1.93	1.45	1.98	1.44	2.09	1.51	2.20	1.49
	22			1.75	1.37	1.85	1.45	1.90	1.44	1.95	1.43	2.06	1.50	2.17	1.47
6	24			1.72	1.36	1.82	1.44	1.87	1.43	1.92	1.42	2.03	1.49	2.14	1.47
(m^3/min)	26	1.61	1.37	1.70	1.35	1.80	1.43	1.85	1.42	1.90	1.41	2.00	1.48	2.12	1.46
	28	1.59	1.35	1.68	1.34	1.77	1.42	1.82	1.41	1.87	1.40	1.97	1.47		
	30	1.56	1.34	1.65	1.33	1.75	1.41	1.79	1.39	1.84	1.38	1.94	1.46		
	32	1.54	1.33	1.63	1.32	1.72	1.39	1.77	1.39	1.81	1.37	1.91	1.44		
	34	1.51	1.32	1.60	1.30	1.69	1.38	1.74	1.37	1.78	1.36	1.88	1.43		
	35	1.50	1.31	1.59	1.30	1.68	1.38	1.73	1.37	1.77	1.36	1.87	1.42		
	36	1.47	1.30	1.55	1.28	1.64	1.35	1.69	1.35	1.73	1.33	1.81	1.41		
	38	1.41	1.26	1.49	1.26	1.57	1.33	1.62	1.32	1.64	1.31	1.69	1.37		
	39	1.38	1.25	1.46	1.24	1.53	1.32	1.58	1.31	1.60	1.29	1.63	1.35		
	41	1.30	1.22	1.37	1.20	1.44	1.28	1.47	1.27	1.48	1.25	1.49	1.30		
	43	1.20	1.15	1.26	1.16	1.31	1.23	1.32	1.21	1.33	1.19	1.33	1.25		

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	1.05	1.04	1.03	1.02	1.01
	-17.8	-18	1.12	1.11	1.10	1.09	1.08
	-15.7	-16	1.18	1.18	1.17	1.16	1.15
	-13.7	-14	1.26	1.25	1.24	1.23	1.22
	-11.7	-12	1.33	1.32	1.31	1.30	1.29
Me	-9.6	-10	1.41	1.40	1.39	1.38	1.37
	-7.5	-8	1.49	1.48	1.47	1.46	1.45
6	-5.5	-6	1.58	1.57	1.56	1.54	1.53
(m^3/min)	-3.4	-4	1.62	1.61	1.60	1.58	1.57
	-1.3	-2	1.62	1.61	1.59	1.58	1.56
	0.8	0	1.62	1.60	1.59	1.57	1.56
	3.9	3	1.76	1.74	1.73	1.71	1.69
	7.0	6	1.91	1.89	1.87	1.84	1.78
	10.1	9	2.07	2.05	2.03	1.95	1.81
	13.2	12	2.24	2.20	2.11	1.98	1.81
	16.9	15.5	2.41	2.34	2.16	1.99	1.81

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			1.65	1.24	1.74	1.30	1.79	1.29	1.84	1.28	1.95	1.34	2.06	1.32
	12			1.62	1.22	1.72	1.29	1.77	1.28	1.82	1.28	1.92	1.33	2.03	1.31
	14			1.60	1.21	1.69	1.28	1.74	1.27	1.79	1.26	1.89	1.32	2.00	1.30
	16			1.58	1.21	1.67	1.27	1.72	1.26	1.77	1.25	1.87	1.31	1.97	1.29
	18			1.56	1.20	1.65	1.26	1.70	1.25	1.74	1.24	1.84	1.30	1.94	1.28
Lo	20			1.54	1.19	1.63	1.25	1.67	1.24	1.72	1.23	1.82	1.29	1.92	1.27
	22			1.52	1.18	1.61	1.24	1.65	1.23	1.70	1.22	1.79	1.28	1.89	1.26
5	24			1.50	1.17	1.58	1.23	1.63	1.23	1.67	1.21	1.77	1.27	1.86	1.25
(m^3/min)	26	1.40	1.17	1.48	1.16	1.56	1.22	1.60	1.21	1.65	1.21	1.74	1.26	1.84	1.24
	28	1.38	1.16	1.46	1.15	1.54	1.21	1.58	1.20	1.62	1.19	1.71	1.25		
	30	1.36	1.15	1.44	1.14	1.52	1.20	1.56	1.19	1.60	1.18	1.69	1.24		
	32	1.34	1.14	1.41	1.12	1.49	1.19	1.53	1.18	1.58	1.17	1.66	1.23		
	34	1.32	1.13	1.39	1.12	1.47	1.18	1.51	1.17	1.55	1.16	1.63	1.22		
	35	1.30	1.12	1.38	1.11	1.46	1.18	1.50	1.17	1.54	1.16	1.62	1.22		
	36	1.28	1.11	1.35	1.10	1.43	1.17	1.47	1.16	1.50	1.15	1.57	1.20		
	38	1.22	1.08	1.29	1.07	1.36	1.14	1.41	1.13	1.43	1.12	1.47	1.17		
	39	1.20	1.08	1.27	1.06	1.33	1.12	1.37	1.12	1.39	1.10	1.42	1.15		
	41	1.13	1.04	1.19	1.03	1.25	1.09	1.28	1.08	1.29	1.07	1.30	1.11		
	43	1.04	1.00	1.10	0.99	1.14	1.05	1.15	1.04	1.15	1.02	1.16	1.06		

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	0.89	0.89	0.88	0.87	0.86
	-17.8	-18	0.95	0.94	0.93	0.93	0.92
	-15.7	-16	1.01	1.00	0.99	0.99	0.98
	-13.7	-14	1.07	1.06	1.05	1.05	1.04
	-11.7	-12	1.13	1.13	1.12	1.11	1.10
Lo	-9.6	-10	1.20	1.19	1.18	1.17	1.16
	-7.5	-8	1.27	1.26	1.25	1.24	1.23
5	-5.5	-6	1.35	1.33	1.33	1.31	1.30
(m^3/min)	-3.4	-4	1.38	1.37	1.36	1.35	1.34
	-1.3	-2	1.38	1.37	1.36	1.34	1.33
	0.8	0	1.38	1.37	1.36	1.34	1.32
	3.9	3	1.50	1.48	1.47	1.45	1.44
	7.0	6	1.63	1.61	1.59	1.56	1.52
	10.1	9	1.76	1.74	1.73	1.66	1.54
	13.2	12	1.91	1.87	1.80	1.69	1.54
	16.9	15.5	2.05	1.99	1.84	1.69	1.54

Note(1) This data shows average statuses out of those possible to occur in the system control.
(Depending on controls, there may be ranges where the operation is not conducted continuously.)
(2) Symbols are as follows
TC :Total cooling capacity(kW)
SHC :Sensible heat capacity(kW)

PHA001Z179 A

Model **FDK28KXZE1-W** Cooling Mode (kW)

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			3.07	2.28	3.25	2.39	3.35	2.38	3.44	2.36	3.64	2.47	3.84	2.43
	12			3.03	2.26	3.21	2.38	3.30	2.36	3.39	2.34	3.59	2.45	3.79	2.41
	14			2.99	2.24	3.16	2.35	3.25	2.34	3.35	2.33	3.54	2.43	3.73	2.39
	16			2.95	2.22	3.12	2.34	3.21	2.32	3.30	2.31	3.49	2.41	3.68	2.37
	18			2.91	2.20	3.08	2.31	3.17	2.30	3.26	2.29	3.44	2.39	3.63	2.36
P-Hi	20			2.87	2.18	3.04	2.29	3.12	2.28	3.21	2.26	3.39	2.37	3.58	2.34
	22			2.84	2.17	3.00	2.28	3.08	2.26	3.17	2.25	3.34	2.36	3.53	2.32
8.5	24			2.80	2.15	2.96	2.26	3.04	2.25	3.12	2.23	3.30	2.34	3.48	2.30
(m^3/min)	26	2.61	2.16	2.76	2.13	2.92	2.25	3.00	2.23	3.08	2.22	3.25	2.32	3.44	2.29
	28	2.58	2.14	2.72	2.11	2.87	2.23	2.95	2.21	3.03	2.20	3.20	2.30		
	30	2.54	2.12	2.68	2.09	2.83	2.21	2.91	2.20	2.99	2.18	3.15	2.28		
	32	2.50	2.10	2.64	2.08	2.79	2.19	2.87	2.18	2.94	2.16	3.10	2.27		
	34	2.46	2.08	2.60	2.06	2.74	2.17	2.82	2.16	2.90	2.14	3.05	2.24		
	35	2.44	2.07	2.57	2.04	2.72	2.16	2.80	2.15	2.87	2.13	3.03	2.23		
	36	2.39	2.05	2.52	2.02	2.66	2.14	2.74	2.13	2.80	2.11	2.93	2.20		
	38	2.29	2.00	2.42	1.97	2.55	2.09	2.62	2.08	2.67	2.06	2.74	2.13		
	39	2.24	1.97	2.36	1.95	2.49	2.07	2.57	2.06	2.60	2.03	2.65	2.11		
	41	2.11	1.91	2.22	1.89	2.33	2.00	2.39	1.99	2.40	1.95	2.43	2.03		
	43	1.94	1.84	2.05	1.82	2.13	1.91	2.14	1.88	2.15	1.85	2.17	1.94		

Heating Mode (kW)

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	1.79	1.78	1.76	1.75	1.74
	-17.8	-18	1.91	1.90	1.88	1.86	1.85
	-15.7	-16	2.02	2.01	1.99	1.98	1.96
	-13.7	-14	2.15	2.13	2.12	2.10	2.08
	-11.7	-12	2.28	2.26	2.25	2.23	2.21
P-Hi	-9.6	-10	2.41	2.39	2.38	2.35	2.34
	-7.5	-8	2.56	2.54	2.52	2.50	2.48
8.5	-5.5	-6	2.70	2.68	2.66	2.64	2.62
(m^3/min)	-3.4	-4	2.78	2.75	2.73	2.71	2.69
	-1.3	-2	2.78	2.75	2.73	2.70	2.67
	0.8	0	2.77	2.74	2.72	2.69	2.66
	3.9	3	3.02	2.98	2.96	2.92	2.89
	7.0	6	3.27	3.23	3.20	3.14	3.05
	10.1	9	3.54	3.50	3.47	3.33	3.09
	13.2	12	3.83	3.76	3.61	3.40	3.10
	16.9	15.5	4.13	4.01	3.70	3.40	3.09

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			2.95	2.17	3.12	2.28	3.22	2.27	3.31	2.26	3.49	2.35	3.69	2.32
	12			2.91	2.15	3.08	2.27	3.17	2.25	3.26	2.24	3.45	2.33	3.64	2.29
	14			2.87	2.13	3.04	2.25	3.13	2.24	3.22	2.22	3.40	2.31	3.59	2.27
	16			2.84	2.12	3.00	2.23	3.09	2.22	3.17	2.20	3.35	2.29	3.54	2.26
	18			2.80	2.10	2.96	2.21	3.04	2.20	3.13	2.18	3.30	2.28	3.49	2.24
Hi	20			2.76	2.08	2.92	2.20	3.00	2.18	3.09	2.17	3.26	2.27	3.44	2.23
	22			2.73	2.07	2.88	2.18	2.96	2.16	3.04	2.14	3.21	2.24	3.39	2.21
8	24			2.69	2.05	2.84	2.16	2.92	2.15	3.00	2.13	3.17	2.23	3.34	2.19
(m^3/min)	26	2.51	2.06	2.65	2.03	2.80	2.14	2.88	2.13	2.96	2.11	3.12	2.21	3.31	2.18
	28	2.47	2.04	2.62	2.02	2.76	2.12	2.84	2.11	2.92	2.10	3.08	2.19		
	30	2.44	2.02	2.58	2.00	2.72	2.10	2.80	2.09	2.87	2.07	3.03	2.18		
	32	2.40	2.00	2.54	1.98	2.68	2.08	2.75	2.07	2.83	2.05	2.98	2.16		
	34	2.36	1.98	2.49	1.96	2.64	2.07	2.71	2.05	2.78	2.04	2.93	2.14		
	35	2.34	1.97	2.47	1.95	2.61	2.06	2.69	2.05	2.76	2.03	2.91	2.13		
	36	2.29	1.95	2.42	1.93	2.56	2.04	2.63	2.03	2.70	2.01	2.82	2.10		
	38	2.20	1.91	2.32	1.88	2.45	1.99	2.52	1.98	2.56	1.96	2.64	2.04		
	39	2.15	1.88	2.27	1.86	2.39	1.97	2.47	1.96	2.50	1.93	2.55	2.00		
	41	2.02	1.82	2.14	1.80	2.24	1.91	2.29	1.89	2.31	1.86	2.33	1.93		
	43	1.87	1.75	1.97	1.73	2.05	1.83	2.06	1.80	2.07	1.77	2.08	1.84		

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	1.70	1.69	1.68	1.66	1.65
	-17.8	-18	1.82	1.80	1.79	1.77	1.76
	-15.7	-16	1.93	1.92	1.90	1.88	1.87
	-13.7	-14	2.05	2.03	2.02	2.00	1.98
	-11.7	-12	2.17	2.16	2.14	2.12	2.10
Hi	-9.6	-10	2.29	2.28	2.26	2.24	2.23
	-7.5	-8	2.43	2.42	2.40	2.38	2.36
8	-5.5	-6	2.57	2.55	2.54	2.51	2.50
(m^3/min)	-3.4	-4	2.64	2.62	2.60	2.58	2.56
	-1.3	-2	2.64	2.62	2.60	2.57	2.55
	0.8	0	2.64	2.61	2.59	2.56	2.53
	3.9	3	2.87	2.84	2.82	2.78	2.75
	7.0	6	3.11	3.08	3.05	2.99	2.91
	10.1	9	3.37	3.34	3.30	3.17	2.94
	13.2	12	3.65	3.58	3.44	3.23	2.95
	16.9	15.5	3.93	3.82	3.52	3.24	2.94

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			2.41	1.74	2.55	1.82	2.62	1.80	2.70	1.79	2.85	1.87	3.01	1.84
	12			2.38	1.72	2.52	1.80	2.59	1.79	2.66	1.78	2.81	1.85	2.97	1.82
	14			2.35	1.71	2.48	1.79	2.55	1.78	2.62	1.76	2.77	1.84	2.93	1.81
	16			2.31	1.69	2.45	1.77	2.52	1.76	2.59	1.75	2.73	1.82	2.89	1.79
	18			2.28	1.67	2.41	1.75	2.48	1.75	2.55	1.73	2.70	1.81	2.85	1.78
Me	20			2.25	1.66	2.38	1.74	2.45	1.73	2.52	1.72	2.66	1.79	2.80	1.76
	22			2.22	1.64	2.35	1.73	2.42	1.72	2.48	1.70	2.62	1.78	2.77	1.75
6	24			2.20	1.64	2.32	1.72	2.38	1.70	2.45	1.69	2.59	1.76	2.73	1.74
(m^3/min)	26	2.05	1.64	2.17	1.62	2.29	1.70	2.35	1.69	2.41	1.67	2.55	1.75	2.70	1.73
	28	2.02	1.62	2.13	1.60	2.25	1.69	2.32	1.68	2.38	1.66	2.51	1.73		
	30	1.99	1.61	2.10	1.59	2.22	1.67	2.28	1.66	2.34	1.65	2.47	1.72		
	32	1.96	1.59	2.07	1.57	2.19	1.66	2.25	1.65	2.31	1.63	2.43	1.70		
	34	1.93	1.58	2.04	1.56	2.15	1.64	2.21	1.63	2.27	1.62	2.39	1.69		
	35	1.91	1.57	2.02	1.55	2.13	1.63	2.20	1.62	2.25	1.61	2.37	1.68		
	36	1.87	1.55	1.98	1.53	2.09	1.61	2.15	1.60	2.20	1.59	2.30	1.66		
	38	1.79	1.51	1.89	1.49	2.00	1.57	2.06	1.56	2.09	1.54	2.15	1.60		
	39	1.75	1.49	1.85	1.47	1.95	1.55	2.01	1.54	2.04	1.52	2.08	1.58		
	41	1.65	1.44	1.74	1.42	1.83	1.50	1.87	1.49	1.88	1.47	1.90	1.51		
	43	1.52	1.38	1.61	1.36	1.67	1.44	1.68	1.42	1.69	1.39	1.70	1.44		

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	1.34	1.33	1.32	1.31	1.30
	-17.8	-18	1.43	1.42	1.40	1.39	1.38
	-15.7	-16	1.51	1.51	1.49	1.48	1.47
	-13.7	-14	1.61	1.60	1.58	1.57	1.56
	-11.7	-12	1.70	1.69	1.68	1.67	1.65
Me	-9.6	-10	1.80	1.79	1.78	1.76	1.75
	-7.5	-8	1.91	1.90	1.89	1.87	1.85
6	-5.5	-6	2.02	2.01	1.99	1.98	1.96
(m^3/min)	-3.4	-4	2.08	2.06	2.05	2.03	2.01
	-1.3	-2	2.08	2.06	2.04	2.02	2.00
	0.8	0	2.08	2.05	2.04	2.01	1.99
	3.9	3	2.26	2.23	2.21	2.19	2.16
	7.0	6	2.44	2.42	2.39	2.35	2.28
	10.1	9	2.65	2.62	2.59	2.49	2.31
	13.2	12	2.86	2.81	2.70	2.54	2.32
	16.9	15.5	3.09	3.00	2.77	2.54	2.31

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			2.09	1.49	2.22	1.56	2.28	1.55	2.34	1.54	2.48	1.60	2.62	1.58
	12			2.07	1.48	2.19	1.55	2.25	1.54	2.31	1.53	2.44	1.59	2.58	1.56
	14			2.04	1.47	2.16	1.54	2.22	1.52	2.28	1.51	2.41	1.58	2.54	1.55
	16			2.01	1.45	2.13	1.52	2.19	1.51	2.25	1.50	2.38	1.56	2.51	1.54
	18			1.98	1.44	2.10	1.51	2.16	1.50	2.22	1.49	2.34	1.54	2.47	1.52
Lo	20			1.96	1.43	2.07	1.49	2.13	1.49	2.19	1.47	2.31	1.53	2.44	1.51
	22			1.93	1.41	2.04	1.48	2.10	1.47	2.16	1.46	2.28	1.52	2.40	1.49
5	24			1.91	1.40	2.02	1.47	2.07	1.46	2.13	1.45	2.25	1.51	2.37	1.49
(m^3/min)	26	1.78	1.40	1.88	1.39	1.99	1.46	2.04	1.45	2.10	1.44	2.21	1.50	2.35	1.48
	28	1.76	1.40	1.86	1.38	1.96	1.44	2.01	1.43	2.07	1.42	2.18	1.49		
	30	1.73	1.38	1.83	1.37	1.93	1.43	1.98	1.42	2.04	1.41	2.15	1.47		
	32	1.70	1.37	1.80	1.35	1.90	1.42	1.95	1.41	2.01	1.40	2.11	1.46		
	34	1.67	1.35	1.77	1.34	1.87	1.41	1.92	1.40	1.97	1.38	2.08	1.45		
	35	1.66	1.34	1.75	1.33	1.85	1.40	1.91	1.39	1.96	1.38	2.06	1.44		
	36	1.63	1.33	1.72	1.31	1.82	1.38	1.87	1.37	1.91	1.36	2.00	1.42		
	38	1.56	1.29	1.65	1.28	1.74	1.35	1.79	1.34	1.82	1.33	1.87	1.37		
	39	1.53	1.28	1.61	1.26	1.70	1.33	1.75	1.32	1.77	1.31	1.81	1.35		
	41	1.44	1.24	1.52	1.22	1.59	1.29	1.63	1.28	1.64	1.25	1.65	1.29		
	43	1.32	1.18	1.40	1.17	1.45	1.23	1.46	1.21	1.47	1.19	1.48	1.23		

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	1.14	1.13	1.12	1.11	1.11
	-17.8	-18	1.22	1.21	1.20	1.19	1.18
	-15.7	-16	1.29	1.28	1.27	1.26	1.25
	-13.7	-14	1.37	1.36	1.35	1.34	1.33
	-11.7	-12	1.45	1.44	1.43	1.42	1.41
Lo	-9.6	-10	1.53	1.52	1.51	1.50	1.49
	-7.5	-8	1.63	1.62	1.61	1.59	1.58
5	-5.5	-6	1.72	1.71	1.70	1.68	1.67
(m^3/min)	-3.4	-4	1.77	1.75	1.74	1.73	1.71
	-1.3	-2	1.77	1.75	1.74	1.72	1.70
	0.8	0	1.77	1.75	1.73	1.72	1.70
	3.9	3	1.92	1.90	1.88	1.86	1.84
	7.0	6	2.08	2.06	2.04	2.00	1.94
	10.1	9	2.26	2.23	2.21	2.12	1.97
	13.2	12	2.44	2.40	2.30	2.16	1.97
	16.9	15.5	2.63	2.55	2.36	2.17	1.97

Note(1) This data shows average statuses out of those possible to occur in the system control.
(Depending on controls, there may be ranges where the operation is not conducted continuously.)
(2) Symbols are as follows
TC :Total cooling capacity(kW)
SHC :Sensible heat capacity(kW)

PHA001Z179 A

Model **FDK36KXZE1-W** Cooling Mode (kW)

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			3.95	2.91	4.18	3.06	4.30	3.04	4.42	3.02	4.67	3.15	4.94	3.10
	12			3.90	2.89	4.12	3.02	4.24	3.00	4.36	2.98	4.61	3.13	4.87	3.08
	14			3.85	2.87	4.07	3.00	4.18	2.98	4.30	2.96	4.55	3.10	4.80	3.05
	16			3.79	2.84	4.01	2.98	4.13	2.96	4.24	2.94	4.48	3.07	4.73	3.03
	18			3.74	2.82	3.96	2.96	4.07	2.94	4.19	2.92	4.42	3.05	4.67	2.99
P-Hi	20			3.69	2.79	3.91	2.94	4.02	2.92	4.13	2.90	4.36	3.02	4.60	2.97
	22			3.65	2.77	3.85	2.91	3.96	2.90	4.07	2.88	4.30	3.00	4.53	2.95
11	24			3.60	2.75	3.80	2.89	3.91	2.87	4.01	2.85	4.24	2.98	4.47	2.93
(m^3/min)	26	3.36	2.76	3.55	2.72	3.75	2.87	3.85	2.85	3.96	2.83	4.18	2.96	4.43	2.92
	28	3.31	2.73	3.50	2.70	3.70	2.85	3.80	2.83	3.90	2.81	4.11	2.94		
	30	3.26	2.71	3.45	2.68	3.64	2.82	3.74	2.80	3.84	2.78	4.05	2.92		
	32	3.21	2.68	3.39	2.65	3.58	2.80	3.68	2.78	3.78	2.76	3.99	2.89		
	34	3.16	2.65	3.34	2.63	3.53	2.77	3.63	2.76	3.72	2.73	3.92	2.87		
	35	3.13	2.64	3.31	2.61	3.50	2.76	3.60	2.75	3.69	2.72	3.89	2.85		
	36	3.07	2.61	3.24	2.58	3.42	2.73	3.52	2.71	3.61	2.69	3.77	2.81		
	38	2.94	2.55	3.11	2.52	3.28	2.67	3.37	2.65	3.43	2.62	3.53	2.72		
	39	2.88	2.52	3.04	2.49	3.20	2.62	3.30	2.61	3.34	2.58	3.41	2.69		
	41	2.71	2.44	2.86	2.41	3.00	2.55	3.07	2.53	3.09	2.49	3.12	2.57		
	43	2.50	2.34	2.64	2.32	2.74	2.45	2.76	2.41	2.76	2.37	2.78	2.47		

Heating Mode (kW)

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	2.24	2.22	2.20	2.19	2.17
	-17.8	-18	2.38	2.37	2.35	2.33	2.31
	-15.7	-16	2.53	2.51	2.49	2.47	2.45
	-13.7	-14	2.69	2.67	2.65	2.63	2.60
	-11.7	-12	2.85	2.83	2.81	2.78	2.76
P-Hi	-9.6	-10	3.01	2.99	2.97	2.94	2.92
	-7.5	-8	3.19	3.17	3.15	3.12	3.10
11	-5.5	-6	3.38	3.35	3.33	3.30	3.28
(m^3/min)	-3.4	-4	3.47	3.44	3.42	3.38	3.36
	-1.3	-2	3.47	3.44	3.41	3.38	3.34
	0.8	0	3.47	3.43	3.40	3.37	3.33
	3.9	3	3.77	3.73	3.70	3.65	3.61
	7.0	6	4.08	4.04	4.00	3.92	3.81
	10.1	9	4.43	4.38	4.33	4.16	3.86
	13.2	12	4.79	4.70	4.51	4.24	3.87
	16.9	15.5	5.16	5.01	4.62	4.25	3.86

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			3.67	2.69	3.89	2.83	4.00	2.81	4.11	2.79	4.34	2.91	4.59	2.86
	12			3.62	2.66	3.83	2.80	3.94	2.78	4.05	2.76	4.28	2.88	4.52	2.84
	14			3.57	2.64	3.78	2.78	3.89	2.76	4.00	2.74	4.23	2.86	4.46	2.81
	16			3.53	2.62	3.73	2.76	3.84	2.74	3.94	2.72	4.17	2.84	4.40	2.79
	18			3.48	2.60	3.68	2.73	3.79	2.72	3.89	2.70	4.11	2.82	4.34	2.77
Hi	20			3.43	2.58	3.63	2.71	3.73	2.69	3.84	2.68	4.05	2.79	4.27	2.75
	22			3.39	2.56	3.58	2.69	3.68	2.67	3.78	2.65	4.00	2.78	4.21	2.73
10	24			3.35	2.54	3.53	2.66	3.63	2.64	3.73	2.62	3.94	2.75	4.16	2.71
(m^3/min)	26	3.12	2.54	3.30	2.52	3.49	2.64	3.58	2.62	3.68	2.60	3.88	2.73	4.12	2.69
	28	3.08	2.52	3.25	2.49	3.44	2.63	3.53	2.61	3.63	2.59	3.82	2.71		
	30	3.03	2.50	3.21	2.48	3.39	2.61	3.48	2.59	3.57	2.57	3.77	2.69		
	32	2.98	2.47	3.15	2.45	3.33	2.58	3.43	2.56	3.52	2.54	3.71	2.65		
	34	2.94	2.45	3.10	2.42	3.28	2.56	3.37	2.54	3.46	2.52	3.65	2.63		
	35	2.91	2.44	3.08	2.41	3.25	2.54	3.35	2.53	3.43	2.51	3.62	2.63		
	36	2.85	2.41	3.01	2.38	3.18	2.52	3.28	2.51	3.35	2.48	3.51	2.59		
	38	2.73	2.35	2.89	2.33	3.05	2.46	3.14	2.45	3.19	2.42	3.28	2.51		
	39	2.67	2.32	2.82	2.29	2.98	2.43	3.07	2.42	3.11	2.38	3.17	2.47		
	41	2.52	2.25	2.66	2.22	2.79	2.35	2.85	2.33	2.87	2.29	2.90	2.38		
	43	2.32	2.16	2.45	2.13	2.55	2.25	2.56	2.21	2.57	2.18	2.59	2.27		

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	2.07	2.05	2.03	2.02	2.00
	-17.8	-18	2.20	2.19	2.17	2.15	2.13
	-15.7	-16	2.34	2.32	2.30	2.28	2.26
	-13.7	-14	2.48	2.46	2.44	2.42	2.40
	-11.7	-12	2.63	2.61	2.59	2.57	2.55
Hi	-9.6	-10	2.78	2.76	2.74	2.72	2.70
	-7.5	-8	2.95	2.93	2.91	2.88	2.86
10	-5.5	-6	3.12	3.09	3.07	3.05	3.02
(m^3/min)	-3.4	-4	3.20	3.18	3.15	3.12	3.10
	-1.3	-2	3.20	3.17	3.15	3.12	3.08
	0.8	0	3.20	3.17	3.14	3.11	3.07
	3.9	3	3.48	3.44	3.41	3.37	3.33
	7.0	6	3.77	3.73	3.69	3.62	3.52
	10.1	9	4.09	4.04	4.00	3.84	3.56
	13.2	12	4.42	4.34	4.17	3.92	3.57
	16.9	15.5	4.76	4.62	4.27	3.92	3.56

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			3.07	2.23	3.25	2.33	3.34	2.32	3.43	2.30	3.63	2.39	3.83	2.35
	12			3.03	2.21	3.20	2.31	3.29	2.29	3.39	2.28	3.58	2.37	3.78	2.34
	14			2.99	2.19	3.16	2.29	3.25	2.28	3.34	2.26	3.53	2.36	3.73	2.32
	16			2.95	2.17	3.12	2.27	3.21	2.25	3.29	2.23	3.48	2.34	3.67	2.30
	18			2.91	2.15	3.07	2.25	3.16	2.23	3.25	2.22	3.43	2.32	3.62	2.28
Me	20			2.87	2.13	3.03	2.23	3.12	2.22	3.21	2.20	3.38	2.30	3.57	2.26
	22			2.83	2.11	2.99	2.21	3.08	2.20	3.16	2.19	3.34	2.28	3.52	2.25
8	24			2.79	2.09	2.95	2.20	3.03	2.18	3.12	2.17	3.29	2.26	3.47	2.23
(m^3/min)	26	2.61	2.10	2.76	2.08	2.91	2.18	2.99	2.16	3.07	2.15	3.24	2.23	3.44	2.20
	28	2.57	2.08	2.72	2.06	2.87	2.16	2.95	2.15	3.03	2.13	3.19	2.22		
	30	2.53	2.06	2.68	2.04	2.83	2.14	2.91	2.13	2.98	2.11	3.15	2.21		
	32	2.49	2.03	2.64	2.02	2.78	2.12	2.86	2.11	2.94	2.10	3.10	2.19		
	34	2.45	2.02	2.59	1.99	2.74	2.11	2.82	2.09	2.89	2.08	3.05	2.17		
	35	2.43	2.01	2.57	1.98	2.72	2.10	2.80	2.08	2.87	2.07	3.02	2.16		
	36	2.38	1.98	2.52	1.96	2.66	2.07	2.74	2.06	2.80	2.04	2.93	2.13		
	38	2.28	1.94	2.41	1.91	2.54	2.02	2.62	2.01	2.66	1.98	2.74	2.06		
	39	2.23	1.91	2.36	1.89	2.49	2.00	2.56	1.99	2.59	1.96	2.65	2.03		
	41	2.10	1.85	2.22	1.83	2.33	1.93	2.38	1.91	2.40	1.88	2.42	1.95		
	43	1.94	1.77	2.05	1.75	2.13	1.85	2.14	1.82	2.15	1.79	2.16	1.85		

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	1.70	1.69	1.67	1.66	1.65
	-17.8	-18	1.81	1.80	1.78	1.77	1.76
	-15.7	-16	1.93	1.91	1.89	1.88	1.86
	-13.7	-14	2.04	2.03	2.01	2.00	1.98
	-11.7	-12	2.17	2.15	2.14	2.12	2.10
Me	-9.6	-10	2.29	2.27	2.26	2.24	2.22
	-7.5	-8	2.43	2.41	2.40	2.37	2.36
8	-5.5	-6	2.57	2.55	2.53	2.51	2.49
(m^3/min)	-3.4	-4	2.64	2.62	2.60	2.57	2.55
	-1.3	-2	2.64	2.61	2.59	2.57	2.54
	0.8	0	2.64	2.61	2.59	2.56	2.53
	3.9	3	2.87	2.83	2.81	2.78	2.75
	7.0	6	3.11	3.07	3.04	2.98	2.90
	10.1	9	3.37	3.33	3.29	3.17	2.94
	13.2	12	3.64	3.57	3.43	3.23	2.94
	16.9	15.5	3.92	3.81	3.51	3.23	2.94

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			2.74	1.98	2.90	2.07	2.99	2.06	3.07	2.04	3.24	2.12	3.43	2.08
	12			2.71	1.96	2.86	2.05	2.94	2.04	3.03	2.03	3.20	2.10	3.38	2.07
	14			2.67	1.94	2.82	2.03	2.90	2.02	2.99	2.01	3.15	2.09	3.33	2.05
	16			2.63	1.92	2.79	2.02	2.86	2.00	2.94	1.99	3.11	2.07	3.28	2.04
	18			2.60	1.91	2.75	2.00	2.83	1.99	2.90	1.97	3.07	2.06	3.24	2.02
Lo	20			2.56	1.89	2.71	1.98	2.79	1.97	2.87	1.96	3.03	2.04	3.19	2.01
	22			2.53	1.88	2.67	1.97	2.75	1.95	2.83	1.94	2.98	2.02	3.15	1.99
7	24			2.50	1.86	2.64	1.95	2.71	1.94	2.79	1.93	2.94	2.01	3.10	1.97
(m^3/min)	26	2.33	1.86	2.46	1.84	2.60	1.93	2.67	1.91	2.75	1.91	2.90	1.99	3.07	1.97
	28	2.30	1.85	2.43	1.83	2.56	1.91	2.64	1.90	2.71	1.89	2.86	1.98		
	30	2.26	1.83	2.39	1.81	2.53	1.90	2.60	1.89	2.67	1.87	2.81	1.96		
	32	2.23	1.81	2.36	1.80	2.49	1.89	2.56	1.87	2.63	1.86	2.77	1.95		
	34	2.19	1.79	2.32	1.78	2.45	1.87	2.52	1.86	2.58	1.84	2.72	1.93		
	35	2.17	1.78	2.30	1.77	2.43	1.86	2.50	1.85	2.56	1.83	2.70	1.92		
	36	2.13	1.76	2.25	1.74	2.38	1.84	2.45	1.83	2.50	1.81	2.62	1.88		
	38	2.04	1.72	2.16	1.70	2.27	1.79	2.34	1.78	2.38	1.76	2.45	1.83		
	39	2.00	1.70	2.11	1.67	2.22	1.77	2.29	1.76	2.32	1.74	2.37	1.80		
	41	1.88	1.64	1.98	1.62	2.08	1.71	2.13	1.70	2.14	1.67	2.16	1.72		
	43	1.73	1.57	1.83	1.55	1.90	1.64	1.91	1.60	1.92	1.58	1.93	1.65		

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	1.51	1.50	1.49	1.47	1.46
	-17.8	-18	1.61	1.60	1.58	1.57	1.56
	-15.7	-16	1.71	1.70	1.68	1.67	1.65
	-13.7	-14	1.81	1.80	1.78	1.77	1.75
	-11.7	-12	1.92	1.91	1.89	1.88	1.86
Lo	-9.6	-10	2.03	2.02	2.00	1.98	1.97
	-7.5	-8	2.15	2.14	2.12	2.11	2.09
7	-5.5	-6	2.28	2.26	2.25	2.23	2.21
(m^3/min)	-3.4	-4	2.34	2.32	2.30	2.28	2.26
	-1.3	-2	2.34	2.32	2.30	2.28	2.25
	0.8	0	2.34	2.31	2.30	2.27	2.24
	3.9	3	2.54	2.51	2.49	2.46	2.43
	7.0	6	2.75	2.72	2.70	2.65	2.57
	10.1	9	2.98	2.95	2.92	2.81	2.60
	13.2	12	3.23	3.17	3.04	2.86	2.61
	16.9	15.5	3.48	3.38	3.12	2.87	2.60

Note(1) This data shows average statuses out of those possible to occur in the system control.
(Depending on controls, there may be ranges where the operation is not conducted continuously.)
(2) Symbols are as follows
TC :Total cooling capacity(kW)
SHC :Sensible heat capacity(kW)

PHA001Z179 A

Model **FDK45KXZE1-W** Cooling Mode (kW)

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			4.94	3.54	5.23	3.71	5.38	3.69	5.53	3.67	5.84	3.81	6.17	3.75
	12			4.87	3.51	5.16	3.68	5.30	3.66	5.45	3.63	5.76	3.78	6.08	3.72
	14			4.81	3.48	5.08	3.65	5.23	3.62	5.38	3.60	5.68	3.75	6.00	3.69
	16			4.74	3.45	5.02	3.62	5.16	3.60	5.30	3.57	5.60	3.71	5.92	3.65
	18			4.68	3.42	4.95	3.59	5.09	3.56	5.23	3.54	5.53	3.69	5.83	3.63
P-Hi	20			4.62	3.40	4.88	3.55	5.02	3.54	5.16	3.51	5.45	3.66	5.75	3.60
	22			4.56	3.36	4.82	3.53	4.95	3.50	5.09	3.48	5.37	3.63	5.67	3.57
12	24			4.50	3.33	4.75	3.50	4.88	3.47	5.02	3.45	5.30	3.60	5.59	3.54
(m^3/min)	26	4.20	3.34	4.44	3.31	4.69	3.47	4.81	3.44	4.95	3.42	5.22	3.55	5.54	3.50
	28	4.14	3.31	4.38	3.28	4.62	3.44	4.75	3.41	4.88	3.39	5.14	3.53		
	30	4.08	3.28	4.31	3.25	4.55	3.41	4.68	3.39	4.80	3.36	5.06	3.50		
	32	4.01	3.25	4.24	3.21	4.48	3.38	4.61	3.36	4.73	3.33	4.98	3.47		
	34	3.95	3.21	4.17	3.18	4.41	3.35	4.53	3.33	4.66	3.30	4.90	3.45		
	35	3.91	3.20	4.14	3.17	4.37	3.33	4.50	3.31	4.62	3.29	4.87	3.44		
	36	3.83	3.15	4.05	3.12	4.28	3.28	4.40	3.26	4.51	3.23	4.71	3.38		
	38	3.68	3.08	3.88	3.05	4.10	3.21	4.22	3.19	4.29	3.15	4.41	3.27		
	39	3.60	3.04	3.80	3.01	4.00	3.17	4.13	3.16	4.18	3.11	4.26	3.21		
	41	3.38	2.94	3.57	2.90	3.75	3.07	3.84	3.04	3.86	2.99	3.90	3.08		
	43	3.12	2.82	3.30	2.78	3.42	2.93	3.44	2.88	3.46	2.84	3.48	2.93		

Heating Mode (kW)

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	2.80	2.78	2.75	2.73	2.71
	-17.8	-18	2.98	2.96	2.93	2.91	2.89
	-15.7	-16	3.16	3.14	3.11	3.09	3.06
	-13.7	-14	3.36	3.34	3.31	3.28	3.25
	-11.7	-12	3.56	3.54	3.51	3.48	3.45
P-Hi	-9.6	-10	3.76	3.74	3.71	3.68	3.65
	-7.5	-8	3.99	3.96	3.94	3.90	3.87
12	-5.5	-6	4.22	4.19	4.16	4.12	4.09
(m^3/min)	-3.4	-4	4.34	4.30	4.27	4.23	4.20
	-1.3	-2	4.34	4.29	4.26	4.22	4.18
	0.8	0	4.34	4.29	4.25	4.21	4.16
	3.9	3	4.71	4.66	4.62	4.57	4.51
	7.0	6	5.10	5.05	5.00	4.91	4.77
	10.1	9	5.53	5.48	5.42	5.20	4.83
	13.2	12	5.98	5.88	5.64	5.31	4.84
	16.9	15.5	6.45	6.26	5.78	5.31	4.83

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			4.63	3.31	4.90	3.46	5.04	3.44	5.18	3.41	5.47	3.54	5.78	3.48
	12			4.57	3.28	4.83	3.43	4.97	3.40	5.11	3.38	5.40	3.51	5.70	3.46
	14			4.50	3.24	4.76	3.39	4.90	3.37	5.04	3.34	5.32	3.49	5.62	3.43
	16			4.44	3.21	4.70	3.36	4.84	3.34	4.97	3.32	5.25	3.46	5.54	3.40
	18			4.39	3.19	4.64	3.34	4.77	3.32	4.90	3.29	5.18	3.43	5.46	3.37
Hi	20			4.33	3.15	4.57	3.31	4.71	3.29	4.84	3.27	5.11	3.40	5.39	3.35
	22			4.27	3.13	4.51	3.28	4.64	3.26	4.77	3.24	5.04	3.37	5.31	3.32
11	24			4.22	3.11	4.45	3.25	4.58	3.24	4.70	3.21	4.97	3.35	5.24	3.29
(m^3/min)	26	3.93	3.11	4.16	3.08	4.39	3.23	4.51	3.20	4.64	3.18	4.89	3.32	5.19	3.27
	28	3.88	3.08	4.10	3.05	4.33	3.20	4.45	3.18	4.57	3.16	4.82	3.29		
	30	3.82	3.05	4.04	3.02	4.27	3.17	4.38	3.15	4.50	3.13	4.74	3.26		
	32	3.76	3.02	3.98	2.99	4.20	3.14	4.32	3.12	4.43	3.09	4.67	3.23		
	34	3.70	2.99	3.91	2.96	4.13	3.11	4.25	3.09	4.36	3.07	4.60	3.21		
	35	3.67	2.98	3.88	2.94	4.10	3.10	4.22	3.08	4.33	3.06	4.56	3.19		
	36	3.59	2.94	3.80	2.91	4.01	3.06	4.13	3.04	4.22	3.01	4.42	3.13		
	38	3.44	2.86	3.64	2.84	3.84	2.98	3.95	2.97	4.02	2.93	4.13	3.03		
	39	3.37	2.83	3.56	2.80	3.75	2.95	3.87	2.93	3.91	2.89	3.99	2.99		
	41	3.17	2.73	3.35	2.71	3.51	2.84	3.59	2.81	3.62	2.77	3.65	2.86		
	43	2.92	2.61	3.09	2.58	3.21	2.72	3.23	2.68	3.24	2.63	3.26	2.73		

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	2.60	2.59	2.56	2.54	2.52
	-17.8	-18	2.78	2.76	2.73	2.71	2.69
	-15.7	-16	2.95	2.93	2.90	2.88	2.85
	-13.7	-14	3.13	3.11	3.08	3.06	3.03
	-11.7	-12	3.31	3.29	3.27	3.24	3.21
Hi	-9.6	-10	3.50	3.48	3.46	3.43	3.40
	-7.5	-8	3.72	3.69	3.67	3.63	3.61
11	-5.5	-6	3.93	3.90	3.88	3.84	3.81
(m^3/min)	-3.4	-4	4.04	4.00	3.98	3.94	3.91
	-1.3	-2	4.04	4.00	3.97	3.93	3.89
	0.8	0	4.04	3.99	3.96	3.92	3.87
	3.9	3	4.39	4.34	4.30	4.25	4.20
	7.0	6	4.75	4.70	4.66	4.57	4.44
	10.1	9	5.15	5.10	5.04	4.84	4.49
	13.2	12	5.57	5.47	5.25	4.94	4.50
	16.9	15.5	6.00	5.83	5.38	4.95	4.49

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			3.95	2.79	4.18	2.92	4.30	2.90	4.42	2.88	4.68	2.99	4.94	2.94
	12			3.90	2.77	4.13	2.89	4.25	2.88	4.36	2.85	4.61	2.96	4.87	2.91
	14			3.85	2.75	4.07	2.87	4.19	2.85	4.30	2.83	4.55	2.94	4.80	2.89
	16			3.80	2.72	4.01	2.84	4.13	2.82	4.24	2.80	4.48	2.91	4.73	2.86
	18			3.75	2.69	3.96	2.81	4.07	2.79	4.19	2.78	4.42	2.89	4.67	2.84
Me	20			3.70	2.67	3.91	2.79	4.02	2.77	4.13	2.75	4.36	2.86	4.60	2.82
	22			3.65	2.64	3.86	2.77	3.96	2.75	4.07	2.73	4.30	2.84	4.54	2.79
9	24			3.60	2.62	3.80	2.74	3.91	2.73	4.02	2.71	4.24	2.81	4.47	2.77
(m^3/min)	26	3.36	2.62	3.55	2.60	3.75	2.72	3.85	2.70	3.96	2.68	4.18	2.79	4.43	2.75
	28	3.31	2.60	3.50	2.57	3.70	2.69	3.80	2.68	3.90	2.66	4.12	2.76		
	30	3.26	2.57	3.45	2.55	3.64	2.67	3.74	2.65	3.85	2.63	4.05	2.73		
	32	3.21	2.55	3.40	2.53	3.59	2.65	3.69	2.63	3.79	2.61	3.99	2.71		
	34	3.16	2.52	3.34	2.50	3.53	2.61	3.63	2.60	3.73	2.58	3.93	2.69		
	35	3.13	2.51	3.31	2.48	3.50	2.60	3.60	2.58	3.70	2.57	3.89	2.68		
	36	3.07	2.47	3.24	2.45	3.43	2.57	3.53	2.56	3.61	2.53	3.77	2.64		
	38	2.94	2.41	3.11	2.38	3.28	2.51	3.38	2.50	3.43	2.46	3.53	2.55		
	39	2.88	2.38	3.04	2.35	3.20	2.48	3.30	2.47	3.34	2.43	3.41	2.50		
	41	2.71	2.30	2.86	2.27	3.00	2.39	3.07	2.37	3.09	2.33	3.12	2.40		
	43	2.50	2.20	2.64	2.17	2.74	2.28	2.76	2.25	2.77	2.21	2.79	2.27		

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	2.20	2.18	2.16	2.15	2.13
	-17.8	-18	2.34	2.33	2.30	2.29	2.27
	-15.7	-16	2.48	2.47	2.45	2.43	2.41
	-13.7	-14	2.64	2.62	2.60	2.58	2.55
	-11.7	-12	2.80	2.78	2.76	2.73	2.71
Me	-9.6	-10	2.95	2.94	2.92	2.89	2.87
	-7.5	-8	3.14	3.11	3.09	3.06	3.04
9	-5.5	-6	3.32	3.29	3.27	3.24	3.22
(m^3/min)	-3.4	-4	3.41	3.38	3.35	3.32	3.30
	-1.3	-2	3.41	3.37	3.35	3.31	3.28
	0.8	0	3.41	3.37	3.34	3.30	3.27
	3.9	3	3.70	3.66	3.63	3.59	3.54
	7.0	6	4.01	3.97	3.93	3.85	3.74
	10.1	9	4.34	4.30	4.25	4.09	3.79
	13.2	12	4.70	4.61	4.43	4.17	3.80
	16.9	15.5	5.06	4.92	4.54	4.17	3.79

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			3.59	2.53	3.80	2.64	3.91	2.62	4.02	2.60	4.25	2.69	4.49	2.65
	12			3.54	2.50	3.75	2.61	3.86	2.59	3.96	2.57	4.19	2.67	4.42	2.62
	14			3.50	2.48	3.70	2.59	3.80	2.57	3.91	2.55	4.13	2.65	4.36	2.60
	16			3.45	2.45	3.65	2.57	3.75	2.55	3.86	2.53	4.07	2.63	4.30	2.59
	18			3.40	2.43	3.60	2.54	3.70	2.53	3.80	2.51	4.02	2.61	4.24	2.56
Lo	20			3.36	2.41	3.55	2.52	3.65	2.50	3.75	2.48	3.96	2.58	4.18	2.54
	22			3.31	2.39	3.50	2.50	3.60	2.48	3.70	2.46	3.91	2.56	4.12	2.51
8	24			3.27	2.36	3.46	2.48	3.55	2.46	3.65	2.44	3.85	2.54	4.06	2.50
(m^3/min)	26	3.05	2.37	3.23	2.35	3.41	2.45	3.50	2.44	3.60	2.42	3.80	2.52	4.02	2.48
	28	3.01	2.35	3.18	2.32	3.36	2.43	3.45	2.42	3.55	2.40	3.74	2.50		
	30	2.97	2.33	3.14	2.30	3.31	2.41	3.40	2.39	3.49	2.37	3.68	2.47		
	32	2.92	2.30	3.08	2.27	3.26	2.39	3.35	2.37	3.44	2.35	3.62	2.45		
	34	2.87	2.28	3.03	2.25	3.21	2.37	3.30	2.35	3.38	2.33	3.57	2.43		
	35	2.85	2.27	3.01	2.24	3.18	2.35	3.27	2.34	3.36	2.32	3.54	2.42		
	36	2.79	2.24	2.95	2.21	3.11	2.32	3.20	2.31	3.28	2.29	3.43	2.37		
	38	2.67	2.18	2.82	2.15	2.98	2.26	3.07	2.25	3.12	2.22	3.21	2.29		
	39	2.62	2.15	2.76	2.12	2.91	2.23	3.00	2.21	3.04	2.18	3.10	2.26		
	41	2.46	2.07	2.60	2.05	2.73	2.16	2.79	2.14	2.81	2.10	2.84	2.16		
	43	2.27	1.98	2.40	1.96	2.49	2.06	2.50	2.02	2.51	1.99	2.53	2.05		

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	1.98	1.97	1.95	1.93	1.92
	-17.8	-18	2.11	2.10	2.08	2.06	2.04
	-15.7	-16	2.24	2.23	2.21	2.19	2.17
	-13.7	-14	2.38	2.36	2.34	2.32	2.30
	-11.7	-12	2.52	2.50	2.49	2.47	2.44
Lo	-9.6	-10	2.66	2.65	2.63	2.61	2.59
	-7.5	-8	2.83	2.81	2.79	2.76	2.74
8	-5.5	-6	2.99	2.97	2.95	2.92	2.90
(m^3/min)	-3.4	-4	3.07	3.05	3.03	3.00	2.97
	-1.3	-2	3.07	3.04	3.02	2.99	2.96
	0.8	0	3.07	3.04	3.01	2.98	2.95
	3.9	3	3.34	3.30	3.27	3.23	3.20
	7.0	6	3.62	3.58	3.54	3.47	3.38
	10.1	9	3.92	3.88	3.84	3.68	3.42
	13.2	12	4.24	4.16	4.00	3.76	3.43
	16.9	15.5	4.57	4.43	4.09	3.76	3.42

Note(1) This data shows average statuses out of those possible to occur in the system control.
(Depending on controls, there may be ranges where the operation is not conducted continuously.)
(2) Symbols are as follows
TC :Total cooling capacity(kW)
SHC :Sensible heat capacity(kW)

PHA001Z179 A

Model **FDK56KXZE1-W** Cooling Mode (kW)

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			6.15	4.26	6.50	4.44	6.69	4.41	6.88	4.38	7.27	4.53	7.68	4.46
	12			6.06	4.22	6.42	4.40	6.60	4.37	6.79	4.34	7.17	4.49	7.57	4.42
	14			5.98	4.17	6.33	4.36	6.51	4.33	6.69	4.29	7.07	4.45	7.47	4.38
	16			5.90	4.13	6.24	4.31	6.42	4.29	6.60	4.26	6.97	4.41	7.36	4.33
	18			5.82	4.09	6.16	4.27	6.34	4.25	6.51	4.22	6.88	4.37	7.26	4.30
P-Hi	20			5.75	4.06	6.08	4.24	6.25	4.21	6.42	4.17	6.78	4.33	7.15	4.26
	22			5.67	4.02	5.99	4.20	6.16	4.17	6.33	4.14	6.69	4.29	7.05	4.22
12	24			5.60	3.98	5.91	4.16	6.08	4.13	6.25	4.10	6.60	4.26	6.95	4.18
(m^3/min)	26	5.22	3.99	5.52	3.95	5.83	4.12	5.99	4.09	6.16	4.07	6.50	4.22	6.89	4.16
	28	5.15	3.95	5.44	3.91	5.75	4.08	5.91	4.05	6.07	4.02	6.40	4.18		
	30	5.08	3.91	5.37	3.87	5.66	4.04	5.82	4.02	5.98	3.98	6.30	4.13		
	32	4.99	3.87	5.28	3.83	5.58	4.01	5.73	3.98	5.89	3.95	6.20	4.09		
	34	4.91	3.83	5.19	3.78	5.49	3.96	5.64	3.94	5.79	3.91	6.10	4.05		
	35	4.87	3.81	5.15	3.76	5.44	3.94	5.60	3.92	5.75	3.89	6.05	4.03		
	36	4.77	3.75	5.04	3.71	5.33	3.89	5.48	3.87	5.61	3.83	5.87	3.97		
	38	4.57	3.65	4.83	3.61	5.10	3.79	5.25	3.77	5.33	3.71	5.49	3.83		
	39	4.48	3.61	4.72	3.56	4.98	3.74	5.13	3.72	5.20	3.66	5.30	3.76		
	41	4.21	3.47	4.45	3.43	4.66	3.60	4.77	3.56	4.81	3.50	4.85	3.59		
	43	3.88	3.31	4.11	3.28	4.26	3.43	4.29	3.37	4.30	3.30	4.33	3.41		

Heating Mode (kW)

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	3.52	3.50	3.47	3.44	3.42
	-17.8	-18	3.76	3.73	3.70	3.67	3.64
	-15.7	-16	3.99	3.96	3.92	3.90	3.86
	-13.7	-14	4.23	4.20	4.17	4.14	4.10
	-11.7	-12	4.48	4.46	4.42	4.39	4.35
P-Hi	-9.6	-10	4.74	4.71	4.68	4.64	4.60
	-7.5	-8	5.03	4.99	4.96	4.92	4.88
13	-5.5	-6	5.32	5.28	5.25	5.20	5.16
(m^3/min)	-3.4	-4	5.47	5.42	5.38	5.33	5.29
	-1.3	-2	5.46	5.41	5.37	5.32	5.26
	0.8	0	5.46	5.40	5.36	5.30	5.24
	3.9	3	5.94	5.87	5.82	5.75	5.69
	7.0	6	6.43	6.36	6.30	6.18	6.01
	10.1	9	6.97	6.90	6.82	6.56	6.08
	13.2	12	7.54	7.40	7.11	6.69	6.10
	16.9	15.5	8.12	7.89	7.28	6.69	6.08

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			5.76	3.97	6.09	4.13	6.27	4.11	6.45	4.08	6.81	4.22	7.19	4.15
	12			5.68	3.93	6.01	4.10	6.18	4.07	6.36	4.04	6.72	4.18	7.09	4.11
	14			5.61	3.90	5.93	4.05	6.10	4.03	6.27	4.00	6.62	4.14	7.00	4.07
	16			5.53	3.85	5.85	4.02	6.02	3.99	6.18	3.96	6.53	4.10	6.90	4.03
	18			5.46	3.82	5.77	3.98	5.94	3.96	6.10	3.92	6.44	4.06	6.80	4.00
Hi	20			5.38	3.78	5.69	3.94	5.86	3.92	6.02	3.89	6.35	4.03	6.70	3.96
	22			5.31	3.75	5.62	3.91	5.77	3.88	5.93	3.85	6.27	4.00	6.61	3.92
11	24			5.25	3.71	5.54	3.87	5.69	3.84	5.85	3.81	6.18	3.96	6.51	3.89
(m^3/min)	26	4.90	3.71	5.17	3.67	5.47	3.84	5.61	3.81	5.77	3.78	6.09	3.92	6.45	3.86
	28	4.83	3.68	5.10	3.63	5.39	3.80	5.53	3.77	5.69	3.75	6.00	3.89		
	30	4.76	3.64	5.03	3.60	5.31	3.76	5.46	3.74	5.60	3.70	5.90	3.85		
	32	4.68	3.60	4.95	3.56	5.22	3.72	5.37	3.70	5.51	3.67	5.81	3.81		
	34	4.60	3.56	4.86	3.52	5.14	3.69	5.29	3.66	5.43	3.63	5.72	3.77		
	35	4.56	3.54	4.82	3.50	5.10	3.67	5.25	3.65	5.38	3.61	5.67	3.76		
	36	4.47	3.49	4.72	3.45	4.99	3.62	5.14	3.60	5.26	3.56	5.50	3.69		
	38	4.29	3.40	4.53	3.36	4.78	3.52	4.92	3.50	5.00	3.46	5.14	3.54		
	39	4.19	3.35	4.43	3.31	4.67	3.47	4.81	3.46	4.87	3.40	4.97	3.48		
	41	3.95	3.23	4.17	3.19	4.37	3.35	4.47	3.31	4.50	3.25	4.55	3.33		
	43	3.64	3.07	3.85	3.05	3.99	3.18	4.02	3.13	4.03	3.07	4.06	3.16		

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	3.31	3.28	3.25	3.23	3.20
	-17.8	-18	3.52	3.50	3.47	3.44	3.41
	-15.7	-16	3.74	3.71	3.68	3.65	3.62
	-13.7	-14	3.97	3.94	3.91	3.88	3.84
	-11.7	-12	4.20	4.18	4.15	4.11	4.08
Hi	-9.6	-10	4.44	4.42	4.39	4.35	4.31
	-7.5	-8	4.72	4.68	4.65	4.61	4.58
12	-5.5	-6	4.99	4.95	4.92	4.87	4.84
(m^3/min)	-3.4	-4	5.13	5.08	5.05	5.00	4.96
	-1.3	-2	5.12	5.07	5.04	4.99	4.94
	0.8	0	5.12	5.07	5.03	4.97	4.91
	3.9	3	5.57	5.51	5.46	5.40	5.33
	7.0	6	6.03	5.97	5.91	5.80	5.63
	10.1	9	6.54	6.47	6.40	6.15	5.70
	13.2	12	7.07	6.94	6.67	6.27	5.72
	16.9	15.5	7.62	7.40	6.83	6.28	5.70

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			4.92	3.36	5.20	3.49	5.36	3.48	5.51	3.45	5.82	3.56	6.14	3.50
	12			4.85	3.33	5.13	3.46	5.28	3.44	5.43	3.42	5.74	3.53	6.06	3.46
	14			4.79	3.30	5.06	3.42	5.21	3.40	5.36	3.38	5.66	3.49	5.98	3.43
	16			4.72	3.26	5.00	3.39	5.14	3.36	5.28	3.34	5.58	3.46	5.89	3.40
	18			4.66	3.23	4.93	3.36	5.07	3.33	5.21	3.31	5.50	3.42	5.81	3.37
Me	20			4.60	3.20	4.86	3.32	5.00	3.30	5.14	3.28	5.43	3.40	5.72	3.33
	22			4.54	3.17	4.80	3.29	4.93	3.27	5.07	3.25	5.35	3.36	5.65	3.31
9	24			4.48	3.14	4.73	3.26	4.86	3.24	5.00	3.22	5.28	3.33	5.57	3.27
(m^3/min)	26	4.18	3.14	4.42	3.10	4.67	3.23	4.80	3.21	4.93	3.19	5.20	3.30	5.51	3.25
	28	4.12	3.10	4.36	3.07	4.60	3.20	4.73	3.18	4.86	3.16	5.12	3.27		
	30	4.06	3.07	4.30	3.04	4.53	3.17	4.66	3.15	4.79	3.13	5.04	3.23		
	32	4.00	3.04	4.23	3.01	4.46	3.13	4.59	3.12	4.71	3.09	4.96	3.20		
	34	3.93	3.00	4.16	2.97	4.39	3.10	4.52	3.08	4.64	3.06	4.89	3.18		
	35	3.90	2.99	4.12	2.95	4.36	3.09	4.48	3.07	4.60	3.04	4.85	3.16		
	36	3.82	2.95	4.04	2.91	4.26	3.04	4.39	3.03	4.49	3.00	4.70	3.10		
	38	3.66	2.86	3.87	2.83	4.08	2.96	4.20	2.94	4.27	2.90	4.39	2.98		
	39	3.58	2.82	3.78	2.78	3.99	2.92	4.11	2.91	4.16	2.86	4.24	2.92		
	41	3.37	2.71	3.56	2.68	3.73	2.81	3.82	2.78	3.85	2.73	3.88	2.79		
	43	3.11	2.58	3.29	2.56	3.41	2.67	3.43	2.62	3.44	2.57	3.47	2.63		

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	3.31	3.28	3.25	3.23	3.20
	-17.8	-18	3.52	3.50	3.47	3.44	3.41
	-15.7	-16	3.74	3.71	3.68	3.65	3.62
	-13.7	-14	3.97	3.94	3.91	3.88	3.84
	-11.7	-12	4.20	4.18	4.15	4.11	4.08
Me	-9.6	-10	4.44	4.42	4.39	4.35	4.31
	-7.5	-8	4.72	4.68	4.65	4.61	4.58
10	-5.5	-6	4.99	4.95	4.92	4.87	4.84
(m^3/min)	-3.4	-4	5.13	5.08	5.05	5.00	4.96
	-1.3	-2	5.12	5.07	5.04	4.99	4.94
	0.8	0	5.12	5.07	5.03	4.97	4.91
	3.9	3	5.57	5.51	5.46	5.40	5.33
	7.0	6	6.03	5.97	5.91	5.80	5.63
	10.1	9	6.54	6.47	6.40	6.15	5.70
	13.2	12	7.07	6.94	6.67	6.27	5.72
	16.9	15.5	7.62	7.40	6.83	6.28	5.70

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			4.47	3.04	4.73	3.16	4.87	3.14	5.00	3.12	5.29	3.21	5.58	3.15
	12			4.41	3.01	4.66	3.12	4.80	3.11	4.93	3.08	5.21	3.18	5.51	3.13
	14			4.35	2.98	4.60	3.09	4.73	3.07	4.87	3.06	5.14	3.15	5.43	3.10
	16			4.29	2.95	4.54	3.07	4.67	3.05	4.80	3.02	5.07	3.12	5.35	3.07
	18			4.24	2.92	4.48	3.04	4.61	3.02	4.73	2.99	5.00	3.09	5.28	3.04
Lo	20			4.18	2.89	4.42	3.01	4.54	2.98	4.67	2.97	4.93	3.06	5.20	3.01
	22			4.12	2.86	4.36	2.98	4.48	2.96	4.61	2.94	4.86	3.03	5.13	2.98
8	24			4.07	2.83	4.30	2.95	4.42	2.93	4.54	2.90	4.80	3.01	5.06	2.95
(m^3/min)	26	3.80	2.83	4.02	2.80	4.24	2.91	4.36	2.89	4.48	2.87	4.73	2.98	5.01	2.94
	28	3.75	2.81	3.96	2.78	4.18	2.89	4.29	2.86	4.41	2.84	4.65	2.95		
	30	3.69	2.78	3.90	2.75	4.12	2.86	4.23	2.84	4.35	2.82	4.58	2.92		
	32	3.63	2.74	3.84	2.72	4.05	2.83	4.17	2.81	4.28	2.79	4.51	2.89		
	34	3.57	2.71	3.77	2.68	3.99	2.80	4.10	2.78	4.21	2.76	4.44	2.86		
	35	3.54	2.69	3.74	2.66	3.96	2.79	4.07	2.77	4.18	2.74	4.40	2.84		
	36	3.47	2.66	3.67	2.63	3.87	2.75	3.99	2.73	4.08	2.70	4.27	2.79		
	38	3.33	2.58	3.51	2.55	3.71	2.67	3.82	2.66	3.88	2.62	3.99	2.69		
	39	3.25	2.54	3.44	2.52	3.62	2.63	3.73	2.62	3.78	2.58	3.85	2.63		
	41	3.06	2.44	3.23	2.41	3.39	2.53	3.47	2.50	3.50	2.46	3.53	2.51		
	43	2.82	2.32	2.98	2.30	3.10	2.40	3.12	2.36	3.13	2.31	3.15	2.37		

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	2.34	2.33	2.30	2.29	2.27
	-17.8	-18	2.49	2.48	2.45	2.44	2.42
	-15.7	-16	2.65	2.63	2.61	2.59	2.56
	-13.7	-14	2.81	2.79	2.77	2.75	2.72
	-11.7	-12	2.98	2.96	2.94	2.91	2.89
Lo	-9.6	-10	3.15	3.13	3.11	3.08	3.06
	-7.5	-8	3.34	3.32	3.30	3.27	3.24
8	-5.5	-6	3.53	3.51	3.48	3.45	3.43
(m^3/min)	-3.4	-4	3.63	3.60	3.57	3.54	3.51
	-1.3	-2	3.63	3.59	3.57	3.53	3.50
	0.8	0	3.63	3.59	3.56	3.52	3.48
	3.9	3	3.94	3.90	3.87	3.82	3.78
	7.0	6	4.27	4.23	4.18	4.11	3.99
	10.1	9	4.63	4.58	4.53	4.35	4.04
	13.2	12	5.01	4.92	4.72	4.44	4.05
	16.9	15.5	5.39	5.24	4.83	4.44	4.04

Note(1) This data shows average statuses out of those possible to occur in the system control.
(Depending on controls, there may be ranges where the operation is not conducted continuously.)
(2) Symbols are as follows
TC :Total cooling capacity(kW)
SHC :Sensible heat capacity(kW)

PHA001Z179 A

Model **FDK71KXZE1-W** Cooling Mode (kW)

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			7.79	5.72	8.24	5.99	8.48	5.96	8.72	5.92	9.22	6.17	9.73	6.07
	12			7.69	5.66	8.13	5.93	8.37	5.89	8.60	5.84	9.09	6.12	9.60	6.02
	14			7.58	5.62	8.02	5.88	8.25	5.84	8.48	5.80	8.96	6.06	9.47	5.97
	16			7.48	5.57	7.91	5.84	8.14	5.80	8.37	5.76	8.84	6.03	9.33	5.93
	18			7.38	5.51	7.81	5.80	8.03	5.76	8.25	5.72	8.72	5.97	9.20	5.88
P-Hi	20			7.29	5.48	7.70	5.75	7.92	5.71	8.14	5.68	8.60	5.93	9.07	5.83
	22			7.19	5.43	7.60	5.71	7.81	5.67	8.03	5.63	8.48	5.89	8.94	5.79
21	24			7.10	5.39	7.50	5.66	7.70	5.62	7.92	5.58	8.36	5.81	8.82	5.72
(m^3/min)	26	6.62	5.40	7.00	5.34	7.40	5.62	7.60	5.58	7.81	5.54	8.24	5.78	8.73	5.70
	28	6.53	5.35	6.90	5.29	7.29	5.57	7.49	5.53	7.69	5.49	8.11	5.74		
	30	6.44	5.29	6.80	5.24	7.18	5.52	7.38	5.49	7.58	5.45	7.99	5.70		
	32	6.33	5.24	6.69	5.18	7.07	5.48	7.27	5.44	7.46	5.40	7.86	5.66		
	34	6.23	5.20	6.58	5.13	6.96	5.43	7.15	5.39	7.34	5.35	7.74	5.61		
	35	6.18	5.18	6.53	5.11	6.90	5.40	7.10	5.37	7.29	5.33	7.68	5.59		
	36	6.05	5.12	6.39	5.06	6.75	5.34	6.95	5.31	7.11	5.26	7.44	5.50		
	38	5.80	5.00	6.12	4.94	6.46	5.22	6.66	5.19	6.76	5.13	6.96	5.33		
	39	5.67	4.93	5.99	4.87	6.32	5.16	6.51	5.14	6.59	5.04	6.72	5.24		
	41	5.34	4.78	5.64	4.72	5.91	4.98	6.05	4.94	6.09	4.87	6.15	5.04		
	43	4.92	4.58	5.20	4.53	5.40	4.79	5.43	4.72	5.45	4.63	5.49	4.81		

Heating Mode (kW)

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	4.48	4.45	4.40	4.37	4.34
	-17.8	-18	4.77	4.74	4.69	4.66	4.62
	-15.7	-16	5.06	5.03	4.98	4.95	4.90
	-13.7	-14	5.37	5.34	5.29	5.25	5.20
	-11.7	-12	5.69	5.66	5.62	5.57	5.52
P-Hi	-9.6	-10	6.02	5.98	5.94	5.89	5.84
	-7.5	-8	6.39	6.34	6.30	6.24	6.20
21	-5.5	-6	6.76	6.70	6.66	6.60	6.55
(m^3/min)	-3.4	-4	6.94	6.88	6.83	6.77	6.71
	-1.3	-2	6.94	6.87	6.82	6.75	6.68
	0.8	0	6.94	6.86	6.81	6.73	6.65
	3.9	3	7.54	7.46	7.39	7.31	7.22
	7.0	6	8.17	8.08	8.00	7.85	7.63
	10.1	9	8.85	8.76	8.66	8.32	7.72
	13.2	12	9.57	9.40	9.03	8.49	7.74
	16.9	15.5	10.31	10.02	9.24	8.50	7.72

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			7.22	5.25	7.64	5.52	7.86	5.48	8.08	5.44	8.54	5.66	9.02	5.56
	12			7.12	5.21	7.53	5.47	7.75	5.43	7.97	5.39	8.42	5.62	8.89	5.53
	14			7.03	5.17	7.43	5.42	7.65	5.39	7.86	5.35	8.30	5.58	8.77	5.49
	16			6.93	5.13	7.33	5.38	7.54	5.34	7.75	5.31	8.19	5.53	8.64	5.44
	18			6.84	5.08	7.23	5.33	7.44	5.30	7.65	5.26	8.08	5.50	8.52	5.41
Hi	20			6.75	5.03	7.13	5.29	7.34	5.26	7.54	5.22	7.96	5.45	8.40	5.36
	22			6.66	4.99	7.04	5.25	7.24	5.22	7.44	5.18	7.85	5.40	8.28	5.32
19	24			6.57	4.95	6.95	5.21	7.14	5.17	7.33	5.13	7.75	5.37	8.17	5.28
(m^3/min)	26	6.14	4.97	6.49	4.91	6.85	5.15	7.04	5.11	7.23	5.07	7.63	5.32	8.09	5.25
	28	6.05	4.92	6.39	4.86	6.75	5.11	6.94	5.08	7.13	5.04	7.52	5.29		
	30	5.96	4.88	6.30	4.83	6.65	5.07	6.84	5.04	7.02	5.00	7.40	5.24		
	32	5.86	4.83	6.20	4.78	6.55	5.03	6.73	5.00	6.91	4.96	7.28	5.19		
	34	5.77	4.78	6.10	4.74	6.44	4.98	6.63	4.95	6.80	4.91	7.17	5.15		
	35	5.72	4.76	6.05	4.71	6.39	4.96	6.58	4.94	6.75	4.90	7.11	5.12		
	36	5.60	4.70	5.92	4.65	6.26	4.91	6.44	4.88	6.59	4.83	6.89	5.02		
	38	5.37	4.59	5.67	4.53	5.99	4.80	6.16	4.76	6.26	4.71	6.45	4.89		
	39	5.26	4.52	5.55	4.47	5.85	4.73	6.03	4.71	6.10	4.64	6.23	4.82		
	41	4.95	4.39	5.22	4.33	5.48	4.59	5.61	4.55	5.65	4.47	5.70	4.63		
	43	4.56	4.20	4.82	4.16	5.00	4.39	5.03	4.30	5.05	4.23	5.09	4.43		

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	4.13	4.10	4.06	4.03	4.00
	-17.8	-18	4.40	4.37	4.33	4.30	4.26
	-15.7	-16	4.67	4.64	4.59	4.56	4.52
	-13.7	-14	4.95	4.92	4.88	4.84	4.80
	-11.7	-12	5.25	5.22	5.18	5.13	5.09
Hi	-9.6	-10	5.55	5.51	5.48	5.43	5.39
	-7.5	-8	5.89	5.85	5.81	5.76	5.71
19	-5.5	-6	6.23	6.18	6.14	6.09	6.04
(m^3/min)	-3.4	-4	6.40	6.34	6.30	6.24	6.19
	-1.3	-2	6.40	6.34	6.29	6.22	6.16
	0.8	0	6.40	6.33	6.28	6.21	6.13
	3.9	3	6.95	6.87	6.81	6.74	6.66
	7.0	6	7.53	7.45	7.38	7.24	7.03
	10.1	9	8.16	8.08	7.99	7.68	7.12
	13.2	12	8.83	8.67	8.32	7.83	7.14
	16.9	15.5	9.51	9.24	8.52	7.84	7.12

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			6.29	4.55	6.66	4.76	6.85	4.73	7.04	4.70	7.45	4.89	7.86	4.81
	12			6.21	4.51	6.57	4.71	6.76	4.68	6.95	4.64	7.34	4.85	7.75	4.77
	14			6.13	4.46	6.48	4.67	6.67	4.64	6.85	4.61	7.24	4.81	7.65	4.74
	16			6.04	4.43	6.39	4.64	6.58	4.61	6.76	4.57	7.14	4.77	7.54	4.70
	18			5.96	4.38	6.31	4.61	6.49	4.57	6.67	4.54	7.04	4.73	7.43	4.65
Me	20			5.88	4.34	6.22	4.56	6.40	4.53	6.58	4.50	6.94	4.69	7.32	4.61
	22			5.81	4.31	6.14	4.52	6.31	4.50	6.49	4.47	6.85	4.66	7.22	4.58
16	24			5.73	4.27	6.06	4.49	6.22	4.46	6.40	4.43	6.75	4.62	7.12	4.55
(m^3/min)	26	5.35	4.28	5.66	4.24	5.97	4.45	6.13	4.42	6.30	4.38	6.66	4.59	7.05	4.50
	28	5.27	4.24	5.58	4.19	5.89	4.42	6.05	4.39	6.21	4.35	6.55	4.53		
	30	5.20	4.21	5.50	4.16	5.80	4.38	5.96	4.35	6.12	4.31	6.45	4.50		
	32	5.11	4.16	5.41	4.12	5.71	4.33	5.87	4.31	6.03	4.28	6.35	4.46		
	34	5.03	4.13	5.32	4.09	5.62	4.30	5.78	4.27	5.93	4.24	6.25	4.43		
	35	4.99	4.11	5.27	4.06	5.57	4.28	5.73	4.25	5.88	4.22	6.20	4.42		
	36	4.89	4.06	5.16	4.01	5.45	4.23	5.61	4.20	5.74	4.16	6.01	4.35		
	38	4.68	3.95	4.95	3.91	5.22	4.12	5.38	4.11	5.46	4.03	5.62	4.21		
	39	4.58	3.90	4.84	3.86	5.10	4.06	5.26	4.04	5.32	3.98	5.43	4.14		
	41	4.31	3.78	4.55	3.73	4.78	3.94	4.89	3.91	4.92	3.85	4.97	3.98		
	43	3.98	3.62	4.20	3.58	4.36	3.77	4.39	3.71	4.40	3.64	4.43	3.77		

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	3.57	3.55	3.52	3.49	3.46
	-17.8	-18	3.81	3.78	3.75	3.72	3.69
	-15.7	-16	4.04	4.02	3.98	3.95	3.91
	-13.7	-14	4.29	4.26	4.22	4.19	4.15
	-11.7	-12	4.55	4.52	4.48	4.45	4.41
Me	-9.6	-10	4.80	4.78	4.74	4.70	4.66
	-7.5	-8	5.10	5.06	5.03	4.98	4.95
16	-5.5	-6	5.40	5.35	5.32	5.27	5.23
(m^3/min)	-3.4	-4	5.54	5.49	5.46	5.41	5.36
	-1.3	-2	5.54	5.49	5.45	5.39	5.34
	0.8	0	5.54	5.48	5.43	5.38	5.31
	3.9	3	6.02	5.95	5.90	5.83	5.76
	7.0	6	6.52	6.45	6.39	6.27	6.09
	10.1	9	7.07	7.00	6.92	6.65	6.17
	13.2	12	7.64	7.51	7.21	6.78	6.18
	16.9	15.5	8.24	8.00	7.38	6.79	6.16

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			5.63	4.05	5.96	4.23	6.13	4.21	6.31	4.18	6.67	4.35	7.04	4.26
	12			5.56	4.01	5.88	4.20	6.05	4.17	6.22	4.14	6.57	4.30	6.94	4.23
	14			5.48	3.97	5.80	4.16	5.97	4.14	6.13	4.10	6.48	4.27	6.84	4.20
	16			5.41	3.94	5.72	4.12	5.89	4.10	6.05	4.07	6.39	4.24	6.75	4.17
	18			5.34	3.90	5.65	4.09	5.81	4.07	5.97	4.04	6.30	4.20	6.65	4.13
Lo	20			5.27	3.87	5.57	4.06	5.73	4.03	5.89	4.00	6.22	4.18	6.56	4.11
	22			5.20	3.83	5.50	4.02	5.65	3.99	5.81	3.97	6.13	4.14	6.47	4.07
14	24			5.13	3.80	5.42	3.98	5.57	3.95	5.73	3.92	6.05	4.10	6.37	4.03
(m^3/min)	26	4.79	3.81	5.06	3.77	5.35	3.95	5.49	3.92	5.64	3.89	5.96	4.07	6.31	4.02
	28	4.72	3.78	4.99	3.74	5.27	3.92	5.41	3.89	5.56	3.86	5.87	4.04		
	30	4.65	3.74	4.92	3.70	5.19	3.89	5.34	3.86	5.48	3.83	5.78	4.00		
	32	4.58	3.71	4.84	3.66	5.11	3.85	5.25	3.82	5.40	3.80	5.69	3.97		
	34	4.50	3.66	4.76	3.63	5.03	3.82	5.17	3.79	5.31	3.77	5.60	3.93		
	35	4.47	3.65	4.72	3.61	4.99	3.80	5.13	3.77	5.27	3.74	5.55	3.92		
	36	4.37	3.59	4.62	3.55	4.88	3.75	5.02	3.73	5.14	3.70	5.38	3.86		
	38	4.19	3.51	4.43	3.47	4.67	3.66	4.81	3.64	4.89	3.60	5.03	3.72		
	39	4.10	3.47	4.33	3.43	4.57	3.62	4.71	3.61	4.76	3.54	4.86	3.67		
	41	3.86	3.35	4.08	3.32	4.28	3.50	4.38	3.47	4.41	3.41	4.45	3.52		
	43	3.56	3.21	3.76	3.17	3.90	3.33	3.93	3.28	3.94	3.23	3.97	3.35		

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	3.18	3.16	3.13	3.11	3.09
	-17.8	-18	3.39	3.37	3.34	3.32	3.29
	-15.7	-16	3.60	3.58	3.55	3.52	3.49
	-13.7	-14	3.82	3.80	3.76	3.74	3.70
	-11.7	-12	4.05	4.03	4.00	3.96	3.93
Lo	-9.6	-10	4.28	4.26	4.23	4.19	4.16
	-7.5	-8	4.55	4.51	4.48	4.44	4.41
14	-5.5	-6	4.81	4.77	4.74	4.70	4.66
(m^3/min)	-3.4	-4	4.94	4.90	4.86	4.82	4.78
	-1.3	-2	4.94	4.89	4.85	4.80	4.76
	0.8	0	4.94	4.88	4.84	4.79	4.73
	3.9	3	5.36	5.30	5.26	5.20	5.14
	7.0	6	5.81	5.75	5.69	5.58	5.43
	10.1	9	6.30	6.23	6.17	5.92	5.49
	13.2	12	6.81	6.69	6.42	6.04	5.51
	16.9	15.5	7.34	7.13	6.58	6.05	5.49

Note(1) This data shows average statuses out of those possible to occur in the system control.
(Depending on controls, there may be ranges where the operation is not conducted continuously.)
(2) Symbols are as follows
TC :Total cooling capacity(kW)
SHC :Sensible heat capacity(kW)

PHA001Z179 A

Model **FDK90KXZE1-W** Cooling Mode (kW)

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			9.88	7.03	10.45	7.35	10.75	7.30	11.06	7.26	11.68	7.53	12.34	7.40
	12			9.75	6.96	10.31	7.29	10.61	7.24	10.90	7.19	11.52	7.47	12.17	7.35
	14			9.61	6.90	10.17	7.22	10.46	7.17	10.75	7.12	11.36	7.40	12.00	7.28
	16			9.49	6.84	10.03	7.15	10.32	7.11	10.61	7.06	11.21	7.34	11.83	7.22
	18			9.36	6.78	9.90	7.10	10.18	7.05	10.46	7.00	11.05	7.29	11.66	7.16
P-Hi	20			9.24	6.72	9.76	7.03	10.04	6.98	10.32	6.93	10.90	7.22	11.50	7.10
	22			9.12	6.66	9.63	6.98	9.90	6.93	10.18	6.88	10.75	7.16	11.33	7.04
23	24			9.00	6.60	9.51	6.92	9.77	6.87	10.04	6.81	10.60	7.11	11.17	6.99
(m^3/min)	26	8.40	6.61	8.88	6.55	9.37	6.85	9.63	6.81	9.90	6.76	10.45	7.02	11.07	6.92
	28	8.28	6.55	8.75	6.48	9.24	6.80	9.49	6.75	9.75	6.70	10.29	6.96		
	30	8.16	6.49	8.63	6.43	9.10	6.73	9.36	6.70	9.61	6.64	10.13	6.91		
	32	8.03	6.42	8.48	6.35	8.96	6.65	9.21	6.61	9.46	6.55	9.97	6.86		
	34	7.89	6.35	8.34	6.29	8.82	6.60	9.07	6.55	9.31	6.50	9.81	6.80		
	35	7.83	6.33	8.27	6.25	8.75	6.57	9.00	6.52	9.24	6.47	9.73	6.78		
	36	7.67	6.23	8.10	6.16	8.56	6.49	8.81	6.45	9.01	6.39	9.43	6.66		
	38	7.35	6.08	7.76	6.01	8.19	6.33	8.44	6.30	8.57	6.22	8.82	6.44		
	39	7.19	6.00	7.59	5.94	8.01	6.26	8.25	6.23	8.35	6.13	8.52	6.33		
	41	6.77	5.80	7.15	5.74	7.50	6.04	7.67	5.99	7.73	5.89	7.80	6.07		
	43	6.24	5.55	6.60	5.49	6.85	5.77	6.89	5.68	6.91	5.58	6.96	5.75		

Heating Mode (kW)

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	5.59	5.56	5.51	5.46	5.42
	-17.8	-18	5.96	5.92	5.87	5.82	5.77
	-15.7	-16	6.33	6.29	6.23	6.19	6.12
	-13.7	-14	6.71	6.67	6.61	6.56	6.50
	-11.7	-12	7.12	7.07	7.02	6.96	6.90
P-Hi	-9.6	-10	7.52	7.48	7.43	7.36	7.30
	-7.5	-8	7.98	7.93	7.88	7.80	7.75
23	-5.5	-6	8.45	8.38	8.33	8.25	8.19
(m^3/min)	-3.4	-4	8.68	8.60	8.54	8.46	8.39
	-1.3	-2	8.67	8.59	8.53	8.44	8.35
	0.8	0	8.67	8.58	8.51	8.42	8.32
	3.9	3	9.42	9.32	9.24	9.13	9.02
	7.0	6	10.21	10.10	10.00	9.81	9.54
	10.1	9	11.06	10.95	10.83	10.41	9.65
	13.2	12	11.97	11.75	11.29	10.61	9.68
	16.9	15.5	12.89	12.52	11.55	10.62	9.65

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			9.23	6.53	9.77	6.81	10.05	6.78	10.34	6.74	10.92	6.98	11.54	6.86
	12			9.11	6.46	9.64	6.76	9.92	6.71	10.20	6.66	10.77	6.92	11.38	6.81
	14			8.99	6.41	9.51	6.70	9.78	6.65	10.05	6.60	10.62	6.87	11.22	6.76
	16			8.87	6.35	9.38	6.65	9.65	6.60	9.92	6.55	10.48	6.81	11.06	6.70
	18			8.75	6.30	9.25	6.58	9.52	6.55	9.78	6.50	10.33	6.76	10.90	6.65
Hi	20			8.63	6.23	9.13	6.53	9.39	6.49	9.65	6.44	10.19	6.70	10.75	6.59
	22			8.52	6.18	9.01	6.47	9.26	6.43	9.52	6.39	10.05	6.65	10.60	6.53
21	24			8.41	6.13	8.89	6.42	9.13	6.38	9.38	6.33	9.91	6.59	10.45	6.48
(m^3/min)	26	7.85	6.14	8.30	6.08	8.76	6.36	9.00	6.31	9.25	6.27	9.77	6.53	10.35	6.44
	28	7.74	6.09	8.18	6.02	8.64	6.31	8.87	6.26	9.12	6.22	9.62	6.48		
	30	7.63	6.03	8.06	5.96	8.51	6.25	8.75	6.21	8.98	6.16	9.47	6.42		
	32	7.50	5.97	7.93	5.90	8.38	6.19	8.61	6.15	8.84	6.10	9.32	6.37		
	34	7.38	5.90	7.80	5.84	8.24	6.13	8.48	6.09	8.70	6.04	9.17	6.31		
	35	7.32	5.87	7.73	5.80	8.18	6.11	8.41	6.07	8.63	6.02	9.10	6.28		
	36	7.17	5.79	7.58	5.73	8.00	6.02	8.24	5.99	8.43	5.93	8.81	6.17		
	38	6.87	5.64	7.26	5.59	7.66	5.88	7.89	5.85	8.02	5.77	8.25	5.95		
	39	6.73	5.58	7.10	5.51	7.49	5.78	7.71	5.77	7.81	5.66	7.97	5.86		
	41	6.33	5.37	6.68	5.30	7.01	5.59	7.17	5.54	7.22	5.45	7.29	5.62		
	43	5.83	5.14	6.17	5.09	6.40	5.35	6.44	5.25	6.46	5.16	6.51	5.34		

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	5.21	5.17	5.12	5.08	5.05
	-17.8	-18	5.55	5.51	5.46	5.42	5.37
	-15.7	-16	5.89	5.85	5.80	5.76	5.70
	-13.7	-14	6.25	6.21	6.15	6.11	6.05
	-11.7	-12	6.62	6.58	6.53	6.48	6.42
Hi	-9.6	-10	7.00	6.96	6.91	6.85	6.80
	-7.5	-8	7.43	7.38	7.33	7.26	7.21
21	-5.5	-6	7.86	7.80	7.75	7.68	7.62
(m^3/min)	-3.4	-4	8.08	8.00	7.95	7.87	7.81
	-1.3	-2	8.07	7.99	7.93	7.85	7.77
	0.8	0	8.07	7.98	7.92	7.83	7.74
	3.9	3	8.77	8.67	8.60	8.50	8.40
	7.0	6	9.50	9.40	9.31	9.13	8.87
	10.1	9	10.30	10.19	10.08	9.68	8.98
	13.2	12	11.14	10.94	10.50	9.88	9.00
	16.9	15.5	12.00	11.65	10.75	9.89	8.98

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			8.56	6.02	9.05	6.28	9.32	6.25	9.58	6.21	10.12	6.43	10.69	6.32
	12			8.44	5.97	8.93	6.22	9.19	6.19	9.45	6.15	9.98	6.37	10.54	6.27
	14			8.33	5.91	8.81	6.17	9.06	6.13	9.32	6.09	9.84	6.32	10.39	6.22
	16			8.22	5.85	8.69	6.11	8.94	6.07	9.19	6.04	9.71	6.27	10.25	6.16
	18			8.11	5.80	8.57	6.06	8.82	6.02	9.06	5.98	9.57	6.21	10.10	6.08
Me	20			8.00	5.74	8.46	6.01	8.70	5.97	8.94	5.92	9.44	6.14	9.96	6.04
	22			7.90	5.68	8.35	5.95	8.58	5.90	8.82	5.86	9.31	6.10	9.82	5.99
19	24			7.79	5.63	8.23	5.90	8.46	5.85	8.70	5.81	9.18	6.05	9.68	5.95
(m^3/min)	26	7.27	5.65	7.69	5.59	8.12	5.85	8.34	5.81	8.57	5.76	9.05	6.01	9.59	5.92
	28	7.17	5.60	7.58	5.54	8.00	5.80	8.22	5.76	8.45	5.72	8.91	5.95		
	30	7.07	5.55	7.47	5.49	7.89	5.75	8.11	5.71	8.32	5.66	8.77	5.90		
	32	6.95	5.48	7.35	5.43	7.76	5.69	7.98	5.66	8.19	5.61	8.64	5.85		
	34	6.84	5.43	7.23	5.37	7.64	5.64	7.85	5.60	8.07	5.56	8.50	5.80		
	35	6.78	5.40	7.17	5.34	7.58	5.61	7.80	5.57	8.00	5.53	8.43	5.76		
	36	6.64	5.33	7.02	5.28	7.42	5.54	7.63	5.50	7.81	5.45	8.17	5.66		
	38	6.37	5.19	6.73	5.13	7.10	5.40	7.31	5.37	7.43	5.30	7.64	5.47		
	39	6.23	5.12	6.58	5.07	6.94	5.33	7.15	5.30	7.24	5.22	7.38	5.37		
	41	5.86	4.94	6.19	4.88	6.49	5.14	6.65	5.10	6.69	5.00	6.76	5.13		
	43	5.41	4.72	5.72	4.68	5.93	4.89	5.97	4.81	5.99	4.73	6.03	4.90		

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	4.80	4.77	4.72	4.69	4.65
	-17.8	-18	5.12	5.08	5.04	5.00	4.95
	-15.7	-16	5.43	5.40	5.35	5.31	5.26
	-13.7	-14	5.76	5.72	5.68	5.63	5.58
	-11.7	-12	6.11	6.07	6.02	5.97	5.92
Me	-9.6	-10	6.45	6.42	6.37	6.31	6.27
	-7.5	-8	6.85	6.80	6.76	6.70	6.65
19	-5.5	-6	7.25	7.19	7.15	7.08	7.03
(m^3/min)	-3.4	-4	7.45	7.38	7.33	7.26	7.20
	-1.3	-2	7.44	7.37	7.32	7.24	7.17
	0.8	0	7.44	7.36	7.30	7.22	7.14
	3.9	3	8.09	8.00	7.93	7.84	7.74
	7.0	6	8.76	8.67	8.58	8.42	8.18
	10.1	9	9.49	9.40	9.29	8.93	8.28
	13.2	12	10.27	10.08	9.68	9.11	8.30
	16.9	15.5	11.06	10.75	9.91	9.12	8.28

Air flow	Outdoor air temperature (°CDB)	Indoor air temperature 21 °CDB 14 °CWB TC	21 °CDB 14 °CWB SHC	23 °CDB 16 °CWB TC	23 °CDB 16 °CWB SHC	26 °CDB 18 °CWB TC	26 °CDB 18 °CWB SHC	27 °CDB 19 °CWB TC	27 °CDB 19 °CWB SHC	28 °CDB 20 °CWB TC	28 °CDB 20 °CWB SHC	31 °CDB 22 °CWB TC	31 °CDB 22 °CWB SHC	33 °CDB 24 °CWB TC	33 °CDB 24 °CWB SHC
	10			7.46	5.21	7.90	5.43	8.13	5.40	8.35	5.36	8.83	5.55	9.32	5.45
	12			7.36	5.16	7.79	5.38	8.02	5.35	8.24	5.31	8.71	5.51	9.20	5.41
	14			7.26	5.11	7.68	5.33	7.91	5.30	8.13	5.26	8.59	5.45	9.07	5.36
	16			7.17	5.07	7.58	5.28	7.80	5.25	8.01	5.21	8.47	5.41	8.94	5.32
	18			7.07	5.01	7.48	5.23	7.69	5.20	7.91	5.17	8.35	5.36	8.81	5.27
Lo	20			6.98	4.97	7.38	5.19	7.59	5.16	7.80	5.12	8.24	5.31	8.69	5.22
	22			6.89	4.92	7.28	5.14	7.48	5.10	7.69	5.07	8.12	5.26	8.57	5.17
16	24			6.80	4.88	7.18	5.10	7.38	5.06	7.58	5.02	8.01	5.22	8.44	5.13
(m^3/min)	26	6.35	4.89	6.71	4.83	7.08	5.05	7.28	5.01	7.48	4.98	7.89	5.17	8.36	5.10
	28	6.25	4.83	6.61	4.78	6.98	5.00	7.17	4.97	7.37	4.93	7.77	5.13		
	30	6.16	4.79	6.52	4.74	6.88	4.96	7.07	4.92	7.26	4.88	7.65	5.08		
	32	6.06	4.73	6.41	4.69	6.77	4.91	6.96	4.87	7.15	4.84	7.53	5.03		
	34	5.97	4.69	6.30	4.64	6.66	4.86	6.85	4.83	7.04	4.79	7.41	4.99		
	35	5.92	4.67	6.25	4.61	6.61	4.83	6.80	4.81	6.98	4.77	7.35	4.96		
	36	5.80	4.60	6.12	4.54	6.47	4.76	6.66	4.73	6.81	4.68	7.12	4.86		
	38	5.56	4.48	5.87	4.43	6.19	4.65	6.38	4.62	6.48	4.56	6.67	4.70		
	39	5.44	4.42	5.74	4.37	6.05	4.59	6.23	4.56	6.31	4.50	6.44	4.63		
	41	5.12	4.26	5.40	4.21	5.67	4.42	5.80	4.38	5.84	4.31	5.89	4.43		
	43	4.72	4.07	4.99	4.03	5.17	4.21	5.21	4.15	5.22	4.07	5.26	4.20		

Air flow	Outdoor air temperature °CDB	°CWB	Indoor air temperature 16 °CDB	18 °CDB	20 °CDB	22 °CDB	24 °CDB
	-19.8	-20	4.16	4.13	4.09	4.06	4.03
	-17.8	-18	4.43	4.40	4.36	4.33	4.29
	-15.7	-16	4.70	4.67	4.63	4.60	4.55
	-13.7	-14	4.99	4.96	4.91	4.88	4.83
	-11.7	-12	5.29	5.26	5.22	5.17	5.13
Lo	-9.6	-10	5.59	5.56	5.52	5.47	5.43
	-7.5	-8	5.93	5.89	5.85	5.80	5.76
16	-5.5	-6	6.28	6.23	6.19	6.13	6.09
(m^3/min)	-3.4	-4	6.45	6.39	6.35	6.29	6.24
	-1.3	-2	6.45	6.38	6.34	6.27	6.21
	0.8	0	6.44	6.38	6.32	6.25	6.18
	3.9	3	7.00	6.93	6.87	6.79	6.71
	7.0	6	7.59	7.50	7.43	7.29	7.09
	10.1	9	8.22	8.14	8.05	7.73	7.17
	13.2	12	8.89	8.73	8.39	7.89	7.19
	16.9	15.5	9.58	9.31	8.59	7.89	7.17

Note(1) This data shows average statuses out of those possible to occur in the system control.
(Depending on controls, there may be ranges where the operation is not conducted continuously.)
(2) Symbols are as follows
TC :Total cooling capacity(kW)
SHC :Sensible heat capacity(kW)

PHA001Z179 A

3.7 Application data

3.7.1 Installation of indoor unit

(1) Ceiling cassette-4 way type (FDT)

PJF012D062

This manual is for the installation of the indoor unit.
For electrical wiring work (Indoor unit), refer to page 113. For wired remote control installation, refer to page 117. For wireless kit installation, refer to page 293. For electrical wiring work (Outdoor unit) and refrigerant pipe work installation for outdoor unit, refer to page 12. For motion sensor kit installation, refer to page 319. This unit must always be used with the panel.

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 refered by the foumula (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.
  In case of R32, the refrigerant could be ignited because of its flammability.
- **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 property.**
  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 R32 or 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 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 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 due to a short circuit.
- **Earth leakage breaker must be installed.**
  If the earth leakage breaker is not installed, it can cause 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, it could be sprayed with chemicals, 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, chloride gas, acid, alkali or ammonic 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 install the motion sensor mounting panel at following places. It could cause detection error, incapacity of detection, or characteristic degradation.
  • Place where vibration is applied to it for a long period of time.
  • Place where static electricity or electromagnetic wave generates.
  • Place where it is exposed to high temperature or humidity for a long period of time.
  • Dusty place or where the lens face could be fouled or damaged.
- **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.**
  Water may drip in the room, damaging user's belongings, unless it is worked as instructed.
- **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.
- **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, and do not spray disinfectants etc. directly over the air conditioner.**
  It could cause electrical shock or corrode parts.
- **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.

①Before installation

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

When moving the indoor unit, hold only the hanging hardware (4 places) only, with care not to apply forces to any other parts of the unit (particularly the refrigerant pipe, drain pipe, and resin parts).

Accessory item

For unit hanging		For refrigerant pipe			For drain pipe			
Flat washer (M10)	Level gauge	Pipe cover(big)	Pipe cover (small)	Strap	Pipe cover(big)	Pipe cover(small)	Drain hose	Hose clamp
								
8	1	1	1	4	1	1	1	1
For unit hanging	For unit height position adjustment and hanging support	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

②Selection of installation location for the indoor unit

① 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.
- In case of the panel having the motion sensor, the installation height must be no higher than 4 m. It could reduce the sensitivity of motion sensor, disabling the detection.
- 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.)

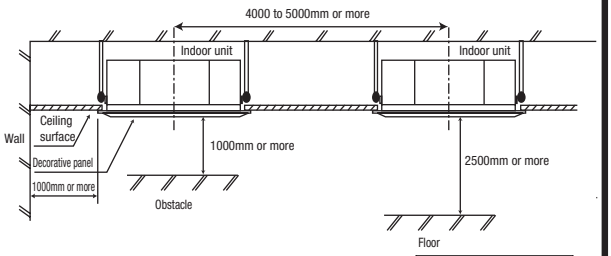
②Check if the place where the air conditioner is installed can hold the weight of the unit. If it is not able to hold, reinforce the structure with boards and beams strong enough to hold it. If the strength is not enough, it could cause injury due to unit falling.

③If there are 2 units of wireless type, keep them away for more than 6m to avoid malfunction due to cross communication.

④When plural indoor units are installed nearby, keep them away for more than 4 to 5m.

Space for installation and service

- When it is not possible to keep enough space between indoor unit and wall or between indoor units, close the air supply port where it is not possible to keep space and confirm there is no short circuit of airflow.
- Install the indoor unit at a height of more than 2.5m above the floor.



Where there are pipe joints on the way of embedded piping, provide adequate openings for inspection of the joints.

Set blow-out pattern

- Select the most proper number of blow-out air supply port direction from 4 way, 3 way or 2 way according to the shape of the room and installation position. (1 way is not available.)
- If it is necessary to change the number of air supply port, prepare the covering materials. (sold as accessory)
- Instruct the user not to use low fan speed when 2way or 3way air supply is used.
- Do not use 2way air supply port under high temperature and humidity environment. (Otherwise it could cause condensation and leakage of water.)
- It is possible to set the airflow direction port by port independently. Refer to tne user's manual for details.

③Preparation 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 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 or M8) on site.

Ceiling opening, Suspension bolts pitch, Pipe position

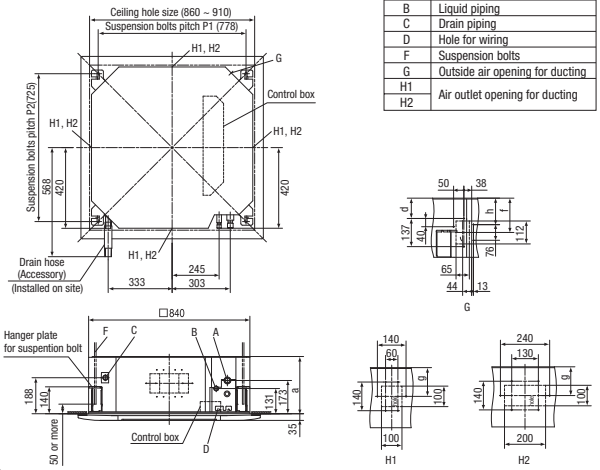
(mm)

∗It is possible the suspension bolts pitch to adjust accoding to the this table.

Series	Type	a	d	f	g	h
Single Split (PAC) series	40 to 71 type	236	37	105	88	67
	100 to 140 type	298	99	167	140	129
VRF (KX) series	28 to 71 type	236	37	105	88	67
	90 to 160 type	298	99	167	140	129

Type \ Mark	P1	P2
1	770	725~770
2	770~800	725

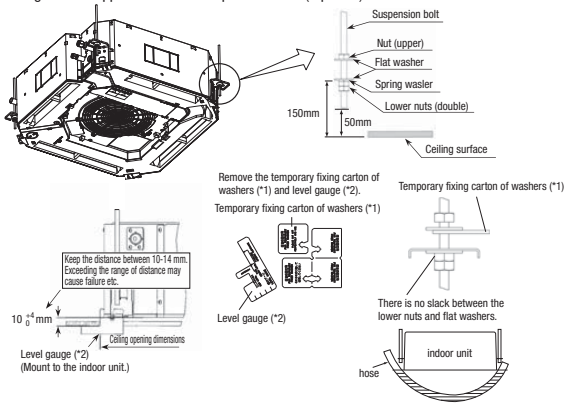
Symbol	
A	Gas piping
B	Liquid piping
C	Drain piping
D	Hole for wiring
F	Suspension bolts
G	Outside air opening for ducting
H1	Air outlet opening for ducting
H2	



④Installation of indoor unit

Work procedure

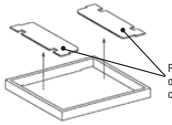
1. Set the suspension bolt length to about 50 mm from the ceiling.
2. Temporarily locate the lower nuts of the suspension bolts (4 places) at a position approximately 150 mm from the ceiling.
3. Temporarily locate the upper nuts of the suspension bolts (4 places) at positions sufficiently distance from the lower nuts so that they do not interfere with the suspension of the indoor unit and with its height adjustment.
4. Set the upper nuts of the suspension bolts and upper washers (4 places) at positions sufficiently distance from the lower nuts. Then, push and insert the temporary fixing carton of washers (*1) onto suspension bolts. Make sure that the upper washers do not slide down.
5. Suspend the indoor unit.
6. After suspending the indoor unit, mount the level gauge (*2) to the air outlet of the indoor unit, and adjust the suspension height of the indoor unit. Loosen the upper nuts (4 places), and adjust the suspension height using the lower nuts (4 places). Confirm there is no slack between the lower nuts and flat washers of the indoor unit hanger plate (4 places).
7. Remove the temporary fixing carton of washers (from all 4 places).
8. Make sure that the indoor unit is installed horizontally. Confirm the levelness of the indoor unit using a level gauge or transparent hose filled with water.
   (Keep the height difference at both ends of the indoor unit within 3 mm.)
9. Tighten the upper nuts of the suspension bolts (4 places).

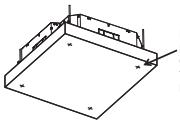


④Installation of indoor unit (continued)

Protection of the indoor unit

- If it is not possible to install the panel for a while or if attaching the ceiling board after installing the indoor unit, protect the indoor unit by using upper carton.





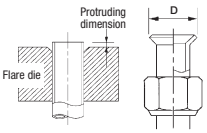
Caution

- Do not adjust the unit height by adjusting the upper nuts. Doing so will cause unexpected stress on the indoor unit and cause the unit to become deformed, prevent the panel from being installed, and be generated fan interference noise.
- Make sure that the indoor unit is installed horizontally and set the appropriate gap between the underside of the unit and the ceiling plane. Improper installation may cause air leakage, dew condensation, water leakage and noise.
- Even after the panel has been installed, the unit height can still be finely adjusted. Refer to the panel installation manual for details.
- Make sure there is no gap between the panel and the ceiling surface, and between the panel and the indoor unit. Any gap may cause air and/or water to leak, or condensation to form.

⑤Refrigerant pipe

Caution

- Be sure to use new pipes for the refrigerant pipes. Use the flare nut attached to the product.
  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 nut attached to the unit.
  2) In case of reuse: Flare the end of pipe replaced partially for R32 or R410A.
  ⚠WARNING : When flared joints are reused indoors, the flare part shall be re-fabricated. (only for R32)

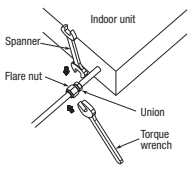


Pipe dia. d mm	Min. pipe wall thickness mm	Protruding dimension for flare, mm		Flare O.D. D mm	Flare nut tightening torque N-m
		Rigid (Clutch type)			
		For R32 For R410A	Conventional tool		
6.35	0.8	0 ~ 0.5	0.7 ~ 1.3	8.9 ~ 9.1	14 ~ 18
9.52	0.8			12.8 ~ 13.2	34 ~ 42
12.7	0.8			16.2 ~ 16.6	49 ~ 61
15.88	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) 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 the designated refrigerant.
  Using other refrigerant except the designated refrigerant, 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 R32 or R410A refrigerant.

Work procedure

1. 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.)
2. 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.
   - Make sure to use flare nuts assembled on the unions. Usage of other flare nuts could cause refrigerant leakage.
   ∗ Do a flare connection as follows:
   - Make sure to hold the nut on indoor unit pipe side using double spanner method as indicated when fastening / loosening flare nuts in order to prevent unintentional twisting of the copper pipe.
   - 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.



3. 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 reinfoced.
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.

⑤Refrigerant pipe (continued)

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.

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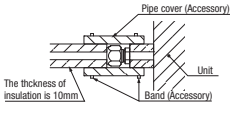

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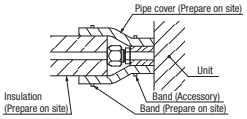


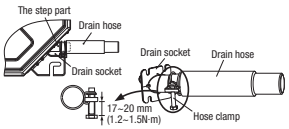
⑥Drain pipe

Caution

- Install the drain pipe according to the installation manual in order to drain properly. Water may drip in the room, damaging user's belongings, unless it is worked as instructed.
- Be sure to use the supplied drain hose. Unless it is used, the drain socket could be damaged by undue stresses, causing water leakage.
- 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.

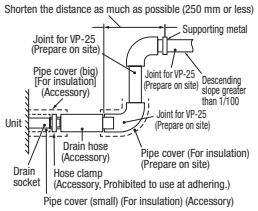
Drain socket and drain hose connection

- **Where temperatures around the drain socket may rise beyond 50˚C, adhere the drain socket and the drain hose.**
- Avoid using the hose clamp with adhesive. It could cause water leakage.



<When using the hose clamp>

1. Make sure that the drain hose (the soft PVC side) is inserted into the end of the step part of the drain socket.
   Fix the hose clamp so that its bolt is located on the outside of the indoor unit, and the bolt are fastened in a vertical orientation.
2. Position the hose clamp so that it touches the insulation of the drain hose, and then tighten the bolt.
3. Turn the bolt several times until it is securely tightened, but do not tighten it excessively. Target extent of bolt tightening should be 17 to 20 mm (Reference:1.2 to 1.5N·m)

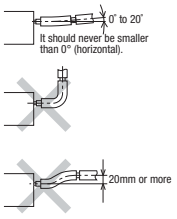


<When using adhesives>

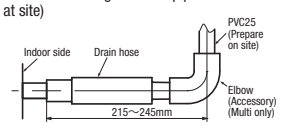
1. Connect the drain hose (the soft PVC side) to the drain socket using polyvinyl type adhesives. Make sure that the drain hose (the soft PVC side) is inserted into the end of the step part of the drain socket.
2. Use the adhesive according to maker's instructions.
   ∗ **Do not use adhesives containing phthalic esters. It could cause water leak.**
   - Make sure that the adhesive will not get into the drain hose or drain socket.

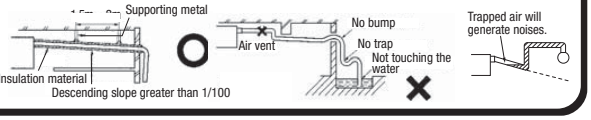
Drain hose and piping connection

1. Prepare a joint for connecting VP-25 pipe, adhere and connect the joint to the drain hose (the rigid PVC side), 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.



2. Pay attention not to apply stresses to the drain socket or drain pipe, and support and fix the drain pipe as close place to the unit as possible when connecting the drain pipe. (within 250 mm from the end of joint prepared at site)
   - As for drain pipe, apply VP25 (OD32). If apply PVC25 (OD25), connect the expanded connector to the drain hose, with adhesive. (Multi unit only)
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.





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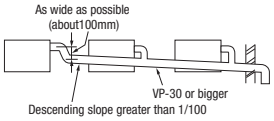
⑥Drain pipe (continued)

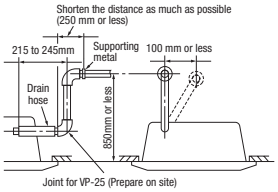
●When sharing a drain pipe for more than 1 unit, lay the main pipe 100mm below the drain outlet of the unit. In addition, select VP-30 or bigger size for main drain pipe.



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), hose clamp 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 850mm 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 right figure.

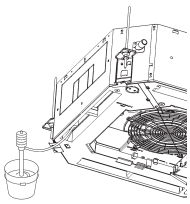


Drain test

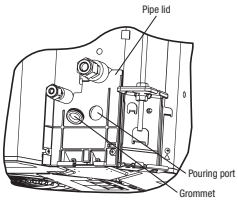
● After installing the drain pipe, make sure that drain system works correctly and that no water leaks from the joint and drain pan. Check whether the motor sound of the drain pump is normal.
● Conduct a drain test when installing, even during the heating season.
● In the case of new buildings, be sure to complete the test before fixing the ceiling.

1. Pour about 1,000 cc of test water into the drain pan of the indoor unit. Exercise care not to allow electrical equipment such as the drain pump and other components to become wet while filling water.
   Pour test water through the pouring port of the pipe lid using a feed water pump or a similar device, or through the refrigerant pipe joint.

●In case of pouring water from the air outlet



●In case of pouring water from the pouring port of the pipe lid



2. Make sure that water drains out completely and that no water leaks from any joints of the drain pipe during the test.
   Test to confirm that the water drains out correctly while listening to the drain pump motor operating sound. At the drain socket (transparent), it is possible to check whether the water drains out correctly.
3. Unplug the rubber plug on the indoor unit so that the remaining water drains from the drain pan after the draining test.
   After checking the water drainage, fix the rubber plug correctly. Installation work for the drain pipe must be performed for the entire drain pipe up to the indoor unit.
   If the pipe lid has been removed in order to pour water, mount the pipe lid again.

Drain pump operation

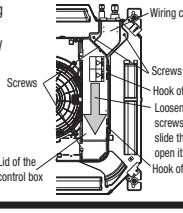
●In case electrical wiring work completed
Drain pump can be operated by the wired remote controller.
For the operation method, refer to Operation for drain pump in the installation manual for wiring work.
●In case electrical wiring work not completed
Drain pump will run continuously when the dip switch"SW7-1" on the indoor unit PCB is turned ON, the Connector CNB is disconnected, and then the power supply (230VAC on the terminal block ① and ②) is turned ON.
Make sure to turn OFF "SW7-1" and reconnect the Connector CNB after the test.

⑦Wiring-out position and wiring connection

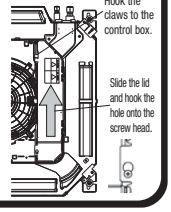
● Electrical installation work must be performed according to the installation manual by an electrical installation service provider qualified by a power provider of the country, and be executed according to the technical standards and other regulations applicable to electrical installation in the country.
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.
● Be sure to do D type earth work.
● For the details of electrical wiring work, see attached instruction manual for electrical wiring work.

1. Loosen the 2 screws of the lid of the control box, and slide the lid in the direction of the arrow shown in the figure. It will then be possible to open the lid.
2. Unhook the lid from the control box, and remove the lid.
3. Remove the 2 screws from the wiring cover, and remove the wiring cover.
4. Hold each wire inside the unit, and securely fasten them to the terminal block.
5. Fix the wiring using clamps.
6. Install the wiring cover and the lid of the control box.

When opening the lid of the control box



When closing the lid of the control box

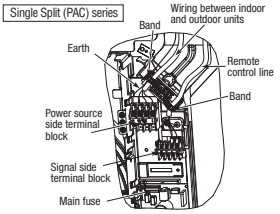


Main fuse specification

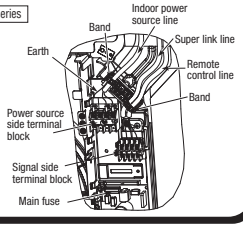
Specification	Part No.
T3.15A L250V	SSA564A149AF

⑦Wiring-out position and wiring connection (continued)

Single Split (PAC) series



VRF (KX) series



⑧Panel installation

●Install the panel on the indoor unit after electrical wiring work.
●Refer to the attached manual for panel installation for details.

⑨Check list after installation

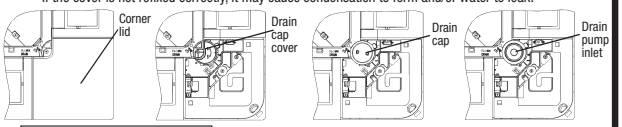
●Check the following items after all installation work completed.

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	
Supply 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 airflow on air inlet and outlet?	Insufficient capacity	

⑩How to check the dirt of drain pan and cleanimg the inlet of the drain pump. (Maintenance)

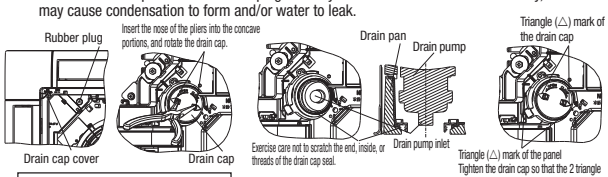
The method of checking the dirt of drain pan

●It is possible to check dirt on the drain pan and drain pump inlet without removing the panel.
1. Open the inlet grille and remove the corner lid on the drain pan side.
2. Remove the drain cap cover (1 screw) from the panel corner.
3. Check the dirt on the drain pan from the drain cap, and check the drain pump inlet. If the drain pan is very dirty, remove the drain pan and clean it.
4. After checking, refix the drain cap cover securely.
   If the cover is not refixed correctly, it may cause condensation to form and/or water to leak.



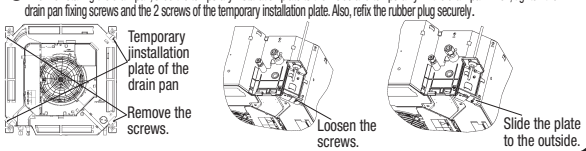
Cleaning of drain pump inlet

●It is possible to clean the drain pump inlet and surrounding area by removing the drain cap only; it is not necessary to remove the panel and drain pan.
●Before removing the drain cap, remove the rubber plug and drain water from the drain pan.
1. Remove the drain cap cover as described above.
2. Insert the nose of the pliers into the concave portions (2 places) of the drain cap, and rotate the pliers about 1 turn in the CCW direction. The drain cap is removed.
3. When cleaning the drain pump inlet, use a soft plastic tool. If a metallic tool is used, the drain cap mounting portion may be scratched and water may leak.
4. Before mounting the drain cap, rinse it and **remove any foreign material from the inside of the cap.** If the drain cap is installed with foreign material inside it, it may cause water to leak.
5. Insert the nose of the pliers into the concave portions of the drain cap and rotate the pliers to install the drain cap. Rotate the drain cap about 1 turn in the CW direction until it stops rotating. If the drain cap is not rotated for 1 or more turns, the cap will not have been installed correctly.
   Remove the drain cap, and then install it again correctly.
6. After tightening the drain cap, make sure the triangle (△) mark of the drain cap comes close to the triangle mark on the panel. If these triangle marks are not close to each other, tighten the drain cap further.
7. Refix the drain cap cover and rubber plug securely. If the cover is not refixed correctly, it may cause condensation to form and/or water to leak.



Notes for removing the drain pan

●Before removing the drain pan, drain water from the drain pan. Remove the rubber plug and drain water.
●The drain pan is installed by the temporary installation plate. Remove the 2 drain pan fixing screws, and loosen the 2 screws of the temporary installation plate.
Slide the temporary installation plate to the outside of the drain pan. And then,it is possible to remove the drain pan.
●When reinstalling the drain pan, slide the temporary installation plate to the inside and temporarily fix the drain pan. Then, tighten the 2 drain pan fixing screws and the 2 screws of the temporary installation plate. Also, refix the rubber plug securely.



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PJF012D037B

• Panel installation

Read this manual together with the 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.**

Function

The Anti draft panel has the anti draft mechanism. If the Anti draft panel is installed and the anti draft function is set, the anti draft function will be oprerated and reduce the draft feeling. (Refer to ⑯ Panel setting for details.)

- Standard panel : without the anti draft mechanism
- Anti draft panel : with the anti draft mechanism

① Before installation

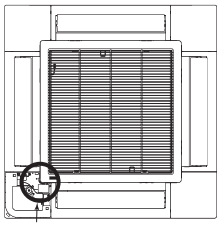
- Follow installation manual carefully, and install the panel properly.
- Check the following items.

○ Accessories

Accessories

Bolt		4 pieces	For panel installation
Strap		4 pieces	For avoiding the corner panel from falling
Screw		4 pieces	For fixing the corner panel

Note: Accessories are laid in the position removing the corner lid.



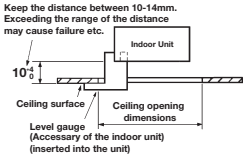
Accessories holding position

② Checking the indoor unit installation position

- Read this manual together with the air-conditioner installation manual carefully.
- Check if the opening size for the indoor unit is correct with the level gauge supplied in the indoor unit.
- Check if the gap between the plane and the indoor unit is correct by inserting the level gauge into the air outlet port of the indoor unit. (See below drawing)
- Adjust the installation elevation if necessary.
- Remove the level gauge before installing the panel.

Caution

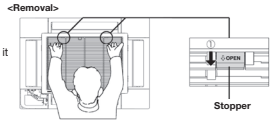
If there is a height difference beyond the design limit between the installation level of the indoor unit and the panel, the panel may be subject to excessive stress during installation and it may cause distortion and damage.



- The installation level of the indoor unit can be adjusted finely from the opening provided on the corner, even after panel is Installed. (Refer to ⑥ Installing the panel for details.)

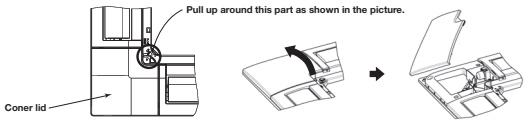
③ Removing the inlet grille

1. Hold the stoppers on the inlet grille (2 places) toward OPEN direction, open the inlet grille.
2. Remove the hooks of the inlet grille from the panel while it is in the open position.



④ Removing the corner lid

- Pull the corner lid toward the direction indicated by the arrow and remove it. (Same way for all 4 corner lids)



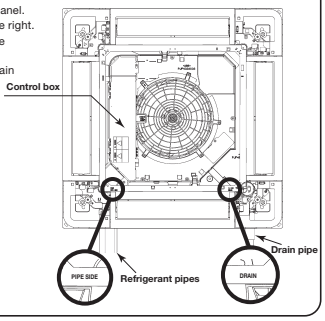
⑤ Orientation of the panel installation

Take note that there is an orientation to install the panel.

- Install the panel with the orientation shown on the right.
- Align the "PIPE SIDE" mark (on the panel) with the refrigerant pipes on the indoor unit.
- Align the "DRAIN" mark (on the panel) with the drain pipe on the indoor unit.

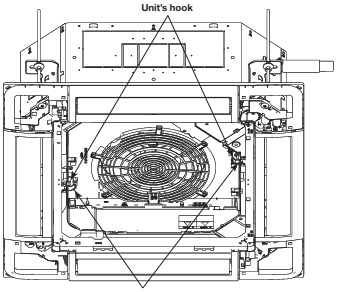
CAUTION

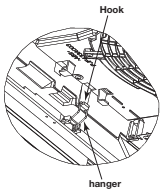
In case the orientation of the panel is not correct, it will lead to air leakage and also it is not possible to connect the flap motor wiring.

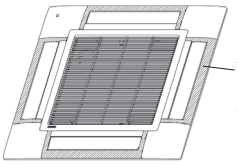


⑥ Installing the panel

1. Temporary hanging
   - Lift up the hanger (2 places) on the panel for temporary support.
   - Hang the panel on the hook on the indoor unit.







The Anti draft panel moves the parts of the anti draft mechanism (shaded area,4 places).Note that they may break if they are moved forcibly by hand. Although the parts (shaded area) of the Standard panel are separate parts from the body, they do not move.

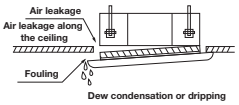
Caution

- The parts (shaded area), of the anti draft mechanism around the air outlet, are separate parts. Handle the panel with care. Especialy, the shaded area of the Anti draft panel move. Note that they may break if they are moved forcibly by hand.

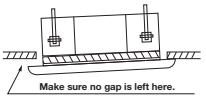
2. Fix the panel on the indoor unit
   - Fasten the panel on the indoor unit with the 4 bolts supplied with the panel.

Caution

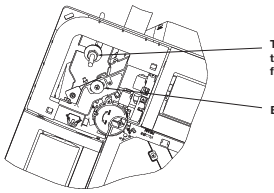
- Improperly tightened fixing bolts cause the problems listed below, so make sure that bolts are securely tightened.



- If there is a gap between the ceiling and the panel even after the fixing bolts are tightened, adjust the installation level of the indoor unit again.



- It is possible to adjust the installation height of the indoor unit with the panel installed as long as there is no influence on the drain pipe inclination and/or the indoor unit levelness.

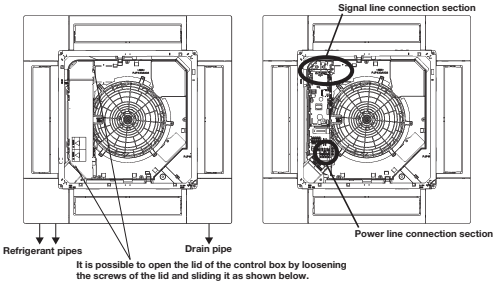


Caution

Do not give any stress on the panel when adjusting the height of the indoor unit to avoid unexpected distortion. It may cause the distortion of panel or failing to close the inlet grille, and the parts of the anti draft mechanism.

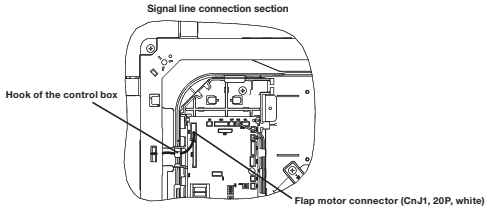
⑦ Electrical wiring

The wiring work varies depending on the panel type. Select the wiring work appropriate for the panel type.
The connection positions of the indoor unit are as shown below irrespective of the panel type.



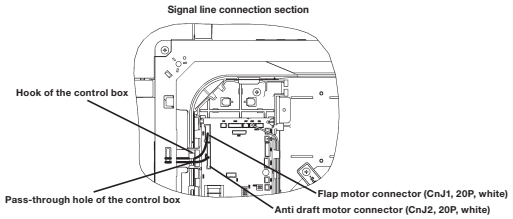
<For the Standard panel>
1. Loosen 2 screws on the control box lid of the indoor unit, and remove the lid by sliding it.
2. Pass the flap motor wiring (20-wire) through the hook of the control box, and connect to CnJ1 (20P, white).
3. Fix the control box lid of the indoor unit, and tighten 2 screws.

For the Standard panel



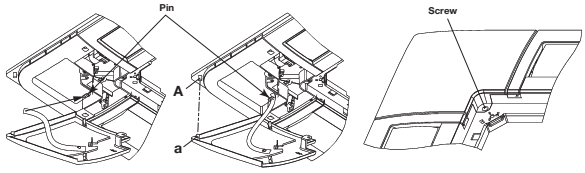
<For the Anti draft panel>
1. Loosen 2 screws on the control box lid of the indoor unit, and remove the lid by sliding it.
2. Pass the flap motor cable (20-wire) through the hook of the control box, and connect to CnJ1 (20P, white).
3. Pass the anti draft motor cable (20-wire) through the hook of the control box, and connect to CnJ2 (20P, white).
4. Fix the control box lid of the indoor unit, and tighten the 2 screws.

For the Anti draft panel



⑧ Installing a corner lid

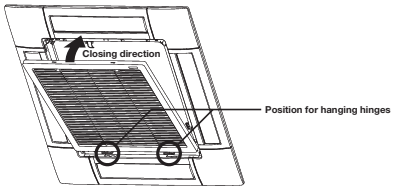
1. To avoid unexpected falling of the corner lid, put the strap onto the corner lid's pin with turning the strap up.
2. Then hang the strap of a corner lid onto the panel's pin.
3. First insert the part "a" of a corner lid into the part "A" of the panel, and then engage 2 hooks.
4. Fix with screw.



⑨ Installing the inlet grille

To attach the inlet grille, follow the procedure described in ⑤ Removing the inlet grille in the reverse order.
1. Hang the hooks of the inlet grille in the hole of the panel. (The hooks of the grille can be hanged in 4 side of the panel as following.)
2. After the grille is hanged, close the grille while the stoppers(2 places) on the grille are kept pressed to "OPEN" direction. When the grille comes to the original position, release the stoppers to hold the grille. Make sure to hear the sound of "CLICK" in both stoppers.

<Installation>



Caution

- Installing the inlet grille from the hinge side.
- Be careful in the inlet grille Installing, unstable installing may cause grille falling.
- Repair or replace the distorted, broken stopper at once, or the grille falling may occur.

⑩ Panel setting

<Flap swing range setting (Individual flap cotrol setting)>

It is possible to change the swing range of the flap by the wired remote control. Once the upper and lower limit positions are set, the flap will swing within the set range.It is also possible to set the different range to each flap.

<Anti draft setting>

The anti draft function will not be operated if the anti draft panel is installed and its wirings are only connected. To operate the anti draft function, enable the anti draft setting by using the wired or wireless remote control.

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

Once you have enabled the settings in this mode, the anti draft function is operated when the air-conditioner is started, and the parts of the anti draft mechanism are always open when the air-conditioner is operating. When the air-conditioner is stopped, they are closed. It is possible to enabled or disabled the anti draft function for each air outlet.

For the setting details, refer to the user's manual supplied with the remote control.

PJF012D514

(2) Ceiling cassette-4 way compact type (FDTC)

This manual is for the installation of the indoor unit.
For electrical wiring work (Indoor unit), refer to page 113. For wired remote control installation, refer to page 117. For wireless kit installation, refer to page 302. For electrical wiring work (Outdoor unit) and refrigerant pipe work installation for outdoor unit, refer to page 12. For motion sensor kit installation, refer to page 323.
This unit must always be used with the panel.

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 refered by the foumula (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.
  In case of R32, the refrigerant could be ignited because of its flammability.
- **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 property.**
  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 R32 or 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 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 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 due to a short circuit.
- **Earth leakage breaker must be installed.**
  If the earth leakage breaker is not installed, it can cause 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, it could be sprayed with chemicals, 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, chloride gas, acid, alkali or ammonic 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 install the motion sensor mounting panel at following places. It could cause detection error, incapacity of detection, or characteristic degradation.
  - Place where vibration is applied to it for a long period of time.
  - Place where static electricity or electromagnetic wave generates.
  - Place where it is exposed to high temperature or humidity for a long period of time.
  - Dusty place or where the lens face could be fouled or damaged.
- **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.**
  Water may drip in the room, damaging user's belongings, unless it is worked as instructed.
- **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.
- **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, and do not spray disinfectants etc. directly over the air conditioner.**
  It could cause electrical shock or corrode parts.
- **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.

#

①Before installation

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

When moving the indoor unit, hold only the hanging hardware (4 places) only, with care not to apply forces to any other parts of the unit (particularly the refrigerant pipe, drain pipe, and resin parts).

Accessory item

For unit hanging		For refrigerant pipe			For drain pipe			
Flat washer (M10)	Level gauge	Pipe cover(big)	Pipe cover (small)	Strap	Pipe cover(big)	Pipe cover(small)	Drain hose	Hose clamp
								
8	1	1	1	4	1	1	1	1
For unit hanging	For unit tight position adjustment and hanging support	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

②Selection of installation location for the indoor unit

① 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.
- In case of the panel having the motion sensor, the installation height must be no higher than 4 m. It could reduce the sensitivity of motion sensor, disabling the detection.
- 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.)

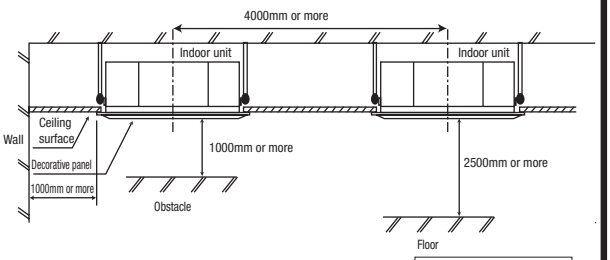
②Check if the place where the air conditioner is installed can hold the weight of the unit. If it is not able to hold, reinforce the structure with boards and beams strong enough to hold it. If the strength is not enough, it could cause injury due to unit falling.

③If there are 2 units of wireless type, keep them away for more than 6m to avoid malfunction due to cross communication.

④When plural indoor units are installed nearby, keep them away for more than 4m.

Space for installation and service

- When it is not possible to keep enough space between indoor unit and wall or between indoor units, close the air supply port where it is not possible to keep space and confirm there is no short circuit of airflow.
- Install the indoor unit at a height of more than 2.5m above the floor.



Where there are pipe joints on the way of embedded piping, provide adequate openings for inspection of the joints.

Set blow-out pattern

- Select the most proper number of blow-out air supply port direction from 4 way, 3 way or 2 way according to the shape of the room and installation position. (1 way is not available.)
- If it is necessary to change the number of air supply port, prepare the covering materials. (sold as accessory)
- Instruct the user not to use low fan speed when 2way or 3way air supply is used.
- Do not use 2way air supply port under high temperature and humidity environment. (Otherwise it could cause condensation and leakage of water.)
- It is possible to set the airflow direction port by port independently. Refer to tne user's manual for details.

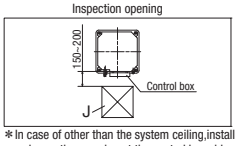
③Preparation before installation

- 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 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 or M8) on site.

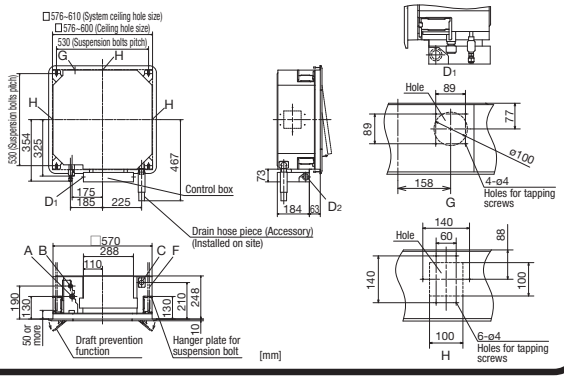
Ceiling opening, Suspension bolts pitch, Pipe position

Symbol	Content
A	Gas piping
B	Liquid piping
C	Drain piping
D_1	Power supply connection
D_2	Remote control code and signal wiring connection
F	Suspension bolts
G	Outside air opening for ducting
H	Air outlet opening for ducting
J	Inspection opening

Inspection opening



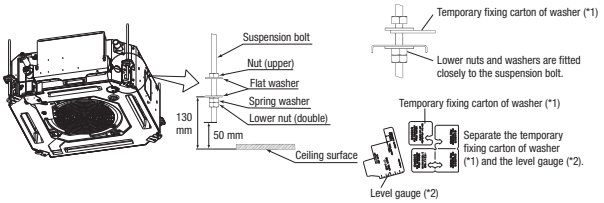
※In case of other than the system ceiling,install an inspection opening at the control box side.



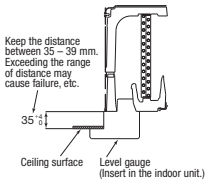
④Installation of indoor unit

Work procedure

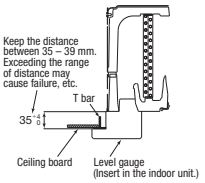
1. This unit is designed to install on a system ceiling.
   If necessary, remove T bars temporarily before installing the unit.
   When it is installed on a ceiling other than the system ceiling, install an inspection port at the control box side.
2. Determine the position of suspension bolts (530 mm × 530 mm).
3. Use 4 suspension bolts, and fix them.
4. Set the suspension bolt length to about 50 mm from the ceiling.
5. Temporarily locate the lower nuts of the suspension bolts (4 places) at a position approximately 130 mm from the ceiling.
6. Temporarily locate the upper nuts of the suspension bolts (4 places) at positions sufficiently distance from the lower nuts so that they do not interfere with the suspension of the indoor unit and with its height adjustment.
7. Set the upper nuts of the suspension bolts and upper washers (4 places) at positions sufficiently distance from the lower nuts. Then, push and insert the temporary fixing carton of washers (*1) onto suspension bolts. Make sure that the upper washers do not slide down.
8. Suspend the indoor unit.
9. After suspending the indoor unit, mount the level gauge (*2) to the air outlet of the indoor unit, and adjust the suspension height of the indoor unit. Loosen the upper nuts (4 places), and adjust the suspension height using the lower nuts (4 places). Confirm there is no slack between the lower nuts and flat washers of the indoor unit hanger plate (4 places).
10. Remove the temporary fixing carton of washers (from all 4 places).
11. Make sure that the indoor unit is installed horizontally. Confirm the levelness of the indoor unit using a level gauge or transparent hose filled with water.
    (Keep the height difference at both ends of the indoor unit within 3 mm.)
12. Tighten the upper nuts of the suspension bolts (4 places).



<In case of other than the system ceiling>



<In case of the system ceiling>



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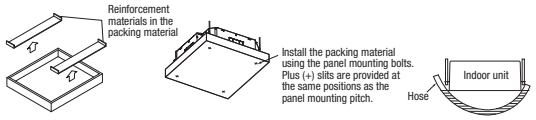
④Installation of indoor unit (continued)

Protection of the indoor unit

- If it is not possible to install the panel for a while or if attaching the ceiling board after installing the indoor unit, protect the indoor unit by using upper carton.



Caution

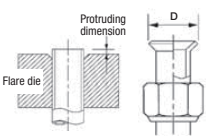
- Do not adjust the unit height by adjusting the upper nuts. Doing so will cause unexpected stress on the indoor unit and cause the unit to become deformed, prevent the panel from being installed, and be generated fan interference noise.
- Make sure that the indoor unit is installed horizontally and set the appropriate gap between the underside of the unit and the ceiling plane. Improper installation may cause air leakage, dew condensation, water leakage and noise.
- Make sure there is no gap between the panel and the ceiling surface, and between the panel and the indoor unit. Any gap may cause air and/or water to leak, or condensation to form.

⑤Refrigerant pipe

Caution

- Be sure to use new pipes for the refrigerant pipes. Use the flare nut attached to the product.
  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 nut attached to the unit.
  2) In case of reuse: Flare the end of pipe replaced partially for R32 or R410A.

⚠WARNING : When flared joints are reused indoors, the flare part shall be re-fabricated. (only for R32)



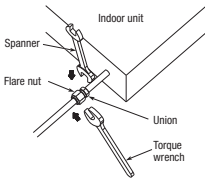
Pipe dia. d mm	Min. pipe wall thickness mm	Protruding dimension for flare, mm		Flare O.D. D mm	Flare nut tightening torque N·m
		Rigid (Clutch type)			
		For R32 For R410A	Conventional tool		
6.35	0.8	0 ~ 0.5	0.7 ~ 1.3	8.9 ~ 9.1	14 ~ 18
9.52	0.8			12.8 ~ 13.2	34 ~ 42
12.7	0.8			16.2 ~ 16.6	49 ~ 61
15.88	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) 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 the designated refrigerant.
  Using other refrigerant except the designated refrigerant, 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 R32 or R410A refrigerant.

Work procedure

1. 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.)
2. 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.
   - Make sure to use flare nuts assembled on the unions. Usage of other flare nuts could cause refrigerant leakage.

   ＊Do a flare connection as follows:

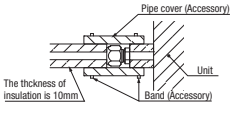


   - Make sure to hold the nut on indoor unit pipe side using double spanner method as indicated when fastening / loosening flare nuts in order to prevent unintentional twisting of the copper pipe.
   - When fastening the flare nut, align the refrigeration pipe with the center of flare nut, screw the nut for 3-4 times by hand and then tighten it by spanner with the specified torque mentioned in the table above.
3. 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 reinfoced.
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.

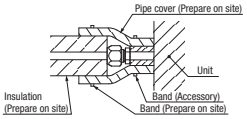
⑤Refrigerant pipe (continued)

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.

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



<The case of using reinfoced insulation>



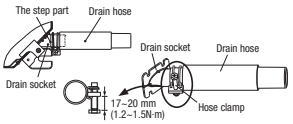
⑥Drain pipe

Caution

- Install the drain pipe according to the installation manual in order to drain properly. Water may drip in the room, damaging user's belongings, unless it is worked as instructed.
- Be sure to use the supplied drain hose. Unless it is used, the drain socket could be damaged by undue stresses, causing water leakage.
- 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.

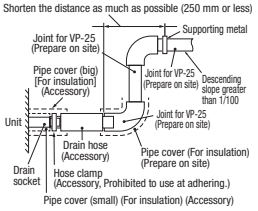
Drain socket and drain hose connection

- **Where temperatures around the drain socket may rise beyond 50˚C, adhere the drain socket and the drain hose.**
- Avoid using the hose clamp with adhesive. It could cause water leakage.



<When using the hose clamp>

1. Make sure that the drain hose (the soft PVC side) is inserted into the end of the step part of the drain socket.
   Fix the hose clamp so that its bolt is located on the outside of the indoor unit, and the bolt are fastened in a vertical orientation.
2. Position the hose clamp so that it touches the insulation of the drain hose, and then tighten the bolt.
3. Turn the bolt several times until it is securely tightened, but do not tighten it excessively. Target extent of bolt tightening should be 17 to 20 mm (Reference:1.2 to 1.5N·m)

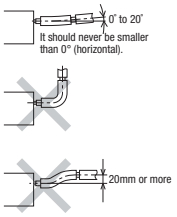


<When using adhesives>

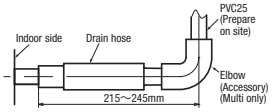
1. Connect the drain hose (the soft PVC side) to the drain socket using polyvinyl type adhesives. Make sure that the drain hose (the soft PVC side) is inserted into the end of the step part of the drain socket.
2. Use the adhesive according to maker's instructions.
   ＊ Do not use adhesives containing phthalic esters. It could cause water leak.
   - Make sure that the adhesive will not get into the drain hose or drain socket.

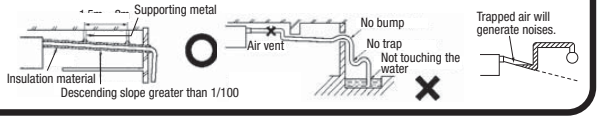
Drain hose and piping connection

1. Prepare a joint for connecting VP-25 pipe, adhere and connect the joint to the drain hose (the rigid PVC side), 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.



2. Pay attention not to apply stresses to the drain socket or drain pipe, and support and fix the drain pipe as close place to the unit as possible when connecting the drain pipe. (within 250 mm from the end of joint prepared at site)
   - As for drain pipe, apply VP25 (OD32). If apply PVC25 (OD25), connect the expanded connector to the drain hose, with adhesive. (Multi unit only)
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.





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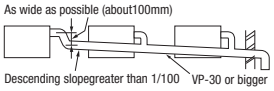
⑥Drain pipe (continued)

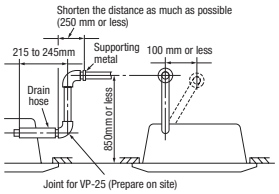
● When sharing a drain pipe for more than 1 unit, lay the main pipe 100mm below the drain outlet of the unit. In addition, select VP-30 or bigger size for main drain pipe.



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), hose clamp and part of the drain hose, and fix and wrap it with tapes to wrap and make joint part gapless.

Drain up

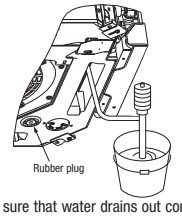
● The position for drain pipe outlet can be raised up to 850mm above the ceiling. Use elbows for installation to avoid obstacles inside ceiling. If the horizontal drain pipe is too long before vertical pipe, the backflow of water will increase when the unit is stopped, and it may cause overflow of water 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 right figure.



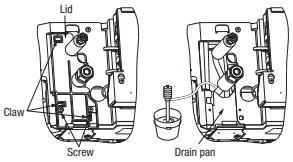
Drain test

● After installing the drain pipe, make sure that drain system works correctly and that no water leaks from the joint and drain pan. Check whether the motor sound of the drain pump is normal.
● Conduct a drain test when installing, even during the heating season.
● In the case of new buildings, be sure to complete the test before fixing the ceiling.
1. Pour about 1,000 cc of test water into the drain pan of the indoor unit. Exercise care not to allow electrical equipment such as the drain pump and other components to become wet while filling water.
Pour test water through the pipe lid using a feed water pump or a similar device, or through the refrigerant pipe joint.

● In case of pouring water from the air outlet



● In case of pouring water from the pipe lid
(1) Remove screws at 2 places.
(2) Release the claws, and remove the lid.



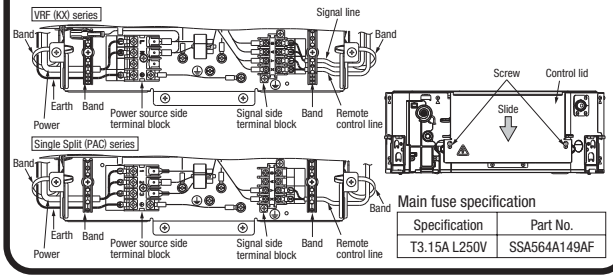
2. Make sure that water drains out completely and that no water leaks from any joints of the drain pipe during the test.
Test to confirm that the water drains out correctly while listening to the drain pump motor operating sound.
At the drain socket (transparent), it is possible to check whether the water drains out correctly.
3. Unplug the rubber plug on the indoor unit so that the remaining water drains from the drain pan after the draining test.
After checking the water drainage, fix the rubber plug correctly. Installation work for the drain pipe must be performed for the entire drain pipe up to the indoor unit.
If the pipe lid has been removed in order to pour water, mount the pipe lid again.

Drain pump operation

● In case electrical wiring work completed
Drain pump can be operated by the wired remote controller.
For the operation method, refer to Operation for drain pump in the installation manual for wiring work.
● In case electrical wiring work not completed
Drain pump will run continuously when the dip switch"SW7-1" on the indoor unit PCB is turned ON, the Connector CNB is disconnected, and then the power supply (230VAC on the terminal block ① and ②) is turned ON.
Make sure to turn OFF "SW7-1" and reconnect the Connector CNB after the test.

⑦Wiring-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.
● Be sure to do D type earth work.
● For the details of electrical wiring work, see attached instruction manual for electrical wiring work.
1. Loosen screws (2 pcs.) on the control box of the unit.
2. Remove the control lid by sliding it in the arrow direction in the figure.
3. Introduce the wiring in the control box, and connect it securely to the terminal block.
4. Fix the wiring with bands as shown below.
5. Install the control lid, with care not to pinch the wiring, and fix the lid with screws (2 pcs.).



Main fuse specification

Specification	Part No.
T3.15A L250V	SSA564A149AF

⑧Panel installation

● Install the panel on the indoor unit after electrical wiring work.
● Refer to the attached manual for panel installation for details.

⑨Check list after installation

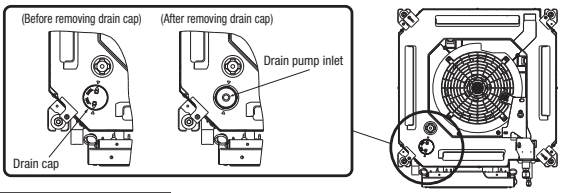
● Check the following items after all installation work completed.

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	
Supply 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 airflow on air inlet and outlet?	Insufficient capacity	

⑩How to check the dirt of drain pan and cleanimg the inlet of the drain pump. (Maintenance)

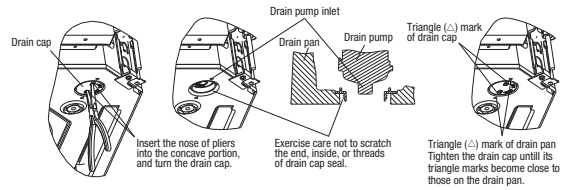
The method of checking the dirt of drain pan

1. Remove the panel according to the installation manual of the panel.
2. Check the dirt on the drain pan from the drain cap, and check the drain pump inlet. If the drain pan is very dirty, remove the drain pan and clean it.



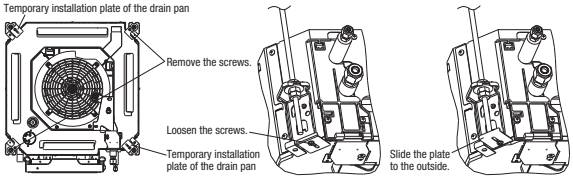
Cleaning of drain pump inlet

● It is possible to clean the drain pump inlet and surrounding area by removing the drain cap only; it is not necessary to remove the drain pan.
● Before removing the drain cap, remove the rubber plug and drain water from the drain pan.
1. Insert the nose of the pliers into the concave portions (2 places) of the drain cap, and rotate the pliers about 1 turn in the CCW direction. The drain cap is removed.
2. When cleaning the drain pump inlet, use a soft plastic tool. If a metallic tool is used, the drain cap mounting portion may be scratched and water may leak.
3. Before mounting the drain cap, rinse it and **remove any foreign material from the inside of the cap**. If the drain cap is installed with foreign material inside it, it may cause water to leak.
4. Insert the nose of the pliers into the concave portions of the drain cap and rotate the pliers to install the drain cap. Rotate the drain cap about 1 turn in the CW direction until it stops rotating. If the drain cap is not rotated for 1 or more turns, the cap will not have been installed correctly. Remove the drain cap, and then install it again correctly.
5. After tightening the drain cap, make sure the triangle (△) mark of the drain cap comes close to the triangle mark on the drain pan. If these triangle marks are not close to each other, tighten the drain cap further.
6. Refix the rubber plug securely. If the cover is not refixed correctly, it may cause condensation to form and/or water to leak.



Notes for removing the drain pan

● Before removing the drain pan, drain water from the drain pan. Remove the rubber plug and drain water.
● The drain pan is installed by the temporary installation plate. Remove the 2 drain pan fixing screws, and loosen the 2 screws of the temporary installation plate.
Slide the temporary installation plate to the outside of the drain pan. And then,it is possible to remove the drain pan.
● When reinstalling the drain pan, slide the temporary installation plate to the inside and temporarily fix the drain pan. Then, tighten the 2 drain pan fixing screws and the 2 screws of the temporary installation plate. Also, refix the rubber plug securely.



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• Panel installation

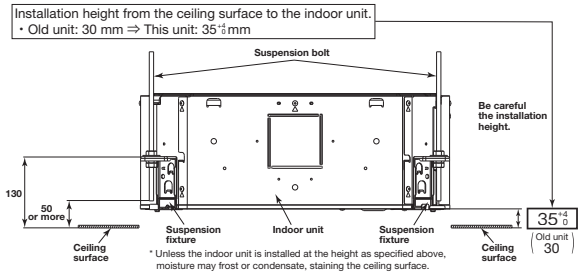
PJF012D503 B

Read this manual together with the indoor unit's installation manual.

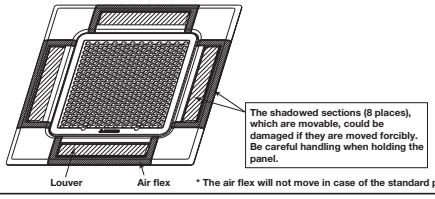
* Caution before use

①Be careful the installation height when installing the indoor unit.
Also note that the installation height of this indoor unit is different from that of current (old) unit.

Installation height from the ceiling surface to the indoor unit.
・Old unit: 30 mm ⇒ This unit: 35 $^{+4}_{0}$ mm



②Do not attempt to move forcibly the louver and the air flex.



⚠ 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.**

Function

The draft prevention panel has the draft prevention mechanism. If the draft prevention panel is installed and the draft prevention function is set, the draft prevention function will be operated and reduce the draft feeling. (Refer to ⑪ Panel setting for details.)
・Standard panel : without the draft prevention mechanism
・Draft prevention panel : with the draft prevention mechanism

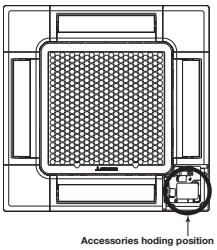
① Before installation

・Follow installation manual carefully, and install the panel properly.
・Check the following items.
○ Accessories

Accessories

Bolt		4 pieces	For panel installation
Strap		4 pieces	For avoiding the corner panel from falling
Grille hook		1 piece	For avoiding the grille from falling
Screw		4 pieces	For fixing the corner panel

Note: Accessories are laid in the position removing the corner lid.

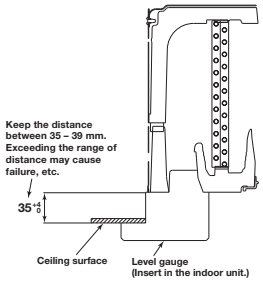


② Checking the indoor unit installation height

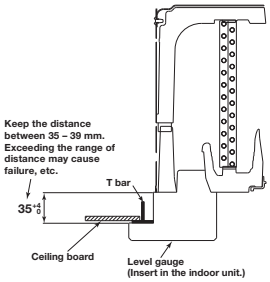
・Read this manual together with the air-conditioner installation manual carefully.
・Check if the opening size for the indoor unit is correct with the level gauge supplied in the indoor unit.
・Check if the gap between the plane and the indoor unit is correct by inserting the level gauge into the air outlet port of the indoor unit. (See below drawing)
・Adjust the installation elevation if necessary.
・Remove the level gauge before installing the panel.

Caution
If there is a height difference beyond the design limit between the installation level of the indoor unit and the panel, the panel may be subject to excessive stress during installation and it may cause distortion and damage.

<In case of other than the system ceiling>

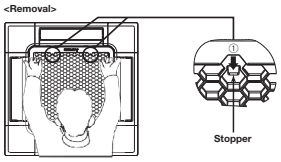


<In case of the system ceiling>



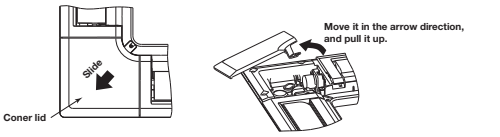
③ Removing the inlet grille

1. While placing a finger behind the stopper (2 places) and pressing it in the direction of arrow ①, pull the grille downward to open the grille.
2. Release the hooks of the inlet grille from the panel while it is in the open position.



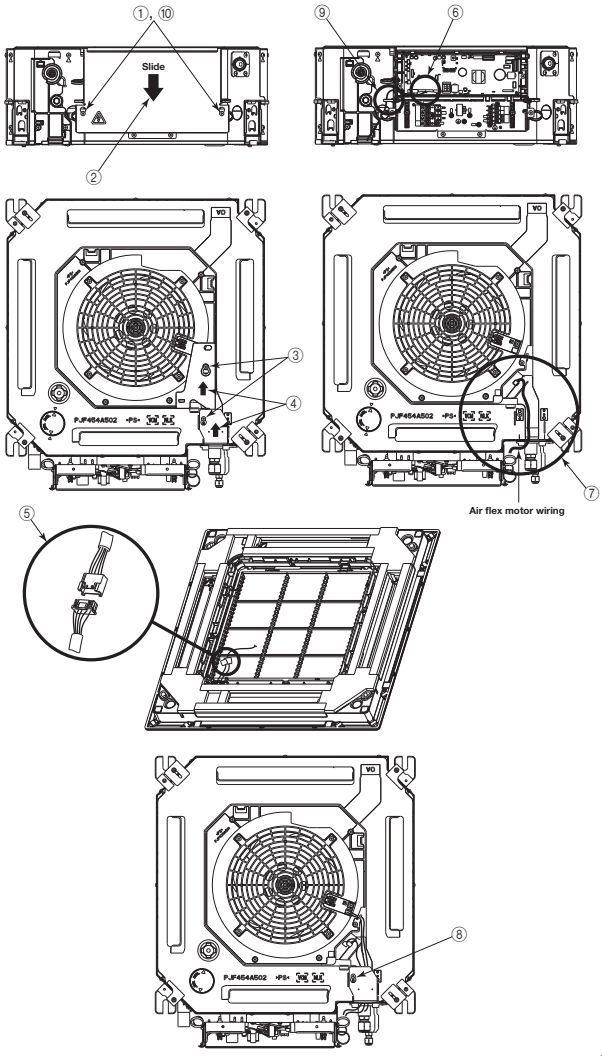
④ Removing the corner lid

・Pull the corner lid toward the direction indicated by the arrow and remove it. (Same way for all 4 corner lids)



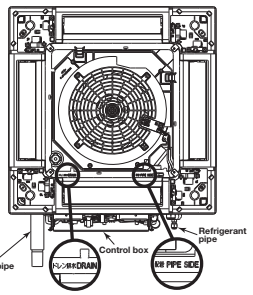
⑤ Before installing the panel <Only draft prevention panel>

① Loosen screws (2 pcs.) on the control lid of the unit.
② Slide the control lid in the arrow direction in the figure, and remove it.
③ Loosen screws on the wiring cover (2 places).
④ Slide the wiring cover (2 places) in the arrow direction in the figure, and remove it.
⑤ Disconnect the relay connector of the air flex motor wiring attached to the panel.
⑥ Connect the air flex motor wiring to CNJ2 (20 P, gray) on PCB in the control box of the unit.
⑦ Pass the air flex motor wiring as shown in the figure.
⑧ Install the wiring cover (1 place) with care not to pinch wiring, and fix it with a screw.
⑨ Fix the air flex motor wiring with a band as shown in the figure.
⑩ Install the control lid with care not to pinch wiring, and fix with screws (2 places,).



⑥ Orientation of the panel installation

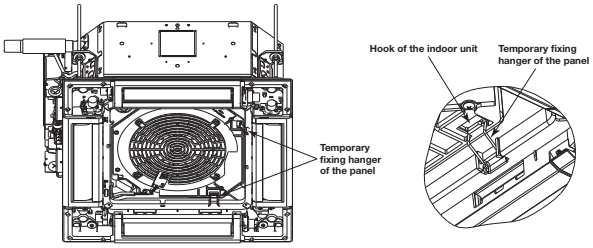
Take note that there is an orientation to install the panel.
- Install the panel with the orientation shown on the right.
- Align the "PIPE SIDE" mark (on the panel) with the refrigerant pipes on the indoor unit.
- Align the "DRAIN" mark (on the panel) with the drain pipe on the indoor unit.



CAUTION
In case the orientation of the panel is not correct, it will lead to air leakage and also it is not possible to connect the motor wiring.

⑦ Installing the panel

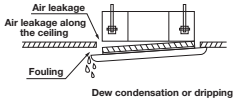
1. Temporary hanging
   - Lift up the hanger (2 places) on the panel for temporary support.
   - Hang the panel on the hook on the indoor unit.



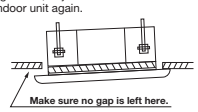
2. Fix the panel on the indoor unit
   - Fasten the panel on the indoor unit with the 4 bolts supplied with the panel.

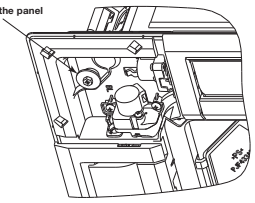
Caution
Be careful not to pinch the motion sensor wiring.

Caution
- Improperly tightened fixing bolts cause the problems listed below, so make sure that bolts are securely tightened.



- If there is a gap between the ceiling and the panel even after the fixing bolts are tightened, adjust the installation level of the indoor unit again.





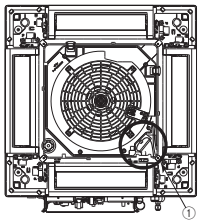
Caution
Do not give any stress on the panel when adjusting the height of the indoor unit to avoid unexpected distortion. It may cause the distortion of panel or failing to close the inlet grille, and the parts of the draft prevention mechanism.

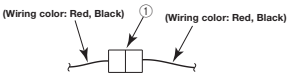
⑧ Electrical wiring

The wiring work varies depending on the panel type. Select the wiring work appropriate for the panel type.

<For the standard panel>
① Connect the connector of the louver motor wiring (Wiring color: Red, Black) at the panel side to the connector CnJ3 (20 P, White) of the louver motor wiring (Wiring color: Red, Black) at the unit side.

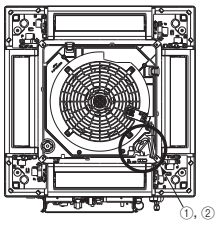
For the Standard panel

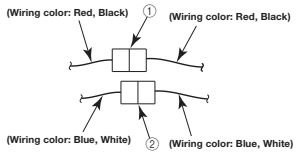




<For the draft prevention panel>
① Connect the connector of the louver motor wiring (Wiring color: Red, Black) at the panel side to the connector CnJ3 (20 P, White) of the louver motor wiring (Wiring color: Red, Black) at the unit side.
② Connect the connector of the air flex motor wiring (Wiring color: Blue, White) at the panel side to the connector CnJ4 (20 P, White) of the air flex motor wiring (Wiring color: Blue, White) at the unit side.

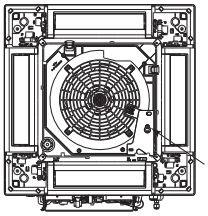
For the Draft prevention panel

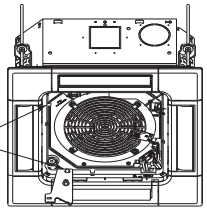




Motor wiring connection – Detail view

Install the wiring cover with care not to pinch wiring, and fix it with screws.

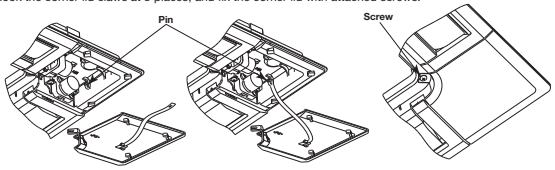




*** If the wiring cover is hung at the hook on panel, it will become easier to work.**

⑨ Installing a corner lid

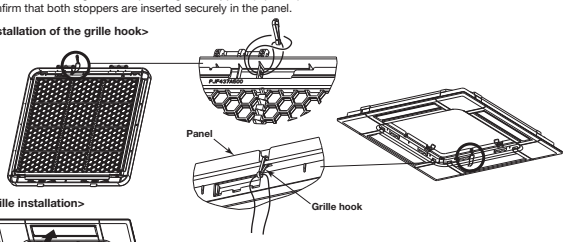
1. To avoid unexpected falling of the corner lid, put the strap onto the corner lid's pin with turning the strap up.
2. Then hang the strap of a corner lid onto the panel's pin.
3. Hook the corner lid claws at 3 places, and fix the corner lid with attached screws.



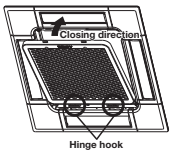
⑩ Installing the inlet grille

The panel and the inlet grille have no directional limitation to install. (Hinges of the inlet grille can be hooked at any side.)
Install the inlet grille in the reverse order of the steps described at ⑬ Removing the inlet grille .
① Attach the fall grille hook to the panel.
② Insert the hinges of inlet grille in the insert holes on the panel.
Close then the inlet grille while pressing the stoppers (2 places).
Confirm that both stoppers are inserted securely in the panel.

<① Installation of the grille hook>



<② Grille installation>



Caution
- Install the grille hook securely at the panel.
- The inlet grille must be installed starting from the hinge side.
- Install the inlet grille securely. It may drop if it is installed insecurely.
- When the stoppers have been deformed or damaged, repair them immediately, Unless they are repaired properly, the inlet grille may drop off.

⑪ Panel setting

<Louver swing range setting (Individual louver control setting)>

It is possible to change the swing range of the louver by the wired remote control. Once the upper and lower limit positions are set, the louver will swing within the set range.It is also possible to set the different range to each louver.

<Draft prevention setting>

The draft prevention function will not be operated if the draft prevention panel is installed and its wirings are only connected. To operate the draft prevention function, enable the draft prevention setting by using the wired or wireless remote control.

Note: It is not possible to set by the following remote control models or older.
Wired:RC-EX3, RC-E5, RCH-E3
Wireless: RCN-E1R

Once you have enabled the settings in this mode, the draft prevention function is operated when the air-conditioner is started, and the parts of the draft prevention mechanism are always open when the air-conditioner is operating. When the air-conditioner is stopped, they are closed. It is possible to enabled or disabled the draft prevention function for each air outlet.

For the setting details, refer to the user's manual supplied with the remote control.

FRESH AIR INTAKE (Location for installation) FOR FDTC

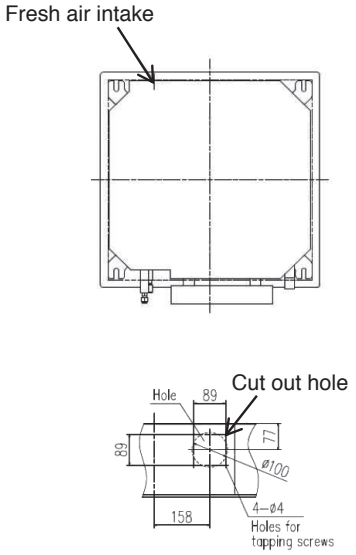
At the time of installation use the duct hole (cut out) located at the positions shown in follwing diagram, as and when required.

(1)Temperature conditions for OA spacer(1)

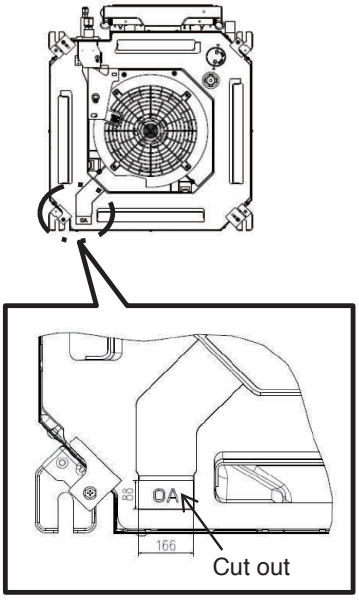
- Adjust the temperature conditions of mixed air with outdoor air and indoor air within the usage range of suction air temperature for the air-conditioner.
- The usage temperature conditions of intake outdoor air and indoor air around the ducts are shown in the following table.
- If the temperature conditions of intake outdoor air do not satisfy, process the outdoor air before intaking.

Operation mode	Usage temperature conditions	
	Intake outdoor air	Indoor air around the ducts
In heating	5˚C DB or higher	18.5˚C WB or lower and 60% RH or lower
In cooling	29˚C DB or lower and 80% RH or lower	20˚C DB or higher

Note(1) : For the OA spacer, refer to page 339.



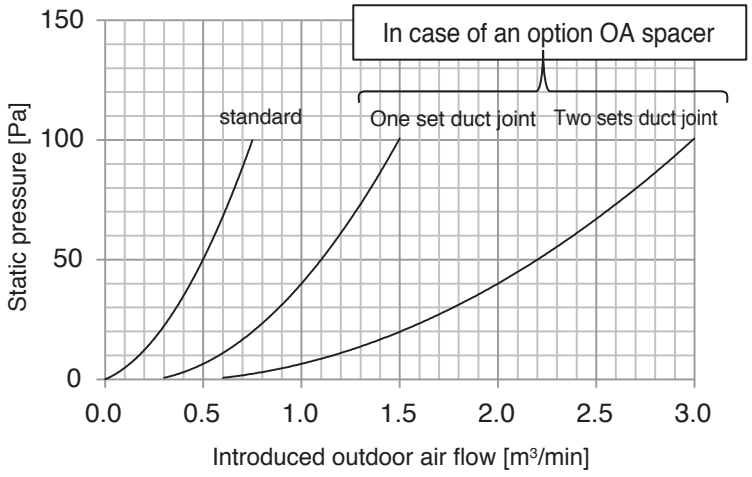
Detail drawing of fresh air intake



Detail of cut out

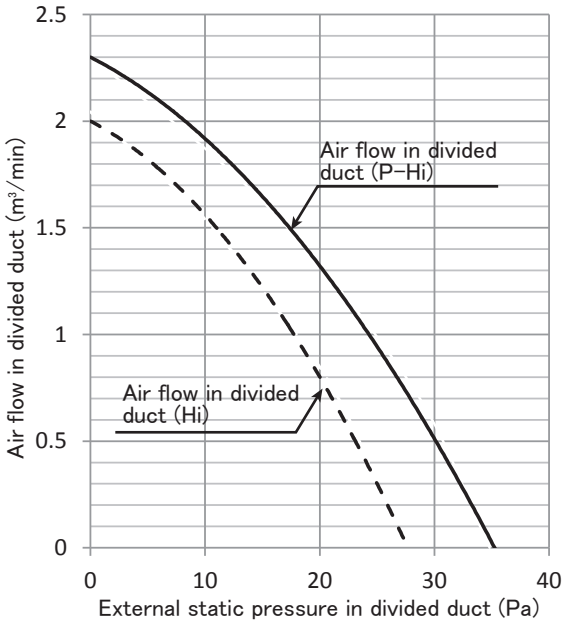
■Fresh air intake amount & static pressure characteristics

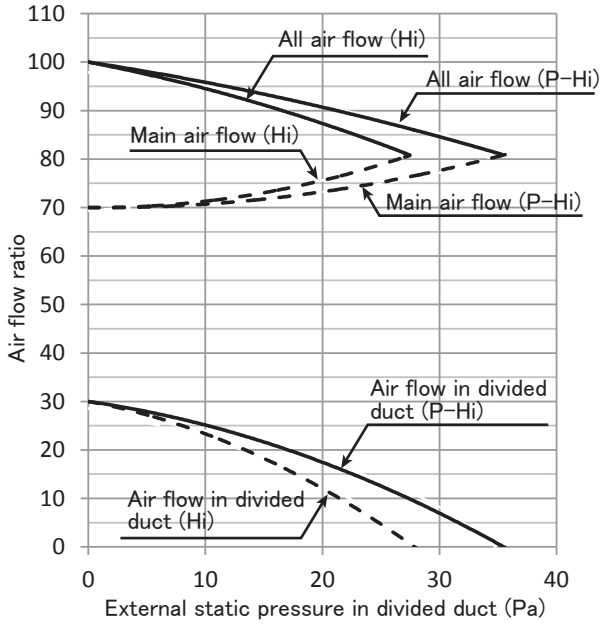
All models



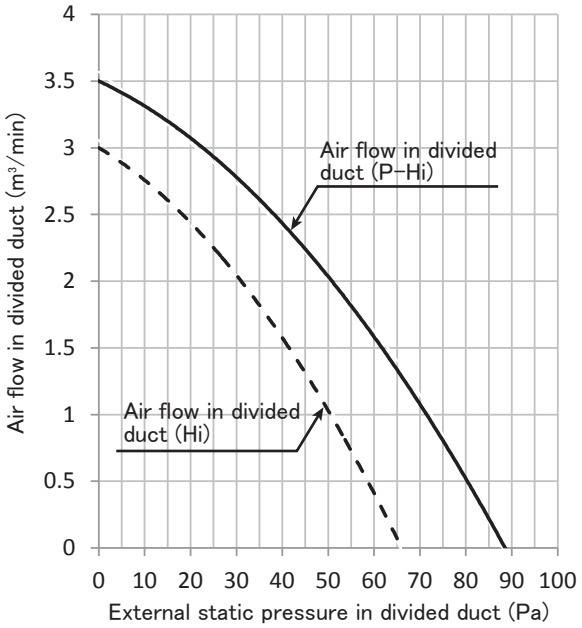
CHARACTERISTICS OF AIR FLOW IN DIVIDED DUCT FOR FDTC

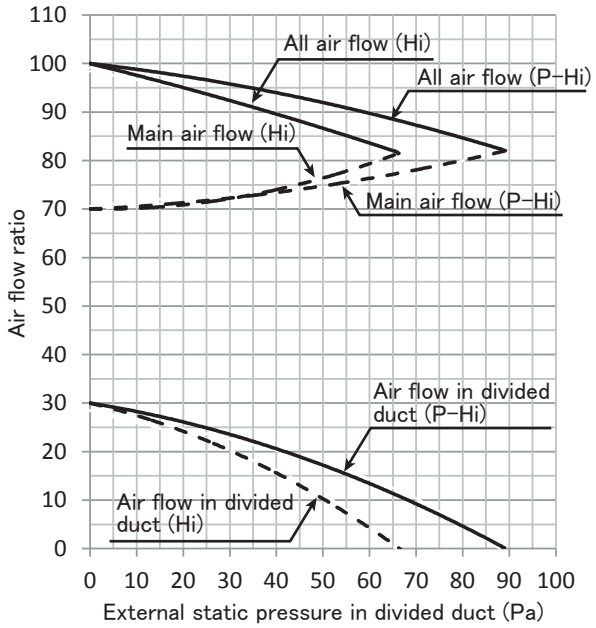
Models FDTC15, 22, 28, 36KXZE1-W





Models FDTC45, 56KXZE1-W





■Divided duct connection method

1. Open some one during 4 knockout holes, and please connect a divided duct.
   It isn't possible to use more than one hole at the same time.
2. Please make the wind shielding a blowout vent on the side where a divided duct was connected.
3. The shorage of the external static pressure by pressure loss for a connected divided duct and blowout unit is made up by a booster fan.
   example : When 2.5m³/min of ventilation by divided duct is needed in model FDTC56KXZE1-W
   (In case of connection duct ϕ 125×5m)
   ①Duct resistance : Pressure loss by a flexible duct =35Pa (7Pa/m×5m)
   ②Blowout unit : Pressure loss by a blowout unit =10Pa
   ③External static pressure when being 2.5m³/min =17Pa (See upper table.)
   ⇒Correspondence by a booster fan =①+②-③ =28Pa

(3) Wall mounted type (FDK)

PHA012D408

This manual is for the installation of an indoor unit.
For electrical wiring work (Indoor), refer to page 113. For wired remote control installation, refer to page 117. For wireless kit installation, refer to page 311. For electrical wiring work (Outdoor) and refrigerant pipe work installation for outdoor unit, refer to page 12.
For motion sensor kit installation, refer to page 328.

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 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 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.
  In case of R32, the refrigerant could be ignited because of its flammability.
- **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 property.**
  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 R32 or 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 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 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.

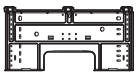
⚠ CAUTION

- **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.
  · Place where the substances which affect the air conditioner are generated such as sulfide gas, chloride gas, acid, alkali or ammonic 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 install the motion sensor mounting panel at following places. It could cause detection error, incapacity of detection, or characteristic degradation.
  · Place where vibration is applied to it for a long period of time.
  · Place where static electricity or electromagnetic wave generates.
  · Place where it is exposed to high temperature or humidity for a long period of time.
  · Dusty place or where the lens face could be fouled or damaged.
- **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 supply specification ○Pipes/Wires/Small parts ○Accessory items

Accessory item

Installation board	Tapping screw	Insulation
		
1	10	1
Attached to the rear of the indoor unit.	For the mounting plate, 4mm (dia.) x 25mm (length)	For heat insulation, 50mm x 100mm

② Selection of installation location for the indoor unit

① 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.
- In case of the panel having the motion sensor, the installation height must be no higher than 4m. It could reduce the sensitivity of motion sensor, disabling the detection.
- 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 23°C and relative humidity is lower than 80%.

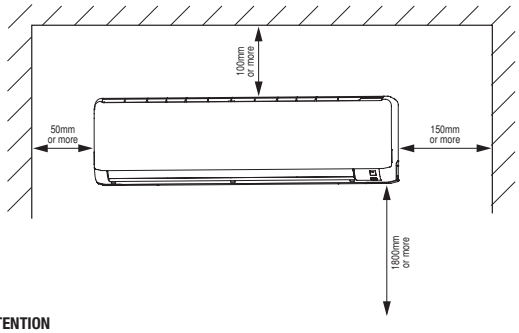
This indoor unit is tested under the condition of JIS (Japan Industrial Standard) high humidity condition and confirmed there is no problem. However, there is some risk of condensation drop if the air-conditioner is operated under the severer condition than mentioned above.
If there is a possibility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

② 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.

③ If there are 2 units of wireless type, keep them away for more than 6m to avoid malfunction due to cross communication.

Space for installation and service

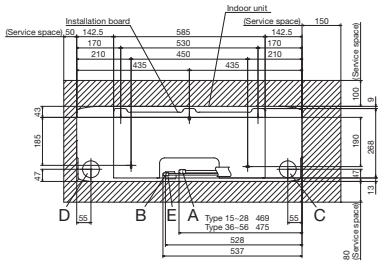


ATTENTION
●Secure a working space for inspection and maintenance.

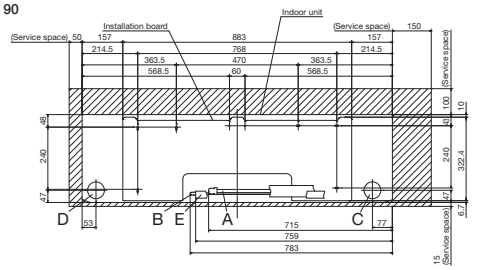
③ Preparation before installation

Front view for installing position and installing space UNIT: mm

Type 15–56



Type 71, 90



Symbol		Symbol	
A	Gas piping	D	Wall pulling hole for left rear piping
B	Liquid piping	E	Drain piping
C	Wall pulling hole for right rear piping		

④ Installation of indoor unit

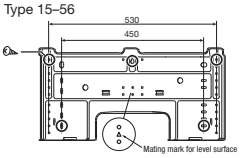
Haulage

ATTENTION
●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.

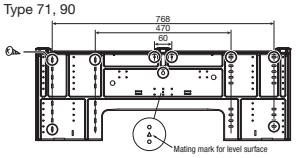
Installing installation board

ATTENTION
●This unit cannot be installed directly onto a wall surface. Regardless of the surface it is to be installed onto, you should use installation board with the unit.
○Adjustment of the installation board in the horizontal direction is to be conducted with five to nine screws in a temporary tightened state.

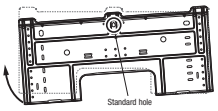
Type 15–56



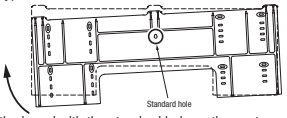
Type 71, 90



Type 15–56



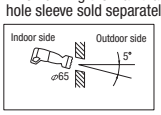
Type 71, 90



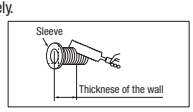
○Adjust so the board will be level by turning the board with the standard hole as the center.

Drilling of holes and fixture of sleeve (Option parts)

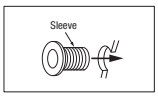
When drilling the wall that contains a metal lath, wire lath or metal plate, be sure to use pipe hole sleeve sold separately.



○Drill a hole with whole core drill.

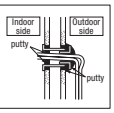


○ In case of right rear piping draw out, cut off the lower and the right side portions of the sleeve collar.



⚠ 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.

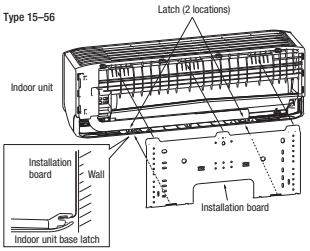
⚠ CAUTION
Completely seal the hole in the wall with putty. If not sealed properly, furniture and other fixtures may be damaged by water leakage or condensation.



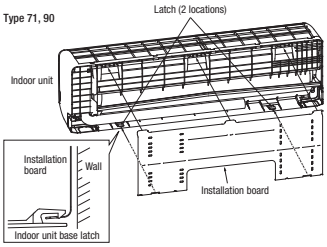
④ Installation of indoor unit (continued)

Fixing of indoor unit

Type 15–56



Type 71, 90



Installation Steps

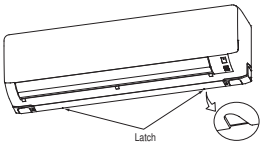
① Pass the pipe through the hole in the wall, and hook the upper part of the indoor unit to the installation board.

② Gently push the lower part to secure the unit.

• How to remove the indoor unit from the installation board

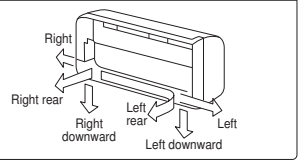
①Push up at the marked portion of the indoor unit base lower latch, and slightly pull it toward you. (both right and left hand sides) (The indoor unit base lower latch can be removed from the installation board)

②Push up the indoor unit upward so that it can be removed from installation board.

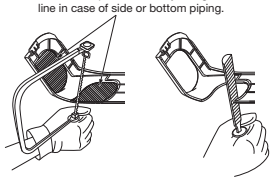


⑤ Shaping of pipes and drain hoses

Piping is possible in the rear, left, left rear, left downward, right or downward direction.

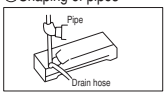


Cut out the panel smoothly along the line in case of side or bottom piping.

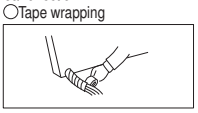


<In case of piping in the right rear direction>

○Shaping of pipes



○Tape wrapping



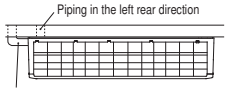
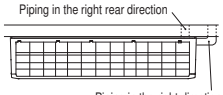
Make sure that wires are connected securely onto the terminal block, before you wrap them with a tape after shaping the pipe.

●Hold the bottom of the piping and fix direction before stretching it and shaping it.

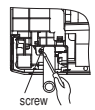
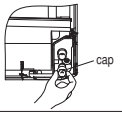
●Tape only the portion that goes through the wall.
●Always tape the wiring with the piping.
●The connecting wires must be wrapped together with the pipe.

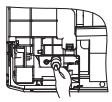
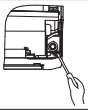
• Matters of special notice when piping from left or central/rear of the unit.

[Top view]

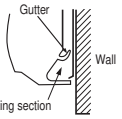
Left-hand-side piping	Right-hand-side piping
Piping in the left rear direction  Piping in the left direction	Piping in the right rear direction  Piping in the right direction

[Drain hose changing procedures]

1. Remove the drain hose	2. Remove the drain cap.
	
○ Remove the screw and drain hose, making it rotate.	○ Remove it with hand or pliers.

3. Insert the drain cap.	4. Connect the drain hose.
	
○ Insert the drain cap which was removed at procedure "2" securely using a hexagonal wrench etc. Note: Be careful that If it is not inserted securely, water leakage may occur.	○ Insert the drain hose securely, making rotate. And install the screw. Note: Be careful that If it is not inserted securely, water leakage may occur.

Since this air-conditioner has been designed to collect dew drops on the rear surface to the drain pan, do not attach the power cord above the gutter.

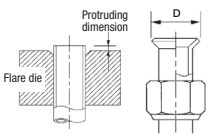


⑥ Refrigerant pipe

Caution

●Be sure to use new pipes for the refrigerant pipes. Use the flare nut attached to the product.
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 nut attached to the unit.
2) In case of reuse: Flare the end of pipe replaced partially for R32 or R410A.

⚠WARNING : When flared joints are reused indoors, the flare part shall be re-fabricated. (only for R32)

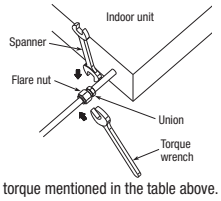


Pipe diameter d mm	Min. pipe wall thickness mm	Protruding dimension for flare, mm		Flare O.D. D mm	Flare nut tightening torque N·m
		Rigid (Clutch type)			
		For R32 For R410A	Conventional tool		
6.35	0.8	0 — 0.5	0.7 — 1.3	8.9 — 9.1	14 — 18
9.52	0.8			12.8 — 13.2	34 — 42
12.7	0.8			16.2 — 16.6	49 — 61
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) 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 the designated refrigerant.
Using other refrigerant except the designated refrigerant, 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 R32 or R410A refrigerant.

Work procedure

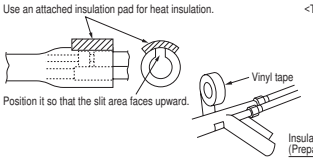
1. Remove the flare nut and blind flanges on the pipe of the indoor unit.
※ Make sure to loosen the flare nut with holding the nut on pipe side with a spanner and giving torque to the nut with another spanner in order to avoid unexpected stress to the copper pipe, and then remove them. (Gas may come out at this time, but it is not abnormal.)
● Pay attention whether the flare nut pops out. (as the indoor unit is sometimes pressured.)
2. 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.
● Make sure to use flare nuts assembled on the unions. Usage of other flare nuts could cause refrigerant leakage.
※Do a flare connection as follows:
● Make sure to hold the nut on indoor unit pipe side using double spanner method as indicated when fastening / loosening flare nuts in order to prevent unintentional twisting of the copper pipe.
● 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.



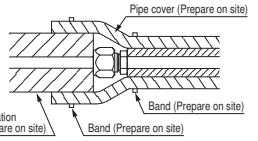
3. Cover the indoor unit's flare-connected joints, after they are checked for a gas leak, with an indoor unit heat insulating material and then wrap them with a tape with an attached insulation pad placed over the heat insulating material's slit area.
● Make sure to insulate both gas pipes and liquid 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 reinfoced.
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.

Use an attached insulation pad for heat insulation.



<The case of using reinforced insulation at the outside of unit>



⑦ Drain pipe

Caution

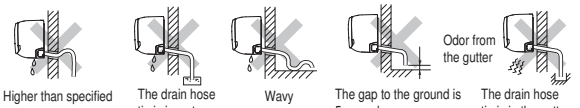
● Install the drain pipe according to the installation manual in order to drain properly.
Imperfection in draining may cause flood indoors and wetting the household goods,etc.
● Do not put the drain pipe directly into the ditch where toxic gas such as sulfur, the other harmful and inflammable gas is 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.

⑦ Drain pipe (continued)

1. A general-purpose hard PVC pipe VP16 can be connected to the drain hose tip as a part of drain piping.
2. Drain piping must be given a descending grade so that drain water may flow smoothly and it must not have any trap or bump within the system.
   (The pipe can be routed through the left, right, rear or bottom of the unit)
   Hard PVC pipes (VP16) laid indoors must be kept warm.

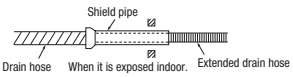
3 Pour water to the drain pan located under the heat exchanger, and ensure that water is discharged the outdoor.
(For removal of the front panel, refer to ⑧ Wiring-out position and wiring connection in this manual.

○Arrange the drain hose in a downward angle
○Avoid the following drain piping.



Higher than specified | The drain hose tip is in water. | Wavy | The gap to the ground is 5 cm or less. | The drain hose tip is in the gutter.

○When the extended drain hose is present inside the room, always use a shield pipe (prepare on site) and ensure it is thermally insulated

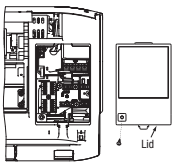


⑧ Wiring-out position and wiring connection

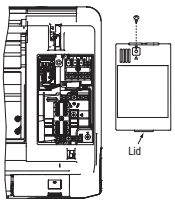
- Electrical installation work must be performed according to the installation manual by an electrical installation service provider qualified by a power provider of the country, and be executed according to the technical standards and other regulations applicable to electrical installation in the country.
  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.
- Be sure to do D type earth work.
- For the details of electrical wiring work, see attached instruction manual for electrical wiring work.

① Pull the air inlet panel at both ends of lower part and release latches, then pull up the panel until you feel resistance. (The panel stops at approx 60 – 70° open position.)
② Remove the screw and the lid.
③ Connect wiring securely to the terminal block.
④ Fix wiring the clamp securely, in order not to transmit unexpected stress on the terminal.
⑤ Fix the lid and the screw.
⑥ Close the air inlet panel.
(Note)
Connect wiring to the terminal block, check number on label of the terminal block.

Type 15–56



Type 71, 90



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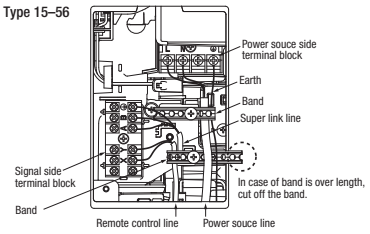

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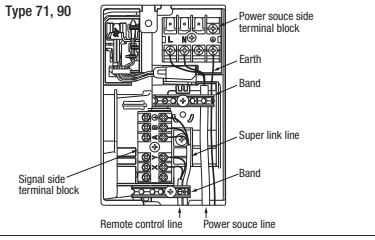
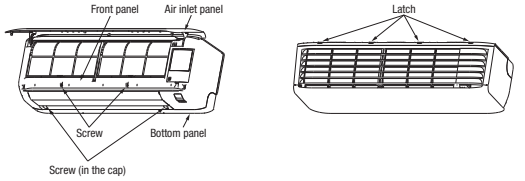


⑧ Wiring-out position and wiring connection (continued)

●Address setting
Remove the front panel of indoor unit and the control cover, it is possible to change address setting.

1. Remove the front panel
   ① Remove the air inlet panel.
   ② Remove the 2 screws in the cap of bottom panel. (Type 15 – 56 only)
   ③ Remove the 2 hooks of left and right side and then bottom panel can be removed. (Type 15 – 56 only)
   ④ Remove the screws (Type 15 – 56: 2 screws, Type 71, 90: 5 screws + 3 screws (in the cap))
   ⑤ Remove the upper latches and then front panel can be removed. (Type 15 – 56: 4 latches, Type 71, 90: 5 latches)
2. Install the front panel
   ① Cover the unit with the front panel and fix upper latches (Type 15 – 56: 4 latches, Type 71, 90: 5 latches)
   ② Fix the front panel with the screws (Type 15 – 56: 2 screws, Type 71, 90: 5 screws + 3 screws (in the cap))
   ③ Install the 2 hooks of left and right side and then bottom panel can be installed. (Type 15 – 56 only)
   ④ Fix the bottom panel with 2 screws in the cap. (Type 15 – 56 only)
   ⑤ Install the air inlet panel.

Type 15–56



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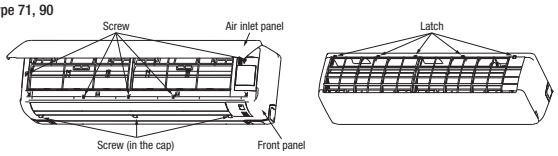

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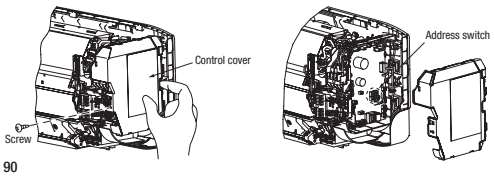

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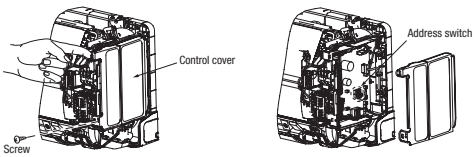


⑨ Check list after installation

●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	
Supply 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 airflow on air inlet and outlet?	Insufficient capacity	

3.7.2 Electric wiring work instruction

PSC012D118

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 property.**
  Improper fitting may cause abnormal heat and fire.
- **Use the genuine optional 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 loosing 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.

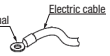
Control mode switching

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

Switch No.	control content	
SW1	Indoor unit address (tens place)	
SW2	Indoor unit address (ones place)	
SW3	Outdoor unit address (tens place)	
SW4	Outdoor unit address (ones place)	
SW5－1	ON	Fixed previous version of Superlink protocol
	OFF	Automatic adjustment of Superlink protocol
SW5－2	Indoor unit address (hundreds place)	
SW6－1 ~ 4	Model capacity setting	
SW7－1	ON	Operation check, Drain motor test run
	OFF	Normal operation

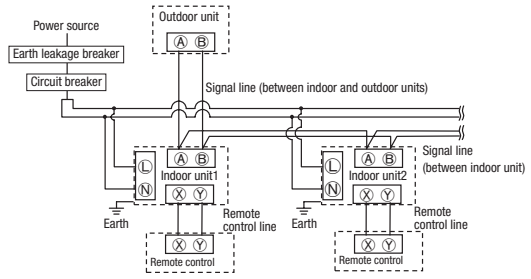
① Electrical Wiring Connection

- Electrical wiring work must be performed by an electrician an qualified by a local power provider. These wiring specifications are determined on the assumption that the following instructions are observed:
  ① Do not use cords other than copper ones.
  Do not use any supply 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);
  ② Provide a separate power outlet for each outdoor or indoor unit.
  ③ All indoor units grouped in one system must have power source that can be turned on or off simultaneously.
  ④ Pay extra attention so as not to confuse signal line and power source line connection, because an error in their connection can be 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 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 supply, 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.
  ① Even if the power source of 220/240/380/415 V is connected mistakenly to A-B signal cable, it is protected at initial occasion only.
  ② 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.
  ③ Cut the jumper wire J10SL1 of burnt PCB, and reconnect connectors CnK (yellow) and CnK1 (white) to CnK2 (black).
  ④ 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 220/240/380/415 V to the remote control terminal block. It could cause failures.
- Connections of wiring between units, ground wire and remote controller cable
  ① 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.
  ② Make sure to install an earth leakage breaker for the power source. Select a breaker for inverter circuit.
  ③ When the earth leakage breaker is exclusive for 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.
  ④ 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.

Cabling system diagram (Outdoor/indoor unit connection procedure)



Power source specifications

- When connecting indoor units to the power source individually:

Model capacity	Leakage breaker rating	Switch capacity	Fuse	Power source wire size	Wire length	Signal cable	Remote control cable	Ground wire
① Use of indoor unit's power source (Models other than ② – ③)								
22-36 types	15A 30mA 0.1sec	30A	15A	2.0mm²×2	298m	0.75~1.25mm² ×2	0.3mm²×2-core	2.0mm²
45-56 types					275m			
71-90 types					179m			
112-160 types					123m			
② High static pressure duct, suction air processing unit, outdoor air processing unit with humidifier								
45-90 types	15A 30mA 0.1sec	30A	15A	2.0mm²×2	149m	0.75~1.25mm² ×2	0.3mm²×2-core	2.0mm²
112-160 types					85m			
224, 280 types					28m			
③ Floor type system package								
112 types	15A 30mA 0.1sec	30A	15A	2.0mm²×2	51m	0.75~1.25mm² ×2	0.3mm²×2-core	2.0mm²
140, 160 types					34m			
224, 280 types	20A 30mA 0.1sec		20A	3.5mm²×2	32m			

Note 1. The wire length is calculated with a voltage drop of 2%. If the wire length should exceed the above data, review the wire size to use in accordance with extension wire regulations in your country.
Note 2. When total length of remote control cable is longer than 100 m, review the cable size according to ③ Remote control installation .

- When connecting multiple indoor units to one power source:

Total current of indoor units	Wire size (mm²)	Wire length (m)	Rated current of wiring leakage breaker
< 7A	2	21	20A
< 11A	3.5	21	20A
< 12A	5.5	33	20A
< 16A	5.5	24	30A
< 19A	5.5	20	40A
< 22A	8	27	40A
< 28A	8	21	50A

Note 1. Wire length in the able is applicable when indoor units are connected in series. Wire size and length for each range of total current of indoor units are calculated with a voltage drop of less than 2%. If the current should exceed values in the left table, review the wire size to use in accordance with extension wire regulations in your country.
Note 2. During servicing (when the power source is turned off), refrain from taking power for indoor units in other refrigerant pipe system from the same power source.

① Electrical Wiring Connection (continued)

For the rated sensitivity current of leakage breaker, refer to the following equation and judgment method.

Note 3. Following equation is a guide which could vary depending on the equipment at site and contents of installation work. When the leakage breaker trips frequently, select a breaker suitable to these conditions.

<Equation> Necessary sensitivity current =
Total value of (Model coefficient of each indoor unit × Number of units) + (Wire coefficient × Wire length [km])

<Model coefficient>

Model	Coefficient
FDT, FDTC	3.5
FDTW, FDTS, FDR, FDU, FDE, FDK, FDU-F	2.5
Other	1

<Wire coefficient>

Power source wire size	Coefficient
2.0mm^2	50
3.5mm^2	60
5.5mm^2	60
8.0mm^2	60

<Judgment method> * Following judgment method is for reference. Allowance of leakage current and capacity of rated sensitivity current should be selected according to applicable standards in your country.

(i) Necessary sensitivity current ≦ 30	Use a product of rated sensitivity current at 30 mA (0.1 s or less).
(ii) 30 < Necessary sensitivity current ≦ 100	Divide the leakage breaker system, in principle, so that the necessary sensitivity current will become less than 30 mA. Depending on the situation of installation (according to standards in respective countries), it may be possible to use a product of rated sensitivity current at 100 mA (0.15 or less).
(iii) 100 < Necessary sensitivity current	It is necessary to divide (add) the leakage breaker system.

In case of Heat recovery 3-pipe systems

Branching controller of heat recovery 3-pipe systems wiring

- When this unit is used as a "Heat Recovery 3-pipe Systems", refer to the installation manual of a branching controller (option).

② Address setting

Address setting is done by (1) Manual address setting or (2) Automatic address setting.
In the case of (2) "Automatic address setting", it is possible to change address setting by wired remote control after once complete setting.
As for details of setting procedure, refer to instructions attached to the outdoor unit for details.

③ Remote Control, Wiring and functions

- Do not install it on the following places.

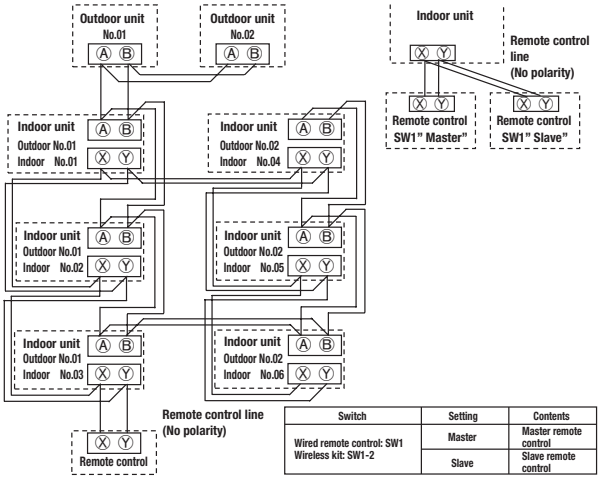
(1) Place exposed to direct sunlight
(2) Places near heat devices
(3) High humidity places
(4) Hot surface or cold surface enough to generate condensation
(5) Place exposed to oil mist or steam directly.
(6) Uneven surface

Installation and wiring of remote control

① Install remote control referring to the attached manual.
② Wiring of remote control should use 0.3mm^2 × 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 0.5mm^2. 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 .....0.5mm^2 × 2 core
Under 300m.....0.75mm^2 × 2 core
Under 400m.....1.25mm^2 × 2 core
Under 500m.....2.0mm^2 × 2 core
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 for group control.
③ Use the function of manual address setting to set the indoor and outdoor address number.
○Do not forget to set the number for the outdoor units.
④ As shown in the following figure, the remote control can be used to control multiple outdoor units.
⑤ One remote control is able to perform group control for multiple units (maximum 16 units).
○Use the rotary SW1 and SW2 provided on the indoor unit PCB (Printed circuit board) to set unique remote control communication address avoiding duplication.



Switch	Setting	Contents
Wired remote control: SW1 Wireless kit: SW1-2	Master	Master remote control
	Slave	Slave remote control

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

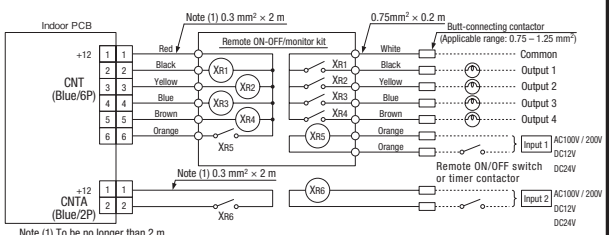
A maximum of two remote control units can be connected to one indoor unit (or one group of indoor units.)
Latest "function setting" is superior than previous one.
Acceptable combination is "two (2) wired remote controls", "one (1) wired remote control and one (1) wireless kit" or "two (2) wireless kits".
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.

③④ Operation and confirmation from remote control

No.	Item	Operation from the eco touch remote control (RC-EX series)	Operation from the standard remote control (RC-E4, RC-E series)
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 LOADING" is displayed. ⇒ Select one of addresses for connected indoor units by pressing the ▲ or ▼ button. ⇒ Press the (SET) button. ⇒ "DATA LOADING" 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. ⇒ "ERROR DATA ▲" is displayed. ⇒ Press the (SET) button. ⇒ "DATA LOADING" 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 "☼ (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 "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.

⑤ Function of CnT connector of indoor printed circuit board



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

- X_{R1-4} are DC 12 V relays. (Equivalent to Omron's LY2F)
- X_{R5} is a DC 12 V, 24 V or 100 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.

⑥ Operation and setting from remote control

<Note of "eco-Touch Remote Control">
A : Refer to the instruction manual for RC-EX series C : Loading a utility software vie Internet
B : Refer to the installation manual for RC-EX series

<Availability of setting/operation on standard remote controls>
○ : Nearly same function setting and operations are possible.
△ : Similar function setting and opperations are possible.
Blank column: Standard remote controls have not this function.

Setting & display item			Description	RC-EX series	RC-E series
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 scrren, 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). *1	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 *1		The system operates and is controlled according to the function specified to the F1 switch.	A	
9	F2 SW *1		The system operates and is controlled according to the function specified to the F2 switch.	A	
10	Select the language *2		Select the language to display on the remote control. ・Select from English, German, French, Spanish, Italian, Dutch, Turkish, Portuguese, Russian,Polish, Japanese and Chinese.	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. *1	A	△
2	Anti draft setting *1 When the panel with the anti-draft function is assembled.		・Details .....You can set Enable or Disable for anti draft motion performed at each blow outlet in each operation mode. ・ON/OFF setting .....You can set ON/OFF (operation/stop) of anti draft function for the enabled blow outlet set in Details. *2	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-12houres (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-12houres (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 *1 [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 vaction 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 (Cooring ⇔ 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. ・Select from English, German, French, Spanish, Italian, Dutch, Turkish, Portuguese, Russian, Polish, Japanese and Chinese.*1	A	
9	Silent mode control *2		The period of time to operate the unit by prioritizing the quietness can be set. ・Start and end can be set for the silent mode	A	
4.Energy-saving setting			Administrator password		
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 miuutes 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 restructing 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	Motion sensor control *1 When the panel with the motion sensor is assembled.		When the 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 +1hour 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	
		Controller sound	It can set with or without [Controller sound (beep sound)] at touch panel.	A	
		Operation lamp luminance *1	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 *3] *1	A	△
		Outdoor unit silent mode timer	The period of time to operate the outdoor unit by prioritizing the quiteness 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 aday by 5 minutes interal.	A	△
		Setting temp range	The upper/lower limit of temp. setting range can be set. ・The limitation of indoor temp. setting range can be set for each operation mode in cooling and heating.	A	△

*1: Remote controls before RC-EX1A don't have this function. *2: Remote controls before RC-EX3 don't have this function. *3: RC-E series products don't have this function.

⑥ Operation and setting from remote control (continued)

Setting & display item			Description	RC-EX series	RC-E series
		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	
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")	A	
			The administrator password can be reset.	B	
		F1/F2 function setting *1	Functions can be set for F1 and F2. Selectable functions: [Anti draft ON/OFF] *2 [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 registed. ・When registering the [Instaration 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 registed and can be displayed on the R/C. ・The [Company] can be registered within 26 characters. ・The [Phone No.] can be registed within 13 digits.	B	
		Test run	On/Off operation of the test run can be done.	B	○
		Cooling test run	The [Cooling test run] can be done at 5˚C of set temp. for 30 minutes.		
		Drain pump test run	Only drain pump can be operated.		
		Staric 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	
		Motion sensor setting *1 When the panel with the 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 motion 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	△
		ºC / ºF	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 *1	[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 themo-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 themo-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 *1	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 display ed. ・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		B	△
		Error history	The error history can be displayed.		
		Display anomaly data	The operation data just before the latest error stop can be displayed.		
		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 I/U 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 *1	Address No. and capacities of indoor units connected to the remote control are displayed.	B	
8.Contact company			Shows registered [Contact company] and [Contact phone].		
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: Remote controls before RC-EX1A don't have this function. *2: Remote controls before RC-EX3 don't have this function. *3: RC-E series products don't have this function.

3.7.3 Installation of wired remote control (Option parts)

PJZ012A171A

(1) Model RC-EX3A

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 (ϕ 3.5 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 (0.3mm^2 x 2 pcs.)	As required	See right table when longer than 100m

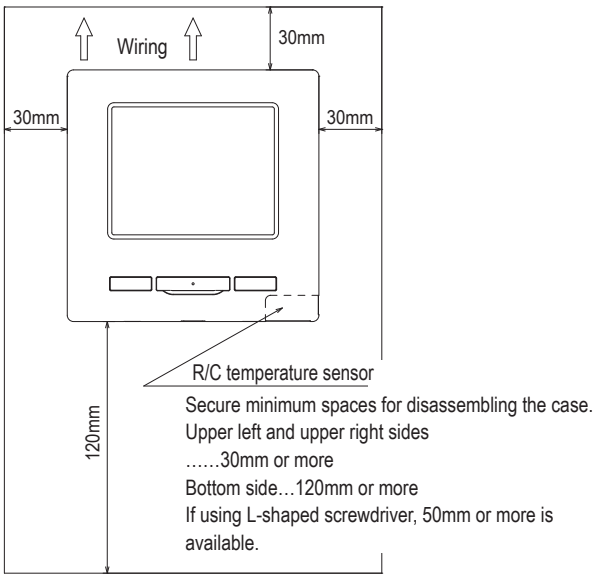
When the cable length is longer than 100m, the max size for wires used in the R/C case is 0.5mm^2 . Connect them to wires of larger size near the outside of R/C. When wires are connected, take measures to prevent water, etc. from entering inside.

≦ 200m	0.5mm^2 x 2 cores
≦ 300m	0.75mm^2 x 2 cores
≦ 400m	1.25mm^2 x 2 cores
≦ 600m	2.0mm^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.

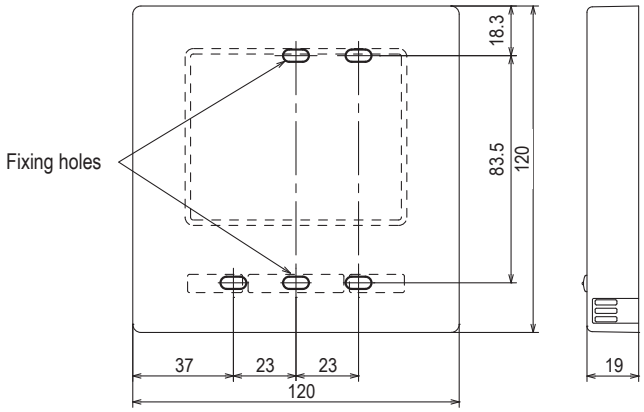
Installation space



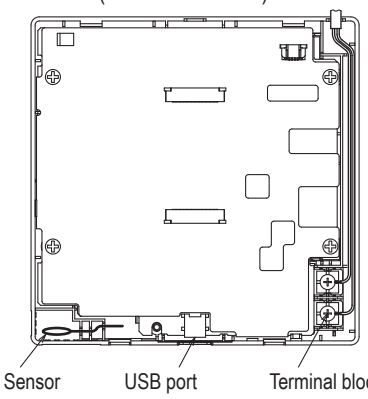
4 . Installation procedure

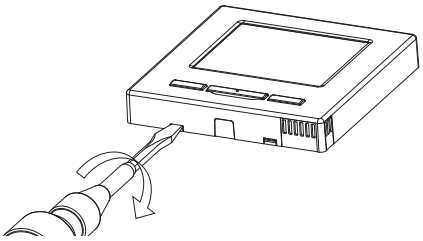
Perform installation and wiring work for the remote control according to the following procedure.

Dimensions (Viewed from front)



PCB side (Viewed from rear)





To disassemble the R/C case into the upper and lower pieces after assembling them once

· 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.

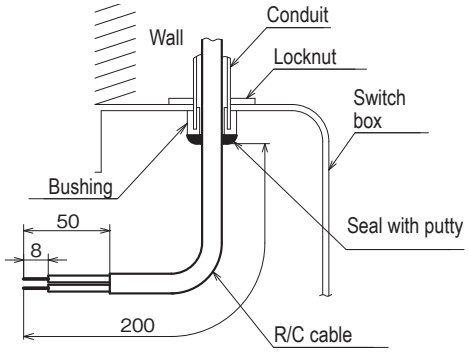
Take care to protect the removed upper case from moisture or dust.

In case of embedding wiring

(When the wiring is retrieved “Backward”)

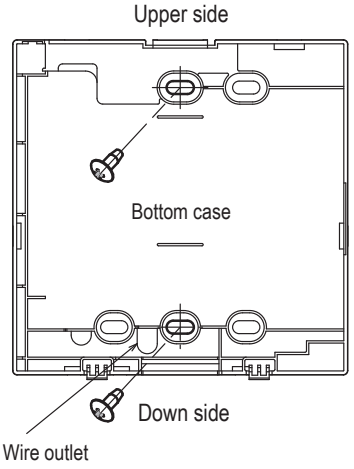
① Embed the switch box and the R/C wires beforehand.

Seal the inlet hole for the R/C wiring with putty.

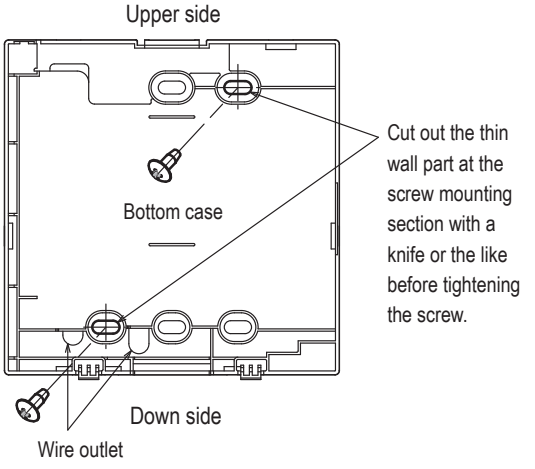


② When wires are passed through the bottom case, fix the bottom case at 2 places on the switch box.

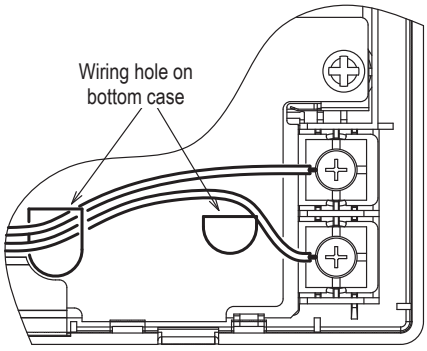
Switch box for 1 pc.



Switch box for 2 pcs.

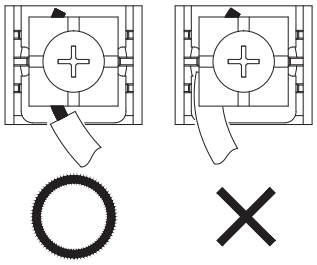


③ Connect wires from X and Y terminals of R/C to X and Y terminals of indoor unit. R/C wires (X, Y) have no polarity. Fix wires such that the wires will run around the terminal screws on the top case of R/C.
④ Install the upper case with care not to pinch wires of R/C.



Cautions for wire connection

Use wires of no larger than 0.5mm^2 for wiring running through the remote control case. Take care not to pinch the sheath.
Tighten by hand (0.7N·m or less) the wire connection. If the wire is connected using an electric driver, it may cause failure or deformation.

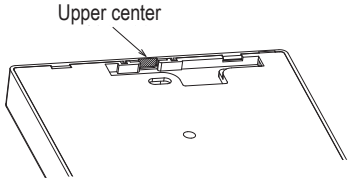


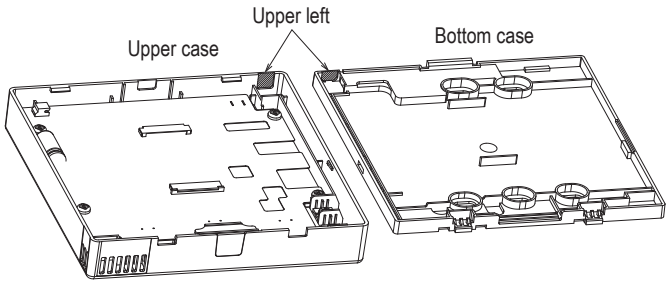
In case of exposing wiring

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

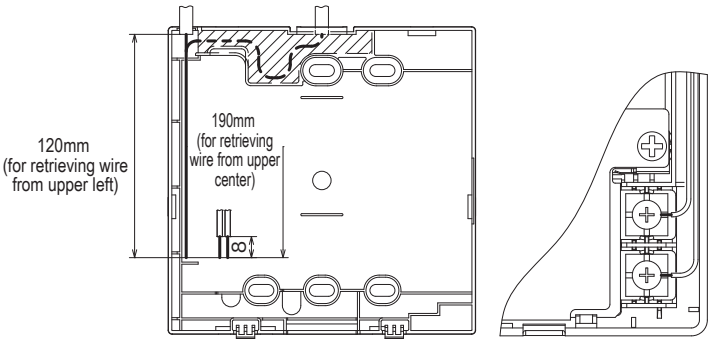
① Cut out the thin wall sections on the cases for the size of wire.

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.



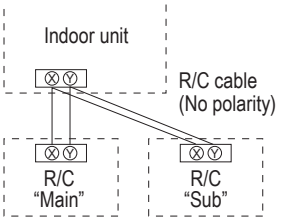


② Fix the bottom R/C case on a flat surface with two wood screws.
③ In case of the upper center, pass the wiring behind the bottom case. (Hatched section)
④ Connect wires from X and Y terminals of R/C to X and Y terminals of indoor unit. R/C wires (X, Y) have no polarity. Fix wires such that the wires 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.



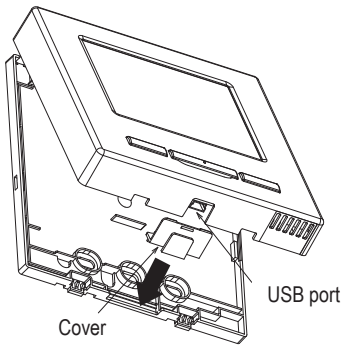
○: operable ×: not operable

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		○	○
	Silent mode control		○	×
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	○	○

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		○	×
		IU back-up function		○	×
		Motion sensor setting		○	×
	R/C function settings	Main/Sub of R/C		○	○
		Return air temp.		○	×
		R/C sensor		○	×
		R/C sensor adjustment		○	×
		Operation mode		○	×
		ºC / ºF		○	×
		Fan speed		○	×
		External input		○	×
		Upper/lower flap control		○	×
		Left/right flap control		○	×
		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.

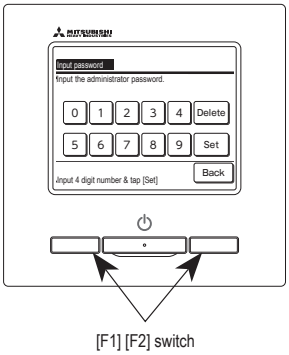


Advice: Initializing of password

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.



Advice

When connecting two or more FDT/FDTC to one R/C, unify the panel type either to a panel with anti draft function or a standard panel.

PJA012D730B

(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

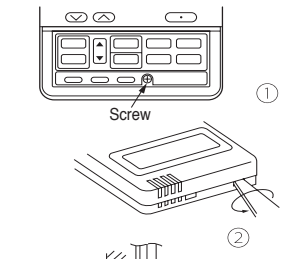
- Do not install the remote control at the following places in order to avoid malfunction.
  (1) Places exposed to direct sunlight
  (2) Places near heat devices
  (3) High humidity places
  (4) Hot surface or cold surface enough to generate condensation
  (5) Places exposed to oil mist or steam directly
  (6) Uneven surface
- Do not leave the remote control without the upper case.
  In case the upper cace 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 (ϕ3.5×16) 2 pieces
Prepare on site	Remote control cord (2 cores) the insulated thickness in 1mm or more. [In case of embedding cord] Erectrical box, M4 screw (2 pieces) [In case of exposing cord] Cord clamp (if needed)

Installation procedure

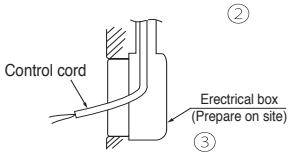
① Open the cover of remote control, and remove the screw under the buttons without fail.

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.

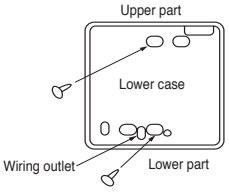


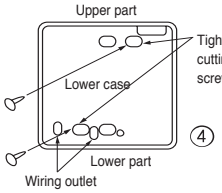
[In case of embedding cord]

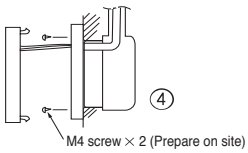
③ Embed the erectrical box and remote control cord beforehand.



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







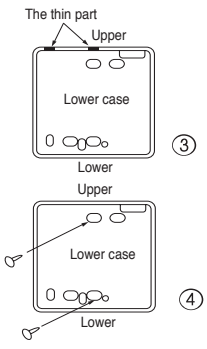
⑤ Connect the remote control cord to the terminal block.
Connect the terminal of remote control (X,Y) with the terminal of indoor unit (X,Y). (X and Y are no polarity)

⑥ Install the upper case as before so as not to catch up the remote control cord, and tighten with the screws.

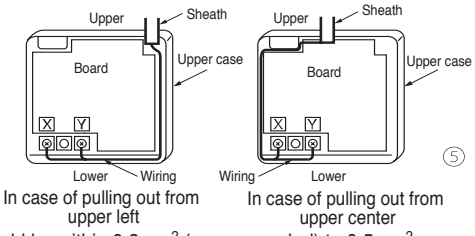
[In case of exposing cord]

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.

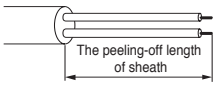


⑤ Connect the remote control cord to the terminal block.
Connect the terminal of remote control (X,Y) with the terminal of indoor unit (X,Y).
(X and Y are no polarity)
Wiring route is as shown in the right diagram depending on the pulling out direction.



The wiring inside the remote control case should be within 0.3mm^2 (recommended) to 0.5mm^2.
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 Y wiring : 195mm	X wiring : 170mm Y wiring : 190mm



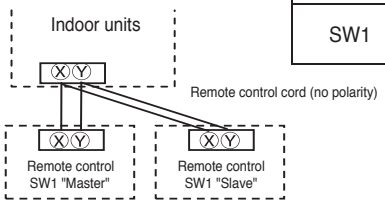
⑥ Install the upper case as before so as not to catch up the remote control cord, and tighten with the screws.
⑦ In case of exposing cord, fix the cord on the wall with cord clamp so as not to slack.

Installation and wiring of remote control

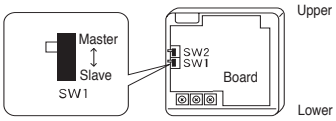
① Wiring of remote control should use 0.3mm^2 × 2 cores wires or cables. (on-site configuration)
② Maximum prolongation of remote control wiring is 600m.
If the prolongation is over 100m, change to the size below.
But, wiring in the remote control case should be under 0.5mm^2 . Change the wire size outside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

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.)



Switch	Setting	Contents
SW1	M	Master remote control
	S	Slave remote control

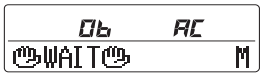


Set SW1 to "Slave" for the slave remote control. It was factory set to "Master" for shipment.
Note: The setting "Remote control sensor enabled" is only selectable with the master remote control in the position where you want to check room temperature.
The air-conditioner operation follows the last operation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



※ The left mark is only an example. Other marks may appear.

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.

1. When ⑫TEMP 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.

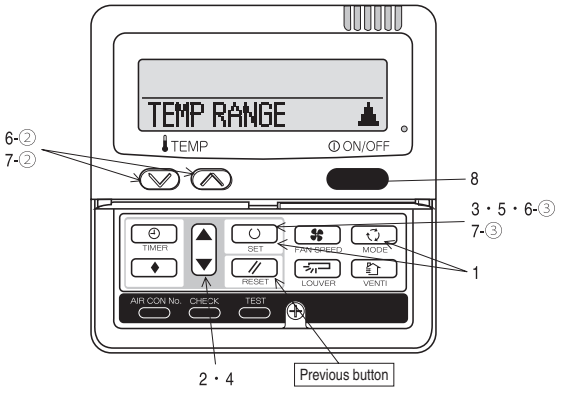
2. When ⑫TEMP RANGE SET, remote control function of function setting mode is "NO INDN CHANGE"
   【If upper limit value is set】
   During heating, even if the value exceeding the upper limit is set, upper limit value will be sent to the indoor unit. But, the indication is the same as the temperature set.

   【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

1. Stop the air-conditioner, and press (SET) and (MODE) button at the same time for over three seconds .
   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. Select "UPPER LIMIT ▼" or "LOWER LIMIT ▲" by using ▲ ▼ button.
5. Press (SET) button to fix.
6. 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 ▼".
7. 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 ▼".
8. Press ON/OFF button to finish.

- 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.



The functional setting

●The initial function 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 ▲ ▼ 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.

FUNCTION SET ▼

FUNCTION ▼ (Remote control function)

Function	setting		
01 ESP SET	ESP VALID	○	Validate setting of ESP:External Static Pressure
	ESP INVALID		Invalidate setting of ESP
02 AUTO RUN SET	AUTO RUN ON	※	
	AUTO RUN OFF	※	Automatical operation is impossible
03 TEMP SW	VALID	○	
	INVALID		Temperature setting button is not working
04 MODE SW	VALID	○	
	INVALID		Mode button is not working
05 ON/OFF SW	VALID	○	
	INVALID		On/Off button is not working
06 FAN SPEED SW	VALID	※	
	INVALID	※	Fan speed button is not working
07 LOUVER SW	VALID	※	
	INVALID	※	Louver button is not working
08 TIMER SW	VALID	○	
	INVALID		Timer button is not working
09 SENSOR SET	SENSOR OFF	○	Remote thermistor is not working.
	SENSOR ON		Remote thermistor is working.
	SENSOR +3.0℃		Remote thermistor is working, and to be set for producing +3.0˚C increase in temperature.
	SENSOR +2.0℃		Remote thermistor is working, and to be set for producing +2.0˚C increase in temperature.
	SENSOR +1.0℃		Remote thermistor is working, and to be set for producing +1.0˚C increase in temperature.
	SENSOR -1.0℃		Remote thermistor is working, and to be set for producing -1.0˚C increase in temperature.
	SENSOR -2.0℃		Remote thermistor is working, and to be set for producing -2.0˚C increase in temperature.
	SENSOR -3.0℃		Remote thermistor is working, and to be set for producing -3.0˚C increase in temperature.
10 AUTO RESTART	INVALID	○	
	VALID		
11 VENT LINK SET	NO VENT	○	
	VENT LINK		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.
	NO VENT LINK		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), you can operate /stop the ventilation device independently by ○ (VENT) button.
12 TEMP RANGE SET	INDIN CHANGE	○	If you change the range of set temperature, the indication of set temperature will vary following the control.
	NO INDIN CHANGE		If you change the range of set temperature, the indication of set temperature will not vary following the control, and keep the set temperature.
13 I/U FAN	HI-MID-LO	※	Air flow of fan becomes the three speed of ※ -※ -※ or ※ -※ -※ -※ .
	HI-LO	※	Air flow of fan becomes the two speed of ※ -※ .
	HI-MID		Air flow of fan becomes the two speed of ※ -※ .
	1 FAN SPEED	※	Air flow of fan is fixed at one speed.
14 POSITION			If you change the remote control function "14 POSITION", you must change the indoor function "04 POSITION" accordingly.
	4POSITION STOP	○	You can select the louver stop position in the four.
	FREE STOP		The louver can stop at any position.
15 MODEL TYPE	HEAT PUMP	※	
	COOLING ONLY	※	
16 EXTERNAL CONTROL SET	INDIVIDUAL	○	If you input signal into CnT of the indoor printed circuit board from external, the indoor unit will be operated independently according to the input from external. If you input into CNT of the indoor printed circuit board from external, all units which connect to the same remote control are operated according to the input from external.
	FOR ALL UNITS		
17 ROOM TEMP INDICATION SET	INDICATION OFF	○	
	INDICATION ON		In normal working indication, indoor unit temperature is indicated instead of air flow. (Only the master remote control can be indicated.)
18 ※ INDICATION	INDICATION ON	○	
	INDICATION OFF		Heating preparation indication should not be indicated.
19 ℃/℉ SET	℃	○	Temperature indication is by degree C.
	℉		Temperature indication is by degree F.

I/U FUNCTION ▲ (Indoor unit function)

Indoor unit No. are indicated only when plural indoor units are connected.

I/U000 ▲
I/U001 ≑
I/U002 ≑
I/U003 ≑
I/U004 ≑

To set other indoor unit, press AIR CON No. button, which allows you to go back to the indoor unit selection screen (for example: I/U 000 ▲).

Function	setting		
02 FAN SPEED SET	STANDARD	※	
	HIGH SPEED 1	※	
	HIGH SPEED 2		
03 FILTER SIGN SET	INDICATION OFF		
	TYPE 1	○	The filter sign is indicated after running for 180 hours.
	TYPE 2		The filter sign is indicated after running for 600 hours.
	TYPE 3		The filter sign is indicated after running for 1000 hours.
	TYPE 4		The filter sign is indicated after running for 1000 hours, then the indoor unit will be stopped by compulsion after 24 hours.
04 POSITION			If you change the indoor function "04 POSITION", you must change the remote control function "14 POSITION" accordingly.
	4POSITION STOP	○	You can select the louver stop position in the four.
	FREE STOP		The louver can stop at any position.
05 EXTERNAL INPUT	LEVEL INPUT	○	
	PULSE INPUT		
06 OPERATION PERMISSION/PROHIBITION	INVALID	○	
	VALID		Permission/prohibition control of operation will be valid.
07 EMERGENCY STOP	INVALID	○	
	VALID		With the VRF series, it is used to stop all indoor units connected with the same outdoor unit immediately. When stop signal is inputed from remote on-off terminal "CNT-6", all indoor units are stopped immediately.
08 ※ SP OFFSET	OFFSET +3.0℃		To be reset for producing +3.0˚C increase in temperature during heating.
	OFFSET +2.0℃		To be reset for producing +2.0˚C increase in temperature during heating.
	OFFSET +1.0℃		To be reset for producing +1.0˚C increase in temperature during heating.
	NO OFFSET	○	
09 RETURN AIR TEMP	OFFSET +2.0℃		To be reset producing +2.0˚C increase in return air temperature of indoor unit.
	OFFSET +1.5℃		To be reset producing +1.5˚C increase in return air temperature of indoor unit.
	OFFSET +1.0℃		To be reset producing +1.0˚C increase in return air temperature of indoor unit.
	NO OFFSET	○	
	OFFSET -1.0℃		To be reset producing -1.0˚C increase in return air temperature of indoor unit.
	OFFSET -1.5℃		To be reset producing -1.5˚C increase in return air temperature of indoor unit.
	OFFSET -2.0℃		To be reset producing -2.0˚C increase in return air temperature of indoor unit.
10 ※ FAN CONTROL	LOW FAN SPEED	○	When heating thermostat is OFF, fan speed is low speed.
	SET FAN SPEED		When heating thermostat is OFF, fan speed is set speed.
	INTERMITTENCE		When heating thermostat is OFF, fan speed is operated intermittently.
	FAN OFF		When heating thermostat is OFF, the fan is stopped. When the remote thermistor is working, "FAN OFF" is set automatically. Do not set "FAN OFF" when the indoor unit's thermistor is working.
11 FROST PREVENTION TEMP	TEMP HIGH		Change of indoor heat exchanger temperature to start frost prevention control.
	TEMP LOW	○	
12 FROST PREVENTION CONTROL	FAN CONTROL ON	○	Working only with the Single split series. To control frost prevention, the indoor fan tap is raised.
	FAN CONTROL OFF		
13 DRAIN PUMP LINK	※	○	Drain pump is run during cooling and dry.
	※ AND※		Drain pump is run during cooling, dry and heating.
	※ AND※ AND≋		Drain pump is run during cooling, dry, heating and fan.
	※ AND≋		Drain pump is run during cooling, dry and fan.
14 ※ FAN REMAINING	NO REMAINING	○	After cooling is stopped is OFF, the fan does not perform extra operation.
	0.5 HOUR		After cooling is stopped is OFF, the fan perform extra operation for half an hour.
	1 HOUR		After cooling is stopped is OFF, the fan perform extra operation for an hour.
	6 HOUR		After cooling is stopped is OFF, the fan perform extra operation for six hours.
15 ※ FAN REMAINING	NO REMAINING	○	After heating is stopped or heating thermostat is OFF, the fan does not perform extra operation.
	0.5 HOUR		After heating is stopped or heating thermostat is OFF,the fan perform extra operation for half an hour.
	2 HOUR		After heating is stopped or heating thermostat is OFF,the fan perform extra operation for two hours.
	6 HOUR		After heating is stopped or heating thermostat is OFF, the fan perform extra operation for six hours.
16 ※ FAN INTERMITTENCE	NO REMAINING	○	
	2min/OFF 5min/ON		During heating is stopped or heating thermostat is OFF, the fan perform intermittent operation for five minutes with low fan speed after twenty minutes' OFF.
	5min/OFF 5min/ON		During heating is stopped or heating thermostat is OFF, the fan perform intermittent operation for five minutes with low fan speed after five minutes' OFF.
17 PRESSURE CONTROL	STANDARD	※	
	TYPE1	※	Connected "OA Processing" type indoor unit, and is automatically defined.

ON/OFF button (finished)

Note 1: The initial setting marked "※" is decided by connected indoor and outdoor unit, and is automatically defined as following table.

Function No.	Item	Default	Model
Remote control function02	AUTO RUN SET	AUTO RUN ON	"Auto-RUN" mode selectable indoor unit.
		AUTO RUN OFF	Indoor unit without "Auto-RUN" mode
Remote control function06	FAN SPEED SW	VALID	Indoor unit with two or three step of air flow setting
		INVALID	Indoor unit with only one of air flow setting
Remote control function07	LOUVER SW	VALID	Indoor unit with automatically swing louver
		INVALID	Indoor unit without automatically swing louver
Remote control function13	I/U FAN	HI-MID-LO	Indoor unit with three step of air flow setting
		HI-LO	Indoor unit with two step of air flow setting
		HI-MID	
		1 FAN SPEED	Indoor unit with only one of air flow setting
Remote control function15	MODEL TYPE	HEAT PUMP	Heat pump unit
		COOLING ONLY	Exclusive cooling unit

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 "05 EXTERNAL INPUT" and "06 PERMISSION / PROHIBISHION".

Note2: Fan setting of "HIGH SPEED"

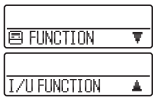
Fan tap		Indoor unit air flow setting			
		※ - ※ - ※ - ※	※ - ※ - ※	※ - ※ - ※	※ - ※
FAN SPEED SET	STANDARD	UH - Hi - Me - Lo	Hi - Me - Lo	Hi - Lo	Hi - Me
	HIGH SPEED1, 2	UH - UH - Hi - Me	UH - Hi - Me	UH - Me	UH - Hi

Initial function setting of some indoor unit is "HIGH SPEED".

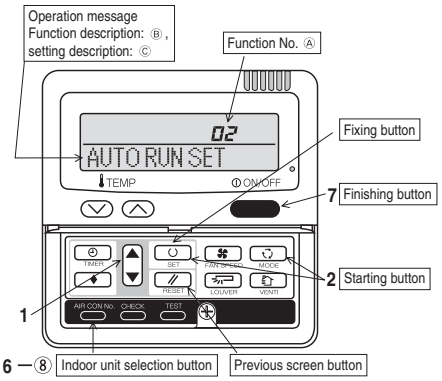
How to set function

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.**
   Selecct "FUNCTION ▼" (remote control function) or "I/U FUNCTION ▲" (indoor unit function).



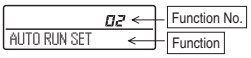
5. **Press (SET) button.**



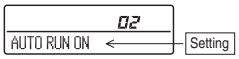
6. **【On the occasion of remote control function selection】**

① "DATA LOADING" (Indication with blinking)
↓
Display is changed to "01 ESP SET".

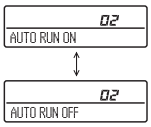
② Press ▲ or ▼ button.
"No. and function"are indicated by turns on the remote control function table, then you can select from them.
(For example)



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)
"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.

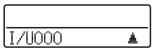
7. **Press ON/OFF button.**
   Setting is finished.

【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]

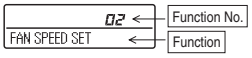
(1) If plural indoor units are connected to a remote control, the indication is "I/U 000" (blinking) ← The lowest number of the indoor unit connected is indicated.



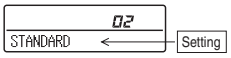
(2) Press ▲ or ▼ button.
Select the number of the indoor unit you are to set
If you select "ALL UNIT ▼", you can set the same setting with all unites.

(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 ▲")

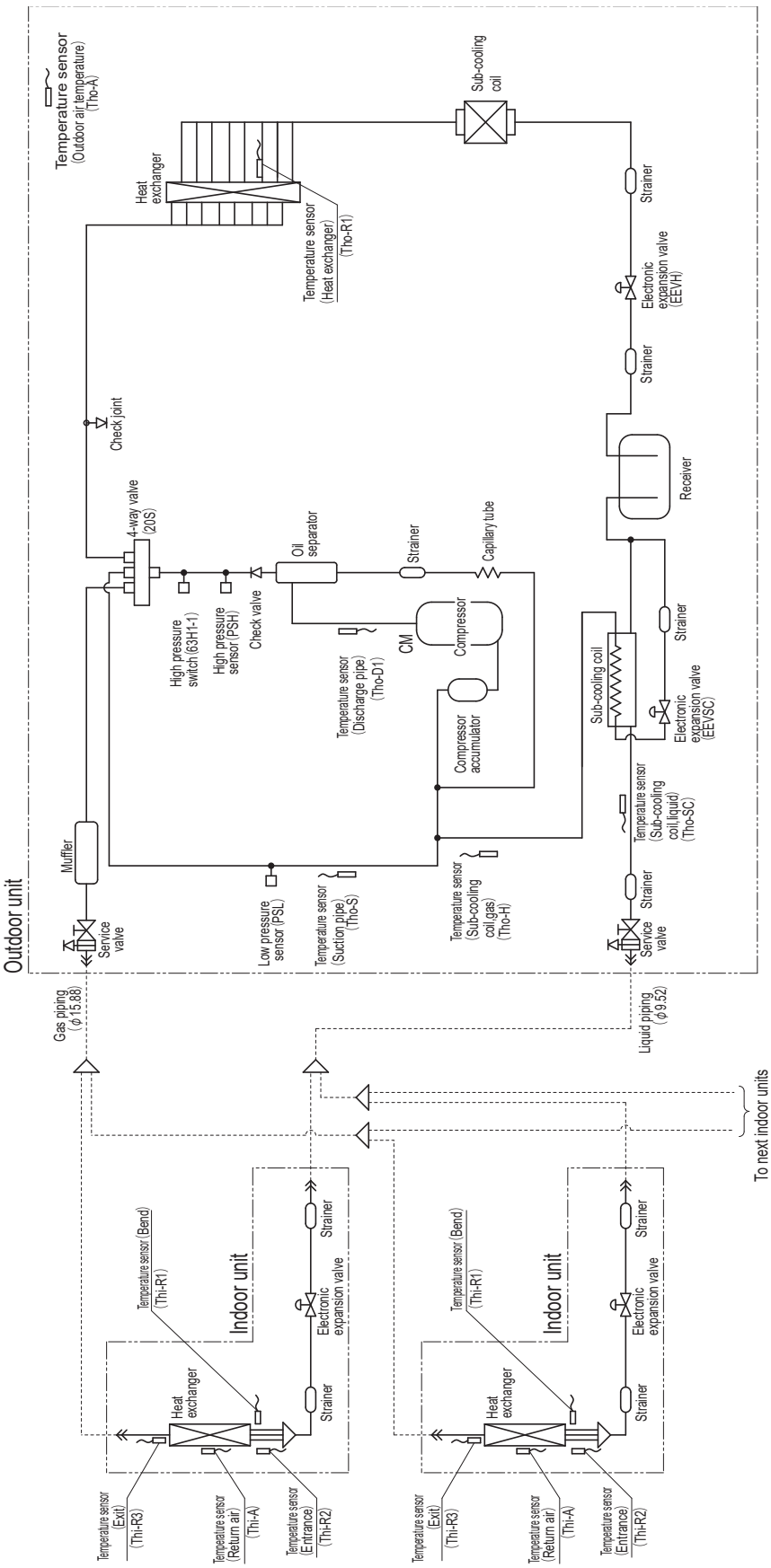
- It is possible to finish by pressing ON/OFF button on the way, but unfinished change of setting is unavailable.
- During setting, if you press (RESET) button, you return to the previous screen.
- Setting is memorized in the control and it is saved independently of power failure.

【How to check the current setting】

When you select from "No. and funcion" 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.)

4. PIPING SYSTEM

All models



(2) Function of temperature sensor

Low pressure sensor (PSL) : Compressor control
Protection
0.18 ON/0.236 OFF (MPa)
Error:
0.134 ON/0.18 OFF (MPa)

High pressure sensor (PSH) : Compressor control
Protection
Cooling: 3.70 ON (MPa)
Heating: 3.00 ON (MPa)

Thi-R1,2:Heating operation:Indoor fan control
Cooling operation:Frost prevention control
Superheat control

Thi-R3:Superheat control

Tho-R1 : For control of defrost operation

Tho-A : For heating and cooling to low outdoor air temperature, for control of defrost operation

Tho-D1: For control of discharge pipe temperature

Tho-S : For control of suction pipe temperature

Sub-cooling coil temperature sensor 1 (Tho-SC) : Sub-cooling coil control during cooling

Sub-cooling coil temperature sensor 2 (Tho-H) : Sub-cooling coil control during cooling

Notes (1) Pressure switch setting value

Name	Setting value
High pressure switch ($63H_{1-1}$) [For protection]	4.15 open/3.15 close (MPa)

PCA001Z903 A

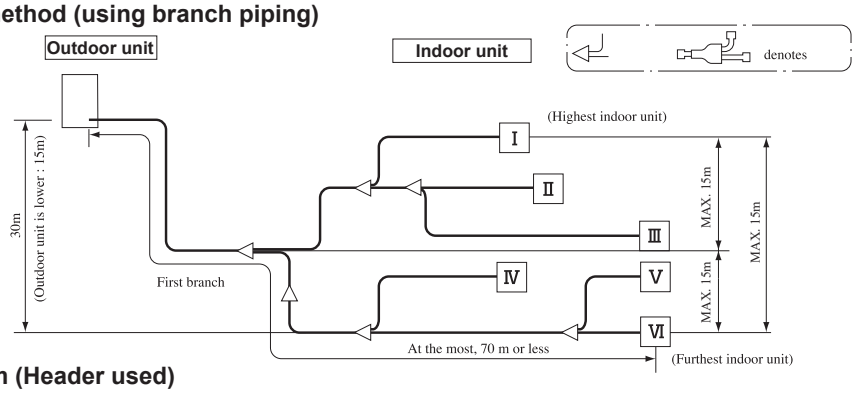
#

5. RANGE OF USAGE & LIMITATIONS

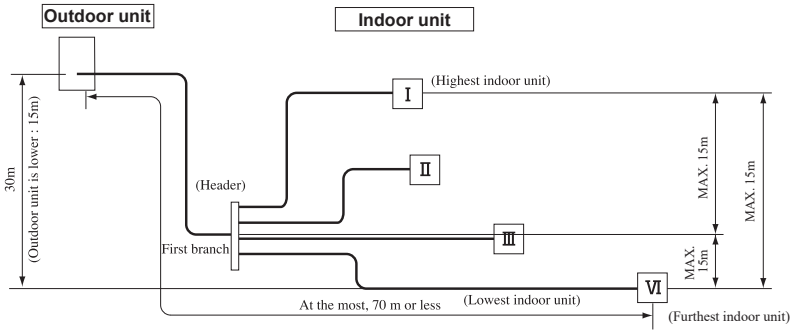
Item \ System		FDC121KXZEN1-W 121KXZES1-W	FDC140KXZEN1-W 140KXZES1-W	FDC155KXZEN1-W 155KXZES1-W
Indoor intake air temperature (Upper, lower limits)		Please see the next page.		
Outdoor air temperature (Upper, lower limits)				
Indoor units that can be used in combination	Number of connected units	1 to 8 units	1 to 10 units	1 to 10 units
	Total capacity	90 - 181	112 - 210	124 - 232
Total Piping Length (Total of the lengths of all piping)		MAX. 100m		
Maximum Piping Distance (From outdoor unit to farthest indoor unit)		Indoor unit MAX. 70m		
Total length of ø9.52 liquid pipe		Within 50 m		
Difference in height between indoor and outdoor units	Outdoor unit is higher	MAX. 30m		
	Outdoor unit is lower	MAX. 15m		
Difference in height between indoor units		MAX. 15m		
Permissible height difference between the first branch and the indoor unit		MAX. 15m		
Indoor unit atmosphere (behind ceiling) temperature and humidity		Dew point temperature 28 ℃ or less, relative humidity 80% or less		
Compressor stop/start frequency	1 cycle time	5 min or more (2 minutes or more from start to stop or 3 minutes or more from stop to start)		
	Stop time	3 min or more		
Power source voltage	Voltage fluctuation	Within ±10% of rated voltage		
	Voltage drop during start	Within ±15% of rated voltage		
	Phase unbalance	Within ± 3% of rated voltage		

Allowable length of refrigerant piping, height difference between indoor and outdoor unit

(1) Branch pipe method (using branch piping)



(2) Header System (Header used)

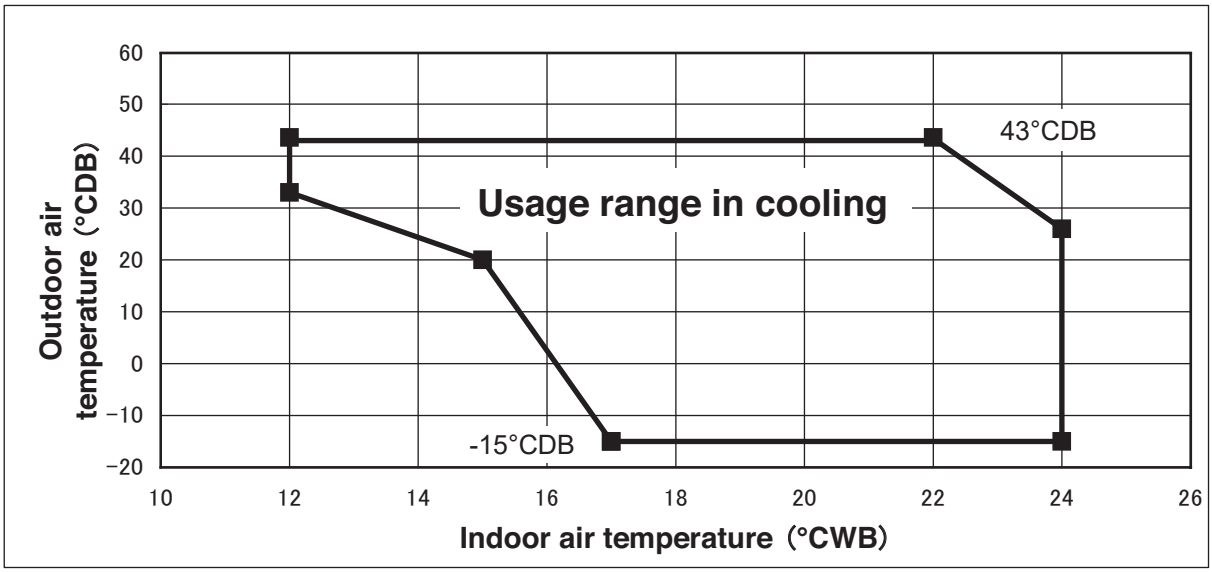


Notes (1) There is no limit to the permissible piping lengths for the main pipes or other piping, but keep furthest indoor unit piping to 50m with a diameter of ø9.52.

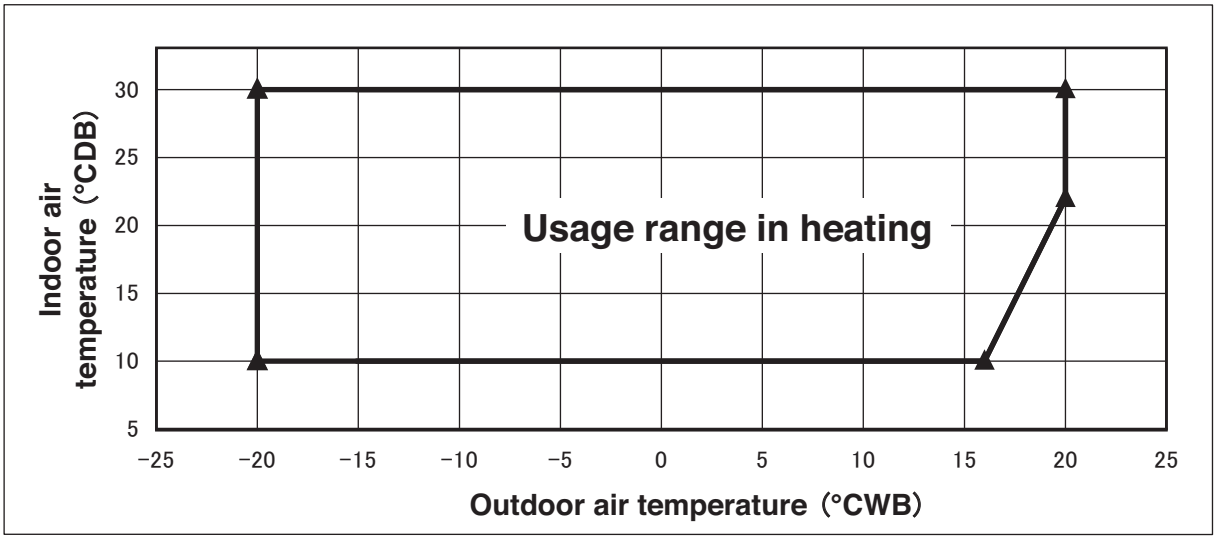
(2) A branch piping system cannot be connected after a header system.

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

Micro KXZ-W 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.

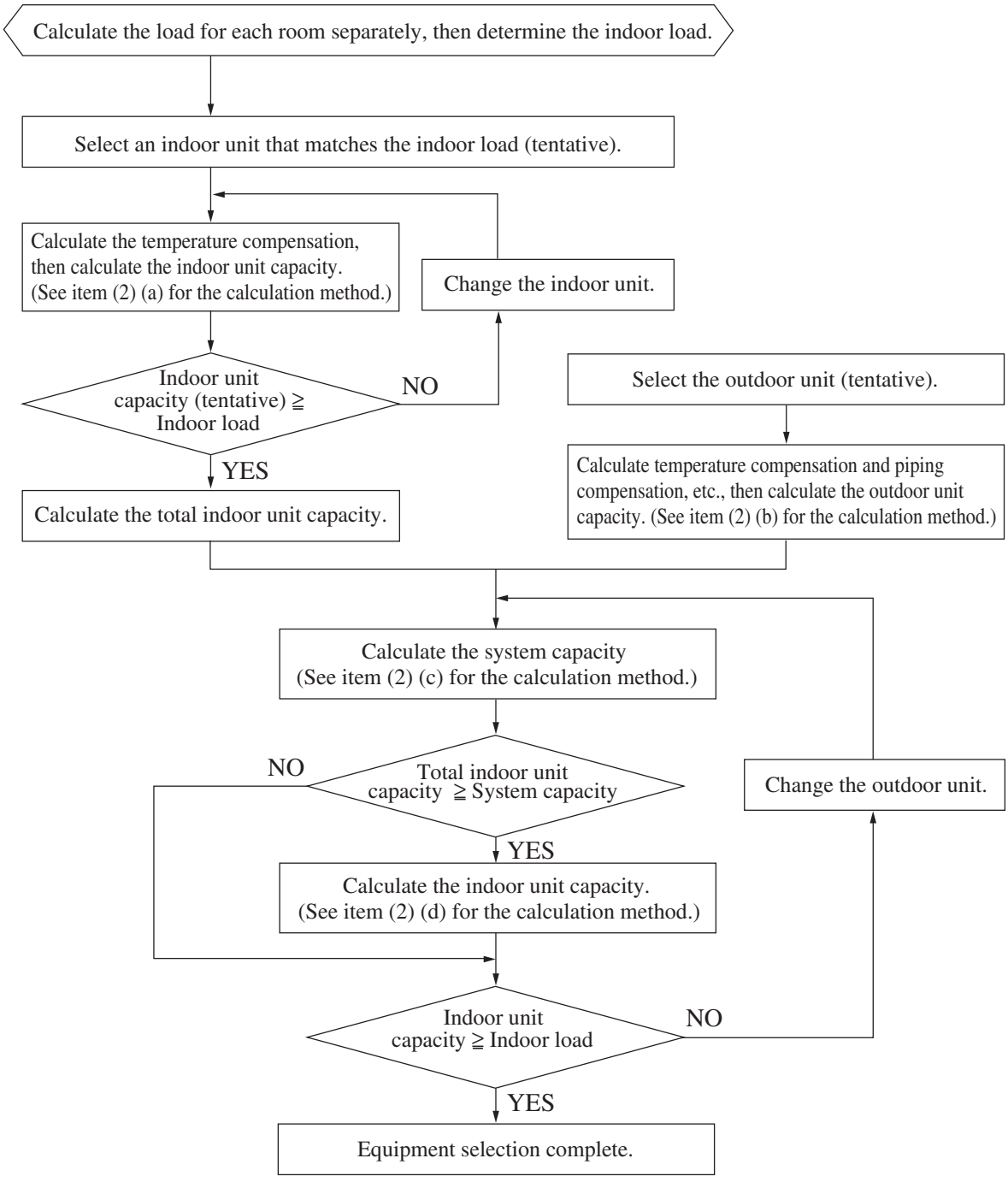
[Reason]

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.

6. SELECTION CHART

(1) Equipment selection flow



(2) Capacity calculation method

(a) Calculating the indoor unit capacity compensation

Indoor unit capacity (cooling, heating) = Indoor unit total rated capacity
× Capacity compensation coefficient according to temperature conditions

See item (3) (a) concerning the capacity compensation coefficient according to temperature conditions.

(b) Calculating the outdoor unit capacity compensation

Outdoor Unit Capacity (Cooling, Heating) = Outdoor unit rated capacity (rated capacity when 100% connected)
× Capacity compensation coefficient according to temperature conditions
× Capacity compensation coefficient according to piping length
× Capacity compensation coefficient according to height difference
× Correction of heating capacity in relation to the frost on the outdoor unit heat exchanger
× Capacity compensation coefficient according to indoor unit connection capacity

① See item (3) (a) concerning the capacity compensation coefficient according to temperature conditions.
② See item (3) (c) concerning the capacity compensation coefficient according to piping length.
③ See item (3) (d) concerning the capacity compensation coefficient according to height difference. This compensation should be carried out only in cases where the outdoor unit is lower during cooling and higher during heating.
④ See item (3) (e) correction of heating capacity in relation to the frost on the outdoor unit heat exchanger. This compensation should be carried out only when calculating the heating capacity.
⑤ See item (3) (f) concerning the capacity compensation coefficient according to indoor unit connected capacity. This compensation should be carried out only in cases where the indoor unit total capacity is 100% or higher.

(c) Calculating system capacity

Compare the capacities determined in items (a) and (b) above and let the smaller value be the system capacity (cooling, heating).

① In cases where indoor unit total capacity (cooling, heating) > outdoor unit capacity (cooling, heating)
System capacity (cooling, heating) = Outdoor unit capacity (cooling, heating)
② In cases where indoor unit total capacity (cooling, heating) < outdoor unit capacity (cooling, heating)
System capacity (cooling, heating) = Indoor unit capacity (cooling, heating)

(d) Calculating indoor unit capacity [item (c) ①only]

Indoor unit capacity (cooling, heating) = System capacity (cooling, heating)
× [(Indoor unit capacity) / (Indoor unit total capacity)]

Capacity calculation examples

Example 1

Cooling (when the indoor unit connected total capacity is less than 100%)

- Outdoor unit FDC140KXZES1-W ..... 1 Unit
- Indoor unit FDT56KXZE1-W ..... 2 Units
- Piping length ..... 60 m (Equivalent length)
- Indoor, outdoor unit height difference ..... 15 m (Outdoor unit is lower)
- Temperature conditions ..... Outdoor temperature: 33°C DB
- Temperature conditions ..... Indoor temperature: 19°C WB

<Indoor unit total cooling capacity>: Item (2) (a) calculation.

- Indoor unit rated cooling capacity: 5.6 kW
- Capacity compensation coefficient according to temperature conditions:
  1.02 (Calculated according to Indoor 19˚C WB / Outdoor 33˚C DB); (See page 135)
  Indoor unit cooling capacity: 5.6 kW × 1.02 ≒ 5.7 kW
- Indoor unit total cooling capacity calculation;
  indoor unit total cooling capacity: 5.7 kW × 2 units = <u>11.4 kW</u>

<Outdoor unit maximum cooling capacity> : Item (2) (b) calculation

- Outdoor unit rated cooling capacity: 14.0 kW
- Capacity compensation coefficient according to temperature conditions:
  1.02 (Calculated according to Indoor 19˚C WB / Outdoor 33˚C DB); (See page 135)
  Outdoor unit cooling capacity: 14.0 kW × 1.02 ≒ 14.3 kW
- Capacity compensation coefficient according to piping length: 0.918 (calculated according to 60 m length); (See page 137)
  14.3 kW × 0.918 ≒ 13.1 kW

• Capacity compensation coefficient according to height difference: 0.97 (calculated according to 15 m difference); (See page 138)
13.1 kW × 0.97 ≒ 12.7 kW
• Capacity compensation coefficient according to indoor unit connected total capacity: 1.0 ← (56 × 2) / 140 < 100%)
No compensation

<System cooling capacity>: Item (2) (c) calculation

Compare the indoor unit total cooling capacity and the outdoor unit maximum cooling capacity. The smaller value is the actual system cooling capacity.
• Indoor unit total cooling capacity: 11.4 kW ⇨ System cooling capacity: 11.4 kW
• Outdoor unit maximum cooling capacity: 12.7 kW

<Indoor unit capacity compensation> No compensation (5.7 kW)

Example 2

Cooling (when the indoor unit connected total capacity is 100% or higher)

• Outdoor unit FDC140KXZES1-W ..... 1 Unit
• Indoor unit FDT56KXZE1-W ..... 3 Units
• Piping length ..... 60 m (Equivalent length)
• Indoor, outdoor unit height difference ..... 15 m (Outdoor unit is higher)
• Temperature conditions ..... Outdoor temperature: 35°C DB
• Temperature conditions ..... Indoor temperature: 18°C WB

<Indoor unit total cooling capacity>: Item (2) (a) calculation.

• Indoor unit rated cooling capacity: 5.6 kW
• Capacity compensation coefficient according to temperature conditions:
0.97 (Calculated according to Indoor 18˚C WB / Outdoor 35˚C DB); (See page 135)
Indoor unit cooling capacity: 5.6 kW × 0.97 ≒ 5.4 kW
• Indoor unit total cooling capacity calculation;
indoor unit total cooling capacity: 5.4 kW × 3 units ≒ 16.2 kW

<Outdoor unit maximum cooling capacity> : Item (2) (b) calculation

• Outdoor unit rated cooling capacity: 14.0 kW
• Capacity compensation coefficient according to temperature conditions:
0.97 (Calculated according to Indoor 18˚C WB / Outdoor 35˚C DB); (See page 135)
Outdoor unit cooling capacity: 14.0 kW × 0.97 ≒ 13.6 kW
• Capacity compensation coefficient according to piping length: 0.918 (calculated according to 60 m length); (See page 137)
13.6 kW × 0.918 ≒ 12.5 kW
• Capacity compensation coefficient according to height difference: 1.0 (the outdoor unit is higher during cooling)
No compensation
• Capacity compensation coefficient according to indoor unit connected total capacity: 1.04 ← (56 × 3) / 140 = 120%) (See page 138)
12.5 kW × 1.04 ≒ 13.0 kW

<System cooling capacity>: Item (2) (c) calculation

Compare the indoor unit total cooling capacity and the outdoor unit maximum cooling capacity. The smaller value is the actual system cooling capacity.
• Indoor unit total cooling capacity : 16.2 kW ⇨ System cooling capacity: 13.0 kW
• Outdoor unit maximum cooling capacity : 13.0 kW

<Indoor unit cooling capacity Compensation>: Item (2) (d) calculation.

$$\frac{13.0\ \text{kW} \times 5.4\ \text{kW}}{16.2\ \text{kW}} \fallingdotseq 4.3\ \text{kW}$$

Example 3

Heating (when the indoor unit connected total capacity is 100% or higher)

• Outdoor unit FDC140KXZES1-W ..... 1 Unit
• Indoor unit FDT56KXZE1-W ..... 3 Units
• Piping length ..... 60 m (Equivalent length)
• Indoor, outdoor unit height difference ..... 20 m (Outdoor unit is higher)
• Temperature conditions ..... Outdoor temperature: 6˚C WB
• Temperature conditions ..... Indoor temperature: 19˚C DB

<Indoor unit total heating capacity>: Item (2) (a) calculation.

• Indoor unit rated heating capacity:6.3 kW
• Capacity compensation coefficient according to temprature conditions:
0.98 (Calculated according to Outdoor 6˚C WB / Indoor 19˚C DB); (See page 136)
Indoor unit heating capacity: 6.3 kW × 0.98 ≒ 6.2 kW
• Indoor unit total heating capacity calculation;
indoor unit total heating capacity: 6.2 kW × 3 units = 18.6 kW

<Outdoor unit maximum heating capacity> : Item (2) (b) calculation

- Outdoor unit rated heating capacity: 14.0 kW
- Capacity compensation coefficient according to temperature conditions:
  0.98 (Calculated according to Outdoor 6˚C WB / Indoor 19˚C DB); (See page 221)
  Outdoor unit heating capacity: 14.0 kW ×0.98 ≒ 13.7 kW
- Capacity compensation coefficient according to piping length: 1.0 (calculated according to 60 m length); (See page 222)
  13.7 kW ×1.0 = 13.7 kW
- Capacity compensation coefficient according to height difference: 0.96 (calculated according to 20 m difference); (See page 223)
  13.7 kW ×0.96 ≒ 13.2 kW
- Correction of heating capacity in relation to the frost on the outdoor unit heat exchanger: 1.0;
  13.2 kW ×1.0 ≒ 13.2 kW.
- Capacity compensation coefficient according to indoor unit connected total capacity: 1.02←(56 ×3) / 140 = 120%) (See page 223)
  13.2 kW ×1.02 ≒ 13.5 kW.

<System heating capacity>: Item (2) (c) calculation

Compare the indoor unit total heating capacity and the outdoor unit maximum heating capacity. The smaller value is the actual system heating capacity.

- Indoor unit total heating capacity : 18.6 kW ⇨ System heating capacity: 13.5 kW
- Outdoor unit maximum heating capacity : 13.5 kW

<Indoor unit heating capacity compensation> (Item (2) (d) calculation

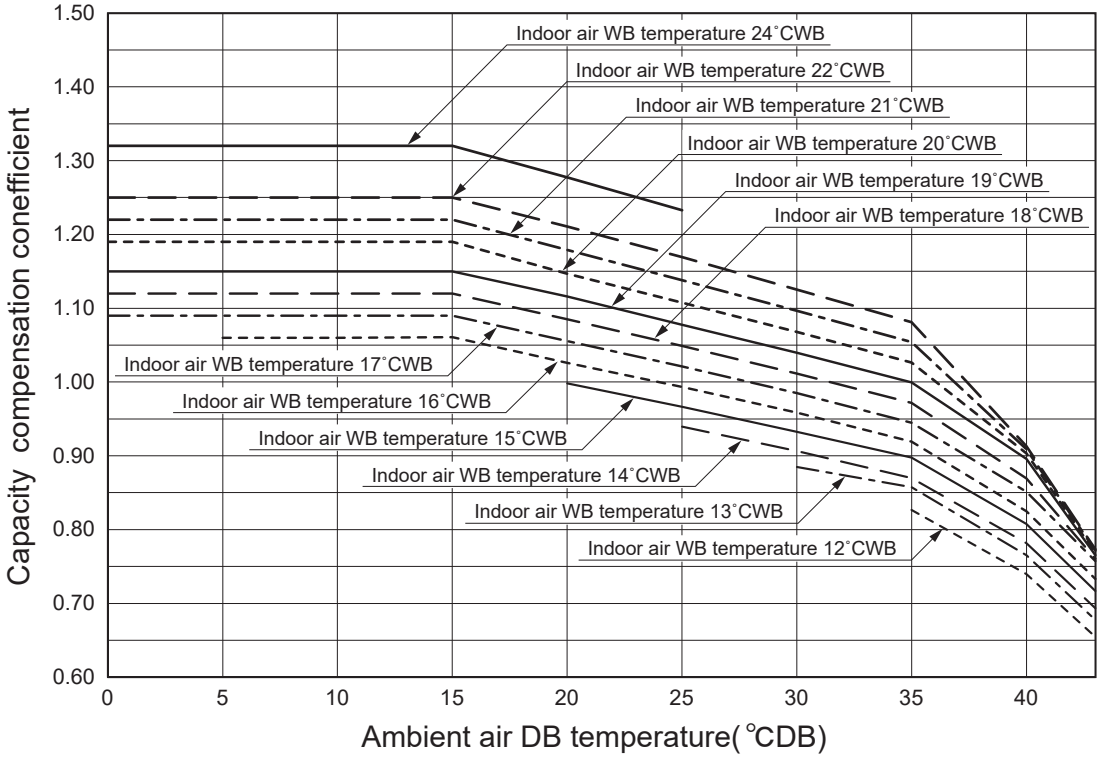
$$\frac{13.5\ \text{kW} \times 6.2\ \text{kW}}{18.6\ \text{kW}} = 4.5\ \text{kW}$$

(3) Capacity compensation coefficient

(a) Capacity compensation coefficient and power consumption compensation coefficient according to indoor and outdoor temperature conditions

(i) Capacity compensation coefficient

◆Cooling



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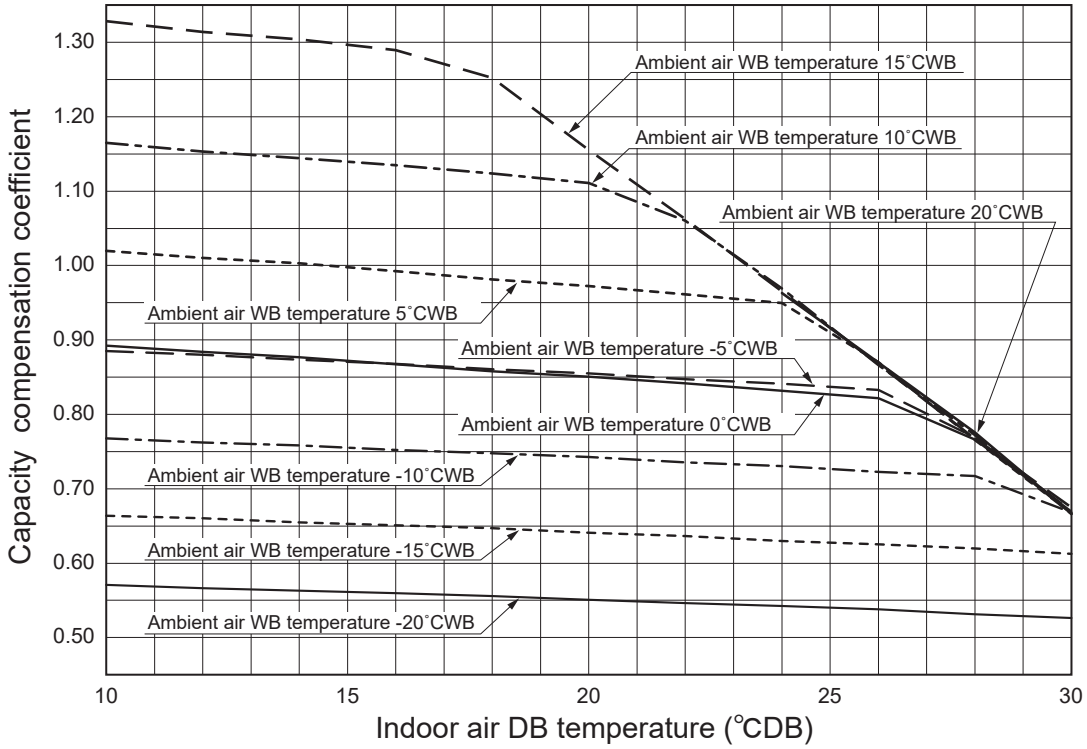
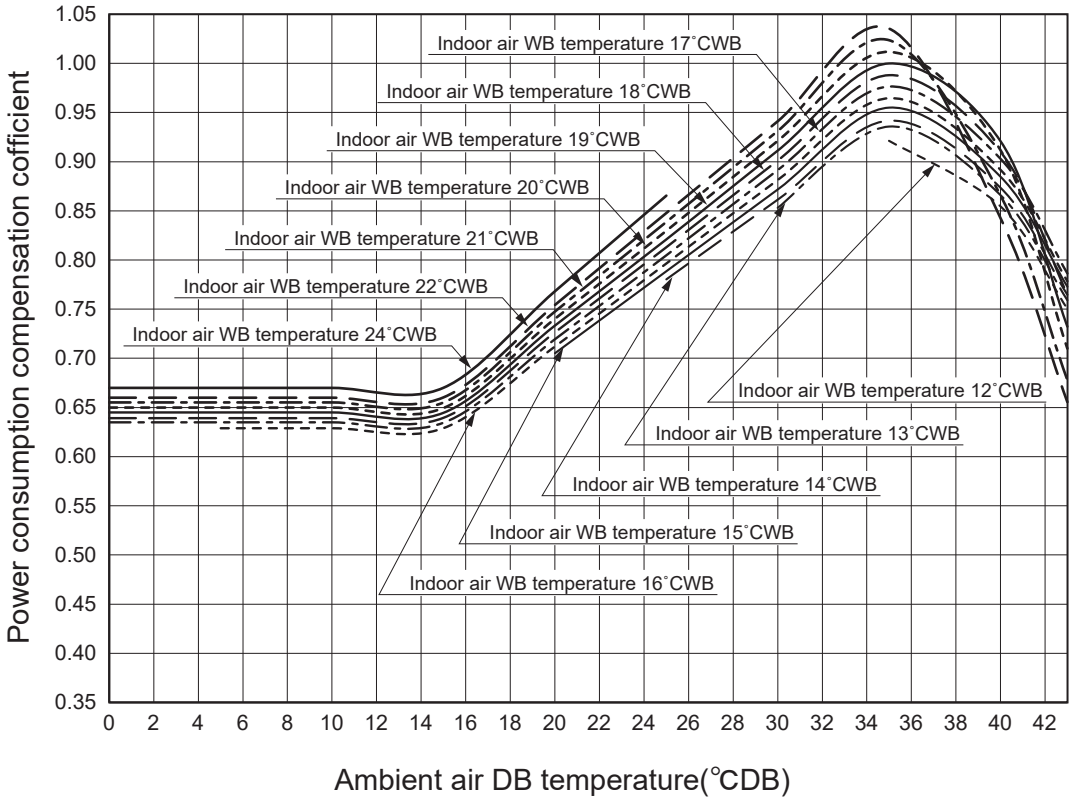
◆**Heating**



(ii) Power consumption correction factor

◆**Cooling**



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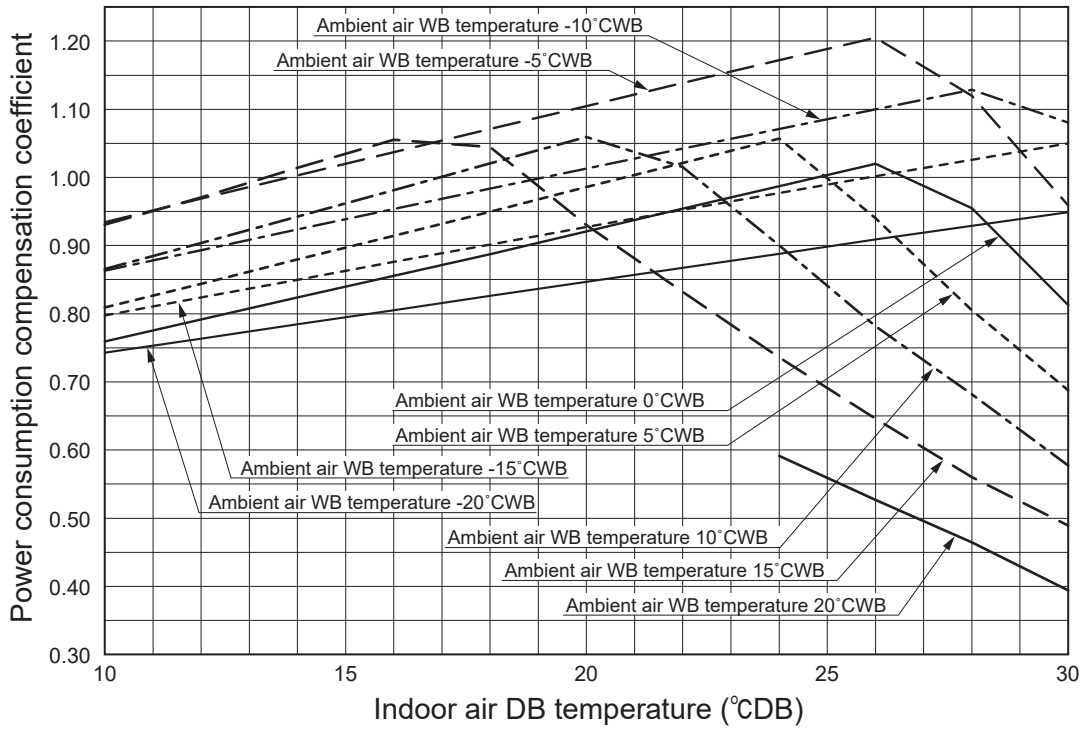
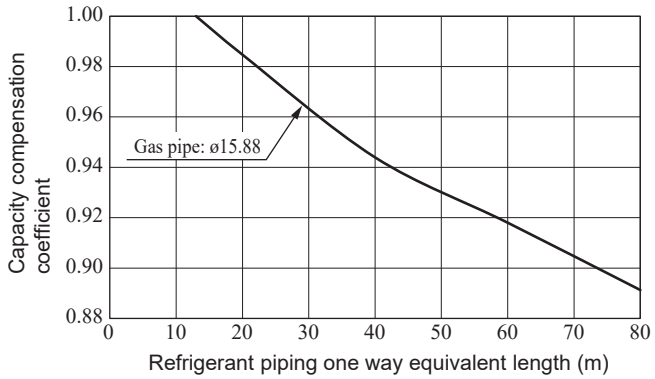
◆**Heating**

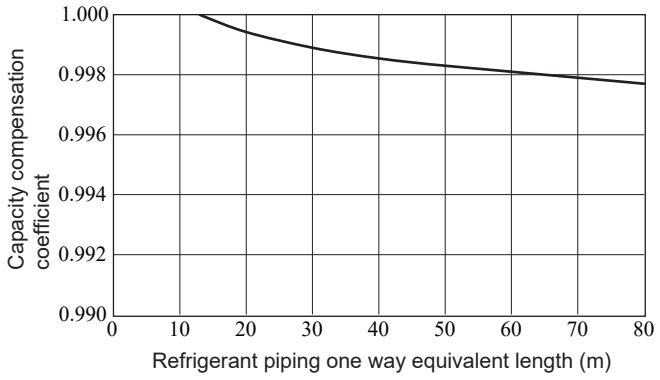


(b) Correction of cooling and heating capacity in relation to one way length of refrigerant piping

(i) Cooling



(ii) Heating



Note (1) Equivalent piping length can be obtained by calculating as follows.
Equivalent piping length = Real gas piping length + Number of bends in gas piping × Equivalent piping length of bends.

Equivalent length of each joint — Unit : m/one part

Gas piping size	ϕ9.52	ϕ12.7	ϕ15.88	ϕ19.05	ϕ25.4	ϕ28.58	ϕ31.8
Joint (90˚elbow)	0.15	0.20	0.25	0.30	0.40	0.45	0.55

#

(c) When the outdoor unit is located at a lower height than the indoor unit in cooling operation and when the outdoor unit is located at a higher height than the indoor unit in heating operation, the following values should be subtracted from the values in the above table.

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

(d) Correction of heating capacity in relation to the frost on the outdoor unit heat exchanger

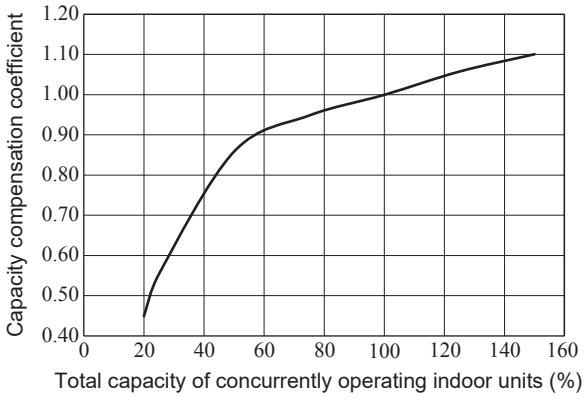
Air inlet temperature of outdoor unit in °C WB	-20	-15	-13	-11	-9	-7	-5	-3	-1	1	3	5 or more
Adjustment coefficient	0.96	0.96	0.96	0.95	0.94	0.93	0.91	0.88	0.86	0.87	0.92	1

The correction factors will change drastically according to weather conditions. So necessary adjustment should be made empirically according to the weather data of the particular area.

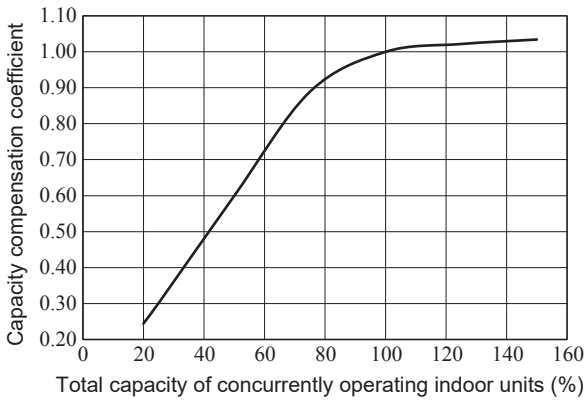
(e) The capacity compensation coefficient and power consumption compensation coefficient vary according to the total capacity of concurrently operating indoor units, as shown below.

◆ **Capacity compensation coefficient**

Cooling

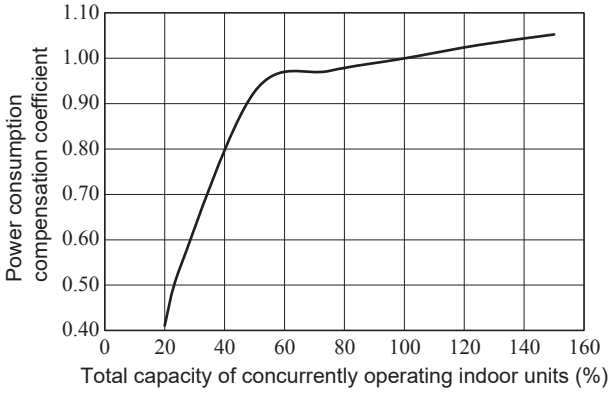


Heating

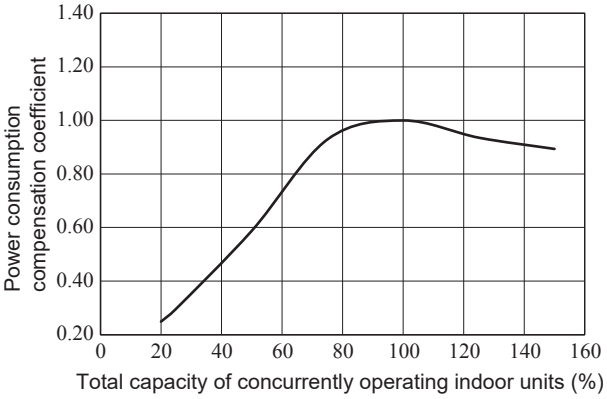


◆ **Power consumption compensation coeffcient**

Cooling

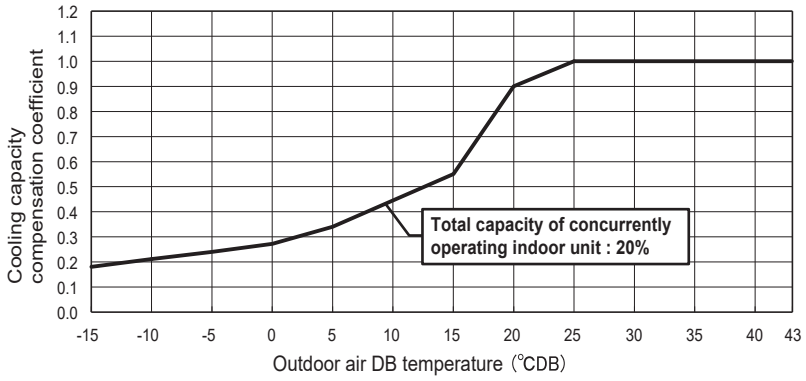


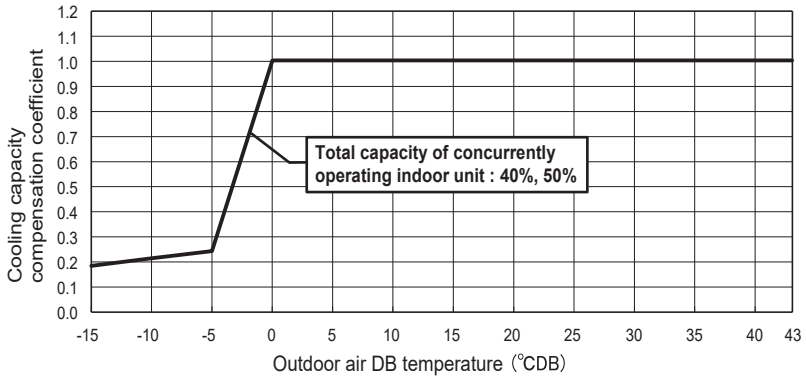
Heating

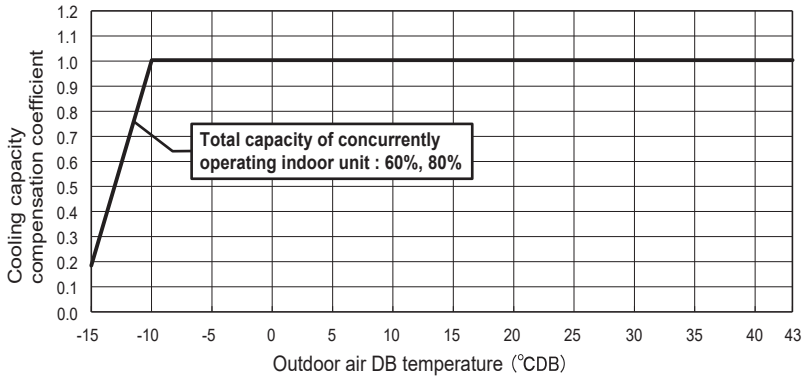


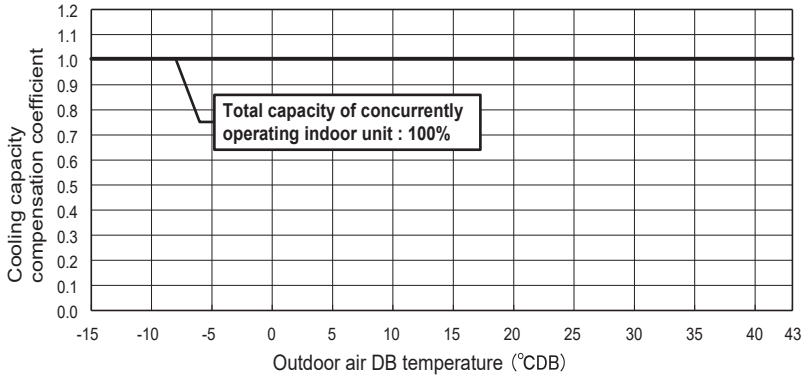
(f) The capacity compensation coefficient:
Cooling capacity in low temperature under operation of Anti-frost control.

(i) Indoor fan tap: P-Hi



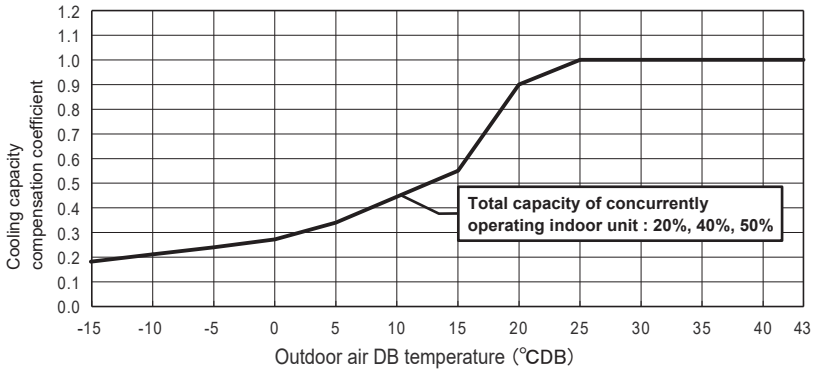


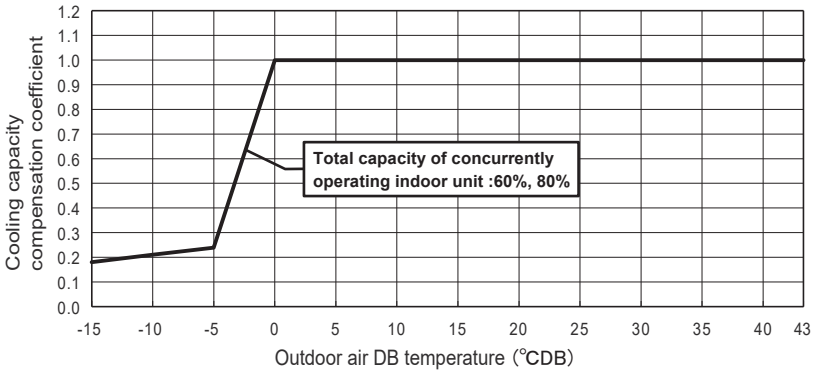


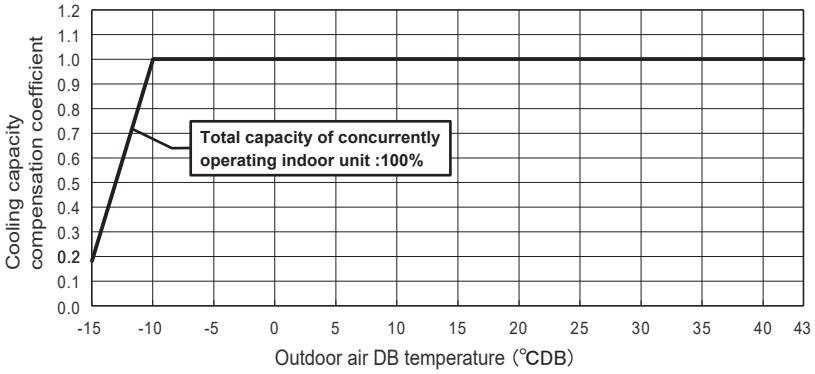


Capacity compensation coefficient is that of cooling capacity at each fan-tap.
(Condition) Room temp: 27 ℃DB/19℃WB
(*) If room temp. is lower than 27℃DB/19℃WB, cooling capacity ratio tends to be smaller than values shown in graph.
The lowest fan tap in the operating indoor units should be selected on above graph.

(ii) Indoor fan tap: Lo







Capacity compensation coefficient is that of cooling capacity at each fan-tap.
(Condition) Room temp: 27 ℃DB/19℃WB
(*) If room temp. is lower than 27℃DB/19℃WB, cooling capacity ratio tends to be smaller than values shown in graph.
The lowest fan tap in the operating indoor units should be selected on above graph.

7. TECHNICAL INFORMATION

7.1 Outdoor units

(1) Lot6/21

PSA012J092D Ⓓ

Model(s) : FDC121KXZEN1-W							
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	12.1	kW	Seasonal space cooling energy efficiency	η s,c	384.0	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27℃/19℃(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35℃	Pdc	12.1	kW	Tj=+35℃	EERd or GUEc,bin / AEFc,bin	408.0	%
Tj=+30℃	Pdc	8.9	kW	Tj=+30℃	EERd or GUEc,bin / AEFc,bin	714.0	%
Tj=+25℃	Pdc	5.7	kW	Tj=+25℃	EERd or GUEc,bin / AEFc,bin	1327.0	%
Tj=+20℃	Pdc	5.5	kW	Tj=+20℃	EERd or GUEc,bin / AEFc,bin	2105.0	%
Degradation coefficient for air conditioners**	Cdc	0.25	-				
Power consumpiton in other than 'active mode'							
Off mode	P_{OFF}	0.006	kW	Crankcase heater mode	P_{CK}	0.025	kW
Thermostat-off mode	P_{TO}	0.000	kW	Standby mode	P_{SB}	0.006	kW
Other items							
Capacity control		variable		For air-to-air air conditioner: air flow-rate,outdoor measured		4500	m^3/h
Sound power level, outdoor	L_{WA}	68.0	dB				
If engine driven: Emissions of nitrogen oxides	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		675	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-spilt 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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PSA012J092D Ⓓ

Information to identify the model(s) to which the information relates : FDC121KXZEN1-W							
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	**12.1**	kW	Seasonal space heating energy efficiency	η s,h	**184.2**	%
Declared heating capacity for part load at indoor temperature 20℃ and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
T_j=-7℃	Pdh	**7.4**	kW	T_j=-7℃	COPd or GUEh,bin / AEFh,bin	**311.0**	%
T_j=+2℃	Pdh	**4.5**	kW	T_j=+2℃	COPd or GUEh,bin / AEFh,bin	**423.0**	%
T_j=+7℃	Pdh	**2.9**	kW	T_j=+7℃	COPd or GUEh,bin / AEFh,bin	**683.0**	%
T_j=+12℃	Pdh	**3.6**	kW	T_j=+12℃	COPd or GUEh,bin / AEFh,bin	**896.0**	%
T_{biv}=bivalent temperature	Pdh	**8.4**	kW	T_{biv}=bivalent temperature	COPd or GUEh,bin / AEFh,bin	**274.0**	%
T_{OL}=operation limit	Pdh	**6.7**	kW	T_{OL}=operation limit	COPd or GUEh,bin / AEFh,bin	**226.0**	%
For air-to-water heat pumps : T_j=-15℃ (if T_{OL}＜-20℃)	Pdh	**-**	kW	For air-to-water heat pumps:T_j=-15℃ (if T_{OL}＜-20℃)	COPd or GUEh,bin / AEFh,bin	**-**	%
Bivalent temperature	T_{biv}	**-10.0**	℃	For water-to-air heat pumps:Operation limit T_{ol} temperature		**-**	℃
Degradation coefficient heat pumps**	C_{dh}	**0.25**	-				
Power consumpiton in modes other than 'active mode'				Supplementary heater back-up heating capacity	elbu	**-**	kW
Off mode	P_{OFF}	**0.006**	kW				
Thermostat-off mode	P_{TO}	**0.031**	kW	Type of energy input Standby mode	P_{SB}	**0.006**	kW
Crankcase heater mode	P_{CK}	**0.025**	kW				
Other items							
Capacity control		**variable**		For air-to-air heat pumps: air flow-rate,outdoor measured		**4500**	m^3/h
Sound power level, outdoor measured	L_{WA}	**71.0**	dB	For water-/brine-to-air heat pumps : Rated brine or water fiow-rate, outdoor side heat exchanger		**-**	m^3/h
Emissions of nitrogen oxides(if applicable)	NOx ***	**-**	mg/kWh fuel input GCV				
GWP of the refrigerant		**675**	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-spilt 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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PSA012J092D Δ

Model(s) : FDC121KXZES1-W							
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	12.1	kW	Seasonal space cooling energy efficiency	η s,c	384.0	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27℃/19℃(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35℃	Pdc	12.1	kW	Tj=+35℃	EERd or GUEc,bin / AEFc,bin	408.0	%
Tj=+30℃	Pdc	8.9	kW	Tj=+30℃	EERd or GUEc,bin / AEFc,bin	714.0	%
Tj=+25℃	Pdc	5.7	kW	Tj=+25℃	EERd or GUEc,bin / AEFc,bin	1327.0	%
Tj=+20℃	Pdc	5.5	kW	Tj=+20℃	EERd or GUEc,bin / AEFc,bin	2105.0	%
Degradation coefficient for air conditioners**	Cdc	0.25	-				
Power consumpiton in other than 'active mode'							
Off mode	P_{OFF}	0.006	kW	Crankcase heater mode	P_{CK}	0.025	kW
Thermostat-off mode	P_{TO}	0.000	kW	Standby mode	P_{SB}	0.006	kW
Other items							
Capacity control		variable		For air-to-air air conditioner: air flow-rate,outdoor measured		4500	m^3/h
Sound power level, outdoor	L_{WA}	68.0	dB				
If engine driven: Emissions of nitrogen oxides	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		675	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-spilt 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.

#

PSA012J092D Ⓓ

Information to identify the model(s) to which the information relates : FDC121KXZES1-W							
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	**12.1**	kW	Seasonal space heating energy efficiency	η s,h	**184.2**	%
Declared heating capacity for part load at indoor temperature 20℃ and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
T_j=-7℃	Pdh	**7.4**	kW	T_j=-7℃	COPd or GUEh,bin / AEFh,bin	**311.0**	%
T_j=+2℃	Pdh	**4.5**	kW	T_j=+2℃	COPd or GUEh,bin / AEFh,bin	**423.0**	%
T_j=+7℃	Pdh	**2.9**	kW	T_j=+7℃	COPd or GUEh,bin / AEFh,bin	**683.0**	%
T_j=+12℃	Pdh	**3.6**	kW	T_j=+12℃	COPd or GUEh,bin / AEFh,bin	**896.0**	%
T_{biv}=bivalent temperature	Pdh	**8.4**	kW	T_{biv}=bivalent temperature	COPd or GUEh,bin / AEFh,bin	**274.0**	%
T_{OL}=operation limit	Pdh	**6.7**	kW	T_{OL}=operation limit	COPd or GUEh,bin / AEFh,bin	**226.0**	%
For air-to-water heat pumps : T_j=-15℃ (if T_{OL}＜-20℃)	Pdh	**-**	kW	For air-to-water heat pumps:T_j=-15℃ (if T_{OL}＜-20℃)	COPd or GUEh,bin / AEFh,bin	**-**	%
Bivalent temperature	T_{biv}	**-10.0**	℃	For water-to-air heat pumps:Operation limit T_{ol} temperature		**-**	℃
Degradation coefficient heat pumps**	C_{dh}	**0.25**	-				
Power consumpiton in modes other than 'active mode'				Supplementary heater back-up heating capacity	elbu	**-**	kW
Off mode	P_{OFF}	**0.006**	kW				
Thermostat-off mode	P_{TO}	**0.031**	kW	Type of energy input Standby mode	P_{SB}	**0.006**	kW
Crankcase heater mode	P_{CK}	**0.025**	kW				
Other items							
Capacity control		**variable**		For air-to-air heat pumps: air flow-rate,outdoor measured		**4500**	m^3/h
Sound power level, outdoor measured	L_{WA}	**71.0**	dB	For water-/brine-to-air heat pumps : Rated brine or water fiow-rate, outdoor side heat exchanger		**-**	m^3/h
Emissions of nitrogen oxides(if applicable)	NOx ***	**-**	mg/kWh fuel input GCV				
GWP of the refrigerant		**675**	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-spilt 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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PSA012J092D Δ

Model(s) : FDC140KXZEN1-W							
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	η s,c	**349.8**	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27℃/19℃(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35℃	Pdc	**14.0**	kW	Tj=+35℃	EERd or GUEc,bin / AEFc,bin	**350.0**	%
Tj=+30℃	Pdc	**10.3**	kW	Tj=+30℃	EERd or GUEc,bin / AEFc,bin	**624.0**	%
Tj=+25℃	Pdc	**6.6**	kW	Tj=+25℃	EERd or GUEc,bin / AEFc,bin	**1161.0**	%
Tj=+20℃	Pdc	**5.5**	kW	Tj=+20℃	EERd or GUEc,bin / AEFc,bin	**2105.0**	%
Degradation coefficient for air conditioners**	Cdc	**0.25**	-				
Power consumpiton in other than 'active mode'							
Off mode	P_{OFF}	**0.006**	kW	Crankcase heater mode	P_{CK}	**0.025**	kW
Thermostat-off mode	P_{TO}	**0.000**	kW	Standby mode	P_{SB}	**0.006**	kW
Other items							
Capacity control		**variable**		For air-to-air air conditioner: air flow-rate,outdoor measured		**4500**	m^3/h
Sound power level, outdoor	L_{WA}	**69.0**	dB				
If engine driven: Emissions of nitrogen oxides	NOx ***	**-**	mg/kWh fuel input GCV				
GWP of the refrigerant		**675**	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-spilt 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.

#

PSA012J092D Ⓓ

Information to identify the model(s) to which the information relates : FDC140KXZEN1-W							
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	η s,h	**181.7**	%
Declared heating capacity for part load at indoor temperature 20℃ and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
T_j=-7℃	Pdh	**8.5**	kW	T_j=-7℃	COPd or GUEh,bin / AEFh,bin	**302.0**	%
T_j=+2℃	Pdh	**5.2**	kW	T_j=+2℃	COPd or GUEh,bin / AEFh,bin	**420.0**	%
T_j=+7℃	Pdh	**3.4**	kW	T_j=+7℃	COPd or GUEh,bin / AEFh,bin	**668.0**	%
T_j=+12℃	Pdh	**3.6**	kW	T_j=+12℃	COPd or GUEh,bin / AEFh,bin	**896.0**	%
T_{biv}=bivalent temperature	Pdh	**9.7**	kW	T_{biv}=bivalent temperature	COPd or GUEh,bin / AEFh,bin	**262.0**	%
T_{OL}=operation limit	Pdh	**7.9**	kW	T_{OL}=operation limit	COPd or GUEh,bin / AEFh,bin	**224.0**	%
For air-to-water heat pumps : T_j=-15℃ (if T_{OL}＜-20℃)	Pdh	**-**	kW	For air-to-water heat pumps:T_j=-15℃ (if T_{OL}＜-20℃)	COPd or GUEh,bin / AEFh,bin	**-**	%
Bivalent temperature	T_{biv}	**-10.0**	℃	For water-to-air heat pumps:Operation limit T_{ol} temperature		**-**	℃
Degradation coefficient heat pumps**	C_{dh}	**0.25**	-				
Power consumpiton in modes other than 'active mode'				Supplementary heater back-up heating capacity	elbu	**-**	kW
Off mode	P_{OFF}	**0.006**	kW				
Thermostat-off mode	P_{TO}	**0.031**	kW	Type of energy input Standby mode	P_{SB}	**0.006**	kW
Crankcase heater mode	P_{CK}	**0.025**	kW				
Other items							
Capacity control		**variable**		For air-to-air heat pumps: air flow-rate,outdoor measured		**4920**	m^3/h
Sound power level, outdoor measured	L_{WA}	**73.0**	dB	For water-/brine-to-air heat pumps : Rated brine or water fiow-rate, outdoor side heat exchanger		**-**	m^3/h
Emissions of nitrogen oxides(if applicable)	NOx ***	**-**	mg/kWh fuel input GCV				
GWP of the refrigerant		**675**	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-spilt 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.

#

PSA012J092D Δ

Model(s) : FDC140KXZES1-W							
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	η s,c	**349.8**	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27℃/19℃(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35℃	Pdc	**14.0**	kW	Tj=+35℃	EERd or GUEc,bin / AEFc,bin	**350.0**	%
Tj=+30℃	Pdc	**10.3**	kW	Tj=+30℃	EERd or GUEc,bin / AEFc,bin	**624.0**	%
Tj=+25℃	Pdc	**6.6**	kW	Tj=+25℃	EERd or GUEc,bin / AEFc,bin	**1161.0**	%
Tj=+20℃	Pdc	**5.5**	kW	Tj=+20℃	EERd or GUEc,bin / AEFc,bin	**2105.0**	%
Degradation coefficient for air conditioners**	Cdc	**0.25**	-				
Power consumpiton in other than 'active mode'							
Off mode	P_{OFF}	**0.006**	kW	Crankcase heater mode	P_{CK}	**0.025**	kW
Thermostat-off mode	P_{TO}	**0.000**	kW	Standby mode	P_{SB}	**0.006**	kW
Other items							
Capacity control		**variable**		For air-to-air air conditioner: air flow-rate,outdoor measured		**4500**	m^3/h
Sound power level, outdoor	L_{WA}	**69.0**	dB				
If engine driven: Emissions of nitrogen oxides	NOx ***	**-**	mg/kWh fuel input GCV				
GWP of the refrigerant		**675**	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-spilt 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.

#

PSA012J092D Ⓓ

Information to identify the model(s) to which the information relates : FDC140KXZES1-W							
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	η s,h	**181.7**	%
Declared heating capacity for part load at indoor temperature 20℃ and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
T_j=-7℃	Pdh	**8.5**	kW	T_j=-7℃	COPd or GUEh,bin / AEFh,bin	**302.0**	%
T_j=+2℃	Pdh	**5.2**	kW	T_j=+2℃	COPd or GUEh,bin / AEFh,bin	**420.0**	%
T_j=+7℃	Pdh	**3.4**	kW	T_j=+7℃	COPd or GUEh,bin / AEFh,bin	**668.0**	%
T_j=+12℃	Pdh	**3.6**	kW	T_j=+12℃	COPd or GUEh,bin / AEFh,bin	**896.0**	%
T_{biv}=bivalent temperature	Pdh	**9.7**	kW	T_{biv}=bivalent temperature	COPd or GUEh,bin / AEFh,bin	**262.0**	%
T_{OL}=operation limit	Pdh	**7.9**	kW	T_{OL}=operation limit	COPd or GUEh,bin / AEFh,bin	**224.0**	%
For air-to-water heat pumps : T_j=-15℃ (if T_{OL}＜-20℃)	Pdh	**-**	kW	For air-to-water heat pumps:T_j=-15℃ (if T_{OL}＜-20℃)	COPd or GUEh,bin / AEFh,bin	**-**	%
Bivalent temperature	T_{biv}	**-10.0**	℃	For water-to-air heat pumps:Operation limit T_{ol} temperature		**-**	℃
Degradation coefficient heat pumps**	C_{dh}	**0.25**	-				
Power consumpiton in modes other than 'active mode'				Supplementary heater back-up heating capacity	elbu	**-**	kW
Off mode	P_{OFF}	**0.006**	kW				
Thermostat-off mode	P_{TO}	**0.031**	kW	Type of energy input Standby mode	P_{SB}	**0.006**	kW
Crankcase heater mode	P_{CK}	**0.025**	kW				
Other items							
Capacity control		**variable**		For air-to-air heat pumps: air flow-rate,outdoor measured		**4920**	m^3/h
Sound power level, outdoor measured	L_{WA}	**73.0**	dB	For water-/brine-to-air heat pumps : Rated brine or water fiow-rate, outdoor side heat exchanger		**-**	m^3/h
Emissions of nitrogen oxides(if applicable)	NOx ***	**-**	mg/kWh fuel input GCV				
GWP of the refrigerant		**675**	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-spilt 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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PSA012J092D Δ

Model(s) : FDC155KXZEN1-W							
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	$P_{rated,c}$	**15.5**	kW	Seasonal space cooling energy efficiency	$\eta_{s,c}$	**323.7**	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27℃/19℃(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35℃	Pdc	**15.5**	kW	Tj=+35℃	EERd or GUEc,bin / AEFc,bin	**298.0**	%
Tj=+30℃	Pdc	**11.4**	kW	Tj=+30℃	EERd or GUEc,bin / AEFc,bin	**555.0**	%
Tj=+25℃	Pdc	**7.3**	kW	Tj=+25℃	EERd or GUEc,bin / AEFc,bin	**1077.0**	%
Tj=+20℃	Pdc	**5.5**	kW	Tj=+20℃	EERd or GUEc,bin / AEFc,bin	**2105.0**	%
Degradation coefficient for air conditioners**	Cdc	**0.25**	-				
Power consumpiton in other than 'active mode'							
Off mode	P_{OFF}	**0.006**	kW	Crankcase heater mode	P_{CK}	**0.025**	kW
Thermostat-off mode	P_{TO}	**0.000**	kW	Standby mode	P_{SB}	**0.006**	kW
Other items							
Capacity control		**variable**		For air-to-air air conditioner: air flow-rate,outdoor measured		**4500**	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		**675**	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-spilt 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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PSA012J092D Ⓓ

Information to identify the model(s) to which the information relates : FDC155KXZEN1-W							
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	η s,h	**180.1**	%
Declared heating capacity for part load at indoor temperature 20℃ and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
T_j=-7℃	Pdh	**9.1**	kW	T_j=-7℃	COPd or GUEh,bin / AEFh,bin	**296.0**	%
T_j=+2℃	Pdh	**5.6**	kW	T_j=+2℃	COPd or GUEh,bin / AEFh,bin	**417.0**	%
T_j=+7℃	Pdh	**3.6**	kW	T_j=+7℃	COPd or GUEh,bin / AEFh,bin	**663.0**	%
T_j=+12℃	Pdh	**3.6**	kW	T_j=+12℃	COPd or GUEh,bin / AEFh,bin	**896.0**	%
T_{biv}=bivalent temperature	Pdh	**10.3**	kW	T_{biv}=bivalent temperature	COPd or GUEh,bin / AEFh,bin	**255.0**	%
T_{OL}=operation limit	Pdh	**8.8**	kW	T_{OL}=operation limit	COPd or GUEh,bin / AEFh,bin	**224.0**	%
For air-to-water heat pumps : T_j=-15℃ (if T_{OL}＜-20℃)	Pdh	**-**	kW	For air-to-water heat pumps:T_j=-15℃ (if T_{OL}＜-20℃)	COPd or GUEh,bin / AEFh,bin	**-**	%
Bivalent temperature	T_{biv}	**-10.0**	℃	For water-to-air heat pumps:Operation limit T_{ol} temperature		**-**	℃
Degradation coefficient heat pumps**	C_{dh}	**0.25**	-				
Power consumpiton in modes other than 'active mode'				Supplementary heater back-up heating capacity	elbu	**-**	kW
Off mode	P_{OFF}	**0.006**	kW				
Thermostat-off mode	P_{TO}	**0.031**	kW	Type of energy input Standby mode	P_{SB}	**0.006**	kW
Crankcase heater mode	P_{CK}	**0.025**	kW				
Other items							
Capacity control		**variable**		For air-to-air heat pumps: air flow-rate,outdoor measured		**4920**	m^3/h
Sound power level, outdoor measured	L_{WA}	**73.0**	dB	For water-/brine-to-air heat pumps : Rated brine or water fiow-rate, outdoor side heat exchanger		**-**	m^3/h
Emissions of nitrogen oxides(if applicable)	NOx ***	**-**	mg/kWh fuel input GCV				
GWP of the refrigerant		**675**	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-spilt 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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PSA012J092D Δ

Model(s) : FDC155KXZES1-W							
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	$P_{rated,c}$	**15.5**	kW	Seasonal space cooling energy efficiency	$\eta_{s,c}$	**323.7**	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27℃/19℃(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35℃	Pdc	**15.5**	kW	Tj=+35℃	EERd or GUEc,bin / AEFc,bin	**298.0**	%
Tj=+30℃	Pdc	**11.4**	kW	Tj=+30℃	EERd or GUEc,bin / AEFc,bin	**555.0**	%
Tj=+25℃	Pdc	**7.3**	kW	Tj=+25℃	EERd or GUEc,bin / AEFc,bin	**1077.0**	%
Tj=+20℃	Pdc	**5.5**	kW	Tj=+20℃	EERd or GUEc,bin / AEFc,bin	**2105.0**	%
Degradation coefficient for air conditioners**	Cdc	**0.25**	-				
Power consumpiton in other than 'active mode'							
Off mode	P_{OFF}	**0.006**	kW	Crankcase heater mode	P_{CK}	**0.025**	kW
Thermostat-off mode	P_{TO}	**0.000**	kW	Standby mode	P_{SB}	**0.006**	kW
Other items							
Capacity control		**variable**		For air-to-air air conditioner: air flow-rate,outdoor measured		**4500**	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		**675**	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-spilt 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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PSA012J092D Ⓓ

Information to identify the model(s) to which the information relates : FDC155KXZES1-W							
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	η s,h	**180.1**	%
Declared heating capacity for part load at indoor temperature 20℃ and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
T_j=-7℃	Pdh	**9.1**	kW	T_j=-7℃	COPd or GUEh,bin / AEFh,bin	**296.0**	%
T_j=+2℃	Pdh	**5.6**	kW	T_j=+2℃	COPd or GUEh,bin / AEFh,bin	**417.0**	%
T_j=+7℃	Pdh	**3.6**	kW	T_j=+7℃	COPd or GUEh,bin / AEFh,bin	**663.0**	%
T_j=+12℃	Pdh	**3.6**	kW	T_j=+12℃	COPd or GUEh,bin / AEFh,bin	**896.0**	%
T_{biv}=bivalent temperature	Pdh	**10.3**	kW	T_{biv}=bivalent temperature	COPd or GUEh,bin / AEFh,bin	**255.0**	%
T_{OL}=operation limit	Pdh	**8.8**	kW	T_{OL}=operation limit	COPd or GUEh,bin / AEFh,bin	**224.0**	%
For air-to-water heat pumps : T_j=-15℃ (if T_{OL}＜-20℃)	Pdh	**-**	kW	For air-to-water heat pumps:T_j=-15℃ (if T_{OL}＜-20℃)	COPd or GUEh,bin / AEFh,bin	**-**	%
Bivalent temperature	T_{biv}	**-10.0**	℃	For water-to-air heat pumps:Operation limit T_{ol} temperature		**-**	℃
Degradation coefficient heat pumps**	C_{dh}	**0.25**	-				
Power consumpiton in modes other than 'active mode'				Supplementary heater back-up heating capacity	elbu	**-**	kW
Off mode	P_{OFF}	**0.006**	kW				
Thermostat-off mode	P_{TO}	**0.031**	kW	Type of energy input Standby mode	P_{SB}	**0.006**	kW
Crankcase heater mode	P_{CK}	**0.025**	kW				
Other items							
Capacity control		**variable**		For air-to-air heat pumps: air flow-rate,outdoor measured		**4920**	m^3/h
Sound power level, outdoor measured	L_{WA}	**73.0**	dB	For water-/brine-to-air heat pumps : Rated brine or water fiow-rate, outdoor side heat exchanger		**-**	m^3/h
Emissions of nitrogen oxides(if applicable)	NOx ***	**-**	mg/kWh fuel input GCV				
GWP of the refrigerant		**675**	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-spilt 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.

#

(2) Eurovent

Model(s) : FDC121KXZEN1-W							
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	**12.1**	kW	Seasonal space cooling energy efficiency	η s,c	**342.0**	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27℃/19℃(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35℃	Pdc	**12.1**	kW	Tj=+35℃	EERd or GUEc,bin / AEFc,bin	**367.0**	%
Tj=+30℃	Pdc	**8.9**	kW	Tj=+30℃	EERd or GUEc,bin / AEFc,bin	**599.0**	%
Tj=+25℃	Pdc	**5.7**	kW	Tj=+25℃	EERd or GUEc,bin / AEFc,bin	**1222.0**	%
Tj=+20℃	Pdc	**5.5**	kW	Tj=+20℃	EERd or GUEc,bin / AEFc,bin	**1838.0**	%
Degradation coefficient for air conditioners**	Cdc	**0.25**	-				
Power consumpiton in other than 'active mode'							
Off mode	P_{OFF}	**0.006**	kW	Crankcase heater mode	P_{CK}	**0.025**	kW
Thermostat-off mode	P_{TO}	**0.000**	kW	Standby mode	P_{SB}	**0.006**	kW
Other items							
Capacity control		**variable**		For air-to-air air conditioner: air flow-rate,outdoor measured		**4500**	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		**675**	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-spilt 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.

※Under the terms of Eurovent, use the Me-tap for FDT28, the Hi-tap for FDT36, the Phi-tap for FDT45.

#

Information to identify the model(s) to which the information relates : FDC121KXZEN1-W							
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	**12.1**	kW	Seasonal space heating energy efficiency	η s,h	**173.2**	%
Declared heating capacity for part load at indoor temperature 20℃ and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
T_j=-7℃	Pdh	**7.4**	kW	T_j=-7℃	COPd or GUEh,bin / AEFh,bin	**269.0**	%
T_j=+2℃	Pdh	**4.5**	kW	T_j=+2℃	COPd or GUEh,bin / AEFh,bin	**410.0**	%
T_j=+7℃	Pdh	**2.9**	kW	T_j=+7℃	COPd or GUEh,bin / AEFh,bin	**656.0**	%
T_j=+12℃	Pdh	**3.6**	kW	T_j=+12℃	COPd or GUEh,bin / AEFh,bin	**820.0**	%
T_{biv}=bivalent temperature	Pdh	**8.4**	kW	T_{biv}=bivalent temperature	COPd or GUEh,bin / AEFh,bin	**231.0**	%
T_{OL}=operation limit	Pdh	**6.7**	kW	T_{OL}=operation limit	COPd or GUEh,bin / AEFh,bin	**226.0**	%
For air-to-water heat pumps : T_j=-15℃ (if T_{OL}＜-20℃)	Pdh	**-**	kW	For air-to-water heat pumps:T_j=-15℃ (if T_{OL}＜-20℃)	COPd or GUEh,bin / AEFh,bin	**-**	%
Bivalent temperature	T_{biv}	**-10.0**	℃	For water-to-air heat pumps:Operation limit T_{ol} temperature		**-**	℃
Degradation coefficient heat pumps**	C_{dh}	**0.25**	-				
Power consumpiton in modes other than 'active mode'				Supplementary heater back-up heating capacity	elbu	**-**	kW
Off mode	P_{OFF}	**0.006**	kW				
Thermostat-off mode	P_{TO}	**0.031**	kW	Type of energy input Standby mode	P_{SB}	**0.006**	kW
Crankcase heater mode	P_{CK}	**0.025**	kW				
Other items							
Capacity control		**variable**		For air-to-air heat pumps: air flow-rate,outdoor measured		**4920**	m^3/h
Sound power level, outdoor measured	L_{WA}	**71.0**	dB	For water-/brine-to-air heat pumps : Rated brine or water fiow-rate, outdoor side heat exchanger		**-**	m^3/h
Emissions of nitrogen oxides(if applicable)	NOx ***	**-**	mg/kWh fuel input GCV				
GWP of the refrigerant		**675**	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-spilt 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.

※Under the terms of Eurovent, use the Me-tap for FDT28, the Hi-tap for FDT36, the Phi-tap for FDT45.

#

Model(s) : FDC121KXZES1-W							
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	12.1	kW	Seasonal space cooling energy efficiency	η s,c	342.0	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27℃/19℃(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35℃	Pdc	12.1	kW	Tj=+35℃	EERd or GUEc,bin / AEFc,bin	367.0	%
Tj=+30℃	Pdc	8.9	kW	Tj=+30℃	EERd or GUEc,bin / AEFc,bin	599.0	%
Tj=+25℃	Pdc	5.7	kW	Tj=+25℃	EERd or GUEc,bin / AEFc,bin	1222.0	%
Tj=+20℃	Pdc	5.5	kW	Tj=+20℃	EERd or GUEc,bin / AEFc,bin	1838.0	%
Degradation coefficient for air conditioners**	Cdc	0.25	-				
Power consumpiton in other than 'active mode'							
Off mode	P_{OFF}	0.006	kW	Crankcase heater mode	P_{CK}	0.025	kW
Thermostat-off mode	P_{TO}	0.000	kW	Standby mode	P_{SB}	0.006	kW
Other items							
Capacity control		variable		For air-to-air air conditioner: air flow-rate,outdoor measured		4500	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		675	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-spilt 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.

※Under the terms of Eurovent, use the Me-tap for FDT28, the Hi-tap for FDT36, the Phi-tap for FDT45.

#

Information to identify the model(s) to which the information relates : FDC121KXZES1-W							
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	**12.1**	kW	Seasonal space heating energy efficiency	η s,h	**173.2**	%
Declared heating capacity for part load at indoor temperature 20℃ and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
T_j=-7℃	Pdh	**7.4**	kW	T_j=-7℃	COPd or GUEh,bin / AEFh,bin	**269.0**	%
T_j=+2℃	Pdh	**4.5**	kW	T_j=+2℃	COPd or GUEh,bin / AEFh,bin	**410.0**	%
T_j=+7℃	Pdh	**2.9**	kW	T_j=+7℃	COPd or GUEh,bin / AEFh,bin	**656.0**	%
T_j=+12℃	Pdh	**3.6**	kW	T_j=+12℃	COPd or GUEh,bin / AEFh,bin	**820.0**	%
T_{biv}=bivalent temperature	Pdh	**8.4**	kW	T_{biv}=bivalent temperature	COPd or GUEh,bin / AEFh,bin	**231.0**	%
T_{OL}=operation limit	Pdh	**6.7**	kW	T_{OL}=operation limit	COPd or GUEh,bin / AEFh,bin	**226.0**	%
For air-to-water heat pumps : T_j=-15℃ (if T_{OL}＜-20℃)	Pdh	**-**	kW	For air-to-water heat pumps:T_j=-15℃ (if T_{OL}＜-20℃)	COPd or GUEh,bin / AEFh,bin	**-**	%
Bivalent temperature	T_{biv}	**-10.0**	℃	For water-to-air heat pumps:Operation limit T_{ol} temperature		**-**	℃
Degradation coefficient heat pumps**	C_{dh}	**0.25**	-				
Power consumpiton in modes other than 'active mode'				Supplementary heater back-up heating capacity	elbu	**-**	kW
Off mode	P_{OFF}	**0.006**	kW				
Thermostat-off mode	P_{TO}	**0.031**	kW	Type of energy input Standby mode	P_{SB}	**0.006**	kW
Crankcase heater mode	P_{CK}	**0.025**	kW				
Other items							
Capacity control		**variable**		For air-to-air heat pumps: air flow-rate,outdoor measured		**4920**	m^3/h
Sound power level, outdoor measured	L_{WA}	**71.0**	dB	For water-/brine-to-air heat pumps : Rated brine or water fiow-rate, outdoor side heat exchanger		**-**	m^3/h
Emissions of nitrogen oxides(if applicable)	NOx ***	**-**	mg/kWh fuel input GCV				
GWP of the refrigerant		**675**	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-spilt 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.

※Under the terms of Eurovent, use the Me-tap for FDT28, the Hi-tap for FDT36, the Phi-tap for FDT45.

#

Model(s) : FDC140KXZEN1-W							
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	η s,c	**331.6**	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27℃/19℃(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35℃	Pdc	**14.0**	kW	Tj=+35℃	EERd or GUEc,bin / AEFc,bin	**327.0**	%
Tj=+30℃	Pdc	**10.3**	kW	Tj=+30℃	EERd or GUEc,bin / AEFc,bin	**556.0**	%
Tj=+25℃	Pdc	**6.6**	kW	Tj=+25℃	EERd or GUEc,bin / AEFc,bin	**1161.0**	%
Tj=+20℃	Pdc	**5.5**	kW	Tj=+20℃	EERd or GUEc,bin / AEFc,bin	**1994.0**	%
Degradation coefficient for air conditioners**	Cdc	**0.25**	-				
Power consumpiton in other than 'active mode'							
Off mode	P_{OFF}	**0.006**	kW	Crankcase heater mode	P_{CK}	**0.025**	kW
Thermostat-off mode	P_{TO}	**0.000**	kW	Standby mode	P_{SB}	**0.006**	kW
Other items							
Capacity control		**variable**		For air-to-air air conditioner: air flow-rate,outdoor measured		**4500**	m^3/h
Sound power level, outdoor	L_{WA}	**69.0**	dB				
If engine driven: Emissions of nitrogen oxides	NOx ***	**-**	mg/kWh fuel input GCV				
GWP of the refrigerant		**675**	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-spilt 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.

※Under the terms of Eurovent, use the Me-tap for FDT28, the Hi-tap for FDT36, the Phi-tap for FDT45.

#

Information to identify the model(s) to which the information relates : FDC140KXZEN1-W							
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	η s,h	**174.3**	%
Declared heating capacity for part load at indoor temperature 20℃ and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
T_j=-7℃	Pdh	**8.5**	kW	T_j=-7℃	COPd or GUEh,bin / AEFh,bin	**264.0**	%
T_j=+2℃	Pdh	**5.2**	kW	T_j=+2℃	COPd or GUEh,bin / AEFh,bin	**414.0**	%
T_j=+7℃	Pdh	**3.4**	kW	T_j=+7℃	COPd or GUEh,bin / AEFh,bin	**657.0**	%
T_j=+12℃	Pdh	**3.6**	kW	T_j=+12℃	COPd or GUEh,bin / AEFh,bin	**865.0**	%
T_{biv}=bivalent temperature	Pdh	**9.7**	kW	T_{biv}=bivalent temperature	COPd or GUEh,bin / AEFh,bin	**227.0**	%
T_{OL}=operation limit	Pdh	**7.9**	kW	T_{OL}=operation limit	COPd or GUEh,bin / AEFh,bin	**224.0**	%
For air-to-water heat pumps : T_j=-15℃ (if T_{OL}＜-20℃)	Pdh	**-**	kW	For air-to-water heat pumps:T_j=-15℃ (if T_{OL}＜-20℃)	COPd or GUEh,bin / AEFh,bin	**-**	%
Bivalent temperature	T_{biv}	**-10.0**	℃	For water-to-air heat pumps:Operation limit T_{ol} temperature		**-**	℃
Degradation coefficient heat pumps**	C_{dh}	**0.25**	-				
Power consumpiton in modes other than 'active mode'				Supplementary heater back-up heating capacity	elbu	**-**	kW
Off mode	P_{OFF}	**0.006**	kW				
Thermostat-off mode	P_{TO}	**0.031**	kW	Type of energy input Standby mode	P_{SB}	**0.006**	kW
Crankcase heater mode	P_{CK}	**0.025**	kW				
Other items							
Capacity control		**variable**		For air-to-air heat pumps: air flow-rate,outdoor measured		**4920**	m^3/h
Sound power level, outdoor measured	L_{WA}	**73.0**	dB	For water-/brine-to-air heat pumps : Rated brine or water fiow-rate, outdoor side heat exchanger		**-**	m^3/h
Emissions of nitrogen oxides(if applicable)	NOx ***	**-**	mg/kWh fuel input GCV				
GWP of the refrigerant		**675**	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-spilt 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.

※Under the terms of Eurovent, use the Me-tap for FDT28, the Hi-tap for FDT36, the Phi-tap for FDT45.

#

Model(s) : FDC140KXZES1-W							
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	η s,c	331.6	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27℃/19℃(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35℃	Pdc	14.0	kW	Tj=+35℃	EERd or GUEc,bin / AEFc,bin	327.0	%
Tj=+30℃	Pdc	10.3	kW	Tj=+30℃	EERd or GUEc,bin / AEFc,bin	556.0	%
Tj=+25℃	Pdc	6.6	kW	Tj=+25℃	EERd or GUEc,bin / AEFc,bin	1161.0	%
Tj=+20℃	Pdc	5.5	kW	Tj=+20℃	EERd or GUEc,bin / AEFc,bin	1994.0	%
Degradation coefficient for air conditioners**	Cdc	0.25	-				
Power consumpiton in other than 'active mode'							
Off mode	P_{OFF}	0.006	kW	Crankcase heater mode	P_{CK}	0.025	kW
Thermostat-off mode	P_{TO}	0.000	kW	Standby mode	P_{SB}	0.006	kW
Other items							
Capacity control		variable		For air-to-air air conditioner: air flow-rate,outdoor measured		4500	m^3/h
Sound power level, outdoor	L_{WA}	69.0	dB				
If engine driven: Emissions of nitrogen oxides	NOx ***	-	mg/kWh fuel input GCV				
GWP of the refrigerant		675	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-spilt 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.

※Under the terms of Eurovent, use the Me-tap for FDT28, the Hi-tap for FDT36, the Phi-tap for FDT45.

#

Information to identify the model(s) to which the information relates : FDC140KXZES1-W							
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	η s,h	**174.3**	%
Declared heating capacity for part load at indoor temperature 20℃ and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
T_j=-7℃	Pdh	**8.5**	kW	T_j=-7℃	COPd or GUEh,bin / AEFh,bin	**264.0**	%
T_j=+2℃	Pdh	**5.2**	kW	T_j=+2℃	COPd or GUEh,bin / AEFh,bin	**414.0**	%
T_j=+7℃	Pdh	**3.4**	kW	T_j=+7℃	COPd or GUEh,bin / AEFh,bin	**657.0**	%
T_j=+12℃	Pdh	**3.6**	kW	T_j=+12℃	COPd or GUEh,bin / AEFh,bin	**865.0**	%
T_{biv}=bivalent temperature	Pdh	**9.7**	kW	T_{biv}=bivalent temperature	COPd or GUEh,bin / AEFh,bin	**227.0**	%
T_{OL}=operation limit	Pdh	**7.9**	kW	T_{OL}=operation limit	COPd or GUEh,bin / AEFh,bin	**224.0**	%
For air-to-water heat pumps : T_j=-15℃ (if T_{OL}＜-20℃)	Pdh	**-**	kW	For air-to-water heat pumps:T_j=-15℃ (if T_{OL}＜-20℃)	COPd or GUEh,bin / AEFh,bin	**-**	%
Bivalent temperature	T_{biv}	**-10.0**	℃	For water-to-air heat pumps:Operation limit T_{ol} temperature		**-**	℃
Degradation coefficient heat pumps**	C_{dh}	**0.25**	-				
Power consumpiton in modes other than 'active mode'				Supplementary heater back-up heating capacity	elbu	**-**	kW
Off mode	P_{OFF}	**0.006**	kW				
Thermostat-off mode	P_{TO}	**0.031**	kW	Type of energy input Standby mode	P_{SB}	**0.006**	kW
Crankcase heater mode	P_{CK}	**0.025**	kW				
Other items							
Capacity control		**variable**		For air-to-air heat pumps: air flow-rate,outdoor measured		**4920**	m^3/h
Sound power level, outdoor measured	L_{WA}	**73.0**	dB	For water-/brine-to-air heat pumps : Rated brine or water fiow-rate, outdoor side heat exchanger		**-**	m^3/h
Emissions of nitrogen oxides(if applicable)	NOx ***	**-**	mg/kWh fuel input GCV				
GWP of the refrigerant		**675**	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-spilt 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.

※Under the terms of Eurovent, use the Me-tap for FDT28, the Hi-tap for FDT36, the Phi-tap for FDT45.

#

Model(s) : FDC155KXZEN1-W							
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	15.5	kW	Seasonal space cooling energy efficiency	η s,c	311.7	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27℃/19℃(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35℃	Pdc	15.5	kW	Tj=+35℃	EERd or GUEc,bin / AEFc,bin	296.0	%
Tj=+30℃	Pdc	11.4	kW	Tj=+30℃	EERd or GUEc,bin / AEFc,bin	506.0	%
Tj=+25℃	Pdc	7.3	kW	Tj=+25℃	EERd or GUEc,bin / AEFc,bin	1065.0	%
Tj=+20℃	Pdc	5.5	kW	Tj=+20℃	EERd or GUEc,bin / AEFc,bin	2049.0	%
Degradation coefficient for air conditioners**	Cdc	0.25	-				
Power consumpiton in other than 'active mode'							
Off mode	P_{OFF}	0.006	kW	Crankcase heater mode	P_{CK}	0.025	kW
Thermostat-off mode	P_{TO}	0.000	kW	Standby mode	P_{SB}	0.006	kW
Other items							
Capacity control		variable		For air-to-air air conditioner: air flow-rate,outdoor measured		4500	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		675	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-spilt 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.

※Under the terms of Eurovent, use the Me-tap for FDT28, the Hi-tap for FDT36, the Phi-tap for FDT45.

#

Information to identify the model(s) to which the information relates : FDC155KXZEN1-W							
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	η s,h	**173.6**	%
Declared heating capacity for part load at indoor temperature 20℃ and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
T_j=-7℃	Pdh	**9.1**	kW	T_j=-7℃	COPd or GUEh,bin / AEFh,bin	**258.0**	%
T_j=+2℃	Pdh	**5.6**	kW	T_j=+2℃	COPd or GUEh,bin / AEFh,bin	**413.0**	%
T_j=+7℃	Pdh	**3.6**	kW	T_j=+7℃	COPd or GUEh,bin / AEFh,bin	**656.0**	%
T_j=+12℃	Pdh	**3.6**	kW	T_j=+12℃	COPd or GUEh,bin / AEFh,bin	**885.0**	%
T_{biv}=bivalent temperature	Pdh	**10.3**	kW	T_{biv}=bivalent temperature	COPd or GUEh,bin / AEFh,bin	**225.0**	%
T_{OL}=operation limit	Pdh	**8.8**	kW	T_{OL}=operation limit	COPd or GUEh,bin / AEFh,bin	**224.0**	%
For air-to-water heat pumps : T_j=-15℃ (if T_{OL}＜-20℃)	Pdh	**-**	kW	For air-to-water heat pumps:T_j=-15℃ (if T_{OL}＜-20℃)	COPd or GUEh,bin / AEFh,bin	**-**	%
Bivalent temperature	T_{biv}	**-10.0**	℃	For water-to-air heat pumps:Operation limit T_{ol} temperature		**-**	℃
Degradation coefficient heat pumps**	C_{dh}	**0.25**	-				
Power consumpiton in modes other than 'active mode'				Supplementary heater back-up heating capacity	elbu	**-**	kW
Off mode	P_{OFF}	**0.006**	kW				
Thermostat-off mode	P_{TO}	**0.031**	kW	Type of energy input Standby mode	P_{SB}	**0.006**	kW
Crankcase heater mode	P_{CK}	**0.025**	kW				
Other items							
Capacity control		**variable**		For air-to-air heat pumps: air flow-rate,outdoor measured		**4920**	m^3/h
Sound power level, outdoor measured	L_{WA}	**73.0**	dB	For water-/brine-to-air heat pumps : Rated brine or water fiow-rate, outdoor side heat exchanger		**-**	m^3/h
Emissions of nitrogen oxides(if applicable)	NOx ***	**-**	mg/kWh fuel input GCV				
GWP of the refrigerant		**675**	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-spilt 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.

※Under the terms of Eurovent, use the Me-tap for FDT28, the Hi-tap for FDT36, the Phi-tap for FDT45.

#

Model(s) : FDC155KXZES1-W							
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	15.5	kW	Seasonal space cooling energy efficiency	η s,c	311.7	%
Declared cooling capacity for part load at given outdoor temperatures Tj and indoor 27℃/19℃(dry/wet bulb)				Declared energy efficiency ratio or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
Tj=+35℃	Pdc	15.5	kW	Tj=+35℃	EERd or GUEc,bin / AEFc,bin	296.0	%
Tj=+30℃	Pdc	11.4	kW	Tj=+30℃	EERd or GUEc,bin / AEFc,bin	506.0	%
Tj=+25℃	Pdc	7.3	kW	Tj=+25℃	EERd or GUEc,bin / AEFc,bin	1065.0	%
Tj=+20℃	Pdc	5.5	kW	Tj=+20℃	EERd or GUEc,bin / AEFc,bin	2049.0	%
Degradation coefficient for air conditioners**	Cdc	0.25	-				
Power consumpiton in other than 'active mode'							
Off mode	P_{OFF}	0.006	kW	Crankcase heater mode	P_{CK}	0.025	kW
Thermostat-off mode	P_{TO}	0.000	kW	Standby mode	P_{SB}	0.006	kW
Other items							
Capacity control		variable		For air-to-air air conditioner: air flow-rate,outdoor measured		4500	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		675	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-spilt 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.

※Under the terms of Eurovent, use the Me-tap for FDT28, the Hi-tap for FDT36, the Phi-tap for FDT45.

#

Information to identify the model(s) to which the information relates : FDC155KXZES1-W							
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	η s,h	**173.6**	%
Declared heating capacity for part load at indoor temperature 20℃ and outdoor temperature Tj				Declared coefficient of performance or gas utilization efficiency / auxiliary energy factor for part load at given outdoor temperatures Tj			
T_j=-7℃	Pdh	**9.1**	kW	T_j=-7℃	COPd or GUEh,bin / AEFh,bin	**258.0**	%
T_j=+2℃	Pdh	**5.6**	kW	T_j=+2℃	COPd or GUEh,bin / AEFh,bin	**413.0**	%
T_j=+7℃	Pdh	**3.6**	kW	T_j=+7℃	COPd or GUEh,bin / AEFh,bin	**656.0**	%
T_j=+12℃	Pdh	**3.6**	kW	T_j=+12℃	COPd or GUEh,bin / AEFh,bin	**885.0**	%
T_{biv}=bivalent temperature	Pdh	**10.3**	kW	T_{biv}=bivalent temperature	COPd or GUEh,bin / AEFh,bin	**225.0**	%
T_{OL}=operation limit	Pdh	**8.8**	kW	T_{OL}=operation limit	COPd or GUEh,bin / AEFh,bin	**224.0**	%
For air-to-water heat pumps : T_j=-15℃ (if T_{OL}＜-20℃)	Pdh	**-**	kW	For air-to-water heat pumps:T_j=-15℃ (if T_{OL}＜-20℃)	COPd or GUEh,bin / AEFh,bin	**-**	%
Bivalent temperature	T_{biv}	**-10.0**	℃	For water-to-air heat pumps:Operation limit T_{ol} temperature		**-**	℃
Degradation coefficient heat pumps**	C_{dh}	**0.25**	-				
Power consumpiton in modes other than 'active mode'				Supplementary heater back-up heating capacity	elbu	**-**	kW
Off mode	P_{OFF}	**0.006**	kW				
Thermostat-off mode	P_{TO}	**0.031**	kW	Type of energy input Standby mode	P_{SB}	**0.006**	kW
Crankcase heater mode	P_{CK}	**0.025**	kW				
Other items							
Capacity control		**variable**		For air-to-air heat pumps: air flow-rate,outdoor measured		**4920**	m^3/h
Sound power level, outdoor measured	L_{WA}	**73.0**	dB	For water-/brine-to-air heat pumps : Rated brine or water fiow-rate, outdoor side heat exchanger		**-**	m^3/h
Emissions of nitrogen oxides(if applicable)	NOx ***	**-**	mg/kWh fuel input GCV				
GWP of the refrigerant		**675**	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-spilt 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.

※Under the terms of Eurovent, use the Me-tap for FDT28, the Hi-tap for FDT36, the Phi-tap for FDT45.

#

7.2 Indoor units

(1) Ceiling cassette-4 way type (FDT)

PSA012J089D

Model(s) : FDT28KXZE1-W

Item	Symbol	Vaiue	Unit	Item	Symbol	Vaiue	Unit
Cooling capacity (sensible)	$P_{rated,c}$	2.7	kW	Total electric power input	P_{elec}	0.020	kW
Cooling capacity (latent)	$P_{rated,c}$	0.1	kW	Sound power level (per speed setting,if applicable)	L_{WA}	49.0	dB
Heating capacity	$P_{rated,h}$	3.2	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

Model(s) : FDT36KXZE1-W

Item	Symbol	Vaiue	Unit	Item	Symbol	Vaiue	Unit
Cooling capacity (sensible)	$P_{rated,c}$	3.4	kW	Total electric power input	P_{elec}	0.030	kW
Cooling capacity (latent)	$P_{rated,c}$	0.2	kW	Sound power level (per speed setting,if applicable)	L_{WA}	49.0	dB
Heating capacity	$P_{rated,h}$	4.0	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

Model(s) : FDT45KXZE1-W

Item	Symbol	Vaiue	Unit	Item	Symbol	Vaiue	Unit
Cooling capacity (sensible)	$P_{rated,c}$	3.8	kW	Total electric power input	P_{elec}	0.030	kW
Cooling capacity (latent)	$P_{rated,c}$	0.7	kW	Sound power level (per speed setting,if applicable)	L_{WA}	50.0	dB
Heating capacity	$P_{rated,h}$	5.0	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

Model(s) : FDT56KXZE1-W

Item	Symbol	Vaiue	Unit	Item	Symbol	Vaiue	Unit
Cooling capacity (sensible)	$P_{rated,c}$	4.7	kW	Total electric power input	P_{elec}	0.040	kW
Cooling capacity (latent)	$P_{rated,c}$	0.9	kW	Sound power level (per speed setting,if applicable)	L_{WA}	55.0	dB
Heating capacity	$P_{rated,h}$	6.3	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

Model(s) : FDT71KXZE1-W

Item	Symbol	Vaiue	Unit	Item	Symbol	Vaiue	Unit
Cooling capacity (sensible)	$P_{rated,c}$	6.2	kW	Total electric power input	P_{elec}	0.080	kW
Cooling capacity (latent)	$P_{rated,c}$	0.9	kW	Sound power level (per speed setting,if applicable)	L_{WA}	62.0	dB
Heating capacity	$P_{rated,h}$	8.0	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

Model(s) : FDT90KXZE1-W

Item	Symbol	Vaiue	Unit	Item	Symbol	Vaiue	Unit
Cooling capacity (sensible)	$P_{rated,c}$	7.9	kW	Total electric power input	P_{elec}	0.130	kW
Cooling capacity (latent)	$P_{rated,c}$	1.1	kW	Sound power level (per speed setting,if applicable)	L_{WA}	65.0	dB
Heating capacity	$P_{rated,h}$	10.0	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

Model(s) : FDT112KXZE1-W

Item	Symbol	Vaiue	Unit	Item	Symbol	Vaiue	Unit
Cooling capacity (sensible)	$P_{rated,c}$	9.4	kW	Total electric power input	P_{elec}	0.140	kW
Cooling capacity (latent)	$P_{rated,c}$	1.8	kW	Sound power level (per speed setting,if applicable)	L_{WA}	65.0	dB
Heating capacity	$P_{rated,h}$	12.5	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

#

Model(s) : FDT140KXZE1-W							
Item	**Symbol**	**Vaiue**	**Unit**	**Item**	**Symbol**	**Vaiue**	**Unit**
Cooling capacity (sensible)	$P_{rated,c}$	10.7	kW	Total electric power input	P_{elec}	0.140	kW
Cooling capacity (latent)	$P_{rated,c}$	3.3	kW	Sound power level (per speed setting,if applicable)	L_{WA}	66.0	dB
Heating capacity	$P_{rated,h}$	16.0	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

Model(s) : FDT160KXZE1-W							
Item	**Symbol**	**Vaiue**	**Unit**	**Item**	**Symbol**	**Vaiue**	**Unit**
Cooling capacity (sensible)	$P_{rated,c}$	11.5	kW	Total electric power input	P_{elec}	0.140	kW
Cooling capacity (latent)	$P_{rated,c}$	4.5	kW	Sound power level (per speed setting,if applicable)	L_{WA}	66.0	dB
Heating capacity	$P_{rated,h}$	18.0	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

(2) Ceiling cassette-4 way compact type (FDTC)

PSA012J089D D

Model(s) : FDTC15KXZE1-W							
Item	**Symbol**	**Vaiue**	**Unit**	**Item**	**Symbol**	**Vaiue**	**Unit**
Cooling capacity (sensible)	$P_{rated,c}$	1.4	kW	Total electric power input	P_{elec}	0.030	kW
Cooling capacity (latent)	$P_{rated,c}$	0.1	kW	Sound power level (per speed setting,if applicable)	L_{WA}	47.0	dB
Heating capacity	$P_{rated,h}$	1.7	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

Model(s) : FDTC22KXZE1-W							
Item	**Symbol**	**Vaiue**	**Unit**	**Item**	**Symbol**	**Vaiue**	**Unit**
Cooling capacity (sensible)	$P_{rated,c}$	2.1	kW	Total electric power input	P_{elec}	0.030	kW
Cooling capacity (latent)	$P_{rated,c}$	0.1	kW	Sound power level (per speed setting,if applicable)	L_{WA}	49.0	dB
Heating capacity	$P_{rated,h}$	2.5	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

Model(s) : FDTC28KXZE1-W							
Item	**Symbol**	**Vaiue**	**Unit**	**Item**	**Symbol**	**Vaiue**	**Unit**
Cooling capacity (sensible)	$P_{rated,c}$	2.4	kW	Total electric power input	P_{elec}	0.030	kW
Cooling capacity (latent)	$P_{rated,c}$	0.4	kW	Sound power level (per speed setting,if applicable)	L_{WA}	49.0	dB
Heating capacity	$P_{rated,h}$	3.2	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

Model(s) : FDTC36KXZE1-W							
Item	**Symbol**	**Vaiue**	**Unit**	**Item**	**Symbol**	**Vaiue**	**Unit**
Cooling capacity (sensible)	$P_{rated,c}$	2.9	kW	Total electric power input	P_{elec}	0.040	kW
Cooling capacity (latent)	$P_{rated,c}$	0.7	kW	Sound power level (per speed setting,if applicable)	L_{WA}	54.0	dB
Heating capacity	$P_{rated,h}$	4.0	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

Model(s) : FDTC45KXZE1-W							
Item	**Symbol**	**Vaiue**	**Unit**	**Item**	**Symbol**	**Vaiue**	**Unit**
Cooling capacity (sensible)	$P_{rated,c}$	3.5	kW	Total electric power input	P_{elec}	0.050	kW
Cooling capacity (latent)	$P_{rated,c}$	1.0	kW	Sound power level (per speed setting,if applicable)	L_{WA}	58.0	dB
Heating capacity	$P_{rated,h}$	5.0	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

Model(s) : FDTC56KXZE1-W							
Item	**Symbol**	**Vaiue**	**Unit**	**Item**	**Symbol**	**Vaiue**	**Unit**
Cooling capacity (sensible)	$P_{rated,c}$	4.2	kW	Total electric power input	P_{elec}	0.060	kW
Cooling capacity (latent)	$P_{rated,c}$	1.4	kW	Sound power level (per speed setting,if applicable)	L_{WA}	60.0	dB
Heating capacity	$P_{rated,h}$	6.3	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

#

(3) Wall mounted type (FDK)

PSA012J089D D

Model(s) : FDK15KXZE1-W							
Item	**Symbol**	**Vaiue**	**Unit**	**Item**	**Symbol**	**Vaiue**	**Unit**
Cooling capacity (sensible)	$P_{rated,c}$	1.2	kW	Total electric power input	P_{elec}	0.020	kW
Cooling capacity (latent)	$P_{rated,c}$	0.3	kW	Sound power level (per speed setting,if applicable)	L_{WA}	54.0	dB
Heating capacity	$P_{rated,h}$	1.7	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

Model(s) : FDK22KXZE1-W							
Item	**Symbol**	**Vaiue**	**Unit**	**Item**	**Symbol**	**Vaiue**	**Unit**
Cooling capacity (sensible)	$P_{rated,c}$	1.8	kW	Total electric power input	P_{elec}	0.020	kW
Cooling capacity (latent)	$P_{rated,c}$	0.4	kW	Sound power level (per speed setting,if applicable)	L_{WA}	55.0	dB
Heating capacity	$P_{rated,h}$	2.5	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

Model(s) : FDK28KXZE1-W							
Item	**Symbol**	**Vaiue**	**Unit**	**Item**	**Symbol**	**Vaiue**	**Unit**
Cooling capacity (sensible)	$P_{rated,c}$	2.2	kW	Total electric power input	P_{elec}	0.020	kW
Cooling capacity (latent)	$P_{rated,c}$	0.6	kW	Sound power level (per speed setting,if applicable)	L_{WA}	55.0	dB
Heating capacity	$P_{rated,h}$	3.2	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

Model(s) : FDK36KXZE1-W							
Item	**Symbol**	**Vaiue**	**Unit**	**Item**	**Symbol**	**Vaiue**	**Unit**
Cooling capacity (sensible)	$P_{rated,c}$	2.8	kW	Total electric power input	P_{elec}	0.030	kW
Cooling capacity (latent)	$P_{rated,c}$	0.8	kW	Sound power level (per speed setting,if applicable)	L_{WA}	58.0	dB
Heating capacity	$P_{rated,h}$	4.0	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

Model(s) : FDK45KXZE1-W							
Item	**Symbol**	**Vaiue**	**Unit**	**Item**	**Symbol**	**Vaiue**	**Unit**
Cooling capacity (sensible)	$P_{rated,c}$	3.3	kW	Total electric power input	P_{elec}	0.030	kW
Cooling capacity (latent)	$P_{rated,c}$	1.2	kW	Sound power level (per speed setting,if applicable)	L_{WA}	58.0	dB
Heating capacity	$P_{rated,h}$	5.0	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

Model(s) : FDK56KXZE1-W							
Item	**Symbol**	**Vaiue**	**Unit**	**Item**	**Symbol**	**Vaiue**	**Unit**
Cooling capacity (sensible)	$P_{rated,c}$	3.9	kW	Total electric power input	P_{elec}	0.030	kW
Cooling capacity (latent)	$P_{rated,c}$	1.7	kW	Sound power level (per speed setting,if applicable)	L_{WA}	58.0	dB
Heating capacity	$P_{rated,h}$	6.3	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

Model(s) : FDK71KXZE1-W							
Item	**Symbol**	**Vaiue**	**Unit**	**Item**	**Symbol**	**Vaiue**	**Unit**
Cooling capacity (sensible)	$P_{rated,c}$	5.4	kW	Total electric power input	P_{elec}	0.040	kW
Cooling capacity (latent)	$P_{rated,c}$	1.7	kW	Sound power level (per speed setting,if applicable)	L_{WA}	59.0	dB
Heating capacity	$P_{rated,h}$	8.0	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

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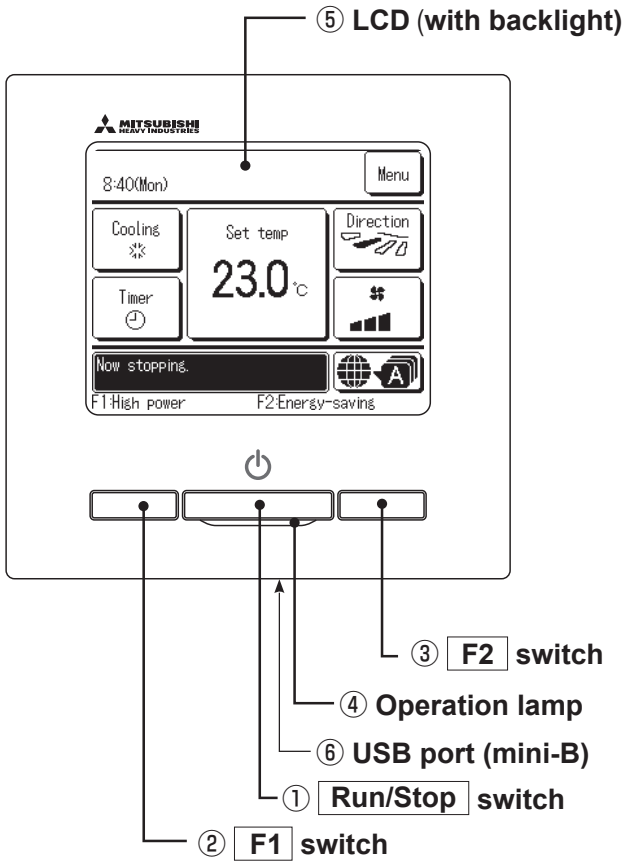
Model(s) : FDK90KXZE1-W							
Item	**Symbol**	**Vaiue**	**Unit**	**Item**	**Symbol**	**Vaiue**	**Unit**
Cooling capacity (sensible)	$P_{rated,c}$	6.5	kW	Total electric power input	P_{elec}	0.050	kW
Cooling capacity (latent)	$P_{rated,c}$	2.5	kW	Sound power level (per speed setting,if applicable)	L_{WA}	61.0	dB
Heating capacity	$P_{rated,h}$	10.0	kW				
Contact details	Mitsubishi heavy industries thermal systems,LTD						

8. OUTLINE OF OPERATION CONTROL BY MICROCOMPUTER

8.1 Remote control (Option parts)

(1) Wired remote control

Model RC-EX3A



Touch panel system, which is operated by tapping the LCD screen with a finger, is employed for any operations other than the ①Run/Stop, ②F1 and ③F2 switches.

① Run/Stop switch

One push on the button starts operation and another push stops operation.

② F1 switch③ F2 switch

This switch starts operation that is set in F1/F2 function change.

④ Operation lamp

This lamp lights in green(yellow-green) during operation. It changes to red(orange) if any error occurs.
Operation lamp luminance can be changed.

⑤ LCD (with backlight)

A tap on the LCD lights the backlight.
The backlight turns off automatically if there is no operation for certain period of time.
Lighting period of the backlight lighting can be changed.

If the backlight is ON setting, when the screen is tapped while the backlight is turned off,the backlight only is turned on.(Operations with switches ①,② and ③are excluded.)

⑥ USB port

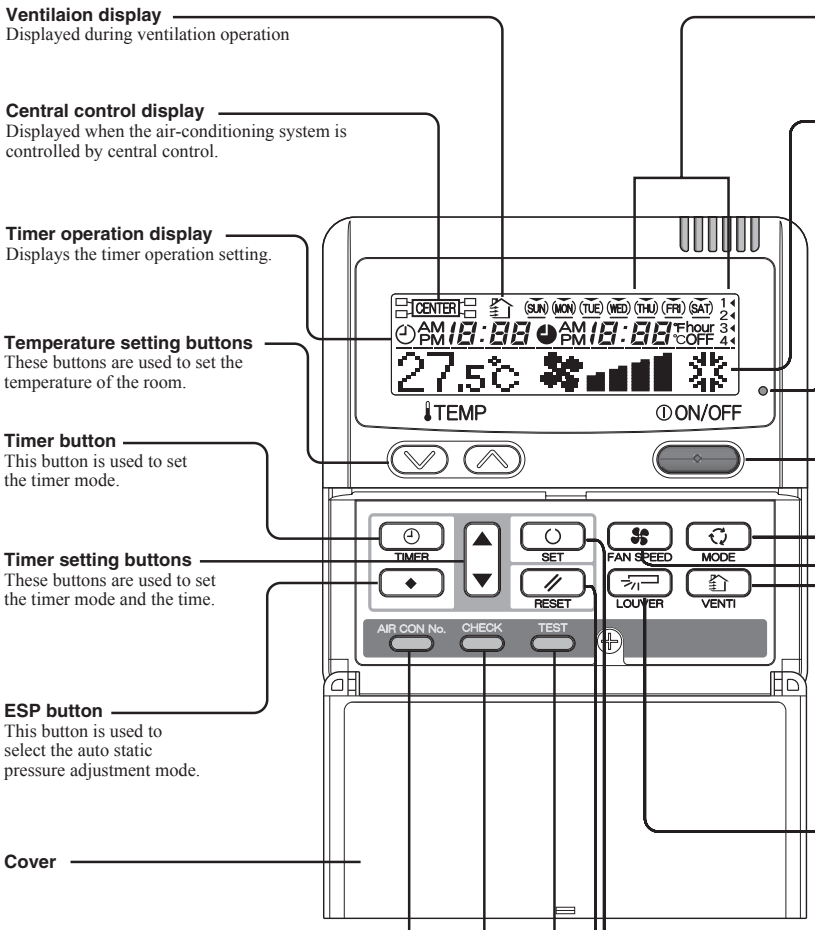
USB connector (mini-B) allows connecting to a personal computer.
For operating methods, refer to the instruction manual attached to the software for personal computer (remote control utility software).

Note(1) When connecting to a personal computer, do not connect simultaneously with other USB devices.
Please be sure to connect to the computer directly,without going through a hub, etc.

Model RC-E5

The figure below shows the remote control with the cover opened. Note that all the items that may be displayed in the liquid crystal display area are shown in the figure for the sake of explanation
Characters displayed with dots in the liquid crystal display area are abbreviated.

The figure below shows the remote control with the cover opened.



Ventilaion display
Displayed during ventilation operation

Central control display
Displayed when the air-conditioning system is controlled by central control.

Timer operation display
Displays the timer operation setting.

Temperature setting buttons
These buttons are used to set the temperature of the room.

Timer button
This button is used to set the timer mode.

Timer setting buttons
These buttons are used to set the timer mode and the time.

ESP button
This button is used to select the auto static pressure adjustment mode.

Cover

AIR CON No. button
Display the indoor unit number connected to this remote control.

CHECK button
This button is used at servicing.

TEST button
This button is used during test operation.

Weekly timer display
Displays the settings of the weekly timer.

Operation setting display area
Displays setting temperature, air flow volume, operation mode and oparation message.

Operation/check indicator light
During operation: Lit in green
In case of error: Flashing in red

Operation/stop button
This button is used to operate and stop the air-conditioning system.
Press the button once to operate the system and press it once again to stop the system.

MODE button
This button is used to change the operation mode.

FAN SPEED button
This button is used to set the air flow volume.

VENT button
This button is used to operate external ventilator.

LOUVER button
This button is used to operate/stop the swing louver.

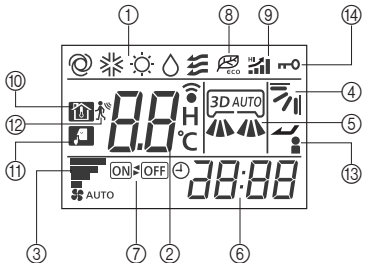
SET button
•This button is used to fix the setting.
•This button is used to set the silent mode.

RESET button
•If you press this button while making settings, you can go back to the previous operation.
•This button is also used to reset the "**FILTER CLEANING**" display. (Press it after cleaning the air filter)

∗ All displays are described in the liquid crystal display for explanation.

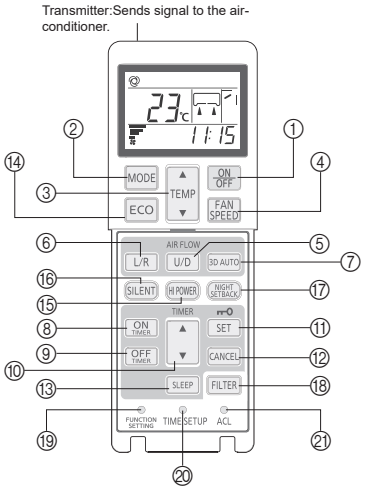
(2) Wireless remote control
Models RCN-E2, RCN-EK2

Indication section



①	OPERATION MODE display	Indicates selected operation mode.
②	SET TEMP display	Indicates set temperature.
	SLEEP TIMER time display	Indicates the amount of time remaining on the sleep timer.
	Indoor function setting number display	Indicates the setting number of the indoor function setting.
③	FAN SPEED display	Indicates the selected air flow volume
④	UP/DOWN AIR FLOW display	Indicates the up/down louver position.
⑤	LEFT/RIGHT AIR FLOW display	Indicates the left/right louver position.
⑥	Clock display	Indicates the current time. If the timer is set, the ON TIMER and OFF TIMER setting times are indicated.
⑦	ON/OFF TIMER display	Displayed when the timer is set.
⑧	ECO mode display	Displayed when the energy-saving operation is active.
⑨	HI POWER display	Displayed when the high power operation is active.
⑩	NIGHT SETBACK display	Displayed when the home leave mode is active.
⑪	SILENT display	Displayed when the silent mode control is active.
⑫	Motion sensor display	Displayed when the infrared sensor control(motion sensor control) is enabled.
⑬	Anti draft setting display	Displayed when anti draft setting is enabled.
⑭	Child lock display	Displayed when child lock is enabled.

Operation section



①	ON/OFF button	When this is pressed once, the air-conditioner starts to operate and when this is pressed once again, it stops operating.
②	MODE button	Every time this button is pressed, displays switch as below (AUTO) → (COOL) → (HEAT) → (DRY) → (FAN) → (AUTO)
③	TEMP button	Change the set temperature by pressing ▲ or ▼ button.
④	FAN SPEED button	The fan speed is switched in the following order: 1-speed → 2-speed → 3-speed → 4-speed → AUTO → 1-speed.
⑤	U/D button	Used to determine the up/down louver position.
⑥	L/R button	Used to determine the left/right louver position. ※
⑦	3D AUTO button	Used to switch whether or not to enable or disable 3D AUTO mode. ※
⑧	ON TIMER button	Used to set the ON TIMER.
⑨	OFF TIMER button	Used to set the OFF TIMER.
⑩	SELECT button	Used to switch the time when setting the timer or adjusting the time. Used to switch the settings of the indoor function.
⑪	SET button	Used to determine the setting when setting the timer or adjusting the time. Used to determine the settings of the indoor function. When press and hold SET button ,Child Lock is enabled.
⑫	CANCEL button	Used to cancel the timer setting.
⑬	SLEEP button	Used to set the sleep timer.
⑭	ECO button	Pressing this button starts the energy-saving operation. Pressing this button again cancels it.
⑮	HI POWER button	Pressing this button starts the high power operation. Pressing this button again cancels it.
⑯	SILENT button	Pressing this button starts the silent mode control. Pressing this button again cancels it.
⑰	NIGHT SETBACK button	Pressing this button starts the home leave mode. Pressing this button again cancels it.
⑱	FILTER button	Pressing this button resets FILTER SIGN.
⑲	FUNCTION SETTING switch	Used to set the indoor function.
⑳	TIME SETUP switch	Used to set the current time.
㉑	ACL switch	Used to reset the microcomputer.

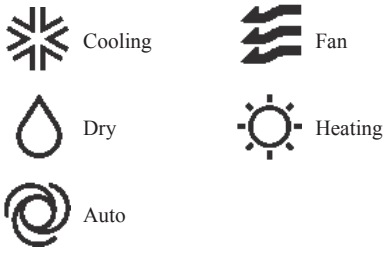
※:RCN-EK2 only

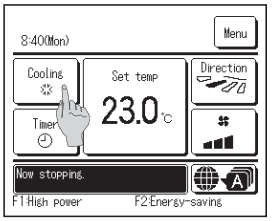
8.2 Operation control function by the wired remote control

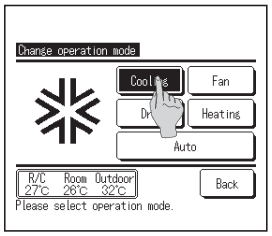
●Model RC-EX3A

(1) Switching sequence of the operation mode switches of remote control

(a) Tap the change operation mode button on the TOP screen.
(b) When the change operation mode screen is displayed, tap the button of desired mode.
(c) When the operation mode is selected, the display returns to the TOP screen.
Icons displayed have the following meanings.







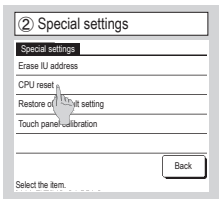
Notes(1) Operation modes which cannot be selected depending on combinations of indoor unit and outdoor unit are not displayed.
(2) When the Auto is selected,the cooling and heating switching operation is performed automatically according to indoor and outdoor temperatures.

(2) CPU reset

Reset CPU from the remote control as follows.

TOP screen [Menu] ⇒ [Service setting] ⇒ [Service & Maintenance] ⇒ [Service password]

The selected screen is displayed.



The selected screen is displayed.

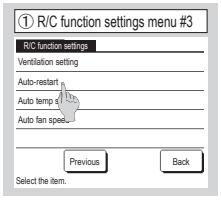
[CPU reset]

Microcomputers of indoor unit and outdoor unit connected are reset (State of restoration after power failure).

(3) Power failure compensation function (Electric power source failure)

Enable the Auto-restart function from the remote control as follows.

TOP screen [Menu] ⇒ [Service setting] ⇒ [R/C function settings] ⇒ [Service password]



If the unit stops during operation,

[Enable]

It returns to the state before the power failure as soon as the power source is restored (After the end of the primary control at the power on).

[Disable]

It stops after the restoration of power source.

●Since the status of remote control is retained in memory always, it restarts operations according to the contents of memory as soon as the power source is restored. Although the timer mode is cancelled, the weekly timer, peak cut timer and silent mode timer operate according to the following contents:

- When the clock setting is valid : These timer settings are also valid.
- When the clock setting is invalid : These timer settings become “Invalid” since the clock setting is invalid. These timer settings have to be changed to “Valid” after the timer setting.

●Content memorized with the power failure compensation are as follows.

Note(1) Items (f) and (g) are memorized regardless whether the power failure compensation is effective or not while the setting of silent mode is cancelled regardless whether the power failure compensation is effective or not.

(a) At power failure – Operating/stopped
If it had been operating under the off timer mode, sleep timer mode, the state of stop is memorized.

(b) Operation mode

(c) Air flow volume mode

(d) Room temperature setting

(e) Louver auto swing/stop
However, the stop position (4-position) is cancelled so that it returns to Position (1).

(f) "Remote control function items" which have been set with the administrator or installation function settings ("Indoor function items" are saved in the memory of indoor unit.)

(g) Weekly timer, peak-cut timer or silent mode timer settings

(h) Remote control function setting

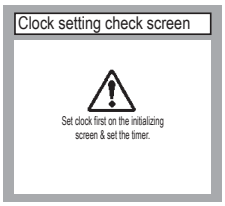
(4) Alert displays

If the following (a) to (c) appear, check and repair as follows.

(a) Communication check between indoor unit and remote control

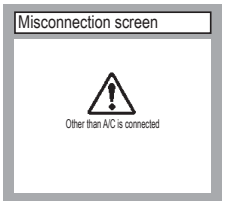
●This appears if communications cannot be established between the remote control and the indoor unit.
Check whether the system is correctly connected (indoor unit, outdoor unit, remote control) and whether the power source for the outdoor unit is connected.

(b) Clock setting check



●This appears when the timer settings are done without clock setting.
Set the clock setting before the timer settings.

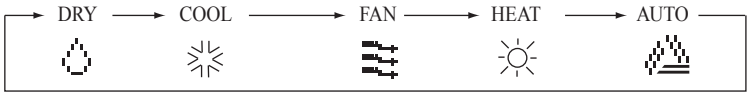
(c) Misconnection



●This appears when something other than the air-conditioner has been connected to the remote control.
Check the location to which the remote control is connected.

Model RC-E5

(1) Switching sequence of the operation mode switches of remote control



(2) CPU reset

This functions when “CHECK” and “ESP” buttons on the remote control are pressed simultaneously. Operation is same as that of the power source reset.

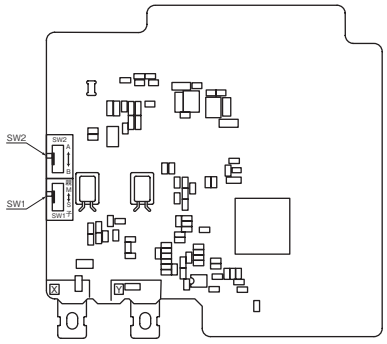
(3) Power failure compensation function (Electric power source failure)

- This becomes effective if “Power failure compensation effective” is selected with the setting of remote control function.
- Since it memorizes always the condition of remote control, it starts operation according to the contents of memory no sooner than normal state is recovered after the power failure. Although the auto swing stop position and the timer mode are cancelled, the weekly timer setting is restored with the holiday setting for all weekdays.
  After recovering from the power failure, it readjusts the clock and resets the holiday setting for each weekday so that the setting of weekly timer becomes effective.
- Content memorized with the power failure compensation are as follows.

  Note (1) Items (f), (g) and (h) are memorized regardless whether the power failure compensation is effective or not while the setting of silent mode is cancelled regardless whether the power failure compensation is effective or not.

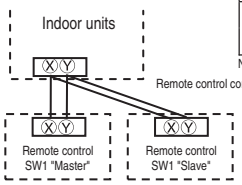
  (a) At power failure – Operating/stopped
  If it had been operating under the off timer mode, sleep timer mode, the state of stop is memorized. (Although the timer mode is cancelled at the recovery from power failure, the setting of weekly timer is changed to the holiday setting for all weekdays.)
  (b) Operation mode
  (c) Air flow volume mode
  (d) Room temperature setting
  (e) Louver auto swing/stop
  However, the stop position (4-position) is cancelled so that it returns to Position (1).
  (f) “Remote control function items” which have been set with the remote control function setting (“Indoor function items” are saved in the memory of indoor unit.)
  (g) Upper limit value and lower limit value which have been set with the temperature setting control
  (h) Sleep timer and weekly timer settings (Other timer settings are not memorized.)

[Parts layout on remote control PCB]



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).



Switch	Setting	Content
SW1	M	Master remote control
	S	Slave remote control

Note (1) Don't change SW2 because it is not used normally.

Caution

When using multiple remote controls, the following dispiays or settings cannot be done with the slave remote control. It is available only with the master remote control.

①Louver position setting (set upper or lower limit of swinging range)
②Setting indoor unit functions
③Setting temperature range
④Operation data display
⑤Error data display
⑥Silent mode setting
⑦Test operation of drain pump
⑧Remote control sensor setting

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8.3 Operation control function by the indoor control

(1) Operations of functional items during cooling/heating

Operation / Functional item	Cooling		Fan	Heating			Dehumidifying
	Thermostat ON	Thermostat OFF		Thermostat ON	Thermostat OFF	Hot start (Defrost)	
Compressor	○	×	×	○	×	○	○/×
4-way valve	×	×	×	○	○	○(×)	×
Outdoor unit fan	○	×	×	○	×	○(×)	○/×
Indoor unit fan	○	○	○	○/×	○/×	○/×	○/×
Drain pump (3)	○	×(2)	×(2)	○/×(2)			Thermostat ON: ○ Thermostat OFF: ×(2)

Notes (1) ○: Operation ×: Stop ○/×: Turned ON/OFF by the control other than the room temperature control.
(2) ON during the drain motor delay control.
(3) Drain pump ON setting may be selected with the indoor unit function setting of the wired remote control.

(2) Dehumidifying (DRY) operation

Indoor ambient temperatures and humidity are controlled simultaneously with the relative humidity sensor (HS) and the suction temperature sensor [Thi-A (or the remote control sensor when it is activated)], which are installed at the suction inlet.

(a) When the operation has been started with cooling, if there is a difference of 2°C or less between the suction and setting temperatures, the tap of indoor fan is lowered by one tap. This tap is retained for 3 minutes after changing the tap.

(b) After the above condition, when a difference between suction and setting temperature is lower than 3°C, and the relative humidity is high, the tap of indoor unit fan is lowered by one tap.
When the difference between suction and setting temperature is larger than 3°C, the fan of indoor unit fan is raised by one tap. This tap is retained for 3 minutes after changing the tap.

(c) When relative humidity becomes lower, the indoor unit fan tap is retained.

(d) In case of the thermostat OFF, the indoor unit fan tap at the thermostat ON is retained.

(3) Timer operation

(a) RC-EX3A

(i) Sleep timer
Set the time from the start to stop of operation. The time can be selected in the range from 30 to 240 minutes (in the unit of 10-minute).
Note (1) Enable the “Sleep timer” setting from the remote control. If the setting is enabled, the timer operates at every time.

(ii) Set OFF timer by hour
Set the time to stop the unit after operation, in the range from 1 to 12 hours (in the unit of hour).

(iii) Set ON timer by hour
Set the time to start the unit after the stop of operation, in the range from 1 to 12 hours (in the unit of hour). It is allowed also to set simultaneously the indoor temperature, operation mode, air flow rate and warm-up enabled/disabled.

(iv) Set ON timer by clock
Set the time to start operation. The time can be set in the unit of 5-minute. This setting can be activated only once or at every time. It is allowed also to set simultaneously the indoor temperature, operation mode, air low rate and warm-up enabled/disabled.
Note (1) It is necessary to set the clock to use this timer.

(v) Set OFF timer by clock
Set the time to stop operation. The time can be set in the unit of 5-minute. This setting can be activated only once or at every time.
Note (1) It is necessary to set the clock to use this timer.

(vi) Weekly timer
Set the ON or OFF timer for a week. Up to 8 patterns can be set for a day. The day-off setting is provided for holidays and non-business days.
Note (1) It is necessary to set the clock to use the weekly timer.

#

(vii) **Combination of patterns which can be set for the timer operations**

	Sleep timer	Set OFF timer by hour	Set ON timer by hour	Set OFF timer by clock	Set ON timer by clock	Weekly timer
Sleep timer		×	×	○	○	○
Set OFF timer by hour	×		×	×	×	×
Set ON timer by hour	×	×		×	×	×
Set OFF timer by clock	○	×	×		○	×
Set ON timer by clock	○	×	×	○		×
Weekly timer	○	×	×	×	×	

Note (1) ○: Allowed ×: Not

(b) RC-E5

(i) Sleep timer

Set the duration of time from the present to the time to turn off the air-conditioner.

It can be selected from 10 steps in the range from “OFF 1 hour later” to “OFF 10 hours later”. After the sleep timer setting, the remaining time is displayed with progress of time in the unit of hour.

(ii) OFF timer

Time to turn OFF the air-conditioner can be set in the unit of 10 minutes.

(iii) ON timer

Time to turn ON the air-conditioner can be set. Indoor temperature can be set simultaneously.

(iv) Weekly timer

Timer operation (ON timer, OFF timer) can be set up to 4 times a day for each weekday.

(v) **Combination of patterns which can be set for the timer operations**

Item / Item	Timer	OFF timer	ON timer	Weekly timer
Timer		×	○	×
OFF timer	×		○	×
ON timer	○	○		×
Weekly timer	×	×	×	

Note (1) ○: Allowed ×: Not

(2) Since the ON timer, sleep timer and OFF timer are set in parallel, when the times to turn ON and OFF the air-conditioner are duplicated, the setting of the OFF timer has priority.

(4) Hot start (Cold draft prevention at heating)

(a) Operating conditions

When either one of following conditions is satisfied, the hot start control is performed.

(i) From stop to heating operation

(ii) From cooling to heating operation

(iii) From heating thermostat OFF to ON

(iv) After completing the defrost operation (only on units with thermostat ON)

#

(b) Contents of operation

(i) Indoor fan motor control at hot start

1) Within 7 minutes after starting heating operation, the fan mode is determined depending on the condition of thermostat (fan control with heating thermostat OFF).

a) Thermostat OFF

i) Operates according to the fan control setting at heating thermostat OFF.

ii) Even if it changes from thermostat OFF to ON, the fan continues to operate with the fan control at thermostat OFF till the heat exchanger thermistor (Thi-R1 or R2, whichever higher) detects 35°C or higher.

iii) When the heat exchanger thermistor (Thi-R1 or R2, whichever higher) detects 35°C or higher, the fan operates with the set air flow volume.

b) Thermostat ON

i) When the heat exchanger thermistor (Thi-R1 or R2, whichever higher) detects 25°C or lower, the fan is turned OFF and does not operate.

ii) When the heat exchanger thermistor (Thi-R1 or R2, whichever higher) detects 25°C or higher, the fan operates with the fan control at heating thermostat OFF.

iii) When the heat exchanger thermistor (Thi-R1 or R2, whichever higher) detects 35°C or higher, the fan operates with the set air flow volume.

c) If the fan control at heating thermostat OFF is set at the “Set air flow volume” (from the remote control), the fan operates with the set air flow volume regardless of the thermostat ON/OFF.

2) Once the fan motor is changed from OFF to ON during the thermostat ON, the indoor fan motor is not turned OFF even if the heat exchanger thermistor detects lower than 25°C.

Note (1) When the defrost operation signal is received, it complies with the fan control during defrost operation.

3) Once the hot start is completed, it will not restart even if the temperature on the heat exchanger thermistor drops.

(ii) During the hot start, the louver is kept at the horizontal position.

(iii) When the fan motor is turned OFF for 7 minutes continuously after defrost operation, the fan motor is turned ON regardless of the temperatures detected with the indoor heat exchanger thermistors (Thi-R1, R2).

(c) Ending condition

(i) If one of following conditions is satisfied during the hot start control, this control is terminated, and the fan is operated with the set air flow volume.

1) Heat exchanger thermistor (Thi-R1 or R2, whichever higher) detects 35°C or higher.

2) It has elapsed 7 minutes after starting the hot start control.

(5) Hot keep

Hot keep control is performed at the start of the defrost operation.

(a) Control

(i) When the indoor heat exchanger temperature (detected with Thi-R1 or R2) drops to 35°C or lower, the speed of indoor fan is changed to the lower tap at each setting.

(ii) During the hot keep, the louver is kept at the horizontal position.

(b) Ending condition

When the indoor fan is at the lower tap at each setting, it returns to the set air flow volume as the indoor heat exchanger temperature rises to 45°C or higher.

#

(6) Auto swing control

Note Even if [Auto Swing] is selected, the louver position with anti draft function is fixed to position 1.

(a) RC-EX3A

(i) Louver control

1) To operate the swing louver when the air-conditioner is operating, press the “Direction” button on the TOP screen of remote control. The wind direction select screen will be displayed.
2) To swing the louver, touch the “Auto swing” button. The lover will move up and down. To fix the swing louver at a position, touch one of [1] - [4] buttons. The swing lover will stop at the selected position.
3) Louver operation at the power on with a unit having the louver 4-position control function
The louver swings one time automatically (without operating the remote control) at the power on.
This allows the microcomputer recognizing and inputting the louver motor (LM) position.

(ii) Automatic louver level setting during heating

At the hot start and the heating thermostat OFF, regardless whether the auto swing switch is operated or not (auto swing or louver stop), the louver takes the level position (in order to prevent blowing of cool wind). The louver position display LCD continues to show the display which has been shown before entering this control.

(iii) Louver free stop control

If you touch the “Menu” → “Service setting” → “R/C function settings” buttons one after another on the TOP screen of remote control, the “Upper/lower flap control” screen is displayed. If the free stop is selected on this screen, the louver motor stops upon receipt of the stop signal from the remote control. If the auto swing signal is received from the remote control, the auto swing will start from the position before the stop.

(b) RC-E5

(i) Louver control

1) Press the “LOUVER” button to operate the swing louver when the air-conditioner is operating.
“SWING ⇆” is displayed for 3 seconds and then the swing louver moves up and down continuously.
2) To fix the swing louver at a position, press one time the “LOUVER” button while the swing louver is moving so that four stop positions are displayed one after another per second.
When a desired stop position is displayed, press the “LOUVER” button again. The display stops, changes to show the “STOP 1 ⌐” for 5 seconds and then the swing louver stops.
3) Louver operation at the power on with a unit having the louver 4-position control function
The louver swings one time automatically (without operating the remote control) at the power on.
This allows inputting the louver motor (LM) position, which is necessary for the microcomputer to recognize the louver position.

Note (1) If you press the “LOUVER” button, the swing motion is displayed on the louver position LCD for 10 seconds. The display changes to the “SWING ⇆” display 3 seconds later.

(ii) Automatic louver level setting during heating

At the hot start with the heating thermostat OFF, regardless whether the auto swing switch is operated or not (auto swing or louver stop), the louver takes the level position (In order to prevent the cold start). The louver position display LCD continues to show the display which has been shown before entering this control.

(iii) Louver-free stop control

When the louver-free stop has been selected with the indoor function of wired remote control “⇆ POSITION”, the louver motor stops when it receives the stop signal from the remote control. If the auto swing signal is received from the remote control, the auto swing will start from the position where it was before the stop.

Note (1) When the indoor function of wired remote control “⇆ POSITION” has been switched, switch also the remote control function “⇆ POSITION” in the same way.

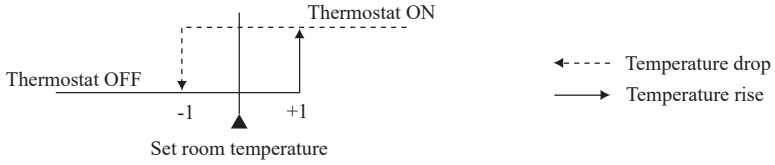
#

(7) Thermostat operation

(a) Cooling

(i) Thermostat is operated with the room temperature control.

(ii) Thermostat is turned ON or OFF relative to the set room temperature as shown below.

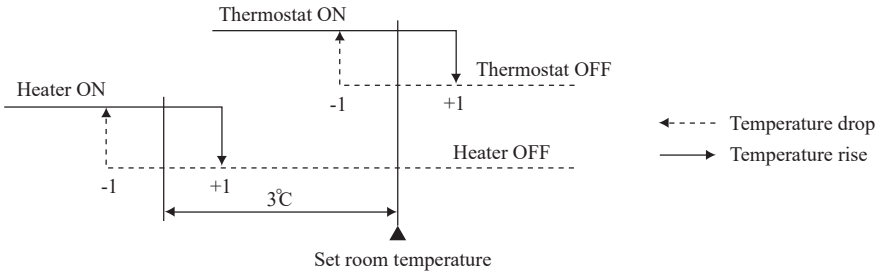


(iii) Thermostat is turned ON when the room temperature is in the range of -1 < Set temperature < +1 at the start of cooling operation (including from heating to cooling).

(b) Heating

(i) Thermostat is operated with the room temperature control.

(ii) Thermostat is turned ON or OFF relative to the set room temperature as shown below.



(iii) Thermostat is turned ON when the room temperature is in the range of -1 < Set room temperature < +1 at the start of heating operation (including from cooling to heating).

(c) Fan control during heating thermostat OFF

(i) Following fan controls during the heating thermostat OFF can be selected with the indoor function setting of the wired remote control.

① Low fan speed (Factory default) ② Set fan speed ③ Intermittence ④ Fan OFF

(ii) When the “Low fan speed (Factory default)” is selected, the following taps are used for the indoor fans.

• For DC motor : ULo tap

(iii) When the “Set fan speed” is selected, it is operated with the set fan speed also in the thermostat OFF condition.

(iv) If the “Intermittence” is selected, following controls are performed:

1) If the thermostat is turned OFF during the heating operation, the indoor fan stops.
2) Indoor fan OFF is fixed for 5 minutes. After the 5 minutes, the indoor fan is operated at ULo for 2 minutes. In the meantime the louver is controlled at level.
3) After operating at ULo for 2 minutes, the indoor fan moves to the state of 1) above.
4) If the thermostat is turned ON, it moves to the hot start control.
5) When the heating thermostat is turned OFF, the remote control displays the temperature detected at the fan stop and revises the temperature later when the indoor fan changes from ULo to stop.
   The remote control uses the operation data display function to display temperatures and updates values of temperature even when the indoor fan is turned OFF.
6) When the defrosting starts while the heating thermostat is turned OFF or the thermostat is turned OFF during defrost operation, the indoor fan is turned OFF. (Hot keep or hot start control takes priority.) However, the suction temperature is updated at every 7-minute.
7) When the heating thermostat is turned ON or the operation is changed to another mode (including stop), this control is stopped immediately, and the operating condition is restored.

(v) When the “Fan OFF” is selected, the fan on the indoor unit of which the thermostat has been turned OFF, is turned OFF. The same occurs also when the remote control sensor is effective.

#

(d) Fan control during cooling thermostat OFF

(i) Following fan controls during the cooling thermostat OFF can be selected with the indoor function setting of the wired remote control.

① Low fan speed ② Set fan speed (Factory default) ③ Intermittence ④ Fan OFF

(ii) When the "Low fan speed" is selected, the following taps are used for the indoor fans.

For DC motor : ULo tap

(iii) When the "Set fan speed" is selected, it is operated with the set fan speed also in the thermostat OFF condition.

(iv) If the "Intermittence" is selected, following controls are performed:

1) If the thermostat is turned OFF during the cooling operation, the indoor fan stops.
2) Indoor fan OFF is fixed for 5 minutes. After the 5minutes, the indoor fan is operated at ULo for 2 minutes.
3) After operating at ULo for 2 minutes, the indoor fan moves to the state of 1) above.
4) If the thermostat is turned ON, the fan starts operation at set fan speed.
5) When the cooling thermostat is turned OFF, the remote control displays the temperature detected at the fan stop and revises the temperature later when the indoor fan changes from ULo to stop.

   By using operation data display function at wireless remote control, the temperature as displayad and the value is updated including the fan stops.
6) When the cooling thermostat is turned ON or the operation is changed to another mode (including stop), this control is stopped immediately, and the operating condition is restored.

(v) When the "Fan OFF" is selected, the fan on the indoor unit of which the thermostat has been turned OFF, is turned OFF. The same occurs also when the remote control sensor is effective.

(8) Filter sign

As the operation time (Total ON time of ON/OFF switch) accumulates to 180 hours (1), "FILTER CLEANING" is displayed on the remote control. (This is displayed when the unit is in trouble and under the central control, regardless of ON/OFF)

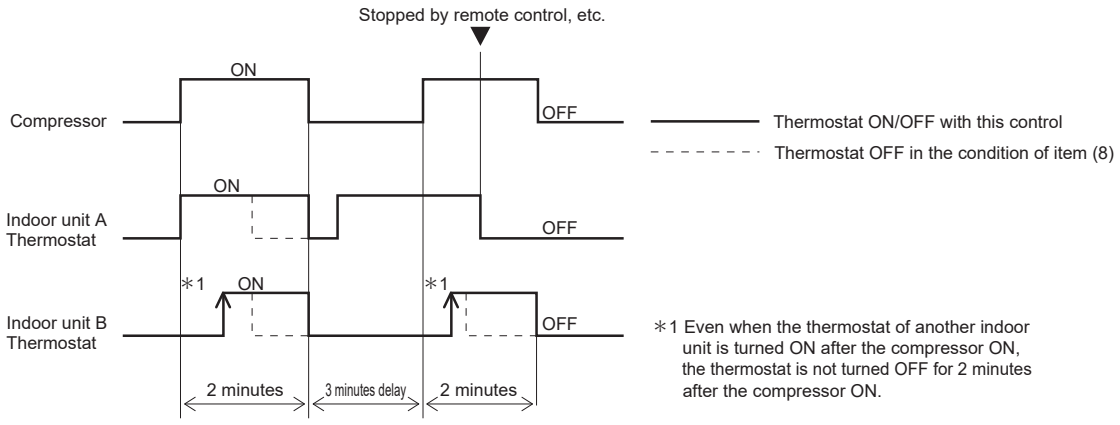
Notes (1) Time setting for the filter sign can be made as shown below using the indoor function of wired remote control "Filter sign". (It is set at Setting 1 at the shipping from factory.)

Filter sign setting	Function
Setting 1	Setting time: 180 h (Factory default)
Setting 2	Setting time: 600 h
Setting 3	Setting time: 1,000 h
Setting 4	Setting time: 1,000 h (Unit stop) (2)

(2) After the setting time has elapsed, the "FILTER CLEANING" is displayed and, after operating for 24 hours further (counted also during the stop), the unit stops.

(9) Compressor inching prevention control

(a) Once the indoor unit thermostat has been turned ON, the thermostat is not turned OFF for 2 minutes (*1) after the compressor ON even if the thermostat is turned OFF at the state of item (8).



(b) When the oil return control has started while the thermostat is turned ON, the thermostat is not turned OFF even if the thermostat OFF condition is satisfied during the oil return control.

#

(10) Drain pump control (Except FDK)

(a) This control is operated when the inverter frequency is other than 0 Hz during the cooling operation and automatic cooling and dehumidifying operations.

(b) Drain pump ON condition continues for 5 minutes even when it enters the OFF range according to (i) above after turning the drain pump ON, and then stops. The 5 minutes delay continues also in the event of anomalous stop.

(c) The drain pump is operated with the 5 minutes delay operation when the compressor is changed from ON to OFF.

(d) Even in conditions other than the above (such as heating, fan, stop, cooling thermostat OFF), the drain pump control is performed by the drain detection.

(e) Following settings can be made using the indoor function setting of the wired remote control.

(i) ※0〔Standard (in cooling & dry)〕: Drain pump is run during cooling and dry.

(ii) ※0ANO※〔Operate in standard & heating〕: Drain pump is run during cooling, dry and heating.

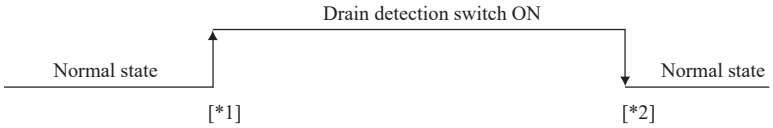
(iii) ※0ANO※ANO〓〔Operate in heating & fan〕: Drain pump is run during cooling, dry, heating and fan.

(iv) ※0ANO〓〔Operate in standard & fan〕: Drain pump is run during cooling, dry and fan.

Note (1) Values in〔 〕are for the RC-EX3A model.

(11) Drain pump abnomalities detection (Except FDK)

(a) Drain detection switch is turned ON or OFF with the float switch (FS) and the timer.



[＊1] Drain detection switch is turned “ON” when the float switch “Open” is detected for 3 seconds continuously in the drain detectable space.

[＊2] Drain detection switch is turned “OFF” when the float switch “Close” is detected for 10 seconds continuously.

(i) It detects always from 30 seconds after turning the power ON.

1) There is no detection of anomalous draining for 10 seconds after turning the drain pump OFF.

2) Turning the drain detection switch “ON” causes to turn ON the drain pump forcibly.

3) Turning the drain detection switch “OFF” releases the forced drain pump ON condition.

(b) Indoor unit performs the control A or B depending on each operating condition.

	Indoor unit operation mode				
	Stop (1)	Cooling	Dry	Fan (2)	Heating
Compressor ON		Control A			
Compressor OFF	Control B				

Note (1) Including the stop from the cooling, dehumidifying, fan and heating, and the anomalous stop
(2) Including the “Fan” operation according to the mismatch of operation modes

(i) Control A

1) If the float switch detects any anomalous draining condition, the unit stops with the anomalous stop (displays E9) and the drain pump starts. After detecting the anomalous condition, the drain motor continues to be ON.

2) It keeps operating while the float switch is detecting the anomalous condition.

(ii) Control B

If the float switch detects any anomalous drain condition, the drain motor is turned ON for 5 minutes, and at 10 seconds after the drain motor OFF it checks the float switch. If it is normal, the unit is stopped under the normal mode or, if there is any anomalous condition, E9 is displayed and the drain motor is turned ON. (The ON condition is maintained during the drain detection.)

(12) Operation check/drain pump test run operation mode

(a) If the power is turned on by the DIP switch (SW7-1) on the indoor unit control PCB when electric power source is supplied, it enters the mode of operation check/drain pump test run. It is ineffective (prohibited) to change the switch after turning power on.

(b) When the communication with the remote control has been established within 60 seconds after turning power on by the DIP switch (SW7-1) ON, it enters the operation check mode. Unless the remote control communication is established, it enters the drain pump test run mode.

Note (1) To select the drain pump test run mode, disconnect the remote control connector (CNB) on the indoor control PCB to shut down the remote control communication.

#

(c) Operation check mode

There is no communication with the outdoor unit but it allows performing operation in respective modes by operating the remote control.

(d) Drain pump test run mode (Except FDK)

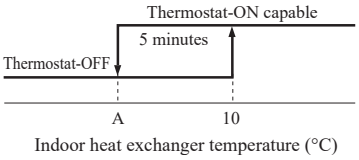
As the drain pump test run is established, the drain pump only operates and during the operation protective functions by the microcomputer of indoor unit become ineffective.

(13) Cooling, dehumidifying frost protection

(a) To prevent frosting during cooling mode or dehumidifying mode operation, the compressor-OFF if the indoor heat exchanger temperature (detected with Thi-R) drops to 1.0 °C or lower at 4 minutes after the compressor-ON. If the indoor unit heat exchanger temperature is 1.0 °C or lower after 5 minutes, the indoor unit is controlled compressor-OFF. If it becomes 10°C or higher, the control terminates. When the indoor heat exchanger temperature has become as show, the indoor unit send outdoor unit the "Anti-frost" signal.

• Frost prevention temperature setting can be selected with the indoor unit function setting of the wired remote control.

Item \ Symbol	A
Temperature - Low (Factory default)	1.0
Temperature - High	2.5



(b) Selection of indoor fan speed

If it enters the frost prevention control during cooling operation (excluding dehumidifying), the indoor fan speed is switched.

(i) When the indoor return air detection temperature (detected with Thi-A) is 18°C or higher and the indoor heat exchanger temperature (detected with Thi-R) detects the compressor frequency drop start temperature A°C+1°C, of indoor fan speed is increased by 20min^{-1}.

(ii) If the phenomenon of (i) above is detected again after the acceleration of indoor fan, indoor fan speed is increased further by 20min^{-1}.

Note (1) Indoor fan speed can be increased by up to 2 taps.

• Compressor frequency drop start temperature

Hs > 50%

Symbol \ Item	Low	High
A	1.0	2.5
B	2.5	4.0

Hs ≦ 50%

Symbol \ Item	Low	High
A	-0.5	1.0
B	1.0	2.5

Note (1) Frost prevention temperature setting can be selected with the indoor unit function setting of the wired remote control.

(14) Anomalous fan motor

(a) After starting the fan motor, if the fan motor speed is 200min^{-1} or less is detected for 30 seconds continuously and 4 times within 60 minutes, then fan motor stops with the anomalous stop (E16).

(b) If the fan motor fails to reach at -50 min^{-1} less than the required speed, it stops with the anomalous stop (E20).

(15) Plural unit control – Control of 16 units group by one remote control

(a) Function

One remote control can control a group of multiple number of unit (Max. 16 indoor units). "Operation mode" which is set by the remote control can operate or stop all units in the group one after another in the order of unit. No.(1). Thermostat and protective function of each unit function independently.

Note (1) Unit No. is set by SW1, SW2, and SW5-2 on the indoor control PCB.

#

(b) Display to the remote control

(i) Central or each remote control basis, heating preparation: the smallest unit No. among the operating units in the remote mode (or the center mode unless the remote mode is available) is displayed.

(ii) Inspection display, filter sign: Any of unit that starts initially is displayed.

(c) Confirmation of connected units

(i) In case of RC-EX3A remote control

If you touch the buttons in the order of "Menu" →"Service setting"→"Service & Maintenance"→"Service password"→ "IU address" on the TOP screen of remote control, the indoor units which are connected are displayed.

(ii) In case of RC-E5 remote control

Pressing "AIR CON No." button on the remote control displays the indoor unit address. If "▲" "▼" button is pressed at the next, it is displayed orderly starting from the unit of smallest No.

(d) In case of anomaly

If any anomaly occurs on a unit in a group (a protective function operates), that unit stops with the anomalous stop but any other normal units continue to run as they are.

(e) Signal wiring procedure

Signal wiring between indoor and outdoor units should be made on each unit same as the normal wiring. For the group control, connect the remote control wiring to each indoor unit via terminal block for the remote control.

Connect the remote control wiring separately from the power source cable or wires of other electric devices (AC220V or higher).

(16) Fan speed control

When sufficient air flow rate cannot be obtained from the indoor unit which is installed at a room with high ceiling, the air flow rate can be increased by changing the fan tap. To change the fan tap, use the indoor unit function "FAN SPEED SET" on the wired remote control.

Fan tap		Indoor unit air flow setting				Model	
						FDT	FDTC, FDK
FAN SPEED SET	STANDARD	P-Hi1 or P-Hi1-A or B	Hi	Me	Lo		○
		P-Hi2 or P-Hi2-A or B	Hi	Me	ULo	○	
	SETTING1	P-Hi2 or P-Hi2-A	P-Hi1	Hi	Me	○	○
	SETTING2	P-Hi2 or P-Hi2-A	Hi	Me	Lo	○	○

Notes (1) Factory default is STANDARD.

(2) At the hot-start and heating thermostat OFF, or other, the indoor fan is operated at the low speed tap of each setting.

(3) This function is not able to be set with wireless remote controls or simple remote control (RCH-E3)

(17) Abnormal temperature thermistor (return air/indoor heat exchanger) broken wire/short-circuit detection

(a) Broken wire detection

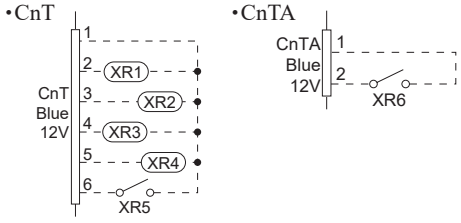
If the return air temperature thermistor detects broken wire for 5 seconds continuously, the compressor stops (E7). If the heat exchanger temperature thermistor detects broken wire for 5 seconds continuously at 2 minutes and 20 seconds after the compressor ON, the compressor stops (E6).

(b) Short-circuit detection

If the heat exchanger temperature thermistor detects short-circuit for 5 seconds continuously at 2 minutes and 20 seconds after the compressor ON during cooling operation, the compressor stops (E6).

(18) External input/output control (CnT or CnTA)

External input/output connectors are provided on the indoor unit control PCB, and each input/output is possible to be changed by RC-EX3A. Be sure to connect the wired remote control to the indoor unit. Remote operation with CnT/CnTA only is not possible.



Input/Output	Connector	Factory default setting	RC-EX3A function name
Output	CnT-2 (XR1)	Operation output	External output 1
	CnT-3 (XR2)	Heating output	External output 2
	CnT-4 (XR3)	Thermostat ON output	External output 3
	CnT-5 (XR4)	Inspection (Error) output	External output 4
Input (Volt-free contact)	CnT-6 (XR5)	Remote operation input	External input 1
	CnTA (XR6)	Remote operation input	External input 2

#

■ Priority order for combinations of CnT and CnTA input.

		CnTA						
		① Operation stop level	② Operation stop pulse	③ Operation permission/prohibition	④ Operation permission/prohibition pulse	⑤ Cooling/heating selection level	⑥ Cooling/heating selection pulse	⑦ Emergency stop
CnT	① Operation stop level	CnT ①	CnT ①	CnT ① +CnTA ②	CnT ①	CnT ① /CnTA ⑤	CnT ① /CnTA ⑥	CnT ① <CnTA ⑦
	② Operation stop pulse	CnT ②	CnT ②	CnT ② +CnTA ③	CnT ②	CnT ② /CnTA ⑤	CnT ② /CnTA ⑥	CnT ② <CnTA ⑦
	③ Operation permission/prohibition level	CnT ③ >CnTA ①	CnT ③ >CnTA ②	CnT ③ +CnTA ③	CnT ③	CnT ③ /CnTA ⑤	CnT ③ /CnTA ⑥	CnT ③ <CnTA ⑦
	④ Operation permission/prohibition pulse	CnT ④	CnT ④	CnT ④ +CnTA ③※	CnT ④	CnT ④ /CnTA ⑤	CnT ④ /CnTA ⑥	CnT ④ <CnTA ⑦
	⑤ Cooling/heating selection level	CnT ⑤ /CnTA ①	CnT ⑤ /CnTA ②	CnT ⑤ /CnTA ③	CnT ⑤ /CnTA ④	CnT ⑤	CnT ⑤	CnT ⑤ /CnTA ⑦
	⑥ Cooling/heating selection pulse	CnT ⑥ /CnTA ①	CnT ⑥ /CnTA ②	CnT ⑥ /CnTA ③	CnT ⑥ /CnTA ④	CnT ⑥	CnT ⑥	CnT ⑥ /CnTA ⑦
	⑦ Emergency stop	CnT ⑦ >CnTA ①	CnT ⑦ >CnTA ②	CnT ⑦ >CnTA ③	CnT ⑦ >CnTA ④	CnT ⑦ /CnTA ⑤	CnT ⑦ /CnTA ⑥	CnT ⑦ +CnTA ⑦

Note (1) Following operation commands are accepted when the operation prohibition is set with CnTA as indicated with *.
Individual operation command from remote control, test run command from outdoor unit and operation command from option device, CnT input.

Reference: Explanation on the codes and the combinations of codes in the table above
1. In case of CnT "Number", the CnT "Number" is adopted and CnTA is invalidated.
2. In case of CnTA "Number", the CnTA "Number" is adopted and CnT is invalidated.
3. In case of CnT "Number"/CnTA "Number", the CnT "Number" and the CnTA "Number" become independent functions each other.
4. In case of CnT "Number" + CnTA "Number", the CnT "Number" and the CnTA "Number" become competing functions each other.
5. In case of CnT "Number" > CnTA "Number", the function of CnT "Number" supersedes that of CnTA "Number".
6. In case of CnT "Number" < CnTA "Number", the function of CnTA "Number" supersedes that of CnT "Number".

(The "Number" above means ① - ⑥ in the table.)

(a) Output for external control (remote display)

Indoor unit outputs the following signal for operation status monitoring.

	Output name	Condition
1	Operation output	During operation
2	Heating output	During heating operation
3	Thermostat ON output	During compressor operation
4	Inspection (Error) output	When anomalous condition occurs.
5	Cooling output	During cooling operation
6	Fan operation output 1	When indoor unit's fan is operating
7	Fan operation output 2	When indoor unit's fan is operating, and fan speed is higher than Hi speed.
8	Fan operation output 3	When indoor unit's fan is operating, and fan speed is Lower than Me speed.
9	Defrost/oil return output	When indoor unit receive defrost/oil return signal from the outdoor unit.
10	Ventilation output	When "Venti.ON" is selected from remote control
11	Free cooling output	When the ambient temp. is between 10-18 ℃ in cooling and fan operation
12	Indoor unit overload alrm output	Refer to "IU overload alarm"
13	Heater output	Refer to "(8) Thermostat operation (b) Heating"

(b) Input for external control

The external input for the indoor unit can be selected from the following input by the wired remote control.

The input connectors (CnT-6 and CnTA) are equipped on the indoor unit control PCB.

"LEVEL INPUT(Factory default)" or "PULSE INPUT" is selectable from the wired remote control.

	Input name	Content
1	Run/Stop (Factory default)	Refer to [(19) (c) Remote operation input]
2	Permission/Prohibition	Refer to [(20) Operation permission/prohibition]
3	Cooling/Heating	Refer to [(22) Selection of cooling/heating external input function]
4	Emergency stop	Refer to [(23) Emergency stop input]
5	Setting temperature shift	Set temperature is shifted by +2/-2℃ in cooling/heating.
6	Forced thermo-OFF	Unit goes thermo off.
7	Temporary stop	Refer to [(21) Temporary stop input]
8	Silent mode	Outdoor unit silent mode is activated.

(c) Remote operation input

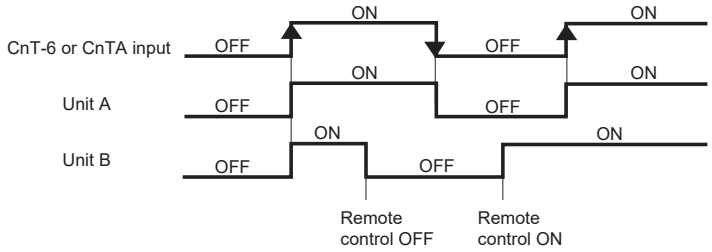
The indoor unit operation can be controlled by external input.

However it is not effective when "Center mode" is selected by central control.

Only the "LEVEL INPUT" is recommended for this input, and operation status is changed as follows.

(i) In case of "Level input" setting (Factory default)

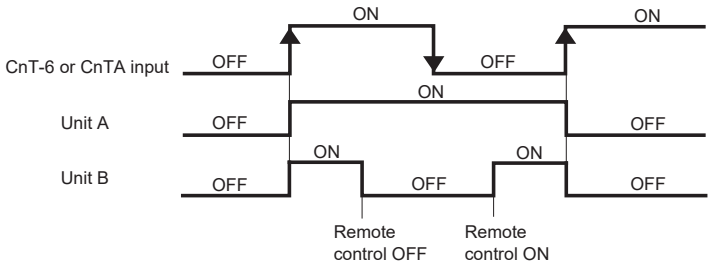
Input signal to CnT-6 or CnTA is OFF→ON …… unit ON
Input signal to CnT-6 or CnTA is ON→OFF …… unit OFF
Operation is not inverted.



Note: The latest operation has priority
It is available to operate/stop by remote control or central control

(ii) In case of "Pulse input" setting (Local setting)

It is effective only when the input signal to CnT-6 or CnTA is changed OFF→ON, and at that time unit operation [ON/OFF] is inverted.



(iii) In case of multiple units (Max. 16 indoor units group) are connected to one wired remote control

When the R/C function setting of wired remote control for "External control set" is changed from "Individual (Factory default)" to " For all units", all units connected in one wired remote control system can be controlled by external operation input.

(19) Operation permission/prohibition

(In case of adopting card key switches or commercially available timers)

When the external input is selected to "Permission/Prohibition", this control becomes effective.
However it is not effective when "Center mode" is selected by central control.

Connector	Indoor function	
	RC-EX3A	RC-E5
CnT	External input 1 : Permission/Prohibition	Operation permission/Prohibition : Valid
CnTA	External input 2 : Permission/Prohibition	No function

Only the "LEVEL INPUT" is recommended for this input, and operation status is changed as follows.

(a) In case of "Level input" setting (Factory default)

(i) When card key switch is ON (CnT-6 or CnTA ON: Operation permission), start/stop operation of the unit from the wired remote control becomes available.
(ii) When card key switch is OFF (CnT-6 or CnTA OFF: Operation prohibition), the unit stops operation in conjunction with OFF signal, and start/stop operation of the unit from the wired remote control becomes not available.

(b) In case of "Pulse input" setting (Local setting)

(i) When card key switch is ON (Operation permission), the unit starts operation in conjunction with ON signal, and also start/stop operation of the unit from the wired remote control becomes available.
(ii) When card key switch is OFF (Operation prohibition), the unit stops operation in conjunction with OFF signal, and start/stop operation of the unit from the wired remote control becomes not available.

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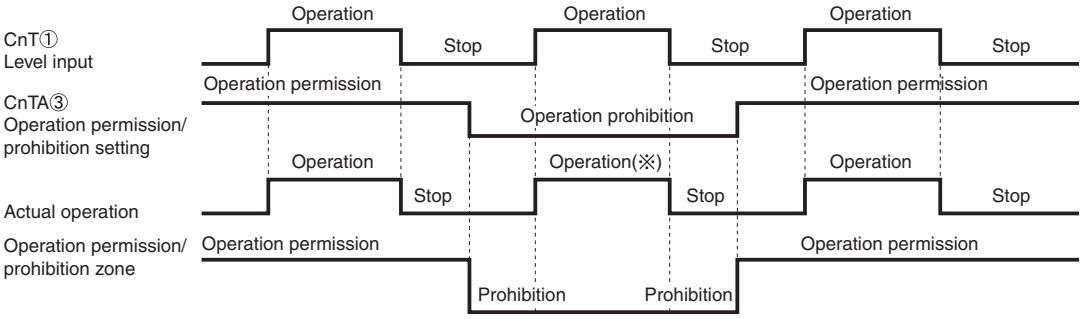
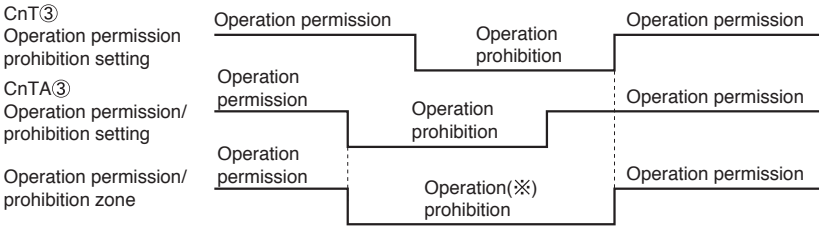
(c) In case of CnT① operation stop level > CnTA③ operation permission/prohibition level



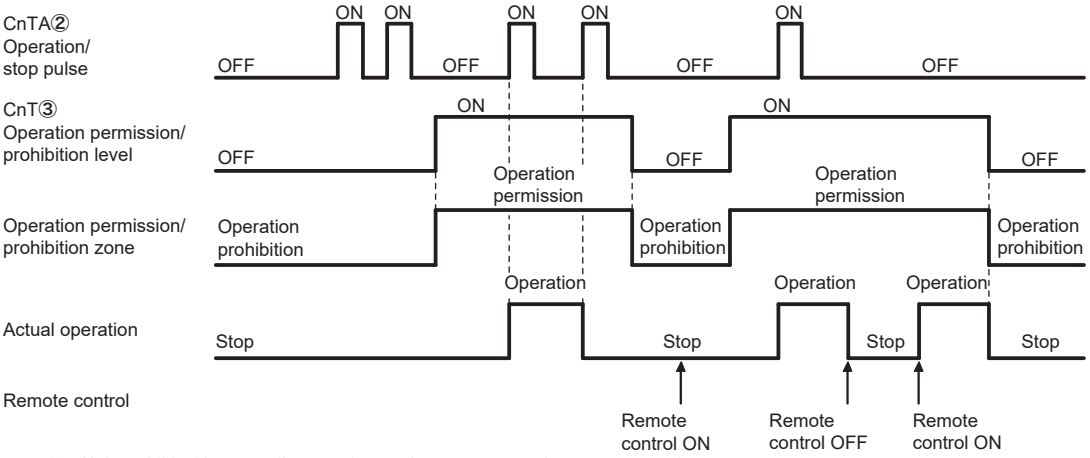
(※) CnT level input supersedes CnTA operation prohibition.

(d) In case of CnT③ operation permission/prohibition level + CnTA③ operation permission/prohibition level



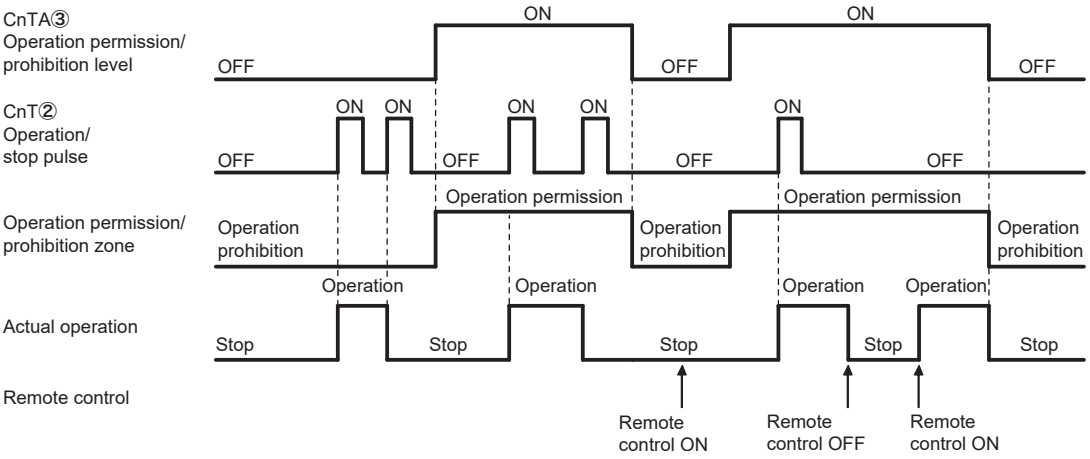
(※) Operation prohibition zone is determined by the OR judgment between CnT operation prohibition zone and CnTA operation prohibition zone.

(e) In case of CnT ③ operation permission/prohibition level > CnTA ② operation/stop pulse



Note (1) If it is prohibited by CnT, all "Operation" and "Stop" commands are not accepted.

(f) In case of CnT ② operation/stop pulse + CnTA ③ operation permission/prohibition level



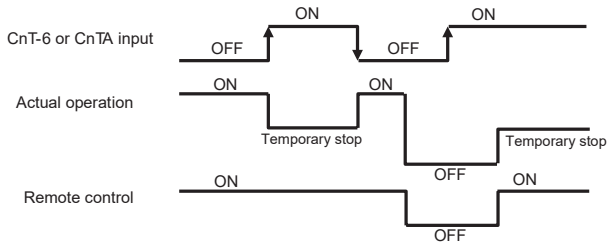
(20) Temporary stop input

In case of temporary stop, operation lamp of remote control lights, but indoor unit stop the operation.

(a) In case of "Level input" setting (Factory default)

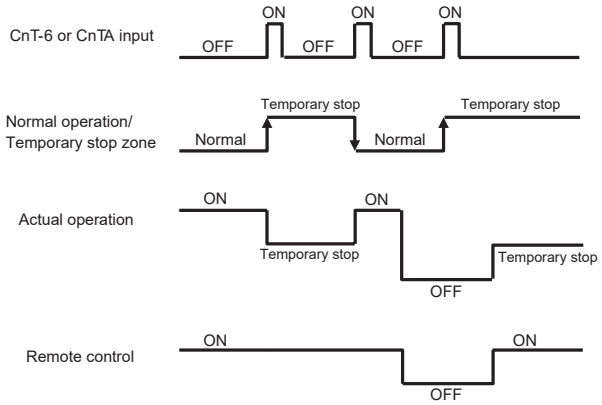
Input signal to CnT-6 or CnTA is OFF → ON : Temporary stop

Input signal to CnT-6 or CnTA is OFF → ON : Normal operation



(b) In case of "Pulse input" setting (Local setting)

It is effective only when the input signal is changed OFF→ON, and "temporary stop/normal operation" is inverted.



(21) Selection of cooling/heating external input function

When "External input 1or 2 setting: Cooling/heating" is set by the indoor unit function from remote control, the cooling or heating is selected with CnT-6 or CnTA.

(a) In case of "Level input" setting (Factory default)

- CnT-6 or CnTA: OPEN → Cooling operation mode
- CnT-6 or CnTA: CLOSE → Heating operation mode

(b) In case of "Pulse input" setting (Local setting)

If the external input is changed OPEN → CLOSE, operation modes are inverted (Cooling → Heating or Heating → Cooling).

(c) If the cooling/heating selection signal is given by the external input, the operation mode is transmitted to the remote control.

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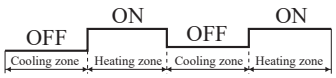
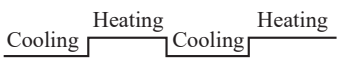
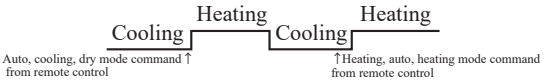
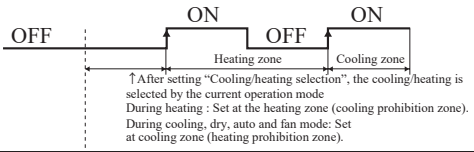
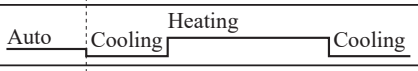
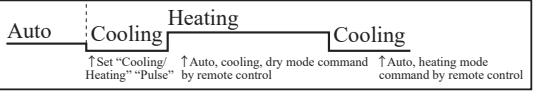
■ Selection of cooling/heating external input function

External input selection	External input method	Operation	
Cooling/heating selection	Level	External input (CnT or CnTA)	
		Cooling/heating	
		Cooling/heating (Competitive)	
	Pulse	External input (CnT or CnTA)	
		Cooling/heating	
		Cooling/heating (Competitive)	

(22) Emergency stop input

When the external input is selected to "Emergency strop", it is possible to stop the outdoor unit operation by the external input to the indoor unit.

(a) Function setting

Emergency stop input can be selected by the indoor function of wired remote control.

Connector	Indoor function	
	RC-EX3A	RC-E5
CnT	External input 1 : Emergency stop	Emergency stop : Valid
CnTA	External input 2 : Emergency stop	No function

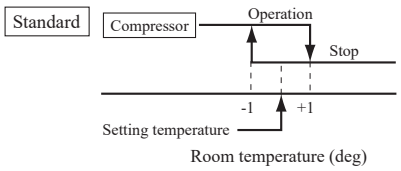
(b) Emergency stop control

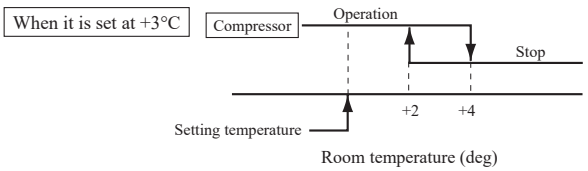
When the external input is OFF, the indoor and outdoor units stop.

The indoor unit receive the external input stops the operation, and the outdoor unit which the stopped indoor unit are connected stops with [E-63].

(23) Room temperature detection temperature compensation during heating

With the standard specification, the compressor is turned ON/OFF with the thermostat setting temperature. When the thermostat is likely to turn OFF earlier because the unit is installed at the ceiling where warm air tends to accumulate, the setting can be changed with the wired remote control indoor unit function "☼ SP OFFSET". The compressor and the heater are turned ON/OFF at one of the setting temperature +3, +2 or +1°C in order to improve the feeling of heating. The setting temperature, however, has the upper limit of 30°C.





(24) Return air temperature compensation

This is the function to compensate the deviation between the detection temperature by the return air temperature sensor and the measured temperature after installing the unit.

(a) It is adjustable in the unit of 0.5°C with the wired remote control indoor unit function "RETURN AIR TEMP".

• +1.0°C, +1.5°C, +2.0°C • -1.0°C, -1.5°C, -2.0°C

(b) Compensated temperature is transmitted to the remote control and the outdoor unit.

Note (1) The detection temperature compensation is effective on the indoor unit thermistor only.

(25) High power operation (RC-EX3A only)

It operates at with the setting temperature fixed at 16°C for cooling, 30°C for heating and maximum indoor fan speed for 15 minutes maximum.

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(26) Energy-saving operation (RC-EX3A only)

It operates with the setting temperature fixed at 28°C for cooling, 22°C for heating or 25°C for auto. When fan control in cooling/heating thermo-OFF setting is “Set fan speed”, fan speed during thermo-OFF is changed to “Low”. (Maximum capacity is restricted at 80%.)

(27) Warm-up control (RC-EX3A only)

Operation will be started 5 to 60 minutes before use according to the forecast made by the microcomputer which calculates when the operation should be started in order to warm up the indoor temperature near the setting temperature at the setting time of operation start.

(28) Home leave mode (RC-EX3A only)

When the unit is not used for a long period of time, the room temperature is maintained at a moderate leval, avoiding extremely hot or cool temperature.

(a) Cooling or heating is operated according to the outdoor temperature (factory setting 35°C for cooling, 0°C for heating) and the setting temperature. (factory setting 33°C for cooling, 10°C for heating)

(b) Setting temperature and indoor fan speed can be set by RC-EX3A.

(29) Auto temperature setting (RC-EX3A only)

Setting temperature is adjusted automatically at the adequate temperature the center setting temperature is 24°C by correcting the outdoor air temperature.

(30) Fan circulator operation (RC-EX3A only)

When the fan is used for circulation, the unit is operated as follows depending on the setting with the remote control.

(a) If the invalid is selected with the remote control, the fan is operated continuously during the fan operation. (mormal fan mode)

(b) If the valid is selected with the remote control, the fan is operated or stopped when on the difference of the remote control temperature sensor and the return air temperature sensor becomes bigger than 3°C.

(31) The operation judgment is executed every 5 minutes (RC-EX3A only)

Setting temperature Ts is changed according to outdoor temperature.

This control is valid with cooling and heating mode. (Not auto mode)

(a) Operate 5 minutes forcedly.

(b) Setting temperature is adjusted every 10 minutes.

(i) Cooling mode.
Ts = outdoor temperature − offset value

(ii) Heating mode.
Ts = outdoor temperature − offset value

(c) If the return air temperature lower than 18°C in cooling or return air temperature becomes higher than 25°C in heating, unit goes thermostat OFF.

(32) Auto fan speed control (RC-EX3A only)

In order to reach the room temperature to the set temperature as quickly as possible, the air flow rate is increased when the set temperature of thermostat differs largely from the return air temperature. According to temperature difference between set temperature and return air temperature, indoor fan tap are controlled automalically.

• Auto 1: Changes the indoor fan tap within the range of Hi ↔ Me ↔ Lo.

• Auto 2: Changes the indoor fan tap within the range of P-Hi ↔ Hi ↔ Me ↔ Lo.

(33) Indoor unit overload alarm (RC-EX3A only)

If the following condition is satisfied at 30 minutes after starting operation, RC-EX3A shows maintenance code "M07" and the signal is transmitted to the external output (CnT-2-5).

It is necessary to select “Indoor unit overload alarm output” by the external output setting.

• Cooling, Dry, Auto(Cooling) : Indoor air temperature = Set room temperature by remote control + Alarm temperature difference

• Heating, Auto(Heating) : Indoor air temperature = Set room temperature by remote control - Alarm temperature difference

Alarm temperature difference is selectable between 5 to 10°C.

If the following condition is satisfied or unit is stopped, the signal is disappeared.

• Cooling, Dry, Auto(Cooling) : Indoor air temperature = Set room temperature + Alarm temperature difference -2°C

• Heating, Auto(Heating) : Indoor air temperature = Set room temperature - Alarm temperature difference +2°C

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(34) Peak-cut timer (RC-EX3A only)

Power consumption can be reduced by restricting 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.

(35) Motion sensor control (RC-EX3A and RCN-E2 only)

The sensor determines the presence of people and the amount of activity, and the following controls are done by the motion sensor.

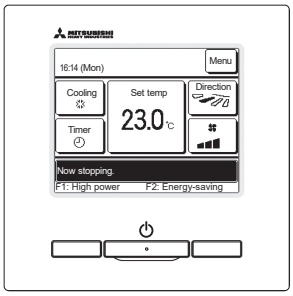
Following settings are necessary to activate motion sensor control.

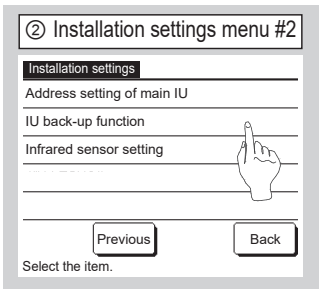
(a) Infrared (motion) sensor setting: Installation setting of remote control
The indoor unit which is set to "Enable" become valid.

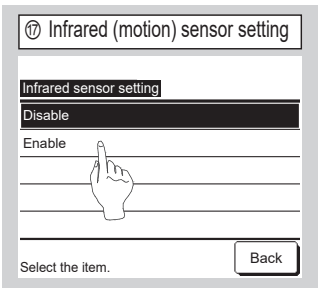
(b) Infrared (motion) sensor control: Energy-saving setting of remote control
The function which is set to "Enable" become valid.

RC-EX3A

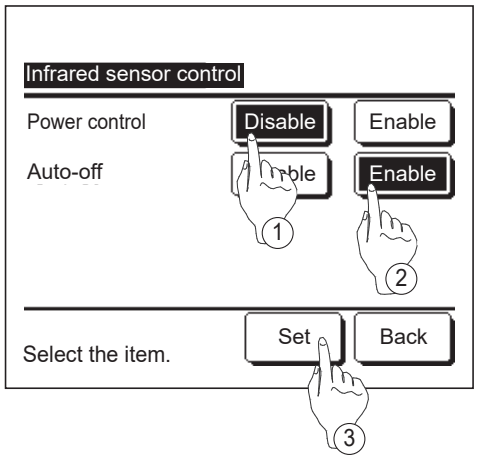
TOP screen **Menu** ⇨ **Service setting** ⇨ **Installation settings** ⇨ **Service password**







TOP screen **Menu** ⇨ **Energy-saving setting** ⇨ **Infrared sensor control** or **Motion sensor control**

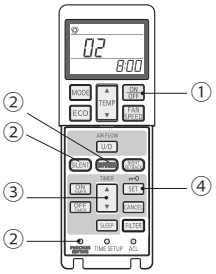


The Infrared sensor control screen and contents of the current settings are displayed.

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.

RCN-E2

1. 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.



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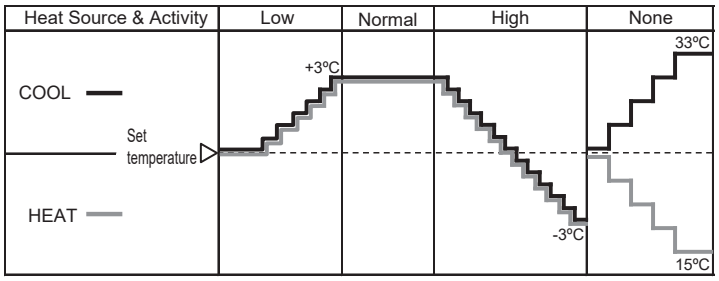
2. Setting details

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

(i) Power control

The set temperature is adjusted according to the presence of people and their amount of activity detected by the infrared (motion) sensor.

MODE:AUTO/COOL/HEAT mode operation



Low	**When the extent of human activity is low**
High	**When the extent of human activity is high**
None	**When there is no one in the room**

- When the "None" continues for 1 hour, the FAN SPEED is set Lo.

Notes (1) When the following operations are set, power saving control will be canceled.
① Energy-saving, Home leave mode, Warm-up control, Cooling operation check.
② When the operation mode is changed DRY or FAN.
(2) Not operable while the air-conditioner is OFF.

(ii) Auto-off control

When no activity is detected for 1 hour, unit will go stand-by mode.※ Unit will re-start operation automatically with the original set temperature by activity detection during the stand-by mode. When stand-by mode continues for 12 hours, unit stops.

※Compressor keeps stopped regardless of the set temperature.

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8.4 Operation control function by the outdoor control

(A) Normal control

(1) Operation of major functional components under each operation mode

Operation mode / Functional components	Cooling/Dehumidifying			Heating		
	Compressor ON	Compressor OFF	All stop by remote control	Compressor ON	Compressor OFF	All stop by remote control
Magnetic contactor for compressor (52C1)	ON	ON/OFF	OFF	ON	ON/OFF	OFF
Crankcase heater (CH1)	ON/OFF*1	ON/OFF*1	ON	ON/OFF*1	ON/OFF*1	ON
Compressor (CM1)	Cooling low pressure control	Stop	Stop	Heating high pressure control	Stop	Stop
Fan motor (FMo1)	Normal control	Stop	Stop	Normal control	Stop	Stop
4-way valve (20S)	OFF	OFF	OFF	ON	ON	ON→OFF*2
Electronic expansion valve for sub-cooling coil (EEVSC)	Normal control	Fully closed	Fully closed	Fully closed	Fully closed	Fully closed
Electronic expansion valve for heating (EEVH)	Fully open	Fully open	Fully open	Normal control	Fully closed	Fully closed

Notes (1) Above list shows the conditions at steady state under each operation mode.
(2) *1 According to discharge superheat
(3) *2 It turns OFF after retaining ON condition for a certain minutes

(2) Compressor control

Compressor rotation speed at cooling (dehumidifying) and heating operations are as follows.

Unit: rps

Item / Model	Cooling (Dehumidifying) operation	Heating operation
FDC121KXZE1-W	40 - 77	20 - 110
FDC140KXZE1-W	40 - 100	20 - 110
FDC155KXZE1-W	40 - 106	20 - 110

(3) Outdoor fan control

(a) Control contents of fan tap and fan speed

Outdoor fan tap	Fan speed	
	Cooling	Heating
	FMo1 [min^{-1}]	FMo1 [min^{-1}]
0th speed	0	0
1st speed	200	130
2nd speed	300	300
3rd speed	350	350
4th speed	500	500
5th speed	600	600
6th speed	740	740
7th speed	820	820
8th speed	870	870
9th speed	–	950

(b) Fan control during cooling

During cooling and dehumidifying, fan speed is controlled in accordance with the high pressure (sensed by PSH) and the outdoor air temperature (sensed by Tho-A).

(i) Initial fan speeds are as follows.

Initial outdoor fan speed at cooling

Model	Outdoor air temperature ≤ 15°C	15°C < Outdoor air temperature < 20°C	20°C≦Outdoor air temperature
All models	1st speed	3rd speed	5th speed

(ii) During normal operation, the speed is changed in accordance with the high pressure value.

(c) Fan control during heating

During heating, fan speed is controlled in accordance with the low pressure (sensed by PSL).

(i) Initial fan speeds are as follows.

• Outdoor fan initial speed during heating

Model	Speed
All models	6th speed

(ii) During normal operation, the speed is changed in accordance with the low pressure value.

(4) Defrost operation

• Temperature condition of defrost operation

(a) Starting conditions

(Standard specification or cold region specification can be selected by switching the jumper wire J15.)

Defrost operation will start, when outdoor unit whose compressor is operating under heating mode has satisfied all the following conditions.

(i) When 33 minutes of cumulative compressor operation time has passed since heating operation started.

(ii) When 33 minutes of cumulative compressor operation time has passed since defrost operation ended.

(iii) When 8 minutes has passed since the compressor turned ON from OFF status.

(iv) When 8minutes has passed since one outdoor fan turned ON from OFF status.

(v) After all above conditions have been satisfied, when any of the following conditions is satisfied.

① When the outdoor heat exchanger temperature (sensed by Tho-R) and the ambient air temperature (sensed by Tho-A) dropped below the defrost operation start temperature in Fig. 1 for 30 seconds continuously

② When the suction pressure saturated temperature calculated by the low pressure (sensed by PSL) and the ambient air temperature (sensed by Tho-A) dropped below the defrost operation start temperature in Fig. 2 for 30 seconds continuously

Fig. 1

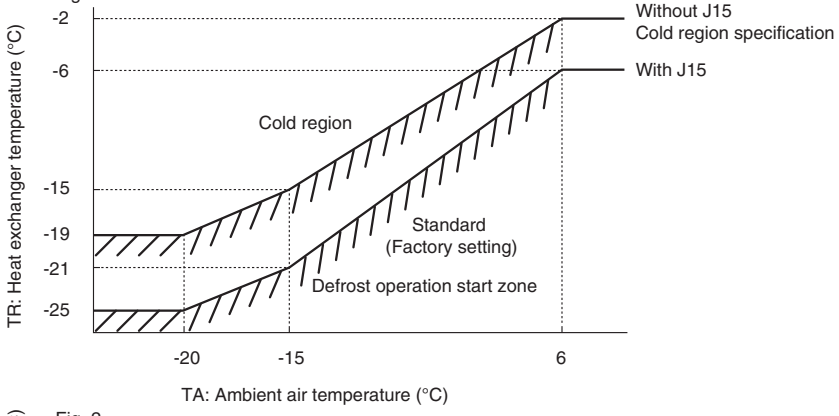
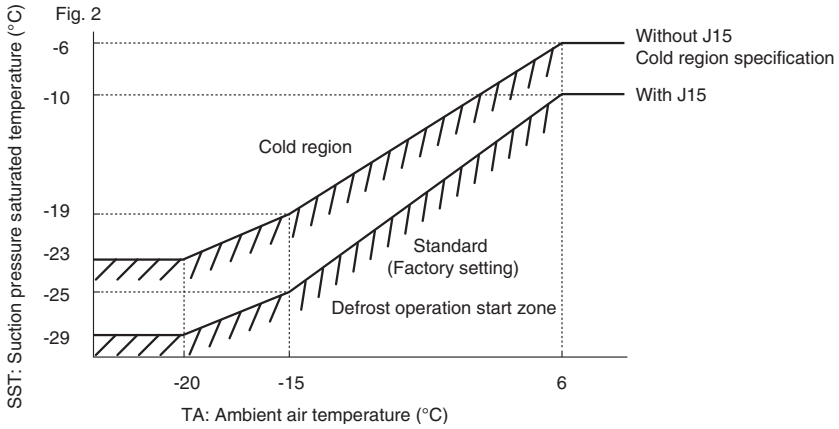


Fig. 2



(b) Ending conditions

Defrost operation stops when any of the following conditions is satisfied.

(i) When 12 minutes has passed since defrost operation started

(ii) When the outdoor heat exchanger temperature (sensed by Tho-R) is detected 12°C or higher continuously for 10 seconds

(iii) When it has detected the high pressure (HP) ≥ 3.0MPa

(5) Protective control

(a) Discharge pipe temperature control

If the discharge pipe temperature exceeds 105°C, compressor speed is reduced to suppress the rising of discharge pipe temperature.

(i) If the discharge pipe temperature sensor (Tho-D1) detects 115°C or higher for 2 seconds continuously, it makes compressor stopped. And if this anomaly occurs 5 times within 60 minute, it makes the unit anomalous stop. (E36-1)

(ii) If the discharge superheat sensor (Td-DST) detects 5degC or lower for 10 minutes continuously, it makes compressor stopped (liquid flooding anomaly).
And if this anomaly occurs 3 times within 60 minutes, it makes the unit anomalous stop. (E44)

(b) High pressure control

(i) Compressor rotation speed protection control
① If high pressure sensor (PSH) detects 3.70MPa or higher, it makes compressor rotaion speed decreasing.
② If high pressure sensor (PSH) still detects 3.70MPa or higher 5 seconds after ① control, it makes compressor rotation speed decreasing more.
③ If high pressure sensor (PSH) detects lower than 3.70MPa, this protective control is released.

(ii) High pressure protective control
If high pressure switch (63H1) is activated or if high pressure sensor (PSH) detects 4.14MPa or higher for 10 seconds continuously, it makes compressor stopped (High pressure anomaly).
And if this anomaly occurs 5 times within 60 minute, it makes the unit anomalous stop.(E40)

(c) Low pressure control

(i) Compressor rotation speed protection control
① If low pressure sensor (PSL) detects 0.18MPa or lower for 10 seconds continuously, it makes compressor rotaion speed decreasing.
② If low pressure sensor (PSL) still detects 0.18MPa or lower 30 seconds after ① control, it makes compressor rotation speed decreasing more.
③ If low pressure sensor (PSL) detects higher than 0.236MPa, this protective control is released.

(ii) Low pressure protective control
If low pressure sensor (PSL) detects 0.134MPa or lower for 30 seconds continuously, or if it detects 0.003MPa or lower for 5 seconds continuously, it makes compressor stopped (Low pressure anomaly).
And if this anomaly occurs 5 times within 60 minutes, it makes the unit anomalous stop.(E49)

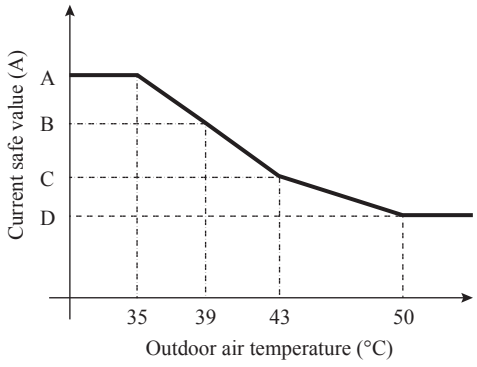
(d) High pressure ratio protective control

① If pressure ratio is 8.0 or higher, it makes compressor rotaion speed decreasing.
② If pressure ratio is 8.0 or higher 60 seconds after ① control, it makes compressor rotation speed decreasing more.
③ If pressure ratio is 7.9 or lower, this protective control is released.

(e) Over-current protection control (Current safe)

(i) Compressor capacity control
① Compressor speed is controlled by detecting the inverter's T-phase current or secondary current.
② The control is changed at every ambient air temperature zone.

[Fig. 1]



• Current safe setting value

Power source	Current safe value [A]									
	Inverter primary (T-phase) current					Inverter secondary current				
	Cooling				Heating	Cooling				Heating
	A	B	C	D		A	B	C	D	
1-phase	23	21	19	15	23	18				
3-phase	13.5	13.5	11.5	11.5	13.5	13				

③ Ending condition

This control ends when the inverter's T-phase current or secondary current drops below the current safe setting value minus 1 ampere for 3 minutes continuously or below the current safe setting value in the table shown above for 6 minutes continuously.

(ii) Compressor upper limit frequency control

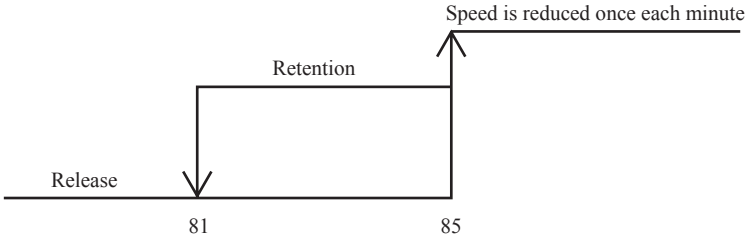
When it enters any zone other than the zone A (Fig. 1), the upper limit of compressor speed is changed.

Power source	Compressor upper limit speed (rps)				
	Cooling				Heating
	A	B	C	D	
1-phase	105	98	82	54	130
3-phase	106	98	92	54	

However, the priority is given to the upper limit compressor speed by this control or the compressor speed under normal condition, whichever the lower.

(f) Power transistor temperature (PT) protective control

If the power transistor temperature exceeds 85°C, the compressor speed is controlled.



(6) Test run

(a) Starting conditions

(i) Turn ON the test run switch (SW5-1). The switch is invalid if it is turned ON before the power ON.

(ii) Pump down switch (SW5-3) must be turned OFF.

(b) Contents of control

(i) Turning ON the dip switch (SW5-2) conducts cooling operation and turning OFF (SW5-2) conducts heating operation.

1) Cooling operation

Compressor operation frequency control is operated under the cooling low pressure control.

2) Heating operation

Compressor operation frequency control is operated under the heating high pressure control.

(ii) Test run start signal under corresponding operation mode is transmitted to all indoor units connected.

(c) Ending conditions

(i) When the test run switch (SW5-1) is turned OFF, it stops.

(ii) When it has stopped anomalously by the error control during test run, the error is displayed in the same way as normal operation and the state of anomalous stop continues even if the test run switch (SW5-1) is turned OFF.

(B) Option controls

Outdoor unit control settings can be changed with the DIP switch and 7-segment display PXX setting on the PCB. In changing settings in PXX on the 7-segment display panel, you can use SW8 (increasing a number shown on the 7-segment display panel: one's place), SW9 (increasing a number shown on the 7-segment display panel: tens place) and SW7 (data write/enter) by pressing them for a prolonged time.

Contents of control switching	Method of control setting	
	DIP switch setting	P00 setting on the 7-segment diaplay panel
Forced cooling/heating mode*2	Switch SW3-7 to ON*1	Select "2" in P07. *1
Cooling test operation	Switch SW5-1 to ON + SW 5-2 to ON	–
Heating test operation	Switch SW5-1 to ON + SW 5-2 to OFF	–
Pump down	Close the outdoor unit service valves and perform the following operations in the stated order: (1) Switch SW5-2 to ON (2) Switch SW5-3 to ON (3) Switch SW5-1 to ON	–
Demand mode *2 (J13 closed: level input J13 opend: pulse input)	SW4-7:OFF, SW4-8:OFF*1 80% (factory setting) SW4-7:ON, SW4-8:OFF*1 60% SW4-7:OFF, SW4-8:ON*1 40% SW4-7:ON, SW4-8:ON*1 00%	Select "1" in P07. *1
Communication protcol setting	SW5-5 ON: previous SL communication, OFF: new SL communication	–
CnS1 input setting	J13: closed (factory setting) for level input, J13: opend for pulse imput	–
Defrost setting	J15: closed (factory setting) for normal defrost, J15: opend for enhanced defrost	–
Operation priority change	–	P01 0-3: See (10) Outdoor operation mode
Outdoor fan snow guard control	–	P02 0: invalid (factory setting) 1: valid
Outdoor fan snow guard control operation time setting	–	P03 30sec (factory setting) 10, 30-600sec
Capacity save mode *3	–	P04 OFF: invalid (factory setting) 000, 040, 060, 080 [%]
Silent mode setting *2	–	P05 0 (factory setting) - 3: the larger the number, the stronger the effect.
External output (CnZ1) function assignment	–	P06
External input (CnS1) function assignment	–	P07
Spare	–	P08-29

*1 The switching activated when both SW and PXX are changed.
*2 The switching activated when a signal is input to CnS1
*3 Capacity restriction is effected without a signal input to CnS1 in the capacity save mode.

- **Functions of outdoor PCB connectors CnS1 and CnZ1**

① CnS1 connector: Following functions can be selected by selecting with [P07] on 7-segment display.

(Note) More than one function cannot operate at same time.

	CnS1 short-circuit	CnS1 open
"0": External operation input	Operation allowed	Operation prohibited
"1": Demand input	Invalid	Valid
"2": Forced cooling/heating input	Heating	Cooling
"3": Silent mode input 1	Valid	Invalid
"4": Forced oil return input	Valid	Invalid
"5": Outdoor fan snow protection control input	Valid	Invalid
"6": Test run external input 1 (Equal to SW5-1)	Test run start	Normal operation
"7": Test run external input 2 (Equal to SW5-2)	Cooling test run	Heating test run
"8": Silent mode input 2	Valid	Invalid
"9"-"11": Spare	-	-
"12": VTCC input	Valid	Invalid
"13"-"14": Spare	-	-
"15": Forced defrost input	Valid	Invalid
"16": Spare	-	-
"17": Outdoor unit EEV open input	Valid	Invalid
"18"-"20": Spare	-	-

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② CnZ1 connector: Following functions can be selected by selecting with [P06] on 7-segment display.

"0": Operation output
"1": Error output
"2": Compressor ON output
"3": Fan ON output
"4": Oil return output
"5": Sprinkler output
"6" - "9": Spare

(1) External input and demand input

(a) Operation permission and prohibition modes

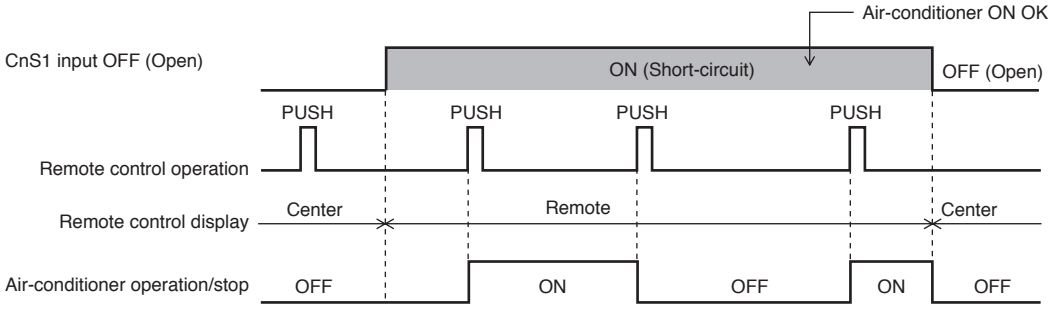
(Note) With 7-segment display [P07]-[0]

1) Operation permission or operation prohibition mode is switched with the connector (CnS1) and the jumper wire (J13) on the outdoor PCB.
   J13: Switching of CnS1 input method
   J13 short-circuited: CnS1 is for the level input.
   J13 open: CnS1 is for the pulse input.
2) Operation permission/prohibition control by the external input CnS1 of outdoor unit

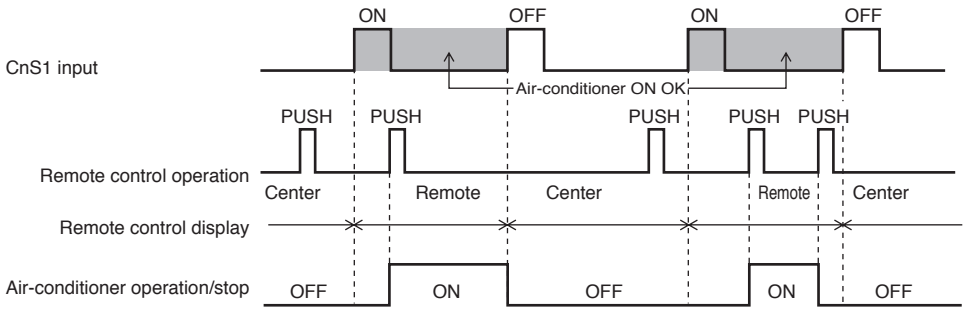
Input: CnS1	Switching with J13	CnS1: Switching of operation permission/ prohibition modes
Short-circuit / Open	Short-circuit (Level input)	Operation prohibition mode → Operation permission mode
	Open (Pulse input)	Switching of operation permission/ operation prohibition modes (Reversal)
Short-circuit / Open	Short-circuit (Level input)	Operation permission mode → Operation prohibition mode
	Open (Pulse input)	— (NOP)

Note (1) Factory setting – J13: Short-circuit, CnS1: Short-circuit (Short-circuit pin connected)

3) Remote control displays the operating conditions. Operation conditions are transferred to option central control.
4) When the control command from remote control is not accepted (Under the condition of the system all stop status by external input), "Center" is displayed. See Item 5) mentioned below.
5) CnS1 performs the following operations depending on the short-circuit or open of the jumper wire (J13). In case of pulse input, the pulse width is 500 ms or larger.
   ① J13 – Short-circuit



② J13 - Open



6) The operation status when changing from operation prohibition to operation permission can be set by 7-segment [P37].
[P37]=0: Operation stopped
[P37]=1: Restart the indoor unit that was operating before the operation was prohibited.

(b) Demand control

(Note) With 7-segment [P07] = [1]

1) Demand control and normal operation are switched with the connector (CnS1) and the jumper wire (J13) on the outdoor unit PCB.
J13: Switching of CnS1 input method
J13 short-circuit: CnS1 is for the level input
J13 open: CnS1 is for the pulse input

2) Operation/ stop control by the demand input CnS1 of outdoor unit

Input: CnS1	Switching with J13	CnS1: Switching of demand control/ normal operation
Short-circuit Open	Short-circuit (Level input)	Demand control → Normal operation
	Open (Pulse input)	Switching of normal operation/ demand control (Reversal)
Short-circuit Open	Short-circuit (Level input)	Normal operation → Demand control
	Open (Pulse input)	$\overline{\text{(NOP)}}$

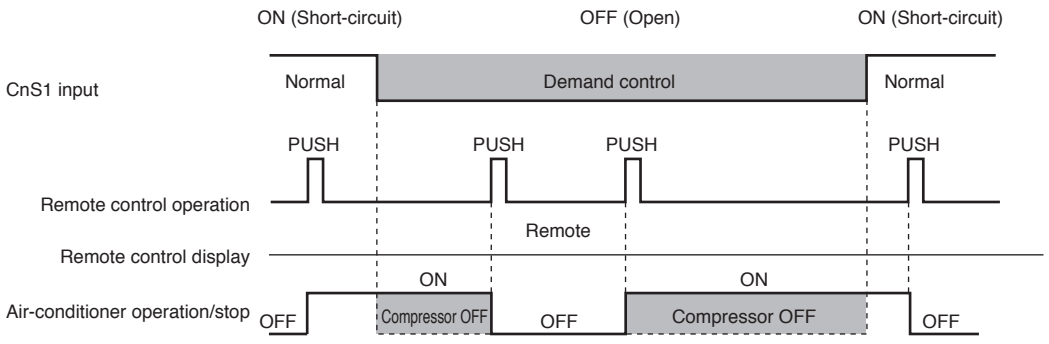
Note (1) Factory setting – J13: Short-circuit, CnS1: Short-circuit (Short-circuit pin connected)

3) Remote control displays the operating conditions. Operation conditions are transferred to option central control.

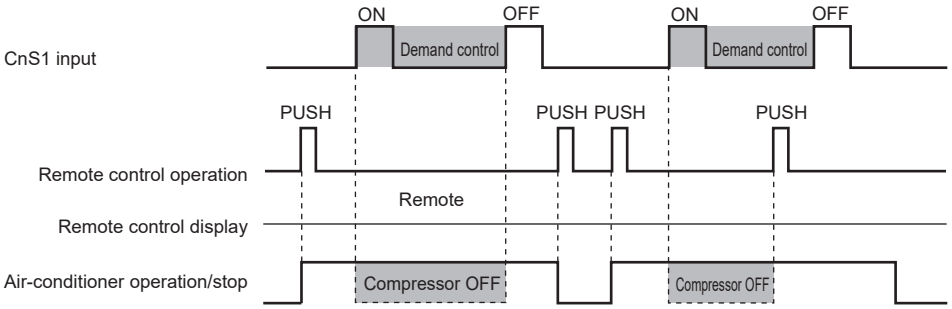
4) Demand control
Demand ratio can be switched with the DIP switches (SW4-7, 4-8) on the outdoor PCB.
SW4-7, SW4-8 demand switching: 0 – Open, 1 – Short-circuit

SW4-7	SW4-8	Compressor upper limit speed (rps)					
		FDC121KXZEN/S1-W		FDC140KXZEN/S1-W		FDC155KXZEN/S1-W	
		Cooling	Heating	Cooling	Heating	Cooling	Heating
0	0	57	65	74	76	78	76
1	0	42	49	56	57	58	57
0	1	29	33	37	38	40	38
1	1	0	0	0	0	0	0

5) CnS1 performs the following operations depending on the short-circuited or open of the jumper wire (J13).
In the case of pulse input, the pulse width is 500 ms or larger.
① J13 – Short-circuit



② J13 - Open



(2) Silent mode control

(Note) With 7-segment display [P07]-[3] for silent mode 1
or with 7-segment display [P07]-[8] for silent mode 2

(a) Starting conditions

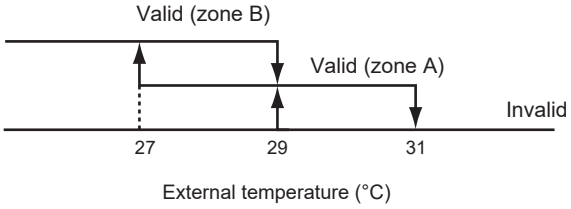
When all the followings are satisfied

(i) When the strat command of silent mode input from indoor unit or from external input terminal of outdoor unit has become effective.
Silent mode 1: when [07]=3 and CnS1is shorted
Silent mode 2: when [07]=8 and CnS1is shorted
(Note) Silent mode 1 and 2 can not be set at same time.

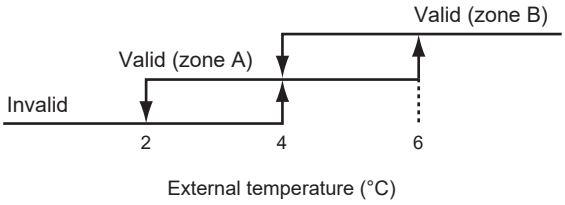
(ii) When the outdoor operation mode is “Operation”

(iii) In case of external input of silent mode 1, the ambient air temperature should be satisfied with the following conditions.
(Note) In case of external input of silent mode 2, these conditions can be disregarded.
1) Silent setting 0, 1: Effective in zone A and B
2) Silent setting 2, 3: Effective in zone B
(Note) Silent setting 0 to 3 can be swiched by [P05] of 7-segment display.

<Outdoor operation mode - Cooling>



<Outdoor operation mode - Heating>



(b) Sound level and capacity compensation coefficient (Reference data)

Model	SPL (Sound pressure level) [dB(A)]		SPL silent mode [dB(A)]				Capability compensation coefficient for silent mode (*1)							
			Cooling & Heating				Cooling				Heating			
	Cooling	Heating	setting 0	setting 1	setting 2	setting 3	setting 0	setting 1	setting 2	setting 3	setting 0	setting 1	setting 2	setting 3
FDC121KXZEN1-W	54	56	51	48	46	43	0.96	0.78	0.64	0.48	0.67	0.55	0.45	0.34
FDC140KXZEN1-W	54	58	51	48	47	44	0.89	0.72	0.58	0.45	0.81	0.65	0.53	0.41
FDC155KXZEN1-W	54	58	52	50	49	46	0.95	0.76	0.62	0.49	0.92	0.74	0.60	0.47
FDC121KXZES1-W	54	56	51	48	46	43	0.96	0.78	0.64	0.48	0.67	0.55	0.45	0.34
FDC140KXZES1-W	54	58	51	48	47	44	0.89	0.72	0.58	0.45	0.81	0.65	0.53	0.41
FDC155KXZES1-W	54	58	52	50	49	46	0.95	0.76	0.62	0.49	0.92	0.74	0.60	0.47

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Model	PWL (Sound power level) [dB(A)]		PWL silent mode [dB(A)]				Capability compensation coefficient for silent mode (*1)							
			Cooling & Heating				Cooling				Heating			
	Cooling	Heating	setting 0	setting 1	setting 2	setting 3	setting 0	setting 1	setting 2	setting 3	setting 0	setting 1	setting 2	setting 3
FDC121KXZEN1-W	68	71	67	65	63	60	0.96	0.78	0.64	0.48	0.67	0.55	0.45	0.34
FDC140KXZEN1-W	69	73	67	66	64	61	0.89	0.72	0.58	0.45	0.81	0.65	0.53	0.41
FDC155KXZEN1-W	70	73	69	66	65	63	0.95	0.76	0.62	0.49	0.92	0.74	0.60	0.47
FDC121KXZES1-W	68	71	67	65	63	60	0.96	0.78	0.64	0.48	0.67	0.55	0.45	0.34
FDC140KXZES1-W	69	73	67	66	64	61	0.89	0.72	0.58	0.45	0.81	0.65	0.53	0.41
FDC155KXZES1-W	70	73	69	66	65	63	0.95	0.76	0.62	0.49	0.92	0.74	0.60	0.47

(*1) These correction values are calculated with the maximum required frequency from the indoor unit without silent mode set as 1.00.
Please use these values for reference purpose only as we cannot assure the actual capacity correction values.
Actual capacity values may change due to other factors: IU ambient temp., fan control etc.

For reference purpose only

(c) Ending condition

- When the starting conditions are not established

(3) Outdoor fan snow protection control

(a) This control is enabled/disabled by entering data into 7-segment display.

(b) Outdoor fan control switching operation

[Starting conditions]

When following conditions are established for 10 minutes continuously.

(i) Snow protection control setting is valid ([P02]=1) and ambient air temperature < 3°C or external input of outdoor fan snow protection control ON. ([P07]=5 and CnS1 is shorted)

① Set the Code No. to “P02”.
② “0” or “1” is displayed at the data display area.
“0”: Outdoor fan control disabled (Factory setting)
“1”: Outdoor fan control enabled
③ Press SW7 (Data write/delete) for 3 seconds continuously.
④ “0” or “1” blinks every 0.5 second at the data display area.
⑤ Press SW8 (one digit) to toggle between the blinling “0” and “1” display.
⑥ If SW7 is pressed for 3 minutes or longer continuously while “0 “ and “1” is blinking, the blinking stops. With this operation, the enabled/disabled setting of outdoor fan control is stored in memory of EEPROM, and henceforth the outdoor fan is controlled according to the contents of memory.
⑦ Contents of the outdoor fan control are retained even if the power is turned off and backed on again.

(c) Contents pf outdoor fan snow protection control

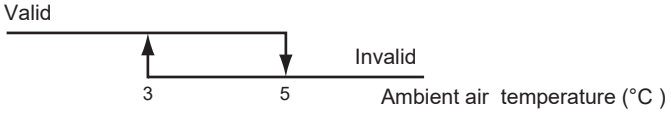
① If the ambient air temperature drops 3°C or lower when the unit is all stop or error stop, the outdoor fan runs at the maximum speed (4th speed) once every 10 minutes.
② The outdoor fan runs for 30 seconds.*
*Operation time outdoor fan is changeable from 10 to 600 seconds by [P03]
③ During this snow protection control, the compressor’s magnetic contactor (52C1) is ON.

(d) Ending conditions of outdoor fan snow protection control

When following conditions are established.

(i) Snow protection control setting is invalid ([P02]=0) or ambient air temperature > 5°C and external input of outdoor fan snow protection control OFF (opened).
(ii) Compressor ON
(iii) During all stop by anomaly

<Ambient air temperature condition at snow protection control>



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(4) External output

This function is used in order to operate the external option devices in conjunction with relay outputs of the respective operation information from outdoor unit.

[External output function]

External output function of CnZ1 can be switched by changing of [P06] on 7-segment display as mentioned below.

0: Operation output

- When the outdoor unit operation mode is “Operation”, the external output relay is turned ON.

(Note) The “Operation” includes not only compressor ON mode but also fan mode and thermostat OFF mode under the condition of remote control ON. But the anomalous stop is excluded.

1: Error output

- It is turned ON at anomalous stop, and turned OFF when “CHECK” and “RESET” buttons on remote control are pressed simultaneously after recovering from the anomaly. Even if “CHECK” and “RESET” buttons are pressed before recovering from the anomaly, it is not turned OFF, but when recovering from the anomaly later, it is automatically turned OFF.
- [P82]=0
  When the unit receives error signal from OU, output signal will be sent.
  When the unit receives error signal from IU, output signal will not be sent.
  [P82]=1
  When the unit receives error signal from IU or OU, output signal will be sent.

2: Compressor ON output

- It is turned ON when the compressor is ON.

3: Fan ON output

- It is turned ON when the outdoor fan speed command > 0.

4: Oil return output

- It is turned ON when the oil return is in progress.

5: Sprinkler output

- It is turned ON when HP > 3.3MPa during cooling operation.

(5) Energy saving mode control

This control is effective, when [P04] of 7-segment display is set 000, 040, 060, 080 (except OFF)

(a) Control contents

(i) Compressor upper limit speed is changed according to the setting ratio.

(ii) Compressor upper limit speed is obtained by multiplying the rating speed (at cooling/heating) with the setting ratio as follows.

OFF: Normal (Factory setting)
80%: 80% of rating compressor upper limit speed
60%: 60% of rating compressor upper limit speed
40%: 40% of rating compressor upper limit speed
0%: 0% of rating compressor upper limit speed (stop)

(Note) Compressor upper limit speed (rps) on energy saving mode is shown in following table

P04	Compressor upper limit speed (rps)					
	FDC121KXZEN/S1-W		FDC140KXZEN/S1-W		FDCA155KXZEN/S1-W	
	Cooling	Heating	Cooling	Heating	Cooling	Heating
080	57	65	74	76	78	76
060	42	49	56	57	58	57
040	29	33	37	38	40	38
000	0	0	0	0	0	0

#

(iii) Except 0% of energy saving ratio, the following controls take precedence over this control.
- 4-way valve switching safeguard
- Defrost operation
- Oil return control
- Pump down operation control at removal of the unit
- Pump down control at start/stop

(6) Forced cooling/heating operation

(a) With this control, SW3-7 on the outdoor PCB is turned ON and CnS1 (equipped with short-circuit pin) is shorted or opened so as to forcibly determined whether the indoor unit is operated for cooling or heating. (It is valid at [P07]=2)

(b) If any operation mode other than the forcible mode is commanded from indoor unit, the following operations are performed depending on the 7-segment [P38].

[P38]=0 The mode unmatch message is displayed on the remote control or others and operation enters int the FAN operation mode.
[P38]=1 Operate in the forcible mode.
Set temperature during cooling: 28℃
Set temperature during heating: 20℃

(7) Emergency stop control

When one of indoor units receives the emergency stop signal from option device like as refrigerant leakage detector and the information is transmitted to the outdoor unit, the outdoor unit stops operation and an emergency stop error is transmitted to all indoor units running.

Make the emergency stop effective by remote control indoor function setting.

(a) When it receives the "Emergency stop" command from the indoor unit, it makes all stop by error.

(b) It shows the Error display "E63" and transmits the "Emergency stop" command to all indoor units.

(c) If the "Emergency stop reset" command is received from the indoor unit, the "Emergency stop reset" command is transmitted to all indoor units.

(8) Pump down operation control at removal of unit

When an outdoor unit is discarded or removed, the pump down control is performed at the outdoor unit side in order to recover the refrigerant quickly to the outdoor unit.

(a) Starting conditions

This is implemented with the liquid service valve closed.

(i) Outdoor unit operation mode – Stop

(ii) Turn ON the test run cooling switch SW5-2 (cooling).

(iii) Turn ON the pump down switch SW5-3 (pump down).

(iv) Turn ON the test run switch SW5-1 when the above (i)-(iii) statuses are satisfied.

Note (1) Input before the power ON is invalid.

(b) Control contents

(i) Compressor starts under compressor start protection control and runs at target speed of pump down operation. However, when the operation starting conditions have been established during the 3-minute delay control of compressor, the compressor starts after completing the 3-minute delay control.

Item / Model	Target compressor speed at pump down operation	
	Number of compressors	Compressor speed
FDC121KXZEN/S1-W	1	37rps
FDC140KXZEN/S1-W		45rps
FDC155KXZEN/S1-W		

(ii) As the starting conditions are established, both red LED and green LED on the outdoor PCB flash continuously. 7-segment display shows "PdS" (Channel 0) at the code display area.

#

(iii) During the pump down operation control, the protective controls (excluing low pressure protective control, anomalous low pressure control and pressure ratio protection control) and the error detection control are effective.

(iv) The sub-cooling coil expansion valve (EEVSC) closes fully during the pump down control.

(c) Ending conditions

If any of the following conditions is satisfied, this control ends.

(i) If a low pressure (LP) ≤ 0.01MPa is detected for 5 seconds continuously, it ends normally and initiates the followings.

① Red LED: keeps lighting

② Green LED: keeps flashing

③ 7-segment display: PdE

④ Remote control: Stop

(ii) Anomalous all stop by the error detection control

(iii) If the cumulative compressor operation time under the pump down control totals 15 minutes (ending by time count up), it stops and initiates the following.

① Red LED: stays OFF

② Green LED: keeps flashing

③ 7-segment display: No display

④ Remote control: Stop

(iv) When any of setting switches (SW5-1, SW5-2 and SW5-3) has been turned OFF during pump down.

(Note) Even if only the pump down switch SW5-3 is turned OFF, it does not recognized as the cooling test run mode , but stops.

(9) Pump-down operation by external input

If an error stop is raised by an external input by refrigerant leaking alarm unit, the pump-down operation is performed at the outdoor unit side in order to prevent the refrigerant from leaking.

They are local arrangements.

① Refrigerant leaking alarm unit

② Valve to shut liquid pipe

③ Valve to shut gas pipe

④ Equipment to shut down the liquid service valve at emergency call

Valves of ② and ③ should be selected what the pressure loss of refrigerant piping doesn't increase.

(a) Status 1: Pump-down operation

(i) Starting condition

① When the external input function is assigned to "0: External operation input" and the external input terminal is open (by refrigerant leaking alarm unit).

② If the pump-down control is valid when the error stop is raised by the setting on 7-segment. ([P75] = "1")

(ii) Contents of control

① The pump-down operation for replacement is performed.

(iii) Ending condition

① When starting conditions are lost.

② When the pump-down operation has ended.

(b) Status 2: Emergency stop operation

(i) Starting condition

① When the pump-down operation has ended in the status 1.

(ii) Contents of control

① ON is output to CnZ1, and the gas service valve is shut down if it is connected on CnZ1.

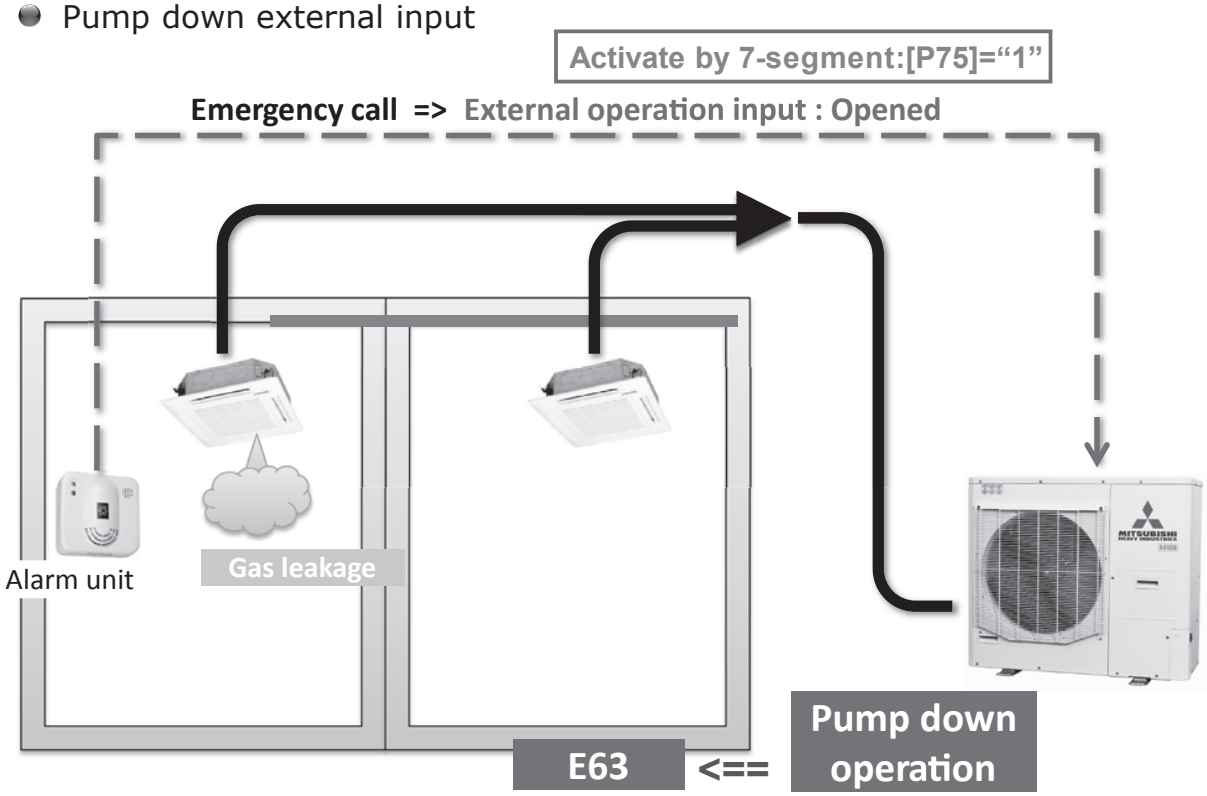
② Operation stops with the error full stop. ([E63] is displayed.)

(iii) Ending condition

① When starting conditions for the status 1 are lost.

② State of error continues for 3 minutes after the error full stop. It cannot be reset in this condition from the remote control. If the starting conditions for status 1 are not yet established later, this can be reset by the remote control inspection reset.

- Pump down external input



(10) Outdoor operation mode

On the standard models of 2-pipe system, the outdoor operation mode of Stop/Cooling/Heating is selected based on the information of indoor units, and then respective controls are performed.

<Contents of control>

(a) Determination of outdoor operation mode

Operation mode of outdoor unit is determined based on respective signals of Operation/Stop and Cooling/Heating.

(b) Type of outdoor operation mode

1) Outdoor operation mode - Stop
2) Outdoor operation mode - Cooling
3) Outdoor operation mode - Heating

(c) Priority in operation mode selection

1) First priority is given to the forced cooling/heating operation.
2) Second priority is given as follows
   Priority in the operation mode selection can be changed using the 7-segment setting [P01].

P01 setting	Mode
0 (Factory default)	First unit's operation mode
1	Last unit's operation mode
2	Priority of master unit's setting operation mode
3	Priority of required major operation mode

・First unit's operation mode: Operation mode of the indoor unit which is operated first time after stop of the outdoor unit operation mode

・Last unit's operation mode: Operation mode of the indoor unit which is operated at the last time

・Priority of master unit's setting operation mode: Operation mode of indoor unit of which the address No. is smallest (Master indoor unit). When the master indoor unit is turned off, it become valid the first push priority on other indoor units' remote controls.

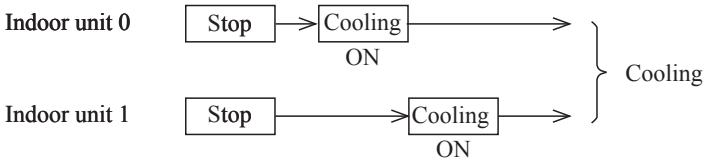
・Priority of required major operation mode: Operation mode of which the total capacity of operating indoor units is larger. There is no renewed judgment for 10 minutes after a change on the operation mode.
The judgment, however, is renewed in following cases.
- At the stop
- When the P01 setting is changed.

3) In the event that agreement of operation mode is lost between indoor units and outdoor units by selecting the first or second priority after determining the operation mode, it is changed forcibly to the "Fan" mode. The operation mode LCD flickers to warn the "Mode unmatch"

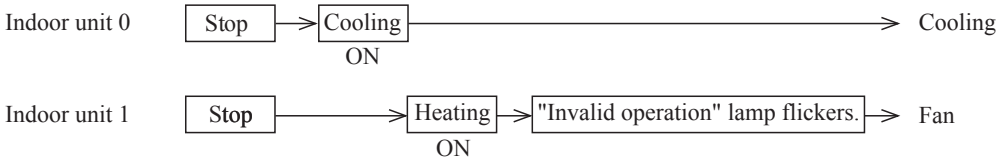
4) Example of operation mode selection

<First unit's operation mode>

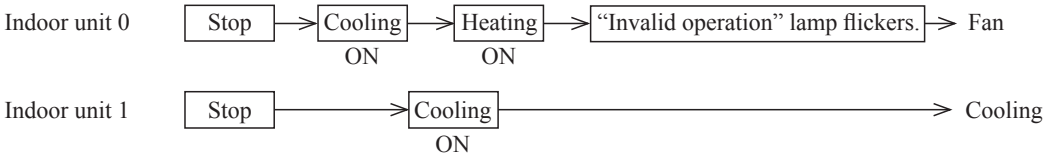
① If both of indoor units 0 and 1 have the same operation mode, it operates with the mode.



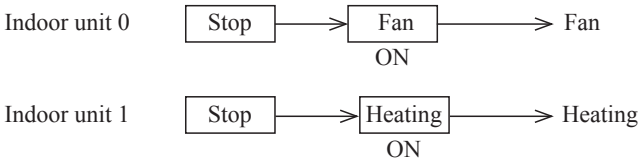
② Cooling does not match on indoor units 0 and 1 (Priority is given to previous operation.)



③ When it is changed from same mode to unmatch.

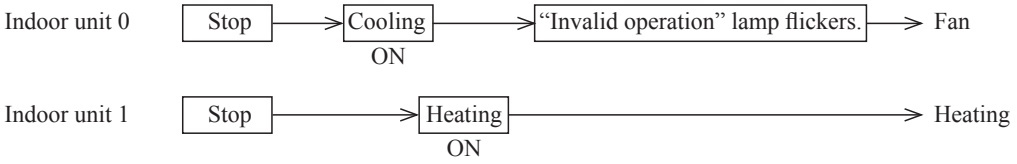


④ Operation mode is prepared for change in the fan mode.

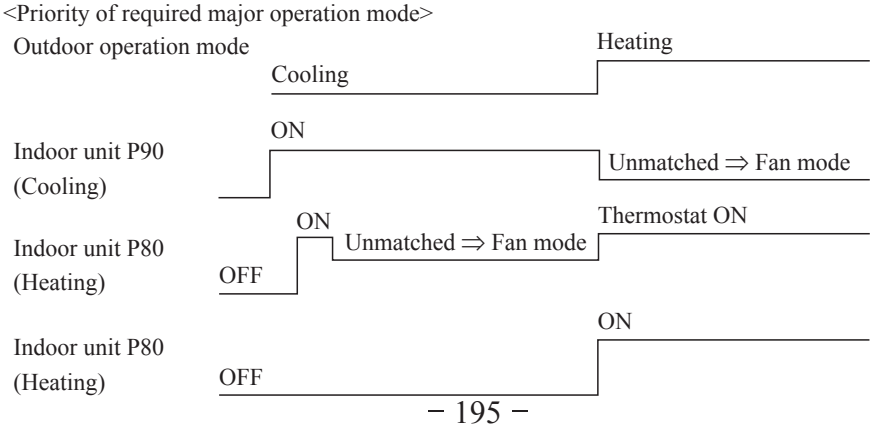


<Last unit's operation mode>

① If the indoor unit 1 of which operation mode is different has joined in when the indoor units 0 is operating.



<Priority of required major operation mode>



5) Reset of unmatched condition (Cooling/heating unmatched)
When unmatch occurs among indoor units, it can be reset by either one of followings.
① If the operation mode of outdoor unit is matched with that of indoor unit.
② If the operation mode is changed to “Fan” or “Stop” on the indoor units on which Cooling/heating is unmatched.

(d) Forced cooling /heating operation (Master unit)

(Note) With 7-segment [P07]=[2]

1) When SW3-7 on the outdoor control PCB is turned ON after setting function [P07]=[2] with 7-segment display, if CnS1 is shorted, forced heating operation is performed, but if CnS1 is open, forced cooling operation is performed.
2) If the different mode from the forced operation mode is commanded from indoor unit, the "mode unmatch" message is displayed on the LCD of remote control and the operation is entered in FAN mode.

SW3-7	ON	CnS1	Open	Operation in cooling only
			Shorted	Operation in heating only
	OFF	Normal operation		

3) With the forced mode from indoor unit, if a different operation mode is commanded, following operations take place based on the forced cooling/heating operation set with the 7-segment [P38].
P38 = 0: The operation mode unmatch is displayed on the remote control, etc., and it is changed to the fan operation.
P38 = 1: It is operated with the forced cooling/heating operation mode.
Setting temperature for cooling … 28℃
Setting temperature for heating … 20℃

(11) VTCC : Variable Temperature and capacity control (VRF inverter Multi-system energy save control)

On the multi-system, target pressures are set uniformly so that indoor units operate with a constant capacity and repeat the ON/OFF control with which thermostats are turned OFF when temperatures become near the setting temperature.
Owing to the tuning of target high/low pressure near the setting temperature, it becomes possible to perform the high efficiency operation near the setting temperature.
For this reason, duration of time for highly efficient operation is increased by providing the compressor upper limit speed according to the thermostat ON capacity.

• Thermostat ON capacity … Total capacity of indoor units which are operating with the thermostat ON

(a) Correction of target high/low pressure

(i) Starting condition (either of ① or ②)
① When [P07] = 12 and CnS1 is shorted
② When [P07] ≠ 12 and [P39] = 1

(ii) Contents of control
① During the outdoor unit operation mode at cooling
• Indoor load more than 50% → Corrected to the target cooling low pressure lower.
• Indoor load less than 50% → Corrected to the target cooling low pressure higher.
② During the outdoor unit operation mode at heating
• Indoor load more than 50% → Corrected to the target heating high pressure higher.
• Indoor load less than 50% → Corrected to the target heating high pressure lower.

(Note) Indoor load condition (%) = $\frac{\text{(Total capacity of indoor units of which load is high)}}{\text{Total capacity of indoor units with the thermostat ON}}$

(iii) Ending condition
①When the starting conditions are lost.

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(12) Forced oil return input

(Note) With 7-segment [P07] = [4]

The oil return control is forced by an external signal.

<Starting conditions>

(i) When the outdoor operation mode is "Operation"

(ii) Compressor ON

(iii) When [P07] = [4] and CnS1 is shorted

However, defrosting does not occur until (4) Defrost operation (a) Starting conditions (i) - (iv) are met.

Once this condition is satisfied, the condition is maintained until oil return control is performed.

When executing this control again after executing the oil return control, open CnS1 once before executing the control.

(13) Forced defrost input

(Note) With 7-segment [P07] = [15]

The defrost control is forced by an external signal.

<Starting conditions>

(i) When the outdoor operation mode is "Heating"

(ii) When [P07] = [15] and CnS1 is shorted

Once this condition is met, the state is maintained until defrost control is performed.

When executing this control again after executing defrost control, open CnS1 once before executing this control.

(14) Outdoor unit EEV open input

(Note) With 7-segment [P07] = [17]

The expansion valve of the outdoor unit is fully opened by an external signal.

(a) Starting conditions

If all of the following conditions are met

(i) When [P07] = [17] and CnS1 is shorted

(ii) HP ＜ 0.2MPa and LP ＜ 0.2MPa

(b) Ending conditions

If any of the following conditions is met

(i) When [P07] ≠ [17] or CnS1 is opened

(ii) HP ≧ 0.2 MPa or LP ≧ 0.2 MPa

(iii) 30 minutes after the conditions are met

(c) Control contents

The openings of the EEVH and the EEVSC shall be fully opened (470 pulses).

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(C) Data output

(1) 7-segment and operation data retention

(a) 7-segment display

Operation information is displayed for checking various operation data during test run and for helping malfunction diagnosis at servicing. Input data to microcomputer, contents of outdoor unit control, indoor unit registration information, or other, are mainly displayed on the 7-segment LED.

(i) Operation information display

① Displays each item at 7-segment of 3-digit × 1 on the outdoor unit PCB.

② Display is controlled with the following buttons.

SW9: Setting button for order of 10 of display code display

SW8: Setting button for order of 1 of display code display

SW7: Data erase/write button

③ 3 seconds after fixing display code, data are displayed according to the code display.

(During setting buttons, Code No. is displayed)

If SW9 or SW8 is pressed during the data display, it returns to corresponding code display

If SW9 or SW8 is pressed during the code display, code No. is changed according the button setting.

Example) If it is required to display the data of code [C23] instead of the data of code[C00] displayed,

(i) Press SW9 or SW8 and it turns from data display to code display of [C00]

(ii) Press 2-time of SW9 and 3-time of SW8 in the state of [C00] display, the code display changes to [C23]

(iii) After 3 seconds passed, the data corresponding to [C23] is dispalyed.

④ Code [C96] is operable item. It is possible to delete the retained operation data (data of 30 minutes preceding an anomalous stop) by following resetting procedure.

<Resetting operation>

- Select code [C96]. If any anomalous data is retained, the data display [dEL] is shown 3 seconds later.
- Pressing SW7 for 3 seconds erases the memory data on RAM.
  (EEPROM data are not erased.)
- As the data are erased, the data display shows [- - -].
  When no anomalous data are retained, it displays [---] as well.
- Unless the reset operation is performed, data are retained. Therefore, if normal operation is resumed without the reset operation and an anomalous stop occurs again, no new anomalous data cannot be retained, but former anomalous data are still retained unchanged.

⑤ If you press SW8 (order of 1), the number changes 0 ➞ 1 ➞ 2 ... 9 ➞ 0.

⑥ If you press SW9 (order of 10), the number jumps to the leading code of each order of 10.

Data display [CXX] and setting value display [PXX] are considered to be continuous.

Example: Pressing SW9 at [C07] it changes to [C10], and press SW9 again, it changes to [C20].

: Pressing SW9 at [C90], it changes to [P00], and press SW9 again, it changes to [P10].

⑦ Codes [C44] and [C45] are operable items. With the following reset operation, the cumulative compressor operation time corresponding to the code No. can be erased (reset). (Reset of operation time after replacing the compressor)

<Resetting operation>

- Select codes [C44] and [C45]. Cumulative compressor operation time to the present is displayed 3 seconds later.
- Pressing SW7 for 3 seconds erases the memory data.
  However, the cumulative compressor operation time data in the 30 minutes log data preceding an anomalous stop (if this retained log data are not deleted) are not erased by this procedure.

⑧ Data display for spare items is left in blank.

(ii) When the temperature is below -10.0°C for the display of discharge pressure saturated temperature and suction pressure saturated temperature, the fraction after decimal point is rounded up. (Because the range of 7-segment display is 3-digit.)

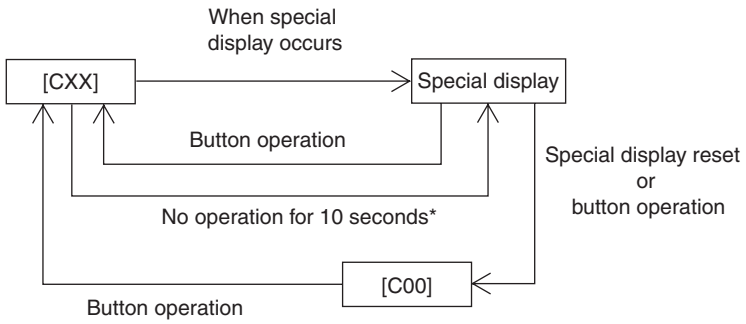
(iii) Precedence of display

① [EXX] > [Related to check operation ([CHJ] > [CHU])] > [PdE] > [PdS]> [oPX] > [CXX]

② If resetting from the display of ①, it is switched to [C00].

③ If SW8 or SW9 is pressed during the display of ①, it changes to [C00].
However, unless no button input is done for 10 seconds after change to [C00], it changes to the display of ① automatically according to the precedence.

④ Display switching
Special display is the display other than [CXX].



* If the special display is reset in the meanwhile, it remains as [CXX].

(b) List of 7-segment displays

Code No.	Contents of display	Data display range	Minimum unit	Remarks
Error display	[EXX]			
Caution display	[oPX]			
Special display	[PdS][PdE][CHx][CHE] [CHL][CHU][CHJ][CHO] and etc.			
Code No.	Contents of data display	Data display range	Minimum unit	Remarks
<Sensor value, actuator information>				
C00	CM1 operation frequency	0 - 130	1Hz	
C01	(Spare)			
C02	Tho-A Ambient air temperature	L,-20 - 43	1Hz	
C03	Tho-R1 Heat exchanger temperature 1	L,-25 - 73	1°C	
C04	Tho-R2 Heat exchanger temperature 2	L,-25 - 73	1°C	
C05	(Spare)			
C06	(Spare)			
C07	Tho-D1 Discharge pipe temperature (CM1)	L,31 - 136	1°C	
C08	(Spare)			
C09	(Spare)			
C10	(Spare)			
C11	(Spare)			
C12	Tho-P1 Power transistor temperature (CM1)	L,5 - 136	1°C	
C13	(Spare)			
C14	Tho-SC Sub-cooling coil temperature 1	L,18 - 73	1°C	
C15	Tho-H Sub-cooling coil temperature 2	L,-25 - 73	1°C	
C16	Tho-S Suction pipe temperature	L,-25 - 73	1°C	
C17	(Spare)			
C18	CT1 (CM1) current	0 - 50	1A	
C19	(Spare)			
C20	EEVH1 Heating expansion valve opening angle	0 - 500	1 pulse	
C21	(Spare)			
C22	EEVSC Sub-cooling coil expansion valve opening angle	0 - 500	1 pulse	
C23	FMo1 Actual fan speed	0 - 999	$10min^{-1}$	
C24	(Spare)			
C25	PSH High pressure sensor	0 - 4.15	0.01MPa	
C26	PSL Low pressure sensor	0 - 1.70	0.01MPa	
C27	(Spare)			
C28	(Spare)			
C29	(Spare)			

Code No.	Contents of data display	Data display range	Minimum unit	Remarks
C30	Pressure switch	0,1 (0: Close, 1: Open)	–	Order of 100: 63H1-1 Order of 10: (Spare) Order of 1: (Spare)
C31	External input	0,1 (0: Close, 1: Open)	–	Order of 100: CnS1 Order of 10: (Spare) Order of 1: (Spare)
C32	(Spare)	0,1 (0: Close, 1: Open)	–	Order of 100: Order of 10: Order of 1:
C33	Relay output	0,1 (0: Close, 1: Open)	–	Order of 100: 52C-1 Order of 10: 20S Order of 1: Crankcase heater 1
C34	(Spare)	0,1 (0: Close, 1: Open)	–	Order of 100: Order of 10: Order of 1:
C35	(Spare)	0,1 (0: Close, 1: Open)	–	Order of 100: Order of 10: Order of 1:
C36	(Spare)	0,1 (0: Close, 1: Open)	–	Order of 100: Order of 10: Order of 1:
C37	External output	0,1 (0: Close, 1: Open)	–	Order of 100: External output (CnZ1) Order of 10: (Spare) Order of 1: (Spare)
C38	(Spare)	0,1 (0: Close, 1: Open)	–	Order of 100: Order of 10: Order of 1:
C39	(Spare)	0,1 (0: Close, 1: Open)	–	Order of 100: Order of 10: Order of 1:
<Outdoor unit information>				
C40	Number of connected indoor units	0 - 50	1	
C41	Capacity of connected indoor units	0 - 200		
C42	Number of indoor units with thermostat ON	0 - 50	1	
C43	Required Hz total	0 - 999	1Hz	
C44	Cumulative compressor operation time (CM1)	0 - 655	100h	
C45	(Spare)			
C46	Discharge pressure saturated temperature	-50 - 70	0.1°C	Range unable to display (-10°C or under) is in the unit of 1°C.
C47	Suction pressure saturated temperature	-50 - 30	0.1°C	Range unable to display (-10°C or under) is in the unit of 1°C.
C48	Sub-cooling coil temperature sensor 1 saturated pressure	-0.68 - 4.15	0.01 MPa	0 is omitted in negative range. -0.68 → [-.68]
C49	Cooling sub-cooling	0 - 50	0.1deg	→*1
C50	Suction superheat	0 - 50	0.1deg	→*1
C51	Sub-cooling coil superheat	0 - 50	0.1deg	→*1
C52	Discharge superheat	0 - 50	0.1deg	→*1
C53	(Spare)			
C54	Target cooling low pressure	0.00 - 2.00	0.01MPa	
C55	Target heating high pressure	1.60 - 4.15	0.01MPa	

Code No.	Contents of data display	Data display range	Minimum unit	Remarks
C56	Target Fk	0 - 999	1Hz	
C57	Inverter 1 operation frequency command	0 - 130	1Hz	
C58	Demand ratio	0 - 100	1%	
C59	FMo1 Fan Speed command	0 - 999	$10min^{-1}$	
C60	(Spare)			
<Control status>				
C61	Control status	0,1 (0: Close, 1: Open)	–	Order of 100: Oil return control ON
				Order of 10: Defrosting ON
				Order of 1: (Spare)
C62	Control status	0,1 (0: Close, 1: Open)	–	Order of 100: Test run control ON
				Order of 10: Demand control ON
				Order of 1: Silent mode control ON
C63	Control status	0,1 (0: Close, 1: Open)	–	Order of 100: Capacity measurement mode ON
				Order of 10: (Spare)
				Order of 1: (Spare)
C64	(Spare)	0,1 (0: Close, 1: Open)	–	Order of 100:
				Order of 10:
				Order of 1:
C65	Protection control status	0,1 (0: Close, 1: Open)	–	Order of 100: HP control by compressor speed down control ON
				Order of 10: LP control by compressor speed down control ON
				Order of 1: Td control by compressor speed down control ON
C66	Protection control status	0,1 (0: Close, 1: Open)	–	Order of 100: Compression ratio control by compressor speed down control ON
				Order of 10: CS control by compressor speed down control ON
				Order of 1: PT control by compressor speed down control ON
C67	(Spare)	0,1 (0: Close, 1: Open)	–	Order of 100:
				Order of 10:
				Order of 1:
C68	Compressor stop cause	0 - 127	1	→ *2
C69	(Spare)	0,1 (0: Close, 1: Open)	–	Order of 100:
				Order of 10:
				Order of 1

Code No.	Contents of data display	Data display range	Minimum unit	Remarks
<Anomalous counter information>				
C70	Counter · Sensor wire disconnected	0 - 3	1	
C71	Counter · High pressure protection	0 - 5	1	
C72	Counter · Anomalous low pressure ③ (During operation)	0 - 5	1	
C73	Counter · Anomalous low pressure ① (During stop)	0 - 5	1	
C74	Counter · Discharge pipe 1 anomalous temperature	0 - 5	1	
C75	Counter · Anomalous FMo1 stop	0 - 5	1	
C76	(Spare)			
C77	Counter · Current cut (CM1)	0 - 4	1	
C78	Counter · Compressor 1 starting failure	0 - 20	1	
C79	Counter · Inverter 1 comunication error	0 - 4	1	
C80	(Spare)			
C81	(Spare)			
C82	Counter · Inverter 1 desynchronism error	0 - 127	1	
C83	Counter · Inverter 1 comunication error cumulative	0 - 127	1	
C84	Counter · Indoor/outdoor comunication error	0 - 255	1	
C85	Counter · CPU reset	0 - 255	1	
C86	(Spare)			
C87	(Spare)			
C88	(Spare)			
C89	(Spare)			
C90	(Spare)			
C91	(Spare)			
C92	(Spare)			
C93	(Spare)			
C94	Counter·Liquid flooding	0 - 3	1	
<Others>				
C95	(Spare)			
C96	Data reset			
C97	Program·sub version	0 - 991	–	
C98	Program · POL version	0.00 - 9.99	0.01	
C99	(Spare)			

Code No.	Contents of data display	Data display range	Minimum unit	Remarks
<User setting>				
P00	Continuous heating operation control	0 : (Factory default) 0,1,2	–	0 : Invalid 1 : Defrost interval extension control 2 : Continuous heating control
P01	Operation preference switching	0 : (Factory default) 0,1,2,3	–	0: First unit's operation mode 1: Last unit's operation mode 2: Priority of master unit's setting operation mode 3: Priority of required major operation mode
P02	Outdoor fan snow protection control	0 : (Factory default) 0,1 - 4	–	0: Outdoor fan snow protection control invalid (Factory default) 1- 4: Outdoor fan snow protection control
P03	Outdoor fan snow protection control ON time setting	30 : (Factory default) 10, 30 - 600 [Sec]	30	valid Changes like 10, 30, 60 90 … 600
P04	Demand ratio change value	OFF : (Factory default) OFF,000,040, 060,080		0: OFF, 1: 0%, 2: 40%. 3: 60%, 4: 80% Factory default is 0: OFF.
P05	Silent setting	0 : (Factory default) 0 - 9	1	
P06	External output function quota	0 : (Factory default) 0 - 9	1	
P07	External input (CnS1) function quota	0 : (Factory default) 0 - 20	1	
P08	(Spare)			
P09	(Spare)			
P10	(Spare)			
<New Superlink setting>				
P30	Superlink communication satus	0,1	–	0: Current Superlink 1: New Superlink
P31	Start automatic address setting	0 : (Factory default) 0,1	–	0: Automatic address setting standby. 1: Automatic address setting start.
P32	Input starting indoor address	1 : (Factory default) 0 - 127	1	Specify the starting indoor address connected in one refrigerant system for automatic address setting.
P33	Input the number of connected indoor unis	1 : (Factory default) 1 - 24 (*)	1	Specify the number of indoor units connected in one refrigerant system for automatic address setting. (*) Maximum connectable number of indoor units for each oudoor unit
P34	Polarity difinition	0 : (Factory default) 0,1	–	0: Network polarity not defined 1: Network polarity defined
P35	(Spare)			
P36	(Spare)			

Code No.	Contents of data display	Data display range	Minimum unit	Remarks
P37	Operation permission/ prohibition setting	0 : (Factory default) 0,1	–	Refer to (B)(1)
P38	Forced cooling/ heating operation setting	0 : (Factory default) 0,1	–	Refer to (B)(6)
P39	VTCC setting	0 : (Factory default) 0,1	–	Refer to (B)(11)
P54	EEVKIT multi-setting	0 : (Factory default) 0,1	–	0 : Invalid 1 : Valid
P75	Pump down operation by external input setting	0 : (Factory default) 0,1	–	Refer to (B)(9)
P82	Indoor unit error output setting	0 : (Factory default) 0,1	–	Refer to (B)(4)

*1 Signal definition
[C49] : Cooling sub-cooling = [C46]-[C14]
[C50] : Suction superheat = [C16]-[C47]
[C51] : Sub-cooling coil superheat = [C15]-[C47]
[C52] : Discharge superheat = [C07]-[C46]

*2 Compressor stop cause
[definition of signal]
It shows the latest compressor anomalous stop cause

Compressor stop cause		No.
	At power on	0
Sensor disconnection and/or short-circuit	Ambient air temperature	1
	Outdoor heat exchanger temperture 1	2
	Outdoor heat exchanger temperture 2	3
	Discharge pipe temperature sensor (CM1)	4
	Suction pipe temperature sensor	5
	Sub-cooling temperature sensor (liquid side)	6
	Sub-cooling temperature sensor (gas side)	7
	Under-dome temperature sensor	8
	Power transistor temperature sensor	9
	Active filter temperature sensor	10
	High pressure sensor	11
	Low pressure sensor	12
Anomaly detection	HP anomaly	20
	LP anomaly	21
	Td1 anomaly	22
	FMo1 anomaly	23
	FMo2 anomaly	24
	Inverter 1 current cut	25
	Inverter 1 startup failure	26
	Inverter 1 communication error	27
	Inverter 1 anomalous compressor induced voltage and torque	28
	Inverter 1 power tansistor overheat	29
	Inverter 1 rotor lock	30
	Liquid flooding anomaly	31
Stop by restriction	Outdoor operation mode heating/cooling switching	40
	Heating overload protection	41

(c) Saving of operation data

Mainly for investigating causes of market claims, operation data are always saved in memory. If any trouble occurs, the data writing is stopped and only the operation data prior to the time when the trouble occurs are recorded. These data can be loaded to a PC via RS-232C connector of PCB and utilized for identifying causes.

(i) Operation data for a period of 30 minutes prior to the present operation are saved and updated continuously.
(ii) If an anomalous stop occurs, the data are not updated any more.
(iii) Data are written in based on 1 minute sampling interval and next data will be transmitted to PC upon demand.

Data	Data range	Example
Software version	Ascii 15 bytes	KD3C218######## (# : NULL)
PID (Program ID)	Ascii 2 bytes	5D
Outdoor unit capacity	Ascii 3 bytes	As listed blow
Power source frequency	Ascii 2 bytes	60
Outdoor address	Ascii 2 bytes	00 - 3F
Indoor address × 16 units	Ascii 2 bytes × 16 units	40 - 7F
Indoor capacity × 16 units	Ascii 3 bytes × 16 units	022 - 280

Outdoor unit composition	Outdoor unit capacity data	Remark
Single type	Example: 24HP - [S24]	S: Display with Horse Power of single type or single use of combination type
Master unit of combination type	Example: 46HP - [S46]	S: Display with Horse Power of master unit of combination type
Slave unit of combination type	Example: 20HP - [C20]	C: Display with Horse Power of slave unit of combination type

(iv) Error retention and monitoring data

<Indoor unit indicate data>

Code No.	Write-in content	Record data				
		Data write-in range	Write-in unit	Number of bytes	Content	
00	Indoor unit 1 Thi-A	10 - 52	1°C	1	Air inlet temp.	
01	Indoor unit 1 Thi-R1	-19 - 71	1°C	1	Heat exchanger temp. 1	
02	Indoor unit 1 Thi-R2	-19 - 71	1°C	1	Heat exchanger temp. 2	
03	Indoor unit 1 Thi-R3	-19 - 71	1°C	1	Heat exchanger temp. 3	
04	Indoor unit 1 EEV	0 - 470	1 pulse	2		
05	Indoor unit I setting temperature	0 - 127	0.5°C	1		
06	Indoor unit I Operation mode/Air capacity	0 - 500	–	2	0	Not used (Data not received)
					100	Dehumidifying stop 0-speed
					110	Dehumidifying operation 0-speed
					111	Dehumidifying operation 1-speed
					112	Dehumidifying operation 2-speed
					113	Dehumidifying operation 3-speed
					114	Dehumidifying operation 4-speed
					115	Dehumidifying operation 5-speed
					116	Dehumidifying operation 6-speed
					200	Cooling stop 0-speed
					210	Cooling operation 0-speed
					211	Cooling operation 1-speed
					212	Cooling operation 2-speed
					213	Cooling operation 3-speed
					214	Cooling operation 4-speed
					215	Cooling operation 5-speed
					216	Cooling operation 6-speed
					300	Fan stop 0-speed
					310	Fan operation 0-speed
					311	Fan operation 1-speed
					312	Fan operation 2-speed
					313	Fan operation 3-speed
					314	Fan operation 4-speed
					315	Fan operation 5-speed
					316	Fan operation 6-speed
					400	Heating stop 0-speed
					410	Heating operation 0-speed

Code No.	Write-in content	Record data				
		Data write-in range	Write-in unit	Number of bytes	Content	
					411	Heating operation 1-speed
					412	Heating operation 2-speed
					413	Heating operation 3-speed
					414	Heating operation 4-speed
					415	Heating operation 5-speed
					416	Heating operation 6-speed
07	Indoor unit 1 Demand frequency	0~255	1 Hz	1		
08	Indoor unit 1 Answer frequency	0~255	1 Hz	1		
09	Indoor unit 1 Indoor local	—	—	1	Bit0	Anti-frost
					Bit1	Aperture command ON
10	Indoor unit 1 Thi spare	-10~52	1°C	1	Air outlet temp.	
11	Indoor unit 1 Model	0~85	—	1	0	FDT
					1	FDK
					2	other
					3	FDE
					4	FDTC
					5	Outdoor air intake unit
					6	Spacious area
					7	Outdoor air treatment
12	Indoor unit 1 PID	—	—	1		
Data contents for indoor 2 to 16 are same as above.						

<Outdoor unit indicate data>

Code No.	Write content	Record data Data write range	Unit of write	Number of bytes	Content	
0	Error code	00 - 99	–	1	00: No error on outdoor unit 01-99: All errors	
1	Error existing unit address	00 - FF	–	1	00 – 3F: Outdoor 40 – 6F: Indoor	
<Sensor value>						
2	Tho-A Outdoor air temperature	-20 - 70	A/D value	1		
3	Tho-R1 Heat exchanger temperature 1	-40 - 75	A/D value	2		
4	(Spare)					
5	Tho-D1 Discharge pipe temperature (CM1)	-20 - 140	A/D value	1		
6	Tho-S Suction pipe temperature	-40 - 75	A/D value	2		
7	Tho-SC Sub-cooling coil temperature 1	-40 - 75	A/D value	2		
8	Tho-H Sub-cooling coil temperature 2	-40 - 75	A/D value	2		
9	Tho-P1 Power transistor temperature (Radiator fin)	-20 - 140	A/D value	1		
10	(Spare)					
11	(Spare)					
12	CT1 Current	0 - 50	A/D value	1		
13	High pressure sensor	0 - 4.15	A/D value	1		
14	Low pressure sensor	0 - 1.70	A/D value	1		
<Outdoor unit information>						
15	Number of connected indoor units	0 - 127	1 unit	1		
16	Capacity of connected indoor units	0 - 65535	–	2		
17	Number of indoor units with thermostat ON	0 - 255	1 unit	1		
18	Total capacity of indoor units with cooling thermostat ON	0 - 65535		2		
19	Total capacity of indoor units with heating thermostat ON	0 - 65535		2		
20	Operation mode	0 - 2	–	1	0	Stop
					1	Cooling
					2	Heating
21	Inverter CM1 actual operation frequency	0 - 255	1Hz	1		
22	FMo1 Actual fan speed	0 - 65535	$10min^{-1}$	2		
23	(Spare)					
24	Required Hz total	0 - 65535	1Hz	2		
25	Discharge pressure saturated temperature	-50 - 70	0.01°C	2		
26	Suction pressure saturated temperature	-50 - 30	0.01°C	2		
27	Sub-cooling coil temperature sensor 1 saturated pressure	-0.68 - 4.15	0.01MPa	2		
28	Pressure ratio	1.0 - 10.0	0.1	1	→*3	
29	Cooling sub-cooling	0 - 50	0.1deg	2	= [C49]	
30	Suction superheat	0 - 50	0.1deg	2	= [C50]	
31	Sub-cooling coil superheat	0 - 50	0.1deg	2	= [C51]	
32	Discharge pipe superheat	0 - 50	0.1deg	2	= [C52]	
33	(Spare)					
34	Target Fk	0 - 65535	1Hz	2		
35	Answer Hz total	0 - 65535	1Hz	2		
36	Inverter 1 operation frequency command	0 - 120	1Hz	1		

Code No.	Write content	Record data Data write range	Unit of write	Number of bytes	Content		
37	FM01 Fan speed command	0 - 65535	$10min^{-1}$	2			
38	(Spare)						
39	EEVH1 opening degree	0 - 65535	1 pulse	2			
40	EEVSC opening degree	0 - 65535	1 pulse	2			
41	Compressor target cooling low pressure	0.00 - 2.00	0.01MPa	1			
42	Compressor target heating high pressure	0.00 - 4.15	0.01MPa	2			
43	Outdoor EEVH target overheat	0 - 25.5	0.1°C	1	Actual range: 5°C – 11°C		
44	Outdoor EEVH initial learning opeing position	0 - 255	1 pulse	1			
45	Outdoor EEVSC target overheat	0 - 25.5	0.1°C	1			
46	(Spare)						
47	(Spare)						
<PCB hardware input>							
48	External input	–	–	1	Bit0	63H1	0: Open, 1: Short-circuit
					Bit1	(Spare)	
					Bit2	CnS1	0: Open, 1: Short-circuit
					Bit3	(Spare)	
					Bit4	(Spare)	
					Bit5	(Spare)	
					Bit6	(Spare)	
					Bit7	(Spare)	
49	DIP switch [SW3]	–	–	1	Bit0	SW3-1	0 : OFF, 1 : ON
					Bit1	SW3-2	0 : OFF, 1 : ON
					Bit2	SW3-3	0 : OFF, 1 : ON
					Bit3	SW3-4	0 : OFF, 1 : ON
					Bit4	SW3-5	0 : OFF, 1 : ON
					Bit5	SW3-6	0 : OFF, 1 : ON
					Bit6	SW3-7	0 : OFF, 1 : ON
					Bit7	SW3-8	0 : OFF, 1 : ON
50	DIP switch [SW4]	–	–	1	Bit0	SW4-1	0 : OFF, 1 : ON
					Bit1	SW4-2	0 : OFF, 1 : ON
					Bit2	SW4-3	0 : OFF, 1 : ON
					Bit3	SW4-4	0 : OFF, 1 : ON
					Bit4	SW4-5	0 : OFF, 1 : ON
					Bit5	SW4-6	0 : OFF, 1 : ON
					Bit6	SW4-7	0 : OFF, 1 : ON
					Bit7	SW4-8	0 : OFF, 1 : ON
51	DIP switch [SW5]	–	–	1	Bit0	SW5-1	0 : OFF, 1 : ON
					Bit1	SW5-2	0 : OFF, 1 : ON
					Bit2	SW5-3	0 : OFF, 1 : ON
					Bit3	SW5-4	0 : OFF, 1 : ON
					Bit4	SW5-5	0 : OFF, 1 : ON
					Bit5	SW5-6	0 : OFF, 1 : ON
					Bit6	SW5-7	0 : OFF, 1 : ON
					Bit7	SW5-8	0 : OFF, 1 : ON

Code No.	Write content	Record data Data write range	Unit of write	Number of bytes	Content		
52	DIP switch [SW6]	–	–	1	Bit0	(Spare)	
					Bit1	(Spare)	
					Bit2	(Spare)	
					Bit3	(Spare)	
					Bit4	(Spare)	
					Bit5	(Spare)	
					Bit6	(Spare)	
					Bit7	(Spare)	
53	Jumper wire	–	–	1	Bit0	J11	0: Open, 1: Short-circuit
					Bit1	J12	0: Open, 1: Short-circuit
					Bit2	J13	0: Open, 1: Short-circuit
					Bit3	J14	0: Open, 1: Short-circuit
					Bit4	J15	0: Open, 1: Short-circuit
					Bit5	J16	0: Open, 1: Short-circuit
					Bit6	(Spare)	
					Bit7	(Spare)	
<PCB hardware output>							
54	Relay output	–	–	1	Bit0	52C1	0 : OFF, 1 : ON
					Bit1	20S	0 : OFF, 1 : ON
					Bit2	CH1	0 : OFF, 1 : ON
					Bit3	(Spare)	
					Bit4	(Spare)	
					Bit5	(Spare)	
					Bit6	(Spare)	
					Bit7	(Spare)	
55	Relay output	–	–	1	Bit0	(Spare)	
					Bit1	(Spare)	
					Bit2	External output (CnZ)	0 : OFF, 1 : ON
					Bit3	(Spare)	
					Bit4	(Spare)	
					Bit5	(Spare)	
					Bit6	(Spare)	
					Bit7	(Spare)	
<Related to compressor>							
56	CM1 Cumulative operation hours (Approx.)	0 - 65535	1h	2			
57	CM1 Starting times	0 - 65535	× 20 times	2			
58	CM1 3-minute delay timer	0 - 180	1 sec.	1			
59	Energizing time count down	0 - 255	1 min.	1			
60	Control status CH Compressor protection timer	0 - 360	3 min.	1			
61	Control status CH Compressor protection start	0 - 15	–	1	15	Protection start complete	
					0 -14	Protection start ON	

Code No.	Write content	Record data Data write range	Unit of write	Number of bytes	Content		
<Control status>							
62	Control status Oil return	0 - 2	–	1	0	None	
					1	Oil return ON	
63	Control status Defrost condition	0 - 3	–	1	0	None	
					1	Temperature condition	
					2	Time condition	
64	Control status Defrost status	0 - 4	–	1	0	None	
					1	Defrost status 1	
					2	Defrost status 2	
					3	Defrost status 3	
					4	Defrost status 4	
65	Control status Cooling low pressure anomaly recovering status	0 - 4	–	1	0	None	
					1	Status 1	
					2	Status 2	
					3	Status 3	
					4	Status 4	
66	Control status 1			1	Bit0	Test run control implementing	0: Normal, 1: Implementing
					Bit1	Demand control implementing	0: Normal, 1: Implementing
					Bit2	Silent mode implementing	0: Normal, 1: Implementing
					Bit3	(Spare)	
					Bit4	Fresh Air Intake Pre-treating Unit Control	0: Normal, 1: Implementing
					Bit5	(Spare)	
					Bit6	Implementing pump down control at start/stop	0: Normal, 1: Implementing
					Bit7	Low ambient air temperature control implementing	0: Normal, 1: Implementing
67	Control status 2			1	Bit0	Pump-down control for removal of unit implementing	0: Normal, 1: Implementing
					Bit1	Compressor dilution protection	0: Normal, 1: Implementing
					Bit2	(Spare)	
					Bit3	Forced out refrigerant from indoor heat exchanger	0: Normal, 1: Implementing
					Bit4	EEVKIT multi-setting status	0: Normal, 1: Implementing
					Bit5	(Spare)	
					Bit6	(Spare)	
					Bit7	(Spare)	

Code No.	Write content	Record data Data write range	Unit of write	Number of bytes	Content		
<Protection control status>							
68	Protection control Status 1			1	Bit0	HP protection 1 Compressor capacity control	0: Normal, 1: Implementing
					Bit1	HP protection 2 Indoor EEV minimal opening control at heating stop	0: Normal, 1: Implementing
					Bit2	HP protection 3 Indoor EEV Control at heating overload	0: Normal, 1: Implementing
					Bit3	HP protection 4 Indoor unit forced thermostat OFF control under heating at overload	0: Normal, 1: Implementing
					Bit4	LP protection 1 Compressor capacity control	0: Normal, 1: Implementing
					Bit5	LP protection 2 Compressor speed increasing rate control	0: Normal, 1: Implementing
					Bit6	LP protection 3 Outdoor EEV control	0: Normal, 1: Implementing
					Bit7	Td protection 1 Compressor capacity control	0: Normal, 1: Implementing
69	Protection control Status 2			1	Bit0	Td protection 2 Compressor dilution ratio protection control	0: Normal, 1: Implementing
					Bit1	Td protection 3 Indoor EEV minimal opening control at heating stop	0: Normal, 1: Implementing
					Bit2	Td protection 4 Outdoor EEV control	0: Normal, 1: Implementing
					Bit3	Compression ratio protection 1 Compressor capacity control	0: Normal, 1: Implementing
					Bit4	Compression ratio protection 2 Outdoor EEV control	0: Normal, 1: Implementing
					Bit5	CS protection 1 Compressor capacity control	0: Normal, 1: Implementing
					Bit6	PT protection 1 Compressor capacity control	0: Normal, 1: Implementing
					Bit7	(Spare)	
70	Protection control Status 3			1	Bit0	CS protection 2 Compressor frequency upper limit control	0: Normal, 1: Implementing
					Bit1	(Spare)	
					Bit2	(Spare)	
					Bit3	(Spare)	
					Bit4	(Spare)	
					Bit5	(Spare)	
					Bit6	(Spare)	
					Bit7	(Spare)	
71	Cause of compressor stop	0 - 127	–	1	→ ∗2		

Code No.	Write content	Record data Data write range	Unit of write	Number of bytes	Content		
<Error counter information>							
72	Control status HP (63H1) anomaly counter	0 - 5	1	1			
73	Control status LP anomaly counter while running	0 - 5	1	1			
74	Control status LP anomaly counter while stopping	0 - 5	1	1			
75	Control status Td1 error counter	0 - 5	1	1			
76	Control status DC fan motor 1 error counter	0 - 5	1	1			
77	(Spare)						
78	Control status sensor wire disconnected counter	0 - 3	1	1			
79	Control status INV1 current cut error counter	0 - 4	1	1			
80	Control status INV1 starting failure counter	0 - 20	1	1			
81	Control status INV1 communication error counter	0 - 4	1	1			
82	Control status INV1 desynchronism error counter	0 - 127	1	1			
83	Control status INV1 communication error counter cumulative	0 - 255	1	1			
84	(Spare)						
85	Control status liquid flooding counter	0 - 127	1	1			
<Setting value display>							
86	Operation priority switching outdoor fan snow protection control	0 - 3	–	1	0	First push priority	
					1	Last push priority	
					2	Priority of master units setting operation mode	
					3	Priority of required major operation mode	
87	Outdoor fan snow protection control	0,1		1	0	Invalid	
					1	Valid	
88	Outdoor fan snow protection control ON time setting	30: (Factory default) 10, 30 – 600 [sec.]	10 sec.	1			
89	Demand ratio change value	OFF, 000, 040, 060, 080 Factory default 0: OFF	–	1			
90	Silent mode setting	0 - 9	–	1			
91	CnS1 function quota value	0 - 20	–	1			
92	(Spare)						
93	(Spare)						
94	(Spare)						
95	External output function quota	0 - 9	–	1			

Code No.	Write content	Record data Data write range	Unit of write	Number of bytes	Content		
<Other>							
	<Indoor unit information>						
105				1	Bit0	(Spare)	
					Bit1	(Spare)	
					Bit2	(Spare)	
					Bit3	(Spare)	
					Bit4	(Spare)	
					Bit5	(Spare)	
					Bit6	(Spare)	
					Bit7	(Spare)	
106	Registered indoor 1 – 8 operation mode	0 - 4	–	8	0	Auto	
					1	Humidifying	
					2	Cooling	
					3	Fan	
					4	Heating	
107	Registered indoor 1 – 8 request Hz	0 - 255	1Hz	8			
108	Registered indoor 1 – 8 answer Hz	0 - 255	1Hz	8			
<Check operation information>							
109	Check operation status	0 - 7	–	1	0	Normal	
					1	Check operation starting condition insufficient	
					2	Check operation preparation operation	
					3	Check operation implementation	
					4	Check operation interrupted	
					5	Service valve closing failure	
					6	Indoor unit failure	
					7	Check operation normal ending	

Code No.	Write content	Record data Data write range	Unit of write	Number of bytes	Content		
112	Registered indoor 1 – 8 unmatch check error	–	–	1	Bit0	Indoor 1 unmatch check error	0 : OFF, 1 : ON
					Bit1	Indoor 2 unmatch check error	0 : OFF, 1 : ON
					Bit2	Indoor 3 unmatch check error	0 : OFF, 1 : ON
					Bit3	Indoor 4 unmatch check error	0 : OFF, 1 : ON
					Bit4	Indoor 5 unmatch check error	0 : OFF, 1 : ON
					Bit5	Indoor 6 unmatch check error	0 : OFF, 1 : ON
					Bit6	Indoor 7 unmatch check error	0 : OFF, 1 : ON
					Bit7	Indoor 8 unmatch check error	0 : OFF, 1 : ON
113	Registered indoor 1 – 8 EEV check error	–	–	1	Bit0	Indoor 1 EEV check error	0 : OFF, 1 : ON
					Bit1	Indoor 2 EEV check error	0 : OFF, 1 : ON
					Bit2	Indoor 3 EEV check error	0 : OFF, 1 : ON
					Bit3	Indoor 4 EEV check error	0 : OFF, 1 : ON
					Bit4	Indoor 5 EEV check error	0 : OFF, 1 : ON
					Bit5	Indoor 6 EEV check error	0 : OFF, 1 : ON
					Bit6	Indoor 7 EEV check error	0 : OFF, 1 : ON
					Bit7	Indoor 8 EEV check error	0 : OFF, 1 : ON
114	Registered indoor 1 – 8 EEV opening pulse	0 - 127	Pulse	8			

*3 Signal definition
No.28 : Pressure ratio = (No.13 + 0.101) / (No.14 + 0.101)

(2) Outdoor unit PCB setting

Code	Input	Remark
SW1	Outdoor address No. (Order of 10)	
SW2	Outdoor address No. (Order of 1)	
SW3-1	Inspection LED reset	
SW3-7	Forced heating/cooling	
SW5-1	Test run switch	
SW5-2	Test run Heating/Cooling	
SW5-3	Pump down switch	
SW7	Data erase/Write	
SW8	7-segment display code No. increasing (order of 1)	
SW9	7-segment display code No. increasing (order of 10)	
SW3-2	Model selection	See following table.
SW4-1		
SW4-2		
SW4-3		
SW4-4		
SW4-7	Demand ratio selection	See following table.
SW4-8	Demand ratio selection	See following table.
J13	External input Level/Pulse	
J15	Defrost start temperature Normal/Cold region	

Notes (1) Jumper wires J13, J15 indicate short-circuit/open.
(2) DIP switch SW's indicate OFF/ON.

■ **Model selection with SW3-2, SW4-1 – SW4-4**

Model / Switch	FDC121KXZEN1-W	FDC121KXZES1-W	FDC140KXZEN1-W	FDC140KXZES1-W	FDC155KXZEN1-W	FDC155KXZES1-W
SW3-2	1	1	0	0	0	0
SW4-1	0	0	1	1	0	0
SW4-2	0	0	0	0	1	1
SW4-3	1	1	1	1	1	1
SW4-4	1	0	1	0	1	0

Note (1) 0: OFF, 1: ON

■ **Demand ratio selection with SW4-7, SW4-8**

SW4-7	SW4-8	Compressor capacity (%)
0	0	80
1	0	60
0	1	40
1	1	0

Note (1) 0: OFF, 1: ON

■ **JSW10, 11setting (Inverter PCB)**

Model / Switch	FDC90-155KXZEN1-W	FDC112-155KXZES1-W
JSW10-1	0	0
JSW10-2	1	1
JSW10-3	0	0
JSW10-4	0	0
JSW11-1	0	1
JSW11-2	1	0
JSW11-3	1	1
JSW11-4	0	0

9. SYSTEM TROUBLESHOOTING PROCEDURE

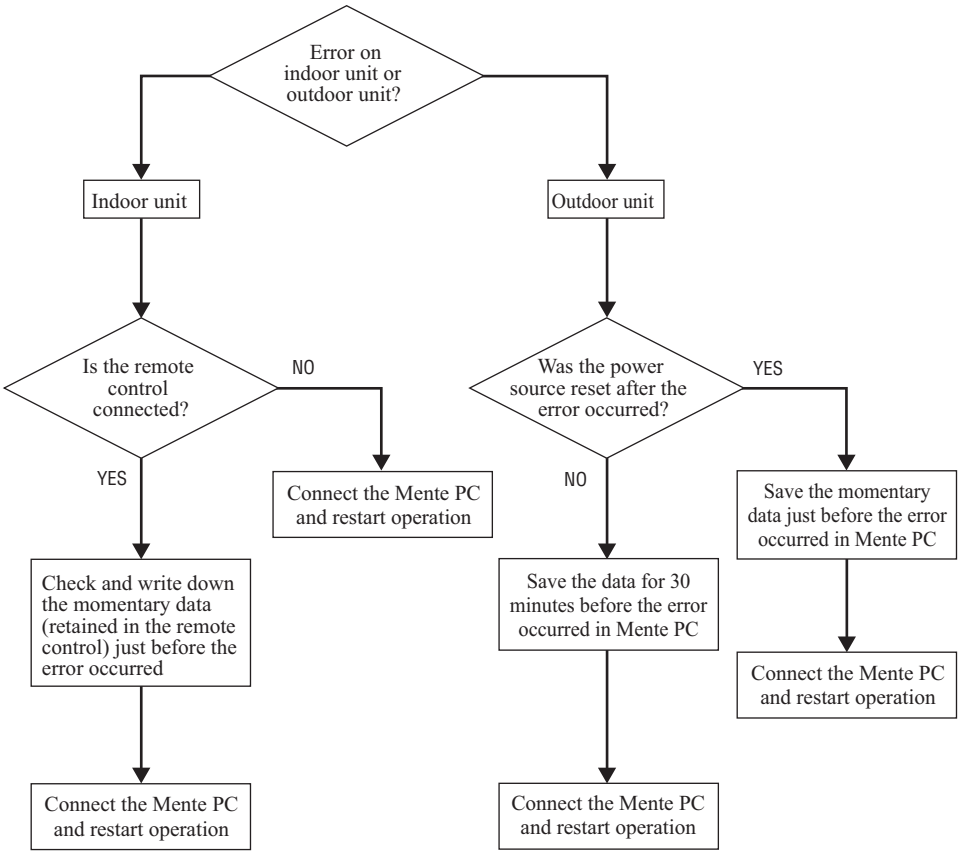
9.1 Basics of troubleshooting

Basic troubleshooting is to check/analyze/save data by connecting the Mente PC.

Whenever arriving at the site, always connect the Mente PC before starting work.

Method of error data analysis (Basic procedure)

- Identify whether particular error occurred during operation or stopping.
- Is it caused by the installation conditions of outdoor/indoor unit? (Refrigerant quantity, pipe length, short-circuit, clogged filter, etc.)
- Isn't there any rudimentary mistake at the installation? (Wrong address, mistake in piping or wiring, etc.)
- Is the failure related to any hardware (parts)? (SV main body, coil, capillary, check valve, sensor, etc.)
- Is it a major component? (Compressor, inverter PCB and outdoor DC fan motor)
- Is it a failure of electrical component



(Refer to outdoor unit service manual.)

9.2 Explanation of troubleshooting

- **Inspection of short-circuit on the power transistor module terminals**

  Disconnect the wiring of compressor, P and N (TB5-9 in inverter PCB) and check for short-circuit with a tester.

  Inspect between terminals of: P-U, P-V, P-W, N-U, N-V, N-W and P-N

  (Replace the P and N as P3 and N3 respectively in single phase model.)

Terminal (+)	Terminal (−)	Normal value (Ω)
P	N	Several 10 M
N	P	Several M
P	U	Several 10 M
P	V	
P	W	
N	U	Several 100K
N	V	
N	W	
U	P	Several 100K
V	P	
W	P	
U	N	Several 10 M
V	N	
W	N	

Note (1) When a measured value is 0 − a few kΩ, the element may be broken. Replace the power transistor part.

9.3 Contents of troubleshooting

(a) List of inspection displays

1) Indoor and outdoor units

Remote control error code	7-segment display	Name of inspection	Classification	Page
None		Operates but does not cool	System error	220
None		Operates but does not heat	System error	221
None		Earth leakage breaker activated	System error	222
None		Excessive noise/vibration (1/3)	Improper installation work	223
None		Excessive noise/vibration (2/3)	Unit error	224
None		Excessive noise/vibration (3/3)	Unit error	225
None		Louver motor anomaly	Louver motor error	226
None		Power source system anomaly (Power source to indoor unit PCB)	Wrong connection	227
None		Power source system anomaly (Power source to reomote control)	Wire breakage/short-circuit	228
WAIT		WAIT /Searching IU (1)	System error	229
WAIT		WAIT (2)	System error	230
WAIT		WAIT (3)	System error	231
[No display]		[No display]	System error	232
E1		Remote control communication error	Communication error	233
E2		Duplicated indoor unit address	Address setting error	234
E3		Outdoor unit signal line error	Address pairing setting error	235
E5		Communication error during operation	Communication error	236
E6		Indoor unit heat exchanger temperature sensor anomaly (Thi-R)	Sensor wire breakage	237
E7		Indoor return air temperature sensor anomaly (Thi-A)	Sensor wire breakage	238
E9		Drain trouble	System error	239
E10		Excessive number of indoor units (more than 17 units) by controlling one remote control	Communication error	240
E11		Address setting error between master and slave indoor units	Address setting error	241
E12		Address setting error by mixed setting method	Address setting error	242
E16		Indoor DC fan motor anomaly	DC fan motor error	243
E19		Indoor unit operation check, drain pump motor check mode anomaly	Setting error	244
E20		Indoor DC fan motor rotation speed anomaly	DC fan motor error	245
E28		Remote control temperature sensor anomaly (Thc)	Sensor wire breakage	246
E30	E30	EEVKIT False connection detection	System error	247
E31	E31	Duplicated outdoor unit address No.	Address setting error	248
E32	E32	Open L3 Phase on power source at primary side (3 phase mode only)	Site setting error	249
E36	E36	Discharge pipe temperature error (Tho-D1)	System error	250
E37	E37	Outdoor unit heat exchanger temperature sensor (Tho-R) and subcooling coil temperature sensor (Tho-SC, -H) anomaly	Sensor wire breakage	251
E38	E38	Outdoor air temperature sensor anomaly (Tho-A)	Sensor wire breakage	252
E39	E39	Discharge pipe temperature sensor anomaly (Tho-D1)	Sensor wire breakage	253
E40	E40	High pressure anomaly (63H1-1 activated)	System error	254
E42	E42	Current cut (1) (2)	System error	255·256
E43	E43	Excessive number of indoor units connected, excessive total capacity of connection, communication error from outdoor unit to indoor unit	Site setting error	257
E44	E44	Liquid flooding anomaly	System error	258
E45	E45	Communication error between inverter PCB and outdoor unit control PCB (1)(2)	Communication error	259·260
E46	E46	Mixed address setting methods coexistent in same network	Address setting error	261

Remote control error code	7-segment display	Name of inspection	Classification	Page
E48	E48	Outdoor DC fan motor anomaly	DC fan motor error	262
E49	E49	Low pressure error	System error	263
E53	E53	Suction pipe temperature sensor anomaly (Tho-S)	Sensor wire breakage	264
E54	E54	High pressure sensor anomaly (PSH)/Low pressure sensor anomaly (PSL)	Sensor wire breakage	265
E56	E56	Power transitor temperature sensor anomaly (Tho-P1)	Sensor wire breakage	266
E58	E58	Anomalous compressor by loss of synchronism	System error	267
E59	E59	Compressor startup failure	System error	268
E63	E63	Emergency stop	Site setting error	269

2) Option control in-use

SL1N-E SL2NA-E SL4-AE/BE		Indoor unit control PCB		Outdoor unit control PCB		Location of trouble	Description of trouble	Repair method
Error code	Red LED	Red LED	Green LED	Red LED	Green LED			
E75	Keeps flashing	Stays OFF	Keeps flashing	Stays OFF	Keep flashing	SL1N-E SL2NA-E SL4-AE/BE	・Communication enor (Deflective communication circuit on the main unit of SL1N-E, SL2NA-E or SL4-AE/BE)	Replacement

3) Operation code

7-segment display	Reason for display	Unit status	How to deal
[oP7]	Model setting error due to DIP switch	Normal operation impossible	Check the settings of SW3-2 and SW4-1 to 4-4. See page 215.
[oP8]	Extremely low outside temperature operation stopped when outdoor temperature <-22°C	Normal operation impossible	Use this machine in an environment where the outdoor temperature is> -20°C.

(b) Troubleshooting

Error code	LED	Green	Red	Content
Remote control: None 7-segment display:	Indoor	Keeps flashing	Stays Off	Operates but does not cool
	Outdoor	Keeps flashing	Stays Off	

1. Applicable model

All models

2. Error detection method

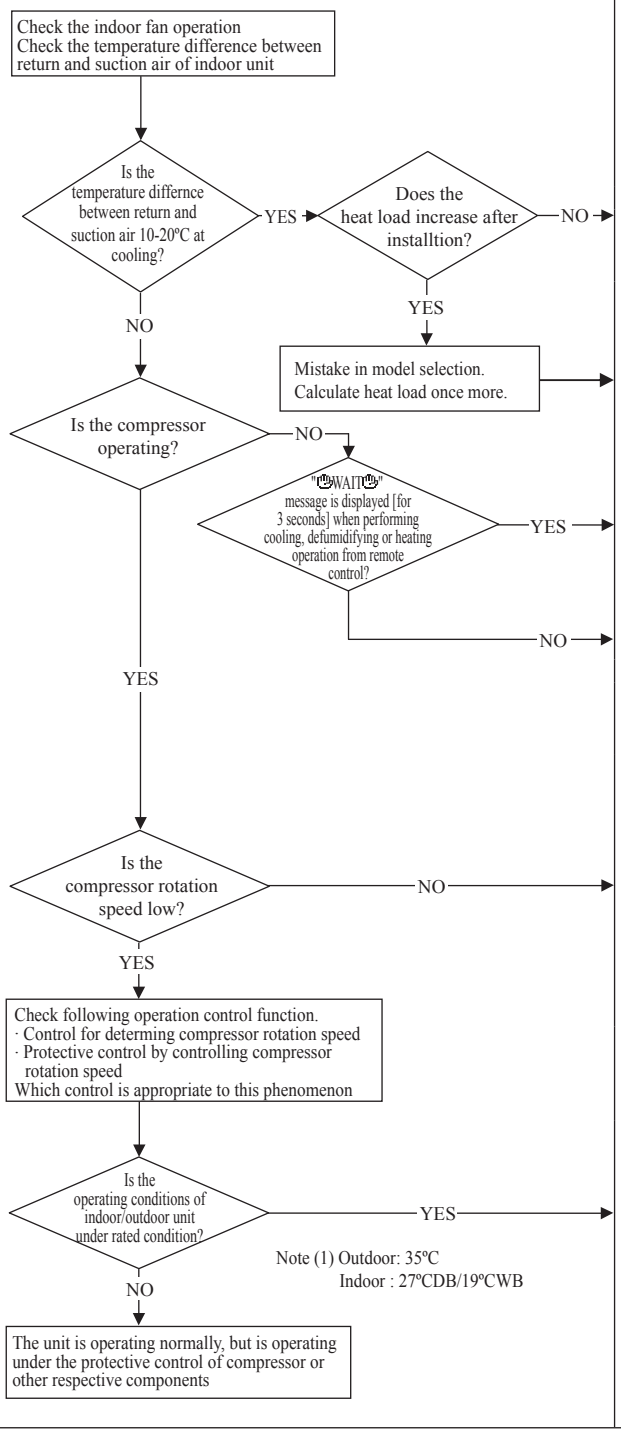
3. Condition of error displayed

4. Presumable cause

- Poor compression of compressor
- Expansion valve anomaly

5. Troubleshooting

Diagnosis



Countermeasure

It is normal.
(This unit is designed to start in the soft start mode by detecting the compressor under-dome temperature when it restart after power reset.)

It is necessary to replace to higher capacity unit or to install additional unit.

Compressor refrigerant oil protective control at starting is activated.
For the contents of control, refer to the compressor start control.

Compressor may be stopped by the error detection control.
For the contents of control, refer to anomalous stop control by controlling compressor rotation speed of microcomputer control function.

Check the followings
- Minor clogging of filter
- Minor fouling of heat exchanger
- Minor short-circuit of air flow
- Slightly insufficient or excessive refrigerant amount
- Poor compression of compressor

Check suspicious points considering appropriate operation control.

Check the followings for reference
- Severe clogging of filter
- Severe clogging of heat exchanger
- Severe short-circuit of air flow
- Severely insufficient or excessive refrigerant amount
- Under protective control of compressor
- Indoor unit fan tap setting
- Valid setting of silent mode

Note:

Error code

Remote control: None
7-segment display:

LED	Green	Red
Indoor	Keeps flashing	Stays Off
Outdoor	Keeps flashing	Stays Off

Content

Operates but does not heat

1. Applicable model

All models

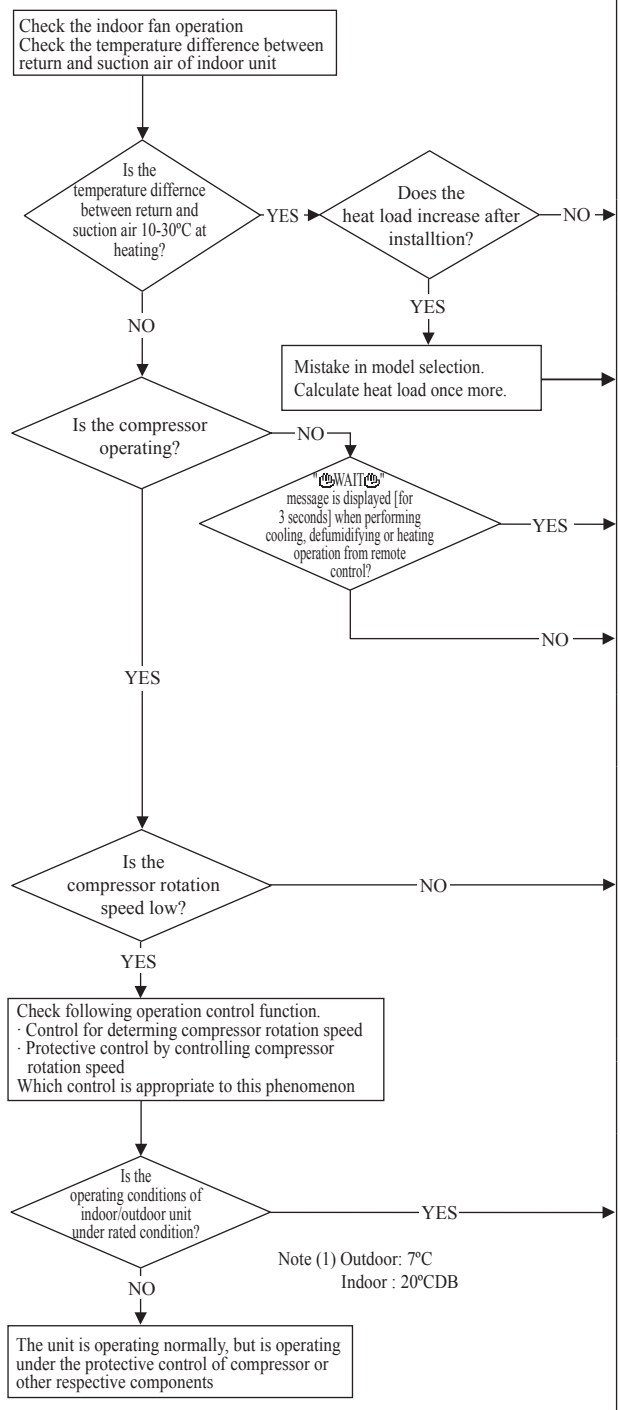
2. Error detection method

3. Condition of error displayed

4. Presumable cause

- 4-way valve anomaly
- Poor compression of compressor
- Expansion valve anomaly

5. Troubleshooting



Note:

Error code

Remote control: None
7-segment display:

LED	Green	Red
Indoor	Stays Off	Stays Off
Outdoor	Stays Off	Stays Off

Content

Earth leakage breaker activated

1.Applicable model

All models

2.Error detection method

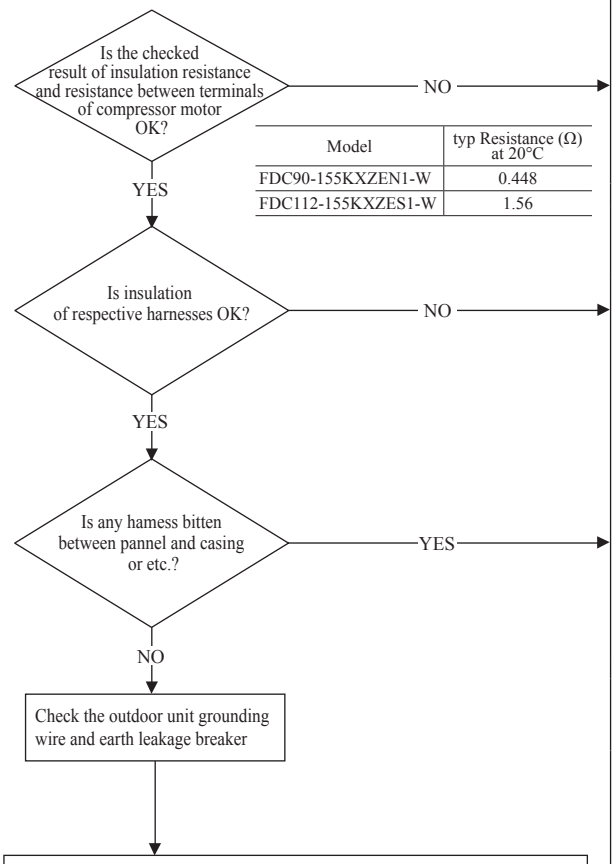
3. Condition of error displayed

4.Presumable cause

• Compressor anomaly
• Noise

5.Troubleshooting

Diagnosis



Model	typ Resistance (Ω) at 20°C
FDC90-155KXZEN1-W	0.448
FDC112-155KXZES1-W	1.56

Check of the outdoor unit grounding wire and earth leakage breaker

①Run an independent grounding wire from the grounding screw of outdoor unit to the grounding terminal on the distribution panel. (Do not connect to another grounding wire.)
②In order to prevent malfunction of the earth leakage breaker itself, confirm the conformity of high harmonic regulation.

* Insulation resistance of compressor
• Immediately after installation or when the unit has been left for long period without power source, the insulation resistance may drop to a few MΩ because of refrigerant migrated in the compressor.
When the earth leakage breaker is activated at lower insulation resistance, check the following points.
①6 hours after power ON, check if the insulation resistance recovers to normal.
When power ON, crankcase heater heat up compressor and evaporates the refrigerant migrated in the compressor.
②Check if the earth leakage breaker is conformed to higher harmonic regulation or not.
Since the unit has inverter, it is necessary to use components conformed to high harmonic regulation in order to prevent malfunction of earth leakage breaker.

Countermeasure

Note:

Error code	LED	Green	Red	Content
Remote control: None 7-segment display:	Indoor	–	–	Excessive noise/vibration (1/3)
	Outdoor	–	–	

1. Applicable model

All models

2. Error detection method

3. Condition of error displayed

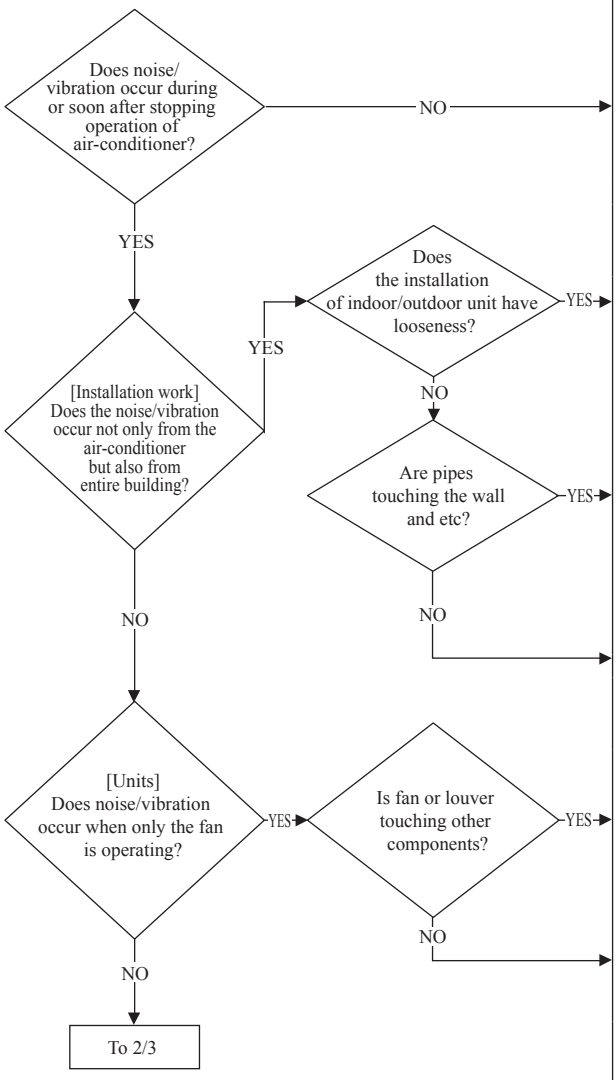
4. Presumable cause

① Improper installation work
- Improper vibration-proof work at instllation
- Insufficient strength of mounting surface

② Anomaly of product
- Before/after shipment from factory

③ Improper adjustment during commissioning
- Excessive/insufficient refrigerant.

5. Troubleshooting

Diagnosis	Countermeasure
	If excessive noise/vibration persists when sufficient time has elapsed after stopping the unit, it is considered that the air-conditioner is not the source. Check the installed condition carefully, and correct the installed position or insert rubber cushions into the gap or take other measure in order to eliminate looseness. Prevent the vibration from transmitting to wall and etc by fixing pipes on the wall tightly or wrapping rubber cushion around the pipe which goes through the hole in the wall or applying other appropriate means. Strength of ceiling wall, floo , etc. may be insufficient. Review the installation place or apply reinforcement to increase the strength. Check for leaning of installed unit or incorrect mounting of fan, louver or motor, and then specify the contacting point and correct it. When th eheat exchanger or filter is clogged, clean them. In case that the unit is installed at the site where background noise is very low, even the low level noise from indoor unit like as refrigerant flow noise can be heard, but it is normal. Before installation, check for background noise. If background noise is very low, convince client prior to installation.

Note:

Error code	LED	Green	Red	Content
Remote control: None 7-segment display:	Indoor	–	–	Excessive noise/vibration (2/3)
	Outdoor	–	–	

1. Applicable model

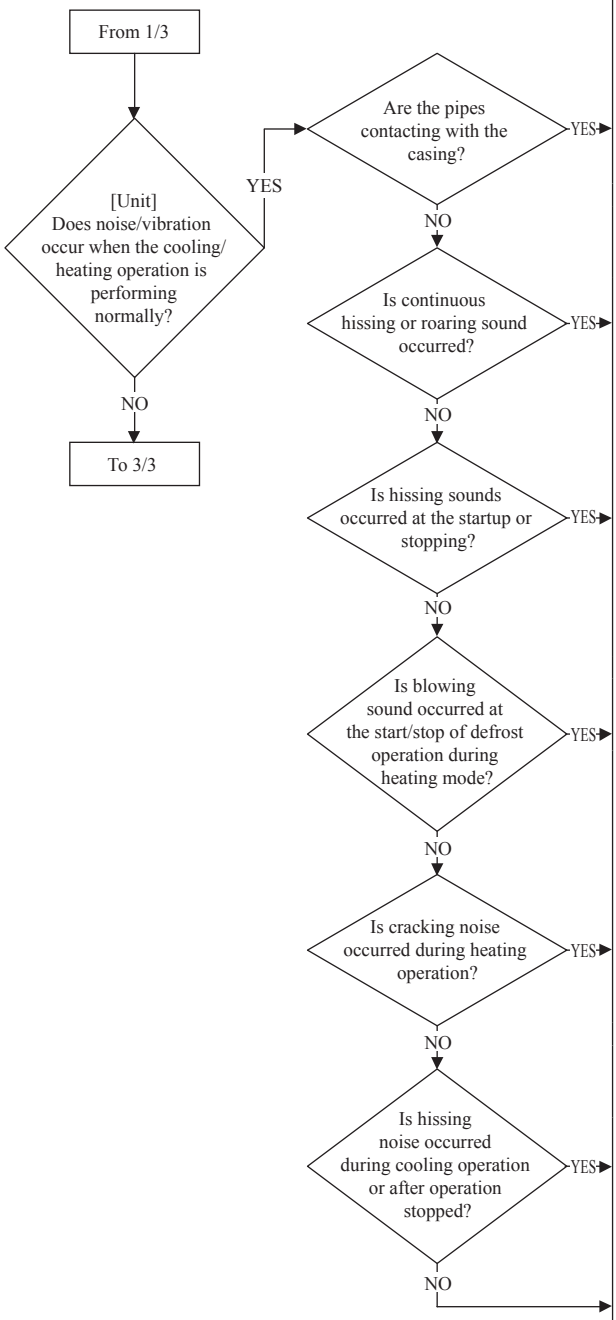
All models

2. Error detection method

3. Condition of error displayed

4. Presumable cause

5. Troubleshooting



Diagnosis	Countermeasure
Are the pipes contacting with the casing? YES	Rearrange the piping to avoid contact with the casing.
Is continuous hissing or roaring sound occurred? YES	Noise/vibration is generated when the refrigerant gas or liquid flows through inside of piping of air-conditioner. It is likely to occur particularly during cooling or defrost operation in the heating mode. It is normal.
Is hissing sounds occurred at the startup or stopping? YES	The noise/vibration occurs when the refrigerant starts or stops flowing. It is normal.
Is blowing sound occurred at the start/stop of defrost operation during heating mode? YES	When the defrost operation starts or stops during heating mode, the refrigerant flow is reversed due to switching 4-way valve. This causes a large change in pressure wich produces a blowing sound. It may also accompany the hissing sound as mentioned above. This is normal.
Is cracking noise occurred during heating operation? YES	After the start or stop of heating operation or during defrost operation, abrupt changes in temperature cause resin parts to shrink or expand. This is normal.
Is hissing noise occurred during cooling operation or after operation stopped? YES	It is the sound produced by the drain pump that discharges drain from indoor unit. The pump continues to run for 5 minutes after stopping the cooling operation. This is normal.
NO	Apply the damper sealant at the place considered to be the sources such as the pressure reducing mechanism. (Expansion valve, capillary tube, etc.)

Note:

Error code	LED	Green	Red	Content
Remote control: None 7-segment display:	Indoor	–	–	Excessive noise/vibration (3/3)
	Outdoor	–	–	

1. Applicable model

All models

2. Error detection method

3. Condition of error displayed

4. Presumable cause

5. Troubleshooting

Diagnosis	Countermeasure
From 2/3 [Adjustment during commissioning] Does noise/vibration occur when the cooling/heating operation is performed under anomalous condition? YES	If insufficient cooling heating problem happens due to anomalous operating conditions at cooling /heating, followings are suspicious. • Excessive charged amount of refrigerant • Insufficient charge amount of refrigerant • Intrusion of air, nitrogen, etc. In such case, it is necessary to recover refrigerant, vacuum-dry and recharge refrigerant. * Since there could be many causes of noise/ vibration, the above may not cover all. In such case, check the conditions when, where, how the noise/vibration occurs according to following check points and ask our consultation. • Indoor/outdoor unit • Cooling/heating/fan mode • Startup/stop/during operation • Operating condition (Indoor/outdoor temperatures and pressures) • Time it occurred • Operation data retained by remote control or Mente PC such as compressor rotation speed, heat exchanger temperature, EEV opening degree and etc. • Tone (If available, record the noise) • Any other anomalies

Note:

Error code	LED	Green	Red	Content
Remote control: None 7-segment display :	Indoor	Keeps flashing	Stays OFF	Louver motor anomaly
	Outdoor	Keeps flashing	Stays OFF	

1.Applicable model

All models

2.Error detection method

3. Condition of error displayed

4.Presumable cause

- Defective LM
- LM wire breakage
- Indoor unit PCB anomaly

5.Troubleshooting

Diagnosis	Countermeasure
▲ Check at the indoor unit side. Operate after waiting for more than 1 minute. Does the louver operate at the power on? NO Is LM wiring broken? NO YES YES Is LM locked? NO YES Is the louver operable with the remote control? YES NO LM: louver motor	Repair wiring. Indoor unit PCB anomaly → Replace it. Replace LM. Normal Replace louver motor. (If errors persist even after replacing the louver motor, replace the indoor unit PCB.)

Note:

Error code

Remote control: None
7-segment display:

LED	Green	Red
Indoor	Stays OFF	Stays OFF
Outdoor	Stays OFF	2-time flash

Content: Power source system anomaly (Power source to indoor unit PCB)

1. Applicable model

FDT, FDTC, FDK series only

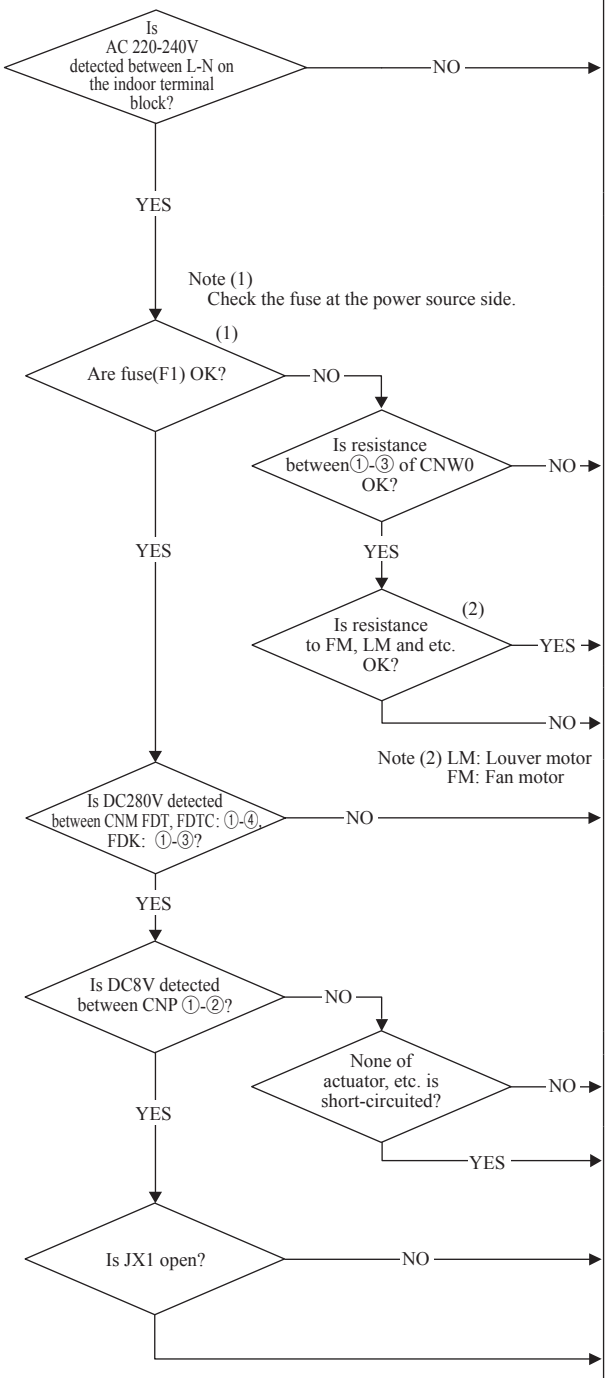
2. Error detection method

3. Condition of error displayed

4. Presumable cause

- Wrong connection or breakage of connecting wires
- Blown fuse
- Indoor unit PCB anomaly
- Broken harness

5. Troubleshooting



Note:

Error code

Remote control: None
7-segment display:

LED	Green	Red
Indoor	Keeps flashing	Stays OFF
Outdoor	Keeps flashing	2-time flash

Content

Power source system anomaly (Power source to remote control)

1. Applicable model

FDT, FDTC, FDK series only

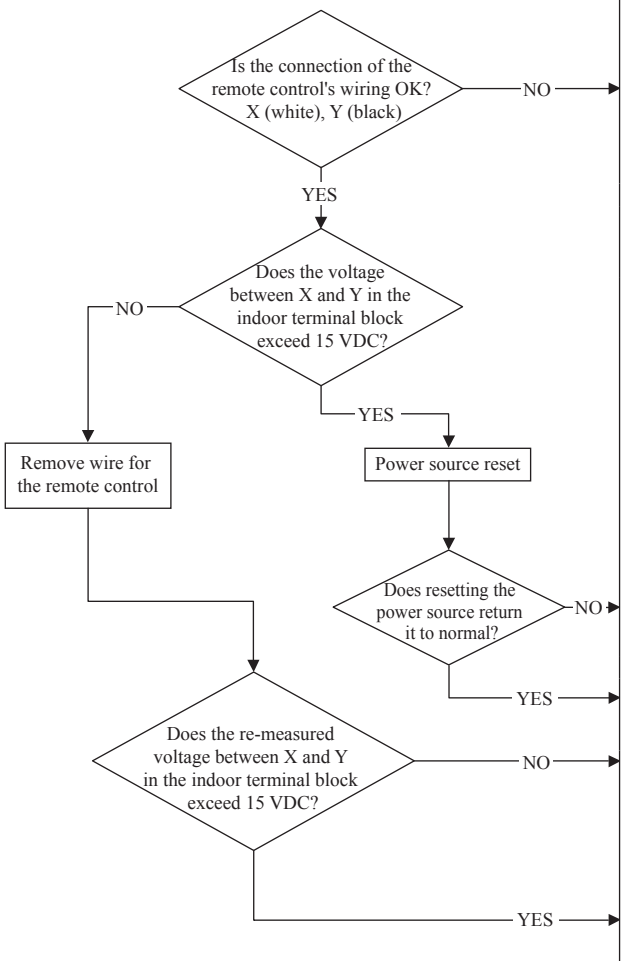
2. Error detection method

3. Condition of error displayed

4. Presumable cause

- Remote control wire breakage/short-circuit
- Defective remote control
- Malfunction by noise
- Broken harness
- Faulty indoor unit control PCB

5. Troubleshooting



Note:

Error code	LED	Green	Red	Content
Remote control: WAIT /Searching IU 7-segment display:	Indoor	Keeps flashing	Stays Off	WAIT /Searching IU (1)
	Outdoor			

1.Applicable model

Remote control and indoor units

(In case that WAIT /Searching IU is kept on displaying on the remote control for more than 2 minutes after power ON)

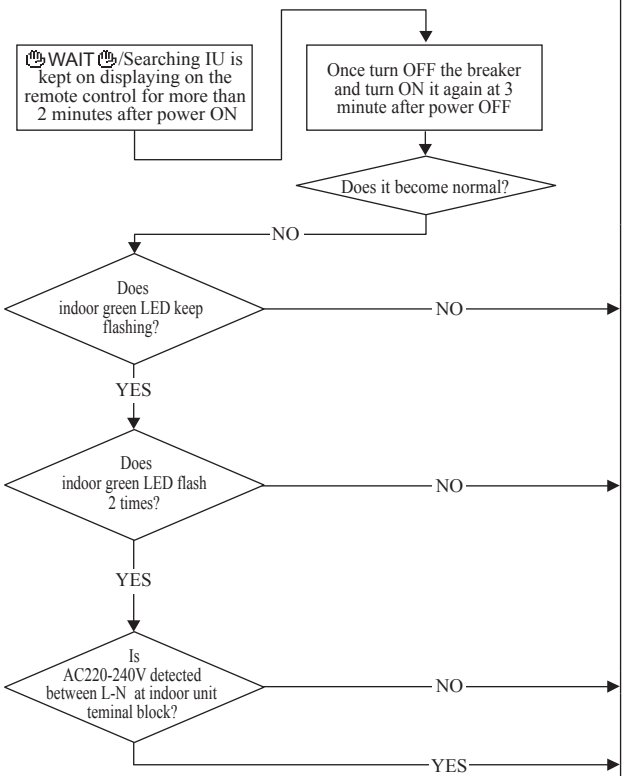
2.Error detection method

3. Condition of error displayed

4.Presumable cause

- Fuse blown
- Anomalous connection of wire between PCBs
- Indoor unit control PCB anomaly
- Remote control anomaly
- Breakage of connecting wires of remote control

5.Troubleshooting



Note: (1) When anomaly occurs during establishing communication betweeen indoor and outdoor unit, error code E5 is displayed (outdoor red LED flash 2-time)
In case of E5, the way of troubleshooting is same as above mentioned (except for checking of connecting wire)
When reset the power after E5 occurs, if this anomaly recurs, WAIT /Searching IU is displayed on remote control. If power ON/OFF is repeated in a short period (within 1 minute), WAIT /Searching IU may be displayed. In such case, please wait for 3 minute after the power breaker OFF.

(2) If any error is detected 30 minutes (10 minutes in case of Eco touch) after displaying " WAIT " /Searching IU on the remote control, the display changes to "INSPECT I/U".

Error code

Remote control: WAIT

7-segment display:

LED	Green	Red
Indoor	Keeps flashing	Stays OFF
Outdoor	Keeps flashing	Keeps flashing

Content

WAIT (2)

1. Applicable model

All models

(No display on the remote control after power ON.)

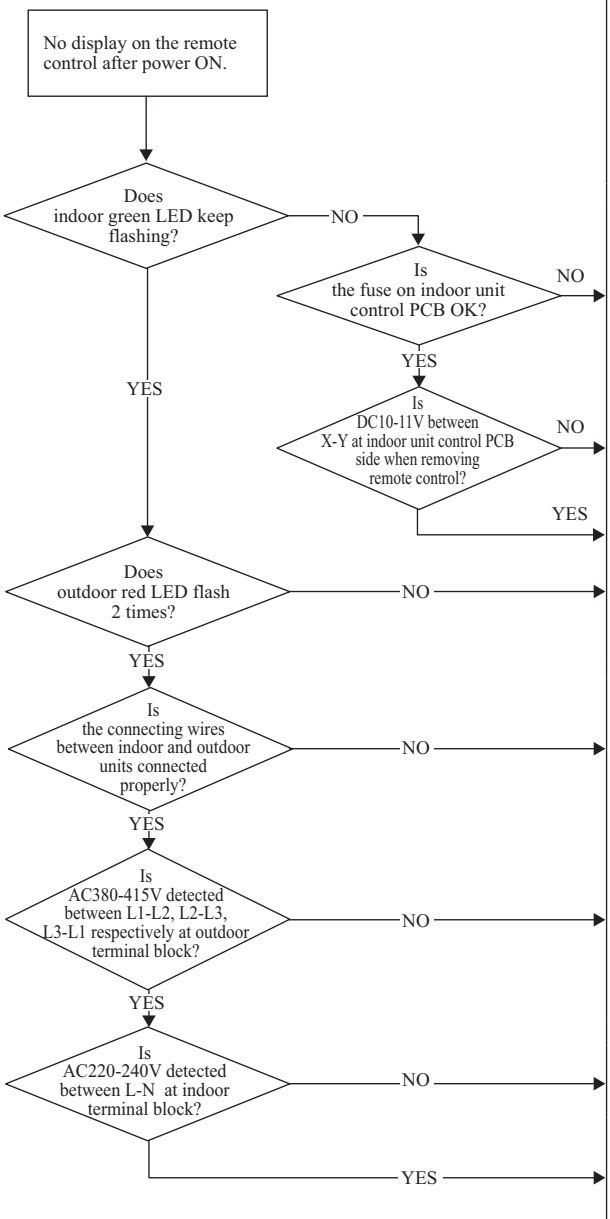
2. Error detection method

3. Condition of error displayed

4. Presumable cause

- Fuse blown
- Noise filter anomaly
- Anomalous connection of wire between PCBs
- Indoor unit PCB anomaly
- Remote control anomaly
- Breakage of connecting wires of remote control
- Outdoor unit control PCB anomaly

5. Troubleshooting



Note:

Error code

Remote control: WAIT

7-segment display:

LED	Green	Red
Indoor	Keeps flashing	Stays OFF
Outdoor	Keeps flashing	Keeps flashing

Content

WAIT (3)

1. Applicable model

All models

(In case that WAIT is kept on displaying on the remote control for more than 2 minutes after power ON.)

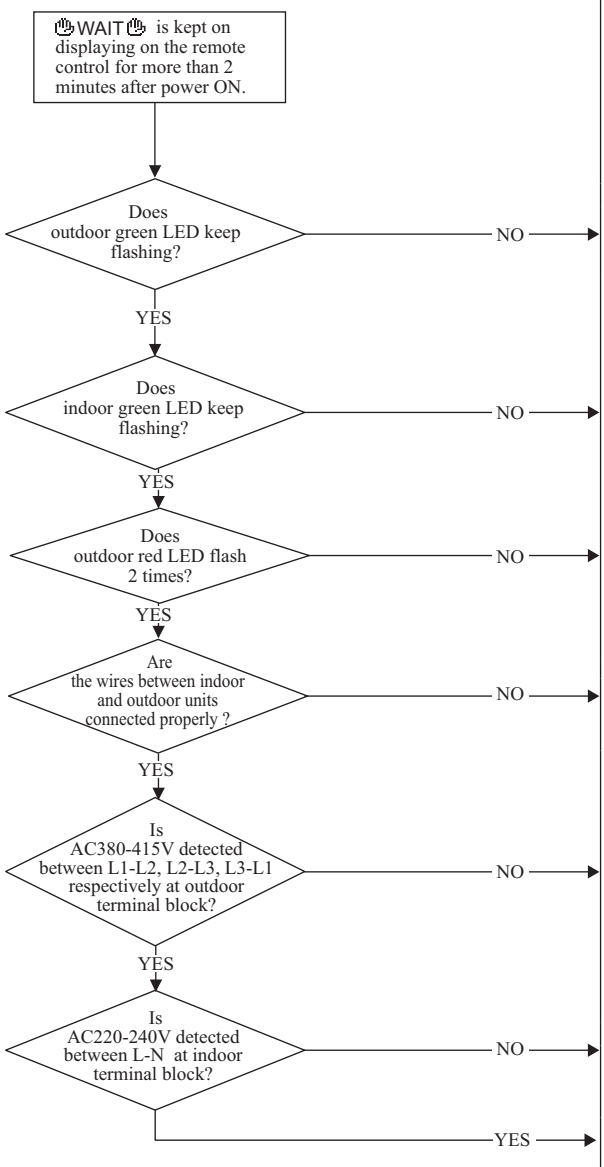
2. Error detection method

3. Condition of error displayed

4. Presumable cause

- Fuse blown
- Noise filter anomaly
- Anomalous connection of wire between PCBs
- Indoor unit PCB anomaly
- Remote control anomaly
- Breakage of connecting wires of remote control
- Outdoor unit control PCB anomaly

5. Troubleshooting



Note:

Error code

Remote control: 〔No display〕
7-segment display:

LED	Green	Red
Indoor	Stays OFF	Stays Off
Outdoor	Stays OFF	Stays Off

Content

[No display]

1.Applicable model

All models

(No display on the remote control after power ON)

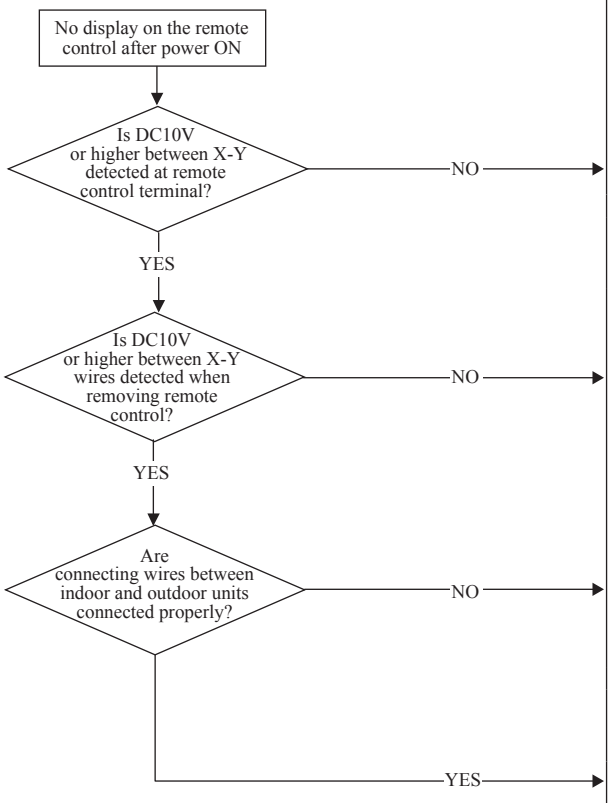
2. Error detection method

3. Condition of error displayed

4.Presumable cause

- Fuse blown
- Noise filter anomaly
- Anomalous connection of wire between PCBs
- Indoor unit control PCB anomaly
- Remote control anomaly
- Breakage of connecting wires of remote control
- Outdoor unit control PCB anomaly

5.Troubleshooting



Note:

Error code	LED	Green	Red	Content
Remote control: E1 7-segment display:	Indoor	Keeps flashing	Stays Off	Remote control communication error
	Outdoor	Keeps flashing	Stays Off	

1. Applicable model

All models

2. Error detection method

When normal communication is interrupted for more than 2 minutes between the remote control and the indoor unit (Detectable only with the remote control)

3. Condition of error displayed

Same as above

4. Presumable cause

- Defective communication circuit between remote control and indoor unit
- Noise

5. Troubleshooting

Diagnosis	Countermeasure
(3) Is it possible to reset normally by the power source reset? — YES	Malfunction by noise Check peripheral environment.
NO → (1) Note (1) SW7-1: OFF → ON Turn SW7-1 to OFF → ON Disconnect the wire A or B between indoor and outdoor units. Reset power source.	
(2) Note (2) Only unit with drain pump Does the drain pump restart automatically 1 minute later? — YES	Defective remote control or defective indoor PCB → Replace.
NO → Connect the wire A or B between indoor and outdoor units.	
Note (3) Does the remote control displays "Internal check ON" [ ] even after 3 minutes?	Move to E5(Communication error during operation)diagnosis.

Note: If the indoor unit cannot communicate normally with the remote control for 180 seconds, the indoor unit PCB starts to reset automatically.

Error code	LED	Green	Red	Content
Remote control: E2 7-segment display:	Indoor	Keeps flashing	Keeps flashing	Duplicated indoor unit address
	Outdoor	Keeps flashing	Stays Off	

1. Applicable model

All models

2. Error detection method

More than 129 indoor units are connected in the same Superlink system.
Duplicated indoor unit address

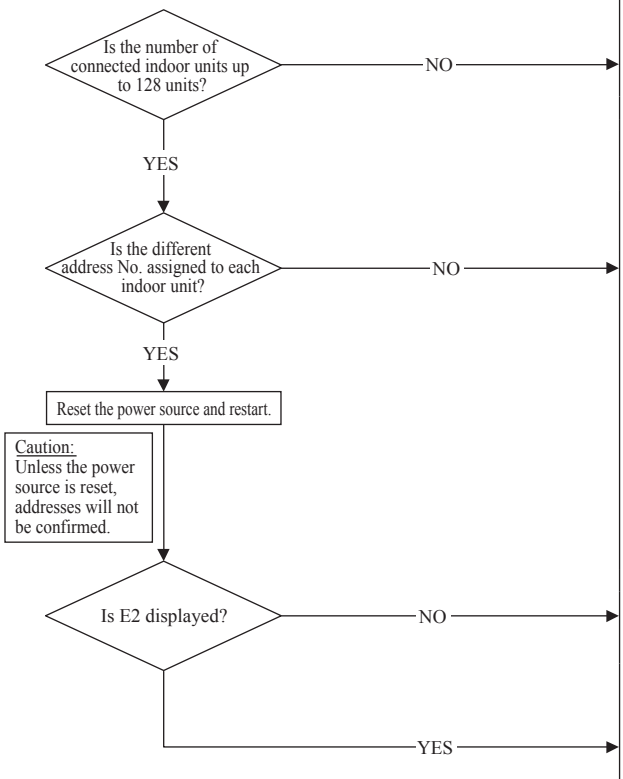
3. Condition of error displayed

Same as above

4. Presumable cause

- Number of connected indoor units exceeds the limitation.
- Duplicated indoor unit address
- Indoor unit control PCB anomaly

5. Troubleshooting



Note:

Error code	LED	Green	Red	Content
Remote control: E3/5 7-segment display:	Indoor	Keeps flashing	2 times flash	Outdoor unit signal line error
	Outdoor	Keeps flashing	Stays Off	

1.Applicable model

All models

2.Error detection method

No outdoor unit exists in the same Superlink system.

3. Condition of error displayed

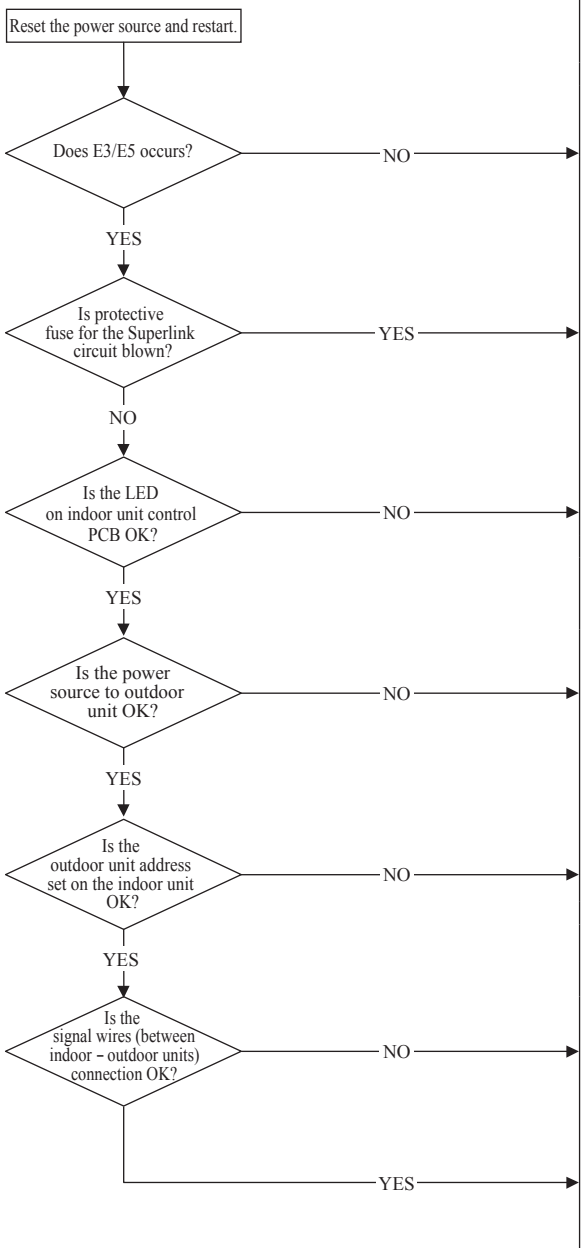
Same as above

4.Presumable cause

- Power is not supplied to the outdoor unit
- Unmatch of pairing between indoor and outdoor units
- Indoor unit control PCB anomaly
- Outdoor unit control PCB anomaly
- Missing local wiring

5.Troubleshooting

E3 is a communication error that occurs when communication between indoor and outdoor units is not established at all. Once the communication between indoor and outdoor units is established, it changes to E5.
In both cases, check signal wires (between indoor-outdoor units) locally.



Note:

Error code	LED	Green	Red	Content
Remote control: E5 7-segment display:	Indoor	Keeps flashing	*See below	Communication error during operation
	Outdoor	Keeps flashing	2 time flash	

1.Applicable model

All models

2.Error detection method

When the communication between indoor and outdoor units is interupted for more than 2 minutes

3. Condition of error displayed

When this anomaly is detected during operation.

4.Presumable cause

- Unit address No. setting error
- Remote control wires broken
- Poor connection/disconnection of remote control wires
- Indoor unit control PCB anomaly

5.Troubleshooting

Diagnosis	Countermeasure
* In case that indoor unit red LED flashes 2 times Note (1) Check the connection (disconnection, looseness) of signal wires at outdoor unit terminal block Is the connection of signal wires at the outdoor unit side OK? NO	Repair signal wires.
YES Note (2) Check the connection (disconnection, looseness, brakage) of signal wires (between indoor and outdoor units) Is the connection of signal wires (between indoor and outdoor units) OK? NO	Repair signal wires.
YES Reset the power source and restart. Does the remote control LCD becomes normal? NO	Go to the diagnosis of ✋WAIT✋/Searching IU (1).
YES	Unit is normal. (Malfunction by temporary noise, etc.)
* In case that indoor unit red LED stays OFF Reset the power source and restart. Does the remote control LCD becomes normal? NO	Outdoor unit control PCB anomaly (Network communicaion circuit anomaly) → Replace it.
YES	Unit is normal. (Malfunction by temporary noise, etc.)

Note: When the pump down switch is turned on, communication between indoor and outdoor units is cancelled so that "Communication error E5" will be displayed on the remote control and indoor unit control PCB, but this is normal.

Error code

Remote control: E6
7-segment display:

LED	Green	Red
Indoor	Keeps flashing	1-time flash
Outdoor	Keeps flashing	Stays OFF

Content

Indoor unit heat exchanger temperature sensor anomaly (Thi-R)

1. Applicable model

All models

2. Error detection method

Detection of anomalously low temperature (resistance) of Thi-R1, R2, R3

3. Condition of error displayed

- When disconnection is detected continuously for 5 seconds, or short circuit is detected continuously for 5 seconds.

4. Presumable cause

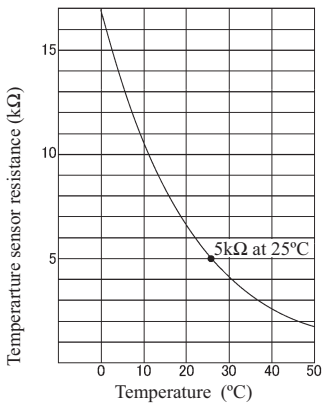
- Anomalous connection of indoor unit heat exchanger temperature sensor
- Indoor unit heat exchanger temperature sensor anomaly
- Indoor unit PCB anomaly

5. Troubleshooting

Diagnosis	Countermeasure
Is the connector of temperature sensor connected properly ? — NO	Insert the connector securely.
YES → Regarding the characteristics of the temperature sensor, see the following chart. Are the characteristics of temperature sensor OK? *1 — NO	Replace temperature sensor. (Thi-R)
YES	Replace indoor unit PCB.

*1 Check several times to prove any poor connection

Temperature-resistance characteristics of indoor unit heat exchanger temperature sensor (Thi-R1, R2, R3)



Note:

Error code	LED	Green	Red	Content
Remote control: E7 7-segment display:	Indoor	Keeps flashing	1-time flash	Indoor return air temperature sensor anomaly (Thi-A)
	Outdoor	Keeps flashing	Stays OFF	

1. Applicable model

All models

2. Error detection method

Detection of anomalously low temperature (resistance) of Thi-A.

3. Condition of error displayed

- When disconnection is detected sontinuously for 5 seconds, or short circuit is detected sontinuously for 5 seconds.

4. Presumable cause

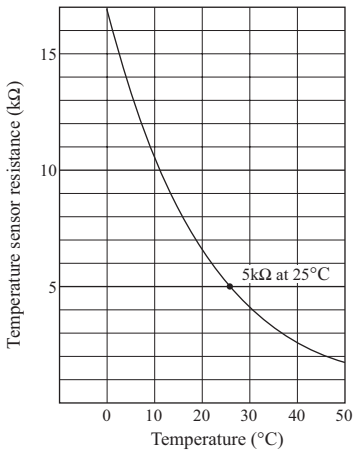
- Anomalous connection of indoor return air temperature sensor
- Indoor return air temperature sensor anomaly
- Indoor unit PCB anomaly

5. Troubleshooting

Diagnosis	Countermeasure
Is the connector of temperature sensor connected properly ? — NO	Insert the connector securely.
YES → Regarding the characteristics of the temperature sensor, see the following chart.	
Are the characteristics of temperature sensor OK? *1 — NO	Replace temperature sensor (Thi-A).
YES	Replace indoor unit PCB.

*1 Check several times to prove any poor connection

Temperature-resistance characteristics of indoor return air temperature sensor (Thi-A)



Note:

Error code	LED	Green	Red	Content
Remote control: E9 7-segment display:	Indoor	Keeps flashing	1 time flash	Drain trouble
	Outdoor	Keeps flashing	Stays Off	

1.Applicable model

FDT and FDTC series

2.Error detection method

Float switch is activated

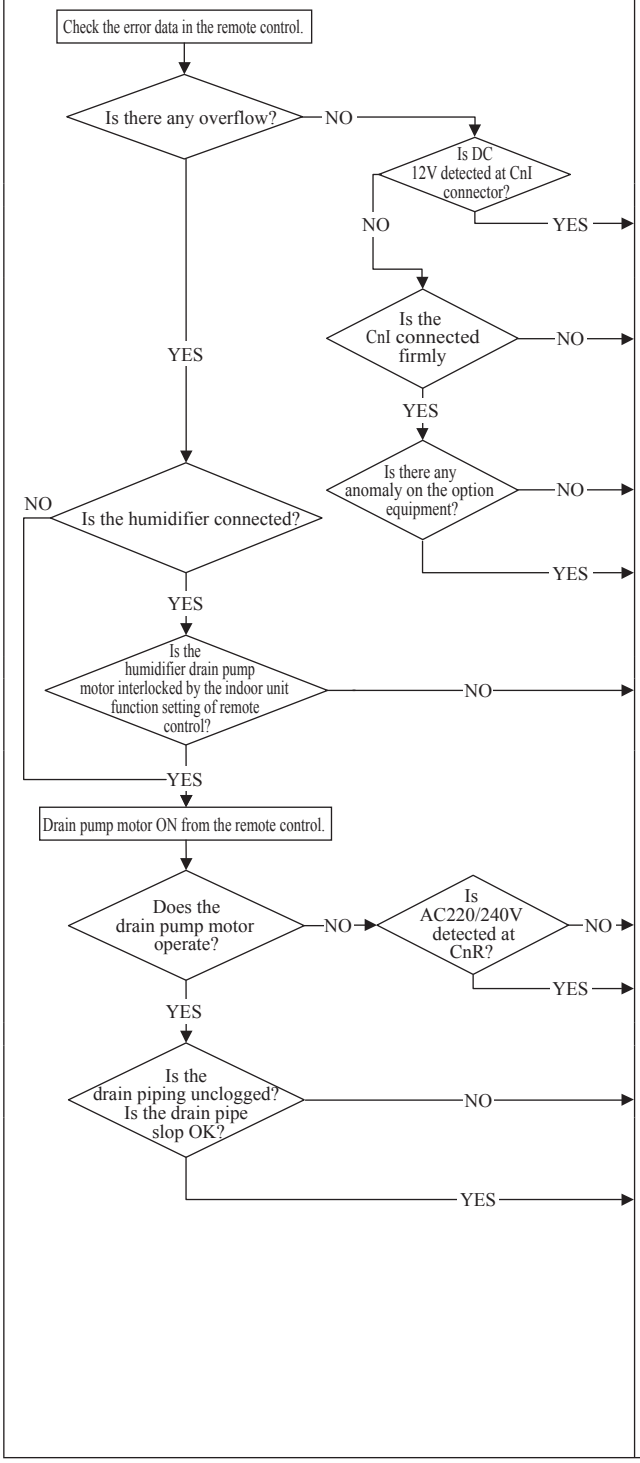
3. Condition of error displayed

If the float switch OPEN is detected for 3 seconds continuously or if float switch connector is disconnected or wire broken.

4.Presumable cause

- Indoor unit control PCB anomaly
- Mistake in setting of float switch
- Mistake in setting of humidifier drain pump motor interlock
- Mistake in setting of option equipment
- Mistake in drain piping
- Drain pump motor anomaly
- Disconnection/breakage of drain pump motor wires

5.Troubleshooting



Note: When this anomaly occurs at power ON, disconnection of connector or breakage of wire of float switch is suspected. Check and correct it (or replace it, if necessary).

Error code	LED	Green	Red	Content
Remote control: E10 7-segment display:	Indoor	Keeps flashing	Stays Off	Excessive number of indoor units (more than 17 units) by controlling one remoto control
	Outdoor	Keeps flashing	Stays Off	

1.Applicable model

All models

2. Error detection method

When it detects more than 17 of indoor units connected to one remote contorl

3. Condition of error displayed

Same as above

4. Presumable cause

- Excessive number of indoor units connected.
- Remote control anomaly.

5. Troubleshooting

Diagnosis	Countermeasure
Aren't more than 17 indoor units connected to one remote control? — NO	Remote control anomaly → Replace it.
YES	Reduce to 16 or less units.

Note:

Error code	LED	Green	Red	Content
Remote control: E11 7-segment display:	Indoor	Keeps flashing	Stays OFF	Address setting error between master and slave indoor units
	Outdoor	Keeps flashing	Stays OFF	

1. Applicable model

All models

2. Error detection method

IU address has been set using the “Master IU address set” function of remote control.

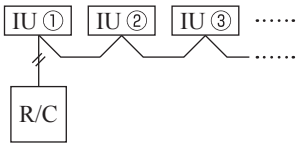
3. Condition of error displayed

Same as above

4. Presumable cause

Same as above

5. Troubleshooting

Diagnosis	Countermeasure
E11 occurs ↓ Is “Master IU address set” function of remote control used? YES →	• In cases of RC-EX3A Menu → Service setting → IU settings → Service password → IU Select • In cases of RC-E5 Return address No. to “IU ···” using [▲] or [▼] button.
In case the wiring is below and “Master IU address set” is used, E11 is appeared. 	

Note:

Error code	LED	Green	Red	Content
Remote control: E12 7-segment display:	Indoor	Keeps flashing	Keeps flashing	Address setting error by mixed setting method
	Outdoor	Keeps flashing	Stays OFF	

1. Applicable model

All models

2. Error detection method

Automatic address setting and manual address setting are mixed when setting address of indoor units.

3. Condition of error displayed

Same as above

4. Presumable cause

Mistake in address setting for indoor unit.

5. Troubleshooting

Diagnosis	Countermeasure
Is the automatic setting and manual setting mixed in the address setting method for indoor units? — YES	Review address setting.
Is the automatic setting and manual setting mixed in the address setting method for indoor units? — NO	Replace indoor unit PCB.

Address setting method list (Figures in [ ] are for previous Superlink models)

		Models for new Superlink protocol			Models for previous Superlink protocol		
		Indoor unit address setting		Outdoor unit address setting	Indoor unit address setting		Outdoor unit address setting
		Indoor unit No. SW	Outdoor unit No. SW	Outdoor unit No. SW	Indoor unit No. SW	Outdoor unit No. SW	Outdoor unit No. SW
Manual address setting	(New SL)	000-127	00-31	00-31	00-47	00-47	00-47
	(Previous SL)	[00-47]	[00-47]	[00-47]			
Automatic address setting for single refrigerant system	(New SL)	000	49	49	49	49	49
	(Previous SL)						
Automatic address setting for multiple refrigerant systems	(New SL)	000	49	00-31	Not available		
	(Previous SL)	Not available					

Note:

Error code

Remote control: E16
7-segment display:

LED	Green	Red
Indoor	Keeps flashing	1-time flash
Outdoor	Keeps flashing	Stays OFF

Content

Indoor DC fan motor anomaly

1. Applicable model

FDT, FDTC, FDK series only

2. Error detection method

Detected by rotation speed of indoor fan motor

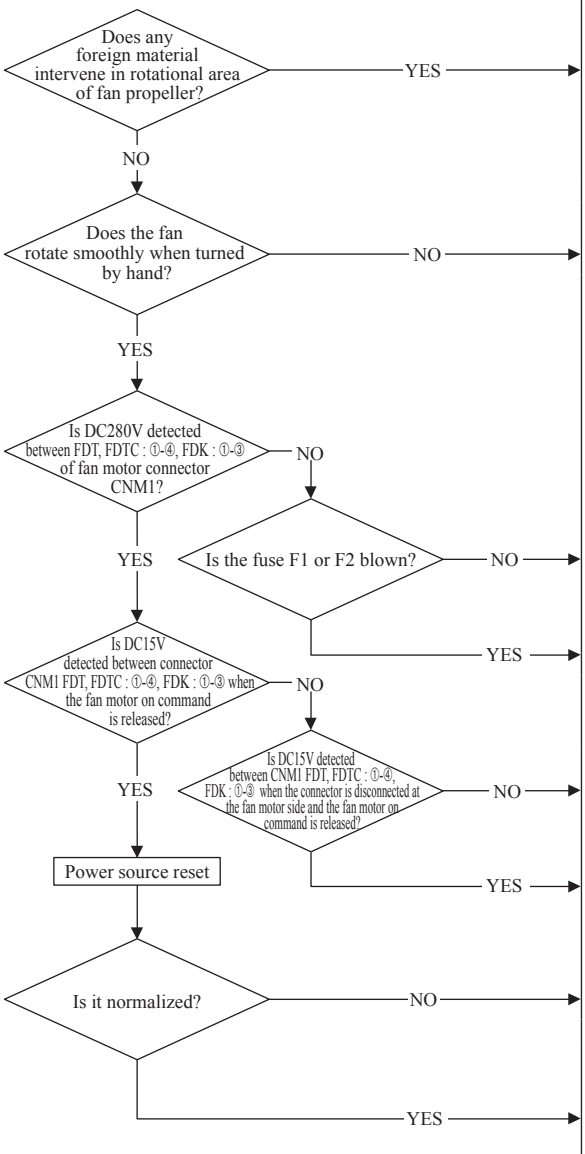
3. Condition of error displayed

- When actual rotation speed of indoor fan motor drops to lower than 200min^{-1} for 30 seconds continuously, the compressor and the indoor fan motor stop.
- After 2 seconds, it starts again automatically, but if this error occurs 4 times within 60 minutes after the initial detection.

4. Presumable cause

- Defective indoor unit PCB
- Foreign material at rotational area of fan propeller
- Defective fan motor
- Dust on PCB
- Blown fuse
- External noise, surge

5. Troubleshooting



Note:

Error code	LED	Green	Red	Content
Remote control: E19 7-segment display:	Indoor	Keeps flashing	1 time flash	Indoor unit operation check, drain pump motor check mode anomaly
	Outdoor	Keeps flashing	Stays Off	

1. Applicable model

All models

2. Error detection method

When communication between the indoor unit and outdoor unit is restored in the operation check mode

3. Condition of error displayed

Same as above

4. Presumable cause

Mistake in SW7-1 setting
Due to forgetting to turn OFF SW7-1 after indoor unit operation check)

5. Troubleshooting

Diagnosis	Countermeasure
E19 occurs when the power ON ↓ Is SW7-1 on the indoor unit control PCB ON? NO →	Indoor unit control PCB anomaly (Anomalous SW7) → Replace.
YES →	Turn SW7-1 on the indoor unit control PCB OFF and reset the power.

Note: Indoor unit operation check/drain pump check mode
If the power is ON after SW7-1ON. indoor unit operation check/drain pump check mode can be established.
1) When the communication between remote control and indoor unit PCB is established 15 seconds after power ON, it goes to indoor unit operation check.
2) When the communication between remote control and indoor unit PCB is not established, it goes to drain pump check (CnB connector should be open before power ON)

Error code	LED	Green	Red	Content
Remote control: E20 7-segment display:	Indoor	Keeps flashing	1-time flash	Indoor DC fan motor rotation speed anomaly
	Outdoor	Keeps flashing	Stays OFF	

1. Applicable model

FDT, FDTC, FDK series only

2. Error detection method

Detected by rotation speed of indoor fan motor

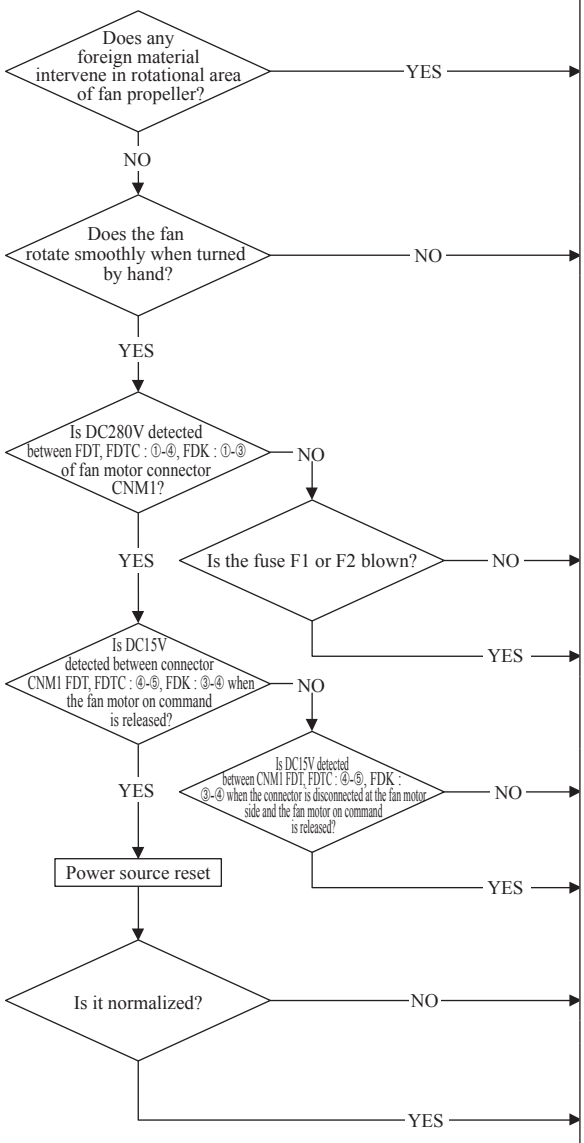
3. Condition of error displayed

When the actual fan rotation speed does not reach to the speed of [required speed -50 min^{-1}] after 2 minutes have been elapsed since the fan motor rotation speed command was output, the unit stops by detecting indoor fan motor anomaly.

4. Presumable cause

- Defective indoor unit PCB
- Foreign material at rotational area of fan propeller
- Defective fan motor
- Dust on PCB
- Blown fuse
- External noise, surge

5. Troubleshooting



Note:

Error code	LED	Green	Red	Content
Remote control: E28 7-segment display:	Indoor	Keeps flashing	Stays OFF	Remote control temperature sensor anomaly (Thc)
	Outdoor	Keeps flashing	Stays OFF	

1. Applicable model

All models

2. Error detection method

Detection of anomalously low temperature (resistance) of Thc.

3. Condition of error displayed

- If -50ºC or lower is detected for 5 seconds continuously, compressor stops. After 3-minute delay, the compressor is restarted automatically, but if this anomaly occurs again within 60 minutes after the initial detection.

4. Presumable cause

- Anomalous connection of remote control temperature sensor
- Remote control temperature sensor anomaly
- Remote control PCB anomaly

5. Troubleshooting

Diagnosis	Countermeasure
Is the connector of temperature sensor connected properly ? — NO	Insert the connector securely.
YES → Regarding the characteristics of the temperature sensor, see the following table.	
Are the characteristics of temperature sensor OK? Is the temperature sensor wire OK ? *1 — NO	Replace temperature sensor (Thc).
YES	Replace indoor unit PCB.

*1 Check several times to prove any poor connection.

Temperature-resistance characteristics of remote control temperature sensor (Thc).

Temperature (°C)	Resistance (kΩ)	Temperature (°C)	Resistance (kΩ)	Temperature (°C)	Resistance (kΩ)	Temperature (°C)	Resistance (kΩ)
0	65	14	33	30	16	46	8.5
1	62	16	30	32	15	48	7.8
2	59	18	27	34	14	50	7.3
4	53	20	25	36	13	52	6.7
6	48	22	23	38	12	54	6.3
8	44	24	21	40	11	56	5.8
10	40	26	19	42	9.9	58	5.4
12	36	28	18	44	9.2	60	5.0

Note: After 10 seconds has elapsed since remote control temperature sensor was switched from invalid to valid, E28 will not be displayed even if the temperature sensor harness is disconnected or broken. However, in such case, the indoor return air temperature sensor (Thi-A) will be valid instantly instead of the remote control temperature sensor (Thc).
Please note that even though the remote control temperature sensor (Thc) is valid, the displayed return air temperature on the remote control LCD shows the value detected by the indoor return air temperature sensor (Thi-A), not by the remote control temperature sensor (Thc).

Error code	LED	Green	Red	Content
Remote control: E30 7-segment display: E30	Indoor	Keeps flashing	Stays Off	EEVKIT False connection detection
	Outdoor	Keeps flashing	1 time flash	

1. Applicable model

Outdoor unit

2. Error detection method

When an unspecified indoor unit is connected.

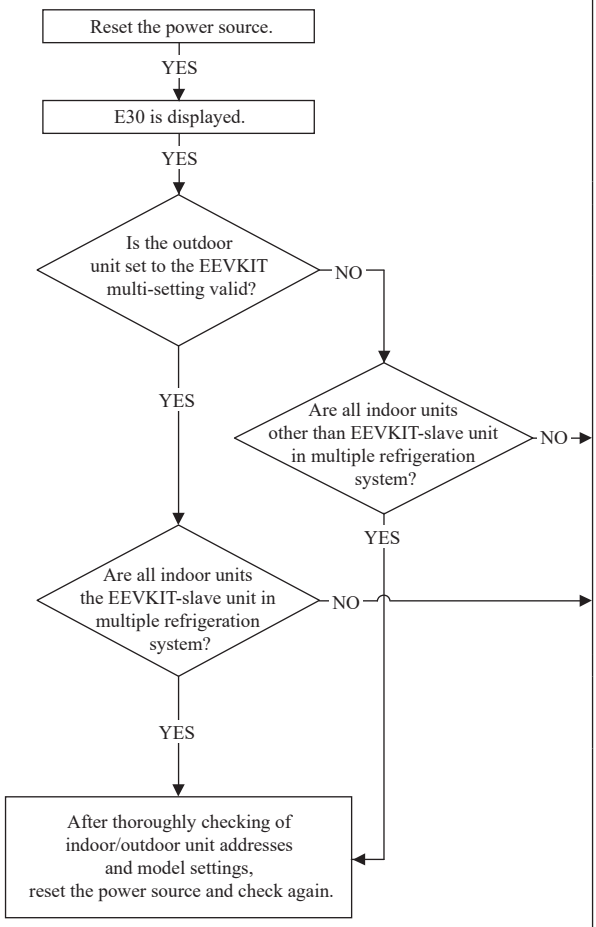
3. Condition of error displayed

- When the outdoor unit is set to the EEVKIT multi-setting invalid and one of the indoor unit is the EEVKIT-slave unit in multiple refrigeration system.
- When the outdoor unit is set to the EEVKIT multi-setting valid and one of the indoor unit is not the EEVKIT-slave unit in multiple refrigeration system.

4. Presumable cause

- Incorrect combination of indoor units
- Improper setting of EEVKIT multi-setting for outdoor unit

5. Troubleshooting

Diagnosis	Countermeasure
	Ensure that all indoor units are other than EEVKIT-slave unit in multiple refrigeration system. Ensure that all indoor units are EEVKIT-slave unit in multiple refrigeration system.

Note: For EEVKIT, refer to 19-KX-T-335

Error code	LED	Green	Red	Content
Remote control: E31 7-segment display: E31	Indoor	Keeps flashing	Stays Off	Duplicated outdoor unit address No.
	Outdoor	Keeps flashing	1 time flash	

1. Applicable model

Outdoor unit

2. Error detection method

When it finds any duplicated address No. exsisted in the same Superlink system by scanning the address No. set for each outdoor unit with microcomputer.

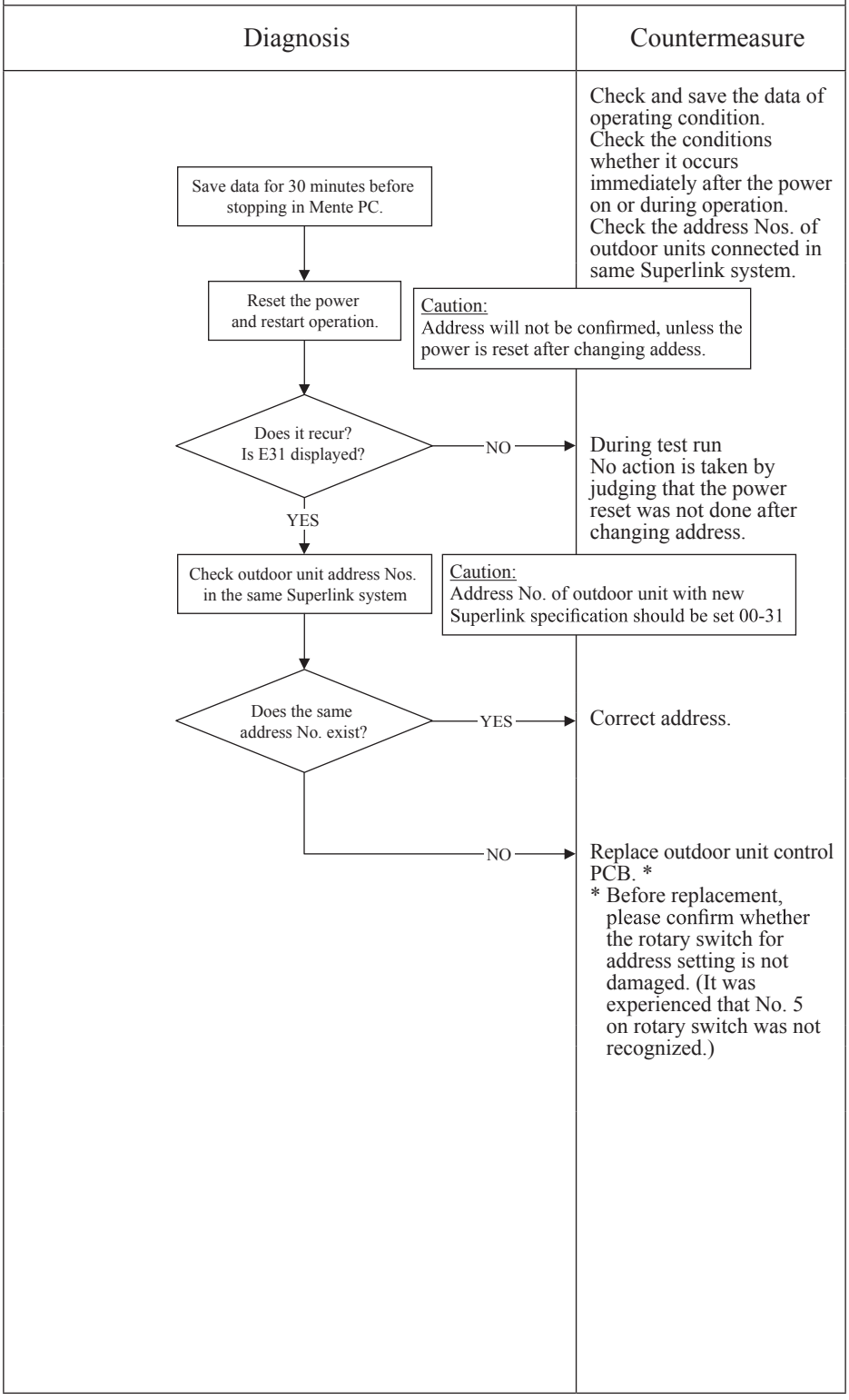
3. Condition of error displayed

When duplicated outdoor unit address No. exists in the same Superlink system.

4. Presumable cause

- Mistake in the address setting of outdoor units

5. Troubleshooting



Note: After the above procedure, confirm no error diplay occurs.
Address will not be confirmed unless the power is reset.

Error code	LED	Green	Red	Content
Remote control: E32 7-segment display: E32	Indoor	Keeps flashing	Stays Off	Open L3 Phase on power source at primary side (3 phase model only)
	Outdoor	Keeps flashing	1 time flash	

1.Applicable model

Outdoor unit

2.Error detection method

By checking the power source voltage at primary side of the outdoor unit control PCB (Check only L3 phase)

3. Condition of error displayed

When the power source voltage between L1-L3 or L2-L3 becomes 0V and/or the current of L3 decrease to 0A

4.Presumable cause

- Anomalous power source at primary side
- Outdoor unit control PCB anomaly.

5.Troubleshooting

Diagnosis	Countermeasure
	Check and save the data of operating condition. Check the conditions whether it occurs immediately after the power on or during operation or stopping. (It will be useful to persuade the customer why an improvement of power source is required by showing these data.)
Save data for 30 minutes before stopping in Mente PC	
Is the power source voltage (between phases) at the primary side OK? — NO	Propose an improvement to the customer.
YES	
Reset the power source and restart operation.	Check it, as much as possible, under the operating conditions for 30 minutes before error occurred.
Does E32 recur? — YES	Replace outdoor unit control PCB.
NO	Wait and see without taking any action.

Note:

Error code	LED	Green	Red	Content
Remote control: E36 7-segment display: E36	Indoor	Keeps flashing	Stays Off	Discharge pipe temperature error (Tho-D1)
	Outdoor	Keeps flashing	1 time flash	

1. Applicable model

Outdoor unit

2. Error detection method

Detection of anomalously high temperature by the discharge pipe temperature sensor

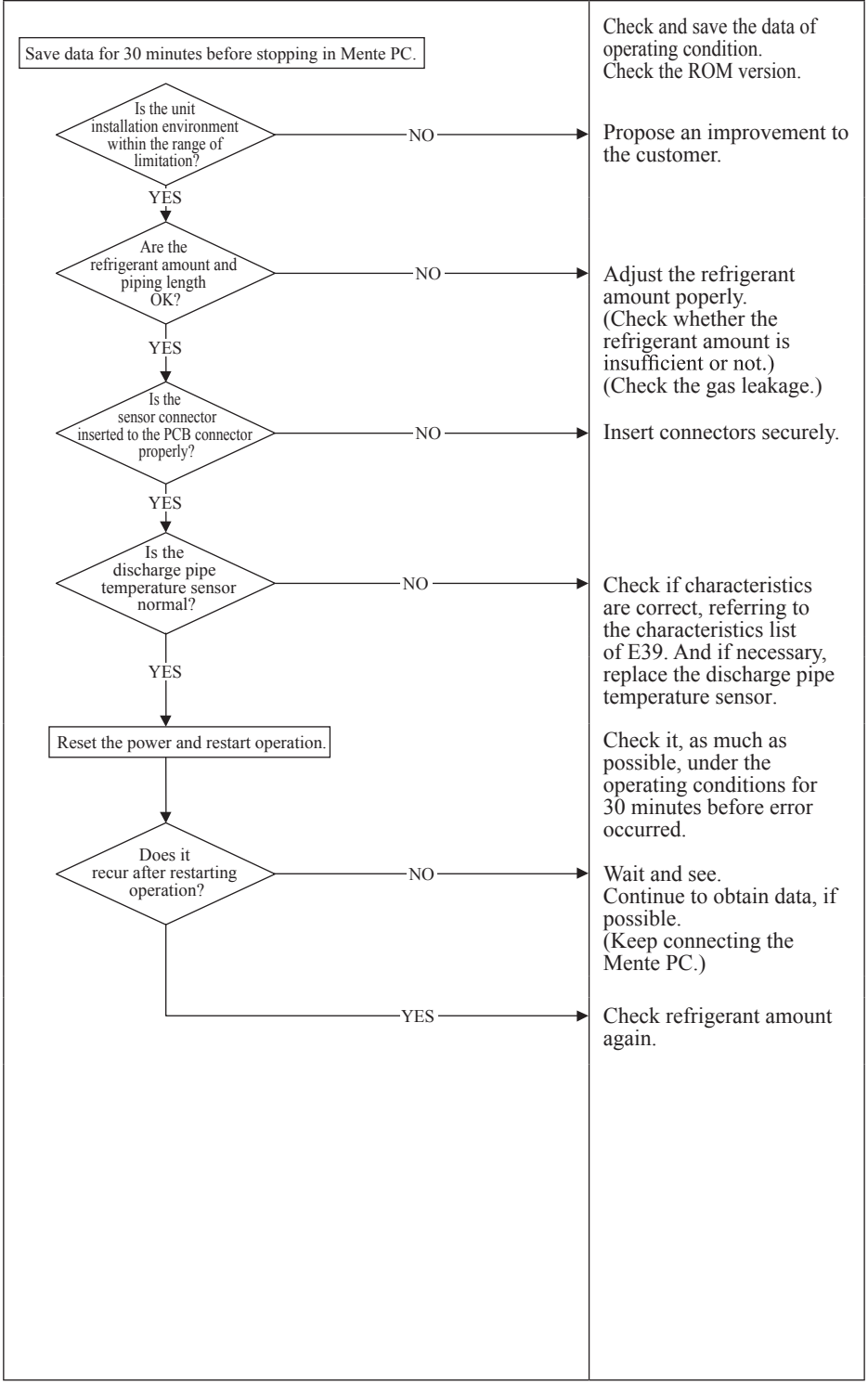
3. Condition of error displayed

When the discharge pipe temperature sensor detects 115°C or higher the compressor stops. After 3-minute delay, the compressor starts again automatically, but if this anomaly occurs 5 times within 60 minutes after the initial detection.

4. Presumable cause

- Defective discharge pipe temperature sensor
- Defective outdoor unit control PCB
- Insufficient amount of refrigerant
- Insufficient air flow volume
- Short-circuit

5. Troubleshooting



Note:

Error code	LED	Green	Red	Content
Remote control: E37 7-segment display: E37	Indoor	Keeps flashing	Stays Off	Outdoor unit heat exchanger temperature sensor (Tho-R) and subcooling coil temperature sensor (Tho-SC,-H) anomaly
	Outdoor	Keeps flashing	*1	

*1 One time flash (Tho-R), 5 time flash (Tho-SC), 6 time flash (Tho-H)

1.Applicable model

Outdoor unit

2.Error detection method

Detection of anomalously low temperature (resistance) of Tho-R or Tho-SC or Tho-H

3. Condition of error displayed

- If -50°C or lower is detected for 5 seconds continuously within 2 minutes to 2 minutes 20 seconds after the compressor ON, the compressor stops. And after 3 minutes delay, the compressor starts again automatically, but if this anomalous temperature is detected 3 times within 40 minutes after the initial detection.
- If -50°C or lower is detected for 5 seconds continuously within 20 seconds after power ON

4.Presumable cause

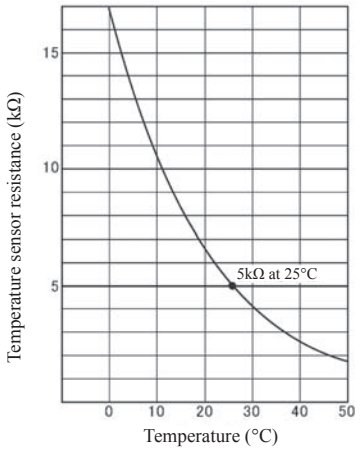
- Broken sensor harness or the internal wire of sensing section (Check the molded section as well)
- Disconnection of sensor harness connection (connector)
- Outdoor unit control PCB anomaly

5.Troubleshooting

Diagnosis	Countermeasure
Save data for 30 minutes before stopping in Mente PC	Check and save the data of operating conditions. Check the conditions whether it occurs immediately after the power on or during operation or stopping. Check the sensed value. Compare the temperature on Mente PC with actual measured value.
Is the connector of sensor connected properly? — NO	Insert the connector securely.
YES → Are the characteristics of sensor OK?*2 — NO	Replace sensor . (Tho-SC, Tho-H, Tho-R)
YES	Replace outdoor unit control PCB.

*2
Check several times to prove any poor connection.

Temperature-resistance characteristics of
Outdoor heat exchanger temperature sensor (Tho-R)
Sub-cooling coil sensor (Tho-SC, Tho-H)



Note:

Error code	LED	Green	Red	Content
Remote control: E38 7-segment display: E38	Indoor	Keeps flashing	Stays Off	Outdoor air temperature sensor anomaly (Tho-A)
	Outdoor	Keeps flashing	1 time flash	

1. Applicable model

Outdoor unit

2. Error detection method

Detection of anomalously low temperature (resistance) of Tho-A

3. Condition of error displayed

- If -30°C or lower is detected for 5 seconds continuously within 2 minutes to 2 minutes 20 seconds after the compressor ON, the compressor stops. And after 3 minutes delay, the compressor starts again automatically, but if this anomalous temperature is detected 3 times within 40 minutes after the initial detection.
- If -30°C or lower is detected for 5 seconds continuously within 20 seconds after power ON.

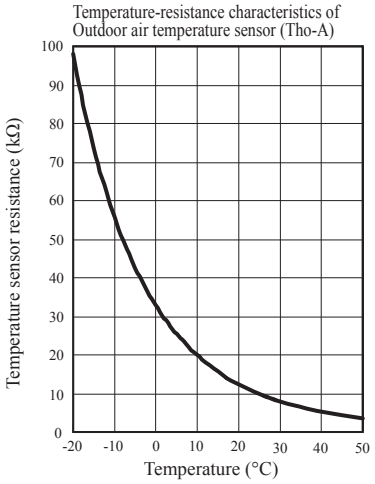
4. Presumable cause

- Broken sensor harness or the internal wire of sensing section (Check the molded section as well)
- Disconnection of sensor harness connection (connector)
- Outdoor unit control PCB anomaly

5. Troubleshooting

Diagnosis	Countermeasure
Save data for 30 minutes before stopping in Mente PC	Check and save the data of operating condition. Check the conditions whether it occurs immediately after the power on or during operation or stopping. Check the sensed value. Compare the temperature on Mente PC with actual measured value.
Is the connector of sensor connected properly? — NO	Insert the connector securely.
YES → Are the characteristics of sensor OK?*1 — NO	Replace sensor (Tho-A).
YES	Replace outdoor unit control PCB.

*1
Check several times to prove any poor connection.



Note:

Error code	LED	Green	Red	Content
Remote control: E39 7-segment display: E39	Indoor	Keeps flashing	Stays Off	Discharge pipe temperature sensor anomaly (Tho-D1)
	Outdoor	Keeps flashing	1 time flash	

1.Applicable model

Outdoor unit

2. Error detection method

Detection of anomalously low temperature (resistance) of Tho-D1

3. Condition of error displayed

- If 3°C or lower is detected for 5 seconds continuously within 10 minutes to 10 minutes 20 seconds after the compressor ON, the compressor stops. And after 3 minutes delay, the compressor starts again automatically, but if this anomalous temperature is detected 3 times within 40 minutes after the initial detection.

4.Presumable cause

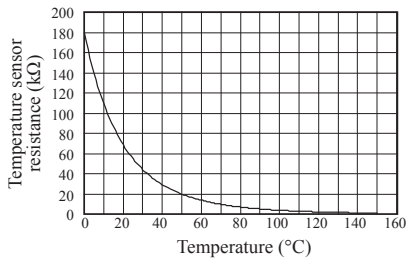
- Broken sensor harness or the internal wire of sensing section (Check the molded section as well)
- Disconnection of sensor harness connection (connector)
- Outdoor unit control PCB anomaly

5.Troubleshooting

Diagnosis	Countermeasure
Save data for 30 minutes before stopping in Mente PC	Check and save the data of operating condition. Check the conditions whether it occurs immediately after the power on or during operation or stopping. Check the sensed value. Compare the temperature on Mente PC with actual measured value.
Is the connector of sensor connected properly? → NO	Insert the connector securely.
YES → Are the characteristics of sensor OK? *3 → NO	Replace sensor (Tho-D1).
YES	Replace outdoor unit control PCB.

*3
Check several times to prove any poor connection.

Temperature-resistance characteristics of discharge pipe temperature sensor (Tho-D1)



Note:

Error code	LED	Green	Red	Content
Remote control: E40 7-segment display: E40	Indoor	Keeps flashing	Stays Off	High pressure anomaly (63H1-1 activated)
	Outdoor	Keeps flashing	1 time flash	

1.Applicable model

Outdoor unit

2.Error detection method

When high pressure switch 63H1-1 is activated

3. Condition of error displayed

- If high pressure exceeds 4.15MPa
- If 63H1-1 is activated 5 times within 60 minutes
- If 63H1-1 is activated for 60 minutes continuously

4.Presumable cause

- Short-circuit of airflow at condenser side of heat exchanger/Disturbance of airflow/Clogging filter/Fan motor anomaly
- Disconnection of high pressure switch connector
- Breakage of high pressure switch harness
- Closed service valves
- High pressure sensor anomaly
- High pressure switch anomaly

5.Troubleshooting

Diagnosis	Countermeasure
Save data for 30 minutes before stopping in Mente PC	Check and save the data of operating condition. Check the sensed value of high pressure sensor when the 63H1-1 is activated. Check whether the high pressure switch is activated at the sensed value of high pressure sensor.
Was 63H1 activated at 4.15MPa or higher? — NO → Does the sensed value of the high pressure sensor show 4.15MPa? (Normal?) — NO →	High pressure sensor anomaly is suspicious. Check high pressure sensor itself according to the troubleshooting procedure of E54, after retarting operation. (If the high pressure sensor [PSH] fails, replace it)
YES → Are the 63H1-1 OK? Are the connector and/or harnesse OK? — NO →	If the connector is disconnected or the harness is broken, correct it. Also check whether the high pressure switch is properly mounted or not.
YES → Are the service valves fully open? — NO →	Open operation valve.
YES → Connect a pressure gauge and restart operation.	Check it, as much as possible, under the operating conditions for 30 minutes before error occurred.
Is it stop at 4.15MPa of gauge pressure ? — NO →	Replace outdoor control PCB.
YES → Is there any clogging in the refrigerant circuit ? — YES →	Remove clogs.
NO →	Check items (condenser side): • Filter clogging • Air flow volume (Fan motor) • Short-circuit of air flow

Note:If the error does not recur, connect the Mente PC and continue to collect data.

Error code	LED	Green	Red	Content
Remote control: E42 7-segment display: E42	Indoor	Keeps flashing	Stays Off	Current cut (1)
	Outdoor	Keeps flashing	1 time flash	

1. Applicable model

Outdoor unit

2. Error detection method

In order to prevent from overcurrent of inverter, if the current exceeds the specifications, it makes the compressor stopping.

3. Condition of error displayed

If the output current of inveter exceeds the specifications, it makes the compressor stopping. After 3-minute delay, the compressor restarts, but if this amonaly occurs 4 times within 30 minutes after the intial detection.

4. Presumable cause

- Open the valves
- Faulty power source
- Insufficient refrigerant amount
- Faulty compressor
- Faulty power transistor module

5. Troubleshooting

Diagnosis	Countermeasure
Is the power source voltage OK? — NO	Check power source.
YES → Are the service valves opened? — NO	Open the valves.
YES → Is the high pressure during operation OK? — NO	Check refrigerant amount and refregerant circuit. *In case of transitional increase of high pressure and/or test run, several times restarting may recover it, because liquid refrigerant in the compresser is discharged from the compressor.
YES → Is the checked result of insulation resistance and resistance between terminals of compressor motor OK? — NO	Replace compressor.
YES → Continue to next page	

Model	typ Resistance (Ω) at 20°C
FDC90-155KXZEN1-W	0.448
FDC112-155KXZES1-W	1.56

Note:

Error code	LED	Green	Red	Content
Remote control: E42 7-segment display: E42	Indoor	Keeps flashing	Stays Off	Current cut (2)
	Outdoor	Keeps flashing	1 time flash	

1. Applicable model

Outdoor unit

2. Error detection method

In order to prevent from over current of inverter, if the current exceeds the specifications, it makes the compressor stopping.

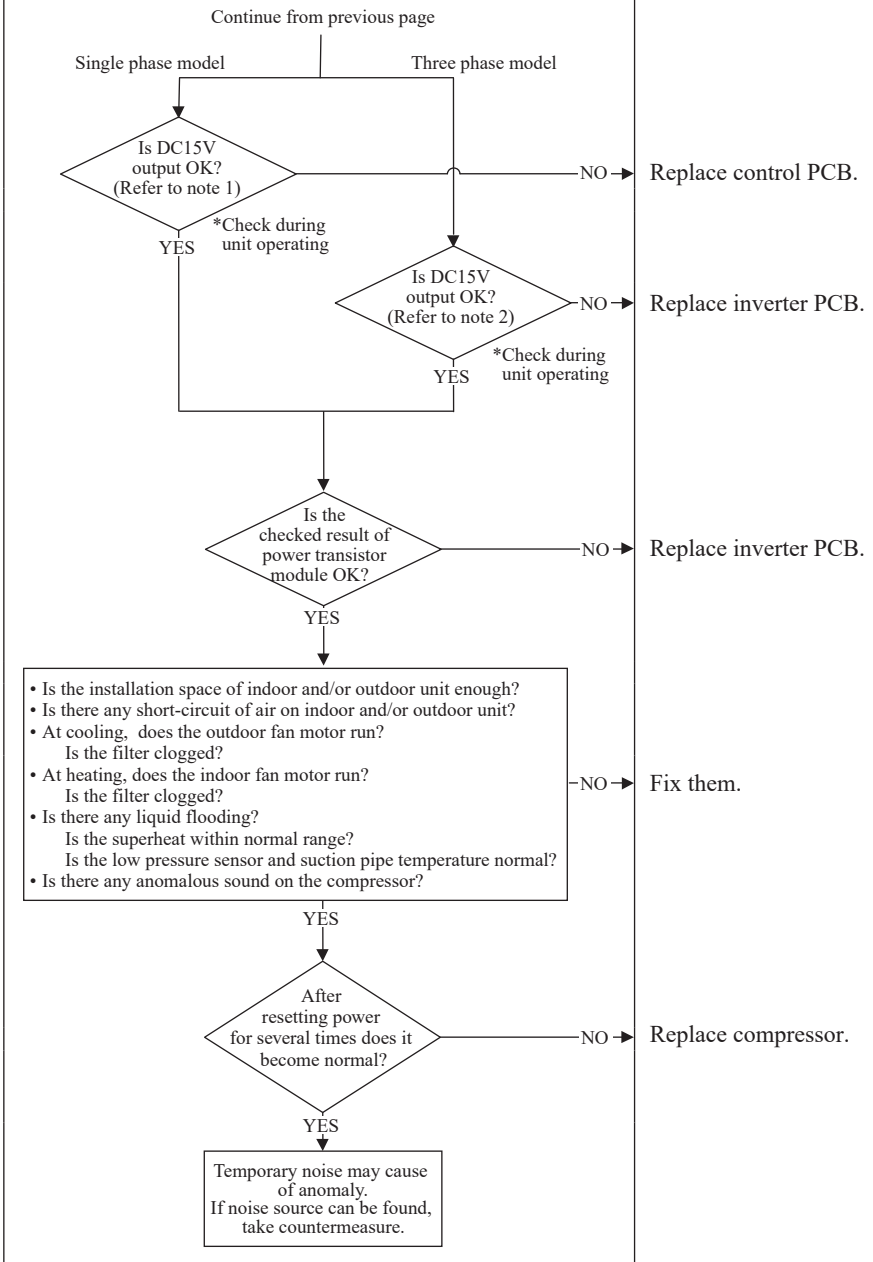
3. Condition of error displayed

If the output current of inverter exceeds the specifications, it Makes the compressor stopping. After 3-minutes dealY, The Compressor restarts, but if This anomaly occurs 4 times within 30 minutes after the initial detection.

4. Presumable cause

- Open the valves
- Faulty power source
- Insufficient refrigerant amount
- Faulty compressor
- Faulty power transistor module

5. Troubleshooting



Note: 1. Between "TP_15V_+" and "TP_GND2" on the control PCB is the test point.
2. C541 on the inverter PCB is the test point.

Error code	LED	Green	Red	Content
Remote control: E43 7-segment display: E43	Indoor	Keeps flashing	Stays Off	Excessive number of indoor units connected, excessive total capacity of connection, communication error from outdoor unit to indoor unit
	Outdoor	Keeps flashing	Stays Off*1	

*1 1 time flash : Excessive number of indoor units connected, 2 times flash : Excessive total capacity of connection,
3 time flash : Communication error from outdoor unit to indoor unit

1. Applicable model

Outdoor unit

2. Error detection method

When the number of connected indoor units exceeds the limitation.
When the total capacity of connected indoor units exceeds the limitation.
(When the total capacity of connected indoor units exceeds 150% of outdoor unit capacity)

3. Condition of error displayed

- Excessive number of connected indoor units
- Excessive total capacity of connected indoor units
- The total capacity of connected indoor units exceeds 150% of outdoor unit capacity

4. Presumable cause

- Mistake in setting of indoor/ outdoor unit addresses
- Mistake in signal wire connection

5. Troubleshooting

Diagnosis	Countermeasure
Save data for 30 minutes before stopping in Mente PC.	Check and save the data of operating condition.
Caution: Address will not be confirmed, unless the power is reset after changing addess.	
Reset the power source.	
Is E43 dispalyed? — NO	Test run No action is taken because it is judged that the power reset was not done after changing address.
YES	
Does the number of indoor units connected and/or total capacity exceed limitation? — YES	Check indoor unit addresses and correct. In order to operate the unit tentatively, even if total capacity of connected indoor units exceeds 150% of outdoor unit capacity, turn ON the dip switch SW5-4 on outdoor unit control PCB. (However since this tentative solution could cause trouble, be sure to correct it as soon as possible)
Check the connected number of indoor units with 7-segment display code 40 or Mente PC with reference to the utilities drawing. (Check not only one system, but also other systems.) — NO	
Are there any indoor units which is not expected to exsist in this signal line? — YES	Signal wire may be connected to other systems. Separate the signal wire.
Check the resistance between A and B of signal line as well. — NO	Correct addresses. (Either one of addresses is wrong.) If the address corrected with rotary switch is still wrong, replace control PCB (Defective rotary switch)
General checking of indoor/outdoor unit addresses by means of: ◇ Outdoor unit: Mente PC, 7-Segemnt display C40 and rotary switch (SW1, 2) ◇ Indoor unit: Remote control, rotary switch (SW1, 2, 3, 4) and SW5-2 * It is recommended to use means other than the rotary switch, which could be defective.	* Before replacement, please confirm whether the rotary switch for address setting is not damaged. (It was experienced that No. 5 on rotary switch was not recognized.)

Note: After completing the above procedure, reset the power and confirm that the error display does not recur. Unless the power is reset for both indoor unit and outdoor unit, the set addresses will not be confirmed.

Error code	LED	Green	Red	Content
Remote control: E44 7-segment display: E44	Indoor	Keeps flashing	Stays Off	Liqiud flooding anomaly
	Outdoor	Keeps flashing	1 time flash	

1. Applicable model

Outdoor unit

2. Error detection method

When it detects that the overheat temperature of discharge pipe decreased

3. Condition of error displayed

If the overheat temperature of discharge pipe is detected 5ºC or lower for 10 minute continuously.
If the compressor stop is detected 3 times within 60 minutes

4. Presumable cause

- Faulty discharge pipe temperature sensor
- Faulty high pressure sensor
- Faulty connection signal wires between indoor and outdoor units
- Excessive refrigerant amount
- Faulty indoor EEV
- Faulty indoor heat exchanger temperature sensor
- Faulty outdoor EEVH
- Faulty suction pipe temperature sensor or faulty low pressure sensor
- Falty outdoor EEVSC
- Faulty Tho-H temperature sensor
- Piping length is out of limitation range

5. Troubleshooting

Diagnosis	Countermeasure
Save data for 30 minutes before stopping in Mente PC.	Check and save the data of operating condition. Check ROM version.
Is the unit installation environment within the range of limitation? — NO	Propose the client to improve.
YES	
Is the refrigerant amount and piping length OK? — NO	Adjust refrigerant amount properly. (Check whether the charged amount is excess.) If the piping length is less than 5m, calculate the correct charging amount and reduce excessive refrigerant amount.
YES	
Is the connected number of indoor units checked by Mente PC same as that mentioned in utility drawing? — NO	Connect the signal wires between indoor and outdoor units securely.
YES	
Is insertion of the sensor connector into the connector on outdoor unit control PCB OK? — NO	Insert the connector securely.
YES	
Is the temperature sensors of discharge pipe, suction pipe, Tho-H and indoor heat exchanger OK? Is high pressure sensor OK? — NO	Replace the sensor after checking whether the sensor characteristics is OK ot not.
YES	
Reset the power source and restart.	Restart operation and check it, as much as possible, under the operating conditions for 30 minutes before error occurred.
After restarting, does it recur? — NO	Wait and see. If possible, continue to collect data. (Keep connecting Mente PC.)
YES	
Is the operation of indoor EEV OK ? (at cooling) Is the operation of outdoor EEVH OK? (at heating) Is the operation of outdoor EEVSC OK? (at heating and cooling) — NO	Replace EEV coil or EEV main body.
YES	Check refrigerant amount again.

Note:

Error code

Remote control: E45
7-segment display: E45

LED	Green	Red
Indoor	Keeps flashing	Stays Off
Outdoor	Keeps flashing	1 time flash

Content

Communication error between inverter PCB and outdoor unit control PCB(1)

1. Applicable model

Outdoor unit

2. Error detection method

3. Condition of error displayed

If the communication between inverter PCB and outdoor unit control PCB is not established.

4. Presumable cause

- Faulty inverter PCB
- Faulty connector between inverter PCB and outdoor unit control PCB
- Faulty outdoor unit control PCB
- Faulty main circuit connection (Three phase model)
- Faulty relay or cementing resister (Three phase model)

5. Troubleshooting

Diagnosis	Countermeasure
Save data for 30 minutes before stopping in Mente PC.	Check and save the data of operating conditions.
Are the connectors of inverter PCB and outdoor unit control PCB OK? — NO	Insert the connectors securely.
YES → Are both JSW10 and 11 settings on the inverter PCB correct? — NO	Refer to the switch setting (Page 215) and restart the outdoor unit.
YES → Is LED on the inverter PCB flashing? — NO (A)	No power on inverter PCB. Refer to next page.
YES → Replace outdoor unit control PCB. → Does it become normal? — NO	Replace inverter PCB.
YES	OK

Note:

Error code	LED	Green	Red	Content
Remote control: E45 7-segment display: E45	Indoor	Keeps flashing	Stays Off	Communication error between inverter PCB and outdoor unit control PCB (2)
	Outdoor	Keeps flashing	1 time flash	

1. Applicable model

Outdoor unit

2. Error detection method

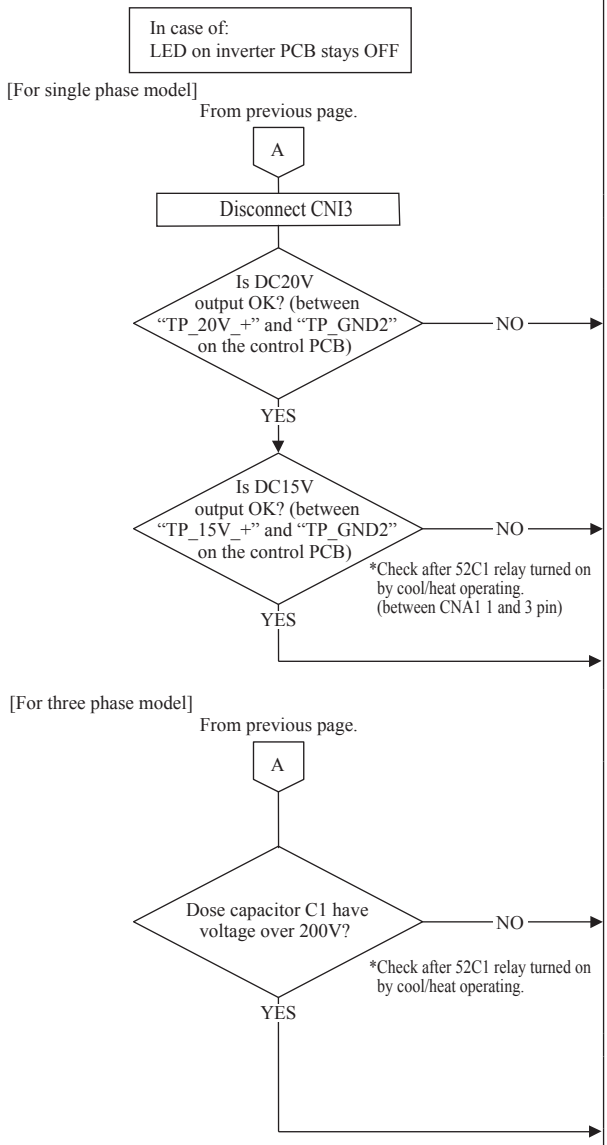
3. Condition of error displayed

If the communication between inverter PCB and outdoor unit control PCB is not established.

4. Presumable cause

- Faulty inverter PCB
- Faulty connector between inverter PCB and outdoor unit control PCB
- Faulty outdoor unit control PCB
- Faulty main circuit connection (Three phase model)
- Faulty relay or cementing resistor (Three phase model)

5. Troubleshooting



Note:

Error code	LED	Green	Red	Content
Remote control: E46 7-segment display: E46	Indoor	Keeps flashing	Stays Off	Mixed address setting methods coexistent in same network
	Outdoor	Keeps flashing	Stays Off	

1. Applicable model

Outdoor unit

2. Error detection method

If the auto address setting and manual address setting are mixed in one Superlink network.

3. Condition of error displayed

In case that the units with old and new Superlink systems are mixed in one Superlink network, if both auto address setting and manual address setting are exsited.

4. Presumable cause

- Mistake in the address setting
- Mistake in the signal wire connection

5. Troubleshooting

Diagnosis	Countermeasure
Save data for 30 minutes before stopping in Mente PC.	Check and save the data of operating condition. Check which addess setting method (auto or manual setting) is applied to the outdoor unit system on which the error exsists.
Reset the power source and restart operation.	Caution: Address will not be confirmed, unless the power is reset after changing addess.
Is E46 displayed? — NO	Test run * No action is taken because it is judged that the power source reset was not done after changing address.
YES → Is it manual address setting? — NO	Set address manually.
YES → Turn ON the power source of outdoor unit system one by one and check the unit that starts up with the auto address setting.	Replace outdoor unit PCB.* (Defective rotary switch)
	* Before replacement, please confirm whether the rotary switch for address setting is not damaged. (It was experienced that No. 5 on rotary switch was not recognized.) And confirm too whether the indoor SW5-2 (100 of order for indoor address setting) is OK or not.

<Reference>
Error display at mixed address setting

	Auto	Manual
Auto address setting	E31	E46
Manual address setting	E46	Normal

Note: After completing the above procedure, reset the power and confirm that the error display does not recur. Unless the power is reset for both indoor unit and outdoor unit, the set addresses will not be confirmed.

Error code	LED	Green	Red	Content
Remote control: E48 7-segment display: E48	Indoor	Keeps flashing	Stays Off	Outdoor DC fan motor anomaly
	Outdoor	Keeps flashing	1 time flash	

1. Applicable model

Outdoor unit

2. Error detection method

By detecting the rotation speed of outdoor fan motor.

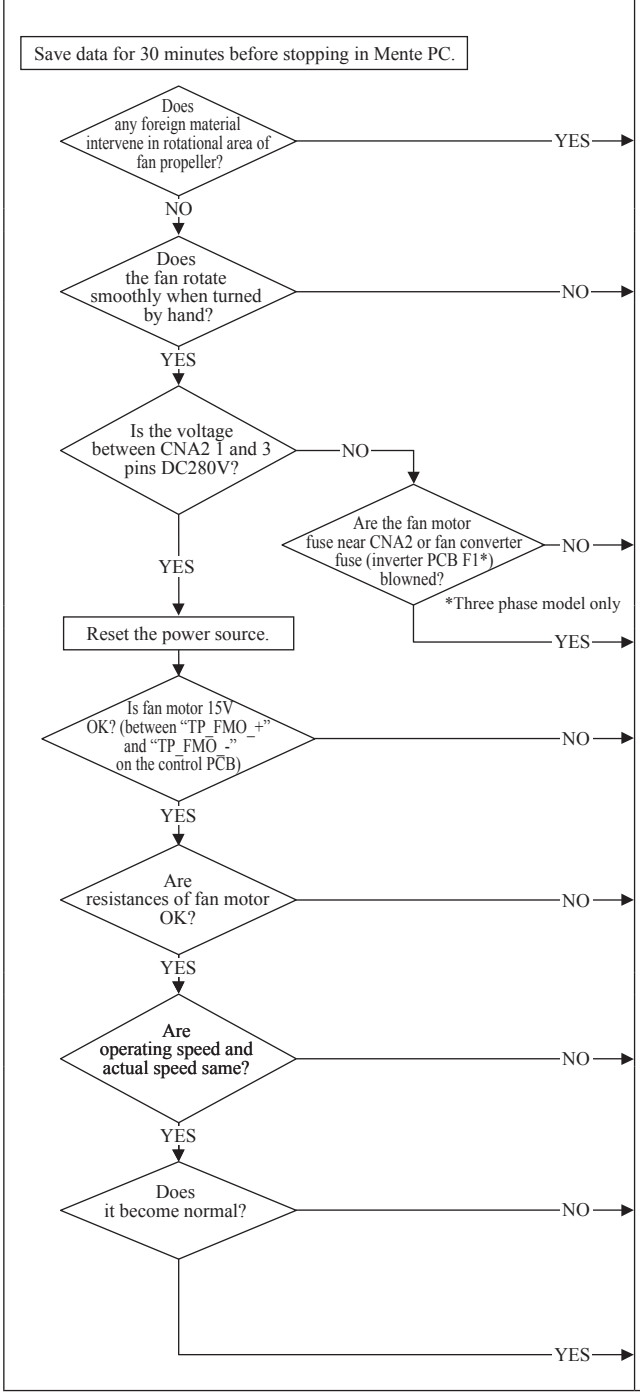
3. Condition of error displayed

If the actual rotation speed of outdoor fan motor (FMo1) is 100min^{-1} or lower for 30 seconds continuously, outdoor fan stops. After 3-minute delay, it restarts automatically, but if this anomaly occurs 5 times within 60 minutes after the initial stop.

4. Presumable cause

- Faulty outdoor unit control PCB
- Foreign material in rotational area of fan propeller
- Faulty fan motor
- Dust on the outdoor unit control PCB
- Blown fuse

5. Troubleshooting



Note: When E48 error occurs, in almost cases F3 fuse (4A) on the harness is blown. There are a lot of cases that fuse is blown due to defective fan motor. And even though only the fuse is replaced, control PCB also could be broken. Therefore when replacing fuse, check whether the fan motor is OK or not.
After confirming the fan motor normal, check by power ON. (Don't power ON without confirming the fan motor normal.)

Error code	LED	Green	Red	Content
Remote control: E49 7-segment display: E49	Indoor	Keeps flashing	Stays Off	Low pressure error
	Outdoor	Keeps flashing	1 time flash	

1. Applicable model

Outdoor unit

2. Error detection method

Detected by low pressure sensor

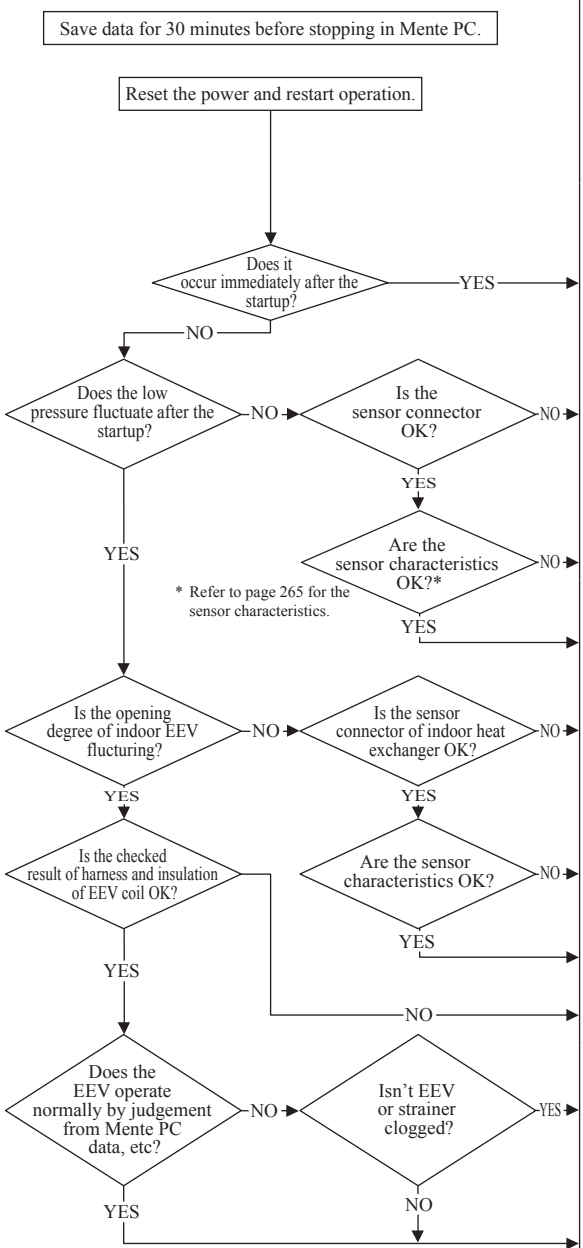
3. Condition of error displayed

At startup with power on:
Low pressure ≤0.18 MPa is detected for 30 seconds, and this anomaly occurs 5 times within 60 minutes.
During operation:
Low pressure ≤0.134 MPa is detected for 30 seconds or <0.003 Mpa is detected for 5 seconds. This anomaly occurs 5 times within 60 minutes.

4. Presumable cause

- Low pressure sensor (defective PSL)
- Service valve closed
- EEV closed (malfunction)
- Insufficient refrigerant amount
- Clogging (EEV, strainer)

5. Troubleshooting



Note: Check whether the outdoor unit is connected to the indoor units in another Superlink network?
If it does not recur, connect the Mente PC and continue to collect data.

Error code	LED	Green	Red	Content
Remote control: E53 7-segment display: E53	Indoor	Keeps flashing	Stays Off	Suction pipe temperature sensor anomaly (Tho-S)
	Outdoor	Keeps flashing	1 time flash	

1. Applicable model

Outdoor unit

2. Error detection method

Detection of anomalously low temperature (resistance)

3. Condition of error displayed

- If -50°C is detected for 5 seconds within 2-minutes to 2-minutes 20-seconds after the compressor ON and if this anomaly occurs 3 times within 40 minutes after the initial detection.
- If this anomaly occurs 1 time within 20 seconds after power ON.

4. Presumable cause

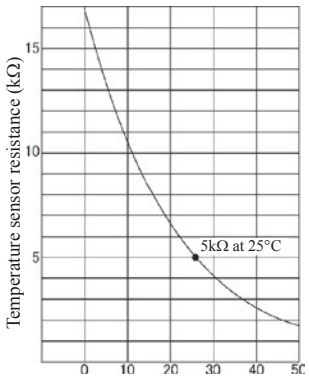
- Disconnection of the sensor harness or the internal wire of sensing part (Check the molded part.)
- Disconnection of the sensor connector
- Defective outdoor unit control PCB

5. Troubleshooting

Diagnosis	Countermeasure
Save data for 30 minutes before stopping in Mente PC.	Check and save the data of operating condition. Check the conditions whether it occurs immediately after the power on or during operation or stopping. Check the sensed value as well. Compare the temperature on Mente PC with actual measured value.
Is connection of sensor connector OK? — NO	Insert the connector firmly.
YES → Are the characteristics of sensor OK? — NO	Replace sensor.
YES	Replace control PCB.

* Check several times the temperature-resistance characteristics of sensor a few times to find out any poor connection.

Temperature-resistance characteristics of Suction pipe temperature sensor (Tho-S)



Note:

Error code	LED	Green	Red	Content
Remote control: E54 7-segment display: E54	Indoor	Keeps flashing	Stays Off	High pressure sensor anomaly (PSH) / Low pressure sensor anomaly (PSL)
	Outdoor	Keeps flashing	*1	

*1 1 time flash (PSL), 2 time flash (PSH)

1.Applicable model

Outdoor unit

2.Error detection method

Detection of anomalous pressure (voltage) of PSH or PSL

[Operation range
High pressure : 0-4.15MPa
Low pressure : 0-1.7MPa]

3. Condition of error displayed

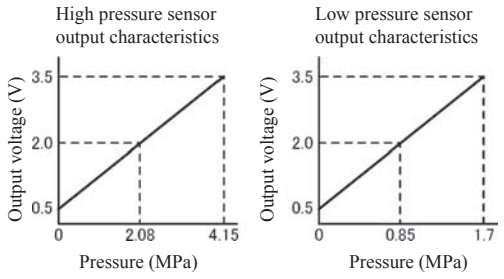
If anomalous sensor output voltage (0V or lower or 3.49V or higher) is detected for 5 seconds within 2 minutes to 2 minutes 20 seconds after the compressor ON

4.Presumable cause

- Broken sensor harness
- Disconnection of sensor harness connection (connector)
- Sensor (PSH, PSL) anomaly
- Outdoor unit control PCB anomaly
- Anomalous installation conditions
- Insufficient air flow volume
- Excessive or insufficient refrigerant amount

5.Troubleshooting

Diagnosis	Countermeasure
Save data for 30 minutes before stopping in Mente PC Check the data for 30 minutes before stopping Is anomalous pressure detected? YES Is the connector of the sensor inserted properly to the connector on the outdoor control PCB? NO	Check and save the data of operating conditions. Check the conditions whether it occurs immediately after the power on or during operation or stopping. Check the sensed value.
Is the connector of the sensor inserted properly to the connector on the outdoor control PCB? NO	Insert the connector securely and restart operation.
Is anomalous pressure detected? NO Is the connector of the sensor inserted properly to the connector on the outdoor control PCB? YES Reset the power and restart operation. E54 Does it recur?	
E54 Does it recur? NO	Temporary malfunction by noise. Correct if the source of noise is specified.
E54 Does it recur? YES Does the pressure converted from the sensor output voltage match the actual pressure measure by pressure gauge?	
Does the pressure converted from the sensor output voltage match the actual pressure measure by pressure gauge? NO	Replace sensor (PSH, PSL).
Does the pressure converted from the sensor output voltage match the actual pressure measure by pressure gauge? YES	Replace outdoor unit control PCB.



Sensor output Black (GND) – White; Output voltage (Black – Red; DC5V)

Note:

Error code	LED	Green	Red	Content
Remote controller: E56 7-segment display: E56	Indoor	Keeps flashing	Stays Off	Power transitor temperature sensor anomaly (Tho-P1)
	Outdoor	Keeps flashing	1 time flash	

1.Applicable model

Outdoor unit

2.Error detection method

Detection of anomalously low temperature (resistance) of Tho-P1

3. Condition of error displayed

When the outdoor air temperature is above 0ºC, if -10ºC or lower is detected for 20 seconds continuously within 10 minutes to 10 minutes 30 seconds after compressor ON, compressor stops. When the compressor is restarted automatically after 3-minutes delay, if this anomaly occurs 3 times within 40 minutes

4.Presumable cause

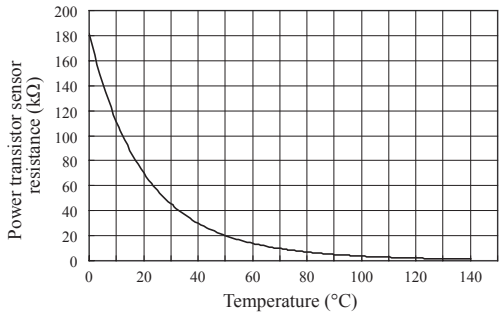
- Broken sensor harness or the internal wire of sensing section (Check the molded section as well)
- Disconnection of sensor harness connection (connector)
- Outdoor unit control PCB anomaly

5.Troubleshooting

Diagnosis	Countermeasure
Save data for 30 minutes before stopping in Mente PC	Check and save the data of operating condition. Check the conditions whether it occurs immediately after the power on or during operation or stopping. Check the sensed value. Compare the temperature of Mente PC data with actual measured value.
Is the connector of sensor connected properly OK ? — NO	Insert the connector securely.
YES	
Are the characteristics of sensor OK? *1 — NO	Replace power transistor temperature sensor (Tho-P1).
YES	Replace outdoor unit control PCB.

*1 Check several times to prove any poor connection

Temperature-resistance characteristics of power transistor temperature sensor (Tho-P1)



Note:

Error code	LED	Green	Red	Content
Remote control: E58 7-segment display: E58	Indoor	Keeps flashing	Stays Off	Anomalous compressor by loss of synchronism
	Outdoor	Keeps flashing	1 time flash	

1. Applicable model

Outdoor unit

2. Error detection method

E58 is displayed on 7-segment LED

3. Condition of error displayed

This anomaly is established 4 times within 15 minutes.

4. Presumable cause

- Insufficient time elapsed after the power supplied, before compressor startup. (Startup the compressor wihtout crankcase heater ON)
- Compressor anomaly
- Inverter PCB anomaly
- Switch setting wrong

5. Troubleshooting

Diagnosis	Countermeasure
Save data for 30 minutes before stopping in Mente PC	Check and save the data of operating condition.
Is this the first startup within one hour after power is supplied? — YES	Refrigerant might be migrated in the refrigerant oil in the compressor. Wait for about one hour under the condition of power ON and start again. (Turn the on crankcase heater ON and evaporate the liquid refrigerant migrated in the compressor.
Is there any replacement record of inverter PCB ? — YES	The model setting could be wrong. Check the DIP switch for model setting on the inverter PCB. (Refer to page 215)
After power OFF, turn JSW10-4 on the inverter PCB ON and connect the inverter checker. And then, power ON again. (Regarding the checking method of inverter PCB with inverter checker, refer to page 277 in detail)	
In case of no inverter checker	
Is inverter checker OK? — NO	Replace inverter PCB.
YES → Power OFF	
Are resistances among power transistor terminals OK? — NO	Replace inverter PCB.
YES	
Repeat the loss of synchronism? — NO	Follow up the status.
YES	Replace the compressor.

Note: If the error does not recur, connect the Mente PC and continue to collect data.

Error code	LED	Green	Red	Content
Remote control: E59 7-segment display: E59	Indoor	Keeps flashing	Stays Off	Compressor startup failure
	Outdoor	Keeps flashing	5 times flash	

1. Applicable model

Outdoor unit

2. Error detection method

If it fails to change over to the operation for rotor detection of compressor motor

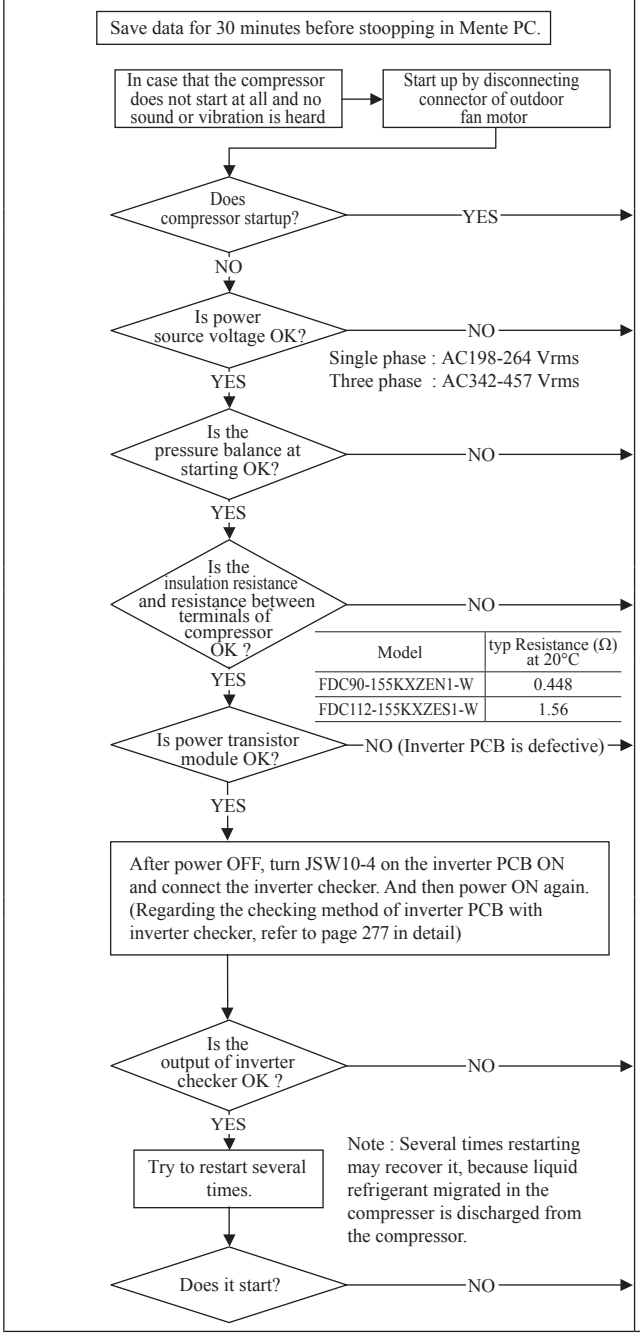
3. Condition of error displayed

If compressor fails to startup for 20 times (10 patterns x 2 times). (It is availabel to reset by remote control after 3 minutes delay)

4. Presumable cause

- Faulty fan motor
- Faulty outdoor unit control PCB
- Faulty inverter PCB
- Anomalous power source voltage
- Nonconformity of refrigerant amount and refrigerant circuit
- Faulty compressor

5. Troubleshooting



Note: Insulation resistance

- The unit is left for long period without power source or soon after installation, insulation resistance may decrease to several MΩ or lower due to the liquid refrigerant migrated in the refrigerant oil in compressor. If the electric leakage breaker is activated due to low insulation resistance, check followings.

①Check whehter the insulation resistance can recover or not, after 6 hours has passed since power ON.
(By energize the crankcase heater, liquid refrigerant migrated in the refrigerant oil in compressor can be evaporated.)
②Check whether the electric leakage breaker conforms to high-hermonic specifications.
(As this units has inverter, in order to prevent from improper operation, be sure to use the breaker of high-hermonic one.)

Error code	LED	Green	Red	Content
Remote control: E63 7-segment display: E63	Indoor	Keeps flashing	Stays Off	Emergency stop
	Outdoor	Keeps flashing	1 time flash	

1.Applicable model

Indoor unit

2.Error detection method

When ON signal is inputted to the CnT terminal of indoor unit control PCB

3. Condition of error displayed

Same as above

4.Presumable cause

Factors for emergency stop

5.Troubleshooting

Diagnosis	Countermeasure
Save data for 30 minutes before stopping in Mente PC	Check and save the data of operating conditions. Check the conditions whether it occurs immediately after the power on or during operation.
Is the remote control setting of Emergency Stop "Valid"? — NO	Replace remote control PCB.
YES → Is ON signal inputted to the CnT terminal of indoor unit control PCB? — NO	Replace indoor unit control PCB.
YES	Check the cause of emergency stop. (It is better to have the data for 30 minutes before stopping, when instructing the installer.)

Note: Indoor unit detected emergency stop signal gives command "all stop"

9.4 Outdoor unit control PCB replacement procedure

PCA012D098

(a) Control PCB

Precautions for Safety
・ Since the following precaution is the important contents for safety, be sure to observe them. WARNING and CAUTION are described as follows: ⚠ WARNING — Indicates an imminently hazardous situation which will result in death or serious injury if proper safety procedures and instructions are not adhered to. ⚠ CAUTION — Indicates a potentially hazardous situation which may result in minor or moderate injury if proper safety procedures and instructions are not adhered to.
⚠ WARNING
・ Securely exchange the PCB according to this procedure. If the PCB is incorrectly exchanged, it will cause an electric shock or fire. ・ Be sure to check that the power source for the outdoor unit is turned OFF before exchanging the PCB. The PCB exchange under current-carrying will cause an electric shock or fire. ・ After finishing the PCB exchange, check that wiring is correctly connected with the PCB before power distribution. If the PCB is incorrectly exchanged, it will cause an electric shock or fire.
⚠ CAUTION
・ Band the wiring so as not to tense because it will cause an electric shock.

Exchange the Control PCB (Fig.1) according to the following procedure.

1. Exchange the PCB **after elapsing 3 minutes from power OFF**. (After having shut down the breaker, some capacitor is held by high voltage. It is very dangerous to touch the Control PCB in this condition.)
   Confirm the voltage (DC) is under 30 V with the harnesses connected to Control PCB. (Refer to Fig.2)
2. Disconnect the connectors from the Control PCB. And, reconnect the jumper connector of CNS1 to same place of the new PCB. (Excluded when jumper connector is not connected on CNS1)
   Can not restart when fail the jumper connector connection.
3. Disconnect the round terminal from TB6 on the N.F. PCB, and remove the white wiring passing through CT1 on the Control PCB. And then exchange to the new PCB. (Refer to Fig.3)
4. Match the setting of new Control PCB switches (SW1-5) and jumper wires (J11-15) with the former PCB.
5. Tighten up a screw to TB6 on the N.F. PCB after passing white wiring through CT1 of the new PCB. (Recommended tightening torque : 1.2 – 1.4 N・m) (Refer to Fig.3)
6. Reconnect the connectors to the Control PCB as before. (Confirm the **connectors are not half inserted**.)

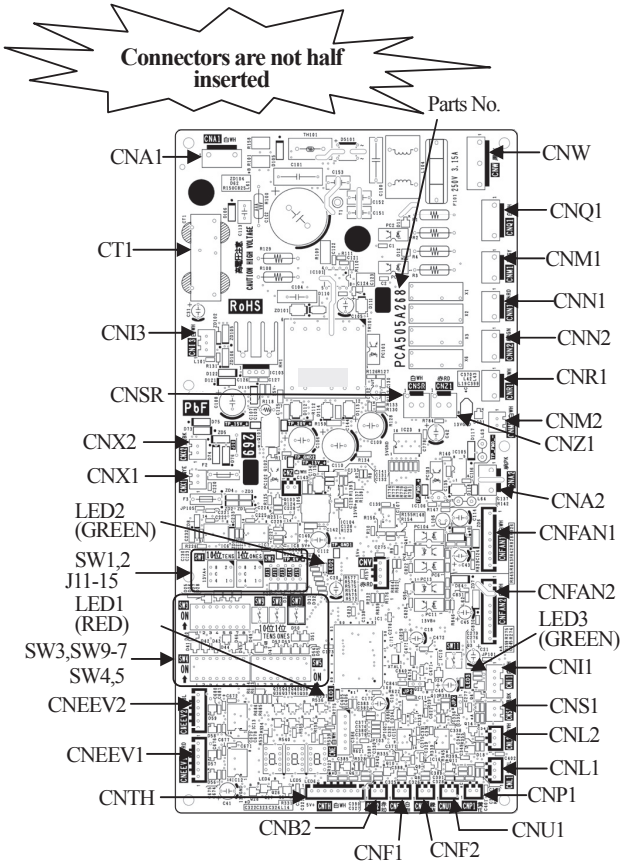


Fig.1 Parts arrangement

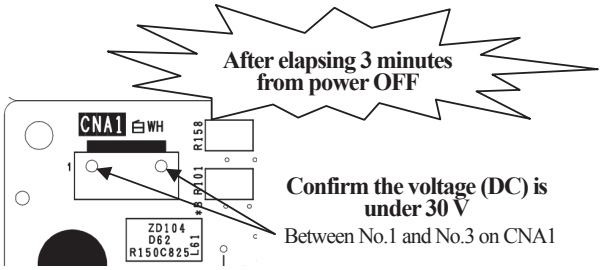


Fig.2 Voltage measurement point

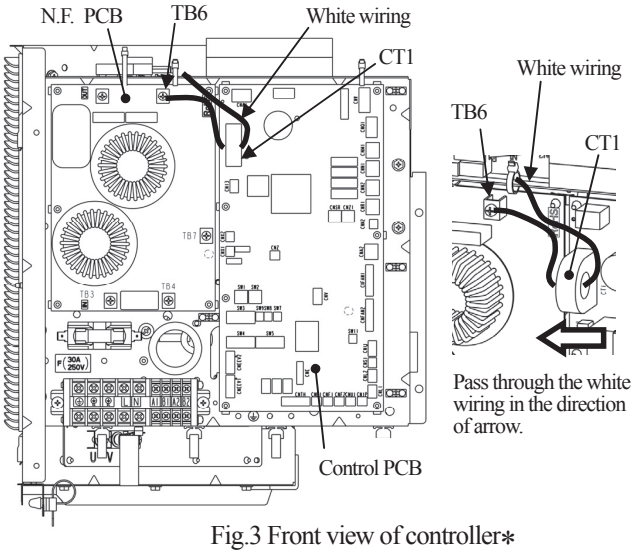


Fig.3 Front view of controller∗

∗The image indicates FDC90-155KXZEN1-W model.

(b) Invereter PCB

PCA012D025K R

1) FDC121, 140, 155KXZEN1-W model

Precautions for Safety
・ Since the following precaution is the important contents for safety, be sure to observe them. WARNING and CAUTION are described as follows: ⚠ WARNING Indicates an imminently hazardous situation which will result in death or serious injury if proper safety procedures and instructions are not adhered to. ⚠ CAUTION Indicates a potentially hazardous situation which may result in minor or moderate injury if proper safety procedures and instructions are not adhered to.
⚠ WARNING
・ Securely exchange the PCB according to this procedure. If the PCB is incorrectly exchanged, it will cause an electric shock or fire. ・ Be sure to check that the power source for the outdoor unit is turned OFF before exchanging the PCB. The PCB exchange under current-carrying will cause an electric shock or fire. ・ After finishing the PCB exchange, check that wiring is correctly connected with the PCB before power distribution. If the PCB is incorrectly exchanged, it will cause an electric shock or fire.
⚠ CAUTION
・ Band the wiring so as not to tense because it will cause an electric shock.

Exchange the inverter PCB according to the following procedure.

1. Disassembly

1.1 After the breaker is shut down, remove the service panel and top panel. (Refer to Fig.1).

1.2 Don't touch the controller until **three minutes have passed after the breaker is shut down.** (After having shut down the breaker, some capacitor is held by high voltage. It is very dangerous to touch the controller in this condition.) **Confirm the voltage (DC) is under 30 V** with the harnesses connected to control PCB. (Refer to Fig.2)

1.3 Unlock the band (1 place) and disconnect the connectors and round terminals from the user side of terminal block and control PCB as shown in (A) in Fig.2.

1.4 Insert the CNP1 connector to the grommet of control panel. (Refer to Fig.2)

1.5 Cut the band as shown in (B) in Fig.2, and remove the white wiring from CT1.

1.6 Cut the bands (4 places), while disconnect the CNLA connector and the faston terminals ("P" and "N2") as shown in (C) in Fig.3.

1.7 Remove the screws of the electrolytic capacitor as shown in Fig.3.

1.8 Remove the screws (8 places) as shown in Fig.4, and remove the control panel from nail-part in left-side with pulling up. Next, disconnect CNI2 and CNI4, and remove the control panel from controller.

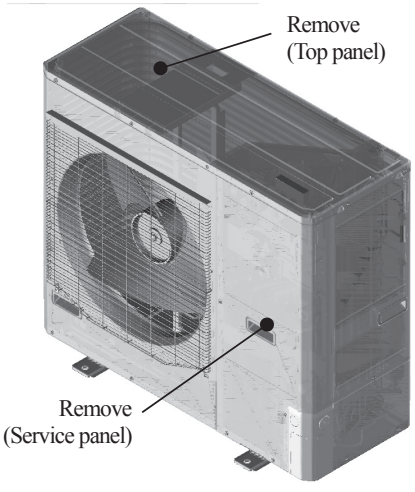


Fig.1 Outdoor unit overall view

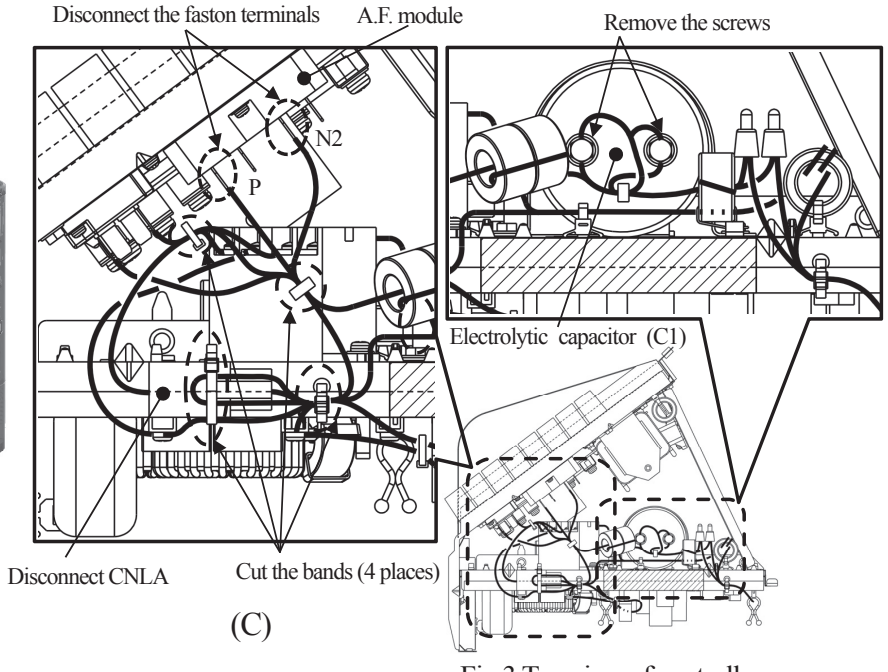


Fig.3 Top view of controller

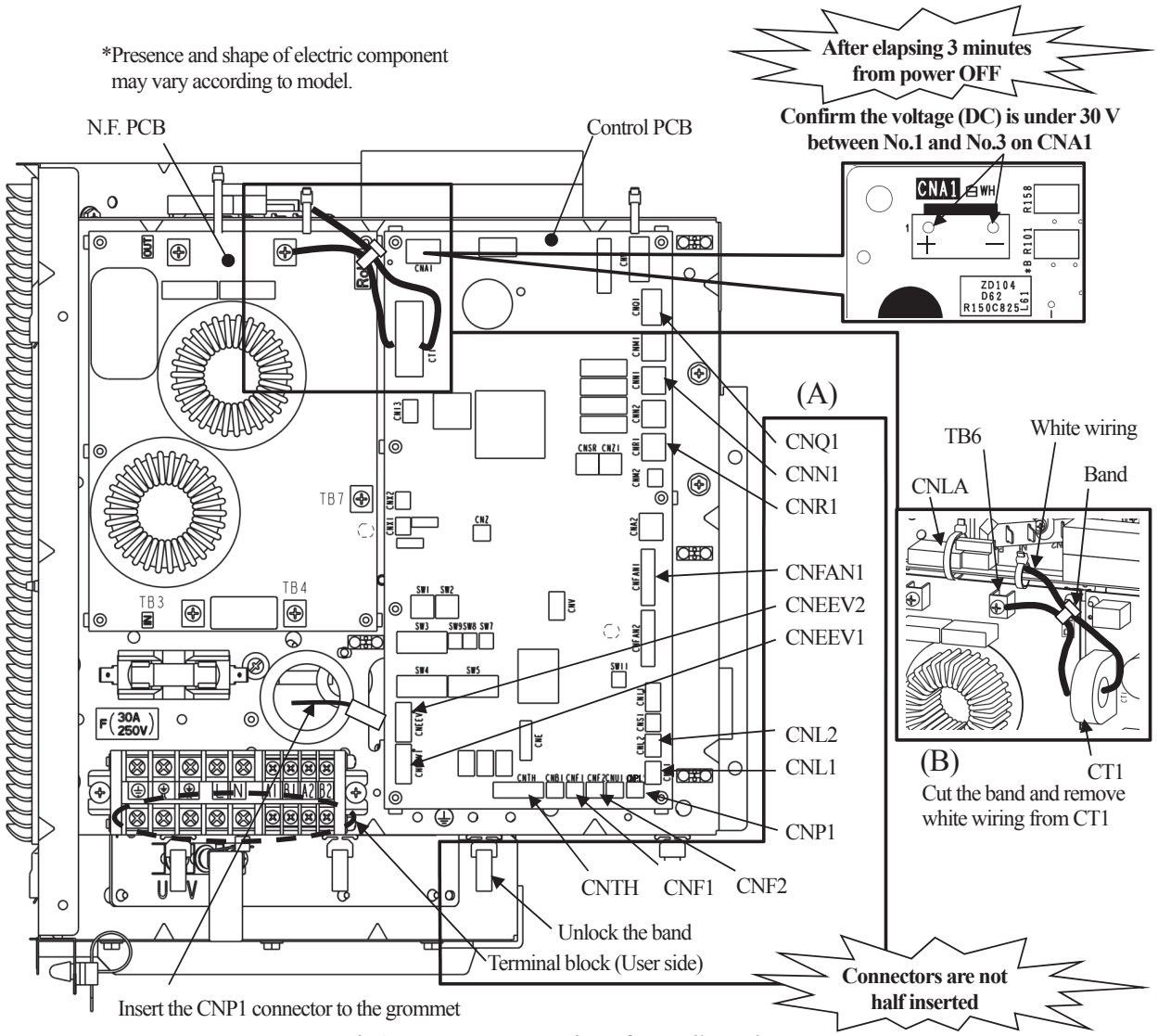


Fig.2 Parts arrangement view of controller and voltage measurement points

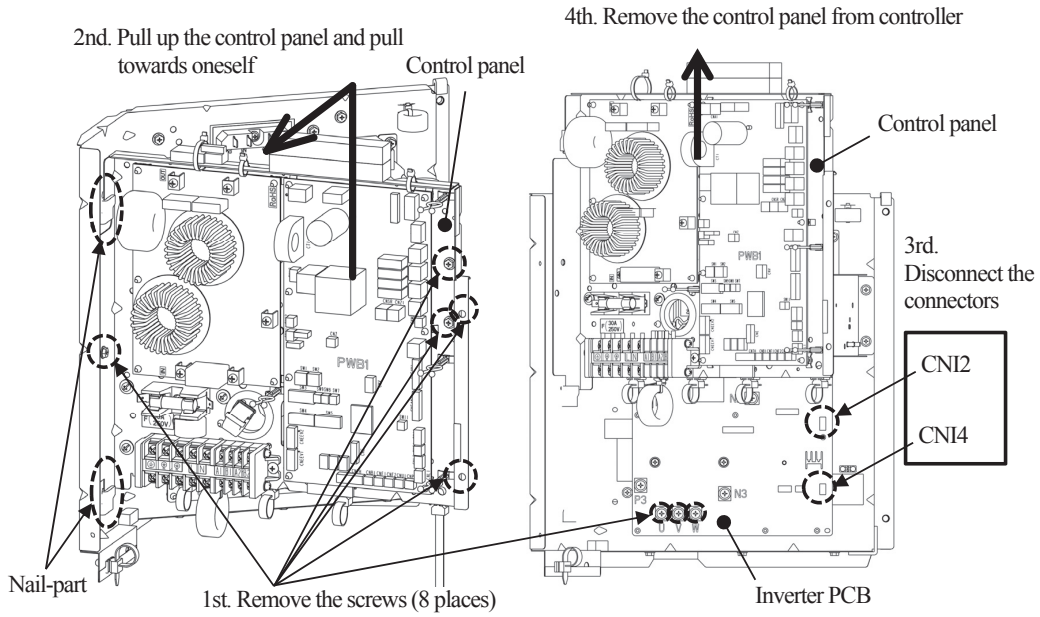


Fig.4 Removing procedure of control panel

2. Exchange

2.1 Remove the screw from support panel and rotate the support panel to counterclockwise direction as shown in Fig.5. (By doing so, you can see the locking spacer of the inverter PCB.)
2.2 Disconnect the connectors and round terminals, and remove the screws on the IPM (IC2) as shown in (D) in Fig.6.
2.3 Remove the inverter PCB.
2.4 Wipe off the silicone grease neatly on the heat sink.
2.5 Match the setting of new PCB switches (JSW10, 11) with former PCB. (Refer to Fig.6)
2.6 Paste a bundled silicone grease uniformly on the radiating surface of the IPM (IC2) on the new PCB, and attach the new PCB. **Without silicone grease pasting or its irregularities in the surface may damage to the inverter PCB.** (One-third to a half of the grease tube is adequate volume.)
2.7 Tighten the screws of IPM (IC2) on new PCB (Refer to table for recommended tightening torque), and reconnect the connectors and round terminals as before. **(Confirm that the connectors are not half inserted.)**

3. Installation

3.1 Return the support panel to original position and tighten with the screw as before.
3.2 Install the control panel to nail-part on controller as shown in fig.7. And, pull out the CNP1 connector to control PCB side from the grommet after bundle the wiring to clamp as shown in fig.7.
3.3 Tighten the screws of electrolytic capacitor as shown Fig.8. (Refer to table for recommended tightening torque)
3.4 Reconnect the CNLA connector, and faston terminals to A.F. module ("P" and "N2") as before.
3.5 Pass the white wiring through CT1 on the control PCB (Refer to Fig.7), and tighten the screw of TB6 in the N.F. PCB as before. (Refer to table for recommended tightening torque)
Using bands in the package, bundle the wiring at cutting point on 1.4 and 1.5 as before. (Refer to Fig.3 and Fig.7)
3.6 Tighten the screws (8 places) as shown in Fig.4 as before.
3.7 Reconnect the connectors and round terminals to control PCB and the user side of terminal block as before. (Confirm the **connectors are not half inserted**.) (Refer to table for recommended tightening torque)

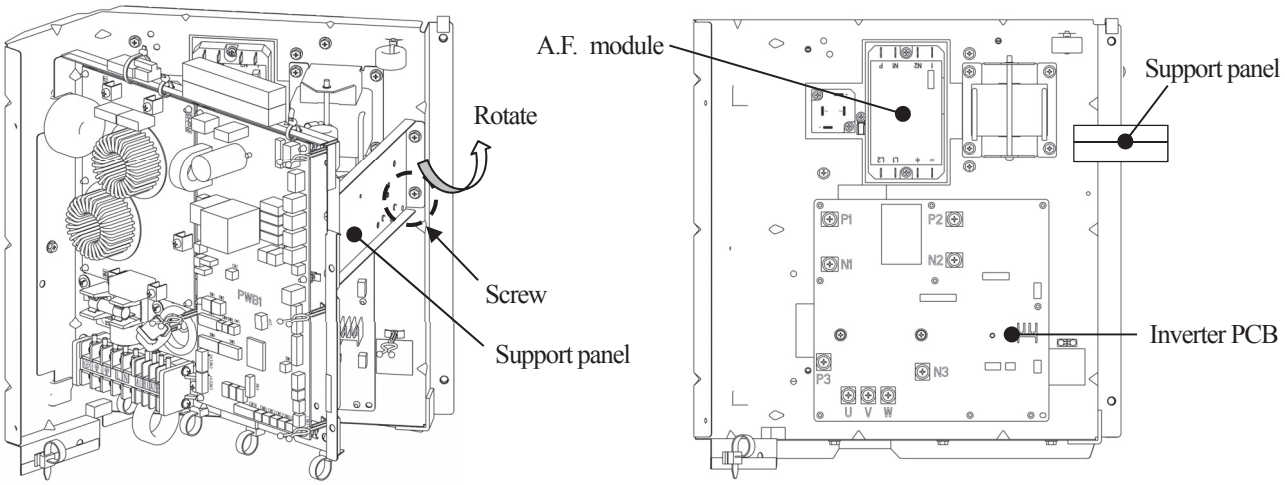


Fig.5 Inverter side view of controller

Parts	Ref.No	Sequence	Position	Tightening torque	
IPM	IC2	1	Ⓐ	0.2～0.44 N・m	Initial
		2	Ⓑ		
		3	Ⓐ	1.2～1.4 N・m	Final
		4	Ⓑ		
Inverter PCB	TB1-11	-	-	2.0～2.4 N・m	-
N.F. PCB	TB6	-	-	1.2～1.4 N・m	-
Terminal block	L,N,E,E(SL)	-	-	1.2～1.4 N・m	-
	A1,A2,B1,B2	-	-	1.2～1.4 N・m	-
Electrolytic capacitor	C1	-	-	2.5～2.7 N・m	-

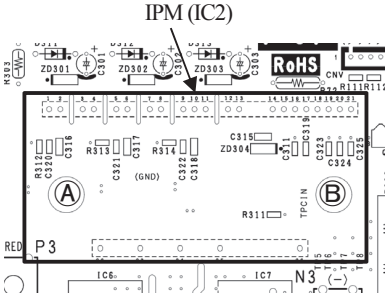


Table recommended tightening torque

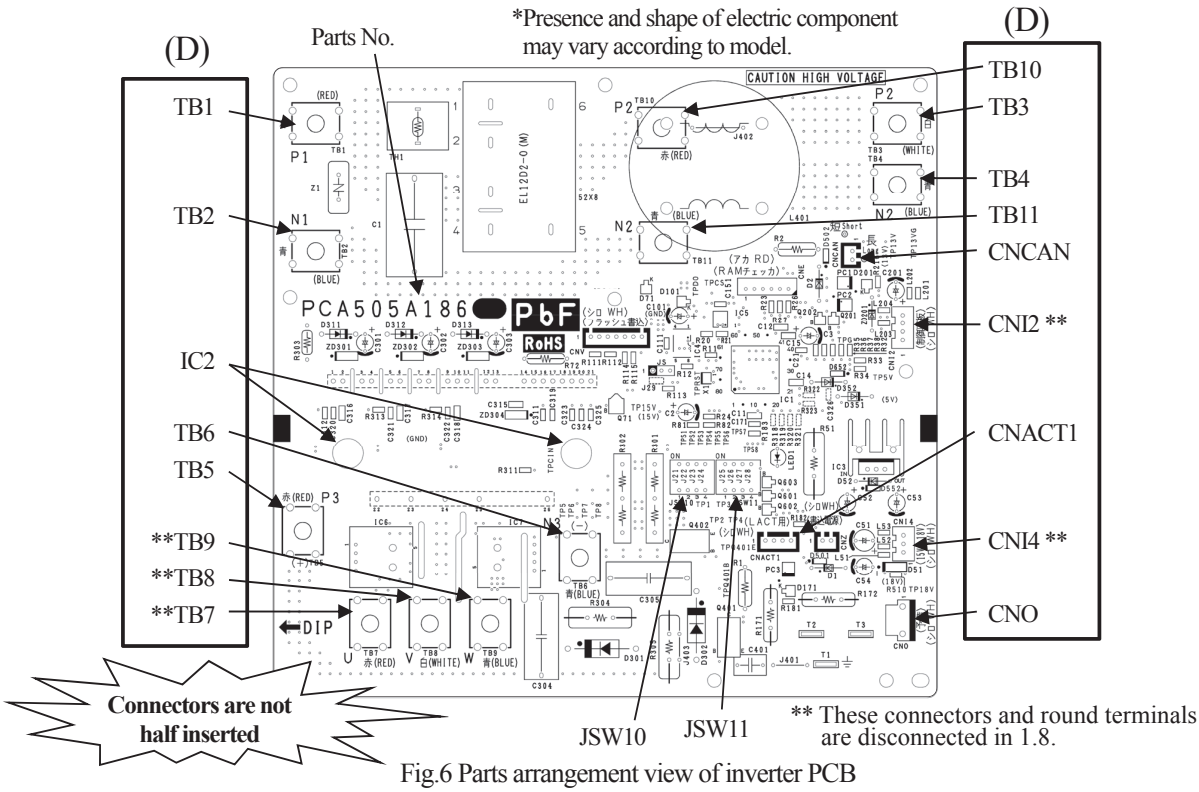


Fig.6 Parts arrangement view of inverter PCB

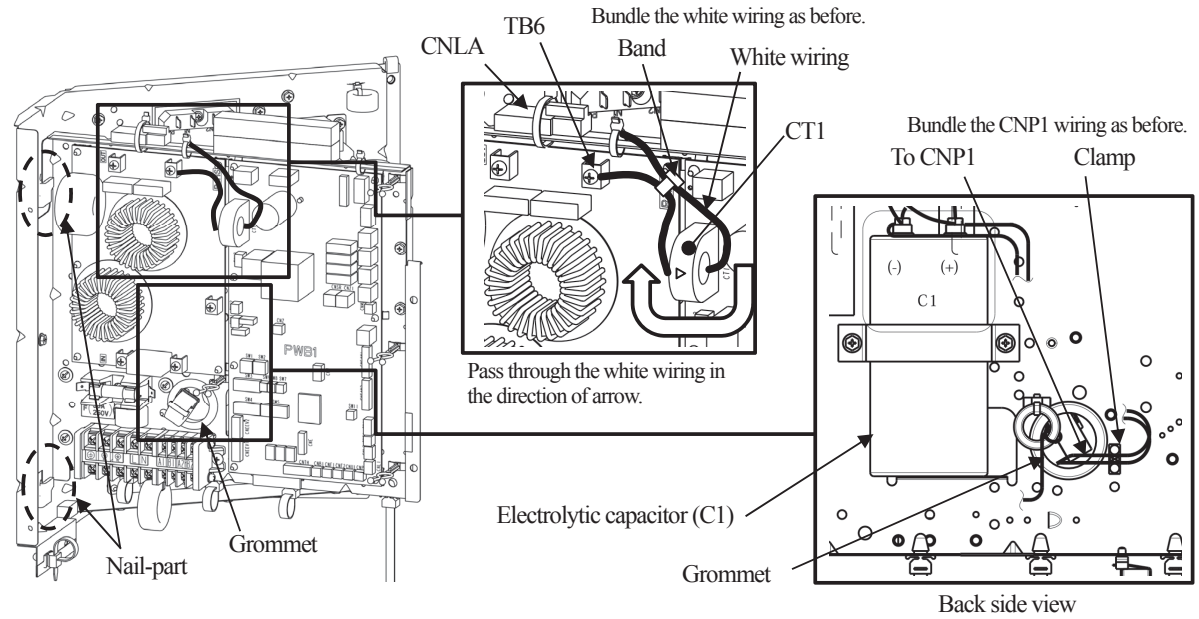


Fig.7 Installing procedure of control panel

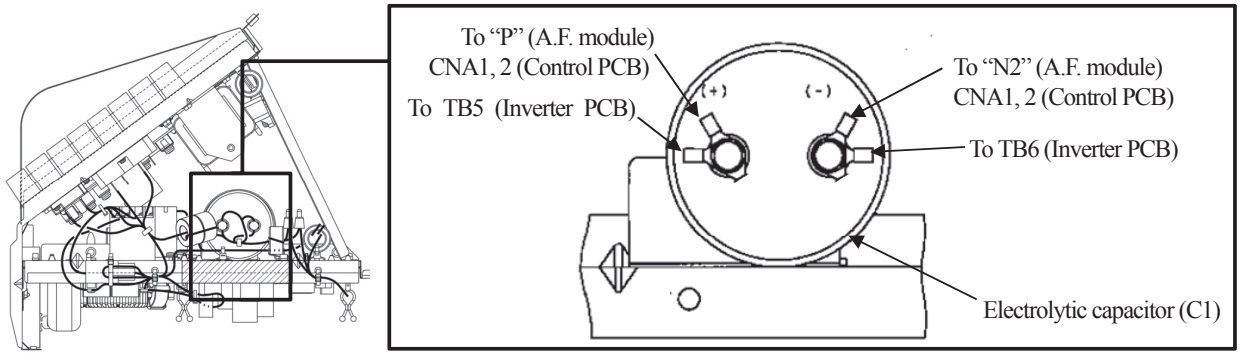


Fig.8 Installing procedure of electrolytic capacitor

2) FDC121, 140, 155KXZES1-W model

PCA012D025F R

a) Exchange the PCB **after elapsing 3 minutes from power OFF**.
(**Be sure to measure voltage (DC)** on both capacitor terminals located in control back, and **check that the voltage is discharged sufficiently**.(Refer to Fig.2))

b) Take off the connection of inverter PCB terminal block connector and remove the screw of power transistor then remove the PCB. Wipe off the silicon grease neatly on the control's radiation heat fins.

c) Refer to table1 for the setting of switch (JSW10,11) of new PCB.

d) Before installing the power transistor on the new PCB, apply uniformly a bundled of silicon grease first on the surface of power transistor. Make sure it is applied to prevent damage on power transistor.

e) Tighten the screw of power transistor on inverter PCB and connect the terminal block. Confirm the connection and don't use soldering in the connection. Tighten properly the power transistor with a screw and make sure there is no slack. Power transistor can be damage if not properly tighten.(Recommended power transistor tightening torque:0.98-1.47N·m)

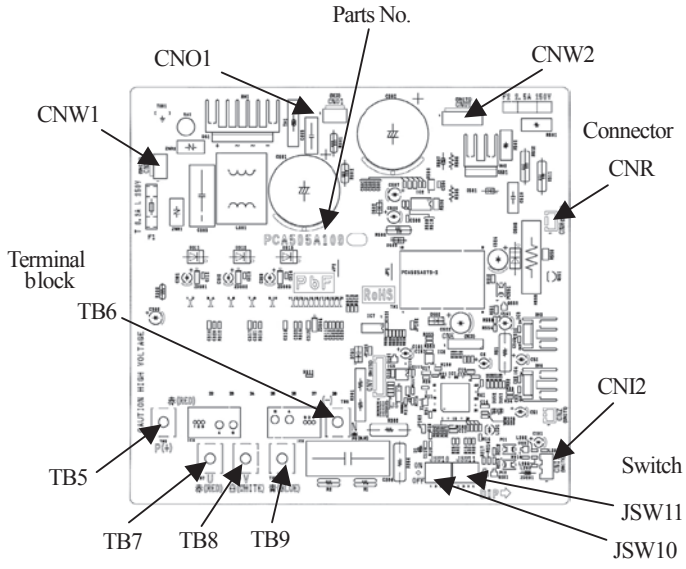


Fig.1 Parts arrangement view

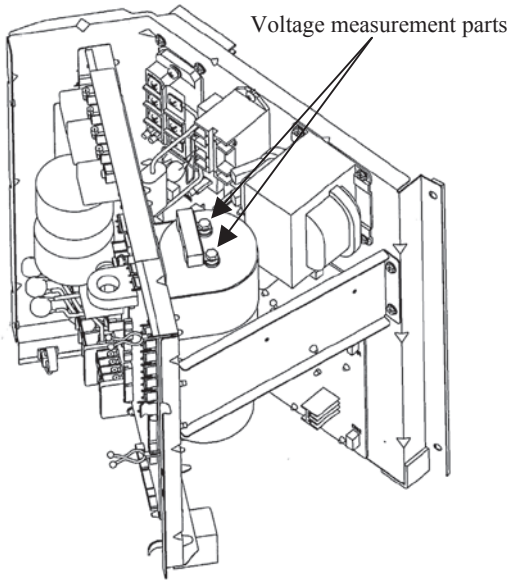


Fig.2 Position of capacitor

■Function of DIP switch for contol (SW3, 4, 5)

• SW3 (Function setting)

Switch		Function
SW3-1	ON	Inspection LED reset
	OFF	Normal
SW3-7	ON	Forced cooling/heating
	OFF	Normal

• SW3-2, SW4 (Model selection)

Switch \ Model	FDC121	FDC140	FDC155
SW3-2	ON	OFF	OFF
SW4-1	OFF	ON	OFF
SW4-2	OFF	OFF	ON

• SW4 (Overseas)

Switch \ Model	All models
SW4-3	ON

■ Function of jumper wire (J13, 15)
(With: Shorted / None: Opened)

Jumper		Function
J13	With	External input Level input
	None	External input Pulse input
J15	With	Defrost time Normal
	None	Defrost time Cold weather region

• SW4 (Power source voltage)

Switch \ Model	FDC121KXZEN1-W FDC140KXZEN1-W FDC155KXZEN1-W	FDC121KXZES1-W FDC140KXZES1-W FDC155KXZES1-W
SW4-4	ON	OFF

• SW4 (Change demand ratio)

Switch				Function
SW4-7	ON	SW4-8	OFF	Compressor capacity 60
			ON	Compressor capacity 0
	OFF		OFF	Compressor capacity 80
			ON	Compressor capacity 40

• SW5 (Function setting)

Switch		Function	
SW5-1	ON	Test run switch	Test run
	OFF	Test run switch	Normal
SW5-2	ON	Test run operation mode	Cooling
	OFF	Test run operation mode	Heating
SW5-3	ON	Pump down switch	Pump down
	OFF	Pump down switch	Normal

• SW7, 8, 9 (Function setting)

Switch	Function	
SW7	Data erase/data write	
SW8	7-segment dispalay No. UP	order of 1
SW9	7-segment dispalay No. UP	order of 10

■ Function of connector

Connector	Function	Connector	Function
CNA1	Power source	CNL1	High pressure sensor
CNQ1	High pressure switch (CN1)	CNP1	Power transistor temperature sensor
CNW	Open phase	CNEEV1	Heating EEV
CNN1	4-way valve	CNEEV2	Sub-cooling coil EEV
CNR1	Crankcase heater	CNX1	Superlink signal
CNA2	Power fan motor	CNF1	Sub-cooling coil temperature sensor (liquid)
CNS1	External input	CNF2	Sub-cooling coil temperature sensor (gas)
CNL2	Low pressure sensor		

■ Inverter PCB switch setting

		FDC121, 140, 155KXZEN1-W	FDC121, 140, 155KXZES1-W
JSW10	-1	OFF	OFF
	-2	ON	ON
	-3	OFF	OFF
	-4	OFF	OFF
JSW11	-1	OFF	ON
	-2	ON	OFF
	-3	ON	ON
	-4	OFF	OFF

#

■ Inverter checker for diagnosis of inverter output

● Checking method

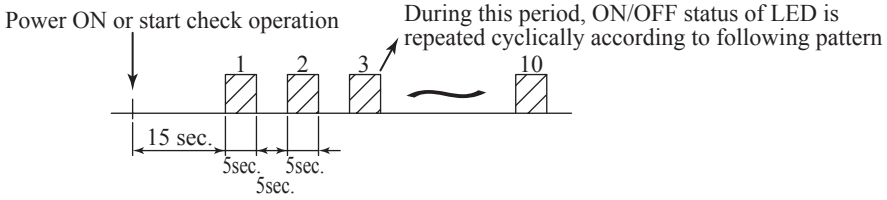
(a) Setup procedure of checker.

1) Power OFF (Turn off the breaker).
2) Remove the terminal cover of compressor and disconnect the wires (U, V, W) from compressor.
3) Connect the wires U (Red) , V (White) and W (Black) of checker to the terminal of disconnected wires (U, V, W) from compressor respectively.

(b) Operation for judgment.

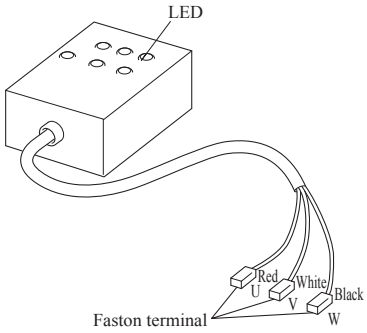
1) Power ON after JSW10-4 on outdoor inverter PCB was turned ON.
2) After 15 seconds since power has turned ON, LED start ON/OFF for 5 seconds cyclically and it repeats 10 times.
3) Check ON/OFF status of 6 LED's on the checker.
4) Judge the PCB by ON/OFF status of 6 LED's on the checker.

ON/OFF status of LED	If all of LED are ON/OFF according to following pattern	If all of LED stay OFF or some of LED are ON/OFF
Inverter PCB	Normal	Anomalous



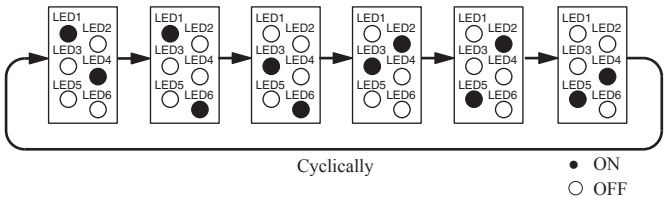
5) Be sure to turn off JSW10-4 on outdoor inverter PCB, after finishing the check operation.

<Inverter Checker>



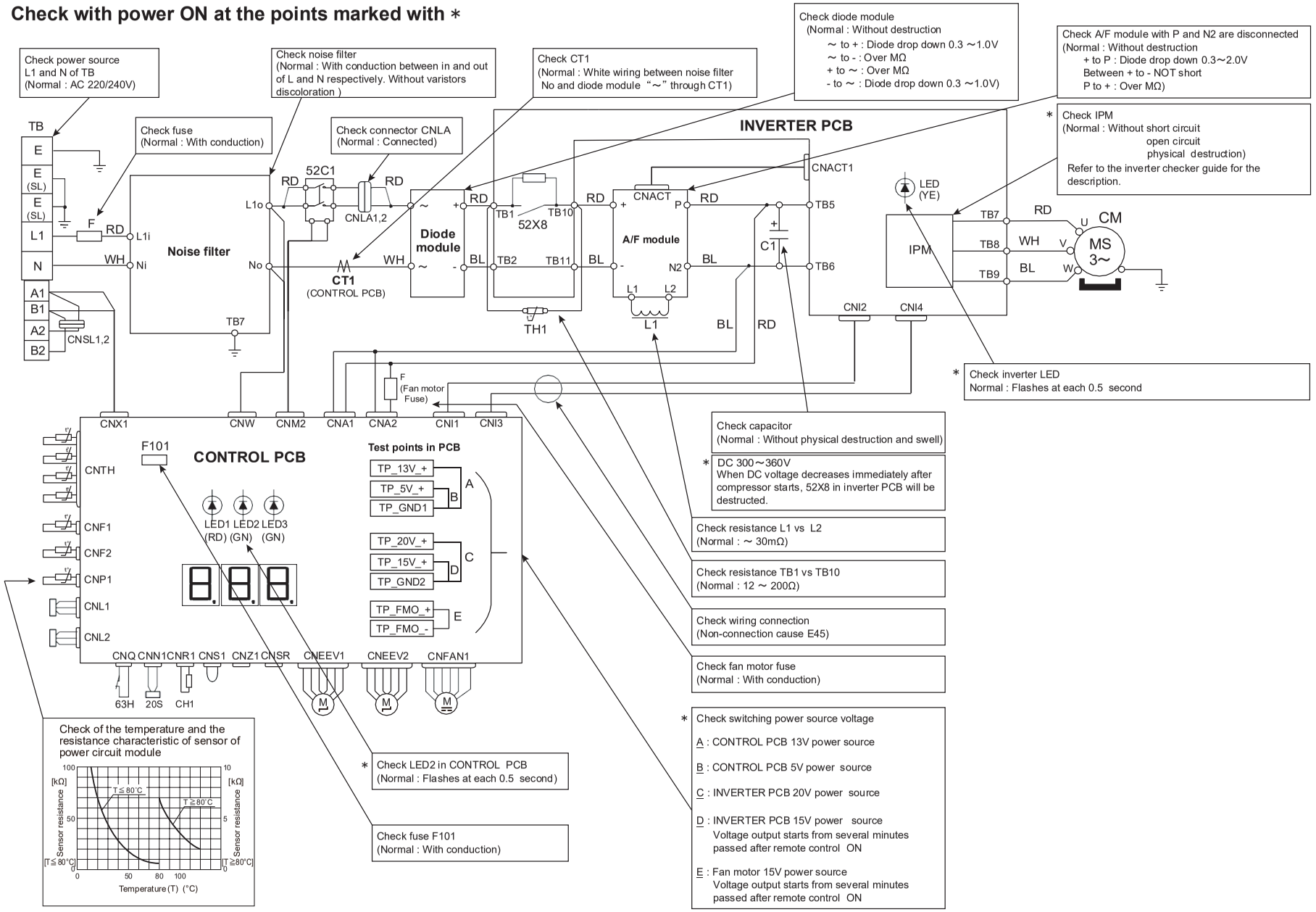
Connect to the terminal of the wires which are disconnected from compressor.

LED ON/OFF pattern



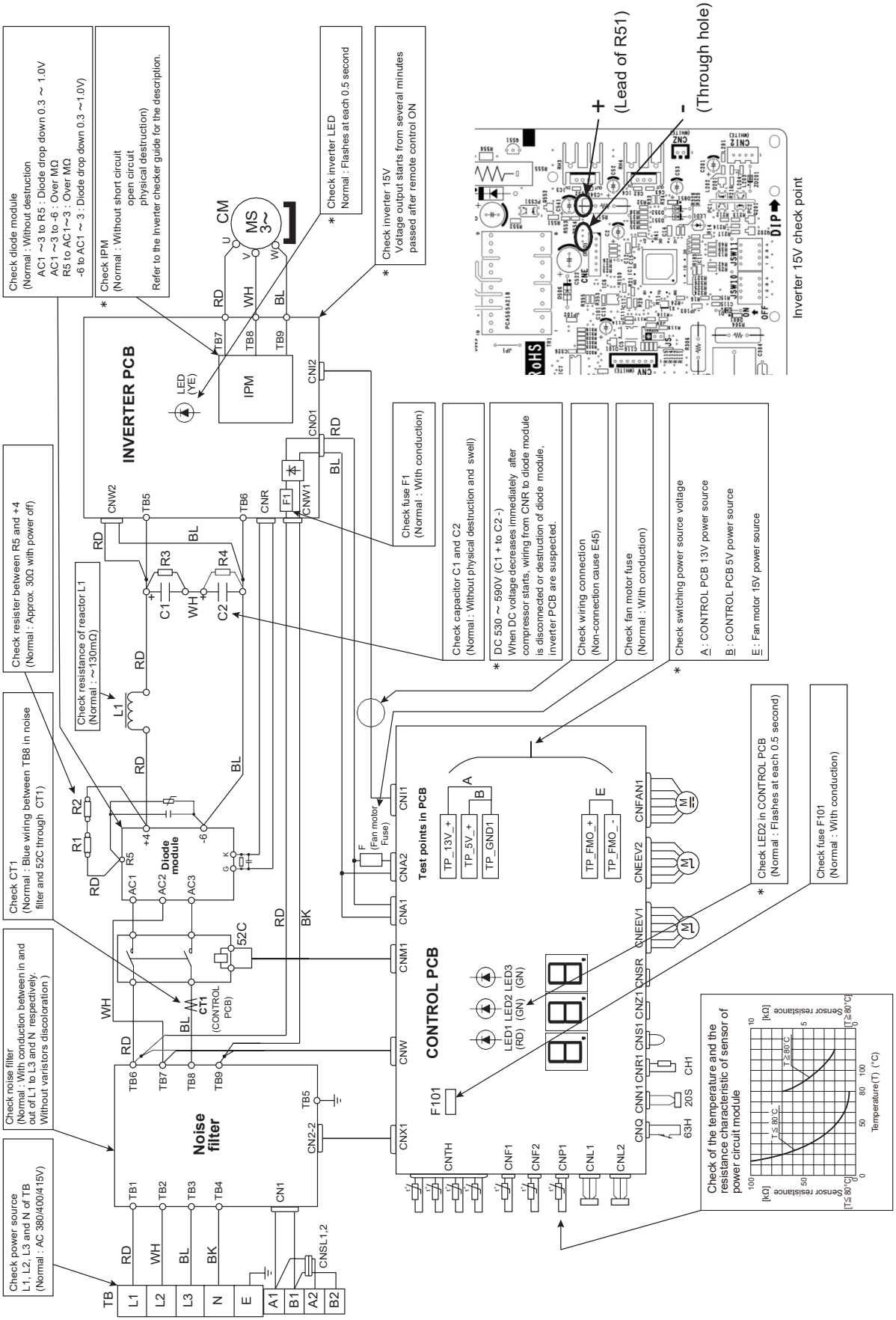
• Check points of electric circuits for FDC121 - 155KXZEN1-W

Check with power ON at the points marked with *



• Check points of electric circuits for FDC121 - 155KXZES1-W

Check with power ON at the points marked with ＊



#

9.5 Indoor unit control PCB replacement procedure

PSC012D050B C

(1) FDT, FDTC series

SAFETY PRECAUTIONS

- Read the "SAFETY PRECAUTIONS" carefully first of all and then strictly follow it during the replacement in order to protect yourself.
- The precautionary items mentioned below are distinguished into two levels, WARNING and CAUTION.
  Both mentions the important items to protect your health and safety so strictly follow them by any means.

⚠ WARNING	Wrong installation would cause serious consequences such as injuries or death.
⚠ CAUTION	Wrong installation might cause serious consequences depending on circumstances.

- After completing the replacement, do commissioning to confirm there are no abnormalities.

⚠ WARNING

- Replacement should be performed by the specialist.
  If you replace the PCB by yourself, it may lead to serious trouble such as electric shock or fire.
- Replace the PCB correctly according to these instructions.
  Improper replacement may cause electric shock or fire.
- Shut off the power before electrical wiring work.Start the work after elapsing 1 minute or more from power off.
  Replacement during the applying the current would cause the electric shock, unit failure or improper running.
  It would cause the damage of connected equipment such as fan motor,etc.
- Fasten the wiring to the terminal securely, and hold the cable securely so as not to apply unexpected stress on the terminal.
  Loose connections or hold could result in abnormal heat generation or fire.
- Check the connection of wiring to PCB correctly before turning on the power, after replacement.
  Defectiveness of replacement may cause electric shock or fire.

⚠ CAUTION

- In connecting connector onto the PCB, connect not to deform the PCB. It may cause breakage or malfunction.
- Insert connector securely, and hook stopper. It may cause fire or improper running.
- Bundle the cables together so as not to be pinched or be tensioned. It may cause malfunction or electric shock for disconnection or deformation.

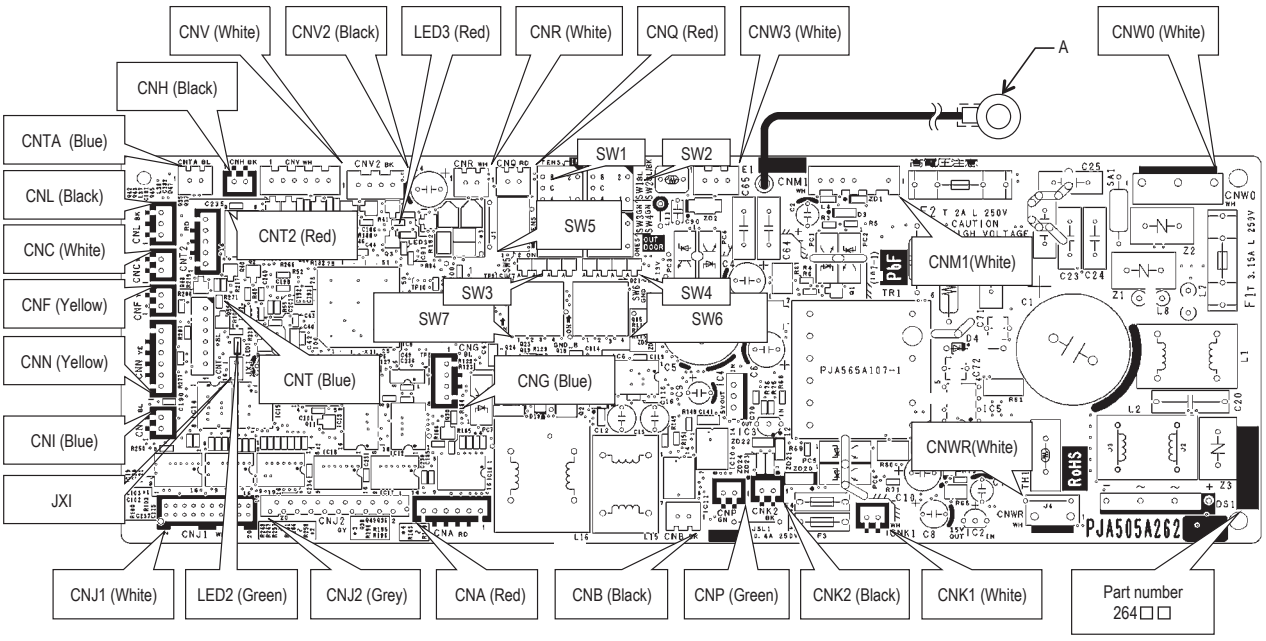
This pwb is a general PCB. Replace the PCB according to this instruction.

(1) Replace the PCB

① Unscrew terminal(Arrow A) of the "E1" wiring(yellow/green) that is connected to PCB.
② Replace the PCB only after all the wirings connected to the connector are removed.
③ Fix the board such that it will not pinch any of the wires.
④ Switch setting must be same setting as that of the removed PCB.
⑤ Reconnect the wirings to the PCB. Wiring connector color should match with the color of connector of the PCB.
⑥ Screw back the terminal(Arrow A) of the "E1" wiring, that was removed in ①.

(2) Control PCB

Parts mounting are different by the kind of PCB.



(2) FDK series

(a) FDK15-56KXZE1-W

PHA012D050AA

SAFETY PRECAUTIONS

- Read the "SAFETY PRECAUTIONS" carefully first of all and then strictly follow it during the replacement in order to protect yourself.
- The precautionary items mentioned below are distinguished into two levels, WARNING and CAUTION.
  Both mentions the important items to protect your health and safety so strictly follow them by any means.

⚠ WARNING	Wrong installation would cause serious consequences such as injuries or death.
⚠ CAUTION	Wrong installation might cause serious consequences depending on circumstances.

- After completing the replacement, do commissioning to confirm there are no abnormalities.

⚠ WARNING

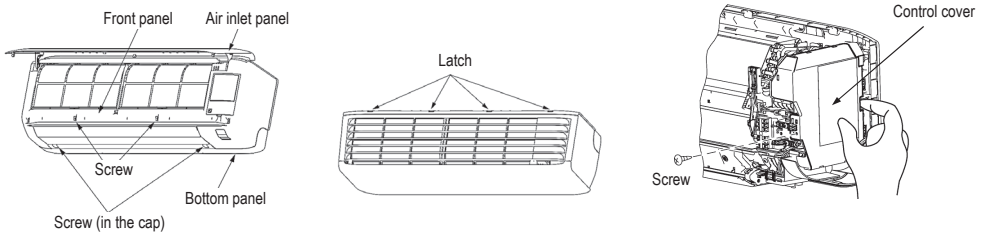
- Replacement should be performed by the specialist.
  If you replace the PCB by yourself, it may lead to serious trouble such as electric shock or fire.
- Replace the PCB correctly according to these instructions.
  Improper replacement may cause electric shock or fire.
- Shut off the power before electrical wiring work.Start the work after elapsing 1 minutes or more from power off.
  Replacement during the applying the current would cause the electric shock, unit failure or improper running.
  It would cause the damage of connected equipment such as fan motor,etc.
- Fasten the wiring to the terminal securely, and hold the cable securely so as not to apply unexpected stress on the terminal.
  Loose connections or hold could result in abnormal heat generation or fire.
- Check the connection of wiring to PCB correctly before turning on the power, after replacement.
  Defectiveness of replacement may cause electric shock or fire.

⚠ CAUTION

- In connecting connector onto the PCB, connect not to deform the PCB. It may cause breakage or malfunction.
- Insert connector securely, and hook stopper. It may cause fire or improper running.
- Bundle the cables together so as not to be pinched or be tensioned. It may cause malfunction or electric shock for disconnection or deformation.

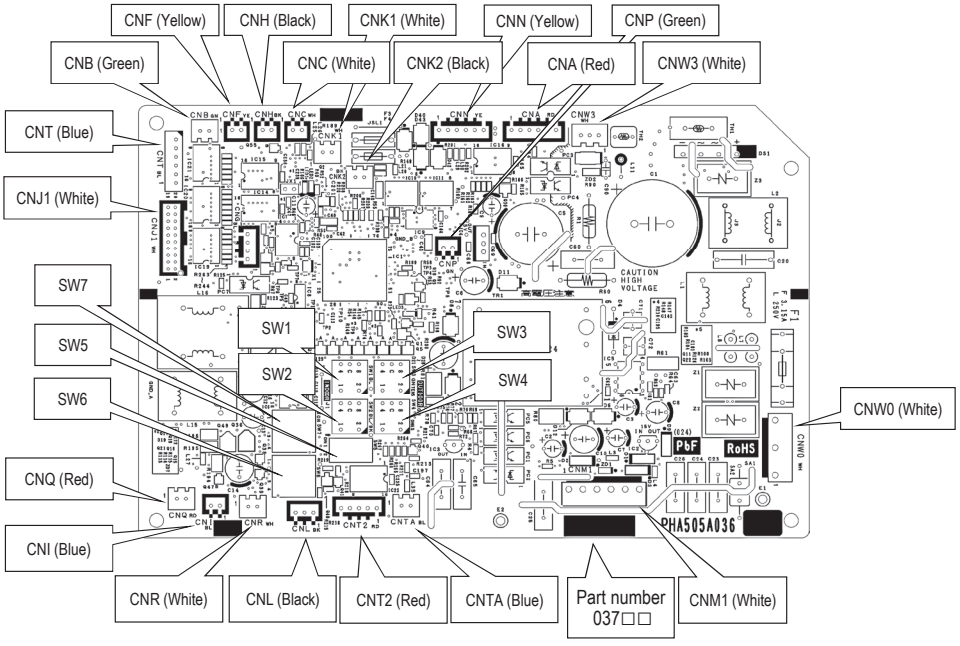
Exchange the PCB according to the following procedure.

① Remove the air inlet panel.
② Remove the 2 screws in the cap of bottom panel.
③ Remove the 2 hooks of left and right side and then bottom panel can be removed.
④ Remove the screws. (2 screws)
⑤ Remove the upper latches and then front panel can be removed.(4 latches)
⑥ Remove the screw and control cover.



⑦ Replace the PCB only after all the wirings connected to the connector are removed.
⑧ Fix the board such that it will not pinch any of the wires.
⑨ Switch setting must be same setting as that of the removed PCB.
⑩ Reconnect the wirings to the PCB. Wiring connector color should match with the color of connector of the PCB.

※Parts mounting are different by the kind of PCB.



(b) FDK71KXZE1-W

PHA012D051AA

SAFETY PRECAUTIONS

- Read the "SAFETY PRECAUTIONS" carefully first of all and then strictly follow it during the replacement in order to protect yourself.
- The precautionary items mentioned below are distinguished into two levels, WARNING and CAUTION.
  Both mentions the important items to protect your health and safety so strictly follow them by any means.

⚠ WARNING	Wrong installation would cause serious consequences such as injuries or death.
⚠ CAUTION	Wrong installation might cause serious consequences depending on circumstances.

- After completing the replacement, do commissioning to confirm there are no abnormalities.

⚠ WARNING

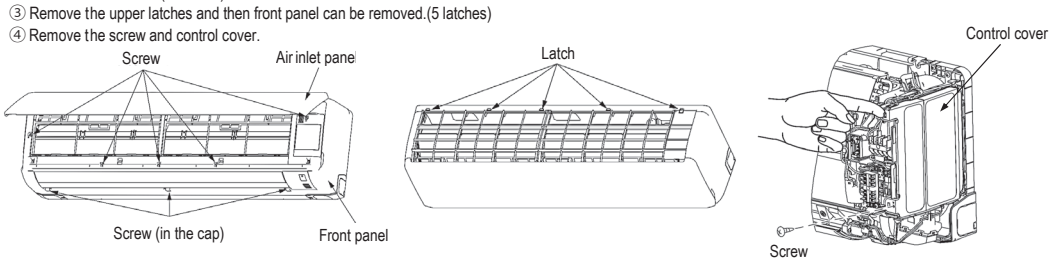
- Replacement should be performed by the specialist.
  If you replace the PCB by yourself, it may lead to serious trouble such as electric shock or fire.
- Replace the PCB correctly according to these instructions.
  Improper replacement may cause electric shock or fire.
- Shut off the power before electrical wiring work.Start the work after elapsing 1 minutes or more from power off.
  Replacement during the applying the current would cause the electric shock, unit failure or improper running.
  It would cause the damage of connected equipment such as fan motor,etc.
- Fasten the wiring to the terminal securely, and hold the cable securely so as not to apply unexpected stress on the terminal.
  Loose connections or hold could result in abnormal heat generation or fire.
- Check the connection of wiring to PCB correctly before turning on the power, after replacement.
  Defectiveness of replacement may cause electric shock or fire.

⚠ CAUTION

- In connecting connector onto the PCB, connect not to deform the PCB. It may cause breakage or malfunction.
- Insert connector securely, and hook stopper. It may cause fire or improper running.
- Bundle the cables together so as not to be pinched or be tensioned. It may cause malfunction or electric shock for disconnection or deformation.

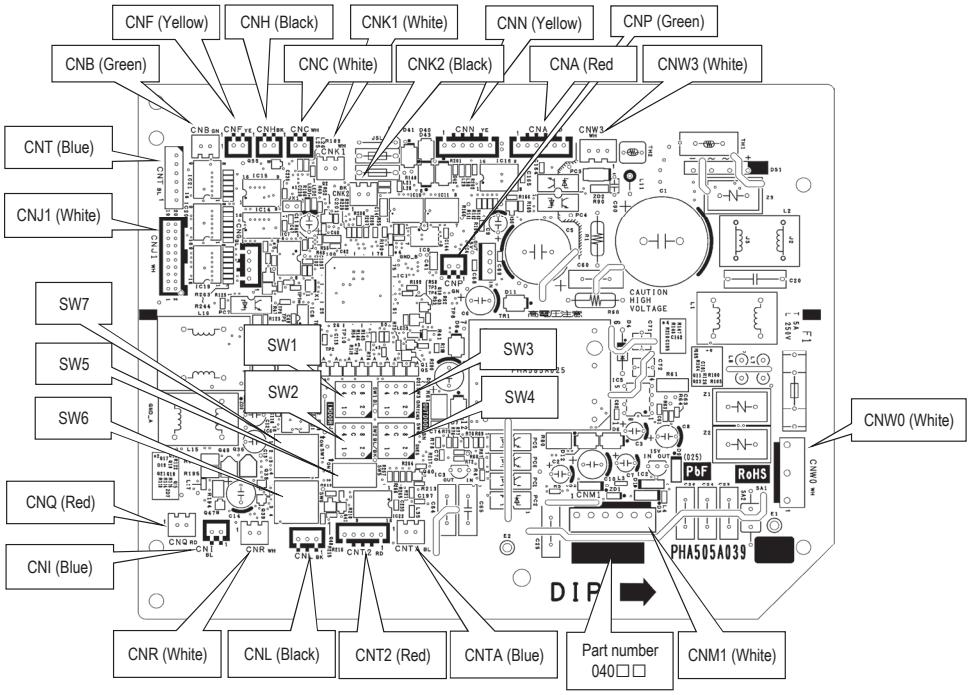
Exchange the PCB according to the following procedure.

① Remove the air inlet panel.
② Remove the screws. (8 screws)
③ Remove the upper latches and then front panel can be removed.(5 latches)
④ Remove the screw and control cover.



⑤ Replace the PCB only after all the wirings connected to the connector are removed.
⑥ Fix the board such that it will not pinch any of the wires.
⑦ Switch setting must be same setting as that of the removed PCB.
⑧ Reconnect the wirings to the PCB. Wiring connector color should match with the color of connector of the PCB.

※Parts mounting are different by the kind of PCB.



(3) Indoor PCB setting

Code	Input		Default setting		Remarks
SW1	Indoor unit address No.(Order of 10)		0		0-9
SW2	Indoor unit address No.(Order of 1)		0		0-9
SW3	Outdoor unit address No.(Order of 10)		4		0-9
SW4	Outdoor unit address No.(Order of 1)		9		0-9
SW5-1	Superlink selection	Automatic*/Previous SL	OFF	Automatic	
SW5-2	Indoor unit address No.(Order of 100)		OFF	0	OFF : 0, ON : 1
SW6-1 SW6-2 SW6-3 SW6-4 SW8-1	Model selection		As per model		See table 1
SW7-1	Test run, Drain motor	Normal*/Test run	OFF	Normal	
SW7-2	Reserved		OFF		Keep OFF
SW7-3	Spare		OFF		Keep OFF
SW7-4	Reserved		OFF		Keep OFF
JSL1	Superlink terminal spare	Normal*/switch to spare	With	Normal	

*Default setting

Table 1

■Model selection with SW6-1 - SW6-4 and SW8-1

	P15	P22	P28	P36	P45	P56	P71	P90	P112	P140	P160
SW6-1	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF	ON	OFF	ON
SW6-2	OFF	OFF	OFF	ON	OFF	ON	OFF	ON	ON	OFF	OFF
SW6-3	OFF	OFF	OFF	OFF	ON	ON	OFF	OFF	OFF	ON	ON
SW6-4	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON
SW8-1	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF

10. OUTDOOR UNIT DISASSEMBLY PROCEDURE

PCA012D088

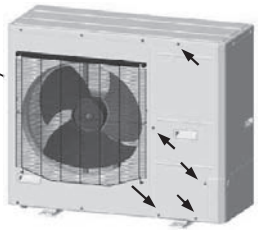
DISASSEMBLY PROCEDURE

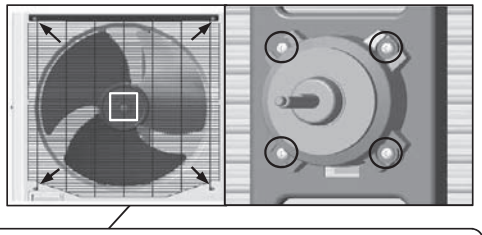
⚠WARNING Precautions for safety

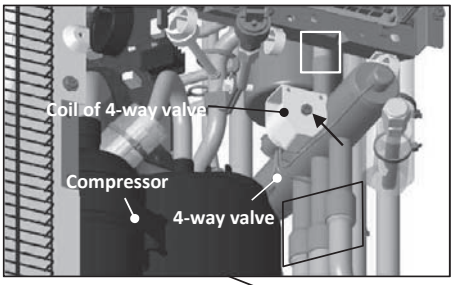
- **Read these "Precautions for safety" carefully before starting disassembly work and do it in the proper way.**
- **When disassembling, be sure to turn off the power. When disassembling the electrical components, check the electrical wiring diagram.**
- **The electrical components are under high voltage by the operation of the booster capacitor. Fully discharge the capacitor before commencing a repair work. Failure to observe this warning could result in electric shock.**
- **When parts of refrigerant cycle is disassembled by welding, be sure to work after collecting a refrigerant, if the refrigerant isn't collected, the unit might explode.**
- **Be sure to collect refrigerant without spreading it in the air.**
- **These contents are an example. Please refer to a similar part of actual unit.**

PROCEDURE & PICTURES (FDC･SCM series)

1. To remove the service panel
(1) Remove 5 service panel fixing screws and remove it.

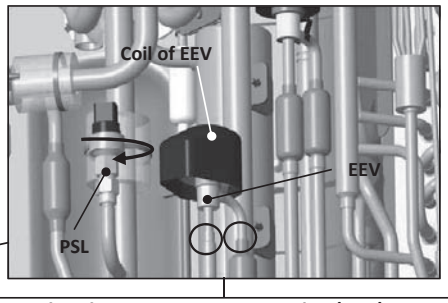






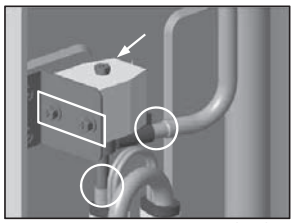
2. To remove the fan motor (FM)
(1) Remove the service panel.(See No.1)
(2) Disconnect the motor connector(FMxx or CNFxx) on PCB in control box.
(3) Remove 4 fan guard fixing screws and remove it.(← mark)
(4) Remove the propeller fan fixing nut and remove it.(☐ mark)
(5) Remove 4 fan motor fixing nuts and remove it.(○ mark)

3. To remove the 4-way valve (20S)
(1) Remove the service panel.(See No.1)
(2) Disconnect the coil of 4-way valve connector (CNNx or CNS,CN20S) on PCB in control box.
(3) Remove the coil of 4-way valve fixing screw and remove it.(← mark)
(4) Remove welded part of 4-way valve by welding. (☐ mark)



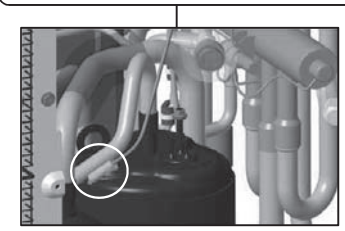
4. To remove the low pressure sensor (PSL)
(1) Remove the service panel.(See No.1)
(2) Disconnect the PSL connector(CNLx or CNPS) on PCB in control box.
(3) Turn PSL to the left and remove it. (Double spanners are needed.)

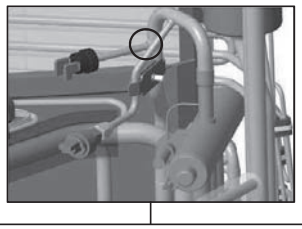
5. To remove the electronic expansion valve (EEV)
(1) Remove the service panel.(See No.1)
(2) Disconnect the EEV connector(CNEEVx) on PCB in control box.
(3) Remove the coil of EEV by pull out on the top.
(4) Remove welded part of EEV by welding.(○ mark)



7. To remove bypass valve (SV)
(1) Remove the service panel.(See No.1)
(2) Disconnect the SV connector on PCB in control box.
(3) Remove the coil of SV fixing screws. (← mark)
(4) Remove 2 coil of SV fixing screws and remove it.(☐ mark)
(5) Remove welded part of SV by welding. (○ mark)

6. To remove the temperature sensors (example"Tho-D1")
(1) Remove the service panel.(See No.1)
(2) Disconnect the Tho-D1 connector(CNTH) on PCB in control box.
(3) Pull out the temperature sensors "Tho-D1" from the sensor holder.

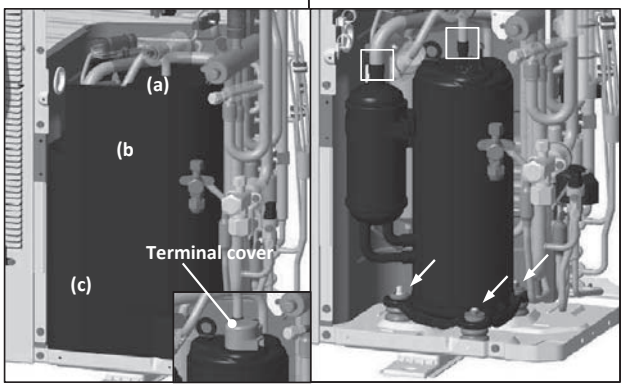




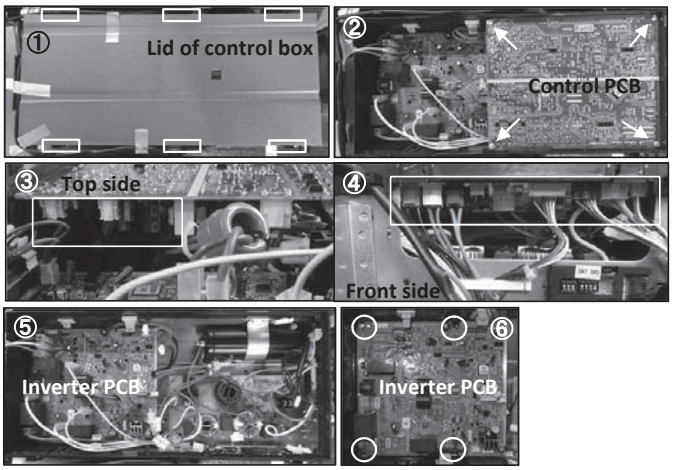
8. To remove the high pressure switch (63H)
(1) Remove the service panel.(See No.1)
(2) Disconnect the 63H connector(CNH or CNQx) on PCB in control box.
(3) Remove welded part of high pressure switch by welding.

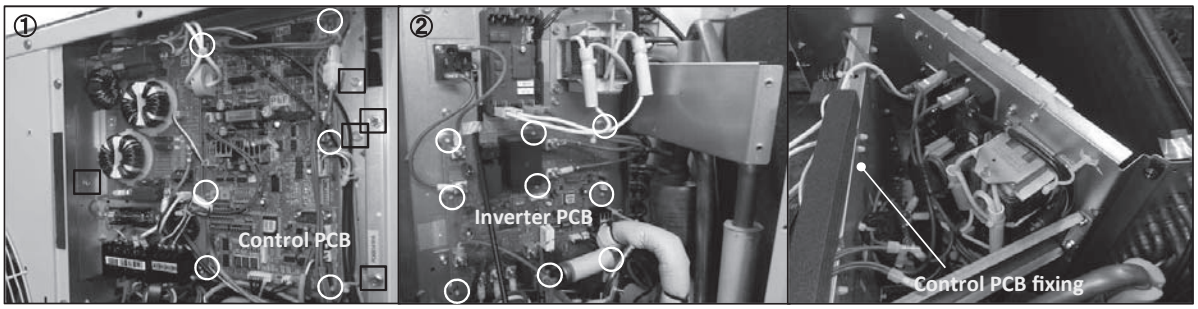
PROCEDURE & PICTURES

9. To remove the compressor (CM)
(1) Remove the service panel.(See No.1)
(2) Remove the insulation which covers compressor. (Strings (a)～(c) should be loosen.)
(3) Remove the terminal cover fixing bolt and remove it, and disconnect the power wiring.
(4) Remove welded part of compressor by welding. (☐ mark)
(5) Remove 3 compressor fixing nuts(← mark) using spanner or adjustable wrench.



10. To remove the printed circuit board (PCB)
≪Control box service top side type≫
(1) Remove the service panel and top panel.
(2) Take off 6 hooks of lid and remove it. (☐ mark, Pic.①)
(3) Pull off all the inserted connectors of control PCB.(☐ mark, Pic.③④)
(4) Remove 4 cotrol PCB fixing screws and remove it.(← mark, Pic.②)
(5) Pull off all the inserted connectors of inverter PCB.(Pic.⑤)
(6) Remove 4 inverter PCB fixing screws and remove it.(○ mark, Pic.⑥)





11. To remove the printed circuit board (PCB)
≪Control box service front side type≫
(1) Remove the service panel and top panel.
(2) Pull off all the inserted connectors of control PCB.(Pic.①)
(3) Take off 6 control PCB fixing locking supports and remove it.(○ mark, Pic.①)
(4) Remove 5 plate fixing screws and open it.(☐ mark, Pic.①)
(5) Pull off all the inserted connectors of inverter PCB.(Pic.②)
(6) Take off 9 inverter PCB fixing locking supports and remove it.(○ mark, Pic.②)

11. INDOOR UNIT DISASSEMBLY PROCEDURE

(1) FDT series

PJF012D045

DISASSEMBLY PROCEDURE

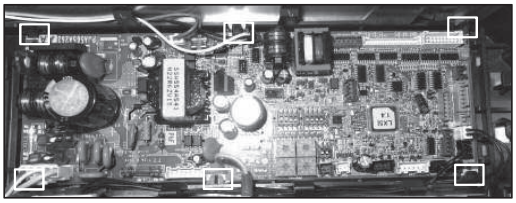
⚠WARNING Precautions for safety

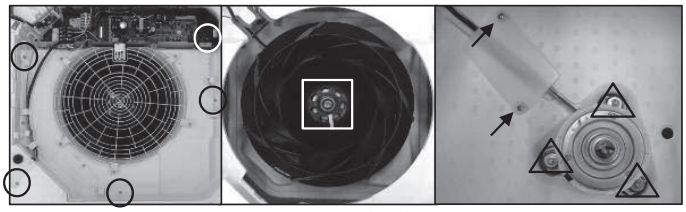
- **Read these "Precautions for safety" carefully before starting disassembly work and do it in the proper way.**
- **When disassembling, be sure to turn off the power. When disassembling the electrical components, check the electrical wiring diagram.**
- **The electrical components are under high voltage by the operation of the booster capacitor. Fully discharge the capacitor before commencing a repair work. Failure to observe this warning could result in electric shock.**
- **When parts of refrigerant cycle is disassembled by welding, be sure to work after collecting a refrigerant, if the refrigerant isn't collected, the unit might explode.**
- **Be sure to collect refrigerant without spreading it in the air.**
- **These contents are an example. Please refer to a similar part of actual unit.**

PROCEDURE & PICTURES (FDT series)

1. To remove the lid of control box
(1) Remove 2 lid fixing screws and remove it.

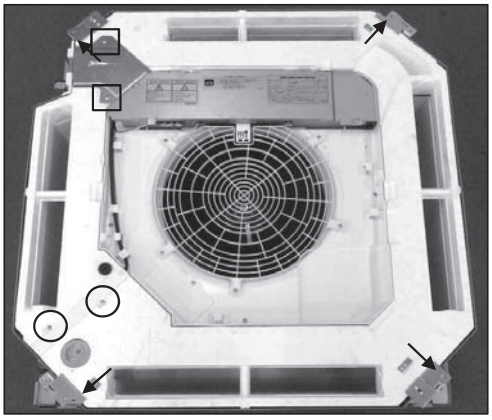
2. To remove the printed circuit board (PCB)
(1) Remove the lid of control box.(See No.1)
(2) Pull off all the inserted connectors.
(3) Take off 6 fixing hooks and remove it.

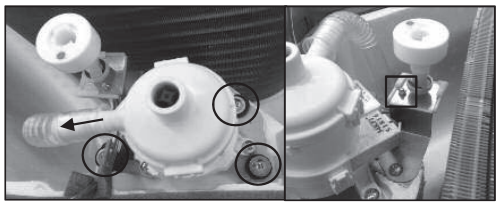




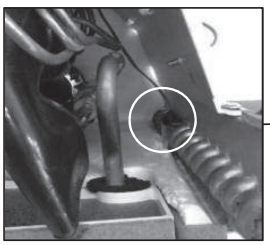
3. To remove the impeller and motor (FM)
(1) Remove the lid of control box.(See No.1)
(2) Disconnect the motor connector(CNMx) on PCB in control box.
(3) Remove 5 bellmouth fixing screws and remove it.(○ mark)
(4) Remove the impeller fixing nut and remove it.(□ mark)
(5) Remove 2 plate fixing screws and remove it.(← mark)
(6) Remove 3 motor fixing nuts and remove it.(△ mark)

4. To remove the drain pan
(1) Remove the lid of control box.(See No.1)
(2) Pull off all the inserted connectors.
(3) Remove 2 plate fixing screws and remove it. (○ mark)
(4) Remove 2 lid fixing screws and remove it. (□ mark)
(5) Remove 4 drain pan fixing screws and remove it. (← mark)



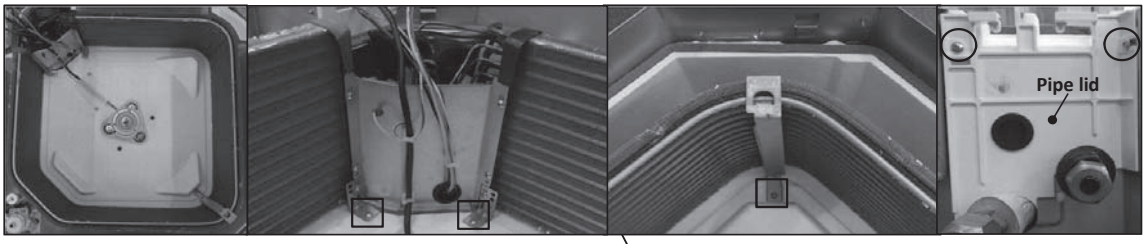


5. To remove drain pump (DM) and flot switch (FS)
(1) Remove the drain pan.(See No.4)
(2) Pull the hose to the arrow direction and remove it.
(3) Remove 3 drain pump fixing screws and remove it.(○ mark)
(4) Remove the flot switch fixing screw and remove it.(□ mark)



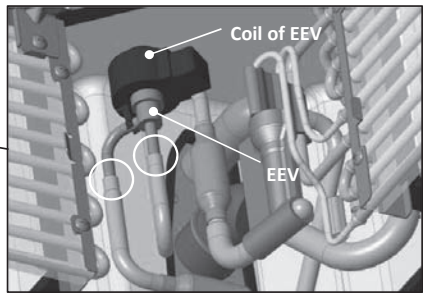
6. To remove the temperature sensors (example"Thi-R1")
(1) Remove the drain pan.(See No.4)
(2) Pull out the temperature sensor "Thi-R1" from the sensor holder.

PROCEDURE & PICTURES



7. To remove the heat exchanger assembly
(1) Remove the drain pan.(See No.4)
(2) Remove 2 pipe lid fixing screws and remove it.(○ mark)
(3) Remove 3 heat exchanger assembly fixing screws and remove it.(□ mark)

8. To remove the Electronic Expansion Valve (EEV)
(1) Remove the heat exchanger assembly.(See No.7)
(2) Remove the coil of EEV by pull out on the top.
(3) Remove welded part of EEV by welding.(○ mark)



General view

(2) FDTC series

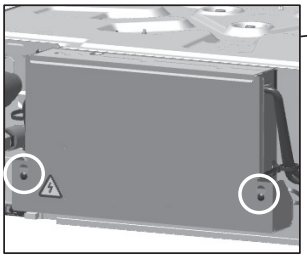
PJA012D792A

DISASSEMBLY PROCEDURE

⚠WARNING Precautions for safety

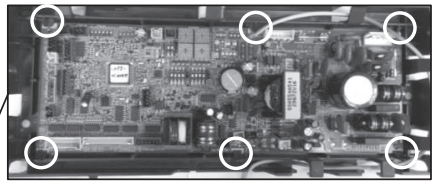
- **Read these "Precautions for safety" carefully before starting disassembly work and do it in the proper way.**
- **When disassembling, be sure to turn off the power. When disassembling the electrical components, check the electrical wiring diagram.**
- **The electrical components are under high voltage by the operation of the booster capacitor. Fully discharge the capacitor before commencing a repair work. Failure to observe this warning could result in electric shock.**
- **When parts of refrigerant cycle is disassembled by welding, be sure to work after collecting a refrigerant, if the refrigerant isn't collected, the unit might explode.**
- **Be sure to collect refrigerant without spreading it in the air.**
- **These contents are an example. Please refer to a similar part of actual unit.**

PROCEDURE & PICTURES (FDTC series)

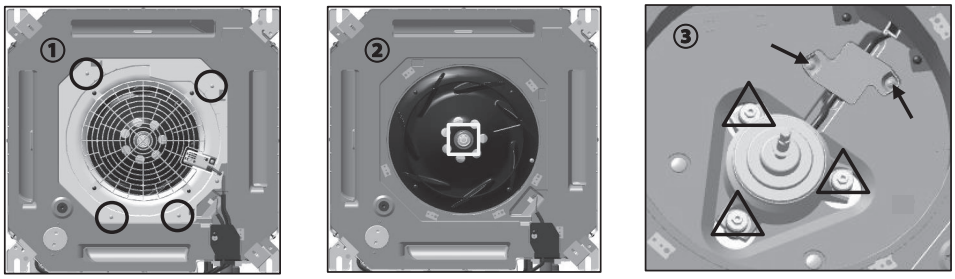


1. To remove the lid of control box
(1) Remove 2 lid fixing screws then remove the lid.

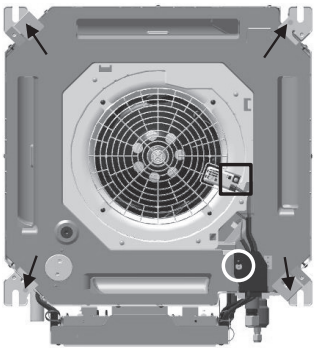
2. To remove the printed circuit board (PCB)
(1) Remove the lid of control box.(See No.1)
(2) Pull off all the inserted connectors.
(3) Take off 6 fixing hooks then remove the PCB.



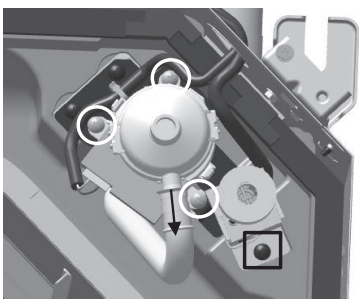
3. To remove the impeller and motor (FM)
(1) Remove 4 bellmouth fixing screws then remove the bellmouth.(○ mark)
(2) Remove the turbo fan fixing nut then remove the turbo fan.(□ mark)
(3) Remove 2 plate fixing screws then remove the plate.(← mark)
(4) Disconnect the motor connector(CNMx) in the middle of wiring.
(5) Remove 3 motor fixing nuts then remove the motor.(△ mark)



4. To remove the drain pan
(1) Remove the lid of control box.(See No.1)
(2) Remove the plate fixing screw then remove the plate.(○ mark)
(3) Remove the sensor holder screw then remove the sensor holder.(□ mark)
(4) Remove 4 drain pan fixing screws then remove the drain pan.(← mark)

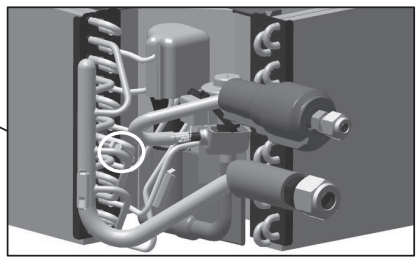


5. To remove drain pump (DM) and float switch (FS)
(1) Remove the lid of control box.(See No.1)
(2) Disconnect the drain pump connector(CNRx) and float switch connector(CNIx).
(3) Remove the drain pan.(See No.4)
(4) Pull the hose to the arrow direction then remove the hose.
(5) Remove 3 drain pump fixing screws then remove the drain pump.(○ mark)
(6) Remove the float switch fixing screw then remove the float switch.(□ mark)

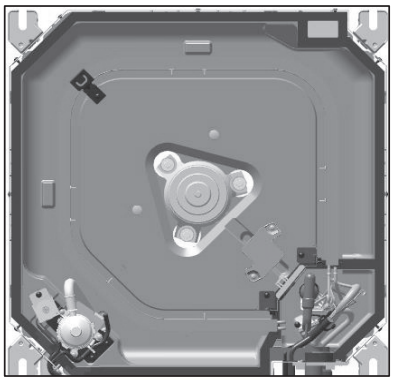


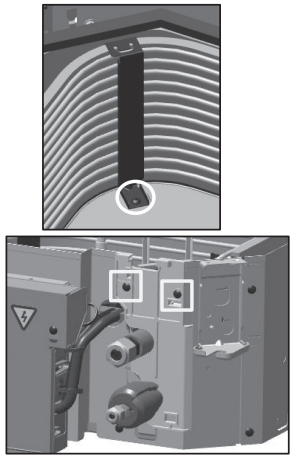
PROCEDURE & PICTURES

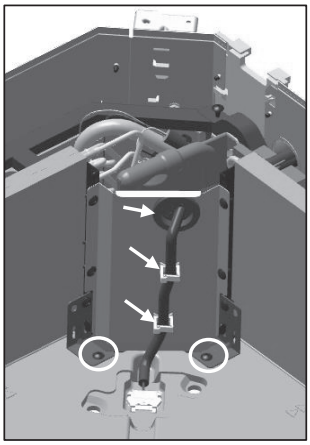
6. To remove the temperature sensors (example"Thi-R1")
(1) Remove the lid of control box.(See No.1)
(2) Disconnect the temperature sensors connector(CNNx).
(3) Remove the drain pan.(See No.3)
(4) Pull out the temperature sensors "Thi-R1" from the sensor holder.



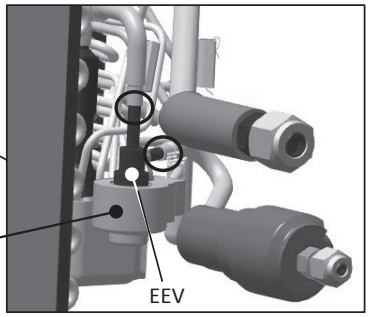
7. To remove the heat exchanger assembly
(1) Remove the drain pan.(See No.4)
(2) Remove 2 pipe lid fixing screws then remove the pipe lid.(□ mark)
(3) Remove the fan motor wiring from clip and grommet.(← mark)
(4) Remove 3 heat exchanger assembly fixing screws then remove the heat exchanger assembly.(○ mark)







8. To remove the Electronic Expansion Valve (EEV)
(1) Remove the heat exchanger assembly.(See No.7)
(2) Remove the damper sealant from EEV.
(3) Remove the coil of EEV by pull out on the top.
(4) Remove welded part of EEV by welding.(○ mark)



General view

(3) FDK series

PHA012D402

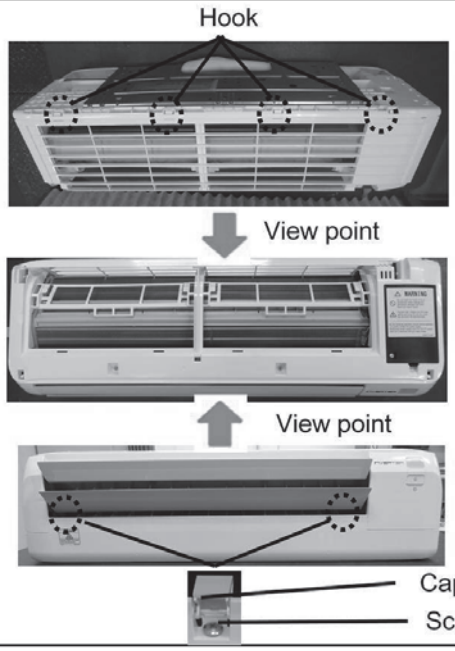
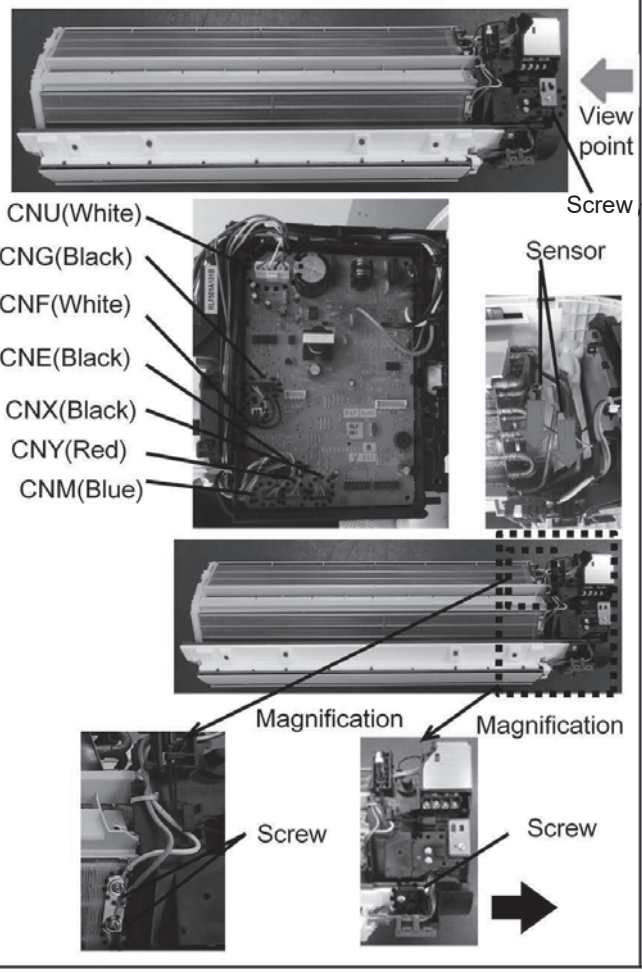
DISASSEMBLY PROCEDURE

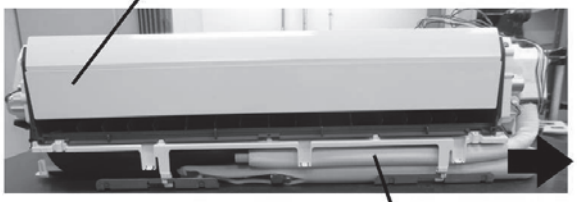
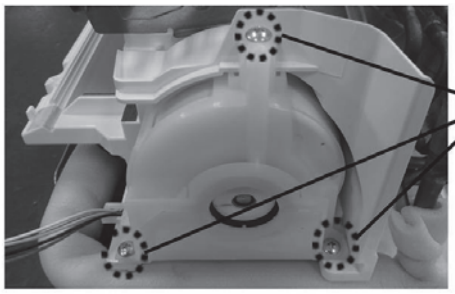
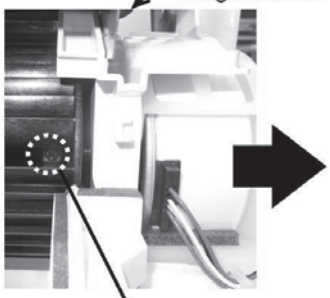
⚠WARNING **Precautions for safety**

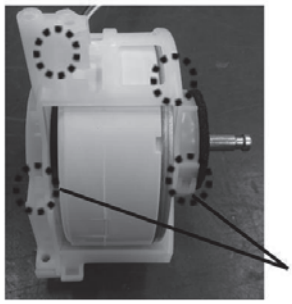
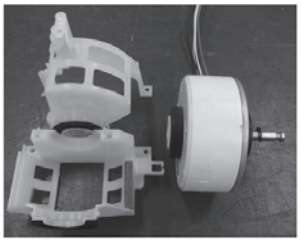
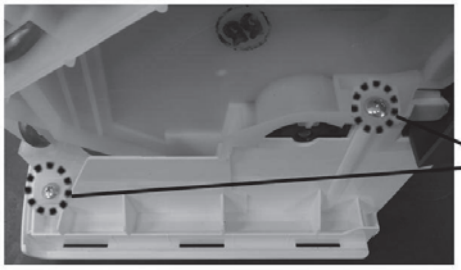
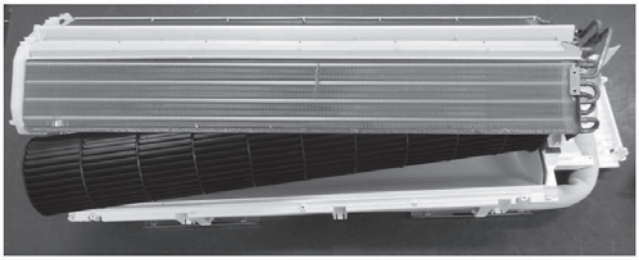
- Read these "Precautions for safety" carefully before starting disassembly work and do it in the proper way.
- When disassembling, be sure to turn off the power. When disassembling the electrical components, check the electrical wiring diagram.
- The electrical components are under high voltage by the operation of the booster capacitor. Fully discharge the capacitor before commencing a repair work. Failure to observe this warning could result in electric shock.
- When parts of refrigerant cycle is disassembled by welding, be sure to work after collecting a refrigerant, if the refrigerant isn't collected, the unit might explode.
- Be sure to collect refrigerant without spreading it in the air.
- These contents are an example. Please refer to a similar part of actual unit.

PROCEDURE & PICTURES (SRK-ZS,FDK series)

Item		Illustration	Operating procedure
①	Removing the front panel	Air inlet panel 	[Removing the air inlet panel] 1.Hold lower edge of the air inlet panel, and then open it to about 80°.
②	Removing the front panel	Air filter  Air cleaning filter 	[Removing the filter] 1.Remove the air filter ×2. 2.Remove the air-cleaning filter ×2 3.Holding both sides of the air inlet panel, pull the left and right sides forward at the same time to remove the panel.

Item		Illustration	Operating procedure
③	Removing the front panel		1.Open the caps, and then remove the screw ×2 (circled in the illustration below) 2. Draw the front panel above after removing 4 hooks Caution ・ Be sure to use a fine-tipped tool (such as a precision screwdriver) to open the cap. ・ Be careful not to damage the panel surface when opening the caps.
④	Removing the electrical control and peripheral parts		[Removing the Control] 1.Remove screw x1 so as to remove a metal lid. 2.Remove a metal lid then unplug the following connector x7 CNU(White) CNG(Black) CNF(White) CNE(Black) CNX(Black) CNY(Red) CNW(Blue) 3. Pull the each sensor out from the case into the indicated directions in red arrows. 4. Remove screw x3 then draw the control toward right direction.

Item		Illustration	Operating procedure
⑤	Removing drain pan & outlet grill assembly	 Drain pan and outlet grill assembly  Bottom of unit Drain hose	[Removing the drain pan] 1.Draw the left of the drain pan and outlet grill assembly toward lower side so as to come off it from heat exchanger assembly. 2. Draw the drain pan and outlet grill assembly toward the right with drawing the drain hose.
⑥	Removing fan & motor	 Screw  Magnification  Screw	[Removing fan & motor] 1.Remove screw x3 2. Look into the area surrounded the black rectangle, adjust the screw position with rotating the cross flow fan, then remove a screw. 3.Draw the motor and its bracket toward the right.

Item		Illustration	Operating procedure
⑦	Disassemble the motor	 Hook 	[Removing the motor case] 1.Release the hook ×4 (circled in the illustration), and then remove the motor case (U).
⑧	Removing the fan and heat exchanger	 Screw 	1.Remove the screw ×2 (circled in the illustration) on the left side of the heat exchanger. 2.While lifting up and supporting the left side of the heat exchanger, pull out the fan to the left, keeping it angled down.

(4) Panel

PSC012D109A

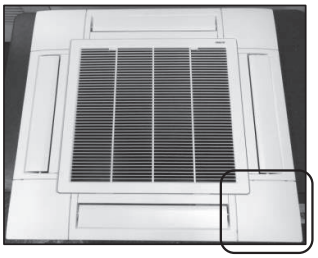
DISASSEMBLY PROCEDURE

⚠WARNING Precautions for safety

- **Read these "Precautions for safety" carefully before starting disassembly work and do it in the proper way.**
- **When disassembling, be sure to turn off the power. When disassembling the electrical components, check the electrical wiring diagram.**
- **The electrical components are under high voltage by the operation of the booster capacitor. Fully discharge the capacitor before commencing a repair work. Failure to observe this warning could result in electric shock.**
- **These contents are an example. Please refer to a similar part of actual unit.**

PROCEDURE & PICTURES

FDT series

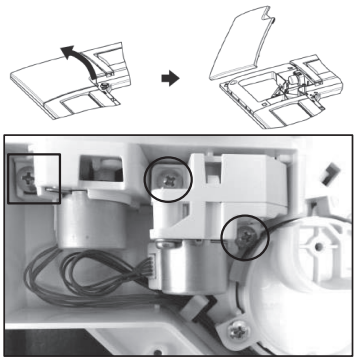


Corner lid

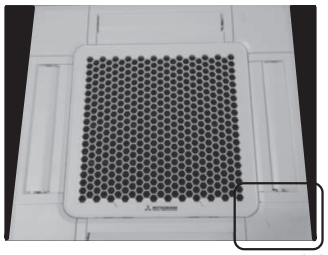
1. To remove the corner lid
(1) Remove the inlet grille.
(2) Pull the corner lid toward the direction indicated by the arrow and remove it.
(The four corner lids are the same way.)

2. To remove the louber motor (LM)
(1) Remove the corner lid.(See No.1)
(2) Remove the louber motor fixing screw and remove it.(☐ mark)

3. To remove anti draft motor (AM)
(1) Remove the corner lid.(See No.1)
(2) Remove 2 gear box fixing screws and remove it.(○ mark)



FDTC series

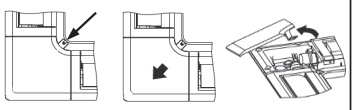


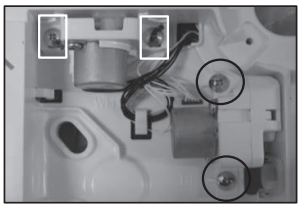
Corner lid

1. To remove the corner lid
(1) Remove the inlet grille.
(2) Remove the screw(← mark), pull the corner lid toword the direction indicated by the arrow mark.
(The four corner lids are the same way.)

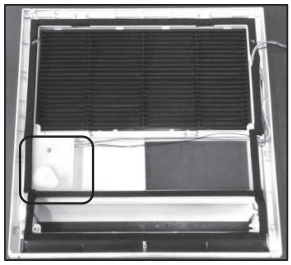
2. To remove the louber motor (LM)
(1) Remove the corner lid.(See No.1)
(2) Remove 2 louber motor fixing screws and remove it.(☐ mark)

3. To remove anti draft motor (AM)
(1) Remove the corner lid.(See No.1)
(2) Remove 2 gear box fixing screws and remove it.(○ mark)



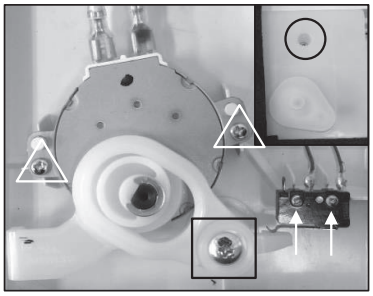


FDTS・FDTQ series



1. To remove the louber motor (LM)
(1) Remove the cover fixing screw and remove it.(○ mark)
(2) Remove the cam fixing screw and remove it.(☐ mark)
(3) Remove 2 louver motor fixing screws and remove it.(△ mark)

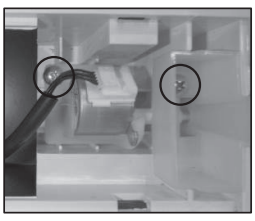
2. To remove the limit switch (LS)
(1) Remove the cover fixing screw and remove it.(○ mark)
(2) Remove 2 limit switch fixing screws and remove it.(← mark)



FDTW series

1. To remove the corner lid
(1) Take off the corner panel fixing hooks by a flathead screwdriver and remove it.

2. To remove the louber motor (LM)
(1) Remove the corner lid.(See No.1)
(2) Remove 2 louber motor fixing screws and remove it.(○ mark)



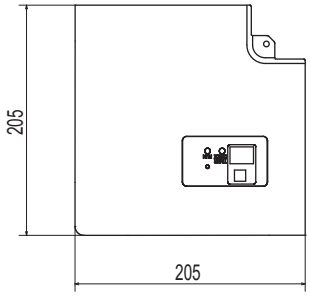
12. OPTION PARTS

12.1 Wireless kit

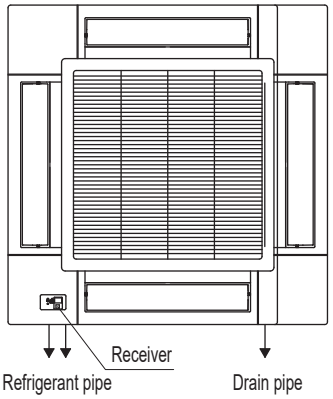
(1) FDT series(RCN-T-5BW-E2, RCN-T-5BB-E2)

(a) Specification

Receiver



Installation position of wireless kit



Installation of wireless kit

Do not install the wireless kit 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
(7)Places affected by the direct airflow of the AC unit
(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

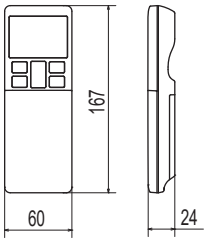
Setting switch on PCB of receiver

SW1	Prevent interference during plural setting	[ON:Normal] OFF:Remote
SW2	Receiver master/ slave setting	[ON:Master] OFF:Slave
SW3	Buzzer	[ON:Valid] OFF:Invalid
SW4	Auto restart	ON:Valid [OFF:Invalid]

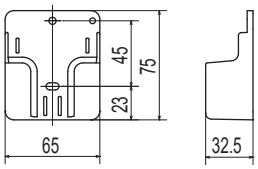
Default setting: [ ] mark

Notes
(1)Receiver can install the position as shown.
(2)Two LR03 AAA dry cell batteries for remote control are enclosed.
(3)See spec sheet of "Wireless remote control" about remote control.

Remote control

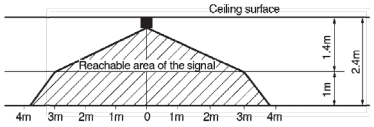


Remote control holder

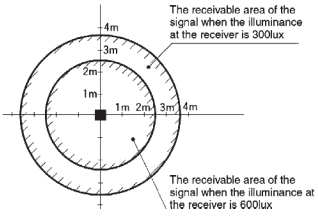


Wireless remote control's operable area

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.
The drawing in the right shows the correlation between the reachable area of the signal and illuminance at the receiver when the 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 thirds.



③ Installation tips when several receivers are installed close
Minimum distance between the indoor units which can avoid cross communication is 5m under the condition of 300lux of illuminance at the receiver.
(When no lighting is installed within 1m of the receiver in an ordinary office.)

Unit:mm

PJF000Z632

(b) Installation manual

Notes:
1.Following function of FDT indoor unit series are not able to be set with this wireless remote control.
• Individual flap control system
2.This wireless remote control can operate the prevention function without connecting the wired remote control.

PJF012D035C D

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
  (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
  (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

①Accessories

Please make sure that you have all of the following accessories.

① Receiver		1
② Parts set (A)		1
③ Installation manual		1

① Wireless remote control (RCN-E2)		1
② Remote control holder		1
③ Screw for holder		2
④ AAA dry cell battery (LR03)		2
⑤ User's manual		1

②Preparation before installation

Setting on site

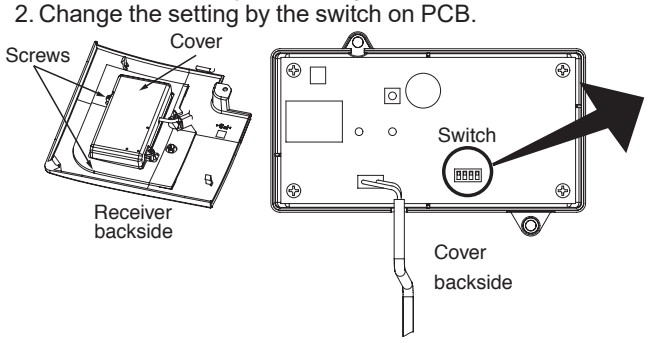
PCB on the receiver has the following switches to set the function.
Default setting is shown with ☐ mark.

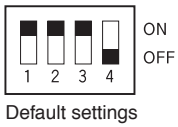
SW1	Prevents interference during plural setting	☐ ON : Normal	OFF : Customized
SW2	Receiver master/ slave setting	☐ ON : Master	OFF : Slave
SW3	Buzzer	☐ ON : Valid	OFF : Invalid
SW4	Auto restart	ON : Valid	☐ OFF : Invalid

② Preparation before installation (continued)

To change setting

1. Remove the cover by unscrewing two screws from the back of receiver.
2. Change the setting by the switch on PCB.





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 ④ Wireless remote control .

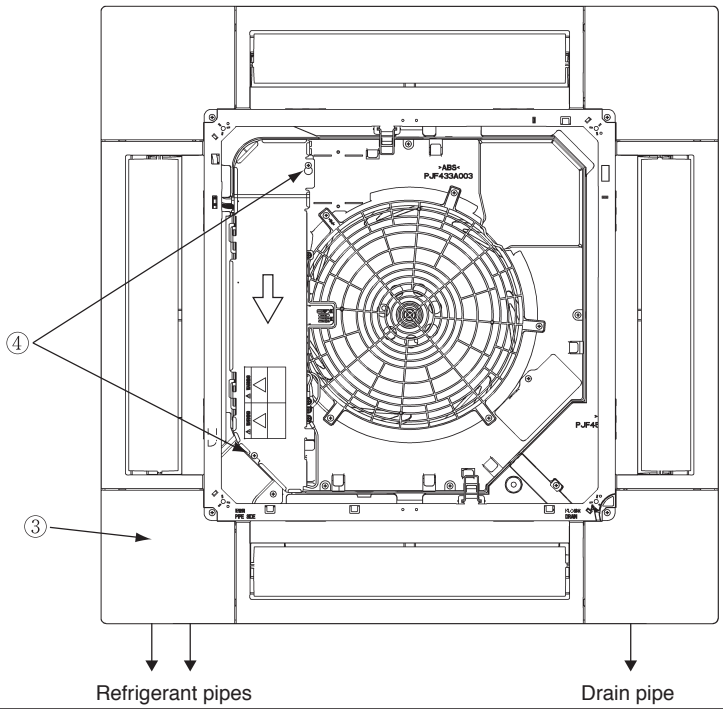
   *The receivable area of the signal refer to ⑤ Receiver .

③ How to install the receiver

The receiver can be installed by replacing with a corner panel on the applicable decorative panel.

Preparation before installation

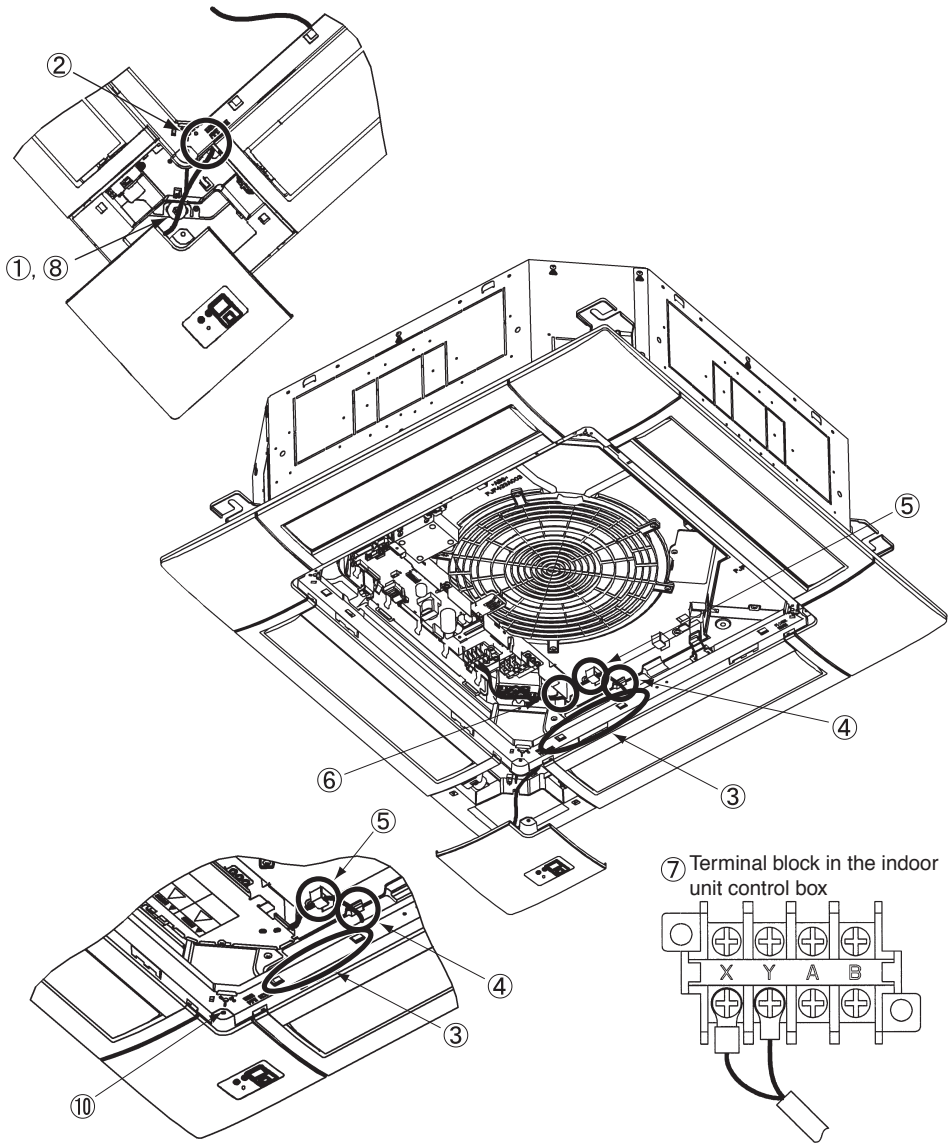
① Attach the decorative panel onto the air-conditioner according to the installation manual for the panel.
② Remove the air return grille.
③ Remove a corner panel located on the refrigerant pipes side.
④ Remove three screws and detach the cover (indicated as shadowed area) from the control box of the air- conditioner.



③ How to install the receiver(continued)

Installation of the receiver

① Loosen the bolts which fix the panel and make a gap between the panel and the indoor unit.
② Put the wiring of the receiver through the opening.
③ Put the wiring on the notch on the control box so as not to be pinched by the control box and lid as shown below.
④ Connect the wiring to the terminal block provided in the control box. (No polarity)
⑤ Attach the receiver to the panel according to the panel installation manual.
⑥ Fix the wiring with the clamp so that the wiring do not contact the edge of control box's metal sheet.
⑦ Reattach the control box lid with 3 screws removed.

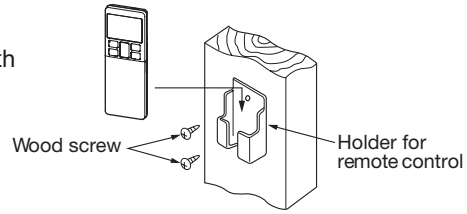


④ Wireless remote control

Installation tips for the remote control holder

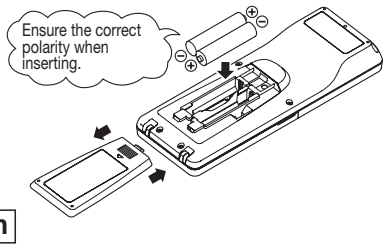
Fix the remote control holder using the screws supplied with this product.

* 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



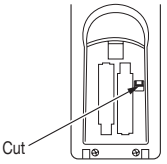
How to insert batteries

1. Detach the back lid.
2. Insert the batteries. (two AAA batteries)
3. Reattach the back lid.



Setting to avoid mixed communication

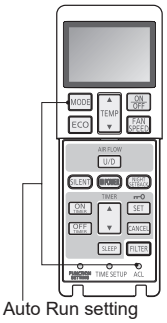
1. Detach the back lid, and remove the batteries.
2. Cut off the switching wire in the battery compartment using nippers.
3. Insert the batteries, and attach the back lid.



Changing the remote control setting

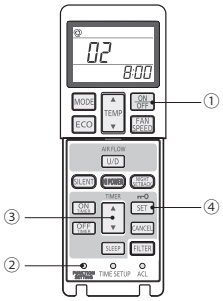
How to change the Auto Run setting
The Auto Run mode is not available on the building air-conditioning and gas heat pump series (excluding the cooling/heating free multi system).
When using the remote control to operate those models, set the remote control to disable the Auto Run mode.
To disable the 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.



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.



④ 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/D (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 and 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 page 173.

⑤ Receiver

1 Control plural indoor units with one remote control

Up to 16 indoor units can be connected.

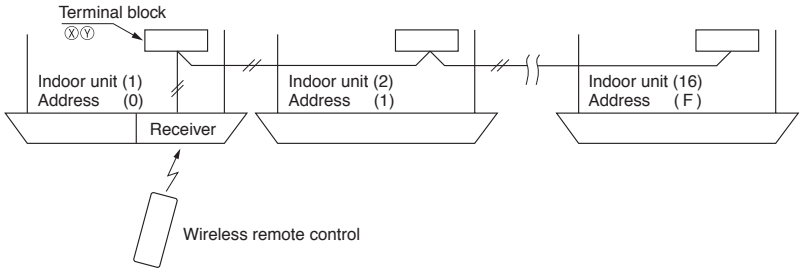
1. Connect the XY terminal with 2 cores wire. As for the size, refer to the following note.
2. For Packaged air-conditioner series, set the indoor unit address with SW2 on the indoor unit PCB from [0] to [F] so as not to duplicate.

Restrictions on the thickness and length of wire (Maximun total extension 600m.)

Standard	Within 0.3 mm² × 100m
	Within 0.5 mm² × 200m
	Within 0.75mm² × 300m
	Within 1.25mm² × 400m
	Within 2.0 mm² × 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.

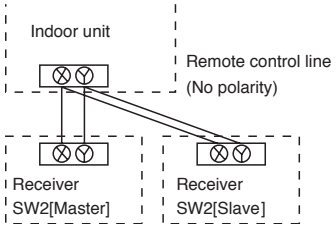


For the building air-conditioning and gas heat pump series

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

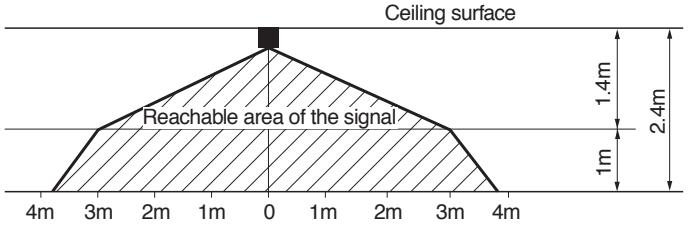
Up to two receivers can be installed in one indoor unit group.



Switch	Setting	Function
SW2	ON	Master
	OFF	Slave

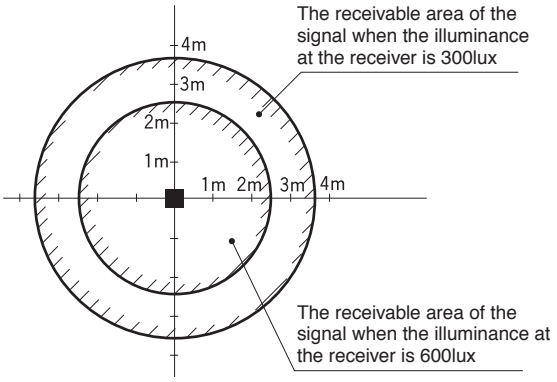
Wireless remote control's operable area

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.)



⑤ Receiver (continued)

2. Correlation between illuminance at the receiver and reachable area of the signal in a plain view. The drawing in the right shows the correlation between the reachable area of the signal and illuminance at the receiver when the remote control is operated at 1.0m high under the condition of ceiling height of 2.4m. When the illuminance becomes double, the area is narrowed down to two thirds.

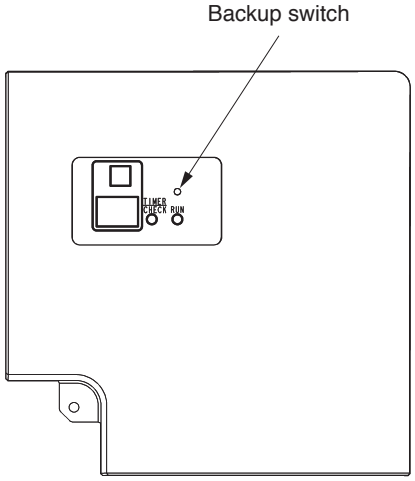


3. Installation tips when several receivers are installed close
   Minimum distance between the indoor units which can avoid cross communication is 5m under the condition of 300lux of illuminance at the receiver.
   (When no lighting is installed within 1m of the receiver in an ordinary office)

Backup switch

A backup switch is provided on the receiver. Even when the operation from the wireless remote control is not possible (due to flat batteries, control lost, or control failure), still it possible to operate as temporary means. Press the switch directly when operating it.

1. The air-conditioner starts the operation with the condition of Auto mode, 23°C of set point, High fan speed and horizontal louver position.
2. The air-conditioner stops the operation when the switch is pressed when in operation.



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 2-digit display

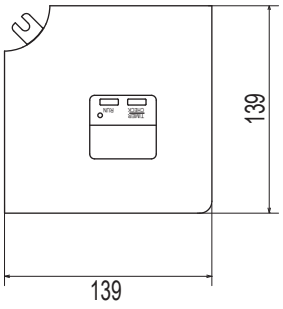
On the receiver of a wireless kit, a two-digit (7-segment) display is provided.

1. An indication will be displayed for one hour after power on.
2. An indication will be displayed for 3.5 seconds after transmitting a “STOP” command from the wireless remote control or the operation of the backup switch to stop the unit.
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 of all the connected units are displayed.
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, while the backup button is pressed.

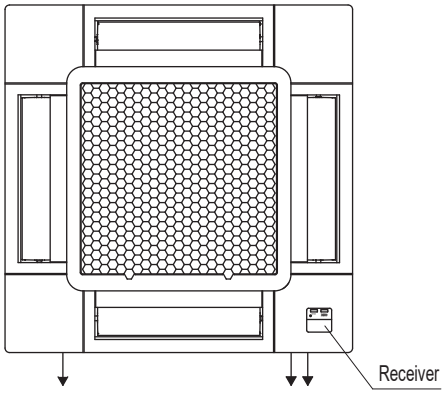
(2) FDTC series(RCN-TC-5AW-E3)

(a) Specification

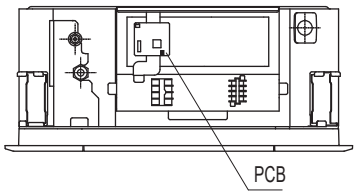
Receiver



Installation position of wireless kit



Installation position of PCB



Notes
(1)Receiver must be installed to the position as shown.
(2)Two LR03 AAA dry cell batteries for remote control are enclosed.
(3)See spec sheet of "Wireless remote control" about remote control.

Installation of wireless kit

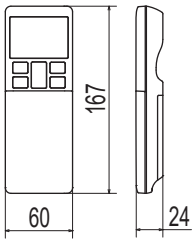
Do not install the wireless kit at the following places in order to avoid malfunction.
(1)Places exposed to direct sunlight
(2)Places near heat-generating devices
(3)High humidity places
(4)Hot surface or cold surface enough to generate condensation
(5)Places exposed to oil mist or steam directly
(6)Uneven surface
(7)Places affected by the direct airflow of the AC unit
(8)Places where the receiver is influenced by fluorescent lamp 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

Setting switch on PCB

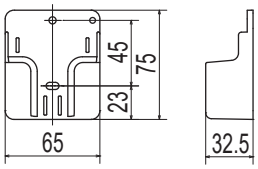
SW1	Prevents interference during multiple setting	[ON:Normal] OFF:Remote
SW2	Receiver master/ slave setting	[ON:Master] OFF:Slave
SW3	Buzzer	[ON:Valid] OFF:Invalid
SW4	Auto restart	ON:Valid [OFF:Invalid]

Default setting: [ ] mark

Remote control

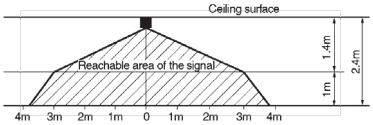


Remote control holder

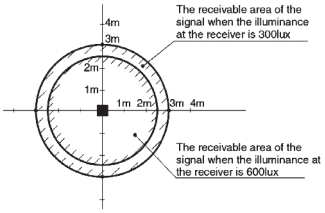


Wireless remote control's operable area

①Standard 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)



②Correlation between illuminance at the receiver and reachable area of the signal in a plain view.
The drawing in the right shows the correlation between the reachable area of the signal and illuminance at the receiver when the 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 thirds.



③Installation tips when several receivers are installed close to one another Minimum distance between the indoor units which can avoid cross communication is 5m under the condition of 300lux of illuminance at the receiver.
(When no lighting is installed within 1m of the receiver in an ordinary office)

Unit:mm

PJF000Z634

(b) Installation manual

PJF012D506B C

Safety precautions

•Please read this manual carefully before starting installation work to install the unit properly.
All of the following are 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 symbols 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 the 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. enter 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
  (2) Places near heat-generating 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
  (8) Places where the receiver is influenced by 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
② PCB		1
③ PCB mounting support		2
④ Bracket (Sheet metal)		1

⑤ Bracket mounting screw		1
⑥ Wiring (For communication)		1
⑦ Wiring (For receiving)		1
⑧ Installation manual		1
⑨ Parts set		1

① Wireless remote control (RCN-E2)		1
② Remote control holder		1
③ Screw for holder		2
④ AAA dry cell battery (LR03)		2
⑤ User's manual		1

② Preparation before installation

Setting of PCB

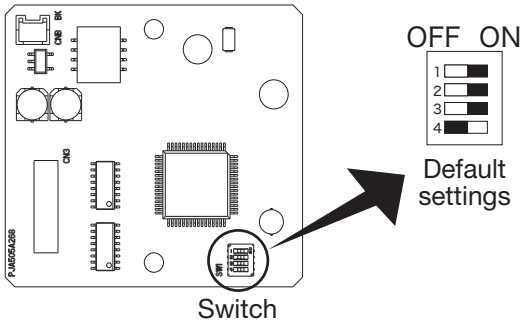
Accessory PCB has the following switches to set the functions. Default setting is shown with ☐ mark.

SW1	Prevents interference during multiple setting	☐ ON : Normal	OFF : Remote
SW2	Receiver master/slave setting	☐ ON : Master	OFF : Slave
SW3	Buzzer	☐ ON : Valid	OFF : Invalid
SW4	Auto restart	ON : Valid	☐ OFF : Invalid

② Preparation before installation (continued)

To change setting

1. Change the setting of switches on the accessory PCB.



Master/Slave setting when using multiple remote controls

Up to two receivers or wired remote controls can be installed on one indoor unit group. In such occasion, it is necessary to change the setting to slave on either one.
To change the setting on the receiver, refer to the instruction manual of the receiver.

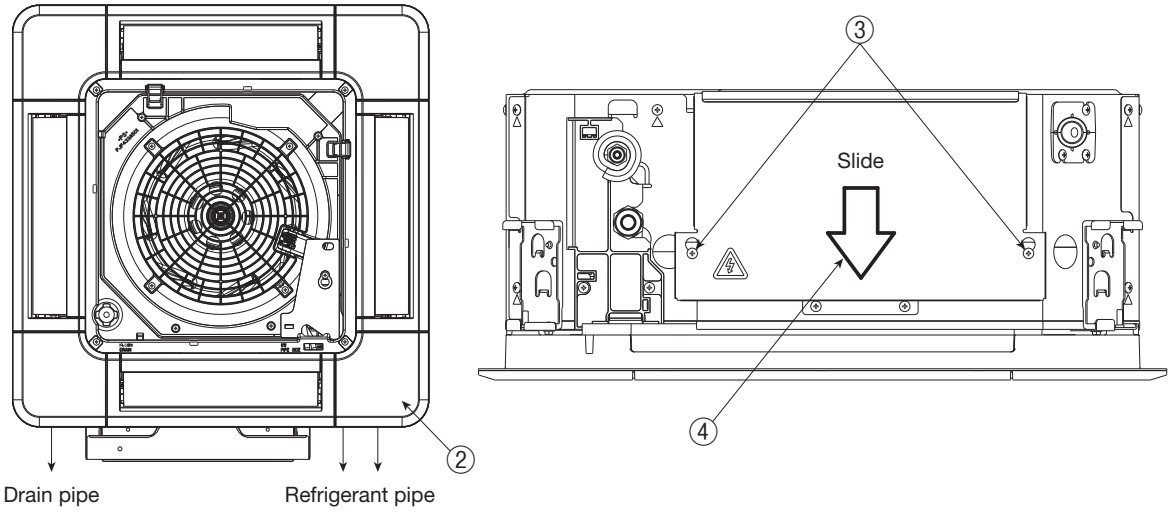
2. When SW1 is turned to OFF position, change the wireless remote control setting.
   For the method of changing the setting, refer to Setting to avoid mixed communication of ④ Wireless remote control.
   *For the receivable area of the signal, refer to ⑤ Receiver.

③ How to install the receiver

It is possible to install the receiver by replacing the corner lid on the panel.

Preparation before installation

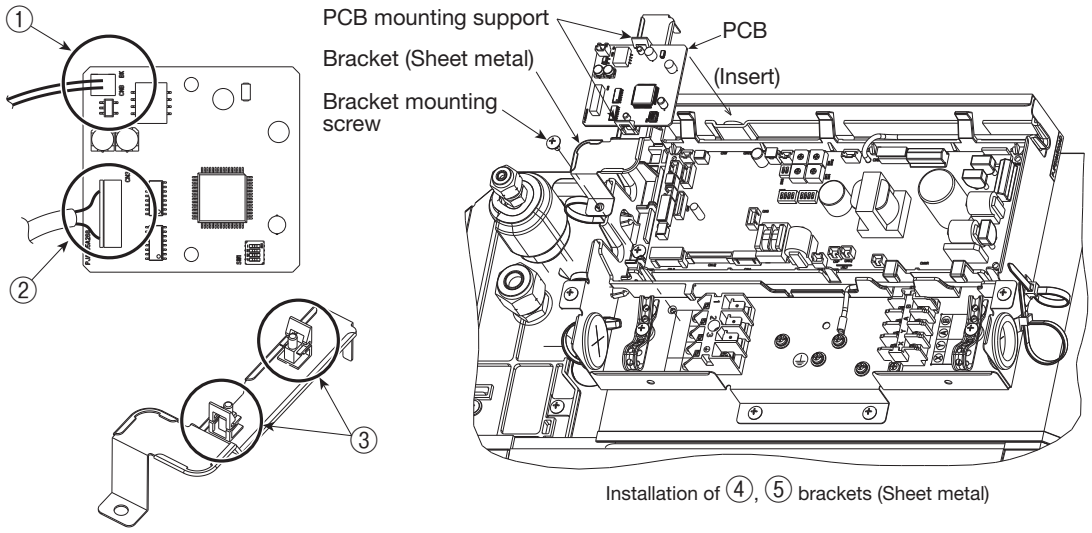
① Remove the inlet grille according to the installation manual of the panel.
② Remove the corner lid at the refrigerant pipe side.
③ Loosen screws (2 pcs.) on the control box of the unit.
④ Slide the control lid in the arrow direction, and remove it.



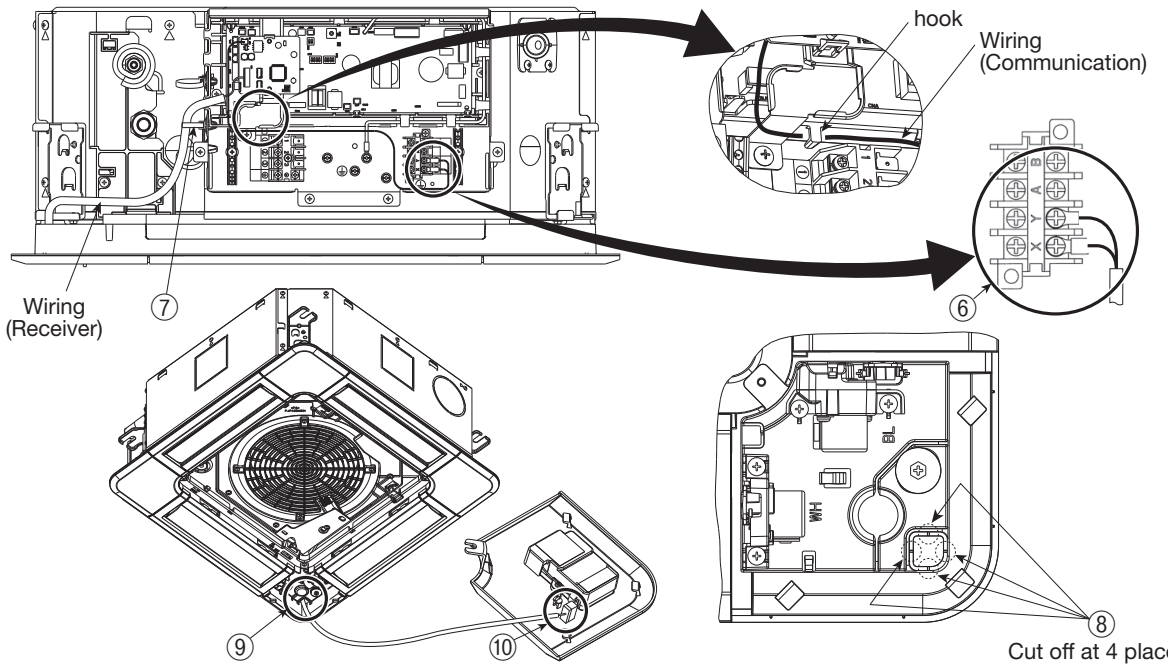
③ How to install the receiver(continued)

Installation of the receiver

① Connect the wire connector (Communication) to CNB on PCB.
② Connect the wire connector (Receiver) to CN3 on PCB.
③ Install the PCB mounting supports on the bracket (Sheet metal).
④ Install PCB on the PCB mounting supports.
⑤ Insert the bracket (Sheet metal) in one side of control box, and fix the other side with screws as shown in the figure.
⑥ Connect round terminals of wires (Communication) to the terminal block (X, Y) in the control box. The wires have no polarity.
⑦ Fix wires with bands as shown in the figure.
⑧ Cut off the half-blanks on the panel (at 4 places) as shown in the figure.
⑨ Pass the wiring (Communication) through the opening on the panel.
⑩ Connect connectors of the wiring (Communication) and the receiver.
⑪ Install the receiver on the panel according to the installation manual of the panel.
⑫ Install the control box lid with care not to pinch wires, and fix with screws (2 pcs.).



Installation of ④, ⑤ brackets (Sheet metal)



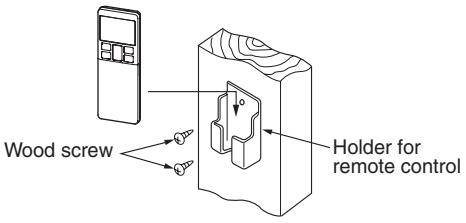
Cut off at 4 places.

④ Wireless remote control

Installation tips for the remote control holder

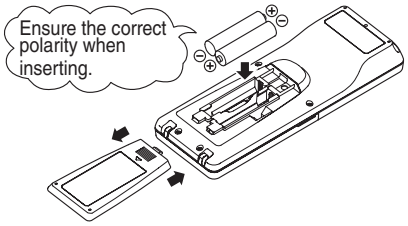
Fix the remote control holder using the screws supplied with this product.

* 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.



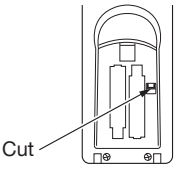
How to insert batteries

1. Detach the back lid.
2. Insert the batteries. (two AAA batteries)
3. Reattach the back lid.



Setting to avoid mixed communication

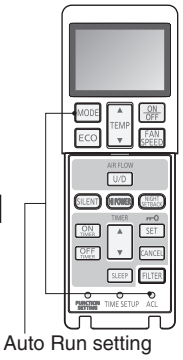
1. Detach the back lid, and remove the batteries.
2. Cut off the switching wire in the battery compartment using nippers.
3. Insert the batteries, and attach the back lid.



Changing the remote control setting

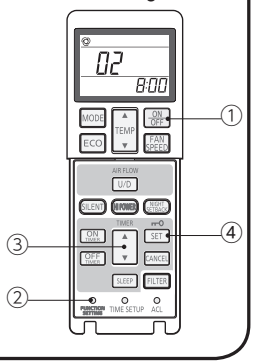
How to change the Auto Run setting
The Auto Run mode is not available on the building air-conditioning and gas heat pump series (excluding the cooling/heating free multi system).
When using the remote control to operate those models, set the remote control to disable the Auto Run mode.
To disable the 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.



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.



④ 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/D (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 page 173.

⑤ Receiver

1 Control multiple indoor units with one remote control

Up to 16 indoor units can be connected.

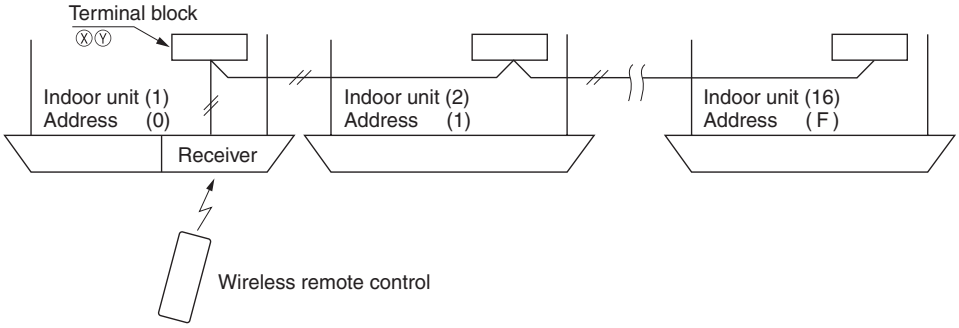
1. Connect the XY terminal with 2 cores wire. As for the size, refer to the note on the right.
2. For Packaged air-conditioner series, set the indoor unit address with SW2 on the indoor unit PCB from [0] to [F] so as not to duplicate.

Restrictions on the thickness and length of wire (Maximum length is 600m.)

Standard	Within	0.3 mm² × 100m
	Within	0.5 mm² × 200m
	Within	0.75mm² × 300m
	Within	1.25mm² × 400m
	Within	2.0 mm² × 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.

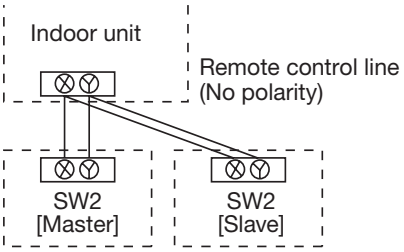


For the building air-conditioning and gas heat pump series

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 multiple remote control

Up to two receivers can be installed in one indoor unit group.

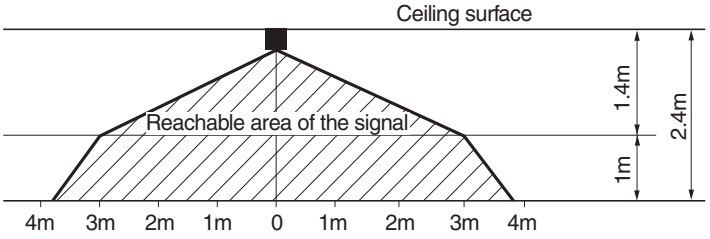


Switch	Setting	Function
SW2	ON	Master
	OFF	Slave

Wireless remote control's operable area

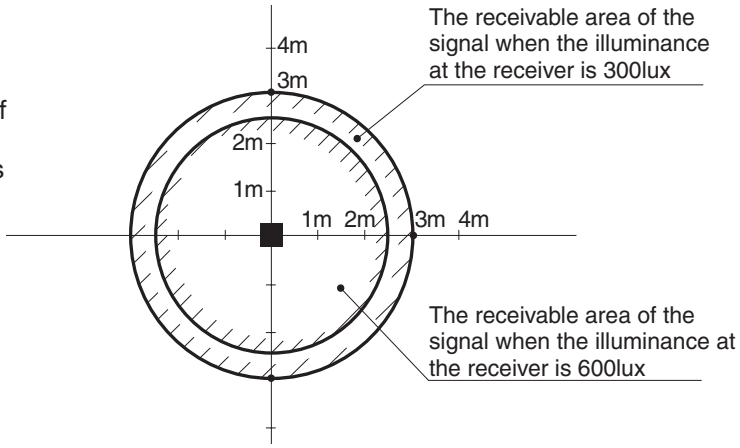
1. Standard reachable area of the signal

   [Condition] Illuminance at the receiver: 300lux
   (When no lighting is installed within 1m of the receiver in an ordinary office)



⑤ Receiver (continued)

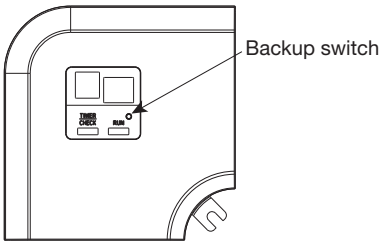
2. Correlation between illuminance at the receiver and reachable area of the signal in a plain view.
   The drawing in the right shows the correlation between the reachable area of the signal and illuminance at the receiver when the remote control is operated at 1m high under the condition of ceiling height of 2.4m.
   When the illuminance becomes double, the area is narrowed down to two thirds.



3. Installation tips when several receivers are installed close to one another.
   Minimum distance between the indoor units which can avoid cross communication is 5m under the condition of 300lux of illuminance at the receiver.
   (When no lighting is installed within 1m of the receiver in an ordinary office)

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 case of cooling only, it is 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 pressed.
- 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

On the receiver of a wireless kit, a two-digit (7-segment) display is provided.

1. An indication will be displayed for one hour after power on.
2. An indication will be displayed for 3.5 seconds after transmitting a “STOP” command from the wireless remote control or the operation of the backup switch to stop the unit.
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 of all the connected units are displayed.
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, while the backup button is pressed.

(3) FDK series (RCN-K-E2·RCN-K71-E2)

PHA012D049A

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
  (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 airflow of the AC unit.
  (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.

RCN-K-E2

① Control-Assy		1
② Display-Assy		1
③ Display label		1
④ Parts set		1
⑤ Installation manual		1

RCN-K71-E2

① Control-Assy		1
② Display-Assy		1
③ Label (LED)		1
④ Parts set		1
⑤ Installation manual		1

① Wireless remote control (RCN-EK2)		1
② Remote control holder		1
③ Screw for holder		2
④ AAA dry cell battery (LR03)		2
⑤ User's manual		1

② Preparation before installation

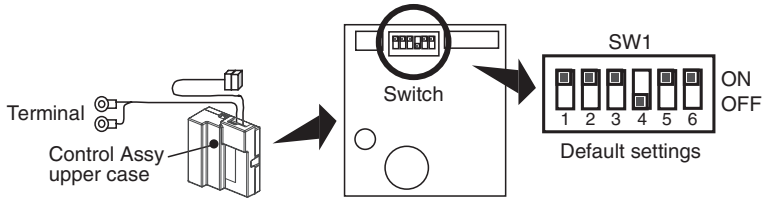
Setting on site

PCB on the receiver has the following switches to set the function. Default setting is shown with ☐ mark.

SW1	Prevents interference during plural setting	ON : Normal	OFF : Customized
SW2	Receiver master/slave setting	ON : Master	OFF : Slave
SW3	Buzzer	ON : Valid	OFF : Invalid
SW4	Auto restart	ON : Valid	OFF : Invalid
SW5	Indication for error	ON : Valid	OFF : Invalid
SW6	Unit type	ON : FDK	OFF : FDTW, FDFW

To change setting

1. Remove the upper case of Control-Assy.
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 Control-Assy and Display-Assy can be installed inside the indoor unit.
After turning off the power and confirming safety, execute as follows.

① **Remove the front panel**

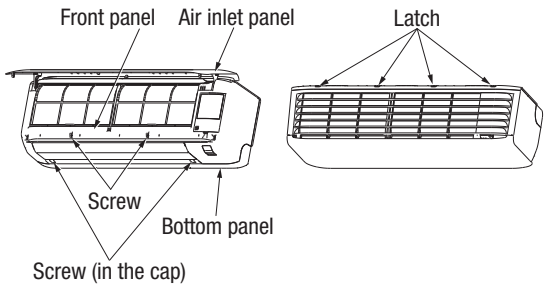
(a) Remove the air inlet panel.

(b) Remove the 2 screws in the cap of bottom panel. (Type 15 - 56 only)

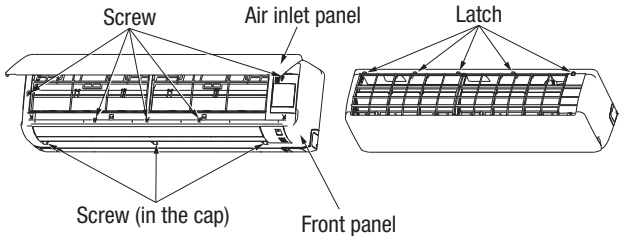
(c) Remove the 2 hooks of left and right side and then bottom panel can be removed. (Type 15 - 56 only)

(d) Remove the screws (Type 15 - 56: 2 screws, Type 71, 90: 5 screws + 3 screws (in the cap))

(e) Remove the upper latches and then front panel can be removed.
(Type 15 - 56: 4 latches, Type 71, 90: 5 latches)



Type 15 - 56



Type 71, 90

③ How to install the receiver (continued)

② Install Display-Assy on Indoor unit

(a) Remove the control cover, and then louver wiring can be removed to CnJ1 on the PCB.

(b) Remove the louver wiring hanging on display holder.

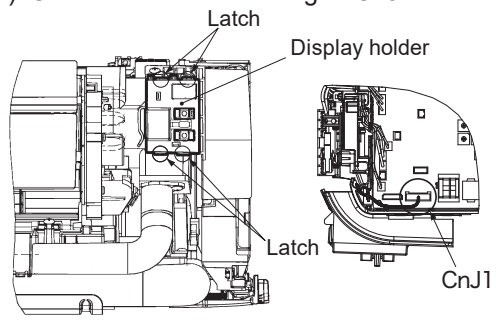
(c) Remove the latches of display holder and then display holder can be removed.
(Type 15 - 56 : 4 latches, Type 71, 90 : 6 latches)

* Please use slotted screwdriver etc when remove the latches of display holder.

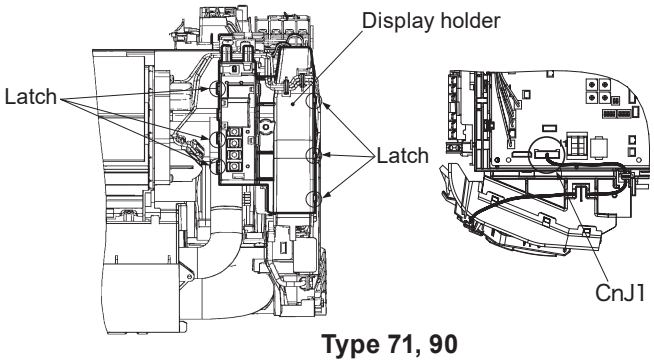
(d) Fix the latches of Display-Assy and then Display-Assy can be installed.
(Type 15 - 56 : 4 latches, Type 71, 90 : 6 latches)

(e) Hang on the louver wiring to the Display-Assy.

(f) Connect the louver wiring to CnJ1 on the PCB, and fix the control cover.



Type 15 - 56



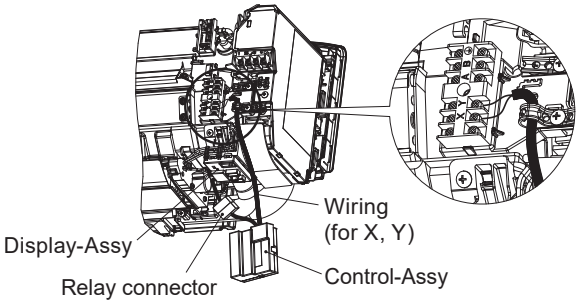
Type 71, 90

③ Fix wiring and install the Control-Assy on Indoor unit.

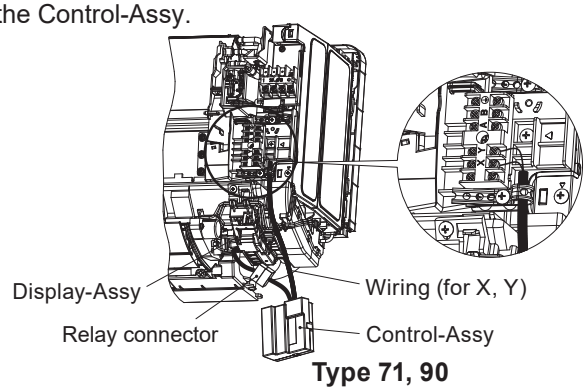
(a) Fix the terminal of the wiring assy (for X, Y) on the terminal block of the indoor unit. (No polarity)

(b) Route the wiring as shown in figure.

(c) Connect relay connectors of the Display-Assy and the Control-Assy.



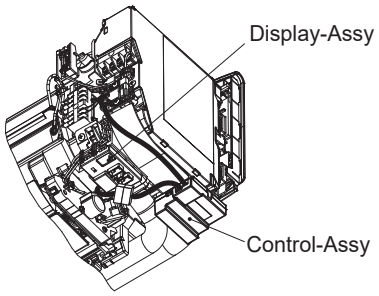
Type 15 - 56



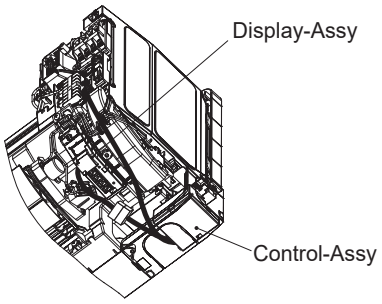
Type 71, 90

(d) The fixed place of wireless interface is refer to the following

In the case of Left-hand-side piping



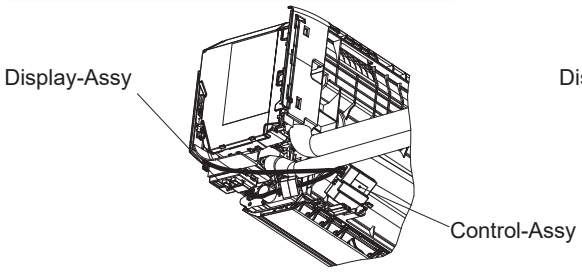
Type 15 - 56



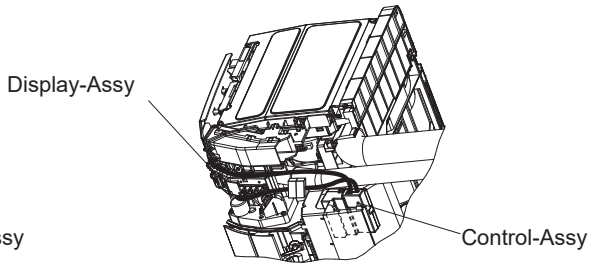
Type 71, 90

③ How to install the receiver (continued)

In the case of right-hand-side piping



Type 15 - 56



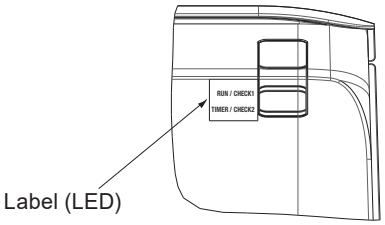
Type 71, 90

④ Install the front panel

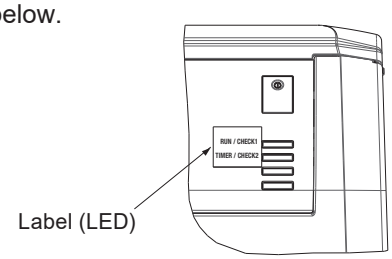
(a) Cover the unit with the front panel and fix upper latches (Type 15 - 56: 4 latches, Type 71, 90: 5 latches)
(b) Fix the front panel with the screws (Type 15 - 56: 2 screws, Type 71, 90: 5 screws + 3 screws (in the cap))
(c) Install the 2 hooks of left and right side and then bottom panel can be installed. (Type 15 - 56 only)
(d) Fix the bottom panel with 2 screws in the cap. (Type 15 - 56 only)
(e) Install the air inlet panel.

⑤ Stick label (LED) on panel

Stick the attached label (LED) on the front panel as below.



Type 15 - 56



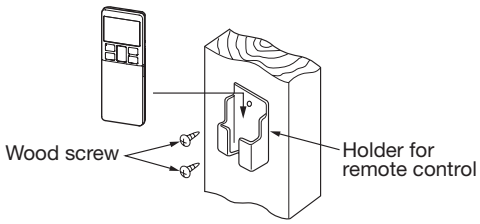
Type 71, 90

④ Wireless remote control

Installation tips for the remote control holder

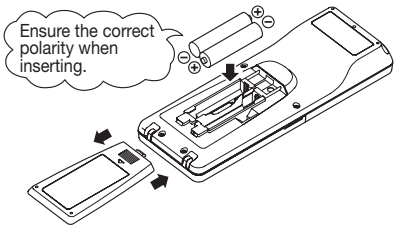
Fix the remote control holder using the screws supplied with this product.

* 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.



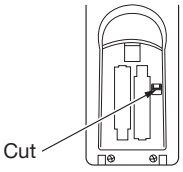
How to insert batteries

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.

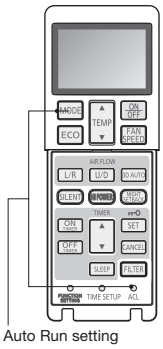


④ Wireless remote control (continued)

Changing the remote control setting

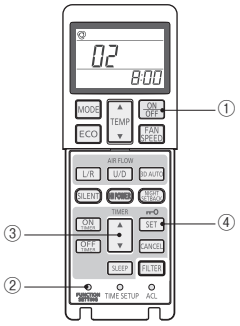
How to change the Auto Run setting
The Auto Run mode is not available on the building air-conditioning and gas heat pump series (excluding the cooling/heating free multi system).
When using the remote control to operate those models, set the remote control to disable the Auto Run mode.
To disable the 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.



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
   The following functions can be set.



Button	Number indicator	Function setting
FAN SPEED	00	Fun speed setting : Standard
	01	Fun speed setting : Setting 1 *
	02	Fun 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/D	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

Button	Number indicator	Function setting
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
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 page 173.

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.)

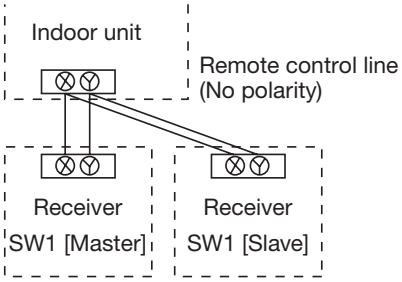
Standard	Within 0.3 mm² × 100m
	Within 0.5 mm² × 200m
	Within 0.75mm² × 300m
	Within 1.25mm² × 400m
	Within 2.0 mm² × 600m

⑤ Receiver (continued)

3. Set the indoor unit and outdoor unit numbers by manually specifying the addresses.
   Use the rotary switchs 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.

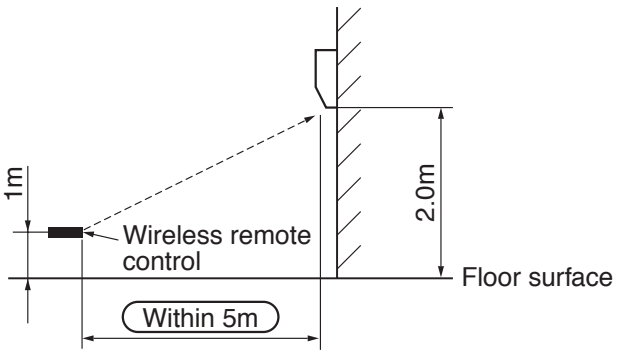


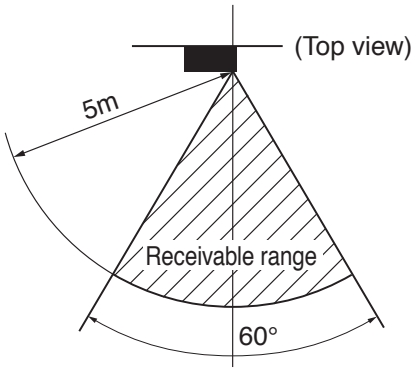
Switch	Setting	Function
SW2	ON	Master
	OFF	Slave

Wireless remote control's operable area

1. Standard signal receiving range

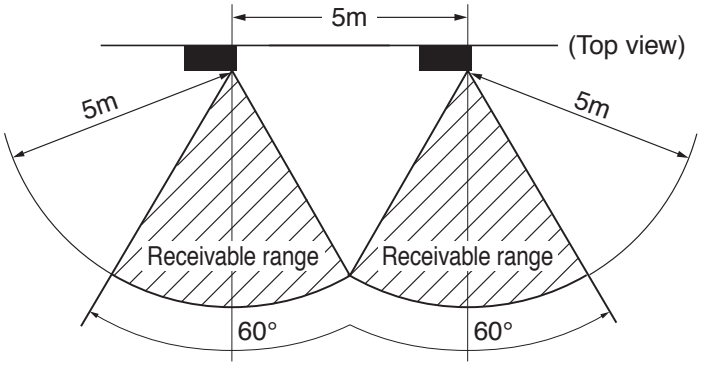
   [Condition] Illuminance at the receiver area: 360 lux.
   (When no lighting fixture is located within 1m of indoor unit in an ordinary office)





2. Installation tips when several receivers are installed close

   [Condition] Illuminance at the receiver area: 360 lux.

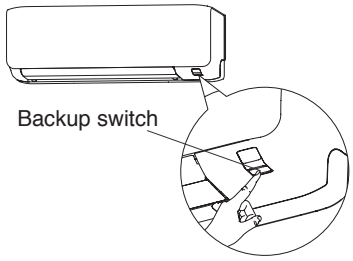


⑤ Receiver (continued)

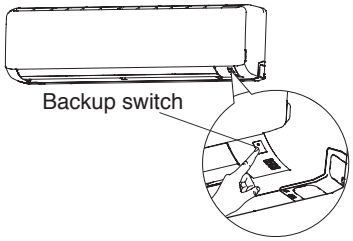
Backup button

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). Fan 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.



Type 15 - 56



Type 71, 90

Cooling test run operation

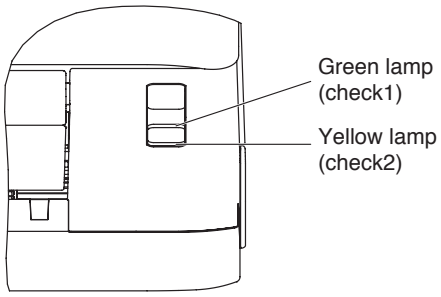
- After safety confirmation, turn on the power.
- Transmit a cooling operation command with the wireless remote control, while the backup switch on the receiver is depressed.
- If the backup switch on the receiver is pressed during a test run, it will end the test run.
- If you cannot operate the unit properly during a test run, please check wiring by consulting with inspection guides.

NOTE

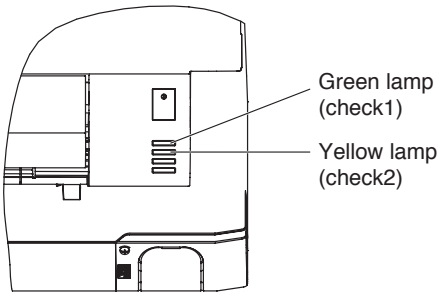
After over 2 minute from power on, operate the wireless remote control.
The operation is invalid during 2 minute from power on.

How to read the check display

- Check indicator lamp "green lamp (check1)" / "yellow lamp (check2)" shows error code.
- The number of blinking shows the error code and "green lamp (check1)" / "yellow lamp (check2)" corresponds to tens/ones place.

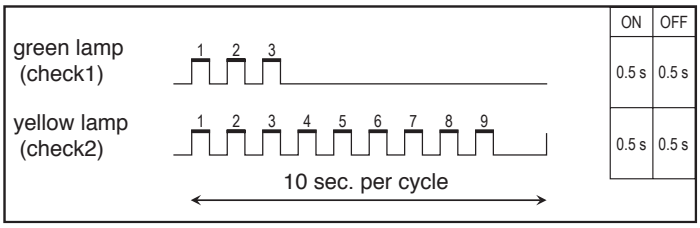


Type 15 - 56



Type 71, 90

Display method
Example: For E39

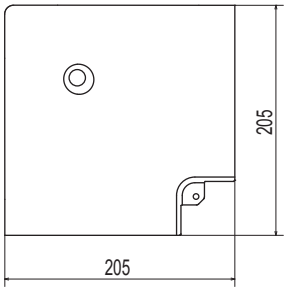


12.2 Motion sensor kit

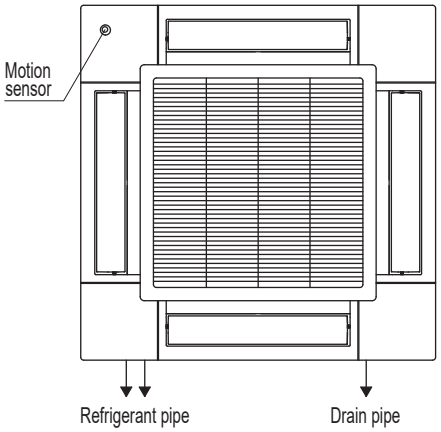
(1) FDT series(LB-T-5BW-E, LB-T-5BB-E)

(a) Specification

Motion sensor kit



Installation position of motion sensor kit



Note
(1) Motion sensor must be installed to the position as shown.

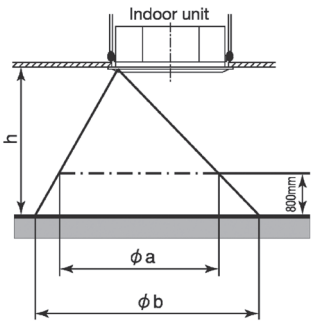
Unit:mm

Installation of motion sensor kit

Do not install the motion sensor kit 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) Places affected by the direct airflow of the indoor unit
(7) Places where the motion sensor is influenced by the fluorescent lamp or sunlight
(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

Standard detectable area



Height of the ceiling	h[m]	2.7	3.5	4.0
Detectable area	ϕa[m]	about 4.5	about 6.4	about 7.6
	ϕb[m]	about 6.4	about 8.3	about 9.5

PJF000Z730

(b) Installation manual

PJF012D036 B

⚠ 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

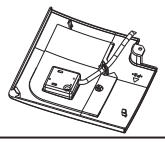
- Do not install the motion sensor kit at the following places in order to aboid malfunction.
  (1) Places exposed to direct sunlight
  (2) Places near heat devices
  (3) High humidity places
  (4) Hot surface or cold surface enough to generate condensation
  (5) Places exposed to oil mist or steam directly
  (6) 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
  (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
- 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

- 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

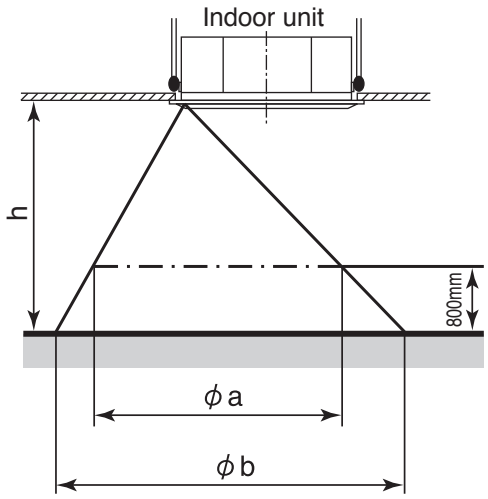
Please make sure that you have the motion sensor.

Motion sensor		1

② Installing the motion sensor

It is possible to install the motion sensor by replacing with a corner lid on the panel.

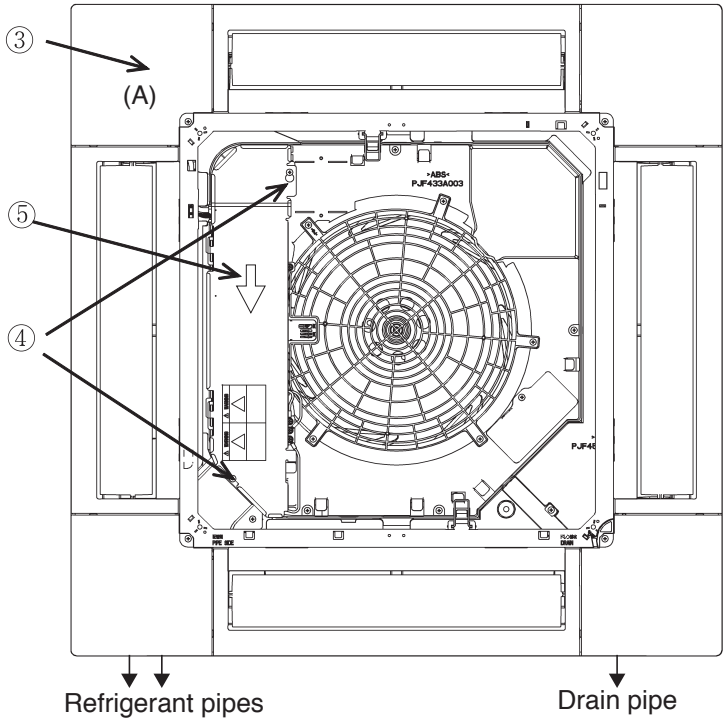
Aim of the detectable scope



Hight of the ceiling	h[m]	2.7	3.5	4.0
Detectable scope①	ϕ a[m]	about 4.5	about 6.4	about 7.6
Detectable scope②	ϕ b[m]	about 6.4	about 8.3	about 9.5

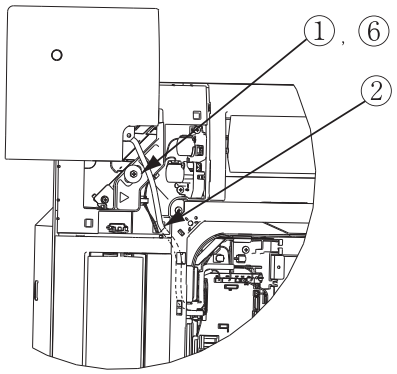
Preparation before installation

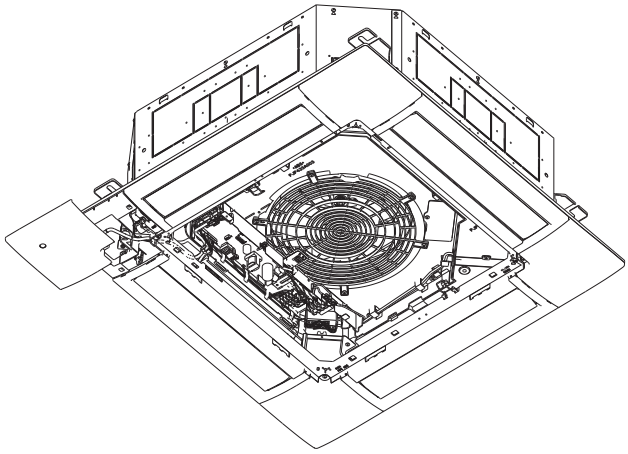
① Install the panel onto the indoor unit according to the installation manual for the panel.
② Remove the inlet grille.
③ Remove the corner lid (A) located on the panel.
④ Loosen 2 screws for the control lid. (It is unnecessury to remove the screws.)
⑤ Slide the control lid, and open and remove it.

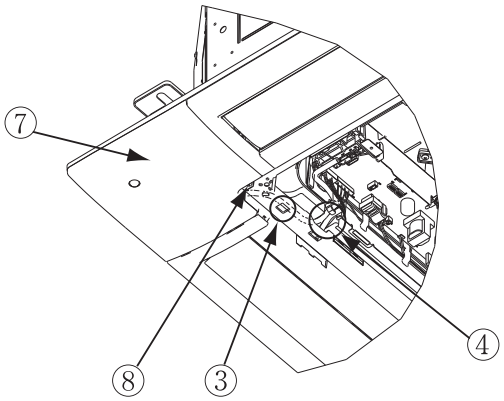


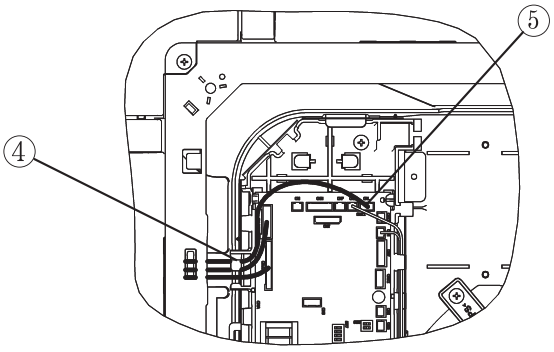
Installation of the motion sensor

① Loosen the bolts which fix the panel, and make a gap between the panel and the indoor unit.
② Pass the wiring of the motion sensor through the opening of the panel.
③ Hang the wiring on the hook which is on the panel's inside.
④ Pass the wiring through the opening of the control box.
⑤ Connect the connecter to CnL(3P,Black) on PCB in the contorl box.
⑥ Tighten the bolts which fix the panel.
⑦ Install the motion sensor on the panel.
⑧ Fix the motion sensor by the screw.
⑨ Reinstall the control lid, and tighten 2 screws.









③ Setting the motion sensor

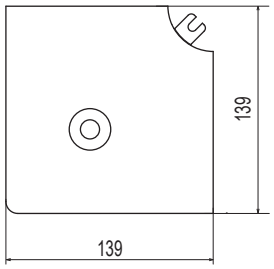
The motion sensor will not function if it is only installed.
Set the function of the motion sensor by the wired or wireless remote control.
Refer to the manual instraction of each remote control for the setting procedure.

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

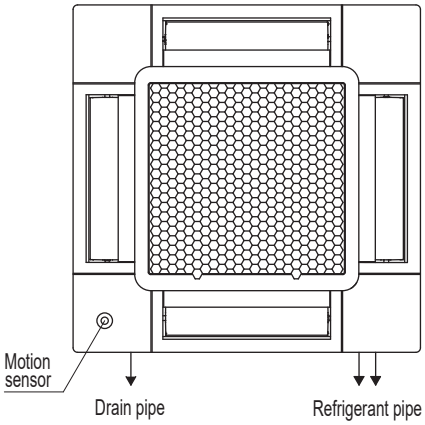
(2) FDTC series(LB-TC-5W-E)

(a) Specification

Motion sensor kit



Installation position of motion sensor kit



Note
(1)Motion sensor must be installed to the position as shown.

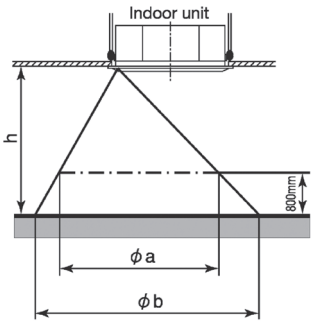
Unit:mm

Installation of motion sensor kit

Do not install the motion sensor kit at the following places in order to avoid malfunction.

(1)Places exposed to direct sunlight
(2)Places near heat-generating devices
(3)High humidity places
(4)Hot surface or cold surface enough to generate condensation
(5)Places directly exposed to oil mist or steam
(6)Places affected by the direct airflow of the indoor unit
(7)Places where the motion sensor may be influenced by fluorescent lamp or sunlight
(8)Places where the motion sensor may be affected by infrared rays of any other communication devices
(9)Places where some object may obstruct the motion sensor
(10)Places where there may be impact on the motion sensor
(11)Places with strong radio wave or static electricity
(12)Dusty place where the motion sensor lens may become tainted or be damaged

The detectable area



Height of the ceiling	h[m]	2.7	3.5	4.0
Detectable area	ϕa[m]	about 4.5	about 6.4	about 7.6
	ϕb[m]	about 6.4	about 8.3	about 9.5

(b) Installation manual

PJF012D504 A

⚠ WARNING

- Connect the wiring to the PCB in the control box on the indoor unit and fix the wiring securely so as not to apply unexpected stress on the PCB.
  Loose connection or fixing will cause abnormal heat generation or fire.
- Make sure the power source is turned off during electrical wiring work.
  Otherwise, electric shock, malfunction and abnomal operation may occur.

⚠ CAUTION

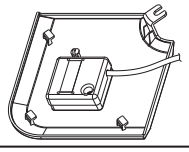
- Do not install the motion sensor kit at the following places in order to avoid malfunction.
  (1) Places exposed to direct sunlight
  (2) Places near heat-generating devices
  (3) High humidity places
  (4) Hot surface or cold surface enough to generate condensation
  (5) Places directly exposed to oil mist or steam
  (6) Places affected by the direct air flow of the indoor unit
  (7) Places where the motion sensor may be influenced by fluorescent lamp or sunlight
  (8) Places where the motion sensor may be affected by infrared rays of any other communication devices
  (9) Places where some object may obstruct the motion sensor
  (10) Places where there may be impact on the motion sensor
  (11) Places with strong radio wave or static electricity
  (12) Dusty place where the motion sensor lens may become tainted or be damaged
- 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

- Instruct the customer how to operate the motion sensor kit correctly by 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

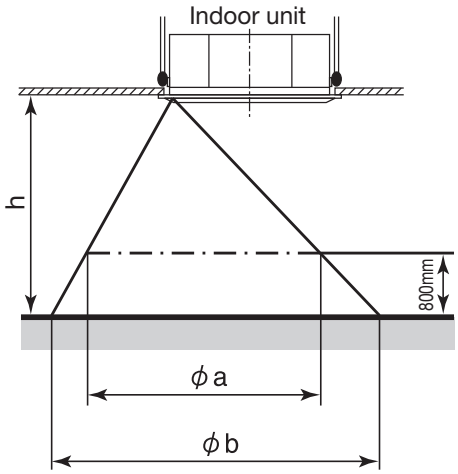
Please make sure that all components are in the package.

Motion sensor		1

② Installing the motion sensor

It is possible to install the motion sensor by replacing the corner lid on the panel.

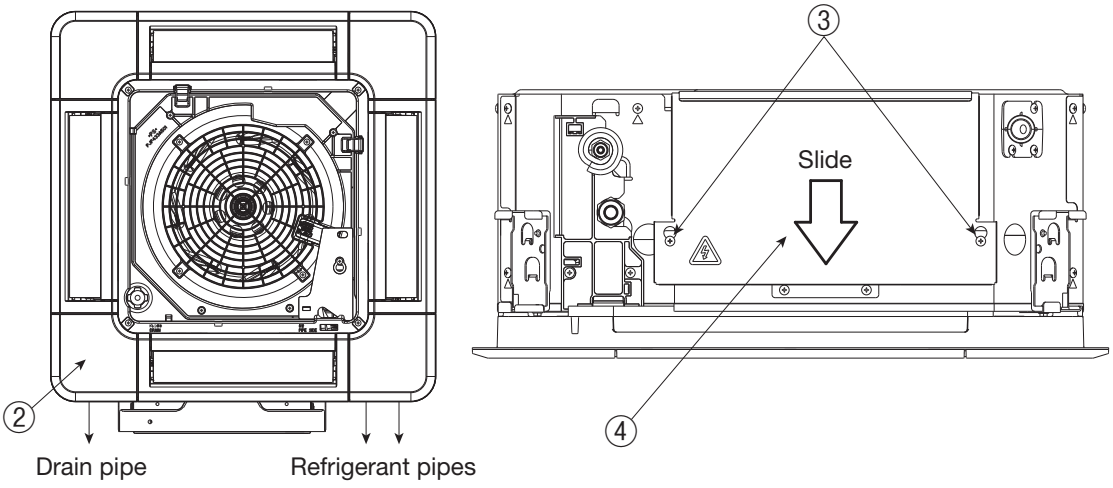
The detectable area



Height of the ceiling	h[m]	2.7	3.5	4.0
Detectable area①	ϕ a[m]	about 4.5	about 6.4	about 7.6
Detectable area②	ϕ b[m]	about 6.4	about 8.3	about 9.5

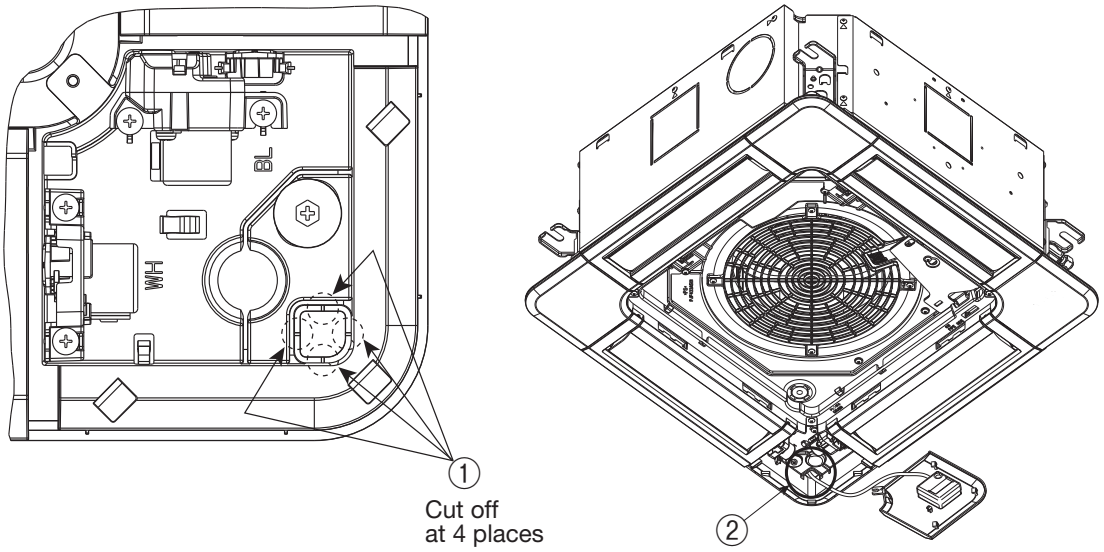
Preparation before installation

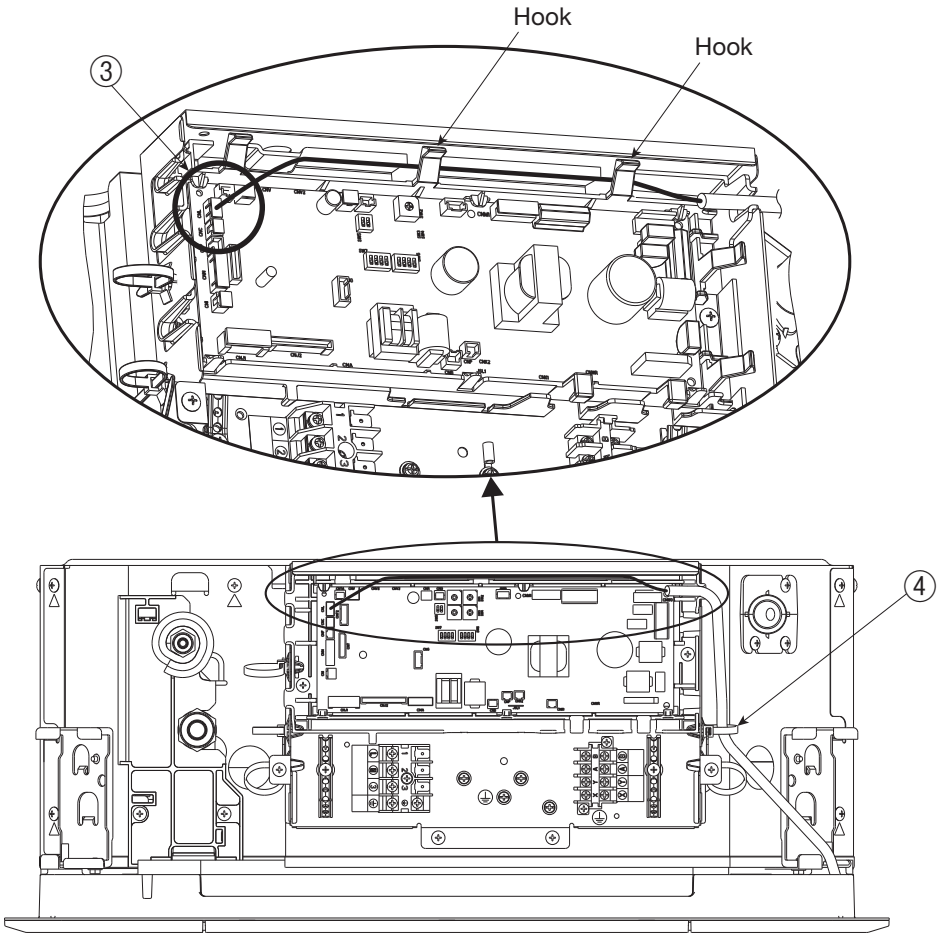
① Remove the inlet grille according to the installation manual of the panel.
② Remove the corner lid at the drain pipe side.
③ Loosen screws (2 pcs) on the control box of the unit. (It is not necessary to remove the screws.)
④ Slide the control lid in the arrow direction, and remove it.



Installation of the motion sensor

① Cut the half blanking (4 sections) of the panel as shown in the following figure.
② Pass the motion sensor wiring through the opening of the panel.
③ Connect the wiring connector to CnL (3P, black) on the PCB in the control box.
④ Fix the wiring with a band as shown below.
⑤ Install the motion sensor on the panel according to the installation manual of the panel.
⑥ Install the control lid with care not to pinch the wiring, and reinstall the control lid with screws (2 pcs.).





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.

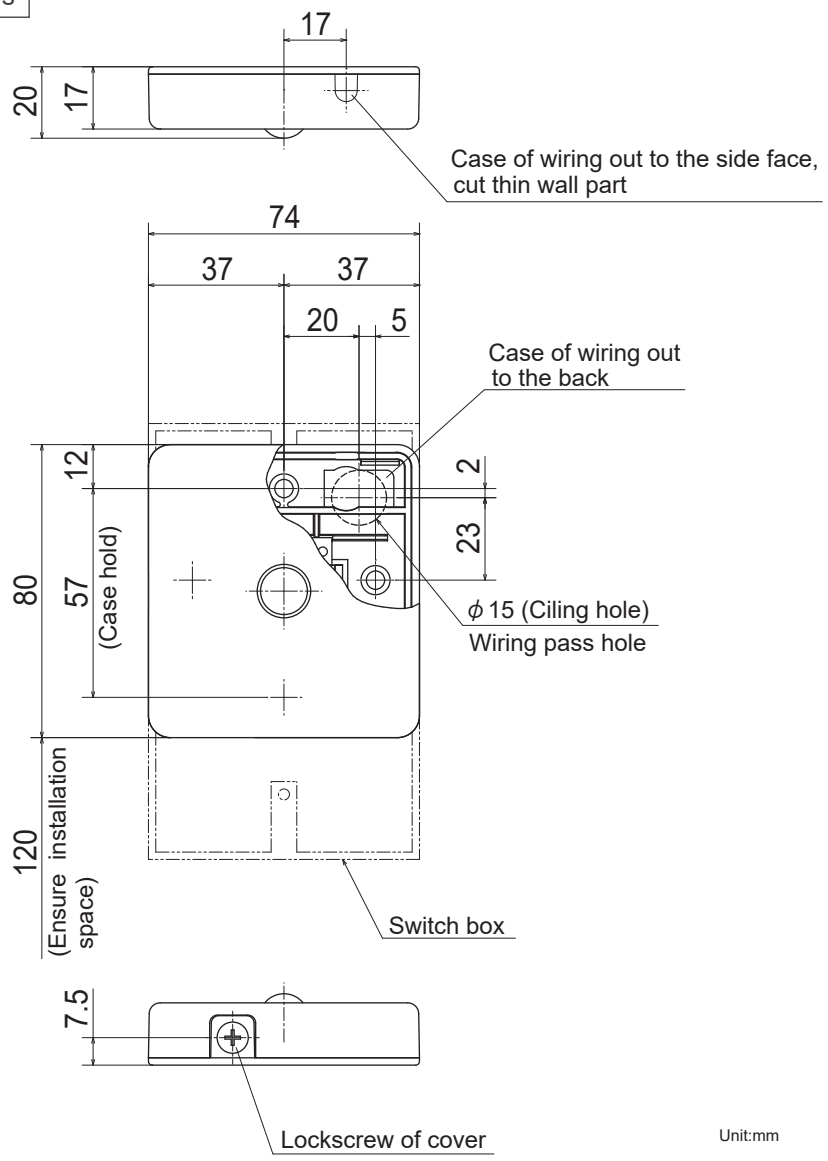
Note: It is not possible to set by the following remote control models or older ones.
Wired:RC-EX1A, RC-E5, RCH-E3
Wireless: RCN-E1R

(3) FDK series(LB-KIT2)

(a) Specification

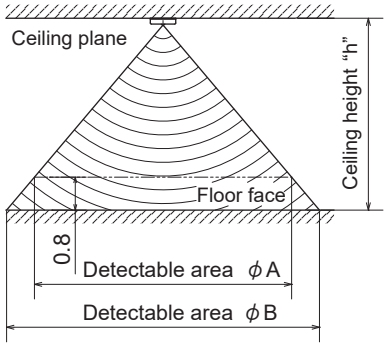
PJZ000Z341

External dimensions



Unit:mm

Detectable area



High of the ceiling h[m]	2.7	3.5	4.0
Detectable area ϕA[m]	4.5	6.4	7.6
Detectable area ϕB[m]	6.4	8.3	9.5

Notes

(1) The recommended height, is lower than 4m for motion sensor. When the installation height is higher, motion detection accuracy might be reduced.

(2) Connenction wiring (prepare on site) for signal wiring is 0.2mm^2 × 3 cores wire or more (Red,White,Black) and maximum total extension 8m.

(3) Motion sensor kit can be installed on the wall, but recommend installing is the ceiling plane.

(4) In the case of wall installation, the detectable area is 5m in front and about 100° left and right.

(5) Refer to the installation sheet for details.

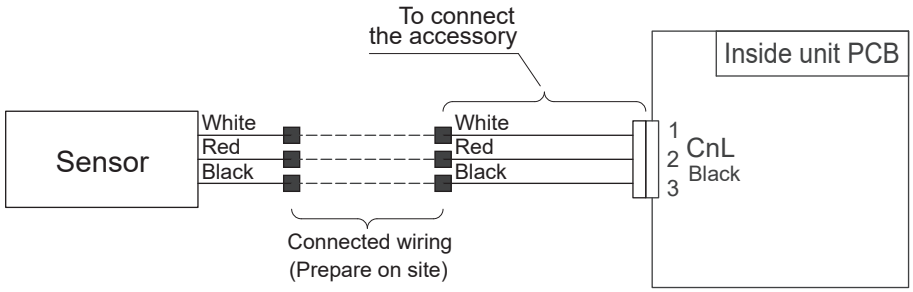
Installation precautions

Do not install the motion sensor kit at the following places in order to avoid malfunction.

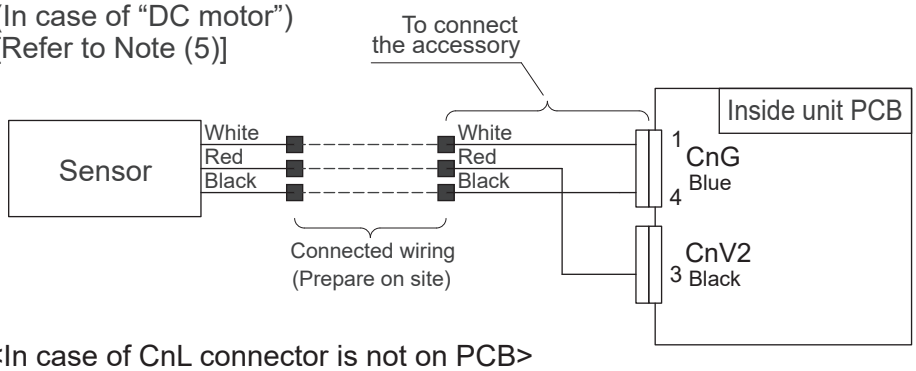
(1) Places exposed to direct sunlight
(2) Places near heat devices
(3) High humidity places
(4) Hot surface or cold surface enough to generate condensation
(5) Places exposed to oil mist or steam directly
(6) Uneven surface
(7) Places affected by the direct air flow of the AC unit
(8) Places where the motion sensor is influenced by the fluorescent lamp (especially inverter type) or sunlight
(9) Places where the motion sensor is affected by infrared rays of any other communication devices
(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) Do not run in parallel with strong voltage lines such as power source wiring

Wiring connection

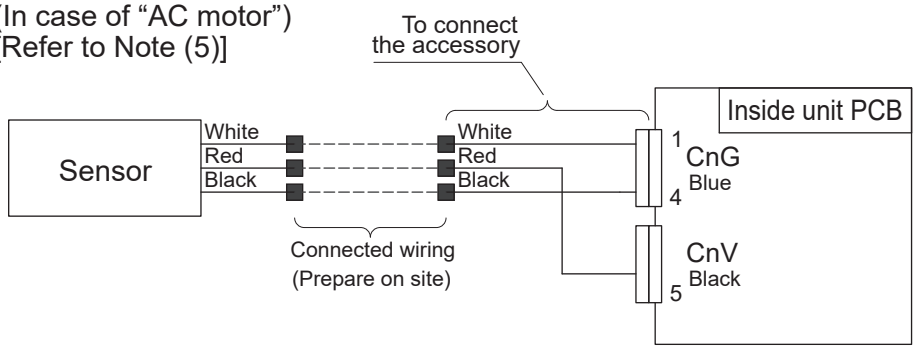
<In case of CnL connector is on PCB>



<In case of CnL connector is not on PCB>
(In case of “DC motor”)
[Refer to Note (5)]



<In case of CnL connector is not on PCB>
(In case of “AC motor”)
[Refer to Note (5)]



(b) Installation manual

PJZ012D134

⚠ 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.

(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
(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.

① Accessories

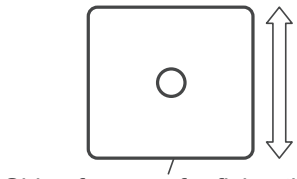
Please make sure that all components are in the package.

Motion sensor	Wiring <1>	Wiring <2>	Wiring <3>	2 screws	Manual
	In case of CnL connector on the indoor unit PCB (FDT/FDK/FDTC) 	In the case of CnV2 connector on the indoor unit PCB 	In the case of CnV connector on the indoor unit PCB (FDTQ/FDFL/FDFU) 		

ø Please prepare a relay wiring for connecting the motion sensor and indoor unit on site. (0.2 mm^2 or thicker, triplex (red, white and black) cable for communication, with the maximum length of 8 m.)

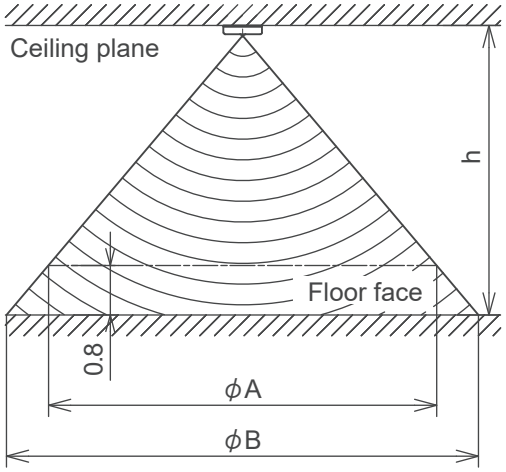
② Installing the motion sensor

- The recommended height is lower than 4000mm 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 5m, 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

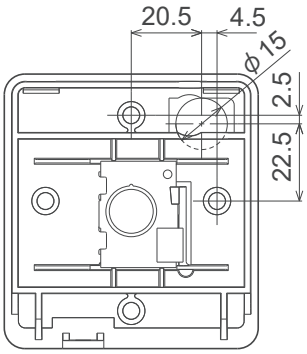
There are the following 3 methods to install the motion sensor on the ceiling plane or wall surface (hereinafter called “ceiling plane”). Select the method according to the installation position.

<How to install>

(A) Direct installation by screws to the ceiling plane with the wiring in the ceiling space.

(B) Direct installation by screws to the ceiling plane with the wiring in the room.

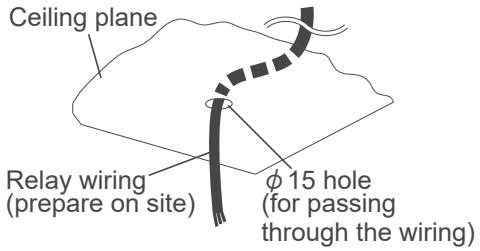
(C) Installation with switch box (prepare at the site)



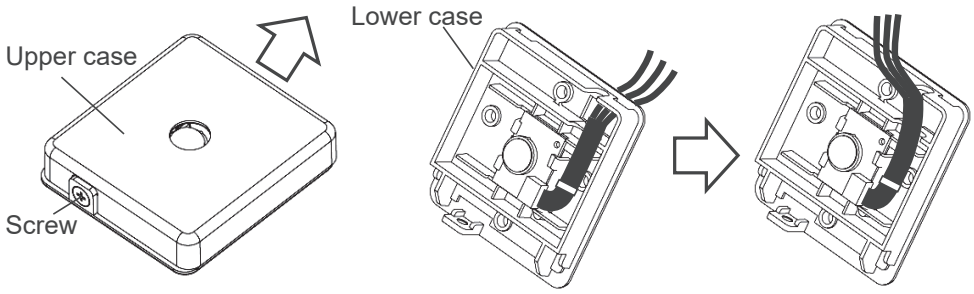
Positional relation for pulling out relay wiring hole and installing holes.

Option (A)

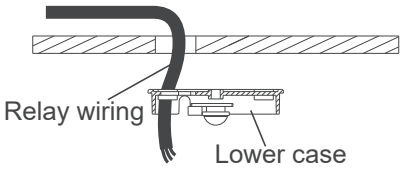
►Select this method if the ceiling plane has sufficient strength to install the motion sensor directly with screws.

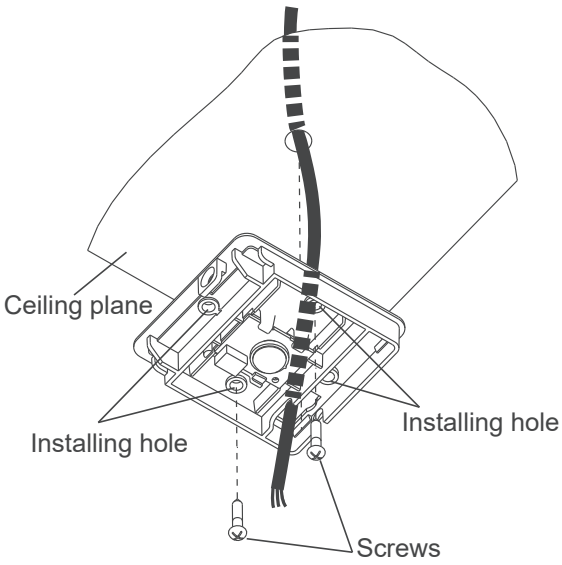


① Prepare a relay wiring on site and lay out the wiring in advance.
② Remove the screw at the side of the motion sensor and slide the upper case in the direction of the arrow.
③ Pull the wiring of the motion sensor as below.

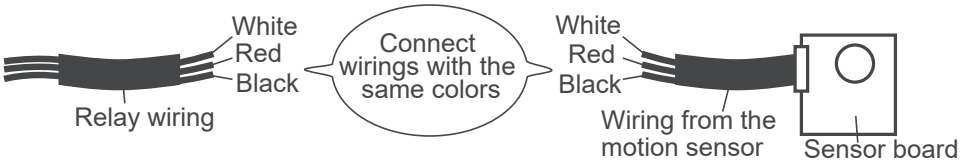


④ Pass the relay wiring through the hole on the lower case.
⑤ When fixing the lower case to the ceiling plane, tighten it in 2 locations of the installing holes (4 locations) with the attached screws.

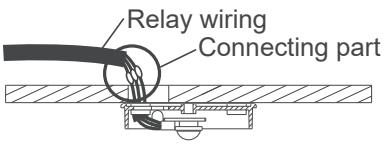




⑥ Using a crimping terminal, etc., connect the same color to the relay wiring (prepare on site) and the wiring of motion sensor.



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.

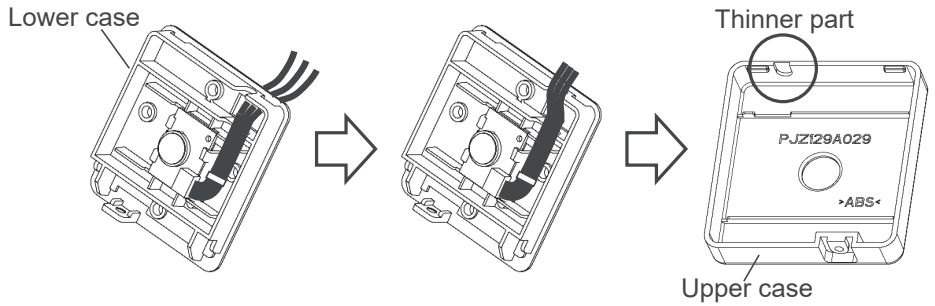


Caution:
In order to prevent tracking, be sure to perform construction so as not to clog up the connecting part with dust, etc.

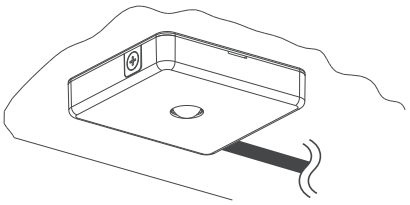
Option (B)

►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.

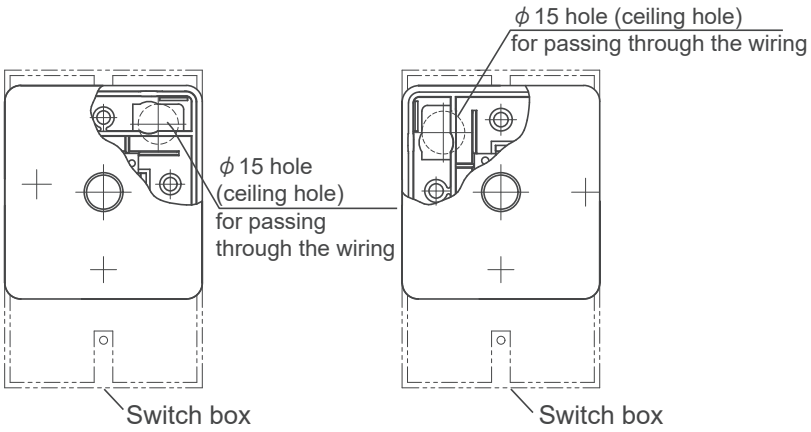


③ When fixing the lower case to the ceiling plane, tighten it in 2 locations of the installing holes (4 locations) with the attached screws. (The same as ⑤ of Option (A))
④ Using a crimping terminal, etc., connect the same color to the relay wiring (prepare on site) and the wiring of motion sensor.
(The 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.

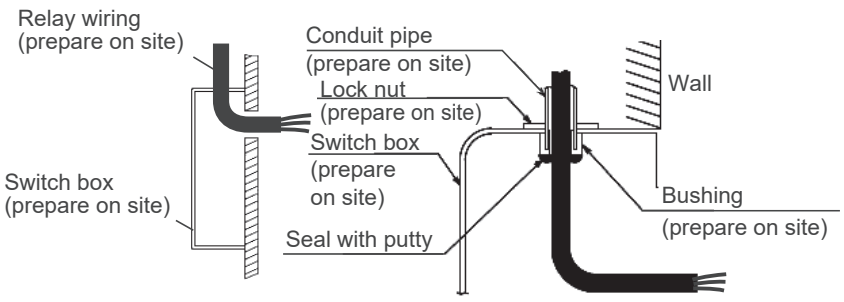


Option (C)

① Set up the switch box and relay wiring (prepare on site) in advance.
Seal the relay wiring inlet with putty.



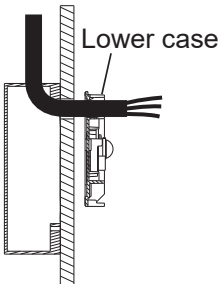
Positional relation for the switch box and installing holes



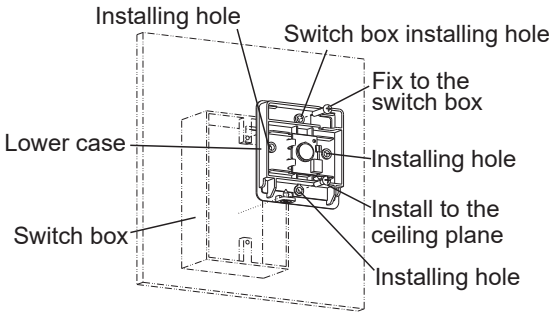
② Remove the screw at the side of the motion sensor and slide the upper case in the direction of the arrow. (The same as ② of Option (A))

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.

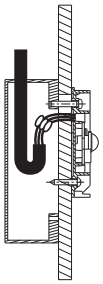


⑤ Fix the lower case to switch box using the installing hole (1 place).

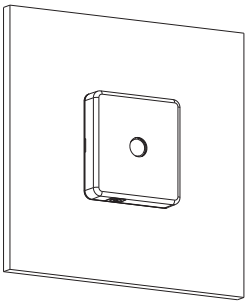


⑥ Connect the same color to the relay wiring (prepare on site) and the wiring of motion sensor. (The same as ⑥ of Option (A))

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 ⑨ of Option (A))

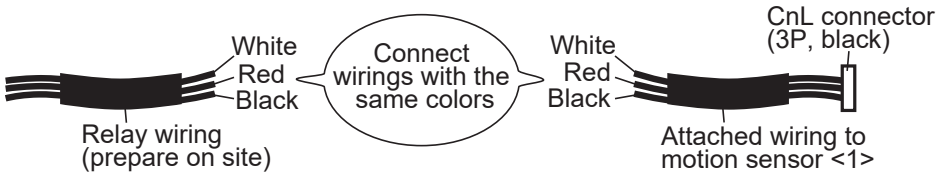


Wiring connection in the control box of indoor unit

CAUTION: Attached wirings to the motion sensor vary depending on the model of the indoor unit. Make sure your model before installing.

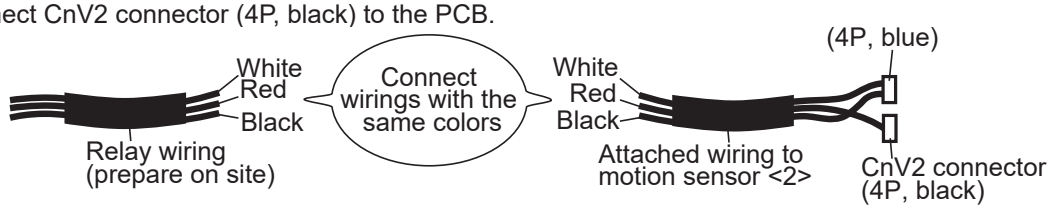
<In case of the CnL connector is on the indoor unit PCB (FDT/FDK/FDTC)>

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.



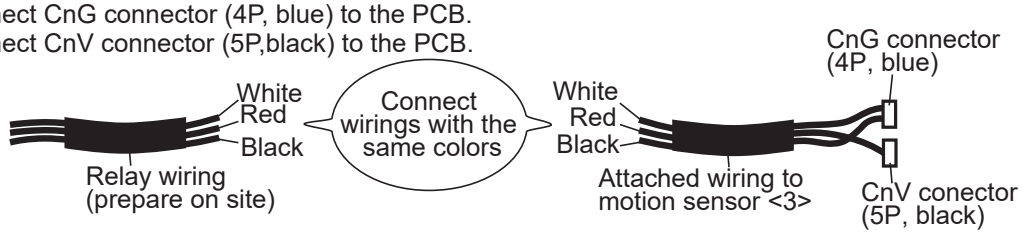
<In the case of CnV2 connector on the indoor unit PCB>

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.

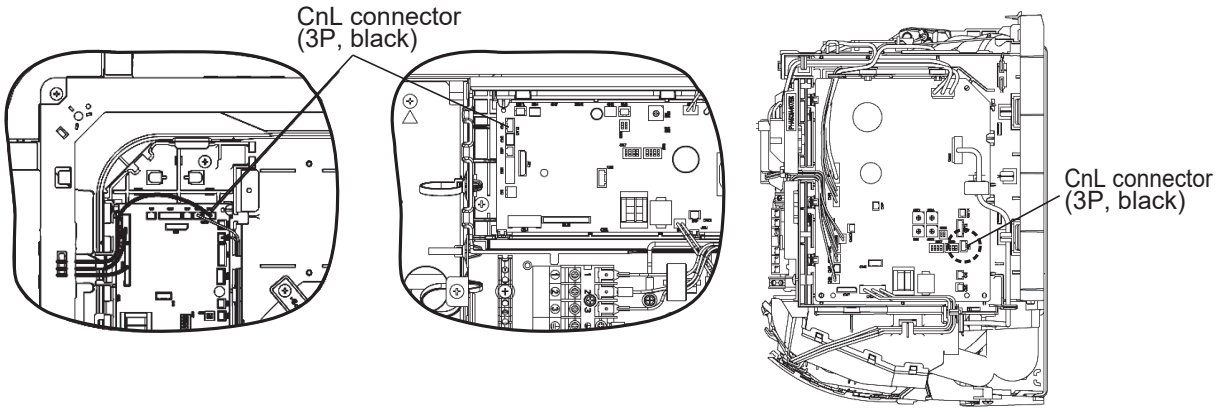


<Incase of the CnV connector is not on the indoor unit PCB (FDTQ/FDFL/FDFU)>

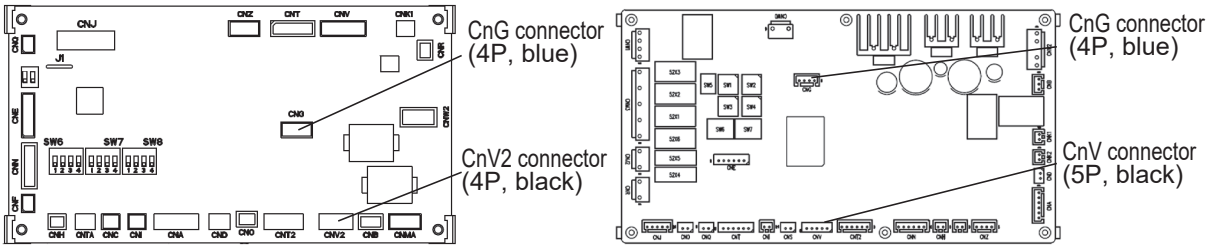
① Connect the same color to the relay wiring (prepare on site) and the attached wiring <3>.
② Remove the control box cover from the indoor unit.
③ Connect CnG connector (4P, blue) to the PCB.
④ Connect CnV connector (5P,black) to the PCB.



<For FDT> **<For FDTC>** **<For FDK>**



<For the other indoor units> **<In case of FDTQ/FDFL/FDFU>**



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

(4) User's manual

PJZ012D134

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

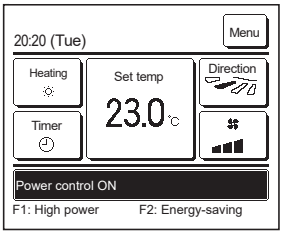
- The sensor may not detect a person near the border of detection range.
- Installation near an object with a different temperature from the surrounding may cause a false detection of human.
- Due to correction of temperature setting, some people may feel chilly.

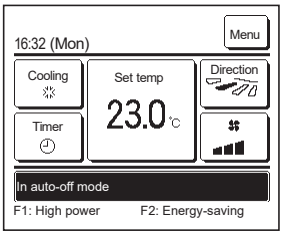
This product uses infrared sensor to detect person's activity level to support control of air-conditioner.
Please set the control you like from the remote control.

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.





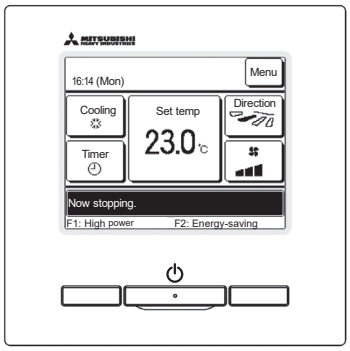
- When power control is enabled
  The amount of human motion is detected by a motion sensor to adjust the Set temperature.
  (The set temperature of remote control is displayed at the adjusted temperature.)
  in cooling : 33 °C, in heating : 15 °C
  adjust the set temperature seep by step up to above temperature.
  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 12 hour of operation wait time.

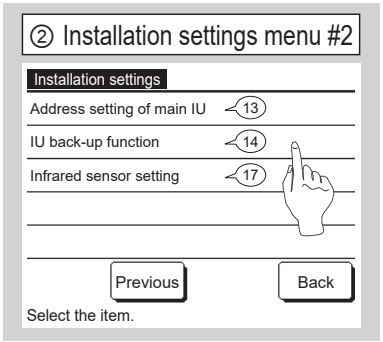
"Operation wait"...The unit stops but will resume operation when human presence is detected. When the unit is in "Complete stop", "In auto-off mode" will be displayed on the message display.

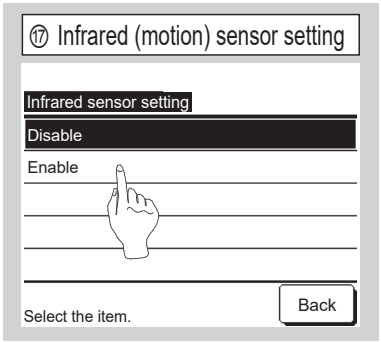
"Complete stop"...When auto-off is enabled, the unit stops. The unit will not resume operation even when human presence is detected.
The message "In auto-off mode" will disappear from the message display, and the operation lamp will turn off.

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**



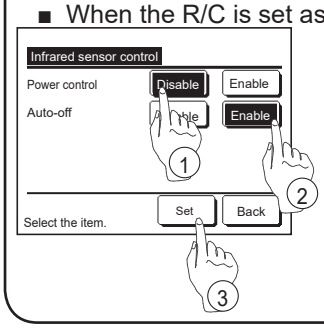




● Refer to the installation manual for eco touch remote control to set control mode.

■ 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.

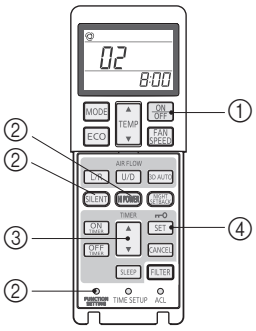
① Enable/disable power control.
② Enable/disable auto-off.
③ After you set each item, tap the **Set** button.
The display returns to the Energy-saving setting menu screen.
* This control will not be executed unless ③ is performed.

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.



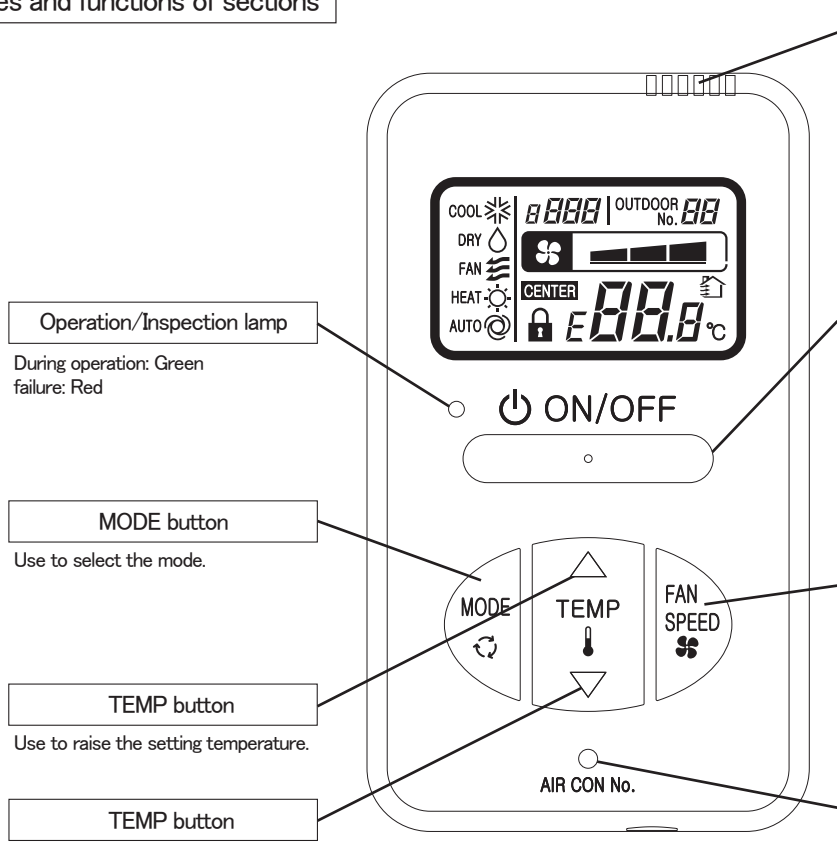
2. Setting details

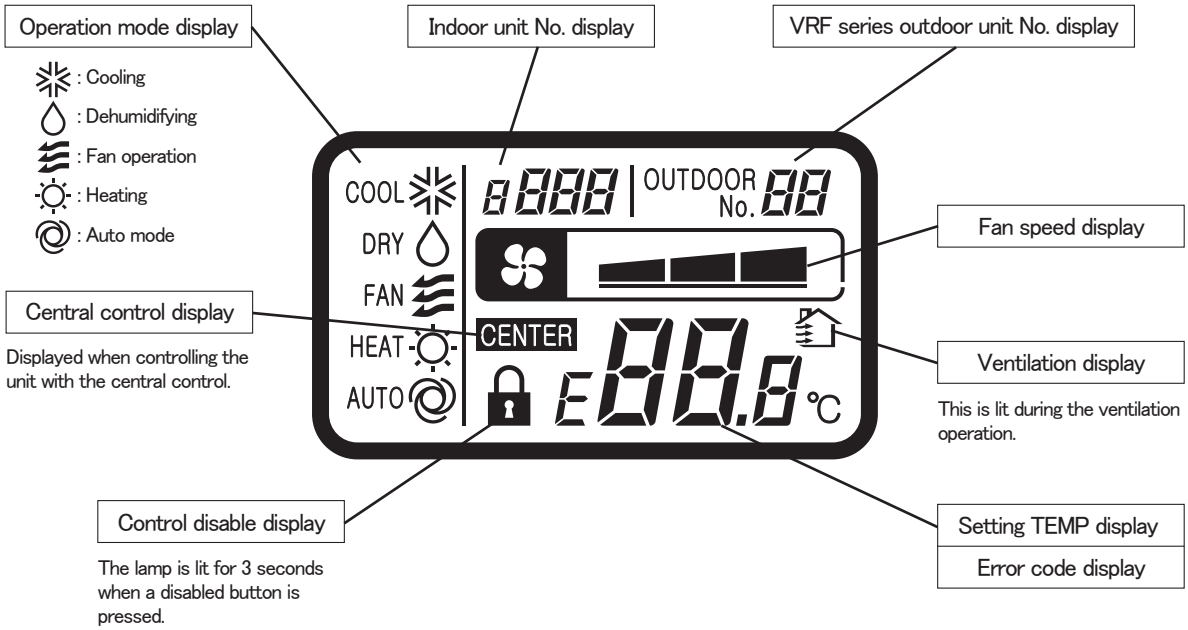
Button	Number indicator	Function setting
SILENT	00	Infrared sensor setting (Motion sensor setting) : Disable
	01	Infrared sensor setting (Motion sensor setting) : Enable
HI POWER	00	Infrared sensor control (Motion sensor control) : Disable
	01	Infrared sensor control (Motion sensor control) : Power control only
	02	Infrared sensor control (Motion sensor control) : Auto OFF only
	03	Infrared sensor control (Motion sensor control) : Power control and Auto OFF

12.3 Simple wired remote control (RCH-E3)

PJZ000Z272

Names and functions of sections



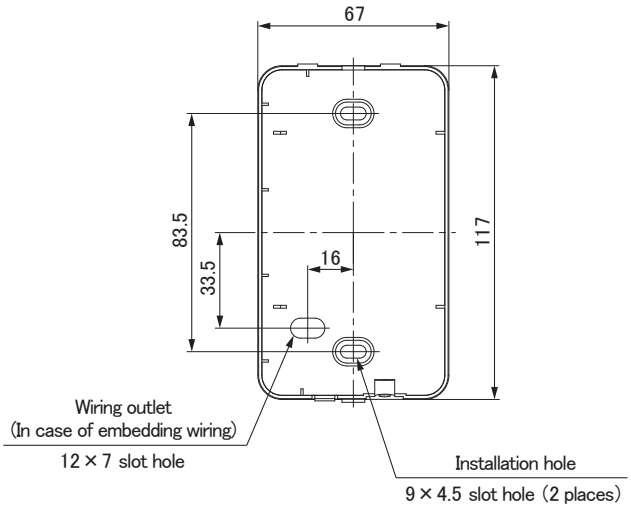


Installation of remote control

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

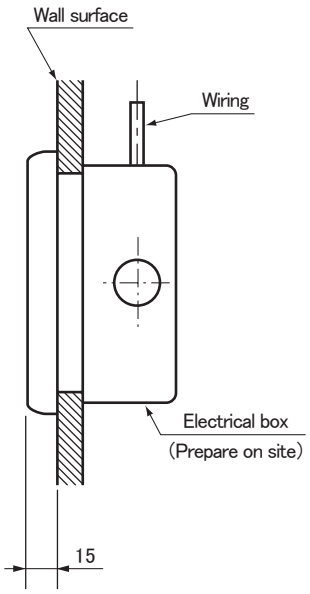
(1) Places exposed to direct sunlight
(2) Places near heat devices
(3) High humidity places
(4) Hot surface or cold surface enough to generate condensation
(5) Places exposed to oil mist or steam directly
(6) Uneven surface

Remote control installation dimensions

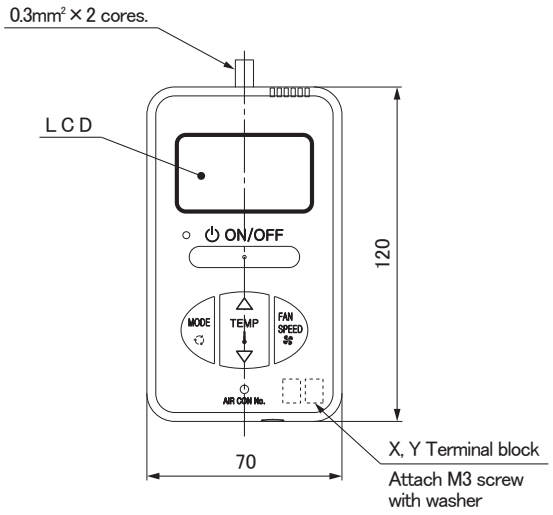


Note: Installation screw for remote control
M4 screw (2 pieces)

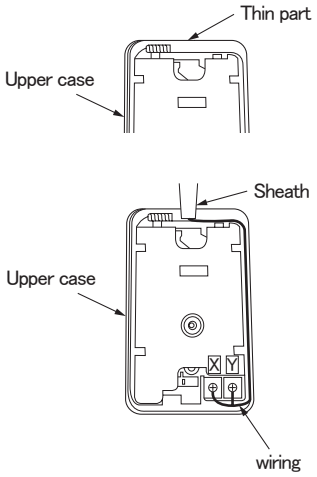
In case of embedding wiring



In case of exposing wiring

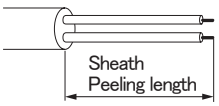


The remote control wiring can be extracted from the upper center. After the thin part in the upper side of the remote control upper case is scraped with a nipper or knife, remove burr with a file.



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	0.5mm² × 2 cores
Under 300m	0.75mm² × 2 cores
Under 400m	1.25mm² × 2 cores
Under 600m	2.0mm² × 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

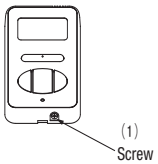
- **Do not install the remote control at the following places in order to avoid malfunction.**
  (1) Places exposed to direct sunlight
  (2) Places near heat devices
  (3) High humidity places
  (4) Hot surface or cold surface enough to generate condensation
  (5) Places exposed to oil mist or steam directly
  (6) Uneven surface
- **Do not leave the remote control without the upper case.**
  In case the upper cace 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 (ϕ 3.5×16) 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)

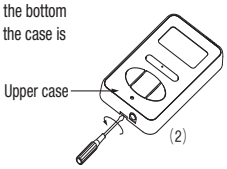
1. Installation procedure

In case of embedding cord

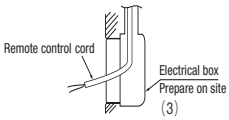
(1) Make certain to remove the screw on the bottom surface of the remote control.



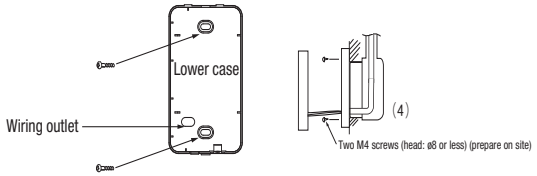
(2) Remove the upper case of the remote control.
Insert a flat-blade screwdriver to a concave portion of the bottom surface of the remote control and slightly twist it, and the case is removed.



(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.

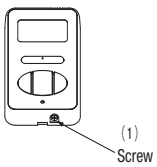


(5) Connect the remote control cord to the terminal block.
Connect the terminals (X and Y) of the remote control and the terminals (X and Y) of the indoor unit. (No polarity of X and Y)

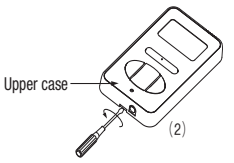
(6) Mount the upper case for restoring to its former state so as not to crimp the remote control cord, and secure with the removed screw.

In case of exposing cord

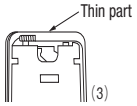
(1) Make certain to remove a screw on the bottom surface of the remote control.



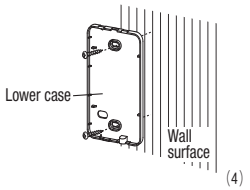
(2) Remove the upper case of the remote control.
Insert a flat-blade screwdriver to a concave portion of the bottom surface of the remote control and slightly twist it, and the case is removed.



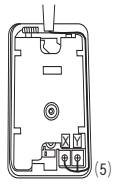
(3) The remote control cord can be extracted from the upper center.
After the thin part in the upper side of the remote control upper case is scraped with a nipper or knife, remove burr with a file.



(4) The lower case of the remote control is mounted to a flat wall with two accessory wood screws.

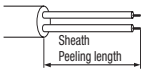


(5) Connect the remote control cord to the terminal block.
Connect the terminals (X and Y) of the remote control and the terminals (X and Y) of the indoor unit. (No polarity of X and Y)
The wiring route is as shown in the right.



The wiring in the remote control case should be 0.3 mm^2 (recommended) to 0.5 mm^2 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.

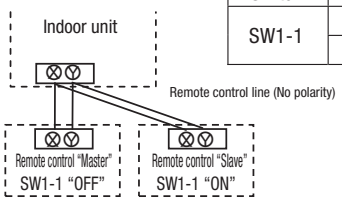
2. Installation and wiring of remote control

(1) Wiring of remote control should use 0.3mm^2 × 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 0.3mm^2 (recommended) to 0.5mm^2.
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·····0.5mm^2 × 2 cores
Under 300m·····0.75mm^2 × 2 cores
Under 400m·····1.25mm^2 × 2 cores
Under 600m·····2.0mm^2 × 2 cores

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

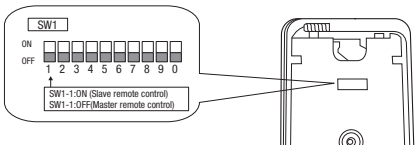
(1) Up to two remote controls can be connected to one unit (or one group) of indoor unit.

Switch	Setting	Function detail
SW1-1	ON	Slave remote control
	OFF	Master remote control



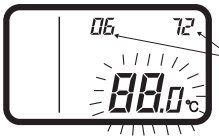
(2) Set the switch SW1-1 of the slave remote control is "Slave" (ON). The factory default is set as "Master" (OFF).

(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.



Software number
(The number in the left is one example. Another number may be shown.)

(2) Then, "88.0 °C" blinks on the remote control until the communication between the remote control and the indoor unit is established.

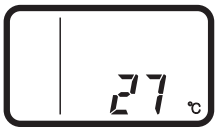
(3) In the case of connecting one remote control with one unit (or one group) of indoor unit, make certain to set the master remote control (factory default).
If the slave remote control is set, a communication cannot be established.

(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 are 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.**
Dectder 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 are 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.

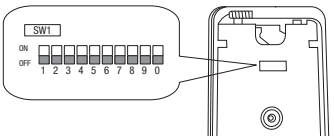
6. Function setting

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 whould 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		



- 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, offsett 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	Ventilation 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	Note 2	
			02	High speed 1	Note 2	
			03	High speed 2	Note 2	
	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 heatingr 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:

Swith 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
		Fan speed: two steps (Hi-Me)	
		Fan: one step	Product model whose indoor unit fan speed is only one step
Remote control function 06	"Auto" operation setting	"Auto" operation enabled	Product model where "Auto" mode is selectable
		"Auto" operation disabled	Product model without "Auto" mode
Indoor unit function 13	Heating fan control	Low fan speed	Product model except FDUS
		Intermittent operation	FDUS

Note 2: Fan speed of "High speed" setting

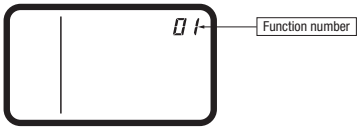
Fan speed setting	Indoor unit fan speed setting		
	❋ ■■■ - ❋ ■■ - ❋ ■	❋ ■■■ - ❋ ■	❋ ■■■ - ❋ ■■
Standard	Hi — Mid — Lo	Hi — Lo	Hi — Mid
High speed 1 • 2	UHi — Hi — Mid	UHi — Mid	UHi — Hi

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".

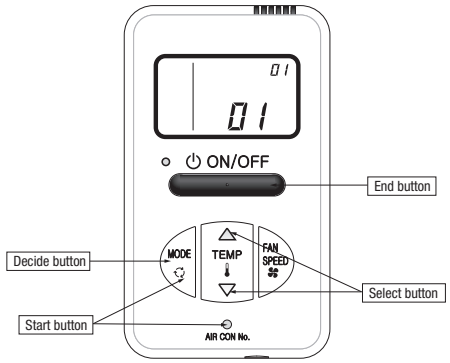
7. How to set functions by button operation

(1) **Stop air-conditioning, 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.

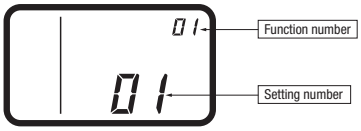


(2) **Press TEMP△ or TEMP▽ button.**
Select the function number.

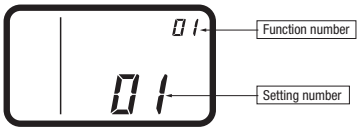
(3) **Press MODE button.**
Decide the function number.



(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)



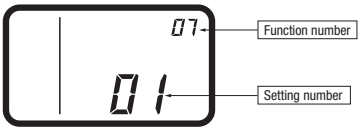
② **Press TEMP△ or TEMP▽ button.**
Select the setting number.
③ **Press MODE button.**
The setting is completed.
Light is on for approximately 3 to 20 seconds while data of the decided function No. and setting No. is transmitted.
(Example)
Function number: "01" (lighting for 3 to 20 seconds)
Setting 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).

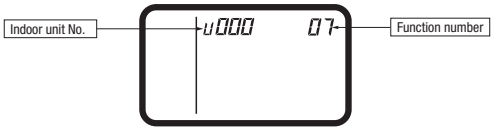
(5) **Press ON/OFF button.**
The setting is completed.

[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.

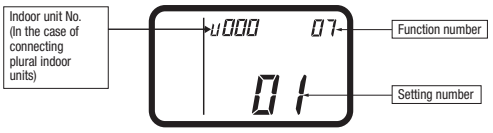
[Note]
a. In the case of connecting one remote control to plural indoor units, the display will be as follows:
Indoor unit No. display: "U 000" (blinking)
(Display the lowest number among the connected indoor units.)



b. 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.
c. Press MODE button.
Decide the indoor unit No.
"88" blinks on the temperature setting indicators. (blinking for 2 to 10 seconds while data are 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).

- 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.)

12.4 OA spacer (FDTC series)

PJZ012D125

This manual describes the installation methods for OA spacer (TC-OAS-E2) and the duct joint (TC-OAD-E).
◎This OA spacer is designed for assembling on the indoor unit (FDTC Series), not for be using independently.

Application model	FDTC15-56KXZE1 FDTC25-60VG

◎Prepare the duct (size: ø75) and the booster fan at site.
◎For the installation of indoor unit, refer to the installation manual attached to the indoor 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.

⚠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.
- **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.
- **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.

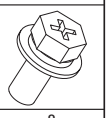
⚠CAUTION

- **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.

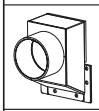
① Before installation

● Confirm the following parts are included:

OA spacer (TC-OAS-E2)

Spacer	Bracket 1	Bracket 2	Bracket 3	Bracket 4	Bolt
					
1	2	2	2	2	8

Duct joint (TC-OAD-E)

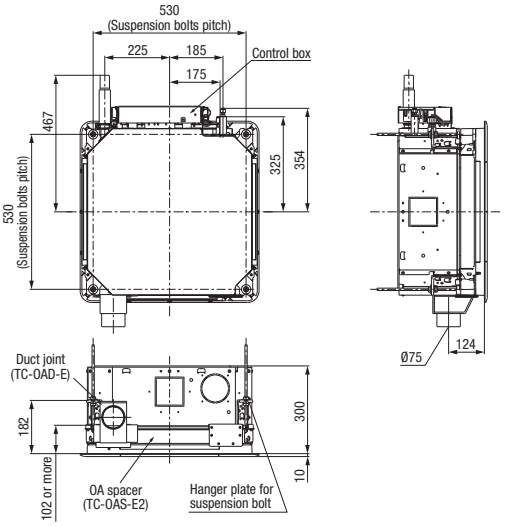
Duct Joint	Screw	Insulation 1 (120 × 54)	Insulation 2 (40 × 60)
			
1	6	1	2

② Prior study before installation (Usage limitation)

(1) Temperature conditions for OA spacer

- Adjust the temperature conditions of mixed air with outdoor air and indoor air within the usage range of suction air temperature for the air-conditioner.
- The usage temperature conditions of intake outdoor air and indoor air around the ducts are shown in the following table.
- If the temperature conditions of intake outdoor air do not meet, process the outdoor air before intaking.

Operation mode	Usage temperature conditions	
	Intake outdoor air	Indoor air around the ducts
In heating	5ºC DB or higher	18.5ºC WB or lower and 60% RH or lower
In cooling	29ºC DB or lower and 80% RH or lower	20ºC DB or higher



(2) Intake outdoor air volume

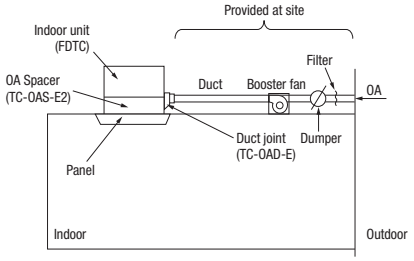
- Intake outdoor air volume is 3.0 m³/min at the maximum (when two sets of duct joints are used).
  Up to two sets of duct joint can be installed on OA spacer.
  In case one set of duct joint is installed: 1.5 m³/min max.
  In case two sets of duct joint is installed: 3.0 m³/min max.

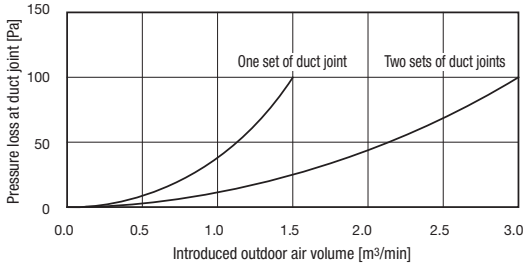
(3) Selection of booster fan

- Select the booster fan based on the duct resistance plus the pressure loss at the duct joint. (See the figure)

(4) Other conditions

- Determine the capacity of air conditioner based on the calculation of air-conditioning load including the heat load of intake outdoor air.
- Install the filter for the intake outdoor air and the reverse flow prevention dumper during the duct work at site.
- Insulate the duct and duct joint in order to prevent dewing.
- Interlock the operation of booster fan with ON/OFF operation of the indoor unit. (See Section 7.)



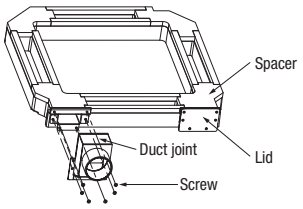


③ Installation of duct joint (TC-OAD-E) onto OA spacer

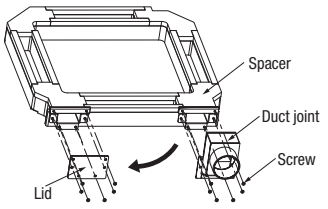
•There are two places where the duct joint can be installed.

When installing one duct joint

Install OA spacer at either one of two installation places on the duct joint.

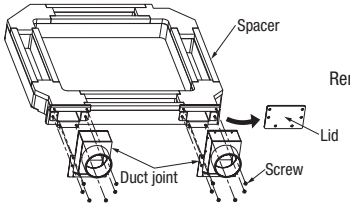


To install the duct joint, screw it in as shown at left.



When installing the duct joint at the lid side, remove the lid and reinstall it at the other end before installing the duct joint.

When installing two duct joints



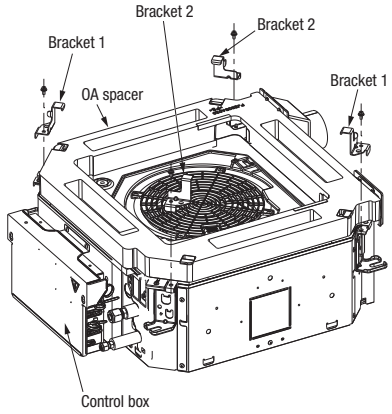
Remove the lid and then install two pieces of duct joint.

④ Installation of OA spacer on the indoor unit

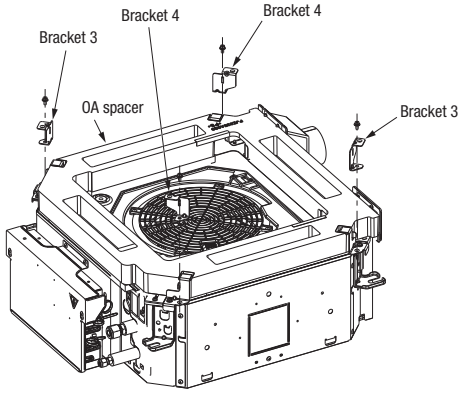
OA spacer can be installed regardless whether the indoor unit has already been hanged or not.
(It is recommended to install before hanging the unit for convenience of installation.)

1-1. When installing OA spacer before hanging the indoor unit

① Placing OA spacer on the indoor unit, fix the brackets 1 and 2 (2 pieces each) with bolts.
Install OA spacer in the appropriate position that the duct joint side of OA spacer becomes opposite to the control box of indoor unit (FDTC).

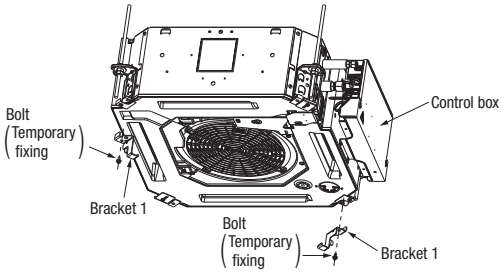


② Fix the brackets 3 and 4 (2 pieces each) with bolts.

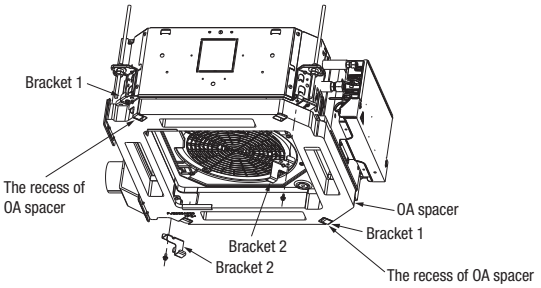


1-2. When installing OA spacer after hanging the indoor unit

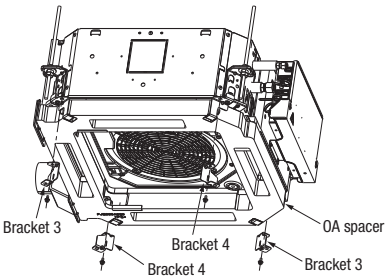
① After hanging the indoor unit (*), fix the bracket 1 (2 pieces) temporarily with bolt by 2 turns as shown in the figure.
* For the height (position) of hanging the indoor unit, refer to Section 5.



② Install OA spacer.
i. Install it in the way that the recess of OA spacer will fit on the bracket 1 fixed temporarily at the step ①.
ii. Tighten the bolt of bracket 1.
iii. Fix the bracket 2 with bolt. (Tighten up)

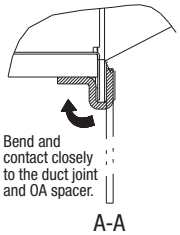


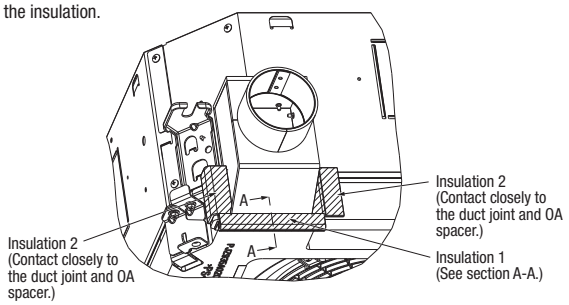
③ Fix the brackets 3 and 4 (2 pieces each) with bolts.



2. Applying insulation

Applying the insulation attached to duct joint set (TC-OAD-E)
① Applying the insulation 1 as shown in the figure.
② Applying the insulation 2 as shown in the figure.
* Be sure to cover the entire surface of sheet metal of the duct joint with the insulation.

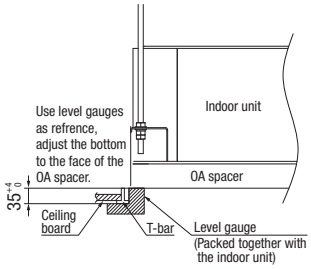


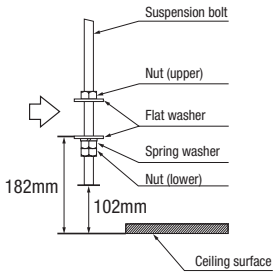


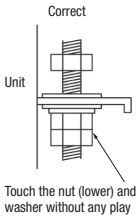
⑤ Installation of indoor unit

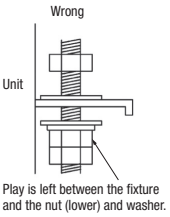
Work procedure

1. This units is designed for 2 × 2 grid ceiling.
   If necessary, please detach the T bar temporarily before you install it.
   If it is installed on a ceiling other than 2 × 2 grid ceiling, provide an inspection port on the control box side.
2. Arrange the suspension bolt at the right position (530mm × 530mm).
3. Make sure to use four suspension bolts and fix them so as to be able to hold 500N load.
4. Ensure that the lower end of the suspension bolt should be 102mm above the ceiling plane. Temporarily put the four lower nuts 182mm above the ceiling plane and the upper nuts on distant place from the lower nuts in order not to obstruct hanging the indoor unit or adjust the indoor unit position, and then hang the indoor unit.
5. Adjust the indoor unit position after hanging it by inserting the level gauge (Packed together with the indoor unit.) attached on the package into the air supply port and checking if the gap between the ceiling plane and the indoor unit is appropriate. (*) In order to adjust the indoor unit position, adjust the lower nuts while the upper nuts are put on distant place. Conrm there is no backlash between the hanger plate for suspension bolt and the lower nut and washer.
   * Use the level gauge only when OA spacer has been installed before hanging (④ 1-1 only).

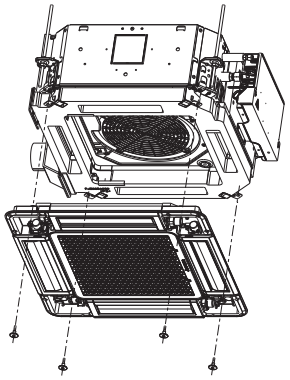








⑥ Installation of panel

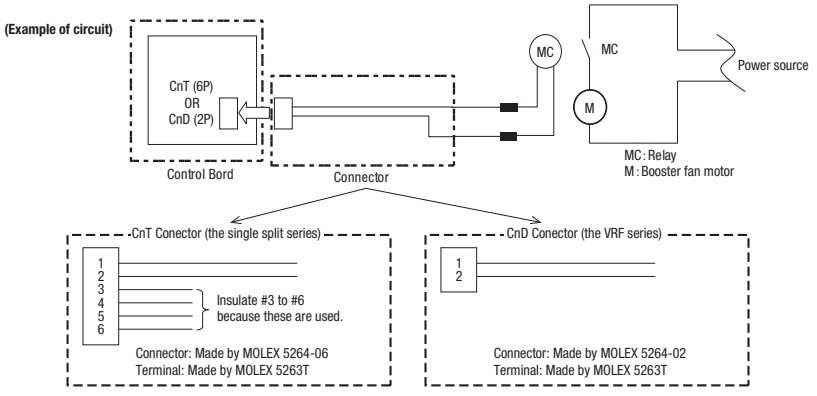


Tighten the panels to the brackets 3 and 4 with bolts.
For further details, refer to the installation manual of panel.

(Caution) Connect the connector of lover motor within the control box.

⑦ Interlocking with the indoor unit fan

◎Connect the single split series and the VRF series to CnT on the indoor PCB and to CnD on the indoor PCB respectively. If a ventilation device is connected been geared with the motion of indoor device (ON: DC12V output, OFF: 0V output), the ventilation device is operated/stopped.
◎Set it at "VENT LINK" by selecting "No. 11 VENT LINK SET" from the functional setting by remote control. For details, refer to the "ELECTRIC WIRNG WORK INSTRUCTION" of indoor unit.



(Caution) Although the indoor unit fan stops during the defrosting or oil return operation, the booster fan is operating.
Use a total heat exchanger, if necessary.

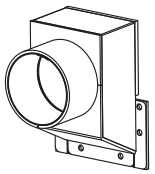
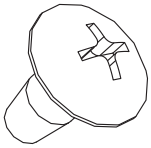
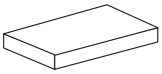
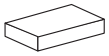
12.5 Duct joint (FDTC series)

PJZ012D073

● This product is used by assembling on the spacer (TC-OAS-E2)

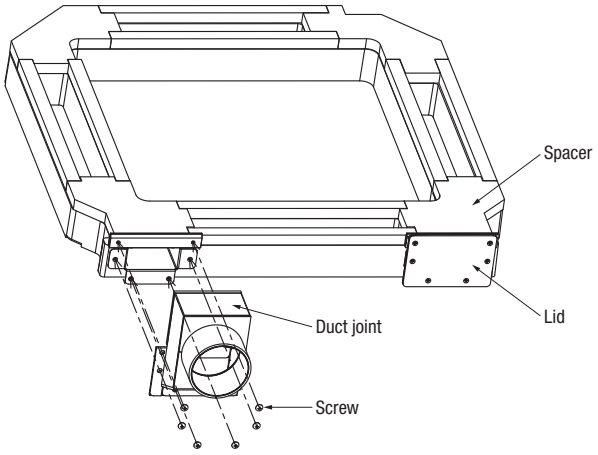
1.Before installation

- Confirm the following parts are included:

Duct joint	Screw	Insulation 1 (120 × 54)	Insulation 2 (40 × 60)
			
1	6	1	2

2.Regarding the use of this product

- Fix the product on the spacer (TC-OAS-E2) as shown below.
- For the installation method, refer to the installation manual of the spacer.



12.6 EEV-SET (FDK series)

How to install Electronic Expansion Valve outside of the AC unit

The external expansion valve is installed outside the KX indoor unit series, and control refrigerant flow to decrease refrigerant flow noise from the indoor unit.

This manual is for the installation of EEV-SET to install indoor - outdoor unit piping.
Installation for indoor/outdoor unit, refer to the installation manual attached to an indoor/outdoor unit.

EEV-SET Compatibility

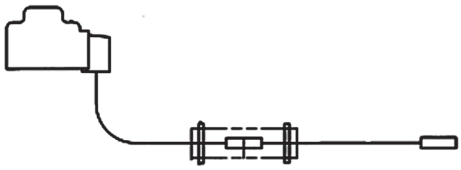
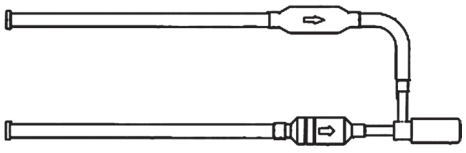
EEV-SET for FDK15-90 series

Capacity \ Refrigerant	R410A	R32
Type 15	EEV-T02	EEV-T01
Type 22-71	EEV6-71-E	EEV-T02
Type 90-160	EEV6-160-E	EEV6-71-E

① Check before installation

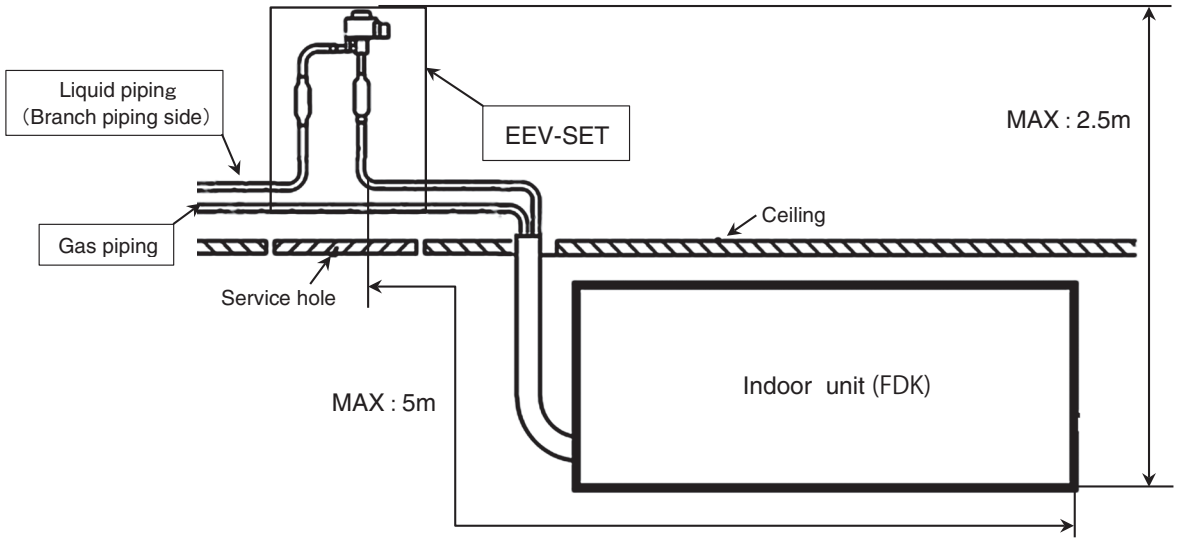
<Applicable AC unit> KX series indoor unit Type FDK15 - 90 with R32 refrigerant

1) Please check if following parts are all included in EEV-T01 (Type 15) and EEV-T02 (Type 22-71) and EEV6-71-E (Type 90).

COIL ASSY, SOLENOID	VALVE ASSY, EXPANSION
	
1 pc.	1 pc.

2) Please check if condition for installation satisfies the followings.

- Check if EEV-SET piping can be connected liquid refrigerant piping in the ceiling.
- Make the inspection port where EEV-SET can be inspected from.
- Keep 5m or less between indoor unit and EEV-SET
- Keep 2.5m height difference between indoor unit and EEV-SET.



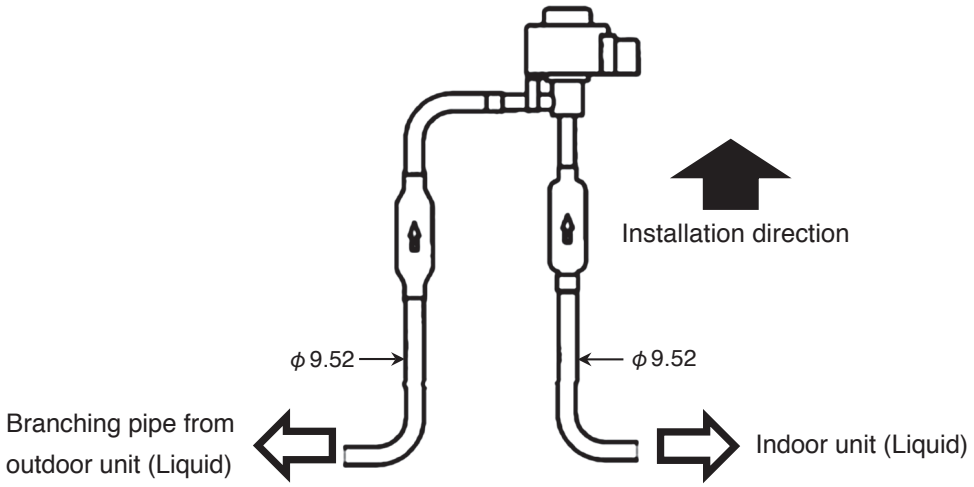
② Refrigerant pipe work

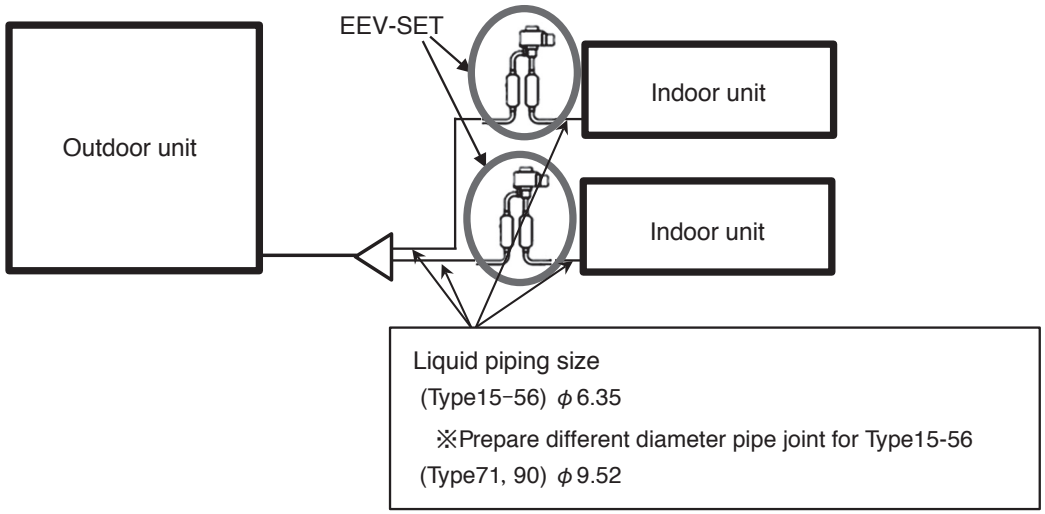
Install EEV-SET between indoor unit and branch pipe of liquid line.
In case of Indoor unit type 15 - 56, joint to connect to ϕ6.35 liquid pipe is necessary.

⚠ CAUTION

Please cool down the body part of electronic expansion valve so that the part may not be heated up to high temperature.
If the temperature in body part exceeds 120℃ or more , parts inside will be damaged.

1) Please do the brazing work without the coil of expansion valve.
2) The inclination angle in the electronic expansion valve coil must be within ±15 degrees.
   If the EEV is installed with over angle, it may cause improper refrigerant distribution.
3) The EEV and piping should be thermally insulated. Without any insulation, it may cause dew drop from the piping.
4) Please make local piping so that no tension be loaded to EEV-SET.

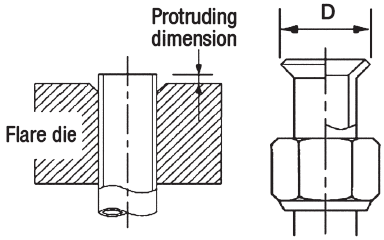




- **Use phosphorus deoxidized copper alloy seamless pipe (C1220T specified in JIS H 3300) for refrigeration pipe installation.**

  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 contaminant stuck on the pipes.

  In the case of flare connection, Please check there is no burr or scratches on the flare surface. Please check D dimension after matching.



Pipe diameter d mm	Minimum pipe wall thickness mm	Protruding dimension for flare mm		Flare O.D. D mm	Flare nut tightening torque N·m
		Rigid (Clitch type)			
		R410A	Conventional tool		
6.35	0.8	0-0.5	0.7-1.3	8.7-9.1	14-18
9.52	0.8			12.8-13.2	34-32
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

- **Please reinforce the insulation of refrigerant pipes in use under high humidity condition**

Temperature of piping between EEV-SET and indoor unit will be lower than the other liquid piping.
We highly recommend to use piping insulation with thickness of 20mm or more.

- **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 in the indoor unit securely by a spanner when tightening the nut in order to avoid unexpected stress on the copper pipe.**
- **After they are checked for a gas leak, cover the insulation and tighten both ends firmly with the band.**

⚠ CAUTION

Refrigerating 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.

③ Electrical wiring

1. The original expansion valve inside the indoor unit should be fully opened.

A) In case power source is turned off.

Turn ON the power source in indoor unit.

The expansion valve of indoor unit is fully opened automatically with original control of indoor unit.

Please go the step 2.

B) In case power source is turned ON. (Expansion valve is under operation.)

1) Turn OFF the power source of indoor unit.

2) After turn OFF of power source, please disconnect the Superlink line (AB signal line).

3) Turn ON the power source again. The expansion valve is to be fully opened in about 60 seconds.

The indoor unit opens automatically from the fully closed position to the fully open position after closing the expansion valve when the power is first turned on.

Please do not turn OFF the power source, or operate indoor unit by remote control during this 60 sec.

4) Re-connect the Superlink line (A-B signal line).

VRF INVERTER MULTI-SYSTEM AIR-CONDITIONERS

MITSUBISHI HEAVY INDUSTRIES THERMAL SYSTEMS, LTD.
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http://www.mhi-mth.co.jp/en/