

CONFIDENTIAL

e-solution version 4.0 outline



e-solution

Created by Mitsubishi Heavy Industries
Air-Conditioning Europe, Ltd.

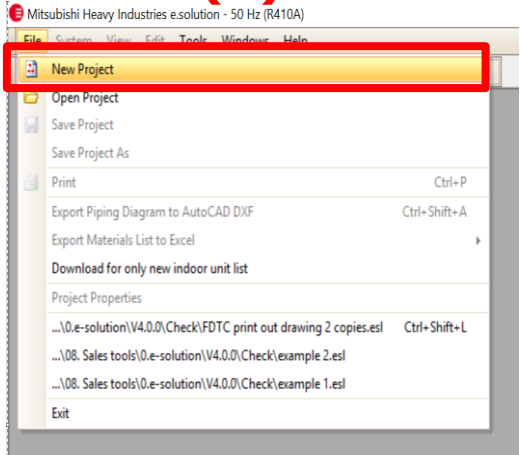


1. Update layout for R32 models selection
2. Addition of FDC-KXZEN1-W & FDC-KXZES1-W outdoor units (R32)
3. Addition of R32 indoor units
4. Addition of R32 minimum floor installation area
5. Update Logo
6. Bugs

1. Update layout for R32 models selection

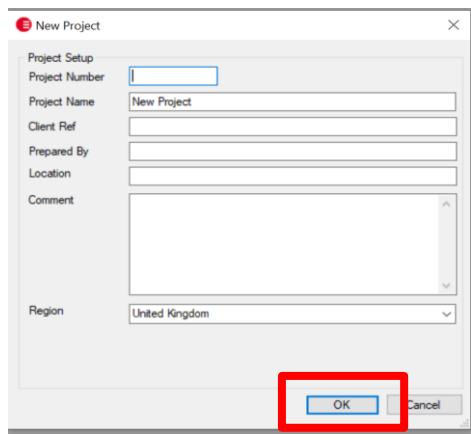
Update layout for R32 models selection

(1)



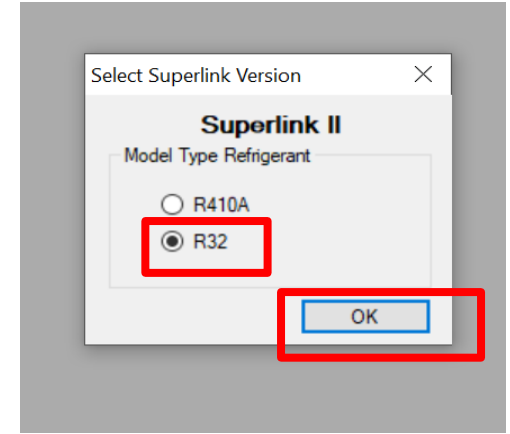
Select file/new project

(2)



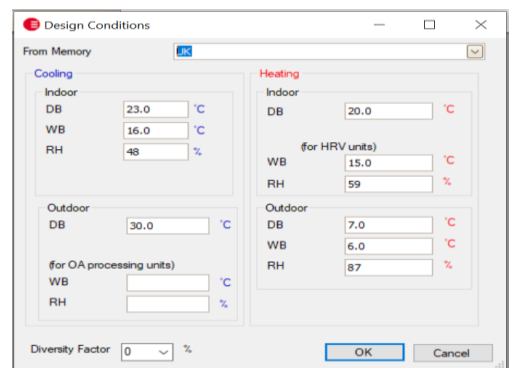
Input new project info. Click ok

(3)



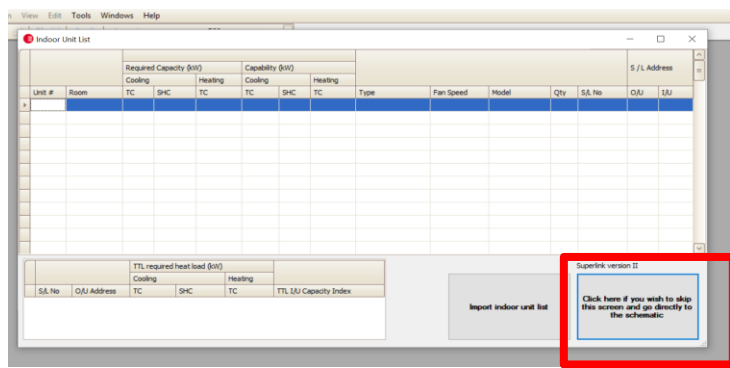
Select R32. Click ok

(4)



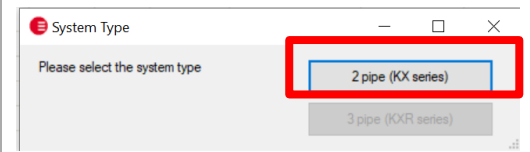
Input design condition info. Click ok

(5)



You can input IU list or click to skip to schematic

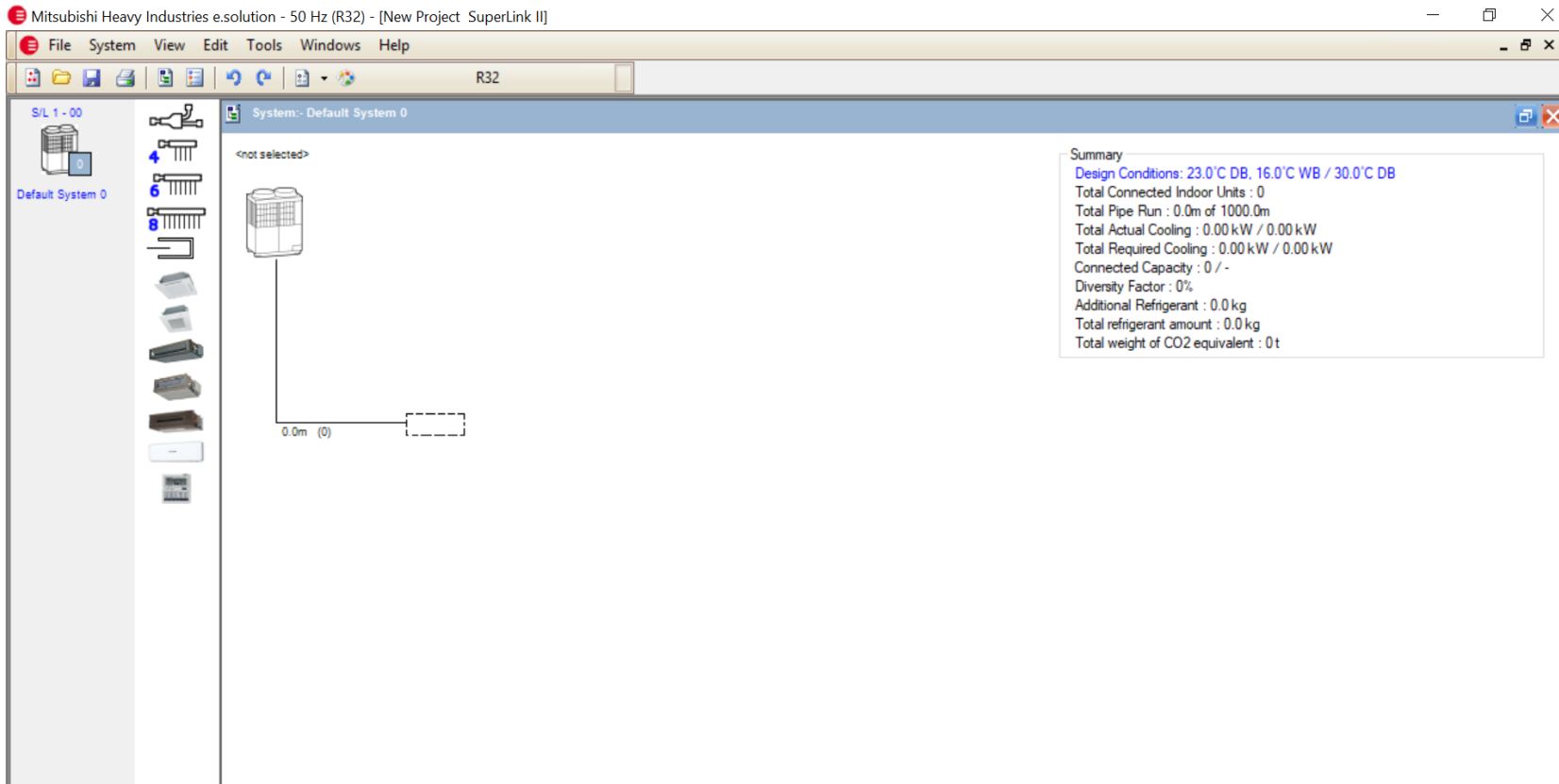
(6)



Select two pipe system

1. Update layout for R32 models selection

(7)



Schematic screen is possible to select indoor units R32 & outdoor unit R32 only.

2. Addition of FDC-KXZEN1/ES1-W

- Addition of FDC-KXZEN1-W & FDC-KXZES1-W outdoor units (R32) (for 50Hz & 60Hz version only)

Model	
FDC90KXZEN1-W	Australia Only
FDC112KXZEN1-W	Australia Only
FDC112KXZES1-W	Australia Only
FDC121KXZEN1-W	
FDC121KXZES1-W	
FDC140KXZEN1-W	
FDC140KXZES1-W	
FDC155KXZEN1-W	
FDC155KXZES1-W	

(New)

Outdoor Unit

System Name: Default System 0

System Type: 2 pipe (KX series) 3 pipe (KXR series) (1)

Model Type: KXZ - Standard (2)

Model Name: [Dropdown menu open showing list of models] (3)

Unit Information: FDC90KXZEN1-W (Australia), FDC112KXZEN1-W (Australia), FDC112KXZES1-W (Australia), FDC121KXZEN1-W, FDC121KXZES1-W, FDC140KXZEN1-W, FDC140KXZES1-W, FDC155KXZEN1-W, FDC155KXZES1-W

Nominal Capacity: FDC121KXZEN1-W

Corrected Capacity: FDC140KXZEN1-W


Max I/U number: FDC140KXZES1-W, FDC155KXZEN1-W, FDC155KXZES1-W

Address Information: S / L number: 1, O / U address: 00

2. Addition of FDC-KXZEN1/ES1-W

- Addition note to "Print out" for FDC-KXZEN1-W & FDC-KXZES1-W

(1) Show (*) Heating capacity is shown as maximum heating capacity



Project : New Project
Project Ref :

System : Default System 0
Temperature Conditions (cooling)
outdoor dry bulb 30.0°C
indoor wet bulb 16.0°C

Temperature Conditions (heating)
outdoor wet bulb 6.0°C
indoor dry bulb 20.0°C

Unit	Room	Model	Nominal Capacity (kW)			Actual Capacity (kW)			Indoor Unit Position (m)	Actual Length (m)	Piping Length (m)	Address		
			Total	Sensible	Heating	Total	Sensible	Heating				S/L	O/U	I/U
1		FDC140KXZEN1	14.00	-	16.00	11.60	-	16.04				1	00	-
2		FDT56KXZE1	5.60	4.69	6.30	4.56	4.18	6.30	Below	0.0	0.0	1	00	00
		FDT56KXZE1	5.60	4.69	6.30	4.56	4.18	6.30	Below	0.0	0.0	1	00	01
TOTAL			11.20	9.39	12.60	9.11	8.36	12.60						

(*) Heating capacity is shown as maximum heating capacity. **(1)**

(2) Show (*) Running current, Power factor, Input for outdoor units are shown when nominal capacity is achieved.

Outdoor Unit	220v	240v
Running Current (A)	19.60/18.30	17.90/16.80
Power (%)	92/91	92/91
Inrush Current (A)	5.00	
Max Current (A)	28	
Input (kW)	3.96/3.66	

Indoor Units (Cool/Heat)	220v	240v
Total Input (kW)	0.08/0.08	0.08/0.08
Total Running Current (A)	0.72/0.72	0.66/0.66

Electrical schematic diagrams are for guidance only.
 Electrical installations must comply with statutory regulations.
 (*) Running current, Power factor, Input for outdoor units are shown when nominal capacity is achieved. **(2)**

3. Addition of R32 indoor units

FDT_KXZE1-W

- (1) The following R32 indoor units been added to (for 50Hz & 60Hz version only)
- (2) FDT_KXZE1-W optional parts & Panels added.

Model
FDT28KXZE1-W
FDT36KXZE1-W
FDT45KXZE1-W
FDT56KXZE1-W
FDT71KXZE1-W
FDT90KXZE1-W
FDT112KXZE1-W
FDT140KXZE1-W
FDT160KXZE1-W

3. Addition of R32 indoor units

FDTC_KXZE1-W

- (1) The following R32 indoor units been added to (for 50Hz & 60Hz version only)
- (2) FDTC_KXZE1-W optional parts & Panels added.

Model
FDTC15KXZE1-W
FDTC22KXZE1-W
FDTC28KXZE1-W
FDTC36KXZE1-W
FDTC45KXZE1-W
FDTC56KXZE1-W

I/U Number: 1

Room Name:

Unit Information

Capacity (kW)	Cooling TC/SHC / Heating TC
Nominal Capacity	1.50 kW / 1.44 kW / 1.70 kW
Unit Capability	1.22 kW / 1.17 kW / 1.70 kW
Actual Capacity	1.22 kW / 1.17 kW / 1.70 kW

Sound Pressure Level: 33 dB

Pipe Length from Previous Component: m

Number of Bends:

Panel: Include Panel

Model:

Optional Parts:

- OA Spacer (TC-OAS-E2)
- Joint Duct (TC-OAD-E)
- Motion sensor kit (LB-TC-5W-E)
- Thermistor (SC-THB-E3)

Selected Optional Parts:

View Technical Data

3. Addition of R32 indoor units

FDK_KXZE1-W

- (1) The following R32 indoor units been added to (for 50Hz & 60Hz version only)
- (2) FDK_KXZE1-W optional parts.

Model
FDK15KXZE1-W
FDK22KXZE1-W
FDK28KXZE1-W
FDK36KXZE1-W
FDK45KXZE1-W
FDK56KXZE1-W
FDK71KXZE1-W
FDK90KXZE1-W

The screenshot shows the 'Indoor Unit Details' configuration window. Key elements include:

- I/U Number:** 1
- Room Name:** (empty text field)
- Required Capacity:**
 - Total Cooling: 0.00 kW
 - Sensible Cooling: 0.00 kW
 - Total Heating: 0.00 kW
- Unit Information:**
 - Capacity (kW): Cooling TC/SHC / Heating TC
 - Nominal Capacity: 1.50 kW / 1.21 kW / 1.70 kW
 - Unit Capability: 1.22 kW / 1.08 kW / 1.70 kW
 - Actual Capacity: 1.22 kW / 1.08 kW / 1.70 kW
 - Sound Pressure Level: 38 dB
- Model Selection (1):**
 - Model Type: Wall Mounted
 - Model Name: FDK15KXZE1-W
 - Fan Speed: Ultra High
- Optional Parts (2):**
 - Motion sensor kit (LB-KIT2)
 - Thermistor (SC-THB-E3)
- Other Settings:**
 - Pipe Length from Previous Component: 0.0 m
 - Number of Bends: 0
 - Indoor Unit Position: Below O/U (0.0 m)
 - Address Information: S / L number: 1, O / U address: 0, I/U address: 0
 - Master/Slave Setting for I/U: Activate setting for Master/Slave, MASTER I/U, Master I/U address/Slave: (empty)

3. Addition of R32 indoor units

R32 Ducted Units

- (1) The following R32 indoor units been added to (for 50Hz & 60Hz version only) FDU_KXE6F-W, FDUM_KXE6F-W & FDUT15KXE6F-W
- (2) With optional parts.

Model
FDU45KXE6F-W
FDU56KXE6F-W
FDU71KXE6F-W
FDU90KXE6F-W
FDU112KXE6F-W
FDU140KXE6F-W
FDU160KXE6F-W

Optional Parts
<ul style="list-style-type: none"> Motion sensor kit (LB-KIT2) Thermistor (SC-THB-E3)

(2)

Model
FDUM22KXE6F-W
FDUM28KXE6F-W
FDUM36KXE6F-W
FDUM45KXE6F-W
FDUM56KXE6F-W
FDUM71KXE6F-W
FDUM90KXE6F-W
FDUM112KXE6F-W
FDUM140KXE6F-W
FDUM160KXE6F-W

Optional Parts
<ul style="list-style-type: none"> Filter Kit (UM-FL1EF) Motion sensor kit (LB-KIT2) Thermistor (SC-THB-E3)

(2)

Model
FDUT15KXE6F-W
FDUT22KXE6F-W
FDUT28KXE6F-W
FDUT36KXE6F-W
FDUT45KXE6F-W
FDUT56KXE6F-W
FDUT71KXE6F-W

Optional Parts
<ul style="list-style-type: none"> Outlet Duct Plate (UT-SAT1EF) Thermistor (SC-THB-E3) Filter Kit (UT-FL1EF)

4. Addition of R32 minimum installation area

- For Europe only, when a flammable refrigerant is used in a refrigerating system, safety checks and a proper risk assessment should be performed to minimise any risk of ignition. Depending on the total refrigerant charge of the refrigerating system, indoor unit(s) must comply with minimum installation floor area requirements. The following standards are used to calculate the minimum installation floor area for MHI refrigerating systems:
 - The specific product family standard **IEC 60335-2-40 Ed 6.0** is applied for **flammability** assessment
 - The horizontal and generic standard **EN 378-1:2016** is applied for **toxicity** assessment
- In addition, to further reduce the minimum installation floor area, the following appropriate safety measures can be used, in conjunction with a refrigerant detection system:
 - Ventilation (natural or mechanical)
 - Safety shut-off valves
 - Safety alarm

Notes:

(1) Minimum installation floor areas are calculated based on the following conditions:

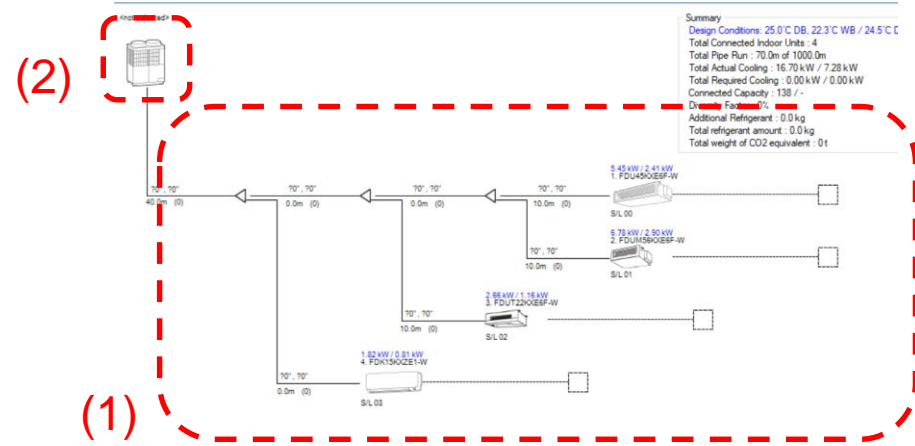
- room height = 2.2 m
- wall mounted installed height = 1.8 m
- ceiling mounted (ducted/cassette) installed height = 2.2 m

(2) If there are 2 different model types in the same room, consider the lowest installed height in the calculation.

(3) Minimum installation areas are calculated for reference only and without guarantee of accuracy.

4. Addition of R32 minimum installation area

- (1) Select indoor units, input piping, etc.
- (2) Click on outdoor unit and select a model
- (3) Minimum installation floor area information is displayed and lowest underground floor option can be selected.



Outdoor Unit

System Name: Default System 0

System Type: 2 pipe (KX series) 3 pipe (KXR series)

Model Type: KXZ - Standard

Model Name: FDC140KXZES1-W

Unit Information

	Cooling	/	Heating
Nominal Capacity	14.00 kW	/	16.00 kW
Corrected Capacity	15.40 kW	/	11.84 kW
Max I/U number	10		

Address Information

S / L number: 1

O / U address: 00

(3)

For Europe only, the minimum installation floor area for indoor spaces is calculated according to the following standards:
 - IEC 60335-2-40, Ed 5.0 is applied for flammability assessment
 - EN 378-1:2016 is applied for toxicity assessment
 Values are calculated for reference only and without guarantee of accuracy.

Spaces except lowest underground floor of the building
 Lowest underground floor of the building

Minimum Installation Floor Area, m ²				
Safety measure		0	1	2
Model Type				
Wall Mounted		31.8	17.2	8.8
Cassette and Ducted		21.3	17.2	8.8

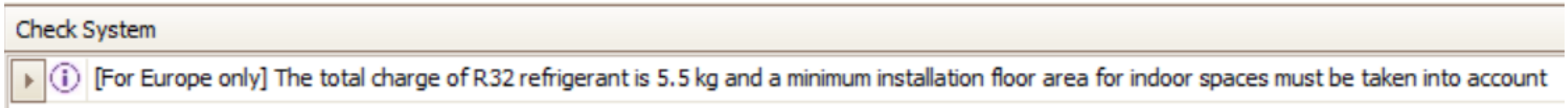
View Technical Data OK Cancel

Note:

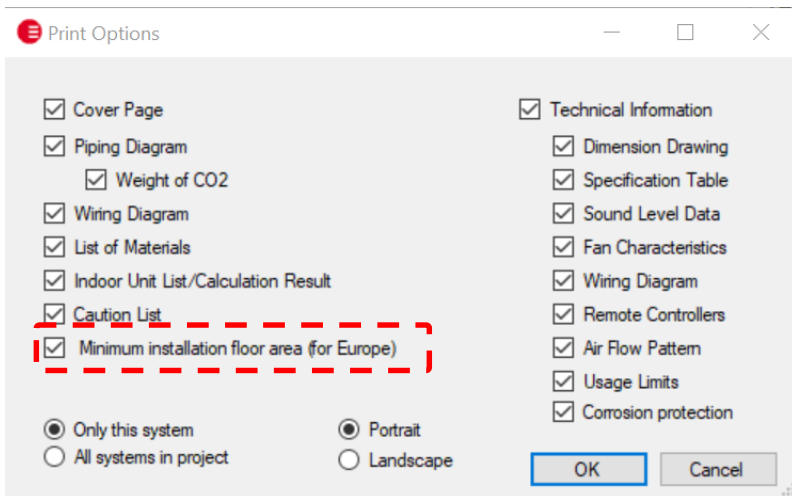
For the same model type, it may happen that value of minimum installation floor area is the same between 0 and 1 safety measure. In this case, we recommend to consider the case with 0 safety measure.

4. Addition of R32 minimum installation area

(1) When checking the system, a caution shows that a minimum floor area has been taken into account (for Europe only)



(2) Print out: minimum installation floor area information is selected as default and can be unticked to not be displayed.



Created by Mitsubishi Heavy Industries Air-Conditioning Europe, Ltd.

Project : Nouveau Projet
 Project Ref :
 System : Installation par défaut 0

Minimum installation floor area (for Europe)

For Europe only, when a flammable refrigerant is used in a refrigerating system, safety checks and a proper risk assessment should be performed to minimise any risk of ignition. Depending on the total refrigerant charge of the refrigerating system, indoor unit(s) must comply with minimum installation floor area requirements. The following standards are used to calculate the minimum installation floor area for MHI refrigerating systems:

- The specific product family standard IEC 60335-2-40 Ed 6.0 is applied for flammability assessment
- The horizontal and generic standard EN 378-1:2016 is applied for toxicity assessment

In addition, to further reduce the minimum installation floor area, the following appropriate safety measures can be used, in conjunction with a refrigerant detection system:

- Ventilation (natural or mechanical)
- Safety shut-off valves
- Safety alarm

The minimum installation floor areas for a total R32 charge of 5.5 kg and for Spaces except lowest underground floor of the building are shown in the table below:

Model Type	Minimum Installation Floor Area, m ²		
	Safety measure 0	1	2
Wall Mounted	-	-	-
Cassette and Ducted	19.2	16.3	8.3

Notes:

- (1) Minimum installation floor areas are calculated based on the following conditions:
 - room height = 2.2 m
 - wall mounted installed height = 1.8 m
 - ceiling mounted (ducted/cassette) installed height = 2.2 m
- (2) If there are 2 different model types in the same room, consider the lowest installed height in the calculation.
- (3) Minimum installation areas are calculated for reference only and without guarantee of accuracy.

5. Update Logo

Logo update

(1) Additional text to Logo (when e-solution start)



(2) Additional text to Logo (In print out)



6. Bugs

1. (Fixed) Design conditions cannot be saved.
2. (Fixed) In case of multi OU, La and Lb are reversed between canvas, OU window and print out.
3. (Fixed) FDC280KXZXE1 dimension technical file.
4. (Fixed) FDC1000KXZE1, FDC1000KXZXE1, FDCB1000KXZE1 (non European) gas pipe size.

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