MITSUBISHI HEAVY INDUSTRIES, LTD.

Our Technologies, Your Tomorrow

2011 Eco·lution

High Performance Air-Conditioning

Tropical Usage Model

HyperMulti KX

VRF inverter multi-system Air-Conditioners

CE

50Hz

11KX03E-A-0

Japanese highly advanced technologies bring the most comfortable atmosphere. Tropical usage models has employed the same sophisticated control system which has been used in Japan and Europe markets for a long time.

Product Line Up CE

<Outdoor units>

	Single use (1 Outdoor unit)		Cambination use (2 Outdoor units)	
Capacity	10HP	16HP	20HP	32HP
Model Index : kW	28.0	45.0	56.0	90.0
BTU / h	95,500	153,600	191,100	307,100
kcal / h	24,080	38,700	48,160	77,400

NEW

KX6

10HP	16HP
FDCB280KXE6A	FDCB450KXE6

NEW

KX6

20HP	32HP
FDCB560KXE6	FDCB900KXE6
10+10	16+16
FDCB280KXE6A FDCB280KXE6A	FDCB450KXE6 FDCB450KXE6

Contents

<Indoor units>

Wide variety of 16 types 78 models

A range of 16 types of exposed or concealed indoor units, in wide capacities, 78 indoor models. The best selection of indoor units for many kinds of rooms and preference can be available from our full lineup.

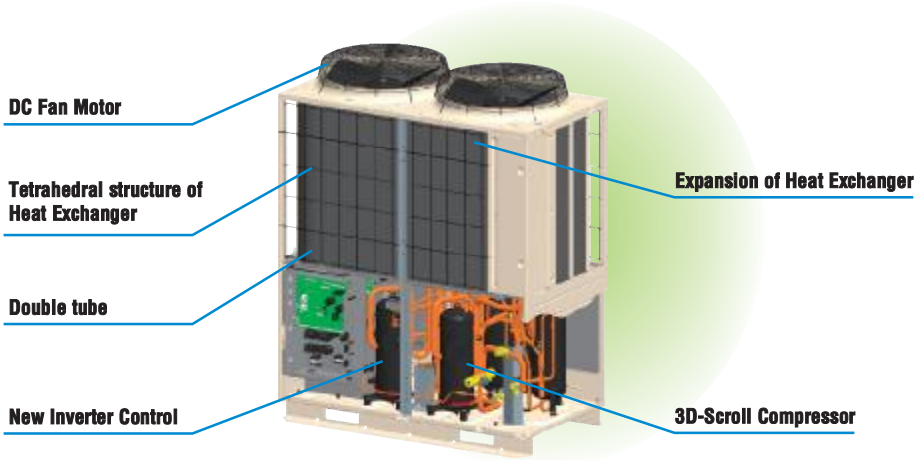
Indoor units lineup 16 types 78 models

Type			Capacity	0.8HP	1HP	1.25HP	1.6HP	2HP	2.5HP	3.2HP	4HP	5HP	6HP	8HP	10HP
			Model Index : kW	22	28	36	45	56	71	90	112	140	160	224	280
Ceiling Cassette	4way	FDT			●	●	●	●	●	●	●	●	●		
	4way Compact (600 x 600)	FDTC		●	●	●	●	●							
	2way	FDTW			●		●	●	●	●	●	●			
	1way Compact	FDTQ		●	●	●									
	1way	FDTS					●		●						
Duct Connected	High Static Pressure	FDU							●	●	●	●		●	●
	Low/Middle Static Pressure	FDUM		●	●	●	●	●	●	●	●	●			
	Low Static Pressure (thin)	FDUT		●	●	●	●	●							
	Compact & Flexible	FDUH		●	●	●									
Wall Mounted		FDK		●	●	●	●	●	●						
Ceiling Suspended		FDE				●	●	●	●		●	●			
Floor Standing	2way	FDFW			●		●	●							
	with casing	FDFL							●						
	without casing	FDFU			●		●	●	●						
OA Processing unit		FDU-F								●		●		●	●

Type		Air flow M³/h	250	350	500	800	1000
Fresh Air Ventilation and Heat Exchange unit	SAF		●	●	●	●	●

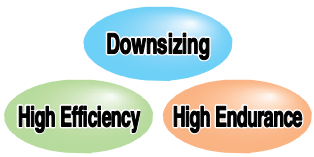
1. High Efficiency & Compact Design

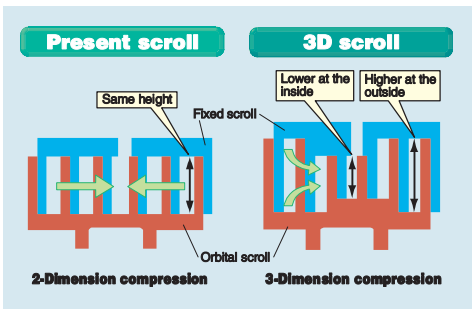
High efficiency and compact design are realized applying the various advanced functions



3D Scroll Compressor

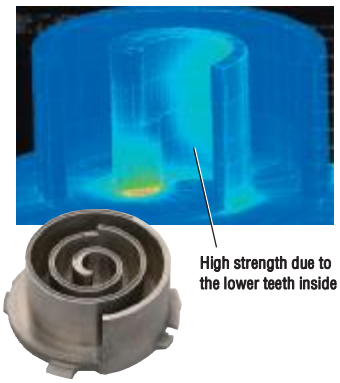
Unit start up speed in heating mode drastically improved for lower outdoor temperature operation.





3D scroll compressor has the different height scroll at the outside and the inside.

A high compression ratio is improved by compressing the refrigerant both radially and axially.
3-Dimension Compression has been realized with a much higher efficiency even if compression ratio is high.



The strength of the scroll is improved by reducing the height of the inner wrap, which receives a heavy load.

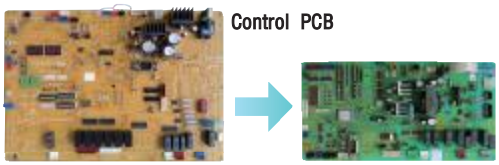
New Inverter Control (Vector control)

New Inverter Control has applied new advanced technology of Vector control and has realized high efficiency.

- Smooth operation from low speed to high speed
- Smooth Sine Voltage Wave form are attained
- Energy efficiency is further improved in low speed range

Compact Integrated PCB

- Control Box size reduction
- PCB size reduced by 50 %
  Control PCB: Single-sided board ➡ Double-sided board
  Inverter PCB: Power transistor size reduction
- New Superlink system control
- New Design method applied



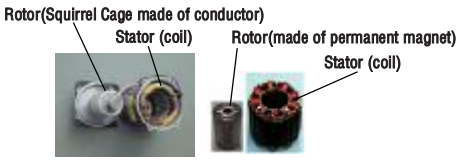
Optimum Refrigerant System Control

We have improved refrigeration circuit from our long experience and have realized following Optimum Refrigerant System Control.

- Optimum heat exchanger refrigerant distribution
- Advanced refrigerant liquid return protection control system
- High speed system control by new Superlink system
- Use of larger diameter for suction piping and discharge piping and redesigned of double tube

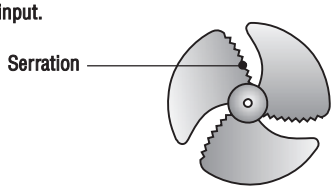
DC Fan Motor

Employment of DC fan motor has enabled to realize an excellent efficiency of approximate 60% higher than previous models.



Long-chorded 3 propeller fan with serration

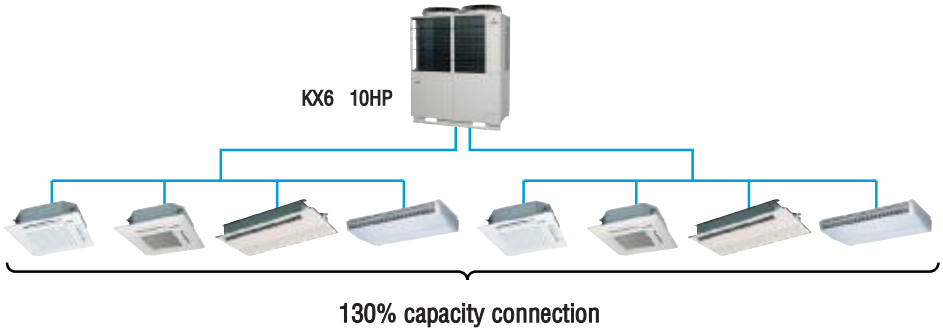
Fan blade design adapted from MHI's aerospace division - with serrated edges that deliver increased air volume with less power input.



2. Design Flexibility

Increased indoor unit connection capacity

KX6 series can connect indoor unit capacity up to 130%.
If the connection capacity of indoor units is more than 100%, capacity of each indoor unit may be affected by connection capacity ratio.



Control Systems

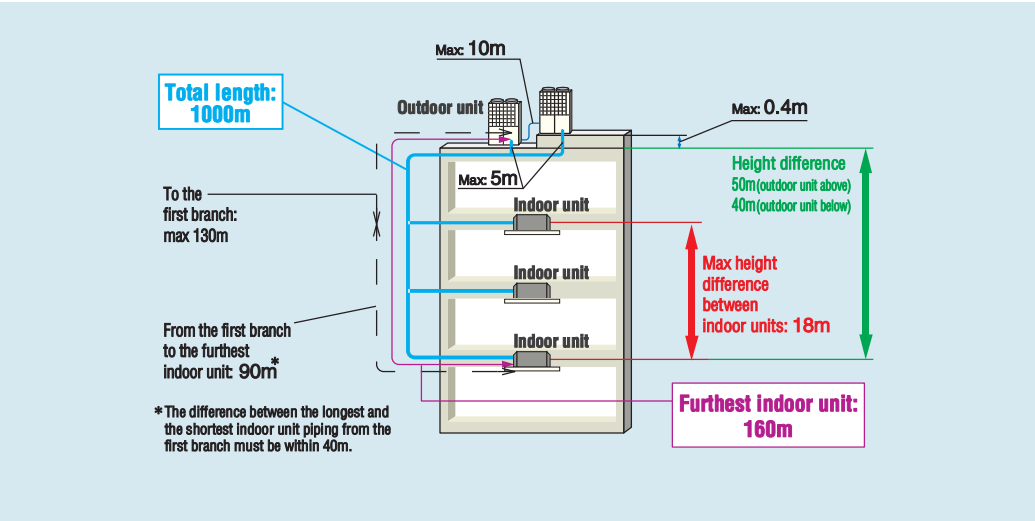
KX6 series offer wide variation of control system and provide the best solution.

[KX6 Control system units with "New" SUPERLINK-Ⅱ]

Classification	Type		Model	Connectable indoor units (Maximum)	Electric power calculation
Individual controller	Wired		RC-E4	1	—
	Wireless		RCN-T-36W-E etc.	1	—
Center Console	Push buttons		SC-SL1N-E	16	—
			SC-SL2NA-E	64	—
	Touch screen		SC-SL3NA-AE	128	—
			SC-SL3NA-BE	128	●
	PC windows interface units		SC-WGWNA-A	128(64x2)	—
			SC-WGWNA-B	128(64x2)	●
	BMS interface units	BACnet	SC-BGWNA-A	128(64x2)	—
			SC-BGWNA-B	128(64x2)	●
		Lonworks	SC-LGWNA-A	96(48x2)	—

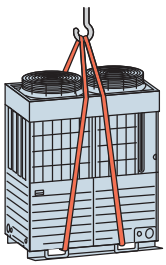
Long Pipe Length

Piping length has extended max height difference between indoor units to 18m and enables us to put indoor unit on extra three floors. As a result of the adoption of thinner refrigerant piping and refrigerant volume reductions, the industry's longest 160 m actual piping length or 1000m total piping length is realized.



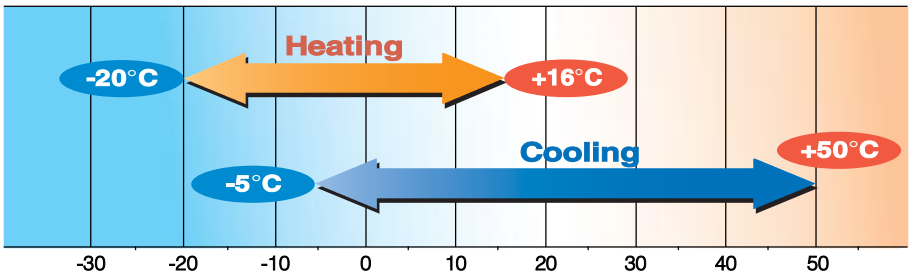
Easy Transportation & Installation

KX6 is portable and the uniform reduced footprint allows neat, continuous installation.



Wide Range of Operation

KX6 series permits a system design considering a cooling range operation under a high temperature condition up to 50°C.



New remote control for all indoor units

Applying nonpolar 2-core in new remote control line, it is very convenient for installation.

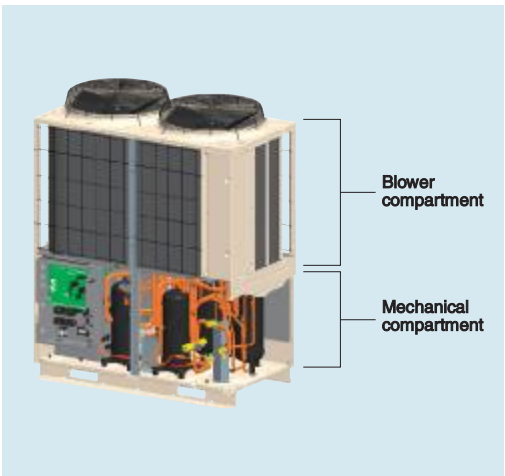
Max length of electrical wiring

The wiring must be a 2-core shielded cable size 0.75mm² to 1.25mm².
The max length of 2-core can be 1500m.

3. Serviceability

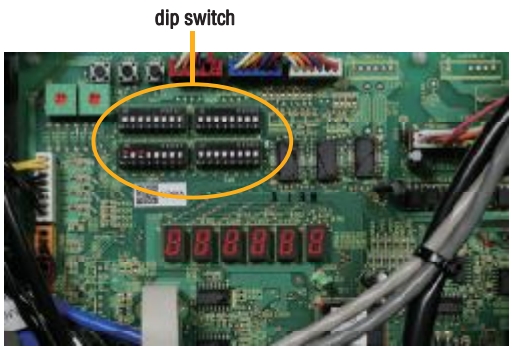
Easy Service

Quick and easy access to service parts by separation of compartments.



Check Operation

Closing of Service valve, crossing connection of refrigerant piping and electrical wiring, proper operation of EEV (Electrical Expansion Valve) can be checked automatically in cooling operation. This check operation can be done at 0~43°C outdoor temperature and 10~32°C indoor temperature by use of outdoor unit dip switch. The check should be done in one refrigerant system. It takes 15~30 minutes and avoids frequent failure by preventing careless mistakes during installation.

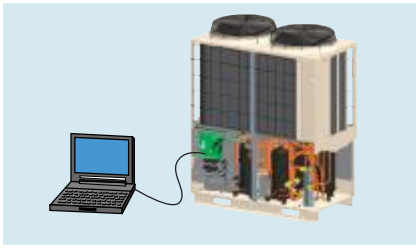


Monitoring Function

KX6 series includes new feature to assist with servicing and trouble shooting.
Various data can be monitored through 3-digit or 6-digit display on the outdoor unit PCB.

Detailed fault diagnosis and operation history memory via 7-segment display.

Equipped with RS232C for connection directly to your PC monitoring and service tasks made simple with our service software ("Mente PC").

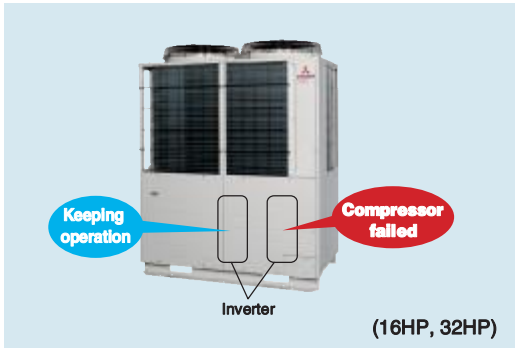


3 Layer Construction

Thanks to improvement of control box structure from 4 to 3 layer construction and by use of hinged lays, service and maintenance has been made much easier for inverter components.

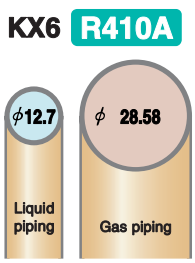
Back-up Operation

In, 2-compressor module, in the event of the compressor failure, the system will keep operating with good compressor. In combined module, in the event that one unit has a failure, the system will keep operating with another unit.



Reduced Refrigerant Volume

To use the new refrigerant R410A, KX6 series have adopted thinner diameter refrigerant pipes, which will help reduce piping work cost.



ex.10HP,16HP

Outdoor unit

HP	KX6	
	Liquid piping	Gas piping
10	ø9.52	ø22.22
16	ø12.7	ø28.58
20		
32	ø15.88	ø31.8

mm	ø9.52	ø12.7	ø15.88	ø19.05	ø22.22	ø25.4	ø28.58	ø31.8	ø34.92	ø38.1	ø44.5	ø50.8
inch	3/8"	1/2"	5/8"	3/4"	7/8"	1"	1 1/8"	1 1/4"	1 3/8"	1 1/2"	1 3/4"	2"

Blue Fin

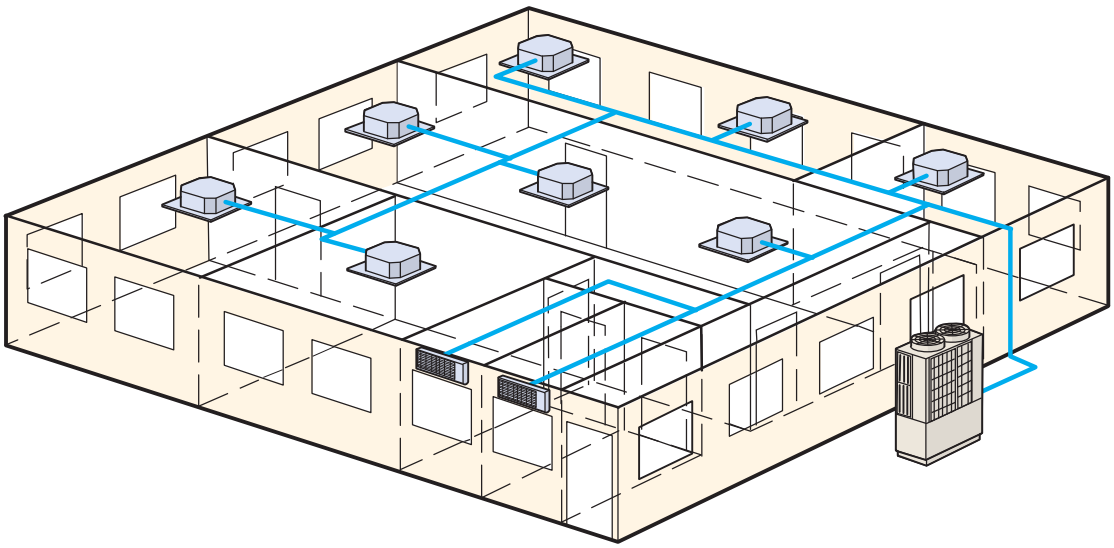
Due to application of blue coated fins for the heat exchanger of new outdoor unit, corrosion resistance has been improved compared to current models.

KX6 heat pump systems

KX6 heat pump systems operate with 2 inter-connecting pipes, thus commonly referred to as a '2-pipe system'.

These systems provide either a cooling or heating operation to all indoor units and are suitable for a wide range of applications from an individual apartment to an entire multi storey building, especially where there are significant open plan areas to be controlled.

The KX6 range has a total piping length of 1000m and the furthest indoor unit can be connected up to 160m from the outdoor unit.



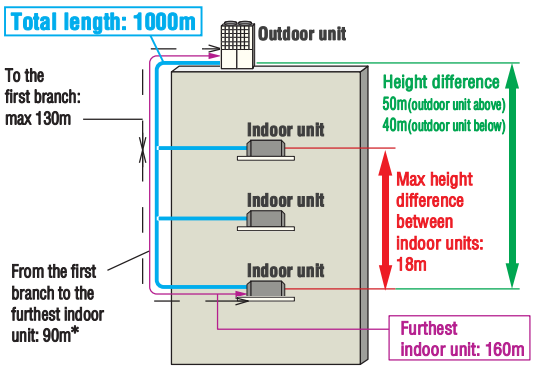
Fixed Cooling mode/fixed heating mode (summer/winter switch):
It is possible to fix the operational mode of the system (either cooling or heating) using a switch (SW3-7) on the outdoor unit PC board - this enables the building user to decide the operation of the system (e.g. cooling only in summer/heating only in winter), to avoid unnecessary energy wastage. It is also possible to wire the control switch to a remote location (inside the building) to a control room, or even linked to an ambient thermostat.

KX6 Outdoor units CE
Heat pump systems 10hp (28.0kW)

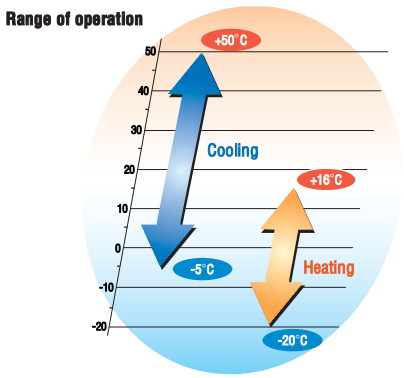
- The KX6 heat pump 2-pipe systems offer high performance VRF for applications that require either cooling only or heating only, ideal for open plan areas.
- Connect up to 16 indoor units/up to 130% capacity.
- KX6 employs DC inverter compressors ONLY.
- Industry leading total piping length up to 1000m and a maximum pipe run of 160m.

FDCB280KXE6A

Uniform footprint of models allows continuous side-by-side installation



* The difference between the longest and the shortest indoor unit piping from the first branch must be within 40m.



Specifications

Item				Model	FDCB280KXE6A
Nominal horse power					10HP
Power source					3 phase 380-415V, 50Hz
ISO-T1	Nominal capacity	Cooling		kW	28.0
		Heating			31.5
	Electric characteristics	Starting current		A	5
		Power consumption	Cooling	kW	8.46
			Heating		8.46
		Running current	Cooling	A	13.5-12.3
			Heating		13.4-12.3
ISO-T3	Nominal capacity	Cooling		kW	24.5
	Electric characteristics	Power consumption	Cooling	kW	11.7
		Running current	Cooling	A	19.3-17.4
Exterior dimensions		HxWxD		mm	1690x1350x720
Net weight				kg	250
Refrigeration charge		R410A		kg	11.4
Sound pressure level		Cooling/Heating		dB(A)	60/60
Refrigerant piping size		Liquid line		mm(in)	9.52(3/8")
		Gas line			22.22(7/8")
Capacity connection				%	60-130
Number of connectable indoor units					1~16

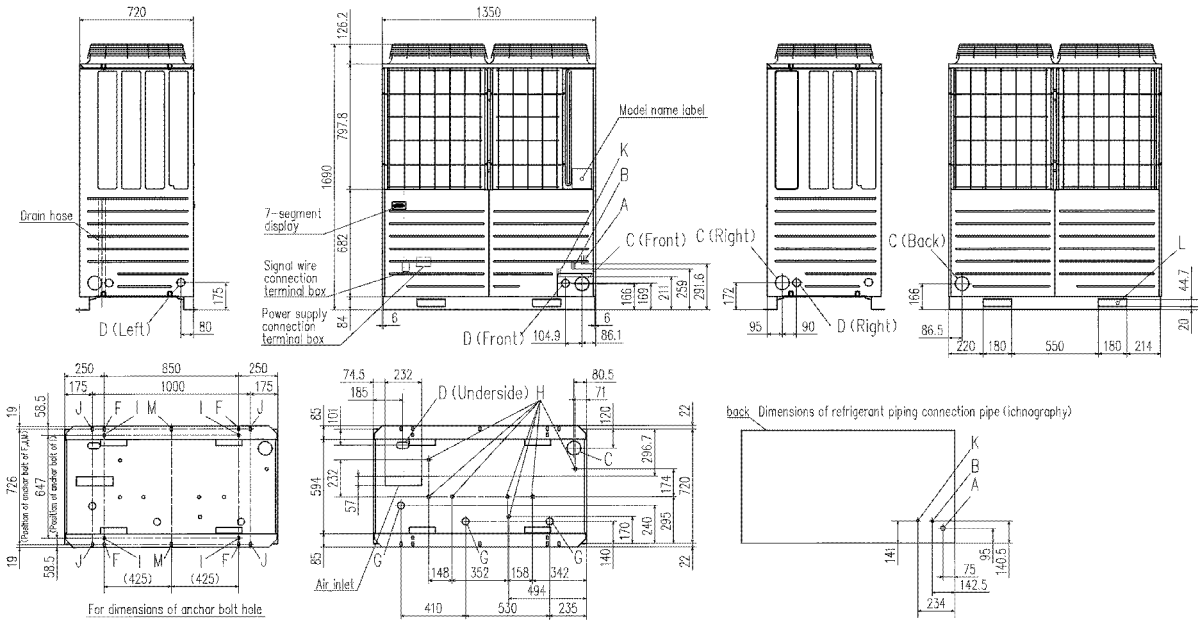
(1) The operation datas are measured under the following conditions.

Item / Standard		Indoor air temperature		Outdoor air temperature	
		DB	WB	DB	WB
Cooling	ISO-T1	27°C	19°C	35°C	24°C
	ISO-T3	29°C	19°C	46°C	24°C
Heating	ISO-T1/T3	20°C	-	7°C	6°C

(2) Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.

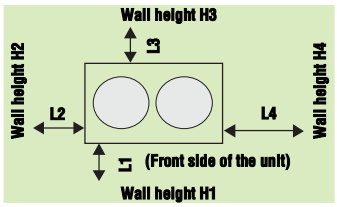
Dimensions

All measurements in mm.



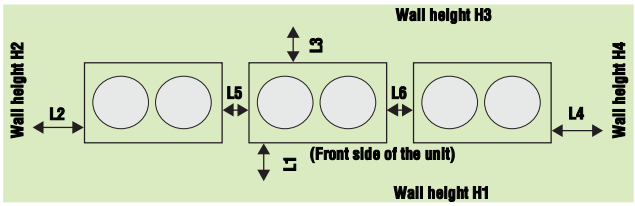
Mark	Content	
A	Refrigerant gas piping connection pipe	ø22.22(Brazing)
B	Refrigerant liquid piping connection pipe	ø9.52(Flare)
C	Refrigerant piping exit hole	ø88(or ø100)
D	Power supply entry hole	ø50(right·left·front),long hole 40 x 80(under side)
F	Anchor bolt hole	M10 x 4 places
G	Drain waste water hose hole	ø45 x 3 places
H	Drain hole	ø20 x 7 places
K	Refrigerant oil equalization connection pipe	ø9.52(Flare)
L	Carrying in or hole for hanging	180 x 44.7

① When one unit is installed



Installation example			
Dimensions	1	2	3
L_1	500	500	Open
L_2	10	50	10
L_3	100	50	100
L_4	10	50	Open
H_1	1500	1500	Open
H_2	No limited	No limited	No limited
H_3	1000	1000	No limited
H_4	No limited	No limited	Open

② When more than one unit are installed



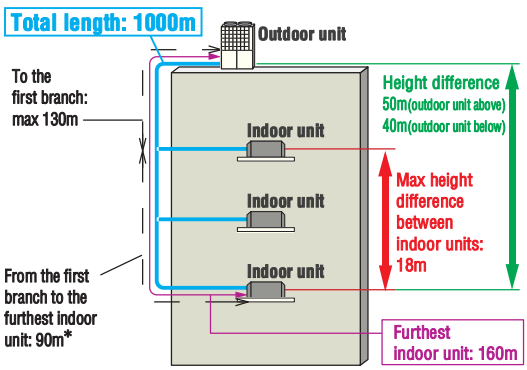
Installation example		
Dimensions	1	2
L_1	500	Open
L_2	10	200
L_3	100	300
L_4	10	Open
L_5	10 (0)	400
L_6	10 (0)	400
H_1	1500	Open
H_2	No limited	No limited
H_3	1000	No limited
H_4	No limited	Open

KX6 Outdoor units CE
Heat pump systems 16hp (45.0kW)

- The KX6 heat pump 2-pipe systems offer high performance VRF for applications that require either cooling only or heating only, ideal for open plan areas.
- Connect up to 26 indoor units/up to 130% capacity.
- KX6 employs DC inverter compressors ONLY.
- Industry leading total piping length up to 1000m and a maximum pipe run of 160m.

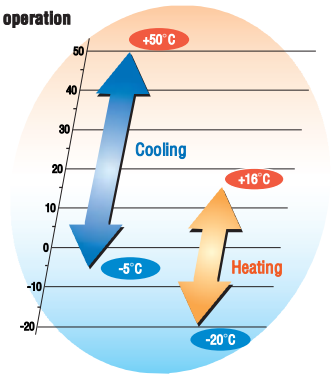
FDCB450KXE6

Uniform footprint of all models allows continuous side-by-side installation



*The difference between the longest and the shortest indoor unit piping from the first branch must be within 40m.

Range of operation



Specifications

Item				Model	FDCB450KXE6
Nominal horse power					16HP
Power source					3 phase 380-415V, 50Hz
ISO-T1	Nominal capacity	Cooling		kW	45.0
		Heating			50.0
	Electric characteristics	Starting current		A	8
		Power consumption	Cooling	kW	12.97
			Heating		13.10
		Running current	Cooling	A	21.1-19.3
			Heating		21.7-19.9
ISO-T3	Nominal capacity	Cooling		kW	41.5
	Electric characteristics	Power consumption	Cooling	kW	19.48
		Running current	Cooling	A	31.8-29.1
Exterior dimensions		HxWxD		mm	2048x1350x720
Net weight				kg	355
Refrigerant charge		R410A		kg	11.5
Sound pressure level		Cooling/Heating		dB(A)	65/65
Refrigerant piping size		Liquid line		mm(in)	12.7(1/2")
		Gas line			28.58(1 1/8")
Capacity connection				%	76-130
Number of connectable indoor units					2~26

(1) The operation datas are measured under the following conditions.

Item / Standard		Indoor air temperature		Outdoor air temperature	
		DB	WB	DB	WB
Cooling	ISO-T1	27°C	19°C	35°C	24°C
	ISO-T3	29°C	19°C	46°C	24°C
Heating	ISO-T1/T3	20°C	-	7°C	6°C

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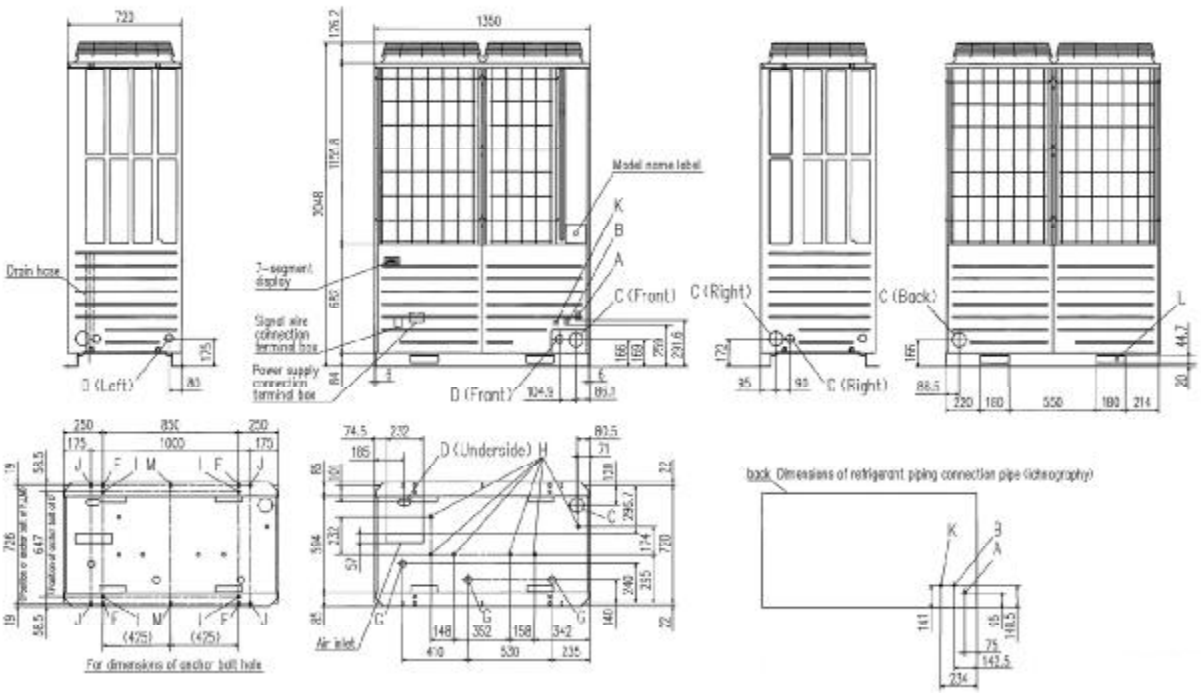
Dimensions

All measurements in mm.



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A	Refrigerant gas piping connection pipe	ø28.58(Brazing)
B	Refrigerant liquid piping connection pipe	ø12.7(Flare)
C	Refrigerant piping exit hole	ø88(or ø100)
D	Power supply entry hole	ø50(right·left·front),long hole 40 x 80(under side)
F	Anchor bolt hole	M10 x 4 places
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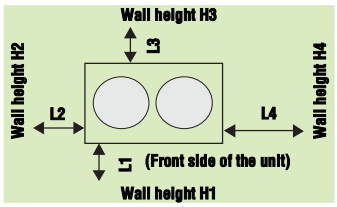

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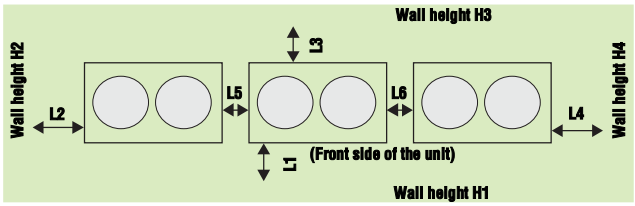
L_3	100	50	100
L_4	10	50	Open
H_1	1500	1500	Open
H_2	No limited	No limited	No limited
H_3	1000	1000	No limited
H_4	No limited	No limited	Open

② When more than one unit are installed

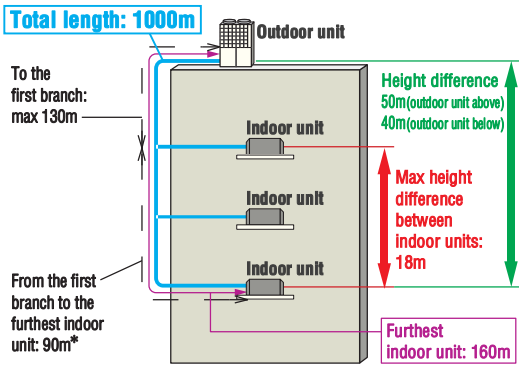


Installation example		
Dimensions	1	2
L_1	500	Open
L_2	10	200
L_3	100	300
L_4	10	Open
L_5	10 (0)	400
L_6	10 (0)	400
H_1	1500	Open
H_2	No limited	No limited
H_3	1000	No limited
H_4	No limited	Open

KX6 Outdoor units CE
Heat pump combination systems 20hp (56.0kW)

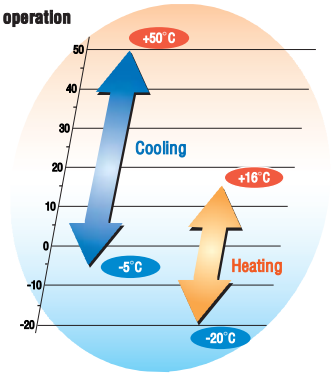
- The KX6 heat pump 2-pipe systems offer high performance VRF for applications that require either cooling only or heating only, ideal for open plan areas.
- Connect up to 33 indoor units/up to 130% capacity.
- KX6 employs DC inverter compressors ONLY.
- Industry leading total piping length up to 1000m and a maximum pipe run of 160m.

FDCB560KXE6



* The difference between the longest and the shortest indoor unit piping from the first branch must be within 40m.

Range of operation



Specifications

Item				Model	FDCB560KXE6
Combination(FDCB)					280KXE6A
					280KXE6A
Nominal horse power					20HP
Power source					3 phase 380-415V, 50Hz
ISO-T1	Nominal capacity	Cooling		kW	56.0
		Heating			63.0
	Electric characteristics	Starting current		A	8
		Power consumption	Cooling	kW	16.92
			Heating		16.92
		Running current	Cooling	A	27.0-24.6
			Heating		26.8-24.6
ISO-T3	Nominal capacity	Cooling		kW	49.0
	Electric characteristics	Power consumption	Cooling	kW	23.4
		Running current	Cooling	A	38.6-34.8
Exterior dimensions		HxWxD		mm	2048x2700x720
Net weight				kg	250x2
Refrigerant charge		R410A		kg	11.5x2
Refrigerant piping size		Liquid line		mm(in)	ø12.7(1/2")
		Gas line			ø28.58(1 1/8")
Capacity connection				%	60-130
Number of connectable indoor units					2~33

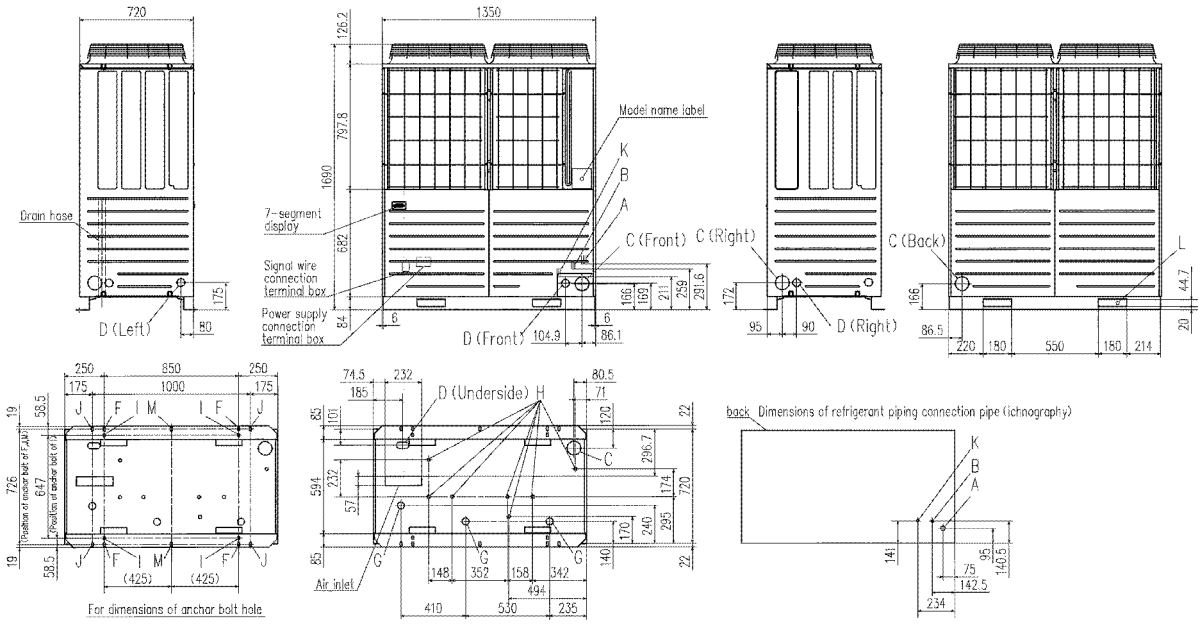
(1) The operation datas are measured under the following conditions.

Item / Standard		Indoor air temperature		Outdoor air temperature	
		DB	WB	DB	WB
Cooling	ISO-T1	27°C	19°C	35°C	24°C
	ISO-T3	29°C	19°C	46°C	24°C
Heating	ISO-T1/T3	20°C	-	7°C	6°C

(2) Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.

Dimensions

All measurements in mm.



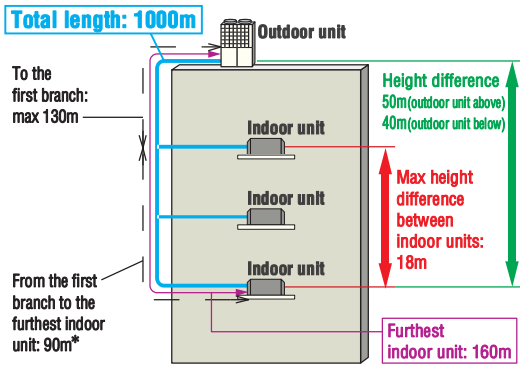
Mark	Content	
A	Refrigerant gas piping connection pipe	ø28.58(Brazing)
B	Refrigerant liquid piping connection pipe	ø12.7(Flare)
C	Refrigerant piping exit hole	ø88(or ø100)
D	Power supply entry hole	ø50(right·left·front),long hole 40 x 80(under side)
F	Anchor bolt hole	M10 x 4 places
G	Drain waste water hose hole	ø45 x 3 places
H	Drain hole	ø20 x 7 places
K	Refrigerant oil equalization connection pipe	ø9.52(Flare)
L	Carrying in or hole for hanging	180 x 44.7

KX6 Outdoor units CE
Heat pump combination systems 32hp (90.0kW)

- The KX6 heat pump 2-pipe systems offer high performance VRF for applications that require either cooling only or heating only, ideal for open plan areas.
- Connect up to 53 indoor units/up to 130% capacity.
- KX6 employs DC inverter compressors ONLY.
- Industry leading total piping length up to 1000m and a maximum pipe run of 160m.

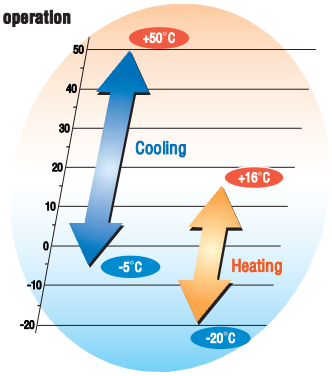
Blue Fin NEW

FDCB900KXE6



* The difference between the longest and the shortest indoor unit piping from the first branch must be within 40m.

Range of operation



Specifications

Item				Model	FDCB900KXE6
Combination(FDCB)					450KXE6
					450KXE6
Nominal horse power					32HP
Power source					3 phase 380-415V, 50Hz
ISO-T1	Nominal capacity	Cooling		kW	90.0
		Heating			100.0
	Electric characteristics	Starting current		A	8
		Power consumption	Cooling	kW	25.94
			Heating		26.20
		Running current	Cooling	A	42.2-38.6
			Heating		43.4-39.8
ISO-T3	Nominal capacity	Cooling		kW	83.0
	Electric characteristics	Power consumption	Cooling	kW	38.96
		Running current	Cooling	A	63.6-58.2
Exterior dimensions		HxWxD		mm	2048x2700x720
Net weight				kg	355x2
Refrigerant charge		R410A		kg	11.5x2
Refrigerant piping size		Liquid line		mm(in)	ø15.88(5/8")
		Gas line			ø31.8(1 1/4")
Capacity connection				%	76-130
Number of connectable indoor units					3~53

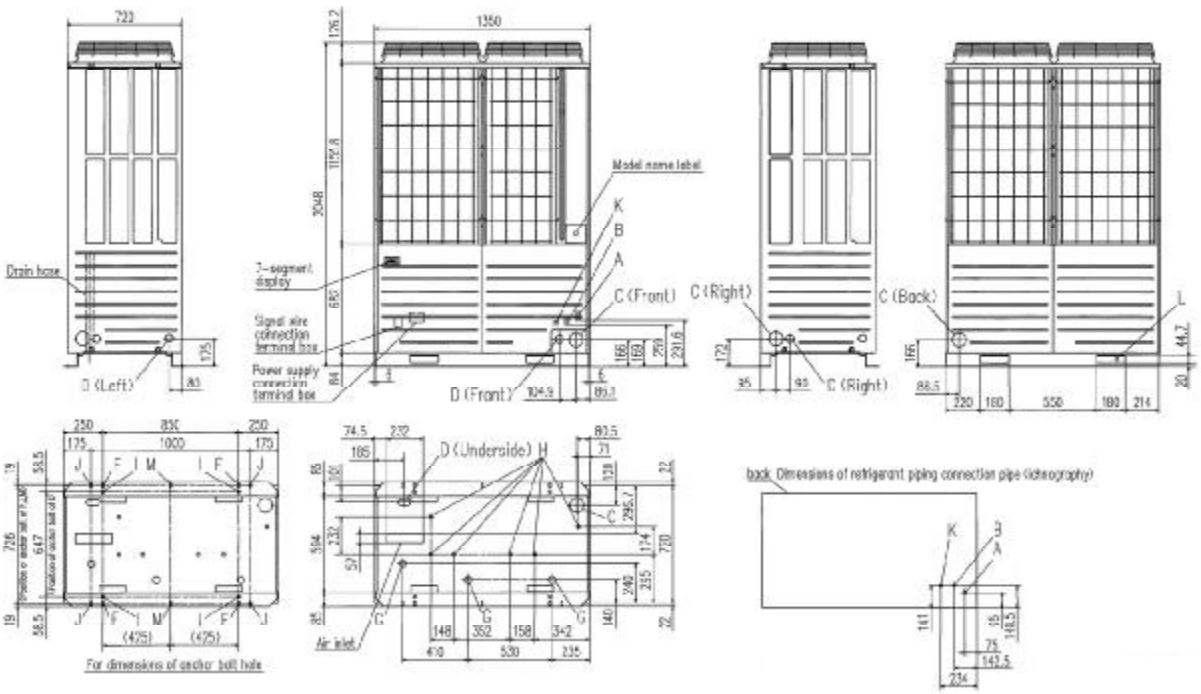
(1) The operation datas are measured under the following conditions.

Item / Standard		Indoor air temperature		Outdoor air temperature	
		DB	WB	DB	WB
Cooling	ISO-T1	27°C	19°C	35°C	24°C
	ISO-T3	29°C	19°C	46°C	24°C
Heating	ISO-T1/T3	20°C	-	7°C	6°C

(2) Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.

Dimensions

All measurements in mm.



Mark	Content	
A	Refrigerant gas piping connection pipe	ø31.80(Brazing)
B	Refrigerant liquid piping connection pipe	ø15.88(Flare)
C	Refrigerant piping exit hole	ø88(or ø100)
D	Power supply entry hole	ø50(right·left·front),long hole 40 x 80(under side)
F	Anchor bolt hole	M10 x 4 places
G	Drain waste water hose hole	ø45 x 3 places
H	Drain hole	ø20 x 6 places
K	Refrigerant oil equalization piping connection pipe	ø9.52(flare)
L	Carrying in or hole for hanging	180 x 44.7

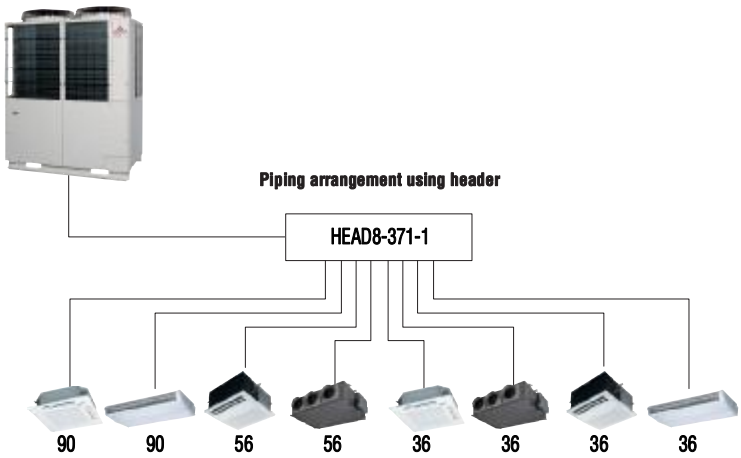
KX6 refrigerant piping

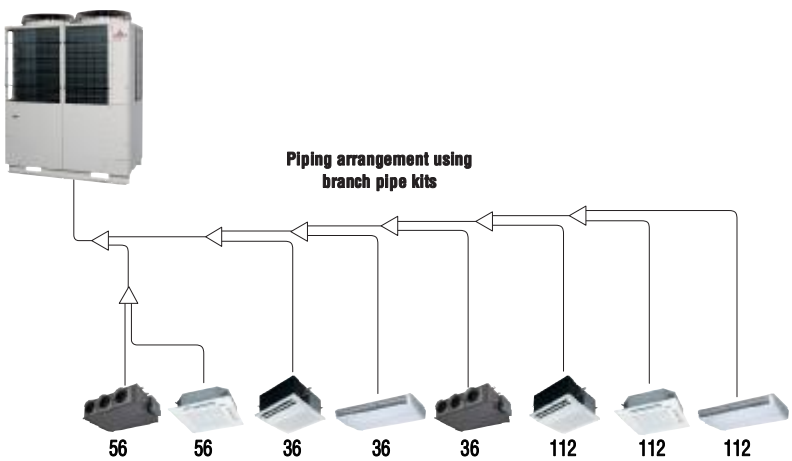
Installation of Interconnecting Pipework
Mitsubishi KX6 equipment is manufactured to the highest standards of quality and reliability. It is imperative the method of installation and the materials used are also to high standards, to ensure trouble free operation and long term reliability.
The interconnecting pipework must be installed by a competent and trained engineer.
Refrigeration quality copper tube must be used, soft copper coils or half-hard straight lengths. The refrigeration quality tube must be soft drawn seamless high grade copper pipe. The copper tube must be selected taking into account the higher operating pressures of R410A refrigerant, and that high pressures will occur throughout the system because of the reverse cycle operation.

The supplied branch pipe kits, must be used to make connections to indoor units, and the supplied manifold kits must be used to make connections between outdoor units (where applicable); it is not permitted to use standard fittings such as elbows, tees etc. The branch pipes shall be installed in accordance with the manufacturer's instructions, allowing unrestricted flow of refrigerant. All brazed joints shall be made with dry nitrogen purge to ensure the prevention of oxidisation to the internal surface of the copper pipes.
The ingress of moisture, dirt and any other contaminants to the interior of the copper pipes, and air conditioning units, must be prevented during the installation procedure.
After the installation of pipework, prior to the connection of the outdoor units, and sealing of insulation joints, the pipework must be pressure tested for leakage, using dry nitrogen.

Additional Refrigerant
Additional R410A refrigerant only shall be used, and must be charged by weight only, using electronic scales. The amount of additional refrigerant must be accurately calculated from the manufacturerís data, based on the length and diameter of each section of the liquid refrigerant pipework of the system.

Single outdoor unit piping examples:





KX6 refrigerant piping

Outdoor unit (HP)		10	16	20	32
Liquid pipe	Furthest indoor unit=<90m	ø9.52	ø12.7	ø12.7	ø15.88
Gas pipe		ø22.22	ø28.58	ø28.58	ø31.8
Liquid pipe	Furthest indoor unit=>90m	ø12.7	ø12.7	ø15.88	ø19.05
Gas pipe		ø25.4	ø31.8	ø31.8	ø38.1

mm	inch	mm	inch
ø9.52	3/8"	ø28.58	1 1/8"
ø12.7	1/2"	ø31.8	1 1/4"
ø15.88	5/8"	ø34.92	1 3/8"
ø19.05	3/4"	ø38.1	1 1/2"
ø22.22	7/8"	ø44.5	1 3/4"
ø25.4	1"	ø50.8	2"

Branch pipes

DIS-22-1/DIS-180-1

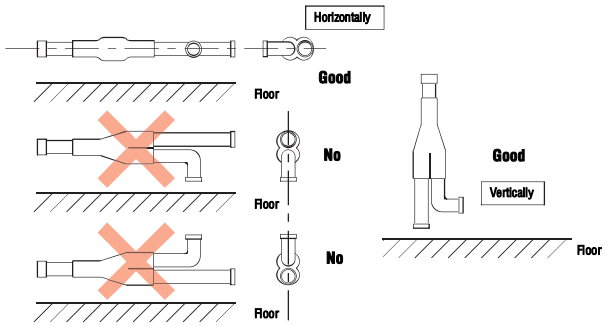
DIS-371-1/DIS-540-2

Header pipe

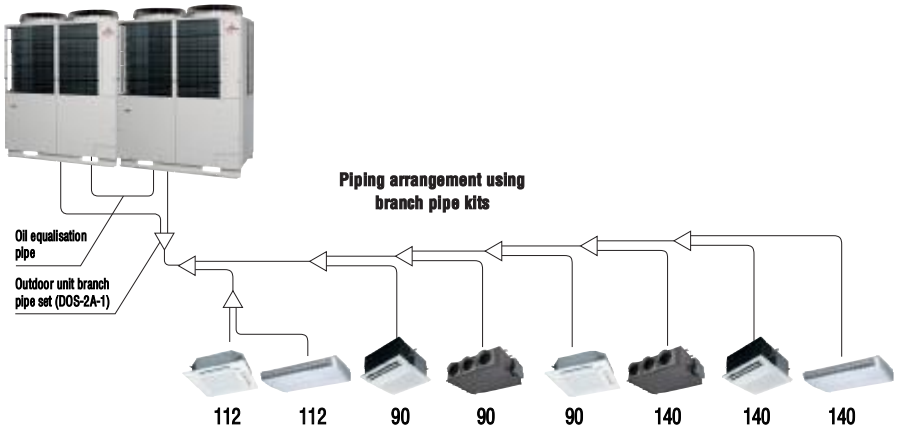
HEAD6-180-1

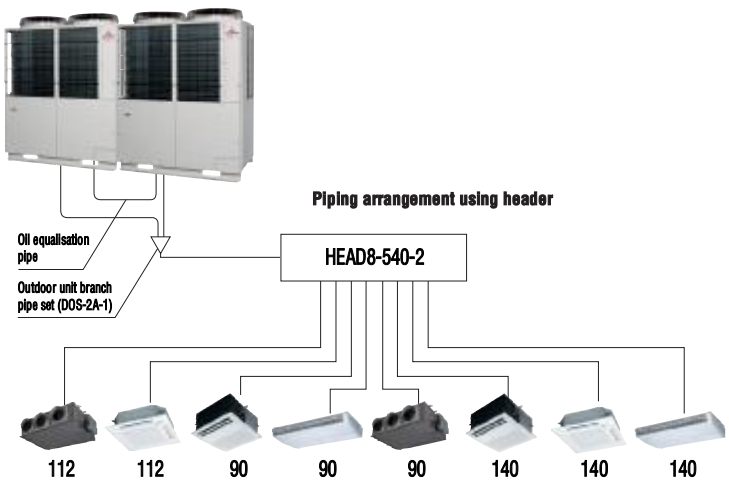
Combination outdoor unit manifold

DOS-2A-1



Combination outdoor unit piping examples:





Outdoor unit's branching piping

Outdoor unit	Branch piping set
2 units (for 735~1360)	DOS-2A-1

Indoor unit's first branching piping

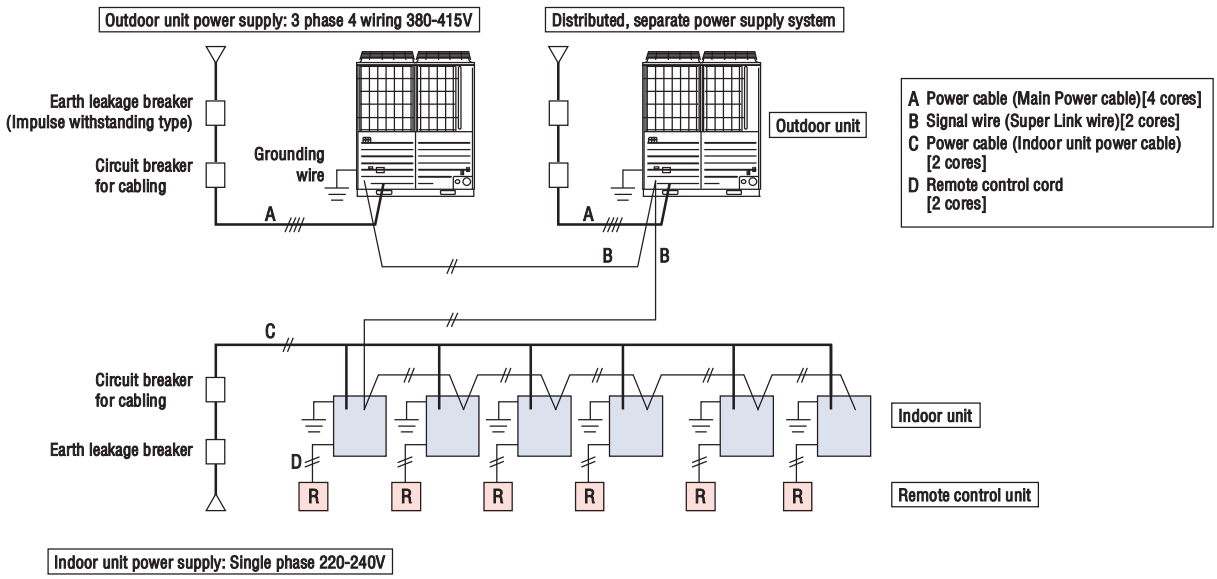
Total capacity of indoor units	Branch piping set	Header set	
		Model	Branches
~179	DIS-22-1	HEAD4-22-1	Max 4 branches
180~370	DIS-180-1	HEAD6-180-1	Max 6 branches
371~539	DIS-371-1	HEAD8-371-1	Max 8 branches
540~	DIS-540-2	HEAD8-540-2	Max 8 branches

KX6 electrical wiring – power supply

KX6 new design includes greatly simplified wiring requirements utilising a 'polarity-free' two wire control loop connecting the indoor units.

Power wiring

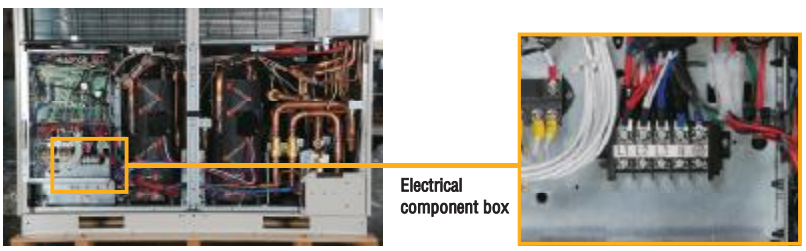
Cables can be laid through the front, right, left or bottom of the outdoor unit casing.
Separate power supplies should be used for the outdoor unit (3/phase) and the indoor units (1/phase).
Only control wiring is connected from outdoor to indoor unit.



CAUTION

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

KX6 outdoor unit mechanical compartment



Outdoor unit power supply terminal block

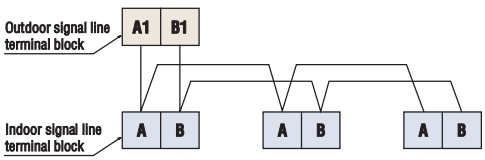
KX6 electrical wiring – control wiring

1. The control wiring is 5 Volt DC, non-polarised, two wire connection notated as 'A1' and 'B1'. This 'AB' wiring connects outdoor unit to indoor unit and indoor unit to indoor unit.
2. This wiring must be a 2-core shielded cable size 0.75mm² or 1.25mm².

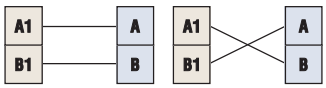
	0.75mm²	1.25mm²
~1000m	YES	YES
1000~1500m	YES	NO

3. We recommend the both ends of the shield of the cable are connected to ground (earth) at all the indoor units and outdoor units.
4. When plural outdoor units are used,
   - Connect the signal cable between indoor and outdoor units and the signal cable between outdoor units belonging to the same refrigerant line to A1 and B1.
   - Connect the signal line between outdoor units on different refrigerant lines to A2 and B2.
5. For current specification of 2-core (AB) wiring, please consult your MHI dealer.

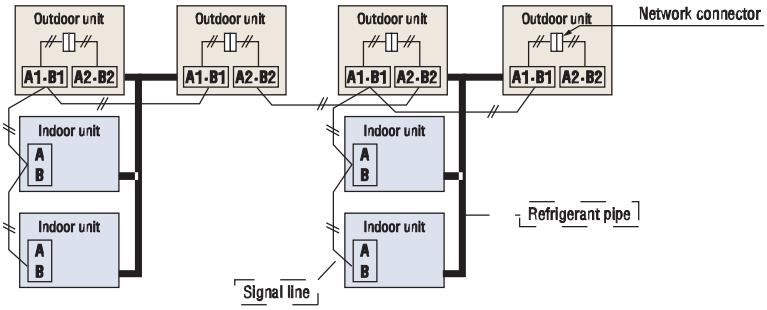
(1) When one outdoor unit is used



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



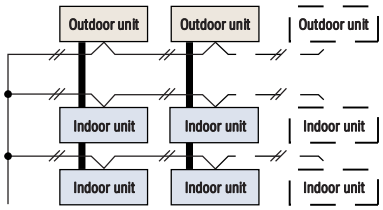
(2) When plural outdoor units are used



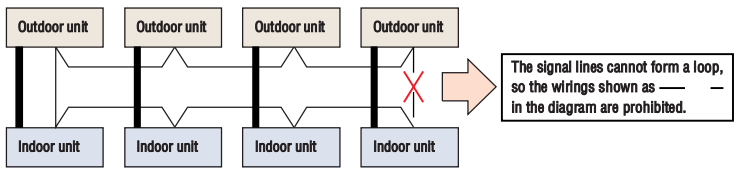
(a) The maximum number of indoor units that can be connected in a system is 128 and it is possible to configure outdoor units and/or indoor units as an outdoor or indoor unit group connected with each other with two wires.

(b) The signal wires can also be connected using the method shown below.

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



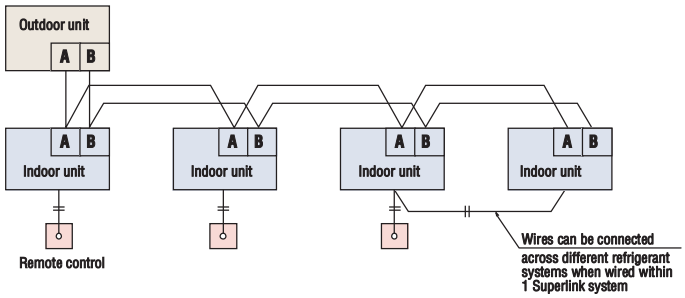
Important ○ Loop wiring prohibited



Remote control wiring specifications

For interconnecting wiring between the remote control and indoor units (XY wiring) use 2-core cable size 0.3mm². The maximum length of 2-core cable is 600 metres. Where the 2-core wiring exceeds 100m, use the wire size detailed on the table opposite.

Length (m)	Wire size
100 to 200	0.5mm² x 2 core
To 300	0.75mm² x 2 core
To 400	1.25mm² x 2 core
To 600	2.0mm² x 2 core



Indoor units

Ceiling Cassette -4way- FDT

Model No.

FDT28KXE6D
FDT36KXE6D
FDT45KXE6D
FDT56KXE6D
FDT71KXE6D
FDT90KXE6D
FDT112KXE6D
FDT140KXE6D
FDT160KXE6D

Wired remote control

RC-E4 (option)

RCH-E3 (option)

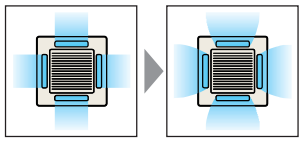
Wireless remote control

RCN-T-36W-E (option)

Individual flap control system

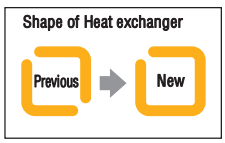
According to room temperature conditions, four directions of air flow can be controlled by individual flap as preferred.
As individual flap control is available even after installation, installation area became wider than before.

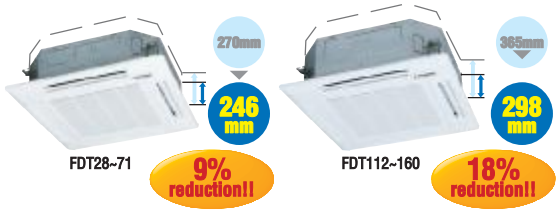
Due to optimization of outlet design of air flow with our new advanced technology, sufficient air flow is secured and long reach of air flow is realized.



The thinnest design

Thanks to new design of heat exchanger changed from 2 parts to 1 part, the height of indoor unit is reduced drastically.
Furthermore applying DC fan motors to FDT models, the highest energy efficiency level, reduction of weight and significant compact design are realized.

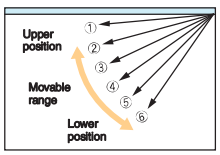




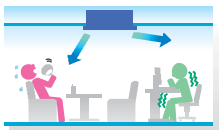
Flap control system

Selection of louver position is possible. Louvers can be set at different angles.

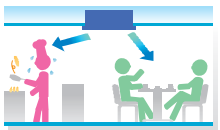
* RCH-E3 is not applicable to the Individual flap control system and the Flap control system.



for person who is far from the indoor unit



for both persons who are feeling hot or cold



can cool both the kitchen and the guests

Specifications

Item		Model	FDT28KXE6D	FDT36KXE6D	FDT45KXE6D	FDT56KXE6D	FDT71KXE6D	FDT90KXE6D	FDT112KXE6D	FDT140KXE6D	FDT160KXE6D
Nominal cooling capacity		kW	2.8	3.6	4.5	5.6	7.1	9.0	11.2	14.0	16.0
Nominal heating capacity		kW	3.2	4.0	5.0	6.3	8.0	10.0	12.5	16.0	18.0
Power source			1 Phase 220-240V, 50Hz								
Power consumption	Cooling	kW	0.03-0.03			0.04-0.04	0.10-0.10	0.14-0.14			
	Heating	kW	0.03-0.03			0.04-0.04	0.10-0.10	0.14-0.14			
Sound pressure level ※		dB(A)	Hi:33 Me:31 Lo:30			Hi:33 Me:31 Lo:30	Hi:33 Me:31 Lo:30	Hi:40 Me:37 Lo:35		Hi:42 Me:40 Lo:37	Hi:43 Me:41 Lo:38
Exterior dimensions H x W x D		mm	Unit:246x840x840 Panel:35x950x950					Unit:298x840x840 Panel:35x950x950			
Net weight		kg	Unit:22 Panel:5.5			Unit:24 Panel:5.5		Unit:27 Panel:5.5			
Air flow ※		CMM	Hi:18 Me:16 Lo:14				Hi:18 Me16 Lo:14	Hi:27 Me:24 Lo:20		Hi:30 Me:27 Lo:23	
Outside air intake			Possible								
Panel			T-PSA-3AW-E								
Air filter, Q'ty			Pocket Plastic net x1 (Washable)								
Remote control(option)			wired:RC-E4, RCH-E3 wireless:RCN-T-36W-E								
Installation data Refrigerant piping size		mm(in)	Liquid line:ø6.35(1/4") Gas line:ø9.52(3/8")	Liquid line:ø6.35(1/4") Gas line:ø12.7(1/2")			Liquid line:ø9.52(3/8") Gas line:ø15.88(5/8")				

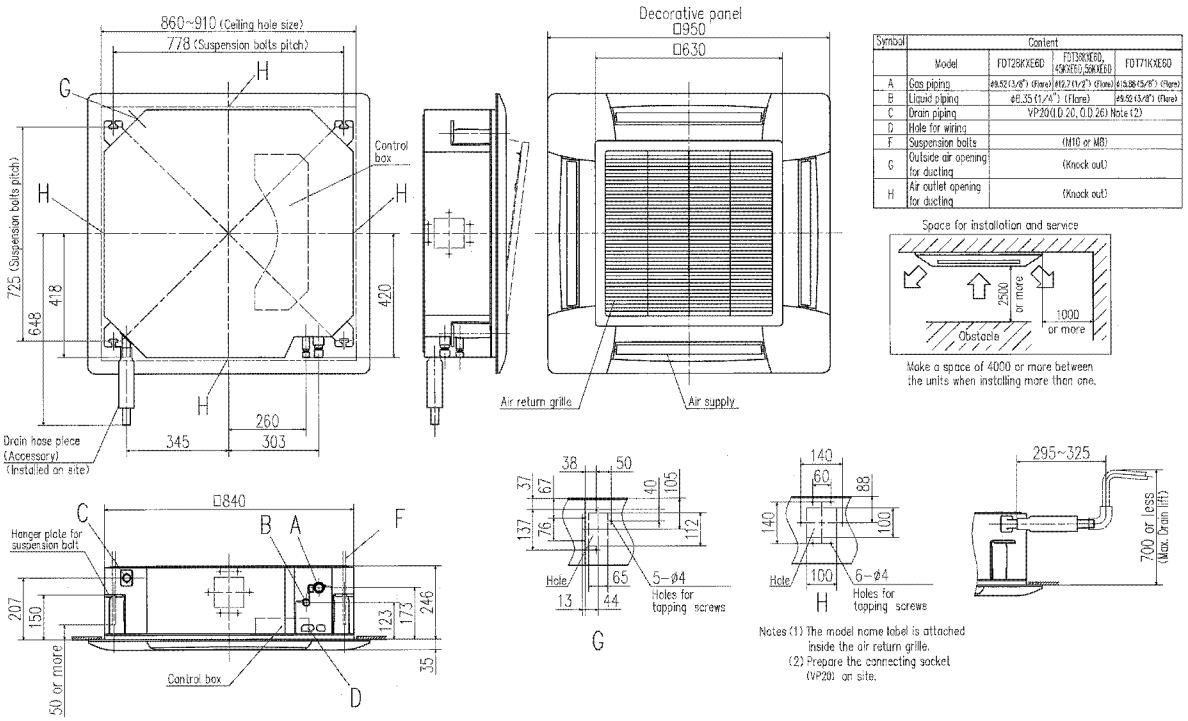
1. The data are measured under the following conditions(ISO-T1). Cooling: Indoor temp. of 27°CDB, 19°CWB, and outdoor temp. of 35°CDB. Heating: Indoor temp. of 20°CDB, and outdoor temp. of 7°CDB, 6°CWB.
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.

※ Powerful-HI can be selected. Sound pressure level: FDT28/36/45 37dB(A), FDT56 39dB(A), FDT71 46dB(A), FDT90/112/140/160 51dB(A). Air flow: FDT28/36/45/56 20CMM, FDT71 28CMM, FDT90/112/140/160 37CMM.

Dimensions

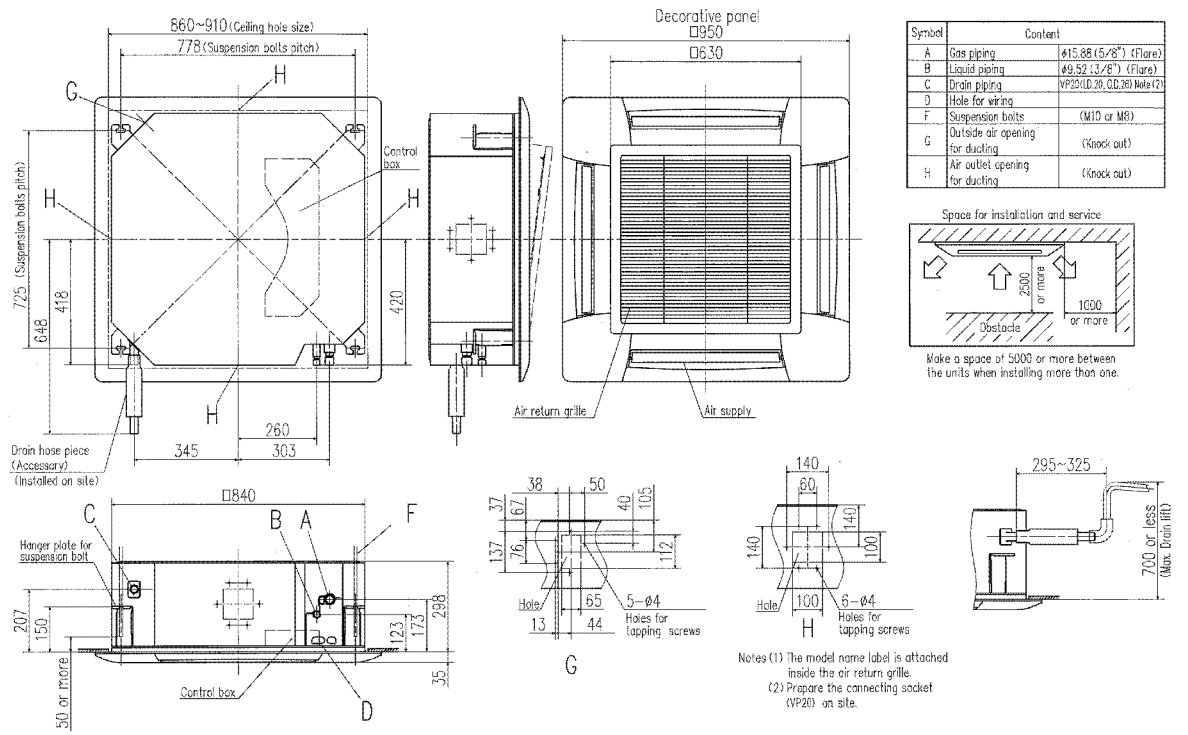
All measurements in mm.

FDT28KXE6D, 36KXE6D, 45KXE6D, 56KXE6D, 71KXE6D



Symbol	Content			
	Model	FDT28KXE6D	FDT36KXE6D, 45KXE6D, 56KXE6D	FDT71KXE6D
A	Gas piping	ø9.52 (3/8") (Flare)	ø12.7 (1/2") (Flare)	ø15.88 (5/8") (Flare)
B	Liquid piping	ø6.35 (1/4") (Flare)		ø9.52 (3/8") (Flare)
C	Drain piping	VP20 (I.D. 20, O.D. 26) Note (2)		
D	Hole for wiring			
F	Suspension bolts	(M10 or M8)		
G	Outside air opening for ducting	(Knock out)		
H	Air outlet opening for ducting	(Knock out)		

FDT90KXE6D, 112KXE6D, 140KXE6D, 160KXE6D



Symbol	Content	
A	Gas piping	ø15.88 (5/8") (Flare)
B	Liquid piping	ø9.52 (3/8") (Flare)
C	Drain piping	VP20 (I.D. 20, O.D. 26) Note (2)
D	Hole for wiring	
F	Suspension bolts	(M10 or M8)
G	Outside air opening for ducting	(Knock out)
H	Air outlet opening for ducting	(Knock out)

Ceiling Cassette -4way Compact (600x600mm)- FDTC

Model No.
FDTC22KXE6D
FDTC28KXE6D
FDTC36KXE6D
FDTC45KXE6D
FDTC56KXE6D

Fits into standard 600 x 600 ceiling

Wired remote control

RC-E4 (option)

RCH-E3 (option)

Wireless remote control

RCN-TC-24W-ER (option)

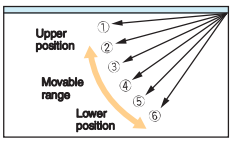
Individual flap control system

According to room temperature conditions, four directions of air flow can be controlled by individual flap as preferred.
As individual flap control is available even after installation, installation area became wider than before.

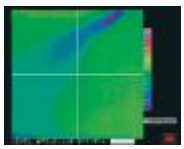
Flap control system

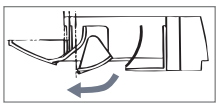
Selection of louver position is possible. Louvers can be set at different angles.

*RCH-E3 is not applicable to the Individual flap control system and the Flap control system.



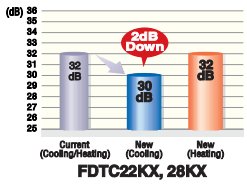
"CLEARER"AIR FLOW



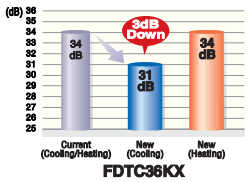


New shape & angled louvre re-directs the air current away from the ceiling, to reduce ceiling stains.

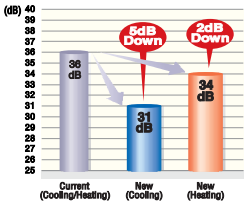
Quiet operation (Sound level in the Lo mode.)



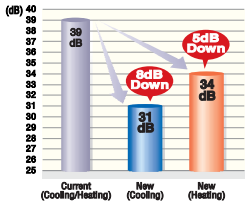
FDTC22KX, 28KX



FDTC36KX



FDTC45KX



FDTC56KX

Installation Workability

For wireless control simply insert the infra-red receiver kit on a corner of the panel.

Specifications

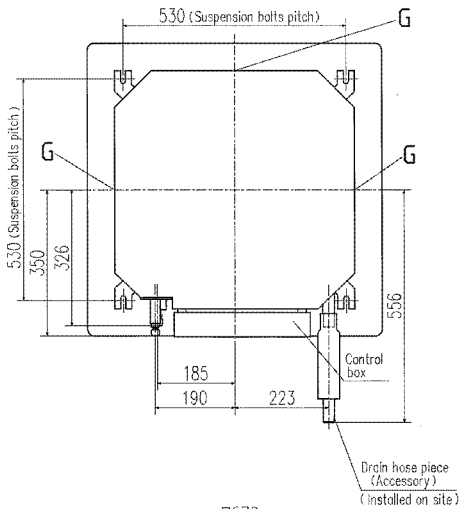
Item		Model	FDTC22KXE6D	FDTC28KXE6D	FDTC36KXE6D	FDTC45KXE6D	FDTC56KXE6D
Nominal cooling capacity		kW	2.2	2.8	3.6	4.5	5.6
Nominal heating capacity		kW	2.5	3.2	4.0	5.0	6.3
Power source			1 Phase 220-240V, 50Hz				
Power consumption	Cooling	kW	0.03-0.03			0.04-0.04	
	Heating		0.03-0.03			0.04-0.04	
Sound pressure level ※	Cooling	dB(A)	Hi:35 Me:33 Lo:30		Hi:38 Me:36 Lo:31	Hi:40 Me:37 Lo:31	Hi:45 Me:39 Lo:31
	Heating		Hi:35 Me:33 Lo:32		Hi:38 Me:36 Lo:34	Hi:40 Me:37 Lo:34	Hi:45 Me:39 Lo:34
Exterior dimensions H x W x D		mm	Unit:248x570x570 Panel:35x700x700				
Net weight		kg	Unit:14 Panel:3.5		Unit:15 Panel:3.5		
Air flow ※	Cooling	CMM	Hi:9.5 Me:8.5 Lo:7		Hi:10 Me:9 Lo:7	Hi:11 Me:9 Lo:7	Hi:13 Me:10 Lo:7
	Heating		Hi:9.5 Me:8.5 Lo:8		Hi:10 Me:9 Lo:8	Hi:11 Me:9 Lo:8	Hi:13 Me:10 Lo:8
Outside air intake			Not possible				
Panel			TC-PSA-25W-E				
Air filter, Q'ty			Pocket Plastic net x1 (Washable)				
Remote control(option)			wired:RC-E4, RCH-E3 wireless:RCN-TC-24W-ER				
Installation data Refrigerant piping size		mm(in)	Liquid line:ø6.35(1/4") Gas line:ø9.52(3/8")		Liquid line:ø6.35(1/4") Gas line:ø12.7(1/2")		

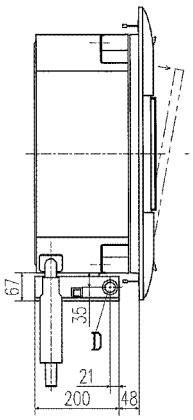
1. The data are measured under the following conditions(ISO-T1). Cooling: Indoor temp. of 27°CDB, 19°CWB, and outdoor temp. of 35°CDB. Heating: Indoor temp. of 20°CDB, and outdoor temp. of 7°CDB, 6°CWB.
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.

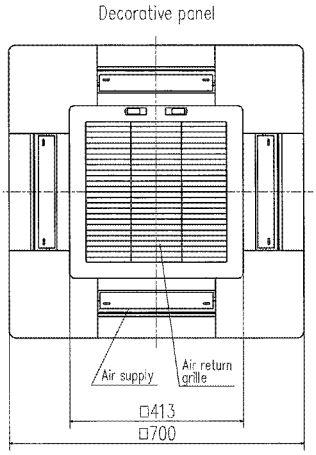
※ Powerful-HI can be selected. Sound pressure level: FDTC22/28 44dB(A), FDTC36 46dB(A), FDTC45 48dB(A), FDTC56 49dB(A). Air flow: FDTC22/28 12CMM, FDTC36 13CMM, FDTC45 15CMM. FDTC56 16CMM.

Dimensions

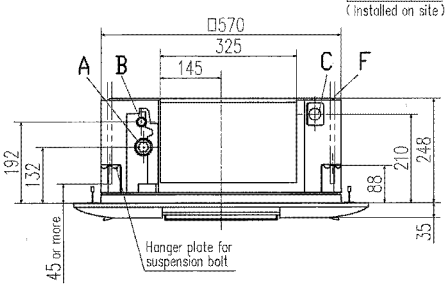
All measurements in mm.

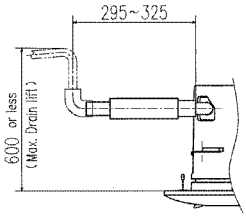


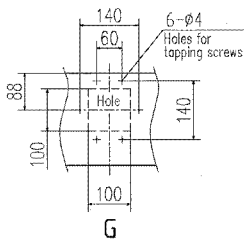


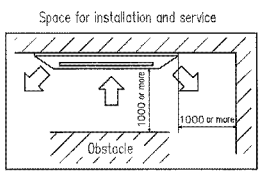


Notes (1) The model name label is attached on the control box lid.
(2) Prepare the connecting socket (VP20) on site.
(3) This unit is designed for 2x2 grid ceiling.
If it is installed on a ceiling other than 2x2 grid ceiling, provide an inspection port on the control box side.





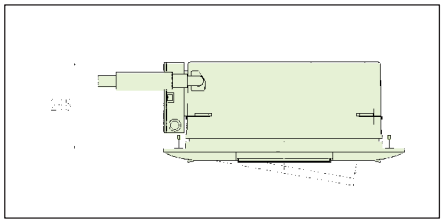




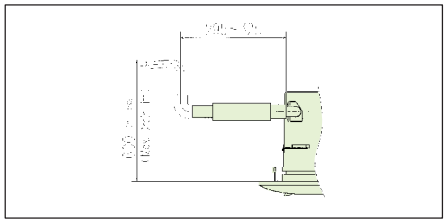
Make a space of 4000 or more between the units when installing more than one.

Symbol	Content		
	Model	FDTC22KXE6D, 28KXE6D	FDTC36KXE6D, 45KXE6D, 56KXE6D
A	Gas piping	φ9.52 (3/8") (Flare)	φ12.7 (1/2") (Flare)
B	Liquid piping	φ6.35 (1/4") (Flare)	
C	Drain piping	VP20 (I.D.20,O.D.26) Note (2)	
D	Hole for wiring	φ25	
F	Suspension bolts	(M10 or M8)	
G	Air outlet opening for ducting	(Knock out)	

Ultra slim design at just 248mm above the ceiling



Condensate drain pump included as standard



Ceiling Cassette -2way- FDTW

Model No.

FDTW28KXE6D
FDTW45KXE6D
FDTW56KXE6D
FDTW71KXE6D
FDTW90KXE6D
FDTW112KXE6D
FDTW140KXE6D

FDTW28~56

FDTW71~140

Wired remote control

RC-E4 (option)

RCH-E3 (option)

Wireless remote control

RCN-KIT3-E (option)

Specifications

Item	Model	FDTW28KXE6D	FDTW45KXE6D	FDTW56KXE6D	FDTW71KXE6D	FDTW90KXE6D	FDTW112KXE6D	FDTW140KXE6D
Nominal cooling capacity	kW	2.8	4.5	5.6	7.1	9.0	11.2	14.0
Nominal heating capacity	kW	3.2	5.0	6.3	8.0	10.0	12.5	16.0
Power source		1 Phase 220-240V, 50Hz						
Power consumption	Cooling / kW	0.09-0.10			0.10-0.11	0.12-0.13	0.18-0.20	0.20-0.24
	Heating / kW	0.09-0.10			0.10-0.11	0.12-0.13	0.18-0.20	0.20-0.24
Sound pressure level ※	dB(A)	Hi:39 Me:34 Lo:32			Hi:41 Me:36 Lo:35	Hi:41 Me:37 Lo:36	Hi:44 Me:41 Lo:39	Hi:45 Me:41 Lo:39
Exterior dimensions H x W x D	mm	Unit:287x817x620 Panel:8x1055x680			Unit:342x1054x620 Panel:8x1300x680		Unit:357x1524x620 Panel:8x1770x680	
Net weight	kg	Unit:18 Panel:7	Unit:19 Panel:7		Unit:26 Panel:9		Unit:38 Panel:11	
Air flow ※	CMM	Hi:14 Me:12 Lo:10			Hi:16 Me:13 Lo:11	Hi:19 Me:16 Lo:12	Hi:28 Me:25 Lo:23	Hi:32 Me:28 Lo:24
Outside air intake		Possible						
Panel		TW-PSA-25W-E			TW-PSA-35W-E		TW-PSA-45W-E	
Air filter, Q'ty		Pocket Plastic net x1 (Washable)					Pocket Plastic net x2 (Washable)	
Remote control(option)		wired:RC-E4, RCH-E3 wireless:RCN-KIT3-E						
Installation data Refrigerant piping size	mm(in)	Liquid line:ø6.35(1/4") Gas line:ø9.52(3/8")	Liquid line:ø6.35(1/4") Gas line:ø12.7(1/2")		Liquid line:ø9.52(3/8") Gas line:ø15.88(5/8")			

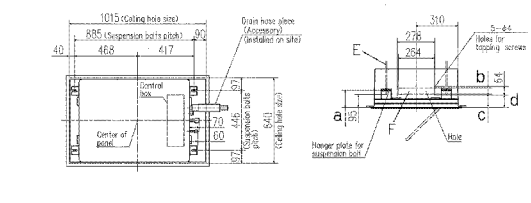
1. The data are measured under the following conditions(ISO-T1). Cooling: Indoor temp. of 27°CDB, 19°CWB, and outdoor temp. of 35°CDB. Heating: Indoor temp. of 20°CDB, and outdoor temp. of 7°CDB, 6°CWB.
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.

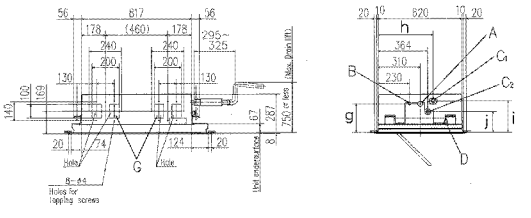
※ Powerful-Hi can be selected. Sound pressure level: FDTW28/45/56 39dB(A), FDTW71/90 41dB(A), FDTW112 44dB(A), FDTW140 45dB(A). Air flow: FDTW28/45/56 14CMM, FDTW71 16CMM, FDTW90 19CMM, FDTW112 28CMM, FDTW140 32CMM.

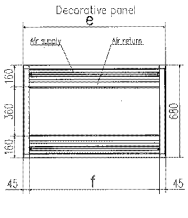
Dimensions

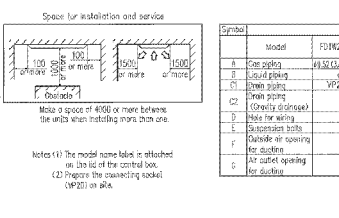
All measurements in mm.

FDTW28KXE6D, 45KXE6D, 56KXE6D

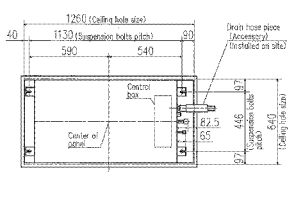


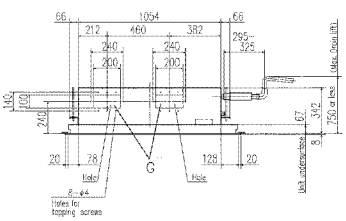


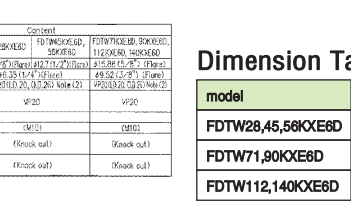




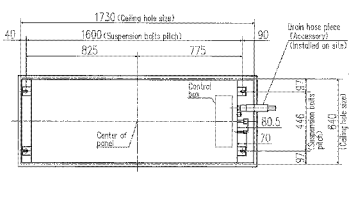
FDTW71KXE6D, 90KXE6D

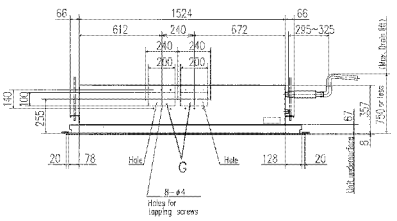


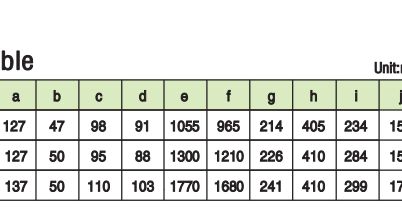


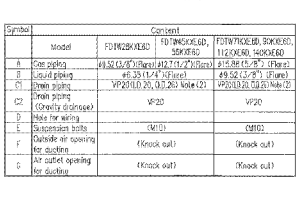


FDTW112KXE6D, 140KXE6D









Symbol	Content		
	Model	FDTW28KXE6D	FDTW45KXE6D, 56KXE6D / FDTW71KXE6D, 90KXE6D / 112KXE6D, 140KXE6D
A	Gas piping	ø9.52 (3/8") (Flare)	ø12.7 (1/2") (Flare)
B	Liquid piping	ø6.35 (1/4") (Flare)	ø9.52 (3/8") (Flare)
C1	Drain piping	VP20 (I.D. 20, O.D. 26) Note (2)	VP20 (I.D. 20, O.D. 26) Note (2)
C2	Drain piping (Directly drainage)	VP20	VP20
D	Hole for wiring		
E	Suspension bolts	(M10)	(M10)
F	Outside air opening for ducting	(Knock out)	(Knock out)
G	Air outlet opening for ducting	(Knock out)	(Knock out)

Dimension Table

Unit:mm

model	a	b	c	d	e	f	g	h	i	j
FDTW28,45,56KXE6D	127	47	98	91	1055	965	214	405	234	155
FDTW71,90KXE6D	127	50	95	88	1300	1210	226	410	284	155
FDTW112,140KXE6D	137	50	110	103	1770	1680	241	410	299	170

Ceiling Cassette -1way- FDTS

Model No.
FDTS45KXE6D
FDTS71KXE6D

Wired remote control

RC-E4 (option)

RCH-E3 (option)

Wireless remote control

RCN-KIT3-E (option)

Specifications

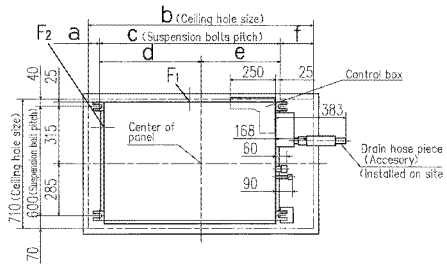
Item		Model	FDTS45KXE6D	FDTS71KXE6D
Nominal cooling capacity		kW	4.5	7.1
Nominal heating capacity		kW	5.0	8.0
Power source			1 Phase 220-240V, 50Hz	
Power consumption	Cooling	kW	0.10-0.12	0.13-0.16
	Heating		0.10-0.12	0.13-0.16
Sound pressure level ※		dB(A)	Hi:43 Me:38 Lo:36	Hi:44 Me:38 Lo:36
Exterior dimensions H x W x D		mm	Unit:194x1040x650 Panel:10x1290x770	Unit:194x1300x650 Panel:10x1500x770
Net weight		kg	Unit:27 Panel:6	Unit:31 Panel:7
Air flow ※		CMM	Hi:14 Me:12 Lo:10	Hi:18 Me:15 Lo:12
Outside air intake			Possible	
Panel			TS-PSA-29W-E	TS-PSA-39W-E
Air filter, Q'ty			Pocket plastic net x2 (Washable)	Pocket plastic net x3 (Washable)
Remote control(option)			wired:RC-E4, RCH-E3 wireless:RCN-KIT3-E	
Installation data Refrigerant piping size		mm(in)	Liquid line:ø6.35(1/4") Gas line:ø12.7(1/2")	Liquid line:ø9.52(3/8") Gas line:ø15.88(5/8")

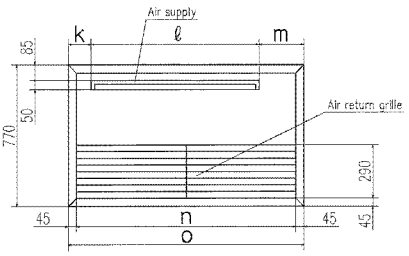
1. The data are measured under the following conditions(ISO-T1). Cooling: Indoor temp. of 27°CDB, 19°CWB, and outdoor temp. of 35°CDB. Heating: Indoor temp. of 20°CDB, and outdoor temp. of 7°CDB, 6°CWB.
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.

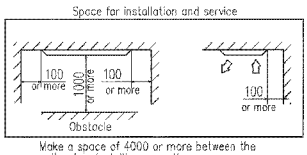
※ Powerful-Hi can be selected. Sound pressure level: FDTS45 44dB(A), FDTS71 45 dB(A). Air flow: FDTS45 16CMM, FDTS71 20CMM.

Dimensions

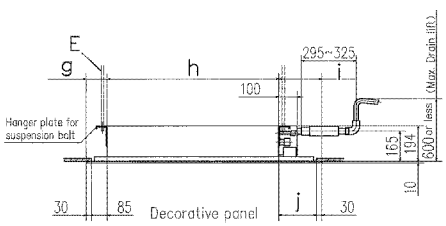
All measurements in mm.

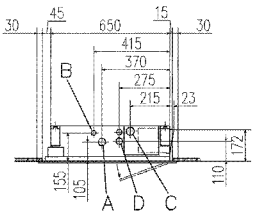


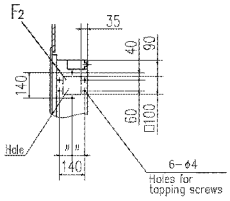


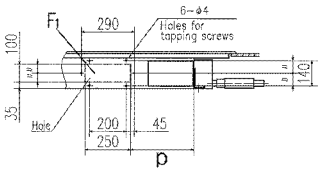


Notes (1) The model name label is attached on the fan case inside the air return grille.
(2) Prepare the connecting socket (VP20) on site.









Symbol	Content		
	Model	FDTS45KXE6D	FDTS71KXE6D
A	Gas piping	ø12.7 (1/2") (Flare)	ø15.88 (5/8") (Flare)
B	Liquid piping	ø6.35 (1/4") (Flare)	ø9.52 (3/8") (Flare)
C	Drain piping	VP20(I.D.20, O.D.26) Note (2)	VP20(I.D.20, O.D.26) Note (2)
D	Hole for wiring	ø35	ø35
E	Suspension bolts	(M10)	(M10)
F1,2	Outside air opening for ducting	(Knock out)	(Knock out)

Dimension Table

Unit:mm

model	a	b	c	d	e	f	g	h	i	j	k	ℓ	m	n	o	p
FDTS45KXE6D	60	1230	990	555	435	180	115	940	235	205	125	920	245	1200	1290	345
FDTS71KXE6D	45	1440	1250	675	575	145	100	1200	200	70	110	1180	210	1410	1500	475

Ceiling Cassette -1way Compact- FDTQ

Model No.
FDTQ22KXE6D
FDTQ28KXE6D
FDTQ36KXE6D

Fits into standard 600 x 600 ceiling

Wired remote control

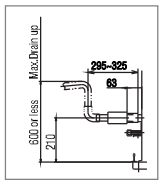
RC-E4 (option) RCH-E3 (option)

Wireless remote control

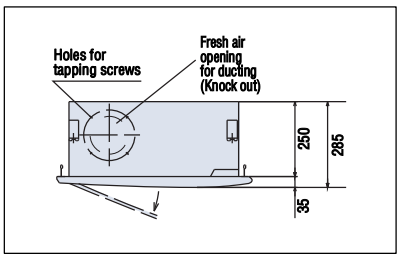
RCN-KIT3-E (option)

- **Comfortable effective cooling for small rooms, with low fan speed air flow at just 5.4m³/min.**

Optional wide panel shown for solid ceiling



Condensate drain pump included as standard



Ultra slim design at just 250mm above the ceiling

Specifications

Item	Model	FDTQ22KXE6D				FDTQ28KXE6D				FDTQ36KXE6D			
Panel Name		Direct blow panel		Duct panel		Direct blow panel		Duct panel		Direct blow panel		Duct panel	
Panel mode (Option)		TQ-PSA-15W-E	TQ-PSB-15W-E	QR-PNA-14W-ER	QR-PNB-14W-ER	TQ-PSA-15W-E	TQ-PSB-15W-E	QR-PNA-14W-ER	QR-PNB-14W-ER	TQ-PSA-15W-E	TQ-PSB-15W-E	QR-PNA-14W-ER	QR-PNB-14W-ER
Nominal cooling capacity	kW	2.2				2.8				3.6			
Nominal heating capacity	kW	2.5				3.2				4.0			
Power source		1 Phase 220-240V, 50Hz											
Power consumption Cooling	kW	0.05-0.07				0.05-0.07				0.05-0.07			
Power consumption Heating	kW	0.05-0.07				0.05-0.07				0.05-0.07			
Sound pressure level ※	dB(A)	Hi:41 Me:38 Lo:33		Hi:41 Me:38 Lo:33		Hi:41 Me:38 Lo:33		Hi:41 Me:38 Lo:33		Hi:41 Me:38 Lo:33		Hi:41 Me:38 Lo:33	
Exterior dimensions H x W x D Unit	mm	250x570x570				250x570x570				250x570x570			
Exterior dimensions H x W x D Panel	mm	35x625x650	35x780x650	35x625x650	35x780x650	35x625x650	35x780x650	35x625x650	35x780x650	35x625x650	35x780x650	35x625x650	35x780x650
Net weight	kg	Unit:23 Panel:2.5	Unit:23 Panel:3	Unit:23 Panel:2.5	Unit:23 Panel:3	Unit:23 Panel:2.5	Unit:23 Panel:3	Unit:23 Panel:2.5	Unit:23 Panel:3	Unit:23 Panel:2.5	Unit:23 Panel:3	Unit:23 Panel:2.5	Unit:23 Panel:3
Air flow ※	CMM	Hi:7 Me:6 Lo:5		Hi:7 Me:6 Lo:5		Hi:7 Me:6 Lo:5		Hi:7 Me:6 Lo:5		Hi:7 Me:6 Lo:5		Hi:7 Me:6 Lo:5	
Outside air intake		Possible											
Air filter, Q'ty		Pocket Plastic net x1 (Washable)											
Remote control(option)		wired:RC-E4, RCH-E3 wireless:RCN-KIT3-E											
Installation data Refrigerant piping size	mm(in)	Liquid line:ø6.35(1/4") Gas line:ø9.52(3/8")								Liquid line:ø6.35(1/4") Gas line:ø12.7(1/2")			

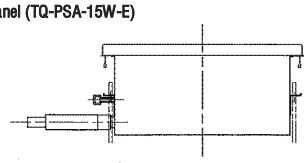
1. The data are measured under the following conditions(ISO-T1). Cooling: Indoor temp. of 27°CDB, 19°CWB, and outdoor temp. of 35°CDB. Heating: Indoor temp. of 20°CDB, and outdoor temp. of 7°CDB, 6°CWB.
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.

※ Powerful-Hi can be selected. Sound pressure level: FDTQ22/38/36 45dB(A). Air flow: FDTQ22/38/36 8CMM.

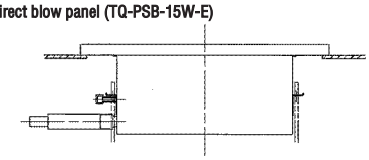
Dimensions

All measurements in mm.

Direct blow panel (TQ-PSA-15W-E)

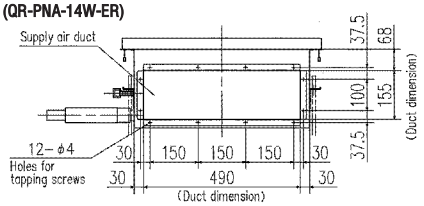


Direct blow panel (TQ-PSB-15W-E)

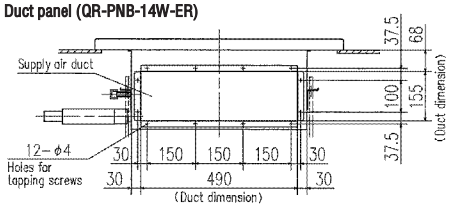


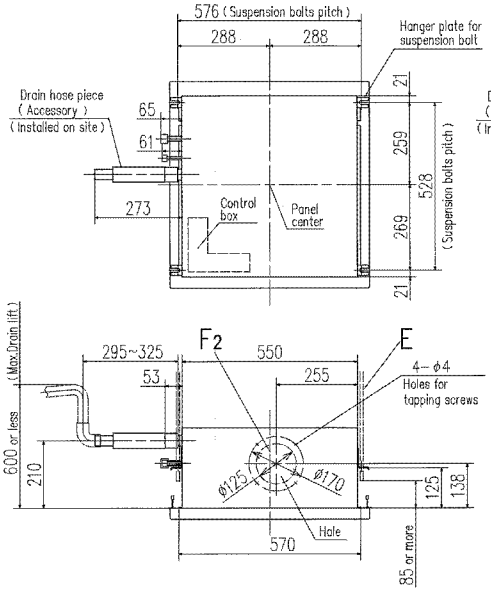
Symbol	Content		
	Model	FDTQ22KXE6D, 28KXE6D	FDTQ36KXE6D
A	Gas piping	ϕ9.52 (3/8") (Flare)	ϕ12.7 (1/2") (Flare)
B	Liquid piping	ϕ6.35 (1/4") (Flare)	
C	Drain piping	VP20 (I.D 20, O.D.26) Note (2)	
D	Hole for wiring	ϕ30	
E	Suspension bolts	(M10)	
F1,2	Outside air opening for ducting	(Knock out)	

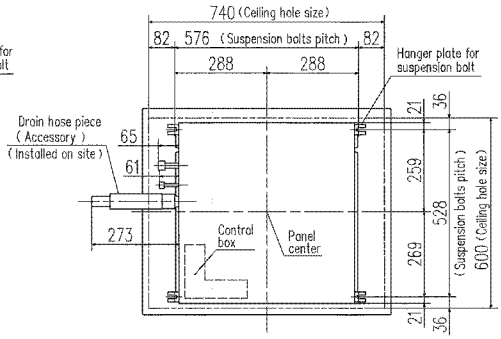
Duct panel (QR-PNA-14W-ER)

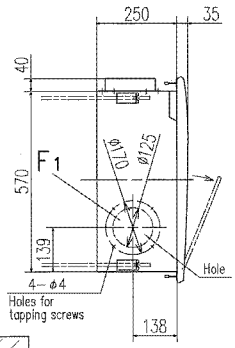


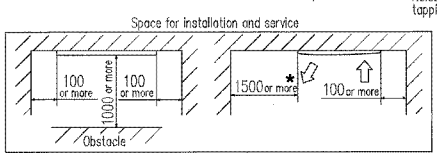
Duct panel (QR-PNB-14W-ER)









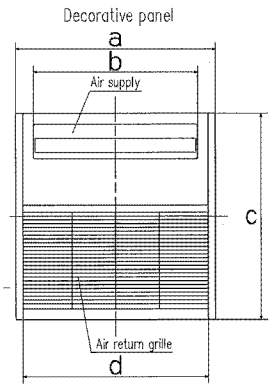


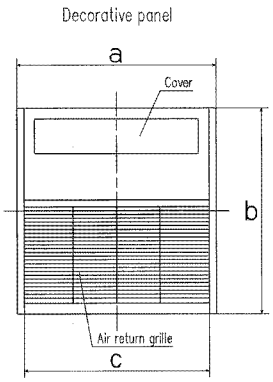
Make a space of 3000 or more between the units when installing more than one.

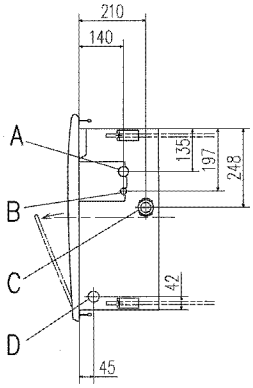
Notes

(1) The model name label is attached on the fan case inside the air return grille.
(2) Prepare the connecting socket (VP20) on site.
(3) This unit is designed for 2X2 grid ceiling.

*** In case of Direct blow panel**







Dimension Table

Unit:mm

model	a	b	c	d
TQ-PSA-15W-E	625	514	650	580
TQ-PSB-15W-E	780	514	650	580

Dimension Table

Unit:mm

model	a	b	c
QR-PNA-14W-ER	625	650	580
QR-PNB-14W-ER	780	650	580

Duct Connected -High Static Pressure- FDU

Model No.
FDU71KXE6D
FDU90KXE6D
FDU112KXE6D
FDU140KXE6D

Wired remote control

RC-E4 (option) **RCH-E3 (option)**

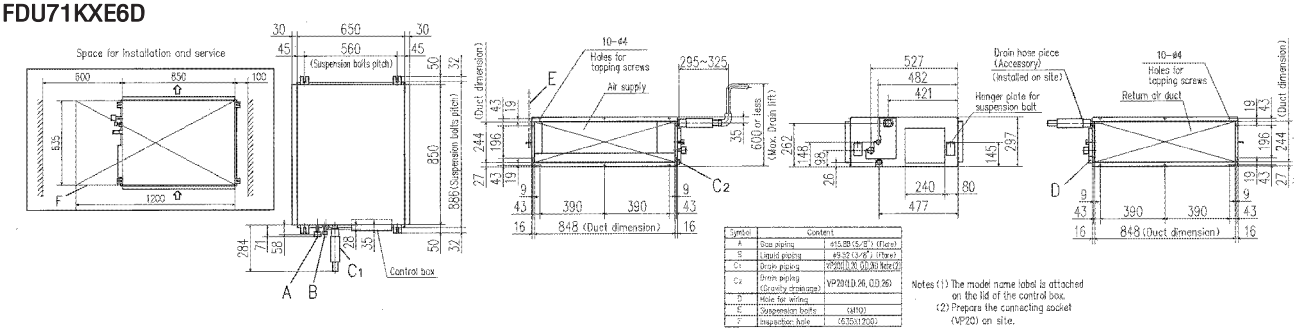
Wireless remote control

RCN-KIT3-E (option)

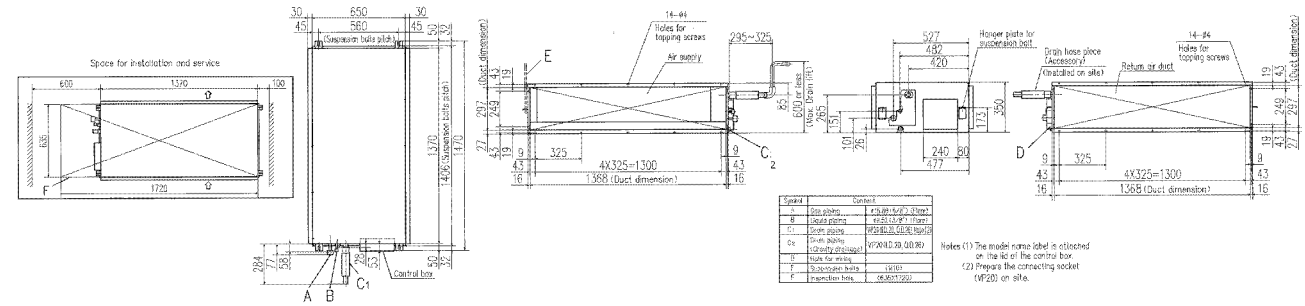
Dimensions

All measurements in mm.

FDU71KXE6D



FDU90KXE6D, 112KXE6D, 140KXE6D



Specifications

Item	Model		FDU71KXE6D	FDU90KXE6D	FDU112KXE6D	FDU140KXE6D
Nominal cooling capacity		kW	7.1	9.0	11.2	14.0
Nominal heating capacity		kW	8.0	10.0	12.5	16.0
Power source			1 Phase 220-240V, 50Hz			
Power consumption	Cooling	kW	0.29-0.32	0.35-0.39	0.39-0.45	
	Heating		0.27-0.30	0.34-0.38	0.34-0.39	
Sound pressure level		dB(A)	Hi:41 Lo:37	Hi:42 Lo:37	Hi:42 Lo:38	Hi:43 Lo:39
Exterior dimensions H x W x D		mm	297x850x650	350x1370x650		
Net weight		kg	40	63		
Air flow (Standard)		CMM	Hi:20 Lo:17	Hi:34 Lo:27		Hi:42 Lo:33.5
External Static pressure		Pa	Standard:60, Max:130			
Outside air intake			Possible(on Return duct)			
Air filter, Q'ty			Procure locally			
Remote control(option)			wired:RC-E4, RCH-E3 wireless:RCN-KIT3-E			
Installation data Refrigerant piping size		mm(in)	Liquid line:ø9.52(3/8") Gas line:ø15.88(5/8")			

1. The data are measured under the following conditions(ISO-T1). Cooling: Indoor temp. of 27°CDB, 19°CWB, and outdoor temp. of 35°CDB. Heating: Indoor temp. of 20°CDB, and outdoor temp. of 7°CDB, 6°CWB. External static pressure of indoor unit is 60Pa.
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.
3. External static pressure can be changed from standard external static pressure (factory setting) to maximum external static pressure (high static pressure setting) by remote control.
4. Values of sound pressure level become increased 5dB(A), when external static pressure is 130Pa.

Duct Connected -High Static Pressure-
FDU

Model No.
FDU224KXE6D
FDU280KXE6D

Wired remote control

RC-E4 (option)

RCH-E3 (option)

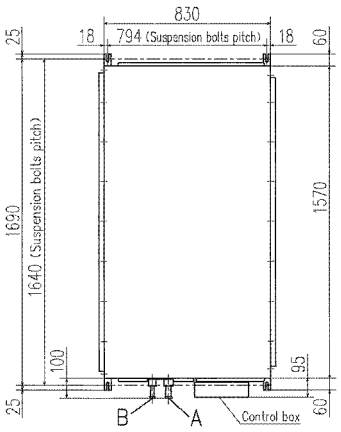
Wireless remote control

RCN-KIT3-E (option)

Fan control kit (100~200Pa)
U-FCRA(option)

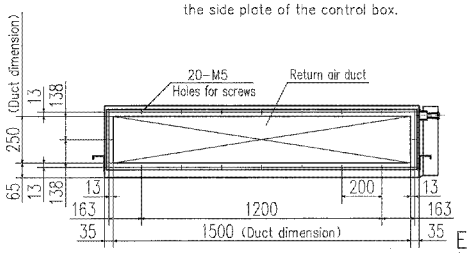
Dimensions

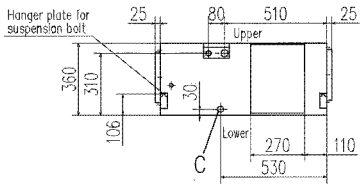
All measurements in mm.

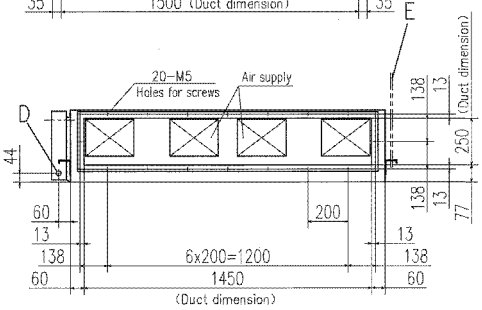


Symbol	Content		
	Model	FDU224KXE6D	FDU280KXE6D
A	Gas piping	ø25.4 (1") (Brazing)	
B	Liquid piping	ø9.52 (3/8") (Brazing)	ø12.7 (1/2") (Brazing)
C	Drain piping	VP20 (I.D.20, O.D.26)	
D	Hole for wiring	ø25	
E	Suspension bolts	(M10)	
F	Inspection hole	(600X600)	
G	Inspection hole	(900X1730)	

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







Specifications

Item	Model		FDU224KXE6D	FDU280KXE6D
Nominal cooling capacity		kW	22.4	28.0
Nominal heating capacity		kW	25.0	31.5
Power source			1 Phase 220-240V, 50Hz	
Power consumption	Cooling	kW	0.94-1.03	0.96-1.05
	Heating		0.86-0.90	0.88-0.96
Sound pressure level		dB(A)	Hi:51	Hi:52
Exterior dimensions H x W x D		mm	360x1570x830	
Net weight		kg	92	
Air flow (Standard)		CMM	Hi:51	Hi:68
External Static pressure		Pa	200	
Outside air intake			Possible(on Return duct)	
Air filter, Q'ty			Procure locally	
Remote control(option)			wired:RC-E4, RCH-E3 wireless:RCN-KIT3-E	
Installation data Refrigerant piping size		mm(in)	Liquid line:ø9.52(3/8") Gas line:ø19.05(3/4")	Liquid line:ø9.52(3/8") Gas line:ø22.22(7/8")

1. The data are measured under the following conditions(ISO-T1). Cooling: Indoor temp. of 27°CDB, 19°CWB, and outdoor temp. of 35°CDB. Heating: Indoor temp. of 20°CDB, and outdoor temp. of 7°CDB, 6°CWB. External static pressure of indoor unit is 100Pa.
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.
3. Values of sound pressure level become increased 5dB(A), when external static pressure is 200Pa (factory setting).
4. Values of air flow volume are those at external static pressure 200Pa (factory setting).

Duct Connected -Low/Middle Static Pressure- FDUM

Model No.

FDUM22KXE6D
FDUM28KXE6D
FDUM36KXE6D
FDUM45KXE6D
FDUM56KXE6D
FDUM71KXE6D
FDUM90KXE6D
FDUM112KXE6D
FDUM140KXE6D

LOW NOISE

Wired remote control

RC-E4 (option)

RCH-E3 (option)

Wireless remote control

RCN-KIT3-E (option)

Filter kit

UM-FL1E : for 22~56
UM-FL2E : for 71, 90
UM-FL3E : for 112, 140 (option)

*Filter pressure loss:5pa

Specifications

Item		Model	FDUM22KXE6D	FDUM28KXE6D	FDUM36KXE6D	FDUM45KXE6D	FDUM56KXE6D	FDUM71KXE6D	FDUM90KXE6D	FDUM112KXE6D	FDUM140KXE6D
Nominal cooling capacity		kW	2.2	2.8	3.6	4.5	5.6	7.1	9.0	11.2	14.0
Nominal heating capacity		kW	2.5	3.2	4.0	5.0	6.3	8.0	10.0	12.5	16.0
Power source			1 Phase 220-240V, 50Hz								
Power consumption	Cooling	kW	0.10-0.12	0.13-0.15		0.16-0.18		0.17-0.19	0.18-0.21	0.27-0.31	0.31-0.35
	Heating		0.10-0.12	0.13-0.15		0.16-0.18		0.17-0.19	0.18-0.21	0.27-0.31	0.31-0.35
Sound pressure level※		dB(A)	Hi:33 Me:31 Lo:28	Hi:34 Me:31 Lo:28		Hi:35 Me:32 Lo:29		Hi:35 Me:32 Lo:29	Hi:36 Me:33 Lo:30	Hi:37 Me:35 Lo:32	Hi:38 Me:36 Lo:33
Exterior dimensions H x W x D		mm	299 x 750 x 635					299 x 950 x 635		350 x 1370 x 635	
Net weight		kg	33	34				40		59	
Air flow ※		CMM	Hi:10 Me:9 Lo:8	Hi:12 Me:11 Lo:10		Hi:13 Me:12 Lo:11		Hi:16 Me:15 Lo:14	Hi:20 Me:18 Lo:15	Hi:28 Me:25 Lo:22	Hi:28 Me:25 Lo:22
External Static pressure		Pa	85 (at 10CMM)	85(at 12CMM)		85(at 14CMM)		85 (at 18CMM)	85 (at 20CMM)	90 (at 28CMM)	85 (at 34CMM)
Outside air intake			Possible								
Air filter, Q'ty			Procure locally								
Remote control(option)			wired:RC-E4, RCH-E3 wireless:RCN-KIT3-E								
Installation data Refrigerant piping size		mm(in)	Liquid line:ø6.35(1/4") Gas line:ø9.52(3/8")		Liquid line:ø6.35(1/4") Gas line:ø12.7(1/2")			Liquid line:ø9.52(3/8") Gas line:ø15.88(5/8")			

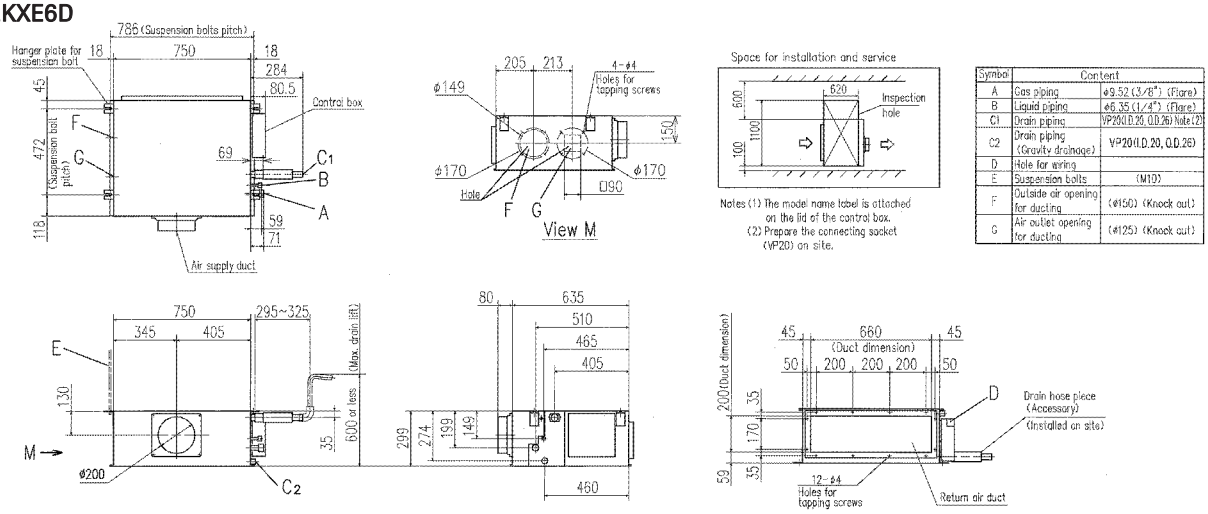
1. The data are measured under the following conditions(ISO-T1). Cooling: Indoor temp. of 27°CDB, 19°CWB, and outdoor temp. of 35°CDB. Heating: Indoor temp. of 20°CDB, and outdoor temp. of 7°CDB, 6°CWB. External static pressure of indoor unit is 60Pa.
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.

※ Powerful-Hi can be selected. Sound pressure level: FDUM22/28/36 35dB(A), FDUM45/56 36dB(A), FDUM71/90 38dB(A), FDUM112/140 41dB(A). Air flow: FDUM22 12CMM, FDUM28/36/45/56 14CMM, FDUM71 18CMM, FDUM90 23 CMM, FDUM112/140 34CMM.

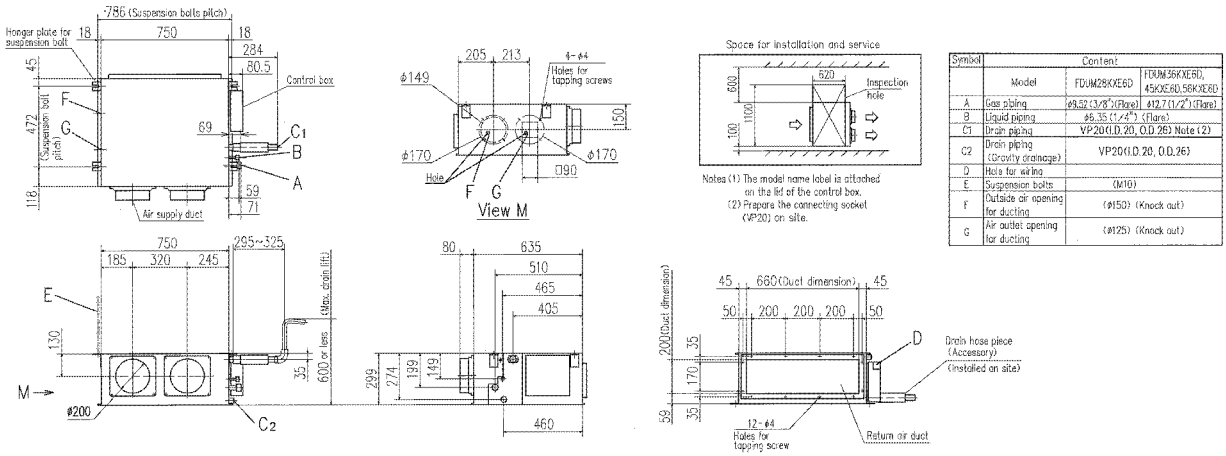
Dimensions

All measurements in mm.

FDUM22KXE6D

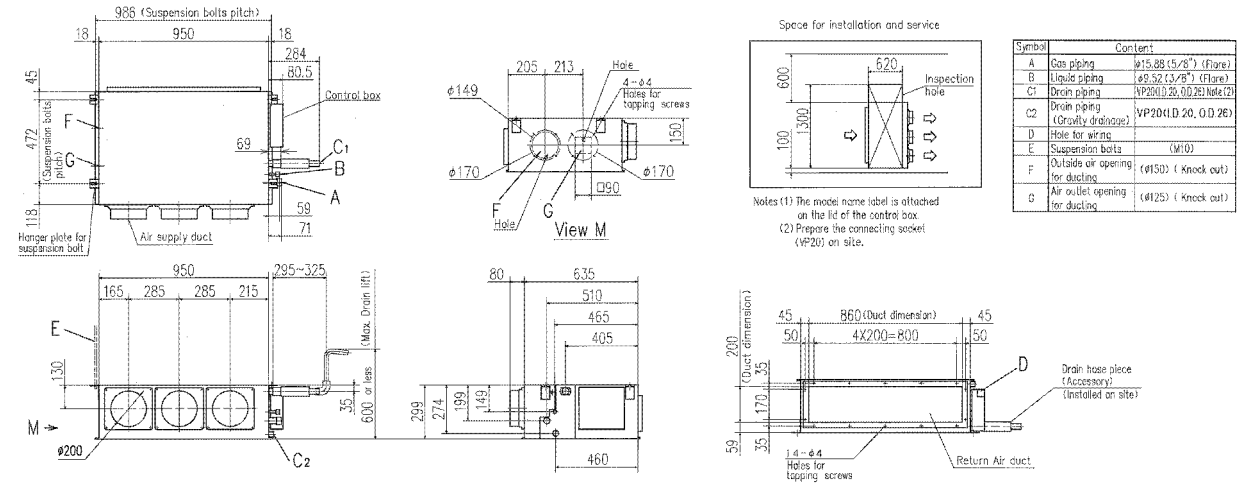


FDUM28KXE6D, 36KXE6D, 45KXE6D, 56KXE6D



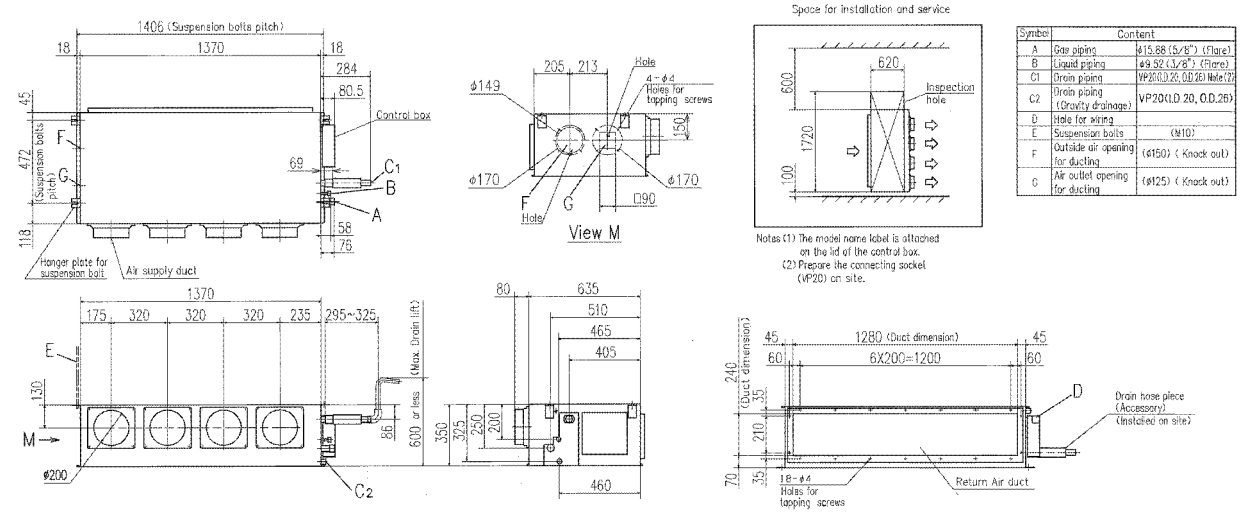
Symbol	Content		
	Model	FDUM28KXE6D	FDUM36KXE6D, 45KXE6D, 56KXE6D
A	Gas piping	ϕ9.52 (3/8") (Flare)	ϕ12.7 (1/2") (Flare)
B	Liquid piping	ϕ6.35 (1/4") (Flare)	
C1	Drain piping	VP20 (I.D. 20, O.D. 26) Note (2)	
C2	Drain piping (Gravity drainage)	VP20 (I.D. 20, O.D. 26)	
D	Hole for wiring		
E	Suspension bolts	(M10)	
F	Outside air opening for ducting	(ϕ150) (Knock out)	
G	Air outlet opening for ducting	(ϕ125) (Knock out)	

FDUM71KXE6D, 90KXE6D



Symbol	Content	
A	Gas piping	ϕ15.88 (5/8") (Flare)
B	Liquid piping	ϕ9.52 (3/8") (Flare)
C1	Drain piping	VP20 (O.D. 26, O.D. 26) Note (2)
C2	Drain piping (Gravity drainage)	VP20 (I.D. 20, O.D. 26)
D	Hole for wiring	
E	Suspension bolts	(M10)
F	Outside air opening for ducting	(ϕ150) (Knock out)
G	Air outlet opening for ducting	(ϕ125) (Knock out)

FDUM112KXE6D, 140KXE6D



Symbol	Content	
A	Gas piping	ϕ15.88 (5/8") (Flare)
B	Liquid piping	ϕ9.52 (3/8") (Flare)
C1	Drain piping	VP20 (O.D. 26, O.D. 26) Note (2)
C2	Drain piping (Gravity drainage)	VP20 (I.D. 20, O.D. 26)
D	Hole for wiring	
E	Suspension bolts	(M10)
F	Outside air opening for ducting	(ϕ150) (Knock out)
G	Air outlet opening for ducting	(ϕ125) (Knock out)

Duct Connected (thin) -Low Static Pressure- FDUT

Model No.

FDUT22KXE6D
FDUT28KXE6D
FDUT36KXE6D
FDUT45KXE6D
FDUT56KXE6D

Wired remote control

RC-E4 (option)

RCH-E3 (option)

Wireless remote control

RCN-KIT3-E (option)

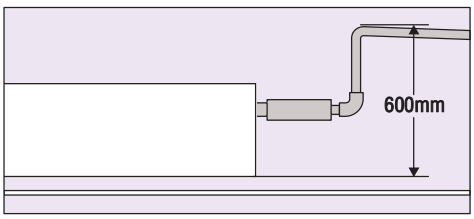
Suction guard set
UT-FL1E(22,28,36)
UT-FL2E(45,56)
(option)

*Filter pressure loss:5pa

Duct air supply kit
UT-DAS1E(22,28,36)
UT-DAS2E(45,56)
(option)

Using these kits, external static pressure of 35Pa for FDUT22/28/36KXE6D and 50Pa for FDUT45/56KXE6D can be attained.

600mm Drain Pump as standard equipment

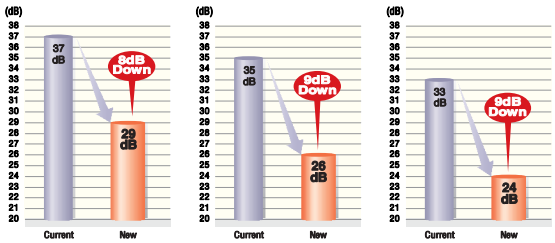


Drain can be discharged upwards by 600mm from the unit bottom. It allows a piping layout with a high degree of freedom depending on the installation location.

Quiet operation (in both of cooling and heating)

Thanks to optimum balance of unit design and air outlet direction, the sound level has been minimized. The level of FDUT22KXE6D is 24 dB(A) in case of low mode operation.

In case of FDUT22KXE6D



Specifications

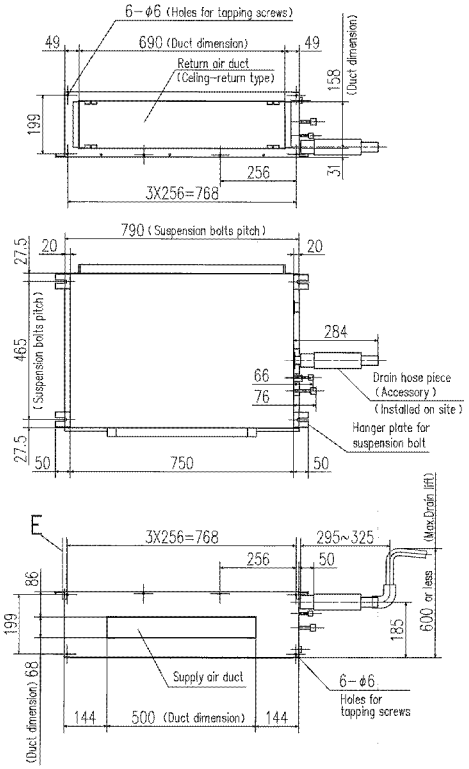
Item	Model	FDUT22KXE6D	FDUT28KXE6D	FDUT36KXE6D	FDUT45KXE6D	FDUT56KXE6D
Nominal cooling capacity	kW	2.2	2.8	3.6	4.5	5.6
Nominal heating capacity	kW	2.5	3.2	4.0	5.0	6.0
Power source		1 Phase 220-240V, 50Hz				
Power consumption Cooling	kW	0.05-0.06		0.06-0.07	0.08-0.09	0.11-0.13
Power consumption Heating	kW	0.05-0.06		0.06-0.07	0.08-0.09	0.11-0.13
Sound pressure level	dB(A)	Hi:29 Me:26 Lo:24		Hi:33 Me:31 Lo:28	Hi:35 Me:32 Lo:28	Hi:36 Me:34 Lo:31
Exterior dimensions H x W x D	mm	220x750x520			220x950x520	
Net weight	kg	26			28	
Air flow (Standard)	CMM	Hi:7.5 Me:6 Lo:5		Hi:8.5 Me:7 Lo:6	Hi:12 Me:10 Lo:8	Hi:12.5 Me:10 Lo:8.5
External Static pressure	Pa	10			10	
Outside air intake		Not possible				
Suction guard(Air filter)		Procure locally				
Remote control(option)		wired:RC-E4 RCH-E3 wireless:RCN-KIT3-E				
Installation data Refrigerant piping size	mm(in)	Liquid line:ø6.35(1/4") Gas line:ø9.52(3/8")		Liquid line:ø6.35(1/4") Gas line:ø12.7(1/2")		

1. The data are measured under the following conditions(ISO-T1). Cooling: Indoor temp. of 27°CDB, 19°CWB, and outdoor temp. of 35°CDB. Heating: Indoor temp. of 20°CDB, and outdoor temp. of 7°CDB, 6°CWB. External static pressure of indoor unit is 10Pa.
2. The data of nominal cooling and heating capacity and sound pressure level are measured with 10Pa of external static pressure.
3. The sound level indicates the value of rear-intake type with duct in anechoic chamber. During operation these values are somewhat higher due to ambient conditions.
4. In case of using the duct air supply kit, the maximum external static pressure of FDUT22/28/36KXE6D is 35Pa and that of FDUT45/56KXE6D is 50Pa.
5. Maximum external static pressure should be 35Pa when using duct flange plate kit "UT-DAS1E" and 50Pa when using "UT-DAS2E".

Dimensions

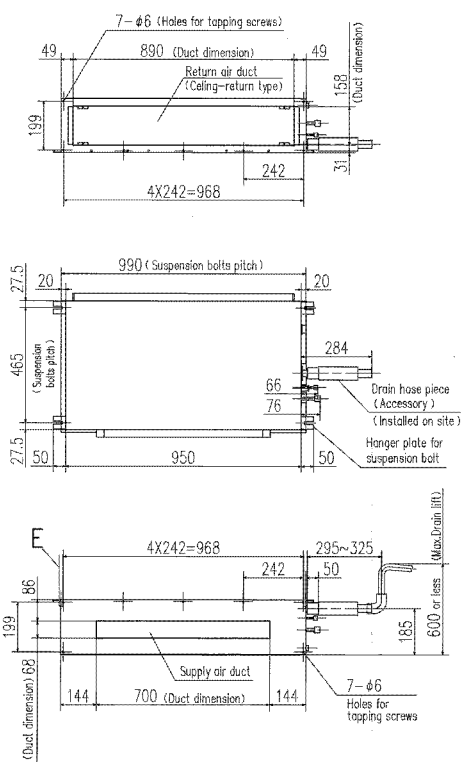
All measurements in mm.

FDUT22KXE6D, 28KXE6D, 36KXE6D



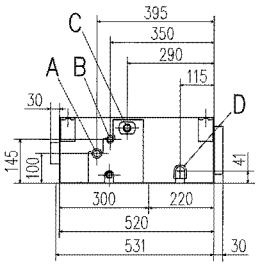
Symbol	Content		
	Model	22,28	36
A	Gas piping	φ9.52 (3/8") (Flare)	φ12.7 (1/2") (Flare)
B	Liquid piping	φ6.35 (1/4") (Flare)	
C	Drain piping	VP25 Note (2)	
D	Hole for wiring	φ35	
E	Suspension bolts	(M10)	

FDUT45KXE6D, 56KXE6D



Symbol	Content	
	Model	45,56
A	Gas piping	φ12.7 (1/2") (Flare)
B	Liquid piping	φ6.35 (1/4") (Flare)
C	Drain piping	VP25 Note (2)
D	Hole for wiring	φ35
E	Suspension bolts	(M10)

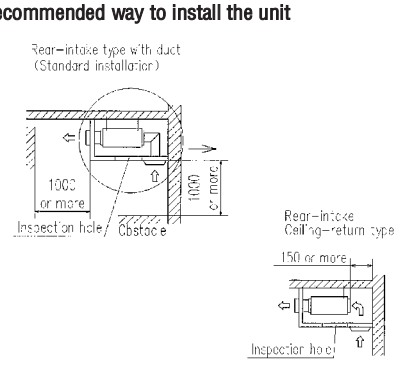
common to all models

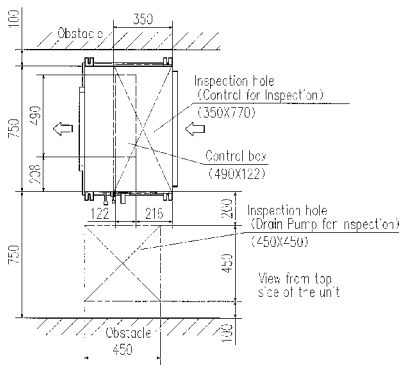


Notes
(1) The model name label is attached on the side plate.
(2) Prepare the connecting socket (VP25) on site.

Space for installation and service

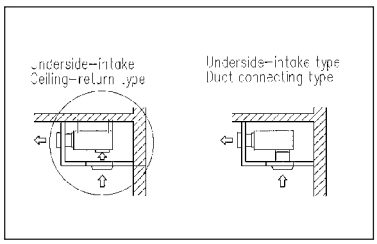
Recommended way to install the unit





(in case of FDUT22/28/36KXE6D)

The following way of installation is available. Refer to our technical manual for detail.



Duct Connected (Compact & Flexible)
FDUH

Model No.
FDUH22KXE6D
FDUH28KXE6D
FDUH36KXE6D

Drain up kit
(600mm)
UH-DU-E(option)

Filter kit
UH-FL1E

*Filter pressure loss:5pa

Wired remote control

RC-E4 (option)

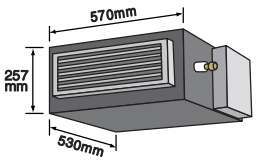
RCH-E3 (option)

Wireless remote control

RCN-KIT3-E (option)

Compact and thin size, light weight

Our leading high technology has realized the best solution for air conditioning in hotels with compact and thin size units and high energy efficiency. In addition, weight is only 20kg.

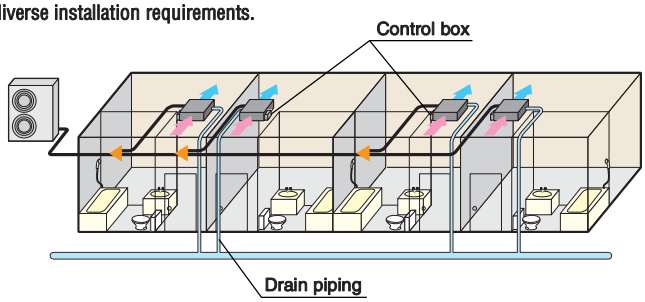


Quiet operation

The lowest sound level in the industry can ensure comfortable stay and rest in hotels.

Installation Flexibility

Control box and drain piping can be installed on both side of the unit and air intake to the unit is available from bottom or back side. Our highest technology can satisfy diverse installation requirements.



Wired remote control

RCH-E3 (option)

Simple remote control

Considering specialized usage in hotel rooms, control buttons are limited only to minimum required functions such as ON/OFF, mode, temperature setting and fan speed. It is really simple and easy to use.

Specifications

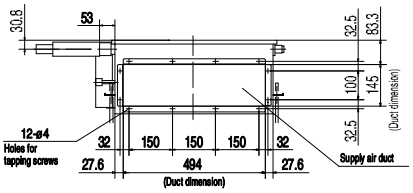
Item	Model	FDUH22KXE6D	FDUH28KXE6D	FDUH36KXE6D
Nominal cooling capacity	kW	2.2	2.8	3.6
Nominal heating capacity	kW	2.5	3.2	4.0
Power source		1 Phase 220-240V, 50Hz		
Power consumption Cooling	kW	0.05-0.07		
Power consumption Heating	kW	0.05-0.07		
Sound pressure level ※	dB(A)	HI: 33 Me: 30 Lo: 27		
Exterior dimensions HxWxD	mm	257x570x530		
Net weight	kg	22		
Air flow ※	CMM	HI: 7 Me: 6.5 Lo: 6		
External static pressure	Pa	30		
Outside air intake		Not possible		
Air filter, Q'ty		Procure locally		
Remote control(option)		wired:RC-E4,RCH-E3 wireless:RCN-KIT3-E		
Installation data Refrigerant piping size	mm(in)	Liquid line:ø6.35(1/4") Gas line:ø9.52(3/8")		Liquid line:ø6.35(1/4") Gas line:ø12.7(1/2")

1. The data are measured under the following conditions(ISO-T1). Cooling: Indoor temp. of 27°CDB, 19°CWB, and outdoor temp. of 35°CDB. Heating: Indoor temp. of 20°CDB, and outdoor temp. of 7°CDB, 6°CWB.
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.

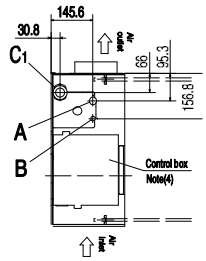
※ Powerful-HI can be selected. Sound pressure level: FDUH22/28/36 39dB(A). Air flow: FDUH22/28/36 8.5CMM.

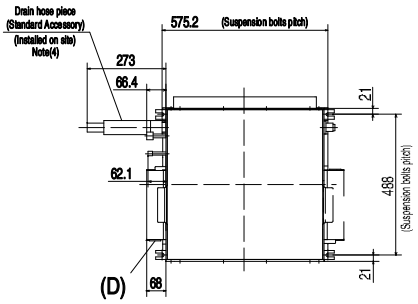
Dimensions

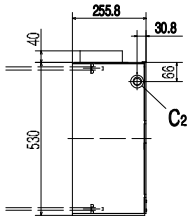
All measurements in mm.

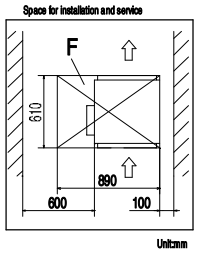


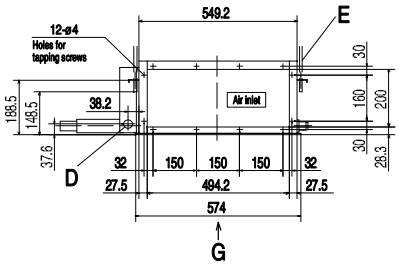
Symbol	Content		
	Model	FDUH22KXE6D,28KXE6D	FDUH36KXE6D
A	Gas piping	ø9.52 (3/8") (Flare)	ø12.7 (1/2") (Flare)
B	Liquid piping	ø6.35 (1/4") (Flare)	
C_1C_2	Drain piping	VP20(I.D.20, O.D.26) Note (2)	
D	Hole for wiring	ø30	
E	Suspension bolts	(M10)	
F	Inspection hole	(635X890) Note (3)	





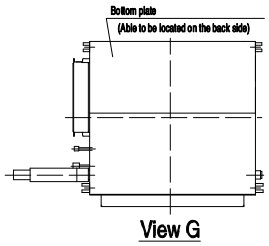




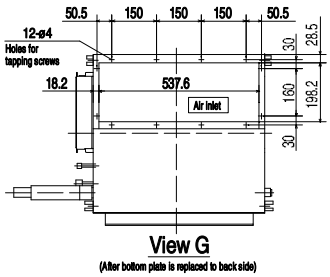


Notes

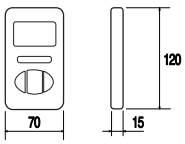
(1) The model name label is attached on the fan case inside the air return grille.
(2) Prepare the connecting socket (VP20) on site. (As for drain piping, it is possible to choose C_1 or C_2)
(3) When control box is located on the reverse side, Installation space should be modified to new location.
(4) Contorl box and Drain hose piece are able to be relocated on the reverse side.



In case of Bottom air intake



Simple remote control



Wall Mounted
FDK

Model No.

FDK22KXE6D
FDK28KXE6D
FDK36KXE6D
FDK45KXE6D
FDK56KXE6D
FDK71KXE6D

FDK22~56

FDK71

Wired remote control

RC-E4 (option) **RCH-E3 (option)**

Wireless remote control

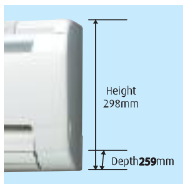
RCN-K-E : FDK22~56
RCN-K71-E : FDK71
(option)

Innovative Design

Colors in the figure show the air speed.

New FDK models adopt the air flow design that's proven to minimise resistance in a CFD analysis to achieve uniform air conditioning to the furthest corners of the room.

Installation Workability



The new slimmer design allows easy & neat installation even in tight spaces.

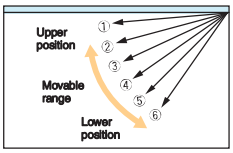
Improved Maintainability

Also included is a new easy clean mechanism where the front panel is opened/closed simply from the bottom to easily access the detachable filters.

Flap control system

Selection of louver position is possible. Louvers can be set at different angles.

*RCH-E3 is not applicable to the Flap control system.



Specifications

Item		Model	FDK22KXE6D	FDK28KXE6D	FDK36KXE6D	FDK45KXE6D	FDK56KXE6D	FDK71KXE6D
Nominal cooling capacity		kW	2.2	2.8	3.6	4.5	5.6	7.1
Nominal heating capacity		kW	2.5	3.2	4.0	5.0	6.3	8.0
Power source			1 Phase 220-240V, 50Hz					
Power consumption	Cooling	kW	0.05			0.05		0.09
	Heating		0.04			0.05		0.09
Sound pressure level ※	Cooling	dB(A)	Hi:35 Me:33 Lo:31		Hi:41 Me:35 Lo:31	Hi:42 Me:37 Lo:33	Hi:46 Me:42 Lo:37	Hi:47 Me:43 Lo:39
	Heating		Hi:35 Me:33 Lo:31		Hi:39 Me:35 Lo:31	Hi:42 Me:37 Lo:33	Hi:46 Me:42 Lo:37	Hi:47 Me:43 Lo:39
Exterior dimensions H x W x D		mm	298 x 840 x 259					318 x 1098 x 248
Net weight		kg	12			12.5	13	15.5
Air flow ※		CMM	Hi:8 Me:7 Lo:6		Hi:10 Me:9 Lo:7	Hi:11 Me:9 Lo:7	Hi:14 Me:12 Lo:10	Hi:21 Me:18 Lo:15
Outside air intake			Not possible					
Air filter, Q'ty			Polypropylene net x2 (Washable)					
Remote control(option)			wired:RC-E4, RCH-E3 wireless:RCN-K-E (for FDK22~56), RCN-K71-E (for FDK71)					
Installation data Refrigerant piping size		mm(in)	Liquid line:ø6.35(1/4") Gas line:ø9.52(3/8")		Liquid line:ø6.35(1/4") Gas line:ø12.7(1/2")			Liquid line:ø9.52(3/8") Gas line:ø15.88(5/8")

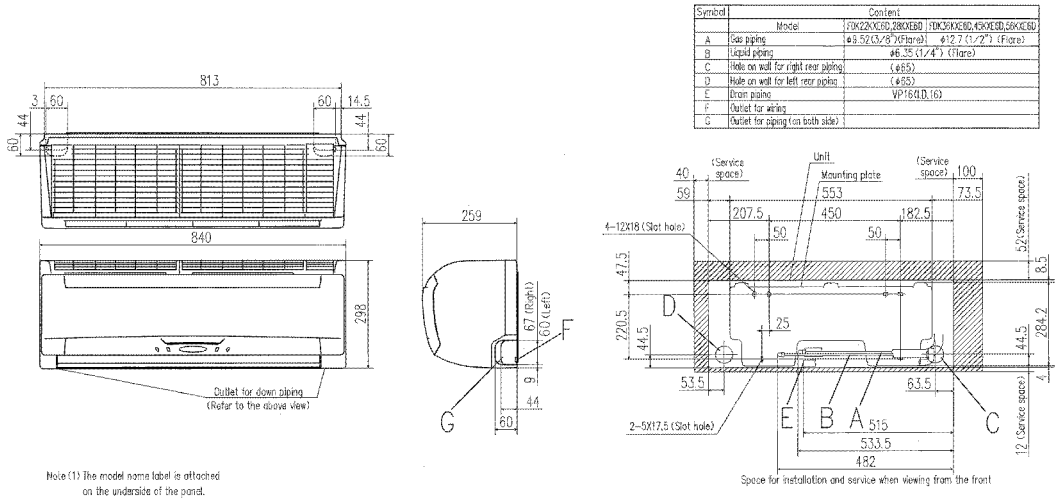
1. The data are measured under the following conditions(ISO-T1). Cooling: Indoor temp. of 27°CDB, 19°CWB, and outdoor temp. of 35°CDB. Heating: Indoor temp. of 20°CDB, and outdoor temp. of 7°CDB, 6°CWB.
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.

※ Powerful-Hi can be selected. Sound pressure level: FDK22/28 38dB(A), FDK36/45 48dB(A)(Cooling)&42dB(A)(Heating), FDK56 48dB(A)(Cooling)&46dB(A)(Heating), FDK71 47dB(A). Air flow: FDK22/28 11CMM, FDK36/45 15CMM, FDK56 16CMM, FDK71 24CMM.

Dimensions

All measurements in mm.

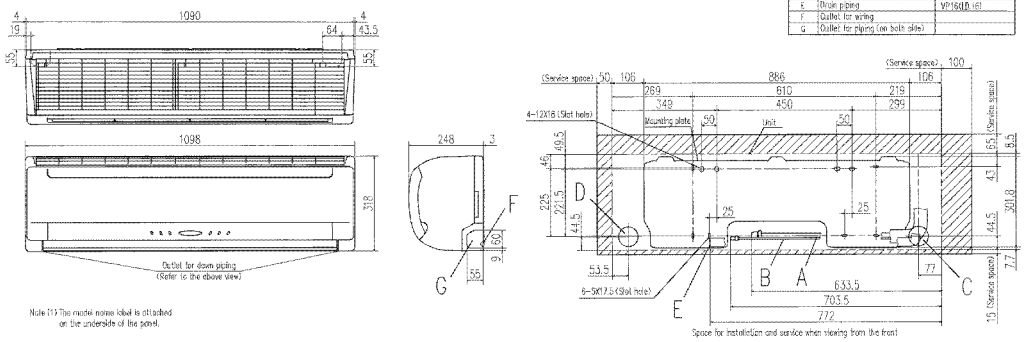
FDK22KXE6D, 28KXE6D, 36KXE6D, 45KXE6D, 56KXE6D



Symbol	Content	
	Model	FDK22KXE6D, 28KXE6D	FDK36KXE6D, 45KXE6D, 56KXE6D
A	Gas piping	ø9.52 (3/8") (Flare)	ø12.7 (1/2") (Flare)
B	Liquid piping	ø6.35 (1/4") (Flare)	
C	Hole on wall for right rear piping	(ø65)	
D	Hole on wall for left rear piping	(ø65)	
E	Drain piping	VP16(I.D.16)	
F	Outlet for wiring		
G	Outlet for piping (on both side)		

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

FDK71KXE6D



Symbol	Content	
A	Gas piping	ø15.88 (5/8") (Flare)
B	Liquid piping	ø9.52 (3/8") (Flare)
C	Hole on wall for right rear piping	(ø65)
D	Hole on wall for left rear piping	(ø65)
E	Drain piping	VP16(I.D.16)
F	Outlet for wiring	
G	Outlet for piping (on both side)	

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

Ceiling Suspended
FDE

Model No.
FDE36KXE6D
FDE45KXE6D
FDE56KXE6D
FDE71KXE6D
FDE112KXE6D
FDE140KXE6D

- **Small**
- **Light-weight**
- **Quiet**
- **Sleek, intelligent design**

Wired remote control

RC-E4 (option) **RCH-E3 (option)**

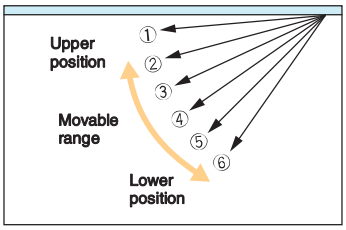
Wireless remote control

RCN-E-E(option)

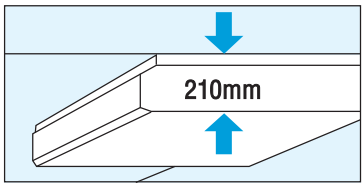
Flap control system

Selection of louver position is possible. Louvers can be set at different angles.

*RCH-E3 is not applicable to the Flap control system.

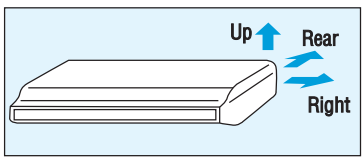


New Slim Design



Slim and sleek design starting at just 28kgs in weight means quick, easy & neat installation.

Installation Workability



Refrigerant piping can be routed in three directions (rear, up, right) & drain piping in left or right directions, allowing free layout to meet installation conditions.

Specifications

Item		Model	FDE36KXE6D	FDE45KXE6D	FDE56KXE6D	FDE71KXE6D	FDE112KXE6D	FDE140KXE6D
Nominal cooling capacity		kW	3.6	4.5	5.6	7.1	11.2	14.0
Nominal heating capacity		kW	4.0	5.0	6.3	8.0	12.5	16.0
Power source			1 Phase 220-240V, 50Hz					
Power consumption	Cooling	kW	0.04-0.05			0.08-0.09	0.12-0.14	0.14-0.15
	Heating		0.04-0.05			0.07-0.08	0.11-0.13	0.13-0.14
Sound pressure level ※		dB(A)	Hi:39 Me:38 Lo:36			Hi:41 Me:39 Lo:37	Hi:44 Me:41 Lo:39	Hi:46 Me:44 Lo:43
Exterior dimensions H x W x D		mm	210 x 1070 x 690			210 x 1320 x 690	250 x 1620 x 690	
Net weight		kg	28			37	49	
Air flow ※		CMM	Hi:11 Me:9 Lo:7			Hi:18 Me:14 Lo:12	Hi:26 Me:23 Lo:21	Hi:29 Me:26 Lo:23
Outside air intake			Not possible					
Air filter, Q'ty			Pocket Plastic net x2 (Washable)					
Remote control(option)			wired:RC-E4, RCH-E3 wireless:RCN-E-E					
Installation data Refrigerant piping size		mm(in)	Liquid line:ø6.35(1/4") Gas line:ø12.7(1/2")			Liquid line:ø9.52(3/8") Gas line:ø15.88(5/8")		

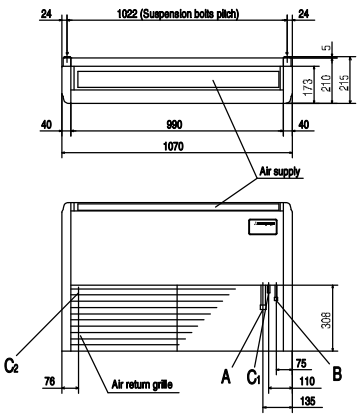
1. The data are measured under the following conditions(ISO-T1). Cooling: Indoor temp. of 27°CDB, 19°CWB, and outdoor temp. of 35°CDB. Heating: Indoor temp. of 20°CDB, and outdoor temp. of 7°CDB, 6°CWB.
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.

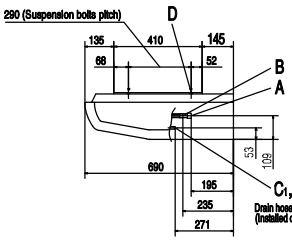
※ Powerful-HI can be selected. Sound pressure level: FDE36/45/56 46dB(A), FDE71 50dB(A), FDE112 46dB(A), FDE140 50dB(A). Air flow: FDE36/45/56 13CMM, FDE71 22CMM, FDE112 28CMM, FDE140 32CMM.

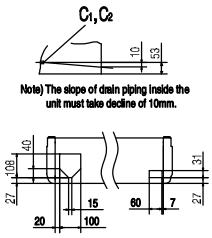
Dimensions

All measurements in mm.

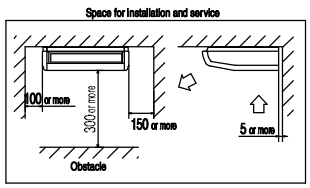
FDE36KXE6D, 45KXE6D, 56KXE6D

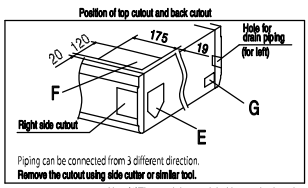






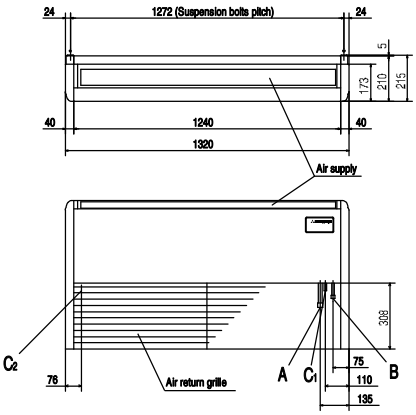
Symbol	Content	
A	Gas piping	ø12.7 (1/2") (Flare)
B	Liquid piping	ø6.35 (1/4") (Flare)
C1,2	Drain piping	VP20 (I.D.20)
D	Hole for suspension bolt	(M10 or M8)
E	Back cutout	PE cover
F	Top cutout	Plate cover
G	Hole for drain piping (for left back)	(Knock out)

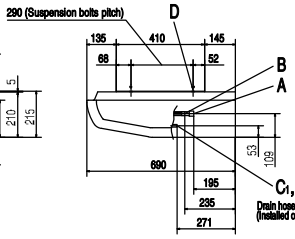


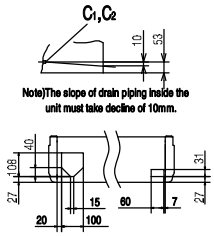


Note(1)The model name label is attached on the fan casing inside the air return grille.

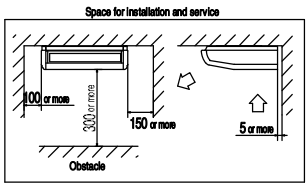
FDE71KXE6D

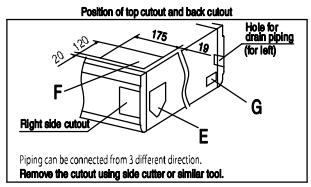






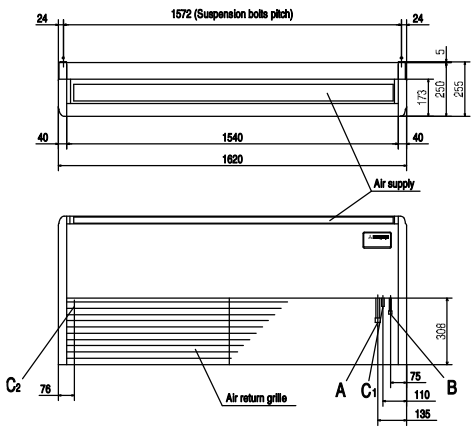
Symbol	Content	
A	Gas piping	ø15.88 (5/8") (Flare)
B	Liquid piping	ø9.52 (3/8") (Flare)
C1,2	Drain piping	VP20 (I.D.20)
D	Hole for suspension bolt	(M10 or M8)
E	Back cutout	PE cover
F	Top cutout	Plate cover
G	Hole for drain piping(for left back)	(Knock out)

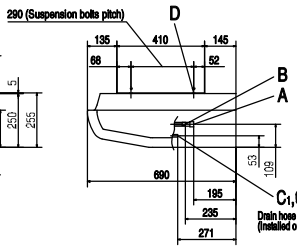


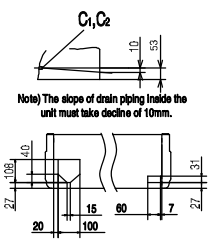


Note(1)The model name label is attached on the fan casing inside the air return grille.

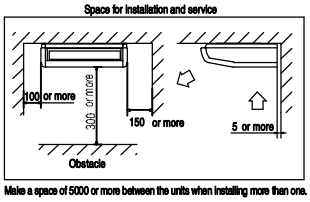
FDE112KXE6D, 140KXE6D

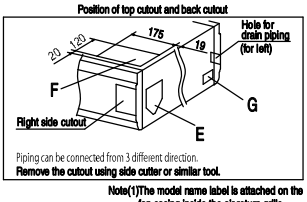






Symbol	Content	
A	Gas piping	ø15.88 (5/8") (Flare)
B	Liquid piping	ø9.52 (3/8") (Flare)
C1,2	Drain piping	VP20 (I.D.20)
D	Hole for suspension bolt	(M10 or M8)
E	Back cutout	PE cover
F	Top cutout	Plate cover
G	Hole for drain piping (for left back)	(Knock out)





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

Floor Standing -2way- FDFW

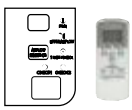
Model No.
FDFW28KXE6D
FDFW45KXE6D
FDFW56KXE6D

Wired remote control

RC-E4 (option)

RCH-E3 (option)

Wireless remote control



RCN-FW-E

Sophisticated Design

With classy semi flat front panel in chic white, the new series fit in various kinds of rooms and create relaxing atmosphere. Choice of wall hanging, floor standing or behind gallery installation is available.

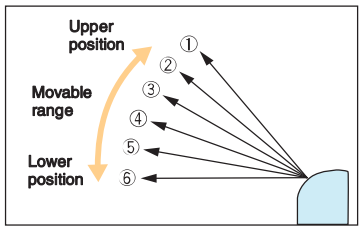
Quiet Operation

Thanks to optimum balance of air outlet direction and sufficient air flow volume, the sound level has been minimized. The level of FDFW28KXE6D in the cooling lo mode is 30dB(A) only.

Flap control system

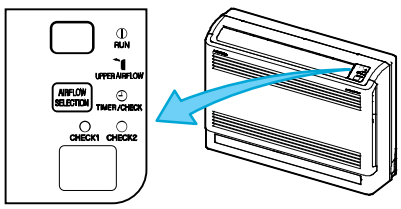
Selection of louver position is possible. Louvers can be set at different angles.

*RCH-E3 is not applicable to the Flap control system.



Convenient to use operation

Simultaneous lower and upper air outlets or upper outlet can be selected by air flow direction button. Further control can be arranged by a remote control.



(In case of use of wireless remote control)

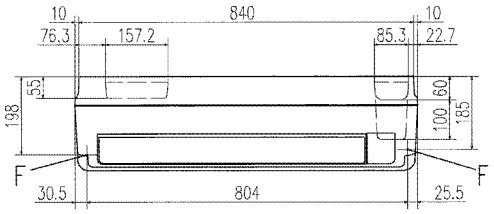
Specifications

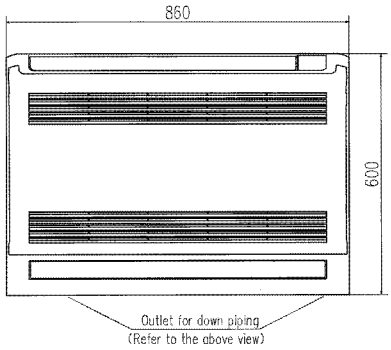
Item		Model	FDFW28KXE6D	FDFW45KXE6D	FDFW56KXE6D
Nominal cooling capacity		kW	2.8	4.5	5.6
Nominal heating capacity		kW	3.2	5.0	6.3
Power source			1 Phase 220-240V, 50Hz		
Power consumption	Cooling	kW	0.02-0.02	0.03-0.03	0.05-0.05
	Heating		0.02-0.02	0.03-0.03	0.05-0.05
Sound pressure level		dB(A)	Hi:36 Me:34 Lo:30	Hi:38 Me:36 Lo:33	Hi:44 Me:37 Lo:33
Exterior dimensions H x W x D		mm	600x860x238		
Net weight		kg	19	20	
Air flow (Standard)		CMM	Hi:9 Me:8 Lo:7		Hi:11 Me:9 Lo:8
Air filter, Q'ty			Polypropylene net x1 (Washable)		
Remote control(option)			wired:RC-E4, RCH-E3 wireless:RCN-FW-E		
Installation data Refrigerant piping size		mm(in)	Liquid line:ø6.35(1/4") Gas line:ø9.52(3/8")	Liquid line:ø6.35(1/4") Gas line:ø12.7(1/2")	

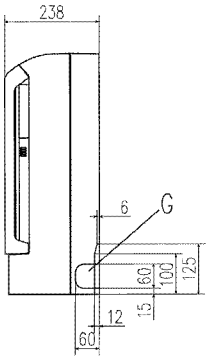
1. The data are measured under the following conditions(ISO-T1). Cooling: Indoor temp. of 27°CDB, 19°CWB, and outdoor temp. of 35°CDB. Heating: Indoor temp. of 20°CDB, and outdoor temp. of 7°CDB, 6°CWB.
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.

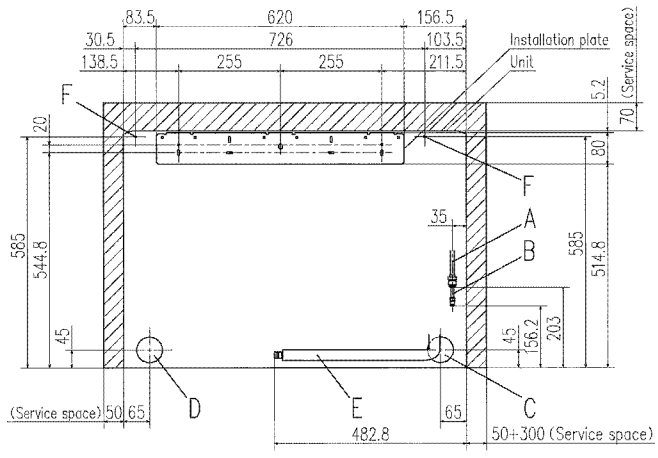
Dimensions

All measurements in mm.









Space for installation and service when viewing from the front

Symbol	Content		
	Model	FDFW28KXE6D	FDFW45KXE6D,56KXE6D
A	Gas piping	ø9.52 (3/8") (Flare)	ø12.7 (1/2") (Flare)
B	Liquid piping	ø6.35 (1/4") (Flare)	
C	Hole on wall for right rear piping	(ø65)	
D	Hole on wall for left rear piping	(ø65)	
E	Drain hose	VP16 (I.D.16)	
F	Screw point fasten the indoor unit	ø5	
G	Outlet for piping (on both side)		

Notes
(1) The model name label is attached on the rightside of the unit.
(2) In case of wall installation, leave the unit 150mm or less from the floor.

Floor Standing (with casing)
FDFL
Floor Standing (without casing)
FDFU

Wired remote control

RC-E4 (option)

RCH-E3 (option)

Wireless remote control

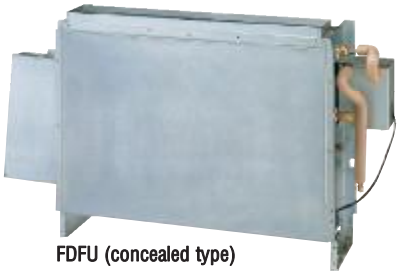
RCN-KIT3-E (option)

Model No.

FDFL71KXE6D

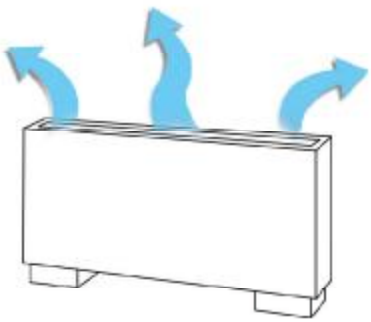
FDFU28KXE6D
FDFU45KXE6D
FDFU56KXE6D
FDFU71KXE6D

FDFL



FDFU (concealed type)

Compact design at 630mm height



Wider airflow for optimum comfort

Specifications

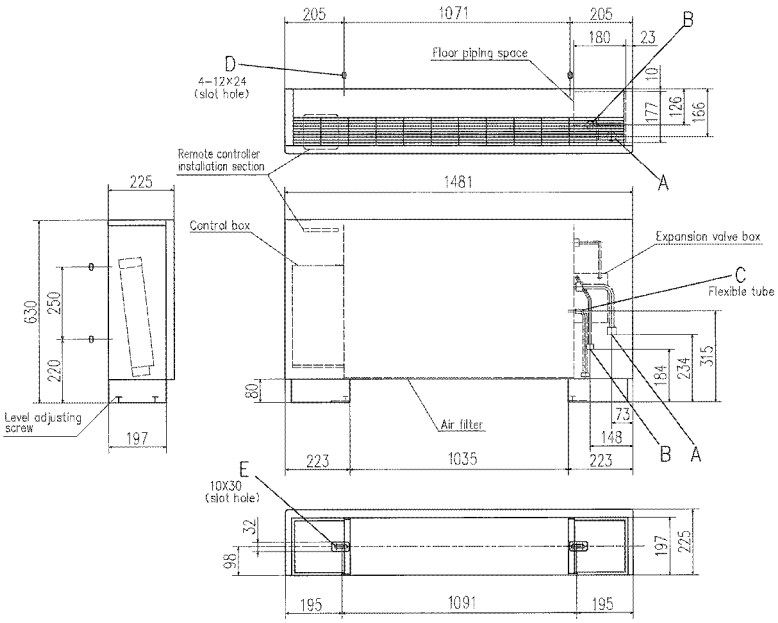
Item		Model	FDFL71KXE6D	FDFU28KXE6D	FDFU45KXE6D	FDFU56KXE6D	FDFU71KXE6D
Nominal cooling capacity		kW	7.1	2.8	4.5	5.6	7.1
Nominal heating capacity		kW	8.0	3.2	5.0	6.3	8.0
Power source			1 Phase 220-240V, 50Hz				
Power consumption	Cooling	kW	0.09-0.10	0.09-0.10			
	Heating		0.09-0.10	0.09-0.10			
Sound pressure level		dB(A)	Hi:43 Me:41 Lo:40	Hi:41 Me:38 Lo:36	Hi:43 Me:41 Lo:40		
Exterior dimensions H x W x D		mm	630x1481x225	630x1077x225			630x1362x225
Net weight		kg	40	25			32
Air flow (Standard)		CMM	Hi:18 Me:15 Lo:12	Hi:12 Me:11 Lo:10	Hi:14 Me:12 Lo:10		Hi:18 Me:15 Lo:12
Air filter, Q'ty			Polypropylene net x1 (Washable)				
Remote control(option)			wired:RC-E4, RCH-E3 wireless:RCN-KIT3-E				
Installation data Refrigerant piping size		mm(in)	Liquid line:ø9.52(3/8") Gas line:ø15.88(5/8")	Liquid line:ø6.35(1/4") Gas line:ø9.52(3/8")	Liquid line:ø6.35(1/4") Gas line:ø12.7(1/2")		Liquid line:ø9.52(3/8") Gas line:ø15.88(5/8")

1. The data are measured under the following conditions(ISO-T1). Cooling: Indoor temp. of 27°CDB, 19°CWB, and outdoor temp. of 35°CDB. Heating: Indoor temp. of 20°CDB, and outdoor temp. of 7°CDB, 6°CWB.
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.

Dimensions

All measurements in mm.

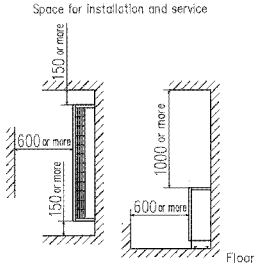
FDFL



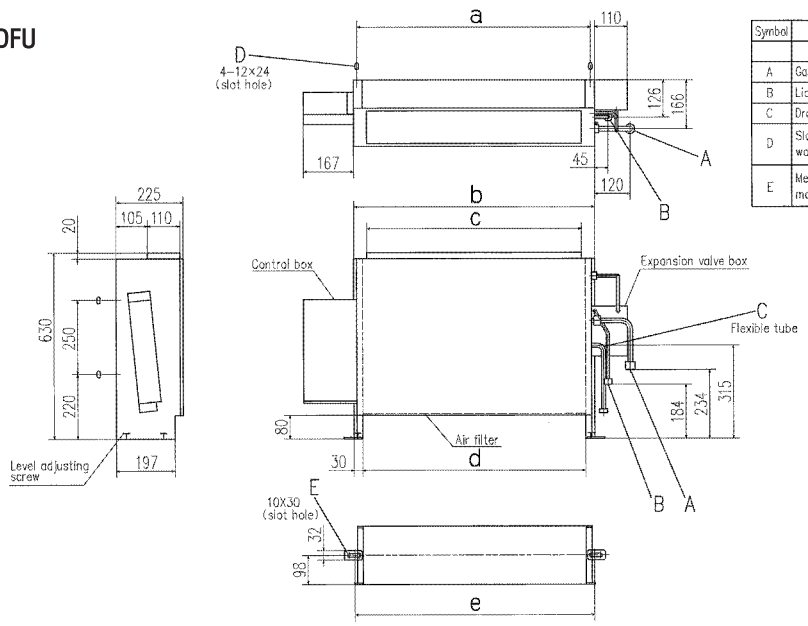
Symbol	Content	
	Model	FDFL71KXE6D
A	Gas piping (Accessory)	ϕ15.88 (5/8") (Flare)
B	Liquid piping	ϕ9.52 (3/8") (Flare)
C	Drain piping (Accessory)	PT20A female screw, 360mm
D	Slot hole for wall mounting	(M10)
E	Metal plate for floor mounting (Accessory)	(M8)

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

Space for installation and service



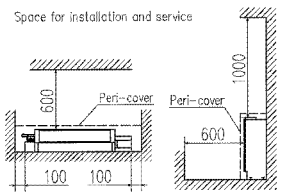
FDFU



Symbol	Content			
	Model	FDFU28KXE6D	FDFU45KXE6D,56KXE6D	FDFU71KXE6D
A	Gas piping (Accessory)	ϕ9.52 (3/8") (Flare)	ϕ12.7 (1/2") (Flare)	ϕ15.88 (5/8") (Flare)
B	Liquid piping	ϕ6.35 (1/4") (Flare)		ϕ9.52 (3/8") (Flare)
C	Drain piping (Accessory)	PT20A female screw, 360mm		PT20A female screw, 360mm
D	Slot hole for wall mounting	(M10)		(M10)
E	Metal plate for floor mounting (Accessory)	(M8)		(M8)

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

Space for installation and service



Dimension Table

Unit:mm

model	a	b	c	d	e
FDFU28KXE6D, 45KXE6D, 56KXE6D	786	810	722	750	806
FDFU71KXE6D	1071	1095	1007	1035	1091

Outdoor Air Processing unit
FDU-F

Model No.
FDU500FKXE6D
FDU850FKXE6D
FDU1300FKXE6D
FDU1800FKXE6D

Fan control kit
(100~200Pa)
U-FCRB(option)

Wired remote control

RC-E4 (option)

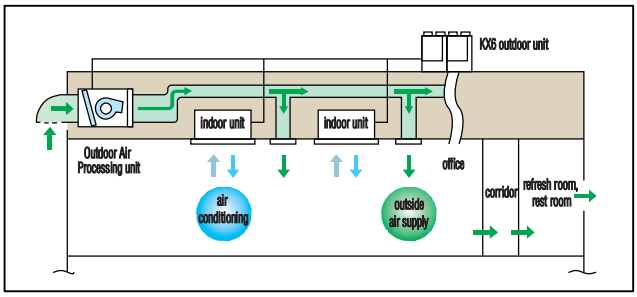
RCH-E3 (option)

Wireless remote control

RCN-KIT3-E (option)

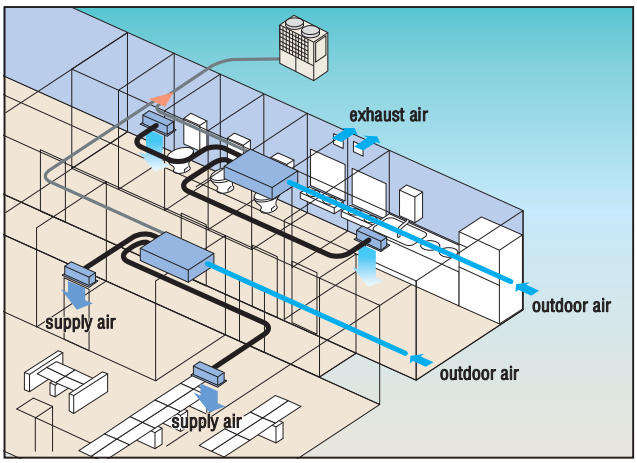
Air conditioning and intake of outdoor air are in the same system

Outdoor Air processing unit can be connected in a KX6 system as one of indoor unit series and can create fresh and comfortable air supply together from our high advanced technology.



Compact design

Compact design at just 360mm in height, high static pressure of 200Pa and the industry's lowest noise level can meet various kind of installation location for office, refresh room, restroom and kitchen of restaurant etc.



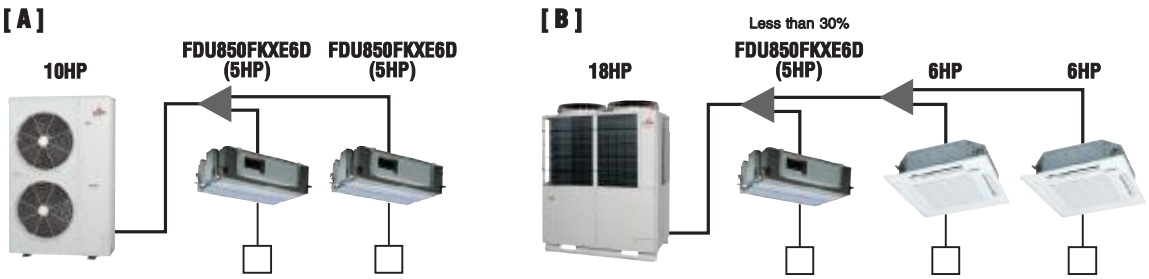
(1) This unit is the specific unit for processing the outdoor air temperature closer to the room temperature. For conditioning the room temperature a dedicated air-conditioner is required additionally.
(2) This unit monitors the outdoor air temperature and controls thermostat ON/OFF at the setting temperature by the remote controller, which indicates the outdoor air temperature for controlling thermostat ON/OFF. When thermostat is turned OFF, the operation is changed to the fan mode so that unprocessed outdoor air will be blown into the room directly. Therefore place the air outlet port or orient the air outlet direction not to blow air directly to persons in the room, especially in the small room such as a restroom and/or sanitary hot water supplying room.
(3) It is strictly prohibited to monitor the room temperature by switching to the thermistor at remote controller side and/or the optional remote thermistor. Otherwise dew formation at air outlet port and/or dew dripping may occur during cooling operation due to the lower outdoor air temperature. Therefore keep the remote controller of this unit in place closer to the administrator so as not to be touched it freely by the end user.
(4) Dehumidifying operation with this unit is prohibited.
(5) When handing over this unit to the end user, make sure to explain sufficiently about the foregoing cautions, the installation place and usage of remote control for this unit and the location of the air outlet.

Connectivity with KX6 series

FDU-F series are connectable to 8~48HP KX6 outdoor units, not connectable to 4~6HP.
8 ~ 48 HP : Yes , 4 ~ 6 HP : No

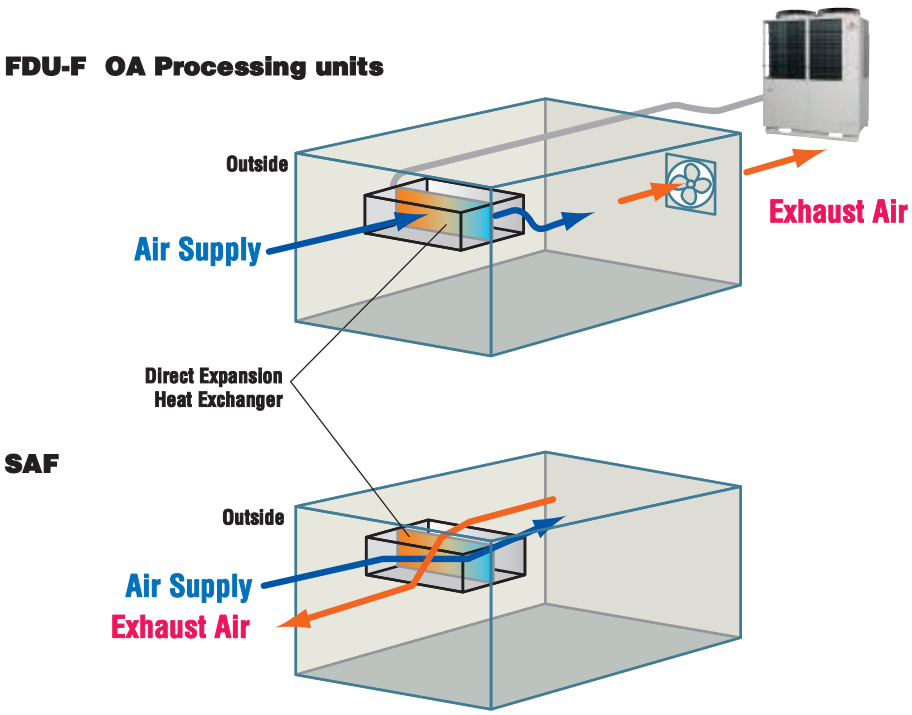
Combination with KX6 series

	case	Combination
A	In case OA processing units only are connected with KX6 outdoor units	The total capacity of FDU-F is 50~100% of outdoor capacity and max quantity of FDU-F is 2 units.
B	In case both of OA processing units and dedicated air-conditioner are connected with KX6 outdoor unit.	The total capacity of FDU-F and dedicated air-conditioners is 50~100% of outdoor capacity and max quantity of FDU-F should be below 30% of outdoor unit capacity.



Concept (Difference between FDU-F and SAF)

SAF is the energy recovery ventilation unit which can recover heat energy from exhaust air to supply air and "has no air processing function, but FDU-F is air processing unit which can treat the supply air closer to room temperature by cooling or heating in connection with KX6 refrigerant system and exhaust air is discharged to outside of the room.



Specifications

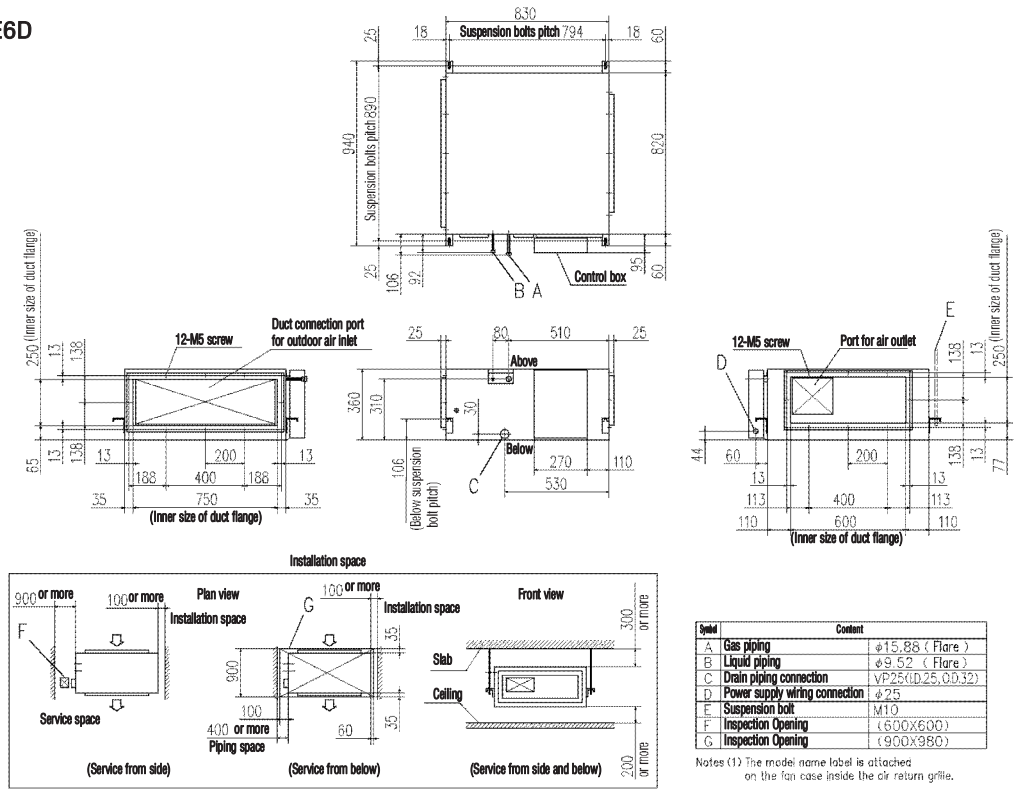
Item		Model	FDU500FKXE6D	FDU850FKXE6D	FDU1300FKXE6D	FDU1800FKXE6D
Nominal cooling capacity		kW	9.0	14.0	22.4	28.0
Nominal heating capacity		kW	4.2	7.0	10.9	14.8
Power source			1 Phase 220-240V, 50Hz			
Power consumption	Cooling	kW	0.11	0.16	0.27	0.31
	Heating		0.11	0.16	0.27	0.31
Sound pressure level		dB(A)	38	41	43	46
Exterior dimension HxWxD		mm	360x820x830	360x1200x830	360x1570x830	
Net weight		kg	48	62	82	84
Air flow (Standard)		CMM	8.5	14	22	30
		CMH	510	840	1320	1800
External static pressure		Pa	200			
Air filter, Q'ty			Procure locally			
Remote control(option)			wired:RC-E4,RCH-E3 wireless:RCN-KIT3-E			
Installation data Refrigerating piping size		mm (in)	Liquid line:ø9.52(3/8") Gas line:ø15.88(5/8")		Liquid line:ø9.52(3/8") Gas line:ø19.05(3/4")	Liquid line:ø9.52(3/8") Gas line:ø22.22(7/8")

1. The data are measured at 33°CDB 28°CWB (68%RH) during cooling and 0°CDB-2.9°CWB (50%RH) during heating (no frost). External static pressure of indoor unit with optional fan controlling kit "U-FCRB" is 100Pa.
2. Temperature range of outdoor air must be 20~40°CDB (32°CWB) during cooling and -10~24°CDB during heating.
3. Operation sound is measured in an anechoic room based on JIS standard. In case of actual room installation, it usually becomes higher than the displayed value due to the surrounding noise and echo.
4. The total connection capacity of the other standard air conditioning units and the outdoor air processing units must be from 50% to 100% (the total includes the outdoor air processing unit). The connection capacity of the outdoor air processing unit must not exceed 30% of the capacity of the outdoor unit.
5. Single outdoor air processing unit can be used alone. The connection capacity of the outdoor air processing unit must be from 50% to 100% of the total capacity of the outdoor unit.
6. Single outdoor air processing unit can be used alone. Maximum number of outdoor air processing units that can be connected to the outdoor unit is 2units.
7. Values of sound pressure level become increased 5dB(A), when external static pressure is 200Pa (factory setting).
8. Values of air flow volume are those at external static pressure 200Pa (factory setting).

Dimensions

All measurements in mm.

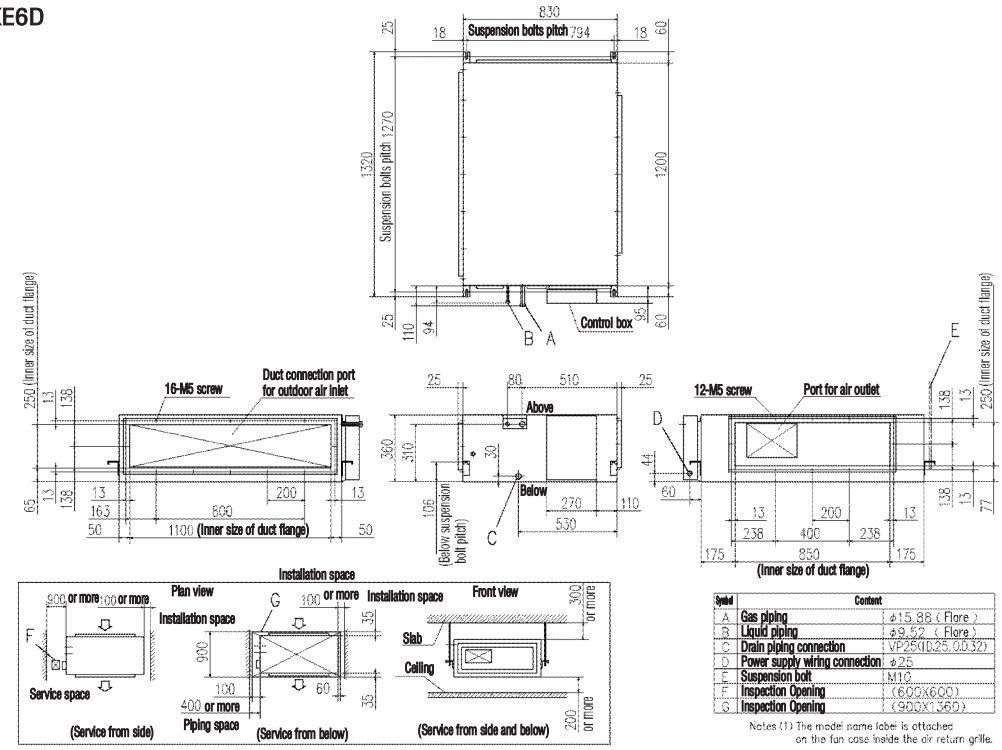
FDU500FKXE6D



Symbol	Content	
A	Gas piping	ø15.88 (Flare)
B	Liquid piping	ø9.52 (Flare)
C	Drain piping connection	VP25(O.D.25, O.D.32)
D	Power supply wiring connection	ø25
E	Suspension bolt	M10
F	Inspection Opening	(600X600)
G	Inspection Opening	(900X980)

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

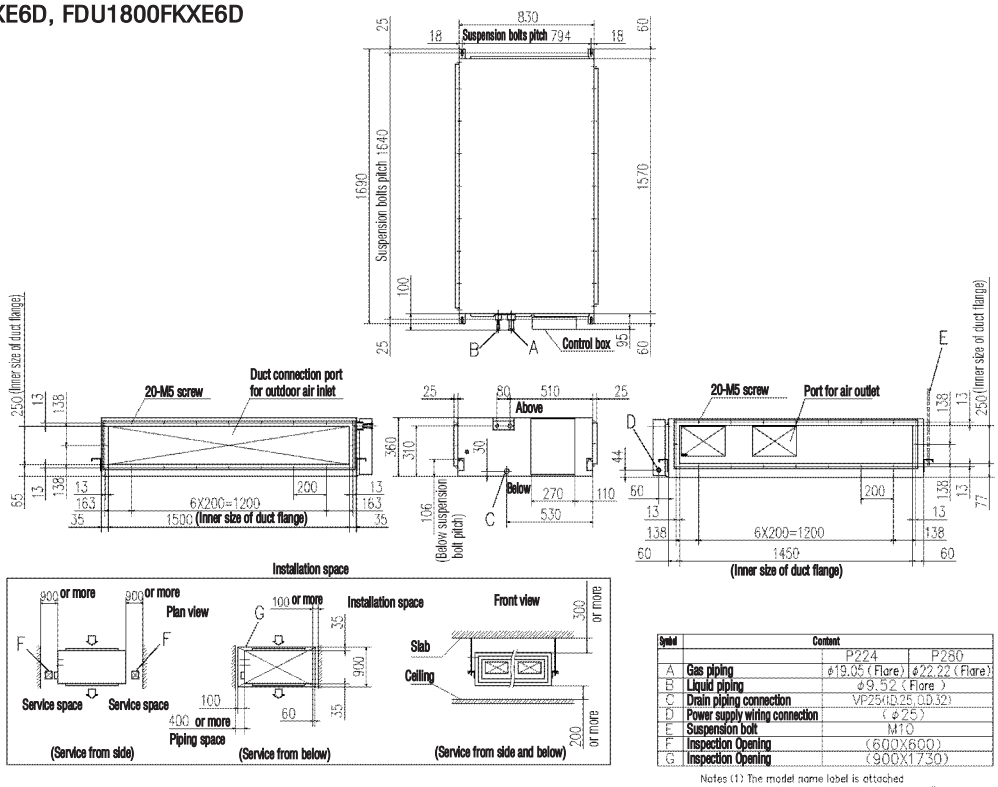
FDU850FKXE6D



Symbol	Content	
A	Gas piping	ϕ15.88 (Flare)
B	Liquid piping	ϕ9.52 (Flare)
C	Drain piping connection	VP25(I.D.25, O.D.32)
D	Power supply wiring connection	ϕ25
E	Suspension bolt	M10
F	Inspection Opening	(600X600)
G	Inspection Opening	(900X1360)

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

FDU1300FKXE6D, FDU1800FKXE6D



Symbol	Content		
		P224	P280
A	Gas piping	ϕ19.05 (Flare)	ϕ22.22 (Flare)
B	Liquid piping	ϕ9.52 (Flare)	
C	Drain piping connection	VP25(I.D.25, O.D.32)	
D	Power supply wiring connection	(ϕ25)	
E	Suspension bolt	M10	
F	Inspection Opening	(600X600)	
G	Inspection Opening	(900X1730)	

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

Fresh Air Ventilation and Heat Exchange unit SAF-E4

Model No.
SAF250E4
SAF350E4
SAF500E4
SAF800E4
SAF1000E4

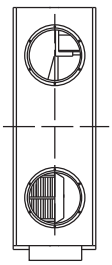
Re; Building Regulations Part L2

The Part L2 (April 2006) regulations limit the amount of electrical/gas power to be used to provide heating or cooling in commercial buildings. Therefore the building designer needs to select energy efficient heating/cooling equipment, and to minimise energy losses through ventilation systems.

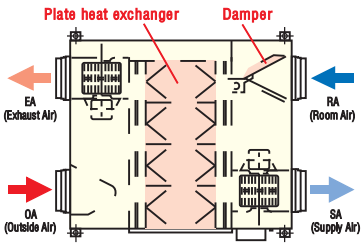
The SAF recovers heat energy which would otherwise be exhausted to atmosphere, and uses this energy to warm the air entering the building. The reverse happens in warmer climates, where the exhausted cool air is used to partially cool the incoming air.

Capturing this waste energy, means the heating/ cooling requirements of the building are reduced, so smaller size plant can be selected, savings can be made in long term energy consumption, and carbon emissions are reduced.

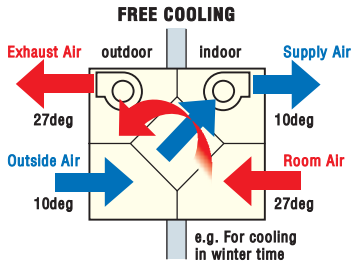
The inclusion of the SAF energy recovery ventilation units in the building design, will reduce the total amount of carbon emissions.



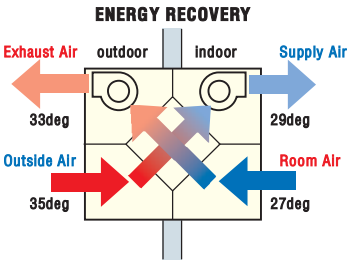
Structure (SAF1000E4)



Principle of operation (simple ventilation)



Principle of operation (heat exchanging)



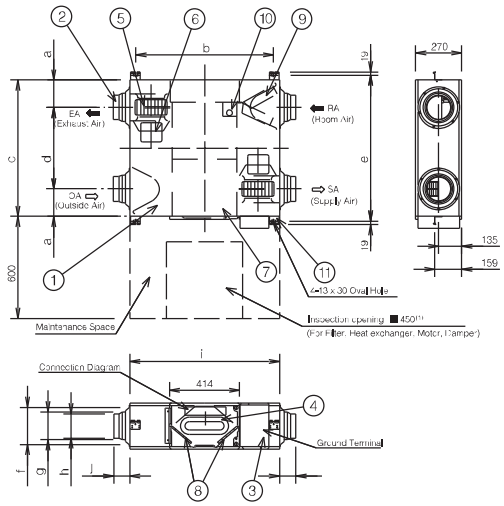
Specifications

Item			Model	SAF250E4	SAF350E4	SAF500E4	SAF800E4	SAF1000E4
Power source				1 Phase 220-240V, 50Hz				
Exterior dimensions Height x Width x Depth			mm	270x882x599	270x882x804	270x962x904	388x1322x884	388x1322x1135
Exterior appearance				Galvanised steel sheet				
	Power input		W	99-114	124-137	169-188	309-359	360-399
	Running current		A	0.46-0.48	0.59-0.60	0.79-0.81	1.48-1.50	1.85-1.93
Capacity	UHi	Enthalpy exchange efficiency	Cooling	63	66	62	65	
			Heating	70	69	67	71	
		Temperature exchange efficiency		75				
	Hi	Enthalpy exchange efficiency	Cooling	63	66	62	65	
			Heating	70	69	67	71	
		Temperature exchange efficiency		75				
	Lo	Enthalpy exchange efficiency	Cooling	66	69	77	68	68
			Heating	73	71	67	74	73
		Temperature exchange efficiency		77	77	75	76	76
Motor & Q'ty			kW	0.02x2	0.044x2	0.062x2	0.117x2	0.137x2
Air handling equipment Fan type & Q'ty				Sirocco fan x 2				
Air flow	UHi		m³/h	250	350	500	800	1000
	Hi			250	350	500	800	1000
	Lo			170	280	370	650	810
Available static pressure	UHi		Pa	90	95	105	140	90
	Hi			80	65	70	110	55
	Lo			37	42	38	70	35
Remote control				Standard equipment				
Air filter	Out take intake air			Protection for element (Washable) PS400				
	Exhaust air							

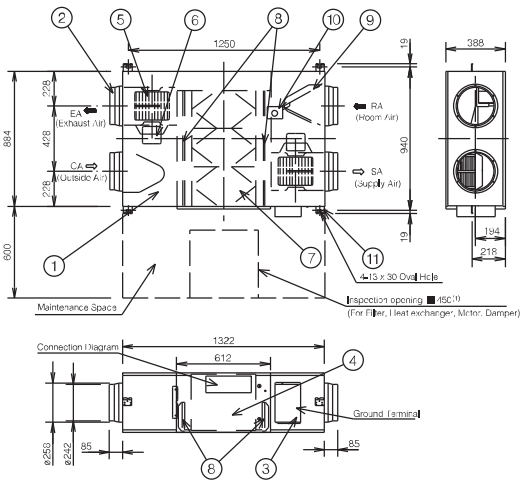
Dimensions

All measurements in mm.

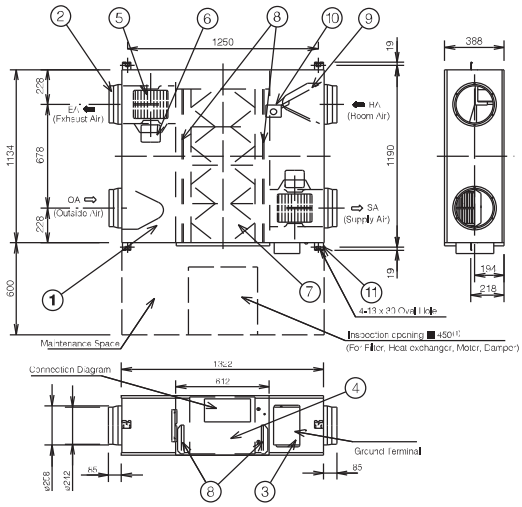
SAF250E4,350E4,500E4



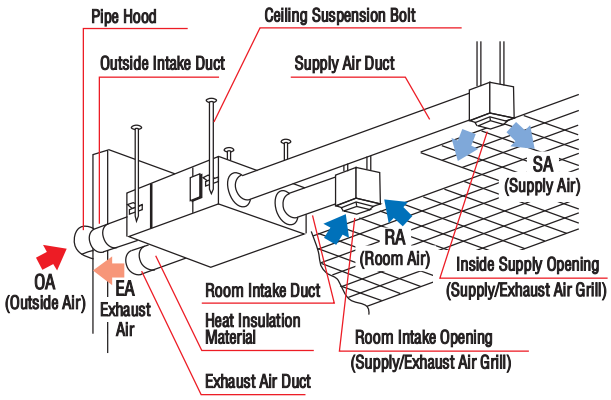
SAF800E4



SAF1000E4



Installation reference



NO.	Name	Quantity	Material	Remarks
1	Frame	1	Zinc-plated steel	
2	Adaptor	4	ABS Resin	
3	Electrical Equipment Box	1		
4	Inspection Cover	1	Zinc-plated steel	
5	Fan	2	ABS Resin	
6	Motor	2		
7	Heat Exchange Element	2	Flame Retardant Paper + Plastic	Air to air Heat Exchanger
8	Filter	2	Non-woven Cloth	Collection Efficiency Gravimetric Method 82%
9	Damper	1		
10	Damper Motor	1		
11	Ceiling Suspension Fixture	4	Zinc-plated Steel	

Note(1) An inspection port is needed for cleaning the heat exchanger and filter 1 or 2 times a year.

Dimension table

Unit:mm

Model	a	b	c	d	e
SAF250E4	142	810	599	315	655
SAF350E4	162	810	804	480	860
SAF500E4	202	890	904	500	960

Model	f	g	h	I	J
SAF250E4	ø219	ø164	ø144	882	95
SAF350E4	ø219	ø164	ø144	882	95
SAF500E4	ø246	ø210	ø194	962	107

Control Systems <Individual control>

Remote Control line up (except SAF)

	indoor unit	remote control
wired	all models	RC-E4
		RCH-E3

	indoor unit	remote control	indoor unit	remote control
wireless	FDT	RCN-T-36W-E	FDK22~56	RCN-K-E
	FDTC	RCN-TC-24W-ER	FDK71	RCN-K71-E
	FDE	RCN-E-E	others	RCN-KIT3-E

Wired remote control with weekly timer (option)

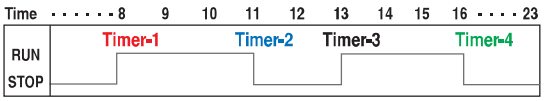
RC-E4

The RC-E4 controller enables extensive access to service and maintenance technical data combined with easy to use functions and a clear LCD display.

Weekly timer function as standard

RC-E4 provides (as a standard feature) a weekly timer, which allows one-week operation schedules to be registered. A user can specify up to four times a day to start/stop the air conditioner. (Temperature setting is also possible with the timer).

Timer operation



Run hour meters to facilitate maintenance checking

RC-E4 stores operation data when an anomaly occurs and indicates the error on the LCD. It also displays cumulative operation hours of the air conditioner and compressor since commissioning.

Room temperature controlled by the remote control sensor

The temperature sensor is housed in the top section of the remote control unit. This arrangement has improved the sensitivity of the remote control unit's sensor, which permits more finely controlled air conditioning.

Changeable set temperature ranges

RC-E4 allows the upper and lower limits of a set temperature range to be specified separately.
By adjusting a set temperature range, you can ensure energy saving air conditioning by avoiding excessive cooling or heating.

	Changeable range
Upper limit	20~30°C(effective for heating operation)
Lower limit	18~26°C(effective for non-heating operation)

Simple remote control (option)

RCH-E3 (wired)

Considering specialized usage in hotel rooms, control buttons are limited only to minimum required functions such as ON/OFF, mode, temperature setting and fan speed. It is really simple and easy to use.

Up to 16 units

It can control up to 16 units individually, with pressing the AIR CON No. button.

AUTO restart

This function allows starting the air conditioner automatically when power supply is restored after power failure or by turning on the power switch.

*RCH-E3 is not applicable to the Individual flap control system and the Flap control system.
*When RCH-E3 is used, the fan speed setting can only be set to 3 speed settings (HI-Me-Lo).

Thermistor (option)

SC-THB-E3

In case sensor in the indoor units or the remote control sensor can not sense the room temperature correctly, or individual remote control in each room is not required but only sensor is required (as when center control system is in place), install SC-THB-E3 at proper place in the rooms.

8m

Wireless remote control (option)

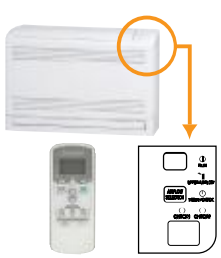
For wireless control simply insert the infra-red receiver kit on a corner of the panel

RCN-T-36W-E, RCN-TC-24W-ER

RCN-E-E

RCN-K-E, RCN-K71-E

RCN-FW-E



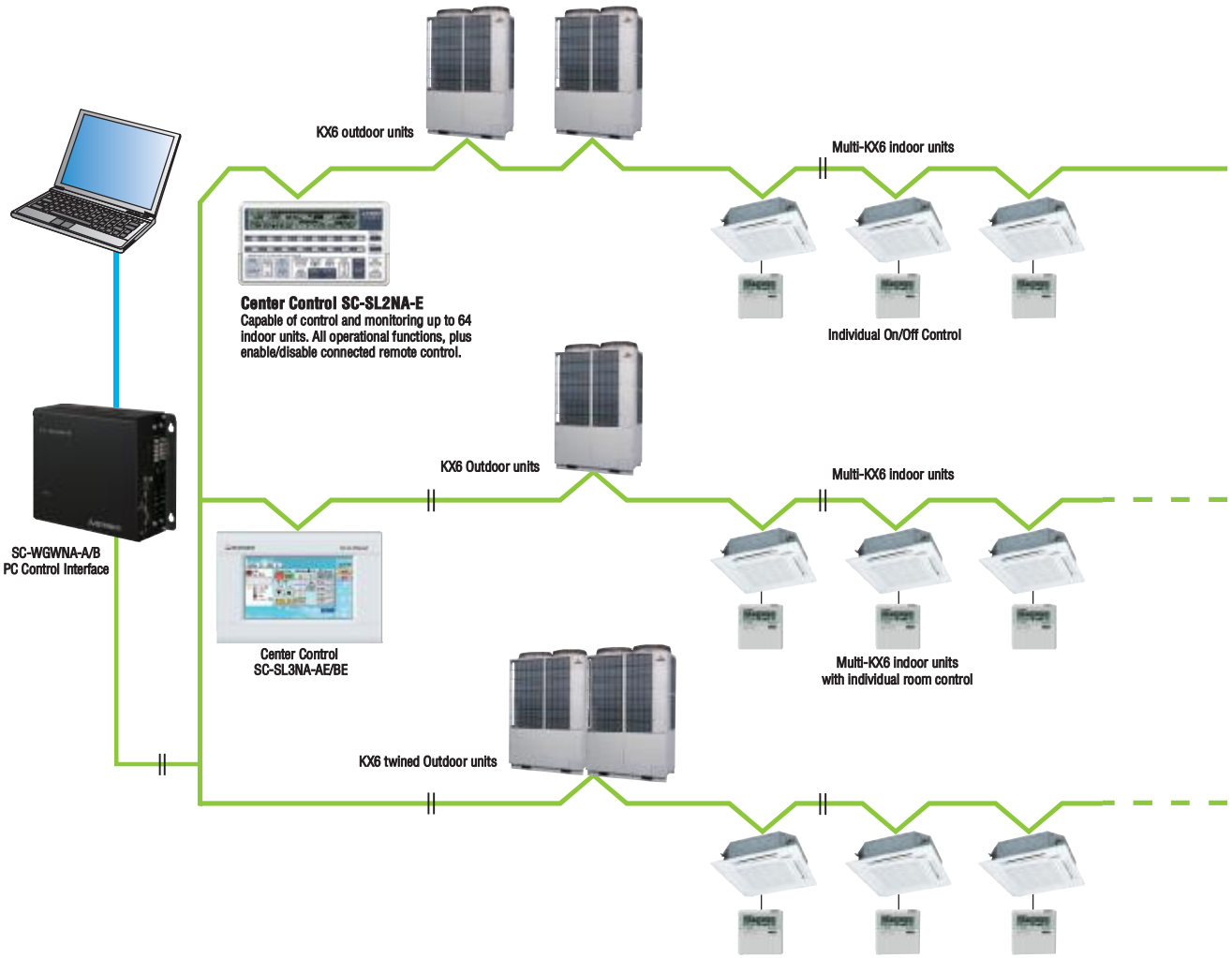
RCN-KIT3-E

*The wireless remote controled is not applicable to the Individual flap control system and the Flap control system.
*When the wireless remote control is used, the fan speed setting can only be set to 3 speed settings (HI-Me-Lo).

<Control System>
SUPERLINK-Ⅱ

MHI has now combined simplicity of installation with our highly sophisticated Superlink-Ⅱ control system, to offer building owners and occupiers a comprehensive control and management system, while providing complete commissioning and service maintenance assistance for installers and service engineers. The Superlink-Ⅱ network utilises two wire, non-polar cable - for further details of wiring.

Superlink-Ⅱ is an advanced high speed data transmission system that can connect up to 128 indoor units and 32 outdoor units as a network. MHI offers a wide range of control options for the Superlink-Ⅱ network to suit any application large or small, as well as connection to new or existing building management systems. Individual MHI split systems can also be integrated on to the Superlink-Ⅱ network using SC-ADNA-E.



<Central Control>

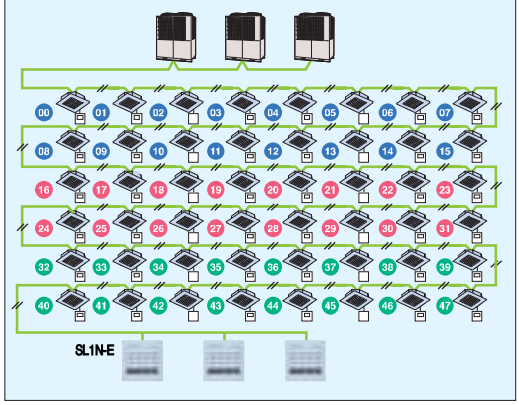
SC-SL1N-E

Start/stop control of up to 16 indoor units either individually or collectively.

Simple centralised control.

1. The SC-SL1N-E is connected to the Superlink-Ⅱ network via 2-core, non-polar wires ('AB' connection).
2. It will monitor and control the start/stop function of up to 16 units, with the sixteen operation button.
3. The unit or group numbers in operation or in need of service are displayed with an LED.
4. Collective start/stop is also available through the simultaneous on/off button.
5. Up to 12 SC-SL1N-E units can be connected to a Superlink-Ⅱ network (consisting of up to 128 indoor units).
6. If a power failure occurs, the SC-SL1N-E will resume the operation of the system according to a stored operation condition, once power is restored.

Example of control by a centre control SC-SL1N-E



More than one unit (up to 16) can be controlled for individual or collective start/stop operation and indication of unit statuses such as in operation or in need of service.

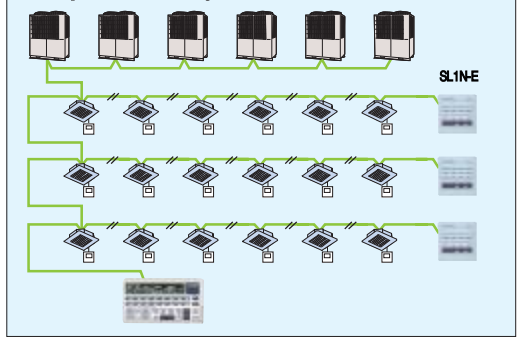
• Outer dimensions: H120 x W120 x D15+62*mm.
62* is the measurement including the part contained in a recess.

SC-SL2NA-E

Central control of up to 64 indoor units including weekly timer function as standard.

1. The SC-SL2NA-E is connected to the Superlink-Ⅱ network via 2-core, non-polar wires ('AB' connection).
2. It will monitor and control the start/stop function of up to16 units, or 16 groups of units, with the sixteen operation buttons.
3. It also monitors and controls the following functions for individual units, groups of units or the complete network: operation mode, set point temperature, return air temperature, louvre position, error code. Air flow and center lock function.
4. The unit or group numbers in operation or in need of service are displayed with an LCD.
5. Collective start/stop is also available through the simultaneous on/off button.
6. If a power failure occurs, the SC-SL2NA-E will resume the operation of the system according to a stored operation condition, once power is restored.
7. The SC-SL2NA-E can be connected to an external timer to facilitate timed on/off cycles.
8. The number of units connected to one network are detailed on the table below.

Example of control by a centre control SC-SL2NA-E



An SC-SL2NA-E performs the start/stop control, monitoring and mode setting of up to 64 units. It is a high quality air conditioner control system that allows up to 64 indoor units to be freely grouped into 1 to 16 groups. It allows not only the start/stop control but also the monitoring, display of operation statuses such as in operation or in need of service and mode setting such as switching of operation modes of connected units collectively, by group or individually.

• Outer dimensions: H120 x W215 x D25+35*mm.
35* is the measurement including the part contained in a recess.

Combination of Center Control and BMS interface unit

Yes:connectable No:not connectable

	SC-SL1N-E	SC-SL2NA-E	SC-SL3NA-AE/BE	SC-WGWNA-A/B	SC-BGWNA-A/B	SC-LGWNA-A
SC-SL1N-E	Yes(∗1)	Yes(∗1)	Yes(∗1)	Yes(∗2)	Yes(∗2)	Yes(∗2)
SC-SL2NA-E	Yes(∗1)	Yes(∗1)	Yes(∗1)	Yes(∗2)	Yes(∗2)	Yes(∗2)
SC-SL3NA-AE/BE	Yes(∗1)	Yes(∗1)	Yes(∗1)	Yes(∗2)	Yes(∗2)	Yes(∗2)
SC-WGWNA-A/B	Yes(∗2)	Yes(∗2)	Yes(∗2)	No	No	No
SC-BGWNA-A/B	Yes(∗2)	Yes(∗2)	Yes(∗2)	No	No	No
SC-LGWNA-A	Yes(∗2)	Yes(∗2)	Yes(∗2)	No	No	No

(∗1) Number of units in combination of SC-SL1N-E, SC-SL2NA-E and SC-SL3NA-AE/BE

	Connectable number of controls in one superlink-Ⅱ network									
SC-SL3NA-AE/BE	0				1			2		
SC-SL2NA-E	0	1-2	3-4	5-8	0-2	3-4	5-8	0-2	3-4	5-8
SC-SL1N-E	12	8	4	0	8	4	0	8	4	0

Regarding previous Superlink, refer to Technical Manual '06 SC-T-111, '08 SC-T-119.

(∗2) Number of units in combination of SC-WGWNA-A/B, SC-BGWNA-A/B, SC-LGWNA-A, SC-SL3NA-AE/BE, SC-SL2NA-E and SC-SL1N-E

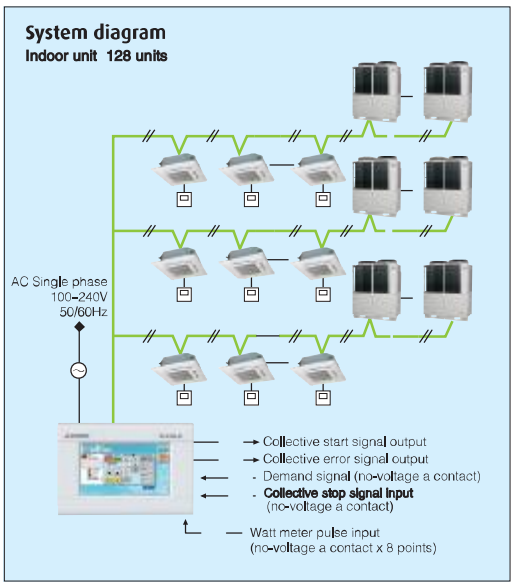
Connectable number of controls in one superlink-Ⅱ network			
SC-WGWNA-A/B or SC-BGWNA-A/B or SC-LGWNA-A	SC-SL1N-E	SC-SL2NA-E	SC-SL3NA-E-AE/BE
1	0-4	0-1	0-1

Regarding previous Superlink, refer to Technical Manual '06 SC-T-111, '08 SC-T-119.

SC-SL3NA-AE/BE

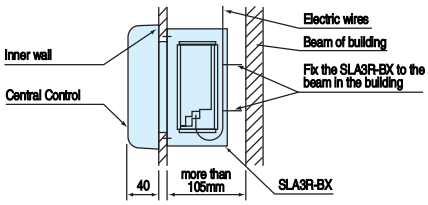
MHI introduces the full colour touch screen central control SC-SL3NA-AE/BE, with 7 inch interactive LCD display. Offers control, monitoring, scheduling and service/maintenance functions for up to 128 indoor units.

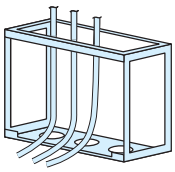
Indoor units can be controlled, scheduled, monitored and interrogated either individually, as groups or as blocks of groups with the following functions:



SLA3R-BX Control Box (option)

In case SC-SL3NA-AE/BE is fixed in the wall, use SLA3R-BX as optional parts.





Control	Monitoring	Scheduling	Administration/Service
Run/Stop	Operating state	Yearly schedule	Block definition
Mode (cool/heat/fan)	Mode	Today's schedule	Group definition
Set temperature	Set temperature	Special day schedule	Unit definition
Operation permitted/prohibited	Room temperature		Time and date setting
Fan speeds	Operation enabled		Alarm history
Air direction	Fan speed		Energy consumption calculation period
Filter reset	Air direction		Energy consumption cumulative operation time
Filter sign			
Maintenance (1, 2 or back-up)			Demand control
Breakdown			Emergency stop
			Power failure recovery control

Electric power calculation function:

(for SC-SL3NA-BE only)

SC-SL3NA-BE gives outputs as "electric power consumption kW data -each indoor unit, each group, each SUPERLINK-Ⅱ system and each power pulse system-" and uses USB memory.
The data can be edited by using the software that comes with the unit.

	SC-SL3NA-BE
Method of data saving	USB
Calculation software	Standard
Air-conditioner power proportional distribution pulse input	8 systems
Connecting indoor units number (Maximum)	128

Item	Model	SC-SL3NA-AE/SC-SL3NA-BE
Ambient temperature during use		0 ~ 40°C
Power supply		1 Phase 100-240V 50/60Hz
Power consumption		18W
External dimensions (Height x Width x Depth)		162mm x 240mm x 108mm
Net weight		2.0kg
Number of connectable units (indoor units)		up to 128 units
LCD touch panel		Colour LCD, 7 inches wide
Inputs	SL (Superlink) signal inputs	3 systems
	Gas, Power pulse input*	8-point pulse width 100ms or more
	Emergency stop signal input*	1 point non-voltage a contact input continuous input (closed, forced stop)
	Demand signal input*	1 point non-voltage a contact input continuous input (closed, demand control)
Outputs	Simultaneous operation output	1 point maximum rated current 40mA, 24 V During full stop; Open. If even one unit is operating; Closed
	Simultaneous error output	1 point maximum rated current 40mA, 24 V Normal; closed. If even one unit is abnormal; Open

* The receiving side power supply is DC 12V (10mA).
The air conditioning charges calculations of this unit are based on OIML, the international standard.
* In case embodying in a wall, please be sure to special box SLA3R-BX (option).

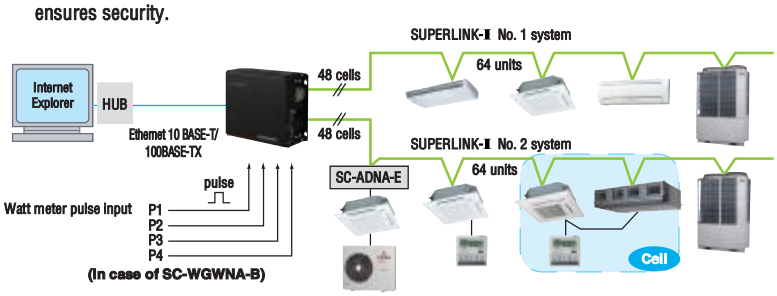
<PC windows central control>

SC-WGWNA-A/SC-WGWNA-B Production by order

(SC-WGWNA-B is with electric power calculation function)

Control and monitoring of up to 96 cells (some cells can have two or more indoor units and total number of indoor units can be up to 128 units) centralised to a network PC using the Superlink-Ⅱ web gateway. Simple installation is assured with no special software requirements, operation is via Internet Explorer. A low power embedded CPU and compact flash ROM ensure a large storage capacity with high reliability (no moving parts such as a PC fan, etc). An IP address filter function combined with three-level user authentication check also ensures security.

Additional engineering service cost etc. is required.
Please consult your dealer when using this central control.



PC requirements: Windows 2000, Windows XP or Windows Vista.
Monitor resolution 1024 x 768.
Web browser requirements: Internet Explorer 6.0 or 7.0.

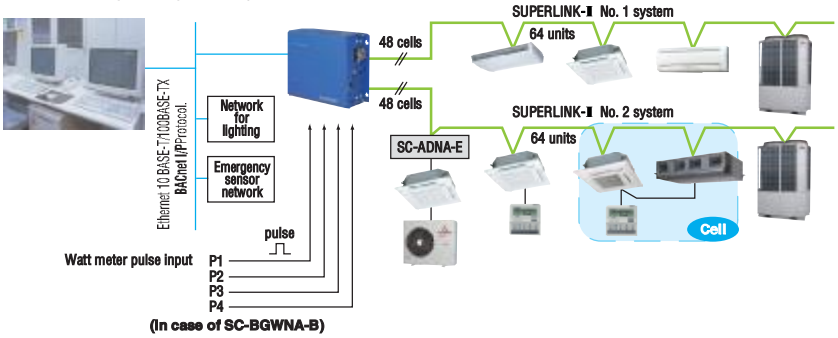
<BMS interface unit>

SC-BGWNA-A/SC-BGWNA-B (BACnet gateway) Production by order

(SC-BGWNA-B is with electric power calculation function)

SC-BGWNA-A/B is an interface device that converts MHI's Superlink-Ⅱ communication data to BACnet code. Control and monitoring functions of the a/c system for up to 96 cells (some cells can have two or more indoor units and total number of indoor units can be up to 128 units) can be integrated to a central control point via the building management system network.

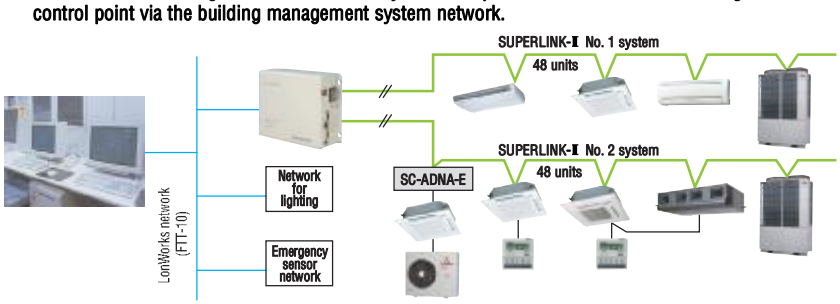
Additional engineering service cost etc. is required.
In case of SC-BGWNA-B, communication test by qualified person regarding electric cost calculation function is required before commissioning.
Please consult your dealer when using this gateway.



SC-LGWNA-A (LonWorks gateway) Production by order

SC-LGWNA-A is an interface device that converts MHI's Superlink-Ⅱ communication data to LonWorks code. Control and monitoring functions of the a/c system for up to 96 indoor units can be integrated to a central control point via the building management system network.

Additional engineering service cost etc. is required.
Please consult your dealer when using this gateway.



KX6 Service/maintenance and monitoring

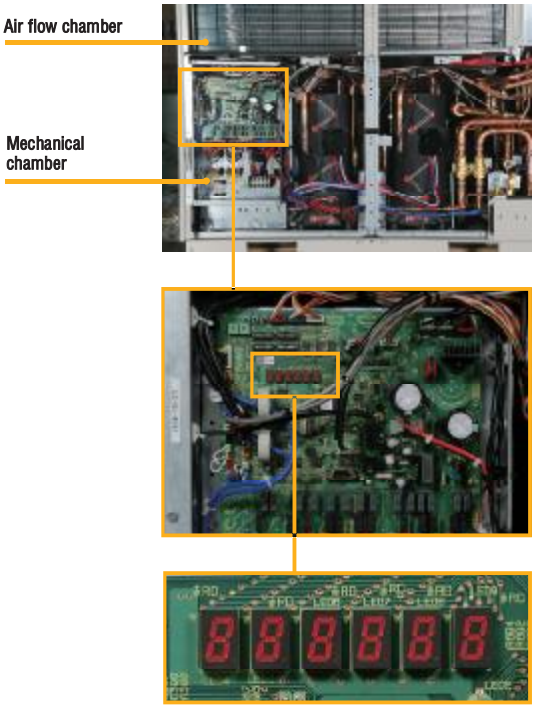
The design of the outdoor units separates the air flow compartment from the mechanical compartment, allowing easy access to serviceable parts by simply removing the panel.

This design also means that the base plate of the air flow compartment acts as a drain tray connected to a drain pipe that runs through the mechanical compartment, so a simple connection of a drain hose to the base of the unit is all that is required, no need for a separate drain tray to be installed.

Service maintenance and trouble shooting tasks can be carried out easily via the wired remote controller, as well as a cooling test operation to assist commissioning.

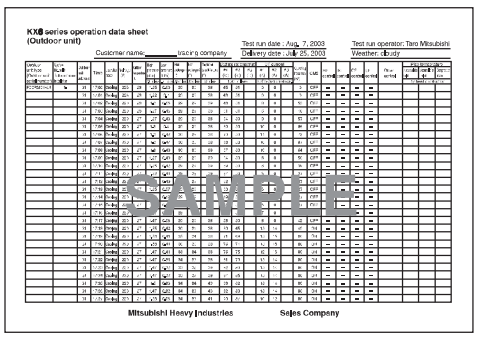
The outdoor unit control box is also equipped with a switch to invoke a 'test-run' mode. This function can be used to help detect any installation errors, indoor/outdoor unit matching errors, EEV and valve operation. A 'pump-down' switch on the PCB allows refrigerant to be recovered with the compressor protected.

All outdoor unit PCBs are also equipped with a 7-segment digital display for detailed operation history and fault finding. Operation data is stored for the 30 minute period preceding a fault occurring and details are displayed on the 7-segment reading.

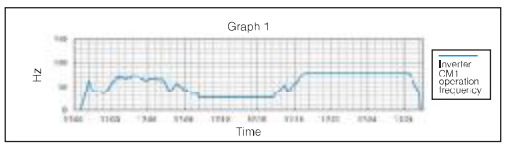


Outdoor unit PCB 7-segment display

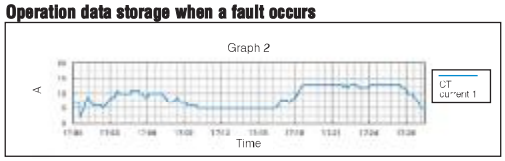
Automatically produced test-run report


KX6 series operation data sheet
(Outdoor unit)
SAMPLE
Mitsubishi Heavy Industries Sales Company

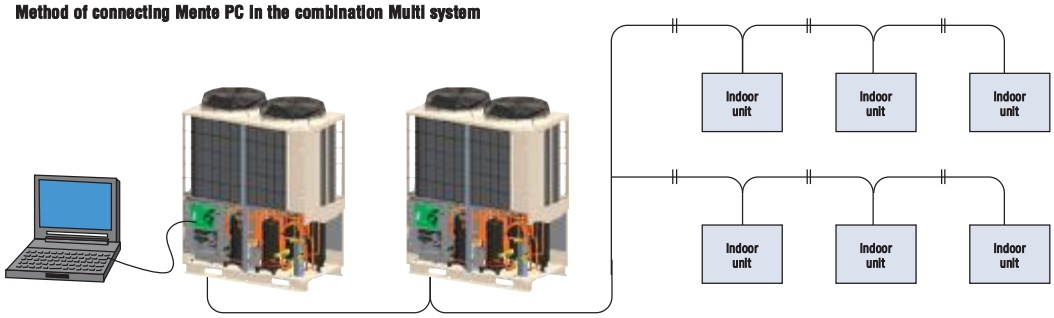
Operation data storage during servicing



Operation data storage when a fault occurs



Method of connecting Mente PC in the combination Multi system



Mitsubishi Heavy Industries KX6/further information

Mitsubishi Heavy Industries operates a continuous CSR (Corporate Social Responsibility) policy, with a role to realise a sustainable society through it's various areas of business.

Creed

- We strongly believe that the customer comes first and that we are obliged to be an innovative partner to society.
- We base our activities on honesty, harmony, and a clear distinction between public and private life.
- We shall strive for innovative management and technological development from an international perspective.

Reason for Instituting the Creed

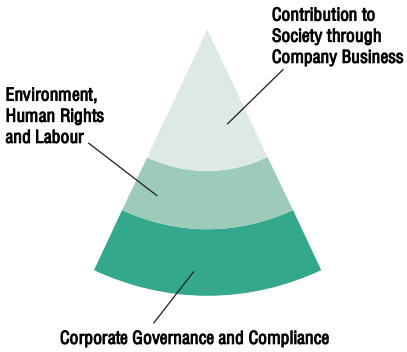
In Japan there are many enterprises with their own "creeds" which simply represent their management concept.

Mitsubishi Heavy Industries, Ltd. has a creed of this type, also. It was instituted in 1970 on the basis of the policy advocated by Koyata Iwasaki, president of Mitsubishi Goshi Kaisha in the 1920's, to indicate the essential attitude of the company, the mental attitude of the employees, and the future directions of the company.

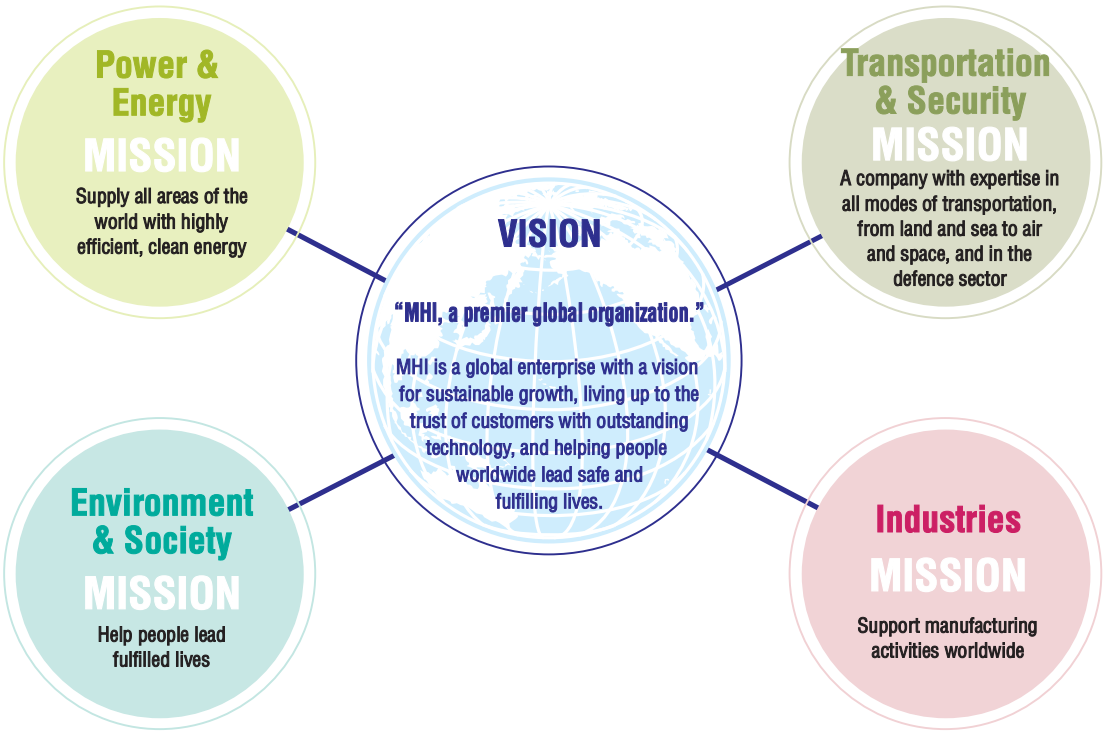
The reason for instituting the present creed is so that all of us can call to mind our one hundred years of tradition, and strive for further development in the future.

Issued 1 June 1970

MHI's creed was established based on "The Three Corporate Principles" shared by the Mitsubishi Group from the company's beginnings. In the spirit of this creed, MHI continues its efforts to fulfil its three corporate social responsibilities (CSRs): "corporate governance and compliance," "the environment, human rights and labour," and "contribution to society through business activities."



Contribution to Society through Company Business



The KX6 product range has been developed in compliance with the Mitsubishi Heavy Industries Policy on the Environment.

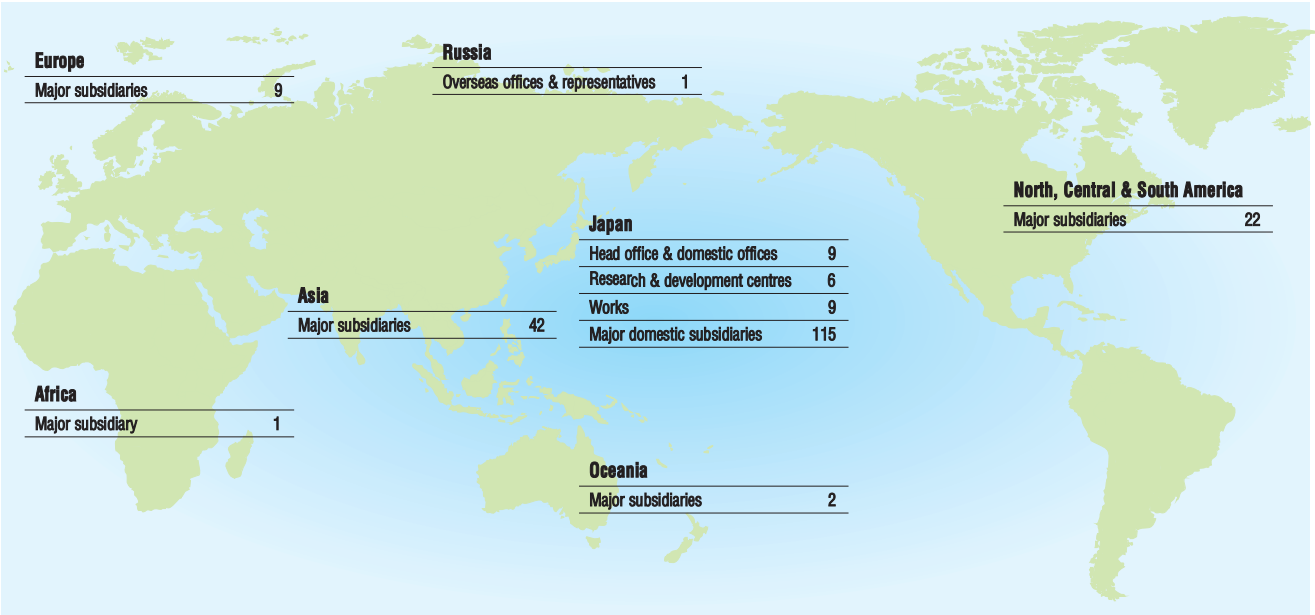
In order to make the sustainable development of society possible, a basic policy on environmental matters has been established.

Pursuant to the express provision of Section 1 of its creed that "We strongly believe that customers come first and that we are obligated to be an innovative partner to society," MHI shall, as a matter of primary importance, strive, through its R&D, manufacturing and other business activities, to play a useful role in the development of society. To this end, while remaining aware that a business enterprise is a member of society, MHI shall endeavour, in all aspects of its business activities, to reduce the burden on the environment and shall concentrate and fully utilise its technological capabilities for the development of technologies and products that will protect the environment, thus contributing to the establishment of a society in which sustainable development is possible.

In order to realise its basic policy, MHI has set the following seven conduct guidelines.

1. Recognise that environmental protection is top priority in the companyís operations, and encourage the entire company in its endeavours to protect and improve the environment.
2. Define roles and responsibilities regarding environmental protection by developing and maintaining a corporate organisation designated for environmental protection, and create and implement corporate policies and procedures on environmental matters.
3. Endeavour to reduce the burden on the environment by preventing pollution, saving resources, saving energy, reducing waste, reusing materials, and recycling in all aspects of the companyís business activities in R&D, designing, procurement of materials, manufacturing, transportation, use, service and disposal.
4. Endeavour to develop and provide advanced, highly reliable, unique technologies and products that contribute to solving environmental and energy problems.
5. Comply with national and local environmental laws and regulations, beyond mere compliance by enacting, implementing and evaluating voluntary standards where necessary, and to endeavour to continuously improve and promote environmental protection activities by establishing environmental goals and targets.
6. Endeavour to protect the environments of foreign countries by carefully examining the consequences of the companyís overseas business operations and the exportation of its products, and to become actively involved in technological co-operation overseas in areas of environmental protection.
7. Provide environmental training and other programs to enhance the environmental awareness of all company employees, and take steps to expand public relations activities, such as providing environment-related information to the public and social contribution activities.

Number of offices/plants by region (Consolidated) as of June, 2010



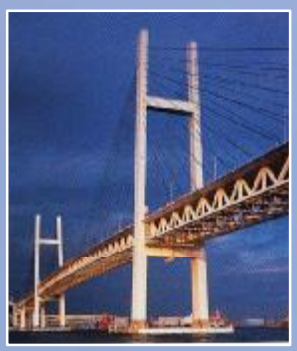
global activity

On the land and sea, in the sky and even in space, MHIís stage of operations is expanding limitlessly. We manufacture more than 700 different products which support various industrial and civil activities in both domestic and international markets.

Ships, steel structures, power systems, machinery for both industrial and general use, air-conditioners, pollution reduction and environmental control systems, aerospace systems – the MHI product lines which create rich and comfortable living environments, are as harmonious as an orchestra.

What creates this harmony is MHIís general technological expertise developed over more than a century of hard work. We are highly esteemed in the world for providing high quality products through untiring technological research and development. From new energy development and environmental concerns to the exploration of space, with the advent of the 21st century MHI is confronting a variety of issues to ensure the realisation of a society in which there is harmony between mankind and technology.

- Crude Oil Storage Barges
- LNG Tanks
- Boilers & Turbines
- Oil Production Plants
- Contra-Rotating Propellers
- Thermal Power Plants
- Combined Cycle Plants
- Fuel Cells
- Water Turbines
- Wind Turbines
- Geothermal Power Plants
- PWR Nuclear Power Plants
- Uranium Enrichment Equipment
- FBRs
- Co-Generation Systems



- Ultra-High Steel Stacks
- Refuse Incineration Plants
- Night Soil Treatment Plants
- Electrostatic Precipitators
- Flue Gas Desulfurization System
- Fluidized Incinerators
- CFC Collecting Equipment

- Spillway Radial Gates
- Steel Bridges
- Penstocks
- Desalination Plants
- Physical Distribution Equipment
- Engines

- Unloader & Container Cranes
- Mechanical Parking Facilities
- Integrated Automated Storage Systems
- Rubber & Tyre Machinery
- Skyrails
- Monorail Cars
- New Transportation Systems
- Passenger Boarding Bridges

- Toll Collection Machine Systems
- Forklift Trucks
- Hellcopters
- Aircraft
- Railway Maintenance Equipment
- LNG Carrier
- Container Ships

TRANSPORTATION
LOCAL DEVELOPMENT
ENVIRONMENT
RESOURCES/ENERGY

MITSUBISHI HEAVY INDUSTRIES, LTD.

Our Technologies, Your Tomorrow

INDUSTRIAL

- Chemical Plants
- Wind Tunnel/Experiment Equipment
- Casting Machines
- Strip Mill
- Cement Plant
- Stepless Variable Speed Gears
- Industrial Robots
- Injection Moulding Machines
- Pulp & Paper Machinery
- Corrugation Machines
- Box Making Machines
- Machine Tools

LEISURE/LIFESTYLE

- Ceiling Recess Packaged Air Conditioners
- Automotive Air Conditioners
- Residential Use Split Air Conditioners
- Refrigeration Units
- Dry Cleaning Machines
- Food Machinery
- Cruise Ships
- Multi-purpose Dome
- Stage Machinery Systems

INFORMATION SYSTEM

- Cable Layer
- Printing Machinery

DEVELOPMENT

- Oceanographic Research Ships
- Deep Submergence Research Vehicles
- Communications Satellite Rockets
- Space Transportation
- Rockets & Engines

DEFENCE

- Submarines
- Naval Vessels
- Jet Fighters
- Helicopters
- Missiles
- Tanks & Infantry Fighting Vehicles

Before starting use

Indication of sound values
The sound values are the values (A scale) measured in a chamber such as an anechoic chamber following the ISO Standards. In the actual installation state, the value is normally larger than the values given in the catalog due to the effect of surrounding noise and echo. Take this into consideration when installing.

Use in oil atmosphere
Avoid installing this unit in as atmosphere where oil scatters or builds up, such as in a kitchen or machine factory.
If the oil adheres to the heat exchanger, the heat exchanging performance will drop, mist may be generated, and the synthetic resin parts may deform and break.

Use in acidic or alkaline atmosphere
If this unit is used in acidic atmosphere such as hot spring areas having high level of sulfuric gases or in alkaline atmosphere including ammonia or calcium chloride, places where the exhaust of the heat exchanger is sucked in, or at coastal areas where the unit is subject to salt breezes, the outer plate or heat exchanger, etc., will corrode. Please ask a dealer or specialist when you use an air conditioner in places differing from a general atmosphere.

Use in places with high ceilings
If the ceiling is high, install a circulator to improve the heat and air flow distribution when heating.

Refrigerant leakage
The refrigerant (R410A) used for Air conditioner is non-toxic and inflammable in its original state.
However, in consideration of a state where the refrigerant leaks into the room, measures against refrigerant leaks must be taken in small rooms where the tolerable level could be exceeded. Take measures by installing ventilation devices, etc.

Automatic defrosting device
If the temperature is low, and the humidity is high, frost will stick to the heat exchanger of the outdoor unit. If use is continued, the heating performance will drop.
The "Automatic defrosting device" will function to remove this frost.
After heating for approx, three to ten minutes, it will stop, and the frost will be removed. After defrosting, hot air will be blown again.

⚠ Safety Precautions

Air-conditioner usage target
The air-conditioner described in this catalog is a dedicated cooling/heating device for human use.
Do not use it for special applications such as the storage of foodstuffs, animals or plants, precision devices or valuable art, etc.
This could cause the quality of the items to drop, etc.
Do not use this for cooling vehicles or ships. Water leakage or current leaks could occur.

Before use
Always read the "User's Manual" thoroughly before starting use.

Installation
Always commission the installation to a dealer or specialist. Improper installation will lead to water leakage, electric shocks and fires.
Make sure that the outdoor unit is stable in installation. Fix the unit to stable base.

Usage place
Do not install in places where combustible gas could leak or where there are sparks.
Installation in a place where combustible gas could be generated, flow or accumulate, or places containing carbon fibers could lead to fires.

MITSUBISHI HEAVY INDUSTRIES, LTD.

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108-8215, Japan
http://www.mhi.co.jp

Our factories are ISO9001 and ISO14001 certified.

Certified ISO 9001

BIWAJIMA PLANT
Mitsubishi Heavy Industries, Ltd.
Air-conditioning & Refrigeration Systems Headquarters

MITSUBISHI HEAVY INDUSTRIES-MAHAJAK AIR CONDITIONERS CO., LTD.

Mitsubishi Heavy Industries-Haier (Qingdao) Air-conditioners Co.,Ltd.

Certified ISO 14001

BIWAJIMA PLANT
Mitsubishi Heavy Industries, Ltd.
Air-conditioning & Refrigeration Systems Headquarters

MITSUBISHI HEAVY INDUSTRIES-MAHAJAK AIR CONDITIONERS CO.,LTD.

Mitsubishi Heavy Industries-Haier (Qingdao) Air-conditioners Co.,Ltd.

CE

HB91-11KX03E-A-0 November 2010 (2B)R