

High Performance Air-Conditioning 2014



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New

KXZ

INSTALLATION FLEXIBILITY

KX Product Line is extended up to 60HP
with combination of 3 outdoor units



Line Up



Micro model

KXZ

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Product Line Up

Product lineup has been extended up to 60HP with combination of 3 outdoor units.

Furthermore Hi-COP series has been added by our advanced technology.

KX6
Up to 48HP → **KXZE1**
Up to 60HP

KXZXE1
8~36HP

<Outdoor units>

from 11.2kW up to 168.0kW

Capacity	4HP	5HP	6HP	8HP	10HP	12HP	14HP	16HP	17HP	18HP	20HP
Model Code : kW	11.2	14	15.5	22.4	28	33.5	40.0	45.0	47.5	50.0	56.0
BTU / h	38,200	47,800	52,900	76,400	95,500	114,300	136,500	153,600	162,100	170,600	191,100
kcal / h	9,630	12,040	13,330	19,260	24,080	28,810	34,400	38,700	40,900	43,000	48,160

Capacity	22HP	24HP	26HP	28HP	30HP	32HP	34HP	36HP	38HP	40HP
Model Code : kW	61.5	67.0	73.5	80.0	85.0	90.0	95.0	100.0	106.0	112.0
BTU / h	209,900	228,700	250,800	273,000	290,100	307,100	324,200	341,300	361,800	382,300
kcal / h	52,890	57,600	63,200	68,800	73,100	77,400	81,700	86,000	91,100	96,300

Capacity	42HP	44HP	46HP	48HP	50HP	52HP	54HP	56HP	58HP	60HP
Model Code : kW	120.0	125.0	130.0	135.0	142.5	145.0	150.0	156.0	162.0	168.0
BTU / h	409,600	426,600	443,700	460,800	486,200	494,900	511,900	532,400	552,900	573,400
kcal / h	103,180	107,480	111,780	116,080	122,500	124,700	129,000	134,200	139,300	144,500

Micro model



4HP	5HP	6HP
FDC112KXEN6	FDC140KXEN6	FDC155KXEN6
FDC112KXES6	FDC140KXES6	FDC155KXES6

□ 1-phase 220-240V

■ 3-phase 380-415V

8HP	10HP	12HP
FDC224KXE6	FDC280KXE6	FDC335KXE6

NEW

Standard model **KXZE1**



10HP	12HP	14HP	16HP
FDC280KXZE1	FDC335KXZE1	FDC400KXZE1	FDC450KXZE1
17HP	18HP	20HP	
FDC475KXZE1	FDC500KXZE1	FDC560KXZE1	



22HP	24HP	26HP	28HP	30HP	32HP
FDC615KXZE1	FDC670KXZE1	FDC735KXZE1	FDC800KXZE1	FDC850KXZE1	FDC900KXZE1
10+12	12+12	12+14	14+14	14+16	16+16
FDC280KXZE1 FDC335KXZE1	FDC335KXZE1 FDC335KXZE1	FDC335KXZE1 FDC400KXZE1	FDC400KXZE1 FDC400KXZE1	FDC400KXZE1 FDC450KXZE1	FDC450KXZE1 FDC450KXZE1

34HP	36HP	38HP	40HP
FDC950KXZE1	FDC1000KXZE1	FDC1060KXZE1	FDC1120KXZE1
17+17	18+18	18+20	20+20
FDC475KXZE1 FDC475KXZE1	FDC500KXZE1 FDC500KXZE1	FDC500KXZE1 FDC560KXZE1	FDC560KXZE1 FDC560KXZE1



42HP	44HP	46HP	48HP	50HP	52HP
FDC1200KXZE1	FDC1250KXZE1	FDC1300KXZE1	FDC1350KXZE1	FDC1425KXZE1	FDC1450KXZE1
14+14+14	14+14+16	14+16+16	16+16+16	17+17+17	17+17+18
FDC400KXZE1 FDC400KXZE1 FDC400KXZE1	FDC400KXZE1 FDC400KXZE1 FDC450KXZE1	FDC400KXZE1 FDC450KXZE1 FDC450KXZE1	FDC450KXZE1 FDC450KXZE1 FDC450KXZE1	FDC475KXZE1 FDC475KXZE1 FDC475KXZE1	FDC475KXZE1 FDC475KXZE1 FDC500KXZE1

54HP	56HP	58HP	60HP
FDC1500KXZE1	FDC1560KXZE1	FDC1620KXZE1	FDC1680KXZE1
18+18+18	18+18+20	18+20+20	20+20+20
FDC500KXZE1 FDC500KXZE1 FDC500KXZE1	FDC500KXZE1 FDC500KXZE1 FDC560KXZE1	FDC500KXZE1 FDC560KXZE1 FDC560KXZE1	FDC560KXZE1 FDC560KXZE1 FDC560KXZE1

NEW

Hi-COP model **KXZXE1**



8HP	10HP	12HP
FDC224KXZXE1	FDC280KXZXE1	FDC335KXZXE1



16HP	18HP	20HP	22HP	24HP
FDC450KXZXE1	FDC500KXZXE1	FDC560KXZXE1	FDC615KXZXE1	FDC670KXZXE1
8+8	8+10	10+10	10+12	12+12
FDC224KXZXE1 FDC224KXZXE1	FDC224KXZXE1 FDC280KXZXE1	FDC280KXZXE1 FDC280KXZXE1	FDC280KXZXE1 FDC335KXZXE1	FDC335KXZXE1 FDC335KXZXE1



26HP	28HP	30HP	32HP	34HP	36HP
FDC735KXZXE1	FDC800KXZXE1	FDC850KXZXE1	FDC900KXZXE1	FDC950KXZXE1	FDC1000KXZXE1
8+8+10	8+10+10	10+10+10	10+10+12	10+12+12	12+12+12
FDC224KXZXE1 FDC224KXZXE1 FDC280KXZXE1	FDC224KXZXE1 FDC280KXZXE1 FDC280KXZXE1	FDC280KXZXE1 FDC280KXZXE1 FDC280KXZXE1	FDC280KXZXE1 FDC280KXZXE1 FDC335KXZXE1	FDC280KXZXE1 FDC335KXZXE1 FDC335KXZXE1	FDC335KXZXE1 FDC335KXZXE1 FDC335KXZXE1

<Indoor units>

Wide variety of 17 types 92 models

A range of 17 types of exposed or concealed indoor units available in a wide range of capacities (total 92 indoor models). The best solution of indoor units for all applications is available from our full lineup.



Indoor units lineup

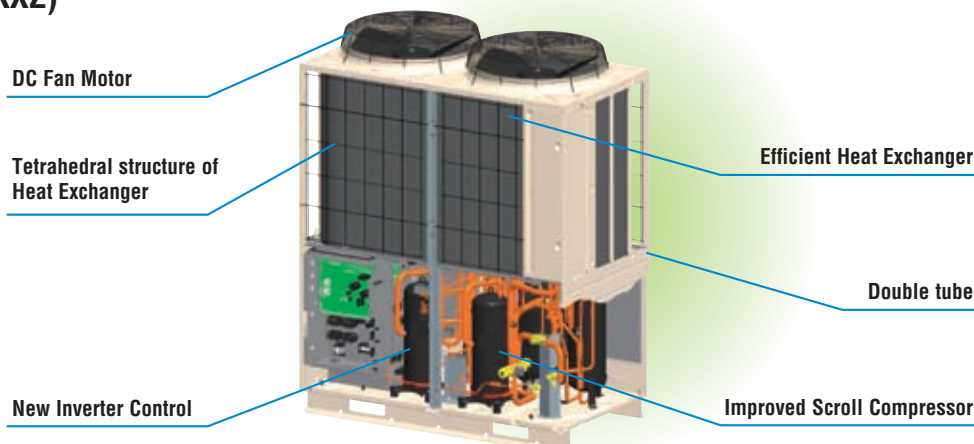
Type			Capacity	0.5HP	0.8HP	1HP	1.25HP	1.6HP	2HP	2.5HP	3.2HP	4HP	5HP	6HP	8HP	10HP
			Model Code : kW	15	22	28	36	45	56	71	90	112	140	160	224	280
Ceiling Cassette	4way	FDT														
	4way Compact (600 x 600)	FDTC														
	2way	FDTW														
	1way	FDTS														
	1way Compact	FDTQ														
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	150	250	350	500	650	800	850	1000	1300	1800			
Fresh Air Ventilation and Heat Exchange unit		SAF														
Fresh Air DX Assembly		SAF-DX														

※ Not available in EU/EEA area.

1. High Efficiency & Compact Design

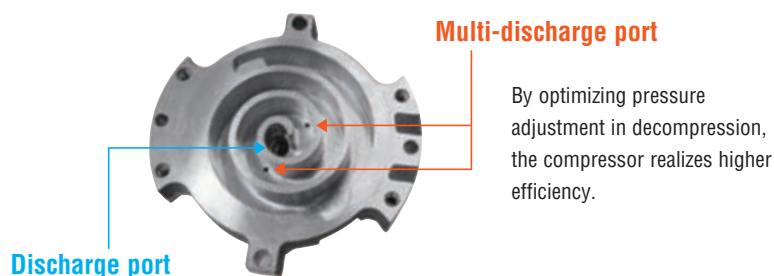
High efficiency and compact design are realized by applying various advanced components

10~60HP (KXZ)



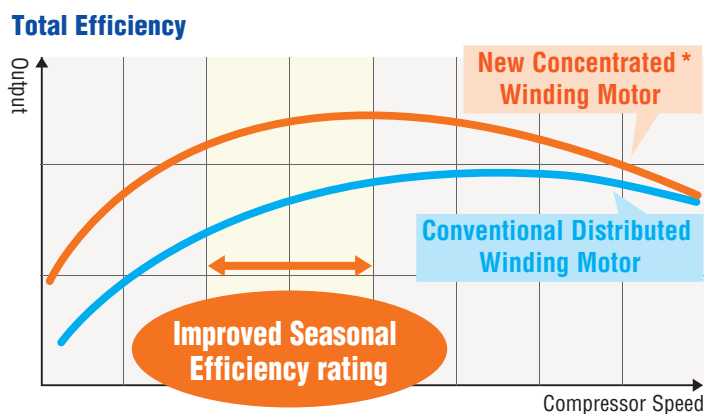
Multiport compressor that achieves high efficiency

The new multiport discharge area in the compressor has optimized pressure control with better balancing. The performance improvement at medium Hz has resulted in higher annual efficiencies.



Concentrated winding motor achieves "High Output" and "Total Efficiency Improvement"

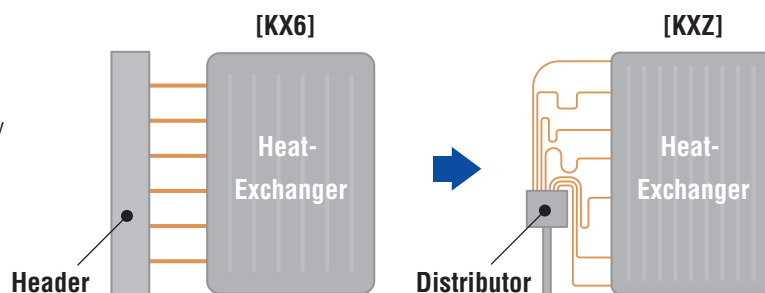
The newly designed high performance CPU enables high precision optimization for compressor speed, which leads to concentrated winding motor use. Our product achieves high output and better energy saving effects and in particular improves seasonal efficiency rating.



Improved Heat-exchanger

With piping layout rearranged from header to heat exchanger, refrigerant distribution flow has improved and maximum energy efficiency has been achieved. Heat exchanger has improved refrigerant distribution and increased effectiveness.

Furthermore due to expansion of effective heat transfer area in heat exchanger, energy efficiency has increased.

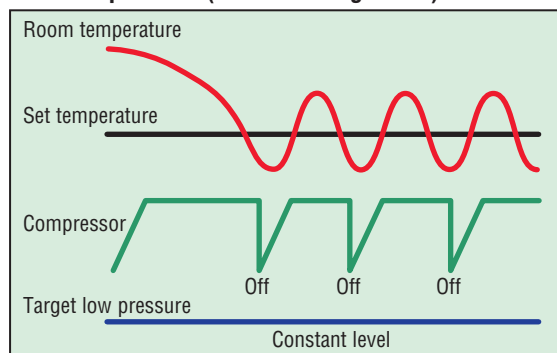


Strengthened resistance against frost

Resistance against frost has been strengthened by achieving improved heat-exchanger.

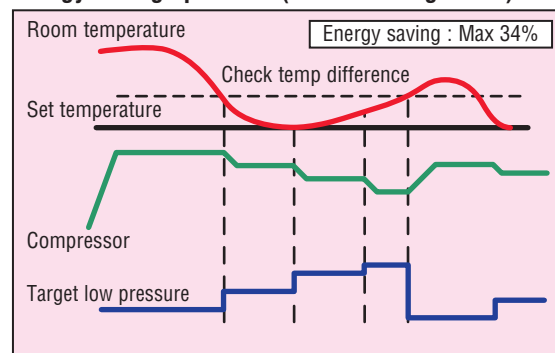
Energy saving driving mode (KXZ)

Normal operation (in the cooling mode)



Target low pressure was set at the constant level. When room temperature got closer to set temperature, the compressor shifted operation and repeated on-off operation continuously.

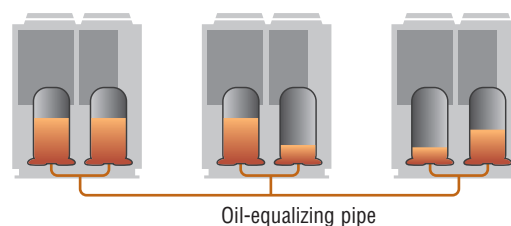
Energy saving operation (in the cooling mode)



Checking the difference between room and set temperatures, the system adjusts compressor speed and target low pressure effectively. Meeting customer's requirement, manual adjustment is available.

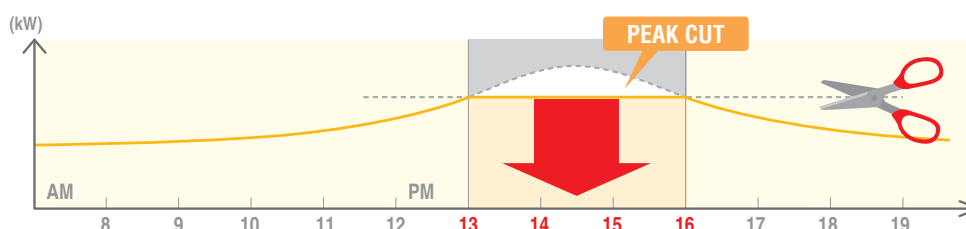
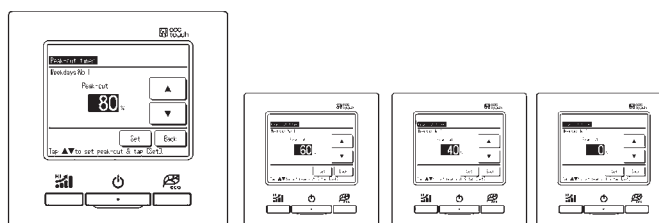
Oil level control capability

Our proprietary technology of adjusting oil level for combination of two or three outdoor units has realized leveled operation rate, keeping performance of the units and ensuring long life of the system.



Capacity control (KXZ)

Capacity control can be set by peak cut function with RC-EX1A for better energy saving. Five-step capacity control is available. (100-80-60-40-0%)

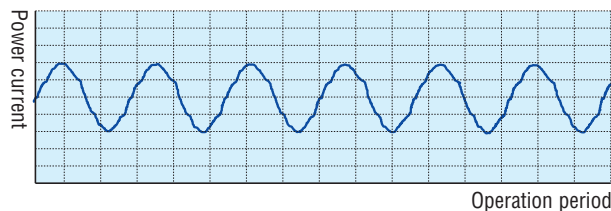


Vector control

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

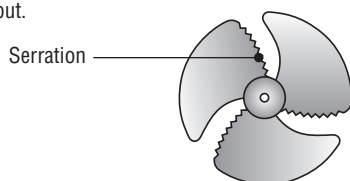
- Smooth operation from low speed to high speed
- Smooth Sine Voltage Wave form are attained
- Energy efficiency is further improved in low speed range

Vector Control



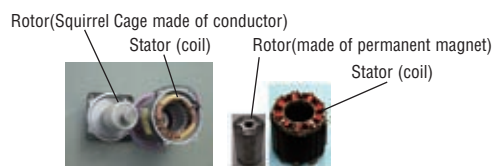
Long-chorded 3 propeller fan with serration

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

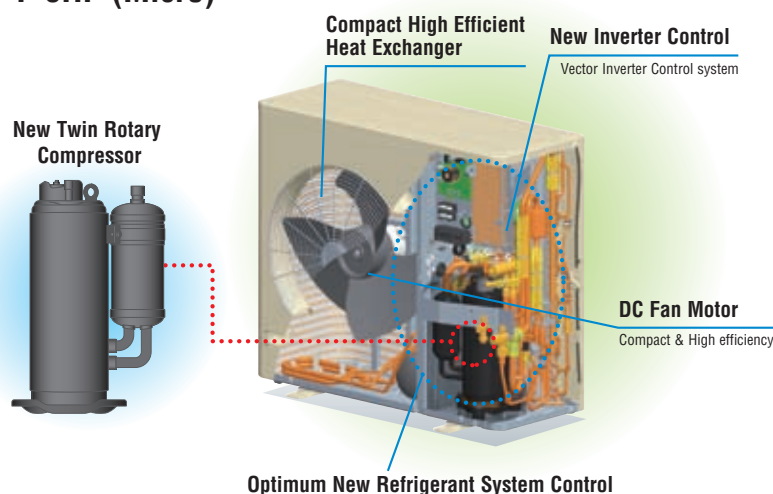


DC Fan Motor

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

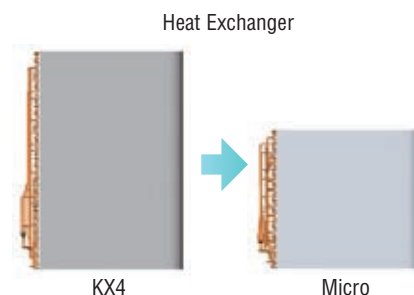


4~6HP (Micro)

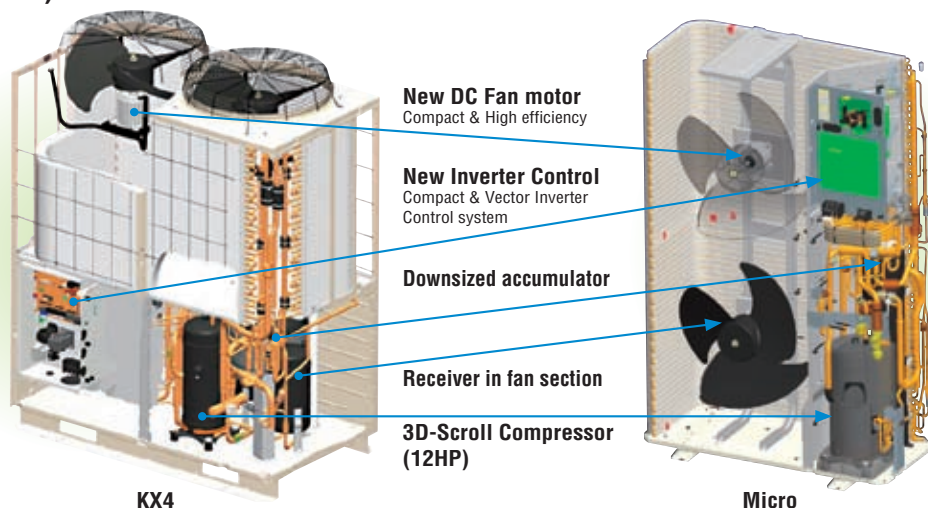


Compact high efficiency Heat Exchanger

- Optimizing relationship of the air flow velocity & fin pattern
- Improvement of air distribution Maximizing efficiency of heat exchanger



8~12HP (Micro)

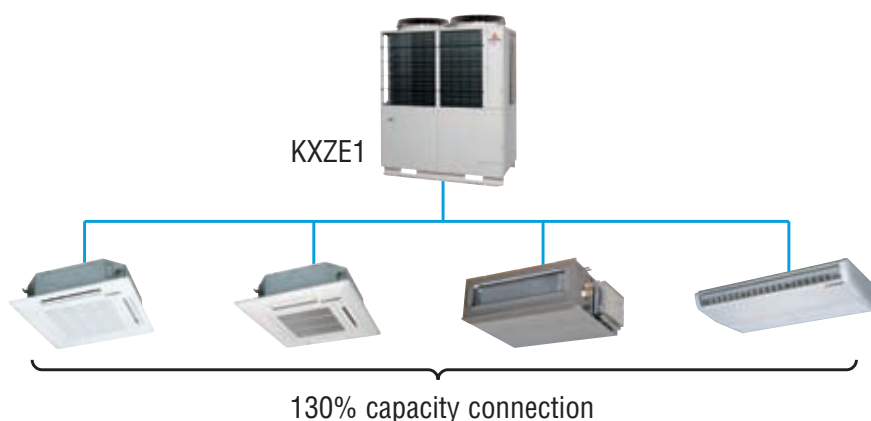


2. Design Flexibility

Indoor unit connection capacity

Capacity connection

HP	Micro model
4~12	150%
HP	KXZE1
10~60	130%



Connectable indoor units

Micro model	HP	4	5	6	8	10	12								
	Numbers	6	8	8	22	24	24								

Standard KXZE1	HP	10	12	14	16	17	18	20	22	24	26	28	30	32	34
	Numbers	24	29	34	39	41	43	48	53	58	63	69	73	78	80
	HP	36	38	40	42	44	46	48	50	52	54	56	58	60	
	Numbers	80	80	80	80	80	80	80	80	80	80	80	80	80	

Control Systems

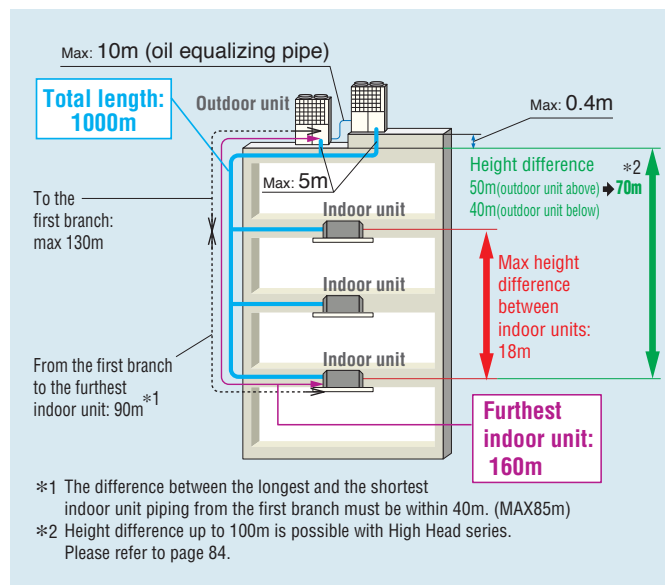
KX series offer wide variation of control system and provide the best solution.

[Control system units with SUPERLINK- II]

Classification	Type	Model	Connectable indoor units (Maximum)	Electric power calculation
Individual controller	Wired	RC-E5	1	—
		RC-EX1A	1	—
	Wireless	RCN-T-36W-E etc.	1	—
Center Console	Push buttons	SC-SL1N-E	16	—
		SC-SL2NA-E	64	—
	Touch screen	SC-SL4-AE	128	—
		SC-SL4-BE	128	●
	PC windows interface units	SC-WGWNA-A	128(64x2)	—
		SC-WGWNA-B	128(64x2)	●
	BMS interface units	SC-BGWNA256-A	256(128x2)	—
		SC-BGWNA256-B	256(128x2)	●
		SC-BGWNA-A	128(64x2)	—
		SC-BGWNA-B	128(64x2)	●
		Lonworks	96(48x2)	—

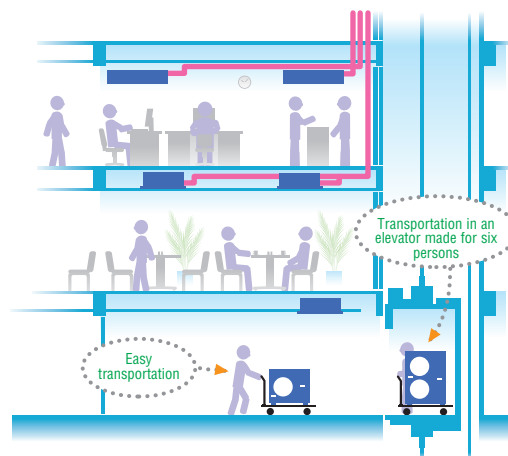
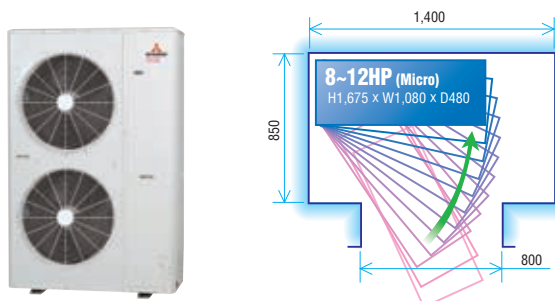
Long Pipe Length 10~60HP(KXZ)

Piping length has extended max height difference between indoor units up to 18m and enables us to put indoor units on extra three floors. The furthest indoor unit: 160m or total length: 1000m contributes to system design flexibility.

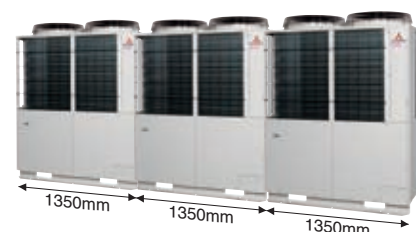
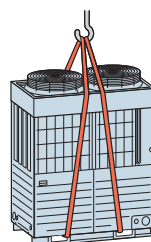


Easy Transportation & Installation

Due to realization of significant reduction in size and foot print which is one of the smallest in the industry, transportation in an elevator made for six persons (Width:1400mm, Depth:850, Open area:800mm) is possible, eliminating cost of a crane and reducing labor.

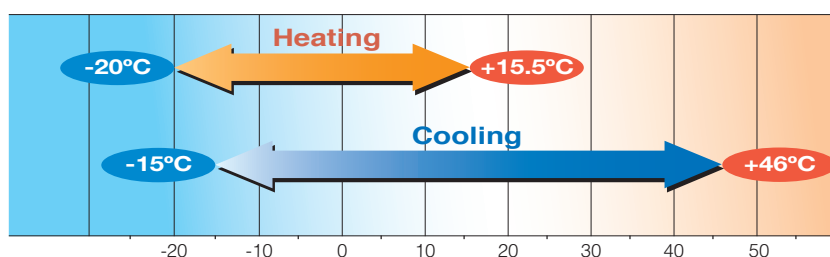


KXZ is portable and the uniform reduced footprint allows neat, continuous installation.



Wide Range of Operation (KXZ)

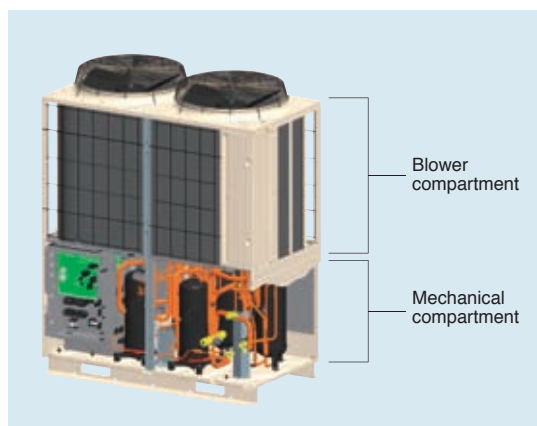
KXZ series permits an extensible system design considering a heating range operation under a low temperature condition down to -20°C and a cooling range operation up to 46°C (previous model KX6 : 43°C)



3. Serviceability

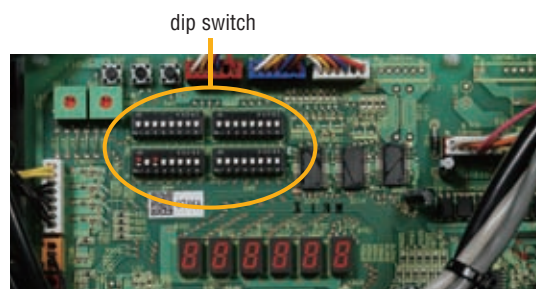
Easy Service

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



Check Operation (10~60HP)

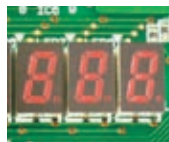
Closing of Service valve, crossing connection of refrigerant piping and electrical wiring, proper operation of EEV (Electrical Expansion Valve) can be checked automatically in cooling operation. This check operation can be done at 0~43°C outdoor temperature and 10~32°C indoor temperature by use of outdoor 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.



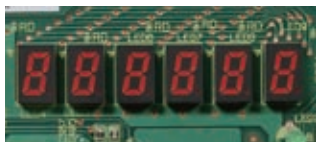
Monitoring Function

KX 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.

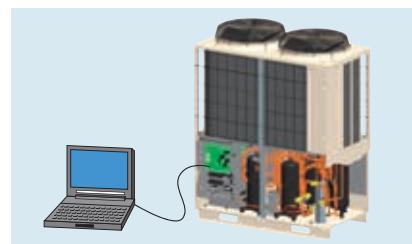


4~6HP



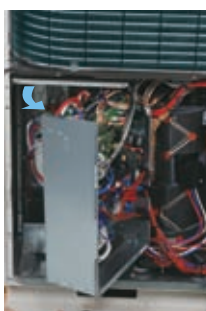
8~60HP

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



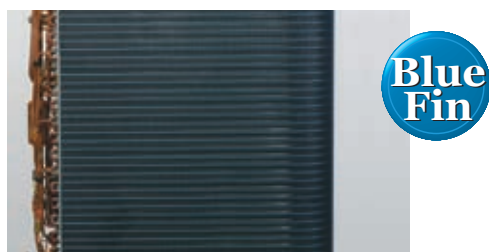
3 Layer Construction (KXZ)

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



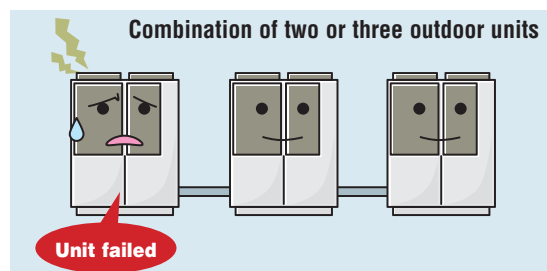
Blue Fin

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

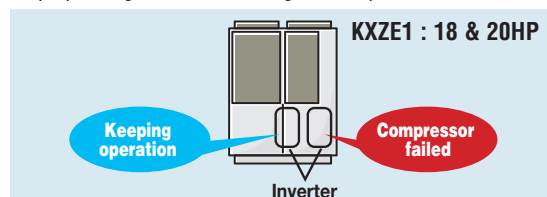


Back-up Operation

In the event that one unit has a failure, the system will keep operating with the other good units.



In the event that one compressor has a failure, the unit will keep operating with the another good compressor.



This operation is an emergency measure for a limited time and a necessary repair should be done as soon as possible.

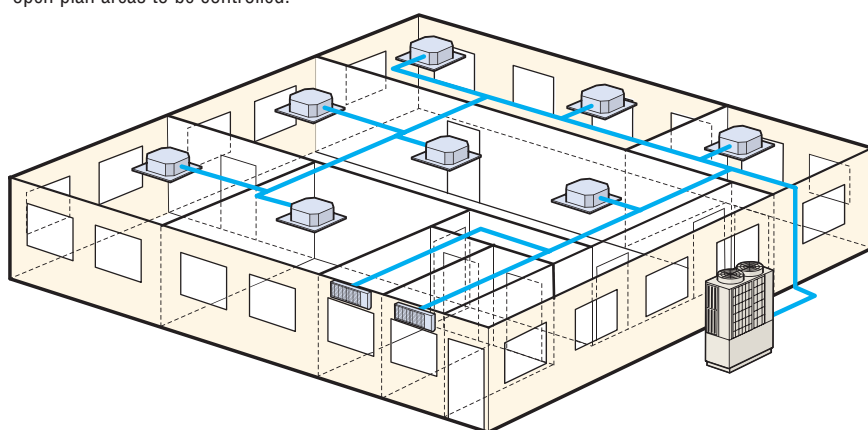
KX heat pump systems

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

These systems provide either a heating or cooling operation to all indoor units and are suitable for a wide range of applications from an individual apartment (with "Micro model", 1/phase system) to an entire multi storey building, especially where there are significant open plan areas to be controlled.

The range starts with a 11.2kW cooling capacity, up to 20hp with 56.0kW cooling capacity. Outdoor units can also be "twinned" or "tripled" providing up to 60HP/168.0kW on a single system.

The KX range has a total piping length of 1000m (KXZ) and the furthest indoor unit can be connected up to 160m (8HP+) 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.

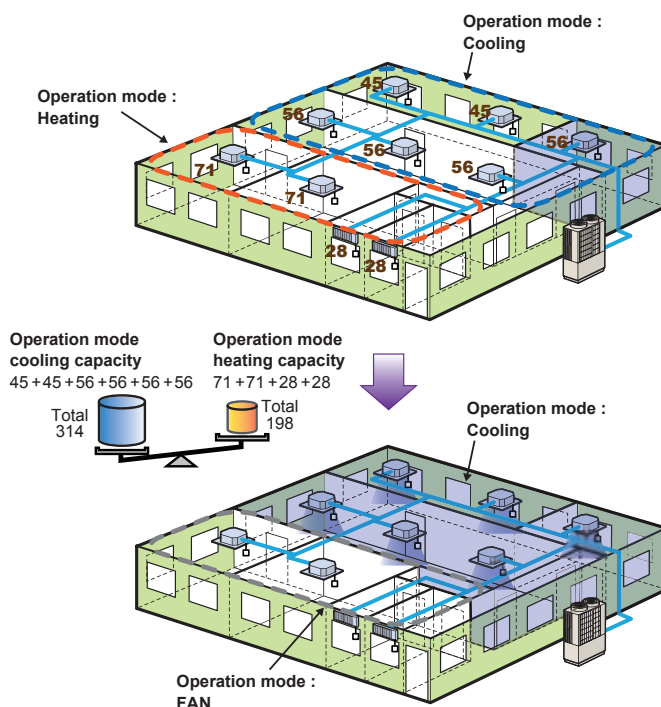
Priority operation mode rule (KXZ)

You can select the following priority operation mode. (for whole system)

1. First unit's operation mode (by default setting)
2. Last unit's operation mode
3. Majority operation mode (see below)
4. Master operation mode (see below)

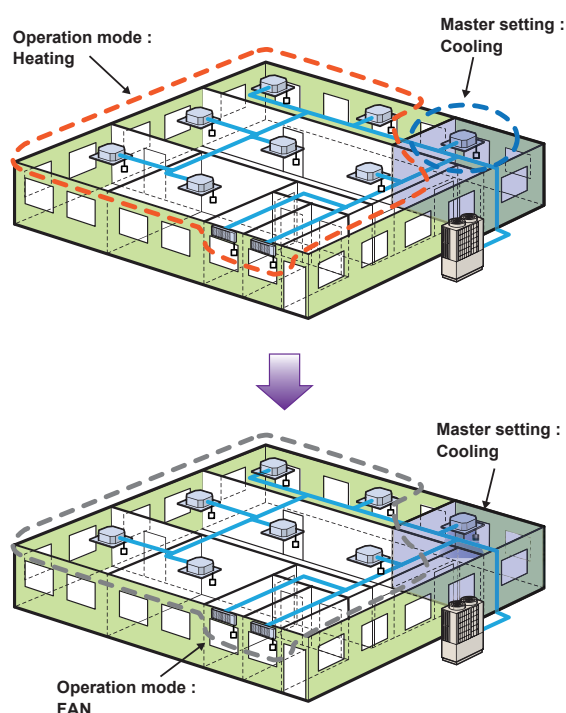
<Majority operation mode>

The system is operated according to the mode selected by the majority of units in operation (whichever greater capacity between the sums of cooling mode and heating mode). The operation mode in minority is set to fan mode automatically.



<Master operation mode>

The system is operated according to master operation mode. When master operation mode is set at cooling mode, units selected as heating mode is set to fan mode automatically.



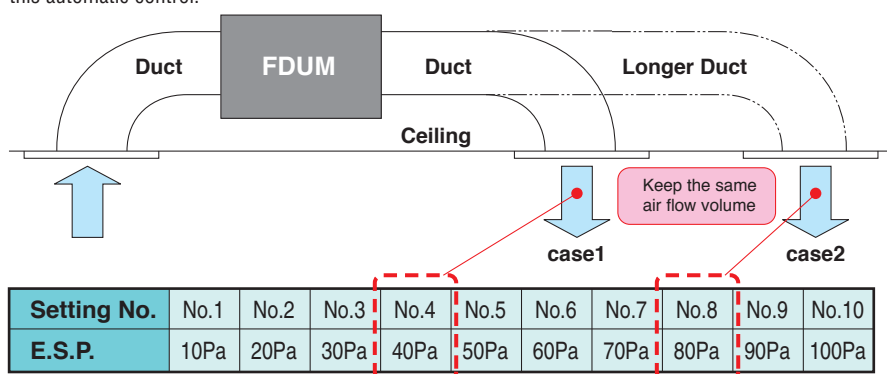
DUCT CONNECTED -Middle Static pressure- **FDUM**

Automatic external static pressure (E.S.P.) control

Duct design was simplified.

Using DC motor, the most optimum air flow volume can be achieved by this automatic control.

Indoor unit will recognize external static pressure by itself automatically and keep rated air flow volume.



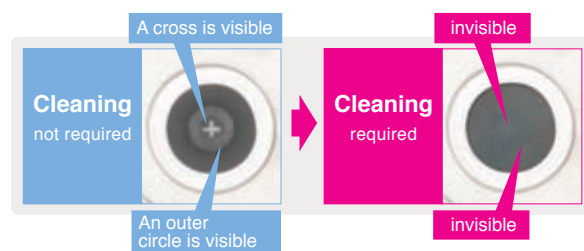
RC-E5

E.S.P. button

External static pressure (E.S.P.) can be set by E.S.P. button.

Transparent inspection window

Dirt condition of the bottom of a drain pan can be checked through this transparent inspection window without removing drain pan.



DUCT CONNECTED -High Static Pressure- **FDU (71~140)**

FDU has the same E.S.P. control (refer to page 44) and Transparent inspection window.

Ceiling Cassette -2 way- **FDTW**

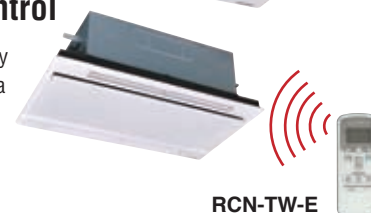
Individual flap control system

According to room temperature conditions, four directions air flow can be controlled individually by flap control system. Due to optimization of outlet design of air flow our new advanced technology, sufficient air flow is secured and long reach of air flow is achieved.



Wireless remote control

For wireless remote control simply insert the infrared receiver kit on a corner of the panel.

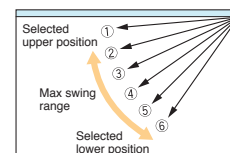


RCN-TW-E

Flap control system

The flap can swing within the range of upper and lower flap position selected with wired remote control. (this system is applied for FDT, FDTC, FDTs, FDK, FDEN, and FDFW type also)

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

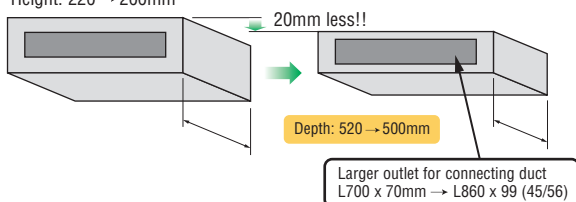


DUCT CONNECTED (thin) -Low Static pressure- **FDUT**



Compact design <FDUT15~56KXE6F-E>

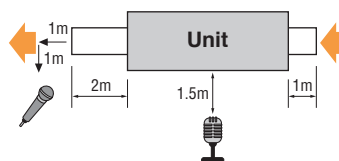
Height: 220 → 200mm



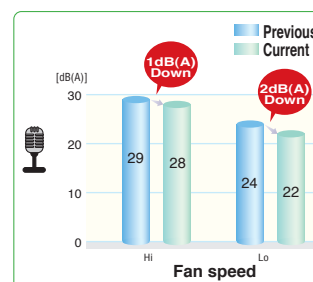
Previous Model

Current Model

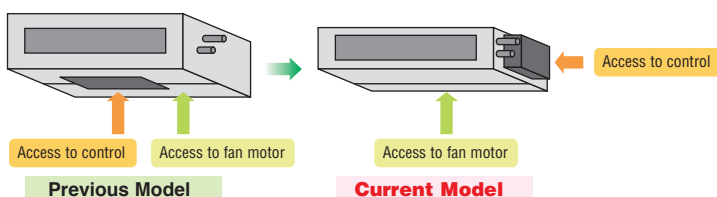
Lower noise <FDUT28KXE6F-E>



※ Measured based on JIS B 8616

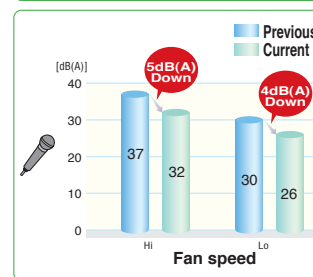


Serviceability

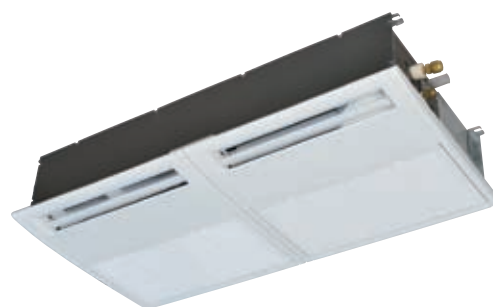


Previous Model

Current Model



Ceiling Cassette -1 way- **FDTs**



Wireless remote control

For wireless remote control simply attach an additional panel with infrared receiver on the right side of the main decorative panel.



Individual flap control system

Two directions of air flow can be controlled individually by flap control system.





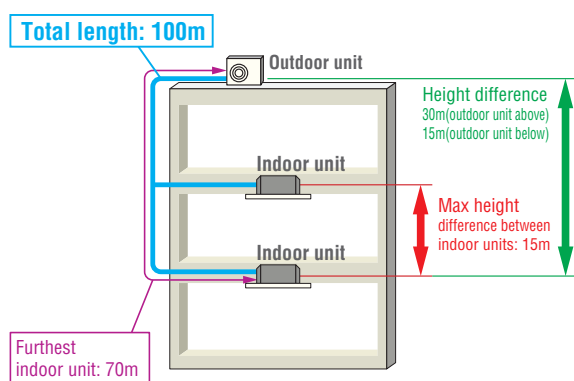
Micro Outdoor units

Heat pump systems 4, 5, 6hp (11.2kW~15.5kW)

Model No.	Nominal Cooling Capacity
FDC112KXEN6	11.2kW (1phase)
FDC140KXEN6	14.0kW (1phase)
FDC155KXEN6	15.5kW (1phase)
FDC112KXES6	11.2kW (3phase)
FDC140KXES6	14.0kW (3phase)
FDC155KXES6	15.5kW (3phase)



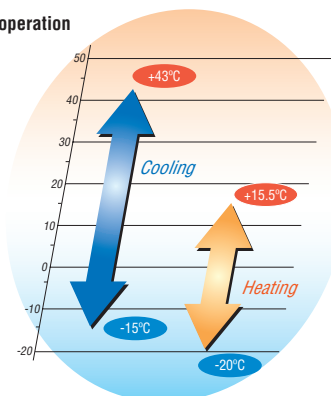
- These heat pump 2-pipe systems offer high performance VRF for applications that require either cooling only or heating only, ideal for open plan areas.
- Connect up to 8 indoor units/up to 150% capacity.
- High efficiency with COP (in cooling) up to 4.0.
- These units employ DC inverter compressors ONLY.
- Industry leading total piping length up to 100m and a maximum pipe run of 70m.



* The total length of $\phi 9.52\text{mm}$ (3/8") liquid piping must be 50m or less

Note:FDUT15KXE6F-E and FDTC15KXE6F can not be connected to the above systems.

Range of operation



Specifications

Item		Model	FDC112KXEN6	FDC140KXEN6	FDC155KXEN6	FDC112KXES6	FDC140KXES6	FDC155KXES6	
Nominal horse power			4HP	5HP	6HP	4HP	5HP	6HP	
Power source			1 Phase 220-240V, 50Hz			3 Phase 380-415V, 50Hz			
Nominal capacity	Cooling	kW	11.2	14.0	15.5	11.2	14.0	15.5	
	Heating		12.5	16.0	16.3	12.5	16.0	16.3	
Electrical characteristics	Starting current		A	5					
	Power consumption	Cooling	kW	2.80	4.17	4.71	2.80	4.17	4.71
		Heating		2.89	4.31	4.38	2.89	4.31	4.38
	Running current	Cooling	A	13.5-12.4	20.6-18.9	23.3-21.3	4.5-4.1	6.9-6.3	7.8-7.1
		Heating		14.1-12.9	21.5-19.7	21.9-20.1	4.7-4.3	7.2-6.6	7.3-6.7
Exterior dimensions	HxWxD		mm	845x970x370					
Net weight			kg	85			87		
Refrigerant charge	R410A		kg	5.0					
Sound pressure level	Cooling/Heating		dB(A)	52/54	53/55	53/56	52/54	53/55	53/56
Refrigerant piping size	Liquid line		mm(in)	ø9.52(3/8")					
	Gas line			ø15.88(5/8")					
Capacity connection			%	80~150					
Number of connectable indoor units				6	8	8	6	8	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. Piping length is 7.5m.
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.

Refrigerant piping

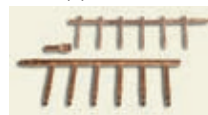
Outdoor unit (HP)		4	5	6
Gas pipe	Furthest indoor unit ≈70m	ø15.88		
Liquid pipe		ø9.52		

Branch pipes



DIS-22-1G/DIS-180-1G

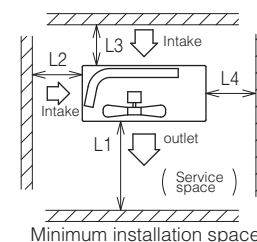
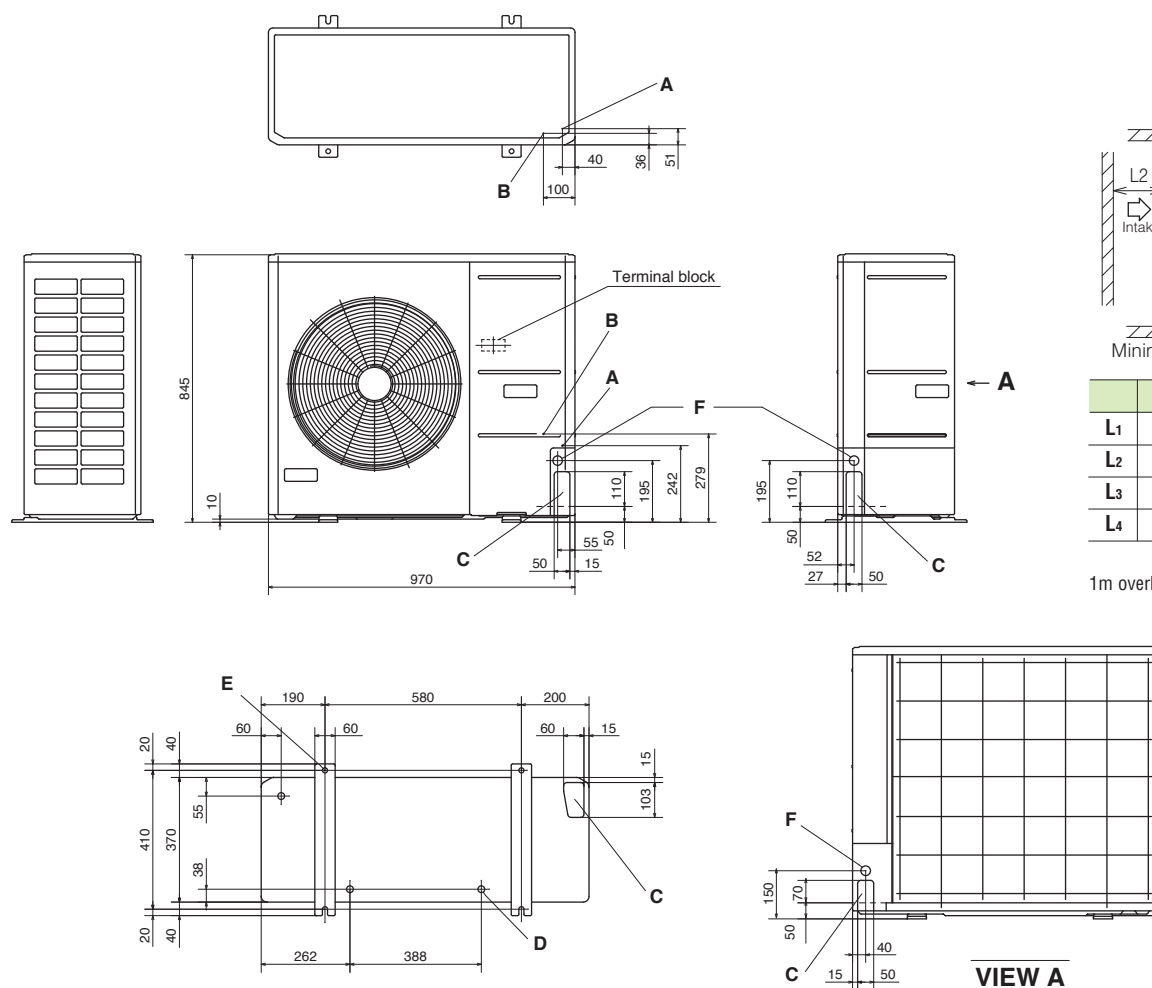
Header pipe



HEAD6-180-1G

Dimensions

All measurements in mm.



	I	II	III
L1	Open	Open	500
L2	300	5	Open
L3	150	300	150
L4	5	5	5

1m overhead clearance required

Mark	Item	
A	Service valve connection (gas side)	ø15.88 (5/8") (flare)
B	Service valve connection (liquid line)	ø9.52 (3/8") (flare)
C	Pipe/cable draw-out port	4 places
D	Drain discharge port	ø20 x 3 places
E	Anchor bolt hole	M10 x 4 places
F	Cable draw-out port	ø30 x 3 places

Notes:

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



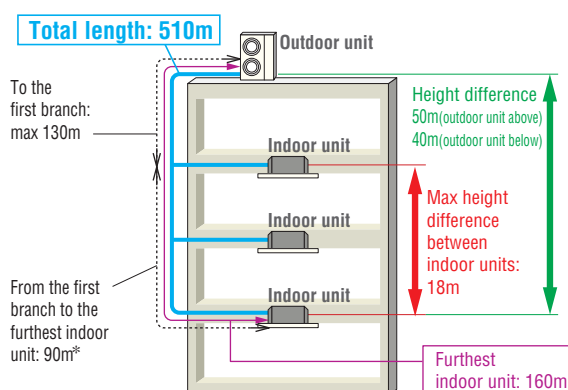
Micro Outdoor units

Heat pump systems 8, 10, 12hp (22.4kW~33.5kW)



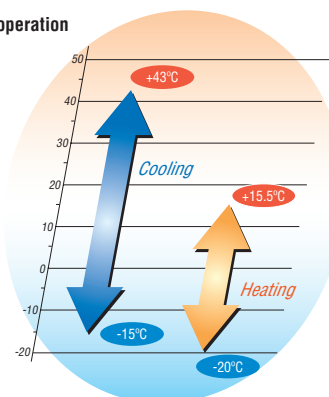
Model No.	Nominal Cooling Capacity
FDC224KXE6G	22.4kW
FDC280KXE6G	28.0kW
FDC335KXE6G	33.5kW

- These 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 24 indoor units/up to 150% capacity.
- High efficiency with COP (in cooling) up to 4.0.
- These units employ DC inverter compressors ONLY.
- Industry leading total piping length up to 510m and a maximum pipe run of 160m.



*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	FDC224KXE6G	FDC280KXE6G	FDC335KXE6G
Nominal horse power			8HP	10HP	12HP
Power source			3 Phase 380-415V, 50Hz		
Nominal capacity	Cooling	kW	22.4	28.0	33.5
	Heating		25.0	31.5	37.5
Electrical characteristics	Starting current	A	5		
	Power consumption	kW	5.60	8.09	9.82
			6.03	8.21	10.12
	Running current	A	9.25-8.47	13.22-12.10	15.87-14.53
			9.85-9.02	13.41-12.28	16.36-14.98
Exterior dimensions	HxWxD	mm	1675x1080x480		
Net weight		kg	221		
Refrigerant charge	R410A	kg	11.5		
Sound pressure level	Cooling/Heating	dB(A)	58/58	59/60	61/61
Refrigerant piping size	Liquid line	mm(in)	ø9.52(3/8")		
	Gas line		ø19.05(3/4")	ø22.22(7/8")	ø25.4(1") [ø22.22(7/8")]
Capacity connection		%	50~150		
Number of connectable indoor units			22	24	24

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. Piping length is 7.5m.
 2. Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.
 3. [] : Pipe sizes applicable to European installations are shown in parentheses.



KXZ Outdoor units

Heat pump systems 10, 12hp (28.0kW, 33.5kW)

Model No.	Nominal Cooling Capacity
FDC280KXZE1	28.0kW
FDC335KXZE1	33.5kW

NEW

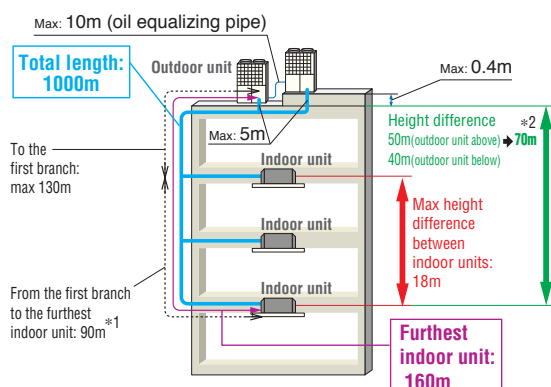


Blue Fin



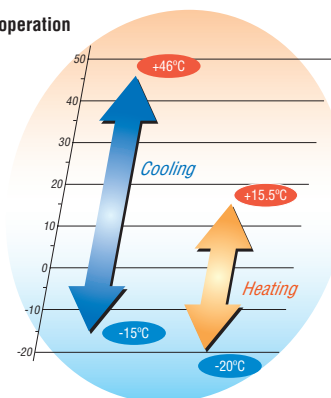
Uniform footprint of models (10,12hp) allows continuous side-by-side installation

- The KXZ 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 29 indoor units/up to 130% capacity.
- High efficiency with COP (in cooling) up to 3.9.
- KXZ employs DC inverter compressors ONLY.
- Industry leading total piping length up to 1000m and a maximum pipe run of 160m.



- *1 The difference between the longest and the shortest indoor unit piping from the first branch must be within 40m. (MAX85m)
 *2 Height difference up to 100m is possible with High Head series. Please refer to page 84.

Range of operation



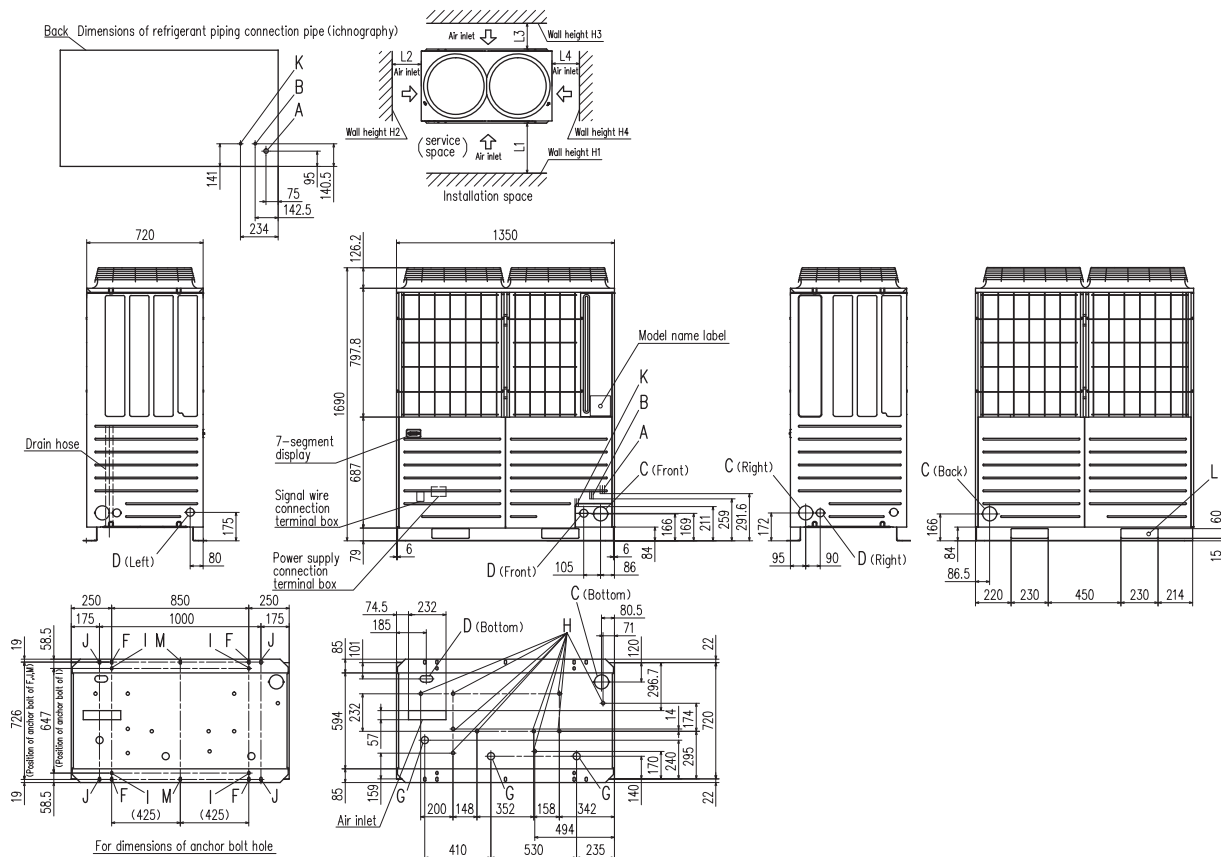
Specifications

Item		Model	FDC280KXZE1	FDC335KXZE1
Nominal horse power			10HP	12HP
Power source			3 Phase 380-415V, 50Hz	
Nominal capacity	Cooling	kW	28.0	33.5
	Heating	kW	31.5	37.5
Electrical characteristics	Starting current		8	
	Power consumption	Cooling	7.24	8.96
		Heating	7.28	9.04
	Running current	Cooling	11.9	14.6
		Heating	12.0	14.8
Exterior dimensions	HxWxD	mm	1690x1350x720	
Net weight		kg	272	
Refrigerant charge	R410A	kg	11.0	
Sound pressure level	Cooling/Heating	dB(A)	55/57	61/58
Refrigerant piping size	Liquid line	mm(in)	ø9.52(3/8")	ø12.7(1/2")
	Gas line	mm(in)	ø22.22(7/8")	ø25.4(1") [ø22.22(7/8")]
Capacity connection		%	50~130	
Number of connectable indoor units			24	29

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. Piping length is 7.5m.
 2. Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.
 3. [] : Pipe sizes applicable to European installations are shown in parentheses.

Dimensions

All measurements in mm.

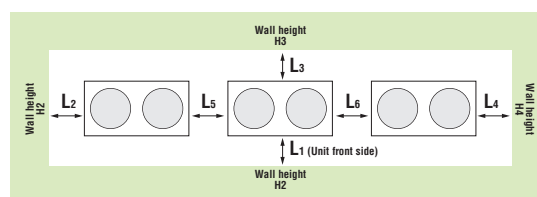


Mark	Content	280	335
A	Refrigerant gas piping connection pipe	ø22.22(Brazing)	ø25.4(Brazing)
B	Refrigerant liquid piping connection pipe	ø9.52(Flare)	ø12.7(Flare)
C	Refrigerant piping exit hole	ø88(or ø100)	
D	Power supply entry hole	ø50 (right · left · front), long hole 40 x 80 (under side)	
F	Anchor bolt hole	M10 x 4 places	
G	Drain waste water hose hole	ø45 x 3 places	
H	Drain hole	ø20 x 10 places	
K	Refrigerant oil equalization piping connection pipe	ø9.52(Flare)	
L	Carrying in or hole for hanging	230 x 60	

Installation example		
Dimensions	1	2
L ₁	500	Open
L ₂	10(30)	10(30)
L ₃	100	100
L ₄	10(30)	Open
H ₁	1500	Open
H ₂	No limit	No limit
H ₃	1000	No limit
H ₄	No limit	Open

In case the ambient temperature is 43°C or over during cooling operation

When more than one unit is installed



Installation example		
Dimensions	1	2
L ₁	500	Open
L ₂	10	200
L ₃	100	300
L ₄	10	Open
L ₅	0	400
L ₆	0	400
H ₁	1500	No limit
H ₂	No limit	No limit
H ₃	1000	No limit
H ₄	No limit	No limit



KXZ Outdoor units

Heat pump systems 14, 16, 17, 18, 20hp (40.0kW~56.0kW)

Model No.	Nominal Cooling Capacity
FDC400KXZE1	40.0kW
FDC450KXZE1	45.0kW
FDC475KXZE1	47.5kW
FDC500KXZE1	50.0kW
FDC560KXZE1	56.0kW

NEW

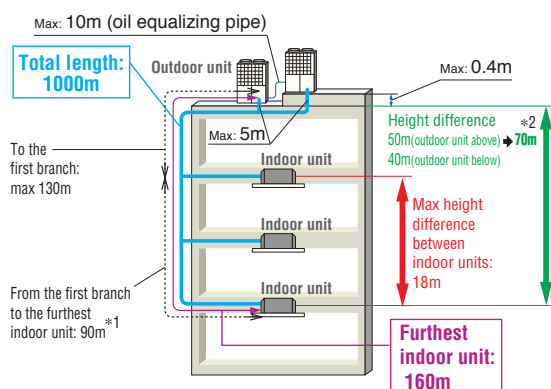


Blue Fin



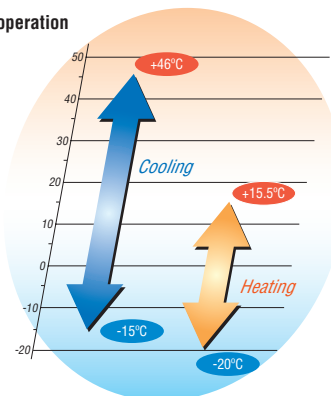
Uniform footprint of all models (from 14hp~20hp) allows continuous side-by-side installation

- The KXZ 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 48 indoor units/up to 130% capacity.
- High efficiency with COP (in cooling) up to 3.6.
- KXZ employs DC inverter compressors ONLY.
- Industry leading total piping length up to 1000m and a maximum pipe run of 160m.



- *1 The difference between the longest and the shortest indoor unit piping from the first branch must be within 40m. (MAX85m)
- *2 Height difference up to 100m is possible with High Head series. Please refer to page 84.

Range of operation



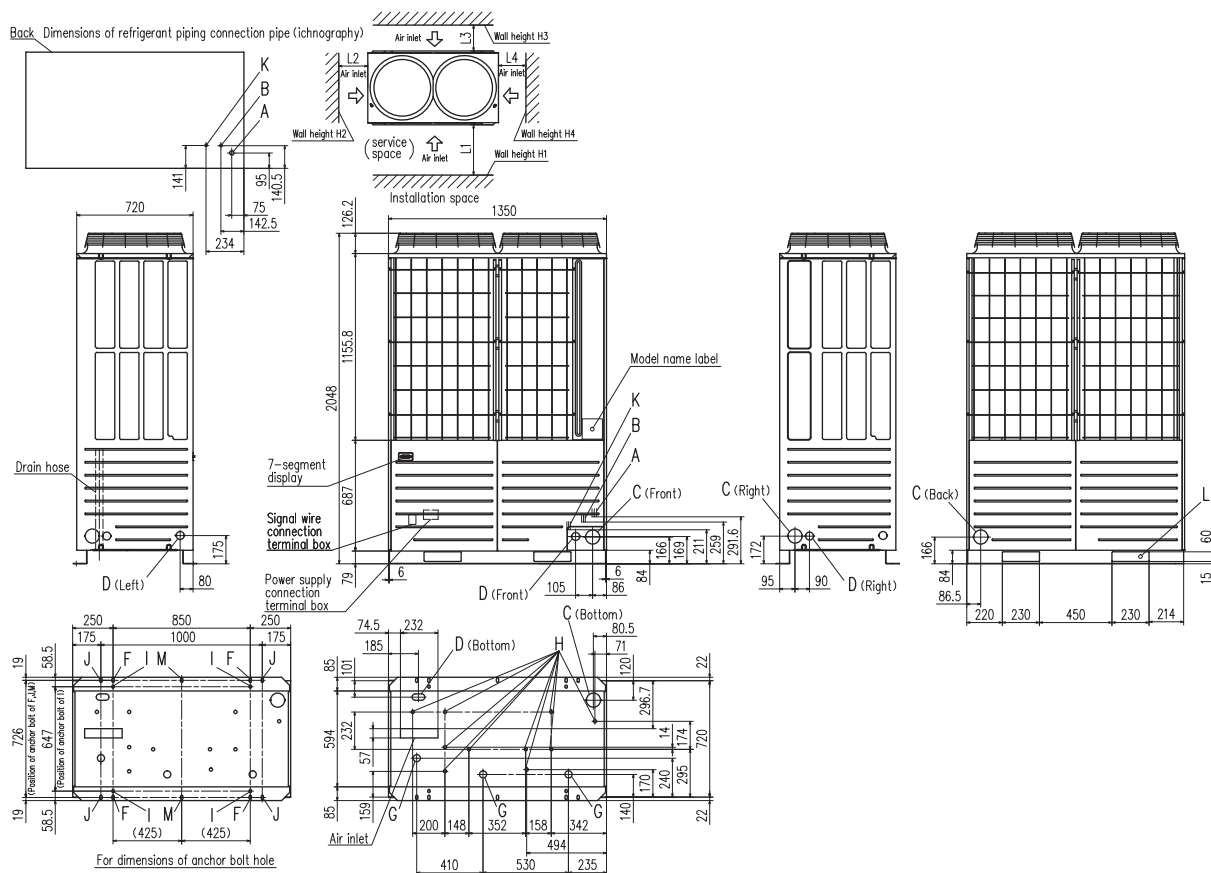
Specifications

Item		Model	FDC400KXZE1	FDC450KXZE1	FDC475KXZE1	FDC500KXZE1	FDC560KXZE1	
Nominal horse power			14HP	16HP	17HP	18HP	20HP	
Power source			3 Phase 380-415V, 50Hz					
Nominal capacity	Cooling	kW	40.0	45.0	47.5	50.0	56.0	
	Heating		45.0	50.0	53.0	56.0	63.0	
Electrical characteristics	Starting current		A	8				
	Power consumption	Cooling Heating	kW	10.96	13.98	13.98	13.97	16.62
				10.69	12.50	13.00	13.49	15.95
	Running current	Cooling Heating	A	17.5	22.4	22.6	22.6	26.9
				17.5	20.4	21.0	21.8	25.8
Exterior dimensions	HxWxD		mm	2048x1350x720				
Net weight			kg	317		370		
Refrigerant charge	R410A		kg	11.5				
Sound pressure level	Cooling/Heating		dB(A)	60/62	61/62	61/61	61/62	64/66
Refrigerant piping size	Liquid line		mm(in)	ø12.7(1/2")				
	Gas line			ø25.4(1") [ø28.58(1 1/8")]		ø28.58(1 1/8")		
Capacity connection			%	50~130				
Number of connectable indoor units				34	39	41	43	48

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. Piping length is 7.5m.
2. Sound pressure level indicates the value in anechoic chamber. During operation these values are somewhat higher due to ambient conditions.

Dimensions

All measurements in mm.



Mark	Content	400	450, 475, 500, 560
A	Refrigerant gas piping connection pipe	ø25.4(Brazing)	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 10 places	
K	Refrigerant oil equalization piping connection pipe	ø9.52(Flare)	
L	Carrying in or hole for hanging	230 x 60	

Installation example		
Dimensions	1	2
L1	500	Open
L2	10(30)	10(30)
L3	100	100
L4	10(30)	Open
H1	1500	Open
H2	No limit	No limit
H3	1000	No limit
H4	No limit	Open

In case the ambient temperature is 43°C or over during cooling operation

KXZ Outdoor units

Heat pump combination systems

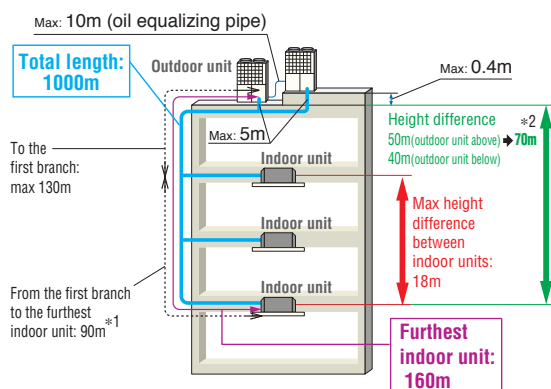
22, 24hp (61.5kW, 67.0kW)

Blue
Fin

Model No.	Nominal Cooling Capacity
FDC615KXZE1 (FDC280+FDC335)	61.5kW
FDC670KXZE1 (FDC335+FDC335)	67.0kW

NEW

- The KXZ 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 58 indoor units/up to 130% capacity.
- High efficiency with COP (in cooling) up to 3.8.
- KXZ employs DC inverter compressors ONLY.
- Industry leading total piping length up to 1000m and a maximum pipe run of 160m.

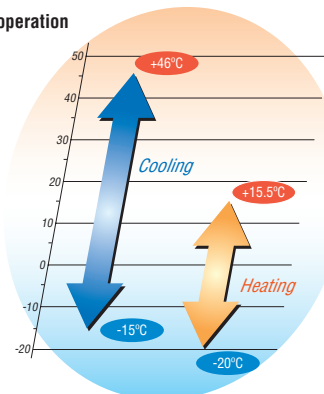


- *1 The difference between the longest and the shortest indoor unit piping from the first branch must be within 40m. (MAX85m)
 *2 Height difference up to 100m is possible with High Head series.
 Please refer to page 84.



Uniform footprint of all models (from 22hp, 24hp) allows continuous side-by-side installation

Range of operation



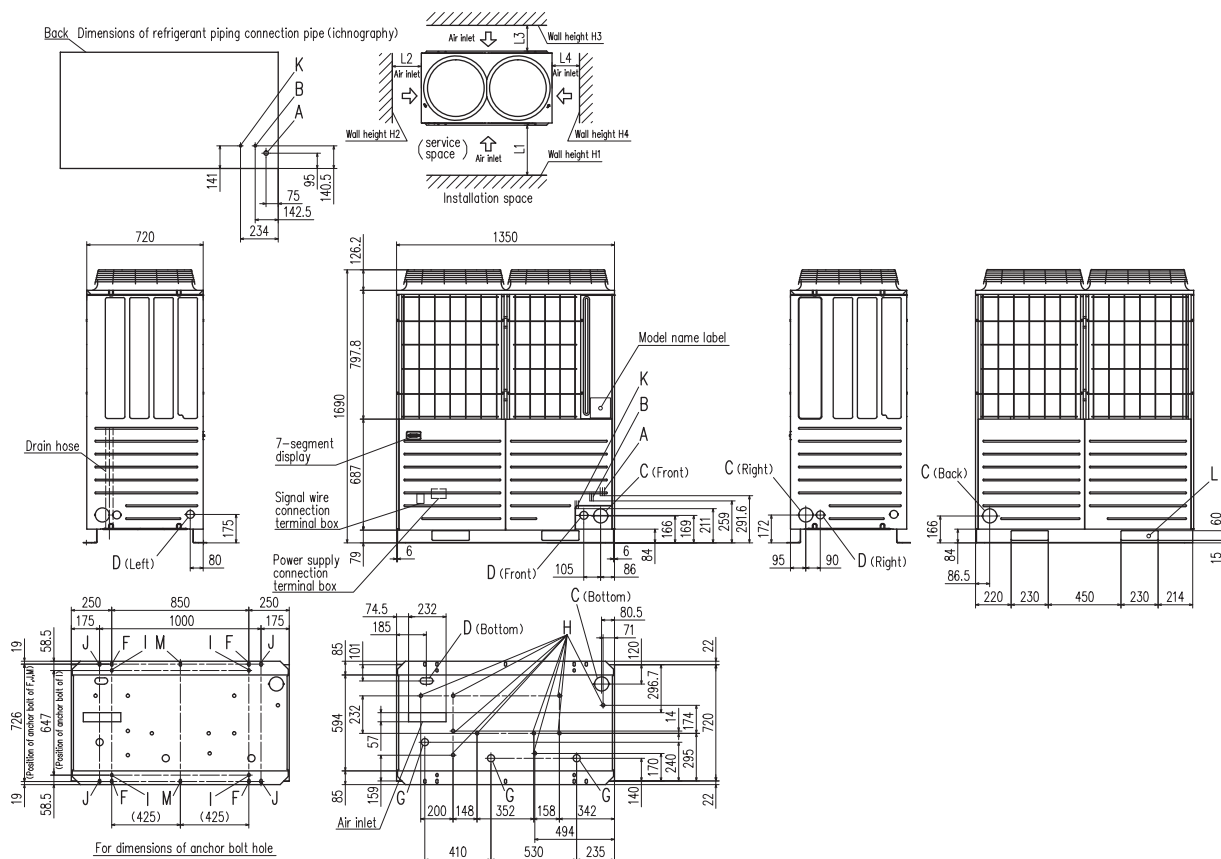
Specifications

Item	Model	FDC615KXZE1	FDC670KXZE1
Combination (FDC)		280KXZE1 335KXZE1	335KXZE1 335KXZE1
Nominal horse power		22HP	24HP
Power source		3 Phase 380-415V, 50Hz	
Nominal capacity	Cooling	61.5	67.0
	Heating	69.0	75.0
Electrical characteristics	Starting current	A	16
	Power consumption	Cooling	16.20
		Heating	17.92
	Running current	Cooling	16.32
		Heating	18.08
Exterior dimensions	HxWxD	mm	1690x2700x720
	Net weight	kg	544
Refrigerant charge	R410A	kg	11.0x2
Refrigerant piping size	Liquid line	mm(in)	ø12.7(1/2")
	Gas line	mm(in)	ø28.58(1 1/8")
Capacity connection	%	50~130	
Number of connectable indoor units		53	58

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. Piping length is 7.5m.
 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	280	335
A	Refrigerant gas piping connection pipe	ø22.22(Brazing)	ø25.4(Brazing)
B	Refrigerant liquid piping connection pipe	ø9.52(Flare)	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 10 places	
K	Refrigerant oil equalization piping connection pipe	ø9.52(Flare)	
L	Carrying in or hole for hanging	230 x 60	

Installation example		
Dimensions	1	2
L ₁	500	Open
L ₂	10(30)	10(30)
L ₃	100	100
L ₄	10(30)	Open
H ₁	1500	Open
H ₂	No limit	No limit
H ₃	1000	No limit
H ₄	No limit	Open

In case the ambient temperature is 43°C or over during cooling operation

KXZ Outdoor units

Heat pump combination systems

26, 28, 30, 32, 34, 36, 38, 40hp (73.5kW~112.0kW)

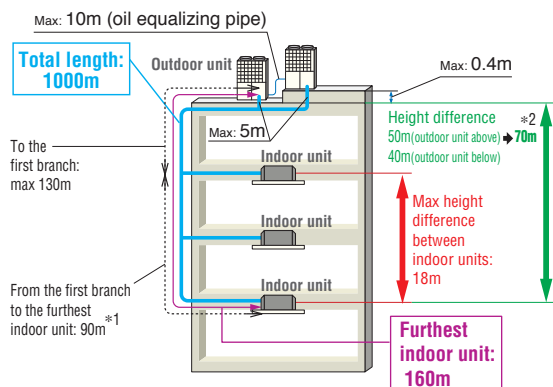
Model No.	Nominal Cooling Capacity
FDC735KXZE1 (FDC335+FDC400)	73.5kW
FDC800KXZE1 (FDC400+FDC400)	80.0kW
FDC850KXZE1 (FDC400+FDC450)	85.0kW
FDC900KXZE1 (FDC450+FDC450)	90.0kW
FDC950KXZE1 (FDC475+FDC475)	95.0kW
FDC1000KXZE1 (FDC500+FDC500)	100.0kW
FDC1060KXZE1 (FDC500+FDC560)	106.0kW
FDC1120KXZE1 (FDC560+FDC560)	112.0kW

NEW

Blue Fin



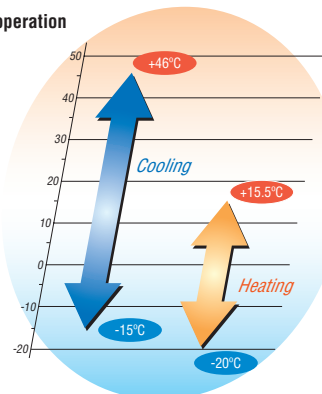
- The KXZ heat pump 2-pipe systems offer high performance VRF for applications that require either cooling only or heating only, ideal for open plan areas.
- Connect up to 80 indoor units/up to 130% capacity.
- High efficiency with COP (in cooling) up to 3.7.
- KXZ employs DC inverter compressors ONLY.
- Industry leading total piping length up to 1000m and a maximum pipe run of 160m.



*1 The difference between the longest and the shortest indoor unit piping from the first branch must be within 40m. (MAX85m)

*2 Height difference up to 100m is possible with High Head series. Please refer to page 84.

Range of operation



Specifications

Item	Model	FDC735KXZE1	FDC800KXZE1	FDC850KXZE1	FDC900KXZE1	FDC950KXZE1	FDC1000KXZE1	FDC1060KXZE1	FDC1120KXZE1
Combination (FDC)		335KXZE1 400KXZE1	400KXZE1	400KXZE1 450KXZE1	450KXZE1 450KXZE1	475KXZE1	500KXZE1 500KXZE1	500KXZE1 560KXZE1	560KXZE1
Nominal horse power		26HP	28HP	30HP	32HP	34HP	36HP	38HP	40HP
Power source		3 Phase 380-415V, 50Hz							
Nominal capacity	Cooling	kW							
	Heating	kW							
Electrical characteristics	Starting current	A							
	Power consumption	kW							
	Running current	A							
Exterior dimensions	HxWxD	mm							
Net weight		kg							
Refrigerant charge	R410A	kg							
Refrigerant piping size	Liquid line	mm(in)							
	Gas line	mm(in)							
Capacity connection		%							
Number of connectable indoor units									

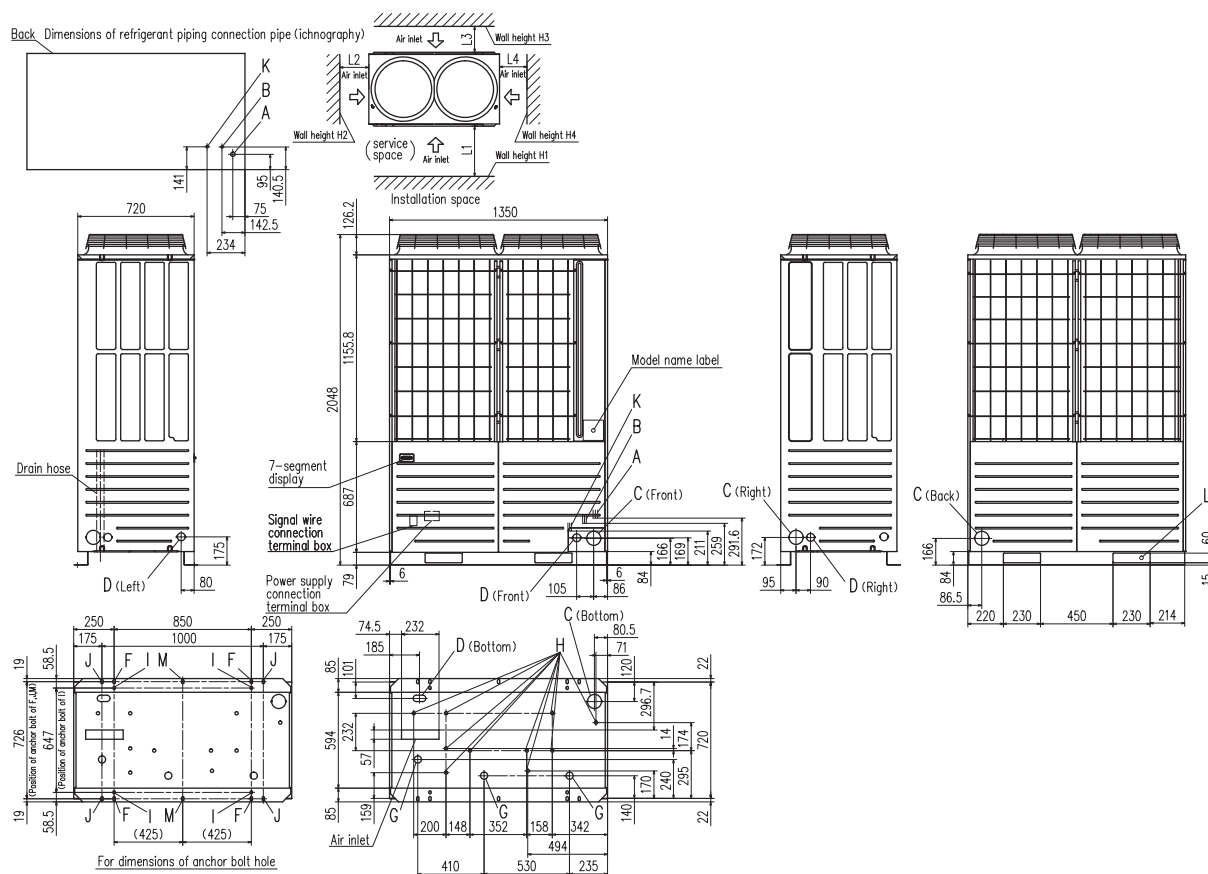
1. The data are measured under the following conditions (ISO-T1). Cooling: Indoor temp. of 27°CDB, 19°CWB, and outdoor temp. of 35°CDB. Heating: Indoor temp. of 20°CDB, and outdoor temp. of 7°CDB, 6°CWB. Piping length is 7.5m.

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

3. [] : Pipe sizes applicable to European installations are shown in parentheses.

Dimensions

All measurements in mm.



Mark	Content	400	450, 475, 500, 560
A	Refrigerant gas piping connection pipe	ø25.4(Brazing)	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 10 places	
K	Refrigerant oil equalization piping connection pipe	ø9.52(Flare)	
L	Carrying in or hole for hanging	230 x 60	

Installation example		
Dimensions	1	2
L₁	500	Open
L₂	10(30)	10(30)
L₃	100	100
L₄	10(30)	Open
H₁	1500	Open
H₂	No limit	No limit
H₃	1000	No limit
H₄	No limit	Open

In case the ambient temperature is 43°C or over during cooling operation

KXZ Outdoor units

Heat pump combination systems

42, 44, 46, 48, 50, 52, 54, 56, 58, 60hp (120.0kW~168.0kW)

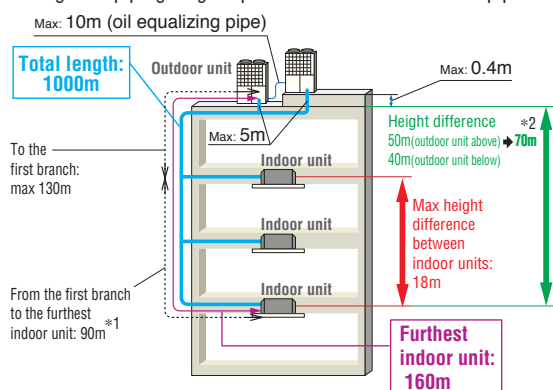


Model No.	Nominal Cooling Capacity
FDC1200KXZE1 (FDC400+FDC400+FDC400)	120.0kW
FDC1250KXZE1 (FDC400+FDC400+FDC450)	125.0kW
FDC1300KXZE1 (FDC400+FDC450+FDC450)	130.0kW
FDC1350KXZE1 (FDC450+FDC450+FDC450)	135.0kW
FDC1425KXZE1 (FDC475+FDC475+FDC475)	142.5kW
FDC1450KXZE1 (FDC475+FDC475+FDC500)	145.0kW
FDC1500KXZE1 (FDC500+FDC500+FDC500)	150.0kW
FDC1560KXZE1 (FDC500+FDC500+FDC560)	156.0kW
FDC1620KXZE1 (FDC500+FDC560+FDC560)	162.0kW
FDC1680KXZE1 (FDC560+FDC560+FDC560)	168.0kW

NEW

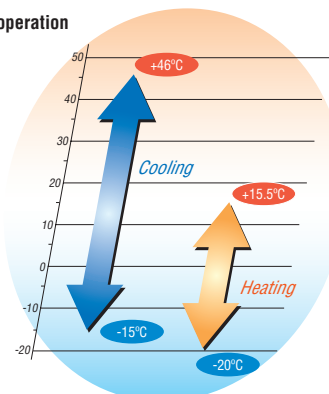


- The KXZ heat pump 2-pipe systems offer high performance VRF for applications that require either cooling only or heating only, ideal for open plan areas.
- Connect up to 80 indoor units/up to 130% capacity.
- High efficiency with COP (in cooling) up to 3.6.
- KXZ employs DC inverter compressors ONLY.
- Industry leading total piping length up to 1000m and a maximum pipe run of 160m.



- *1 The difference between the longest and the shortest indoor unit piping from the first branch must be within 40m. (MAX85m)
 *2 Height difference up to 100m is possible with High Head series.
 Please refer to page 84.

Range of operation



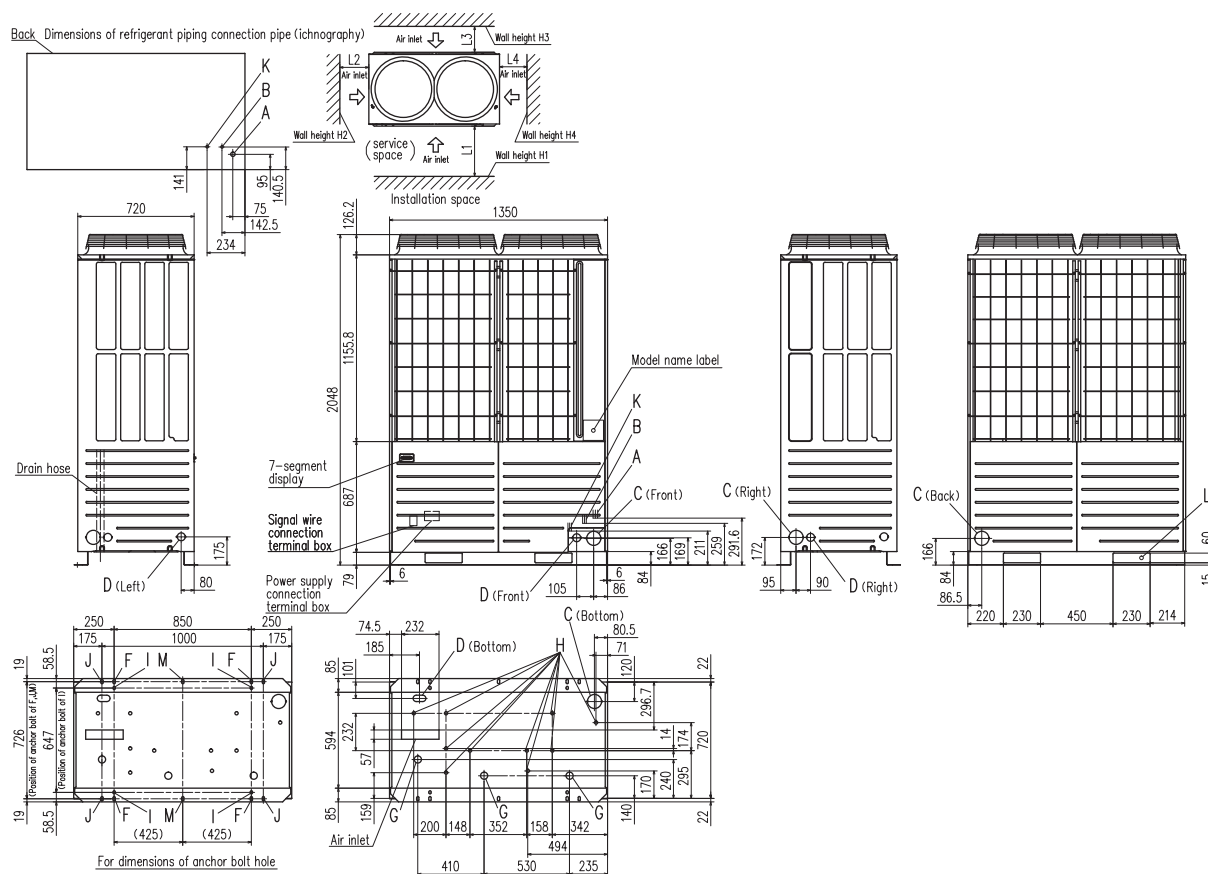
Specifications

Item		Model	FDC1200KXZE1	FDC1250KXZE1	FDC1300KXZE1	FDC1350KXZE1	FDC1425KXZE1	FDC1450KXZE1	FDC1500KXZE1	FDC1560KXZE1	FDC1620KXZE1	FDC1680KXZE1	
Combination (FDC)			400KXZE1	400KXZE1	400KXZE1	450KXZE1	475KXZE1	475KXZE1	500KXZE1	500KXZE1	500KXZE1	560KXZE1	
			400KXZE1	400KXZE1	450KXZE1	450KXZE1	475KXZE1	475KXZE1	500KXZE1	500KXZE1	560KXZE1	560KXZE1	
			400KXZE1	450KXZE1	450KXZE1	450KXZE1	475KXZE1	500KXZE1	500KXZE1	560KXZE1	560KXZE1	560KXZE1	
Nominal horse power			42HP	44HP	46HP	48HP	50HP	52HP	54HP	56HP	58HP	60HP	
Power source			3 Phase 380-415V, 50Hz										
Nominal capacity	Cooling	kW	120.0	125.0	130.0	135.0	142.5	145.0	150.0	156.0	162.0	168.0	
	Heating		135.0	140.0	145.0	150.0	159.0	162.0	168.0	175.0	182.0	189.0	
Electrical characteristics	Starting current		A	24									
	Power consumption	Cooling	kW	32.88	35.90	38.92	41.90	41.94	41.93	41.91	44.56	47.21	49.86
		Heating		32.07	33.88	35.69	37.50	39.00	39.49	40.47	42.93	45.39	47.85
	Running current	Cooling	A	52.5	57.4	62.3	67.2	67.8	67.8	67.8	72.1	76.4	80.7
		Heating		52.5	55.4	58.3	61.2	63.0	63.8	65.4	69.4	73.4	77.4
Exterior dimensions	HxWxD		mm	2048x4050x720									
Net weight			kg	951				1110					
Refrigerant charge	R410A		kg	11.5x3									
Refrigerant piping size	Liquid line	mm(in)	ø19.05(3/4")										
	Gas line		ø38.1(1 1/2") [ø34.92(1 3/8")]										
Capacity connection		%	50-130										
Number of connectable indoor units			80										

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. Piping length is 7.5m.
 2. Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.
 3. [] : Pipe sizes applicable to European installations are shown in parentheses.

Dimensions

All measurements in mm.



Mark	Content	400	450, 475, 500, 560
A	Refrigerant gas piping connection pipe	ø25.4(Brazing)	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 10 places	
K	Refrigerant oil equalization piping connection pipe	ø9.52(Flare)	
L	Carrying in or hole for hanging	230 x 60	

Installation example		
Dimensions	1	2
L₁	500	Open
L₂	10(30)	10(30)
L₃	100	100
L₄	10(30)	Open
H₁	1500	Open
H₂	No limit	No limit
H₃	1000	No limit
H₄	No limit	Open

KXZ refrigerant piping

Installation of Interconnecting Pipework

Mitsubishi KXZ 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. All pipework material used should be EN12735 European standard.

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, and in accordance with European standard E378:2000. All brazed joints shall be made with dry nitrogen purge to ensure the prevention of oxidation to the internal surface of the copper pipes.

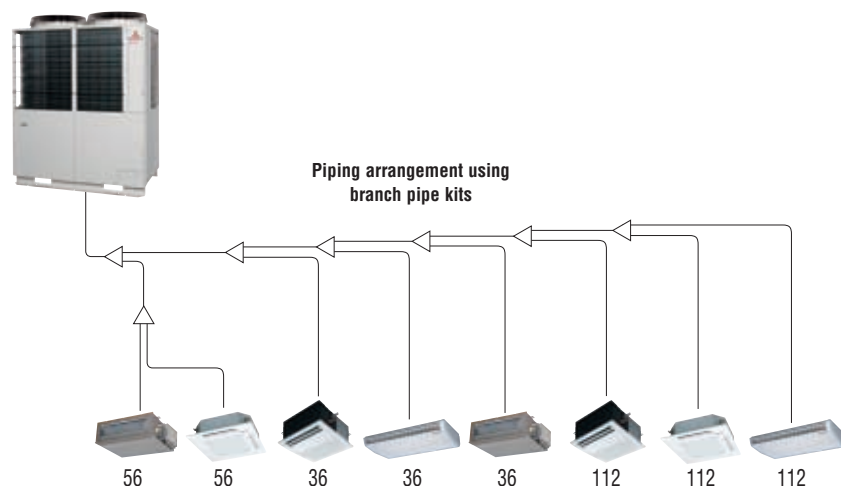
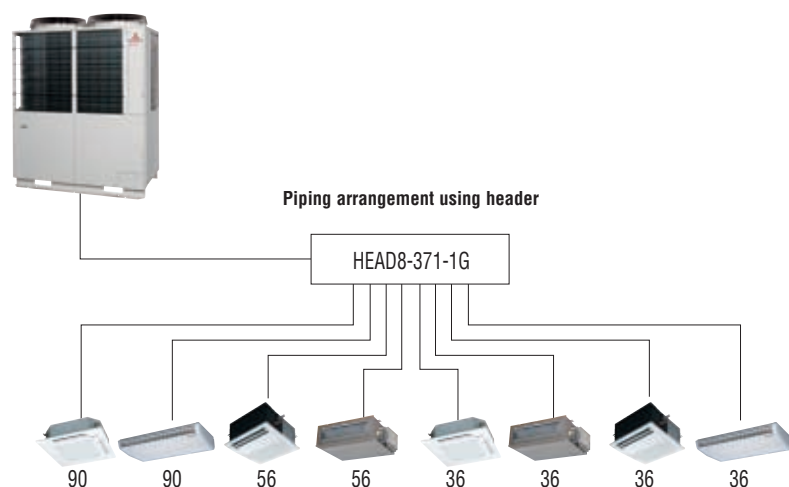
The ingress of moisture, dirt and any other contaminants to the interior of the copper pipes, and air conditioning units, must be prevented during the installation procedure. After the installation of pipework, prior to the

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 manufacturer's data, based on the length and diameter of each section of the liquid refrigerant pipework of the system.

Single outdoor unit piping examples:



Liquid pipe
Gas pipe

KXZ refrigerant piping

Main (Outdoor unit side branching pipe – Indoor unit side first branching pipe)

If the longest distance (measured between the outdoor unit and the farthest indoor unit) is 90m or longer (actual length), please change the main pipe size according to the table below.

Outdoor unit	Main pipe size (normal)		Pipe size for an actual length of 90m or longer		mm	inch
	Gas pipe	Liquid pipe	Gas pipe	Liquid pipe		
280	ø22.22 × t1.0	ø9.52 × t0.8	ø25.4 (ø22.22) × t1.0	ø12.7 × t0.8	ø9.52	3/8"
335	ø25.4 (ø22.22) × t1.0		ø28.58 × t1.0		ø12.7	1/2"
400	ø25.4 (ø28.58) × t1.0				ø15.88	5/8"
450					ø19.05	3/4"
475					ø22.22	7/8"
500					ø25.4	1"
560	ø28.58 × t1.0	ø12.7 × t0.8	ø31.8 × t1.1 (ø28.58 × t1.0)	ø15.88 × t1.0		
615						
670						
735						
800	ø31.8 × t1.1 (ø34.92 × t1.2)	ø15.88 × t1.0		ø19.05 × t1.0		
850						
900						
950						
1000						
1060						
1120						
1200						
1250						
1300						
1350	ø38.1 × t1.35 (ø34.92 × t1.2)	ø19.05 × t1.0	ø38.1 × t1.35 (ø34.92 × t1.2)	ø22.22 × t1.0		
1425						
1450						
1500						
1560						
1620						
1680						

Please use C1220T-1/2H for ø19.05 or larger pipes.
Pipe sizes applicable to European installations are shown in parentheses.

Branch pipes

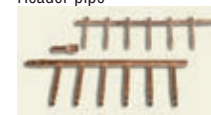


DIS-22-1G/DIS-180-1G



DIS-371-1G/DIS-540-3

Header pipe

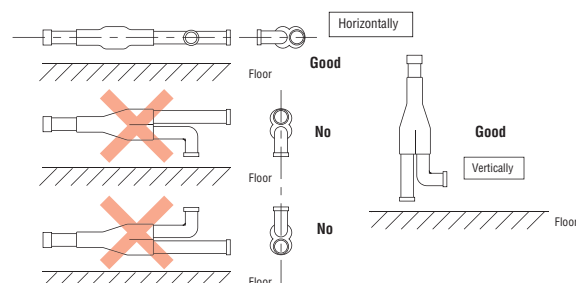


HEAD6-180-1G

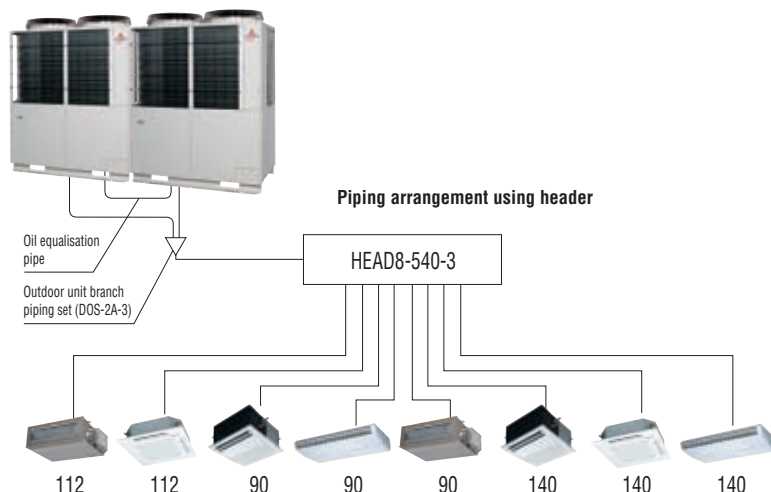
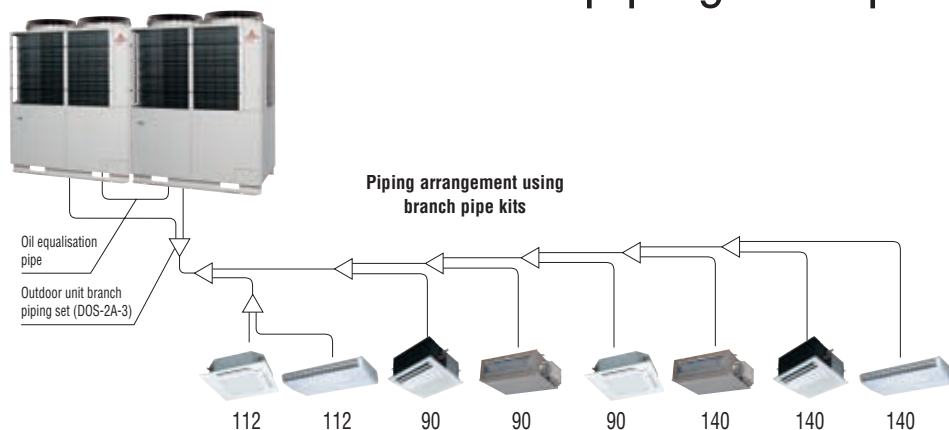
Combination outdoor unit manifold



DOS-2A-3
DOS-3A-3



Combination outdoor unit piping examples:



Outdoor unit's branch piping set

Outdoor unit	Branch piping set
For two units (for 615~1120)	DOS-2A-3
For three units (for 1200~1680)	DOS-3A-3

Indoor unit's first branch piping set

Total capacity of indoor units	Branch piping set	Header set	
		Model	Branches
~179	DIS-22-1G	HEAD4-22-1G	Max 4 branches
180~370	DIS-180-1G	HEAD6-180-1G	Max 6 branches
371~539	DIS-371-1G	HEAD8-371-2	Max 8 branches
540~	DIS-540-3	HEAD8-540-3	Max 8 branches

KXZ electrical wiring – power supply

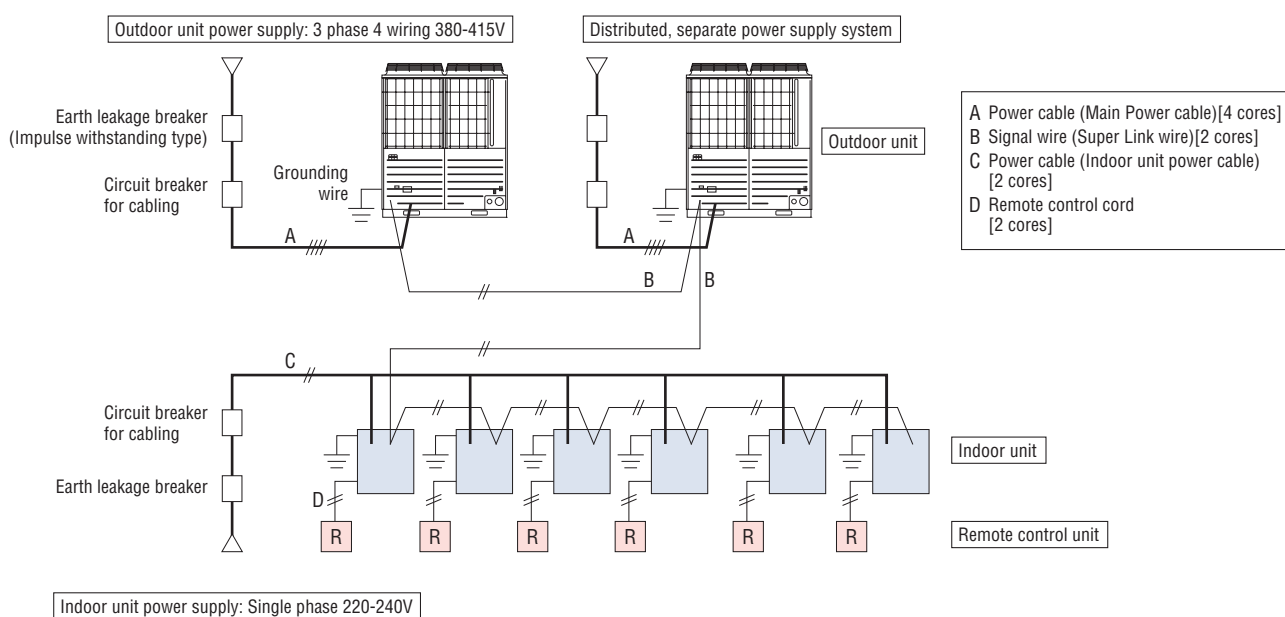
KXZ new design includes greatly simplified wiring requirements utilising a 'polarity-free' two wire control loop connecting the indoor units.

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).

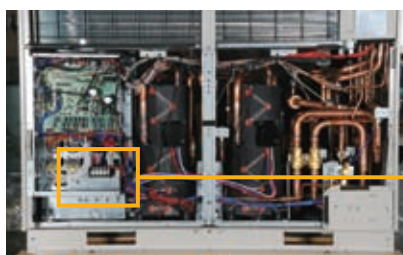
Only control wiring is connected from outdoor to indoor unit.



CAUTION

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

KXZ outdoor unit mechanical compartment



Electrical component box



Outdoor unit power supply terminal block

KXZ 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.

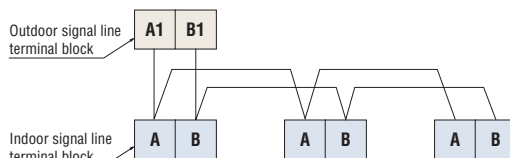
	0.75mm ²	1.25mm ²
~1000m	YES	YES
1000~1500m	YES	NO

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.

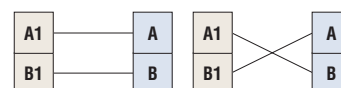
4. When plural outdoor units are used,
 • Connect the signal cable between indoor and outdoor units and the signal cable between outdoor units belonging to the same refrigerant line to A1 and B1.
 • Connect the signal line between outdoor units on different refrigerant lines to A2 and B2.

5. For current specification of 2-core (AB) wiring, please consult your MHI dealer.

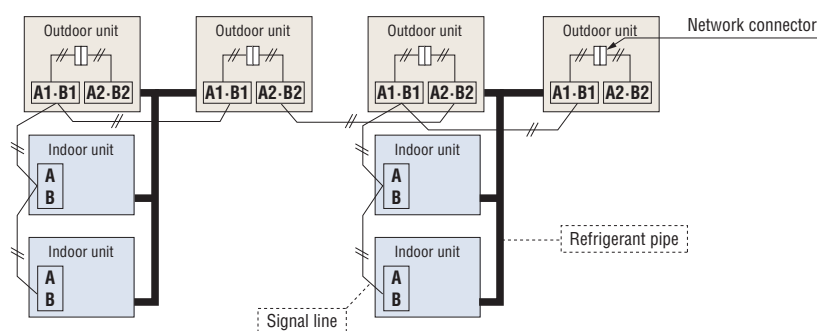
(1) When one outdoor unit is used



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

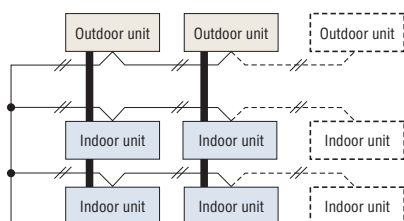


(2) When plural outdoor units are used



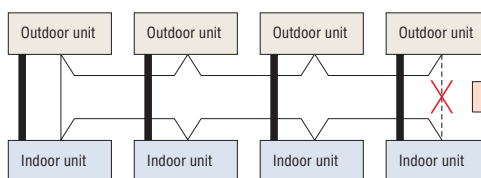
- (a) The maximum number of indoor units that can be connected in a system is 128 and it is possible to configure outdoor units and/or indoor units as an outdoor or indoor unit group connected with each other with two wires.
 (b) The signal wires can also be connected using the method shown below.

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



Important

○ Loop wiring prohibited

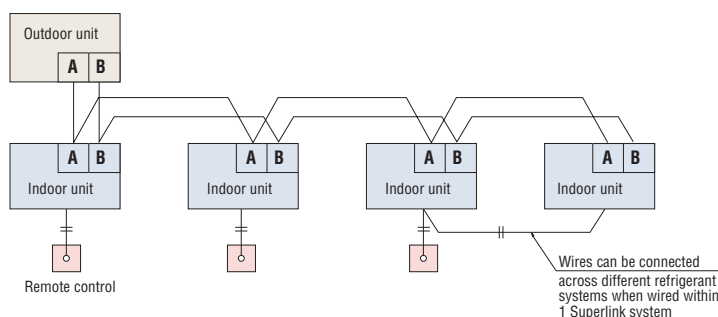


The signal lines cannot form a loop, so the wirings shown as in the diagram are prohibited.

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	0.5mm ² x 2 core
To 300	0.75mm ² x 2 core
To 400	1.25mm ² x 2 core
To 600	2.0mm ² x 2 core



Indoor units

Ceiling Cassette -4way-FDT

Model No.

FDT28KXE6F	FDT90KXE6F
FDT36KXE6F	FDT112KXE6F
FDT45KXE6F	FDT140KXE6F
FDT56KXE6F	FDT160KXE6F
FDT71KXE6F	



Remote control (option)

Wired



Wireless

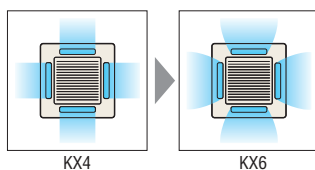


Individual flap control system

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.



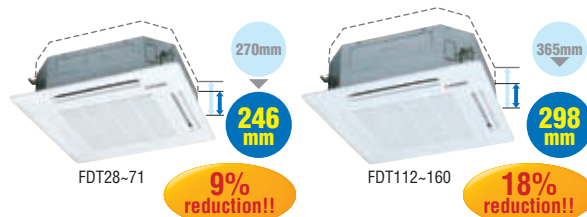
Due to optimization of outlet design of air flow with our new advanced technology, sufficient air flow is secured and long reach of air flow is realized.



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.

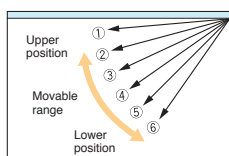
Shape of Heat exchanger



Flap control system

Selection of flap position is possible. Individual flaps can be set at different angles.

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



Specifications

Item	Model	FDT28KXE6F	FDT36KXE6F	FDT45KXE6F	FDT56KXE6F	FDT71KXE6F	FDT90KXE6F	FDT112KXE6F	FDT140KXE6F	FDT160KXE6F
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	0.03-0.03			0.04-0.04	0.08-0.08	0.15-0.15			
	Heating	0.03-0.03			0.04-0.04	0.08-0.08	0.15-0.15			
Sound power level	dB(A)	53			60	64	65	—	—	—
Sound pressure level ※	dB(A)	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 ※	m³/min	Hi:18 Me:16 Lo:14					Hi:27 Me:24 Lo:20		Hi:30 Me:27 Lo:23	
Outside air intake		Possible								
Panel		T-PSA-3BW-E								
Air filter, Q'ty		Pocket Plastic net x1 (Washable)								
Remote control(option)		wired:RC-EX1A, RC-E5, 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")				

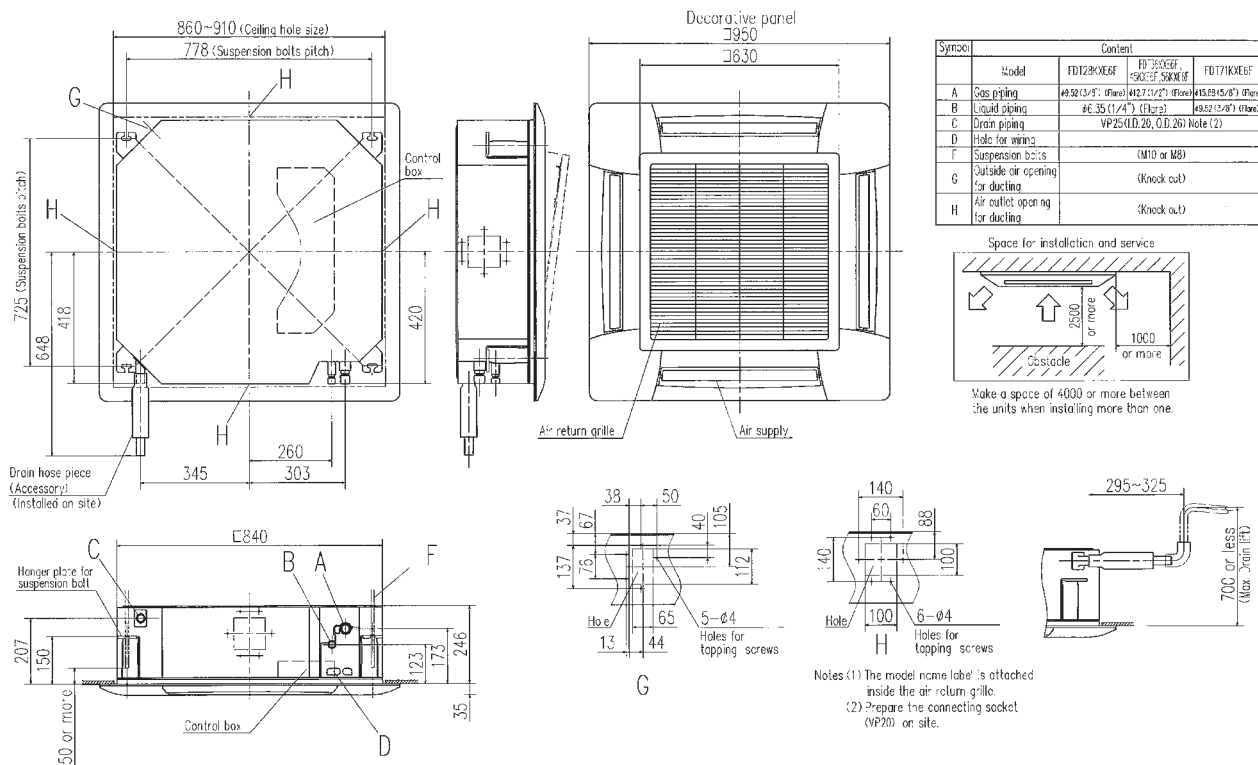
1. The data are measured under the following conditions(ISO-T1). Cooling: Indoor temp. of 27°CDB, 19°CWB, and outdoor temp. of 35°CDB. Heating: Indoor temp. of 20°CDB, and outdoor temp. of 7°CDB, 6°CWB.
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values 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 20m³/min, FDT71 28m³/min, FDT90/112/140/160 37m³/min.

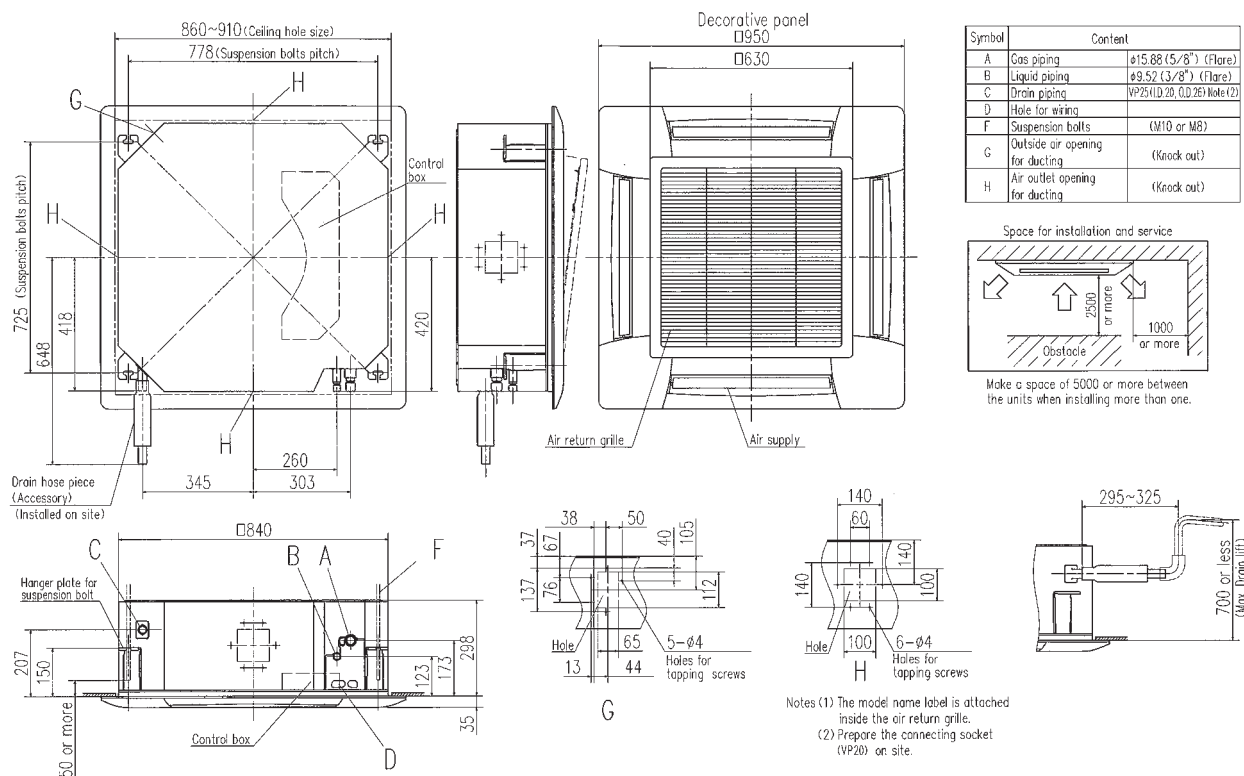
Dimensions

All measurements in mm.

FDT28KXE6F, 36KXE6F, 45KXE6F, 56KXE6F, 71KXE6F



FDT90KXE6F, 112KXE6F, 140KXE6F, 160KXE6F



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

Fits into standard
600 x 600 ceiling

Model No.

FDT15KXE6F※
FDT22KXE6F
FDT28KXE6F
FDT36KXE6F
FDT45KXE6F
FDT56KXE6F



Remote control (option)

Wired



Wireless



RC-EX1A

RC-E5

RCH-E3

RCN-TC-24W-ER

※(1) Can not be connected to some KX outdoor units. Please consult your dealer for further details.

(2) Regarding pipe length (150m or more is required) and temperature condition (lowest 10°C) in the cooling operation etc., please refer to our technical manual.

Taking OA (Outside Air) into inside

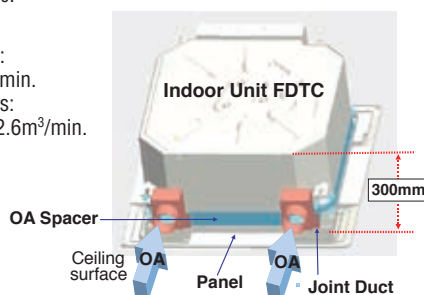
OA Spacer TC-OAS-E (option)

Joint Duct TC-OAD-E (option)

Utilizing OA spacer which comes as optional equipment, outside air can be taken inside.

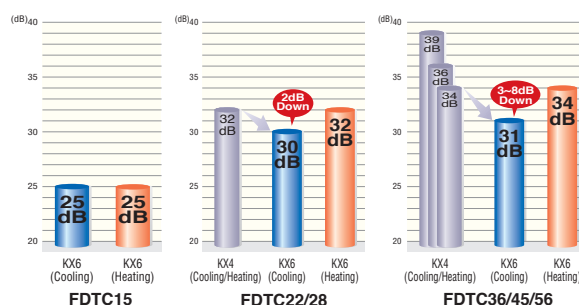
Using 1 joint duct:
OA up to 1.3m³/min.

Using 2 joint ducts:
OA from 1.3 to 2.6m³/min.



Quiet operation (Sound pressure level in the Lo mode.)

The industry's lowest sound pressure level:25dB(A) of FDT15KXE6F was achieved by Optimizing fan speed and distributor size.



Individual flap control system

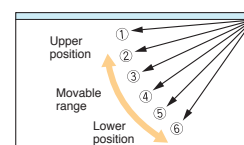
According to room temperature conditions, four directions of air flow can be controlled by individual flap as preferred. As individual flap control is available even after installation, installation area became wider than before.



Flap control system

Selection of flap position is possible. Individual flaps can be set at different angles.

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



Specifications

Item	Model	FDT15KXE6F	FDT22KXE6F	FDT28KXE6F	FDT36KXE6F	FDT45KXE6F	FDT56KXE6F
Nominal cooling capacity	kW	1.5	2.2	2.8	3.6	4.5	5.6
Nominal heating capacity	kW	1.7	2.5	3.2	4.0	5.0	6.3
Power source		1 Phase 220-240V, 50Hz					
Power consumption	Cooling	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 power level	dB(A)	56			58		60
Sound pressure level ※	Cooling	Hi:32 Me:28 Lo:25	Hi:35 Me:33 Lo:30	Hi:38 Me:36 Lo:31	Hi:40 Me:37 Lo:31	Hi:45 Me:39 Lo:31	Hi:45 Me:39 Lo:31
	Heating	Hi:32 Me:28 Lo:25	Hi:35 Me:33 Lo:32	Hi:38 Me:36 Lo:34	Hi:40 Me:37 Lo:34	Hi:45 Me:39 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	Hi:7 Me:5.5 Lo:4.5	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	Hi:13 Me:10 Lo:7
	Heating	Hi:7 Me:5.5 Lo:4.5	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	Hi:13 Me:10 Lo:8
Outside air intake		Possible with OA Spacer TC-OAS-E & Joint Duct TC-OAD-E					
Panel		TC-PSA-25W-E					
Air filter, Q'ty		Pocket Plastic net x1 (Washable)					
Remote control(option)		wired:RC-EX1A, RC-E5, RCH-E3 wireless:RCN-TC-24W-ER					
Installation data		Liquid line:ø6.35(1/4")			Liquid line:ø6.35(1/4")		
	Refrigerant piping size	Gas line:ø9.52(3/8")			Gas line:ø12.7(1/2")		

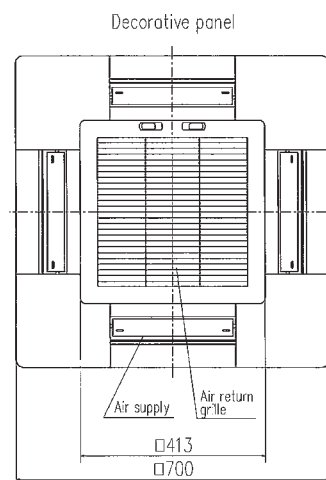
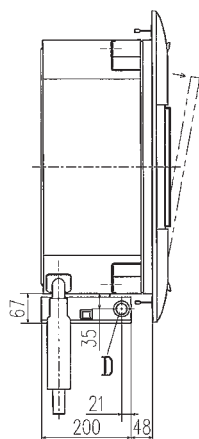
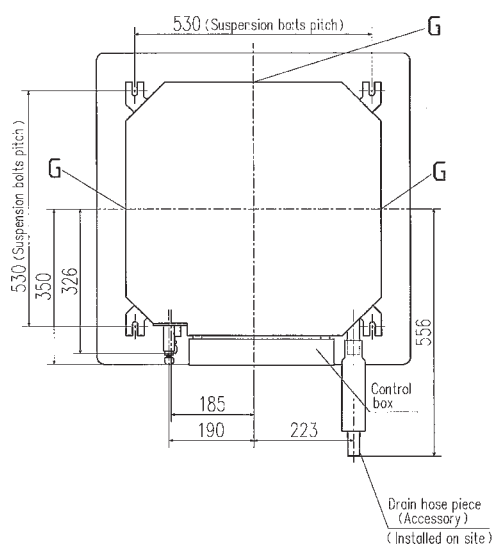
1. The data are measured under the following conditions(ISO-T1). Cooling: Indoor temp. of 27°CDB, 19°CWB, and outdoor temp. of 35°CDB. Heating: Indoor temp. of 20°CDB, and outdoor temp. of 7°CDB, 6°CWB.

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

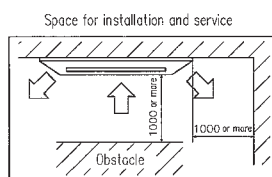
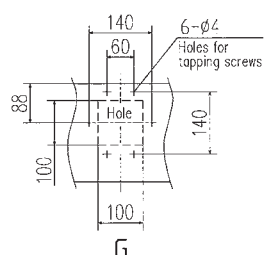
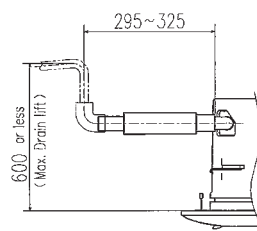
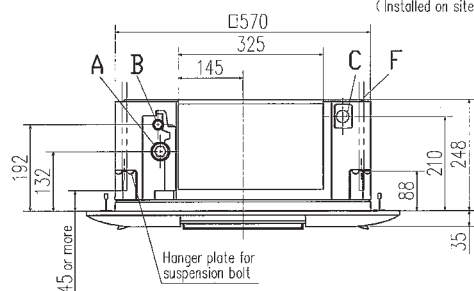
※ Powerful-Hi can be selected. Sound pressure level: FDT15 34dB(A), FDT22/28 44dB(A), FDT36 46dB(A), FDT45 48dB(A), FDT56 49dB(A). Air flow: FDT15 8m³/min, FDT22/28 12m³/min, FDT36 13m³/min, FDT45 15m³/min, FDT56 16m³/min.

Dimensions

All measurements in mm.



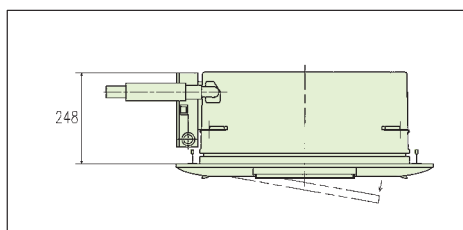
Notes (1) The model name label is attached on the control box lid.
(2) This unit is designed for 2x2 grid ceiling.
If it is installed on a ceiling other than 2x2 grid ceiling, provide an inspection port on the control box side.



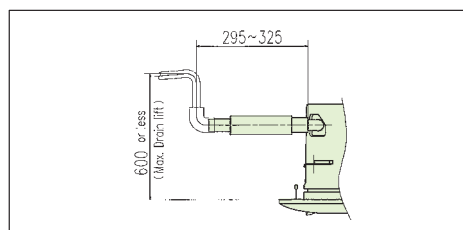
Make a space of 4000 or more between the units when installing more than one.

Symbol	Content
	Model
A	Gas piping
B	Liquid piping
C	Drain piping
D	Hole for wiring
F	Suspension bolts
G	Air outlet opening for ducting

Ultra slim design at just 248mm above the ceiling



Condensate drain pump included as standard



Ceiling Cassette -2way- FDTW

Model No.

FDTW28KXE6F	FDTW90KXE6F
FDTW45KXE6F	FDTW112KXE6F
FDTW56KXE6F	FDTW140KXE6F
FDTW71KXE6F	



FDTW28~71

FDTW90~140

Remote control (option)

Wired



RC-EX1A RC-E5 RCH-E3

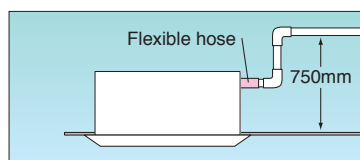
Wireless



RCN-TW-E

750mm Drain Pump

Drain can be discharged upward by 750mm from the ceiling surface close to the indoor unit. It allows a piping layout with a high degree of freedom depending on the installation location.



Installation workability

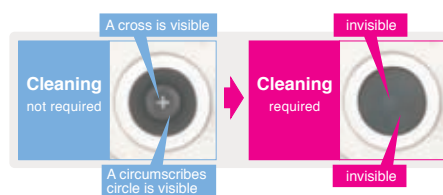
Drainage spout

Drainage flow test can be done easily by use of this drainage spout.



Transparent access hole to drain pan

Dirt condition of the bottom of a drain pan can be checked through this transparent access hole without removing drain pan.



Specifications

Item	Model	FDTW28KXE6F	FDTW45KXE6F	FDTW56KXE6F	FDTW71KXE6F	FDTW90KXE6F	FDTW112KXE6F	FDTW140KXE6F
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	0.09-0.09	0.10-0.10		0.14-0.14	0.19-0.19		
	Heating	0.09-0.09	0.10-0.10		0.14-0.14	0.19-0.19		
Sound power level	dB(A)	58				65	—	
Sound pressure level ※	dB(A)	Hi:38 Me:34 Lo:31				Hi:45 Me:41 Lo:37		
Exterior dimensions H x W x D	mm	Unit:325x820x620 Panel:20x1120x680				Unit:325x1535x620 Panel:20x1835x680		
Net weight	kg	Unit:20 Panel:8.5	Unit:21 Panel:8.5		Unit:23 Panel:8.5	Unit:35 Panel:13		
Air flow ※	m³/min	Hi:12 Me:10 Lo:9				Hi:27 Me:23 Lo:20		
Outside air intake		Possible						
Panel		TW-PSA-26W-E				TW-PSA-46W-E		
Air filter, Q'ty		Pocket Plastic net x2 (Washable)				Pocket Plastic net x3 (Washable)		
Remote control(option)		wired:RC-EX1A, RC-E5, RCH-E3 wireless:RCN-TW-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")			

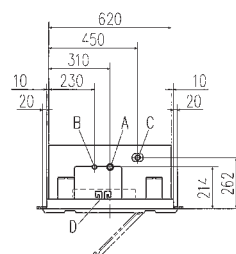
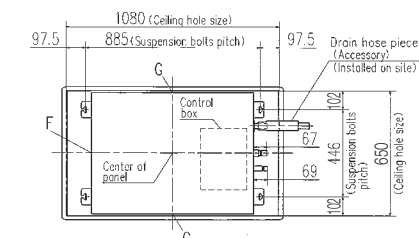
1. The data are measured under the following conditions(ISO-T1). Cooling: Indoor temp. of 27°CDB, 19°CWB, and outdoor temp. of 35°CDB. Heating: Indoor temp. of 20°CDB, and outdoor temp. of 7°CDB, 6°CWB.
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values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

※ Powerful-Hi can be selected. Sound pressure level: FDTW28/45/56/71 42dB(A), FDTW90/112/140 48dB(A). Air flow: FDTW28/45/56/71 14.5m³/min, FDTW90/112/140 31m³/min.

Dimensions

All measurements in mm.

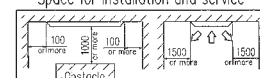
FDTW28KXE6F, 45KXE6F, 56KXE6F, 71KXE6F



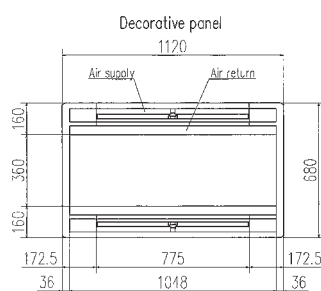
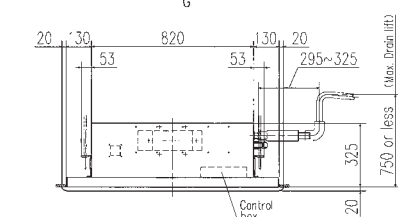
Symbol	Model	Content
A	Gas piping	49.52 (3/8") (Flare)
B	Liquid piping	46.35 (1 1/4") (Flare)
C	Drain piping	VP25 (I.D. 25, O.D. 32) Note(2)
D	Hole for wiring	(M10)
E	Suspension bolts	(M10)
F	Outside air opening for ducting	(Knock out)
G	Air outlet opening for ducting	(Knock out)

Notes (1) The model name label is attached on the lid of the control box.
(2) Prepare the connecting socket (VP25) on site.

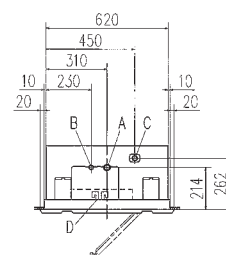
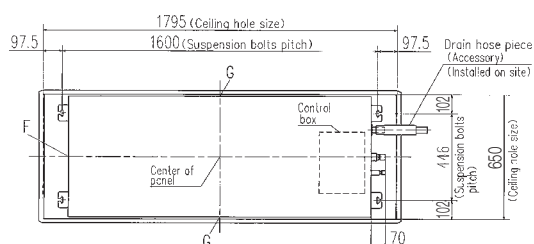
Space for installation and service



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



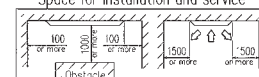
FDTW90KXE6F, 112KXE6F, 140KXE6F



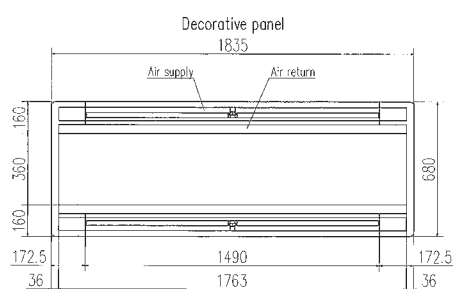
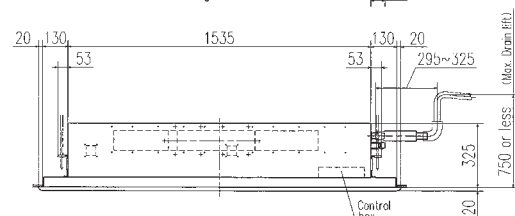
Symbol	Model	Content
A	Gas piping	41.28 (5/8") (Flare)
B	Liquid piping	49.52 (3/8") (Flare)
C	Drain piping	VP25 (I.D. 25, O.D. 32) Note(2)
D	Hole for wiring	(M10)
E	Suspension bolts	(M10)
F	Outside air opening for ducting	(Knock out)
G	Air outlet opening for ducting	(Knock out)

Notes (1) The model name label is attached on the lid of the control box.
(2) Prepare the connecting socket (VP25) on site.

Space for installation and service



Make a space of 5000 or more between the units when installing more than one.



Ceiling Cassette -1way-FDTS

Model No.
FDTS45KXE6F
FDTS71KXE6F



Remote control (option)

Wired



RC-EX1A RC-E5 RCH-E3

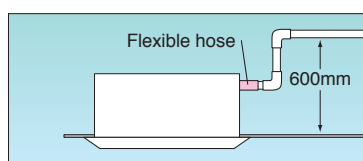
Wireless



RCN-TS-E

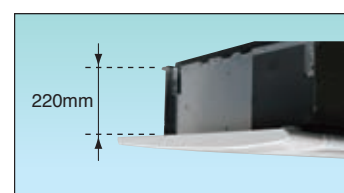
600mm Drain Pump

Drain can be discharged upward by 600mm from the ceiling surface close to the indoor unit. It allows a piping layout with a high degree of freedom depending on the installation location.



Compact design

Indoor unit size (W:1,150 x D:565) brings easy installation for 1,200 x 600 ceiling and Panel size (1,250 x 650) is suitable for 1,200 x 600 ceiling. Height is the industry's lowest height level 220mm and weight is 27/28kg only.



Specifications

Item	Model	FDTS45KXE6F	FDTS71KXE6F
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	0.04	0.09
	Heating	0.04	0.09
Sound power level	dB(A)	60	61
Sound pressure level ※	dB(A)	Hi:40 Me:38 Lo:35	Hi:46 Me:41 Lo:36
Exterior dimensions H x W x D	mm	Unit:220x1150x565 Panel:35x1250x650	
Net weight	kg	Unit:27 Panel:5	Unit:28 Panel:5
Air flow ※	m³/min	Hi:12 Me:11 Lo:9.5	Hi:15 Me:12 Lo:9.5
Outside air intake		Possible	
Panel		TS-PSA-3AW-E	
Air filter, Q'ty		Pocket Plastic net x2 (Washable)	
Remote control(option)		wired:RC-EX1A, RC-E5, RCH-E3 wireless:RCN-TS-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")

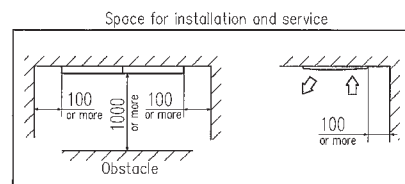
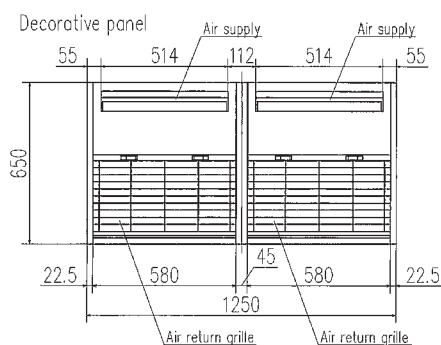
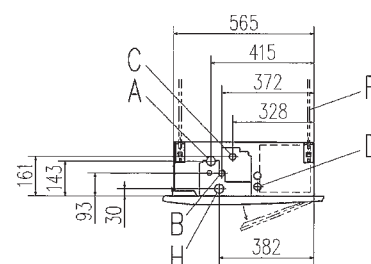
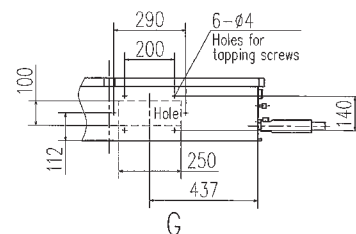
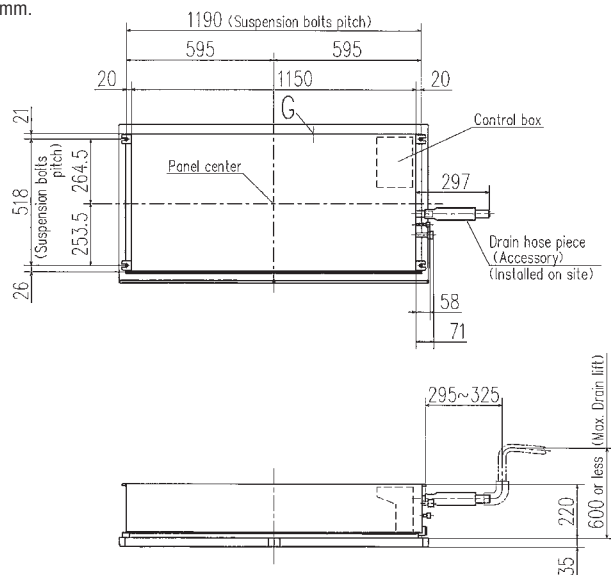
1. The data are measured under the following conditions(ISO-T1). Cooling: Indoor temp. of 27°CDB, 19°CWB, and outdoor temp. of 35°CDB. Heating: Indoor temp. of 20°CDB, and outdoor temp. of 7°CDB, 6°CWB.

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 42dB(A), FDTS71 49dB(A). Air flow: FDTS45 13m³/min, FDTS71 17m³/min.

Dimensions

All measurements in mm.



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

Symbol	Content		
	Model	45	71
A	Gas piping	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	VP25 (I.D.25 , O.D.32) Note (2)	
D	Hole for wiring		
F	Suspension bolts	(M10)	
G	Outside air opening for ducting	(Knock out)	
H	Drain piping (Gravity drainage)	VP25 (I.D.25 , O.D.32)	

Ceiling Cassette -1way Compact-FDTQ

Model No.
FDTQ22KXE6F
FDTQ28KXE6F
FDTQ36KXE6F



Fits into standard
600 x 600 ceiling

Remote control (option)

Wired



RC-EX1A RC-E5 RCH-E3

Wireless



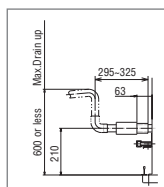
RCN-KIT3-E

Compact design

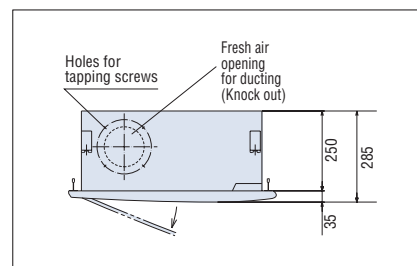
- Comfortable effective cooling for small rooms, with low fan speed air flow at just 5.4m³/min.



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	FDTQ22KXE6F				FDTQ28KXE6F				FDTQ36KXE6F				
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			
	Heating		0.05-0.07				0.05-0.07				0.05-0.07			
Sound power level	dB(A)	60												
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	Unit	250x570x570				250x570x570				250x570x570				
	Panel	mm	35x625x650		35x780x650		35x625x650		35x780x650		35x625x650		35x780x650	
H x W x D		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		
Net weight	kg	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		
Air flow ※	m³/min	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-EX1A, RC-E5, RCH-E3 wireless:RCN-KIT3-E												
Installation data	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")				
Refrigerant piping size														

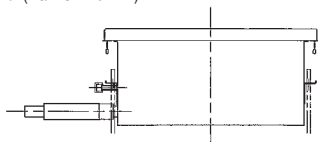
1. The data are measured under the following conditions(ISO-T1). Cooling: Indoor temp. of 27°CDB, 19°CWB, and outdoor temp. of 35°CDB. Heating: Indoor temp. of 20°CDB, and outdoor temp. of 7°CDB, 6°CWB. 2. Sound pressure level indicates the value in an anechoic chamber. During operation these values 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 8m³/min.

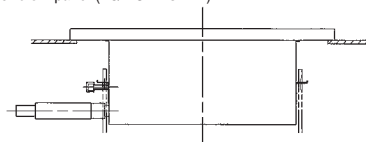
Dimensions

All measurements in mm.

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

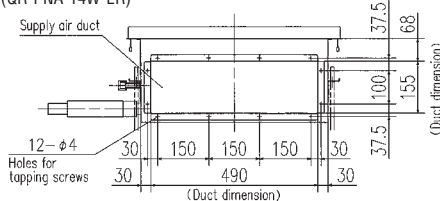


Direct blow panel (TQ-PSB-15W-E)

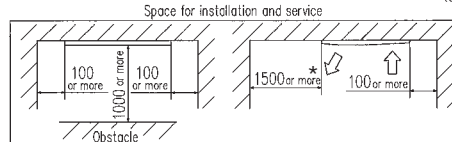
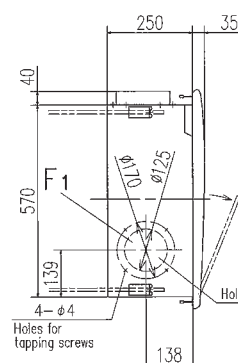
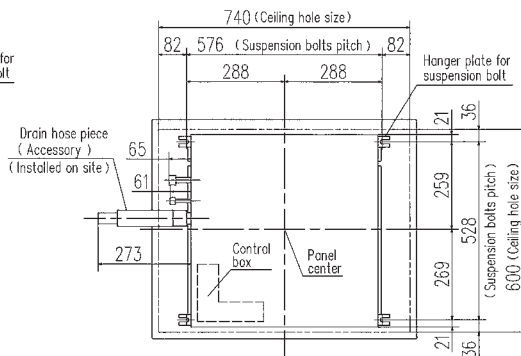
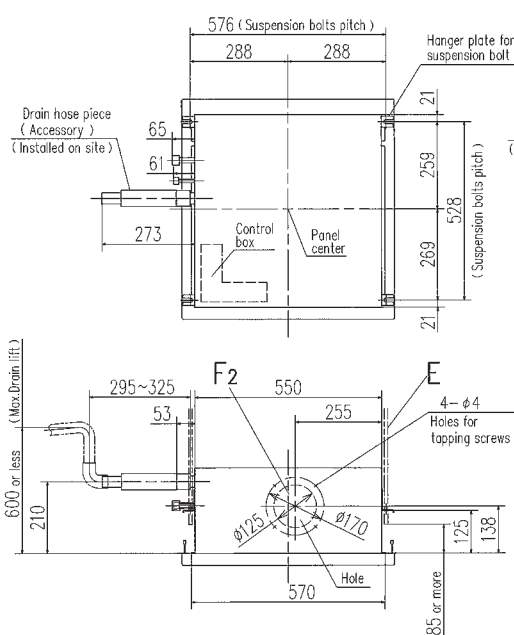
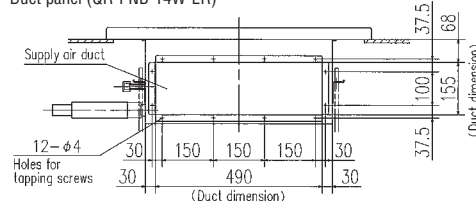


Symbol	Model	Content
	FDTQ22KXE6F, 28KXE6F	FDTQ35KXE6F
A	Gas piping	ø9.52 (3/8") (Flare) ø12.7 (1/2") (Flare)
B	Liquid piping	ø6.35 (1/4") (Flare)
C	Drain piping	VP25 (O.D. 32)
D	Hole for wiring	ø30
E	Suspension bolts	M10
F1,2	Outside air opening for ducting	(Knock out)

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



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



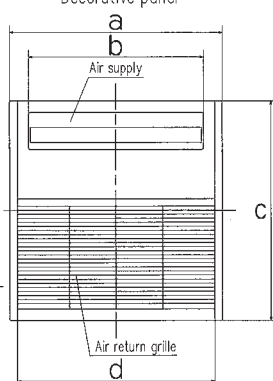
Make a space of 3000 or more between the units when installing more than one.

Notes

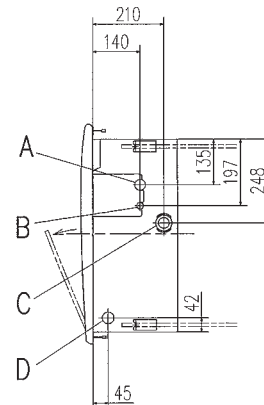
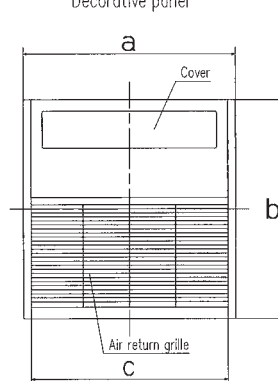
- (1) The model name label is attached on the fan case inside the air return grille.
- (2) Prepare the connecting socket (VP20) on site.
- (3) This unit is designed for 2X2 grid ceiling.

* In case of Direct blow panel

Decorative panel



Decorative 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.

FDU45KXE6F
FDU56KXE6F
FDU71KXE6F
FDU90KXE6F
FDU112KXE6F
FDU140KXE6F
FDU160KXE6F



Remote control (option)

Wired



RC-EX1A RC-E5 RCH-E3

Wireless



RCN-KIT3-E

External Static Pressure(E.S.P) control

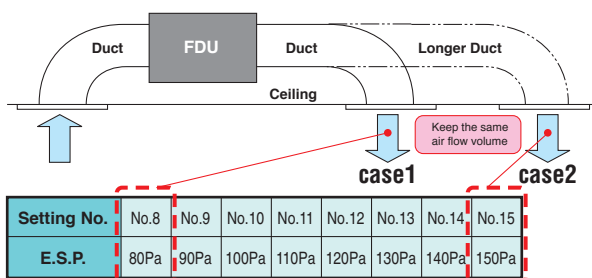
You can set External Static Pressure (E.S.P.) by method of manual setting on remote control. Indoor unit will control fan-speed to keep rated air flow volume at each fan speed setting. You can set required E.S.P. by wired remote control that calculated with the set air flow rate and pressure loss of the duct connected.



RC-E5

E.S.P. button

External Static Pressure (E.S.P.) can be set by E.S.P. button.



*Range of 80~150 Pa is set at ex-factory default.

Range of 10~200 Pa is available by setting SW8-4 switch on at site.

<Expansion of external static pressure range>

Previous
10~130Pa → Current
10~200Pa

Thin design



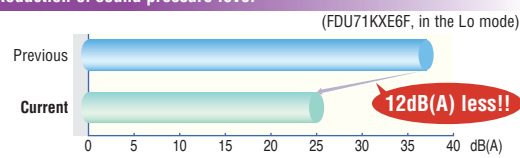
	Previous	Current	
FDU71KXE6F	297	280	17mm less!!
FDU112/140KXE6F	350	280	70mm less!!

Reduction of weight



	Previous	Current	
FDU71KXE6F	40	34	6kg less!!
FDU90KXE6F	63	34	29kg less!!
FDU112/140KXE6F	63	54	9kg less!!

Reduction of sound pressure level



Specifications

Item	Model	FDU45KXE6F	FDU56KXE6F	FDU71KXE6F	FDU90KXE6F	FDU112KXE6F	FDU140KXE6F	FDU160KXE6F	
Nominal cooling capacity	kW	4.5	5.6	7.1	9.0	11.2	14.0	16.0	
Nominal heating capacity	kW	5.0	6.3	8.0	10.0	12.5	16.0	18.0	
Power source		1 Phase 220-240V, 50Hz							
Power consumption	Cooling	0.10-0.10/0.10			0.24-0.25/0.24		0.31-0.32/0.31	0.35-0.36/0.35	0.42-0.43/0.42
	Heating	0.10-0.10/0.10			0.24-0.25/0.24		0.31-0.32/0.32	0.35-0.36/0.35	0.42-0.43/0.42
Sound power level	dB(A)	60			65		—		
Sound pressure level <small>※</small>	dB(A)	Hi:32 Me:29 Lo:26			Hi:33 Me:29 Lo:25		Hi:38 Me:36 Lo:30	Hi:40 Me:34 Lo:29	Hi:40 Me:35 Lo:30
Exterior dimensions H x W x D	mm	280x750x635			280x950x635		280x1370x740		
Net weight	kg	29			34		54		
Air flow (Standard)	m³/min	Hi:10 Me:9 Lo:8			Hi:19 Me:15 Lo:10		Hi:28 Me:25 Lo:19	Hi:32 Me:26 Lo:20	Hi:35 Me:28 Lo:22
Maximum external static pressure	Pa	200							
Outside air intake		Possible							
Air filter		Procure locally							
Remote control(option)		wired:RC-EX1A, RC-E5, RCH-E3 wireless:RCN-KIT3-E							
Installation data	mm(in)	Liquid line:ø6.35(1/4")			Liquid line:ø9.52(3/8")				
Refrigerant piping size		Gas line:ø12.7(1/2")			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: FDU45/56 37dB(A), FDU71/90 38dB(A), FDU112 44dB(A), FDU140 45dB(A), FDU160 47dB(A). Air flow: FDU45/56 13m³/min, FDU71/90 24m³/min, FDU112 36m³/min, FDU140 39m³/min, FDU160 48m³/min.

Duct Connected -High Static Pressure-FDU

Model No.
FDU224KXE6F
FDU280KXE6F



Remote control (option)

Wired



RC-EX1A RC-E5 RCH-E3

Wireless



RCN-KIT3-E

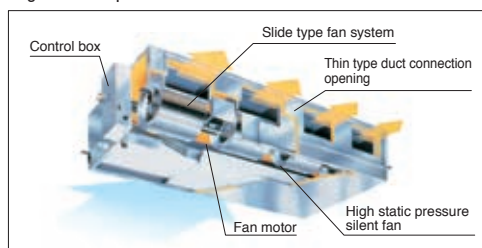


Fan control kit (option) (100~200Pa)

U-FCRA

Adaptability to higher static pressures

High static pressure of 200Pa



Specifications

Item	Model	FDU224KXE6F	FDU280KXE6F
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	0.94-1.03	0.96-1.05
	Heating	0.86-0.90	0.88-0.96
Sound power level	dB(A)	—	
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)	m ³ /min	Hi:51	Hi:68
Maximum external static pressure	Pa	200	
Outside air intake		Possible(on Return duct)	
Air filter		Procure locally	
Remote control(option)		wired:RC-EX1A, RC-E5, RCH-E3 wireless:RCN-KIT3-E	
Installation data		Liquid line:ø9.52(3/8") Gas line:ø19.05(3/4")	
Refrigerant piping size	mm(in)	Liquid line:ø9.52(3/8") Gas line:ø22.22(7/8")	

- 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.
- Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.
- Values of sound pressure level become increased 5dB(A), when external static pressure is 200Pa (factory setting).
- Values of air flow volume are those at external static pressure 200Pa (factory setting).

Duct Connected -Low/Middle Static Pressure- FDUM

Model No.

FDUM22KXE6F	FDUM71KXE6F
FDUM28KXE6F	FDUM90KXE6F
FDUM36KXE6F	FDUM112KXE6F
FDUM45KXE6F	FDUM140KXE6F
FDUM56KXE6F	FDUM160KXE6F



Filter kit (option)

UM-FL1EF : for 22~56
UM-FL2EF : for 71, 90
UM-FL3EF : for 112, 140, 160



*Filter pressure loss:5pa

Remote control (option)

Wired



RC-EX1A



RC-E5



RCH-E3

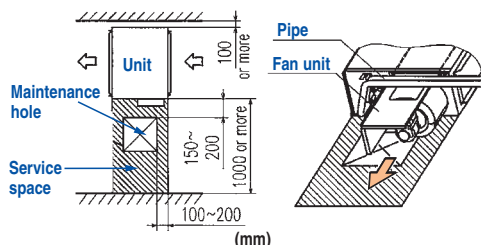
Wireless



RCN-KIT3-E

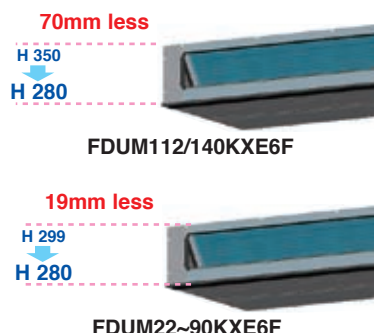
Improvement of the serviceability

Fan unit (impeller and motor) can be pulled out from the right side or the bottom side of the unit. Maintenance can be available from the right side or the bottom side.



Thin design

The height of all FDUM models is only 280mm.



Specifications

Item	Model	FDUM22KXE6F	FDUM28KXE6F	FDUM36KXE6F	FDUM45KXE6F	FDUM56KXE6F	FDUM71KXE6F	FDUM90KXE6F	FDUM112KXE6F	FDUM140KXE6F	FDUM160KXE6F
Nominal cooling capacity	kW	2.2	2.8	3.6	4.5	5.6	7.1	9.0	11.2	14.0	16.0
Nominal heating capacity	kW	2.5	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	0.10-0.10					0.20-0.20		0.29-0.29	0.33-0.33	0.45-0.45
	Heating	0.10-0.10					0.20-0.20		0.29-0.29	0.33-0.33	0.45-0.45
Sound power level	dB(A)	60					65		—		
Sound pressure level ※	dB(A)	Hi:32 Me:29 Lo:26					Hi:33 Me:29 Lo:25		Hi:38 Me:36 Lo:30	Hi:40 Me:34 Lo:29	Hi:40 Me:35 Lo:30
Exterior dimensions H x W x D	mm	280 x 750 x 635					280 x 950 x 635		280 x 1370 x 740		
Net weight	kg	29					34		54		
Air flow ※	m³/min	Hi:10 Me:9 Lo:8					Hi:19 Me:15 Lo:10		Hi:28 Me:25 Lo:19	Hi:32 Me:26 Lo:20	Hi:35 Me:28 Lo:22
Maximum external static pressure	Pa	100									
Outside air intake		Possible									
Air filter		Filter kit:UM-FL1EF/UM-FL2EF/UM-FL3EF(option)									
Remote control(option)		wired:RC-EX1A, RC-E5, 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 35Pa(22/28/36/45/56/71/90), 60Pa(112/140/160).

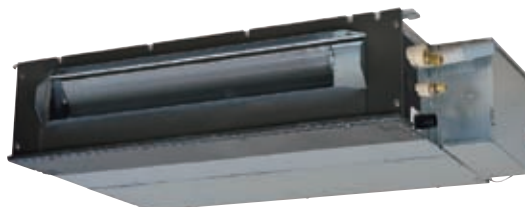
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.

※ Powerful-Hi can be selected. Sound pressure level: FDUM22/28/36/45/56 37dB(A), FDUM71/90 38dB(A), FDUM112 44dB(A), FDUM140 45dB(A), FDUM160 47dB(A). Air flow: FDUM22/28/36/45/56 13m³/min, FDUM71/90 24m³/min, FDUM112 36m³/min, FDUM140 39m³/min, FDUM160 48m³/min.

Duct Connected (thin) -Low Static Pressure- FDUT

Model No.

FDUT15KXE6F-E
FDUT22KXE6F-E
FDUT28KXE6F-E
FDUT36KXE6F-E
FDUT45KXE6F-E
FDUT56KXE6F-E
FDUT71KXE6F-E



Remote control (option)

Wired



RC-EX1A RC-E5 RCH-E3

Wireless



RCN-KIT3-E

Expansion of lineup

	15KXE6F-E	22KXE6F-E	28KXE6F-E	36KXE6F-E	45KXE6F-E	56KXE6F-E	71KXE6F-E
Previous		●	●	●	●	●	
Current	●*	●	●	●	●	●	●

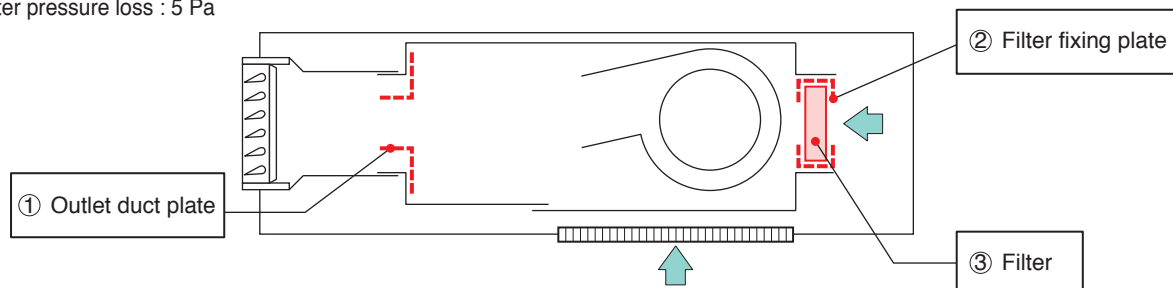
* (1) Can not be connected to some KX outdoor units. Please consult your dealer for further details.

(2) Regarding pipe length (150m or more is required) and temperature condition (the lowest is 10°C) in the cooling operation etc., please refer to our technical manual.

Duct kit and filter options

Item	Contents	for FDUT15/22/28/36KXE6F-E	for FDUT45/56KXE6F-E	for FDUT71KXE6F-E
Outlet duct plate	①	UT-SAT1EF	UT-SAT2EF	UT-SAT3EF
Filter set	②+③	UT-FL1EF	UT-FL2EF	UT-FL3EF

Filter pressure loss : 5 Pa



Item	Model	FDUT15KXE6F-E	FDUT22KXE6F-E	FDUT28KXE6F-E	FDUT36KXE6F-E	FDUT45KXE6F-E	FDUT56KXE6F-E	FDUT71KXE6F-E	
Nominal cooling capacity	kW	1.5	2.2	2.8	3.6	4.5	5.6	7.1	
Nominal heating capacity	kW	1.7	2.5	3.2	4.0	5.0	6.0	8.0	
Power source		1 Phase 220-240V, 50Hz							
Power consumption	Cooling	0.06-0.06	0.07-0.07			0.08-0.08		0.08-0.08	
	Heating	0.06-0.06	0.07-0.07			0.08-0.08		0.07-0.07	
Sound power level	dB(A)	52			57	58	59		
Sound pressure level ①	dB(A)	Hi:28 Me:26 Lo:22	Hi:28 Me:26 Lo:22			Hi:33 Me:30 Lo:26	Hi:34 Me:32 Lo:28	Hi:35 Me:33 Lo:30	Hi:35 Me:31 Lo:28
Sound pressure level ②	dB(A)	Hi:32 Me:29 Lo:25	Hi:32 Me:29 Lo:26			Hi:37 Me:34 Lo:28	Hi:36 Me:33 Lo:27	Hi:38 Me:33 Lo:29	Hi:41 Me:37 Lo:32
Exterior dimensions H x W x D	mm	200x750x500				200x950x500		220x1150x565	
Net weight	kg	21			22	25		31	
Air flow (Standard)	m³/min	Hi:6 Me:5 Lo:4	Hi:7.5 Me:6 Lo:5			Hi:8.5 Me:7 Lo:5.5	Hi:11.5 Me:9 Lo:7	Hi:12.5 Me:9 Lo:7.2	Hi:16 Me:13 Lo:9.5
External Static pressure	Pa	Standard:10, Max:35				Standard:10, Max:50			
Outside air intake		Not possible							
Air filter		Filter set:UT-FL1EF/UT-FL2EF/UT-FL3EF(option)							
Remote control(option)		wired:RC-EX1A, RC-E5, 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 10Pa.

2. The data of nominal cooling and heating capacity and sound pressure level are measured with 10Pa of external static pressure.

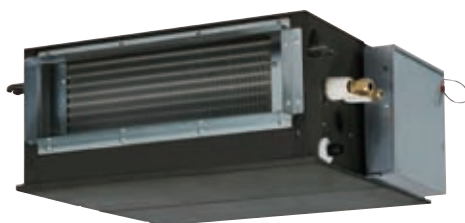
3. The sound level indicates the value of rear-intake type with duct in anechoic chamber. During operation these values are somewhat higher due to ambient conditions.

4. Sound pressure levels are values when 2m supply duct and 1m return duct are connected.

①: Mike position is 1.5m below unit, ②: Mike position is 1m in front and 1m below the air supply duct.

Duct Connected (Compact & Flexible) FDUH

Model No.
FDUH22KXE6F
FDUH28KXE6F
FDUH36KXE6F



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

Filter kit (option)
UH-FL1E



*Filter pressure loss:5pa

Remote control (option)

Wired



RC-EX1A RC-E5 RCH-E3

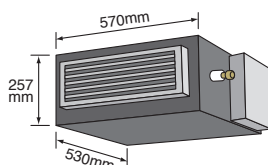
Wireless



RCN-KIT3-E

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.

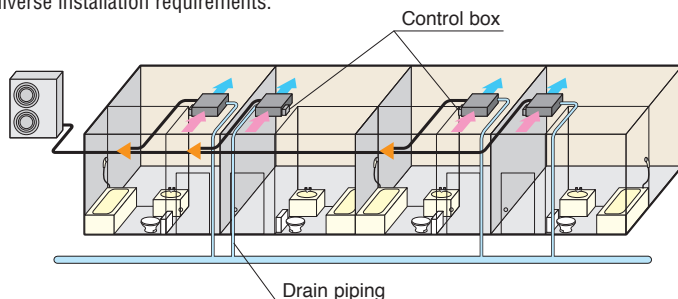


Quiet operation

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

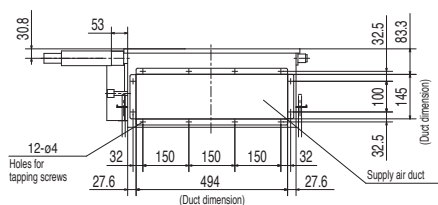
Item	Model	FDUH22KXE6F	FDUH28KXE6F	FDUH36KXE6F
Nominal cooling capacity	kW	2.2	2.8	3.6
Nominal heating capacity	kW	2.5	3.2	4.0
Power source		1 Phase 220-240V, 50Hz		
Power consumption	Cooling	0.05-0.07		
	Heating	0.05-0.07		
Sound power level	dB(A)	60		
Sound pressure level※	dB(A)	HI: 33 Me: 30 Lo: 27		
Exterior dimensions HxWxD	mm	257x570x530		
Net weight	kg	22		
Air flow ※	m ³ /min	HI: 7 Me: 6.5 Lo: 6		
External static pressure	Pa	30		
Outside air intake		Not possible		
Air filter		Filter kit:UH-FL1E(option)		
Remote control(option)		wired:RC-EX1A, RC-E5, RCH-E3 wireless:RCN-KIT3-E		
Installation data		Liquid line:ø6.35(1/4")		Liquid line:ø6.35(1/4")
		Gas line:ø9.52(3/8")		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.

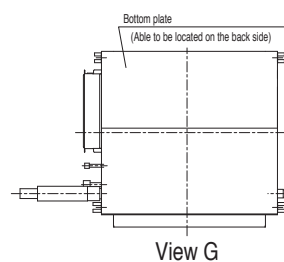
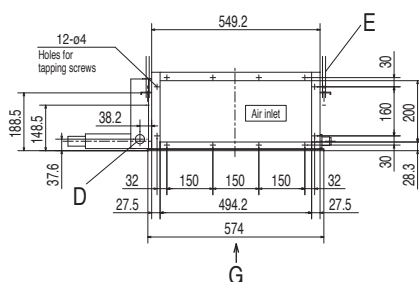
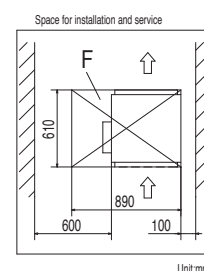
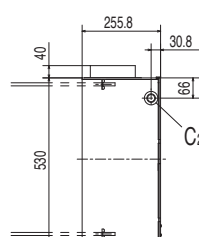
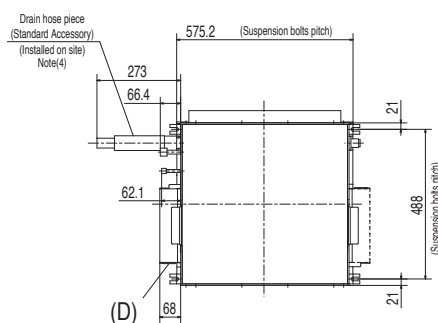
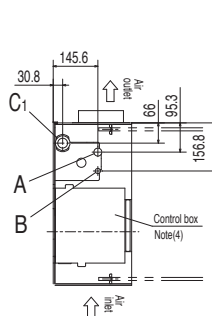
※ Powerful-Hi can be selected. Sound pressure level: FDUH22/28/36 39dB(A). Air flow: FDUH22/28/36 8.5m³/min.

Dimensions

All measurements in mm.



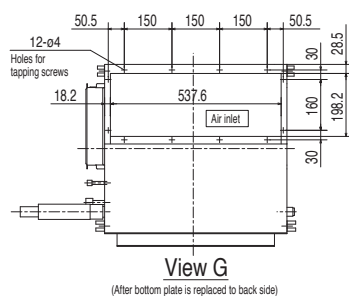
Symbol	Content
	Model
A	Gas piping ø9.52 (3/8") (Flare)
B	Liquid piping ø6.35 (1/4") (Flare)
C ₁ , C ₂	Drain piping VP20(I, D.20, O.D.26) Note (2)
D	Hole for wiring ø30
E	Suspension bolts (M10)
F	Inspection hole (635X890) Note (3)



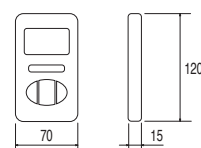
Notes

- (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 C₁ or C₂)
- (3) When control box is located on the reverse side, Installation space should be modified to new location.
- (4) Control 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.

FDK22KXE6F
FDK28KXE6F
FDK36KXE6F
FDK45KXE6F
FDK56KXE6F
FDK71KXE6F



FDK22~56



FDK71

Remote control (option)

Wired



RC-EX1A



RC-E5



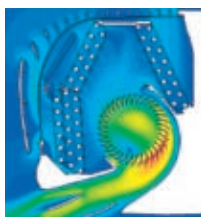
RCH-E3

Wireless



RCN-K-E : FDK22~56
RCN-K71-E : FDK71

Innovative Design



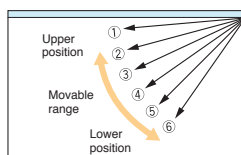
Fast ← → Slow
Colors in the figure show the air speed.

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.

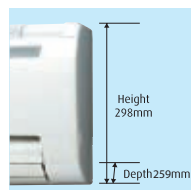
Flap control system

Selection of flap position is possible. A flap can be set at different angles.

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



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.

Specifications

Item	Model	FDK22KXE6F	FDK28KXE6F	FDK36KXE6F	FDK45KXE6F	FDK56KXE6F	FDK71KXE6F
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	0.05			0.05		0.09
	Heating	0.04			0.05		0.09
Sound power level	dB(A)	57			60		
Sound pressure level ※	Cooling	Hi:35 Me:33 Lo:31			Hi:41 Me:35 Lo:31	Hi:42 Me:37 Lo:33	Hi:46 Me:42 Lo:37
	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
Exterior dimensions H x W x D	mm	298 x 840 x 259					
Net weight	kg	12			12.5	13	15.5
Air flow ※	m ³ /min	Hi:8 Me:7 Lo:6			Hi:10 Me:9 Lo:7	Hi:11 Me:9 Lo:7	Hi:14 Me:12 Lo:10
Outside air intake		Not possible					
Air filter, Q'ty		Polypropylene net x2 (Washable)					
Remote control(option)		wired:RC-EX1A, RC-E5, RCH-E3 wireless:RCN-K-E (for FDK22~56), RCN-K71-E (for FDK71)					
Installation data	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 48dB(A)(Cooling)&42dB(A)(Heating), FDK45 48dB(A)(Cooling)&43dB(A)(Heating), FDK56 48dB(A)(Cooling)&47dB(A)(Heating), FDK71 48dB(A).
Air flow: FDK22/28 11m³/min, FDK36/45 15m³/min, FDK56 16m³/min, FDK71 24m³/min.

Ceiling Suspended FDE

Model No.

FDE36KXE6F
FDE45KXE6F
FDE56KXE6F
FDE71KXE6F
FDE112KXE6F
FDE140KXE6F



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

Remote control (option)

Wired



RC-EX1A RC-E5 RCH-E3

Wireless

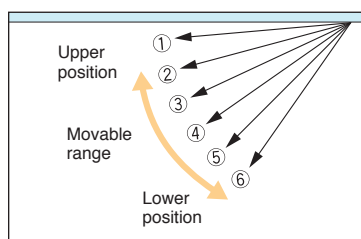


RCN-E-E

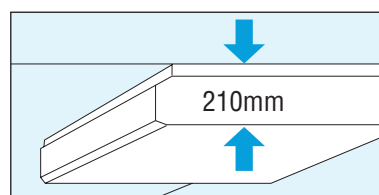
Flap control system

Selection of flap position is possible. A flap can be set at different angles.

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

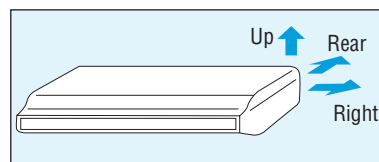


New Slim Design



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	FDE36KXE6F	FDE45KXE6F	FDE56KXE6F	FDE71KXE6F	FDE112KXE6F	FDE140KXE6F
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	0.05-0.06			0.10-0.11	0.14-0.16	0.16-0.18
	Heating	0.05-0.06			0.09-0.10	0.13-0.15	0.15-0.17
Sound power level	dB(A)	60			62	—	
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	m ³ /min	Hi:10 Me:9 Lo:7			Hi:16 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-EX1A, RC-E5, 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")		

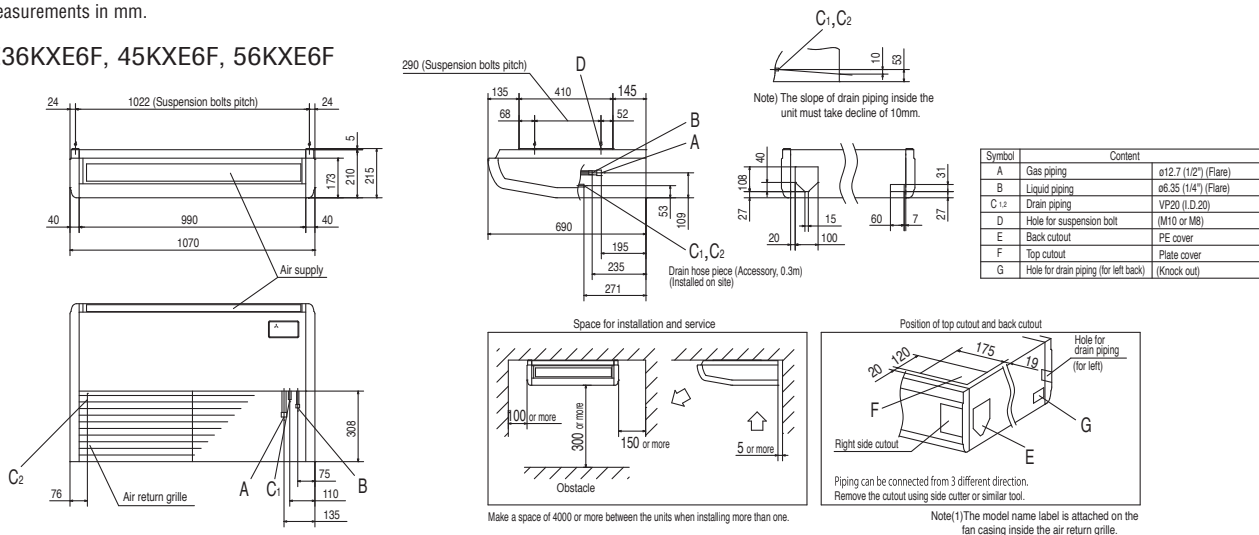
1. The data are measured under the following conditions(ISO-T1). Cooling: Indoor temp. of 27°CDB, 19°CWB, and outdoor temp. of 35°CDB. Heating: Indoor temp. of 20°CDB, and outdoor temp. of 7°CDB, 6°CWB.
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values 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 11m³/min, FDE71 18m³/min, FDE112 28m³/min, FDE140 32m³/min.

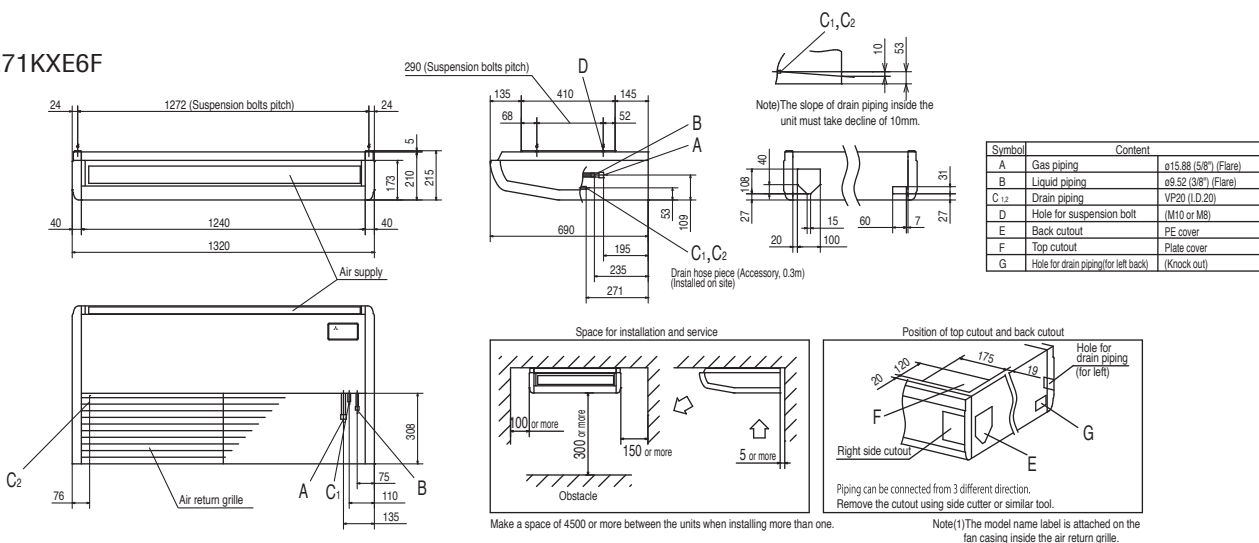
Dimensions

All measurements in mm.

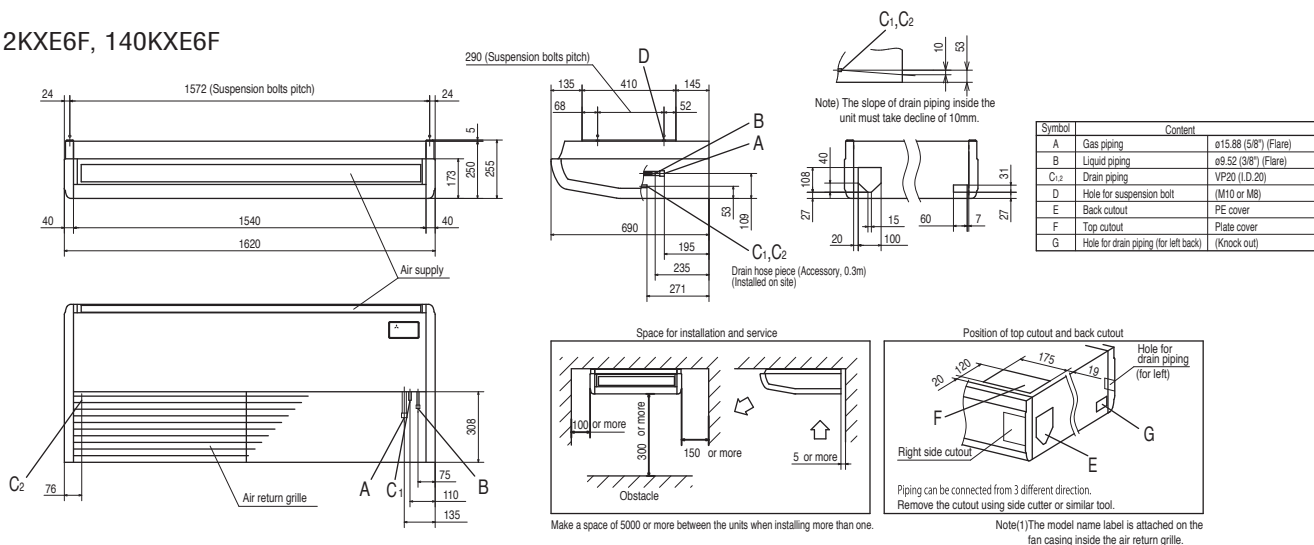
FDE36KXE6F, 45KXE6F, 56KXE6F



FDE71KXE6F



FDE112KXE6F, 140KXE6F



Floor Standing -2way- FDFW

Model No.

FDFW28KXE6F
FDFW45KXE6F
FDFW56KXE6F



Remote control (option)

Wired



RC-EX1A



RC-E5



RCH-E3

Wireless



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.

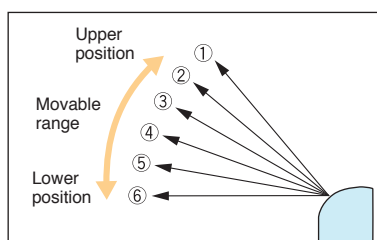
Quiet Operation

Thanks to optimum balance of air outlet direction and sufficient air flow volume, the sound level has been minimized. The level of FDFW28KXE6F in the cooling lo mode is 30dB(A) only.

Flap control system

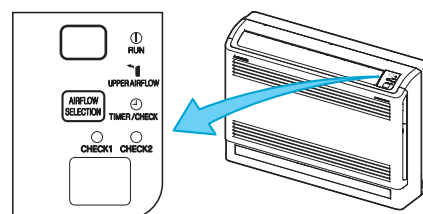
Selection of flap position is possible. A flap can be set at different angles.

*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	FDFW28KXE6F	FDFW45KXE6F	FDFW56KXE6F
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	0.02-0.02	0.02-0.02	0.03-0.03
	Heating	0.02-0.02	0.02-0.02	0.03-0.03
Sound power level	dB(A)	55	57	60
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)	m ³ /min	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-EX1A, RC-E5, 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.

Floor Standing (with casing) FDFL

Floor Standing (without casing) FDFU

Remote control (option)

Wired



RC-EX1A



RC-E5



RCH-E3

Wireless



RCN-KIT3-E



Model No.

FDFL71KXE6F

FDFU28KXE6F

FDFU45KXE6F

FDFU56KXE6F

FDFU71KXE6F



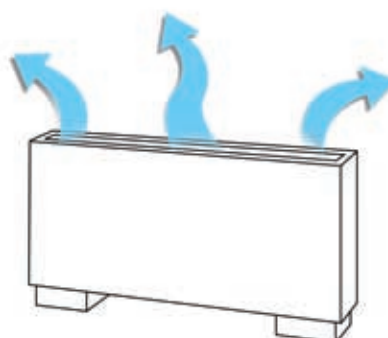
FDFL



FDFU (concealed type)



Compact design at 630mm height



Wider airflow for optimum comfort

Specifications

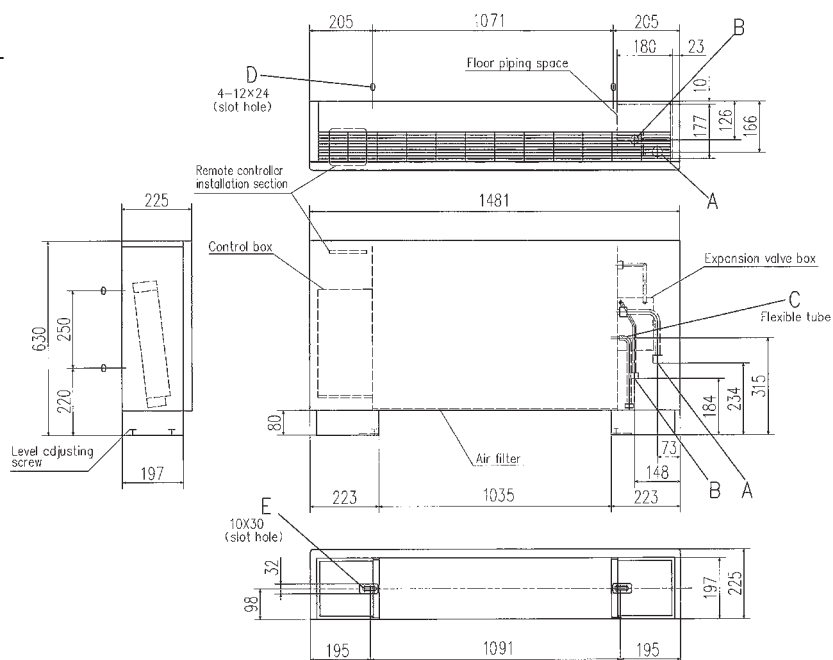
Item	Model	FDFL71KXE6F	FDFU28KXE6F	FDFU45KXE6F	FDFU56KXE6F	FDFU71KXE6F
Nominal cooling capacity	kW	7.1	2.8	4.5	5.6	7.1
Nominal heating capacity	kW	8.0	3.2	5.0	6.3	8.0
Power source		1 Phase 220-240V, 50Hz				
Power consumption	Cooling	0.09-0.10	0.09-0.10			
	Heating	0.09-0.10	0.09-0.10			
Sound power level	dB(A)	62	58	60		
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)	m³/min	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-EX1A, RC-E5, 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.

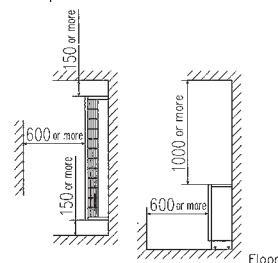
FDL



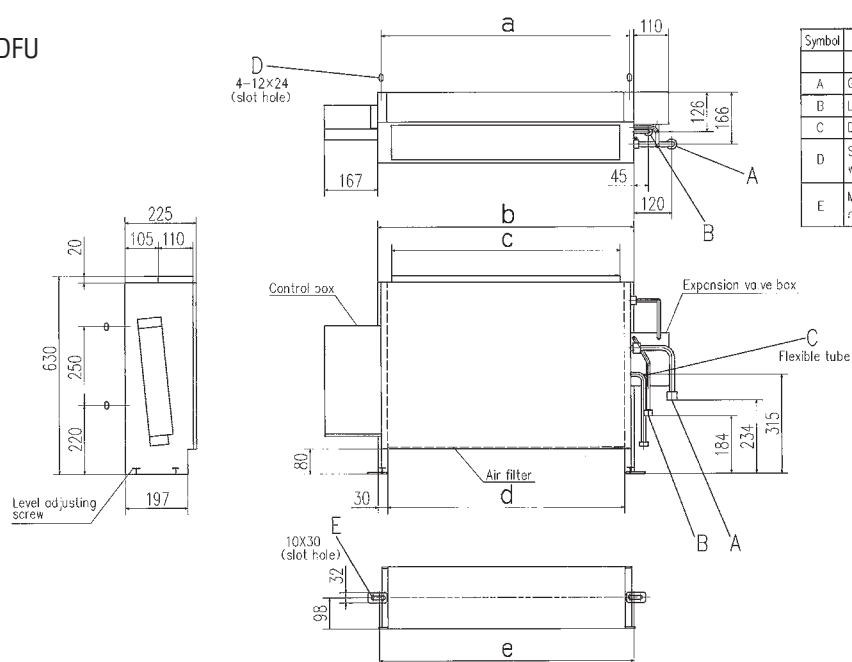
Symbol	Content
	Model FDL71KXE6F
A	Gas piping (Accessory) $\phi 15.88$ (5/8") (Flare)
B	Liquid piping $\phi 9.52$ (3/8") (Flare)
C	Drain piping (Accessory) PT20A female screw, 360mm
D	Slot hole for wall mounting (M10)
E	Metal plate for floor mounting (Accessory) (M8)

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

Space for installation and service



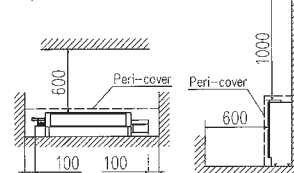
FDU



Symbol	Content
	Model FDU28KXE6F, FDU45KXE6F, 56KXE6F, FDU71KXE6F
A	Gas piping (Accessory) $\phi 9.52$ (3/8") (Flare), $\phi 12.7$ (1/2") (Flare), $\phi 15.88$ (5/8") (Flare)
B	Liquid piping $\phi 6.35$ (1/4") (Flare), $\phi 9.52$ (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
FDU28KXE6F, 45KXE6F, 56KXE6F	786	810	722	750	806
FDU71KXE6F	1071	1095	1007	1035	1091

Outdoor Air Processing unit FDU-F

Model No.

FDU500FKXE6F
FDU850FKXE6F
FDU1300FKXE6F
FDU1800FKXE6F



Fan control kit (option)
(100~200Pa)

U-FCRB

Remote control (option)

Wired



RC-EX1A



RC-E5



RCH-E3

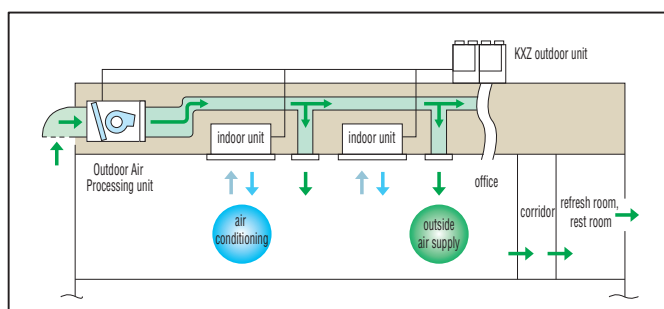
Wireless



RCN-KIT3-E

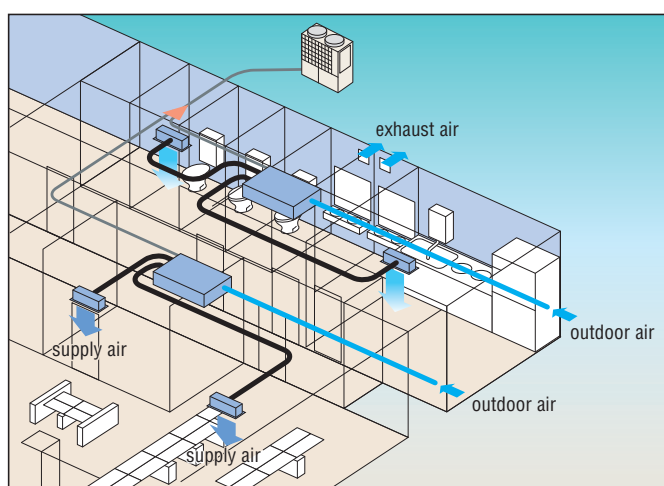
Air conditioning and intake of outdoor air are in the same system

Outdoor Air processing unit can be connected in a KXZ 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.



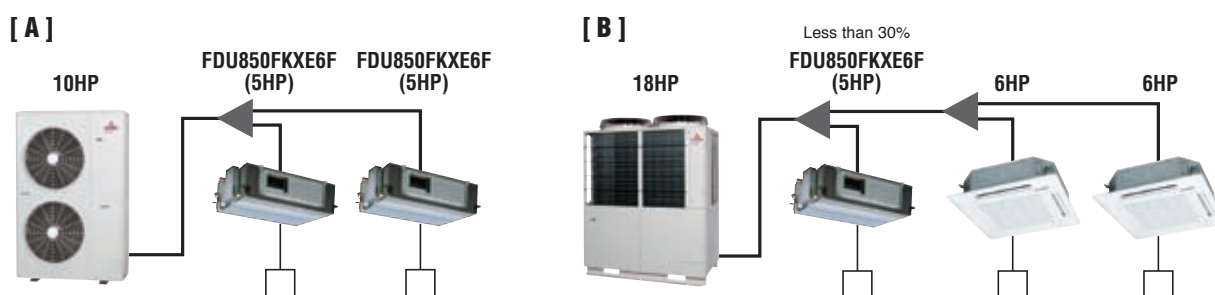
- (1) This unit is the specific unit for processing the outdoor air temperature closer to the room temperature. For conditioning the room temperature a dedicated air-conditioner is required additionally.
- (2) This unit monitors the outdoor air temperature and controls thermostat ON/OFF at the setting 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 Outdoor units

FDU-F series are connectable to 8~60HP outdoor units, not connectable to 4~6HP.
 8 ~ 60 HP : Yes , 4 ~ 6 HP : No

Combination with Outdoor units

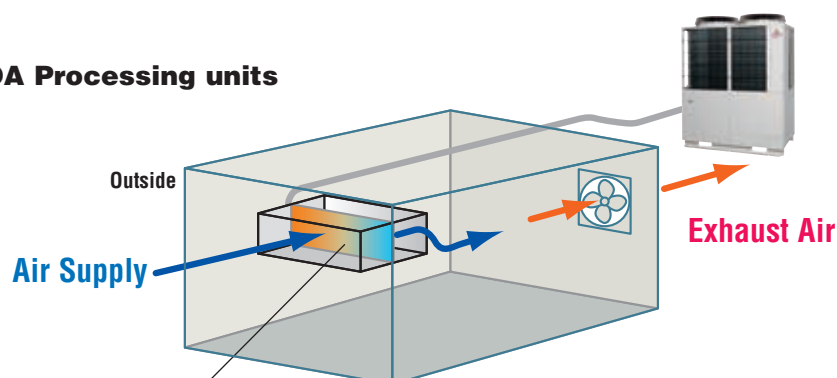
	case	Combination
A	In case OA processing units only are connected with outdoor units.	The total capacity of FDU-F is 50~100% of outdoor capacity and max quantity of FDU-F is 2 units.
B	In case both of OA processing units and dedicated air-conditioner are connected with outdoor units.	The total capacity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



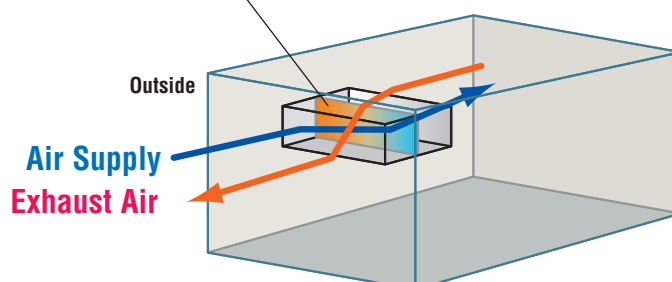
Concept (Difference between FDU-F and SAF)

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 KXZ refrigerant system and exhaust air is discharged to outside of the room.

FDU-F OA Processing units



SAF



Specifications

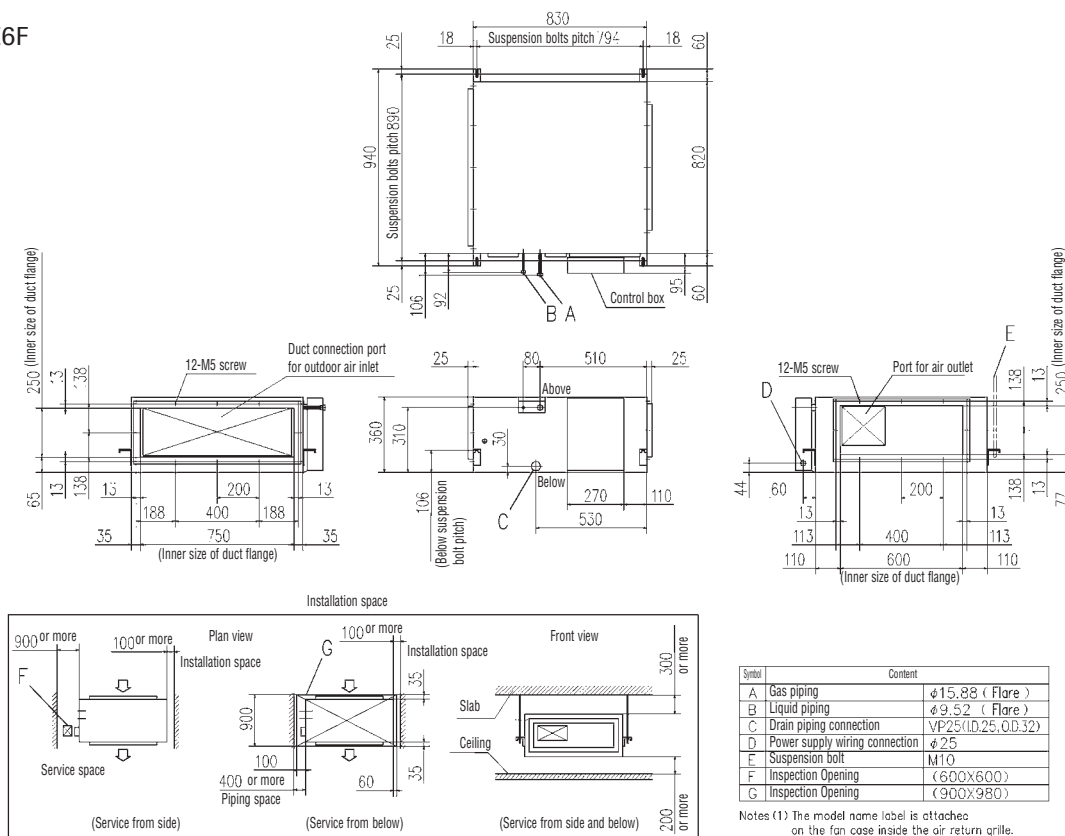
Item	Model	FDU500FKXE6F	FDU850FKXE6F	FDU1300FKXE6F	FDU1800FKXE6F
Nominal cooling capacity	kW	9.0	14.0	22.4	28.0
Nominal heating capacity	kW	4.2	7.0	10.9	14.8
Power source					
1 Phase 220-240V, 50Hz					
Power consumption	Cooling	0.11	0.16	0.27	0.31
	Heating	0.11	0.16	0.27	0.31
Sound pressure level	dB(A)	38	41	43	46
Exterior dimension HxWxD	mm	360x820x830	360x1200x830	360x1570x830	
Net weight	kg	48	62	82	84
Air flow (Standard)	m ³ /min	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-EX1A, RC-E5, RCH-E3 wireless:RCN-KIT3-E			
Installation data	mm	Liquid line:ø9.52(3/8")		Liquid line:ø9.52(3/8")	Liquid line:ø9.52(3/8")
	(in)	Gas line:ø15.88(5/8")		Gas line:ø19.05(3/4")	Gas line:ø22.22(7/8")

- 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.
- Temperature range of outdoor air must be 20~40°CDB (32°CWB) during cooling and -10~24°CDB during heating.
- 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.
- 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.
- 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.
- 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.
- Values of sound pressure level become increased 5dB(A), when external static pressure is 200Pa (factory setting).
- Values of air flow volume are those at external static pressure 200Pa (factory setting).

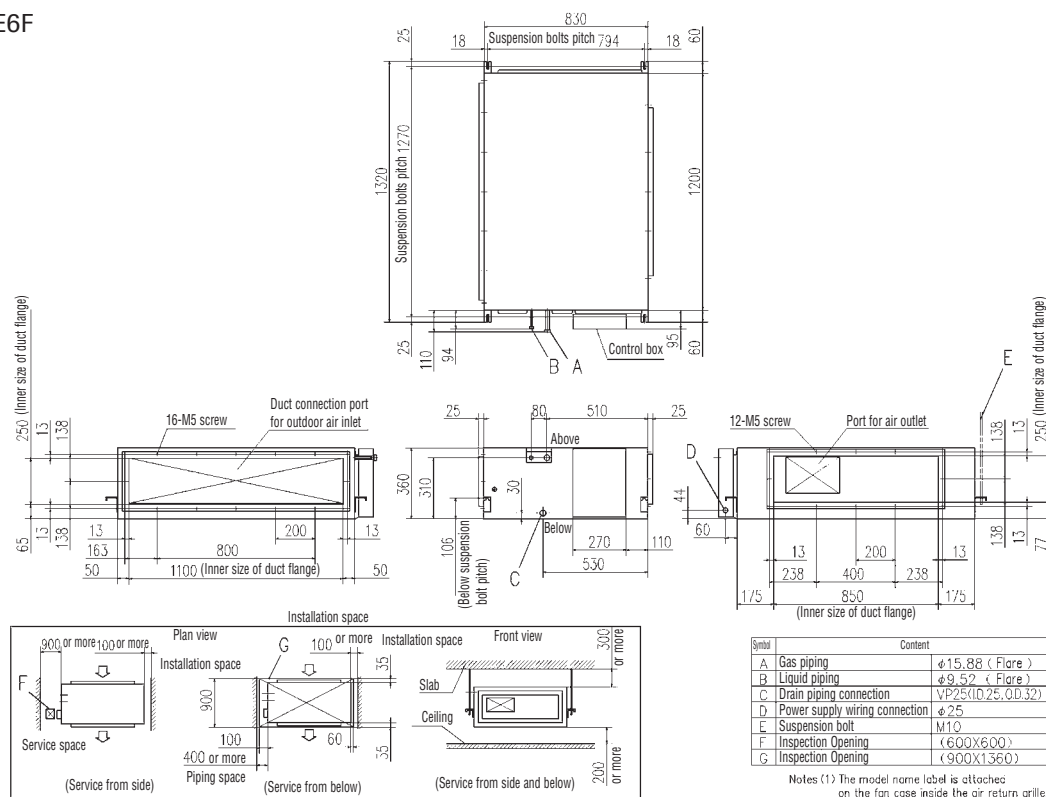
Dimensions

All measurements in mm.

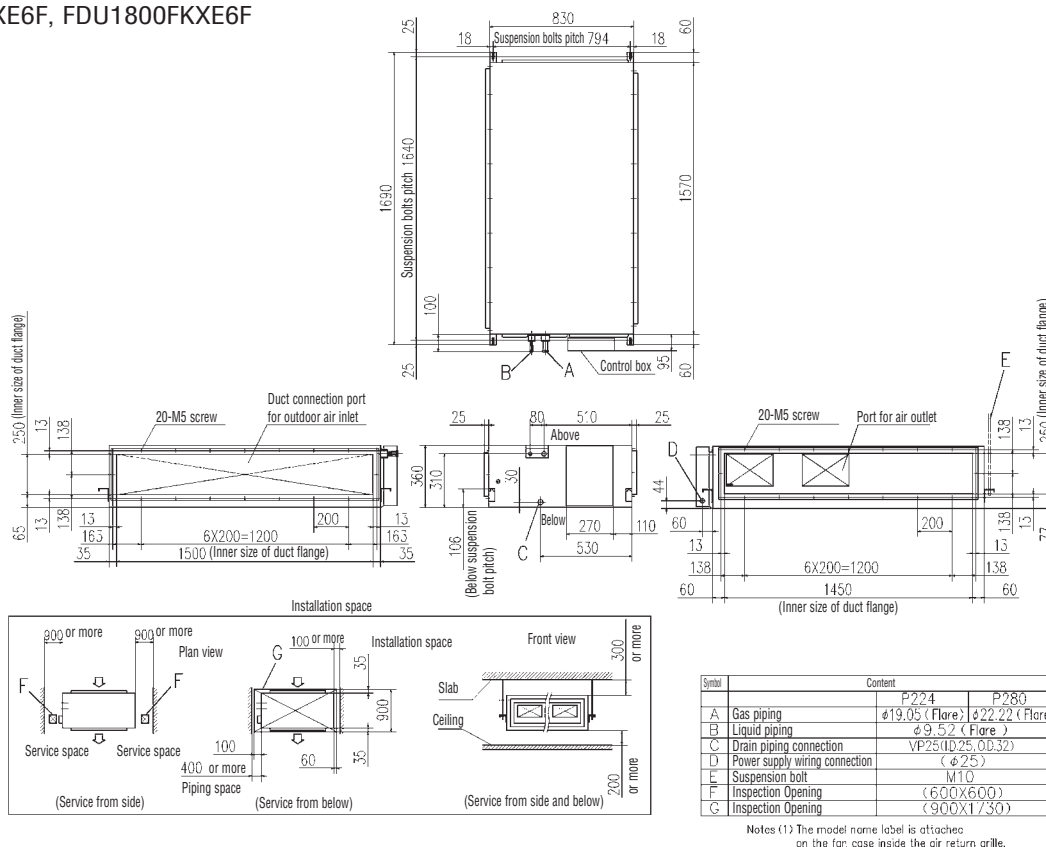
FDU500FKXE6F



FDU850FKXE6F



FDU1300FKXE6F, FDU1800FKXE6F



Fresh Air Ventilation and Heat Exchange unit SAF-E6

Model No.

SAF150E6
SAF250E6
SAF350E6
SAF500E6
SAF650E6
SAF800E6
SAF1000E6



Energy Performance of Building Directive - EPBD

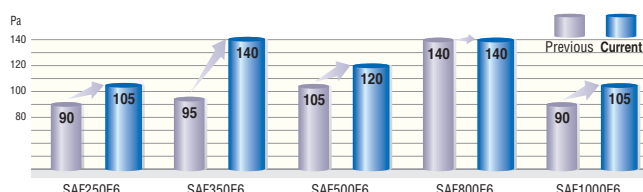
EPBD limit the amount of electrical/gas power to be used to provide heating or cooling in commercial buildings. Therefore the building designer needs to select energy efficient heating/cooling equipment, and to minimise energy losses through ventilation systems.

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.

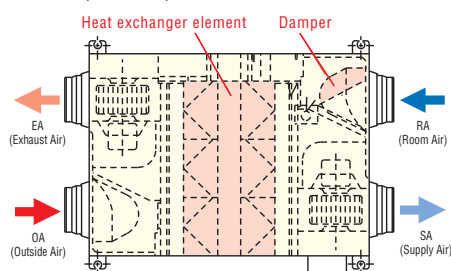
Increased external static pressure at UHi air flow



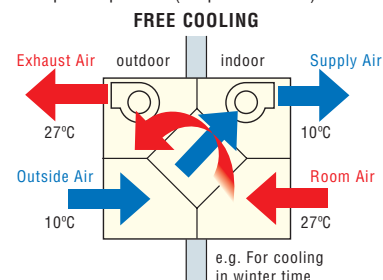
Specifications

Item				Model	SAF150E6	SAF250E6	SAF350E6	SAF500E6	SAF650E6	SAF800E6	SAF1000E6
Power source				Model	1 Phase 220-240V, 50Hz						
Exterior dimensions Height x Width x Depth				mm	270x970x467	270x882x599	317x1050x804	317x1090x904	388x1204x884	388x1322x884	388x1322x1134
Exterior appearance					Galvanized steel sheet						
Power input				W	92-107	108-123	178-185	204-225	269-295	360-378	416-432
Running current				A	0.42-0.45	0.49-0.51	0.81-0.77	0.93-0.94	1.22-1.23	1.64-1.58	1.89-1.80
Capacity	UHi	Enthalpy exchange efficiency	Cooling	%	63	63	66	62	62	65	65
		Heating	70		70	69	67	68	71	71	
		Temperature exchange efficiency			75						
	Hi	Enthalpy exchange efficiency	Cooling		63	63	66	62	62	65	65
		Heating	70		70	69	67	68	71	71	
		Temperature exchange efficiency			75						
	Lo	Enthalpy exchange efficiency	Cooling		66	65	71	64	66	68	70
		Heating	73		72	73	69	73	74	76	
		Temperature exchange efficiency			77	77	78	76	79	76	79
Motor & Q'ty				W	20 x 2	20 x 2	40 x 2	70 x 2	100 x 2	180 x 2	180 x 2
Air handling equipment Fan type & Q'ty					Sirocco fan x 2						
Air flow		UHi	m³/h	150	250	350	500	650	800	1000	
		Hi		150	250	350	500	650	800	1000	
		Lo		120	190	240	440	460	630	700	
External static pressure		UHi	Pa	80	105	140	120	65	140	105	
		Hi		70	95	60	60	40	110	80	
		Lo		25	45	45	35	40	55	75	
Net weight				kg	25	29	49	57	68	71	83
Remote control					Included						
Air filter	Supply air		Protection for element (Washable) PS400								
	Exhaust air										

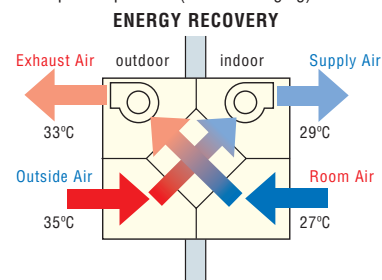
Structure (SAF800E6)



Principle of operation (simple ventilation)



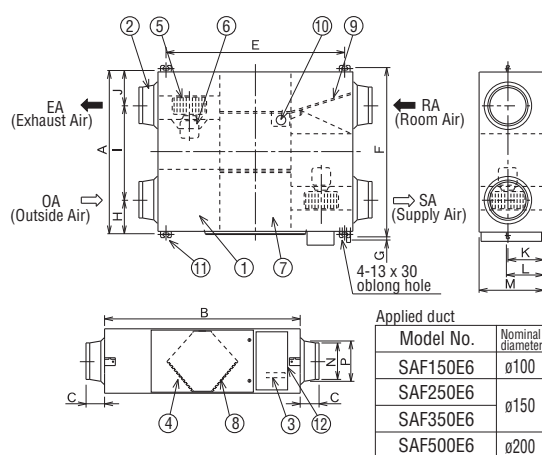
Principle of operation (heat exchanging)



Dimensions

All measurements in mm.

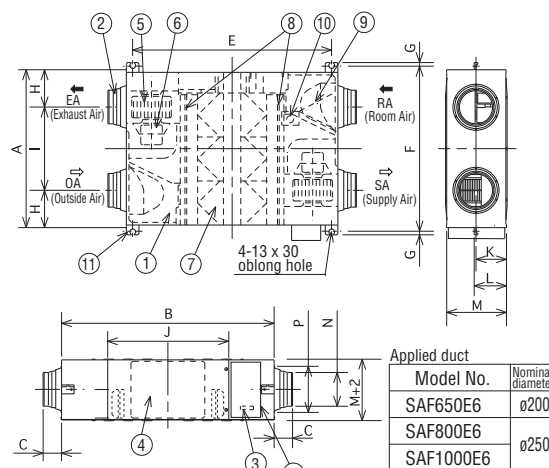
SAF150E6, SAF250E6, SAF350E6, SAF500E6



Dimension table

Model	A	B	C	E	F	G	H	I	J	K	L	M	N	P
SAF150E6	467	970	49	810	525	19	82	303	82	135	159	270	ø98	ø110
SAF250E6	599	882	95		655		142	315	142				ø144	ø164
SAF350E6	804	1050	70	978	860		112	580	112	159	182	317	ø194	ø162
SAF500E6	904	1090		1018	960		132	640	132				ø194	ø210

SAF650E6, SAF800E6, SAF1000E6



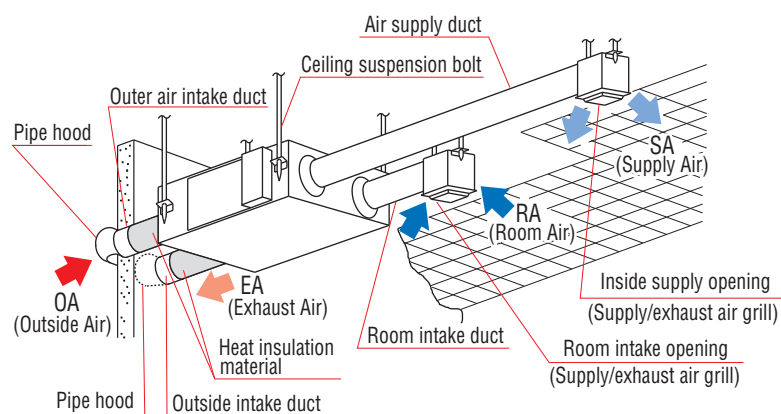
Dimension table

Model	A	B	C	E	F	G	H	I	J	K	L	M	N	P
SAF650E6	884	1204	70	1132	940	19	132	620	560	194	218	388	ø194	ø210
SAF800E6		1322	85	1250			228	428	612				ø242	ø258
SAF1000E6	1134			1190				678						

NO.	Name	Qt'y
①	Frame	1
②	Adaptor	4
③	Terminal board	1
④	Inspection Cover	1
⑤	Fan	2 ※
⑥	Motor	2 ※
⑦	Heat Exchange Element	
	SAF150E6	1
	SAF250E6	1
	SAF350E6	2
	SAF500E6	2
	SAF650E6	3
	SAF800E6	3
	SAF1000E6	4
⑧	Filter	2
⑨	Damper	1
⑩	Damper Motor	1
⑪	Suspension fitting	4
⑫	Electrical components box	1

※Model SAF350E6, SAF500E6 and SAF600E6 have different fan and motor locations.

Installation reference



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

Fresh Air DX Assembly

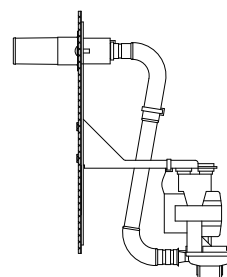
Model No.

SAF-DX250E6
SAF-DX350E6
SAF-DX500E6
SAF-DX800E6
SAF-DX1000E6



**Drain up kit
(option, built-in type)**
(600mm)

DXA-DU-E



**Remote control
(option)**

Wired



RC-E5



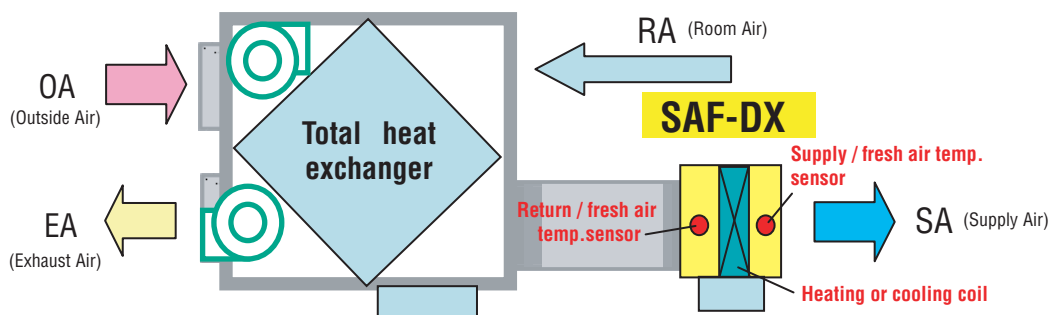
RCH-E3

Wireless



RCN-KIT3-E

- SAF-DX is a heating or cooling coil incorporating MHI KXZ series controls. It can be used in combination with our SAF series of total heat exchanger.
- Combination of SAF-DX together with other KXZ indoor units is possible. The capacity code index of each model is shown below and must be used when making the system selection. Total capacity code index must be within 100% of outdoor unit capacity code index.
- Remote control option is the same as with other KXZ indoor units (see above). Connection to all superlink controls is also possible.
- Optional condensate lift mechanism is also available (600mm height).
- Return air temp. control or supply air temp. control can be selectable.



SAF-DX can provide heating or cooling to the fresh air supplied through a 3rd party air handling unit or total heat exchanger such as our SAF series.

Specifications

Item	Model	SAF-DX250E6	SAF-DX350E6	SAF-DX500E6	SAF-DX800E6	SAF-DX1000E6
Nominal cooling capacity *1	kW	2.0	2.8	3.6	5.6	6.3
Nominal heating capacity *2	kW	1.8	2.2	2.8	4.5	5.6
Capacity code		22	28	36	56	71
Power source		1 Phase 220-240V, 50Hz				
Power consumption	Cooling	W	7.2			
	Heating		7.2			
Running current	Cooling	A	0.05			
	Heating		0.05			
Exterior dimensions H x W x D	mm	315 x 452 x 422		315 x 537 x 422	315 x 682 x 422	315 x 822 x 422
Net weight	kg	12.3		13.6	16.1	18.4
Air flow (Standard)	CMH	250	350	500	800	1000
Internal resistance	Pa	38	66			
Remote control(option)		wired: RC-E5, 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 at the following conditions.

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

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

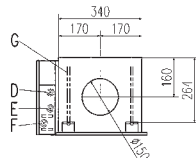
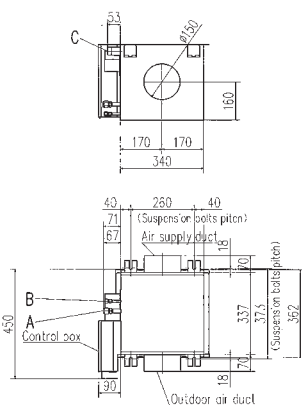
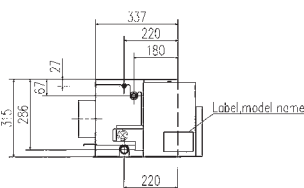
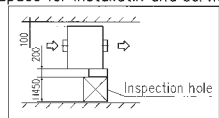
Dimensions

All measurements in mm.

SAF-DX250E6,350E6

Symbol	Content
A	Gas piping $\phi 9.52 (3/8")$ (Flare)
B	Liquid piping $\phi 6.35 (1/4")$ (Flare)
C	Drain piping R1
D	Hole for power source line
E	Wiring hole for total enthalpy heat exchanger
F	Hole for communication line
G	Suspension bolts M10

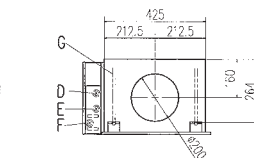
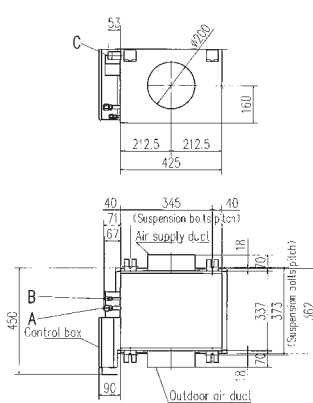
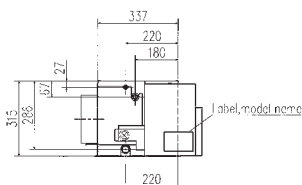
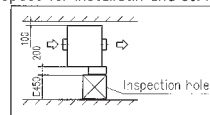
Space for installatin and service



SAF-DX500E6

Symbol	Content
A	Gas piping $\phi 12.7 (1/2")$ (Flare)
B	Liquid piping $\phi 6.35 (1/4")$ (Flare)
C	Drain piping R1
D	Hole for power source line
E	Wiring hole for total enthalpy heat exchanger
F	Hole for communication line
G	Suspension bolts V10

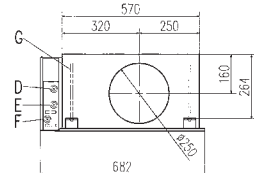
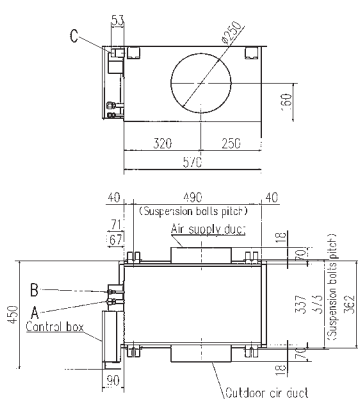
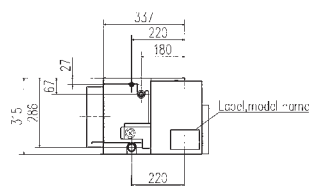
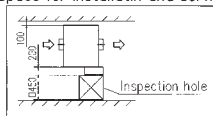
Space for installatin and service



SAF-DX800E6

Symbol	Content
A	Gas piping $\phi 12.7 (1/2")$ (Flare)
B	Liquid piping $\phi 6.35 (1/4")$ (Flare)
C	Drain piping R1
D	Hole for power source line
E	Wiring hole for total enthalpy heat exchanger
F	Hole for communication line
G	Suspension bolts M10

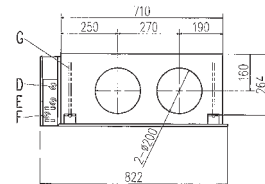
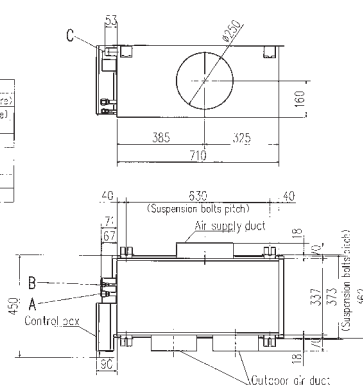
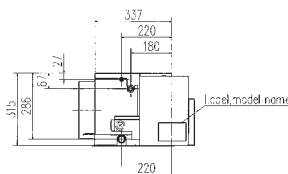
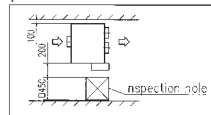
Space for installatin and service



SAF-DX1000E6

Symbol	Content
A	Gas piping $\phi 12.7 (1/2")$ (Flare)
B	Liquid piping $\phi 6.35 (1/4")$ (Flare)
C	Drain piping R1
D	Hole for power source line
E	Wiring hole for total enthalpy heat exchanger
F	Hole for communication line
G	Suspension bolts M10

Space for installatin and service



Simple setting **REMOTE CONTROL**

Advanced touch screen panel with full dot Liquid Crystal display

User friendly

- LCD panel with light tap operation introduced as the industry's first
- Simple interface with only three buttons

High level of visibility

- Big LCD with 3.8 inch full dot display
- Back light function
- Multi language display (9 languages)

RC-EX1A



Run / Stop

High power operation

The highest capacity operation (Max 15 minutes)

- Increasing compressor speed
- Increasing air flow volume

Energy-saving operation

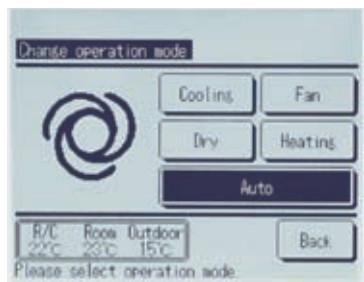
- Changes set temperature.
At 28°C in cooling mode and 22°C in heating mode, 25°C in auto mode.
- Operation correction by outdoor temperature

Simple setting by tapping button only

1. Basic operation

All settings done by tapping touch screen panel

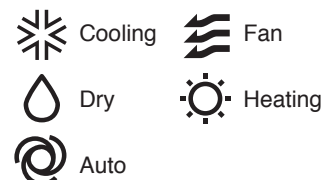
Operation mode setting screen



The desired operation mode can be selected by simply tapping this button.



Operation mode



Setting temperature screen



You can select the temperature as desired by tapping ▲▼ button.

2. Main functions

Saving energy

- Sleep timer
- Peak cut timer
- Automatic temperature set back
- Weekly timer
- Set ON/OFF timer by hour
- Set ON/OFF timer by clock

Comfort

- Individual flap control
- High power operation
- External ventilation ON/OFF
- Warming up operation
- Automatic fan speed
- Temperature increment setting by 0.5°C

Convenience

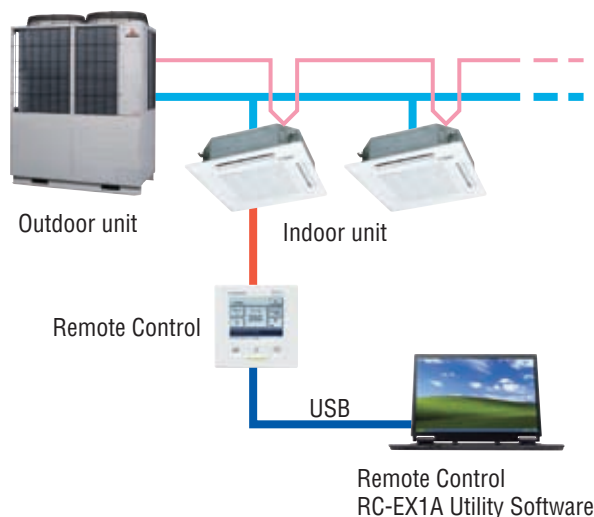
- LCD contrast setting
- Back light setting
- Filter sign
- Control sound
- Outdoor silent mode
- Summer time setting
- Home leave mode
- Indoor & outdoor temperature display
- Heating standby display
- Defrosting operation display
- Auto cooling/heating display
- °C/°F display
- Administrator settings
- Room name setting

Service

- Error code display
- Operation data display
- Next service date display
- Contact company display
- USB connection (mini-B)

Remote control RC-EX1A Series Utility Software

By connecting this system to the Remote Control, the Remote Control can be operated from PC.



Control Systems

<Individual control>

Remote Control line up (except SAF)

	indoor unit	remote control		indoor unit	remote control	indoor unit	remote control	indoor unit	remote control
wired	all models	RC-EX1A	wireless	FDT	RCN-T-36W-E	FDTs	RCN-TS-E	FDE	RCN-E-E
		RC-E5		FDTc	RCN-TC-24W-ER	FDK22~56	RCN-K-E	FDFW	RCN-FW-E
		RCH-E3		FDTW	RCN-TW-E	FDK71	RCN-K71-E	others*	RCN-KIT3-E

*FDTQ, FDU, FDUM, FDUT, FDUH, FDU-F

Wired remote control with weekly timer (option)

RC-E5



The RC-E5 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-E5 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

Time	8	9	10	11	12	13	14	15	16	23
RUN												
STOP												

Run hour meters to facilitate maintenance checking

RC-E5 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-E5 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.

* 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).

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.

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-TW-E



RCN-TS-E



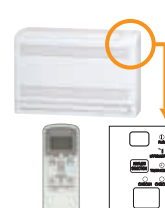
RCN-K-E, RCN-K71-E



RCN-E-E



RCN-FW-E



RCN-KIT3-E

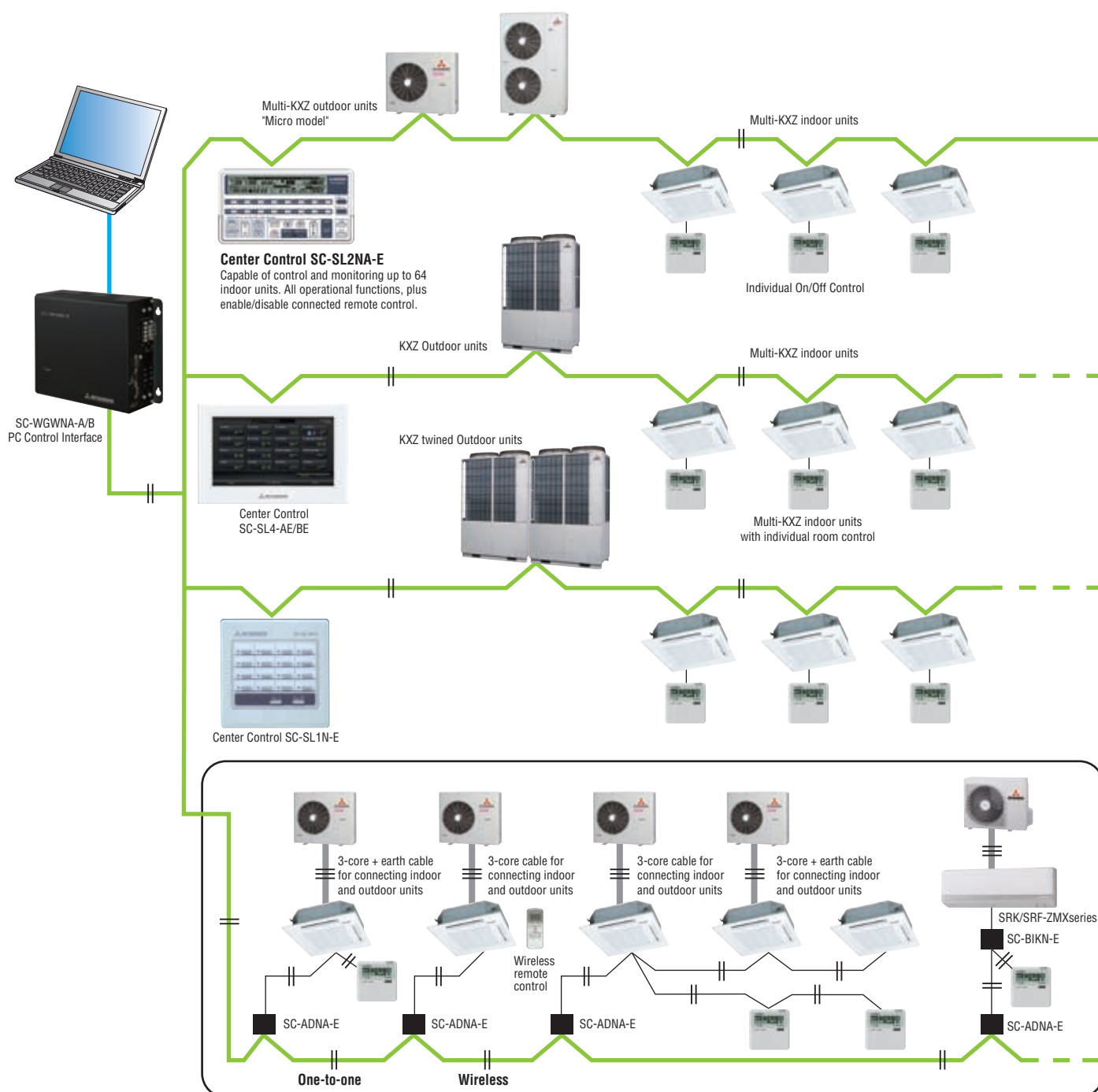


* The wireless remote control is not applicable to the Individual flap control system and the Flap control system.
* When the wireless remote control is used, the fan speed setting can only be set to 3 speed settings (Hi-Me-Lo).

<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.

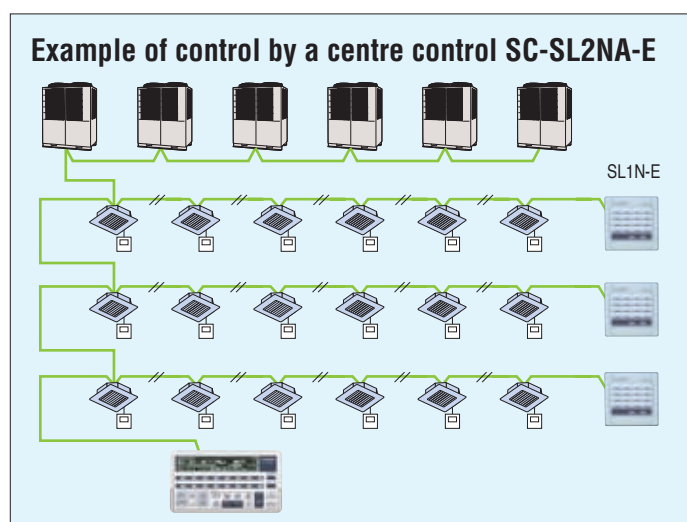
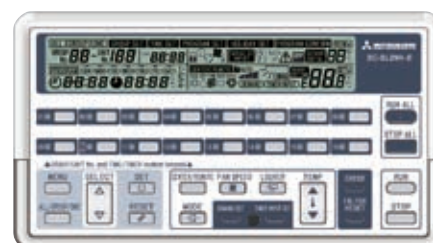
1. The SC-SL1N-E is connected to the Superlink-II network via 2-core, non-polar wires ('AB' connection).
2. It will monitor and control the start/stop function of up to 16 units, with the sixteen operation button.
3. The unit or group numbers in operation or in need of service are displayed with an LED.
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.



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 to 16 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.



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.

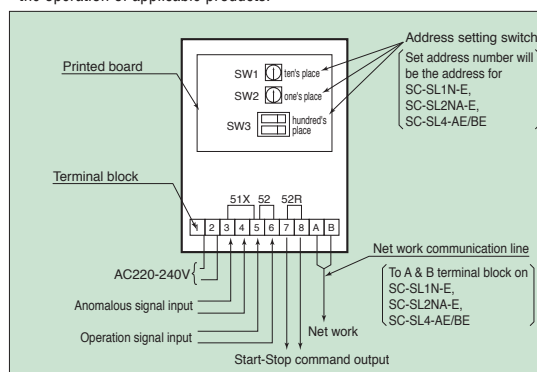
It allows not only the start/stop control but also the monitoring, display of operation statuses such as in operation or in need of service and mode setting such as switching of operation modes of connected units collectively, by group or individually.

• Outer dimensions: H120 x W215 x D25+35*mm.

35* is the measurement including the part contained in a recess.

SC-GIFN-E Interface kit

- Applicable products
Ventilation fan, Air purifier
- By using SC-GIFN-E together with central control such as SC-SL1N-E, SC-SL2NA-E and SC-SL4-AE/BE, you can start-stop, operate & monitor the operation of applicable products.



Note: Please consult dealer for combination of center controls and BMS interface units.

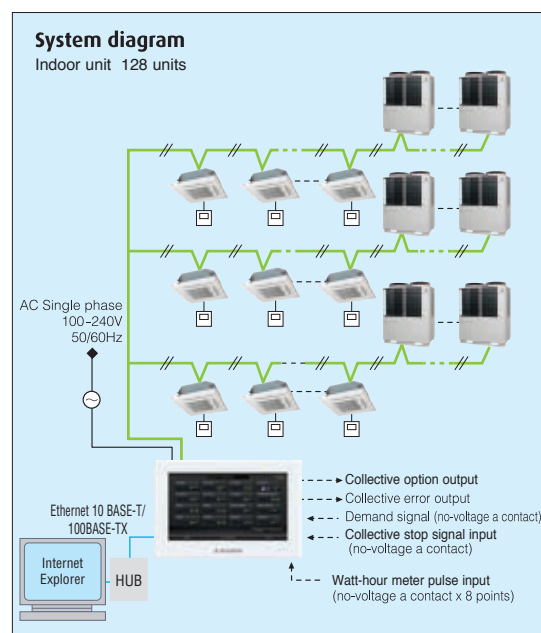
SC-SL4-AE/BE

MHI introduces the full colour touch screen central control SC-SL4-AE/BE, with 9 inch interactive LCD display. Offers control, monitoring, scheduling and service/maintenance functions for up to 128 indoor units. Control with PC is available by use of internet explorer.

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



Control	Monitoring	Scheduling	Administration/Service
Run/Stop	Operating state	Yearly schedule	Block definition
Mode (cool/heat/fan/dry/Auto)	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 permitted/prohibited		Alarm history
Air direction	Fan speed		Energy consumption calculation period
Filter sign reset	Air direction		Energy consumption cumulative operation time
Demand control (3 steps)	Filter sign		
Emergency stop	Maintenance (1, 2 or back-up)		
	Demand control		



Electric power calculation function:

(for SC-SL4-BE only)

SC-SL4-BE gives outputs as "electric power consumption kWh data -each indoor unit, each group, each SUPERLINK-II system and each power pulse system-" and uses USB memory.



	SC-SL4-BE
Method of data export	USB / LAN
Calculation software	Standard
Air-conditioner power proportional distribution pulse input (Maximum)	8
Connecting indoor units number (Maximum)	128

Item	Model	SC-SL4-AE/SC-SL4-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)		172mm x 250mm x 23 (+70) mm
Net weight		2.0kg
Number of connectable units (indoor units)		up to 128 units
LCD touch panel		Colour LCD, 9 inches wide
Inputs	SL (Superlink) signal inputs	1 systems (Super link-II)
	Watt-hour meter 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*	2 point non-voltage a contact input continuous input (closed, demand control)
Outputs	Operation output	1 point maximum rated current 40mA, 24 V During full stop; Open. If even one unit is operating; Closed
	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).

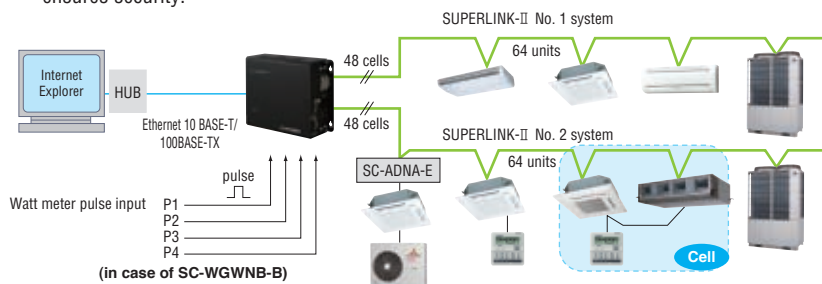
The air conditioning charges calculations of this unit are based on OIML, the international standard.

<PC windows central control> SC-WGWNB-A/SC-WGWNB-B (Web gateway)

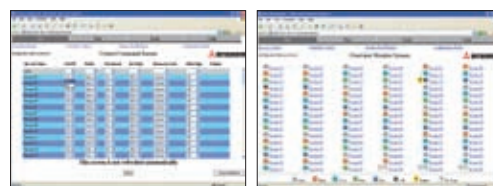
(SC-WGWNB-B is with electric power calculation function)

Production by order

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.



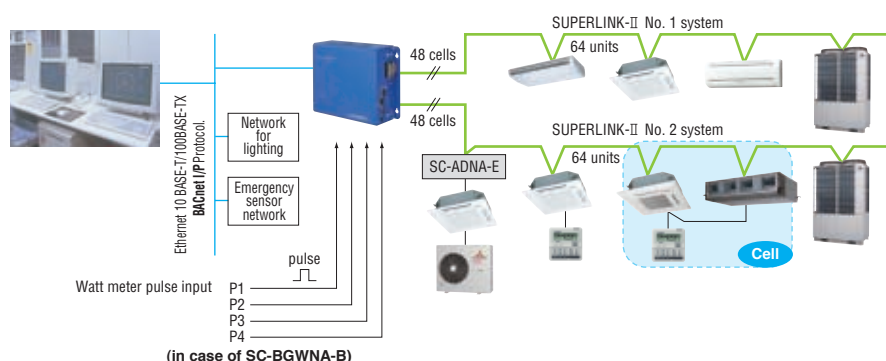
PC requirements: Windows XP or Windows Vista or Windows 7.
Monitor resolution 1024 x 768.
Web browser requirements: Internet Explorer 6.0 or 7.0.

<BMS interface unit> SC-BGWNA256-A/B, SC-BGWNA-A/B (BACnet gateway)

(SC-BGWNA-B/BGWNA256-B are with electric power calculation function)

Production by order

SC-BGWNA256-A/B, SC-BGWNA-A/B are interface devices that convert MHI's Superlink-II communication data to BACnet code. In case of SC-BGWNA256-A/B, up to 256 cells (some cells can have two or more indoor units and total number of indoor units can be up to 256 units) are controlled centrally from a BMS.

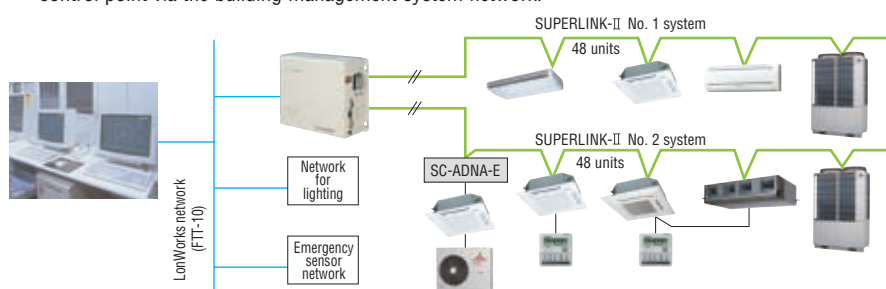


Additional engineering service cost etc. is required.
In case of SC-BGWNA256-B/SC-BGWNA-B,
communication test by qualified person regarding
electric cost calculation function is required before
commissioning.
Please consult your dealer when using this gateway.

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.

KXZ Service/maintenance and monitoring

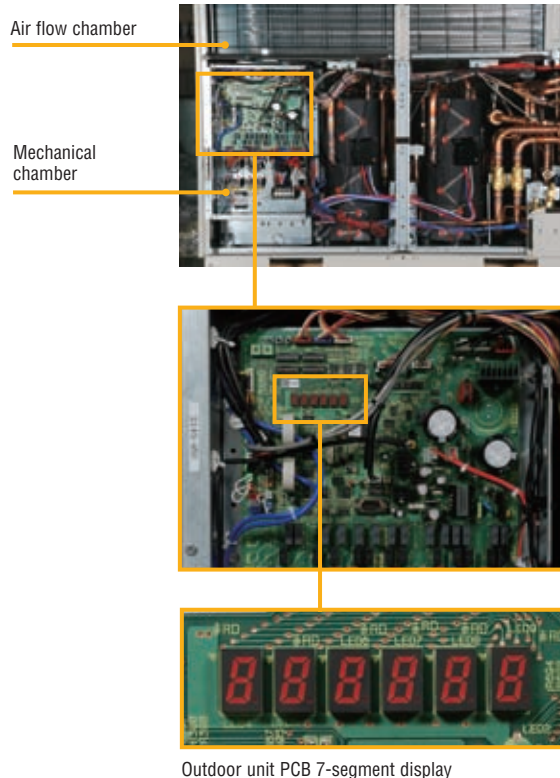
The design of the outdoor units separates the air flow compartment from the mechanical compartment, allowing easy access to serviceable parts by simply removing the panel.

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.



Automatically produced test-run report

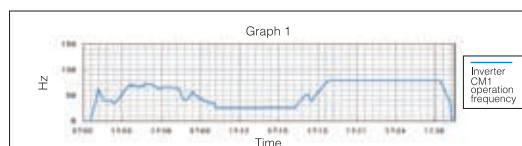
KXB series operation data sheet (Outdoor unit)

Customer name: trading company Test run date: Aug. 7, 2003 Test run operator: Taro Mitsubishi
Delivery date: July 25, 2003 Weather: cloudy

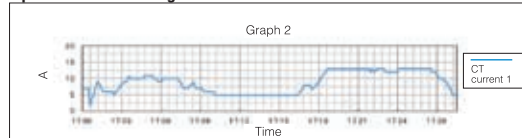
Order No.	Model	Serial No.	Test Run Date	Test Run Operator	Weather	Test Run Time	Test Run Result	Test Run Remarks
1	KXB-100	1000000001	2003/08/07	Taro Mitsubishi	cloudy	10:00	OK	
2	KXB-100	1000000002	2003/08/07	Taro Mitsubishi	cloudy	10:05	OK	
3	KXB-100	1000000003	2003/08/07	Taro Mitsubishi	cloudy	10:10	OK	
4	KXB-100	1000000004	2003/08/07	Taro Mitsubishi	cloudy	10:15	OK	
5	KXB-100	1000000005	2003/08/07	Taro Mitsubishi	cloudy	10:20	OK	
6	KXB-100	1000000006	2003/08/07	Taro Mitsubishi	cloudy	10:25	OK	
7	KXB-100	1000000007	2003/08/07	Taro Mitsubishi	cloudy	10:30	OK	
8	KXB-100	1000000008	2003/08/07	Taro Mitsubishi	cloudy	10:35	OK	
9	KXB-100	1000000009	2003/08/07	Taro Mitsubishi	cloudy	10:40	OK	
10	KXB-100	1000000010	2003/08/07	Taro Mitsubishi	cloudy	10:45	OK	
11	KXB-100	1000000011	2003/08/07	Taro Mitsubishi	cloudy	10:50	OK	
12	KXB-100	1000000012	2003/08/07	Taro Mitsubishi	cloudy	10:55	OK	
13	KXB-100	1000000013	2003/08/07	Taro Mitsubishi	cloudy	11:00	OK	
14	KXB-100	1000000014	2003/08/07	Taro Mitsubishi	cloudy	11:05	OK	
15	KXB-100	1000000015	2003/08/07	Taro Mitsubishi	cloudy	11:10	OK	
16	KXB-100	1000000016	2003/08/07	Taro Mitsubishi	cloudy	11:15	OK	
17	KXB-100	1000000017	2003/08/07	Taro Mitsubishi	cloudy	11:20	OK	
18	KXB-100	1000000018	2003/08/07	Taro Mitsubishi	cloudy	11:25	OK	
19	KXB-100	1000000019	2003/08/07	Taro Mitsubishi	cloudy	11:30	OK	
20	KXB-100	1000000020	2003/08/07	Taro Mitsubishi	cloudy	11:35	OK	
21	KXB-100	1000000021	2003/08/07	Taro Mitsubishi	cloudy	11:40	OK	
22	KXB-100	1000000022	2003/08/07	Taro Mitsubishi	cloudy	11:45	OK	
23	KXB-100	1000000023	2003/08/07	Taro Mitsubishi	cloudy	11:50	OK	
24	KXB-100	1000000024	2003/08/07	Taro Mitsubishi	cloudy	11:55	OK	
25	KXB-100	1000000025	2003/08/07	Taro Mitsubishi	cloudy	12:00	OK	
26	KXB-100	1000000026	2003/08/07	Taro Mitsubishi	cloudy	12:05	OK	
27	KXB-100	1000000027	2003/08/07	Taro Mitsubishi	cloudy	12:10	OK	
28	KXB-100	1000000028	2003/08/07	Taro Mitsubishi	cloudy	12:15	OK	
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30	KXB-100	1000000030	2003/08/07	Taro Mitsubishi	cloudy	12:25	OK	
31	KXB-100	1000000031	2003/08/07	Taro Mitsubishi	cloudy	12:30	OK	
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36	KXB-100	1000000036	2003/08/07	Taro Mitsubishi	cloudy	12:55	OK	
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49	KXB-100	1000000049	2003/08/07	Taro Mitsubishi	cloudy	14:00	OK	
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54	KXB-100	1000000054	2003/08/07	Taro Mitsubishi	cloudy	14:25	OK	
55	KXB-100	1000000055	2003/08/07	Taro Mitsubishi	cloudy	14:30	OK	
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71	KXB-100	1000000071	2003/08/07	Taro Mitsubishi	cloudy	15:50	OK	
72	KXB-100	1000000072	2003/08/07	Taro Mitsubishi	cloudy	15:55	OK	
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79	KXB-100	1000000079	2003/08/07	Taro Mitsubishi	cloudy	16:30	OK	
80	KXB-100	1000000080	2003/08/07	Taro Mitsubishi	cloudy	16:35	OK	
81	KXB-100	1000000081	2003/08/07	Taro Mitsubishi	cloudy	16:40	OK	
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83	KXB-100	1000000083	2003/08/07	Taro Mitsubishi	cloudy	16:50	OK	
84	KXB-100	1000000084	2003/08/07	Taro Mitsubishi	cloudy	16:55	OK	
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86	KXB-100	1000000086	2003/08/07	Taro Mitsubishi	cloudy	17:05	OK	
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90	KXB-100	1000000090	2003/08/07	Taro Mitsubishi	cloudy	17:25	OK	
91	KXB-100	1000000091	2003/08/07	Taro Mitsubishi	cloudy	17:30	OK	
92	KXB-100	1000000092	2003/08/07	Taro Mitsubishi	cloudy	17:35	OK	
93	KXB-100	1000000093	2003/08/07	Taro Mitsubishi	cloudy	17:40	OK	
94	KXB-100	1000000094	2003/08/07	Taro Mitsubishi	cloudy	17:45	OK	
95	KXB-100	1000000095	2003/08/07	Taro Mitsubishi	cloudy	17:50	OK	
96	KXB-100	1000000096	2003/08/07	Taro Mitsubishi	cloudy	17:55	OK	
97	KXB-100	1000000097	2003/08/07	Taro Mitsubishi	cloudy	18:00	OK	
98	KXB-100	1000000098	2003/08/07	Taro Mitsubishi	cloudy	18:05	OK	
99	KXB-100	1000000099	2003/08/07	Taro Mitsubishi	cloudy	18:10	OK	
100	KXB-100	1000000100	2003/08/07	Taro Mitsubishi	cloudy	18:15	OK	

Mitsubishi Heavy Industries Sales Company

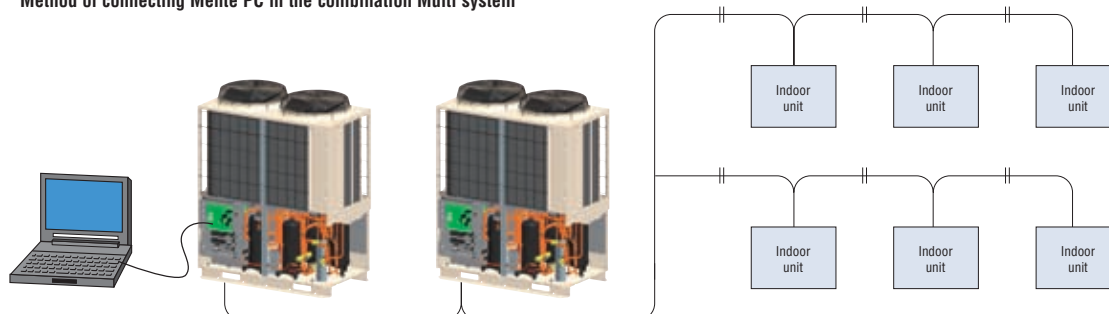
Operation data storage during servicing



Operation data storage when a fault occurs



Method of connecting Mente PC in the combination Multi system



INTESIS BMS Interface for MHI air conditioners

All technical support, including specifying work, compatibility issues, product quality (repair and replacement issues), product liability issues and the required after sales service (including spare parts supply) will be provided by Intesis as it is an Intesis product.

Product sales and delivery will be conducted by Intesis as well.

For details concerning such matters please directly contact Intesis.

Integration of MHI KX in your KNX installation by Superlink

MH-AC-KNX-48

(Max 48 indoor units / Superlink I & II)

MH-AC-KNX-128

(Max 128 indoor units / Superlink II)

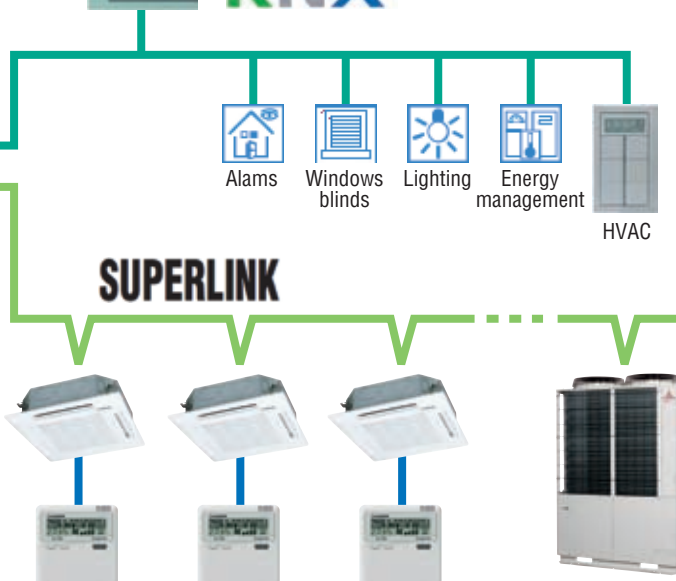


INTEGRATED GATEWAY

- Bidirectional: Supervision and Control
- Robust and reliable hardware
- Direct connection to KNX TP-1 BUS
- Independent management of communications
- Power supply: 230 VAC 50/60Hz
- Wall mounting case

Intesis 

TOUCH SCREEN



Integration of MHI KX in your Modbus installation by Superlink

MH-AC-MBS-48

(Max 48 indoor units / Superlink I & II)

MH-AC-MBS-128

(Max 128 indoor units / Superlink II)

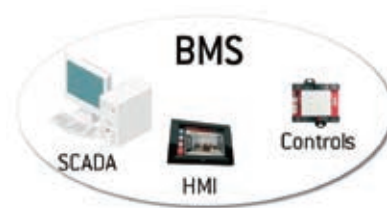


INTEGRATED GATEWAY

- Bidirectional: Supervision and Control
- Robust and reliable hardware
- Modbus TCP or Modbus RTU RS-485/RS-232
- Independent management of communications
- Power supply: 230 VAC 50/60Hz
- Wall mounting case

Intesis 

MODBUS



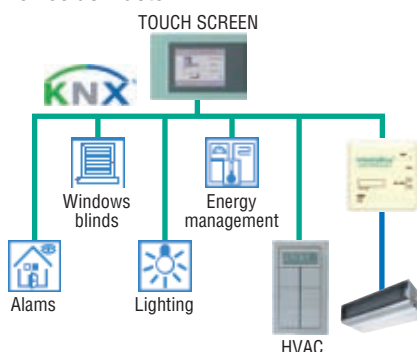
Integration of MHI PAC in your KNX installation by Remote control line

MH-RC-KNX-1i

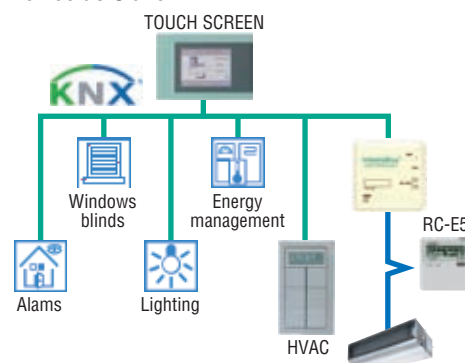


- Protocol : KNX TP-1 bus
- Dimension : 71 x 71 x 27 mm
- External Power supply : no need

Example :
Device as Master



Example :
Device as Slave



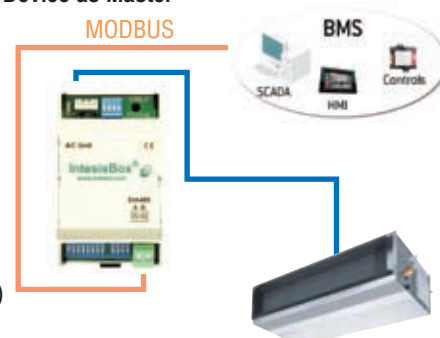
Integration of MHI PAC in your Modbus installation by Remote control line

MH-RC-MBS-1

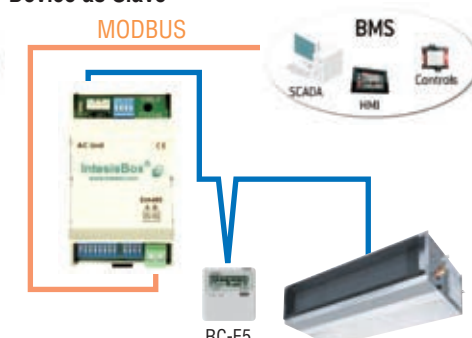


- Protocol : Modbus RTU (RS-485)
- Dimension : 93 x 53 x 58 mm
- External Power supply : no need

Example :
Device as Master



Example :
Device as Slave



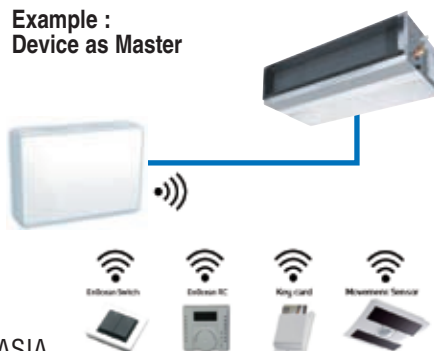
Integration of MHI PAC in your EnOcean installation by Remote control line

MH-RC-ENO-1i/1iC

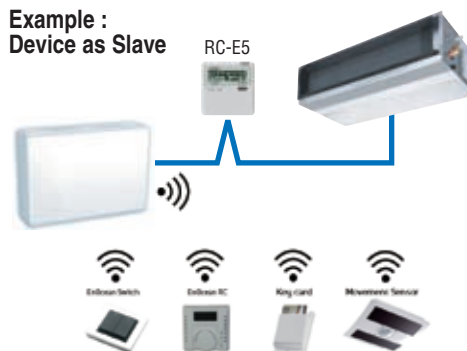


- Protocol : EnOcean
1i : 868MHz@EU
1iC : 315MHz@USA, ASIA
- Dimension : 100 x 70 x 28 mm
- External Power supply : no need

Example :
Device as Master



Example :
Device as Slave



Please access the followings for details.

Intesis 
software

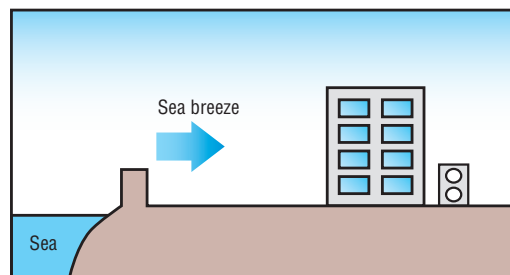
URL : <http://www.intesis.com>
email : info@intesis.com
tel : +34 938047 134



Corrosion Protection Treatment series 4~60hp (11.2kW~168.0kW)

Production by order

Corrosion Protection Treatment series are available with special coating applied for not only sheet metals but also small parts in order to prevent salt corrosion caused by sea breeze in area along coast line (Within approximately 500m from coast line).



Model No.	Nominal Cooling Capacity	Model No.	Nominal Cooling Capacity
FDCS112KXEN6	11.2kW	FDCS280KXZE1	28.0kW
FDCS112KXES6	11.2kW	FDCS335KXZE1	33.5kW
FDCS140KXEN6	14.0kW	FDCS400KXZE1	40.0kW
FDCS140KXES6	14.0kW	FDCS450KXZE1	45.0kW
FDCS155KXEN6	15.5kW	FDCS475KXZE1	47.5kW
FDCS155KXES6	15.5kW	FDCS504KXZE1	50.4kW
FDCS224KXE6G	22.4kW	FDCS560KXZE1	56.0kW
FDCS280KXE6G	28.0kW		
FDCS335KXE6G	33.5kW		

- Combination systems: 22~60hp (61.5kW~168.0kW) are the same as that of the standard KXZ series shown on previous pages.
- Specifications and Dimensions are the same as that of the standard KXZ series shown on previous pages.
- Non-CE Marking models.



For outside sheet metals, Cation electrodeposition coating is used for undercoat plus polyester powder coating or acrylic backed coating for top coat and corrosion protection is applied for heat exchanger, welded parts, fan guard, fin guard and other major parts.

Preventing corrosion by salt damage or sulfurous acid gas has made service life of this series longer while its exterior appearance has been greatly improved.

Durability of this series for anticorrosion is about two times that of standard outdoor units under the same conditions.

Additional treatment from the standard series

		Micro	KXZ
Exterior panel		undercoat: Cation electrodeposition coating topcoat: polyester powder coating or acrylic baked coating	undercoat: Cation electrodeposition coating topcoat: acrylic baked coating
Base plate		undercoat: Cation electrodeposition coating topcoat: polyester powder coating or acrylic baked coating	undercoat: Cation electrodeposition coating topcoat: acrylic baked coating
Drain pan		_____	undercoat: Cation electrodeposition coating topcoat: acrylic baked coating
Fan motor		application of anticorrosion compound	application of anticorrosion compound
Fan motor base	4~6HP	_____	application of anticorrosion compound
	8~12HP	application of anticorrosion compound	
Heat exchanger	Fin	Precoated Aluminum Blue Fins in high anticorrosion specification	Precoated Aluminum Blue Fins in high anticorrosion specification
	pipe	application of anticorrosion compound	application of anticorrosion compound
	Side plate	application of anticorrosion compound	application of anticorrosion compound
Compressor		application of anticorrosion compound	application of anticorrosion compound
Accumulator		application of anticorrosion compound	application of anticorrosion compound
Receiver		application of anticorrosion compound	application of anticorrosion compound
Control box	4~6HP	_____	galvanized steel sheet + undercoat: Cation electrodeposition coating + topcoat: acrylic baked finish
	8~12HP	application of anticorrosion compound	
Baffle plate	4~6HP	_____	_____
	8~12HP	application of anticorrosion compound	_____
Service valve bracket	4~6HP	_____	galvanized steel sheet + undercoat: Cation electrodeposition coating + topcoat: acrylic baking finish
	8~12HP	application of anticorrosion compound	
Screw tap for exterior panel		zinc coating + chromate treatment + fluorine coating	zinc coating + chromate treatment + fluorine coating
Screw tap for inside of exterior panel		zinc coating + chromate treatment + fluorine coating	zinc coating + chromate treatment + fluorine coating

Corrosion protection treatment complies with regulation of The Japan Refrigeration and Air Conditioning Industry Association (JRA9002)

Caution

Even if the outdoor unit is protected with the anti-salt damage treatment, it cannot be perfectly free from rusting.
The following points should be kept in mind during installation and maintenance of the outdoor units.

Installation

- (1) When installing the outdoor unit close to the coastal area, provide a windbreak to protect it from direct sea breeze and salt water splash.
- (2) Select a well-drained place to install.
- (3) If any scratch or damages occurred on the outdoor unit during installation, repair it carefully.

Maintenance

- (1) Clean salt grains on the outdoor unit with fresh water periodically.
- (2) Apply rust preventive at regular intervals for maintenance depending on the conditions at the installation place (consulting with the withstanding capacity).
- (3) Confirm reset of screw tap after maintenance, if missing it may cause corrosion occurred from the hole of screw tap.
- (4) During prolonged non operation periods, protect the unit with covering.

Water cooled series

8~36hp (22.4~100.0kW)

DRAFT

Model No.	Nominal Cooling Capacity	Model No.	Nominal Cooling Capacity
FDC224KXZWE1	22.4kW	FDC730KXZWE1(FDC224×2+FDC280)	73.0kW
FDC280KXZWE1	28.0kW	FDC775KXZWE1(FDC224+FDC280×2)	77.5kW
FDC335KXZWE1	33.5kW	FDC850KXZWE1(FDC280×3)	85.0kW
FDC450KXZWE1(FDC224×2)	45.0kW	FDC900KXZWE1(FDC280×2+FDC335)	90.0kW
FDC500KXZWE1(FDC224+FDC280)	50.0kW	FDC950KXZWE1(FDC280+FDC335×2)	95.0kW
FDC560KXZWE1(FDC280×2)	56.0kW	FDC1000KXZWE1(FDC335×3)	100.0kW
FDC615KXZWE1(FDC280+FDC335)	61.5kW		
FDC670KXZWE1(FDC335×2)	67.0kW		

Applicable to

1. EER/COP (High efficiency)

- Energy saving → Reduction of operation cost!

2. Design Flexibility

- Compact design
- Easy transportation and installation

3. BMS (Building Management System)

- Same system to the air-cooled KX

4. Serviceability & Maintenance

- Front side service of main parts
(Compressor, Controller, Plate heat exchanger etc.)
- Useful service tools (Mente-PC, SL-Checker etc.)

1. High-rise Building

- 100m or higher in height -

2. Glass-exterior facade Building

- Possible to hide heat source units -



Specifications

Item	Model	FDC224KXZWE1	FDC280KXZWE1	FDC335KXZWE1	FDC450KXZWE1	FDC500KXZWE1	FDC560KXZWE1	FDC615KXZWE1	FDC670KXZWE1
Combination (FDC)		-	-	-	224KXZWE1	224KXZWE1	280KXZWE1	280KXZWE1	335KXZWE1
		-	-	-	224KXZWE1	280KXZWE1	280KXZWE1	335KXZWE1	335KXZWE1
Nominal horse power		8HP	10HP	12HP	16HP	18HP	20HP	22HP	24HP
Power source		3 Phase 380-415V, 50Hz							
Nominal capacity	Cooling	22.4	28.0	33.5	45.0	50.0	56.0	61.5	67.0
	Heating	25.0	31.5	37.5	50.0	56.0	63.0	69.0	75.0
Power consumption	Cooling	4.23	5.75	8.13	8.49	9.8	11.5	13.7	16.3
	Heating	4.24	5.10	6.30	8.47	9.3	10.2	11.4	12.6
EER	Cooling	5.3	4.9	4.1	5.3	5.1	4.9	4.5	4.1
COP	Heating	5.9	6.2	6.0	5.9	6.0	6.2	6.1	6.0
Exterior dimensions	HxWxD	mm 1100x780x550			mm 1100x780x550x2units				
Sound pressure level	dB(A)	47	50	54	50	52	53	55	57
Net weight	kg	150			150+150				

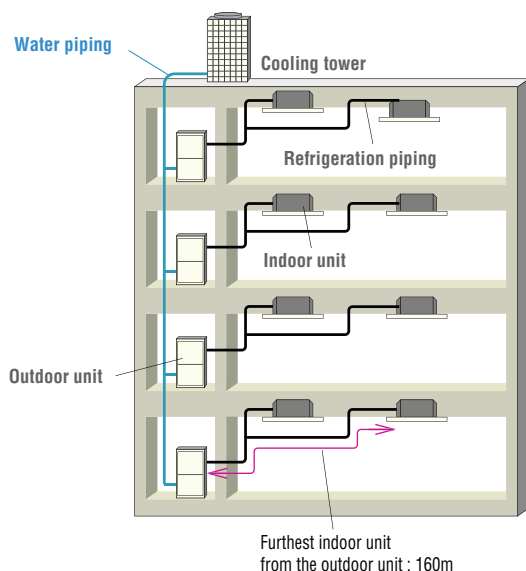
Item	Model	FDC730KXZWE1	FDC775KXZWE1	FDC850KXZWE1	FDC900KXZWE1	FDC950KXZWE1	FDC1000KXZWE1
Combination (FDC)		224KXZWE1	224KXZWE1	280KXZWE1	280KXZWE1	280KXZWE1	335KXZWE1
		224KXZWE1	280KXZWE1	280KXZWE1	280KXZWE1	335KXZWE1	335KXZWE1
		280KXZWE1	280KXZWE1	280KXZWE1	335KXZWE1	335KXZWE1	335KXZWE1
Nominal horse power		26HP	28HP	30HP	32HP	34HP	36HP
Power source		3 Phase 380-415V, 50Hz					
Nominal capacity	Cooling	73.0	77.5	85.0	90.0	95.0	100.0
	Heating	82.5	90.0	95.0	100.0	106.0	112.0
Power consumption	Cooling	14.2	15.5	17.5	19.5	21.7	24.3
	Heating	13.8	14.8	15.4	16.4	17.6	18.8
EER	Cooling	5.1	5.0	4.9	4.6	4.4	4.1
COP	Heating	6.0	6.1	6.2	6.1	6.0	6.0
Exterior dimensions	HxWxD	mm 1100x780x550x3units					
Sound pressure level	dB(A)	53	54	55	57	58	59
Net weight	kg	150+150+150					

The data is based on the rating condition:

Cooling: Indoor temp. of 27 °C DB, 19 °C WB, and outdoor inlet water temp. of 30 °C, water flow volume 96 l/min
 Heating: Indoor temp. of 20 °C DB, 15 °C WB, and outdoor inlet water temp. of 20 °C, water flow volume 96 l/min

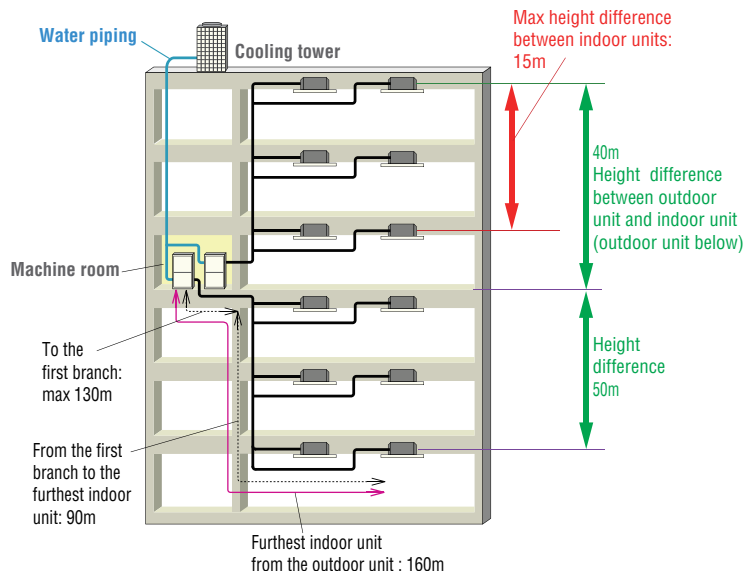
Outdoor units on every floor
- New building projects -

Total piping length : 510m



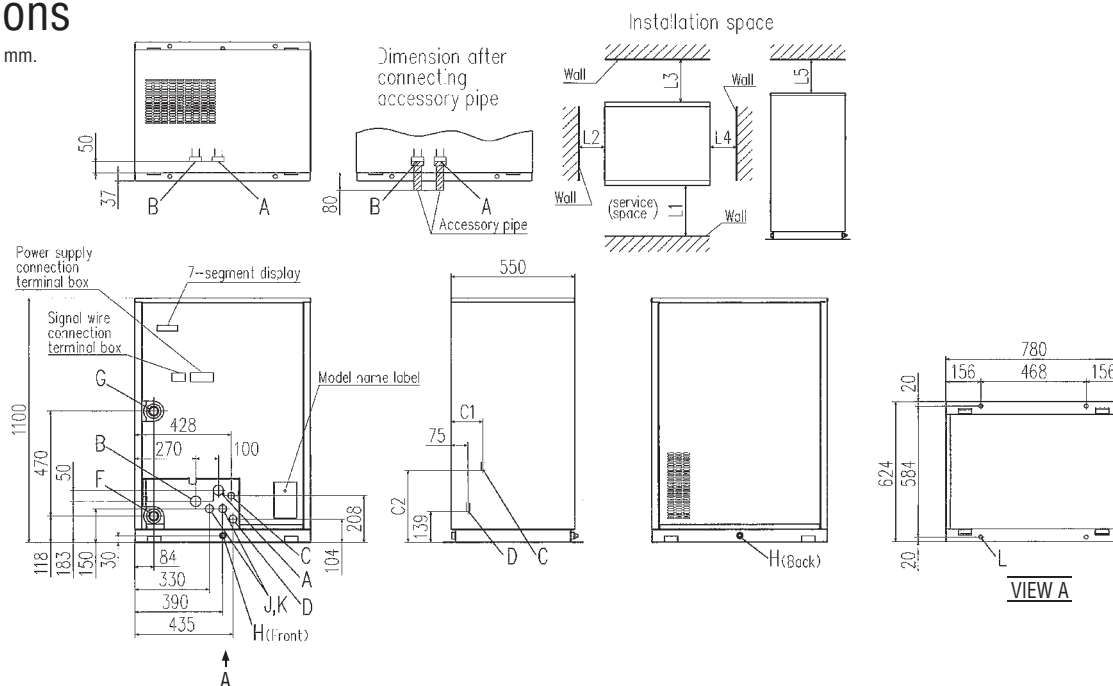
Outdoor units in the machine room
- Renovation projects -

Total piping length : 510m



Dimensions

All measurements in mm.



Piping size

Mark	Content	Dimension	FDC-KXZWE1	FDC224KXZWE1	FDC280KXZWE1	FDC335KXZWE1	Connection method
A	High/low gas line *1	C1	224,280	142	139		Refer to piping size.
	Discharge gas line *2		335				
B	Suction gas line *2	C2	322	316			Flange
C	Liquid line						
D	Oil equalization line						Flare
F	Water inlet	Dimension					
G	Water outlet	Installation example					
H	Drain outlet	1					
J	Power supply intake	L1	600 or more				Flare
K	Signal wiring intake	L2	20 or more				
L	Anchor bolt hole	L3	500 or more				
		L4	20 or more				
		L5	300 or more				

*1 In case of heat pump system
*2 In case of heat recovery system

High Head series (100m) 14~48hp (40.0~136.0kW)

cooling only

Production by order

Model No. Nominal Cooling Capacity

FDCH335CKXE6G-K *	33.5 kW
FDCH400CKXE6G	40.0 kW
FDCH450CKXE6G	45.0 kW
FDCH504CKXE6G	50.4 kW
FDCH560CKXE6G	56.0 kW
FDCH560CKXE6G-K *	56.0 kW
FDCH615CKXE6G	61.5 kW
FDCH680CKXE6G	68.0 kW

※FDCH335CKXE6G-K & FDCH560CKXE6G-K are only used for combining with other models.

- Maximum allowable height difference between the outdoor and the indoor unit located at the lowest height position has been increased from 50m to 100m.
(When the outdoor unit is located at higher position than the indoor unit)
- Non-CE Marking models.

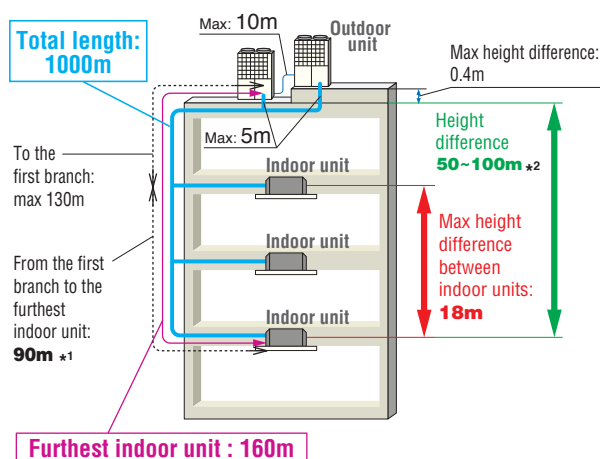
Model No.

FDCH735CKXE6G (FDCH335-K+FDCH400)	73.5 kW
FDCH800CKXE6G (FDCH400x2)	80.0 kW
FDCH850CKXE6G (FDCH400+FDCH450)	85.0 kW
FDCH900CKXE6G (FDCH450x2)	90.0 kW
FDCH960CKXE6G (FDCH450+FDCH504)	96.0 kW
FDCH1010CKXE6G (FDCH504x2)	101.0 kW
FDCH1065CKXE6G (FDCH504+FDCH560)	106.5 kW
FDCH1130CKXE6G (FDCH560x2)	113.0 kW
FDCH1180CKXE6G (FDCH560-K+FDCH615)	118.0 kW
FDCH1235CKXE6G (FDCH615x2)	123.5 kW
FDCH1300CKXE6G (FDCH615+FDCH680)	130.0 kW
FDCH1360CKXE6G (FDCH680x2)	136.0 kW

FDCH335CKXE6G-K
FDCH400CKXE6G
FDCH450CKXE6G



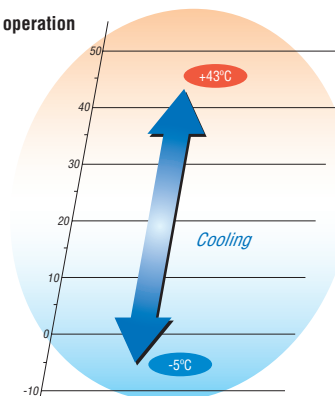
FDCH504~680CKXE6G



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

*2 In case of less than 50m, the High Head models can not be applied.
In case Indoor unit is higher than outdoor unit, the High Head models can not be applied.

Range of operation



Specifications

Item		Model	FDCH400CKXE6G	FDCH450CKXE6G	FDCH504CKXE6G	FDCH560CKXE6G	FDCH615CKXE6G	FDCH680CKXE6G
Nominal horse power			14HP	16HP	18HP	20HP	22HP	24HP
Power source			3 Phase 380-415V, 50Hz					
Nominal capacity	Cooling	kW	40.0	45.0	50.4	56.0	61.5	68.0
Electrical characteristics	Starting current	A	8					
	Power consumption	Cooling kW	11.27	12.97	14.73	16.79	20.37	24.98
	Running current	Cooling A	18.4-16.9	21.1-19.3	24.1-22.0	27.4-25.1	33.1-30.3	40.3-36.9
Exterior dimensions	HxWxD	mm	1690x1350x720			2048x1350x720		
Net weight		kg	326			358		377
Refrigerant charge	R410A	kg	11.5					
Sound pressure level	Cooling	dB(A)	59.5	62.5	61.5	63.0	64.5	65.0
Refrigerant piping size	Liquid line	mm(in)	ø12.7(1/2")			ø15.88(5/8")		
	Gas line		ø25.4(1") [ø28.58(1 1/8")] ø28.58(1 1/8")			ø28.58(1 1/8")		
Capacity connection		%	50-200			50-160		
Number of connectable indoor units			36	40	36	40	44	49

Item			Model	FDCH735CKXE6G	FDCH800CKXE6G	FDCH850CKXE6G	FDCH900CKXE6G
Combination (FDCH)				335CKXE6G-K	400CKXE6G	400CKXE6G	450CKXE6G
				400CKXE6G	400CKXE6G	450CKXE6G	450CKXE6G
Nominal horse power				26HP	28HP	30HP	32HP
Power source				3 Phase 380-415V, 50Hz			
Nominal capacity		Cooling	kW	73.5	80.0	85.0	90.0
Electrical characteristics	Starting current		A	16			
	Power consumption	Cooling	kW	20.21	22.54	24.24	25.94
	Running current	Cooling	A	32.9-30.2	36.8-33.8	39.5-36.2	42.2-38.6
Exterior dimensions		HxWxD	mm	1690x2700x720			
Net weight			kg	326x2			
Refrigerant charge		R410A	kg	11.5x2			
Refrigerant piping size		Liquid line	mm(in)	ø19.05(3/4")			
		Gas line		ø31.8(1 1/4") [ø34.92(1 3/8")]			
Capacity connection			%	50~160			
Number of connectable indoor units				53	58	61	65

Item		Model	FDCH960CKXE6G	FDCH1010CKXE6G	FDCH1065CKXE6G	FDCH1130CKXE6G	
Combination (FDCH)			450CKXE6G	504CKXE6G	504CKXE6G	560CKXE6G	
			504CKXE6G	504CKXE6G	560CKXE6G	560CKXE6G	
Nominal horse power			34HP	36HP	38HP	40HP	
Power source			3 Phase 380-415V, 50Hz				
Nominal capacity	Cooling	kW	96.0	101.0	106.5	113.0	
Electrical characteristics	Starting current		A				
	Power consumption	Cooling	kW	27.70	29.46	31.52	33.58
	Running current	Cooling	A	45.2-41.3	48.2-44.0	51.5-47.1	54.8-50.2
Exterior dimensions	HxWxD		mm				
Net weight			kg				
Refrigerant charge	R410A		kg				
Refrigerant piping size	Liquid line	mm(in)	ø19.05(3/4")				
	Gas line		ø31.8(1 1/4") [ø34.92(1 3/8")]				
Capacity connection			%				
Number of connectable indoor units			69	59	62	66	

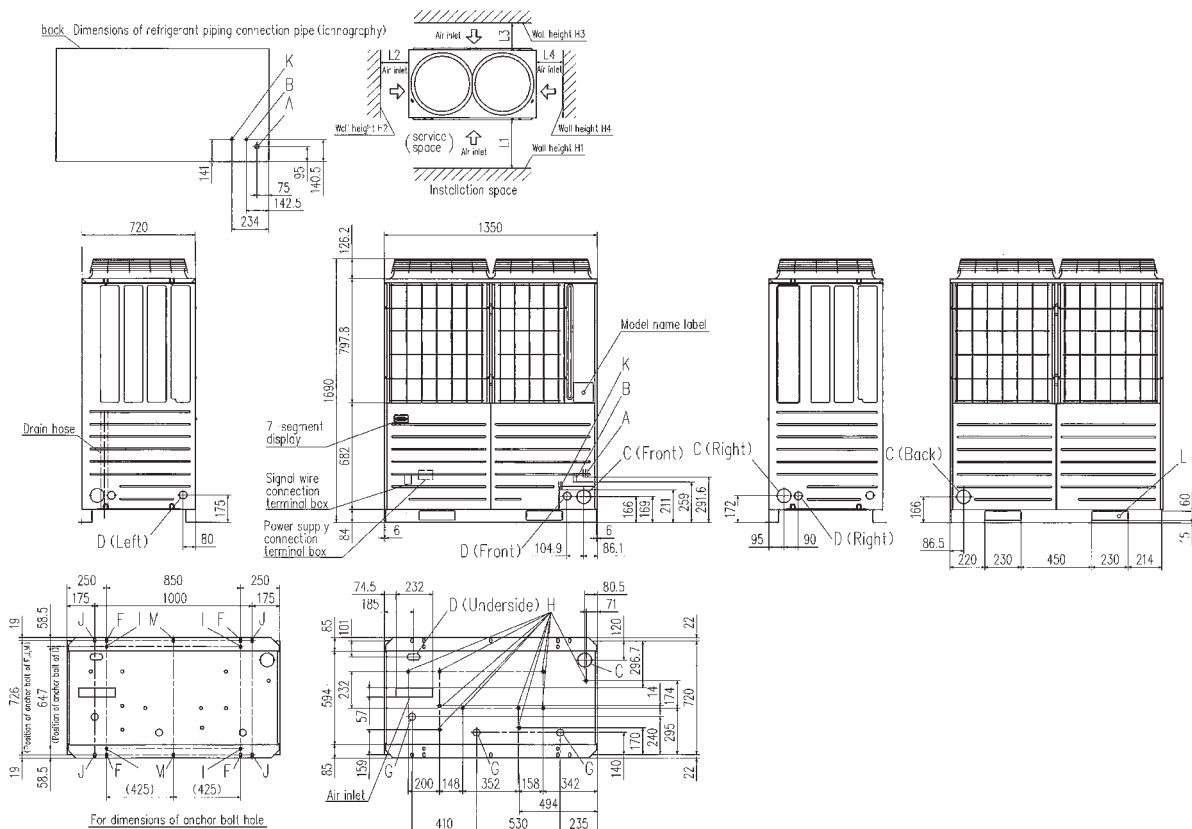
Item		Model	FDCH1180CKXE6G	FDCH1235CKXE6G	FDCH1300CKXE6G	FDCH1360CKXE6G	
Combination (FDCH)			560CKXE6G-K	615CKXE6G	615CKXE6G	680CKXE6G	
			615CKXE6G	615CKXE6G	680CKXE6G	680CKXE6G	
Nominal horse power			42HP	44HP	46HP	48HP	
Power source			3 Phase 380-415V, 50Hz				
Nominal capacity	Cooling	kW	118.0	123.5	130.0	136.0	
Electrical characteristics	Starting current	A	16				
	Power consumption	Cooling	kW	37.16	40.74	45.35	49.96
	Running current	Cooling	A	60.5-55.4	66.2-60.6	73.4-67.2	80.6-73.8
Exterior dimensions	HxWxD	mm	2048x2700x720				
Net weight		kg	377x2				
Refrigerant charge	R410A	kg	11.5x2				
Refrigerant piping size	Liquid line	mm(in)	ø22.22(7/8")				
	Gas line		ø38.1(1 1/2")				
Capacity connection		%	50~130				
Number of connectable indoor units			69	72	76	80	

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. Piping length is 7.5m.
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.
3. [] : Pipe sizes applicable to European installations are shown in parentheses.
4. The above data applies to D service code models. Please check service codes for full specification.

Dimensions

All measurements in mm.

FDCH335CKXE6G-K, 400CKXE6G, 450CKXE6G

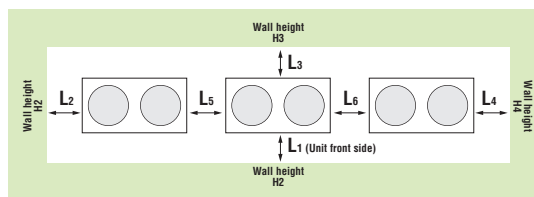


Mark	Content	335-K	400	450
A	Refrigerant gas piping connection pipe	ø25.4(Brazing)		ø28.58(Brazing)
B	Refrigerant liquid piping connection pipe	ø12.7(Flare)		
C	Refrigerant piping exit hole	ø88(or ø100)		
D	Power supply entry hole	ø50 (right · left · front), long hole 40 x 80 (under side)		
F	Anchor bolt hole	M10, 4 pcs		
G	Drain waste water hose hole	ø45, 3 pcs		
H	Drain hole	ø20, 10 pcs		
K	Refrigerant oil equalization piping connection pipe	ø9.52(Flare)		
L	Carrying in or hole for hanging	230 x 60		

Notes:

- The unit must be fixed with anchor bolts.
- Leave a 2m or larger space above the unit.
- The unit name plate is attached on the lower right corner of the front panel.
- The ports for refrigerant pipe and power cable penetrations are covered with half-blanks. Please cut off a half-blank with nippers in using these ports.
- Use a ø88 port for refrigerant pipe connection.
- Anchor holes marked "L J" (four holes for M10) are for a renewal installation.
- The oil-equalising pipe K should be used when outdoor units are used in combination. (For 14,16Hp only)

When more than one unit is installed



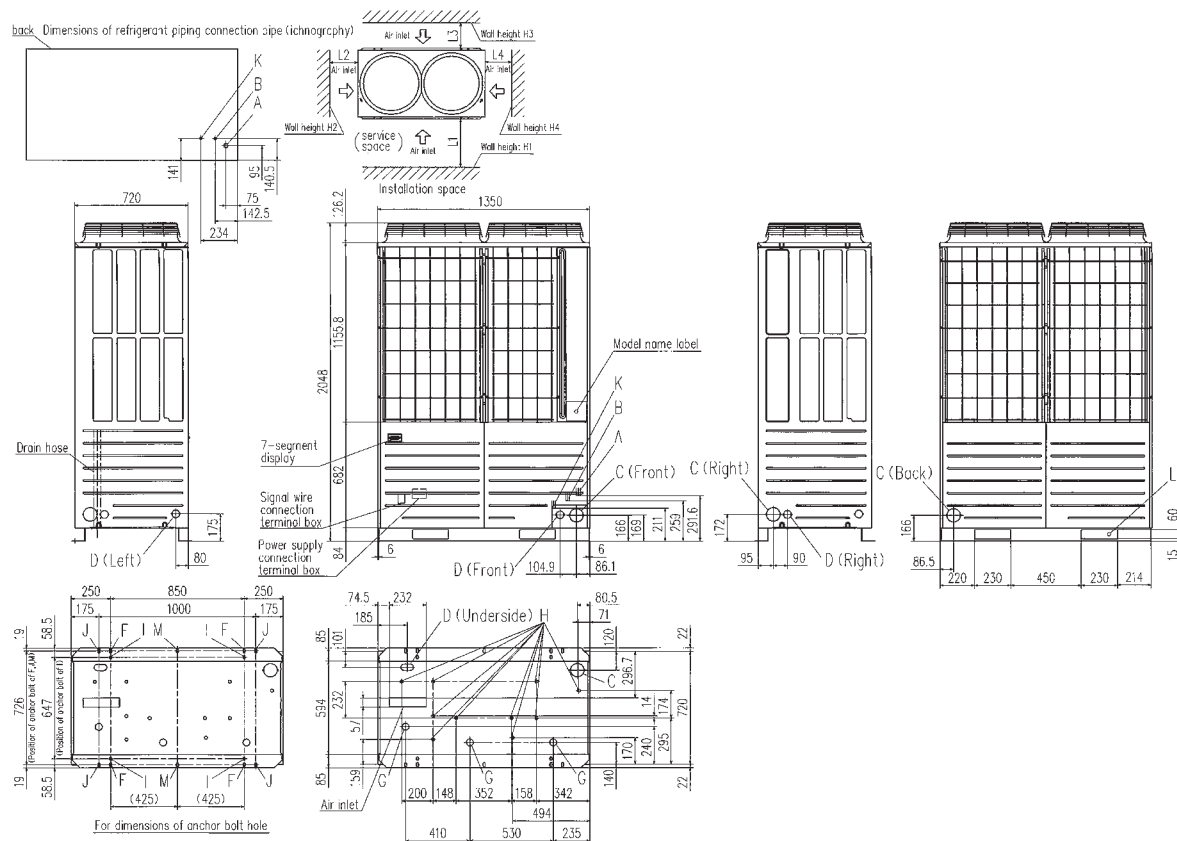
Installation example		
Dimensions	1	2
L ₁	500	Open
L ₂	10	10
L ₃	100	100
L ₄	10	Open
H ₁	1500	Open
H ₂	No limit	No limit
H ₃	1000	No limit
H ₄	No limit	Open

Installation example		
Dimensions	1	2
L ₁	500	Open
L ₂	10	200
L ₃	100	300
L ₄	10	Open
L ₅	0	400
L ₆	0	400
H ₁	1500	No limit
H ₂	No limit	No limit
H ₃	1000	No limit
H ₄	No limit	No limit

Dimensions

All measurements in mm.

FDCH504CKXE6G, 560CKXE6G, 560CKXE6G-K, 615CKXE6G, 680CKXE6G



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, 4 pcs
G	Drain waste water hose hole	ø45, 3 pcs
H	Drain hole	ø20, 10 pcs
K	Refrigerant oil equalization piping connection pipe	ø9.52(Flare)
L	Carrying in or hole for hanging	230 x 60

Installation example		
Dimensions	1	2
L ₁	500	Open
L ₂	10	10
L ₃	100	100
L ₄	10	Open
H ₁	1500	Open
H ₂	No limit	No limit
H ₃	1000	No limit
H ₄	No limit	Open

Notes:

- (1) The unit must be fixed with anchor bolts.
- (2) Leave a 2m or larger space above the unit.
- (3) The unit name plate is attached on the lower right corner of the front panel.
- (4) The ports for refrigerant pipe and power cable penetrations are covered with half-blanks. Please cut off a half-blank with nippers in using these ports.
- (5) Use a ø88 port for refrigerant pipe connection.
- (6) Anchor holes marked "L J" (four holes for M10) are for a renewal installation.
- (7) The oil-equalising pipe K should be used when outdoor units are used in combination.

Refresh outdoor units

If replacing a used unit with a new one, these units can reuse existing piping.

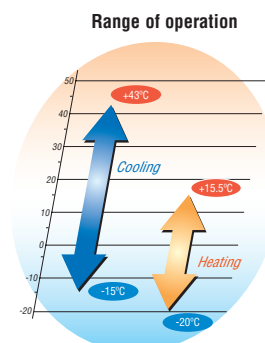
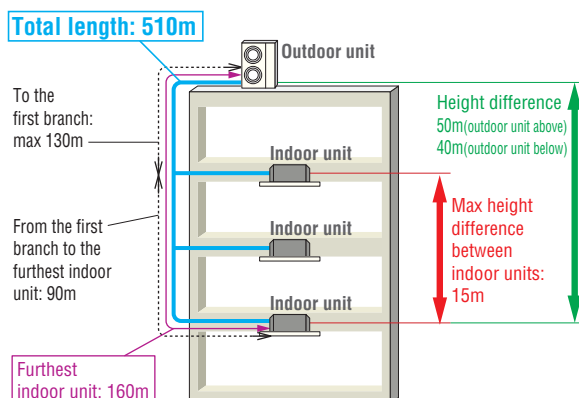
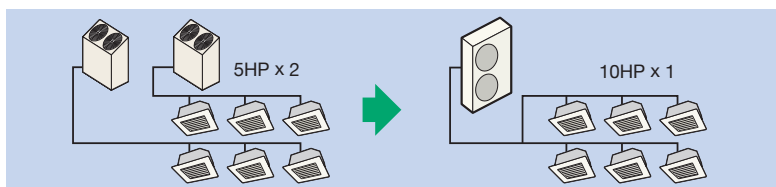
Model No.	Nominal Cooling Capacity
FDCR224KXE6	22.4kW
FDCR280KXE6	28.0kW



<Option>

FDCR-KIT-E : Service valve kit

- Applies to a wide range of pipe sizes (R22, R407C, R410A standard size).
 - Meets to a short period of renewal installation.
 - Savings on replacement expenses such as scrapping waste material or procuring new pipe.
 - Possible to replace the existing unit with a new larger capacity unit.
 - Possible to replace plural systems with one system.
- For example: Existing 5HP x 2units can be replaced with a new 10HP x 1unit.



Specifications

Item		Model	FDCR224KXE6	FDCR280KXE6	
Nominal horse power			8HP	10HP	
Power source			3 Phase 380-415V, 50Hz		
Nominal capacity	Cooling	kW	22.4	28.0	
	Heating		25.0	31.5	
Electrical characteristics	Starting current		A	5	
	Power consumption	Cooling	kW	5.60	8.09
		Heating		6.03	8.21
	Running current	Cooling	A	9.25-8.47	13.22-12.10
		Heating	9.85-9.02	13.41-12.28	
Exterior dimensions	HxWxD	mm	1675x1080x480		
Net weight		kg	224		
Refrigerant charge	R410A	kg	11.5		
Sound pressure level	Cooling/Heating	dB(A)	58/58	59/60	
Refrigerant piping size	Liquid line	mm(in)	ø9.52 ^(3/8") ~ø15.88 ^(5/8")		
	Gas line		ø19.05 ^(3/4") ~ø25.4 ^(1")		
Capacity connection		%	50~130		
Number of connectable indoor units			13	16	

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.

Advanced refresh function

◆ When the existing unit is operable

The existing pipe can be reused by cooling operation only.

Pipe refresh kit and Service valve kit are not required.

1. Implement cooling operation of all indoor units for more than 30 minutes.
2. Implement pump-down after cooling operation.
3. Recover refrigerant and remove the existing outdoor unit and indoor unit.

◆ When the existing unit is not operable

The existing pipe can be reused by washing operation after connecting Refresh outdoor units, Pipe refresh kit and Service valve kit.

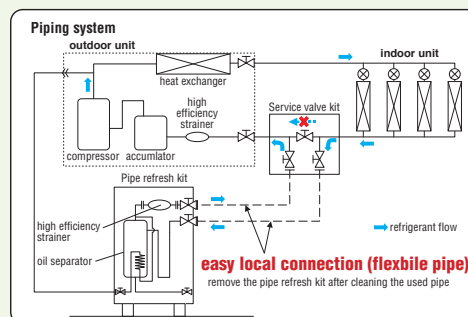
Connecting and removing of Refresh outdoor units and Pipe refresh kit is very easy by use of flexible pipe and flanges.

1. Pipe washing operation is implemented by changing dip switch on the outdoor unit PCB.
2. Completing washing is monitored via 7-segment display on the outdoor unit PCB.
3. As washing operation is about 60 minutes, it can meet to a required short period of renewal installation.

7-segment display

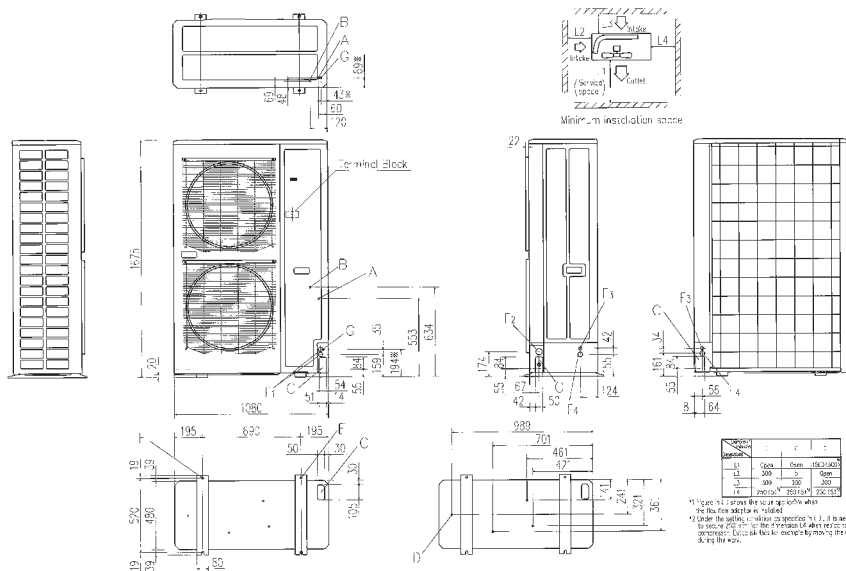


Pipe refresh kit (FDCR-KIT-E)

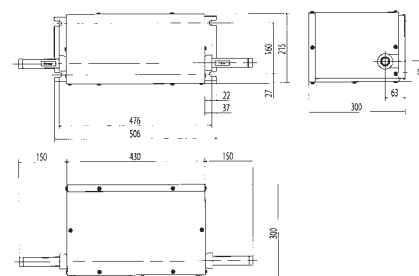


Dimensions

All measurements in mm.



Service valve kit



Mark	Item	
A	Service valve connection of the attached connecting pipe (gas side)	ø19.05 (3/4") (Flare)
B	Service valve connection (liquid side)	ø12.7 (1/2) (Flare)
C	Pipe/cable draw-out hole	4places
D	Drain discharge hole	ø20 × 4places
E	Anchor bolt hole	M10 × 4places
F1	Cable draw-out hole	ø30
F2	Cable draw-out hole	ø45
F3	Cable draw-out hole	ø22
F4	Cable draw-out hole	ø34
G	Connecting position of the local pipe. (gas side)	ø25.4 (1") (Brazing)

Notes:

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



Mitsubishi Heavy Industries **KXZ** /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

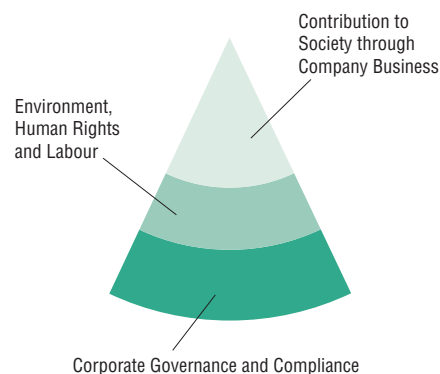
In Japan there are many enterprises with their own "creeds" which simply represent their management concept.

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.

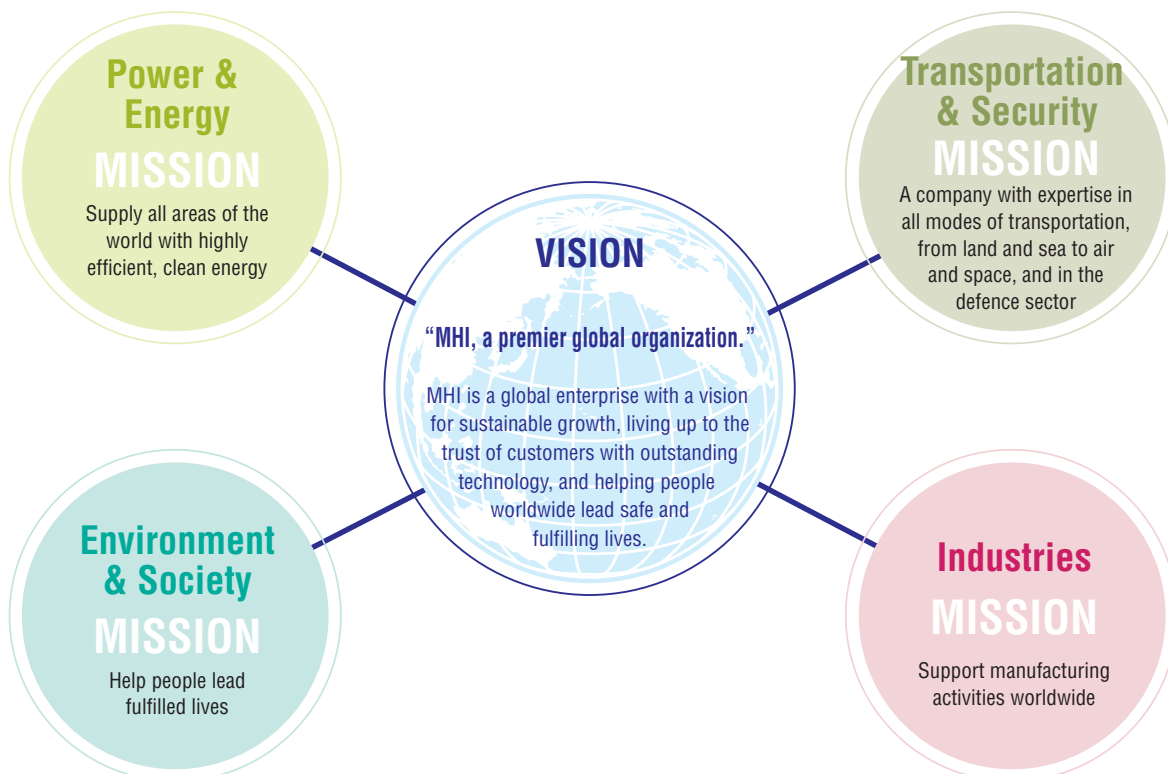
The reason for instituting the present creed is so that all of us can call to mind our one hundred years of tradition, and strive for further development in the future.

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

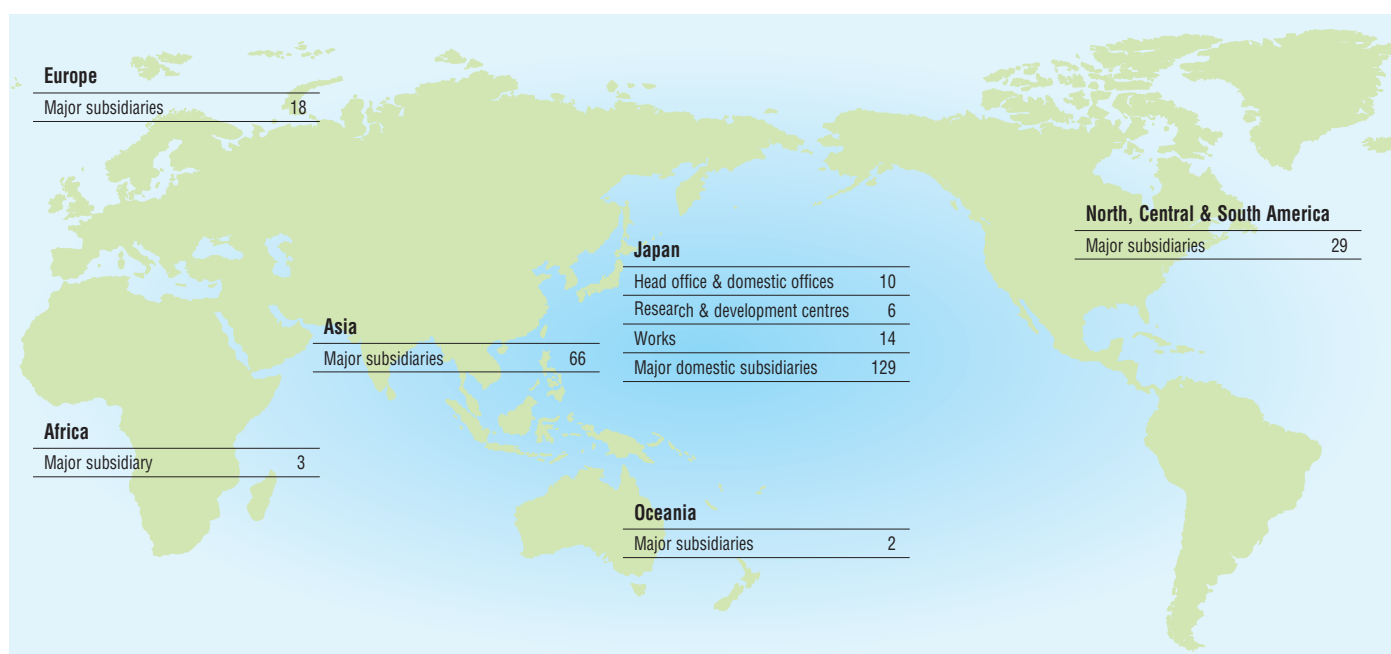
In order to make the sustainable development of society possible, a basic policy on environmental matters has been established.

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 company's 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 company's 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 company's 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 May, 2013



On the land and sea, in the sky and even in space, MHI's 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 MHI's 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
- Helicopters
- Aircraft
- Railway Maintenance Equipment
- LNG Carrier
- Container Ships



TRANSPORTATION

LOCAL DEVELOPMENT

ENVIRONMENT

RESOURCE/ENERGY



- 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



- 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



- Cable Layer
- Printing Machinery



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



INDUSTRIAL

LEISURE/LIFESTYLE

INFORMATION SYSTEM

DEVELOPMENT

DEFENCE



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

Before starting use

Heating performance

The heating performance values (kW) described in catalog are the values obtained by operating at an outdoor temperature of 7°C and indoor temperature of 20°C as set forth in the ISO Standards. As the heating performance decreases as the outdoor temperature drops, if the outdoor temperature is too low and the heating performance is insufficient, use other heating appliances as well.

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.

Use in snowy areas

Take the following measures when installing the outdoor unit in snowy areas.

•Snow prevention

Install a snow-prevention hood so that the snow does not obstruct the air intake port or enter and freeze in the outdoor unit.

•Snow piling

In areas with heavy snow fall, the piled snow could block the air intake port. In this case, a frame that is 50cm or higher than the estimated snow fall must be installed underneath the outdoor unit.

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.

Servicing the air-conditioner

After the air-conditioner is used for several seasons, dirt will build up in the air-conditioner causing the performance to drop. In addition to regular servicing, we recommend the maintenance contract (charged for) by a specialist.

⚠ 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.
Air-Conditioning & Refrigeration Systems
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<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



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