



# ecolution

High Performance Air Conditioning



***HyperMulti***  
***KX***

VRF inverter multi-system  
air-conditioning products



**MITSUBISHI**  
**HEAVY INDUSTRIES, LTD.**

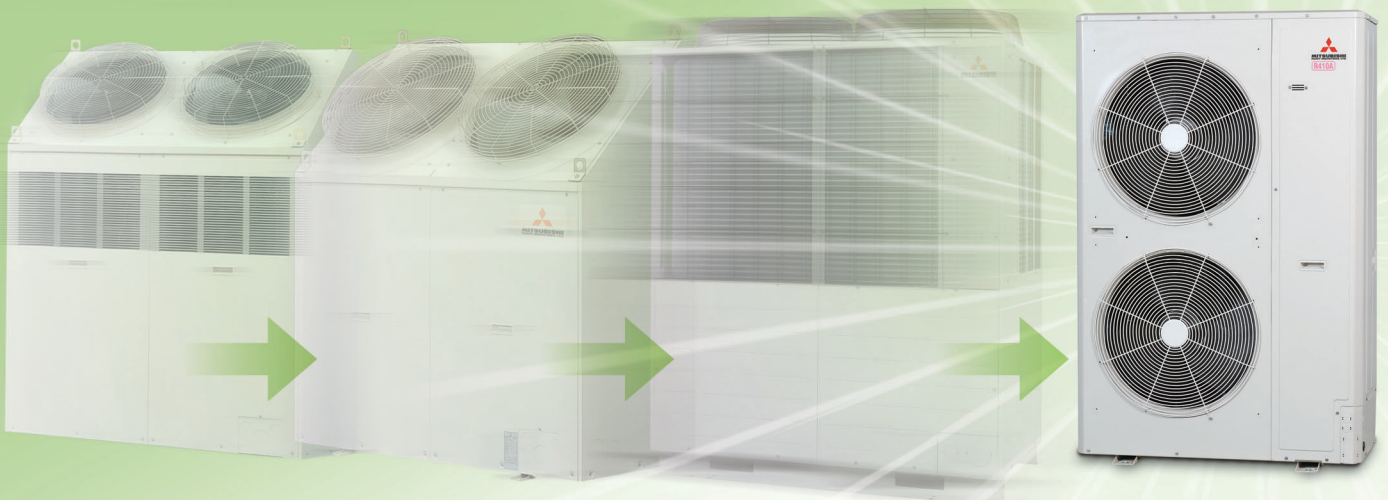
60Hz

09KX02E-A-0



# ecolution

**History of Technologies**  
more efficient , more sophisticated



**KX2**

**KX4**

**KX6**  
**(8~12HP)**

# New Line Up



**MicroKX**



**KX6**

## Contents

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# Product Line Up

## <Outdoor units>

from 11.2kW up to 136.0kW(24models)

1 Outdoor unit type												
Capacity	4HP	5HP	6HP	8HP	10HP	12HP	14HP	16HP	18HP	20HP	22HP	24HP
Model Index	11.2	14.0	15.5	22.4	28.0	33.5	40.0	45.0	50.4	56.0	61.5	68.0

2 Outdoor units type												
Capacity	26HP	28HP	30HP	32HP	34HP	36HP	38HP	40HP	42HP	44HP	46HP	48HP
Model Index	73.5	80.0	85.0	90.0	96.0	101.0	106.5	113.0	118.0	123.5	130.0	136.0



### MicrōKX

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

1-phase  
 3-phase



### MicrōKX

8HP	10HP	12HP
FDC224KXE6G	FDC280KXE6G	FDC335KXE6G



### KX6

12HP	14HP	16HP	18HP
FDC335KXE6-K	FDC400KXE6	FDC450KXE6	FDC504KXE6
20HP	20HP	22HP	24HP
FDC560KXE6	FDC560KXE6-K	FDC615KXE6	FDC680KXE6



### KX6

26HP	28HP	30HP	32HP	34HP	36HP
FDC735KXE6	FDC800KXE6	FDC850KXE6	FDC900KXE6	FDC960KXE6	FDC1010KXE6
12+14	14+14	14+16	16+16	16+18	18+18
FDC335KXE6-K FDC400KXE6	FDC400KXE6 FDC400KXE6	FDC400KXE6 FDC450KXE6	FDC450KXE6 FDC450KXE6	FDC450KXE6 FDC504KXE6	FDC504KXE6 FDC504KXE6
38HP	40HP	42HP	44HP	46HP	48HP
FDC1065KXE6	FDC1130KXE6	FDC1180KXE6	FDC1235KXE6	FDC1300KXE6	FDC1360KXE6
18+20	20+20	20+22	22+22	22+24	24+24
FDC504KXE6 FDC560KXE6	FDC560KXE6 FDC560KXE6	FDC560KXE6-K FDC615KXE6	FDC615KXE6 FDC615KXE6	FDC615KXE6 FDC680KXE6	FDC680KXE6 FDC680KXE6

1.FDC335KXE6G(12HP), FDC560KXE6-K, FDC615KXE6(22HP) & FDC680KXE6(24HP)are applied 3D compressor.  
 2.FDC335KXE6-K & FDC560KXE6-K are only used for combining with other models.

## <Indoor units>

### Wide variety of 12 types 57 models

A range of 12 types of exposed or concealed indoor units, in wide capacities, 57 indoor models. The best selection of indoor units for many kinds of rooms and preference can be available from our full lineup.



#### Indoor units lineup 12 types 57 models

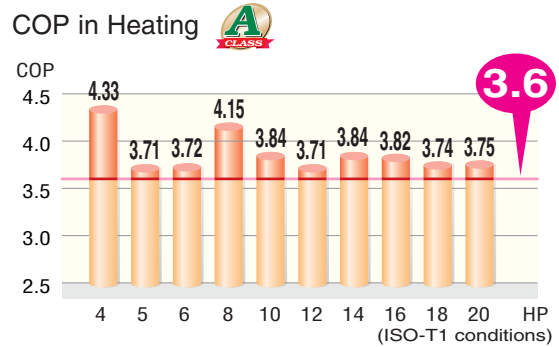
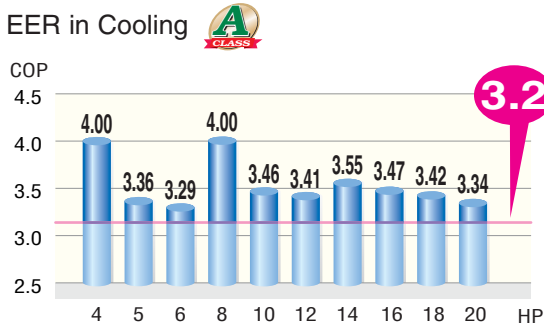
Type			Capacity	0.8HP	1HP	1.25HP	1.6HP	2HP	2.5HP	3.2HP	4HP	5HP	6HP	8HP	10HP
			Model Index	22	28	36	45	56	71	90	112	140	160	224	280
Ceiling Cassette	4way	FDT			●	●	●	●	●	●	●	●	●		
	4way Compact (600 x 600)	FDTC		●	●	●	●	●							
	2way	FDTW			●		●	●							
	1way Compact	FDTQ		●	●	●									
	1way	FDTS					●		●						
Duct Connected	High Static Pressure	FDU												●	●
	Low/Middle Static Pressure	FDUM		●	●	●	●	●	●	●	●	●			
	Compact & Flexible	FDUH		●	●	●									
Wall Mounted	FDK		●	●	●	●	●	●							
Ceiling Suspended	FDE				●	●	●	●		●	●				
OA Processing unit	FDU-F									●		●		●	●
Type			Air flow M <sup>3</sup> /h	250	350	500	800	1000							
Fresh Air Ventilation and Heat Exchange unit	SAF			●	●	●	●	●							



# 1. High Efficiency

## The industry's highest COP levels

We have cleared the class A standard, the highest energy saving level, with our high COP (Coefficient Of Performance).



\* COP = Capacity[kW] / Power Consumption[kW]

\* COP across the KX6 range ensures reduced running costs and reduced environmental impact.

# 2. Compact Design

## 4~6HP

**Volume**  
35% reduced

**Weight**  
34% reduced

**1FAN**

Model	Dimensions (mm)	Weight (kg)	Volume (m³)
Previous Model	H1300 x W970 x D370	125kg	0.47m³
New Model	H845 x W970 x D370	82kg	0.30m³

- Transportation Becomes much easier
- Easier to hide behind the fence (Harmonic Appearance)

## 8~12HP

**Volume**  
47% reduced

**Weight**  
12% reduced

**2FAN**

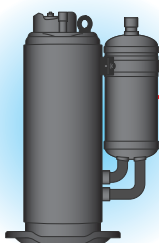
Model	Dimensions (mm)	Weight (kg)	Volume (m³)
Previous Model	H1690 x W1350 x D720	245kg	0.97m³
New Model	H1675 x W1080 x D480	215kg	0.52m³ (FDC224KXE6G)

- Transportation Becomes much easier

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

**4~6HP**

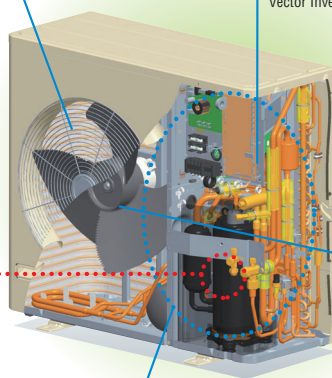
**New Twin Rotary Compressor**



**Compact High Efficient Heat Exchanger**

**New Inverter Control**

Vector Inverter Control system



**DC Fan Motor**

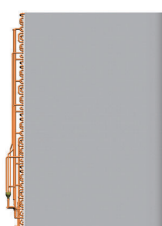
Compact & High efficiency

**Optimum New Refrigerant System Control**

## Compact high efficiency Heat Exchanger

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

Heat Exchanger

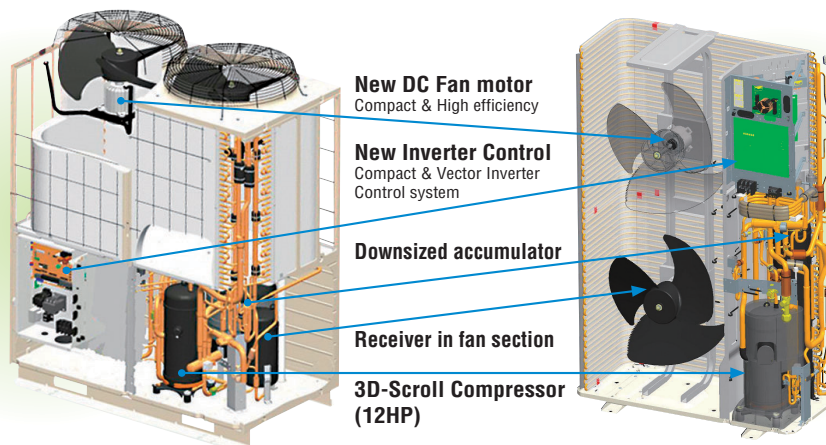


KX4



KX6

**8~12HP**



**New DC Fan motor**

Compact & High efficiency

**New Inverter Control**

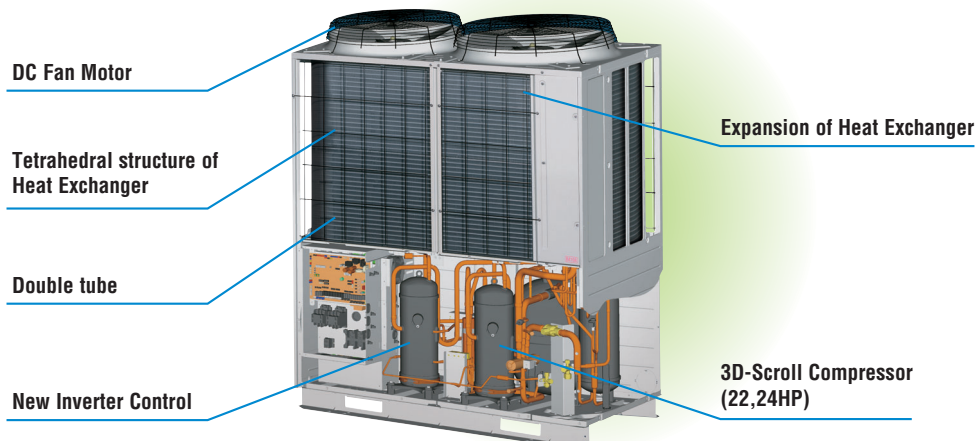
Compact & Vector Inverter Control system

**Downsized accumulator**

**Receiver in fan section**

**3D-Scroll Compressor (12HP)**

**14~48HP**



**DC Fan Motor**

**Tetrahedral structure of Heat Exchanger**

**Double tube**

**New Inverter Control**

**Expansion of Heat Exchanger**

**3D-Scroll Compressor (22,24HP)**

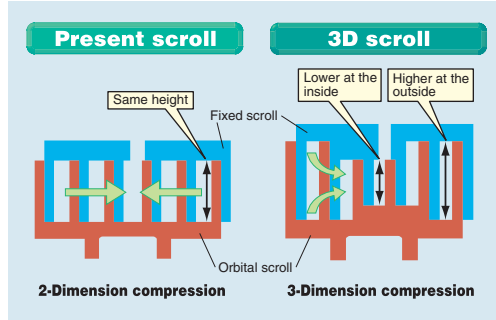


### 3D Scroll Compressor

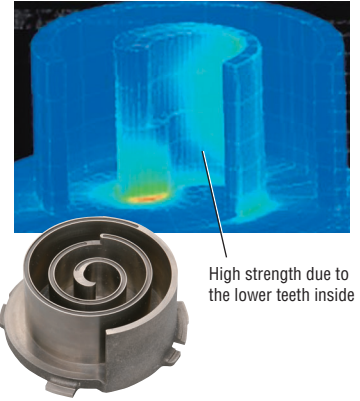
Unit start up speed in heating mode drastically improved for lower outdoor temperature operation.



Downsizing  
High Efficiency High Endurance



**3D scroll compressor has the different height scroll at the outside and the inside.**  
A high compression ratio is improved by compressing the refrigerant both radially and axially.  
3-Dimension Compression has been realized with a much higher efficiency even if compression ratio is high.



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

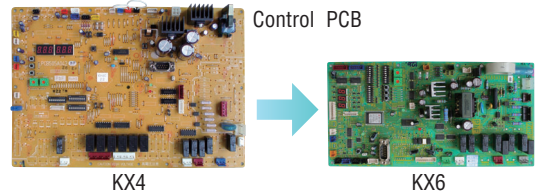
### New Inverter Control (Vector control)

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

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

### Compact Integrated PCB

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



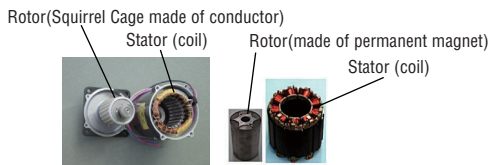
### Optimum Refrigerant System Control

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

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

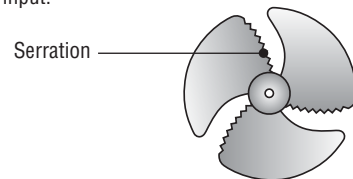
### DC Fan Motor

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



### Long-chorded 3 propeller fan with serration

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



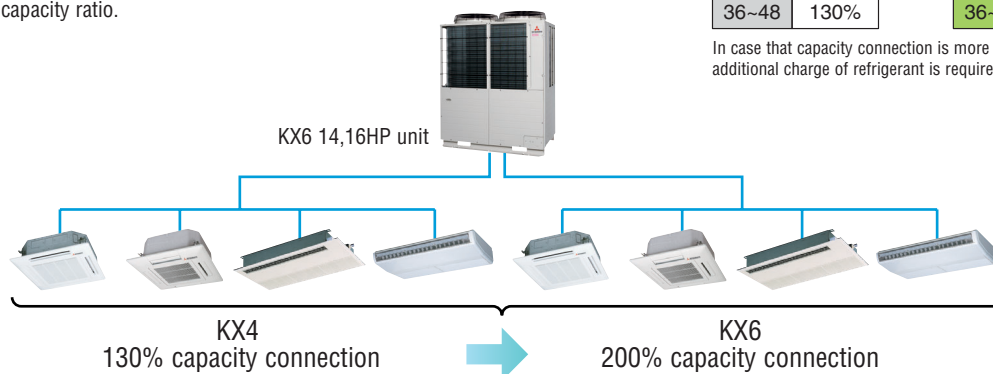


### 3. Design Flexibility

#### Increased indoor unit connection capacity

KX6 series(4~34HP) can connect indoor unit capacity up to 150~200% from 130% of previous models.

If the connection capacity of indoor units is more than 100%, capacity of each indoor unit may be affected by connection capacity ratio.



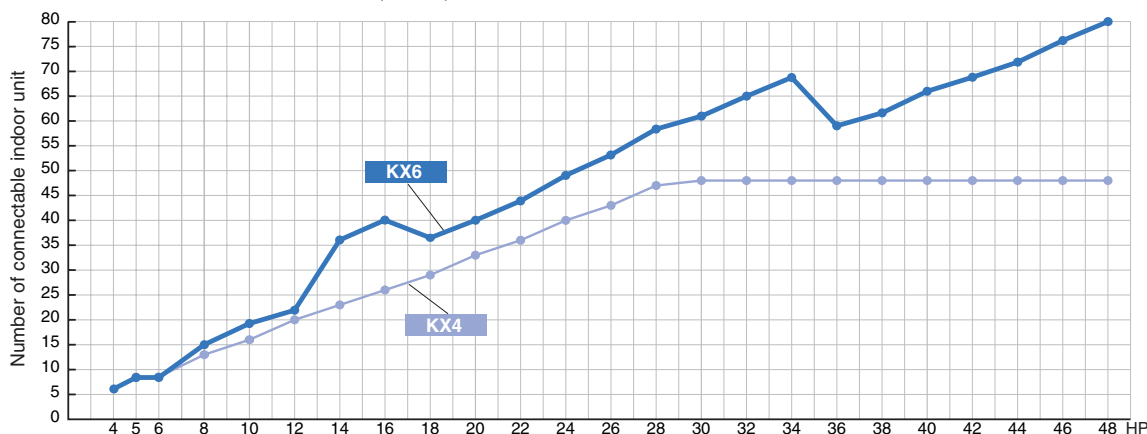
#### Capacity connection

HP	KX4	HP	KX6
4~12	130%	4~12	150%
14,16	130%	14,16	200%
18~34	130%	18~34	160%
36~48	130%	36~48	130%

In case that capacity connection is more than 130%, additional charge of refrigerant is required on site.

#### More connectable indoor units

KX6 enable more connectable indoor units (per kW), compared with former model KX4.



#### Control Systems

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

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

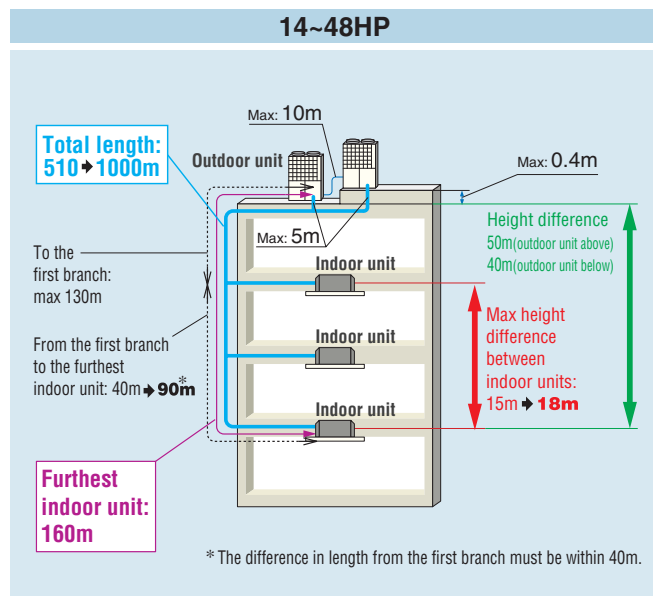
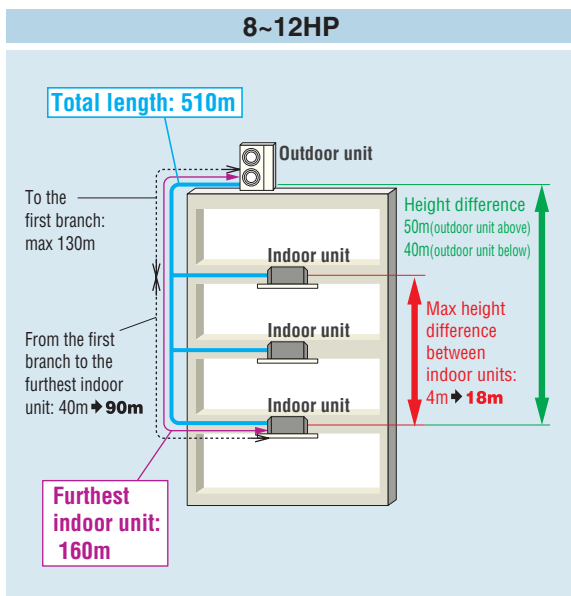
Classification	Type	Model	Connectable Indoor units (Maximum)	Electric power calculation	
Individual controller	Wired	RC-E3	1	—	
	Wireless	RCN-T-36W-E etc.	1	—	
Center Console	Push buttons	SC-SL1N-E	16	—	
		SC-SL2N-E	64	—	
	Touch screen	SC-SL3N-AE	128	—	
		SC-SL3N-BE	128	●	
	PC windows interface units	SC-WGWN-A	128(64x2)	—	
		SC-WGWN-B	128(64x2)	●	
	BMS interface units	BACnet	SC-BGWN-A	128(64x2)	—
			SC-BGWN-B	128(64x2)	●
Lonworks		SC-LGWN-A	96(48x2)	—	



## Long Pipe Length

Piping length has extended max height difference between indoor units from 4m to 18m and enables us to put indoor unit on extra three floors.

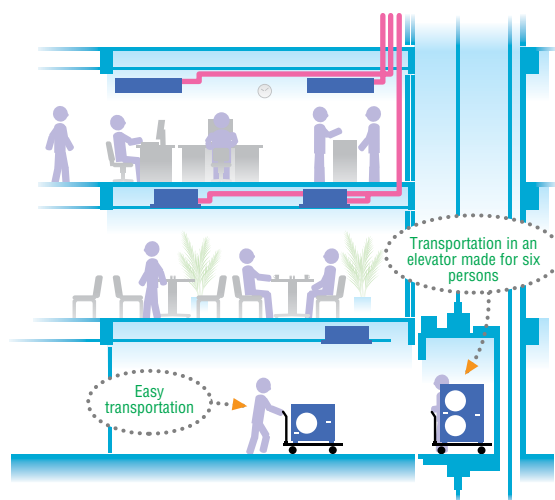
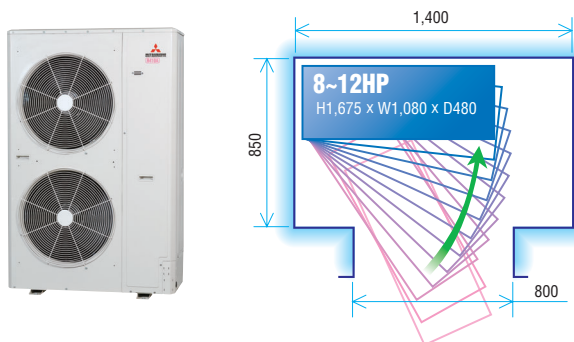
As a result of the adoption of thinner refrigerant piping and refrigerant volume reductions, the industry's longest 160 m actual piping length or 1000m total piping length is realized.



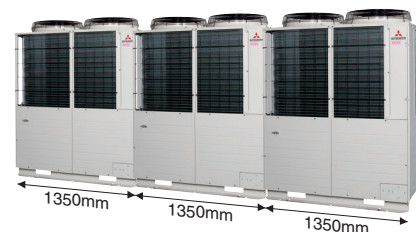
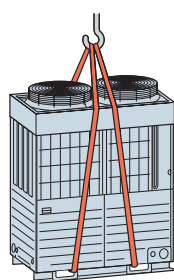
- (1) Divide up the refrigerant system into independent refrigeration circuit systems in case required additional refrigerant on site is 50kg or more for 14~24HP and 100kg or more for 26~48HP.
- (2) In case indoor unit connection capacity is 130% or more or total piping length is 510m or more, additional charge of refrigerant and oil on site is required. Refer to our Installation Manual for details.

## 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.

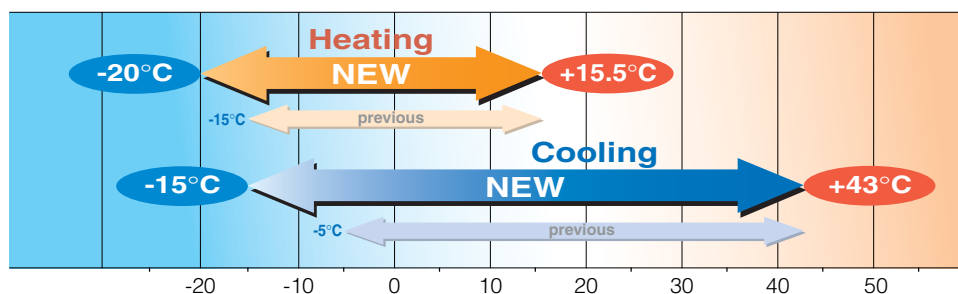


KX6(14~48HP) is portable and the uniform reduced footprint allows neat, continuous installation.



## Range of Operation

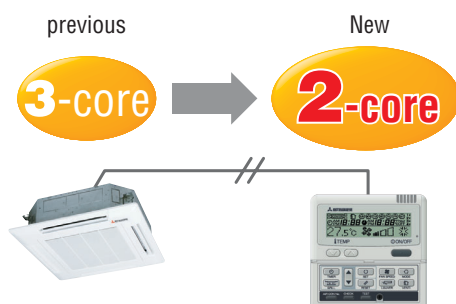
KX6 series permits a system design considering a heating range operation under a low temperature condition up to  $-20^{\circ}\text{C}$  from  $-15^{\circ}\text{C}$  of previous model and a cooling range operation under  $-15^{\circ}\text{C}$  from  $-5^{\circ}\text{C}$  of that.



\* For the capacities under low temperature conditions, refer to technical manual.

## New remote control for all indoor units

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



## Max length of electrical wiring

The wiring must be a 2-core shielded cable size  $0.75\text{mm}^2$  to  $1.25\text{mm}^2$ .

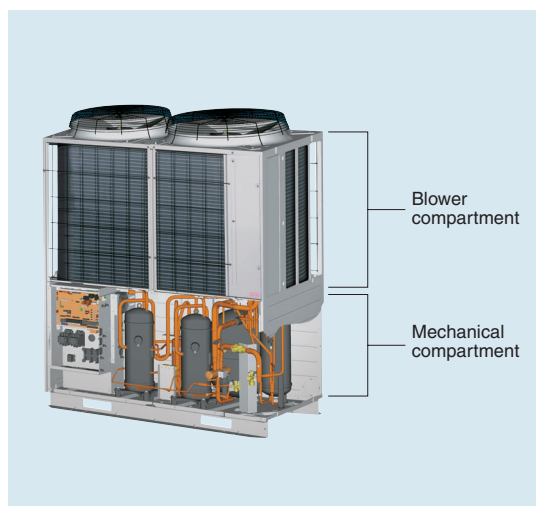
The max length of 2-core can be 1500m from 1000m of previous models.



## 4. Serviceability

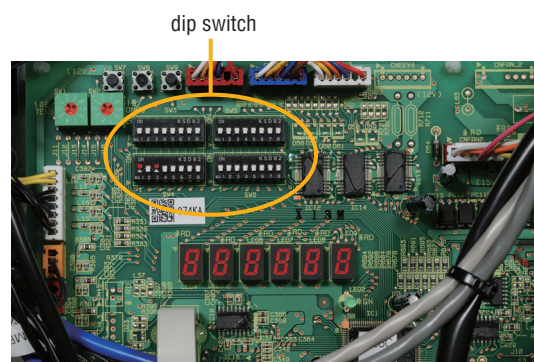
### Easy Service

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



### Check Operation (8~48HP)

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  $0\sim 43^{\circ}\text{C}$  outdoor temperature and  $10\sim 32^{\circ}\text{C}$  indoor temperature by use of outdoor unit dip switch. The check should be done in one refrigerant system. It takes 15~30 minutes and avoids frequent failure by preventing careless mistakes during installation.

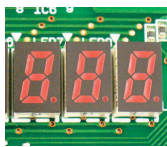




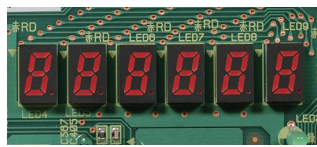
### Monitoring Function

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

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

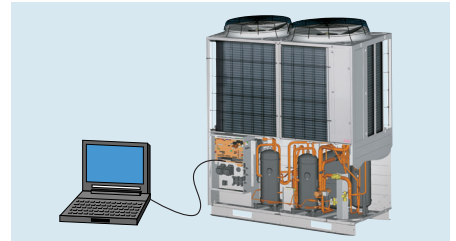


4~6HP



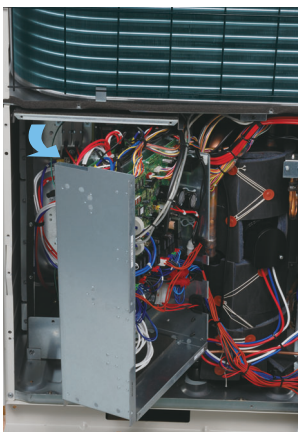
8~48HP

Equipped with RS232C for connection directly to your PC monitoring and service tasks made simple with our service software ("Mente PC").  
**all KX6 series**



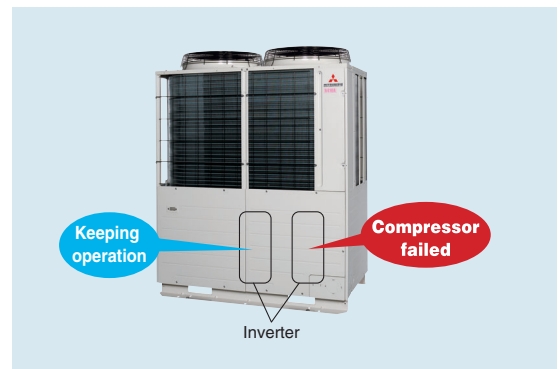
### 3 Layer Construction (14~48HP)

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



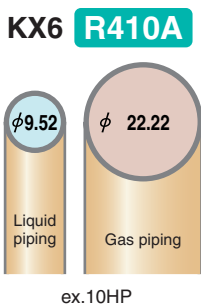
### Back-up Operation

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



### Reduced Refrigerant Volume

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



#### Outdoor unit

HP	KX6			
	Liquid piping	Gas piping		
4	$\phi 9.52$	$\phi 15.88$		
5		$\phi 19.05$		
6			$\phi 22.22$	
8				$\phi 25.4[\phi 28.58]$
10				
12	$\phi 31.8[\phi 34.92]$			
14		$\phi 38.1[\phi 34.92]$		
16			$\phi 44.5$	
18				$\phi 50.8$
20				
22	$\phi 63.5$			
24		$\phi 70.0$		
26			$\phi 76.5$	
28				$\phi 83.0$
30				
32	$\phi 96.0$			
34		$\phi 102.5$		
36			$\phi 109.0$	
38				$\phi 115.5$
40				
42	$\phi 128.5$			
44		$\phi 135.0$		
46			$\phi 141.5$	
48				$\phi 148.0$

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

mm	$\phi 9.52$	$\phi 12.7$	$\phi 15.88$	$\phi 19.05$	$\phi 22.22$	$\phi 25.4$	$\phi 28.58$	$\phi 31.8$	$\phi 34.92$	$\phi 38.1$	$\phi 44.5$	$\phi 50.8$
inch	3/8"	1/2"	5/8"	3/4"	7/8"	1"	1 1/8"	1 1/4"	1 3/8"	1 1/2"	1 3/4"	2"

### Blue Fin

Due to application of blue coated fins (KS101) for the heat exchanger of new outdoor unit, corrosion resistance has been improved compared to current models.



### Refrigerant charge amount check function

- (1) It is supplementary function. Weight of refrigerant charge amount should be measured in any case.
- (2) In case check result is not satisfied, it is necessary to take countermeasure.
- (3) Even in case check result is ok, it might vary with different temperature conditions. So that only one time check can not cover every temperature condition. For the safety sake it is recommended to check refrigerant charge amount continuously every year.
- (4) Refer to operation manual for details.

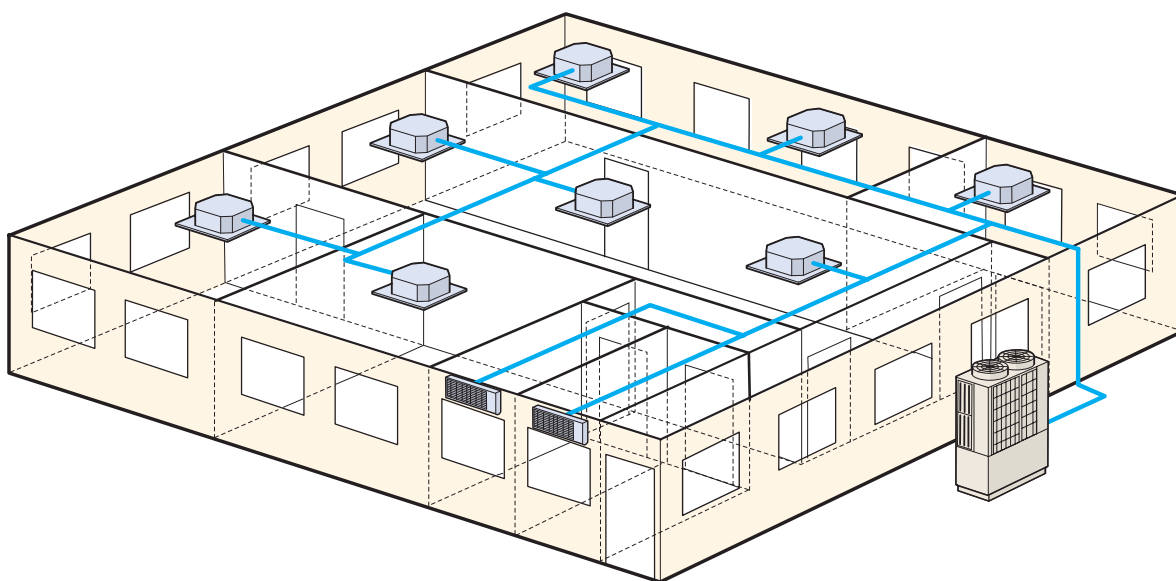
# KX6 heat pump systems

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

These systems provide either a heating or cooling operation to all indoor units and are suitable for a wide range of applications from an individual apartment (with "Micro KX", 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 the largest capacity single outdoor unit in the industry (24hp) with 68.0kW cooling capacity. Outdoor units can also be "twinned" providing up to 48HP/136.0kW on a single system.

The KX6 range has a total piping length of 1000m (14HP+) 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.





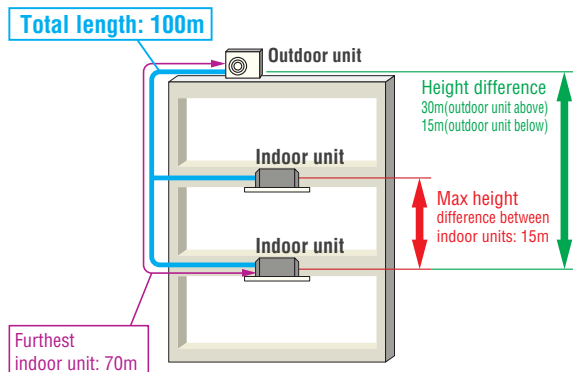
# MicrOKX Outdoor units

## 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)

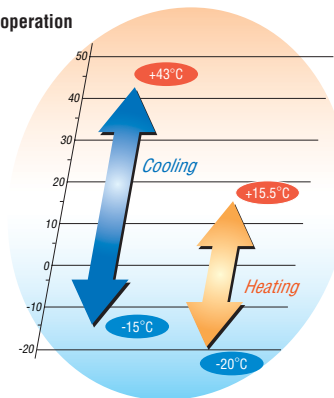


- The KX6 heat pump 2-pipe systems offer high performance VRF for applications that require either cooling only or heating only, ideal for open plan areas.
- Connect up to 8 indoor units/up to 150% capacity.
- High efficiency with COP (in cooling) up to 4.0.
- KX6 employs DC inverter compressors ONLY.
- Industry leading total piping length up to 100m and a maximum pipe run of 70m.



\* The total length of ø9.52mm(3/8") liquid piping must be 50m or less

Range of operation



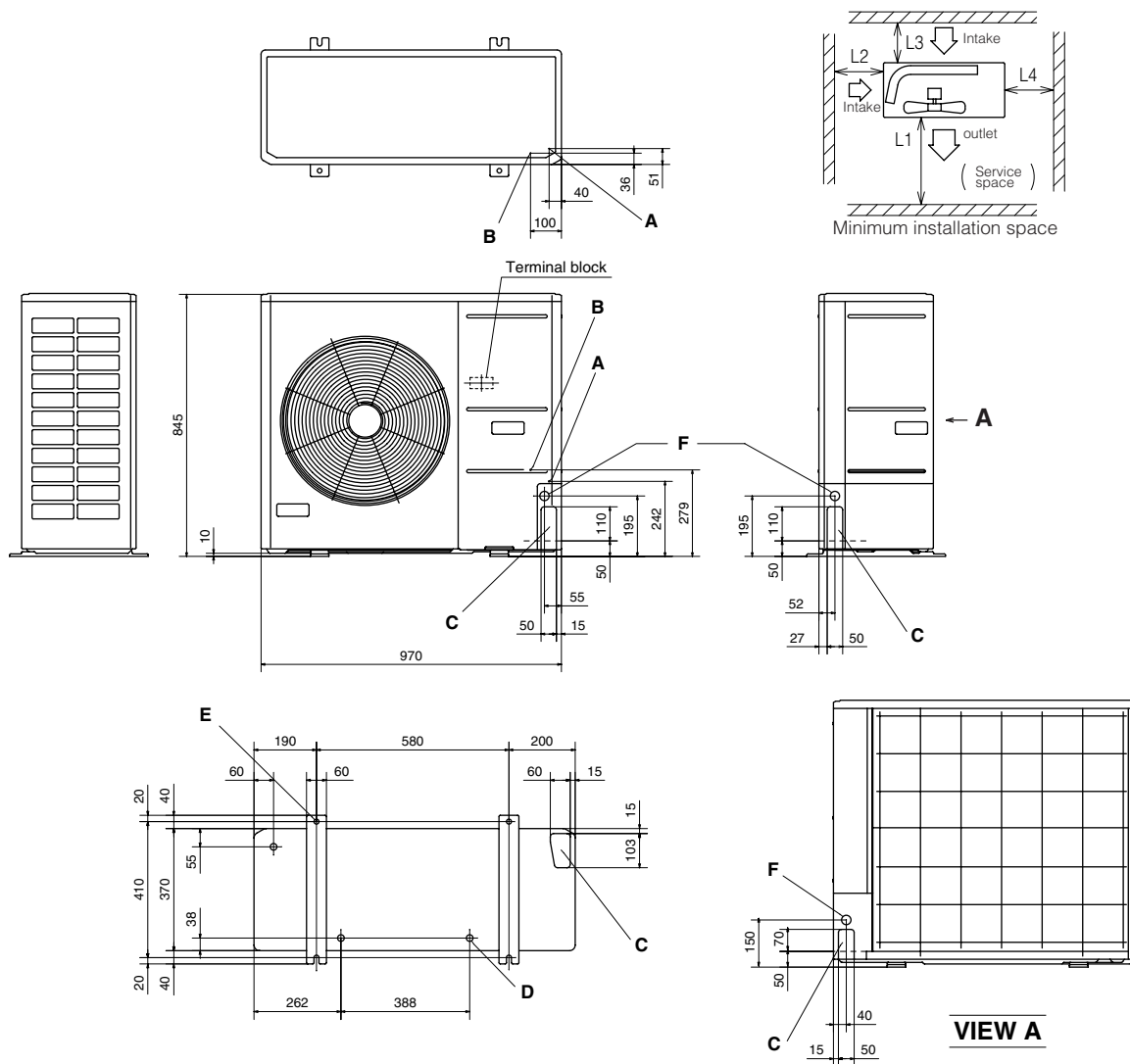
## Specifications

Item	Model	FDC112KXEN6	FDC140KXEN6	FDC155KXEN6	FDC112KXES6	FDC140KXES6	FDC155KXES6	
Nominal horse power		4HP	5HP	6HP	4HP	5HP	6HP	
Power source		1 Phase 220V, 60Hz			3 Phase 380V, 60Hz			
Nominal capacity	Cooling	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	5						
	Power consumption	Cooling	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	13.5	20.6	23.3	4.5	6.9	7.8
Heating		14.1	21.5	21.9	4.7	7.2	7.3	
Exterior dimensions	HxWxD	mm 845x970x370						
Net weight		kg 82						
Refrigerant charge	R410A	kg 5.0						
Sound pressure level	Cooling/Heating	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	mm(in) 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.

# Dimensions

All measurements in mm.



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

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

1m overhead clearance required

## 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.



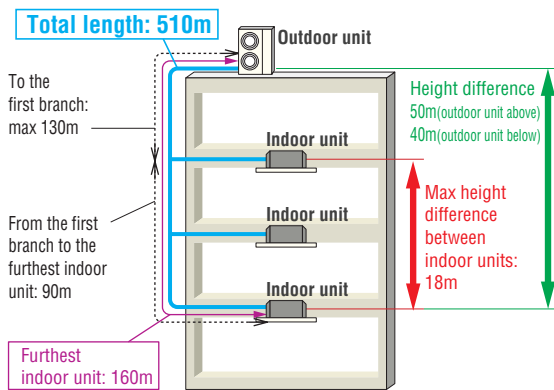
# MicroKX Outdoor units

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

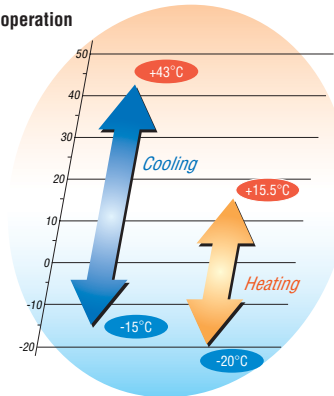
Model No.	Nominal Cooling Capacity
FDC224KXE6G	22.4kW
FDC280KXE6G	28.0kW
FDC335KXE6G	33.5kW



- The KX6 heat pump 2-pipe systems offer high performance VRF for applications that require either cooling only or heating only, ideal for open plan areas.
- Connect up to 22 indoor units/up to 150% capacity.
- High efficiency with COP (in cooling) up to 4.0.
- KX6 employs DC inverter compressors ONLY.
- Industry leading total piping length up to 510m and a maximum pipe run of 160m.



Range of operation



## Specifications

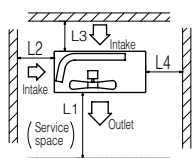
Item	Model	FDC224KXE6G	FDC280KXE6G	FDC335KXE6G	
Nominal horse power		8HP	10HP	12HP	
Power source		3 Phase 380V, 60Hz			
Nominal capacity	Cooling	22.4	28.0	33.5	
	Heating	25.0	31.5	37.5	
Electrical characteristics	Starting current	5			
	Power consumption	Cooling	5.60	8.09	9.82
		Heating	6.03	8.21	10.12
	Running current	Cooling	9.25	13.22	15.87
Heating		9.85	13.41	16.36	
Exterior dimensions	HxWxD	mm 1675x1080x480			
Net weight		215		218	
Refrigerant charge	R410A	11.5			
Sound pressure level	Cooling/Heating	dB(A) 58/58		61/61	
Refrigerant piping size	Liquid line	mm(in) $\varnothing$ 9.52(3/8")			
	Gas line	$\varnothing$ 19.05(3/4")	$\varnothing$ 22.22(7/8")	$\varnothing$ 25.4(1") [ $\varnothing$ 28.58(1 1/8")]	
Capacity connection	%	50~150			
Number of connectable indoor units		15	19	22	

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.

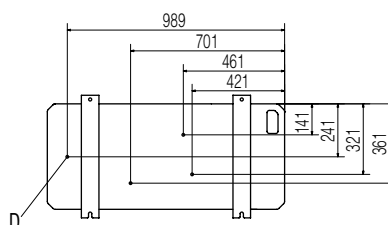
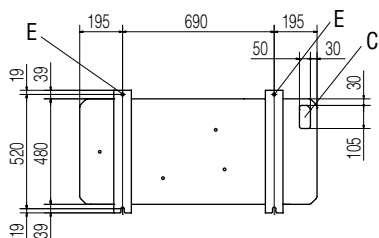
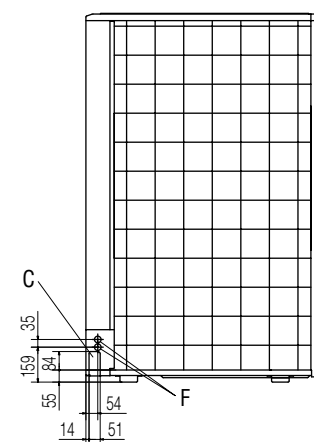
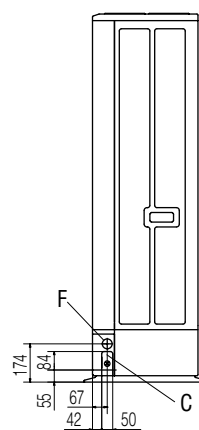
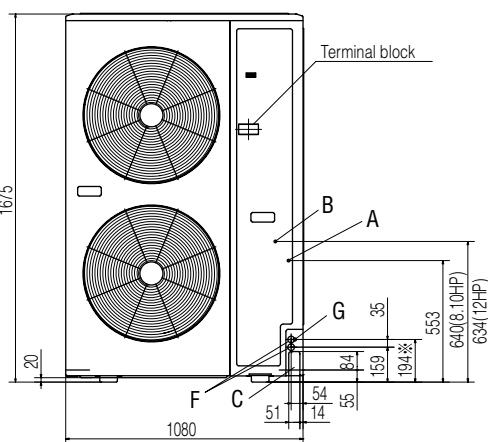
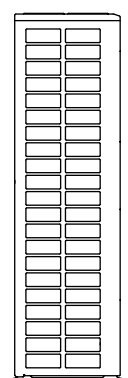
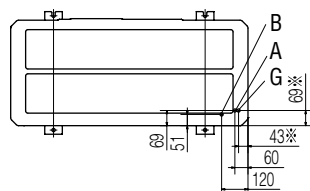


# Dimensions

All measurements in mm.



Minimum installation space



Mark	Item	FDC224KXE6G	FDC280KXE6G	FDC335KXE6G
A	Service valve connection of the attached connecting pipe (gas side)	ø19.05 (3/4") (Flare)	ø19.05 (3/4") (Flare)	ø19.05 (3/4") (Flare)
B	Service valve connection (liquid side)	ø9.52 (3/8") (Flare)	ø9.52 (3/8") (Flare)	ø12.7 (1/2") (Flare)
C	Pipe/cable draw-out hole	4places	4places	4places
D	Drain discharge hole	ø20 × 4places	ø20 × 4places	ø20 × 4places
E	Anchor bolt hole	M10 × 4places	M10 × 4places	M10 × 4places
F	Cable draw-out hole	ø30 × 2places (front) ø45 (side) ø30 × 2places (back)	ø30 × 2places (front) ø45 (side) ø30 × 2places (back)	ø30 × 2places (front) ø45 (side) ø30 × 2places (back)
G	Connecting position of the local pipe. (gas side)	ø19.05 (3/4")(Brazing)	ø22.22 (7/8")(Brazing)	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)

	I	II	III
L1	Open	Open	1500
L2	300	5	Open
L3	300	300	300
L4	5	5	5



# KX6 Outdoor units

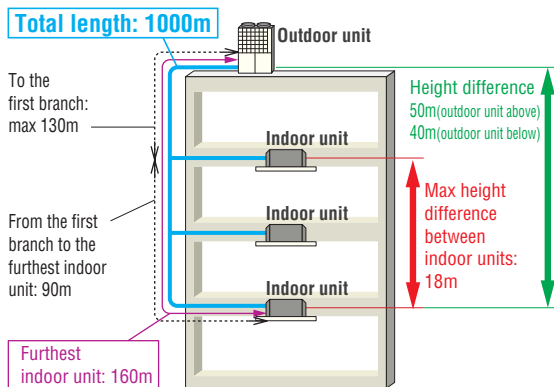
## Heat pump systems 14, 16hp (40.0kW~45.0kW)

Model No.	Nominal Cooling Capacity
FDC400KXE6	40.0kW
FDC450KXE6	45.0kW

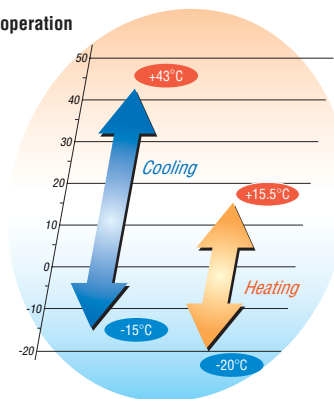


Uniform footprint of models (14,16hp) allows continuous side-by-side installation

- The KX6 heat pump 2-pipe systems offer high performance VRF for applications that require either cooling only or heating only, ideal for open plan areas.
- Connect up to 40 indoor units/up to 200% capacity.
- High efficiency with COP (in cooling) up to 3.6.
- KX6 employs DC inverter compressors ONLY.
- Industry leading total piping length up to 1000m and a maximum pipe run of 160m.



Range of operation



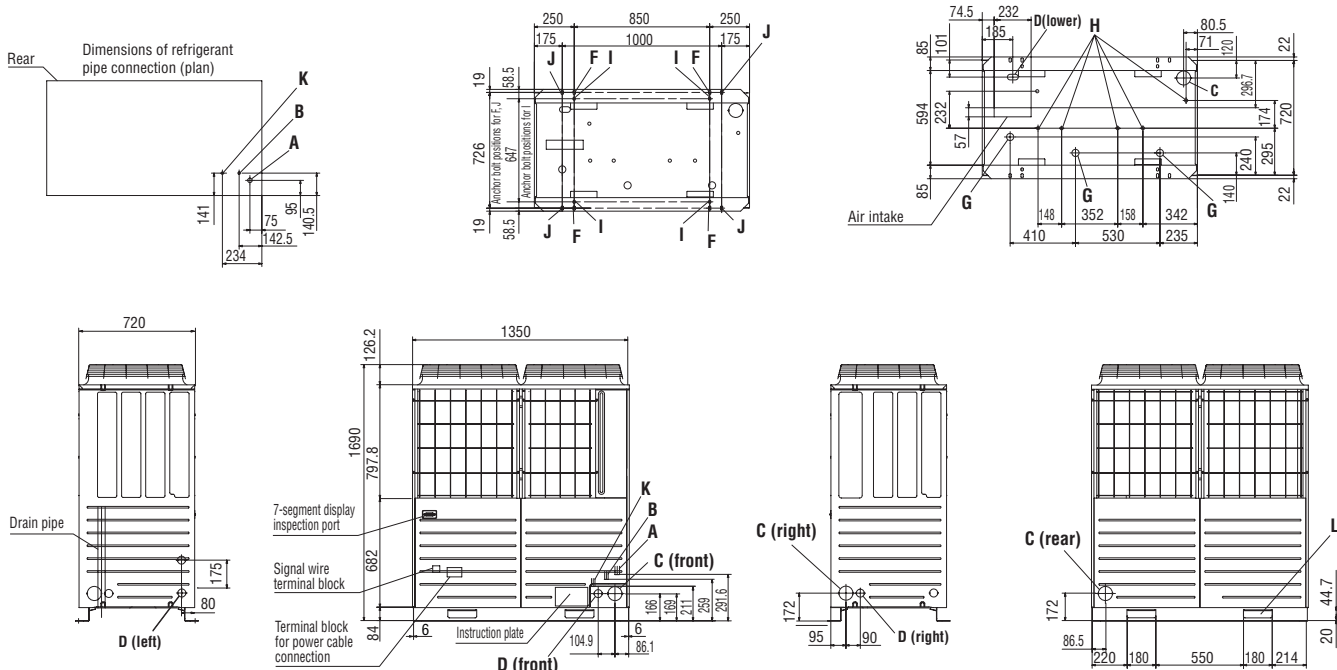
## Specifications

Item		Model	FDC400KXE6	FDC450KXE6
Nominal horse power			14HP	16HP
Power source			3 Phase 380V, 60Hz	
Nominal capacity	Cooling	kW	40.0	45.0
	Heating		45.0	50.0
Electrical characteristics	Starting current		8	
	Power consumption	Cooling	11.27	12.97
		Heating	11.73	13.10
	Running current	Cooling	18.4	21.1
Heating		19.6	21.7	
Exterior dimensions	HxWxD	mm	1690x1350x720	
Net weight		kg	317	
Refrigerant charge	R410A	kg	11.5	
Sound pressure level	Cooling/Heating	dB(A)	59.5/60	62.5/62.5
Refrigerant piping size	Liquid line	mm(in)	ø12.7(1/2")	
	Gas line		ø25.4(1") [ø28.58(1 1/8")]	
Capacity connection		%	50~200	
Number of connectable indoor units			36	40

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

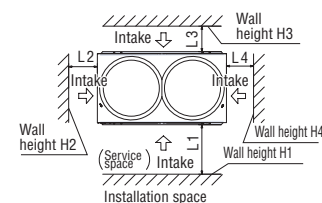
All measurements in mm.



Mark	Item	
A	Service valve connection (gas side)	For refrigerant piping, please refer to the unit specifications.
B	Service valve connection (liquid line)	
C	Refrigerant pipe draw-out port	ø88
D	Power cable draw-in port	ø50
F	Anchor bolt hole	M10 x 4 places
G	Drain hose hole	ø45 x 3 places
H	Drain discharge port	ø20 x 6 places
K*	Oil-equalising pipe joint	ø3/8" flare
L	Sling holes for haulage or hoisting	180 x 44.7

\*14 + 16HP models only

Installation example		
Dimensions	1	2
L <sub>1</sub>	500	Open
L <sub>2</sub>	10	200
L <sub>3</sub>	100	300
L <sub>4</sub>	10	Open
H <sub>1</sub>	1500	-
H <sub>2</sub>	No restrictions	No restrictions
H <sub>3</sub>	1000	No restrictions
H <sub>4</sub>	No restrictions	-

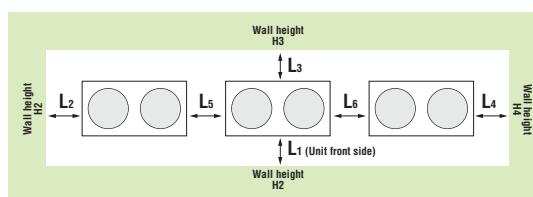


2m overhead clearance required

## 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	A	B
L <sub>1</sub>	500	Open
L <sub>2</sub>	10	200
L <sub>3</sub>	100	300
L <sub>4</sub>	10	Open
L <sub>5</sub>	0	400
L <sub>6</sub>	0	400
H <sub>1</sub>	1500	No restrictions
H <sub>2</sub>	No restrictions	No restrictions
H <sub>3</sub>	1000	No restrictions
H <sub>4</sub>	No restrictions	No restrictions



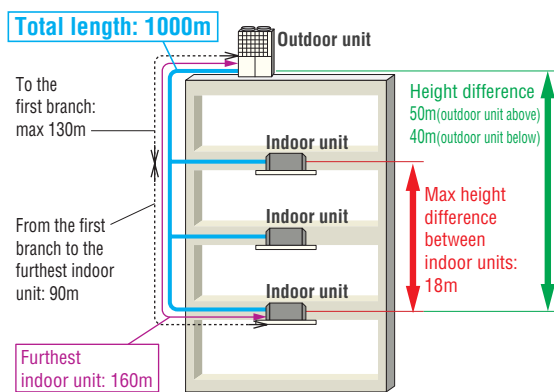
## Heat pump systems 18, 20, 22, 24hp (50.4kW~68.0kW)

Model No.	Nominal Cooling Capacity
FDC504KXE6	50.4kW
FDC560KXE6	56.0kW
FDC615KXE6	61.5kW
FDC680KXE6	68.0kW

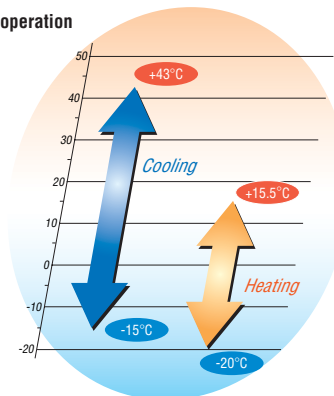
- The KX6 heat pump 2-pipe systems offer high performance VRF for applications that require either cooling only or heating only, ideal for open plan areas.
- Connect up to 49 indoor units/up to 160% capacity.
- High efficiency with COP (in cooling) up to 3.4.
- KX6 employs DC inverter compressors ONLY.
- Industry leading total piping length up to 1000m and a maximum pipe run of 160m.



Uniform footprint of all models (from 8hp~24hp) allows continuous side-by-side installation



Range of operation



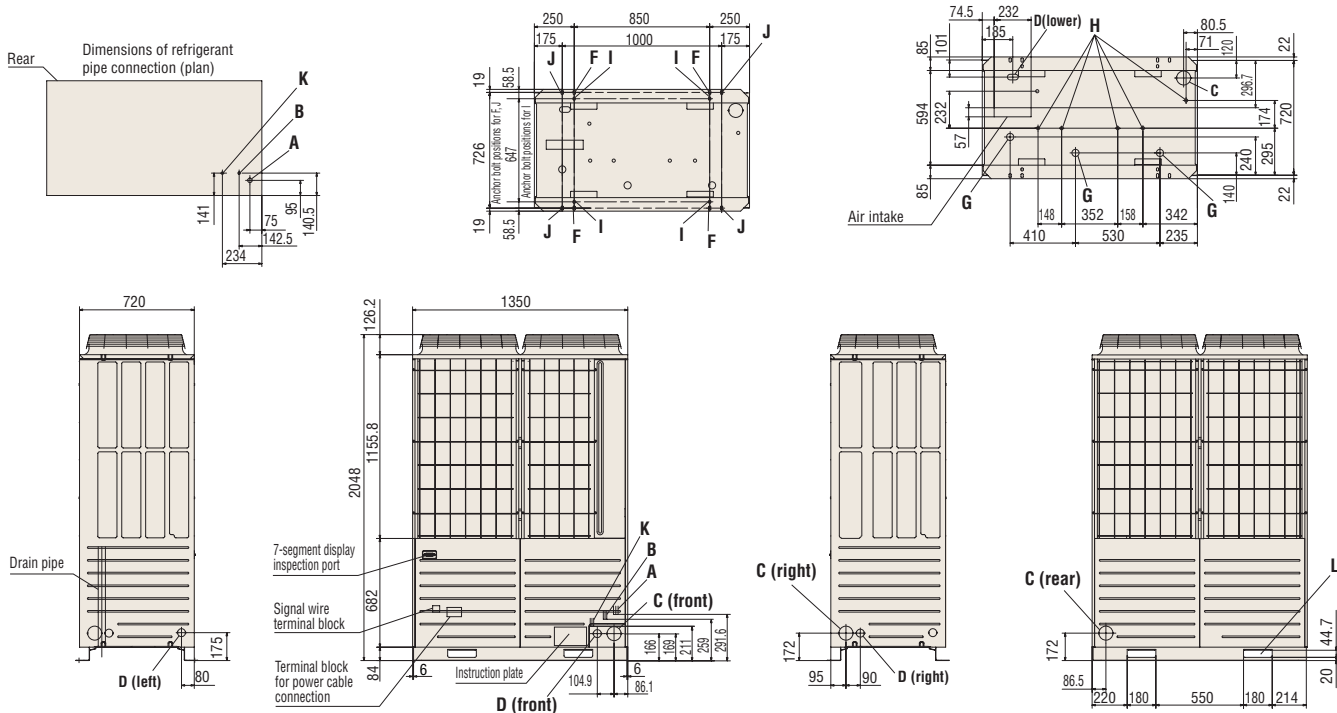
## Specifications

Item	Model	FDC504KXE6	FDC560KXE6	FDC615KXE6	FDC680KXE6	
Nominal horse power		18HP	20HP	22HP	24HP	
Power source		3 Phase 380V, 60Hz				
Nominal capacity	Cooling	50.4	56.0	61.5	68.0	
	Heating	56.5	63.0	69.0	73.0	
Electrical characteristics	Starting current	8				
	Power consumption	Cooling	14.73	16.79	20.37	24.98
		Heating	15.12	16.79	18.48	19.08
	Running current	Cooling	24.1	27.4	33.1	40.3
Heating		25.2	28.0	30.7	31.6	
Exterior dimensions	HxWxD	2048x1350x720				
Net weight	kg	341		355		
Refrigerant charge	R410A	11.5		11.5		
Sound pressure level	Cooling/Heating	61.5/62.0	63.0/63.5	64.5/64.0	65.0/65.0	
Refrigerant piping size	Liquid line	ø12.7(1/2")				
	Gas line	ø28.58(1 1/8")				
Capacity connection	%	50~160		50~160		
Number of connectable indoor units		36	40	44	49	

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.

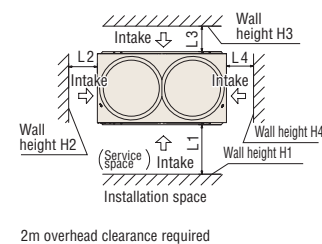
# Dimensions

All measurements in mm.



Mark	Item	
A	Service valve connection (gas side)	For refrigerant piping, please refer to the unit specifications.
B	Service valve connection (liquid line)	
C	Refrigerant pipe draw-out port	ø100
D	Power cable draw-in port	ø50
F	Anchor bolt hole	M10 x 4 places
G	Drain hose hole	ø45.3 x 3 places
H	Drain discharge port	ø20.5 x 3 places
K	Oil-equalising pipe joint	ø9.52 flare
L	Sling holes for haulage or hoisting	180 x 44.7

Installation example		
Dimensions	1	2
L <sub>1</sub>	500	Open
L <sub>2</sub>	10	200
L <sub>3</sub>	100	300
L <sub>4</sub>	10	Open
H <sub>1</sub>	1500	-
H <sub>2</sub>	No restrictions	No restrictions
H <sub>3</sub>	1000	No restrictions
H <sub>4</sub>	No restrictions	-



## 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.



# Heat pump combination systems 26, 28, 30, 32hp (73.5kW~90.0kW)

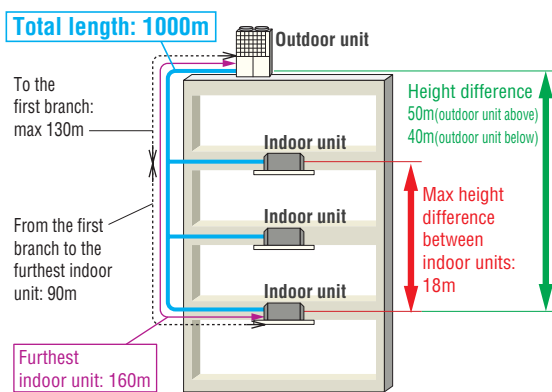


Model No.	Nominal Cooling Capacity
FDC735KXE6 (FDC335-K+FDC400)	73.5kW
FDC800KXE6 (FDC400x2)	80.0kW
FDC850KXE6 (FDC400+FDC450)	85.0kW
FDC900KXE6 (FDC450x2)	90.0kW

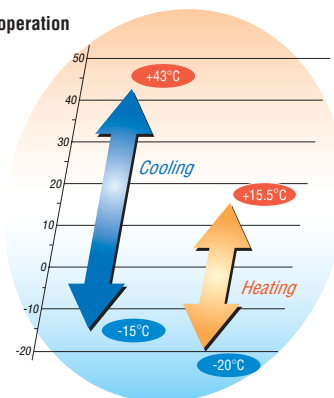
- The KX6 heat pump 2-pipe systems offer high performance VRF for applications that require either cooling only or heating only, ideal for open plan areas.
- Connect up to 65 indoor units/up to 160% capacity.
- High efficiency with COP (in cooling) up to 3.6.
- KX6 employs DC inverter compressors ONLY.
- Industry leading total piping length up to 1000m and a maximum pipe run of 160m.



Uniform footprint of all models (from 8hp~24hp) allows continuous side-by-side installation



Range of operation



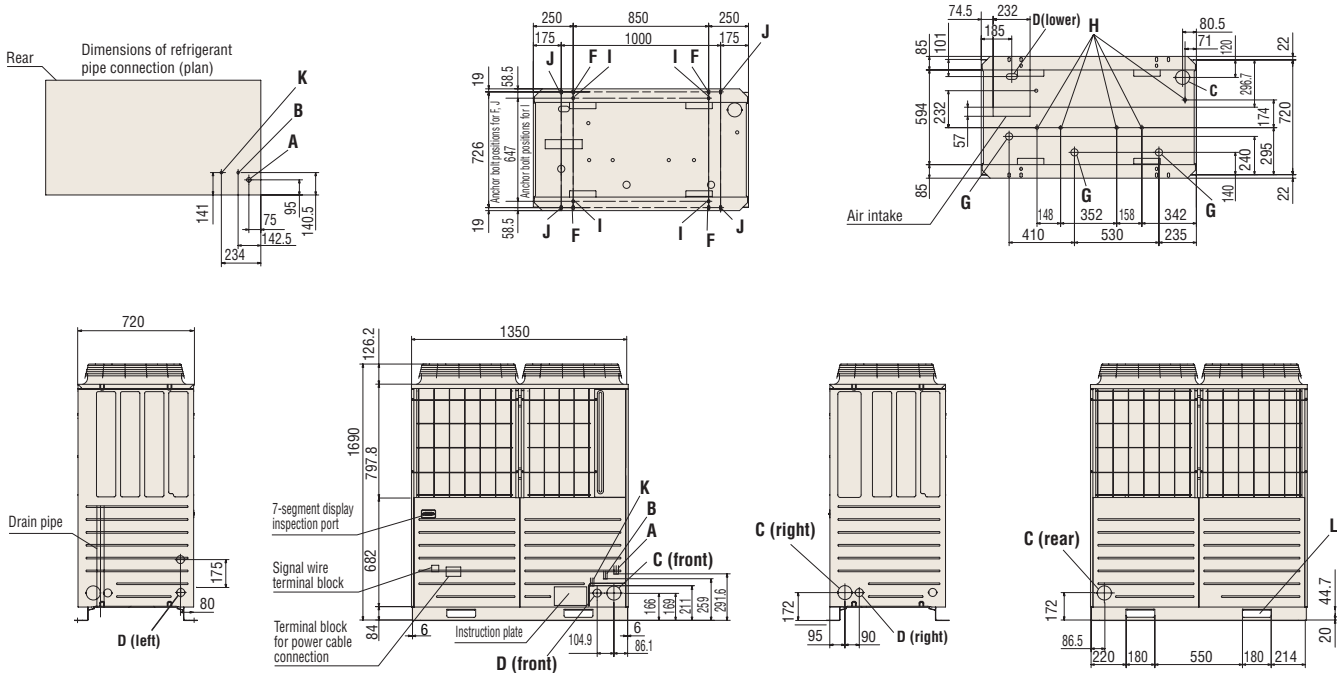
## Specifications

Item	Model	FDC735KXE6	FDC800KXE6	FDC850KXE6	FDC900KXE6	
Combination (FDC)		335KXE6-K	400KXE6	400KXE6	450KXE6	
		400KXE6	400KXE6	450KXE6	450KXE6	
Nominal horse power		26HP	28HP	30HP	32HP	
Power source		3 Phase 380V, 60Hz				
Nominal capacity	Cooling	73.5	80.0	85.0	90.0	
	Heating	82.5	90.0	95.0	100.0	
Electrical characteristics	Starting current	A 16				
	Power consumption	Cooling	20.21	22.54	24.24	25.94
		Heating	20.66	23.46	24.83	26.20
	Running current	Cooling	32.9	36.8	39.5	42.2
Heating		34.4	39.2	41.3	43.4	
Exterior dimensions	HxWxD	mm 1690x2700x720				
Net weight		kg 317x2				
Refrigerant charge	R410A	kg 11.5x2				
Refrigerant piping size	Liquid line	mm(in) ø15.88(5/8")				
	Gas line	mm(in) ø31.8(1 1/4") [ø34.92(1 3/8")]				
Capacity connection	%	50~160				
Number of connectable indoor units		53	58	61	65	

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	Item	
A	Service valve connection (gas side)	For refrigerant piping, please refer to the unit specifications.
B	Service valve connection (liquid line)	
C	Refrigerant pipe draw-out port	ø88
D	Power cable draw-in port	ø50
F	Anchor bolt hole	M10 x 4 places
G	Drain hose hole	ø45 x 3 places
H	Drain discharge port	ø20 x 6 places
K	Oil-equalising pipe joint	ø3/8" flare
L	Sling holes for haulage or hoisting	180 x 44.7

**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.



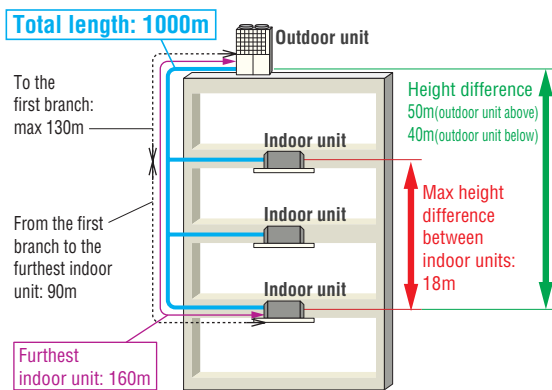
# Heat pump combination systems

## 34, 36, 38, 40, 42, 44, 46, 48hp (96.0kW~136.0kW)

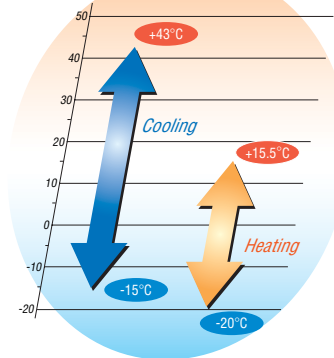
Model No.	Nominal Cooling Capacity
FDC960KXE6 (FDC450+FDC504)	96.0kW
FDC1010KXE6 (FDC504x2)	101.0kW
FDC1065KXE6 (FDC504+FDC560)	106.5kW
FDC1130KXE6 (FDC560x2)	113.0kW
FDC1180KXE6 (FDC560-K+FDC615)	118.0kW
FDC1235KXE6 (FDC615x2)	123.5kW
FDC1300KXE6 (FDC615+FDC680)	130.0kW
FDC1360KXE6 (FDC680x2)	136.0kW



- The KX6 heat pump 2-pipe systems offer high performance VRF for applications that require either cooling only or heating only, ideal for open plan areas.
- Connect up to 80 indoor units/up to 130% (960KXE6:160%) capacity.
- High efficiency with COP (in cooling) up to 3.5.
- KX6 employs DC inverter compressors ONLY.
- Industry leading total piping length up to 1000m and a maximum pipe run of 160m.



Range of operation



## Specifications

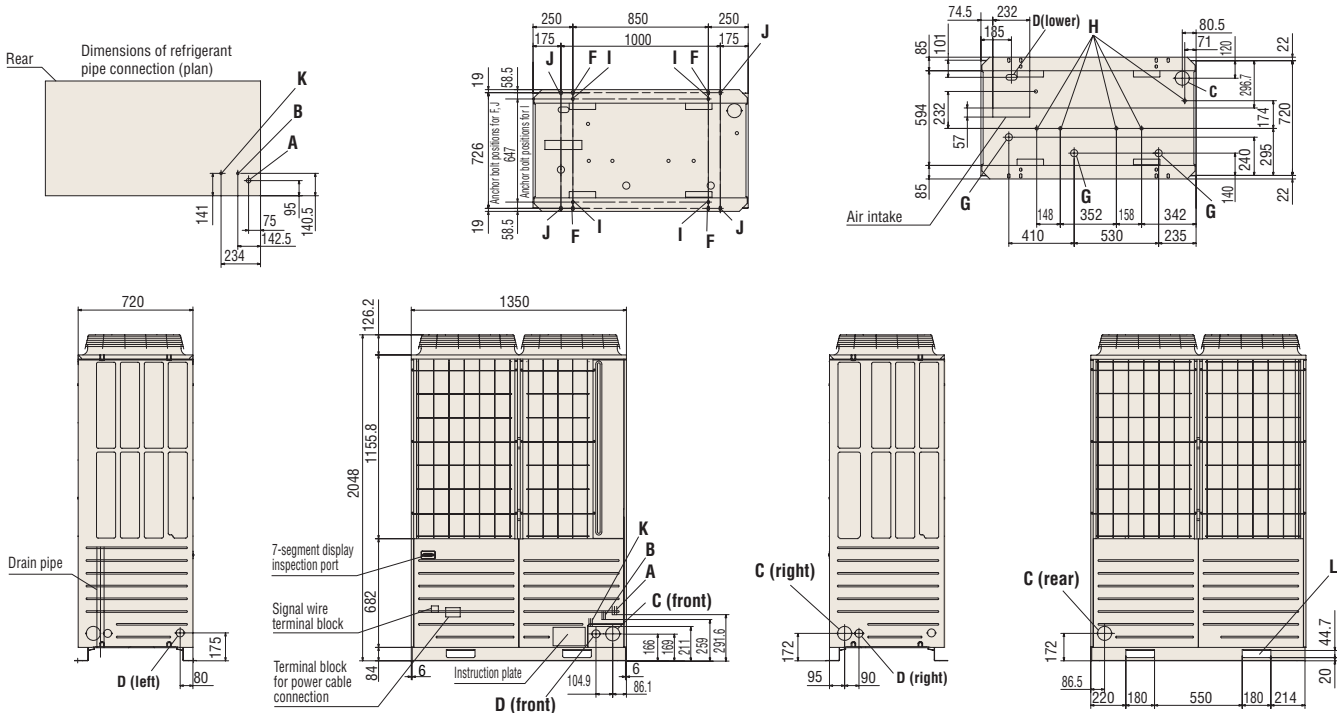
Item	Model	FDC960KXE6	FDC1010KXE6	FDC1065KXE6	FDC1130KXE6	FDC1180KXE6	FDC1235KXE6	FDC1300KXE6	FDC1360KXE6	
		Combination (FDC)		450KXE6 504KXE6	504KXE6 504KXE6	504KXE6 560KXE6	560KXE6 560KXE6	560KXE6-K 615KXE6	615KXE6 615KXE6	615KXE6 680KXE6
Nominal horse power		34HP	36HP	38HP	40HP	42HP	44HP	46HP	48HP	
Power source		3 Phase 380V, 60Hz								
Nominal capacity	Cooling	kW								
	Heating	kW								
Electrical characteristics	Starting current	A								
	Power consumption	Cooling	kW							
		Heating	kW							
	Running current	Cooling	A							
Heating		A								
Exterior dimensions	HxWxD	mm								
Net weight		kg		kg		kg		kg		
Refrigerant charge	R410A	kg								
Refrigerant piping size	Liquid line	mm(in)			mm(in)					
	Gas line	mm(in)			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.



# Dimensions

All measurements in mm.



Mark	Item	
A	Service valve connection (gas side)	For refrigerant piping, please refer to the unit specifications.
B	Service valve connection (liquid line)	
C	Refrigerant pipe draw-out port	ø100
D	Power cable draw-in port	ø50
F	Anchor bolt hole	M10 x 4 places
G	Drain hose hole	ø45.3 x 3 places
H	Drain discharge port	ø20.5 x 3 places
K	Oil-equalising pipe joint	ø9.52 flare
L	Sling holes for haulage or hoisting	180 x 44.7

## 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.

# KX6 refrigerant piping

### Installation of Interconnecting Pipework

Mitsubishi KX6 equipment is manufactured to the highest standards of quality and reliability. It is imperative the method of installation and the materials used are also to high standards, to ensure trouble free operation and long term reliability.

The interconnecting pipework must be installed by a competent and trained engineer. Refrigeration quality copper tube must be used, soft copper coils or half-hard straight lengths. The refrigeration quality tube must be soft drawn seamless high grade copper pipe. The copper tube must be selected taking into account the higher operating pressures of R410A refrigerant, and that high pressures will occur throughout the system because of the reverse cycle operation. 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. The pipe ends must be crimped and brazed, and a suitable service valve connection will need to be fitted (supplied by installer).

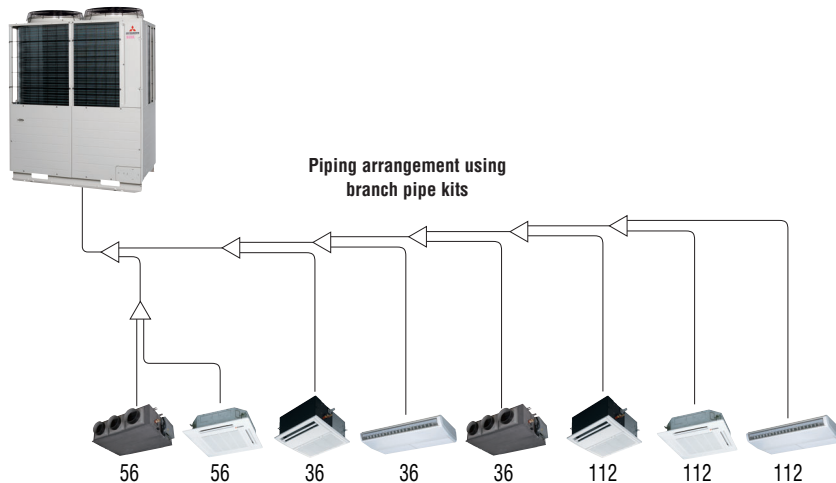
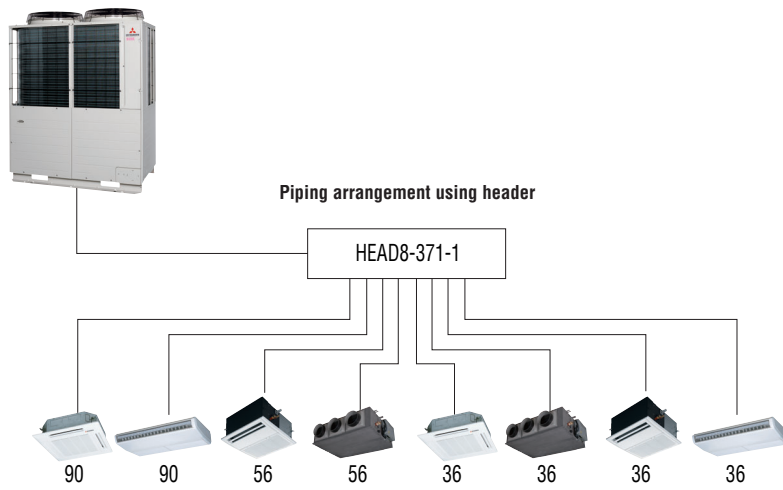
### Pipe Insulation

The refrigeration pipework must be insulated with close cell Class 'O' fire performance with a minimum wall thickness of 13mm.

### 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

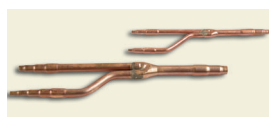
# KX6 refrigerant piping

Pipe sizes applicable to European installations.

Outdoor unit (HP)		8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48
Liquid pipe	Furthest indoor unit =<90m	ø9.52		ø12.7						ø15.88						ø19.05						
Gas pipe		ø19.05	ø22.22	ø28.58						ø34.92												
Liquid pipe	Furthest indoor unit =>90m	ø12.7		ø15.88						ø19.05						ø22.22						
Gas pipe		ø22.22	ø28.58								ø34.92											

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

## Branch pipes



DIS-22-1/DIS-180-1



DIS-540-2/DIS-371-1

## Header pipe

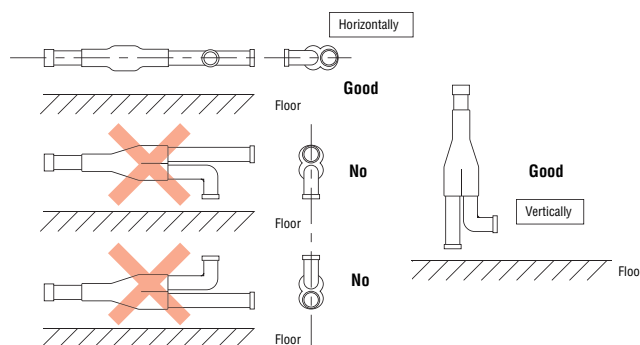


HEAD6-180-1R

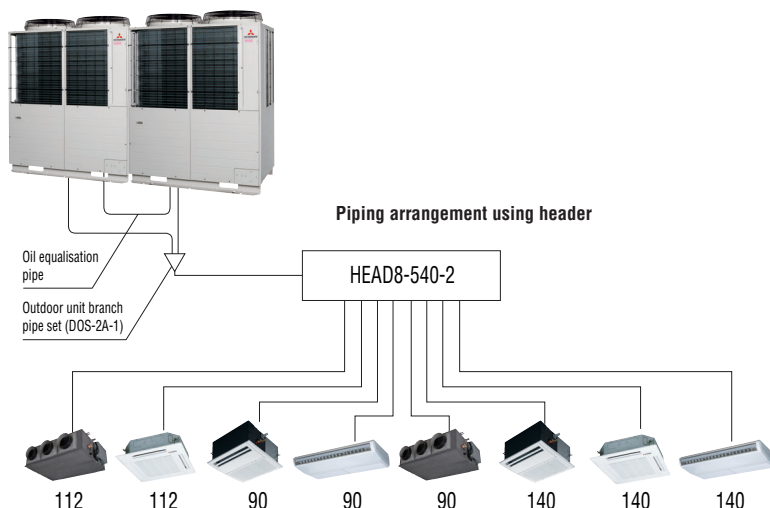
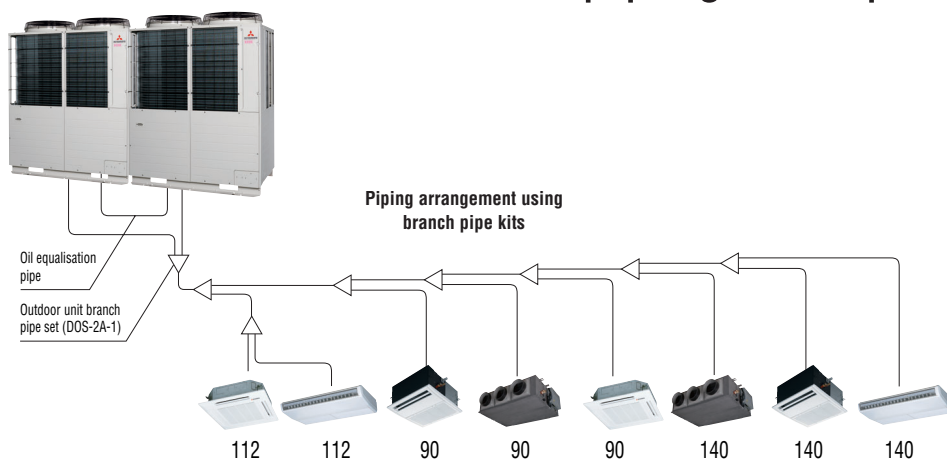
## Combination outdoor unit manifold



DOS-2A-1



# Combination outdoor unit piping examples:



### Outdoor unit's branching piping

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

### Indoor unit's first branching piping

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



# KX6 electrical wiring – power supply

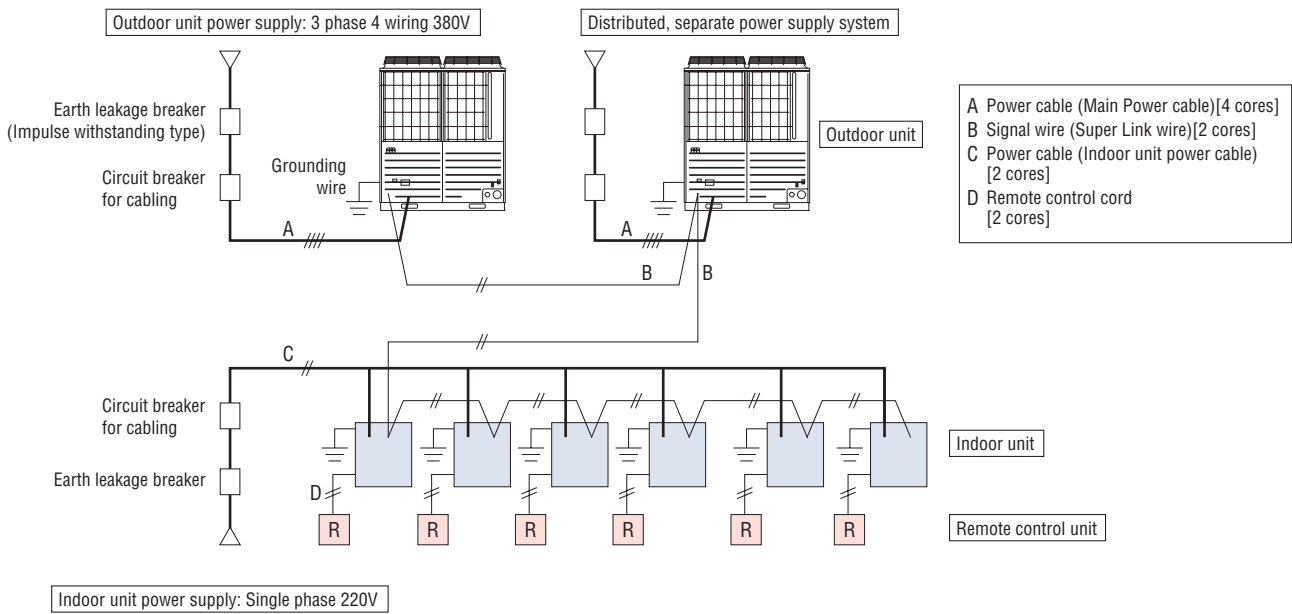
KX6 new design includes greatly simplified wiring requirements utilising a ‘polarity-free’ two wire control loop connecting the indoor units.

### Power wiring

Cables can be laid through the front, right, left or bottom of the outdoor unit casing.

Separate power supplies should be used for the outdoor unit (3/phase) and the indoor units (1/phase).

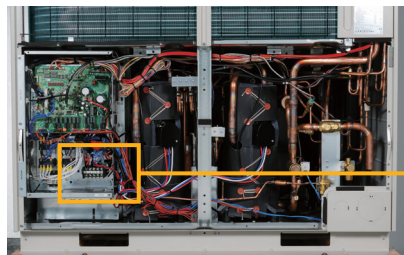
Only control wiring is connected from outdoor to indoor unit.



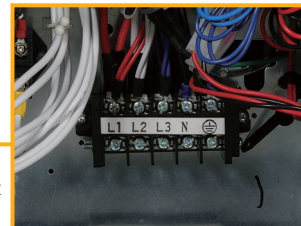
### CAUTION

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

KX6 outdoor unit mechanical compartment



Electrical component box



Outdoor unit power supply terminal block

# KX6 electrical wiring – control wiring

1. The control wiring is 5 Volt DC, non-polarised, two wire connection notated as 'A1' and 'B1'. This 'AB' wiring connects outdoor unit to indoor unit and indoor unit to indoor unit.

2. This wiring must be a 2-core shielded cable size 0.75mm<sup>2</sup> or 1.25mm<sup>2</sup>.

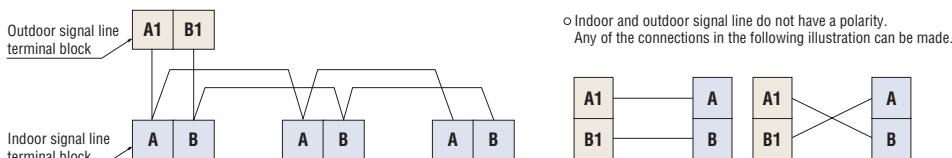
	0.75mm <sup>2</sup>	1.25mm <sup>2</sup>
~1000m	YES	YES
1000~1500m	YES	NO

3. We recommend only one end of the shield of the cable is connected to ground (earth) at one of the outdoor units. At all other terminal connections on the same network, connect all the shields together and electrically insulate them. This will prevent accidental grounding at 2 points and eliminate any electrical noise.

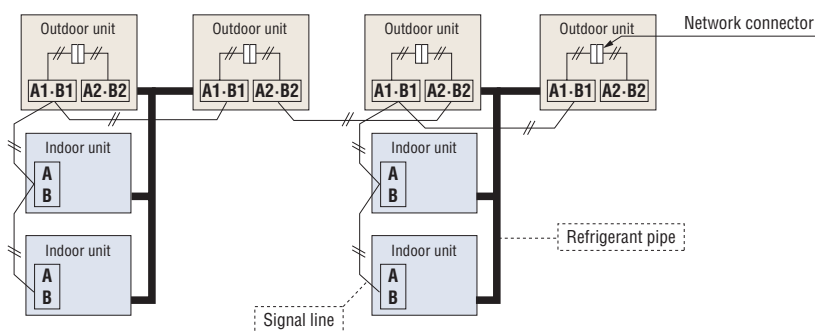
4. When plural outdoor units are used,  
 • Connect the signal cable between indoor and outdoor units and the signal cable between outdoor units belonging to the same refrigerant line to A1 and B1.  
 • Connect the signal line between outdoor units on different refrigerant lines to A2 and B2.

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

(1) When one outdoor unit is used

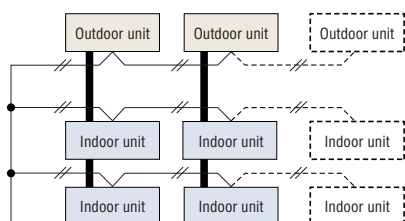


(2) When plural outdoor units are used



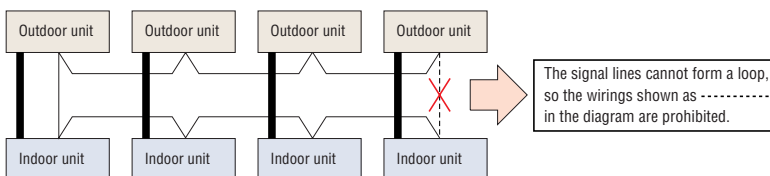
- (a) The maximum number of indoor units that can be connected in a system is 128 and it is possible to configure outdoor units and/or indoor units as an outdoor or indoor unit group connected with each other with two wires.
- (b) The signal wires can also be connected using the method shown below.

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



## Important

Loop wiring prohibited



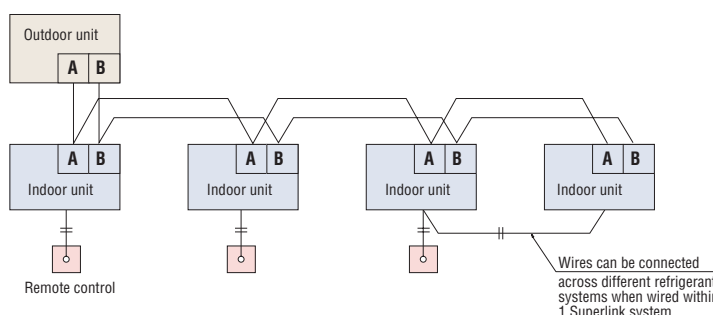
# Remote control wiring specifications

1. For interconnecting wiring between the remote control and indoor units (XY wiring) use 2-core cable size 0.3mm<sup>2</sup>. 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 <sup>2</sup> x 2 core
To 300	0.75mm <sup>2</sup> x 2 core
To 400	1.25mm <sup>2</sup> x 2 core
To 600	2.0mm <sup>2</sup> x 2 core

2. Be sure to ground (earth) only one end of the shield of the cable. When connecting more than one indoor unit to a remote control, we recommend the shield of the cable is connected to ground (earth) at the first indoor unit only. At all subsequent terminal connections on the same loop, connect all the shields together and electrically insulate them. This will prevent accidental grounding at 2 points and eliminate any electrical noise.

3. For current specification of 2-core (XY) wiring, please consult your dealer.





# Indoor units

## Ceiling Cassette -4way- FDT

**Model No.**

- |            |             |
|------------|-------------|
| FDT28KXE6A | FDT90KXE6A  |
| FDT36KXE6A | FDT112KXE6A |
| FDT45KXE6A | FDT140KXE6A |
| FDT56KXE6A | FDT160KXE6A |
| FDT71KXE6A |             |



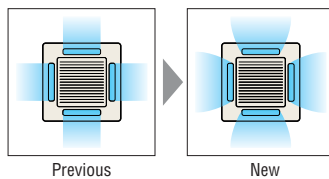
Wireless remote control  
**RCN-T-36W-E (option)**

**Individual flap control system**

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

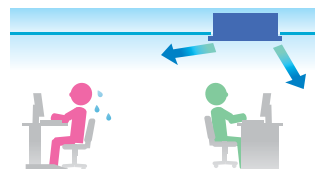
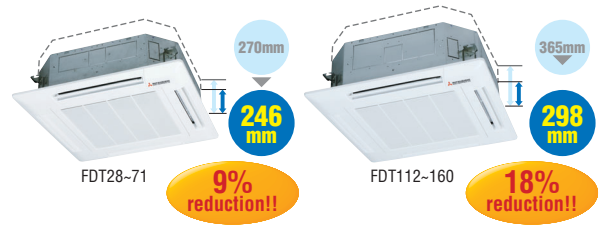
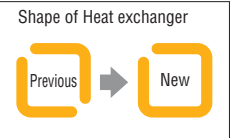


Due to optimization of outlet design of air flow with our new advanced technology, sufficient air flow is secured and long reach of air flow is realized.

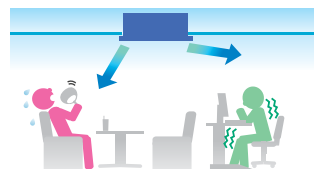


**The thinnest design**

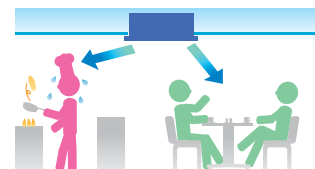
Thanks to new design of heat exchanger changed from 2 parts to 1 part, the height of indoor unit is reduced drastically. Furthermore applying DC fan motors to FDT models, the highest energy efficiency level, reduction of weight and significant compact design are realized.



for person who is far from the indoor unit



for both persons who are feeling hot or cold



can cool both the kitchen and the guests

## Specifications

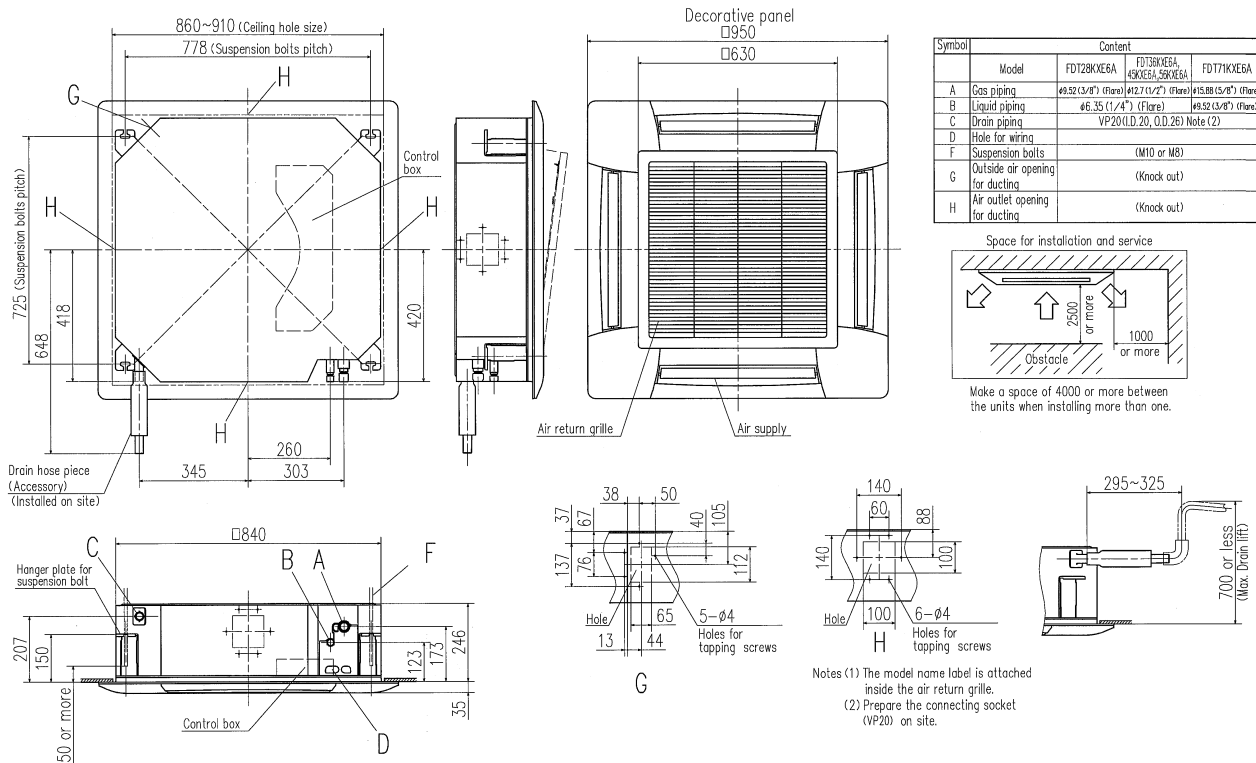
Item	Model	FDT28KXE6A	FDT36KXE6A	FDT45KXE6A	FDT56KXE6A	FDT71KXE6A	FDT90KXE6A	FDT112KXE6A	FDT140KXE6A	FDT160KXE6A	
Nominal cooling capacity	kW	2.8	3.6	4.5	5.6	7.1	9.0	11.2	14.0	16.0	
Nominal heating capacity	kW	3.2	4.0	5.0	6.3	8.0	10.0	12.5	16.0	18.0	
Power source		1 Phase 220V, 60Hz									
Power consumption	Cool	0.03			0.04	0.10	0.14				
	Heat	0.03			0.04	0.10	0.14				
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				
	kg	Unit:22 Panel:5.5			Unit:24 Panel:5.5			Unit:27 Panel:5.5			
Air flow (Standard)	CMM	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-36W-E									
Air filter, Q'ty		Pocket Plastic net x1 (Washable)									
Remote control		wired:RC-E3, 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")				
	Accessories	Mounting kit, Drain hose									

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.

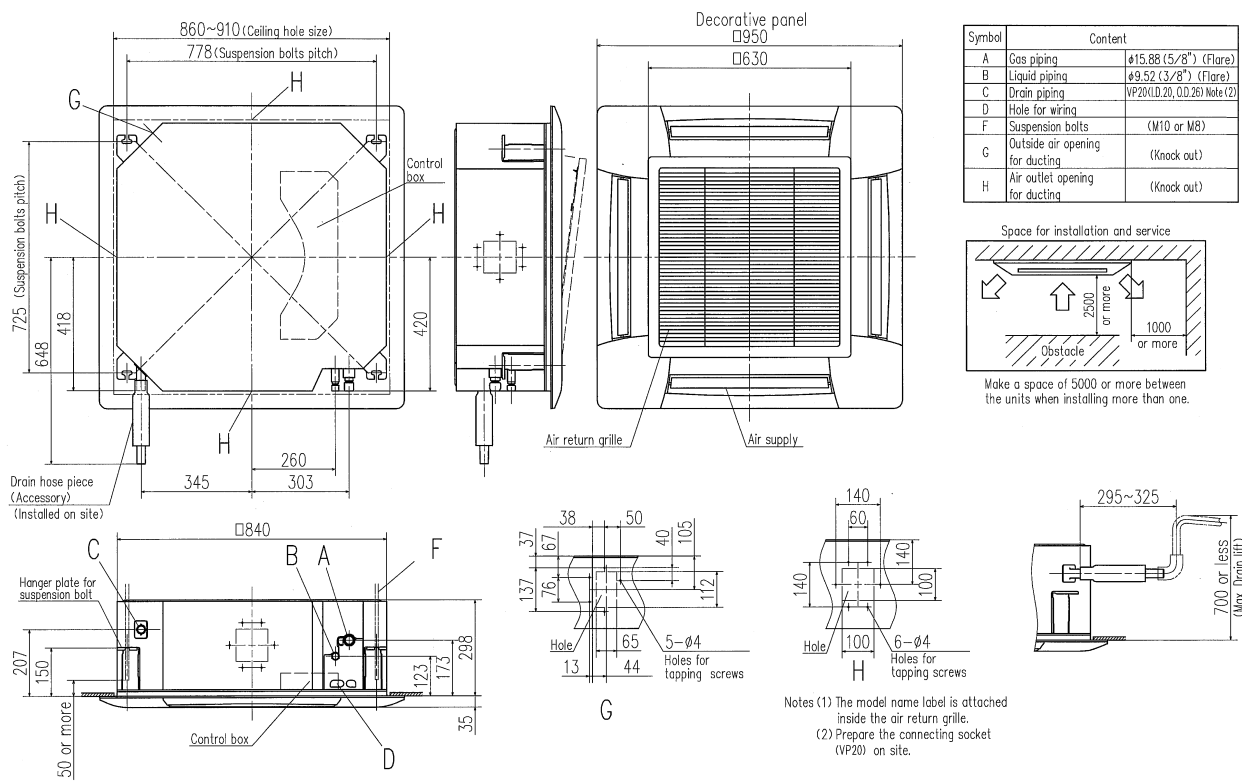
# Dimensions

All measurements in mm.

FDT28KXE6A, 36KXE6A, 45KXE6A, 56KXE6A, 71KXE6A



FDT90KXE6A, 112KXE6A, 140KXE6A, 160KXE6A





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

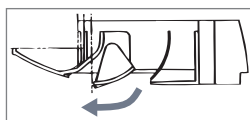
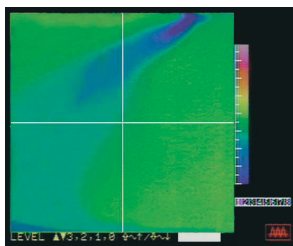
**Model No.**

- FDTC22KXE6A
- FDTC28KXE6A
- FDTC36KXE6A
- FDTC45KXE6A
- FDTC56KXE6A

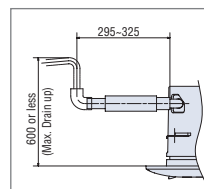


Wireless remote control  
**RCN-TC-24W-ER (option)**

**"CLEARER" AIR FLOW**



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

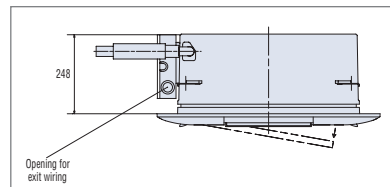


Condensate drain pump included as standard

**INSTALLATION WORKABILITY**



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



Ultra slim design at just 248mm above the ceiling

## Specifications

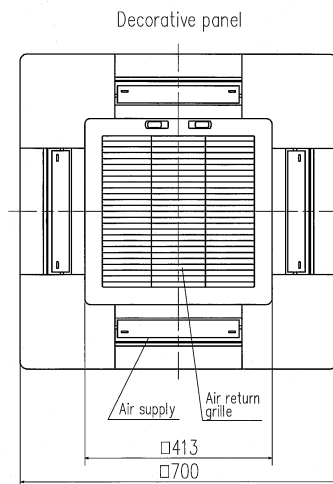
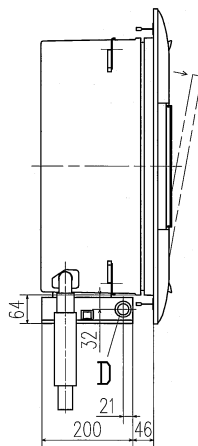
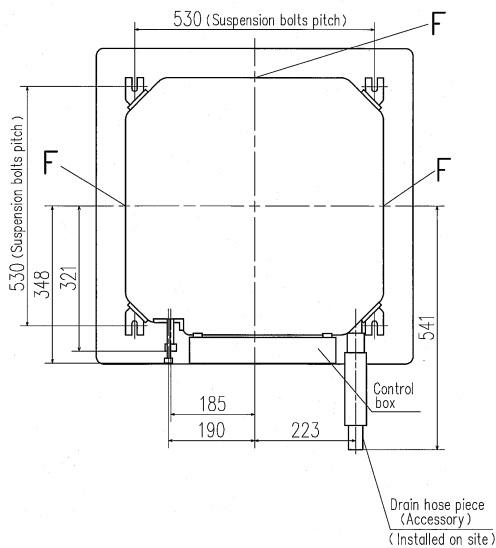
Item	Model	FDTC22KXE6A	FDTC28KXE6A	FDTC36KXE6A	FDTC45KXE6A	FDTC56KXE6A
Nominal cooling capacity	kW	2.2	2.8	3.6	4.5	5.6
Nominal heating capacity	kW	2.5	3.2	4.0	5.0	6.3
Power source		1 Phase 220V, 60Hz				
Power consumption	Cool	0.03			0.04	
	Heat	0.03			0.04	
Sound pressure level	dB(A)	Hi:35 Me:33 Lo:32		Hi:38 Me:36 Lo:34	Hi:40 Me:38 Lo:36	Hi:45 Me:42 Lo:39
Exterior dimensions	mm	Unit:248x570x570 Panel:35x700x700				
Net weight	kg	Unit:14 Panel:3.5			Unit:15 Panel:3.5	
Air flow (Standard)	CMM	Hi:9.5 Me:8.5 Lo:8		Hi:10 Me:9 Lo:8	Hi:11 Me:10 Lo:9	Hi:13 Me:11.5 Lo:10
Outside air intake		Not possible				
Panel		TC-PSA-24W-ER				
Air filter, Q'ty		Pocket Plastic net x1 (Washable)				
Remote control		wired:RC-E3, RCH-E3 wireless:RCN-TC-24W-ER				
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")	

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.

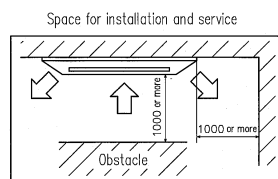
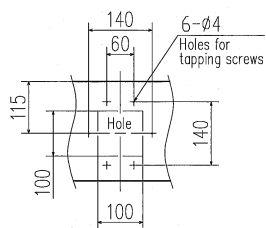
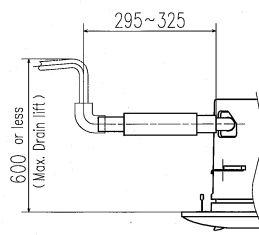
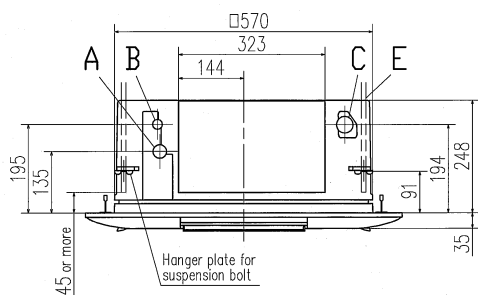


# Dimensions

All measurements in mm.



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



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

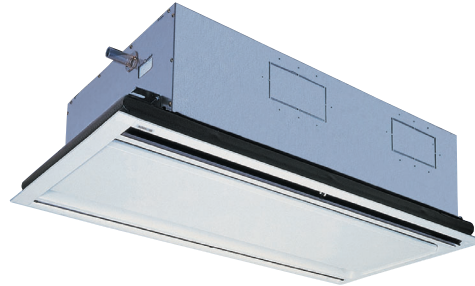
Symbol	Content	
	Model	Content
		FDTC22KXE6A, 28KXE6A
		FDTC36KXE6A, 45KXE6A, 56KXE6A
A	Gas piping	φ9.52 (3/8") (Flare) φ12.7 (1/2") (Flare)
B	Liquid piping	φ6.35 (1/4") (Flare)
C	Drain piping	VP20(I.D.20, O.D.26) Note (2)
D	Hole for wiring	φ25
E	Suspension bolts	(M10 or M8)
F	Air outlet opening for ducting	(Knock out)

F



# Ceiling Cassette -2way- FDTW

**Model No.**  
FDTW28KXE6  
FDTW45KXE6  
FDTW56KXE6



## Specifications

Item	Model	FDTW28KXE6	FDTW45KXE6	FDTW56KXE6
Nominal cooling capacity	kW	2.8	4.5	5.6
Nominal heating capacity	kW	3.2	5.0	6.3
Power source		1 Phase 220V, 60Hz		
Power consumption	Cool	0.09		
	Heat	0.09		
Sound pressure level	dB(A)	Hi:39 Me:34 Lo:32		
Exterior dimensions H x W x D	mm	Unit:287x817x620 Panel:8x1055x680		
Net weight	kg	Unit:18 Panel:7		Unit:19 Panel:7
Air flow (Standard)	CMM	Hi:14 Me:12 Lo:10		
Outside air intake		Possible		
Panel		TW-PSA-24W-E		
Air filter, Q'ty		Pocket Plastic net x1 (Washable)		
Remote control		wired:RC-E3, RCH-E3 wireless:RCN-KIT3-E		
Installation data		Liquid line:ø6.35(1/4") Gas line:ø9.52(3/8")		Liquid line:ø6.35(1/4") Gas line:ø12.7(1/2")

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

## Dimensions

All measurements in mm.

**Decorative panel**  
Air supply, Air return

Space for installation and service  
100 or more, 100 or more, 1500 or more, 1500 or more  
Obstacle  
Make a space of 4000 or more between the units when installing more than one.

Notes (1) The model name label is attached on the lid of the control box.  
(2) Prepare the connecting socket (VP20) on site.

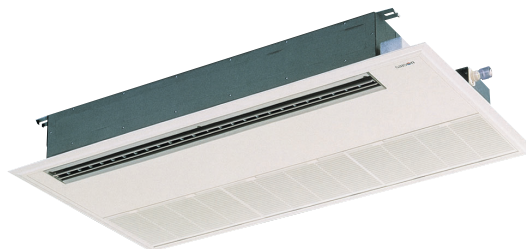
Symbol	Model	Content	FDTW45KXE6, 56KXE6
A	Gas piping	ø9.52(3/8") (Flare) ø12.7(1/2") (Flare)	
B	Liquid piping	ø6.35(1/4") (Flare)	
C1	Drain piping	VP20(1.D.20, O.D.26) Note (2)	
C2	Drain piping (Gravity drainage)	VP20	
D	Hole for wiring	(M10)	
E	Suspension bolts	(M10)	
F	Outside air opening for ducting	(Knock out)	
G	Air outlet opening for ducting	(Knock out)	

## Dimension Table

model	a	b	c	d	e	f	g	h	i	j
FDTW28,45,56KXE6	127	47	98	91	1055	965	214	405	234	155

# Ceiling Cassette -1way- FDTS

**Model No.**  
FDTS45KXE6  
FDTS71KXE6



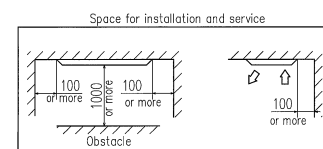
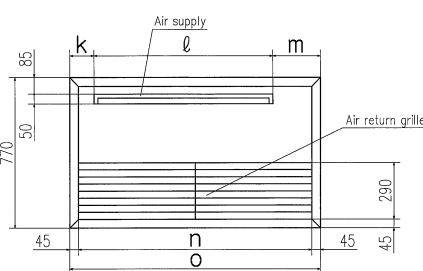
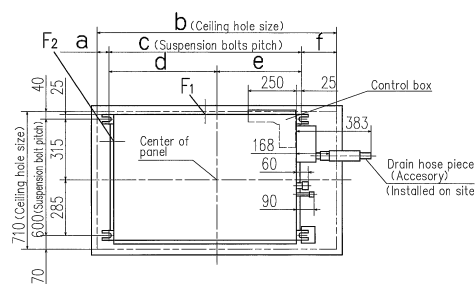
## Specifications

Item	Model	FDTS45KXE6	FDTS71KXE6
Nominal cooling capacity	kW	4.5	7.1
Nominal heating capacity	kW	5.0	8.0
Power source		1 Phase 220V, 60Hz	
Power consumption	Cool	0.09	0.12
	Heat	0.09	0.12
Sound pressure level	dB(A)	Hi:43 Me:38 Lo:36	Hi:44 Me:38 Lo:36
Exterior dimensions H x W x D	mm	Unit:194x1040x650 Panel:10x1290x770	Unit:194x1300x650 Panel:10x1500x770
Net weight	kg	Unit:27 Panel:6	Unit:31 Panel:7
Air flow (Standard)	CMM	Hi:14 Me:12 Lo:10	Hi:18 Me:15 Lo:12
Outside air intake		Possible	
Panel		TS-PSA-29W-E	TS-PSA-39W-E
Air filter, Q'ty		Pocket plastic net x2 (Washable)	Pocket plastic net x3 (Washable)
Remote control		wired:RC-E3, RCH-E3 wireless:RCN-KIT3-E	
Installation data		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.

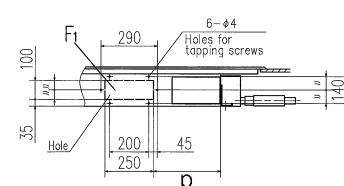
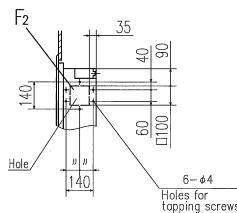
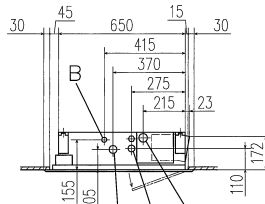
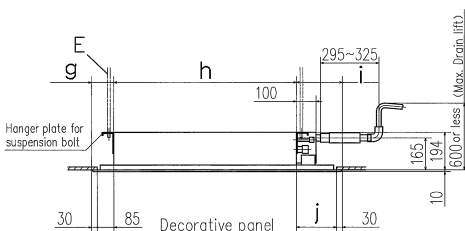
## Dimensions

All measurements in mm.



Make a space of 4000 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.



Symbol	Model	Content	
		FDTS45KXE6	FDTS71KXE6
A	Gas piping	ø12.7 (1/2") (Flare)	ø15.88 (5/8") (Flare)
B	Liquid piping	ø6.35 (1/4") (Flare)	ø9.52 (3/8") (Flare)
C	Drain piping	VP20(1.0, 2.0, 3.0, 4.0) Note (2)	VP20(1.0, 2.0, 3.0, 4.0) Note (2)
D	Hole for wiring	ø35	ø35
E	Suspension bolts	(M10)	(M10)
F1,2	Outside air opening for ducting	(Knock out)	(Knock out)

## Dimension Table

model	a	b	c	d	e	f	g	h	i	j	k	ℓ	m	n	o	p
FDTS45KXE6	60	1230	990	555	435	180	115	940	235	205	125	920	245	1200	1290	345
FDTS71KXE6	45	1440	1250	675	575	145	100	1200	200	70	110	1180	210	1410	1500	475

Unit:mm



# Ceiling Cassette -1way Compact-FDTQ

**Model No.**  
 FDTQ22KXE6  
 FDTQ28KXE6  
 FDTQ36KXE6

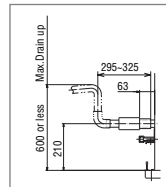


Fits into standard  
600 x 600 ceiling

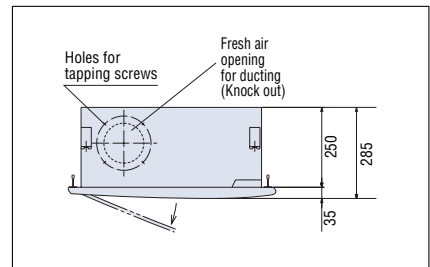
- Comfortable effective cooling for small rooms, with low fan speed air flow at just 5.4m<sup>3</sup>/min.



Optional wide panel shown for solid ceiling



Condensate drain pump included as standard



Ultra slim design at just 250mm above the ceiling

## Specifications

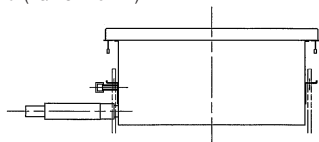
Item	Model	FDTQ22KXE6				FDTQ28KXE6				FDTQ36KXE6			
		Direct blow panel		Duct panel		Direct blow panel		Duct panel		Direct blow panel		Duct panel	
Panel Name		TQ-PSA-15W-E	TQ-PSB-15W-E	QR-PNA-14W-ER	QR-PNB-14W-ER	TQ-PSA-15W-E	TQ-PSB-15W-E	QR-PNA-14W-ER	QR-PNB-14W-ER	TQ-PSA-15W-E	TQ-PSB-15W-E	QR-PNA-14W-ER	QR-PNB-14W-ER
Panel mode (Option)													
Nominal cooling capacity	kW	2.2				2.8				3.6			
Nominal heating capacity	kW	2.5				3.2				4.0			
Power source		1 Phase 220V, 60Hz											
Power consumption	Cool	0.04				0.04				0.04			
	Heat	0.04				0.04				0.04			
Sound pressure level	dB(A)	Hi:38 Lo:33		Hi:42 Lo:39		Hi:38 Lo:33		Hi:42 Lo:39		Hi:38 Lo:33		Hi:42 Lo:39	
Exterior dimensions H x W x D	Unit	250x570x570								250x570x570			
	Panel	mm	35x625x650	35x780x650	35x625x650	35x780x650	35x625x650	35x780x650	35x625x650	35x780x650	35x625x650	35x780x650	35x625x650
Net weight	kg	Unit:19 Panel:2.5	Unit:19 Panel:3	Unit:19 Panel:2.5	Unit:19 Panel:3	Unit:19 Panel:2.5	Unit:19 Panel:3	Unit:19 Panel:2.5	Unit:19 Panel:3	Unit:19 Panel:2.5	Unit:19 Panel:3	Unit:19 Panel:2.5	Unit:19 Panel:3
Air flow (Standard)	CMM	Hi:7 Lo:5.4		Hi:7 Lo:6.5		Hi:7 Lo:5.4		Hi:7 Lo:6.5		Hi:7 Lo:5.4		Hi:7 Lo:6.5	
Outside air intake		Possible											
Air filter, Q'ty		Pocket Plastic net x1 (Washable)											
Remote control		wired:RC-E3, RCH-E3 wireless:RCN-KIT3-E											
Installation data	Refrigerant piping size	Liquid line:ø6.35(1/4") Gas line:ø9.52(3/8")								Liquid line:ø6.35(1/4") Gas line:ø12.7(1/2")			

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

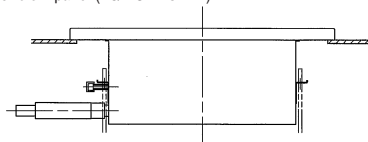
# Dimensions

All measurements in mm.

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

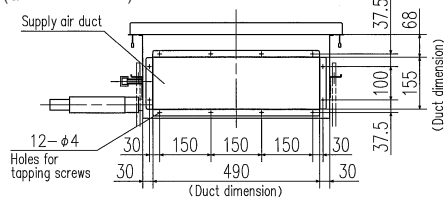


Direct blow panel (TQ-PSB-15W-E)

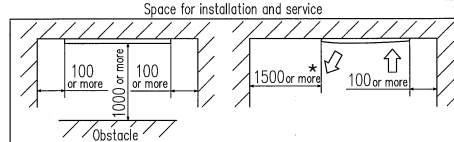
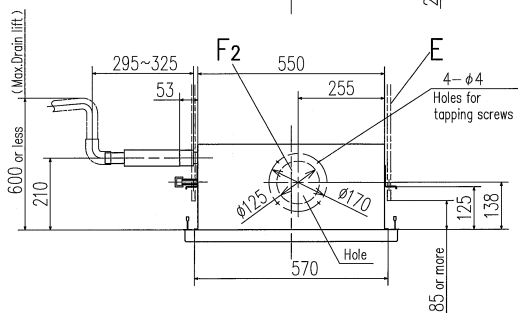
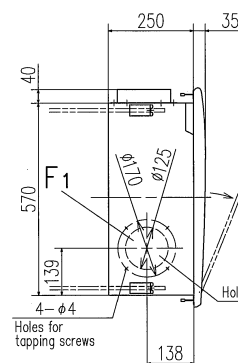
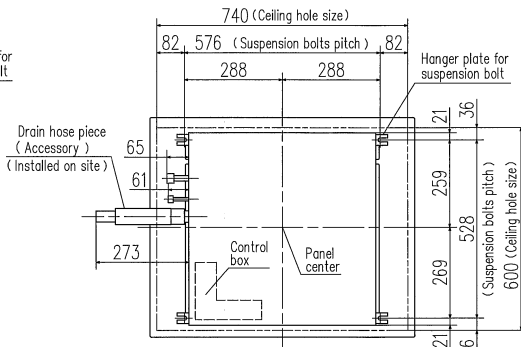
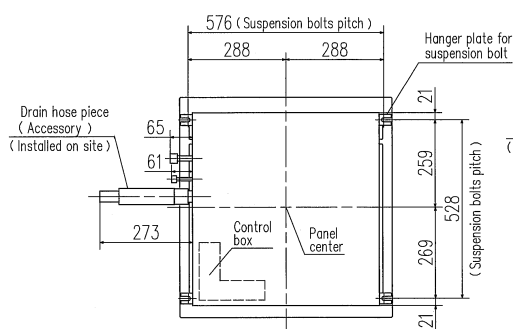
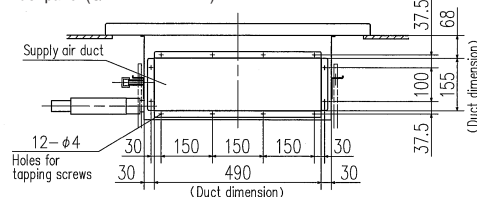


Symbol	Model	Content	
A	Gas piping	FDTQ22KXE6, 28KXE6	FDTQ36KXE6
B	Liquid piping	φ9.52 (3/8") (Flare)	φ12.7 (1/2") (Flare)
C	Drain piping	VP20 (I.D. 20, O.D. 26) Note (2)	
D	Hole for wiring	φ30	
E	Suspension bolts	(M10)	
F 1, 2	Outside air opening for ducting	(Knock out)	

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



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



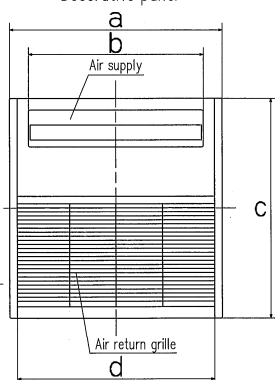
Make a space of 3000 or more between the units when installing more than one.

Notes

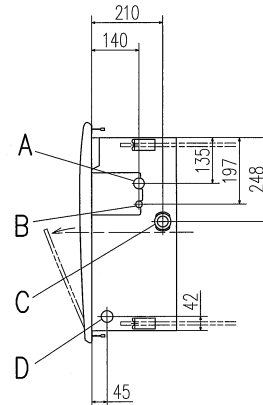
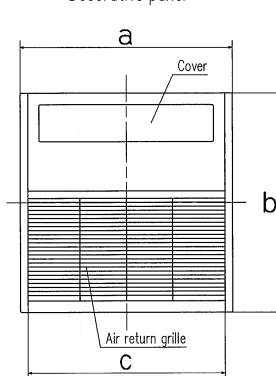
- (1) The model name label is attached on the fan case inside the air return grille.
- (2) Prepare the connecting socket (VP20) on site.
- (3) This unit is designed for 2X2 grid ceiling.

\* 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.**  
FDU224KXE6  
FDU280KXE6

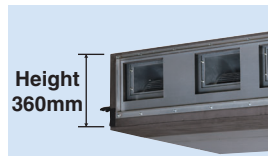


Fan control kit  
(100~200Pa)  
**U-FCRA(option)**

### Enhanced installation workability

#### Quiet, Lightweight and Compact

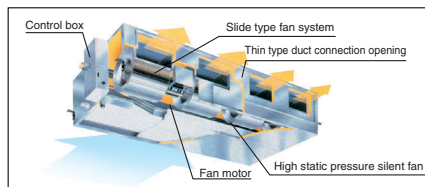
With the FDU224, the noise level is only 48dB, weight is only 92kg and height is only 360mm. The indoor unit is completely hidden in the ceiling, so this is suitable for spaces with classy interior decoration.



### Adaptability to higher static pressures

#### High static pressure of 200 Pa extends the degree of freedom in the designing of air conditioners.

This is a real and earnest model for duct air-conditioning. A unit external static pressure of up to 200 Pa is possible. Precise air flow designing is possible.



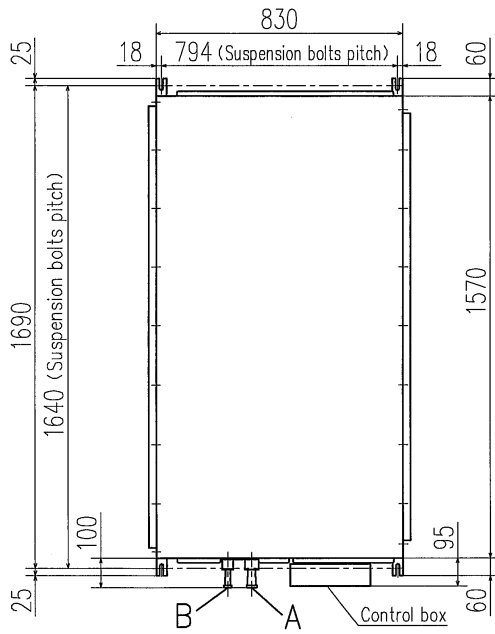
## Specifications

Item	Model	FDU224KXE6	FDU280KXE6
Nominal cooling capacity	kW	22.4	28.0
Nominal heating capacity	kW	25.0	31.5
Power source		1 Phase 220V, 60Hz	
Power consumption	Cool	1.46	1.48
	Heat	1.28	1.36
Sound pressure level	dB(A)	Hi:51	Hi:52
Exterior dimensions H x W x D	mm	360x1570x830	
Net weight	kg	92	
Air flow (Standard)	CMM	Hi:51	Hi:68
Available Static pressure	Pa	Standard 100, Max 200	
Outside air intake		Possible(on Return duct)	
Air filter, Q'ty		Procure locally	
Remote control		wired:RC-E3, RCH-E3 wireless:RCN-KIT3-E	
Installation data Refrigerant piping size	mm(in)	Liquid line:ø9.52(3/8") Gas line:ø19.05(3/4")	Liquid line:ø9.52(3/8") Gas line:ø22.22(7/8")

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

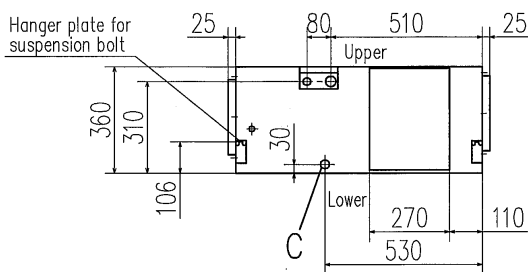
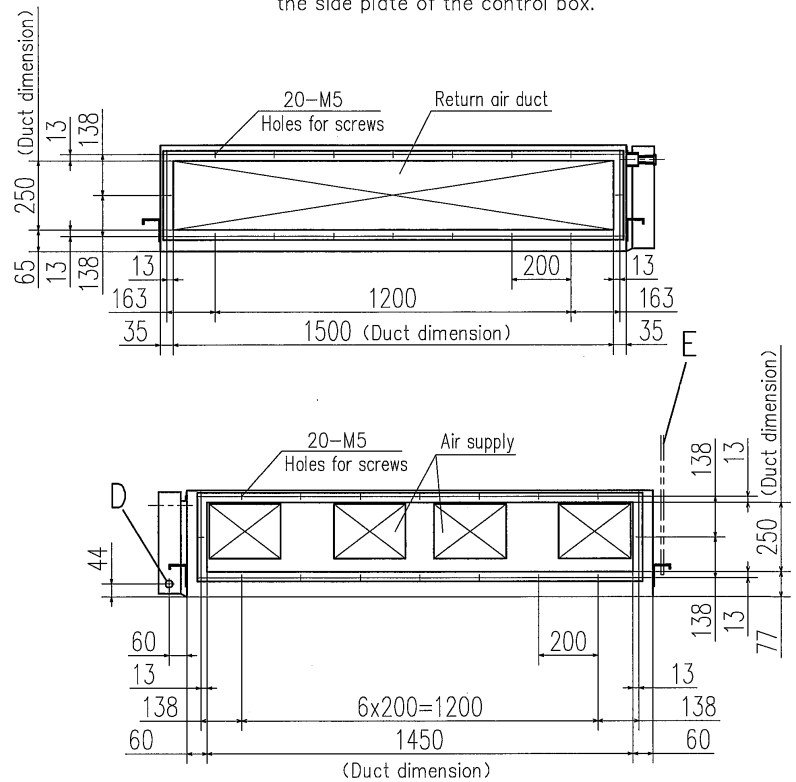
# Dimensions

All measurements in mm.



Symbol	Content	
	Model	FDU224KXE6 FDU280KXE6
A	Gas piping	φ25.4 (1") (Brazing)
B	Liquid piping	φ9.52 (3/8") (Brazing) φ12.7 (1/2") (Brazing)
C	Drain piping	VP20 (I.D.20, O.D.26)
D	Hole for wiring	φ25
E	Suspension bolts	(M10)
F	Inspection hole	(600X600)
G	Inspection hole	(900X1730)

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





# Duct Connected -Low/Middle Static Pressure- FDUM

**Model No.**

- FDUM22KXE6
- FDUM28KXE6
- FDUM36KXE6
- FDUM45KXE6
- FDUM56KXE6
- FDUM71KXE6
- FDUM90KXE6
- FDUM112KXE6
- FDUM140KXE6



Filter kit

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

## Specifications

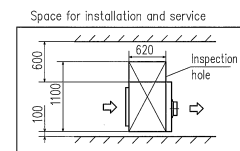
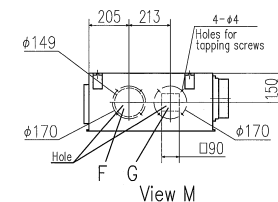
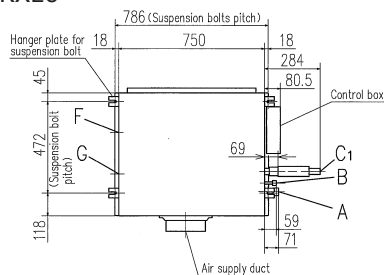
Item	Model	FDUM22KXE6	FDUM28KXE6	FDUM36KXE6	FDUM45KXE6	FDUM56KXE6	FDUM71KXE6	FDUM90KXE6	FDUM112KXE6	FDUM140KXE6											
Nominal cooling capacity	kW	2.2	2.8	3.6	4.5	5.6	7.1	9.0	11.2	14.0											
Nominal heating capacity	kW	2.5	3.2	4.0	5.0	6.3	8.0	10.0	12.5	16.0											
Power source		1 Phase 220V, 60Hz																			
Power consumption	Cool	0.09			0.11			0.14			0.15										
	Heat	0.09			0.11			0.14			0.15										
Sound pressure level	dB(A)	Hi:33 Me:31 Lo:28		Hi:34 Me:31 Lo:28			Hi:35 Me:32 Lo:29			Hi:36 Me:33 Lo:30		Hi:37 Me:35 Lo:32		Hi:38 Me:36 Lo:33							
Exterior dimensions H x W x D	mm	299 x 750 x 635					299 x 950 x 635			350 x 1370 x 635											
Net weight	kg	33			34			40			59										
Air flow (Standard)	CMM	Hi:10 Me:9 Lo:8		Hi:12 Me:11 Lo:10			Hi:14 Me:12 Lo:11			Hi:18 Me:16 Lo:14		Hi:20 Me:18 Lo:15		Hi:28 Me:25 Lo:22		Hi:34 Me:31 Lo:27					
Available Static pressure	Pa	Standard:50					Max:85					Standard:60					Max:85				
Outside air intake		Possible																			
Air filter, Q'ty		Procure locally																			
Remote control		wired:RC-E3, RCH-E3 wireless:RCN-KIT3-E																			
Installation data		Liquid line:ø6.35(1/4")			Liquid line:ø6.35(1/4")			Liquid line:ø9.52(3/8")				Gas line:ø15.88(5/8")									
Refrigerant piping size	mm(in)	Gas line:ø9.52(3/8")			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.  
 2. Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.

## Dimensions

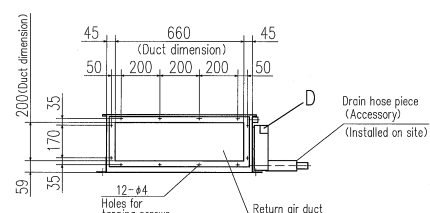
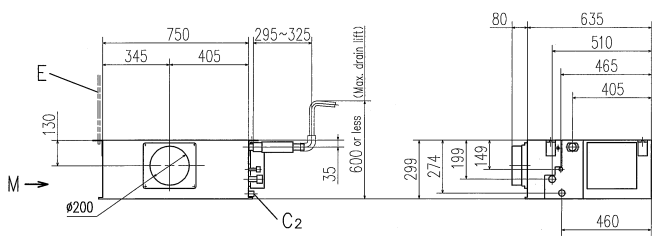
All measurements in mm.

### FDUM22KXE6



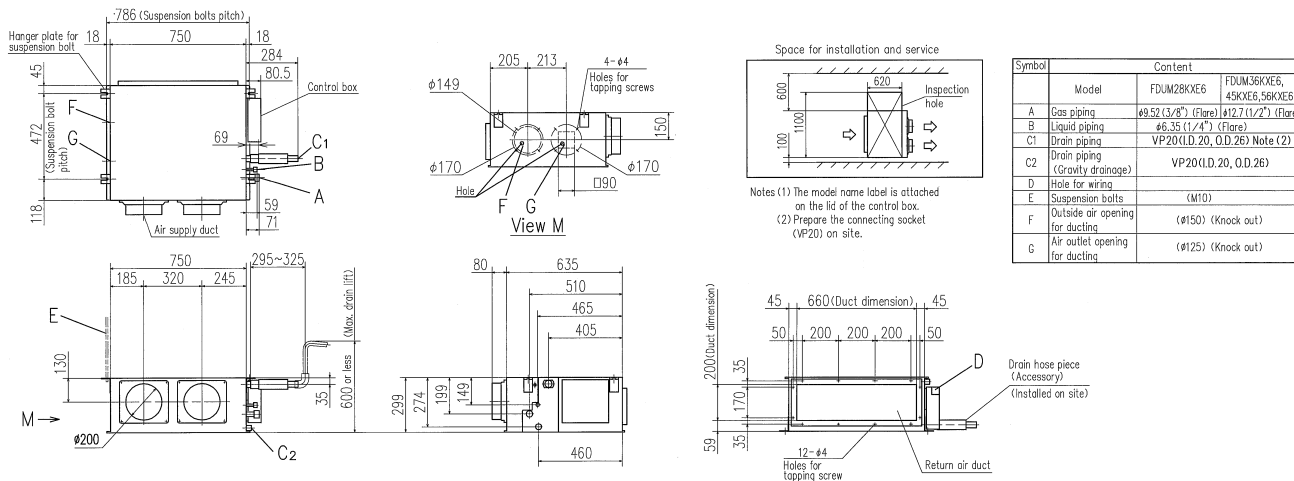
Symbol	Content
A	Gas piping ø9.52 (3/8") (Flare)
B	Liquid piping ø6.35 (1/4") (Flare)
C1	Drain piping VP20(I.D.20, O.D.26) Note:(2)
C2	Drain piping (Gravity drainage) VP20(I.D.20, O.D.26)
D	Hole for wiring
E	Suspension bolts (M10)
F	Hole for ducting (ø150) (Knock out)
G	Air outlet opening for ducting (ø125) (Knock out)

Notes (1) The model name label is attached on the lid of the control box.  
 (2) Prepare the connecting socket (VP20) on site.

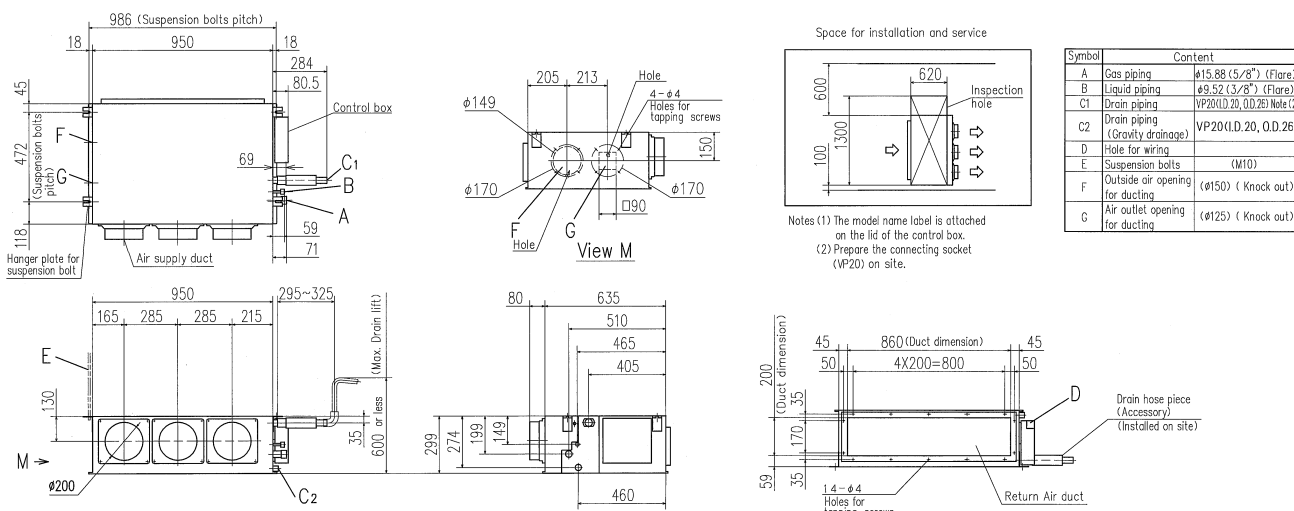




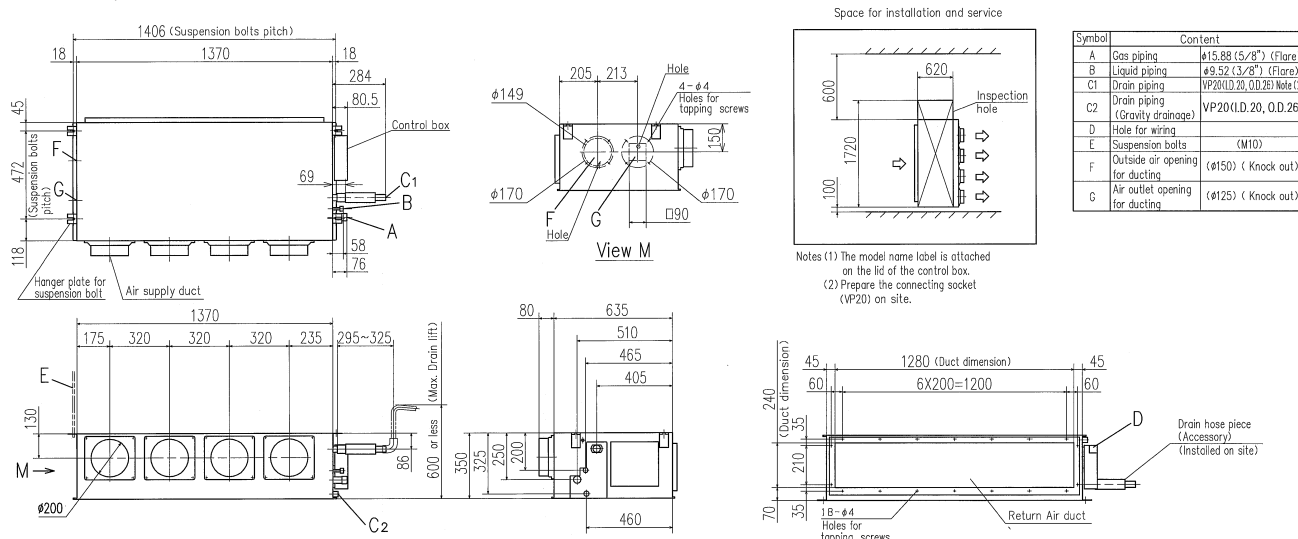
### FDUM28KXE6, 36KXE6, 45KXE6, 56KXE6



### FDUM71KXE6, 90KXE6



### FDUM112KXE6, 140KXE6





# Duct Connected (Compact & Flexible) FDUH

**Model No.**  
FDUH22KXE6  
FDUH28KXE6  
FDUH36KXE6



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

**Compact and thin size, light weight**

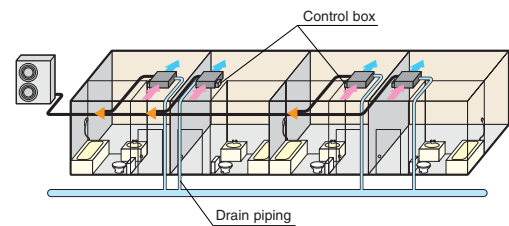
Our leading high technology has realized the best solution for air conditioning in hotels with compact and thin size units and high energy efficiency. In addition, weight is only 20kg.

**Quiet operation**

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

**Installation Flexibility**

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



## Remote control

### 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.



**Wired RCH-E3  
(option)**



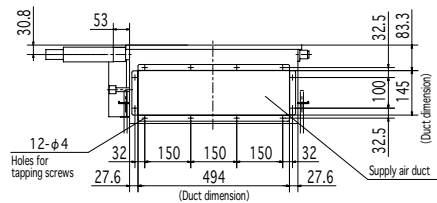
## Specifications

Item	Model	FDUH22KXE6	FDUH28KXE6	FDUH36KXE6
Nominal cooling capacity	kW	2.2	2.8	3.6
Nominal heating capacity	kW	2.5	3.2	4.0
Power source		1 Phase 220V, 60Hz		
Power consumption	Cool	0.053		
	Heat	0.053		
Sound pressure level	dB(A)	HI: 33 Me: 30 Lo: 27		
Exterior dimensions	HxWxD	257x570x530		
Net weight	kg	20		
Air flow (Standard)	CMM	HI: 7 Me: 6.5 Lo: 6		
Available static pressure	Pa	30		
Air filter, Q'ty		Procure locally		
Remote control		wired:RCH-E3,RC-E3 wireless:RCN-KIT3-E		
Installation data	mm(m)	Liquid line:ø6.35(1/4")		
		Gas line:ø9.52(3/8")		Gas line:ø12.7(1/2")

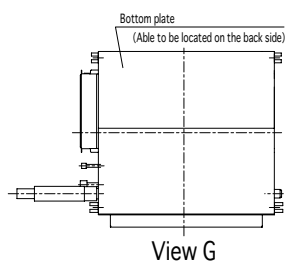
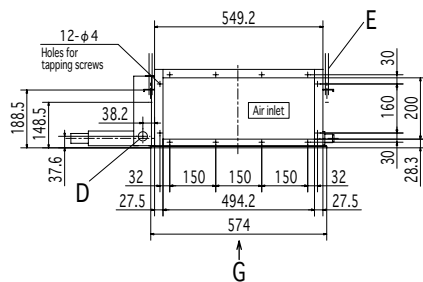
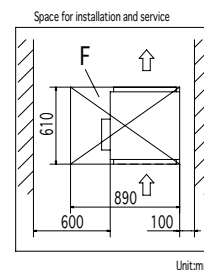
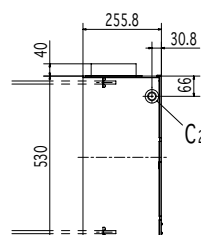
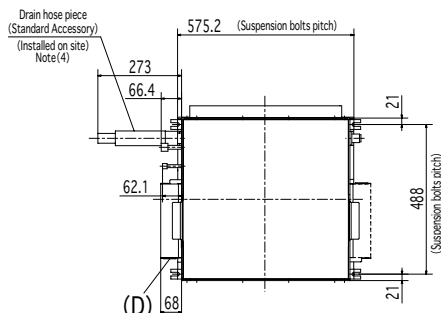
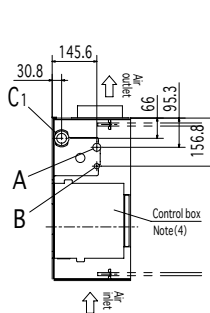
1. The data are measured under the following conditions(ISO-T1). Cooling: Indoor temp. of 27°CDB, 19°CWB, and outdoor temp. of 35°CDB. Heating: Indoor temp. of 20°CDB, and outdoor temp. of 7°CDB, 6°CWB.  
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values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

# Dimensions

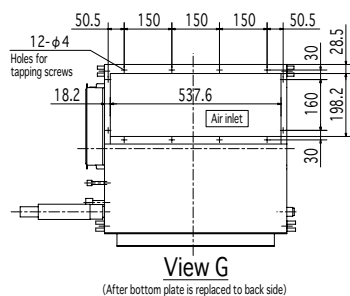
All measurements in mm.



Symbol	Content		
	Model	FDUH22KXE6, 28KXE6	FDUH36KXE6
A	Gas piping	φ9.52(3/8") (Flare)	φ12.7(1/2") (Flare)
B	Liquid piping	φ6.35(1/4") (Flare)	
C1, C2	Drain piping	VP20(I.D.20, O.D.26) Note (2)	
D	Hole for wiring	φ30	
E	Suspension bolts	(M10)	
F	Inspection hole	(635X890) Note (3)	



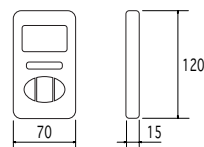
In case of Bottom air intake



## 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.

## Simple remote control





# Wall Mounted FDK

**Model No.**

- FDK22KXE6
- FDK28KXE6
- FDK36KXE6
- FDK45KXE6
- FDK56KXE6
- FDK71KXE6



FDK22-56



FDK71



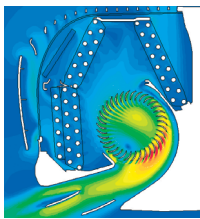
**coming soon**

Wireless remote control

**RCN-K-E : FDK22-56**

**RCN-K71-E : FDK71 (option)**

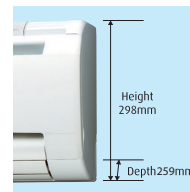
**INNOVATIVE DESIGN**



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.

**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

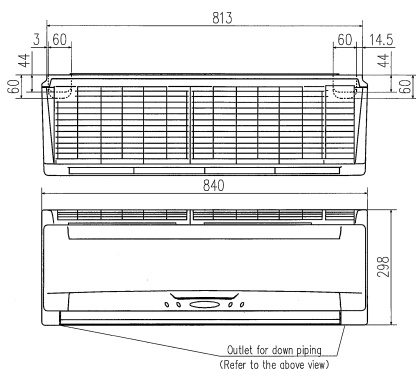
Item	Model	FDK22KXE6	FDK28KXE6	FDK36KXE6	FDK45KXE6	FDK56KXE6	FDK71KXE6	
Nominal cooling capacity	kW	2.2	2.8	3.6	4.5	5.6	7.1	
Nominal heating capacity	kW	2.5	3.2	4.0	5.0	6.3	8.0	
Power source		1 Phase 220V, 60Hz						
Power consumption	Cool	0.05		0.05		0.09		
	Heat	0.04		0.05		0.09		
Sound pressure level	dB(A)	Hi:35 Me:33 Lo:31		Hi:39 Me:35 Lo:31	Hi:42 Me:37 Lo:33	Hi:46 Me:42 Lo:37	Hi:47 Me:43 Lo:39	
Exterior dimensions H x W x D	mm	298 x 840 x 259					318 x 1098 x 248	
Net weight	kg	12		12.5	13	15.5		
Air flow (Standard)	CMM	Hi:8 Me:7 Lo:6		Hi:10 Me:9 Lo:7	Hi:11 Me:9 Lo:7	Hi:14 Me:12 Lo:10	Hi:21 Me:18 Lo:15	
Outside air intake		Not possible						
Air filter, Q'ty		Polypropylene net x2 (Washable)						
Remote control		wired:RC-E3, RCH-E3 wireless:RCN-K-E (for FDK22-56), RCN-K71-E (for FDK71)						
Installation data Refrigerant piping size	mm(in)	Liquid line:ø6.35(1/4") Gas line:ø9.52(3/8")		Liquid line:ø6.35(1/4") Gas line:ø12.7(1/2")		Liquid line:ø9.52(3/8") Gas line:ø15.88(5/8")		

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

# Dimensions

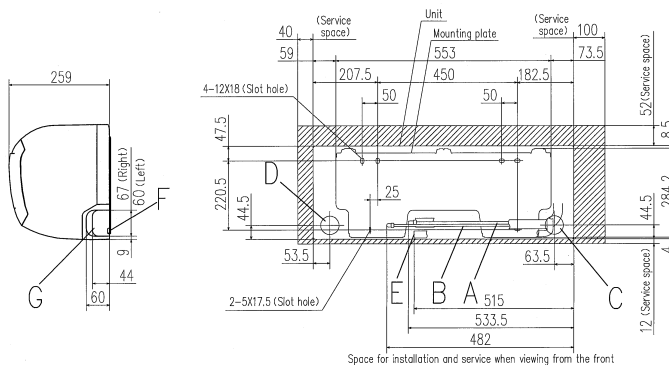
All measurements in mm.

## FDK22~56KXE6



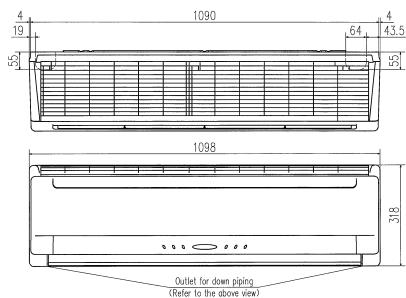
Note (1) The model name label is attached on the underside of the panel.

Symbol	Model	Content
	FDK22KXE6, 28KXE6	FDK36KXE6, 45KXE6, 56KXE6
A	Gas piping	φ9.52 (3/8") (Flare) / φ12.7 (1/2") (Flare)
B	Liquid piping	φ6.35 (1/4") (Flare)
C	Hole on wall for right rear piping	(φ65)
D	Hole on wall for left rear piping	(φ65)
E	Drain piping	VP16(1D,16)
F	Outlet for wiring	
G	Outlet for piping (on both side)	



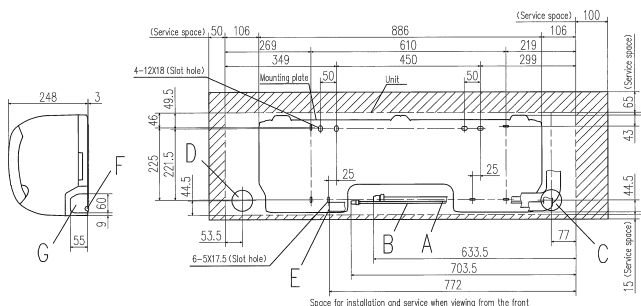
Space for installation and service when viewing from the front

## FDK71KXE6



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

Symbol	Content
A	Gas piping
B	Liquid piping
C	Hole on wall for right rear piping
D	Hole on wall for left rear piping
E	Drain piping
F	Outlet for wiring
G	Outlet for piping (on both side)



Space for installation and service when viewing from the front



# Ceiling Suspended FDE

**Model No.**

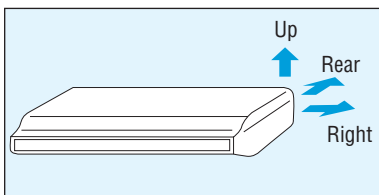
- FDE36KXE6A
- FDE45KXE6A
- FDE56KXE6A
- FDE71KXE6A
- FDE112KXE6A
- FDE140KXE6A



Wireless remote control  
**RCN-E-E(option)**

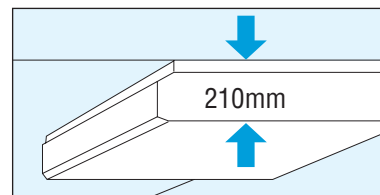
- Small
- Light-weight
- Quiet
- Sleek, intelligent design

**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.

**NEW SLIM DESIGN**



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

## Specifications

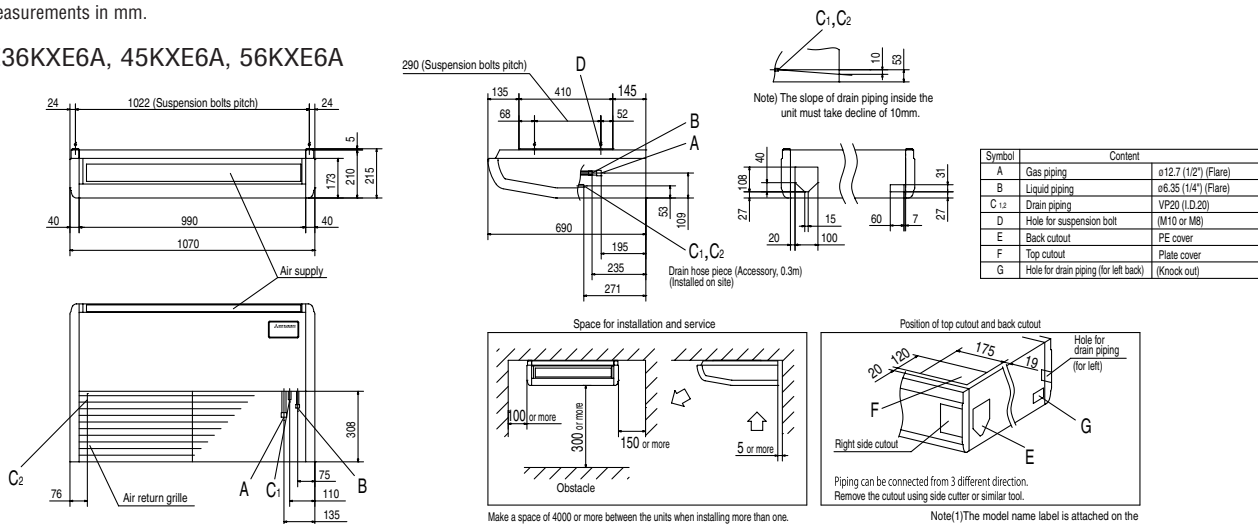
Item	Model	FDE36KXE6A	FDE45KXE6A	FDE56KXE6A	FDE71KXE6A	FDE112KXE6A	FDE140KXE6A
Nominal cooling capacity	kW	3.6	4.5	5.6	7.1	11.2	14.0
Nominal heating capacity	kW	4.0	5.0	6.3	8.0	12.5	16.0
Power source		1 Phase 220V, 60Hz					
Power consumption	Cool	0.05			0.09	0.14	0.16
	Heat	0.05			0.08	0.13	0.15
Sound 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 (Standard)	CMM	Hi:11 Me:9 Lo:7			Hi:18 Me:14 Lo:12	Hi:26 Me:23 Lo:21	Hi:29 Me:26 Lo:23
Outside air intake		Not possible					
Air filter, Q'ty		Pocket Plastic net x2 (Washable)					
Remote control		wired:RC-E3, 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.

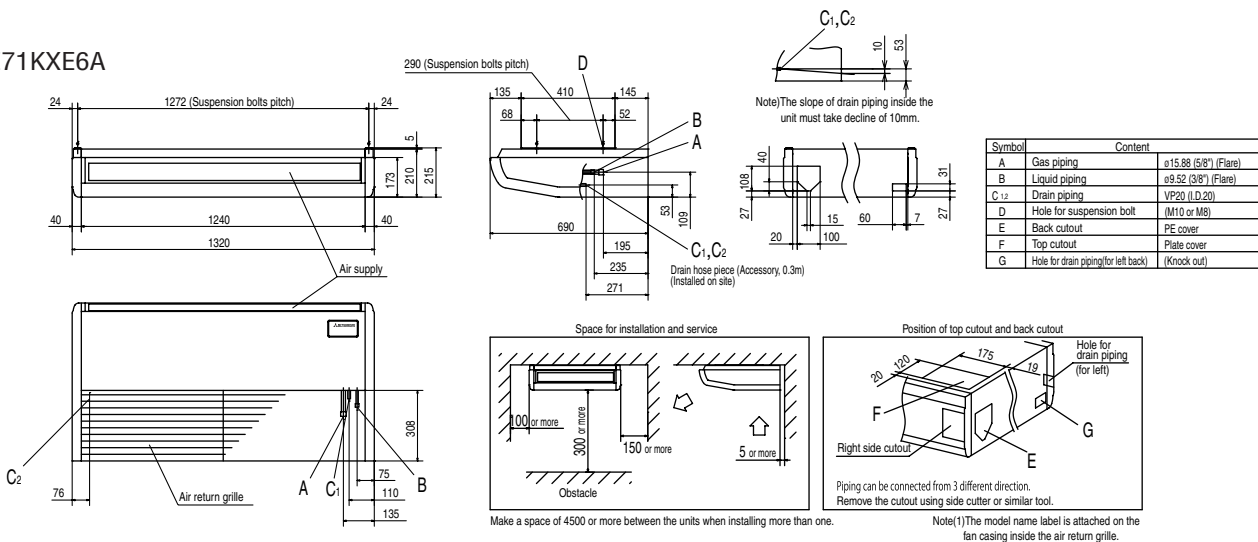
# Dimensions

All measurements in mm.

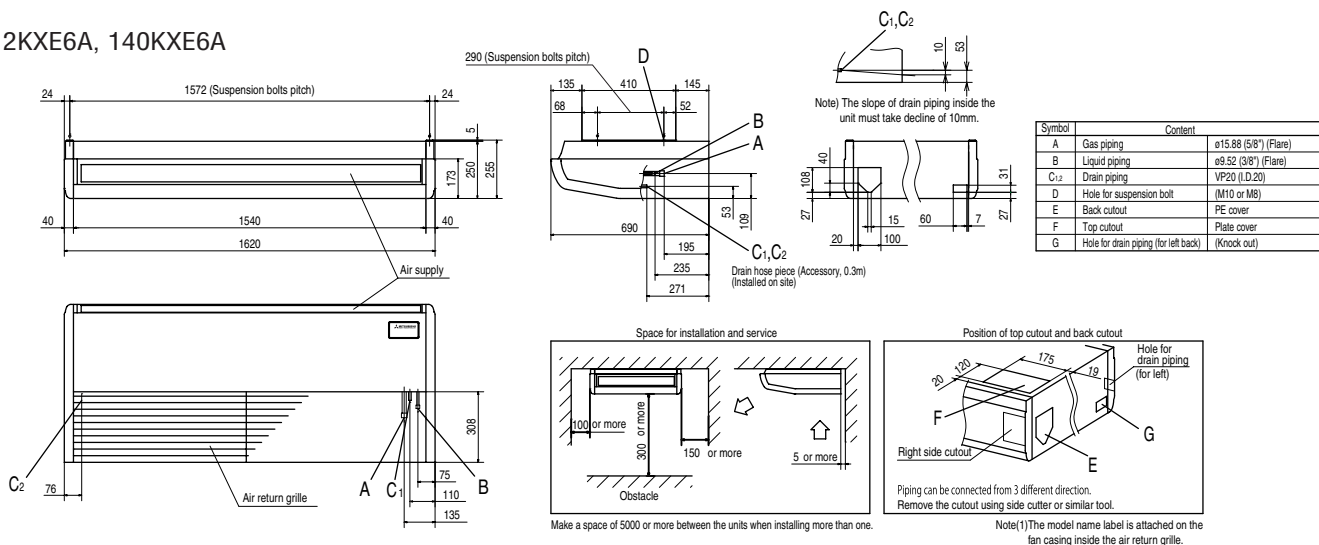
## FDE36KXE6A, 45KXE6A, 56KXE6A



## FDE71KXE6A



## FDE112KXE6A, 140KXE6A

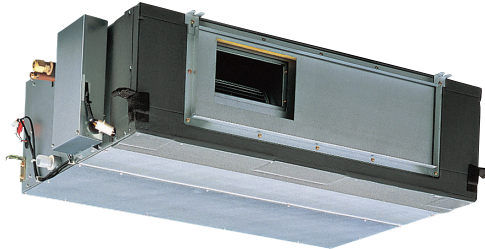




# Outdoor Air Processing unit FDU-F

## Model No.

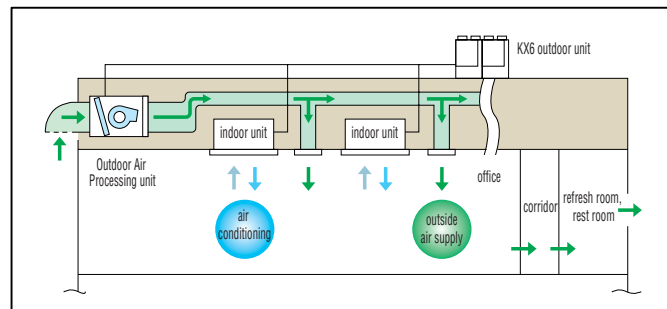
FDU500FKXE6  
FDU850FKXE6  
FDU1300FKXE6  
FDU1800FKXE6



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

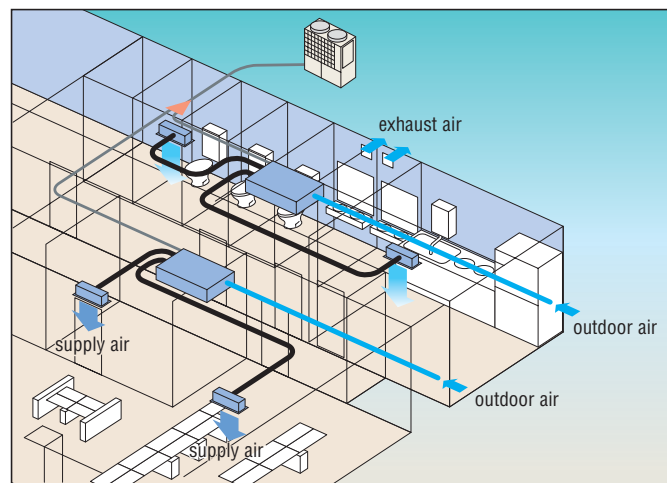
### Air conditioning and intake of outdoor air are in the same system

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



### Compact design

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



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

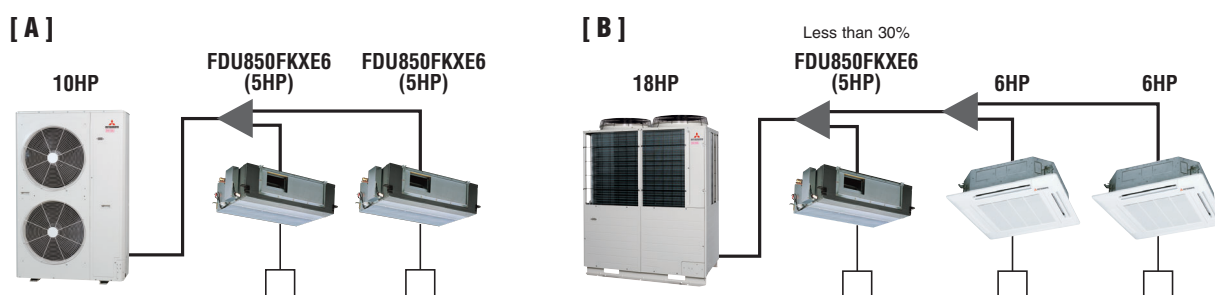


## Connectivity with KX6 series

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

## Combination with KX6 series

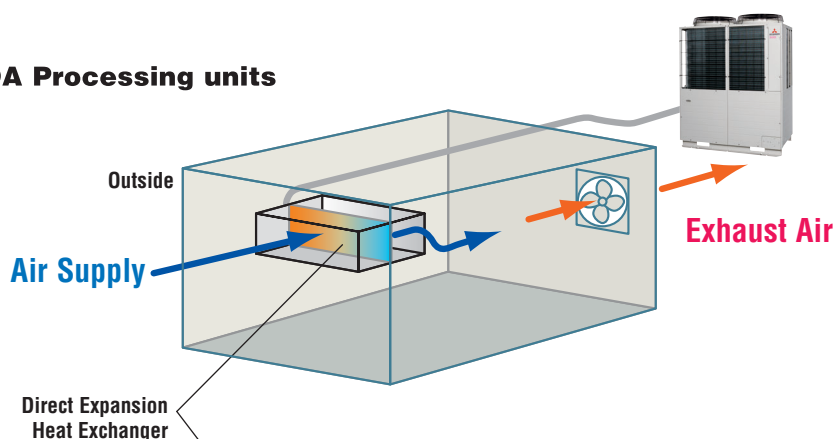
	case	Combination
A	In case OA processing units only are connected with KX6 outdoor units	The total capacity of FDU-F is 50~100% of outdoor capacity and max quantity of FDU-F is 2 units.
B	In case both of OA processing units and dedicated air-conditioner are connected with KX6 outdoor unit.	The total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



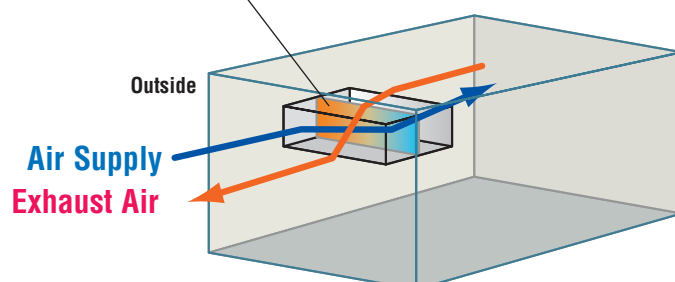
## Concept (Difference between FDU-F and SAF)

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

### FDU-F OA Processing units



### SAF





# Specifications

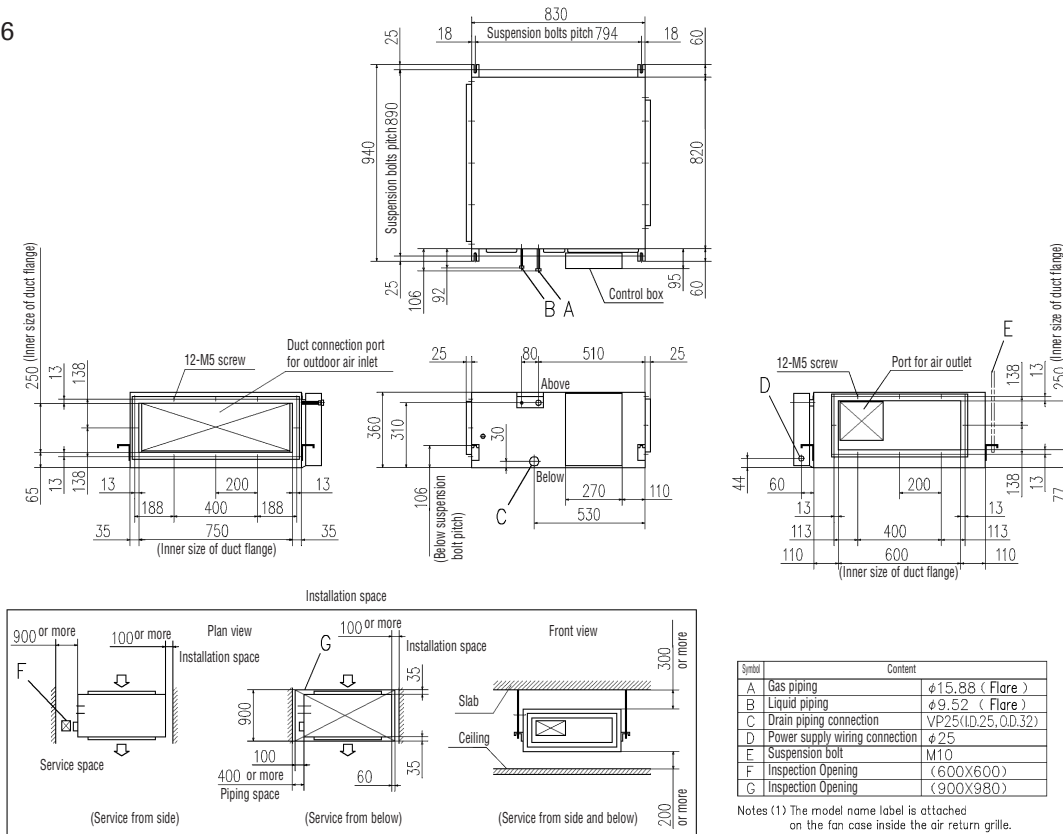
Item	Model	FDU500FKXE6	FDU850FKXE6	FDU1300FKXE6	FDU1800FKXE6
Nominal cooling capacity	kW	9.0	14.0	22.4	28.0
Nominal heating capacity	kW	4.2	7.0	10.9	14.8
Power source		1 Phase 220V, 60Hz			
Power consumption	Cool	0.13	0.18	0.32	0.38
	Heat	0.13	0.18	0.32	0.38
Sound pressure level	dB(A)	45	48	50	52
Exterior dimension HxWxD	mm	360x820x830	360x1200x830	360x1570x830	
Net weight	kg	48	62	82	84
Air flow (Standard)	CMM	8.5	14.5	21.5	30
	CMH	510	870	1290	1800
Available static pressure	Pa	Max:200			
Remote control		wired:RC-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")
Refrigerating piping size	(in)	Gas line:ø15.88(5/8")		Gas line:ø19.05(3/4")	Gas line:ø22.22(7/8")

- Cooling capacity is measured at 33°CDB/28°CWB (68%RH) and heating capacity is measured at 0°CDB/2.9°CWB under OA processing mode.
- Operation range of outdoor air temperature is 20°C-40°CDB in cooling, and 0°C-24°CDB in heating.
- Indicated sound level value is measured in anechoic chamber. Actual operation value may become higher due to the surrounding conditions
- Indicated sound level values are measured at 200Pa static pressure. Indicated air flow volume is measured at 200Pa static pressure.
- Total connection capacity of dedicated air conditioning units and OA processing units should be within 50% to 100% of the outdoor unit capacity. Total connection capacity of OA processing units should not exceed 30% of outdoor unit capacity.
- OA processing unit can be used alone, but connecting number of OA processing units should not exceed two (2). The connection capacity of OA processing units should be within 50% to 100% of outdoor unit capacity.
- When optional fan control kit (U-FCRB) is used and operated at 100Pa static pressure, the sound level value becomes 5dB(A) lower than the above indicated value.

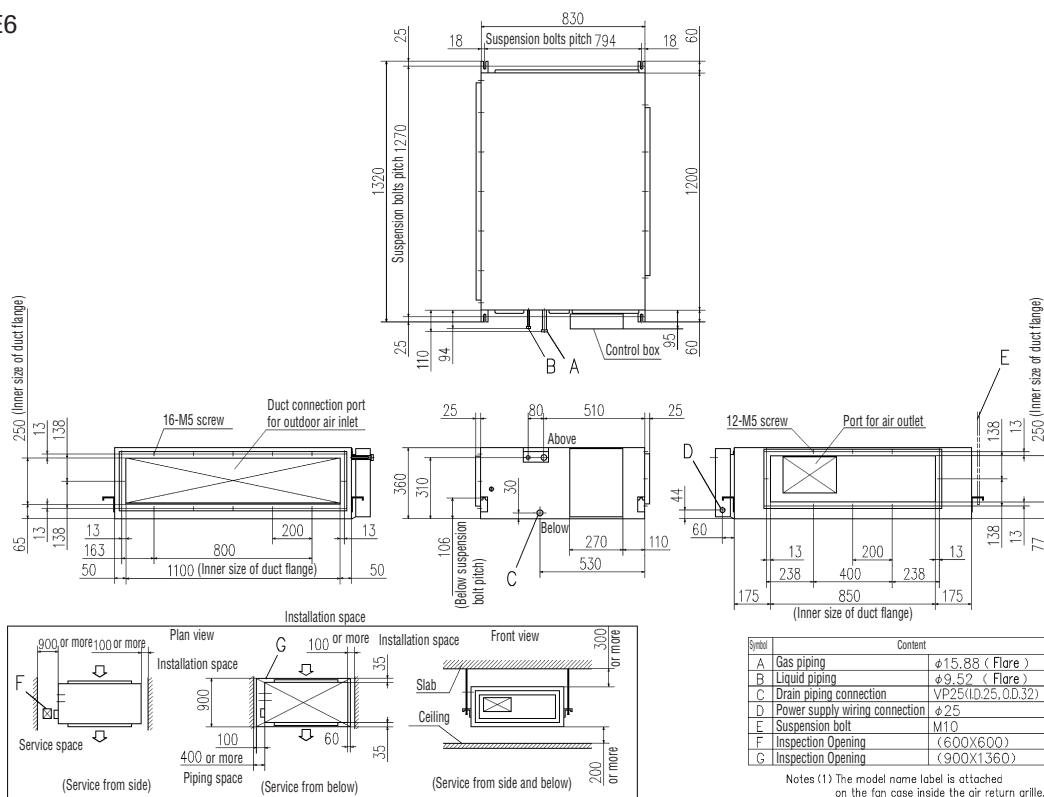
# Dimensions

All measurements in mm.

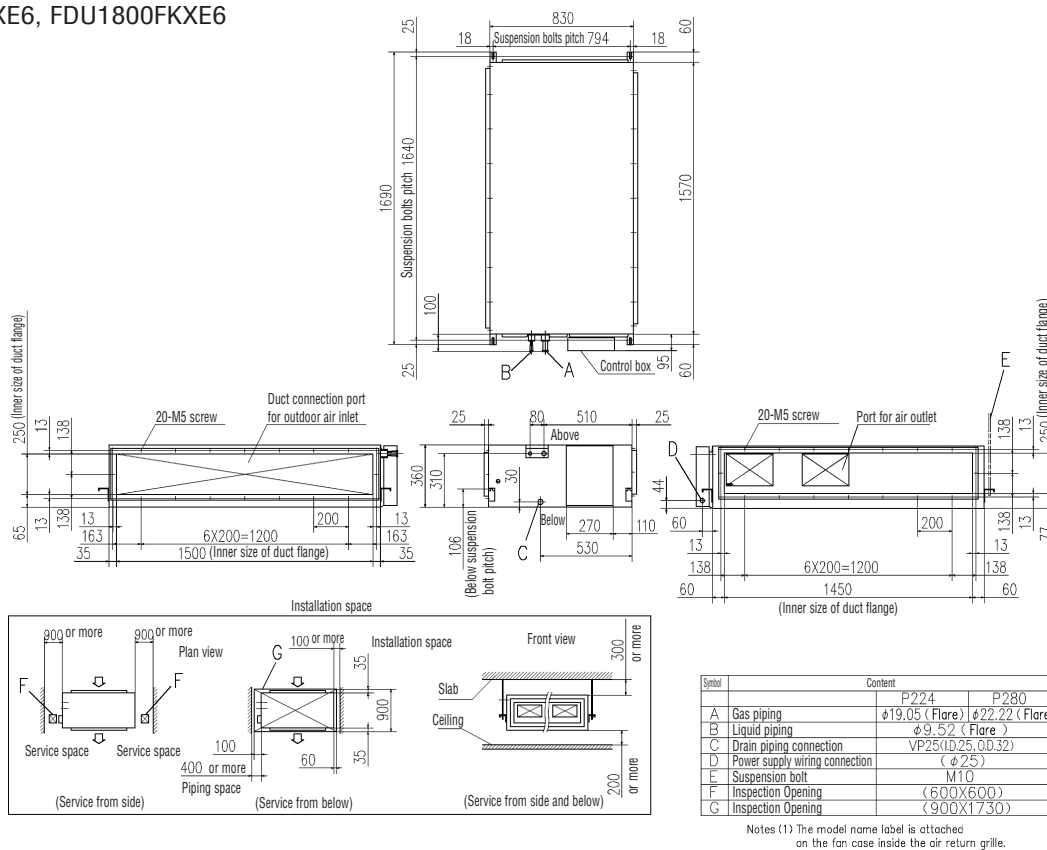
## FDU500FKXE6



### FDU850FKXE6



### FDU1300FKXE6, FDU1800FKXE6





# Fresh Air Ventilation and Heat Exchange unit SAF-E4

- Model No.**  
 SAF250E4  
 SAF350E4  
 SAF500E4  
 SAF800E4  
 SAF1000E4S



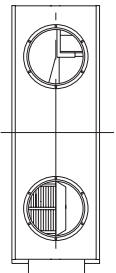
## Re; Building Regulations Part L2

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

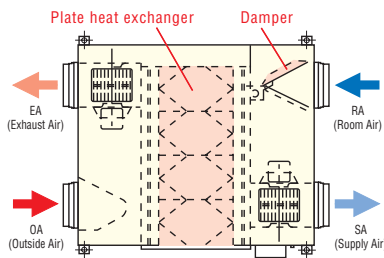
The SAF recovers heat energy which would otherwise be exhausted to atmosphere, and uses this energy to warm the air entering the building. The reverse happens in warmer climates, where the exhausted cool air is used to partially cool the incoming air.

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

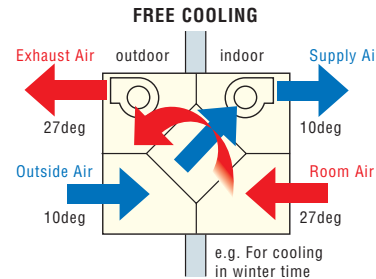
The inclusion of the SAF energy recovery ventilation units in the building design, will reduce the total amount of carbon emissions.



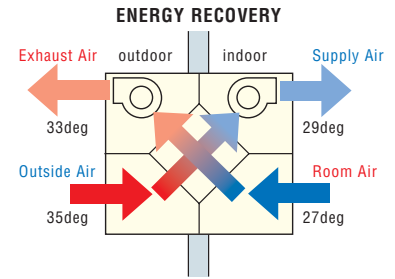
Structure (SAF1000E4)



Principle of operation (simple ventilation)



Principle of operation (heat exchanging)



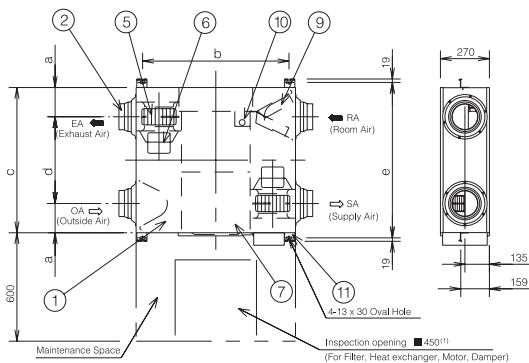
## Specifications

Item	Model		SAF250E4	SAF350E4	SAF500E4	SAF800E4	SAF1000E4S
Power source			1 Phase 220V, 60Hz				
Exterior dimensions							
Height x Width x Depth	mm		270x882x599	170x882x804	270x962x904	388x1322x884	388x1322x1135
Exterior appearance			Galvanised steel sheet				
Power input	Power input	W	118	149	202	391	429
	Running current	A	0.55	0.75	1.00	1.92	2.31
Capacity	UHi	Enthalpy exchange efficiency	Cooling	63	66	62	65
			Heating	70	69	67	71
		Temperature exchange efficiency			75		
	Hi	Enthalpy exchange efficiency	Cooling	63	66	62	65
			Heating	70	69	67	71
		Temperature exchange efficiency			75		
Lo	Enthalpy exchange efficiency	Cooling	68	71	69	69	70
		Heating	75	73	74	75	75
	Temperature exchange efficiency		78	79	79	77	79
Motor & Q'ty		kW	0.02x2	0.044x2	0.062x2	0.117x2	0.137x2
Air handling equipment	Fan type & Q'ty		Sirocco fan x 2				
Air flow	UHi		250	350	500	800	1000
	Hi	m <sup>3</sup> /h	250	350	500	800	1000
	Lo		135	240	310	575	700
Available static pressure	UHi		125	155	165	190	110
	Hi	Pa	100	90	85	100	40
	Lo		30	43	33	50	20
Air filter	Outake intake air		Protection for element (Washable) PS400				
	Exhaust air						

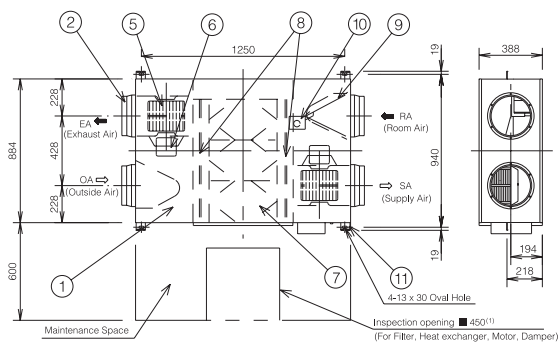
# Dimensions

All measurements in mm.

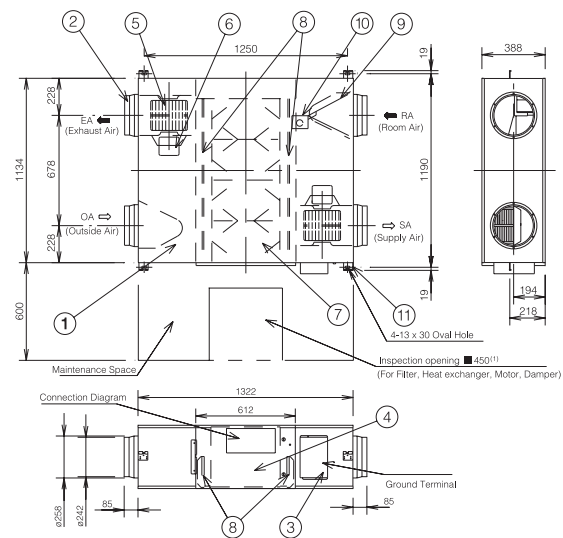
## SAF250E4,350E4,500E4



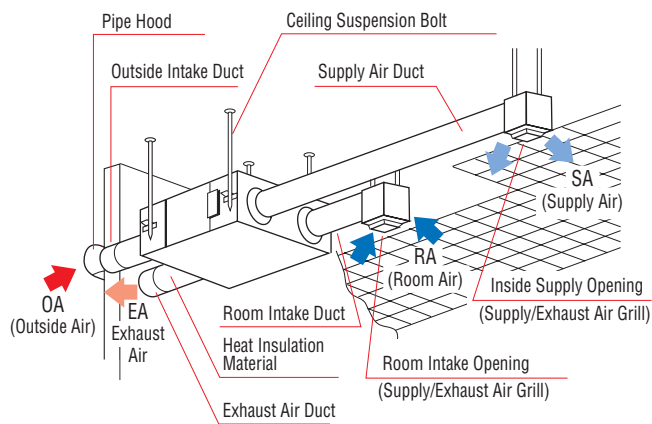
## SAF800E4



## SAF1000E4S



## Installation reference



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

## Dimension table

Unit:mm

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

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

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



# Control Systems

## <Individual control>

### Remote Control line up

	indoor unit	remote control		indoor unit	remote control	indoor unit	remote control
wired	all models	RC-E3	wireless	FDT	RCN-T-36W-E	FDK22-56	RCN-K-E
		RCH-E3		FDC	RCN-TC-24W-ER	FDK71	RCN-K71-E
				FDE	RCN-E-E	others	RCN-KIT3-E

### Wired remote control with weekly timer (option)

#### RC-E3



The RC-E3 controller enables extensive access to service and maintenance technical data combined with easy to use functions and a clear LCD display.

#### Run hour meters to facilitate maintenance checking

RC-E3 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

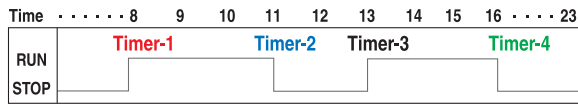
The temperature sensor is housed in the top section of the remote control unit. This arrangement has improved the sensitivity of the remote control unit's sensor, which permits more finely controlled air conditioning.



#### Weekly timer function as standard

RC-E3 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



#### Changeable set temperature ranges

RC-E3 allows the upper and lower limits of a set temperature range to be specified separately. By adjusting a set temperature range, you can ensure energy saving air conditioning by avoiding excessive cooling or heating.

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

### Simple remote control (option)



#### RCH-E3 (wired)



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

#### Up to 16 units

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

#### AUTO restart

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

### Wireless remote control (option)

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

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



#### RCN-E-E



#### RCN-K-E, RCN-K71-E



#### RCN-KIT3-E



### Thermistor (option)

#### SC-THB-E3

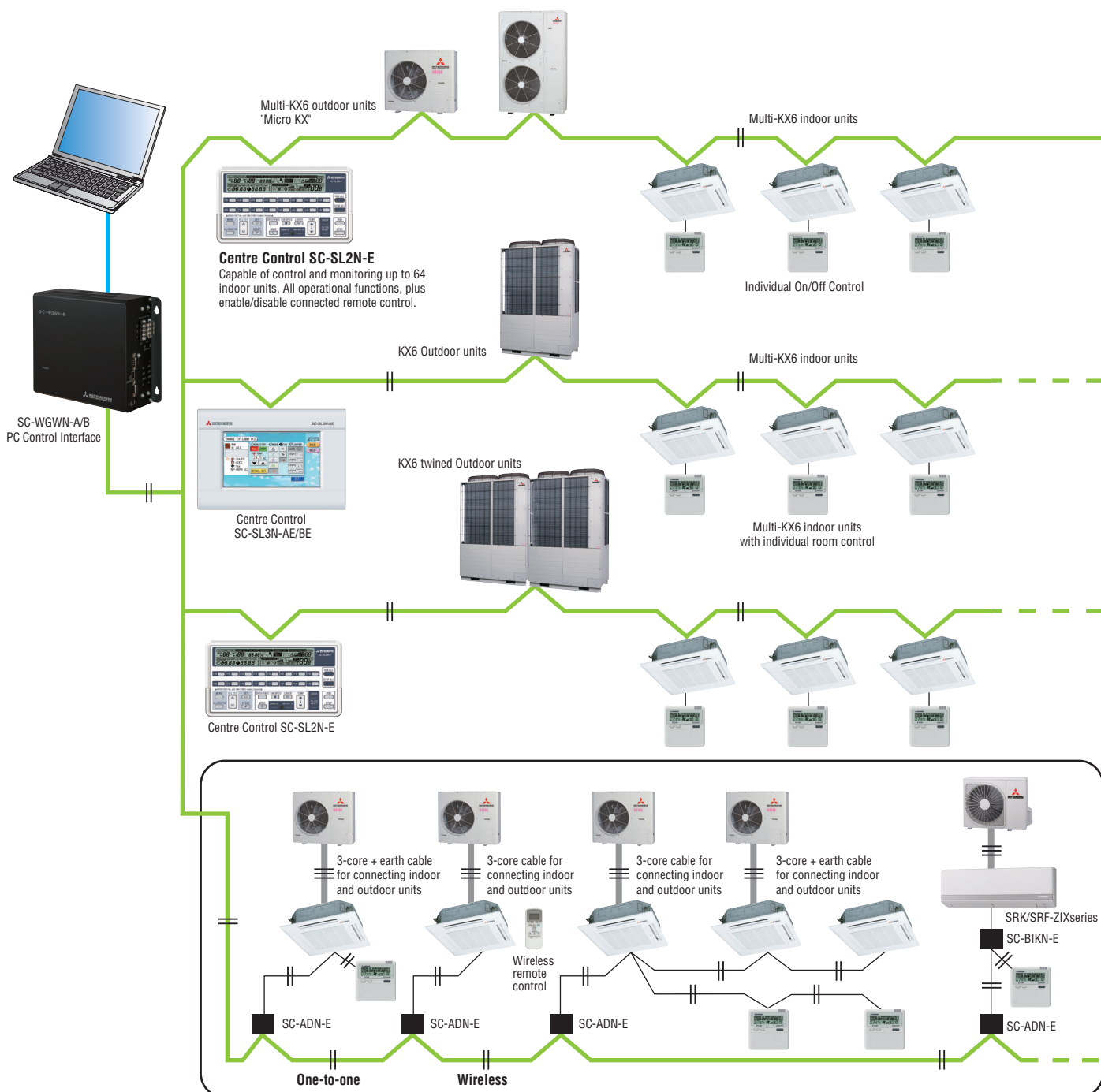
In case sensor in the indoor units or the remote control sensor can not sense the room temperature correctly, or individual remote control in each room is not required but only sensor is required (as when center control system is in place), install SC-THB-E3 at proper place in the rooms.



# <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-ADN-E.

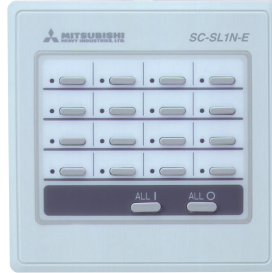




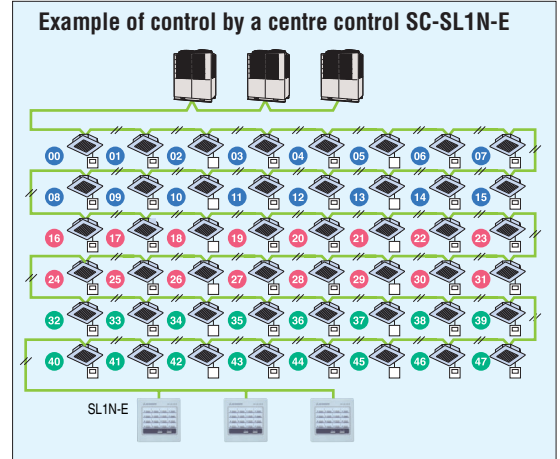
# <Central Control>

## SC-SL1N-E

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



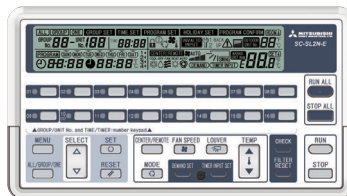
1. The SC-SL1N-E is connected to the Superlink-II network via 2-core, non-polar wires ('AB' connection).
2. It will monitor and control the start/stop function of up to 16 units, with the sixteen operation button.
3. The unit or group numbers in operation or in need of service are displayed with an LED.
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.
7. This central control can be connected anywhere on the Superlink-II network, at indoor units as well as outdoor units. This can substantially reduce the amount of electrical installation work.  
This feature is common to both SC-SL1N-E and SC-SL2N-E controls.



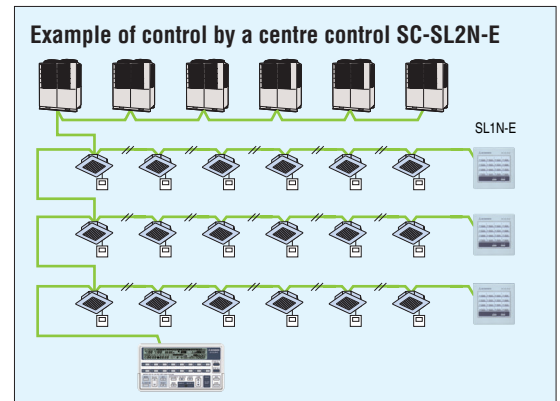
More than one unit (up to 16) can be controlled for individual or collective start/stop operation and indication of unit statuses such as in operation or in need of service.  
• Outer dimensions: H120 x W120 x D15+62\* mm.  
62\* is the measurement including the part contained in a recess.

## SC-SL2N-E

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



1. The SC-SL2N-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.
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-SL1N-E will resume the operation of the system according to a stored operation condition, once power is restored.
7. The SC-SL2N-E can be connected to an external timer to facilitate timed on/off cycles.
8. The number of SC-SL1N-E and SC-SL2N-E units connected to one network are detailed on the table below.
9. This central control can be connected anywhere on the Superlink-II network, at indoor units as well as outdoor units. This can substantially reduce the amount of electrical installation work. This feature is common to both SC-SL1N-E and SC-SL2N-E controls.



An SC-SL2N-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: H215 x W120 x D25+35\* mm.  
35\* is the measurement including the part contained in a recess.

### Combination of Center Control and BMS interface unit

	SC-SL1N-E	SC-SL2N-E	SC-SL3N-AE/BE	SC-WGWN-A/B	SC-BGWN-A/B	SC-LGWN-A
SC-SL1N-E	Yes(*1)	Yes(*1)	Yes(*1)	Yes(*2)	Yes(*2)	Yes(*2)
SC-SL2N-E	Yes(*1)	Yes(*1)	Yes(*1)	Yes(*2)	Yes(*2)	Yes(*2)
SC-SL3N-AE/BE	Yes(*1)	Yes(*1)	Yes(*1)	Yes(*2)	Yes(*2)	Yes(*2)
SC-WGWN-A/B	Yes(*2)	Yes(*2)	Yes(*2)	No	No	No
SC-BGWN-A/B	Yes(*2)	Yes(*2)	Yes(*2)	No	No	No
SC-LGWN-A	Yes(*2)	Yes(*2)	Yes(*2)	No	No	No

(\*1) Number of units in combination of SC-SL1N-E, SC-SL2N-E and SC-SL3N-AE/BE

SC-SL3N-AE/BE	Connectable number of controls in one superlink-II network						
	0		1		2		
SC-SL2N-E	0	1-2	3-4	5-8	0-2	3-4	5-8
SC-SL1N-E	12	8	4	0	8	4	0

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

(\*2) Number of units in combination of SC-WGWN-A/B, SC-BGWN-A/B, SC-LGWN-A, SC-SL3N-AE/BE, SC-SL2N-E and SC-SL1N-E

SC-WGWN-A/B or SC-BGWN-A/B or SC-LGWN-A	Connectable number of controls in one superlink-II network		
	SC-SL1N-E	SC-SL2N-E	SC-SL3N-E-AE/BE
1	0-4	0-1	0-1

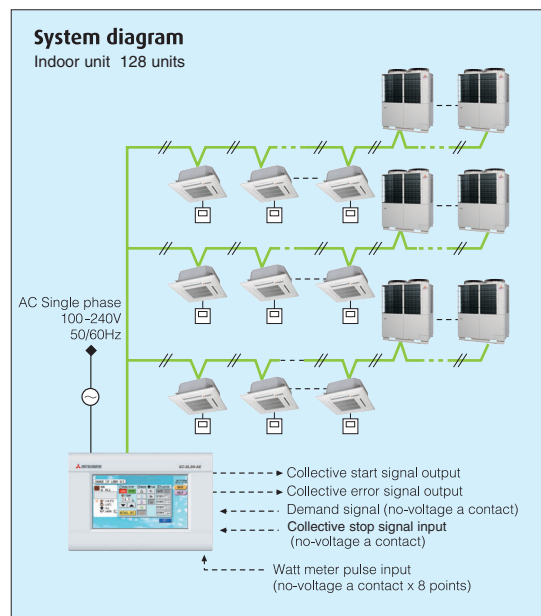
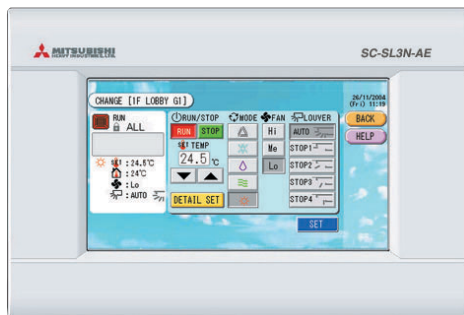
Regarding previous Superlink, refer to Technical Manual '06 SC-T-111, '08 SC-T-119.



# SC-SL3N-AE/BE

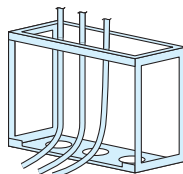
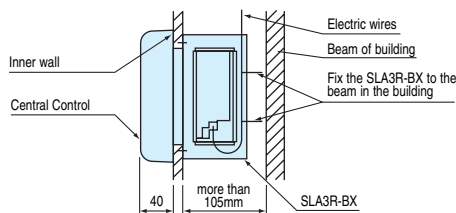
MHI introduces the full colour touch screen central control SC-SL3N-AE/BE, with 7 inch interactive LCD display. Offers control, monitoring, scheduling and service/maintenance functions for up to 128 indoor units.

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



## SLA3R-BX Control Box (option) **NEW**

In case SC-SL3N-AE/BE is fixed in the wall, use SLA3R-BX as optional parts.



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

## Electric power calculation function:

(for SC-SL3N-BE only)

SC-SL3N-BE gives outputs as "electric power consumption kW data -each indoor unit, each group, each SUPERLINK-II system and each power pulse system-" and uses USB memory.

The data can be edited by using the software that comes with the unit.



	SC-SL3N-BE
Method of data saving	USB
Calculation software	Standard
Air-conditioner power proportional distribution pulse input	8 systems
Connecting indoor units number (Maximum)	128

Item	Model	SC-SL3N-AE/SC-SL3N-BE
Ambient temperature during use		0 - 40°C
Power supply		1 Phase 100-240V 50/60Hz
Power consumption		18W
External dimensions (Height x Width x Depth)		162mm x 240mm x 108mm
Net weight		2.0kg
Number of connectable units (indoor units)		up to 128 units
LCD touch panel		Colour LCD, 7 inches wide
Inputs	SL (Superlink) signal inputs	3 systems
	Gas, Power pulse input*	8-point pulse width 100ms or more
	Emergency stop signal input*	1 point non-voltage a contact input continuous input (closed, forced stop)
Outputs	Demand signal input*	1 point non-voltage a contact input continuous input (closed, demand control)
	Simultaneous operation output	1 point maximum rated current 40mA, 24 V During full stop; Open. If even one unit is operating; Closed
	Simultaneous error output	1 point maximum rated current 40mA, 24 V Normal; closed. If even one unit is abnormal; Open

\* The receiving side power supply is DC 12V (10mA).

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

\* In case embodying in a wall, please be sure to special box SLA3R-BX (option).



## <PC windows central control>

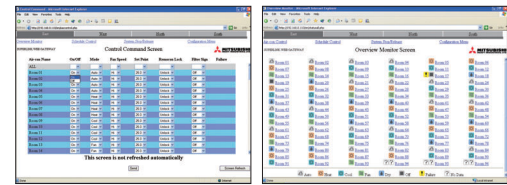
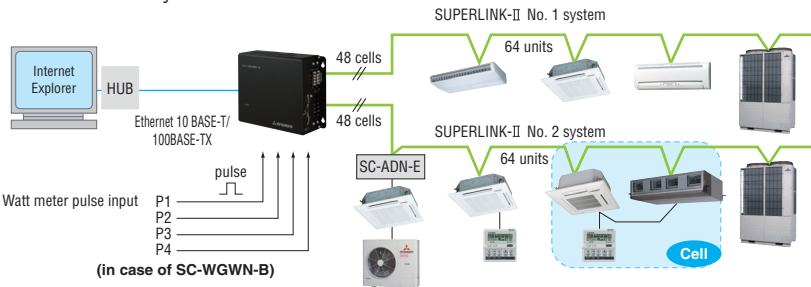
### SC-WGWN-A/SC-WGWN-B Production by order

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

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



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



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

## <BMS interface unit>

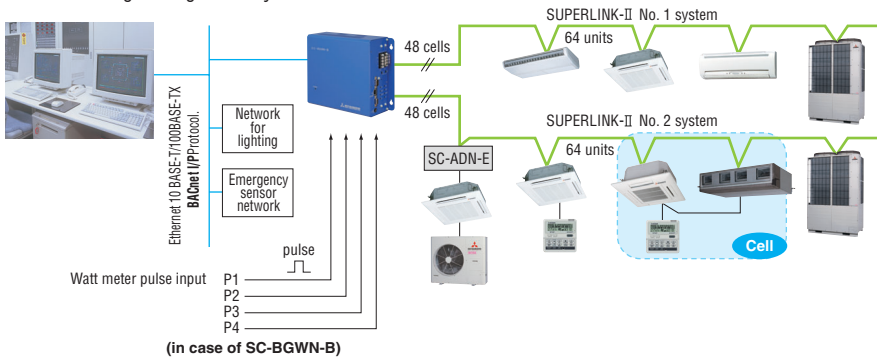
### SC-BGWN-A/SC-BGWN-B (BACnet gateway) Production by order

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

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



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

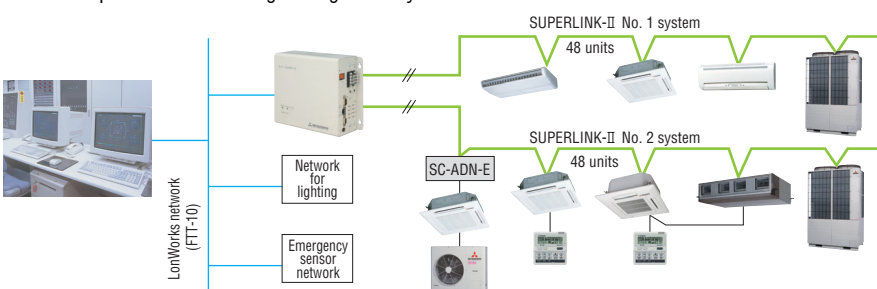


### SC-LGWN-A (LonWorks gateway) Production by order

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



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



# KX6 Service/maintenance and monitoring

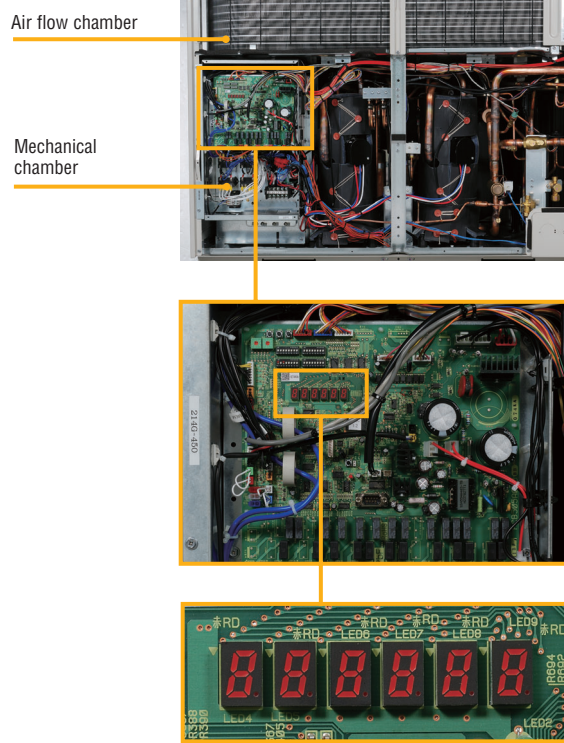
The design of the outdoor units separates the air flow compartment from the mechanical compartment, allowing easy access to serviceable parts by simply removing the panel.

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

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

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

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



Outdoor unit PCB 7-segment display

## Automatically produced test-run report

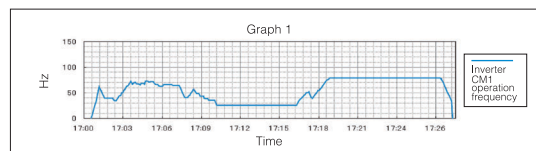
**KX6 series operation data sheet (Outdoor unit)**

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

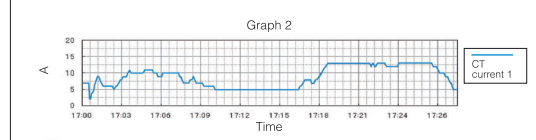
Order No.	Model	Serial No.	Phase	Test No.	Start Time	End Time	Run Time	Test Result	Test Mode	Test Status	Test Error
01	2250-2	001	3P	01	17:00:00	17:05:00	05:00	OK	Normal	Success	
02	2250-2	002	3P	02	17:05:00	17:10:00	05:00	OK	Normal	Success	
03	2250-2	003	3P	03	17:10:00	17:15:00	05:00	OK	Normal	Success	
04	2250-2	004	3P	04	17:15:00	17:20:00	05:00	OK	Normal	Success	
05	2250-2	005	3P	05	17:20:00	17:25:00	05:00	OK	Normal	Success	
06	2250-2	006	3P	06	17:25:00	17:30:00	05:00	OK	Normal	Success	
07	2250-2	007	3P	07	17:30:00	17:35:00	05:00	OK	Normal	Success	
08	2250-2	008	3P	08	17:35:00	17:40:00	05:00	OK	Normal	Success	
09	2250-2	009	3P	09	17:40:00	17:45:00	05:00	OK	Normal	Success	
10	2250-2	010	3P	10	17:45:00	17:50:00	05:00	OK	Normal	Success	
11	2250-2	011	3P	11	17:50:00	17:55:00	05:00	OK	Normal	Success	
12	2250-2	012	3P	12	17:55:00	18:00:00	05:00	OK	Normal	Success	
13	2250-2	013	3P	13	18:00:00	18:05:00	05:00	OK	Normal	Success	
14	2250-2	014	3P	14	18:05:00	18:10:00	05:00	OK	Normal	Success	
15	2250-2	015	3P	15	18:10:00	18:15:00	05:00	OK	Normal	Success	
16	2250-2	016	3P	16	18:15:00	18:20:00	05:00	OK	Normal	Success	
17	2250-2	017	3P	17	18:20:00	18:25:00	05:00	OK	Normal	Success	
18	2250-2	018	3P	18	18:25:00	18:30:00	05:00	OK	Normal	Success	
19	2250-2	019	3P	19	18:30:00	18:35:00	05:00	OK	Normal	Success	
20	2250-2	020	3P	20	18:35:00	18:40:00	05:00	OK	Normal	Success	
21	2250-2	021	3P	21	18:40:00	18:45:00	05:00	OK	Normal	Success	
22	2250-2	022	3P	22	18:45:00	18:50:00	05:00	OK	Normal	Success	
23	2250-2	023	3P	23	18:50:00	18:55:00	05:00	OK	Normal	Success	
24	2250-2	024	3P	24	18:55:00	19:00:00	05:00	OK	Normal	Success	
25	2250-2	025	3P	25	19:00:00	19:05:00	05:00	OK	Normal	Success	
26	2250-2	026	3P	26	19:05:00	19:10:00	05:00	OK	Normal	Success	
27	2250-2	027	3P	27	19:10:00	19:15:00	05:00	OK	Normal	Success	
28	2250-2	028	3P	28	19:15:00	19:20:00	05:00	OK	Normal	Success	
29	2250-2	029	3P	29	19:20:00	19:25:00	05:00	OK	Normal	Success	
30	2250-2	030	3P	30	19:25:00	19:30:00	05:00	OK	Normal	Success	

Mitsubishi Heavy Industries     Sales Company

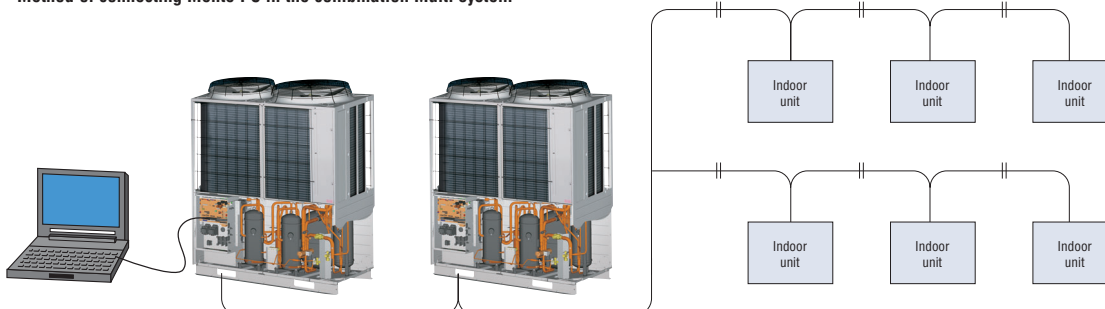
## Operation data storage during servicing



## Operation data storage when a fault occurs



## Method of connecting Mente PC in the combination Multi system





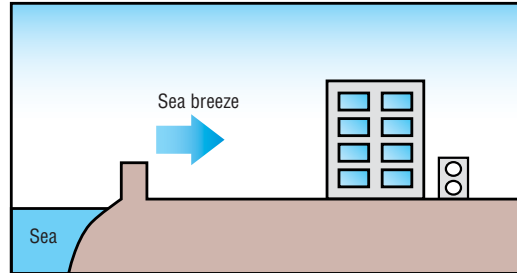
# Corrosion Protection Treatment series

## HyperMultiKX 4~48hp (11.2kW~136.0kW)

**NEW**

Production by order

All KX6 outdoor 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	* FDCS335KXE6G	33.5kW
FDCS112KXES6	11.2kW	FDCS335KXE6-K	33.5kW
FDCS140KXEN6	14.0kW	FDCS400KXE6	40.0kW
FDCS140KXES6	14.0kW	FDCS450KXE6	45.0kW
FDCS155KXEN6	15.5kW	FDCS504KXE6	50.4kW
FDCS155KXES6	15.5kW	FDCS560KXE6	56.0kW
* FDCS224KXE6G	22.4kW	FDCS560KXE6-K	56.0kW
* FDCS280KXE6G	28.0kW	FDCS615KXE6	61.5kW
		FDCS680KXE6	68.0kW

- Combination systems: 26~48hp (73.5kW~136.0kW) are the same as that of standard series.
- Specifications and Dimensions are the same as that of the standard series.
  - \* Models weight is 6 kg less than the standard.
- 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 KX6 series longer while its exterior appearance has been greatly improved. Durability of KX6 series for anticorrosion is about two times that of standard outdoor units under the same conditions.

## Additional treatment from the standard series

\*FDCS335KXE6-K (For combination)

		4~12HP	12*~14~24HP
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

### 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.



# KX4 Outdoor units

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

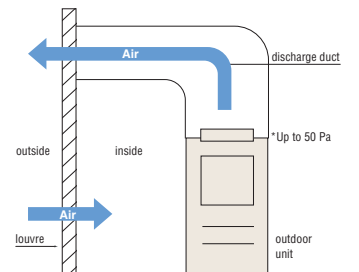
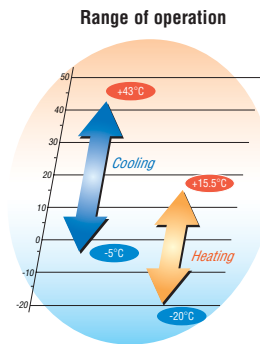
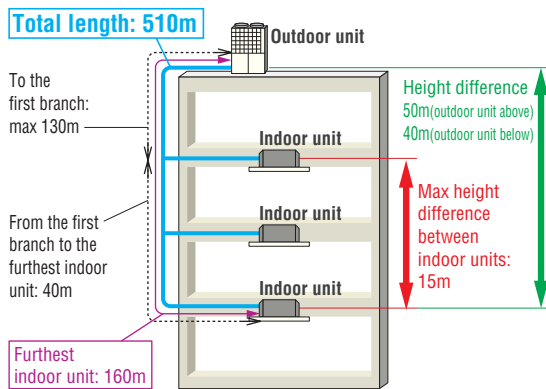
Production by order

Model No.	Nominal Cooling Capacity
FDCA224HKXE4D	22.4kW
FDCA280HKXE4D	28.0kW
FDCA335HKXE4D	33.5kW

- Superlink models (not Superlink-II models)
- The KX4 heat pump 2-pipe systems offer high performance VRF for applications that require either cooling only or heating only.
- Connect up to 20 indoor units/up to 130% capacity.
- High efficiency with COP (in cooling) from 3.6 to 3.9.



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



In case an outdoor unit is installed inside the building and outdoor exhaust air is discharged to outside the building through duct system, these units have necessary minimum external static pressure (50Pa).

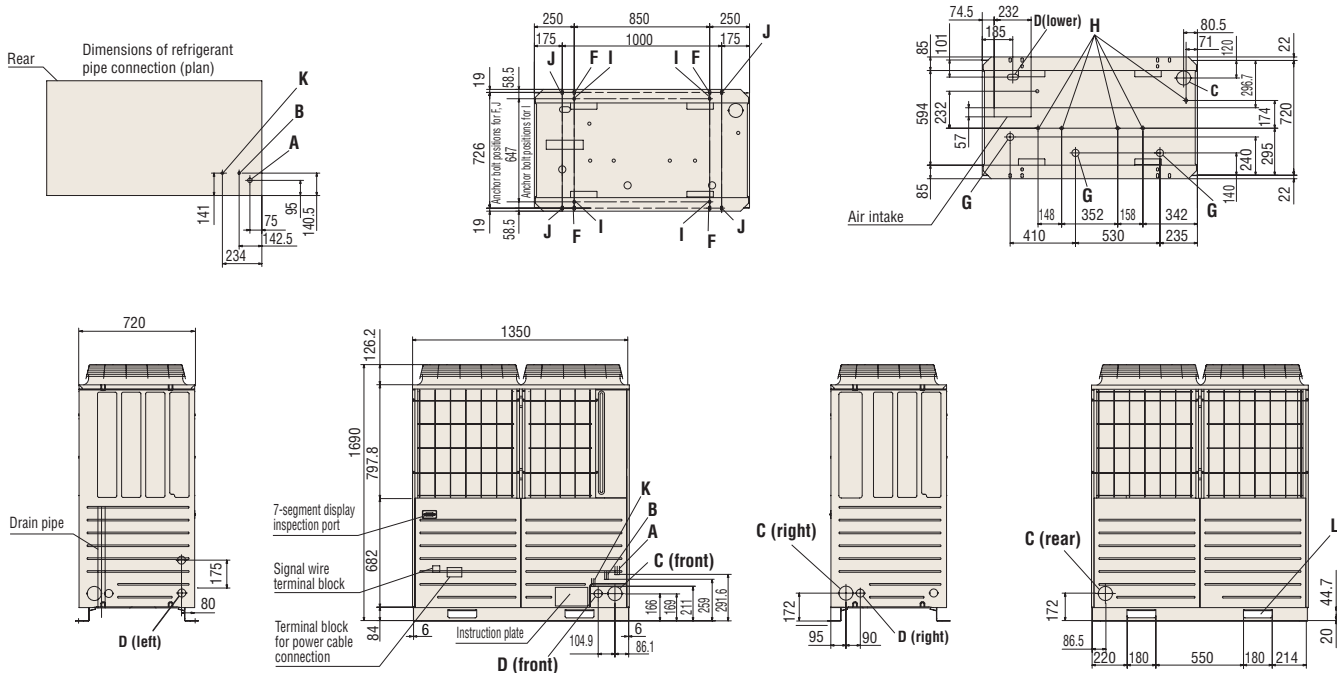
## Specifications

Item	Model	FDCA224HKXE4D	FDCA280HKXE4D	FDCA335HKXE4D	
Nominal horse power		8HP	10HP	12HP	
Power source		3 Phase 380V, 60Hz			
Nominal capacity	Cooling	22.4	28.0	33.5	
	Heating	25.0	31.5	37.5	
Electrical characteristics	Starting current	A			
	Power consumption	Cooling	5.70	8.26	9.53
		Heating	5.98	8.06	9.84
	Operating current	Cooling	9.6	13.6	15.5
Heating		9.6	13.3	16.3	
Exterior dimensions	HxWxD	mm			
Net weight		kg			
Refrigerant charge	R410A	kg			
Sound pressure level	Cooling/Heating	dB(A)			
Refrigerant piping size	Liquid line	mm(in)			
	Gas line	mm(in)			
Capacity control	%	27~126	20~114	19~117	
Number of connectable indoor units		13	16	20	

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

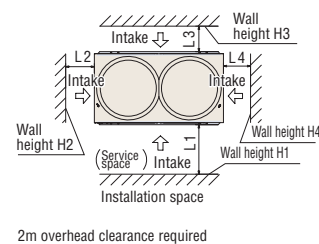
All measurements in mm.



Mark	Item	
A	Service valve connection (gas side)	For refrigerant piping, please refer to the unit specifications.
B	Service valve connection (liquid line)	
C	Refrigerant pipe draw-out port	ø88
D	Power cable draw-in port	ø50
F	Anchor bolt hole	M10 x 4 places
G	Drain hose hole	ø45 x 3 places
H	Drain discharge port	ø20 x 6 places
K*	Oil-equalising pipe joint	ø3/8" flare
L	Sling holes for haulage or hoisting	180 x 44.7

\*14 + 16HP models only

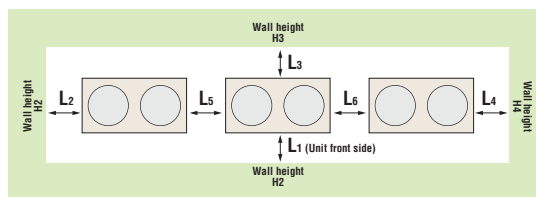
Installation example		
Dimensions	1	2
L <sub>1</sub>	500	Open
L <sub>2</sub>	10	200
L <sub>3</sub>	100	300
L <sub>4</sub>	10	Open
H <sub>1</sub>	1500	-
H <sub>2</sub>	No restrictions	No restrictions
H <sub>3</sub>	1000	No restrictions
H <sub>4</sub>	No restrictions	-



## 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.

## When more than one unit is installed



Installation example		
Dimensions	A	B
L <sub>1</sub>	500	Open
L <sub>2</sub>	10	200
L <sub>3</sub>	100	300
L <sub>4</sub>	10	Open
L <sub>5</sub>	0	400
L <sub>6</sub>	0	400
H <sub>1</sub>	1500	No restrictions
H <sub>2</sub>	No restrictions	No restrictions
H <sub>3</sub>	1000	No restrictions
H <sub>4</sub>	No restrictions	No restrictions



# Mitsubishi Heavy Industries KX6/further information

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

## Creed

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

## Reason for Instituting the Creed

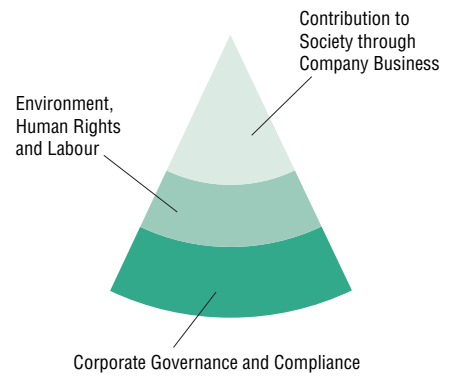
In Japan there are many enterprises with their own "creeds" which simply represent their management concept.

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

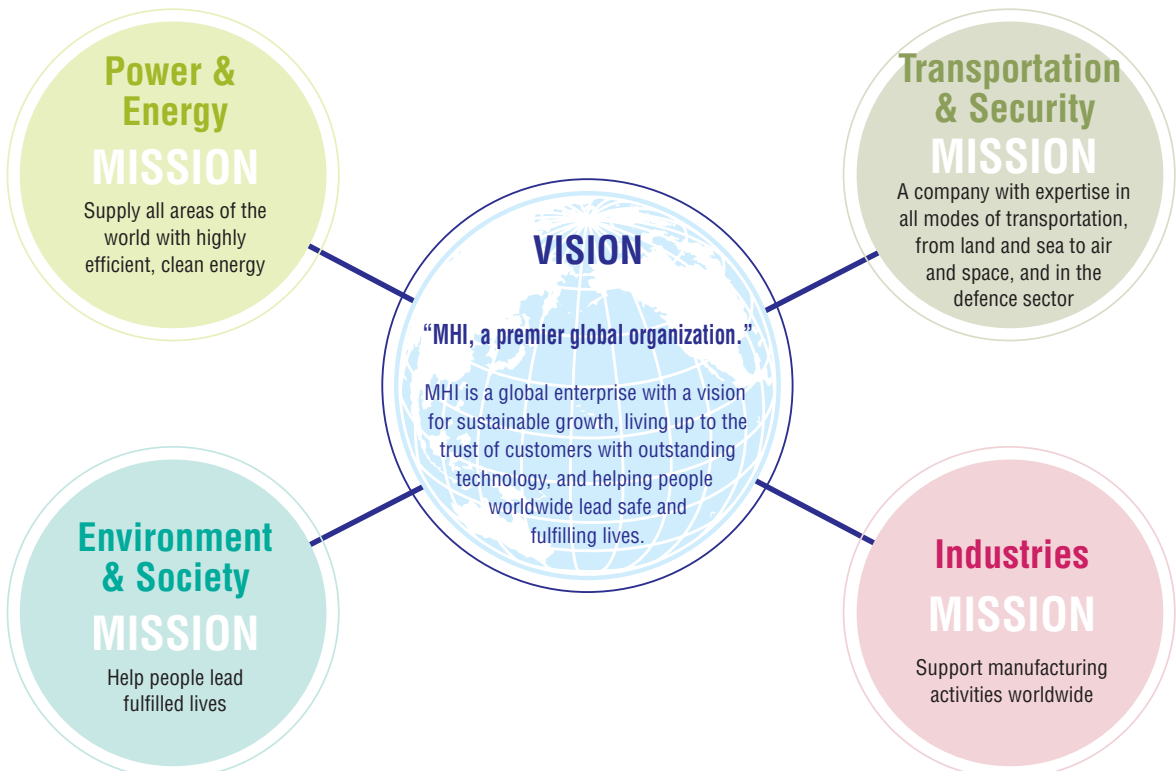
The reason for instituting the present creed is so that all of us can call to mind our one hundred years of tradition, and strive for further development in the future.

*Issued 1 June 1970*

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



## Contribution to Society through Company Business





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

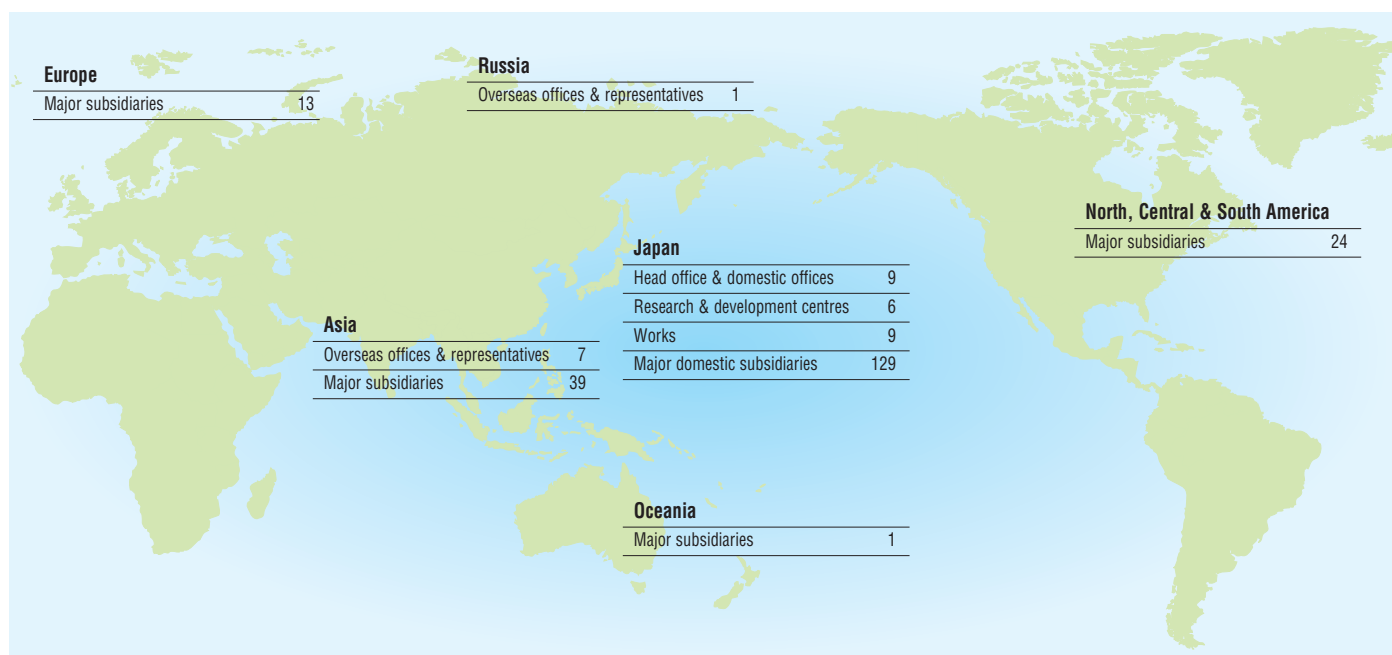
**In order to make the sustainable development of society possible, a basic policy on environmental matters has been established.**

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

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

1. Recognise that environmental protection is top priority in the 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 and employees by region (Consolidated)** as of June, 2008



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.



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



- 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



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

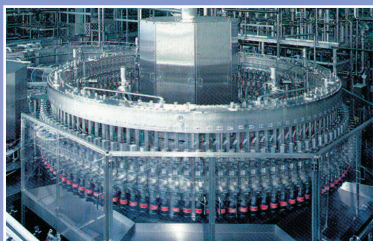


- Unloader & Container Cranes
- Mechanical Parking Facilities
- Integrated Automated Storage Systems
- Rubber & Tyre Machinery
- Skyrails
- Monorail Cars
- New Transportation Systems
- Passenger Boarding Bridges

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



LOCAL DEVELOPMENT  
TRANSPORTATION  
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.



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108-8215, Japan  
[www.mhi.co.jp](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 (Dungdao)  
Air-conditioners Co., Ltd.

#### Certified ISO 14001



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