



1. High Efficiency (KX6)

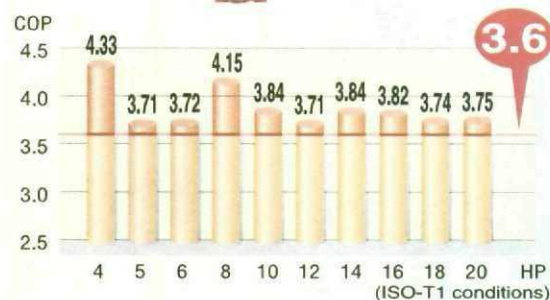
The industry's highest COP levels

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

EER in Cooling



COP in Heating

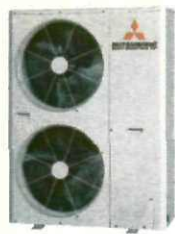


* COP = Capacity[kW] / Power Consumption[kW]

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

2. Compact Design

4~6HP(KX6)



Previous Model

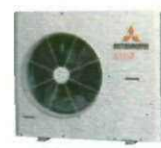
H1300 x W970 x D370mm
125kg / 0.47m³

Volume

35% reduced

Weight

34% reduced



1FAN

New Model

H845 x W970 x D370mm
82kg / 0.30m³

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

8~12HP(KX6)



Previous Model

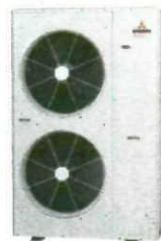
H1690 x W1350 x D720mm
245kg / 0.97m³

Volume

47% reduced

Weight

10% reduced



2FAN

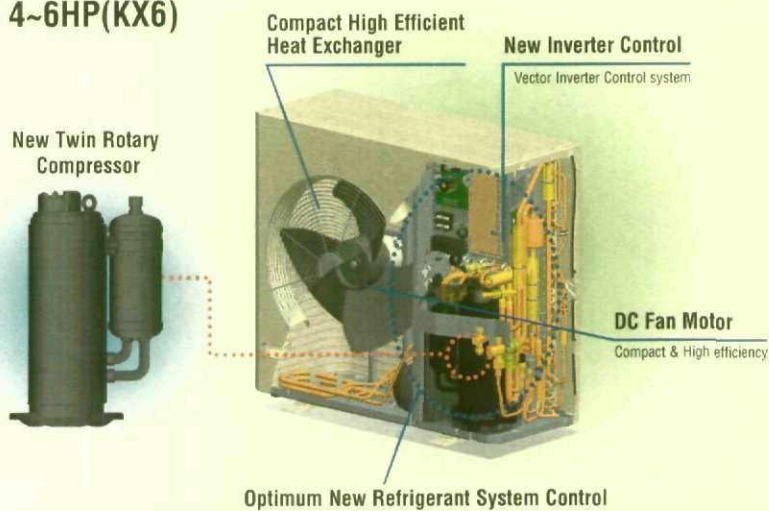
New Model

H1675 x W1080 x D480mm
221kg / 0.52m³ (FDC224KXE6)

- Transportation Becomes much easier

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

4~6HP(KX6)

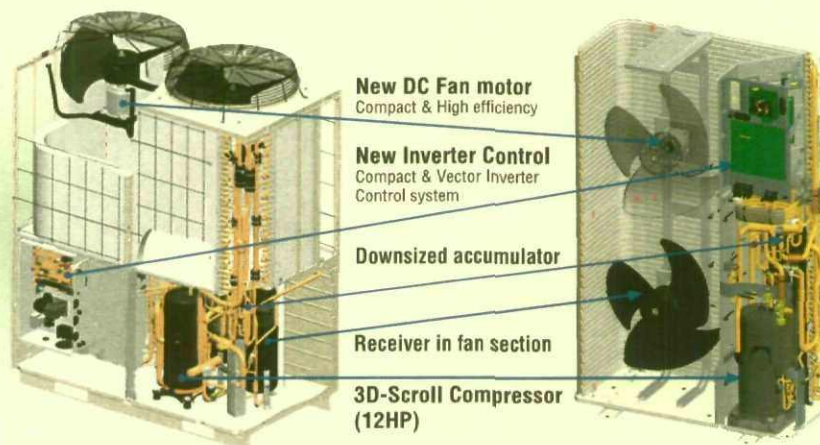


Compact high efficiency Heat Exchanger

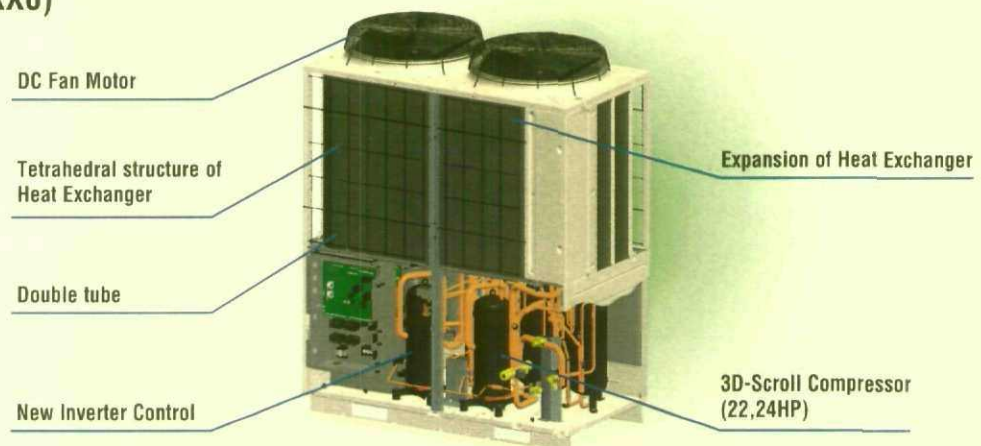
- Optimizing relationship of the air flow velocity & fin pattern
- Improvement of air distribution Maximizing efficiency of heat exchanger



8~12HP(KX6)



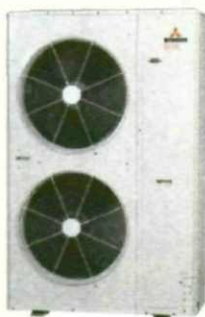
14~48HP(KX6)





3D Scroll Compressor

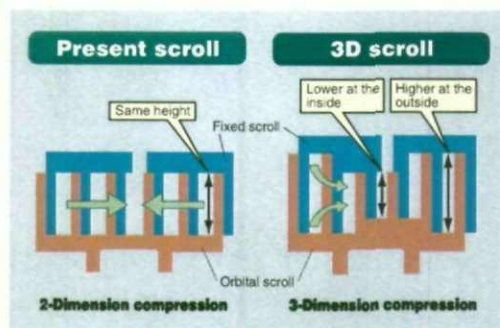
Unit start up speed in heating mode drastically improved for lower outdoor temperature operation.



Downsizing

High Efficiency

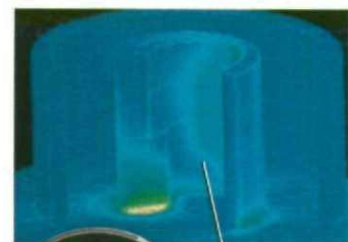
High Endurance



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.



High strength due to the lower teeth inside



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

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

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



KX4

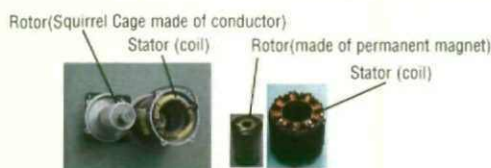
Control PCB



KX6

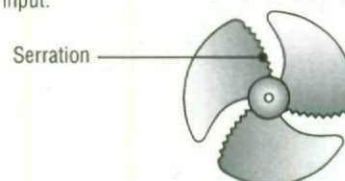
DC Fan Motor

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.

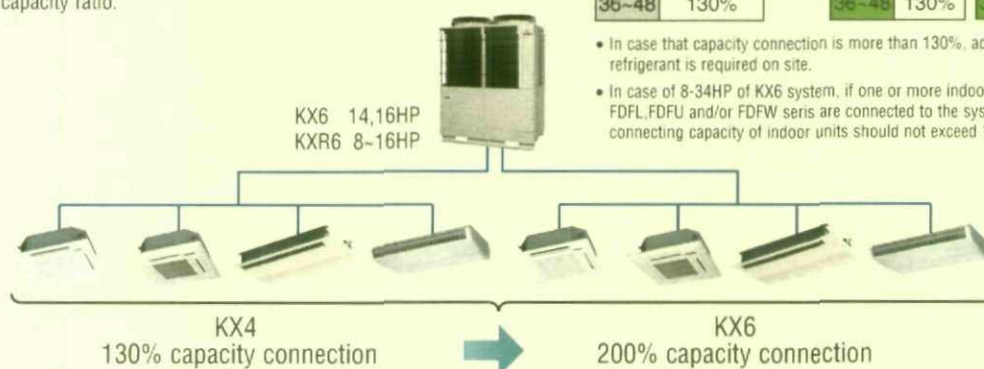
If the connection capacity of indoor units is more than 100%, capacity of each indoor unit may be affected by connection capacity ratio.

Capacity connection

HP	KX4,KXR4
5~12	130%
14,16	130%
18~34	130%
36~48	130%

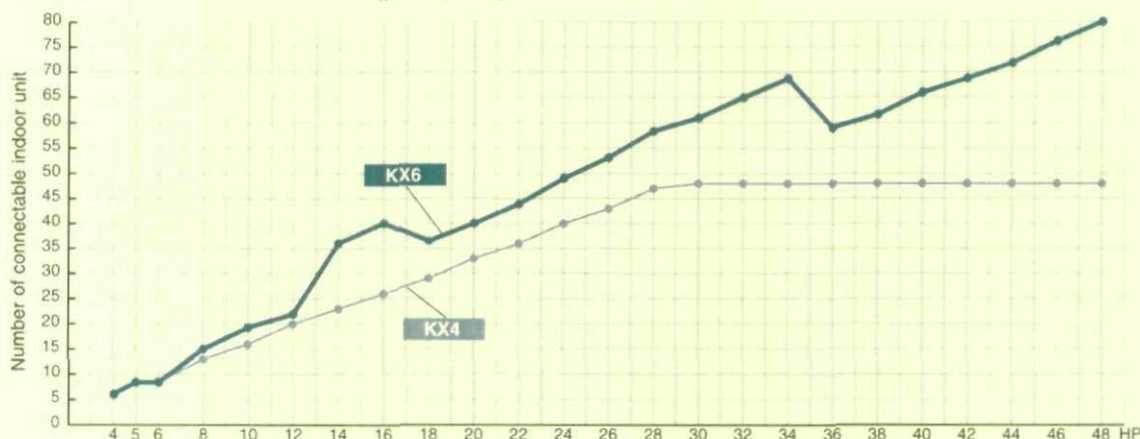
HP	KX6	HP	KXR6
4~12	150%	8~16	200%
14,16	200%		
18~34	160%	18~34	160%
36~48	130%	36~48	130%

- In case that capacity connection is more than 130%, additional charge of refrigerant is required on site.
- In case of 8~34HP of KX6 system, if one or more indoor units of FDK, FDFL, FDFU and/or FDFW series are connected to the system, the total connecting capacity of indoor units should not exceed 130%.



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, KXR6 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	SC-BGWN-A	128(64x2)	—
		SC-BGWN-B	128(64x2)	●
		SC-LGWN-A	96(48x2)	—

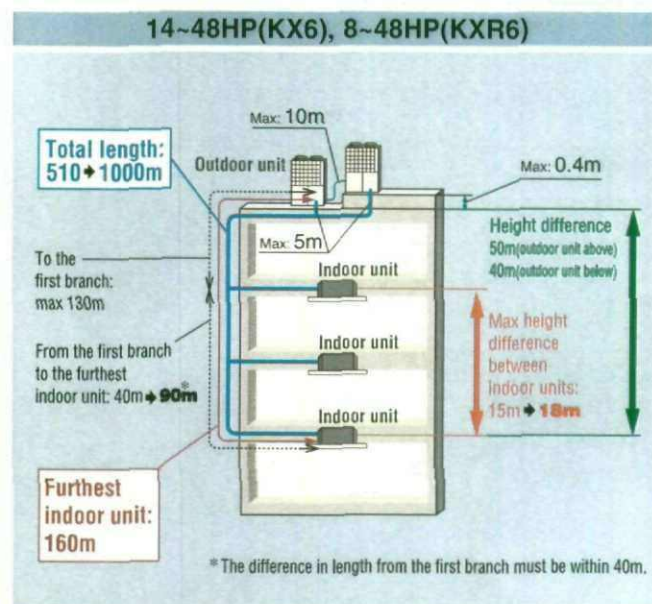
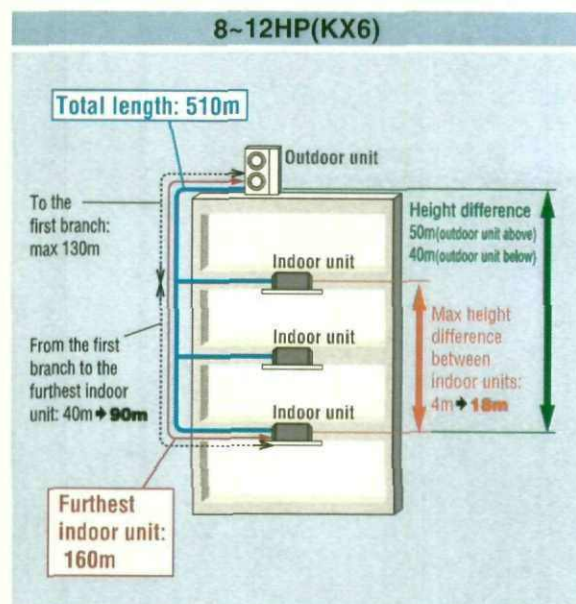


INVERTER

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.

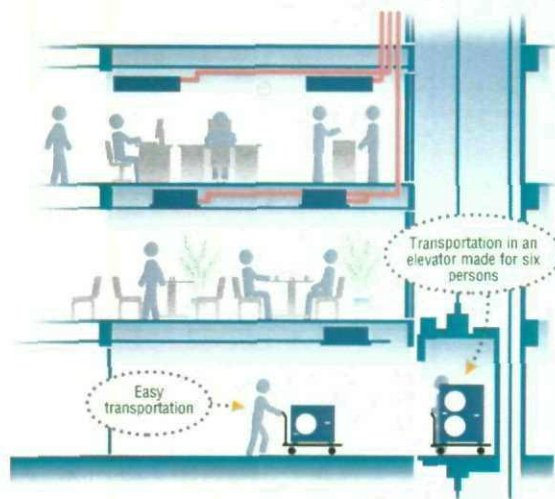
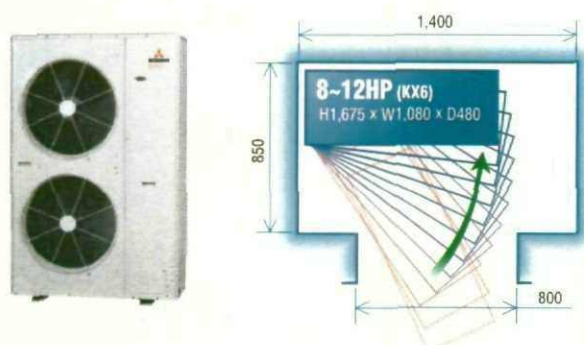
As a result of the adoption of thinner refrigerant piping and refrigerant volume reductions, the industry's longest 160 m actual piping length or 1000m total piping length is realized.



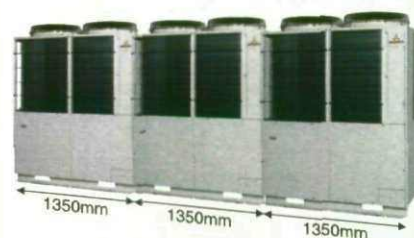
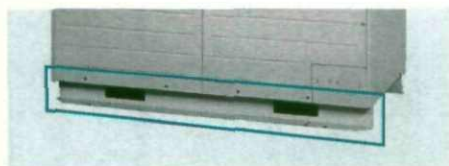
- (1) Divide up the refrigerant system into independent refrigeration circuit systems in case required additional refrigerant on site is 50kg or more for 14~24HP and 100kg or more for 26~48HP.
- (2) In case indoor unit connection capacity is 130% or more or total piping length is 510m or more, additional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

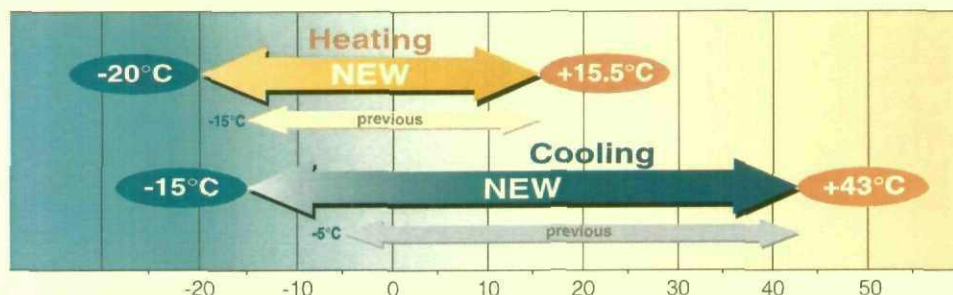


KX6(14~48HP) is portable and the uniform reduced footprint allows neat, continuous installation.



Range of Operation

KX6, KXR6 series permits a system design considering a heating range operation under a low temperature condition up to -20°C from -15°C of previous model and a cooling range operation under -15°C from -5°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 0.75mm² to 1.25mm².

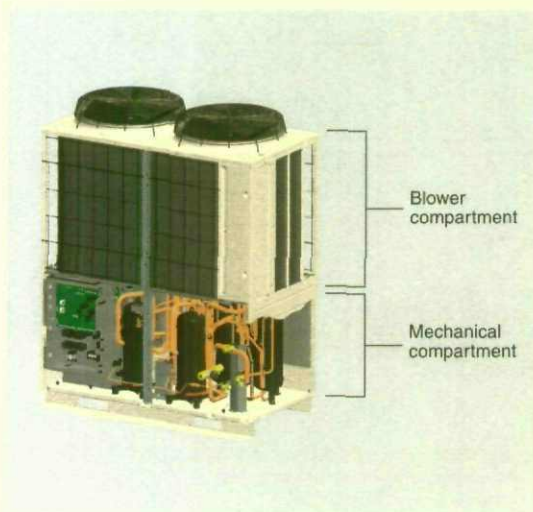
The max length of 2-core can be 1500m from 1000m of previous models.



4. Serviceability

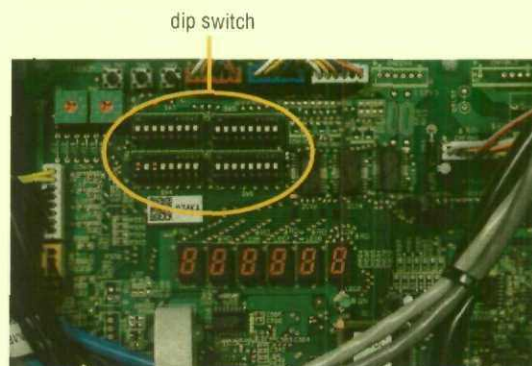
Easy Service

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

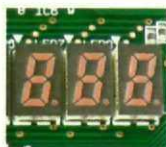




Monitoring Function

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

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



4-6HP



8-48HP

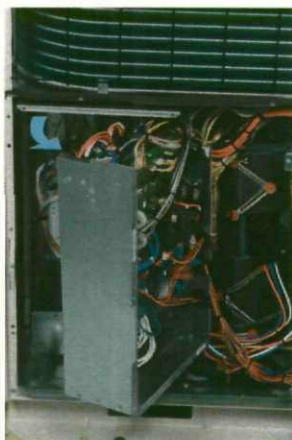
Equipped with RS232C for connection directly to your PC monitoring and service tasks made simple with our service software ("Mente PC").

all KX6, KXR6 series



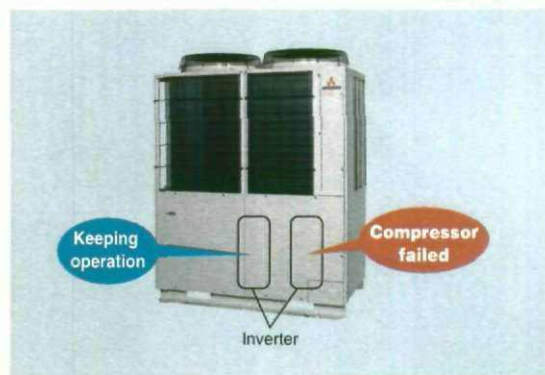
3 Layer Construction (KX6 <14~48HP>, KXR6 <8~48HP>)

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 <14~48HP>

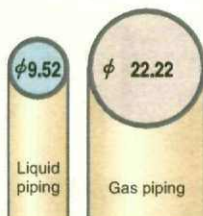
In, 2-compressor module, in the event of the compressor failure, the system will keep operating with good compressor. In combined module, in the event that one unit has a failure, the system will keep operating with another unit.



Reduced Refrigerant Volume

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

KX6 R410A



ex. 10HP

Outdoor unit

HP	KX6	
	Liquid piping	Gas piping
4	ø9.52	ø15.88
5		
6		
8		
10		
12	ø12.7	ø25.4[ø28.58]
14		
16		
18		
20		
22	ø15.88	ø28.58
24		
26		
28		
30		
32	ø15.88	ø31.8[ø34.92]
34		
36		
38		
40		
42	ø19.05	ø38.1[ø34.92]
44		
46		
48		

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

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

Blue Fin

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



Blue Fin

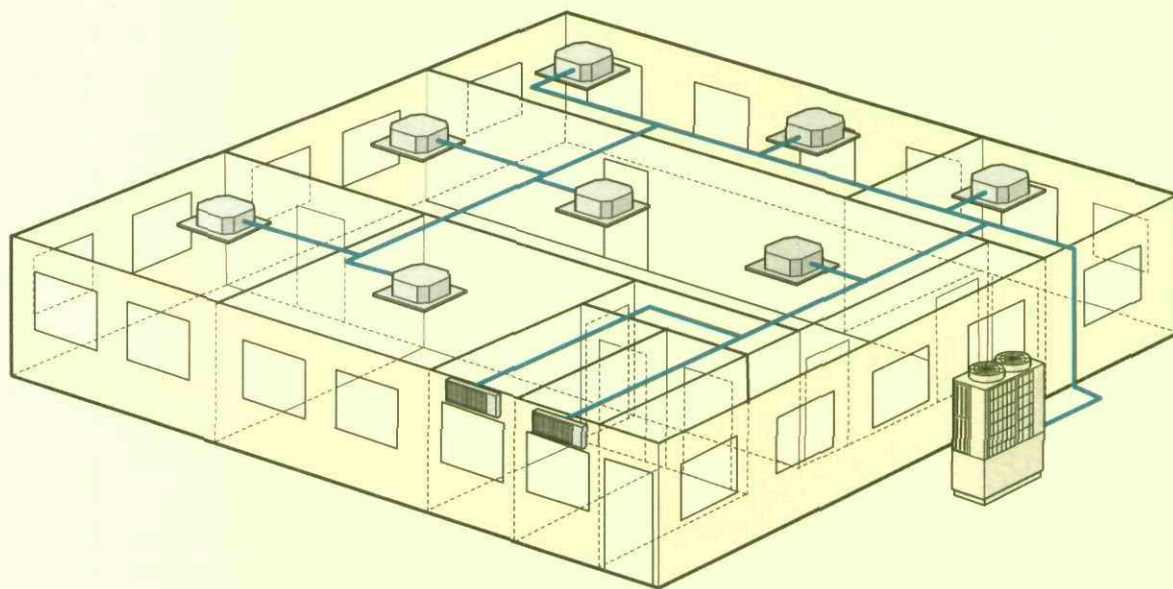
KX6 heat pump systems

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.

