MITSUBISHI HEAVY INDUSTRIES

Our Technologies, Your Tomorrow

R410A

High Performance Air-Conditioning

New KX

Hybrid VRF inverter multi-system Air-Conditioners

Design in Japan, Made for India

State of an Art Air-Conditioning

NEW

KX Series

INSTALLATION FLEXIBILITY

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

Design in Japan, Made for India

Mitsubishi Heavy Industries Japan
137 years of technological innovations

Yataro Iwasaki, founder of Mitsubishi

1884: the Nagasaki shipyards at the time the company was founded

The origin of MHI can be all the way back to 1884. In that year, Yataro Iwasaki, the founder of Mitsubishi took a lease of Government- owned Nagasaki Shipyard. He named it Nagasaki Shipyard & Machinery Works, and started the shipbuilding business on a full scale. This shipbuilding business was later turned into Mitsubishi Shipbuilding Co.,Ltd., and was again launched as Mitsubishi Heavy- Industries, Ltd., in 1934, establishing its position as the largest private firm in Japan. Mitsubishi Heavy Industries is Japan's largest shipbuilding and machinery maker and is a mammoth company involved in an array of Industrial concerns. With nearly 150 subsidiaries, Mitsubishi Heavy Industries Ltd. (MHI) operates in 11 key sectors. Shipbuilding, Air-Conditioning and Refrigeration Systems, Nuclear Energy Systems, General Machinery and Components, Paper and Printing Machinery, Steel Structures and Construction, Machinery and Plants, Machine Tools, Power Systems, Aerospace System, Industrial Machinery, Infrastructure projects and produces everything from Airconditioners & System (Room AC, Semi-Commercial, Commercial, VRF, Centrifugal & Absorption Chillers), Jet engines, Passenger aircraft, Wind- Mills, Cruise ships and Oil tankers, to Construction Machinery, Newsprint Machines, Turbines, Nuclear Power Plants, Thermal Power Plants airplanes, gasoline engines, and gear cutting machines.

Mitsubishi Heavy Industries - Mahajak Airconditioners Co. Ltd. has authorized IAPL Group, India for sales, marketing & service of Mitsubishi Heavy Ind. Heavy Duty Room, Commercial Airconditioners & VRF Systems in India.

IAPL Group with its nationwide network has supported a wide array of projects including residential & large commercial establishment, Offices, Business establishments, Hotels, Hospitals, Schools, Commercial Complexes, Industries, etc. We have participated in projects for large Air Conditioning Systems requiring SYSTEM INTEGRATION of imported air conditioning equipment as per the international standards lay down by our principal- M/s. Mitsubishi Heavy Industries Ltd. We ensure much superior quality of workmanship with advanced engineering skills. We have full- fledged team of qualified engineers and technical staff in the air- conditioning divisions to meet all kind of requirements. IAPL has consistently provided Channel Partners with timely and high value service, competitively priced products without sacrificing quality.

IAPL has its branch offices and Authorized Genuine Spares & Service Center Network at all major cities of India.

5th GEN. HYBRID INVERTER TECHNOLOGY

SINCE THE MONTREAL PROTOCOL ON SUBSTANCES THAT DEPLETE THE OZONE LAYER ENTERED INTO FORCE, WE ALL AGREE TO LOWER THE PRODUCTION AND CONSUMPTION OF OZONE DEPLETING SUBSTANCES IN ORDER TO REDUCE THEIR ABUNDANCE IN THE ATMOSPHERE. WE ALL REALIZE THE EFFECTS OF THE GLOBAL WARMING ON OUR LIVING ENVIRONMENT.

TO MAKE THE WORLD A BETTER PLACE, WE TAKE PART IN ENABLING IMPLEMENTATION OF THE PROTOCOL ACCORDINGLY. WE HAVE USING R-410A REFRIGERANT IN OUR VRF AIR CONDITIONING UNITS.

BETTER PERFORMANCE

HIGHER HEAT TRANSFER COEFFICIENT THAN R-22, R410A IS MORE EFFICIENT AND ENERGY SAVING.

R410A
ECO-FRIENDLY

ECO SMART

R410A IS HYDRO-FLUORO-CARBON (HFC), WHICH CONTAINS ONLY FLUORINE, DOES NOT CONTRIBUTE TO OZONE DEPLETION.
R410A REFRIGERANT IS THEREFORE AN ECO SMART CHOICE FOR ECO-CONSCIOUS USERS IN ORDER TO REDUCE THEIR ENVIRONMENTAL IMPACT AND TO SAVE THE WORLD.

PROVEN CHOICE

R410A HAS BEEN PROVED AND RECOGNIZED AS A NEW GENERATION OF AIR CONDITIONER REFRIGERANT. YOU CAN BECOME MORE CONFIDENT THAT R410A IS THE RIGHT CHOICE FOR A SUBSTANCE USED IN AIR CONDITIONING APPLICATIONS.

Mitsubishi Heavy Industries - Global Activity

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

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

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

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

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

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

RESOURCES/ENERGY

ENVIRONMENT

LOCAL DEVELOPMENT

TRANSPORTATION

MITSUBISHI HEAVY INDUSTRIES

MITSUBISHI HEAVY INDUSTRIES

Our Technologies, Your Tomorrow

Established Since - 1884

- 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

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

INDUSTRIAL
LEISURE/LIFESTYLE
INFORMATION SYSTEM
DEVELOPMENT
DEFENCE

KX

The KX product lineup has been extended to offer solutions delivering up to 60 horsepower (60HP) when using a combination of 3 outdoor units.

By combining 3 outdoor units 60HP can be achieved

Heat pump systems

The 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 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 24HP with 68.0kW cooling capacity. Outdoor units can also be "twinned" or "tripled" providing up to 60HP/168.0kW on a single system.

The range has a total piping length of 1000m (KX) and the furthest indoor unit can be connected up to160m (KX) from the outdoor unit.

Product Line Up

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

Design in Japan, Made for India

Improved Hybrid Series

Micro model

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

☐ 1-phase 220-240V
☐ 3-phase 380-415V

KXZ Lite

NEW

8HP*	10HP*
FDC224KXZPE1	FDC280KXZPE1

*Tropical Usage mode, best suited for Indian conditions.

Standard Model

KXZE1

NEW

12HP	14HP	16HP
FDC335KXZE1	FDC400KXZE1	FDC450KXZE1

18HP	20HP	22HP	24HP
FDC500KXZE1	FDC560KXZE1	FDC615KXE6	FDC680KXE6

26HP	28HP	30HP	32HP
FDC735KXZE1	FDC800KXZE1	FDC850KXZE1	FDC900KXZE1
12+14	14+14	14+16	16+16
FDC335KXZE1 FDC400KXZE1	FDC400KXZE1 FDC400KXZE1	FDC400KXZE1 FDC450KXZE1	FDC450KXZE1 FDC450KXZE1

36HP	38HP	40HP	44HP	46HP	48HP
FDC1000KXZE1	FDC1060KXZE1	FDC1120KXZE1	FDC1230KXE6	FDC1295KXE6	FDC1360KXE6
18+18	18+20	20+20	22+22	22+24	24+24
FDC500KXZE1 FDC500KXZE1	FDC500KXZE1 FDC560KXZE1	FDC560KXZE1 FDC560KXZE1	FDC615KXE6 FDC615KXE6	FDC615KXE6 FDC680KXE6	FDC680KXE6 FDC680KXE6

42HP	44HP	46HP	48HP
FDC1200KXZE1	FDC1250KXZE1	FDC1300KXZE1	FDC1350KXZE1
14+14+14	14+14+16	14+16+16	16+16+16
FDC400KXZE1 FDC400KXZE1 FDC400KXZE1	FDC400KXZE1 FDC400KXZE1 FDC450KXZE1	FDC400KXZE1 FDC450KXZE1 FDC450KXZE1	FDC450KXZE1 FDC450KXZE1 FDC450KXZE1

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

a Power supply for outdoor and indoor units are 3 phase 380-415V, 50Hz and 1 phase 220-240V, 50Hz respectively.

<Indoor units>

A range of 17 types of exposed or concealed indoor units available in a wide range of capacities (total 93 indoor models).
The best solution of indoor units for all applications is available from our full lineup.

				1.5kW <0.5HP>	2.2kW <0.8HP>	2.8kW <1HP>	3.6kW <1.25HP>
Micro Model (4~6HP)							
KXZ Lite							
Standard model ***KX***							
Ceiling Cassette	4way	NEW	FDT			FDT28KXZE1	FDT36KXZE1
	4way Compact	NEW	FDTC	FDTC15KXZE1	FDTC22KXZE1	FDTC28KXZE1	FDTC36KXZE1
	2way		FDTW			FDTW28KXE6F	
	1way		FDTS				
	1way Compact		FDTQ		FDTQ22KXE6F	FDTQ28KXE6F	FDTQ36KXE6F
Duct Connected	High Static Pressure		FDU				
	Low/Middle Static Pressure		FDUM		FDUM22KXE6F	FDUM28KXE6F	FDUM36KXE6F
	Low Static Pressure(thin)		FDUT	FDUT15KXE6F-E	FDUT22KXE6F-E	FDUT28KXE6F-E	FDUT36KXE6F-E
	Compact & Flexible		FDUH		FDUH22KXE6F	FDUH28KXE6F	FDUH36KXE6F
Wall Mounted		NEW	FDK	FDK15KXZE1	FDK22KXZE1	FDK28KXZE1	FDK36KXZE1
Ceiling Suspended			FDE				FDE36KXZE1
Floor Standing	2way		FDFW			FDFW28KXE6F	
	With Casing		FDFL				
	Without Casing		FDFU			FDFU28KXE6F	
OA Processing unit			FDU-F	•FDU-F series are not connectable to Micro model (4~6HP), KXZ Lite.			
			Air flow m³/h	150	250	350	500
Fresh Air Ventilation and Heat Exchange unit			SAF	SAF150E7	SAF250E7	SAF350E7	SAF500E7
Fresh Air Assembly			SAF-DX		SAF-DX250E6	SAF-DX350E6	SAF-DX500E6

	4.5kW <1.6HP>	5.6kW <2HP>	7.1kW <2.5HP>	9.0kW <3.2HP>	11.2kW <4HP>	14.0kW <5HP>	16.0kW <6HP>	22.4kW <8HP>	28.0kW <10HP>
	FDT45KXZE1	FDT56KXZE1	FDT71KXZE1	FDT90KXZE1	FDT112KXZE1	FDT140KXZE1	FDT160KXZE1		
	FDTC45KXZE1	FDTC56KXZE1							
	FDTW45KXE6F	FDTW56KXE6F	FDTW71KXE6F	FDTW90KXE6F	FDTW112KXE6F	FDTW140KXE6F			
	FDTS45KXE6F		FDTS71KXE6F						
	FDU45KXE6F	FDU56KXE6F	FDU71KXE6F	FDU90KXE6F	FDU112KXE6F	FDU140KXE6F	FDU160KXE6F	FDU224KXZE1	FDU280KXZE1
	FDUM45KXE6F	FDUM56KXE6F	FDUM71KXE6F	FDUM90KXE6F	FDUM112KXE6F	FDUM140KXE6F	FDUM160KXE6F		
	FDUT45KXE6F-E	FDUT56KXE6F-E	FDUT71KXE6F-E						
	FDK45KXZE1	FDK56KXZE1	FDK71KXZE1	FDK90KXZE1					
	FDE45KXZE1	FDE56KXZE1	FDE71KXZE1		FDE112KXZE1	FDE140KXZE1			
	FDFW45KXE6F	FDFW56KXE6F							
			FDFL71KXE6F						
	FDFU45KXE6F	FDFU56KXE6F	FDFU71KXE6F						
				FDU650FKXZE1		FDU1100FKXZE1		FDU1800FKXZE1	FDU2400FKXZE1
		800	1000						
		SAF800E7	SAF1000E7						
		SAF-DX800E6	SAF-DX1000E6						

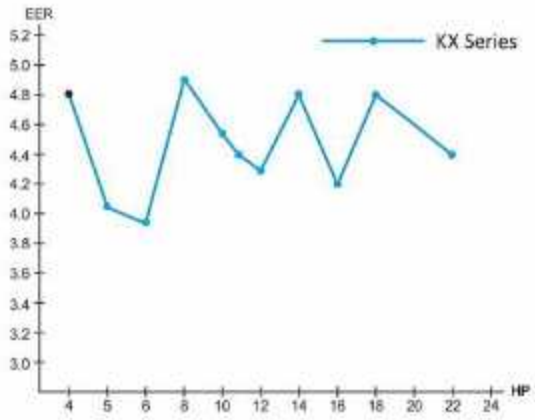
1. High Efficiency & Comfort

Improved Efficiency

NEW

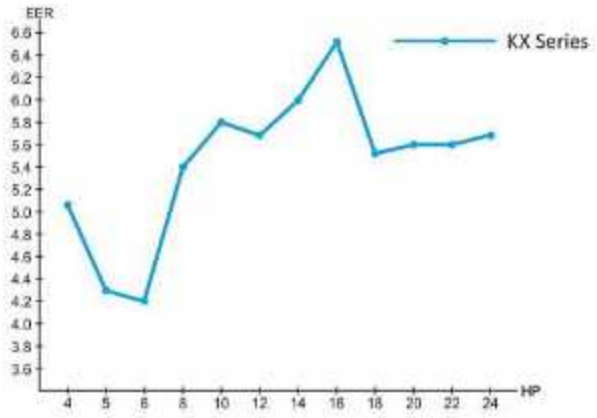
Top Class Energy Efficiency EER (Energy Efficiency Ratio)

KX Series has achieved superior EER which far surpasses competitors's EER at all range.
On average, KX series has 13 % higher EER than competitor



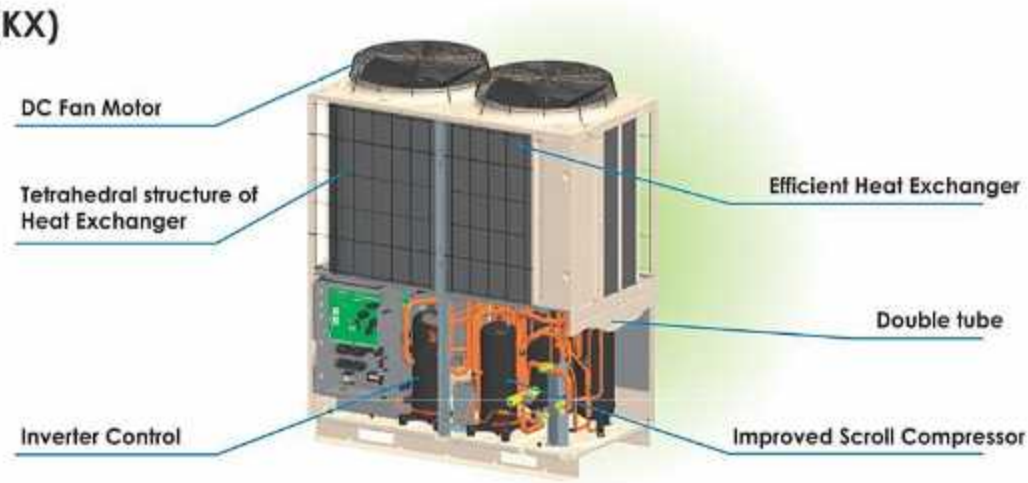
ESEER (European Seasonal Energy Efficiency Ratio)

KX Series also surpasses competitor's ESEER at all range.
On average, KX series has 9% higher EER than competitor



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

10~60HP (KX)

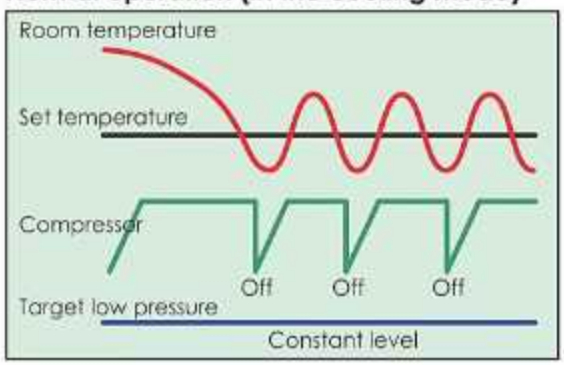


Variable Temperature and Capacity Control (KX)

NEW **VTCC**

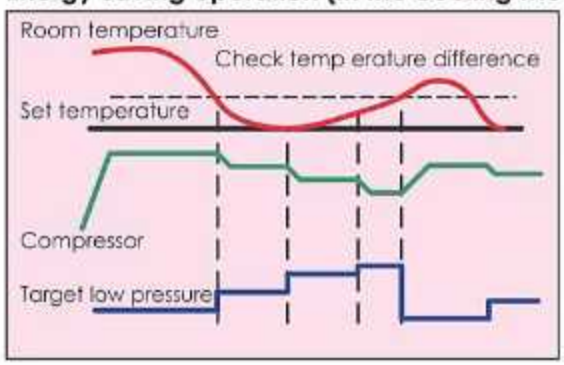
- The VTCC is a newly developed energy saving function designed by Mitsubishi Heavy Industries Thermal Systems.
- A new feature to all our KX ranges which provides up to 34%* energy savings in both cooling and heating mode.
- VTCC is a function specifically designed to maximise energy savings in partial load conditions throughout all seasons.

Normal operation (in the cooling mode)



VTCC adjusts the target pressure of the refrigerant cycle in the outdoor unit automatically according to the demand of the indoor units in partial load conditions. These smooth adjustments ensure an optimal capacity usage of the indoor units as well as maximised energy savings. Ultimately this also increases comfort for the user.

Energy saving operation (in the cooling mode)



For example, in partial load conditions where you have low cooling and heating requirements, VTCC reduces the compressor frequency and controls the actuators in the outdoor unit.
Overall with the VTCC functionality you will always have an additional energy saving of up to 34% (depending on configuration and usage of system) in low cooling and heating load requirements.

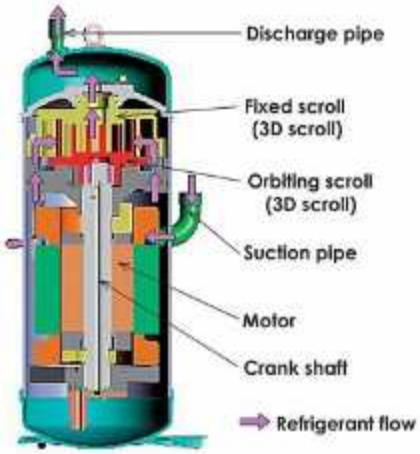
Multiport compressor that achieves high efficiency (KX, KXZ Lite)

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

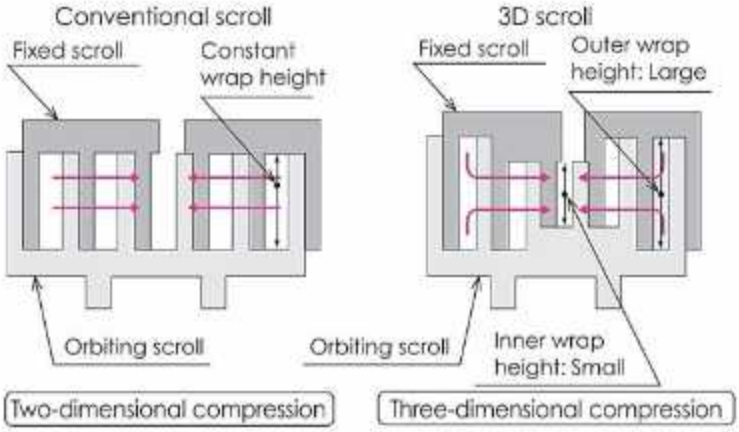
3D Scroll Compressor that achieves high efficiency with low noise, smaller size & lighter weight

For the purpose of meeting the demand for further efficiency improvement and large capacity, MHI developed the three-dimensional scroll compressors (3D scroll) for commercial air-conditioner. By realizing three-dimensional compression which is impossible for the conventional scroll, 5.5% improvement of efficiency, 35% smaller size and 26% lighter weight compared with the conventional compressor were archived, so that substantial energy-saving effect and improvement of unit-mounting capacity are obtained.

("3D scroll" is a registered trademark of MHI.)



3D scroll compressor



Sectional views of conventional scroll and 3D scroll

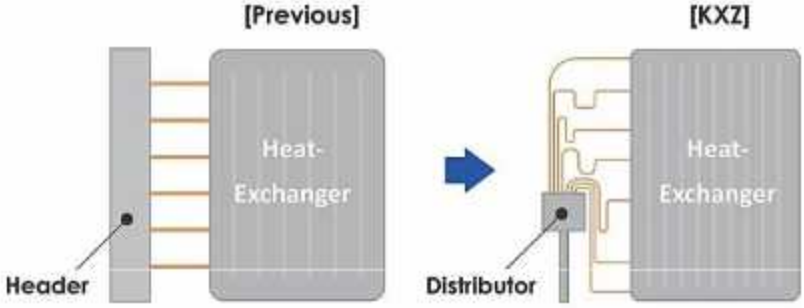
Concentrated winding motor achieves "High Output" and "Total Efficiency Improvement"

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

Applied for KXZE1:10/12/17/18/20HP, KXZXE1:8HP & KXZ Lite:8/10HP

Improved Heat-exchanger

With piping layout rearranged from header to heat exchanger, refrigerant distribution flow has improved and maximum energy efficiency has been achieved. Heat exchanger has improved refrigerant distribution and increased effectiveness. Furthermore due to expansion of effective heat transfer area in heat exchanger, energy efficiency has increased.

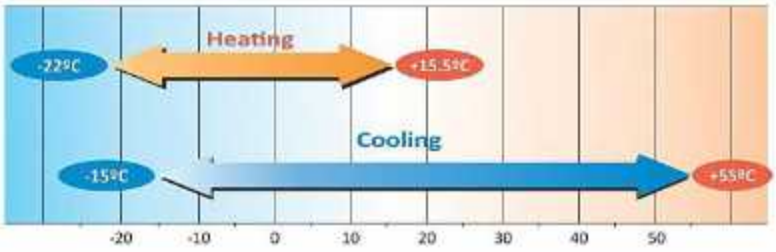


Strengthened resistance against frost

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

NEW Wider Range of Operation (KX, KXZ Lite)

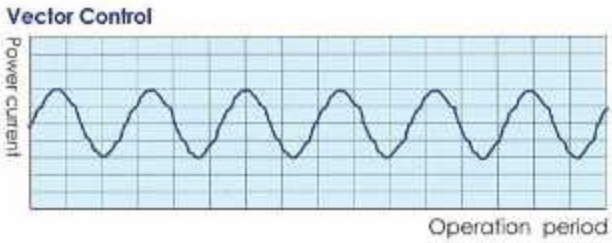
KX, KXZ Lite series permits an extensible system design considering a heating range operation under a low temperature condition down to -22°C and a cooling range operation up to 55°C.



Vector control

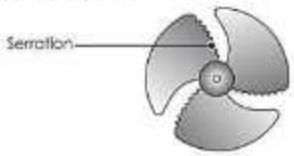
New applied Vector control has a high efficiency and many new advanced features.

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



Long-chorded 3 propeller fan with serration

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



DC Fan Motor

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

Oil level control capability

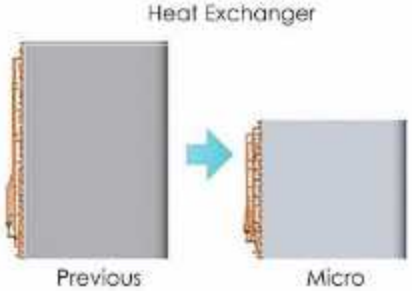
Our proprietary technology of adjusting oil level for combination of two or three outdoor units has realized leveled operation rate, keeping performance of the units and ensuring long life of the System

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.

Compact high efficiency Heat Exchanger

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



2. Design Flexibility

Indoor unit capacity connection

	HP	Capacity connection
Micro model	4~12	150%
KXZ Lite	8·10	120%
KXZE1	12~60	130%

Connectable indoor units

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

KXZ Lite	HP	8	10
	Numbers	8	8

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

Control Systems

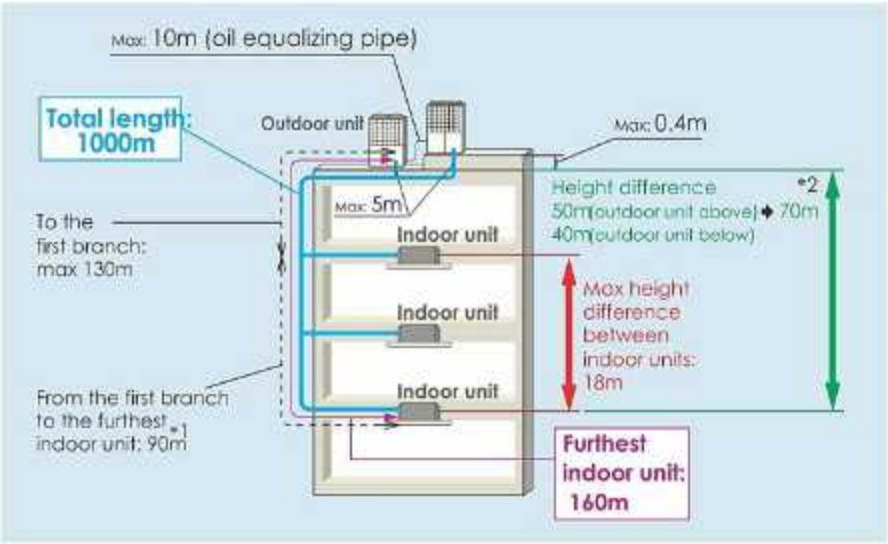
All series offer wide variation of control system and provide the best solution.

[Control system units with SUPERLINK-Ⅱ]

Classification	Type		Model	Connectable indoor units (Maximum)	Electric power calculation
Individual controller	Wired		**RC-E5**	16	—
			RC-EX3A, RC-EX3	16	—
	Wireless		**RCN-T-5AW-E2 etc.**	16	—
Center Console	Push buttons		**SC-SL1N-E**	16	—
			SC-SL2NA-E	64	—
	Touch screen		**SC-SL4-AE**	128	—
			SC-SL4-BE	128	●
	BMS interface units	Web gateway & BACnet	**SC-WBGW256**	256(128x2)	●
		Lonworks	**SC-LGWNB**	96 (48x2)	—

Long Pipe Length 10~60HP(KXZ)

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

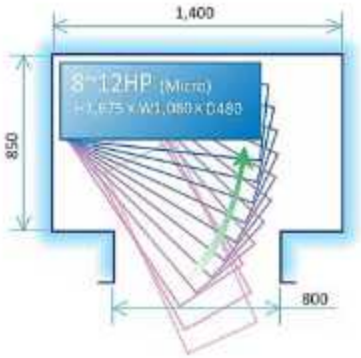


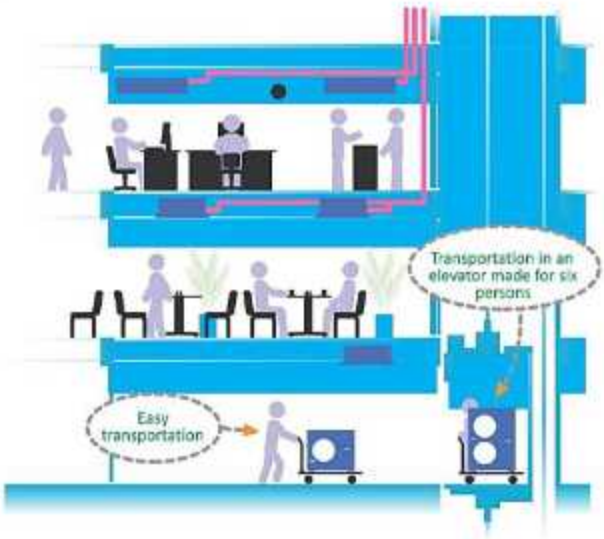
*1 The difference between the longest and the shortest indoor unit piping from the first branch must be within 40m. (MAX85m)

*2 In case of height difference up to 70m, please contact your dealer. Height difference up to 100m is possible with High Head series. Please refer to page 56.

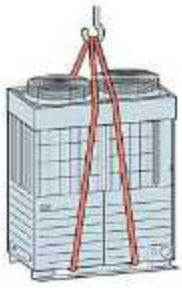
Easy Transportation & Installation

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





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



Automatic Select functions for capacity control (KXZ Lite)

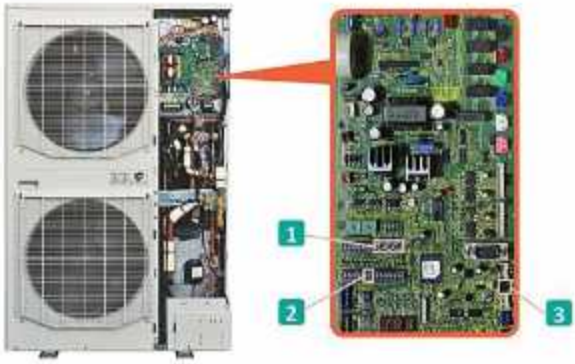
The following 3 items are available for capacity control function.
You can select one item individually or select 2 or 3 items at the same time.
In case of selecting 2 or 3 items, the unit will operate with the most effective function automatically.

Compressor speed control

You can set compressor speed at 100%-80%-60%-40% before starting operation with PWB in the outdoor unit or with a demand controller (procured locally).

How to set "Compressor speed"

- 1 Set the function of external input (CNS1) to "Capacity control input" using P07 of 7SEG setting.
- 2 Set the Demand rate using SW4-7, 4-8 according to the following chart.
- The input signal will be through 3 CNS1. ON/ connected, OFF/ not connected



SW4-7	SW4-8	Compressor speed
OFF	OFF	80%
ON	OFF	60%
OFF	ON	40%
ON	ON	0%

Capacity control timer

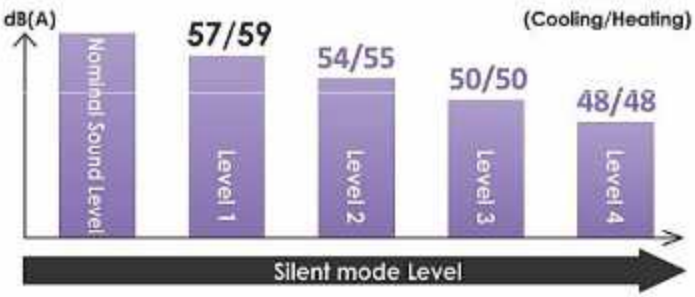
You can set capacity control with RC-EX1A up to 4 times per day maximum.
The timer setting can be changed using 5 minutes intervals.

Silent mode

Considering noise regulations or surrounding circumstances, you can now select 4 levels of silent mode. [1] & [2]
Setting the combination of silent mode is available by using timer function of RC-EX1A.

- Silent mode [1] : Priority for capacity
  This is an effective function during low load operation conditions.
  This setting may be cancelled in overload conditions.

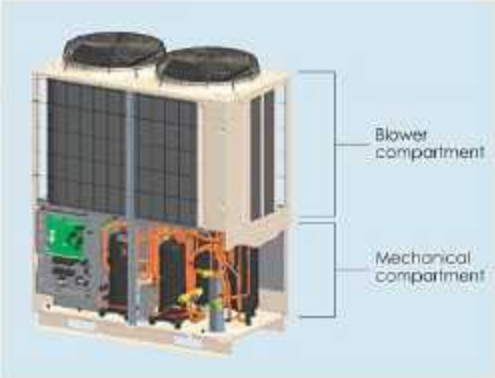
- Silent mode [2] : Priority for silent mode
  Regardless of operation conditions, the outdoor unit will keep the operation at the selected sound level.



3. Serviceability

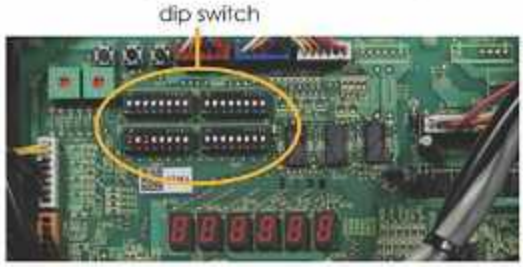
Easy Service

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



Check Operation (10~60HP)

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



Monitoring Function

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

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

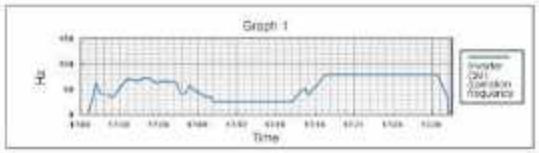
4~6HP
8 10HP(KXZ Lite)

8~60HP

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

Automatically produced test-run report

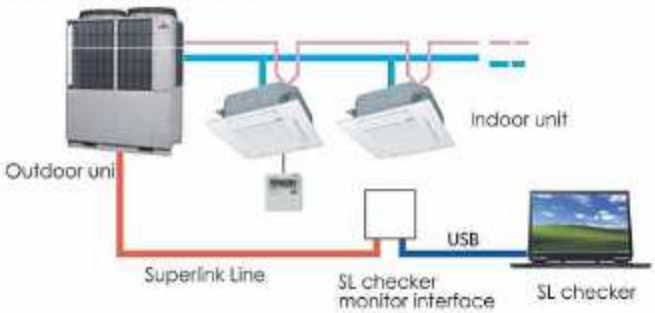
Operation data storage during servicing



Operation data storage when a fault occurs

SL Checker Ⅱ

Remote Control can be operated function from setting Superlink checker.



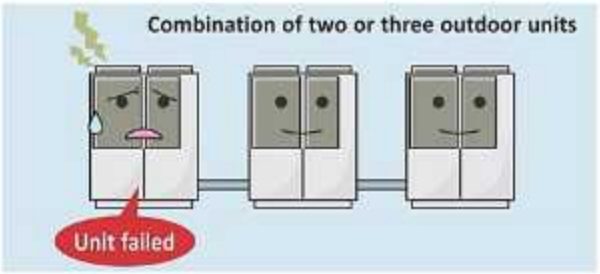
3 Layer Construction

Thanks to control box structure with 3 layer/2 layer construction using hinge connection, service and maintenance has been made much easier for inverter components.

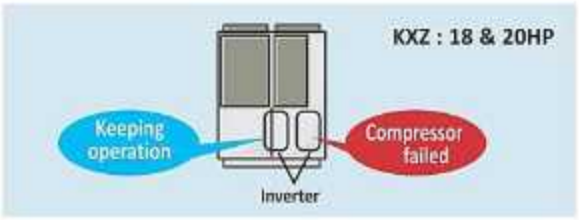
KXZ (3 layer) KXZ Lite (2 layer)

Back-up Operation

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



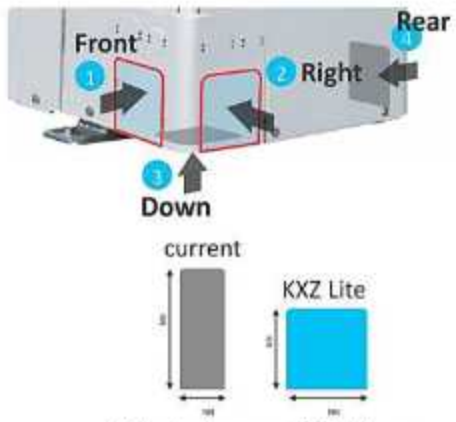
In the event that one compressor has a failure, the unit will keep operating with the another good compressor.



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

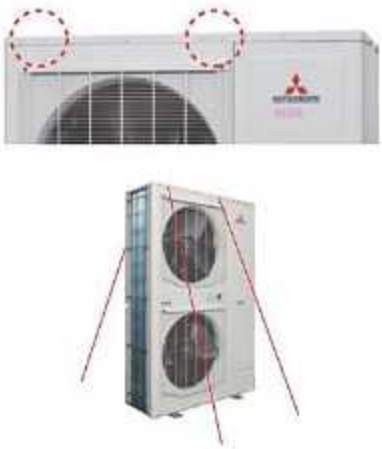
Improved features (KXZ Lite)

Improved freedom of piping layout

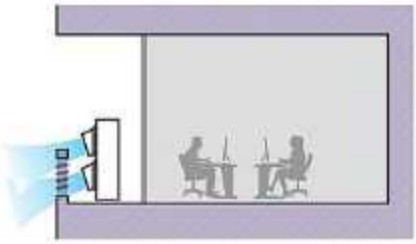


Hole size becomes 120% bigger.

Wire insertion holes for fall prevention

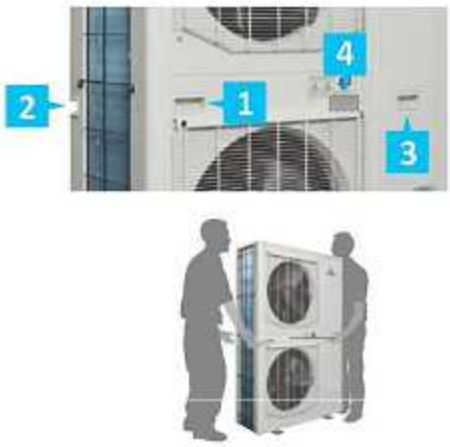


External static pressure



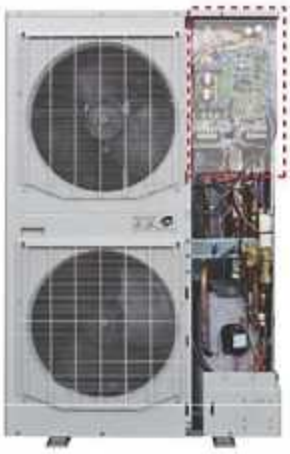
External static pressure is available up to 35 Pa.

Four handles



Located at the same level for easy transport and transfer.

A transparent rain cover



Attached as a standard for easy maintenance.

Fixing screws to service panel

Decreasing number of screws from 5 to 2, installation & service speed is improved.

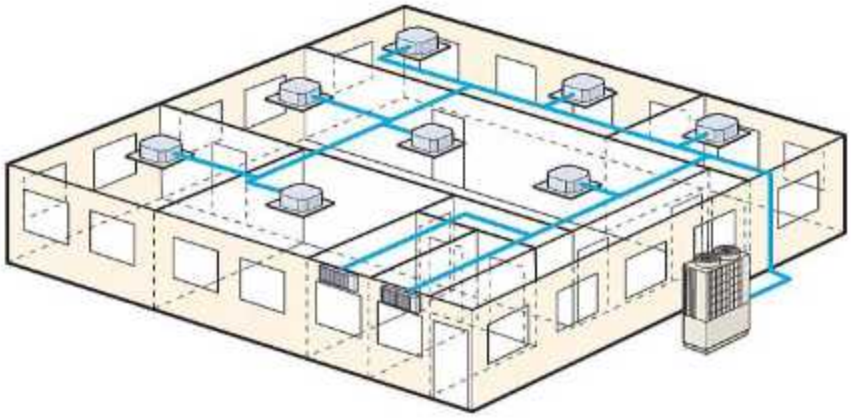
Heat pump systems

The 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 to an entire multi storey building, especially where there are significant open plan areas to be to be controlled

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

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



Fixed Cooling model/ fixed heating mode (summer/winter switch):

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

Priority operation mode rule (KX, KXZ Lite)

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

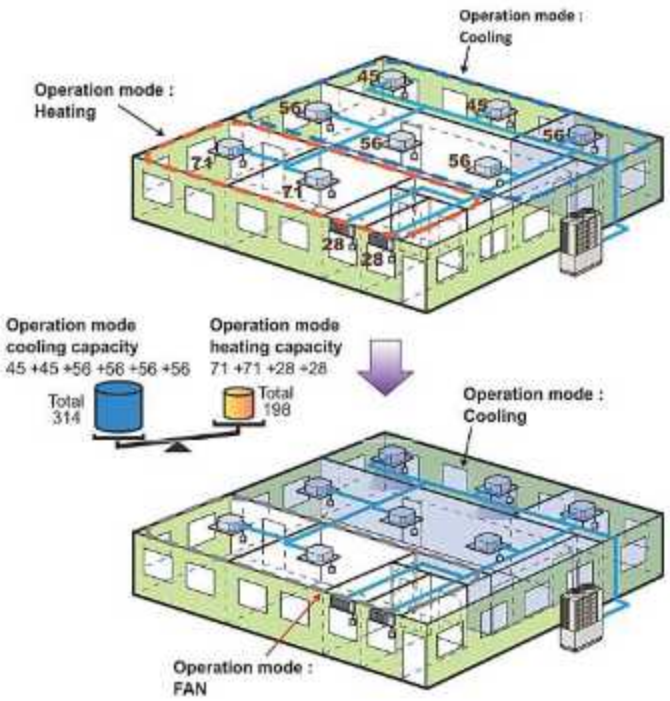
1. First unit's operation mode (by default setting)
2. Last unit's operation mode
3. Majority operation mode (see below)
4. Master operation mode (see below)

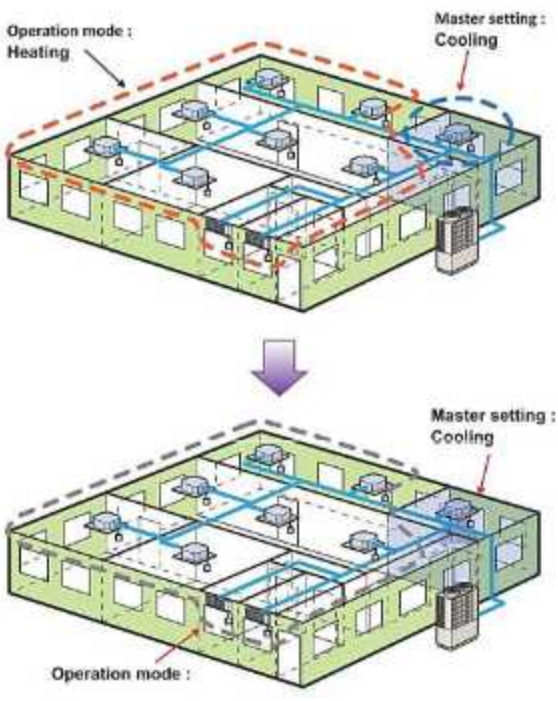
<Majority operation mode>

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

<Master operation mode>

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





R410A INVERTER

New Generation FDT

New!

Draft Prevention Panel (Option)

- **Brand new function in the market**
- **Flexible flap control for draft prevention**

4 additional flaps are to be controlled individually at each operation mode.
They change air flow direction and prevents draft feeling.
This new function also achieve more flexible control for air flow direction.
User can position Draft Prevention Panel panels by using the remote controller only (RC-EX3, RCN-T-5AW-E2).

When the unit is turned off, the additional flaps close in.

※It can also prevent user from being directly blown by hot drafts in heating mode.

New!

Motion Sensor (Option)

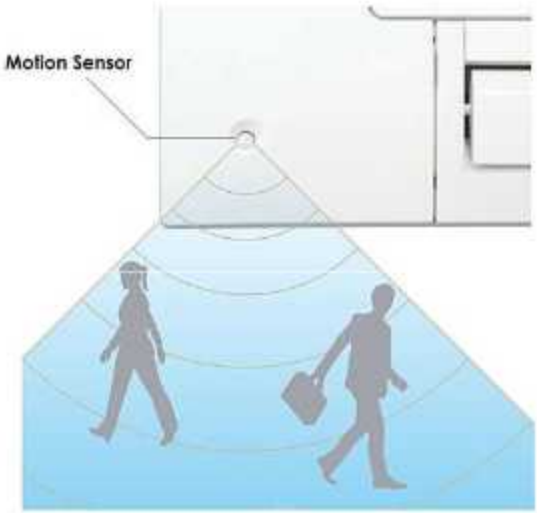
Two energy saving control by detecting human moving

Power Control

New motion sensor (option) detects human activity.
Energy saving control is achieved by shifting set temperature according to detected amount of activity.

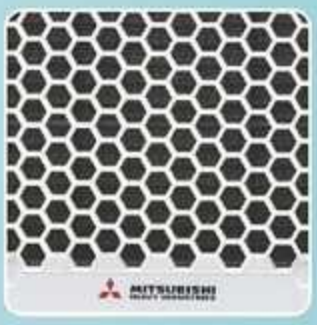
Auto-off

Unit will go off automatically when no activity is detected for 12 hours.



New Generation FDTC

More comfort and More energy saving
New European Design
Lower noise



European design & Flat panel

Thin Panel

FDTC thin panel fit within 10mm from the ceiling.

Unique Grille Design

Honeycomb grille

Big Louver

Improved directionally

Compact Design

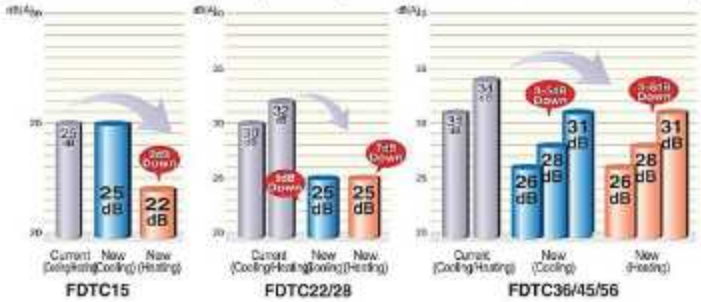
700 mm —> 620 mm

A weight of only 14kg. Height of thin panel and main body is only 248 mm allowing it to be a very easy installation.

Integrated ceiling system design

More quiet operation

Adopting new turbo fan and improving new heat exchanger enable to reduce noise. (Sound pressure level in the Lo mode.)



Draft Prevention Paneland Motion Sensor (option)

It is available to set draft prevention panel and motion sensor as well as FDT.

Ceiling cassette
FDT seriese

Ceiling cassette Compact
FDTC seriese

GOOD DESIGN

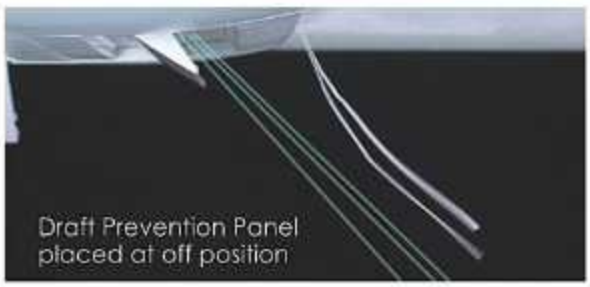
The Good Design Award is Japan's only comprehensive design evaluation and recommendation initiative, originating with the 'Good Design Products Selection System' founded in 1957. It is now a global design award with participation from numerous Japanese and international companies and organizations. The "G Mark", the symbol of the Good Design Award, is known widely as a symbol of excellent design. (FDT)

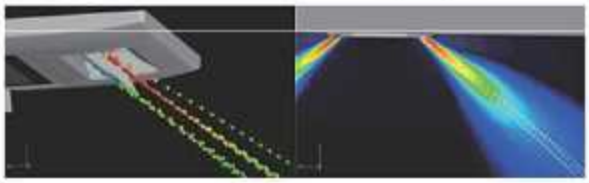
Draft Prevention Panel

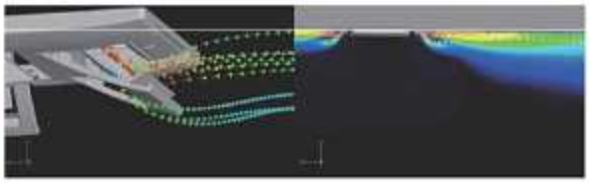
Keep maximum comfort with minimal draft:
New FDT & FDTC control flaps with more flexibility.

Draft Prevention Panel Operating Image

New Generation!







Draft Prevention Panel provides a comfortable airflow without any draft feeling. Whether cooling or heating a room, the remote control can be used to instantly suppress any warm or cool drafts. This accurately assists how air flow is directed out of the indoor unit. ※These are images of FDT. the Panel Structure of FDTC slightly differ from FDT.

Motion sensor

Energy saving control by detecting human moving

3 Step Control

Power Control	New motion sensor (option) detects human activity. Energy saving control is achieved by shift set temperature according to detected amount of activity.
Stand by	Unit will go stand-by mode when no activity is detected. When unit will detect activity again, unit will re-start operation automatically.
Auto Off	Unit will go off automatically when no activity is detected for 12 hours.

Operation mode and Control of Motion sensor			eco operation / comfort operation	Auto	Cooling	Heating	Dry	Fan
Power Control ※1	Human activity	Low		Cooling +2°C / Heating +2°C	+2°C	+2°C	—	—
		High		Cooling -2°C / Heating -2°C	-2°C	-2°C	—	—
Auto Off ※2				●	●	●	●	●

※1 Set temperature is revised maximum 2°C at Cooling/Heating mode by detecting heat volume movement.
※2 Absence for 1 hour = Operation stop ("Stand-by") More 12 hour absence = Operation stops completely

Simple use with advanced settings REMOTE CONTROL

Easy touch and Easy view with full dot Liquid Crystal display

Add new function

RC-EX3A

functions

Function Switch

The function switch allows you to select and set two functions that you desire among the six available functions shown.

These functions can be used by simply pressing the button after they are set, allowing you to use your preferable functions immediately.

1 High Power Mode

High Power Mode achieve excessive cooling / heating capacity for 15 minutes to quickly adjust the room temperature to a comfortable level.

2 Energy Saving Mode

Temperature is set to optimized to save energy without losing comfort.

3 Quiet Mode

Outdoor unit starts to operate quietly by activating this mode. The time of this mode can be set in conjunction with Indoor Silent Timer.

4 Home Leave Mode

Home leave mode maintains the room temperature at a moderate level.

5 Favorite Mode

Operation mode, set temperature, fan speed and air flow direction are automatically adjusted to the programmed favorite setting.

6 Filter Sign

Announces the due time for cleaning the air filter.

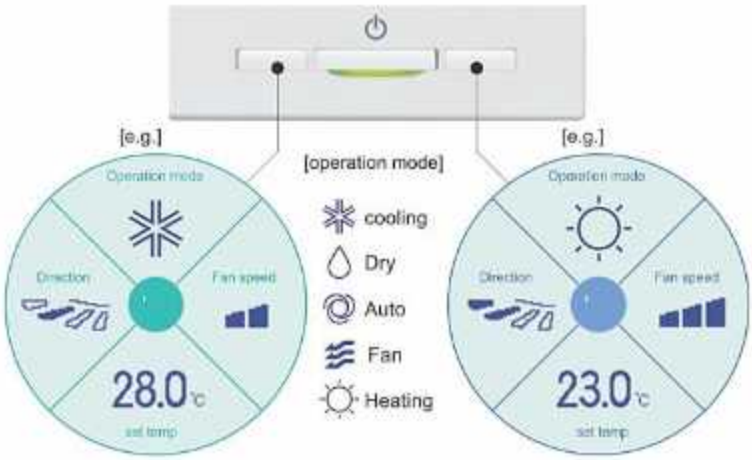
NEW

7 Anti draft ON/OFF

Auti draft can be turned ON/OFF with a single tap of the button.

Favorite Mode

Operation mode, set temperature, fan speed and air flow direction are memorized and allocated to two buttons that can be operated by one touch.



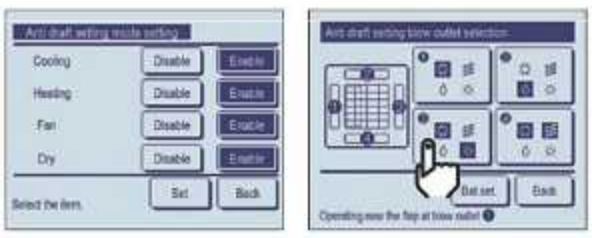
Adjusting Brightness of the Operation lamp

The brightness of the operation lamp behindRun/Stop switch can be adjusted by 10 stages.

Draft prevention setting (only FDT/FDTC series)

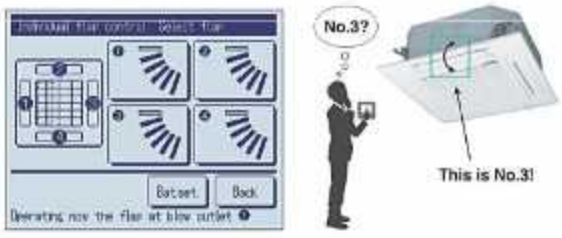
User can enable/disable the motion of panel with anti draft for each blow outlet for each operation mode.
This function can be set while operating.

NEW



Easy modification of Air Flow

User can visually confirm and set the direction of louvres using the visual display on the remote controller.



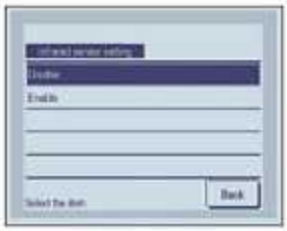
Motion sensor control

Presence of humans and the amount of motion are detected by a motion sensor to perform various controls.

❶ Select Enable / Disable

Motion sensor control

Enable / Disable

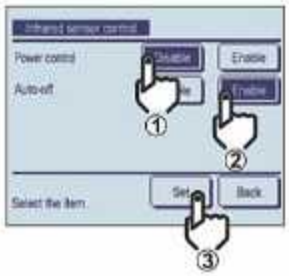


Select Enable / Disable for the motion sensor of the indoor unit connected to the R/C.

❷ Select Enable / Disable per control

- **Power control**
- **Auto-off**

Enable / Disable



Backup Control

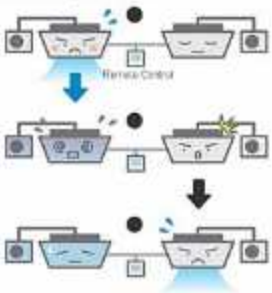
Control restricted to two indoor units (two groups)

Fault backup control

Reassurance Comfort

Keep back up all the time!

If one of the two indoor units malfunctions and stops its operation, the other starts backup operation so that users' comfort will not be compromised.

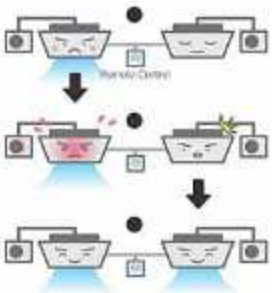


Capacity backup control

Comfort Energy saving Longer unit life

Maintains users' comfort!

When the control system detects either of two units is operating with overload, the other unit cover the capacity.

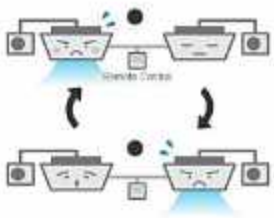


Rotational operation control

Longer unit life Energy saving

Energy saving and longer life!

By operating two indoor units alternately, their chronological changes are equalized. (The alternate operation cycle can be specified in a range from 10 hours to 990 hours in increments of 10 hours.)



Additional functions of External Input / Output

The external input/output of indoor unit by remote controller can set input/output based on user's demand.

Remote surveillance system

Card key on-off

External Input

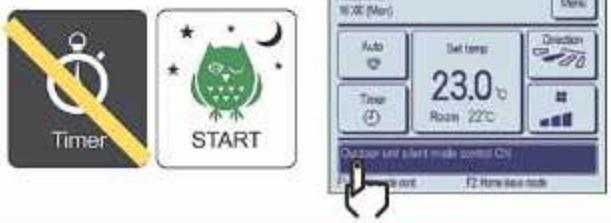
CNT (1-6) CNTA (1-2)	
Input	On/Off
	Permission/Prohibition
	Cooling/Heating
	Emergency Stop
Newly added	Set temp. shift
	Forced thermo-off
	IU operation stop
	Silent mode

External Output

CNT (New)		
2	Output	- Operation - Heating - Compressor ON (thermo-ON)
3	Output	- Inspection
Newly added		- Cooling (defrosting) - Fan operation
4	Output	- Fan operation with Phi or Hi - Fan operation with Me or Lo - Defrosting (oil return in heating operation) - Ventilation
5	Output	- Heater ON - Free cooling - IU overload alarm

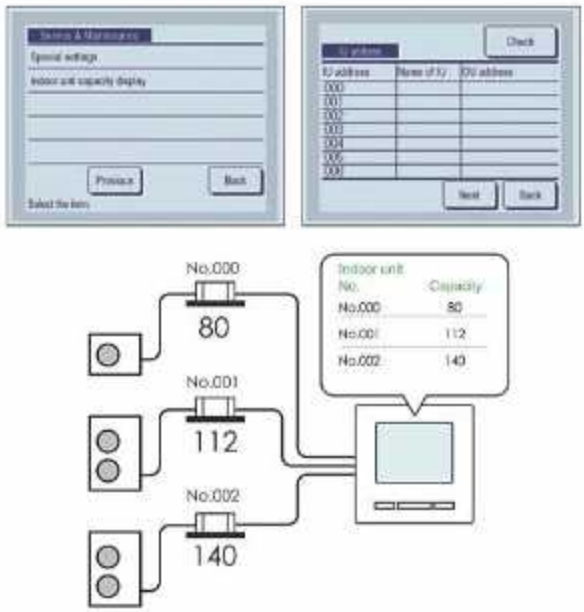
Silent mode control

The Outdoor unit is controlled with priority on quietness. Silent mode control must be set to the F1 or F2 switch. User can start/stop the silent mode control with a single tap of a button.



Indoor unit capacity display

Capacities of Indoor units connected to the RC-EX3A are displayed.



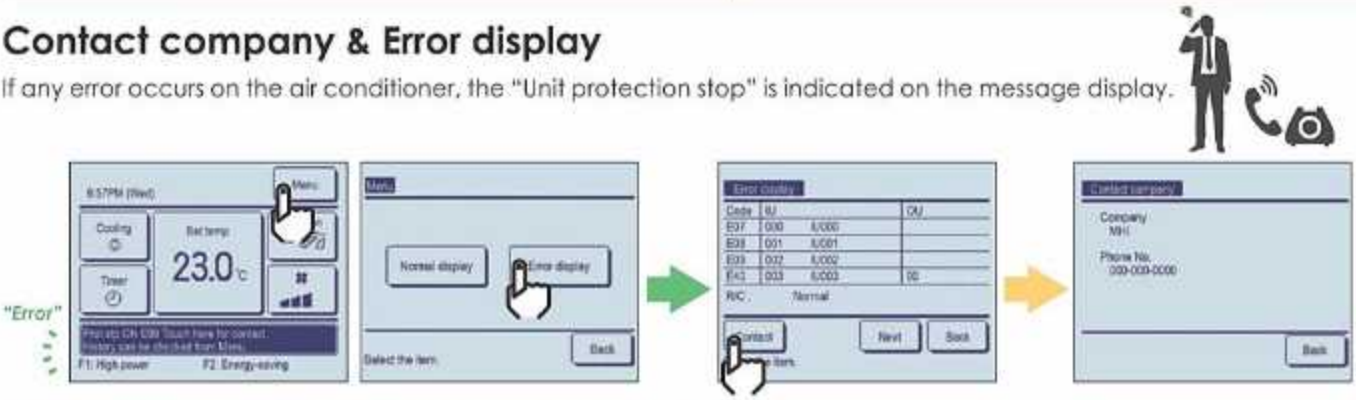
Language Switching

NEW

User can select from the following languages and also switch them on the top display.

Contact company & Error display

If any error occurs on the air conditioner, the "Unit protection stop" is indicated on the message display.



Wireless Kit & Wireless Remote Controller

■Line-up

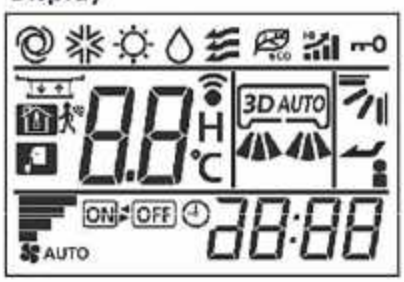
Model	Wireless kit
FDT	RCN-T-5AW-E2
FDTC	RCN-TC-5AW-E2
FDTW	RCN-TW-E2
FDTS	RCN-TS-E2
FDK	RCN-K-E2, RCN-K71-E2
FDE	RCN-E-E3
FDFW	RCN-FW-E2
FDTQ, FDU,FDUM, FDUT, FDUH, FDFL, FDFU, FDU-F	RCN-KIT4-E2

■Function added

1) High power
2) Energy-saving
3) ON/OFF Timer by clock
4) Child lock
5) Silent mode control for Outdoor unit
6) Home leave mode

■The functions and the operations will be improved.

Display



Easy Selection Tool E-solution

E-Solution is a design software tool which includes specification details of the latest KX VRF systems. By using E-Solution this simplifies the process and enables engineers to select the most cost-effective and energy efficient mix of indoor units, outdoor units, pipework and controls.
Engineers must register and download the E-solution software to ensure they are automatically sent updates as they become available and this can be done by simply visiting www.mhiae.com/support-downloads/e-solution

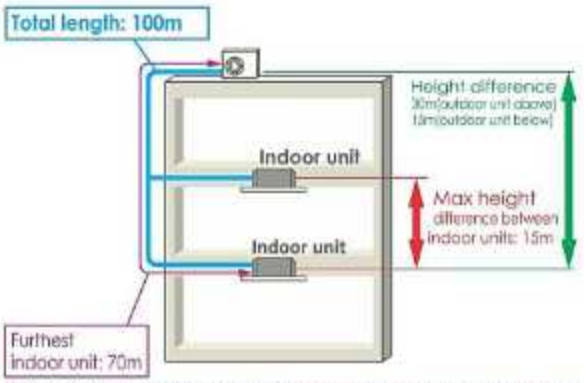
Furthermore it is also developed to cater for the design of two and three pipe systems and specifies appropriate models and sizes. It also generates wiring diagrams and engineering drawings which can be exported to AutoCAD or saved in PDF format. This flexibility enables engineers to print select design information and comprehensive operation and maintenance manuals for presentations to clients.
Engineers can also incorporate design information into their own formats and documents for personalised proposals.

Micro Outdoor units

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

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

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



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

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

Specifications

Item			Model	FDC112KXEN6	FDC140KXEN6	FDC155KXEN6	FDC112KXES6	FDC140KXES6	FDC155KXES6
				4HP	5HP	6HP	4HP	5HP	6HP
Power source				1 Phase 220-240V, 50Hz			3 Phase 380-415V, 50Hz		
Nominal capacity	Cooling		kW	11.2	14.0	15.5	11.2	14.0	15.5
				12.5	16.0	16.3	12.5	16.0	16.3
Electrical characteristics	Starting current		A	5					
	Running current	Cooling	A	13.5-12.4	20.6-18.9	23.3-21.3	4.5-4.1	6.9-6.3	7.8-7.1
		Heating		14.1-12.9	21.5-19.7	21.9-20.1	4.7-4.3	7.2-6.6	7.3-6.7
Exterior dimensions	HxWxD		mm	845x970x370					
Net weight			kg	85			87		
Refrigerant charge	R410A		kg	5.0					
Sound pressure level	Cooling/Heating		dB(A)	52/54	53/55	53/56	52/54	53/55	53/56
Refrigerant piping size	Liquid line		mm(in)	ø9.52(3/8")					
	Gas line			ø15.88(5/8")					
Capacity connection			%	80~150					
Number of connectable indoor units				6	8	8	6	8	8

1. The data are measured under the following conditions(ISO-T1). Cooling: Indoor temp. of 27°CDB, 19°CWB, and outdoor temp. of 35°CDB. Heating: Indoor temp. of 20°CDB, and outdoor temp. of 7°CDB, 6°CWB. Piping length: is 7.5m.
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.

KXZ Lite Outdoor units

Heat pump systems 8, 10HP (22.4kW, 28.0kW)

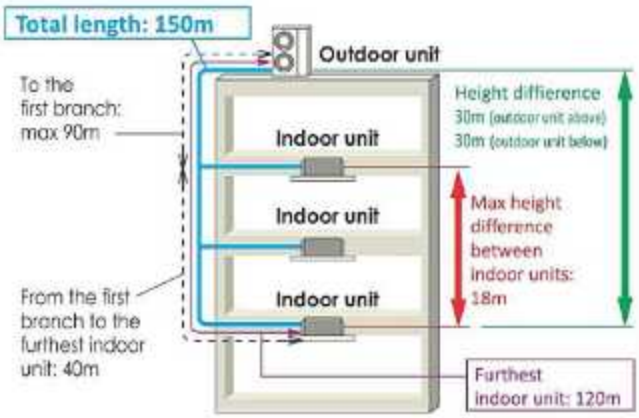
Model No.	Nominal Cooling Capacity
FDC224KXZPE1	22.4kW
FDC280KXZPE1	28.0kW

Tropical Usage mode

Blue Fin

NEW

- These heat pump 2-pipe systems offer high performance VRF for applications that require either cooling only or heating only, ideal for open plan areas.
- Connect up to 8 indoor units / upto 120% capacity.
- High efficiency with COP 4.0 & above.
- These units employ DC inverter multiport compressors with concentrated winding motor.



Side Discharge

Specifications

Item			Model	FDC224KXZPE1	FDC280KXZPE1
Nominal horse power				8HP	10HP
Power source				3 Phase 380-415V, 50Hz	
Nominal capacity	Cooling		kW	22.4	28.0
	Heating			22.4	28.0
Electrical characteristics	Starting current		A	5	
	Running current	Cooling	A	9.2-8.5	12.9-11.8
		Heating		7.9-7.3	10.6-9.7
Exterior dimensions	HxWxD		mm	1505x970x370	
Net weight			kg	165	
Refrigerant charge	R410A		kg	8.9	
Sound pressure level	Cooling/Heating		dB(A)	59/60	60/63
Refrigerant piping size	Liquid line		mm(in)	ø9.52(3/8")	
	Gas line			ø19.05(3/4")	ø22.22(7/8")
Capacity connection			%	50~120	
Number of connectable indoor units				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.

KXZ Outdoor units

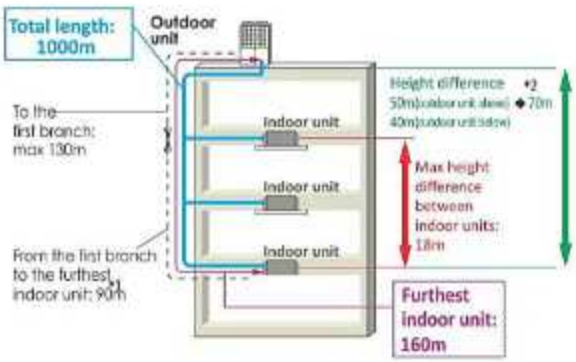
Heat pump systems 10, 12HP (28.0kW, 33.5kW)

Model No.	Nominal Cooling Capacity
FDC280KXZE1	28.0kW **(Optional)**
FDC335KXZE1	33.5kW

Blue Fin

NEW

- The KXZ heat pump 2-pipe systems offer high performance VRF for applications that require either cooling only or heating only, ideal for open plan areas.
- Connect up to 29 indoor units/up to 130% capacity.
- High efficiency with COP 3.9 & above.
- KXZ employs DC inverter compressors ONLY.
- Industry leading total piping length up to 1000m



Top Discharge

*1 The difference between the longest and the shortest indoor unit piping from the first branch must be within 40m. (MAX85m)
*2 In case of height difference up to 70m, please contact your dealer. Height difference up to 90m is possible with High Head series.

Specifications

Item			Model	*FDC280KXZE1	FDC335KXZE1
Nominal horse power				10HP	12HP
Power source				3 Phase 380-415V, 50Hz	
Nominal capacity	Cooling		kW	28.0	33.5
	Heating			31.5	37.5
Electrical characteristics	Starting current		A	8	
	Running current	Cooling	A	11.9-10.9	14.6-13.4
		Heating		12.0-11.0	14.8-13.5
Exterior dimensions	HxWxD		mm	1690x1350x720	
Net weight			kg	272	
Refrigerant charge	R410A		kg	11.0	
Sound pressure level	Cooling/Heating		dB(A)	55/57	61/58
Refrigerant piping size	Liquid line		mm(in)	ø9.52(3/8")	ø12.7(1/2")
	Gas line			ø22.22(7/8")	ø25.4(1") [ø22.22(7/8")]
Capacity connection			%	50~130	
Number of connectable indoor units				24	29

* Available on special request.

KXZ Outdoor units

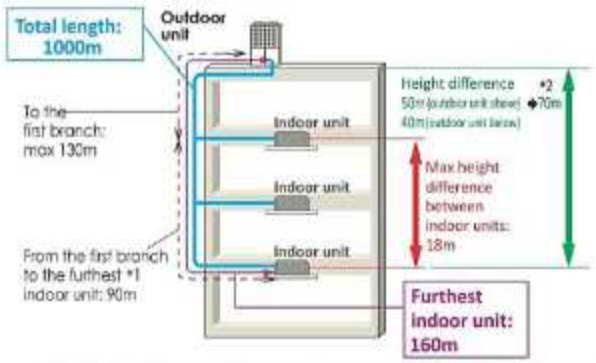
Heat pump systems 14, 16, 18, 20HP (40.0kW~56.0kW)

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

Blue Fin

NEW

- The KXZ heat pump 2-pipe systems offer high performance VRF for applications that require either cooling only or heating only. ideal for open plan areas.
- Connect up to 48 indoor units / upto 130% capacity.
- High efficiency with COP 3.6 & above.
- KXZ employs DC inverter compressors ONLY.
- Industry leading total piping length up to 1000m and a maximum pipe run of 160m.



*1 The difference between the longest and the shortest indoor unit piping from the first branch must be within 40m. (MAX85m)
*2 In case of height difference up to 70m, please contact your dealer. Height difference up to 90m is possible with High Head series.

Top Discharge

Specifications

Item			Model	FDC400KXZE1	FDC450KXZE1	FDC500KXZE1	FDC560KXZE1
Nominal horse power				14HP	16HP	18HP	20HP
Power source				3 Phase 380-415V, 50Hz			
Nominal capacity	Cooling		kW	40.0	45.0	50.0	56.0
	Heating			45.0	50.0	56.0	63.0
Electrical characteristics	Starting current		A	8			
	Running current	Cooling	A	17.5-16.2	22.4-20.5	22.6-20.7	26.9-24.6
		Heating		17.5-16..2	20.4-18.7	21.8-20.0	25.8-23.6
Exterior dimensions	HxWxD		mm	2048x1350x720			
Net weight			kg	317		370	
Refrigerant charge	R410A		kg	11.5			
Sound pressure level	Cooling/Heating		dB(A)	60/62	61/62	61/62	64/66
Refrigerant piping size	Liquid line		mm(in)	ø12.7(1/2")			
	Gas line			ø25.4(1") [ø28.58(1 1/8")]	ø28.58(1 1/8")		
Capacity connection			%	50~130			
Number of connectable indoor units				34	39	43	48

1. The data are measured under the following conditions(ISO-T1). Cooling: indoor temp. of 27°CDB, 19°CWB, and outdoor temp. of 35°CDB. Heating: indoor temp. of 20°CDB, and outdoor temp. of 7°CDB, 6°CWB. Piping length is 7.5m.
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.

KX Space Saving Outdoor units

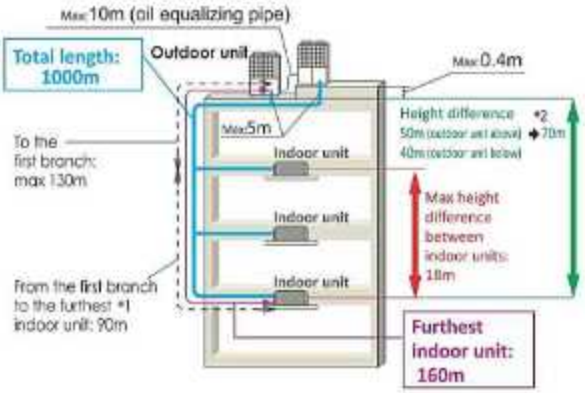
Heat pump systems 22, 24HP (61.5kW, 68.0kW)

Model No.	Nominal Cooling Capacity
FDC615KXE6	61.5kW
FDC680KXE6	68.0kW

Blue Fin

NEW

- 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 72 indoor units/up to 160% capacity.
- High efficiency with COP 3.8 & above.
- Industry leading total piping length up to 1000m and a maximum pipe run of 160m



*1 The difference between the longest and the shortest indoor unit piping from the first branch must be within 40m. (MAX85m)
*2 In case of height difference up to 70m, please contact your dealer. Height difference up to 90m is possible with High Head series.

Top Discharge

Specifications

Item			Model	FDC615KXE6	FDC680KXE6
Nominal horse power				22HP	24HP
Power source				3 Phase 380-415V, 50Hz	
Nominal capacity	Cooling		kW	61.5	68.0
	Heating			69.0	73.0
Electrical characteristics	Starting current		A	8	
	Running current	Cooling	A	33.1-30.3	40.3-36.9
		Heating		30.7-28.1	31.6-29.0
Exterior dimensions	HxWxD		mm	2048x1350x720	
Net weight			kg	375	
Refrigerant charge	R410A		kg	11.50	
Refrigerant piping size	Liquid line		mm(in)	ø12.7(1/2")	
	Gas line			ø28.58(1 1/8")	
Capacity connection			%	50~160	
Number of connectable indoor units				65	72

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.

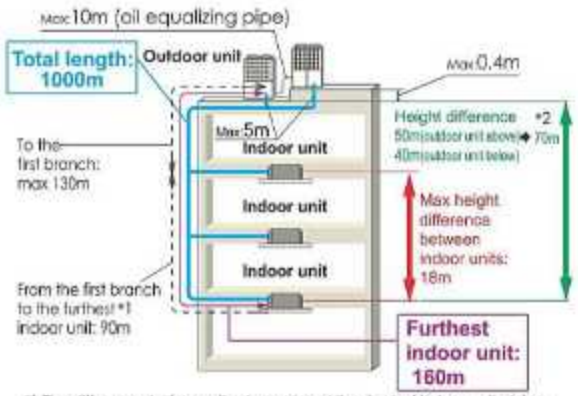
KXZ Outdoor units

Heat pump combination systems

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

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

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



*1 The difference between the longest and the shortest indoor unit piping from the first branch must be within 40m. (MAX85m)
*2 In case of height difference up to 70m, please contact your dealer. Height difference up to 90m is possible with High Head series.

Specifications

Item			Model	FDC735KXZE1	FDC800KXZE1	FDC850KXZE1	FDC900KXZE1	FDC1000KXZE1	FDC1060KXZE1	FDC1120KXZE1
Combination (FDC)				335KXZE1	400KXZE1	400KXZE1	450KXZE1	500KXZE1	500KXZE1	560KXZE1
				400KXZE1	400KXZE1	450KXZE1	450KXZE1	500KXZE1	560KXZE1	560KXZE1
Nominal horse power				26HP	28HP	30HP	32HP	36HP	38HP	40HP
Power source				3 Phase 380-415V, 50Hz						
Nominal capacity	Cooling		kW	73.5	80.0	85.0	90.0	100.0	106.0	112.0
	Heating			82.5	90.0	95.0	100.0	112.0	119.0	126.0
Electrical characteristics	Starting current		A							
	Running current	Cooling	A	32.1-29.6	35.0-32.4	39.9-36.7	44.8-41.0	45.2-41.4	49.5-45.3	53.8-49.2
		Heating		32.3-29.7	35.0-32.4	37.9-34.9	40.8-37.4	43.6-40.0	47.6-43.6	51.6-47.2
Exterior dimensions	HxWxD		mm	2048x2700x720						
Net weight			kg	589	634			740		
Refrigerant charge	R410A		kg	11.0+11.5	11.5x2					
Refrigerant piping size	Liquid line		mm(in)	ø15.88(5/8")						ø19.05(3/4")
	Gas line			ø31.75(1 1/4") [ø34.92(1 3/8")]						ø38.1(1 1/2") [ø34.92(1 3/8")]
Capacity connection			%	50 ~ 130						
Number of connectable indoor units				63	69	73	78	80		

1. The data are measured under the following conditions (ISO-T1). Cooling: indoor temp. of 27°CDB, 19°CWB, and outdoor temp. of 35°CDB. Heating: indoor temp. of 20°CDB, and outdoor temp. of 7°CDB, 6°CWB. Piping length is 7.5m.
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.

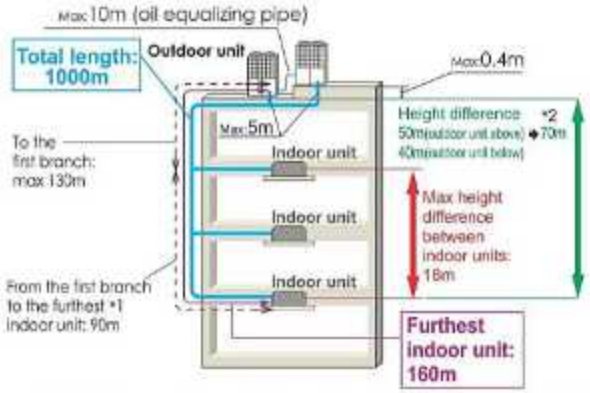
KXZ Outdoor units

Heat pump combination systems

42, 44, 46, 48, 54, 56, 58, 60HP (120.0kW~168.0kW)

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

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



*1 The difference between the longest and the shortest indoor unit piping from the first branch must be within 40m. (MAX85m)
*2 In case of height difference up to 70m, please contact your dealer. Height difference up to 90m is possible with High Head series.

Specifications

Item			Model	FDC1200KXZE1	FDC1250KXZE1	FDC1300KXZE1	FDC1350KXZE1	FDC1500KXZE1	FDC1560KXZE1	FDC1620KXZE1	FDC1680KXZE1
Combination (FDC)				400KXZE1	400KXZE1	400KXZE1	450KXZE1	500KXZE1	500KXZE1	500KXZE1	560KXZE1
				400KXZE1	400KXZE1	450KXZE1	450KXZE1	500KXZE1	500KXZE1	560KXZE1	560KXZE1
				400KXZE1	450KXZE1	450KXZE1	450KXZE1	500KXZE1	560KXZE1	560KXZE1	560KXZE1
Nominal horse power				42HP	44HP	46HP	48HP	54HP	56HP	58HP	60HP
Power source				3 Phase 380-415V, 50Hz							
Nominal capacity	Cooling		kW	120.0	125.0	130.0	135.0	150.0	156.0	162.0	168.0
	Heating			135.0	140.0	145.0	150.0	168.0	175.0	182.0	189.0
Electrical characteristics	Starting current		A	24							
	Running current	Cooling	A	52.5-48.6	57.4-52.9	62.3-57.2	67.2-61.5	67.8-62.1	72.1-66.0	76.4-69.9	80.7-73.8
		Heating		52.5-48.6	55.4-51.1	58.3-53.6	61.2-56.1	65.4-60.0	69.4-63.6	73.4-67.2	77.4-70.8
Exterior dimensions	HxWxD		mm	2048x4050x720							
Net weight			kg	951				1110			
Refrigerant charge	R410A		kg	11.5x3							
Refrigerant piping size	Liquid line		mm(in)	ø19.05(3/4")							
	Gas line			ø38.1(1 1/2") [ø34.92(1 3/8")]							
Capacity connection			%	50-130							
Number of connectable indoor units				80							

1. The data are measured under the following conditions(ISO-T1). Cooling: Indoor temp. of 27°CDB, 19°CWB, and outdoor temp. of 35°CDB, Heating: Indoor temp. of 20°CDB, and outdoor temp. of 7°CDB, 6°CWB. Piping length is 7.5m.
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.

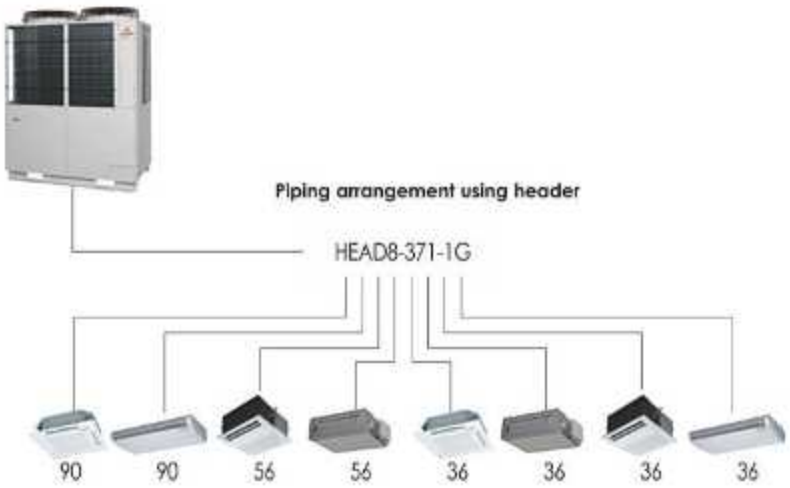
KX Refrigerant piping

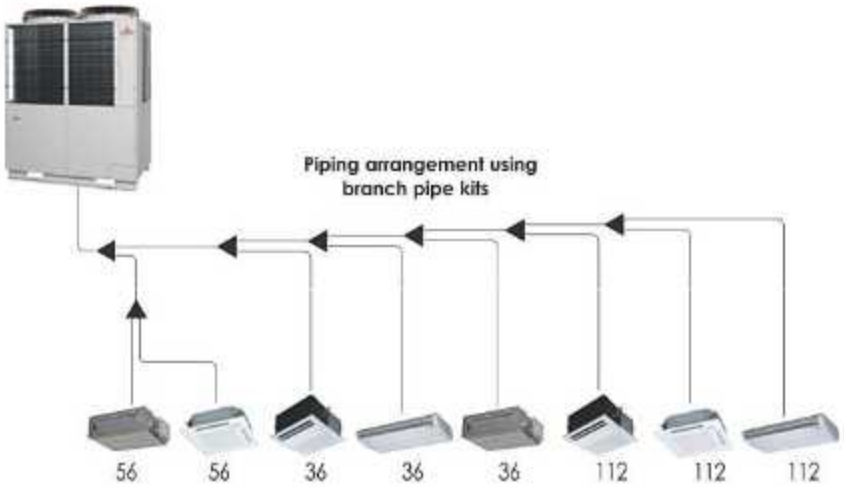
Installation of Interconnecting Pipework
Mitsubishi KXZ equipment is manufactured to the highest standards of quality and reliability. It is imperative the method of installation and the materials used are also to high standards, to ensure trouble free operation and long term reliability.
The interconnecting pipework must be installed by a competent and trained engineer.
Refrigeration quality copper tube must be used, soft copper coils or half-hard straight lengths.
The refrigeration quality tube must be soft drawn seamless high grade copper pipe. The copper tube must be selected taking into account the higher operating pressures of R410A refrigerant, and that high pressures will occur throughout the system because of the reverse cycle operation. All pipework material used should be EN12735 European standard.
The supplied branch pipe kits, must be used to make connections to indoor units, and the supplied manifold kits must be used to make connections between outdoor units (where applicable); it is not permitted to use standard fittings such as elbows, tees etc. The branch pipes shall be installed in accordance with the manufacturer's instructions, allowing unrestricted flow of refrigerant, and in accordance with European standard E378.
All brazed joints shall be made with dry nitrogen purge to ensure the prevention of oxidisation to the internal surface of the copper pipes.
The ingress of moisture, dirt and any other contaminants to the interior of the copper pipes, and air conditioning units, must be prevented during the installation procedure.
After the installation of pipework, prior to the connection of the outdoor units, and sealing of insulation joints, the pipework must be pressure tested for leakage, using dry nitrogen.

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

The products contains fluorinated greenhouse gases covered by Kyoto protocol.

Single outdoor unit piping examples:





KX Refrigerant piping

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

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

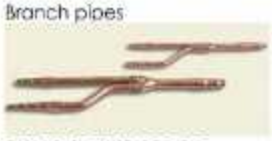
Outdoor unit	Main pipe size (normal)		Pipe size for an actual length of 90m or longer	
	Gas pipe	Liquid pipe	Gas pipe	Liquid pipe
280	ø22.22 × t 1.0	ø9.52 × t 0.8	ø25.4 (ø22.22) × t 1.0	ø12.7 × t 0.8
335	ø25.4 (ø22.22) × t 1.0	ø12.7 × t 0.8	ø28.58 × t 1.0	
400	ø25.4 (ø28.58) × t 1.0		ø31.8 × t 1.1 (ø28.58 × t 1.0)	ø15.88 × t 1.0
450	ø28.58 × t 1.0			
475				
500				
560				
615				
670				
735	ø31.8 × t 1.1 (ø34.92 × t 1.2)	ø15.88 × t 1.0	ø38.1 × t 1.35 (ø34.92 × t 1.2)	ø19.05 × t 1.0
800				
850				
900				
950				
1000	ø38.1 × t 1.35 (ø34.92 × t 1.2)	ø19.05 × t 1.0		ø22.22 × t 1.0
1060				
1120				
1200				
1250				
1300				
1350				
1425				
1450				
1500				
1560				
1620				
1680				

mm	inch
ø9.52	3/8"
ø12.7	1/2"
ø15.88	5/8"
ø19.05	3/4"
ø22.22	7/8"
ø25.4	1"

mm	inch
ø28.58	1 1/8"
ø31.8	1 1/4"
ø34.92	1 3/8"
ø38.1	1 1/2"
ø44.5	1 3/4"
ø50.8	2"

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

Branch pipes



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

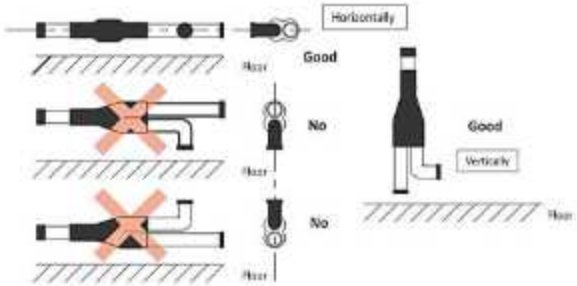
DIS-371-1G/DIS-540-3

Header pipe

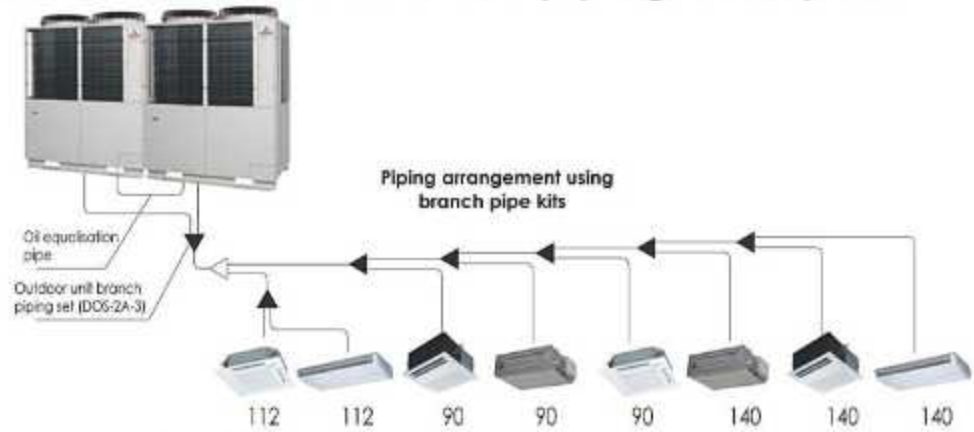
HEAD6-180-1G

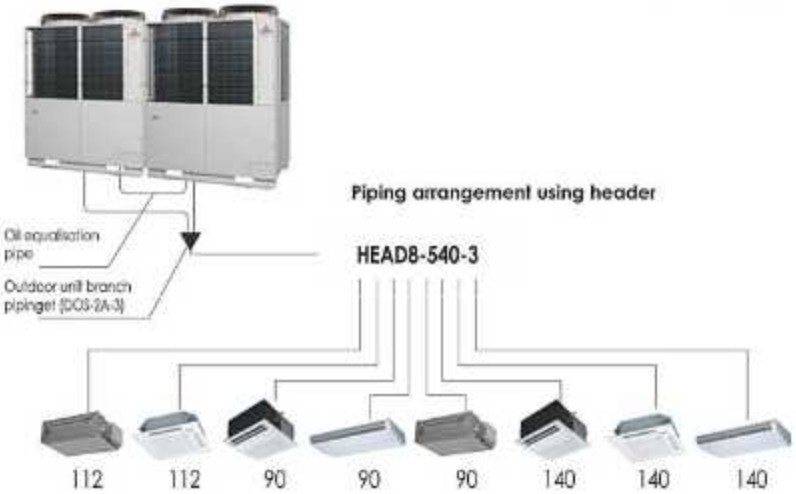
Combination outdoor unit manifold

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



Combination outdoor unit piping examples:





Outdoor unit's branch piping set

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

Indoor unit's first branch piping set

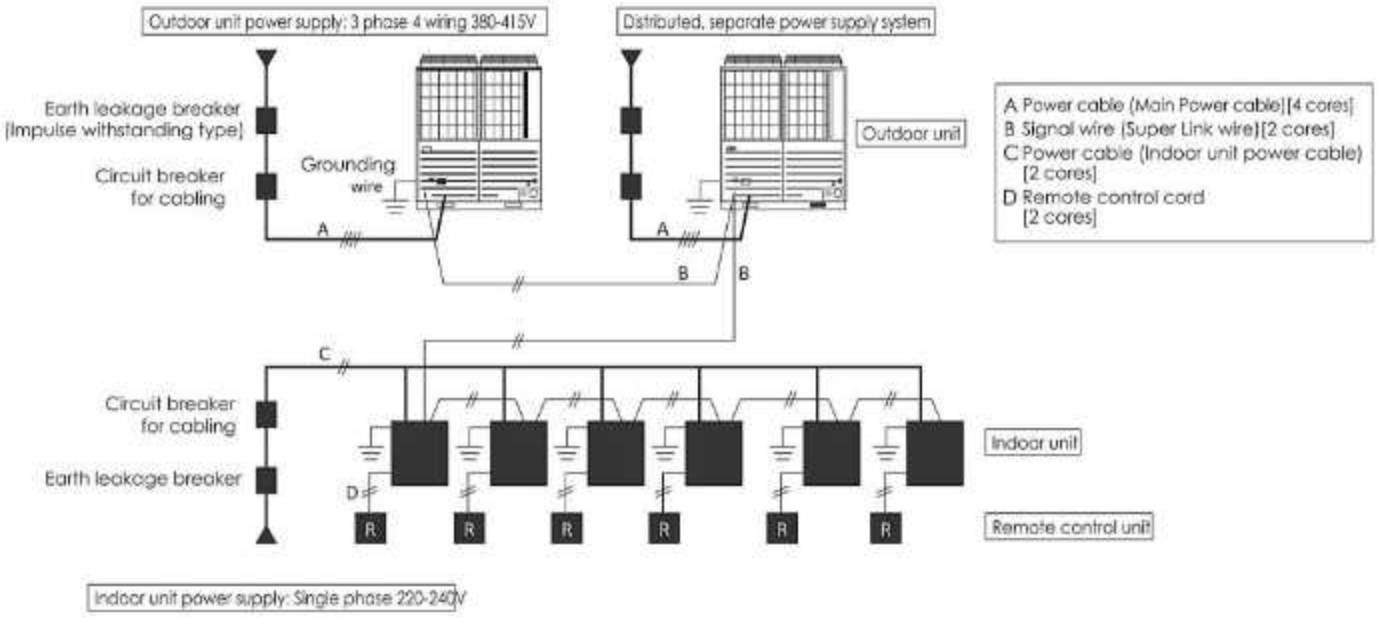
Total capacity of indoor units	Branch piping set	Header set	
		Model	Branches
~179	DIS-22-1G	HEAD4-22-1G	Max 4 branches
180~370	DIS-180-1G	HEAD6-180-1G	Max 6 branches
371~539	DIS-371-1G	HEAD8-371-2	Max 8 branches
540~	DIS-540-3	HEAD8-540-3	Max 8 branches

KX electrical wiring - power supply

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

Power wiring

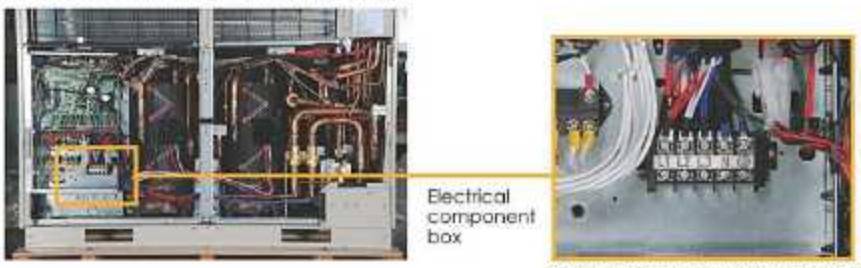
Cables can be laid through the front, right, left or bottom of the outdoor unit casing.
Separate power supplies should be used for the outdoor unit (3phase) and the indoor units (1phase).
only control wiring is connected from outdoor to indoor unit



CAUTION

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

KXZ outdoor unit mechanical compartment



Outdoor unit power supply terminal block

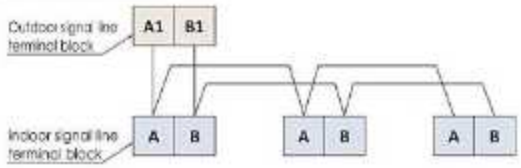
KX electrical wiring - control wiring

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

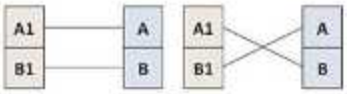
	0.75mm²	1.25mm²
~1000m	YES	YES
1000~1500m	YES	NO

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

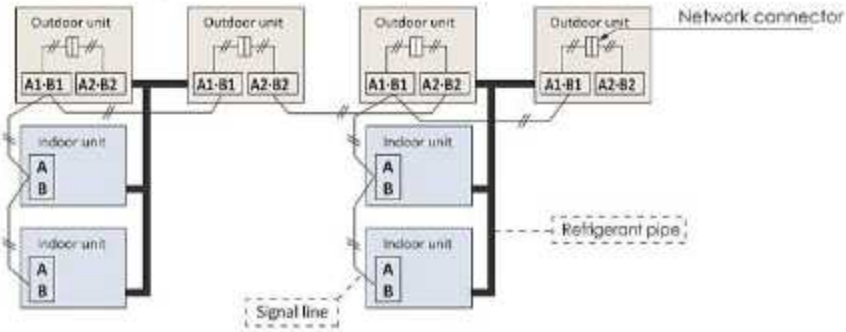
(1) When one outdoor unit is used



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



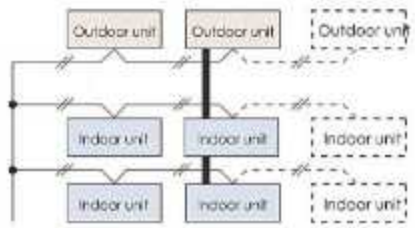
(2) When plural outdoor units are used



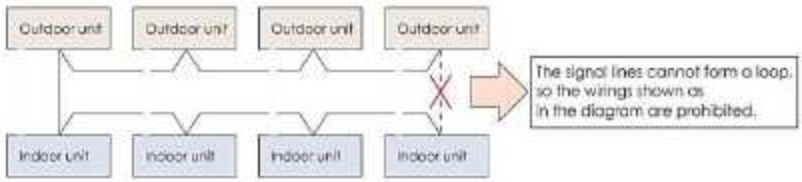
(a) The maximum number of indoor units that can be connected in a system is 128 and it is possible to configure outdoor units and/or indoor units as an outdoor or indoor unit group connected with each other with two wires.

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

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



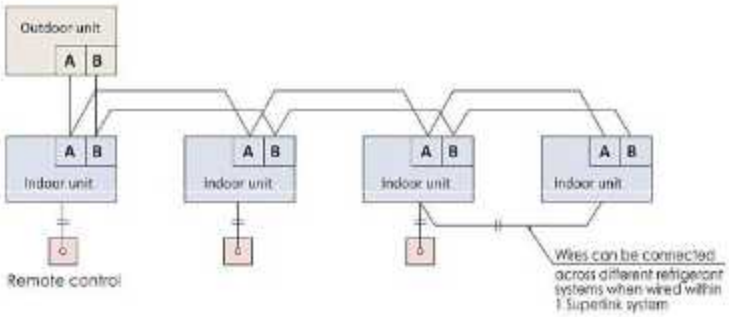
Important ○ Loop wiring prohibited



Remote control wiring specifications

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

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



we recommend for using 1.5mm² x 2 core for Indian conditions

Ceiling Cassette - 4way- FDT

Model No.

FDT28KXZE1
FDT36KXZE1
FDT45KXZE1
FDT56KXZE1
FDT71KXZE1
FDT90KXZE1
FDT112KXZE1
FDT140KXZE1
FDT160KXZE1

Draft Prevention Panel (Option)

Remote control (option)

Wired

RC-EX3A

RC-E5

RCH-E3

Wireless

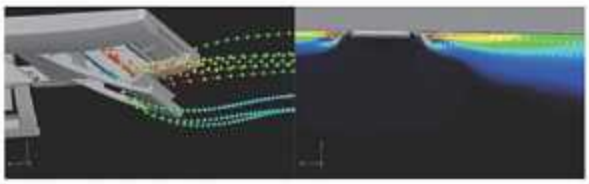
RCN-T-5AW-E2

Draft Prevention Panel (Option)

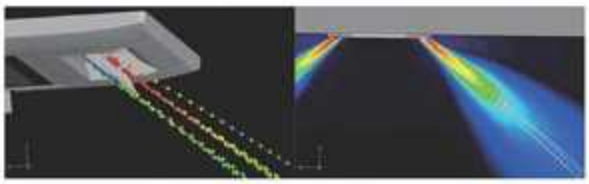
Draft Prevention Panel prevents cold / hot draft being blown directly on the user.
It is possible to set Draft Prevention Panel for each air outlet.

User can position Draft Prevention Panel panels by using the remote controller only (RC-EX3A, RCN-T-5AW-E2).

Advanced airflow control technology cultivated through aircraft development.



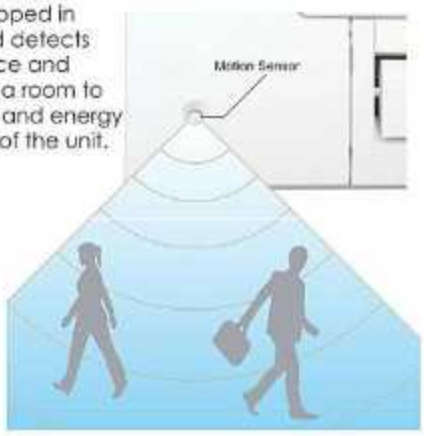
Draft Prevention Panel working



Draft Prevention Panel placed at off position

Motion Sensor (Option)

Motion sensor is equipped in the panel corner and detects the presence/absence and activity of humans in a room to improve the comfort and energy saving performance of the unit.

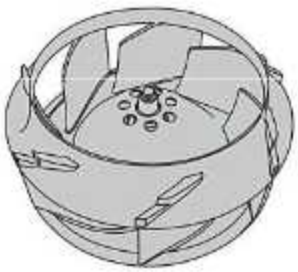


LB-T-5W-E

Improve the aerodynamic performance of the unit

New designed component can have better aerodynamic perfromance and achieve lower noise.

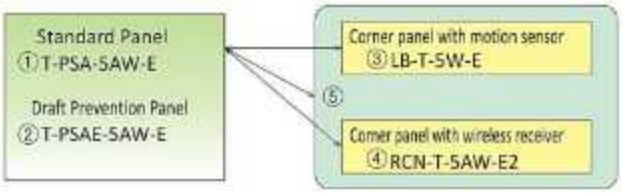
New design turbo fan



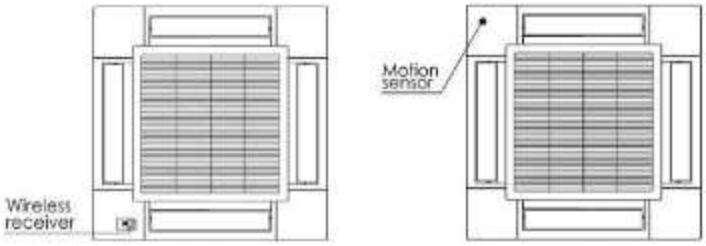
Fan guard (standard equipment)

Panel select pattern (Option)

8 patterns of panel are avilable.



Installation position of Wireless kit and Motion sensor kit



*Wireless receiver and Motion sensor can be installed to the position as shown

① Standard Panel only
①+② Standard Panel with corner panel with motion sensor
①+③ Standard Panel with corner panel with wireless receiver
①+⑤ Standard Panel with corner panel with motion sensor & corner panel with wireless receiver

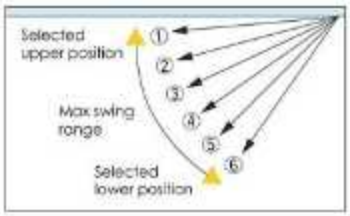
② Draft Prevention Panel only
②+③ Draft Prevention Panel with corner panel with motion sensor
②+④ Draft Prevention Panel with corner panel with wireless receiver
②+⑤ Draft Prevention Panel with corner panel with motion sensor & corner panel with wireless receiver

Individual flap control system

According to room conditions, four directions of air flow can be controlled individually by utilizing the flap control system.
Individual flap control is available even after installation.

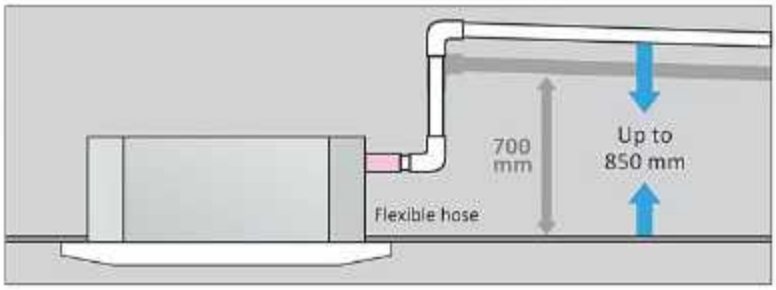
Flap can swing within an upper and lower flap range position within can be selected with a wired remote control.

※The wireless remote control is not applicable to the Individual flap control system.



850mm Drain Pump

Drain can be discharged upwards by 850mm from the ceiling surface. It allows a piping layout with a high degree of freedom. Depending on the installation location and 185mm flexible hose as a standard equipment supports easy workability.



Easy check of drain pan

Easy check of drain pan condition is available by removing corner lid only.

Remove corner lid.

Remove drain cap cover and check the condition. It is necessary to clean-up, firstly remove the rubber stopper to drain water out and secondly remove the drain cap.

Clean up the area around the drain pump port.

Specifications

Item	Model	FDT28KXZE1	FDT36KXZE1	FDT45KXZE1	FDT56KXZE1	FDT71KXZE1	FDT90KXZE1	FDT112KXZE1	FDT140KXZE1	FDT160KXZE1
Nominal cooling capacity	kW	2.8	3.6	4.5	5.6	7.1	9.0	11.2	14.0	16.0
Nominal heating capacity	kW	3.2	4.0	5.0	6.3	8.0	10.0	12.5	16.0	18.0
Power source		1 Phase 220-240V, 50Hz								
Power consumption Cooling	kW	0.02-0.02	0.03-0.03		0.04-0.04	0.08-0.08	0.13-0.13	0.14-0.14		
Power consumption Heating	kW	0.02-0.02	0.03-0.03		0.04-0.04	0.08-0.08	0.13-0.13	0.14-0.14		
Sound power level	dB(A)	49		50	55	62	65	66		
Sound pressure level※	dB(A)	Hi:33 Me:30 Lo:28		Hi:33 Me:31 Lo:29		Hi:35 Me:32 Lo:28	Hi:38 Me:36 Lo:31	Hi:39 Me:37 Lo:31	Hi:42 Me:39 Lo:32	Hi:42 Me:39 Lo:33
Exterior dimensions H x W x D	mm	Unit:236x840x840 Panel:35x950x950					Unit:298x840x840 Panel:35x950x950			
Net weight	kg	Unit:20 Standard Panel:5			Unit:21.5 Standard Panel:5		Unit:25 Standard Panel:5			
Air flow※	m³/min	Hi:14 Me:12 Lo:10		Hi:15 Me:13 Lo:10	Hi:16 Me:13 Lo:11	Hi:17 Me:14 Lo:12	Hi:25 Me:22 Lo:15	Hi:26 Me:23 Lo:17	Hi:28 Me:25 Lo:18	Hi:29 Me:26 Lo:19
Outside air intake		Possible								
Panel		T-PSA-5AW-E, T-PSAE-5AW-E								
Air filter, Q'ty		Pocket Plastic net x1 (Washable)								
Remote control(option)		wired:RC-EX3, RC-E5, RCH-E3 wireless:RCN-T-5AW-E2								
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")				

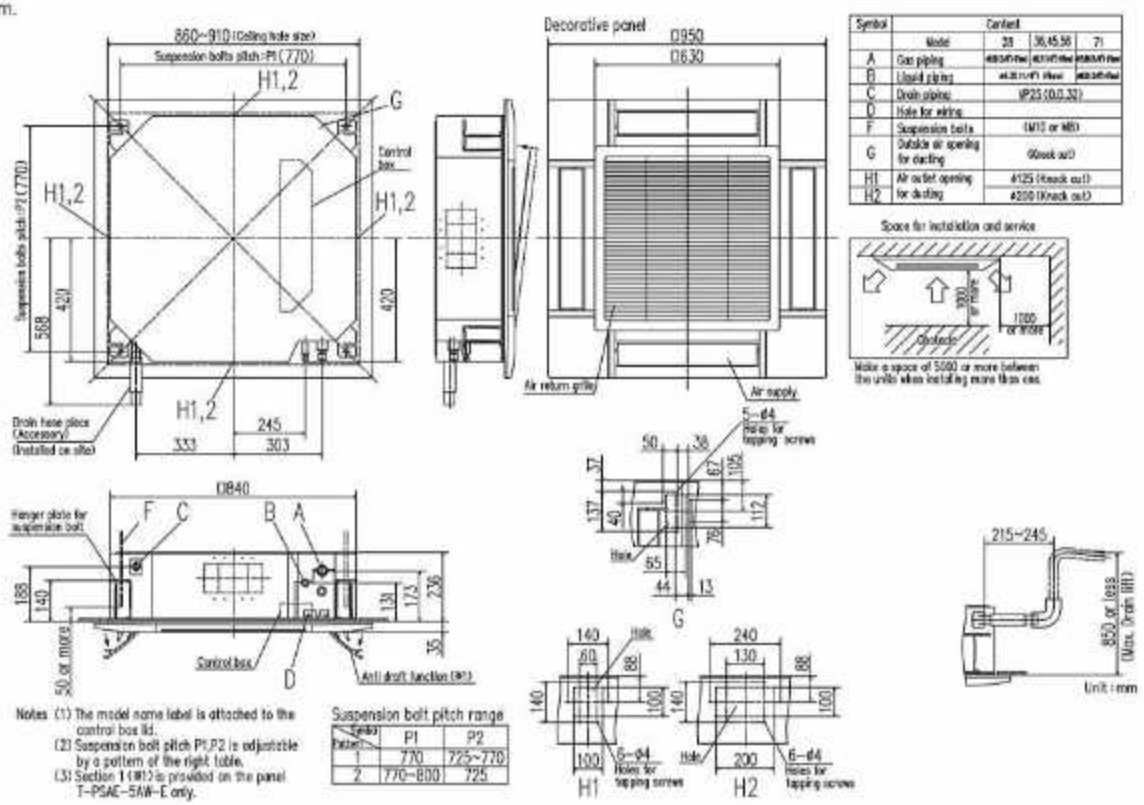
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.

※ Powerful-Hi can be selected. Sound pressure level: FDT28/36 37dB(A), FDT45/56 38dB(A), FDT71 47dB(A), FDT90/112/140/160 49dB(A). Air flow: FDT28 15m³/min, FDT36 16m³/min, FDT45 17m³/min, FDT56 20m³/min, FDT71 28m³/min, FDT90 37 m³/min,, FDT112/140/160 38m³/min.

Dimensions

All measurements in mm.

FDT28KXZE1
36KXZE1
45KXZE1
56KXZE1
71KXZE1



Symbol	Content			
	Model	28	36,45,56	71
A	Gas piping	ø9.52 (3/8") (Flare)	ø12.7 (1/2") (Flare)	ø15.88 (5/8") (Flare)
B	Liquid piping	ø6.35 (1/4") (Flare)	ø9.52 (3/8") (Flare)	ø9.52 (3/8") (Flare)
C	Drain piping	VP25 (O.D.32)		
D	Hole for wiring			
F	Suspension bolts	(M10 or W3/8)		
G	Outside air opening for ducting	(Knock out)		
H1	Air outlet opening for ducting	ø125 (Knock out)		
H2		ø200 (Knock out)		

Space for installation and service

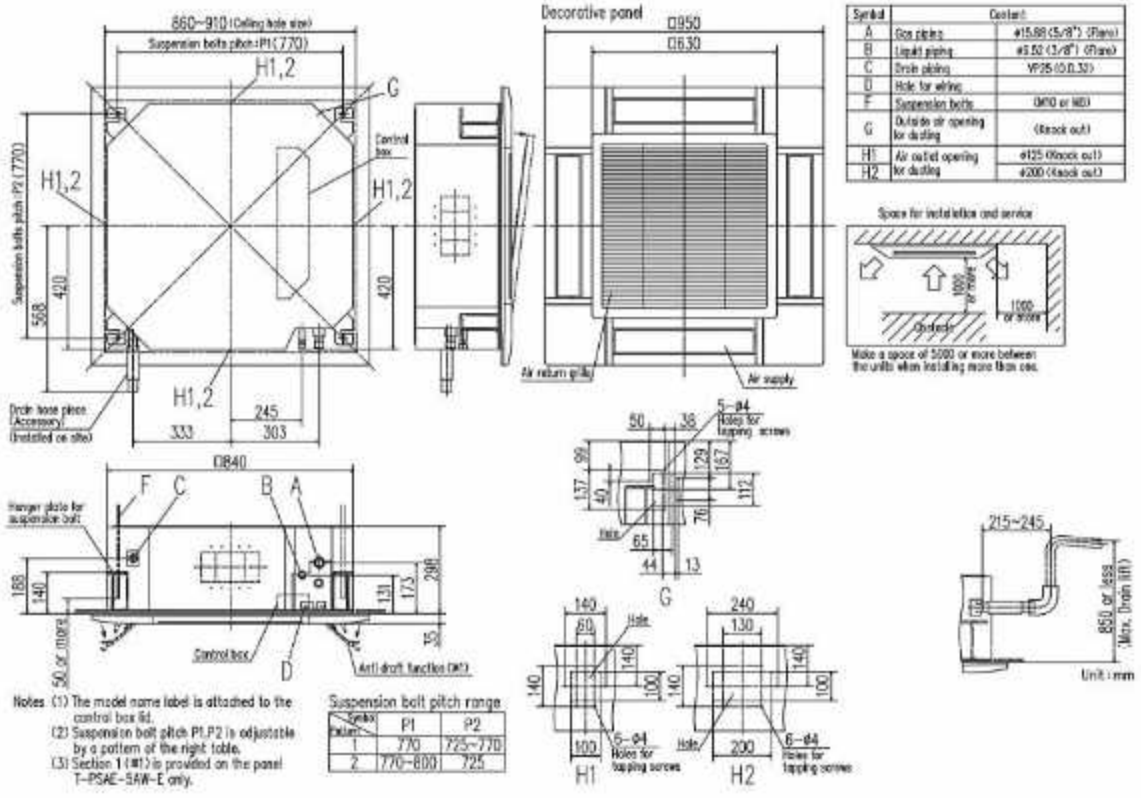
Make a space of 5000 or more between the units when installing more than one.

Notes (1) The model name label is attached to the control box lid.
(2) Suspension bolt pitch P1,P2 is adjustable by a pattern of the right table.
(3) Section 1 (#1) is provided on the panel T-PSAE-SAW-E only.

Suspension bolt pitch range

Pattern \ Units	P1	P2
1	770	725~770
2	770~800	725

FDT90KXZE1
112KXZE1
140KXZE1
160KXZE1



Symbol	Content	
A	Gas piping	ø15.88 (5/8") (Flare)
B	Liquid piping	ø9.52 (3/8") (Flare)
C	Drain piping	VP25 (O.D.32)
D	Hole for wiring	
F	Suspension bolts	(M10 or W3/8)
G	Outside air opening for ducting	(Knock out)
H1	Air outlet opening for ducting	ø125 (Knock out)
H2		ø200 (Knock out)

Space for installation and service

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

Notes (1) The model name label is attached to the control box lid.
(2) Suspension bolt pitch P1,P2 is adjustable by a pattern of the right table.
(3) Section 1 (#1) is provided on the panel T-PSAE-SAW-E only.

Suspension bolt pitch range

Pattern \ Units	P1	P2
1	770	725~770
2	770~800	725

Ceiling Cassette -4way Compact

FDTC

NEW

Model No.

FDTC15KXZE1
FDTC22KXZE1
FDTC28KXZE1
FDTC36KXZE1
FDTC45KXZE1
FDTC56KXZE1

Draft Prevention Panel (option)

Remote control (option)

Wired

RC-EX3A **RC-E5** **RCH-E3**

Wireless

RCN-TC-5AW-E2

Fits into standard grid ceiling 600 x 600

Compact Cassette is designed for 600x600 grid ceiling. If it is installed on a ceiling other than grid ceiling, then provide an inspection opening on the control box side.

European design & Flat panel

Compact Design

700 mm —> 620 mm

A weight of only 14kg.
Height of thin panel and main body is only 248 mm allowing it to be a very easy installation.

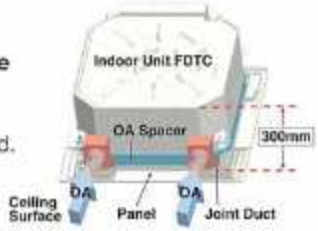
Integrated ceiling system design

A grille designed with a unique structure and a clean white panel harmonize with interior. This design was invented by zweigrad GmbH & Co. KG in Germany.

Taking OA (Outside Air) into inside

Fresh air can be taken in without option parts. When it is insufficient, existing option parts also can be used.

OA Spacer TC-OAS-E2(option)
Joint Duct TC-OAD-E(option)



Draft Prevention Panel (Option)

Draft Prevention Panel prevents cold/hot draft being blown directly on the user.
It is possible to set Draft Prevention Panel for each air outlet.

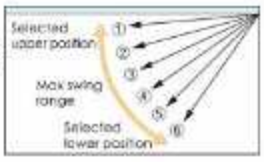
User can position Draft Prevention Panel panels by using the remote controller only (RC-EX3A, RCN-TC-5AW-E2).

Individual flap control system

According to room temperature conditions, four directions of air flow can be controlled individually by following flap control system.
Individual flap control is available even after installation.

The flap can swing within the range of upper and lower flap position selected with wired remote control.

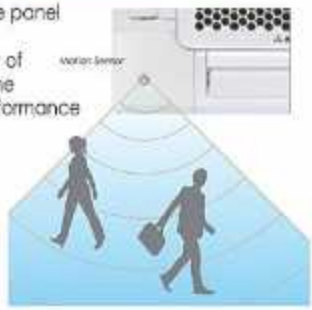
※The wireless remote control is not applicable to the individual flap control system.



Motion Sensor (Option)

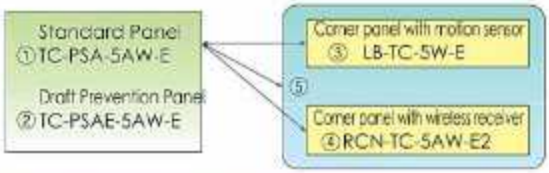
Motion sensor is equipped in the panel corner and detects the presence/absence and activity of humans in a room to improve the comfort and energy saving performance of the unit.

LB-TC-5W-E



Panel select pattern (Option)

8 patterns of panel are available.



850mm Drain Pump

Drain can be discharged upward by 850 mm from the ceiling surface close to the indoor unit. It allows a piping layout with a high degree of freedom depending on the installation location.

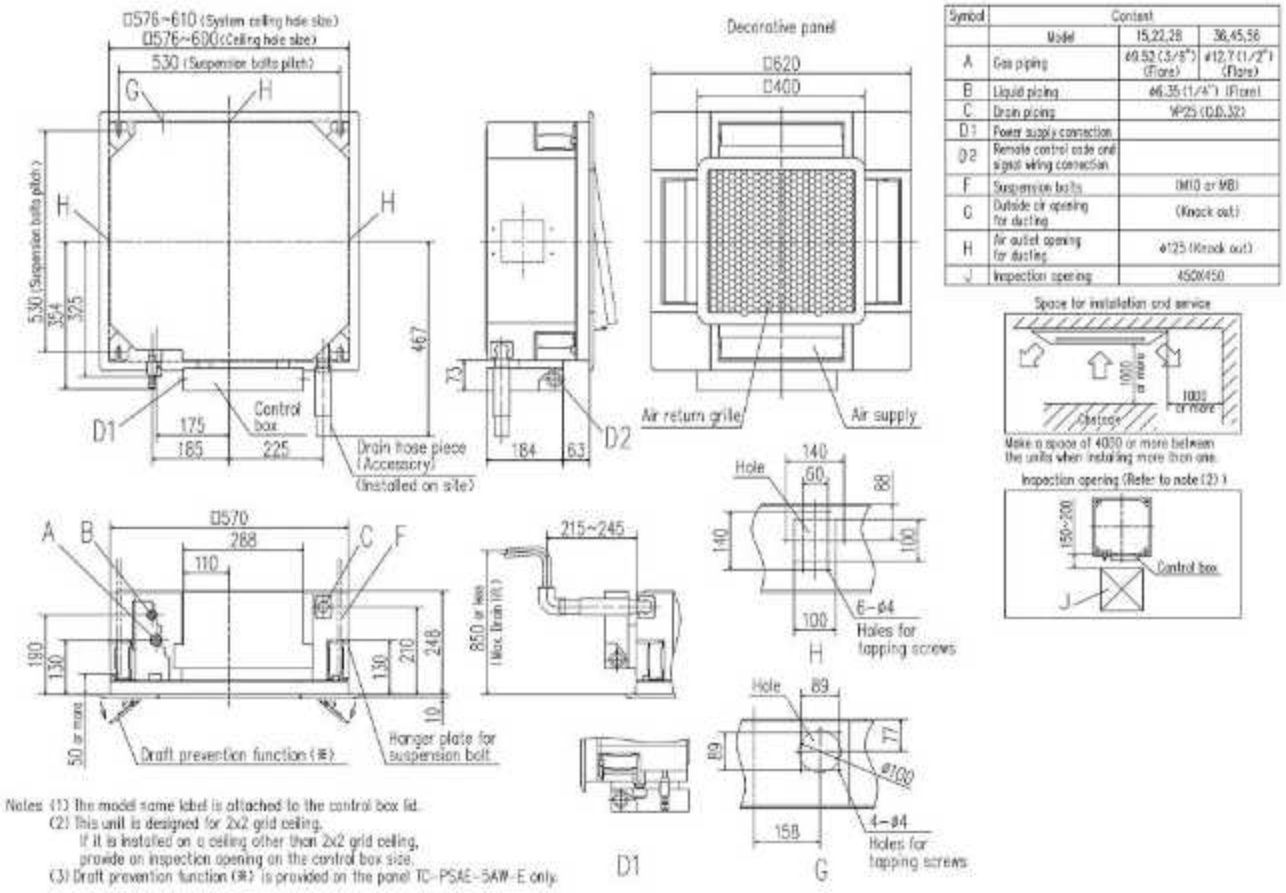
Specifications

Item		Model	FDTC15KXZE1	FDTC22KXZE1	FDTC28KXZE1	FDTC36KXZE1	FDTC45KXZE1	FDTC56KXZE1
Nominal cooling capacity		kW	1.5	2.2	2.8	3.6	4.5	5.6
Nominal heating capacity		kW	1.7	2.5	3.2	4.0	5.0	6.3
Power source			1 Phase 220-240V, 50Hz					
Power consumption	Cooling	kW	0.03-0.03			0.04-0.04	0.05-0.05	0.06-0.06
	Heating		0.03-0.03			0.04-0.04	0.05-0.05	0.06-0.06
Sound power level		dB(A)	Cooling:47 Heating:46	49		Cooling:54 Heating:53	Cooling:58 Heating:57	60
Sound pressure level	Cooling	dB(A)	P-Hi:33 Hi:30 Me:28 Lo:25	P-Hi:35 Hi:32 Me:29 Lo:25		P-Hi:39 Hi:36 Me:31 Lo:26	P-Hi:43 Hi:39 Me:36 Lo:28	P-Hi:47 Hi:43 Me:39 Lo:31
	Heating		P-Hi:33 Hi:30 Me:26 Lo:22	P-Hi:35 Hi:32 Me:29 Lo:25		P-Hi:39 Hi:36 Me:31 Lo:26	P-Hi:43 Hi:39 Me:36 Lo:28	P-Hi:47 Hi:43 Me:39 Lo:31
Exterior dimensions H x W x D		mm	Unit:248x570x570 Panel:10x620x620					
Net weight		kg	Unit:12.5 Standard Panel:2.5	Unit:13 Standard Panel:2.5		Unit:14 Standard Panel:2.5		
Air flow	Cooling	m³/min	P-Hi:8 Hi:7 Me:6 Lo:5	P-Hi:9 Hi:8 Me:7 Lo:6		P-Hi:10 Hi:9 Me:8 Lo:6	P-Hi:12 Hi:10 Me:9 Lo:7	P-Hi:14 Hi:12 Me:10 Lo:8
	Heating		P-Hi:8 Hi:7 Me:6 Lo:5	P-Hi:9 Hi:8 Me:7 Lo:6		P-Hi:10 Hi:9 Me:8 Lo:6	P-Hi:12 Hi:10 Me:9 Lo:7	P-Hi:14 Hi:12 Me:10 Lo:8
Outside air intake			Possible					
Panel			TC-PSA-5AW-E, TC-PSAE-5AW-E					
Air filter, Q'ty			Pocket Plastic net x1 (Washable)					
Remote control(option)			wired:RC-EX3A, RC-E5, RCH-E3 wireless:RCN-TC-5AW-E2					
Installation data Refrigerant piping size		mm(in)	Liquid line:ø6.35(1/4") Gas line:ø9.52(3/8")			Liquid line:ø6.35(1/4") Gas line:ø12.7(1/2")		

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

Dimensions

All measurements in mm.



Symbol	Content		
	Model	15,22,28	36,45,56
A	Gas piping	ø9.52 (3/8") (Flare)	ø12.7 (1/2") (Flare)
B	Liquid piping	ø6.35 (1/4") (Flare)	
C	Drain piping	VP25 (O.D.32)	
D1	Power supply connection		
D2	Remote control side and signal wiring connection		
F	Suspension bolts	(M10 or M8)	
G	Outside air opening for ducting	(Knock out)	
H	Air outlet opening for ducting	ø125 (Knock out)	
J	Inspection opening	450X450	

Notes: (1) The model name label is attached to the control box lid.
(2) This unit is designed for 2x2 grid ceiling.
If it is installed on a ceiling other than 2x2 grid ceiling, provide an inspection opening on the control box side.
(3) Draft prevention function (※) is provided on the panel TC-PSAE-5AW-E only.

Ceiling Cassette -2way-
FDTW

FDTW28~71

Remote control (option)

Wired

RC-EX3 RC-E5 RCH-E3

Wireless

RCN-TW-E2

Model No.

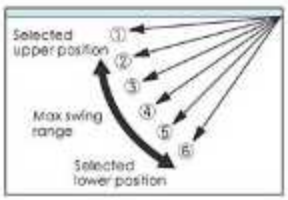
FDTW28KXE6F	FDTW90KXE6F
FDTW45KXE6F	FDTW112KXE6F
FDTW56KXE6F	FDTW140KXE6F
FDTW71KXE6F	

FDTW90~140

Individual flap control system

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

The flap can swing within the range of upper and lower flap position selected with wired remote control.



* The wireless remote control is not applicable to the individual flap control system.

Installation workability

Drainage spout

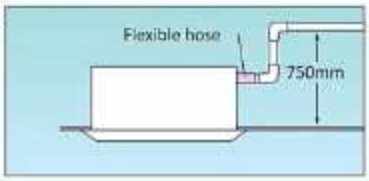
Drainage flow test can be done easily by use of this drainage spout.

Transparent access hole to drain pan

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

750mm Drain Pump

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



Specifications

Item		Model	FDTW28KXE6F	FDTW45KXE6F	FDTW56KXE6F	FDTW71KXE6F	FDTW90KXE6F	FDTW112KXE6F	FDTW140KXE6F
Nominal cooling capacity		kW	2.8	4.5	5.6	7.1	9.0	11.2	14.0
Nominal heating capacity		kW	3.2	5.0	6.3	8.0	10.0	12.5	16.0
Power source			1 Phase 220-240V, 50Hz						
Power consumption	Cooling	kW	0.09-0.09	0.10-0.10		0.14-0.14	0.19-0.19		
	Heating		0.09-0.09	0.10-0.10		0.14-0.14	0.19-0.19		
Sound power level		dB(A)	58				65	—	
Sound pressure level*		dB(A)	Hi:38 Me:34 Lo:31				Hi:45 Me:41 Lo:37		
Exterior dimensions H x W x D		mm	Unit:325x820x620 Panel:20x1120x680				Unit:325x1535x620 Panel:20x1835x680		
Net weight		kg	Unit:20 Panel:8.5	Unit:21 Panel:8.5		Unit:23 Panel:8.5	Unit:35 Panel:13		
Air flow *		m³/min	Hi:12 Me:10 Lo:9				Hi:27 Me:23 Lo:20		
Outside air intake			Possible						
Panel			TW-P5A-26W-E				TW-P5A-46W-E		
Air filter, Q'ty			Pocket Plastic net x2 (Washable)				Pocket Plastic net x3 (Washable)		
Remote control(option)			wired:RC-EX3, RC-E5, RCH-E3 wireless:RCN-TW-E2						
Installation data Refrigerant piping size		mm(in)	Liquid line:ø6.35(1/4") Gas line:ø9.52(3/8")	Liquid line:ø6.35(1/4") Gas line:ø12.7(1/2")		Liquid line:ø9.52(3/8") Gas line:ø15.88(5/8")			

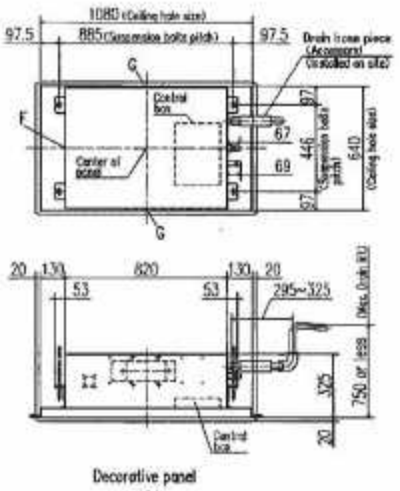
1. The data are measured under the following conditions(ISO-T1). Cooling: Indoor temp. of 27°CDB, 19°CWB, and outdoor temp. of 35°CDB. Heating: Indoor temp. of 20°CDB, and outdoor temp. of 7°CDB, 6°CWB.
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values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

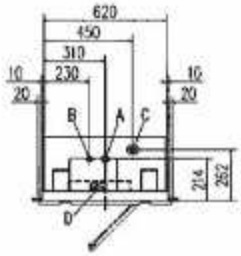
* Powerful-Hi can be selected. Sound pressure level: FDTW28/45/56/71 42dB(A), FDTW90/112/140 48dB(A). Air flow: FDTW28/45/56/71 14.5m³/min, FDTW90/112/140 31m³/min.

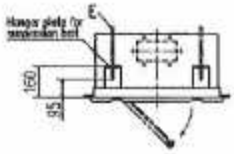
Dimensions

All measurements in mm.

FDTW28KXE6F, 45KXE6F, 56KXE6F, 71KXE6F



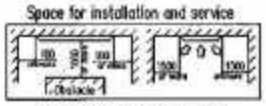




Symbol	Content			
	Model	28	45,56	71
A	Gas piping	ø9.52(3/8") Flare	ø12.7(1/2") Flare	ø15.88(5/8") Flare
B	Liquid piping	ø6.35 (1/4") Flare		ø9.52(3/8") Flare
C	Drain piping	VP25 Note (2)		
D	Hole for wiring			
E	Suspension bolts	(M10)		
F	Outside air opening for ducting	(Knock out)		
G	Air outlet opening for ducting	(Knock out)		

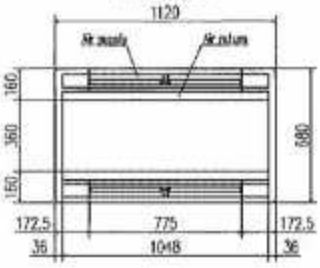
Notes (1) The model name label is attached on the lid of the control box.

Space for installation and service

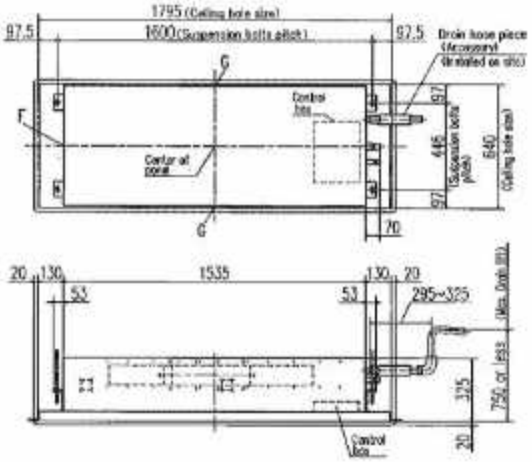


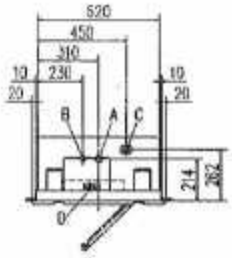
Make a space of 4000 or more between the units when installing more than one.

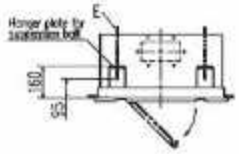
Decorative panel



FDTW90KXE6F, 112KXE6F, 140KXE6F



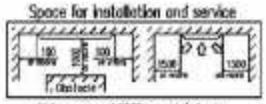




Symbol	Content	
A	Gas piping	ø15.88 (5/8") (Flare)
B	Liquid piping	ø9.52 (3/8") (Flare)
C	Drain piping	VP25 Note (2)
D	Hole for wiring	
E	Suspension bolts	(M10)
F	Outside air opening for ducting	(Knock out)
G	Air outlet opening for ducting	(Knock out)

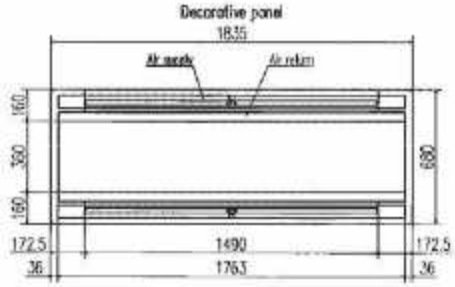
Notes (1) The model name label is attached on the lid of the control box.

Space for installation and service



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

Decorative panel



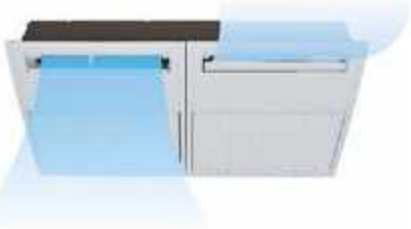
Ceiling Cassette -1way-
FDTS

Model No.
FDTS45KXE6F
FDTS71KXE6F

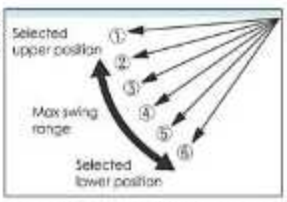
Remote control (option)

Individual flap control system

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



The flap can swing within the range of upper and lower flap position selected with wired remote control.



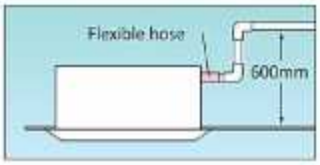
• The wireless remote control is not applicable to the individual flap control system.

Compact design

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

600mm Drain Pump

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



Wireless remote control

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

RCN-TS-E2

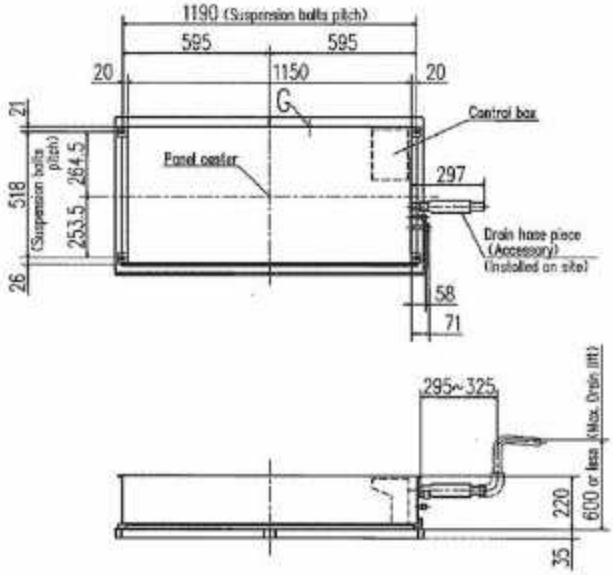
Specifications

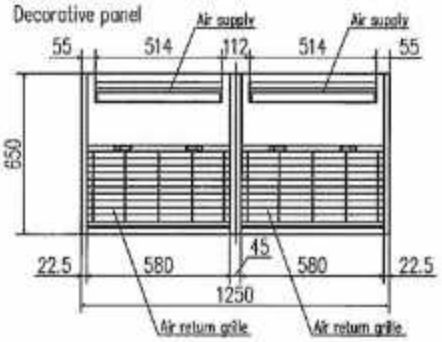
Item		Model	FDTS45KXE6F	FDTS71KXE6F
Nominal cooling capacity		kW	4.5	7.1
Nominal heating capacity		kW	5.0	8.0
Power source			1 Phase 220-240V, 50Hz	
Power consumption	Cooling	kW	0.04-0.04	0.09-0.09
	Heating		0.04-0.04	0.09-0.09
Sound power level		dB(A)	60	61
Sound pressure level※		dB(A)	Hi:40 Me:38 Lo:35	Hi:46 Me:41 Lo:36
Exterior dimensions H x W x D		mm	Unit:220x1150x565 Panel:35x1250x650	
Net weight		kg	Unit:27 Panel:5	Unit:28 Panel:5
Air flow※		m³/min	Hi:12 Me:11 Lo:9.5	Hi:15 Me:12 Lo:9.5
Outside air intake			Possible	
Panel			TS-PSA-3AW-E	
Air filter, Q'ty			Pocket Plastic net x2 (Washable)	
Remote control(option)			wired:RC-EX3, RC-E5, RCH-E3 wireless:RCN-TS-E2	
Installation data Refrigerant piping size		mm(in)	Liquid line:ø6.35(1/4") Gas line:ø12.7(1/2")	Liquid line:ø9.52(3/8") Gas line:ø15.88(5/8")

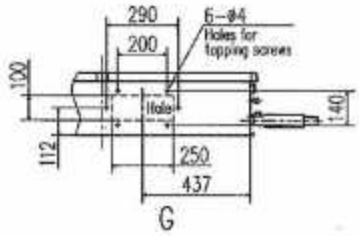
1. The data are measured under the following conditions(ISO-T1). Cooling: Indoor temp. of 27°CDB, 19°CWB, and outdoor temp. of 35°CDB. Heating: Indoor temp. of 20°CDB, and outdoor temp. of 7°CDB, 6°CWB.
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.
※ Powerful-HI can be selected. Sound pressure level: FDTS45 42dB(A), FDTS71 49dB(A). Air flow: FDTS45 13m3/min, FDTS71 17m3/min.

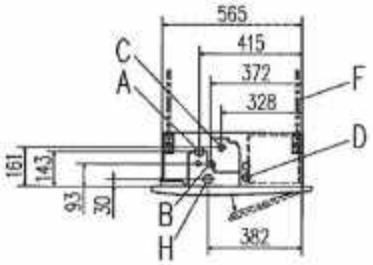
Dimensions

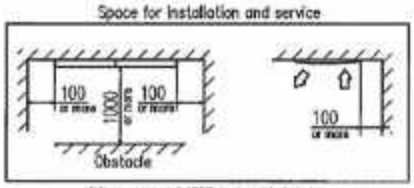
All measurements in mm.











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

Symbol	Content		
	Model	45	71
A	Gas piping	φ12.7 (1/2") (Flare)	φ15.88 (5/8") (Flare)
B	Liquid piping	φ6.35 (1/4") (Flare)	φ9.52 (3/8") (Flare)
C	Drain piping	VP25 (O.D.32)	
D	Hole for wiring		
F	Suspension bolts	(M10)	
G	Outside air opening for ducting	(Knock out)	
H	Drain piping (Gravity drainage)	VP25 (I.D.25 , O.D.32)	

Ceiling Cassette -1way Compact- FDTQ

Model No.
FDTQ22KXE6F
FDTQ28KXE6F
FDTQ36KXE6F

Fits into standard 600 x 600 ceiling

Remote control (option)

Wired

RC-EX3 RC-E5 RCH-E3

Wireless

RCN-KIT4-E2

For grid type ceiling: **TQ-PSA-15W-E**

For gypsum ceiling: **TQ-PSB-15W-E**

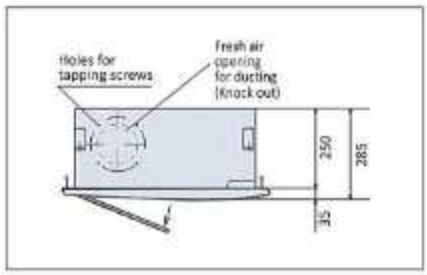
1 way compact Cassette is designed for 600x600 grid ceiling. If it is installed on a ceiling other than grid ceiling, then use panel TQ-PSB-15W-E.

Compact design

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

Optional wide panel shown for solid ceiling

Condensate drain pump included as standard



Ultra slim design at just 250mm above the ceiling

Specifications

Item		Model	FDTQ22KXE6F				FDTQ28KXE6F				FDTQ36KXE6F			
Panel Name			Direct blow panel		Duct panel		Direct blow panel		Duct panel		Direct blow panel		Duct panel	
Panel mode (Option)			TQ-PSA-15W-E	TQ-PSB-15W-E	QR-PNA-14W-ER	QR-PNB-14W-ER	TQ-PSA-15W-E	TQ-PSB-15W-E	QR-PNA-14W-ER	QR-PNB-14W-ER	TQ-PSA-15W-E	TQ-PSB-15W-E	QR-PNA-14W-ER	QR-PNB-14W-ER
Nominal cooling capacity		kW	2.2				2.8				3.6			
Nominal heating capacity		kW	2.5				3.2				4.0			
Power source			1 Phase 220-240V, 50Hz											
Power consumption	Cooling	kW	0.05-0.07				0.05-0.07				0.05-0.07			
	Heating		0.05-0.07				0.05-0.07				0.05-0.07			
Sound power level		dB(A)	60											
Sound pressure level*		dB(A)	Hi:41 Me:38 Lo:33		Hi:41 Me:38 Lo:33		Hi:41 Me:38 Lo:33		Hi:41 Me:38 Lo:33		Hi:41 Me:38 Lo:33		Hi:41 Me:38 Lo:33	
Exterior dimensions H x W x D	Unit	mm	250x570x570				250x570x570				250x570x570			
	Panel		35x625x650	35x780x650	35x625x650	35x780x650	35x625x650	35x780x650	35x625x650	35x780x650	35x625x650	35x780x650	35x625x650	35x780x650
Net weight		kg	Unit:23 Panel:2.5	Unit:23 Panel:3	Unit:23 Panel:2.5	Unit:23 Panel:3	Unit:23 Panel:2.5	Unit:23 Panel:3	Unit:23 Panel:2.5	Unit:23 Panel:3	Unit:23 Panel:2.5	Unit:23 Panel:3	Unit:23 Panel:2.5	Unit:23 Panel:3
Air flow*		m³/min	Hi:7 Me:6 Lo:5		Hi:7 Me:6 Lo:5		Hi:7 Me:6 Lo:5		Hi:7 Me:6 Lo:5		Hi:7 Me:6 Lo:5		Hi:7 Me:6 Lo:5	
Outside air intake			Possible											
Air filter, Q'ty			Pocket Plastic net x1 (Washable)											
Remote control(option)			wired:RC-EX3, RC-E5, RCH-E3 wireless:RCN-KIT4-E2											
Installation data Refrigerant piping size		mm(in)	Liquid line:ø6.35(1/4") Gas line:ø9.52(3/8")								Liquid line:ø6.35(1/4") Gas line:ø12.7(1/2")			

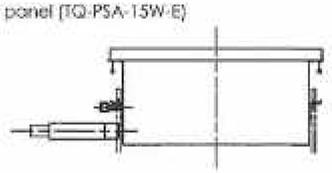
1. The data are measured under the following conditions(ISO-T1). Cooling: Indoor temp. of 27°CDB, 19°CWB, and outdoor temp. of 35°CDB. Heating: Indoor temp. of 20°CDB, and outdoor temp. of 7°CDB, 6°CWB.
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values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

* Powerful-Hi can be selected. Sound pressure level: FDTQ22/28/36 45dB(A). Air flow: FDTQ22/28/36 8m³/min.

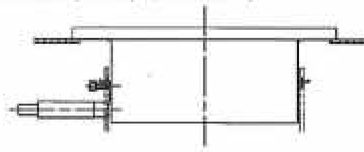
Dimensions

All measurements in mm.

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



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



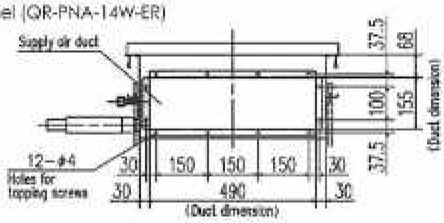
Symbol	Content	
	Model	FDTC28KXE6F, 36KXE6F	FDTC50KXE6F
A	Gas piping	ø9.52(3/8") (Flare)	ø12.7(1/2") (Flare)
B	Liquid piping	ø6.35(1/4") (Flare)	
C	Drain piping	VP25(O.D.32)	
D	Hole for wiring	ø30	
E	Suspension bolts	M10	
F1,2	Outside air opening for ducting	(Knock out)	

Notes

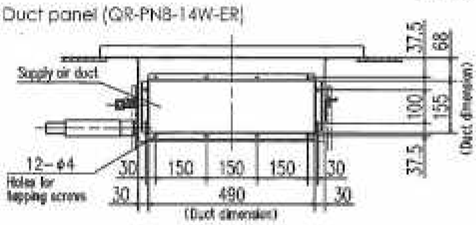
(1) The model name label is attached on the fan case inside the air return grille.

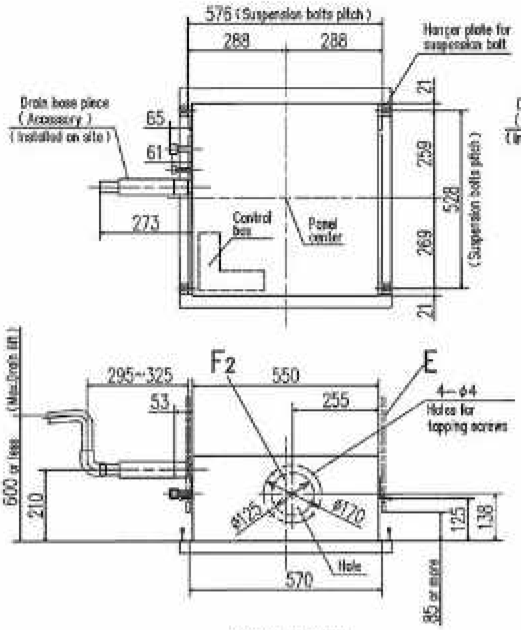
(2) This unit is designed for 2X2 grid ceiling.
* In case of Direct blow panel

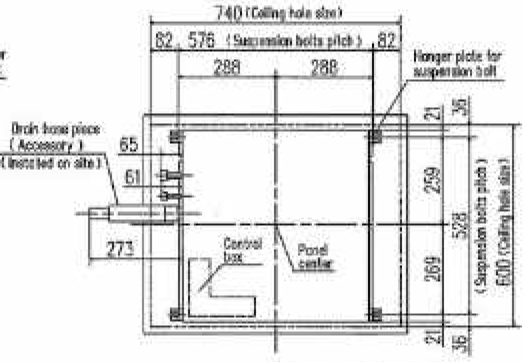
Duct panel (QR-PNA-14W-ER)

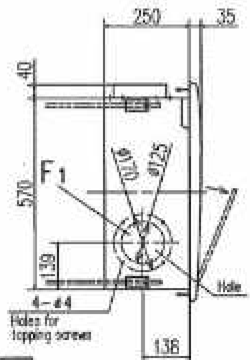


Duct panel (QR-PNB-14W-ER)

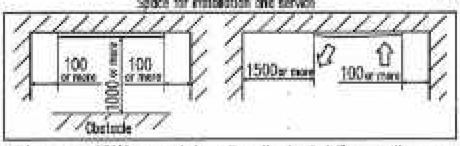






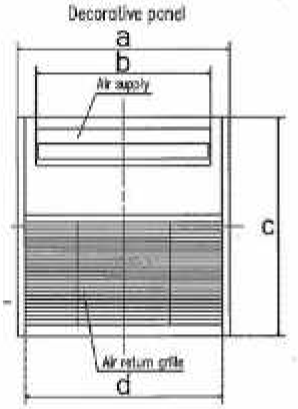


Space for installation and service

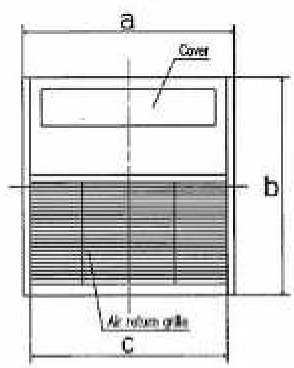


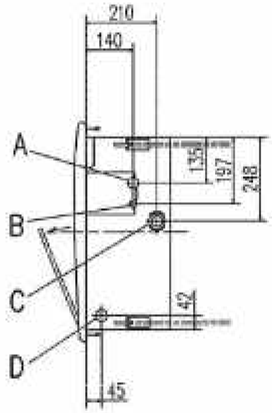
Make a space of 3000 or more between the units when installing more than one.

Decorative panel



Decorative panel





Dimension Table

Unit:mm

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

Dimension Table

Unit:mm

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

Duct Connected -High Static Pressure- FDU

Model No.
FDU45KXE6F
FDU56KXE6F
FDU71KXE6F
FDU90KXE6F
FDU112KXE6F
FDU140KXE6F
FDU160KXE6F

Model No.
FDU224KXZE1
FDU280KXZE1

Remote control (option)

Wired

RC-EX3A RC-E5 RCH-E3

Wireless

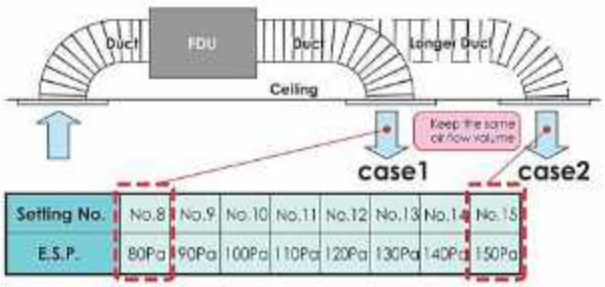
RCN-KIT4-E2

External Static Pressure(E.S.P) control

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

E.S.P. button RC-E5

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



Setting No.	No.8	No.9	No.10	No.11	No.12	No.13	No.14	No.15
E.S.P.	80Pa	90Pa	100Pa	110Pa	120Pa	130Pa	140Pa	150Pa

*Range of 80~150 Pa is set at ex-factory default.
Range of 10~200 Pa is available by setting SW8-4 switch on at site.

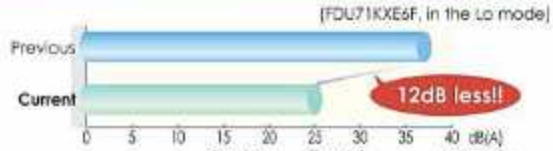
<Expansion of external static pressure range>

Previous		Current
10~130Pa	➡	10~200Pa

Thin design

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

Reduction of sound pressure level



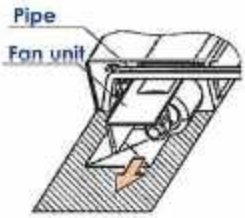
	Previous		Current	Lo mode
FDU90KXE6F	37	➡	25	12dB(A) less!!
FDU112KXE6F	38	➡	30	8dB(A) less!!
FDU140KXE6F	39	➡	29	10dB(A) less!!

Transparent inspection window

Dirt condition of the bottom of a drain pan can be checked through this transparent inspection window without removing drain pan. (Please refer to P84)

Improvement of the serviceability

Fan unit (impeller and motor) can be pulled out from the right side of the unit. Maintenance can be available from the right side or the bottom side.
(Common for FDUM22~160KXE6F & FDU45~160KXE6F)



Specifications

Item		Model	FDU45KXE6F	FDU56KXE6F	FDU71KXE6F	FDU90KXE6F	FDU112KXE6F	FDU140KXE6F	FDU160KXE6F
Nominal cooling capacity		kW	4.5	5.6	7.1	9.0	11.2	14.0	16.0
Nominal heating capacity		kW	5.0	6.3	8.0	10.0	12.5	16.0	18.0
Power source			1 Phase 220-240V, 50Hz						
Power consumption	Cooling	kW	0.10-0.10		0.24-0.25		0.31-0.32	0.35-0.36	0.42-0.43
	Heating		0.10-0.10		0.24-0.25		0.31-0.32	0.35-0.36	0.42-0.43
Sound power level		dB(A)	60		65		—		
Sound pressure level		dB(A)	P-Hi:37 Hi:32 Me:29 Lo:26		P-Hi:38 Hi:33 Me:29 Lo:25		P-Hi:44 Hi:38 Me:36 Lo:30	P-Hi:45 Hi:40 Me:34 Lo:29	P-Hi:47 Hi:40 Me:35 Lo:30
Exterior dimensions H x W x D		mm	280x750x635		280x950x635		280x1370x740		
Net weight		kg	29		34		54		
Air flow		m³/min	P-Hi:13 Hi:10 Me:9 Lo:8		P-Hi:24 Hi:19 Me:15 Lo:10		P-Hi:36 Hi:28 Me:25 Lo:19	P-Hi:39 Hi:32 Me:26 Lo:20	P-Hi:48 Hi:35 Me:28 Lo:22
Maximum external static pressure		Pa	200						
Outside air intake			Possible						
Air filter			Procure locally						
Remote control(option)			wired:RC-EX3A, RC-E5, RCH-E3 wireless:RCN-KIT4-E2						
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. External static pressure of indoor unit is 60Pa.
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.

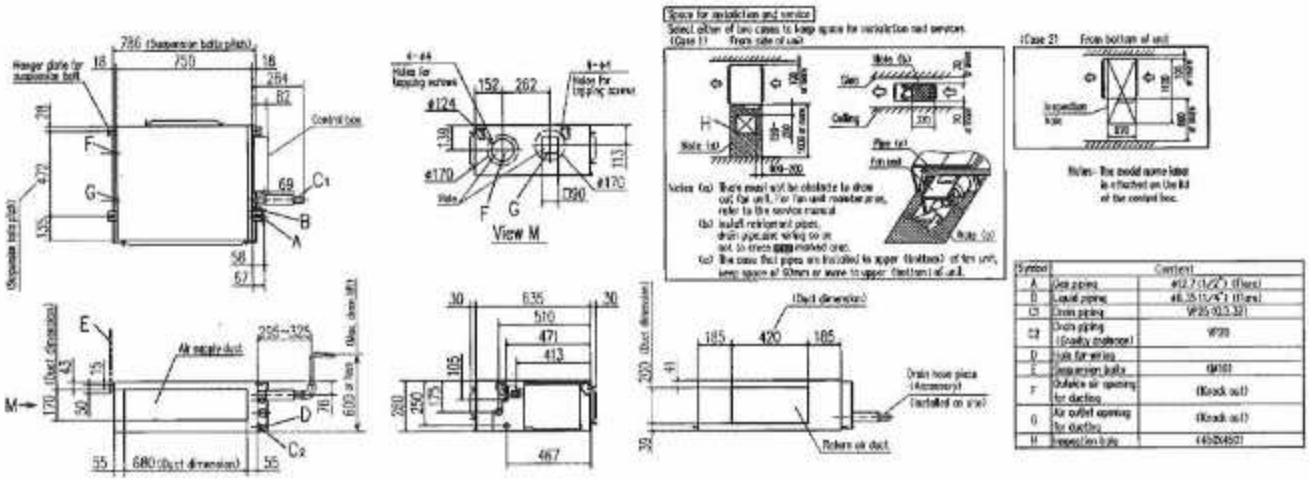
Item		Model	FDU224KXZE1	FDU280KXZE1
Nominal cooling capacity		kW	22.4	28.0
Nominal heating capacity		kW	25.0	31.5
Power source			1 Phase 220-240V, 50Hz	
Power consumption	Cooling	kW	1.16-1.20	1.16-1.20
	Heating		1.16-1.20	1.16-1.20
Sound pressure level		dB(A)	P-Hi:52 Hi:50 Me:47 Lo:45	
Exterior dimensions H x W x D		mm	379x1600x893	
Net weight		kg	89	
Air flow		m³/min	P-Hi:80 Hi:72 Me:64 Lo:56	
Maximum external static pressure		Pa	200	
Outside air intake			Possible(on return duct)	
Air filter			Procure locally	
Remote control(option)			wired:RC-EX3A, RC-E5, RCH-E3 wireless:RCN-KIT4-E2	
Installation data Refrigerant piping size		mm(in)	Liquid line:ø9.52(3/8") Gas line:ø19.05(3/4")	Liquid line:ø9.52(3/8") Gas line:ø22.22(7/8")

1. The data are measured under the following conditions(ISO-T1). Cooling: Indoor temp. of 27°CDB, 19°CWB, and outdoor temp. of 35°CDB. Heating: Indoor temp. of 20°CDB, and outdoor temp. of 7°CDB, 6°CWB. External static pressure of indoor unit is 72Pa.
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.

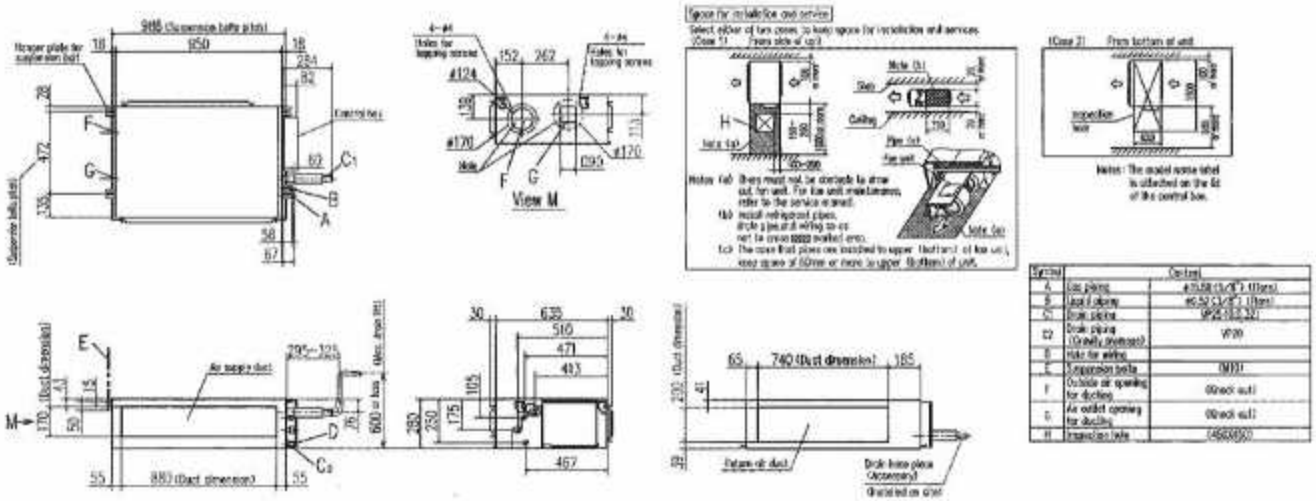
Dimensions

All measurements in mm.

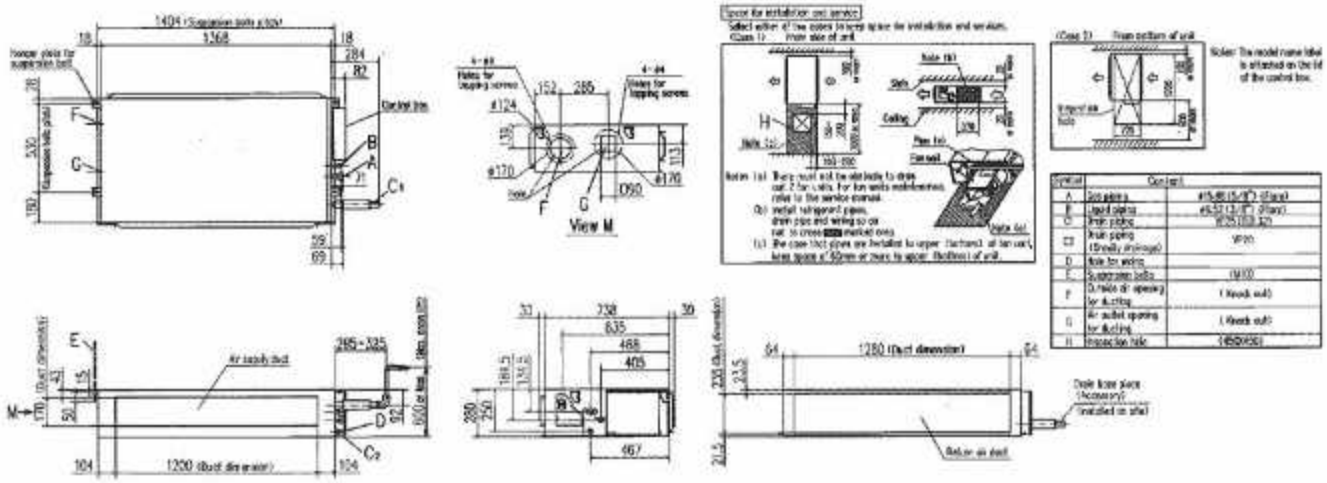
FDU45KXE6F, 56KXE6F



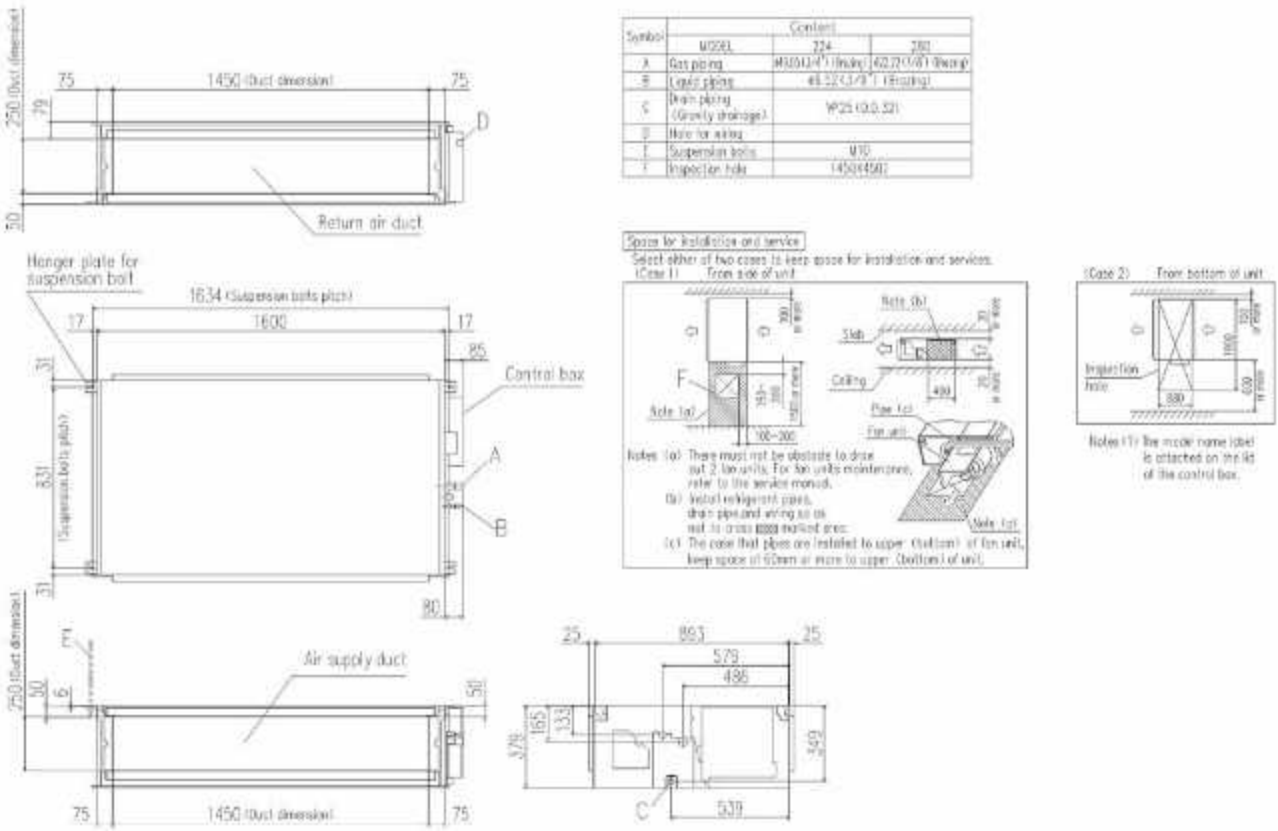
FDU71KXE6F, 90KXE6F



FDU112KXE6F, 140KXE6F, 160KXE6F



FDU224KXZE1, 280KXZE1



Duct Connected -Low/Middle Static Pressure- FDUM

Model No.

FDUM22KXE6F	FDUM71KXE6F
FDUM28KXE6F	FDUM90KXE6F
FDUM36KXE6F	FDUM112KXE6F
FDUM45KXE6F	FDUM140KXE6F
FDUM56KXE6F	FDUM160KXE6F

Remote control (option)

Wired

RC-EX3A RC-E5 RCH-E3

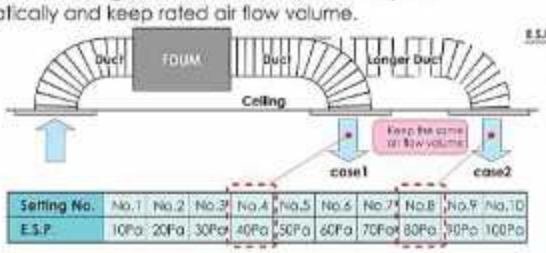
Wireless

RCN-KIT4-E2

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

Duct design was simplified.
Using DC motor, the most optimum air flow volume can be achieved by this automatic control.
Indoor unit will recognize external static pressure by itself automatically and keep rated air flow volume.

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



Setting No.	No.1	No.2	No.3	No.4	No.5	No.6	No.7	No.8	No.9	No.10
E.S.P.	10Pa	20Pa	30Pa	40Pa	50Pa	60Pa	70Pa	80Pa	90Pa	100Pa

Thin design

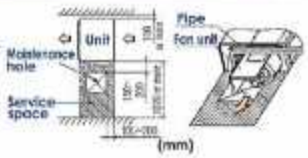
The height of all FDUM models is only 280mm.

FDUM112/140KXE6F

FDUM22~90KXE6F

Improvement of the serviceability

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



Transparent inspection window

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

Specifications

Item	Model	FDUM22KXE6F	FDUM28KXE6F	FDUM36KXE6F	FDUM45KXE6F	FDUM56KXE6F	FDUM71KXE6F	FDUM90KXE6F	FDUM112KXE6F	FDUM140KXE6F	FDUM160KXE6F
Nominal cooling capacity	kW	2.2	2.8	3.6	4.5	5.6	7.1	9.0	11.2	14.0	16.0
Nominal heating capacity	kW	2.5	3.2	4.0	5.0	6.3	8.0	10.0	12.5	16.0	18.0
Power source		1 Phase 220-240V, 50Hz									
Power consumption Cooling	kW	0.10-0.10					0.20-0.20		0.29-0.29	0.33-0.33	0.45-0.45
Power consumption Heating	kW	0.10-0.10					0.20-0.20			0.33-0.33	0.45-0.45
Sound power level	dB(A)						65			—	
Sound pressure level※	dB(A)	Hi:32 Me:29 Lo:26					Hi:33 Me:29 Lo:25		Hi:38 Me:36 Lo:30	Hi:40 Me:34 Lo:29	Hi:40 Me:35 Lo:30
Exterior dimensions H x W x D	mm	280 x 750 x 635					280 x 950 x 635		280 x 1370 x 740		
Net weight	kg	29					34		54		
Air flow ※	m³/min	Hi:10 Me:9 Lo:8					Hi:19 Me:15 Lo:10		Hi:28 Me:25 Lo:19	Hi:32 Me:26 Lo:20	Hi:35 Me:28 Lo:22
Maximum external static pressure	Pa	100									
Outside air intake		Possible									
Air filter		Procure locally									
Remote control(option)		wired:RC-EX3, RC-E5, RCH-E3 wireless:RCN-KIT4-E2									
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")				

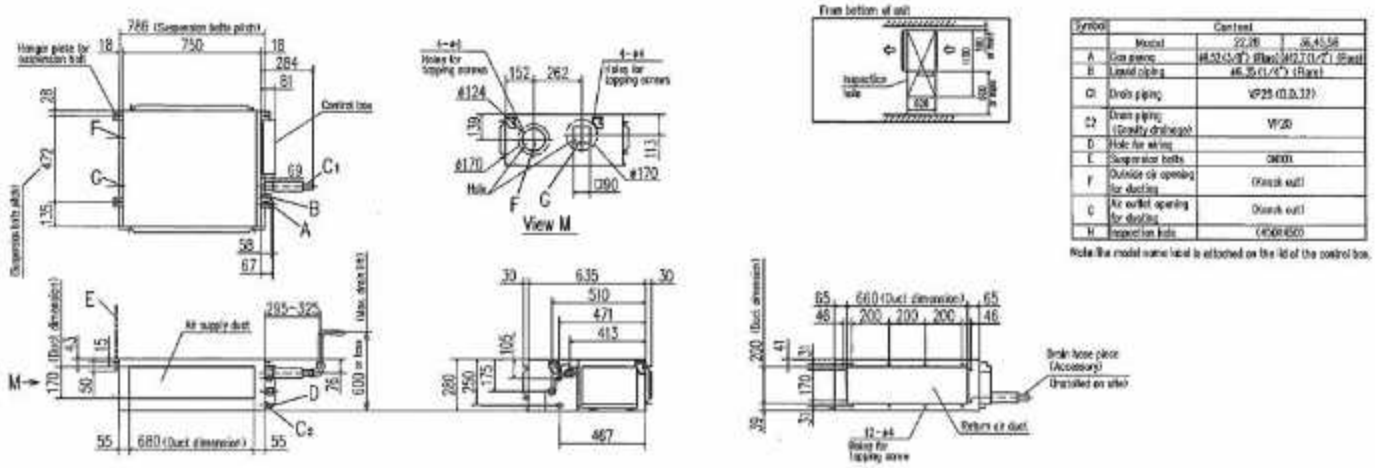
1. The data are measured under the following conditions(50~Tl). Cooling: Indoor temp. of 27°CDB, 19°CWB, and outdoor temp. of 35°CDB. Heating: Indoor temp. of 20°CDB, and outdoor temp. of 7°CDB, 6°CWB. External static pressure of indoor unit is 35Pa(22/28/36/45/56/71/90), 60Pa(112/140/160).
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.

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

Dimensions

All measurements in mm.

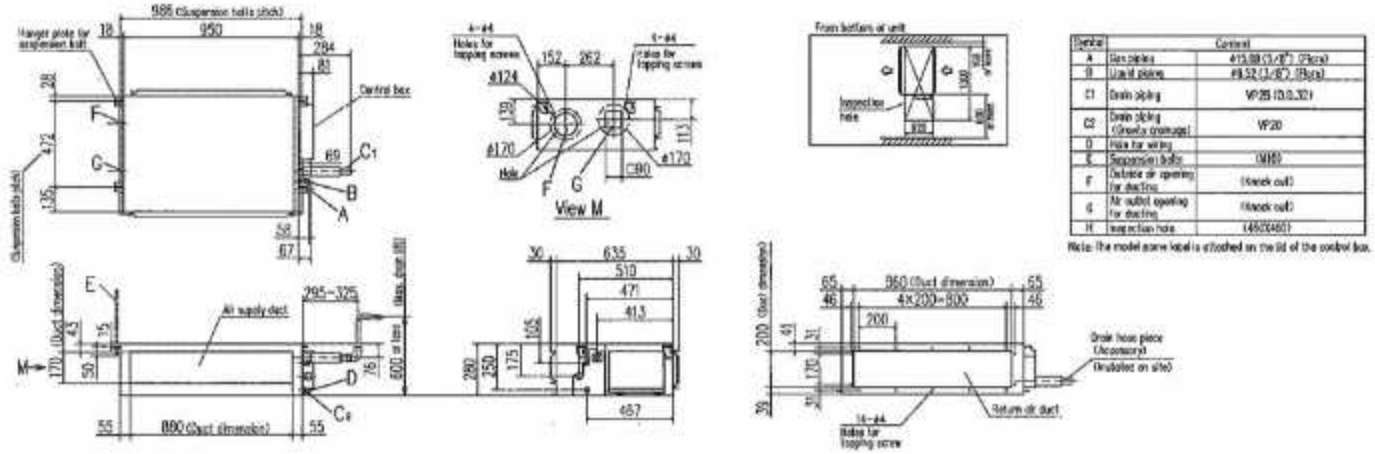
FDUM22KXE6F, 28KXE6F, 36KXE6F, 45KXE6F, 56KXE6F



Symbol	Content	
	Model	22,28 / 36,45,56
A	Gas piping	ø9.52 (3/8") (Flare) / ø12.7 (1/2") (Flare)
B	Liquid piping	ø6.35 (1/4") (Flare)
C1	Drain piping	VP25 (I.D. 32)
C2	Drain piping (Gravity drainage)	VP20
D	Hole for wiring	
E	Suspension bolts	M10
F	Outdoor air opening for ducting	(Knock out)
G	Air outlet opening for ducting	(Knock out)
H	Inspection hole	(450×450)

Note: The model name label is attached on the lid of the control box.

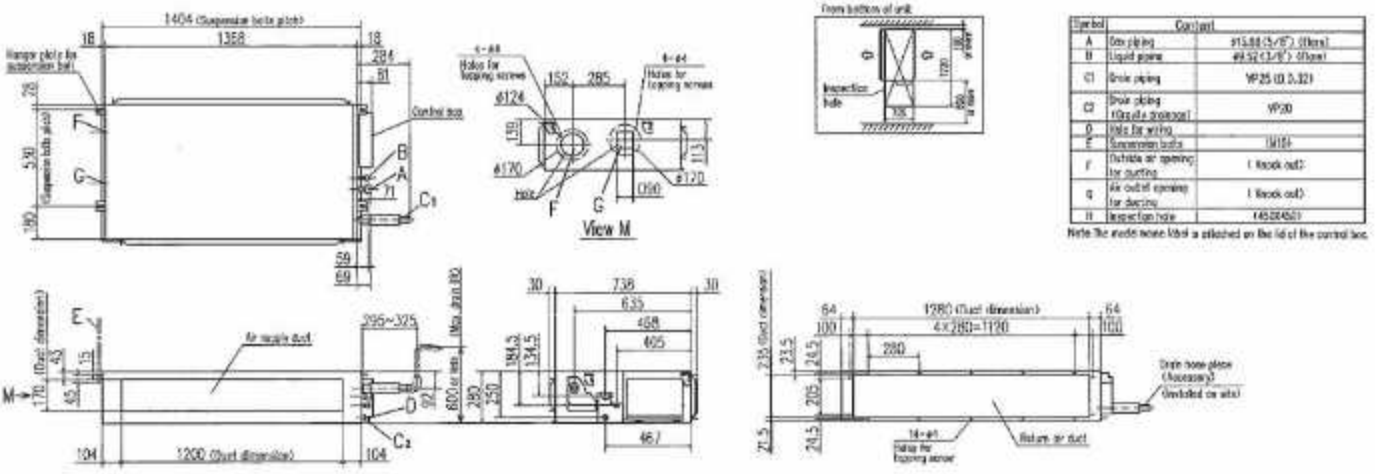
FDUM71KXE6F, 90KXE6F



Symbol	Content	
A	Gas piping	ø15.88 (5/8") (Flare)
B	Liquid piping	ø9.52 (3/8") (Flare)
C1	Drain piping	VP25 (I.D. 32)
C2	Drain piping (Gravity drainage)	VP20
D	Hole for wiring	
E	Suspension bolts	M10
F	Outdoor air opening for ducting	(Knock out)
G	Air outlet opening for ducting	(Knock out)
H	Inspection hole	(450×450)

Note: The model name label is attached on the lid of the control box.

FDUM112KXE6F, 140KXE6F, 160KXE6F



Symbol	Content	
A	Gas piping	ø15.88 (5/8") (Flare)
B	Liquid piping	ø9.52 (3/8") (Flare)
C1	Drain piping	VP25 (I.D. 32)
C2	Drain piping (Gravity drainage)	VP20
D	Hole for wiring	
E	Suspension bolts	M10
F	Outdoor air opening for ducting	(Knock out)
G	Air outlet opening for ducting	(Knock out)
H	Inspection hole	(450×450)

Note: The model name label is attached on the lid of the control box.

Duct Connected (thin) -Low Static Pressure- FDUT

Model No.

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

Remote control (option)

Wired

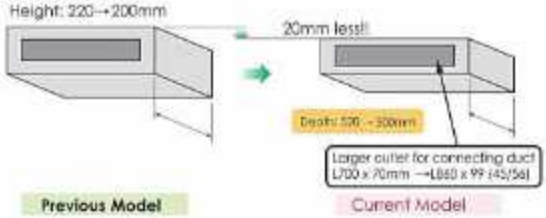
RC-EX3A RC-E5 RCH-E3

Wireless

RCN-KIT4-E2

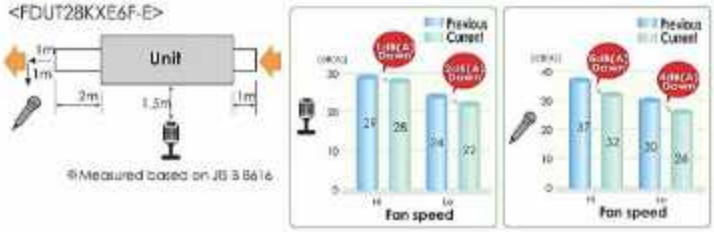
Compact design

<FDUT15~56KXE6F-E>

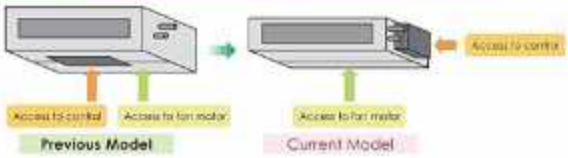


Lower noise

<FDUT28KXE6F-E>



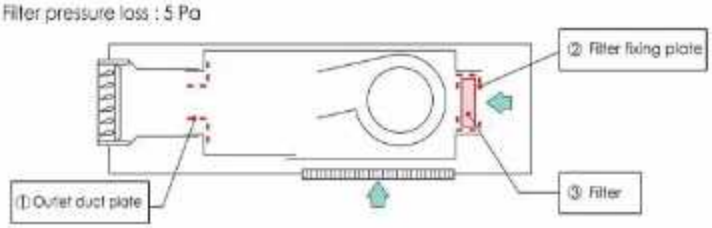
Serviceability



Duct kit and filter options

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

Filter pressure loss : 5 Pa



Specifications

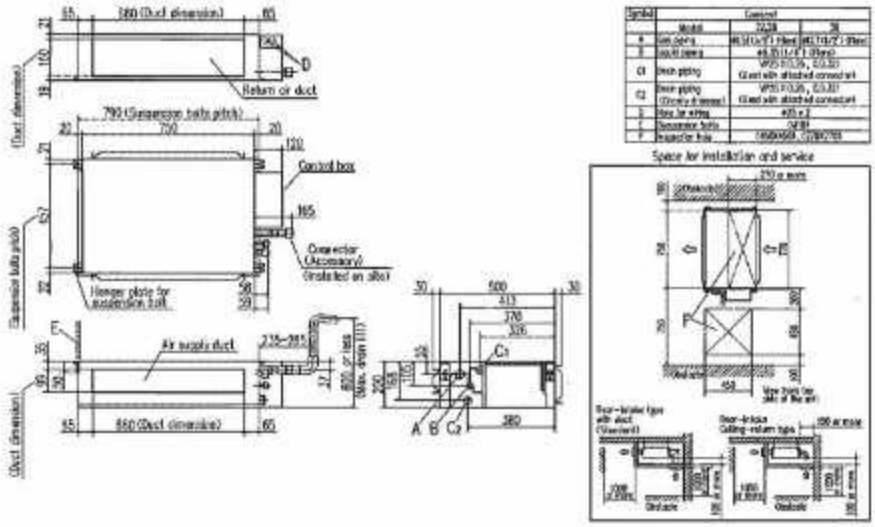
Item	Model	FDUT15KXE6F-E	FDUT22KXE6F-E	FDUT28KXE6F-E	FDUT36KXE6F-E	FDUT45KXE6F-E	FDUT56KXE6F-E	FDUT71KXE6F-E
Nominal cooling capacity	kW	1.5	2.2	2.8	3.6	4.5	5.6	7.1
Nominal heating capacity	kW	1.7	2.5	3.2	4.0	5.0	6.0	8.0
Power source		1 Phase 220-240V, 50Hz						
Sound power level	dB(A)	52			57	58	59	
Sound pressure level①	dB(A)	Hi:28 Me:26 Lo:22	Hi:28 Me:26 Lo:22		Hi:33 Me:30 Lo:26	Hi:34 Me:32 Lo:28	Hi:35 Me:33 Lo:30	Hi:35 Me:31 Lo:28
Sound pressure level②	dB(A)	Hi:32 Me:29 Lo:25	Hi:32 Me:29 Lo:26		Hi:37 Me:34 Lo:28	Hi:36 Me:33 Lo:27	Hi:38 Me:33 Lo:29	Hi:41 Me:37 Lo:32
Exterior dimensions H x W x D	mm	200x750x500				200x950x500		220x1150x565
Net weight	kg	21			22	25		31
Air flow (Standard)	m³/min	Hi:6 Me:5 Lo:4	Hi:7.5 Me:6 Lo:5		Hi:8.5 Me:7 Lo:5.5	Hi:11.5 Me:9 Lo:7	Hi:12.5 Me:9 Lo:7.2	Hi:16 Me:13 Lo:9.5
External Static pressure	Pa	Standard:10, Max:35				Standard:10, Max:50		
Outside air intake		Possible from return duct						
Air filter		Procure locally						
Remote control(option)		wired:RC-EX3, RC-E5, RCH-E3 wireless:RCN-KIT4-E2						
Installation data Refrigerant piping size	mm(in)	Liquid line:ø6.35(1/4") Gas line:ø9.52(3/8")			Liquid line:ø6.35(1/4") Gas line:ø12.7(1/2")		Liquid line:ø9.52(3/8") Gas line:ø15.88(5/8")	

1. The data are measured under the following conditions(ISO-T1). Cooling: Indoor temp. of 27°CDB, 19°CWB, and outdoor temp. of 35°CDB. Heating: Indoor temp. of 20°CDB, and outdoor temp. of 7°CDB, 6°CWB. External static pressure of indoor unit is 10Pa.
2. The data of nominal cooling and heating capacity and sound pressure level are measured with 10Pa of external static pressure.
3. The sound level indicates the value of rear-intake type with duct in anechoic chamber. During operation these values are somewhat higher due to ambient conditions.
4. Sound pressure levels are values when 2m supply duct and 1m return duct are connected.
①: Mike position is 1.5m below unit. ②: Mike position is 1m in front and 1m below the air supply duct.

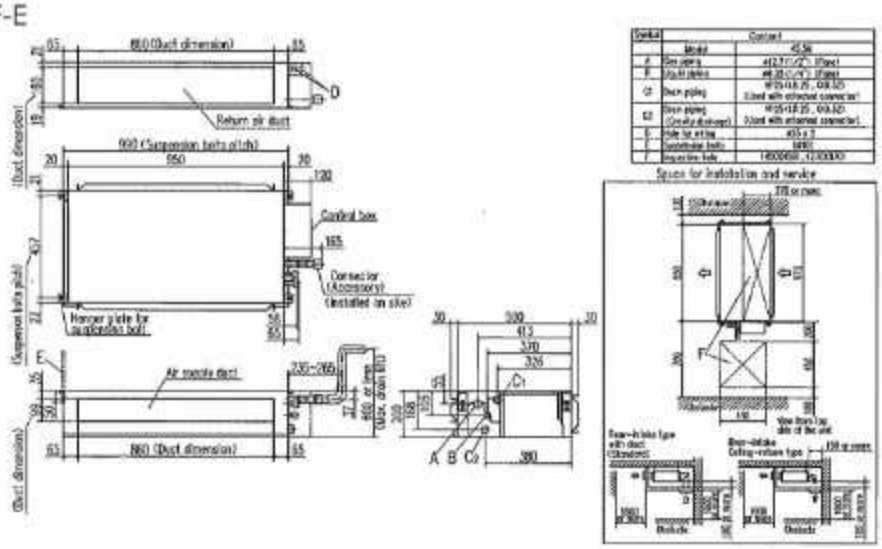
Dimensions

All measurements in mm.

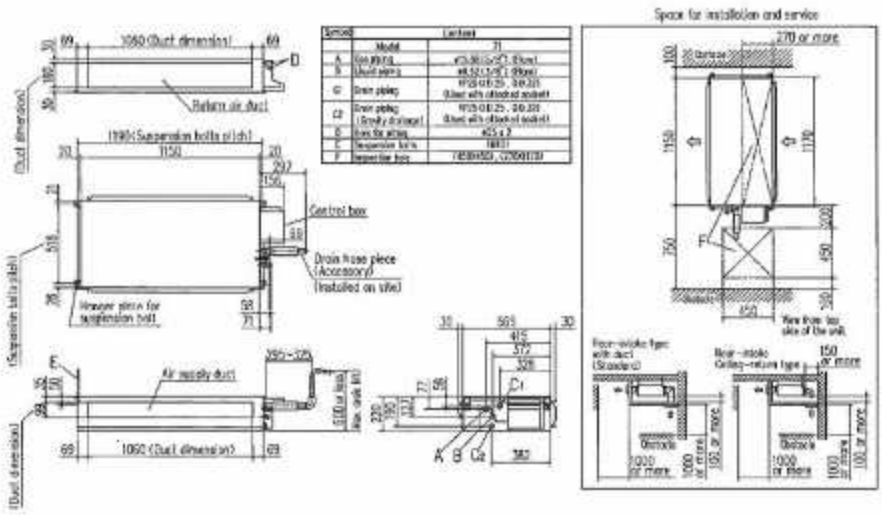
FDUT15KXE6F-E, 22KXE6F-E, 28KXE6F-E, 36KXE6F-E



FDUT45KXE6F-E, 56KXE6F-E



FDUT71KXE6F-E



Duct Connected (Compact & Flexible)
FDUH

Model No.
FDUH22KXE6F
FDUH28KXE6F
FDUH36KXE6F

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

Remote control (option)

Wired

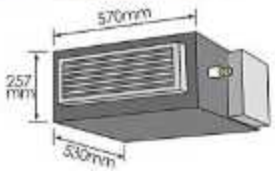
RC-EX3A **RC-E5** **RCH-E3**

Wireless

RCN-KIT4-E2

Compact and thin size, light weight

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

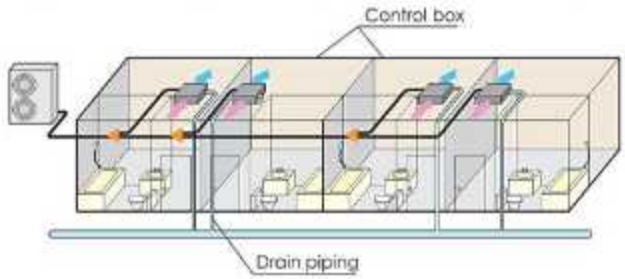


Quiet operation

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

Installation Flexibility

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



Wired remote control

RCH-E3 (option)

Simple remote control

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

Specifications

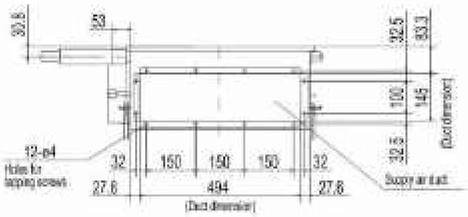
Item	Model	FDUH22KXE6F	FDUH28KXE6F	FDUH36KXE6F
Nominal cooling capacity	kW	2.2	2.8	3.6
Nominal heating capacity	kW	2.5	3.2	4.0
Power source		1 Phase 220-240V, 50Hz		
Power consumption	Cooling kW	0.05-0.07		
	Heating kW	0.05-0.07		
Sound power level	dB(A)	60		
Sound pressure level※	dB(A)	Hi: 33 Me: 30 Lo: 27		
Exterior dimensions HxWxD	mm	257x570x530		
Net weight	kg	22		
Air flow ※	m³/min	Hi: 7 Me: 6.5 Lo: 6		
External static pressure	Pa	30		
Outside air intake		Possible from return duct		
Air filter		Procure locally		
Remote control(option)		wired:RC-EX3, RC-E5, RCH-E3 wireless:RCN-KIT4-E2		
Installation data Refrigerant piping size	mm	Liquid line:ø6.35(1/4")		Liquid line:ø6.35(1/4")
		Gas line:ø9.52(3/8")		Gas line:ø12.7(1/2")

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

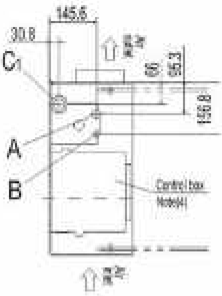
※ Powerful-Hi can be selected. Sound pressure level: FDUH22/28/36 39dB(A). Air flow: FDUH22/28/36 8.5m³/min.

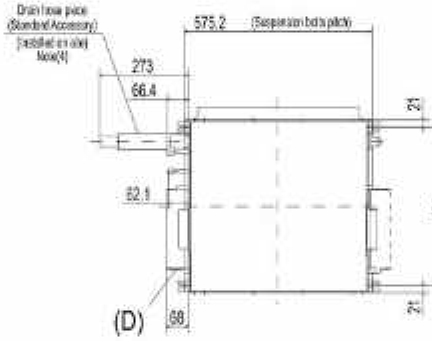
Dimensions

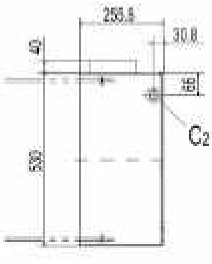
All measurements in mm.

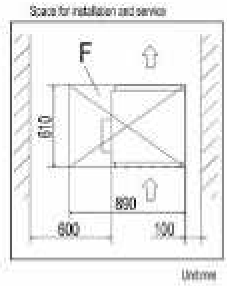


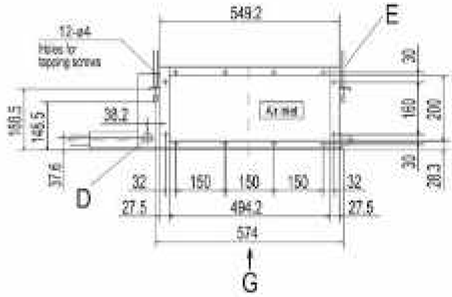
Symbol	Content		
	Model	FDUH22KXE6F,28KXE6F	FDUH36KXE6F
A	Gas piping	ø9.52 (3/8") (Flare)	ø12.7 (1/2") (Flare)
B	Liquid piping	ø6.35 (1/4") (Flare)	
C₁,C₂	Drain piping	VP20 (O.D.26, O.D.26) (Note (2))	
D	Hole for wiring	ø30	
E	Suspension bolts	(M10)	
F	Inspection hole	[illegible] Note (3)	



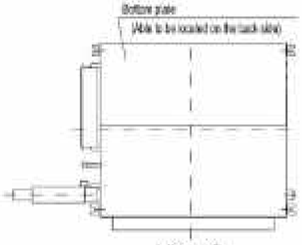






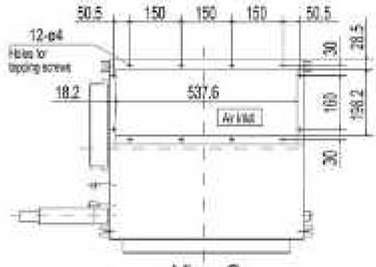


Notes
(1) The model name label is attached on the fan case inside the air return grille.
(2) Prepare the connecting socket (VP20) on site. (As for drain piping, it is possible to choose C₁ or C₂)
(3) When control box is located on the reverse side, installation space should be modified to new location.
(4) Control box and Drain hose piece are able to be relocated on the reverse side.



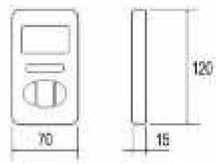
View G

In case of Bottom air intake



View G
(After bottom plate is replaced to back side)

Simple remote control



Wall Mounted
FDK

Model No.

FDK15KXZE1
FDK22KXZE1
FDK28KXZE1
FDK36KXZE1
FDK45KXZE1
FDK56KXZE1
FDK71KXZE1
FDK90KXZE1

FDK15~56

FDK71,90

Remote control (option)

Wired

RC-EX3A

RC-E5

RCH-E3

Wireless

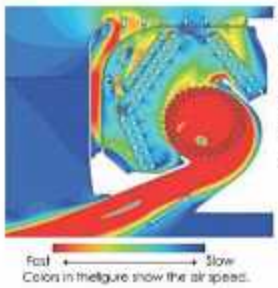
RCN-K-E2:
FDK15~56

RCN-K71-E2:
FDK71,90

Elegant Timeless Design

The new FDK series air-conditioners have been stylishly designed with rounded contours that fit beautifully into any of Europe's diverse interior settings. The design was created by the Italian industrial design studio Tensa srl, based in Milan, to respond to a broad spectrum of local user needs. (15~56KXZE1)

Jet Technology



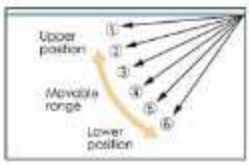
Colors in thefigure show the air speed.

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

Flap control system

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

* The wireless remote control is not applicable to the flap control system.



Lateral Swing▶ flap swings from right to left automatically

Up/Down Flap swing + Lateral swing

Specifications

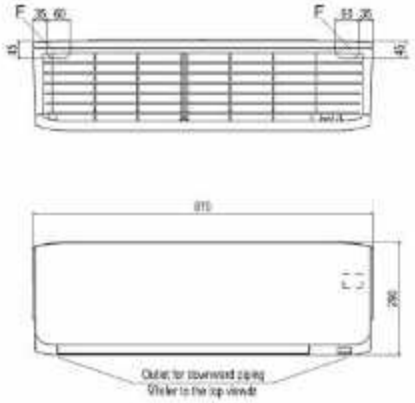
Item		Model	FDK15KXZE1	FDK22KXZE1	FDK28KXZE1	FDK36KXZE1	FDK45KXZE1	FDK56KXZE1	FDK71KXZE1	FDK90KXZE1
Nominal cooling capacity		kW	1.5	2.2	2.8	3.6	4.5	5.6	7.1	9.0
Nominal heating capacity		kW	1.7	2.5	3.2	4.0	5.0	6.3	8.0	10.0
Power source			1 Phase 220-240V, 50Hz							
Power consumption	Cooling	kW	0.02-0.02			0.03-0.03			0.04-0.04	0.05-0.05
	Heating		0.02-0.02			0.03-0.03			0.04-0.04	0.05-0.05
Sound power level		dB(A)	54	55		58		Cooling:58 Heating:61	59	61
Sound pressure level	Cooling	dB(A)	P-Hi:38 Hi:34 Me:31 Lo:28	P-Hi:38 Hi:36 Me:32 Lo:28		P-Hi:40 Hi:38 Me:33 Lo:28	P-Hi:43 Hi:41 Me:36 Lo:33	P-Hi:43 Hi:41 Me:36 Lo:33	P-Hi:42 Hi:40 Me:37 Lo:35	P-Hi:44 Hi:42 Me:39 Lo:35
	Heating		P-Hi:38 Hi:34 Me:31 Lo:28	P-Hi:38 Hi:36 Me:32 Lo:28		P-Hi:40 Hi:38 Me:33 Lo:28	P-Hi:43 Hi:41 Me:36 Lo:33	P-Hi:44 Hi:42 Me:37 Lo:33	P-Hi:42 Hi:40 Me:37 Lo:35	P-Hi:44 Hi:42 Me:39 Lo:35
Exterior dimensions H x W x D		mm	290 x 870 x 230						339 x 1197 x 262	
Net weight		kg	11.5	11		11.5			17	
Air flow	Cooling	m³/min	P-Hi:5.7 Hi:5 Me:4.5 Lo:3.6	P-Hi:8.5 Hi:8 Me:6 Lo:5		P-Hi:11 Hi:10 Me:8 Lo:7	P-Hi:12 Hi:11 Me:9 Lo:8	P- Hi:12 Hi:11 Me:9 Lo:8 P- Hi:13 Hi:12 Me:10 Lo:8	P-Hi:22 Hi:19 Me:16 Lo:14	P-Hi:23 Hi:21 Me:19 Lo:16
	Heating									
Outside air intake			Not possible							
Air filter, Q'ty			Polypropylene net x2 (Washable)							
Remote control(option)			wired:RC-EX3A, RC-E5, RCH-E3 wireless:RCN-K-E2, RCN-K71-E2							
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")	

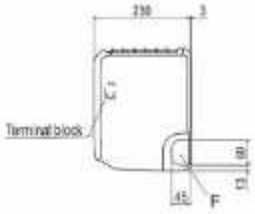
1. The data are measured under the following conditions(ISO-T1). Cooling: Indoor temp. of 27°CDB, 19°CWB, and outdoor temp. of 35°CDB. Heating: Indoor temp. of 20°CDB, and outdoor temp. of 7°CDB, 6°CWB.
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values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

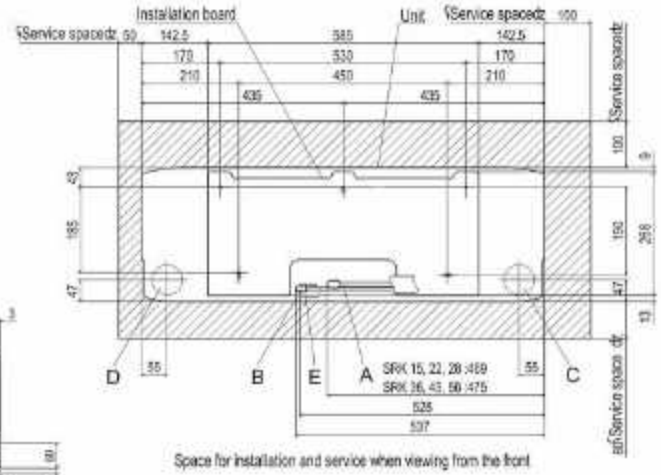
Dimensions

All measurements in mm.

FDK15KXZE1, 22KXZE1, 28KXZE1, 36KXZE1, 45KXZE1, 56KXZE1

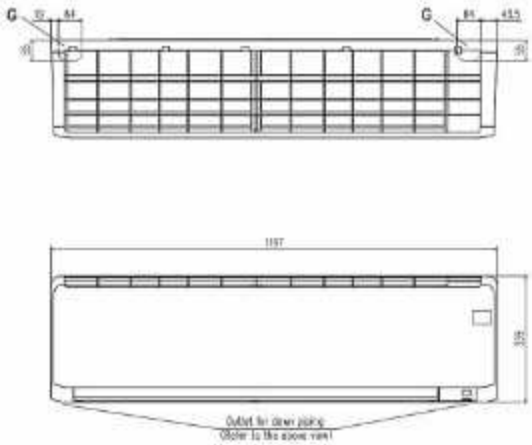


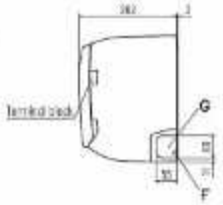


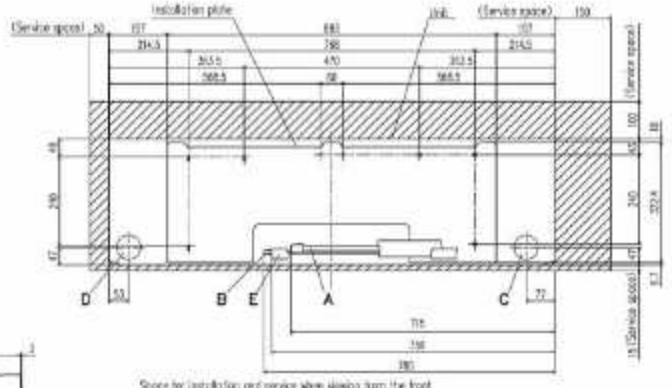


Symbol	Content	
A	Gas piping	SRK15, 22, 28 ø9.52(3/8")Flared SRK36, 45, 56 ø12.7(1/2")Flared
B	Liquid piping	ø6.35(1/4")Flared
C	Hole on wall for right rear piping	ø65
D	Hole on wall for left rear piping	ø65
E	Drain hose	VP16
F	Outlet for piping(on both sides)	

FDK71KXZE1, 90KXZE1







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 hose
F	Outlet for piping(on both side)
G	Outlet for piping(on back side)

Ceiling Suspended
FDE

Model No.

FDE36KXZE1
FDE45KXZE1
FDE56KXZE1
FDE71KXZE1
FDE112KXZE1
FDE140KXZE1

Remote control (option)

Wired

RC-EX3 RC-E5 RCH-E3

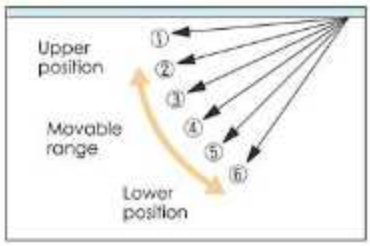
Wireless

RCN-E-E2

Flap control system

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

* The wireless remote control is not applicable to the flap control system.



Reduction of weight

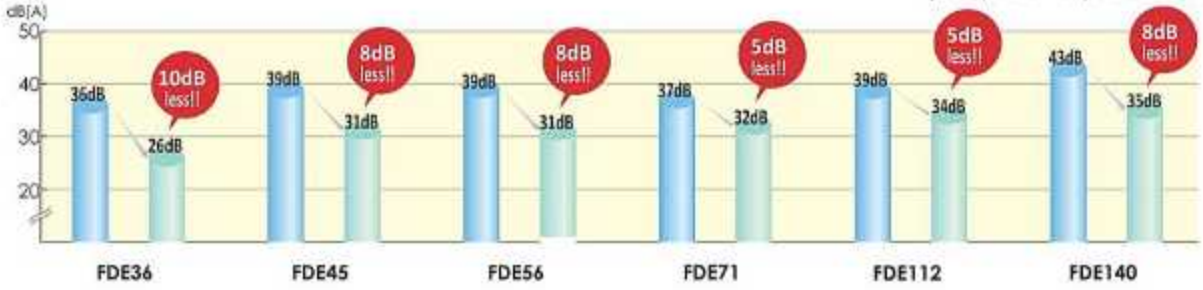
Thanks to decreasing the numbers of fan motor from two to one, reduction of weight was achieved.

	Previous		Current	
FDE71	37	➡	33	4kg less!!
FDE112	49	➡	43	6kg less!!
FDE140	49	➡	43	6kg less!!

Reduction of sound pressure level (Lo mode)

The industry's lowest sound pressure levels were achieved by decreasing air flow volume, decreasing pressure loss with employment of one fan motor and optimizing casing and distributor shape.

(Comparison of previous model)



Specifications

Item		Model	FDE36KXZE1	FDE45KXZE1	FDE56KXZE1	FDE71KXZE1	FDE112KXZE1	FDE140KXZE1
Nominal cooling capacity		kW	3.6	4.5	5.6	7.1	11.2	14.0
Nominal heating capacity		kW	4.0	5.0	6.3	8.0	12.5	16.0
Power source			1 Phase 220-240V, 50Hz					
Power consumption	Cooling	kW	0.05-0.05			0.07-0.07	0.10-0.10	0.13-0.13
	Heating	kW	0.05-0.05			0.07-0.07	0.10-0.10	0.13-0.13
Sound power level		dB(A)	60			62	—	
Sound pressure level*		dB(A)	Hi:38 Me:31 Lo:26	Hi:38 Me:36 Lo:31	Hi:38 Me:36 Lo:31	Hi:39 Me:37 Lo:32	Hi:42 Me:38 Lo:34	Hi:43 Me:40 Lo:35
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			33	43	
Air flow *		m³/min	Hi:10 Me:7 Lo:5.5	Hi:10 Me:9 Lo:7		Hi:15 Me:13 Lo:10	Hi:25 Me:21 Lo:16.5	Hi:26 Me:23 Lo:17
Outside air intake			Not possible					
Air filter, Q'ty			Pocket Plastic net x2 (Washable)					
Remote control(option)			wired:RC-EX3, RC-E5, RCH-E3 wireless:RCN-E-E2					
Installation data Refrigerant piping size		mm(in)	Liquid line:ø6.35(1/4") Gas line:ø12.7(1/2")			Liquid line:ø9.52(3/8") Gas line:ø15.88(5/8")		

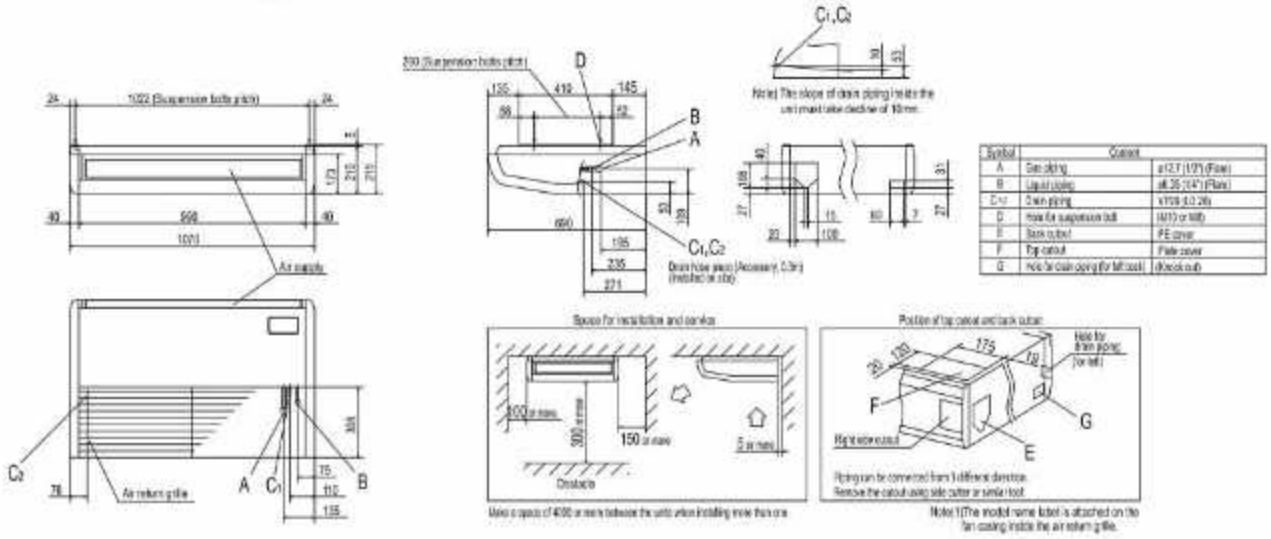
1. The data are measured under the following conditions(ISO-T1). Cooling: Indoor temp. of 27°CDB, 19°CWB, and outdoor temp. of 35°CDB. Heating: Indoor temp. of 20°CDB, and outdoor temp. of 7°CDB, 6°CWB.
2. Sound pressure level: Indicates the value in an anechoic chamber. During operation these values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

* Powerful-Hi can be selected. Sound pressure level: FDE36/45/56 46dB(A), FDE71 47dB(A), FDE112 45dB(A), FDE140 48dB(A). Air flow :FDE36/45/56 13m³/min, FDE71 20m³/min, FDE112 28m³/min, FDE140 32m³/min.

Dimensions

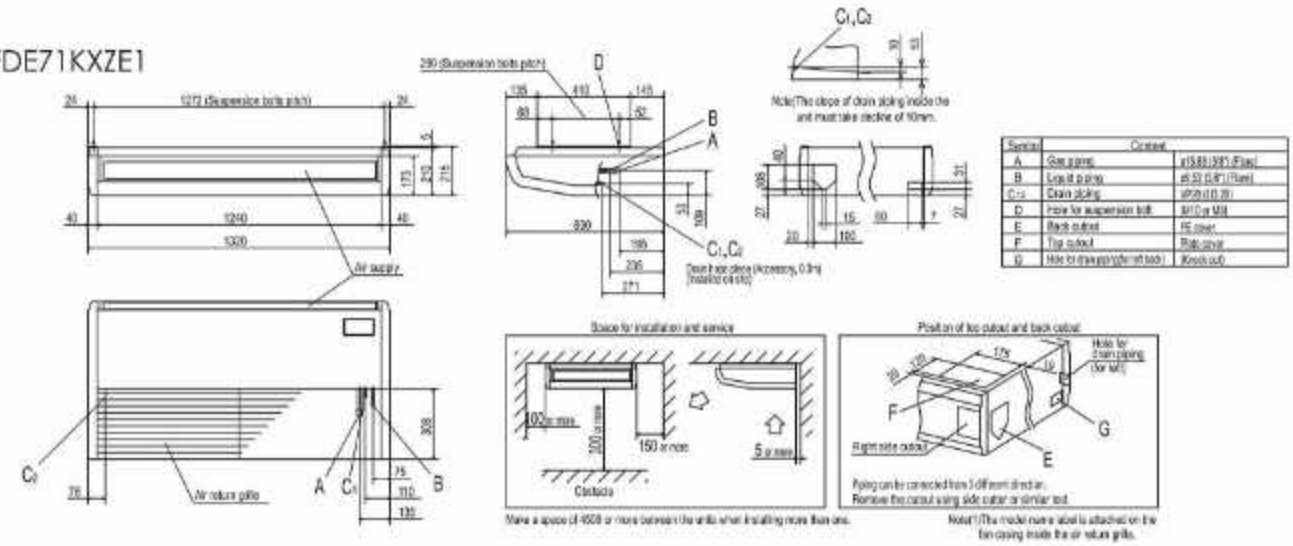
All measurements in mm.

FDE36KXZE1, 45KXZE1, 56KXZE1



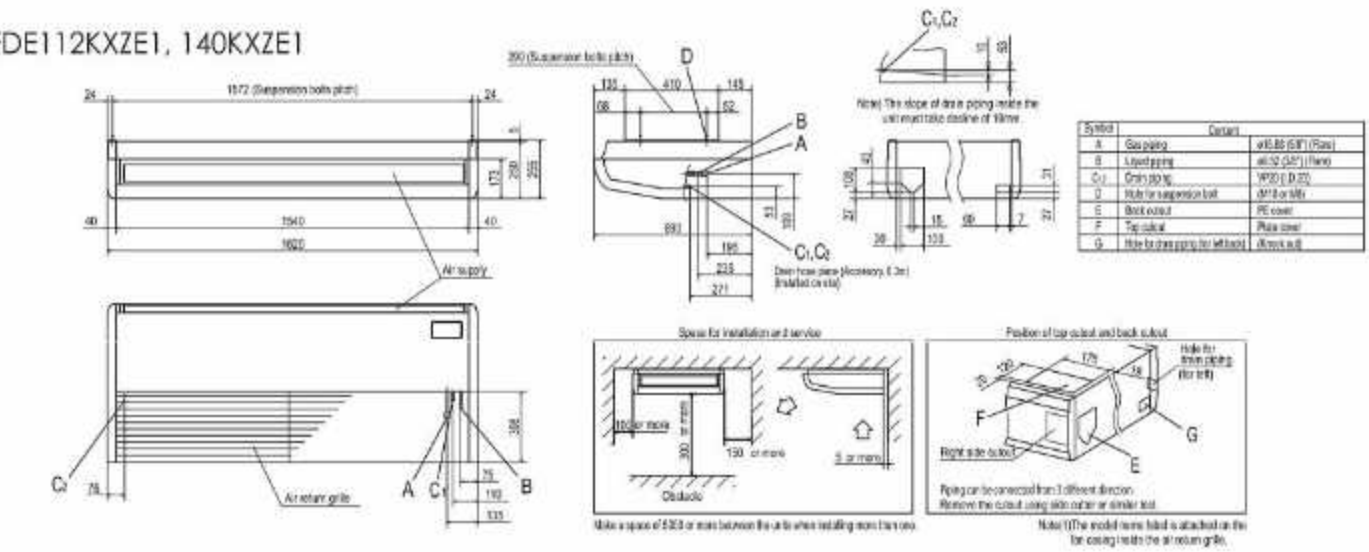
Symbol	Content	
A	Gas piping	ø12.7 (1/2") (Flare)
B	Liquid piping	ø6.35 (1/4") (Flare)
C1,C2	Drain piping	VP16 (I.D.16)
D	Hole for suspension bolt	M10 or M8
E	Back cutout	PE cover
F	Top cutout	Plate cover
G	Hole for drain piping (for left back)	(Knock out)

FDE71KXZE1



Symbol	Content	
A	Gas piping	ø15.88 (5/8") (Flare)
B	Liquid piping	ø9.52 (3/8") (Flare)
C1,C2	Drain piping	VP20 (I.D.20)
D	Hole for suspension bolt	M10 or M8
E	Back cutout	PE cover
F	Top cutout	Plate cover
G	Hole for drain piping (for left back)	(Knock out)

FDE112KXZE1, 140KXZE1



Symbol	Content	
A	Gas piping	ø15.88 (5/8") (Flare)
B	Liquid piping	ø9.52 (3/8") (Flare)
C1,C2	Drain piping	VP20 (I.D.20)
D	Hole for suspension bolt	M10 or M8
E	Back cutout	PE cover
F	Top cutout	Plate cover
G	Hole for drain piping (for left back)	(Knock out)

Floor Standing -2way- FDFW

Model No.
FDFW28KXE6F
FDFW45KXE6F
FDFW56KXE6F

Auto air outlet selection

Remote control (option)

Wired

RC-EX3A RC-E5 RCH-E3

Wireless

RCN-FW-E2

Sophisticated Design

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

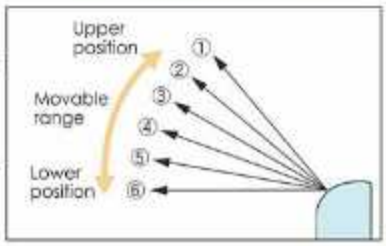
Quiet Operation

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

Flap control system

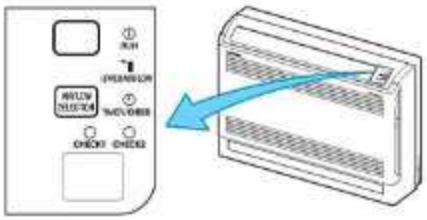
Selection of flap position is possible. A flap can be set at different angles.

* The wireless remote control is not applicable to the flap control system.



Convenient to use operation

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



(In case of use of wireless remote control)

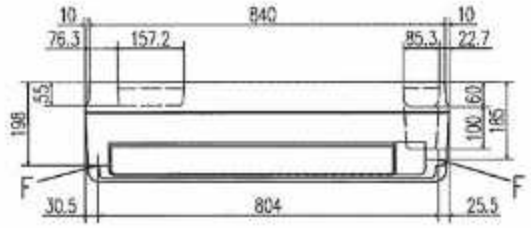
Specifications

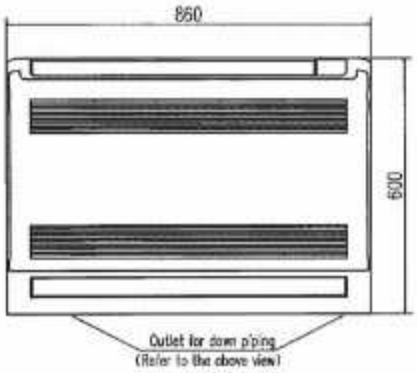
Item		Model	FDFW28KXE6F	FDFW45KXE6F	FDFW56KXE6F
Nominal cooling capacity		kW	2.8	4.5	5.6
Nominal heating capacity		kW	3.2	5.0	6.3
Power source			1 Phase 220-240V, 50Hz		
Power consumption	Cooling	kW	0.02-0.02	0.02-0.02	0.03-0.03
	Heating		0.02-0.02	0.02-0.02	0.03-0.03
Sound power level		dB(A)	55	57	60
Sound pressure level		dB(A)	Hi:36 Me:34 Lo:30	Hi:38 Me:36 Lo:33	Hi:44 Me:37 Lo:33
Exterior dimensions H x W x D		mm	600x860x238		
Net weight		kg	19	20	
Air flow (Standard)		m³/min	Hi:9 Me:8 Lo:7		Hi:11 Me:9 Lo:8
Air filter, Q'ty			Polypropylene net x1 (Washable)		
Remote control(option)			wired:RC-EX3, RC-E5, RCH-E3 wireless:RCN-FW-E2		
Installation data Refrigerant piping size		mm(in)	Liquid line:ø6.35(1/4") Gas line:ø9.52(3/8")	Liquid line:ø6.35(1/4") Gas line:ø12.7(1/2")	

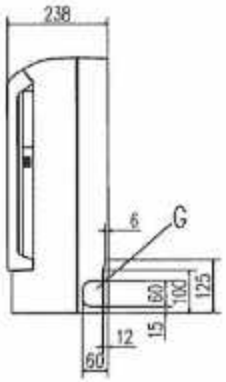
1. The data are measured under the following conditions(ISO-T1). Cooling: Indoor temp. of 27°CDB, 19°CWB, and outdoor temp. of 35°CDB. Heating: Indoor temp. of 20°CDB, and outdoor temp. of 7°CDB, 6°CWB.
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values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

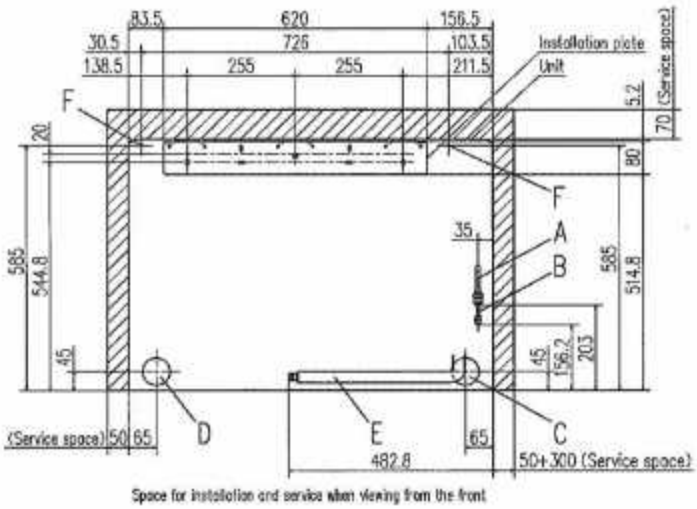
Dimensions

All measurements in mm.









Space for installation and service when viewing from the front

Symbol	Content		
	Model	FDFW28KXE6F	FDFW45KXE6F,56KXE6F
A	Gas piping	ø9.52 (3/8") (Flare)	ø12.7 (1/2") (Flare)
B	Liquid piping	ø6.35 (1/4") (Flare)	
C	Hole on wall for right rear piping	(ø65)	
D	Hole on wall for left rear piping	(ø65)	
E	Drain hose	VP16 (ID16)	
F	Screw point (fasten the indoor unit	ø5	
G	Outlet for piping (on both side)		

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

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

Remote control (option)

Wired

RC-EX3 RC-E5 RCH-E3

Wireless

RCN-KIT4-E2

Model No.

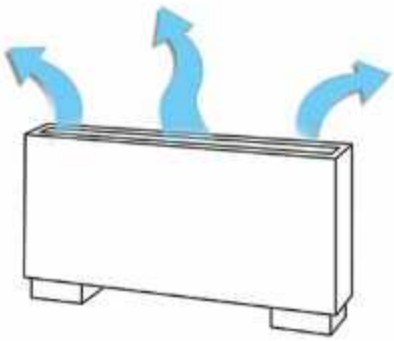
FDFL71KXE6F

FDFU28KXE6F
FDFU45KXE6F
FDFU56KXE6F
FDFU71KXE6F

FDFL

FDFU (concealed type)

Compact design at 630mm height



Wider airflow for optimum comfort

Specifications

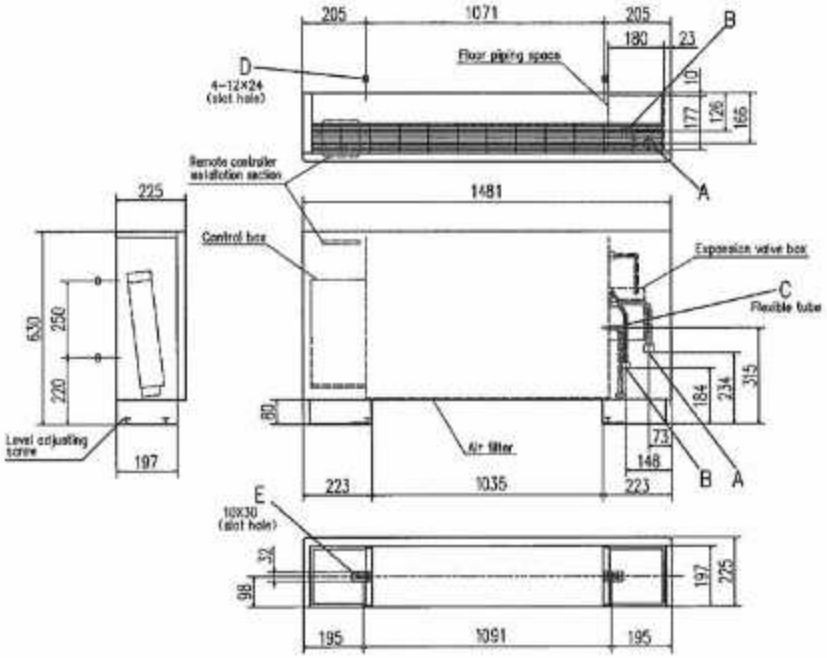
Item		Model	FDFL71KXE6F	FDFU28KXE6F	FDFU45KXE6F	FDFU56KXE6F	FDFU71KXE6F
Nominal cooling capacity		kW	7.1	2.8	4.5	5.6	7.1
Nominal heating capacity		kW	8.0	3.2	5.0	6.3	8.0
Power source			1 Phase 220-240V, 50Hz				
Power consumption	Cooling	kW	0.09-0.10	0.09-0.10			
	Heating		0.09-0.10	0.09-0.10			
Sound power level		dB(A)	62	58	60		
Sound pressure level		dB(A)	Hi:43 Me:41 Lo:40	Hi:41 Me:38 Lo:36	Hi:43 Me:41 Lo:40		
Exterior dimensions H x W x D		mm	630x1481x225	630x1077x225			630x1362x225
Net weight		kg	40	25			32
Air flow (Standard)		m³/min	Hi:18 Me:15 Lo:12	Hi:12 Me:11 Lo:10	Hi:14 Me:12 Lo:10		Hi:18 Me:15 Lo:12
Air filter, Q'ty			Polypropylene net x1 (Washable)				
Remote control(option)			wired:RC-EX3, RC-E5, RCH-E3 wireless:RCN-KIT4-E2				
Installation data Refrigerant piping size		mm(in)	Liquid line:ø9.52(3/8) Gas line:ø15.88(5/8)	Liquid line:ø6.35(1/4) Gas line:ø9.52(3/8)	Liquid line:ø6.35(1/4") Gas line:ø12.7(1/2")		Liquid line:ø9.52(3/8) Gas line:ø15.88(5/8)

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

Dimensions

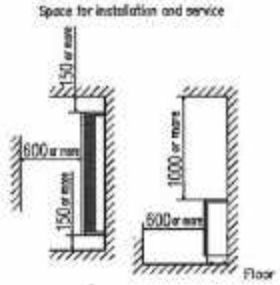
All measurements in mm.

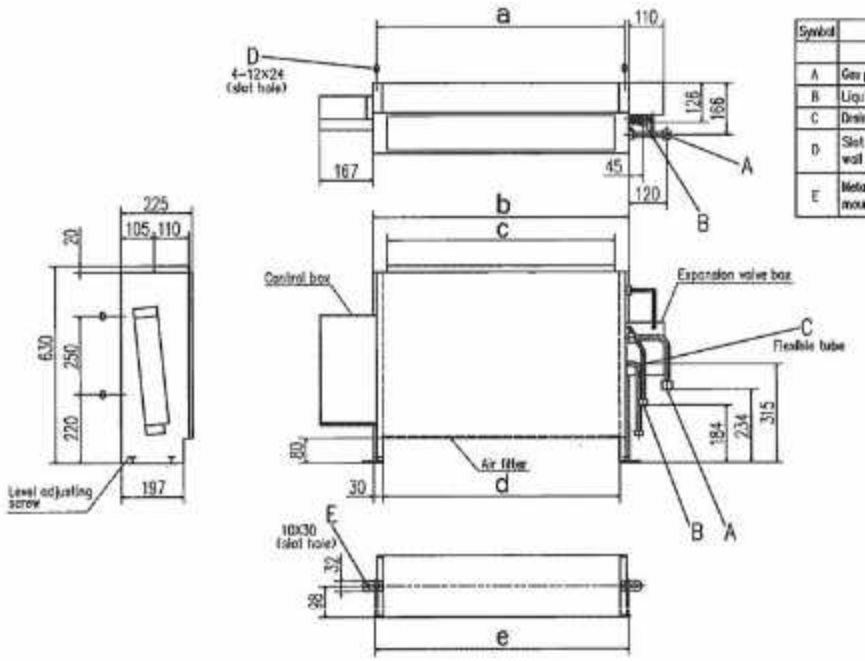
FDFL



Symbol	Content	
	Model	FDFL71KXE6F
A	Gas piping (Accessory)	ø15.88 (5/8") (Flare)
B	Liquid piping	ø9.52 (3/8") (Flare)
C	Drain piping (Accessory)	PT20A female screw, 350mm
D	Slot hole for wall mounting	(M10)
E	Metal plate for floor mounting (Accessory)	(M8)

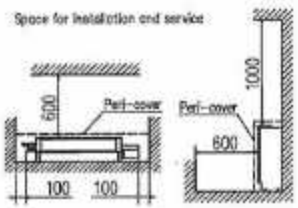
Note (1) The model name label is attached on the lid of the control box.





Symbol	Content			
	Model	FDFU28KXE6F	FDFU45K|E6F,56KXE6F	FDFU71KXE6F
A	Gas piping (Accessory)	ø9.52(3/8"K)Flare)	ø12.7 (1/2"K)Flare)	ø15.88 (5/8") (Flare)
B	Liquid piping	ø6.35 (1/4") (Flare)		ø9.52 (3/8"K)Flare)
C	Drain piping (Accessory)	PT20A female screw, 350mm		PT20A female screw, 350mm
D	Slot hole for wall mounting	(M10)		(M10)
E	Metal plate for floor mounting (Accessory)	(M8)		(M8)

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



unit:mm

model	a	b	c	d	e
FDFU28KXE6F, 45KXE6F, 56KXE6F	786	810	722	750	806
FDFU71KXE6F	1071	1095	1007	1035	1091

Outdoor Air Processing unit
FDU-F

Model No.
FDU650FKXZE1
FDU1100FKXZE1
FDU1800FKXZE1
FDU2400FKXZE1

Remote control (option)

Wired

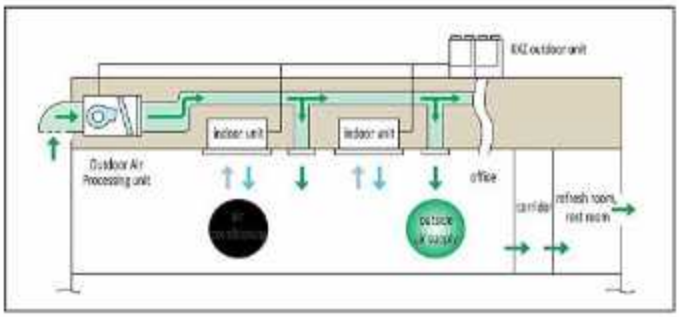
RC-EX3 RC-E5 RCH-E3

Wireless

RCN-KIT4-E2

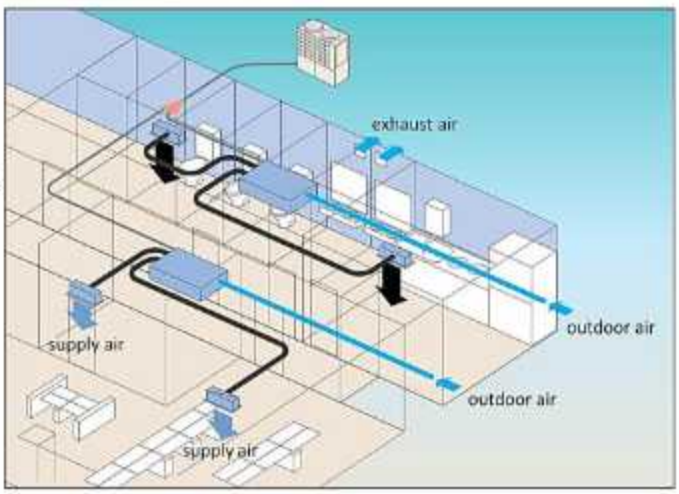
Air conditioning and intake of outdoor air are in the same system

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



Compact design

Compact design at just 280 (650, 1100), 379(1800, 2400) mm in height, high static pressure of 200Pa and the industry's lowest noise level can meet various kind of installation location for office, refresh room, restroom and kitchen of restaurant etc.



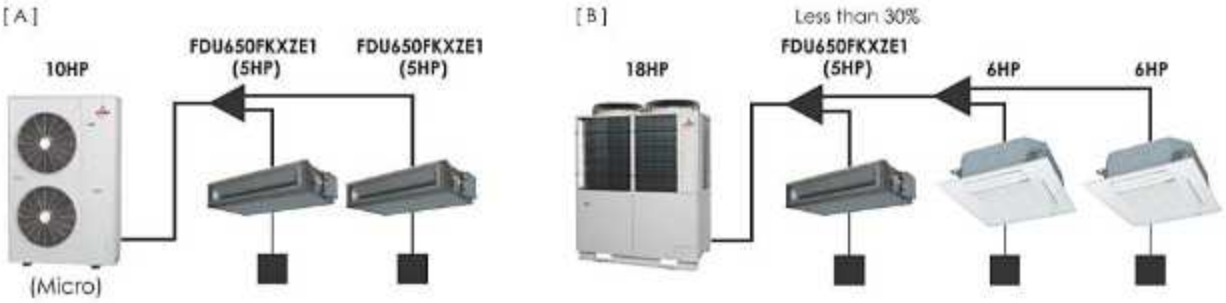
(1) This unit is the specific unit for processing the outdoor air temperature closer to the room temperature. For conditioning the room temperature a dedicated air-conditioner is required additionally.
(2) This unit monitors the outdoor air temperature and controls thermostat ON/OFF at the setting temperature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

Connectivity with Outdoor units

FDU-F series are connectable to 8~60HP outdoor units, not connectable to 4~6HP, KXZ Lite.

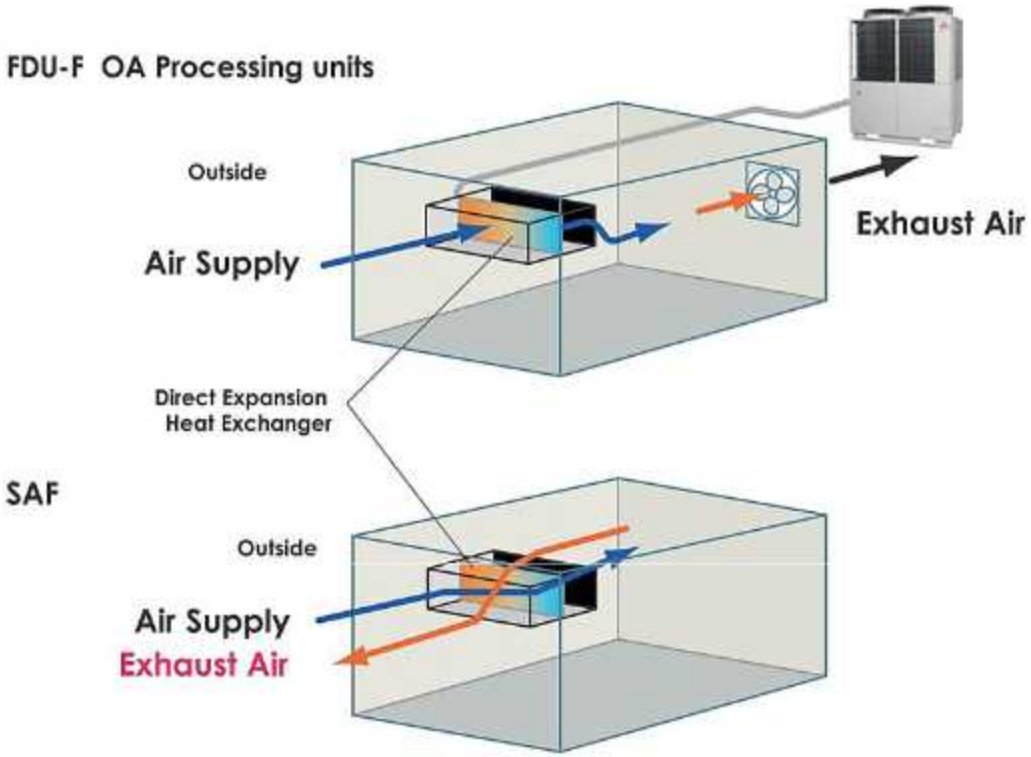
Combination with Outdoor units

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



Concept (Difference between FDU-F and SAF)

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



Specifications

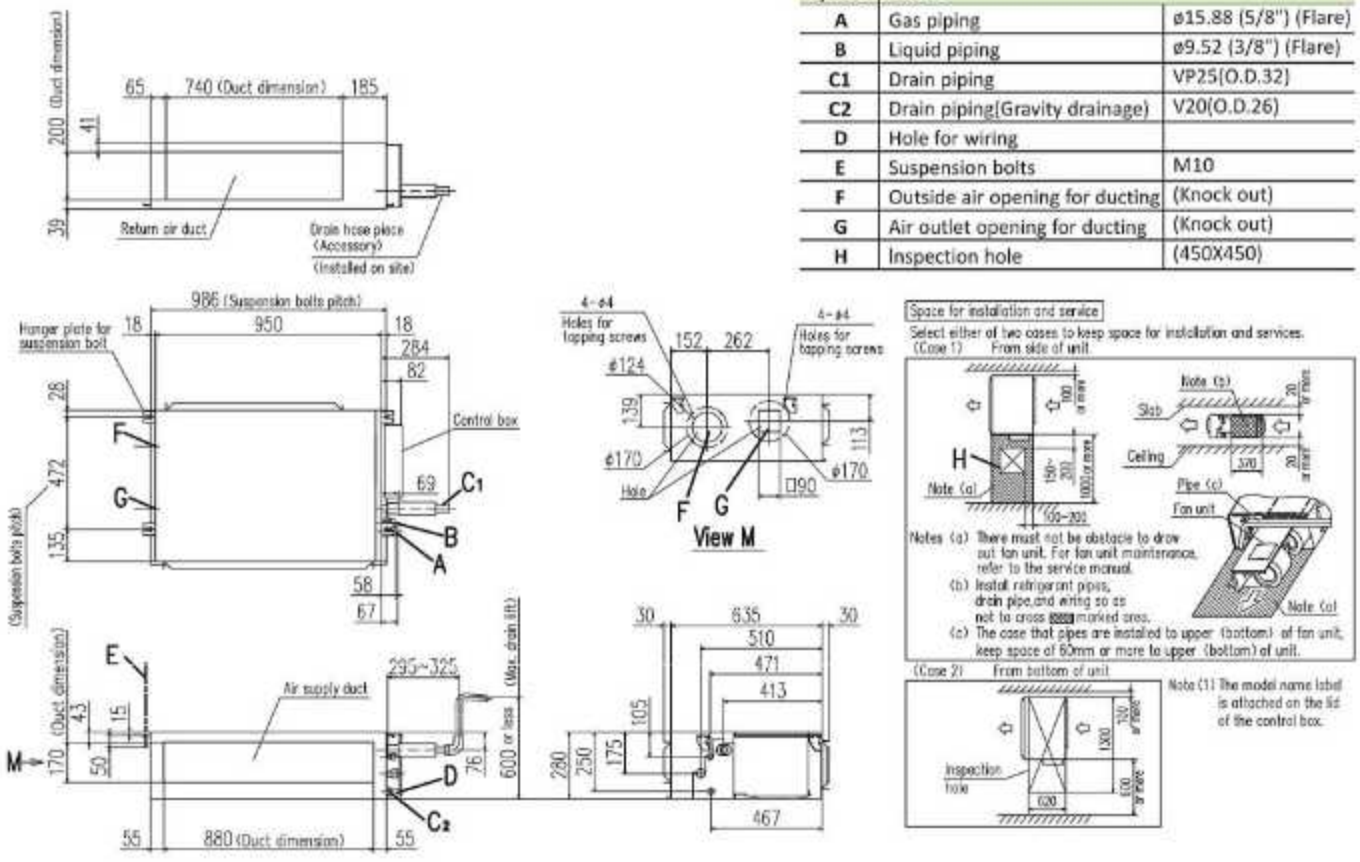
Item	Model	FDU650FKXZE1	FDU1100FKXZE1	FDU1800FKXZE1	FDU2400FKXZE1
Nominal cooling capacity	kW	9.0	14.0	22.4	28.0
Nominal heating capacity	kW	6.5	10.5	16.0	21.5
Power source		1 Phase 220-240V, 50Hz			
Power consumption Cooling	kW	0.24-0.25	0.35-0.36	1.16-1.20	1.16-1.20
Power consumption Heating	kW	0.24-0.25	0.35-0.36	1.16-1.20	1.16-1.20
Sound pressure level	dB(A)	Hi:31	Hi:37	Hi:42	Hi:45
Exterior dimension HxWxD	mm	280x950x635	280x1370x740	379x1600x893	
Net weight	kg	34	54	89	89
Air flow (Standard)	m³/min	Hi:11	Hi:18	Hi:30	Hi:40
External static pressure	Pa	200 (at Hi Air flow)			
Air filter, Q'ty		Procure locally			
Remote control(option)		wired:RC-EX3, RC-E5, RCH-E3 wireless:RCN-KIT4-E2			
Installation data Refrigerating piping size	mm (in)	Liquid line:ø9.52(3/8") Gas line:ø15.88(5/8")		Liquid line:ø9.52(3/8") Gas line:ø19.05(3/4")	Liquid line:ø9.52(3/8") Gas line:ø22.22(7/8")

1. The data are measured at 33°CDB 28°CWB (68%RH) during cooling and 0°CDB-2.9°CWB (50%RH) during heating (no frost).
2. Temperature range of outdoor air must be 20~40°CDB (32°CWB) during cooling and 0~24°CDB during heating.
3. Sound level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient conditions.
4. The factory E.S.P. setting is set within the range of 10 - 120Pa.If SW8-4 is turned to "ON". E.S.P. setting range can be changed to 10 - 200 Pa. (with RC-EX3 and RC-E5 only)

Dimensions

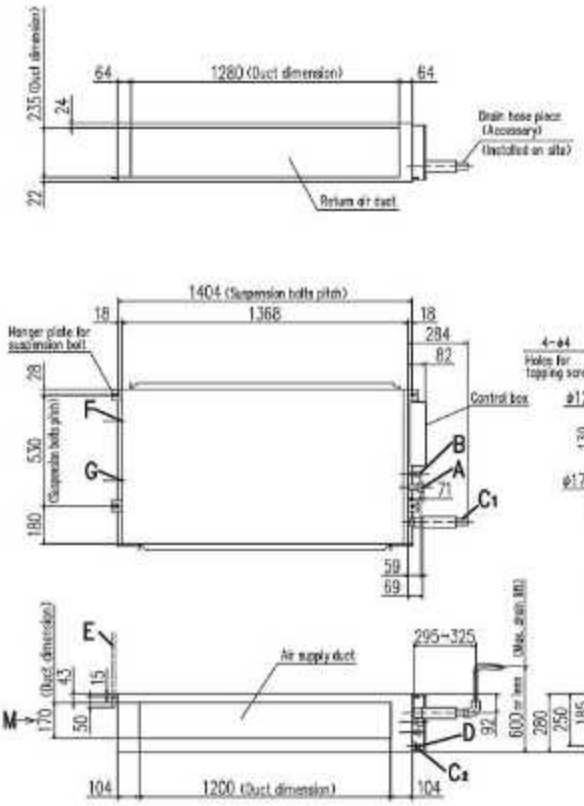
All measurements in mm.

FDU650FKXZE1

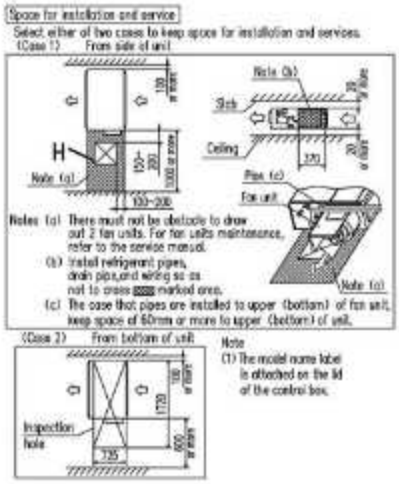


Symbol	Content	
A	Gas piping	ø15.88 (5/8") (Flare)
B	Liquid piping	ø9.52 (3/8") (Flare)
C1	Drain piping	VP25(O.D.32)
C2	Drain piping(Gravity drainage)	V20(O.D.26)
D	Hole for wiring	
E	Suspension bolts	M10
F	Outside air opening for ducting	(Knock out)
G	Air outlet opening for ducting	(Knock out)
H	Inspection hole	(450X450)

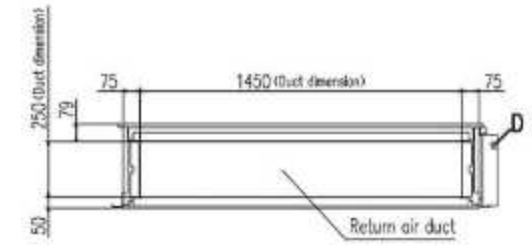
FDU1100FKXZE1



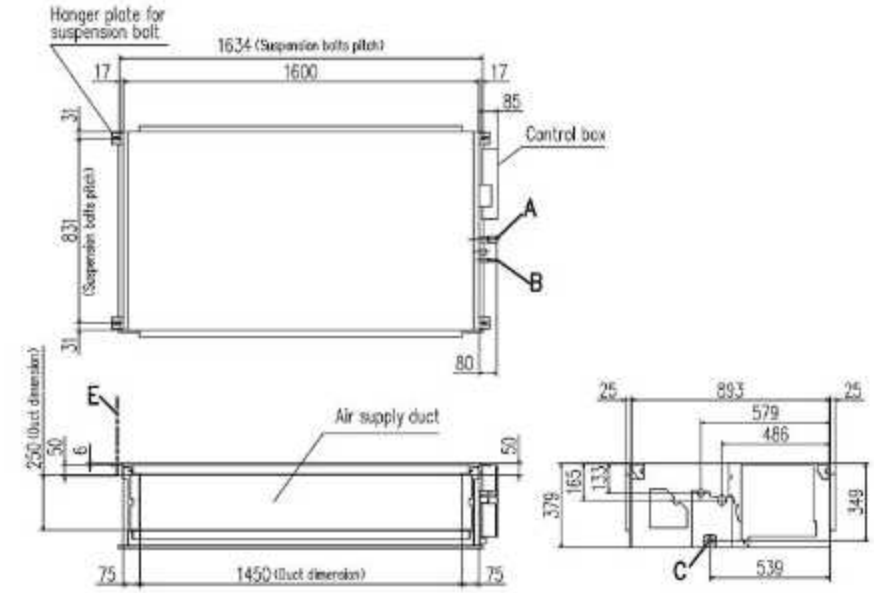
Symbol	Content	
A	Gas piping	ø15.88 (5/8") (Flare)
B	Liquid piping	ø9.52 (3/8") (Flare)
C1	Drain piping	VP25(O.D.32)
C2	Drain piping(Gravity drainage)	V20(O.D.26)
D	Hole for wiring	
E	Suspension bolts	M10
F	Outside air opening for ducting	(Knock out)
G	Air outlet opening for ducting	(Knock out)
H	Inspection hole	(450X450)

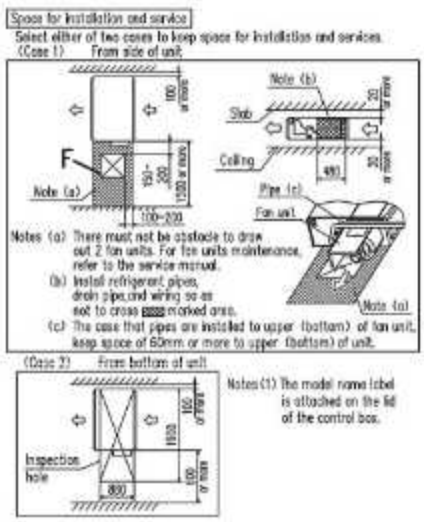


FDU1800FKXZE1, FDU2400FKXZE1



Symbol	Content		
	MODEL	1800	2400
A	Gas piping	ø19.05 (3/4")	ø22.22 (7/8")
B	Liquid piping	ø9.52 (3/8") (Brazing)	
C	Drain piping(Gravity drainage)	VP25(O.D.32)	
D	Hole for wiring		
E	Suspension bolts	M10	
F	Inspection hole	(450X450)	





Fresh Air Ventilation and Heat Exchange unit SAF-E7

Model No.

SAF150E7
SAF250E7
SAF350E7
SAF500E7
SAF800E7
SAF1000E7

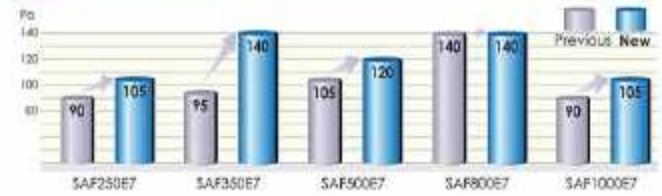
Energy Performance of Building Directive - EPBD

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

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

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

Increased external static pressure at UHi air flow



Switch box (option)

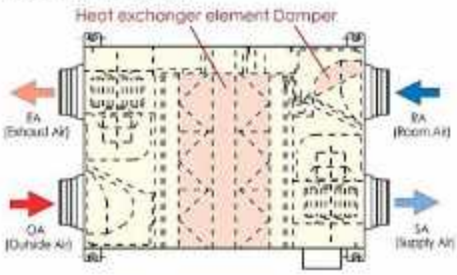
Remote control
The following functions are newly available.

- ON/OFF Timer – The hour and minute of timer on/off can be set.
- Filter Sign – Announces the due time for cleaning the air filter.

Specifications

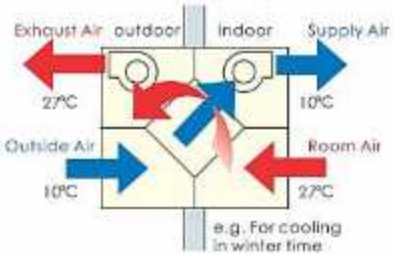
Item				Model	SAF150E7	SAF250E7	SAF350E7	SAF500E7	SAF800E7	SAF1000E7
Power source					1 Phase 220-240V, 50Hz					
Exterior dimensions Height x Width x Depth				mm	270x970x467	270x882x599	317x1050x804	317x1090x904	388x1322x884	388x1322x1134
Exterior appearance					Galvanized steel sheet					
Power input				W	92-107	108-123	178-185	204-225	360-378	416-432
Running current				A	0.42-0.45	0.49-0.51	0.81-0.77	0.93-0.94	1.64-1.58	1.89-1.80
Capacity	UHi	Enthalpy exchange efficiency	Cooling	%	63	63	66	62	65	65
			Heating		70	70	69	67	71	71
		Temperature exchange efficiency			75					
	Hi	Enthalpy exchange efficiency	Cooling		63	63	66	62	65	65
			Heating		70	70	69	67	71	71
		Temperature exchange efficiency			75					
	Lo	Enthalpy exchange efficiency	Cooling		66	65	71	64	68	70
			Heating		73	72	73	69	74	76
		Temperature exchange efficiency			77	77	78	76	76	79
Motor & Q'ty				W	10 x 2	20 x 2	40 x 2	70 x 2	180 x 2	180 x 2
Air handling equipment Fan type & Q'ty					Sirocco fan x 2					
Air flow			UHi	m^3/h	150	250	350	500	800	1000
			Hi		150	250	350	500	800	1000
			Lo		120	190	240	440	630	700
External static pressure			UHi	Pa	80	105	140	120	140	105
			Hi		70	95	60	60	110	80
			Lo		25	45	45	35	55	75
Net weight				kg	25	29	49	57	71	83
Remote control					Included					
Air filter	Supply air				Protection for element (Washable) PS400					
	Exhaust air									

Structure (SAF800E7)



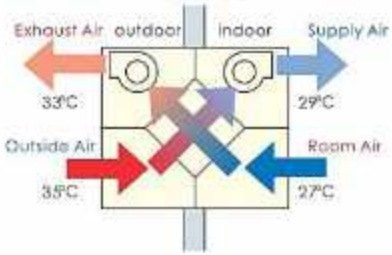
Principle of operation (simple ventilation)

FREE COOLING



Principle of operation (heat exchanging)

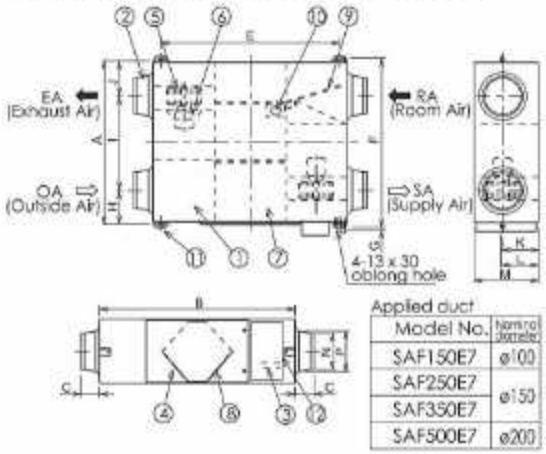
ENERGY RECOVERY



Dimensions

All measurements in mm.

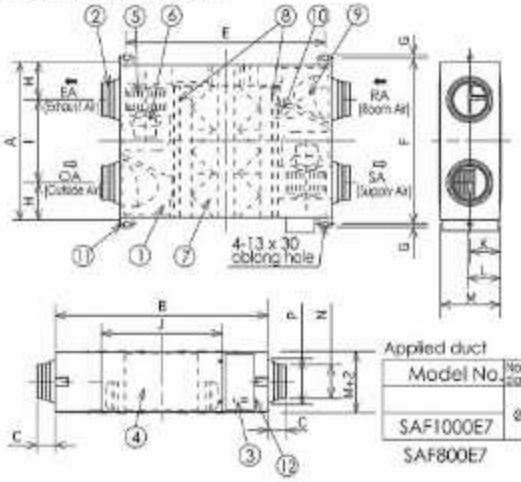
SAF150E7, SAF250E7, SAF350E7, SAF500E7



Applied duct

Model No.	Nominal diameter
SAF150E7	ø100
SAF250E7	ø150
SAF350E7	
SAF500E7	ø200

SAF800E7, SAF1000E7



Applied duct

Model No.	Nominal diameter
SAF1000E7	ø250
SAF800E7	

Dimension table

Unit:mm

Model	A	B	C	E	F	G	H	I	J	K	L	M	N	P
SAF150E7	467	970	49	810	525	19	82	303	82	135	159	270	ø98	ø110
SAF250E7	599	882	95		655		142	315	142				ø144	ø164
SAF350E7	804	1050	70	978	860		112	580	112	159	182	317		ø164
SAF500E7	904	1090		1018	960		132	640	132				ø194	ø210

Dimension table

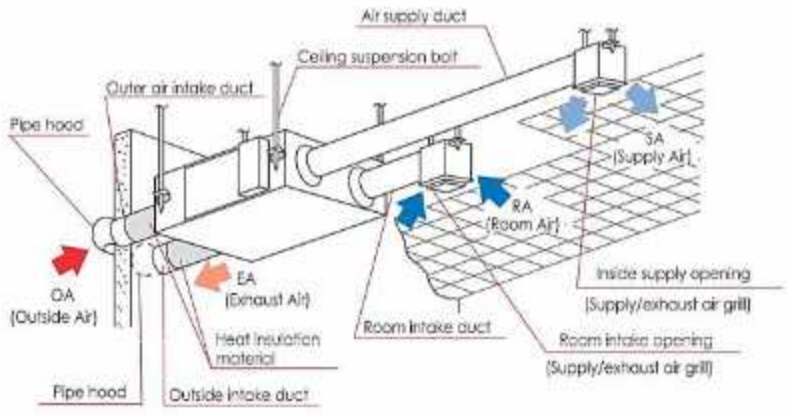
Unit:mm

	A	B	C	E	F	G	H	I	J	K	L	M	N	P
SAF800E7	884	1322	85	1250	940	19	228	428	612	194	218	388	ø242	ø258
SAF1000E7	1134				1190			678						

NO.	Name	Qt'y
①	Frame	1
②	Adaptor	4
③	Terminal board	1
④	Inspection Cover	1
⑤	Fan	2※
⑥	Motor	2※
⑦	Heat Exchange Element SAF150E7 SAF250E7 SAF350E7 SAF500E7 SAF800E7 SAF1000E7	 1 1 2 2 3 4
⑧	Filter	2
⑨	Damper	1
⑩	Damper Motor	1
⑪	Suspension fitting	4
⑫	Electrical components box	1

※Model SAF350E7, SAF500E7 have different fan and motor locations.

Installation reference



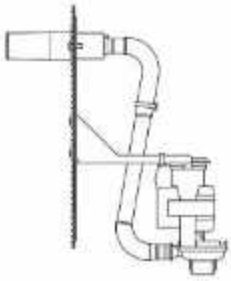
Note:An inspection port is needed for cleaning the heat exchanger and filter 1 or 2 times a year.

Fresh Air DX Assembly

Model No.
SAF-DX250E6
SAF-DX350E6
SAF-DX500E6
SAF-DX800E6
SAF-DX1000E6

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

DXA-DU-E



Remote control (option)

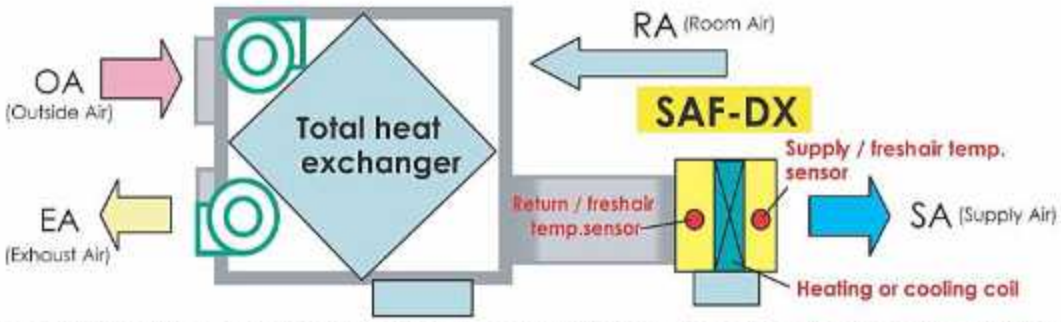
Wired

RC-E5 **RCH-E3**

Wireless

RCN-KIT4-E2

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



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

Specifications

Item		Model	SAF-DX250E6	SAF-DX350E6	SAF-DX500E6	SAF-DX800E6	SAF-DX1000E6
Nominal cooling capacity*1		kW	2.0	2.8	3.6	5.6	6.3
Nominal heating capacity*2		kW	1.8	2.2	2.8	4.5	5.6
Capacity code			22	28	36	56	71
Power source			1 Phase 220-240V, 50Hz				
Power consumption	Cooling	W	7.2-7.2				
	Heating		7.2-7.2				
Running current	Cooling	A	0.05-0.05				
	Heating		0.05-0.05				
Exterior dimensions H x W x D		mm	315 x 452 x 422		315 x 537 x 422	315 x 682 x 422	315 x 822 x 422
Net weight		kg	12.3		13.6	16.1	18.4
Air flow (Standard)		m³/h	250	350	500	800	1000
Internal resistance		Pa	38	66			
Remote control(option)			wired: RC-E5, RCH-E3 wireless: RCN-KIT4-E2				
Installation data Refrigerant piping size		mm(in)	Liquid line:ø6.35(1/4") Gas line:ø9.52(3/8")		Liquid line:ø6.35(1/4") Gas line:ø12.7(1/2")		Liquid line:ø9.52(3/8") Gas line:ø15.88(5/8")

[1] The data are measured at the following conditions.

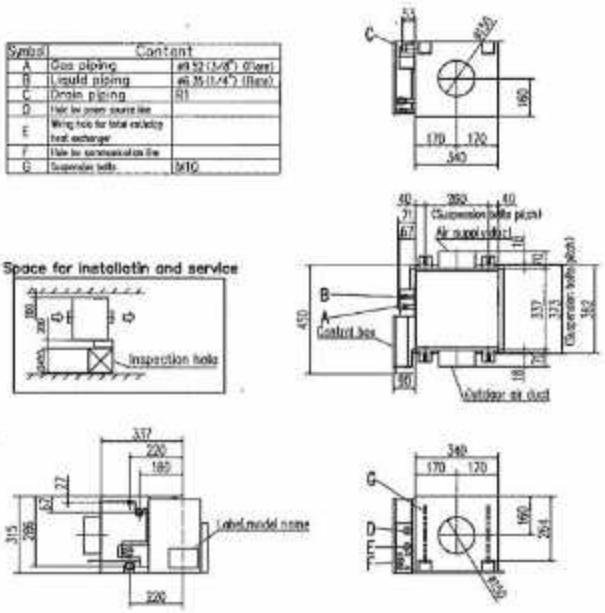
Item	Return/fresh air temperature		Outdoor air temperature		Standards
Operation	DB	WB	DB	WB	
Cooling*1	27°C	19°C	35°C	24°C	ISO-T1
Heating*2	20°C		7°C	6°C	

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

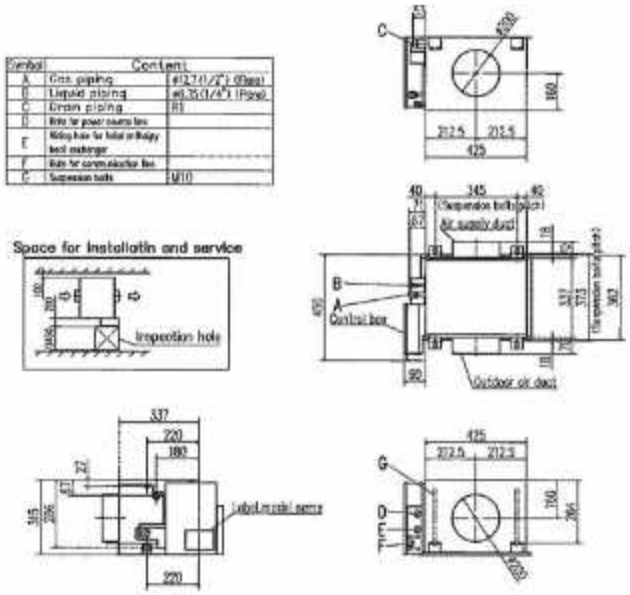
Dimensions

All measurements in mm.

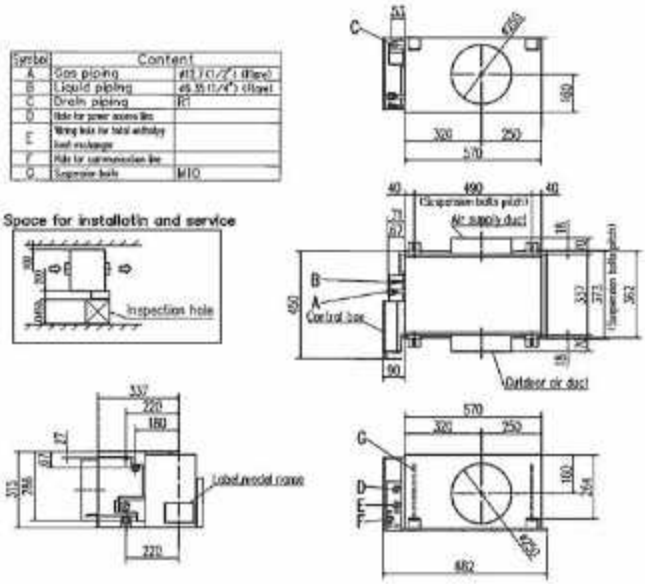
SAF-DX250E6,350E6



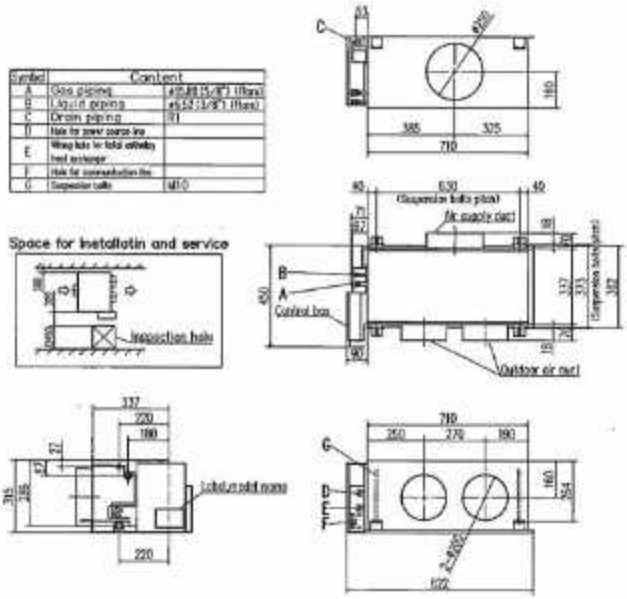
SAF-DX500E6



SAF-DX800E6

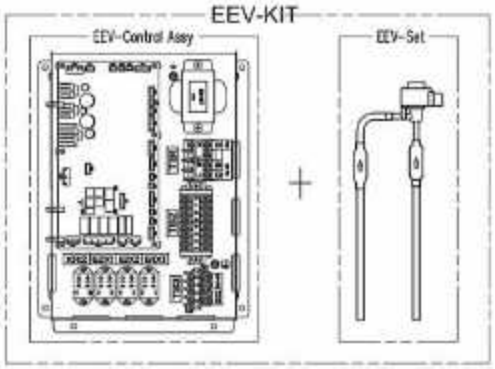


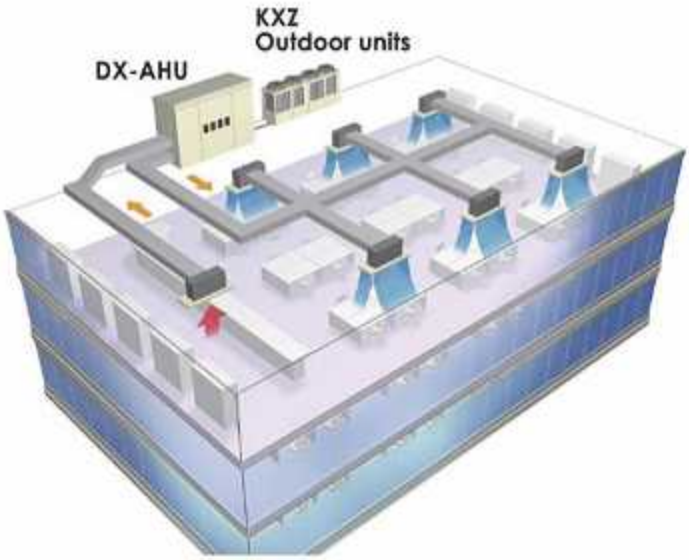
SAF-DX1000E6



EEV-KIT

- EEV-KIT is the control kit for operating the locally provided AHU or FCU with direct expansion heat exchanger coils in connection with the KXZ / KXE6 system.
  (AHU : Air Handling Unit, FCU : Fan Coil Unit)
- EEV-KIT is composed of one EEV-Control ASSY and one EEV-Set.





DX : Direct expansion coil

Features

EEV-Control Assy has 2 types.

Refrigeration system	EEV-Control Assy	
	EEVKIT6-E-M	EEVKIT6-E-C
Single	~~Not Use~~	1 box-Many boxes
Multiple	1 box (for master)	Many boxes(for slave)

EEV-Set Select from following 3 types according to the coil capacity.

Type	EEV6-71-E	EEV6-160-E	EEV6-280-E
Capacity	22-71	90-160	224-280

System configuration

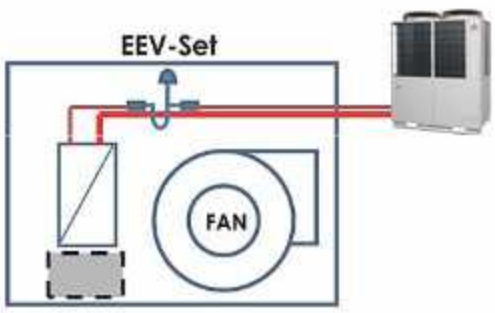
- Single refrigeration system EEVKIT6-E-C··· Possible with multiple
- Multiple refrigeration system EEVKIT6-E-M (1) + EEVKIT6-E-C··· Possible with multiple (Max32)
- EEVKIT6-E-C is common for both single and multiple refrigeration systems

Single refrigerant system

- Single refrigeration system is one that can have multiple outdoor units on one refrigerant pipe work circuit.
- There are 2 types of EEV-KIT systems that can be built into the single refrigeration system.
- System A : one EEV-KIT.
- System B : multiple EEV-KIT's.

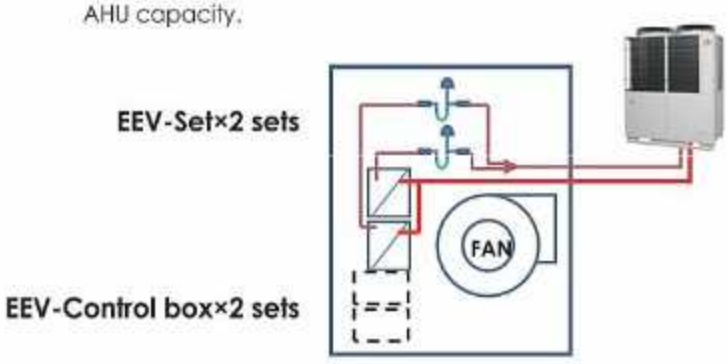
System A

- This system has only one set of EEV-KIT built into one indoor unit with only one heat exchanger. This system can be applied to an indoor unit whose capacity is up to 10HP.



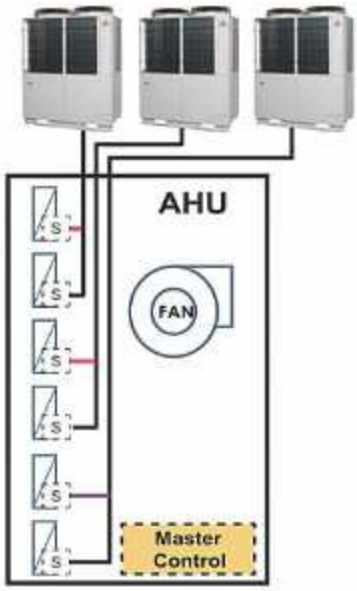
System B

- System B is a system that has multiple EEV-KIT's built into one indoor unit with multiple heat exchangers on one refrigerant circuit.
- This system can be applied up to 60HP(for KXZ), 48HP(for KXE6) AHU capacity.



Multiple refrigerant system

Multiple refrigeration system is an AHU system with
1) Multiple independent refrigerant circuits
2) One master control to control the whole system.



Advantage

- Large systems are possible [max capacity 896kW (Indoor unit : 28kW x 32)]
- External control
- Capacity step control

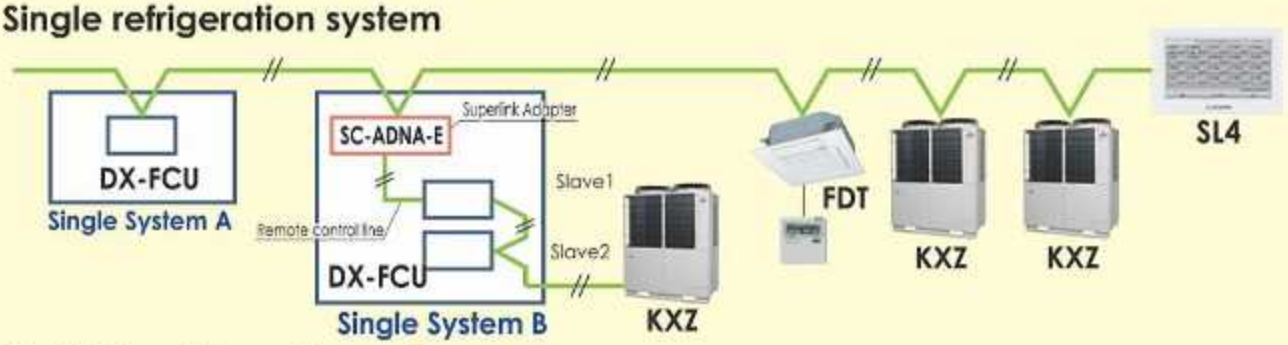
Additional parts over a single refrigeration system

- One master control

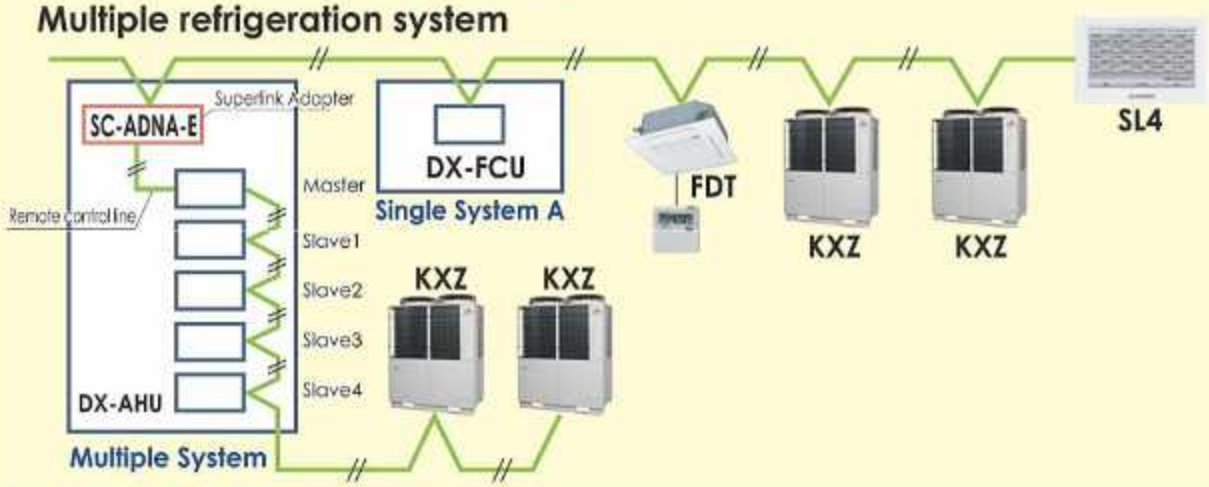
The slave EEV control and EEV set are the same as a single refrigeration system.

Connection to SUPERLINK II

Single refrigeration system



Multiple refrigeration system



Control Systems
<Individual control>

Remote Control line up

	indoor unit	remote control
wired	all models	RC-EX3A
		RC-E5
		RCH-E3

	indoor unit	remote control	indoor unit	remote control	indoor unit	remote control
wireless	FDT	RCN-T-5AW-E2	FDTS	RCN-TS-E2	FDE	RCN-E-E3
	FDTC	RCN-TC-5AW-E2	FDK22~56	RCN-K-E2	FDFW	RCN-FW-E2
	FDTW	RCN-TW-E2	FDK71	RCN-K71-E2	others*	RCN-KIT4-E2

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

Wired remote control (option)

RC-EX3A

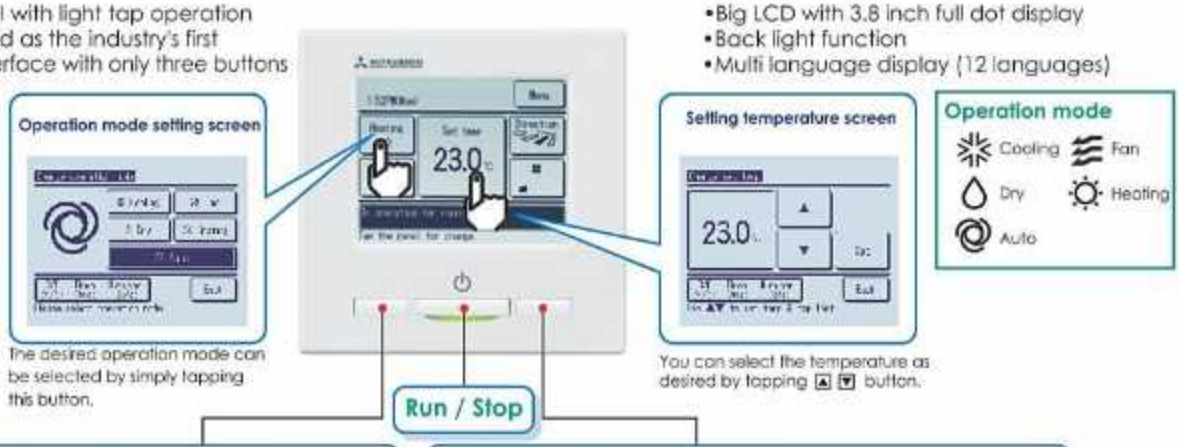
■ Easy touch and Easy view with full dot Liquid Crystal display

User friendly

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

Easy view

- Big LCD with 3.8 inch full dot display
- Back light function
- Multi language display (12 languages)



High power operation

The highest capacity operation (Max 15 minutes)

- Increasing compressor speed
- Increasing air flow volume

Energy-saving operation

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

2. Main functions

	Function name	Description
Economy & Timer	Energy-saving operation	Since the capacity is controlled automatically based on the outdoor temperature, energy can be saved without losing comfort.
	Sleep timer	Set the time period from start to stop of operation. The selectablerange of setting time is from 30 to 240 minutes (at 10-minuteintervals).
	Set temperature auto return	The temperature automatically returns to the previously set temperature.
	Set ON timer by hour	When the set time elapses, the air conditioner starts.
	Set OFF timer by hour	When the set time elapses, the air conditioner stops.
	Set ON timer by clock	The air conditioner starts at the set time.
	Set OFF timer by clock	The air conditioner stops at the set time.
	Weekly timer	On or Off timer can be set on a weekly basis.
	Peak-cut timer	Capacity control can be set by using peak cut function on RC-EX3 for better energy saving. Five-step capacity control is available.
	Home leave operation	When the unit is not used for a long period of time, the room temperature is maintained at a moderate level, avoiding extremely hot or cool temperatures.
Comfort	Big LCD & Touch screen panel	Large 3.8 inch screen has resulted in improved visibility and operability.
	Easy modification of individual flap control (New)	User can visually confirm and set the direction of flaps using the visual display on the remote controller.
	Automatic fan speed	The micro-computer automatically adjusts the airflow effectively to follow the changes of return air temperature.
	Temp Increment setting	Temperature Increment for the change of the set temp can be changed.
	Silent mode	Set the period of time to operate the Outdoor unit with prioritizing the quietness.
Convenience	Function switch (New)	The function switch allows user to select and set two functions among seven available functions.
	Favorite setting (New)	Operation mode, set temperature, fan speed and air flow direction automatically adjust to the programmed favorite setting.
	Adjusting Brightness of the background light (New)	The brightness of the background light can be adjusted by 10 stages.
	LCD contrast setting (New)	This function allows user to adjust LCD display contrast.
	High power operation	High Power Mode increases the unit operating ability for 15 minutes to quickly adjust the room temperature to a comfortable level.
	Back light setting	This convenient function allows user to see controls under low light conditions.
	Administrator settings	This function only allows specific individuals to operate the unit.
	Setting temp range	Limited range of setting temperature in the heating or the cooling operation can be selected.
	External Input/Output Function (New)	The external input/output of indoor unit by remote controller can set input/output based on user needs.
	Select the language	Set the language to be displayed on the remote control.
Service	USB connection (mini-B)	This function allows batch input of schedule timer settings and other settings involving a large amount of data.
	Error code display	This function allows user to check information displayed when abnormal function of the unit occurs.
	Operation data display	Displays various types of air conditioner operation data in real time.
	Contact company display	Address of the service contact is displayed.
	Filter sign	Announces the due time for cleaning of the air filter.
	Static pressure adjustment	Allows user to adjust duct static pressure using the remote control.
	Backup Control	Allows for rotation control, fault backup control, and capacity backup control.

*1. Cannot be used when a centralized control remote is connected.

Wireless remote control (option)

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

RCN-T-5AW-E2 **RCN-TC-5AW-E2** **RCN-TW-E2** **RCN-TS-E2** **RCN-K-E2, RCN-K71-E2** **RCN-E-E3** **RCN-FW-E2**

RCN-KIT4-E2

The wireless remote control is not applicable to the individual flap control system.

Wired remote control (option)

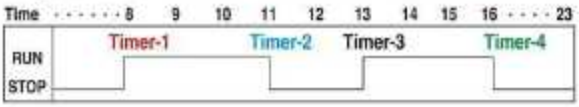
RC-E5

The RC-E5 controller enables extensive access to service and maintenance technical data combined with easy to use functions and a clear LCD display.

Weekly timer function as standard

RC-E5 provides (as a standard feature) a weekly timer, which allows one-week operation schedules to be registered. A user can specify up to four times a day to start/stop the air conditioner.
(Temperature setting is also possible with the timer).

Timer operation



Run hour meters to facilitate maintenance checking

RC-E5 stores operation data when an anomaly occurs and indicates the error on the LCD. It also displays cumulative operation hours of the air conditioner and compressor since commissioning.

Room temperature controlled by the remote control sensor

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

Changeable set temperature ranges

RC-E5 allows the upper and lower limits of a set temperature range to be specified separately.
By adjusting a set temperature range, you can ensure energy saving air conditioning by avoiding excessive cooling or heating.

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

Simple remote control (option)

RCH-E3 (wired)

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

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

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

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

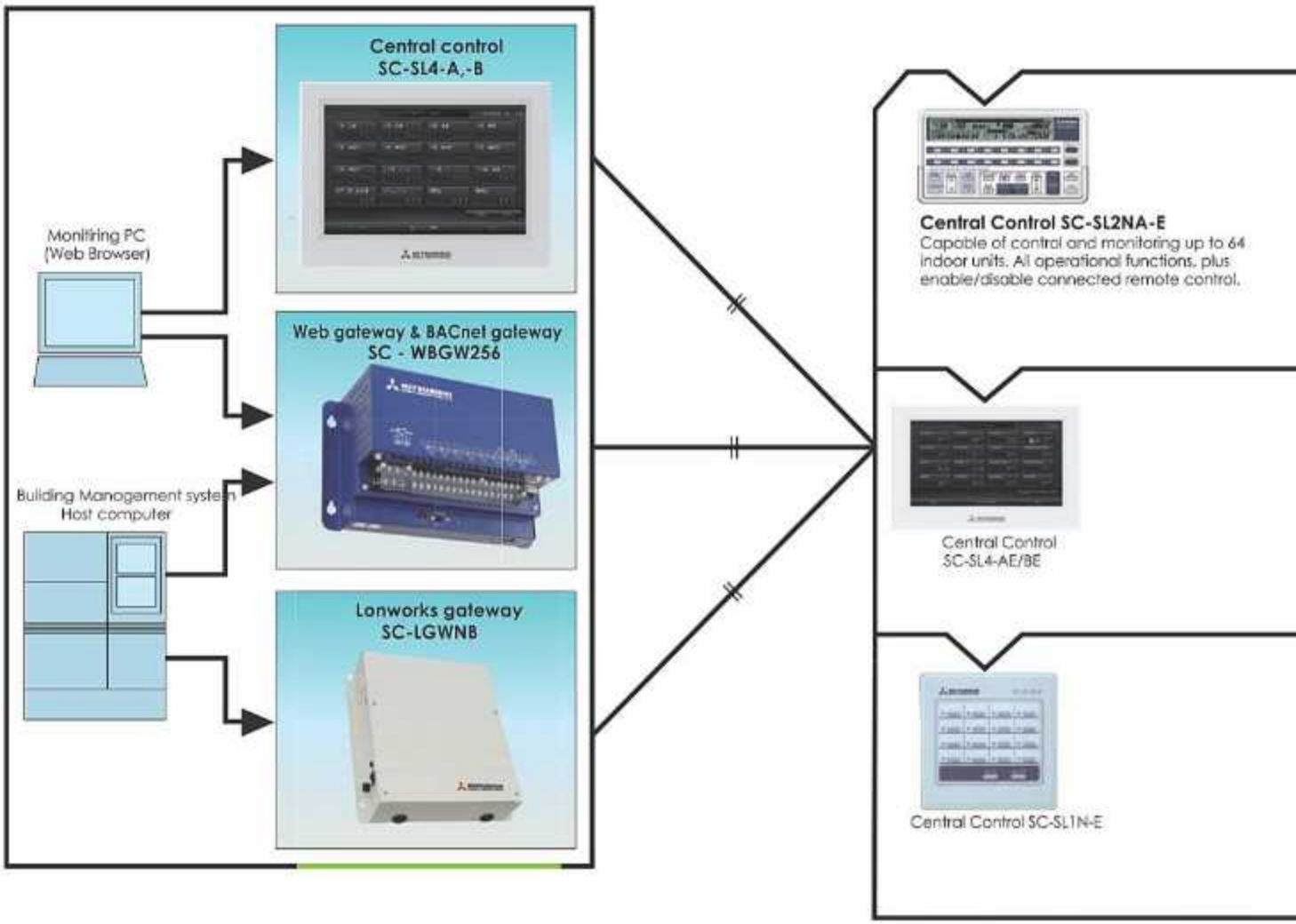
Thermistor (option)

SC-THB-E3

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

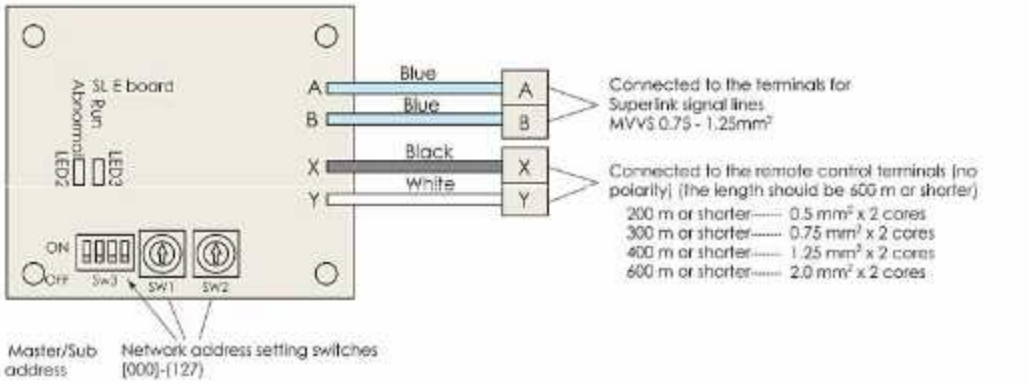
<SUPERLINK® - Ⅱ Control System>

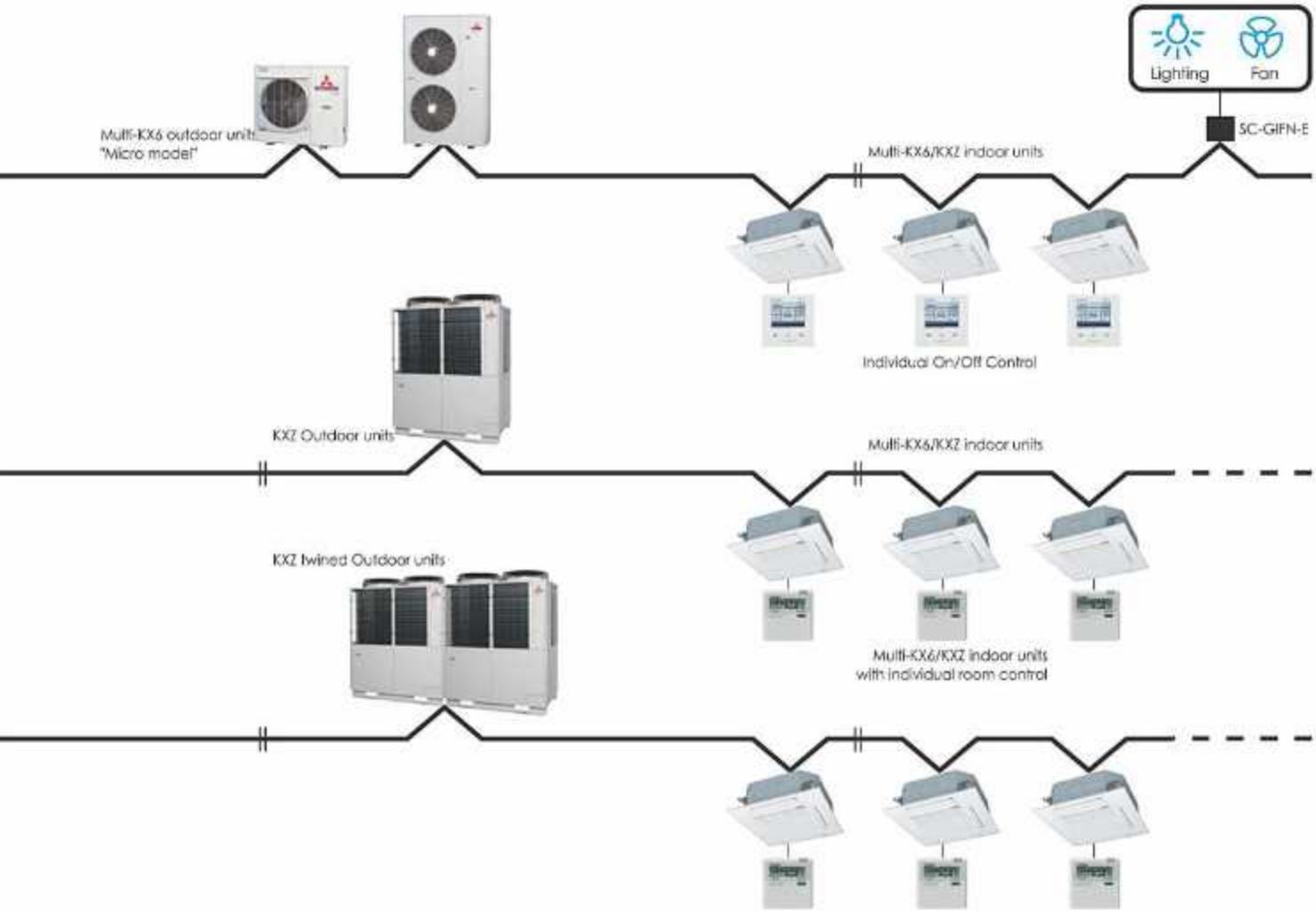
Mitsubishi Heavy Industries Thermal Systems has now combined simplicity of installation with our highly sophisticated Superlink-Ⅱ control system, to offer building owners and occupiers a comprehensive control and management system, while providing complete commissioning and service maintenance assistance 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. Mitsubishi Heavy Industries Thermal Systems 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 Mitsubishi Heavy Industries Thermal Systems split systems can also be integrated on to the Superlink-Ⅱ network using SC-ADNA-E.

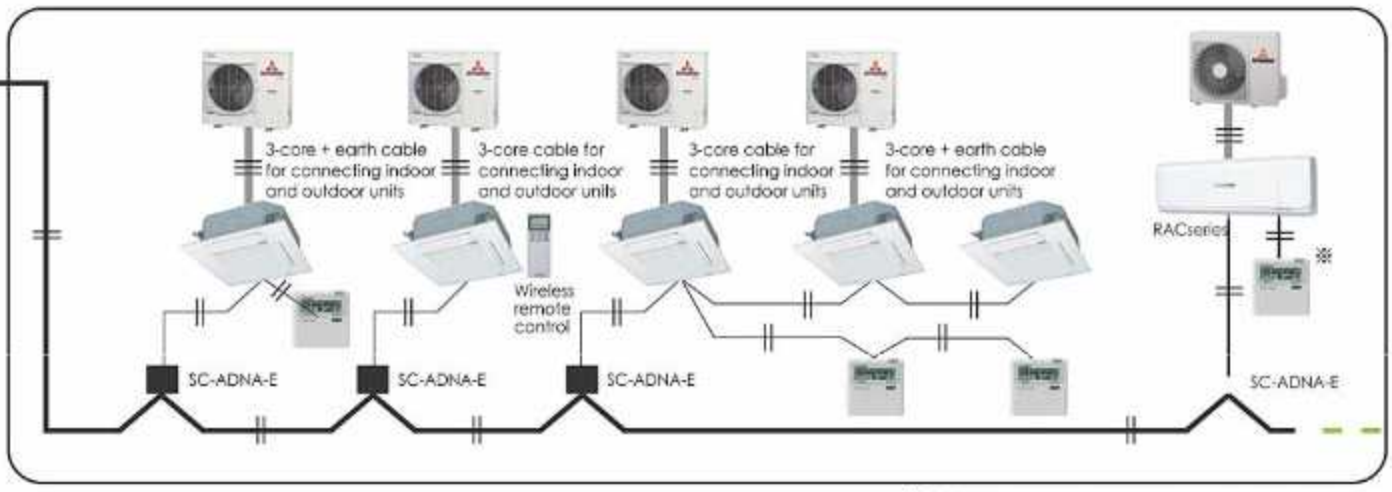


SUPERLINK E BOARD(SC-ADNA-E)

This board is used when conducting control of the single package (wired remote control unit) I-type series using a network option.





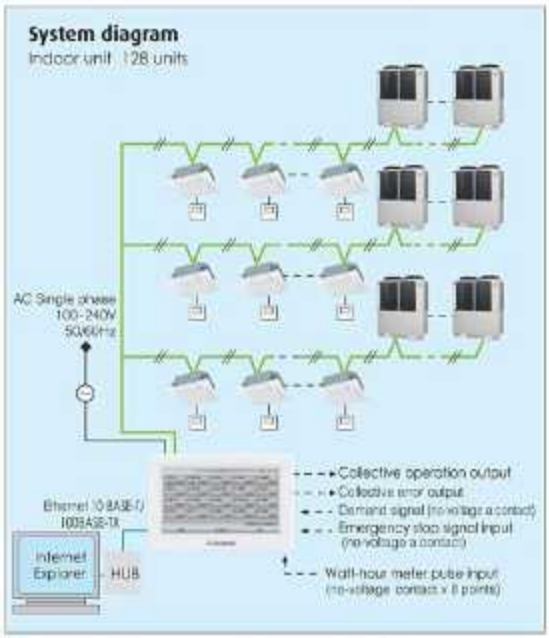


※ SC-BIKN is necessary to connect to wired remote controller.

<Central Control>
SC-SL4-AE/BE

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

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



PC requirements: Windows Vista or Windows 7, 8.1
Monitor resolution 1280 x 1024 or more.
Web browser requirements: Internet Explorer 9, 11

Control	Monitoring	Scheduling	Administration/Service
Run/Stop / Home leave	Operating state	Yearly schedule	Block definition, Floor layout
Mode (cool/heat/fan/dry/Auto)	Mode	Today's schedule	Group definition
Set temperature	Set temperature	Detailed daily schedule	Unit definition
Operation permitted/prohibited	Room temperature	Season setting	Time and date setting
Fan speeds	Operation permitted/ prohibited		Alarm history
Air direction	Fan speed		Energy consumption calculation period
Filter sign reset	Air direction		Energy consumption, cumulative operation time
Demand control (3 steps)	Filter sign		Flap control setting
Emergency stop	Maintenance (1, 2 or back-up) Outdoor air temperature		Operation data monitoring Data logging (Run / Stop set temperature , room temperature , outdoor air temperature)

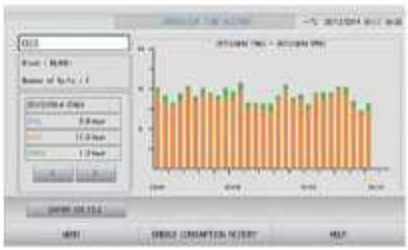
Schedule setting

For each group
Schedule settings for each group are possible. The RUN/STOP/HOME LEAVE time, operation mode, remote control Lock/Unlock setting, temperature setting, energy setting, and silent mode can be set up to 16 times per day.

Yearly Schedule
Schedule settings for a year are also possible. The weekday, holiday, special day 1 or special day 2 can be selected and set.

Operation time history

Possible to check operation time history for cooling and heating separately.



Alarm history

A maximum of 300 records is displayed for the history of error occurrence and restoration in the unit of air-conditioner.
It is possible to output the history data to a CSV data file.

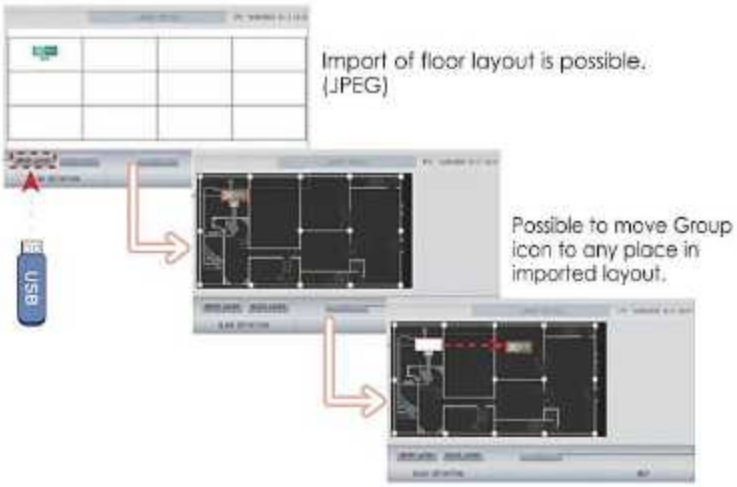
High visibility

Increasing in size from 7 to 9 inches

Contrast between five colors for icon display and black light base screen has achieved high visibility.

Green : in operation
Blue : stop
Red : error
Yellow : communication error
Gray : no groups

Block layout function



Import of floor layout is possible. (JPEG)

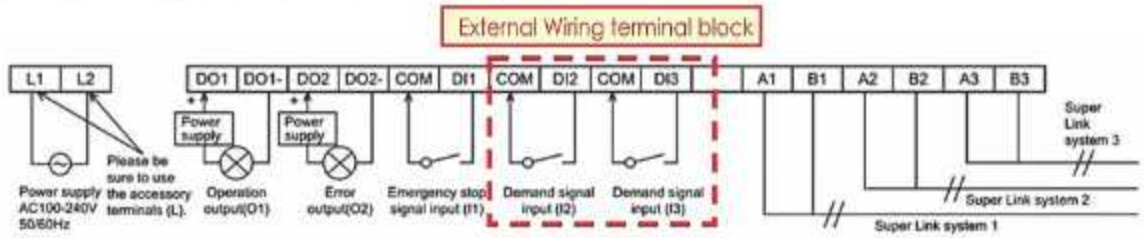
Possible to move Group icon to any place in imported layout.

Web function

You can monitor and control up to 128 indoor units (Max.128 groups) from a PC or tablet PC.

<Example>
Monitoring and operating air-conditioners in a lecture room of a university

3 levels of demand control from 2 external inputs



Demand level	Control	Not objective			Set to D1			Set to D2			Set to D3		
		Set temp.	Operation mode	Center/ Remote	Set temp.	Operation mode	Center/ Remote	Set temp.	Operation mode	Center/ Remote	Set temp.	Operation mode	Center/ Remote
0	Normal	–	–	–	–	–	–	–	–	–	–	–	–
1	Temp. shift	–	–	–	Shift	–	Center	–	–	–	–	–	–
2	Fan (1stage)	–	–	–	–	Fan	Center	–	Fan	Center	–	–	–
3	Fan (2stage)	–	–	–	–	Fan	Center	–	Fan	Center	–	Fan	Center

Demand level 1– Any indoor unit set to D1 (Demand level 1)has its temperature set point shifted by +2°C in cooling mode or -2°C in heating mode and cannot be operated from the local remote controller
Demand level 2– Any indoor unit set to D1 or D2 switch to fan only mode and cannot be operated from the local remote controller
Demand level 3– Any indoor unit set to D1 or D2 or D3 switch to fan only mode and cannot be operated from the local remote controller

Electric power calculation function:

(for SC-SL4-BE only)

SC-SL4-BE gives electric power consumption data (kWh) for each indoor unit , each group , each SUPERLINK-II system , and each watt-hour meter input.

	SC-SL4-BE
Export data by	USB / LAN
Calculation software	Included
Watt-hour meter pulse input(Maximum)	8
Max connectable indoor units	128

Item	Model	SC-SL4-AE/SC-SL4-BE
Ambient temperature during use		0 ~ 40°C
Power supply		1 Phase 100-240V 50/60Hz
Power consumption		9W
External dimensions (Height x Width x Depth)		172mm x 250mm x 23 (+70) mm
Net weight		2.0kg
Number of connectable units (indoor units)		up to 128 units
LCD touch panel		Colour LCD, 9 inches wide
Inputs	SL (Superlink) signal inputs	1 system (Super link-II)
	Watt-hour meter pulse input*	8-point, pulse width 80ms or more
	Emergency stop signal input*	1 point, non-voltage a contact input continuous input (closed: forced stop)
	Demand signal input*	2 point, non-voltage a contact input continuous input (closed: demand control)
Outputs	Operation output	1 point, maximum rated current 40mA, DC24 V All units stop: Open, any unit operating:Close
	Error output	1 point maximum rated current 40mA, DC24 V Normal: closed. If even one unit is abnormal: Open (Open/closed can be changed)

* The receiving side power supply is DC 12V (10mA).
The air conditioning charges calculations of this unit are not based on OIML, the international standard.

SC-SL1N-E

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

Simple centralised control.

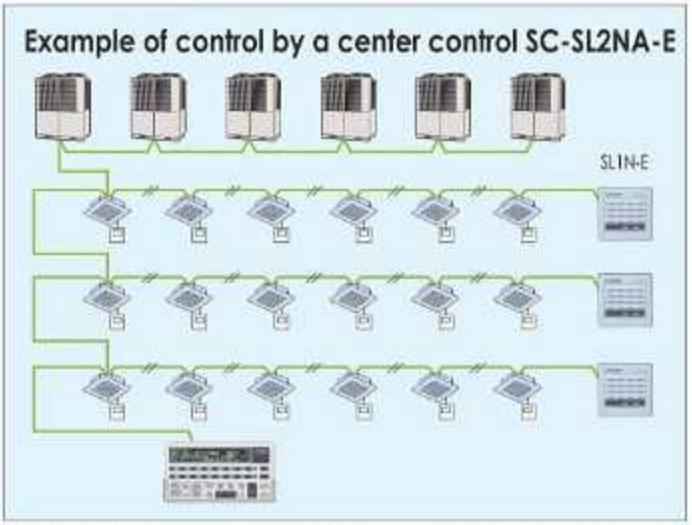
1. The SC-SL1N-E is connected to the Superlink-II network via 2-core, non-polar wires ('AB' connection).
2. It will monitor and control the start/stop function of up to 16 units, with the sixteen operation button.
3. The unit or group numbers in operation or in need of service are displayed with an LED.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

SC-SL2NA-E

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

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

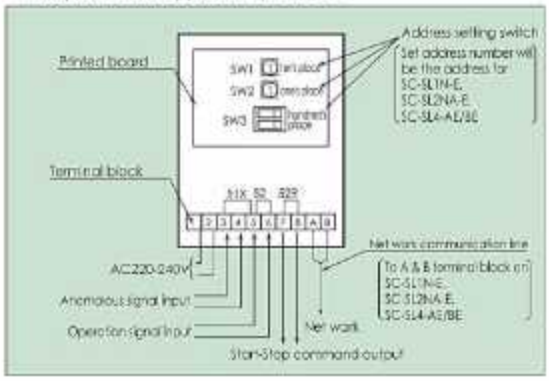
Example of control by a center control SC-SL2NA-E



An SC-SL2NA-E performs the start/stop control, monitoring and mode setting of up to 64 units. It is a high quality air conditioner control system that allows up to 64 indoor units to be freely grouped into 1 to 16 groups.
It allows not only the start/stop control but also the monitoring, display of operation statuses such as in operation or in need of service and mode setting such as switching of operation modes of connected units collectively, by group or individually.
• Outer dimensions: H120 x W215 x D25+35*mm.
35* is the measurement including the part contained in a recess.

SC-GIFN-E Interface kit

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



Note: Please consult dealer for combination of center controls and Building Management Systems interface units.

<Building Management Systems>

SC-WBGW256 (Web gateway+BACnet gateway)

NEW

Production by order

SC-WBGW256 control and monitoring of up to 256 cells (some cells can have two or more indoor units and total number of indoor units can be up to 256 units) centralised to a network PC using the Superlink-Ⅱ web gateway. Simple installation is assured with no special software requirements, operation is via InternetExplorer. 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.
Also, SC-WBGW256 can be used as interface devices that convert Mitsubishi Heavy Industries Superlink-Ⅱ communication data to BACnet code and are controlled centrally from a building management system.

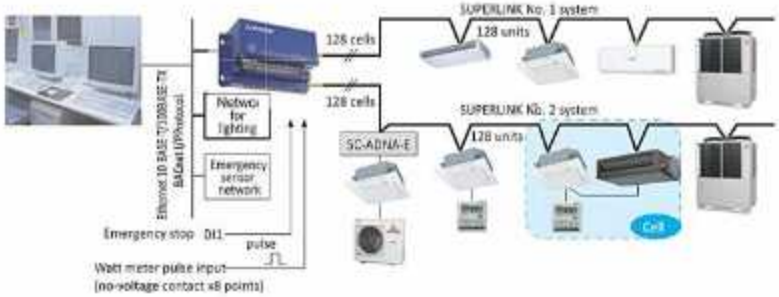
Additional engineering service cost etc. is required.
Please consult your dealer when using this central control.

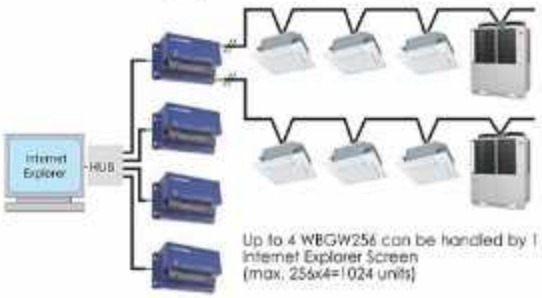
[In case of web gateway]

PC requirements: Windows 7 or Windows 8.1.
Monitor resolution 1364 x 768.

Users can manage up to 1024 units by connecting the four devices!!

[In case of BACnet gateway]





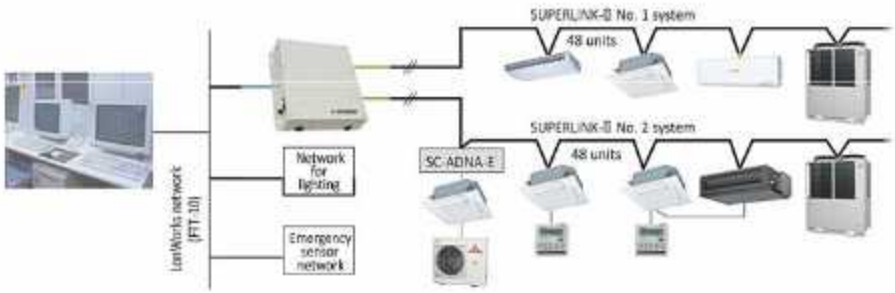
Up to 4 WBGW256 can be handled by 1 Internet Explorer Screen (max. 256x4=1024 units)

NEW

SC-LGWNB (LonWorks gateway)

Production by order

SC-LGWNB is an interface device that converts Mitsubishi Heavy Industries 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.

INTESIS BMS Interface for

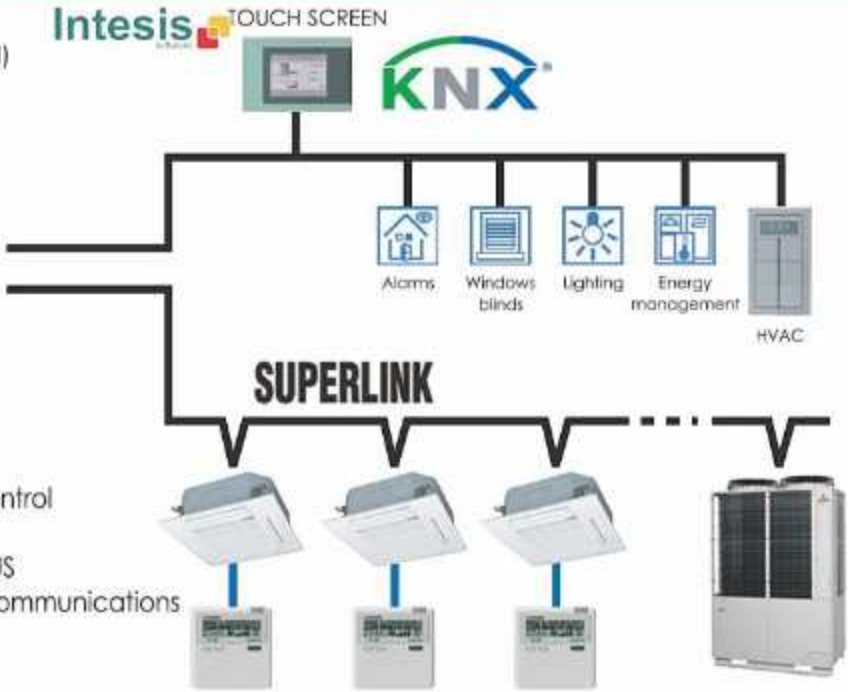
Mitsubishi Heavy Industries Thermal Systems air conditioners

All technical support, including specifying work, compatibility issues, product quality (repair and replacement issues), product liability issues and the required after sales service (including spare parts supply) will be provided by Intesis as it is an Intesis product. Product sales and delivery will be conducted by Intesis as well.
For details concerning such matters please directly contact Intesis.

Integration of Mitsubishi Heavy Industries Thermal Systems VRF in your KNX installation by Superlink

MH-AC-KNX-48
(Max 48 indoor units / Superlink I & II)
MH-AC-KNX-128
(Max 128 indoor units / Superlink II)

INTEGRATED GATEWAY

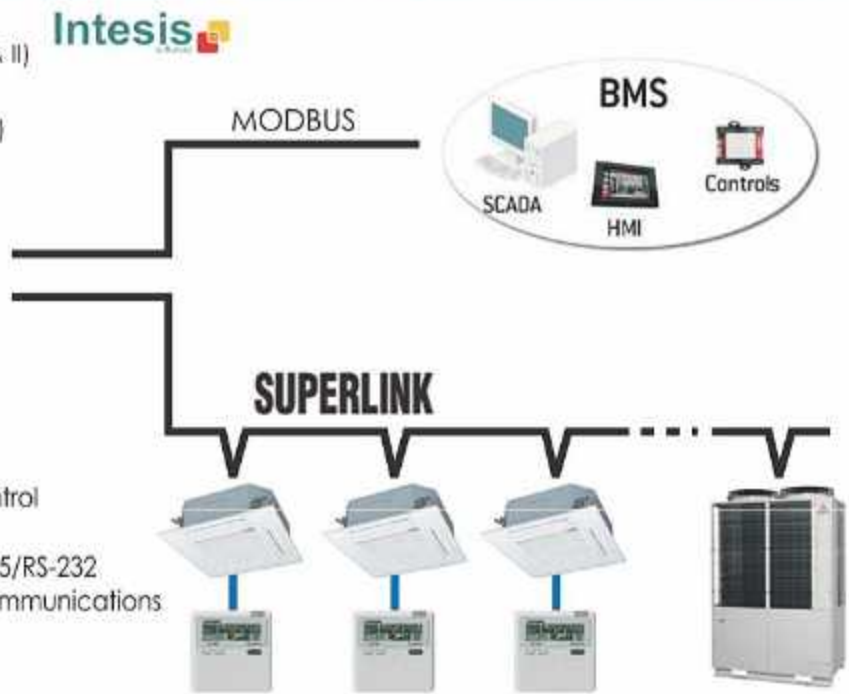


- Bidirectional: Supervision and Control
- Robust and reliable hardware
- Direct connection to KNX TP-1 BUS
- Independent management of communications
- Power supply: 230 VAC 50/60Hz
- Wall mounting case

Integration of Mitsubishi Heavy Industries Thermal Systems VRF in your Modbus installation by Superlink

MH-AC-MBS-48
(Max 48 indoor units / Superlink I & II)
MH-AC-MBS-128
(Max 128 indoor units / Superlink II)

INTEGRATED GATEWAY



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

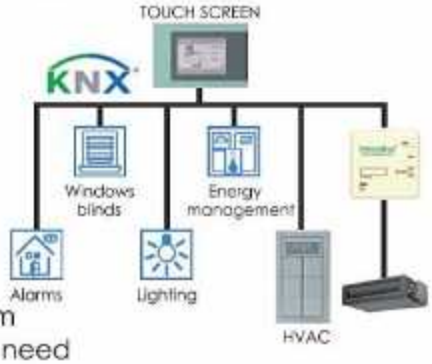
Integration of Mitsubishi Heavy Industries Thermal Systems PAC in your KNX installation by Remote control line

MH-RC-KNX-1i

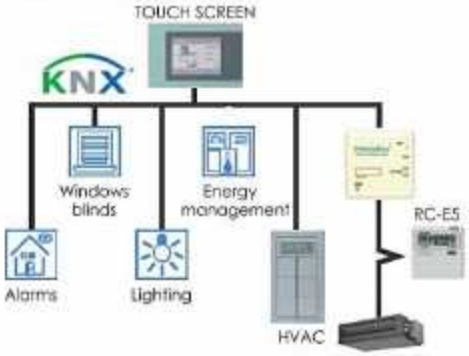
IntesisBox®

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

Example :
Device as Master



Example :
Device as Slave



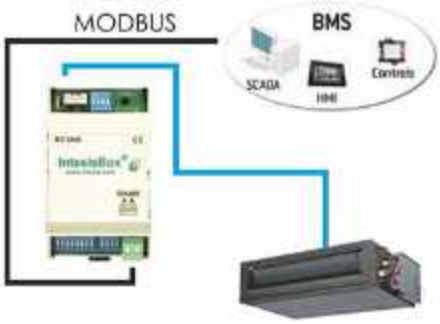
Integration of Mitsubishi Heavy Industries Thermal Systems PAC in your Modbus installation by Remote control line

MH-RC-MBS-1

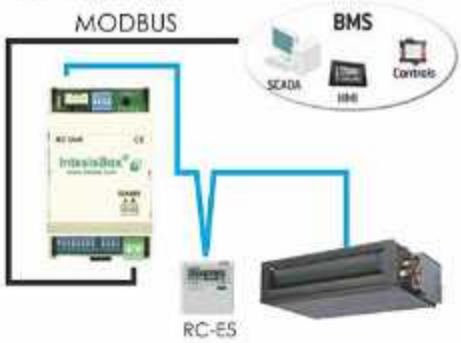
IntesisBox®

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

Example :
Device as Master



Example :
Device as Slave



Integration of Mitsubishi Heavy Industries Thermal systems PAC in your EnOcean installation by Remote control line

MH-RC-ENO-1i/1iC

IntesisBox®

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

Example :
Device as Master

Example :
Device as Slave

IntesisHome®
Your home in the cloud

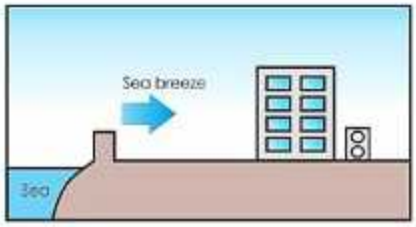
Intesis Wifi Adaptors

NEW

PAC Model: MH-RC-WIFI-1A

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

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



Model No.	Nominal Cooling Capacity
FDCS112KXEN6	11.2kW
FDCS112KXES6	11.2kW
FDCS140KXEN6	14.0kW
FDCS140KXES6	14.0kW
FDCS155KXEN6	15.5kW
FDCS155KXES6	15.5kW
FDCS224KXE6G	22.4kW
FDCS280KXE6G	28.0kW
FDCS335KXE6G	33.5kW

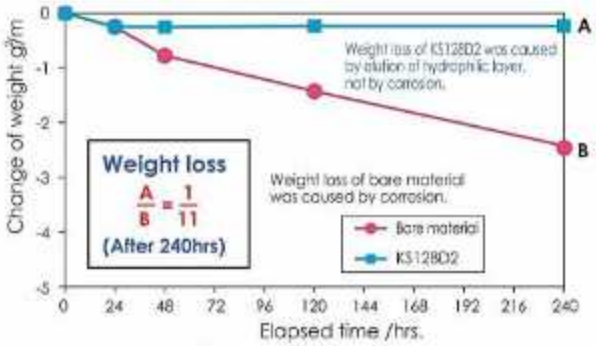
Model No.	Nominal Cooling Capacity
FDCS280KXZE1	28.0kW
FDCS335KXZE1	33.5kW
FDCS400KXZE1	40.0kW
FDCS450KXZE1	45.0kW
FDCS475KXZE1	47.5kW
FDCS504KXZE1	50.4kW
FDCS560KXZE1	56.0kW

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

Corrosion resistance performance of high anticorrosion fin

Comparison of weight loss by corrosion

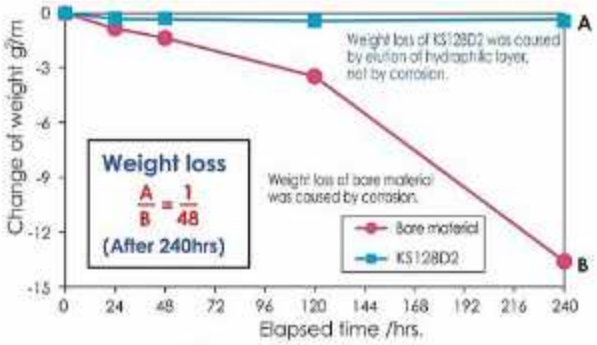
Neutral salt water spray test



<Test conditions>

JIS Z2371
NaCl concentration : 50g/L
pH : 6.5~7.2
temperature : 35°C

Acetic acid salt water spray test



<Test conditions>

JIS Z2371
NaCl concentration : 50g/L
pH : 3.1~3.3(adjusted with acetic acid)
temperature : 35°C

Appearance comparison before and after acetic acid salt water spray test

KS128D2

at the beginning after 240 hrs.

Bare Material

at the beginning after 240 hrs.

For outside sheet metals, Cation electrodeposition coating is used for undercoat plus polyester powder coating or acrylic baked coating for top coat and corrosion protection is applied for heat exchanger, welded parts, fan guard, fin guard and other major parts.
Preventing corrosion by salt damage or sulfurous acid gas has made service life of this series longer while its exterior appearance has been greatly improved.
Durability of this series for anticorrosion is about two times that of standard outdoor units under the same conditions.

Additional treatment from the standard series

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

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

Caution

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

Installation

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

Maintenance

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

Water cooled series
8~36HP (22.4~100.0kW)

Model No.	Nominal Cooling Capacity
FDC224KXZWE1	22.4kW
FDC280KXZWE1	28.0kW
FDC335KXZWE1	33.5kW
FDC450KXZWE1 (FDC224×2)	45.0kW
FDC500KXZWE1 (FDC224+FDC280)	50.0kW
FDC560KXZWE1 (FDC280×2)	56.0kW
FDC615KXZWE1 (FDC280+FDC335)	61.5kW
FDC670KXZWE1 (FDC335×2)	67.0kW

Model No.	Nominal Cooling Capacity
FDC730KXZWE1 (FDC224×2+FDC280)	73.0kW
FDC775KXZWE1 (FDC224+FDC280×2)	77.5kW
FDC850KXZWE1 (FDC280×3)	85.0kW
FDC900KXZWE1 (FDC280×2+FDC335)	90.0kW
FDC950KXZWE1 (FDC280+FDC335×2)	95.0kW
FDC1000KXZWE1 (FDC335×3)	100.0kW

Features

1. High efficiency (EER/COP)
- Energy saving ➡ Reduction of operation cost!

2. Compact design
- Easy transportation and installation
- Elevator carrying

3. BMS (Building Management System)
- Can use the same BMS as air-cooled KX
- Available to large-scale and fine control

4. Serviceability & Maintenance
- Service and maintenance of main parts can be done from the front side only
- Useful service tools (Mente-PC, SL-Checker etc.)

Applicable to

1. High-rise Building
- 50m <FDC> , -100m <FDCH>
- 100m or higher in height <FDCW>

2. Glass-exterior facade Building
- Possible to hide KXZW units and to keep fine sight

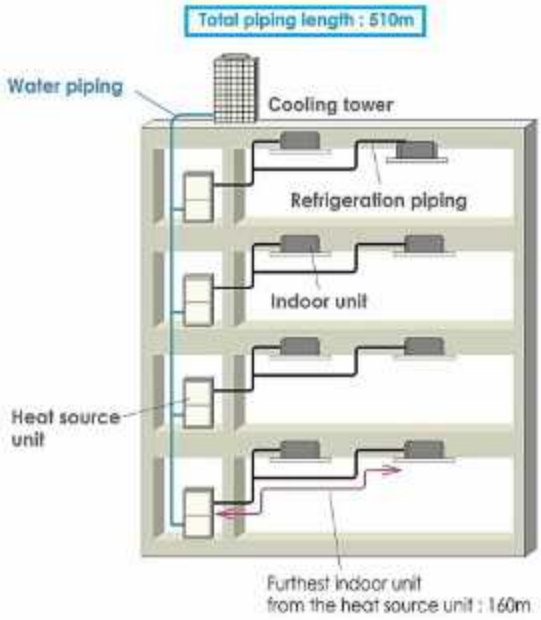
Specifications

Item		Model	FDC224KXZWE1	FDC280KXZWE1	FDC335KXZWE1	FDC450KXZWE1	FDC500KXZWE1	FDC560KXZWE1	FDC615KXZWE1	FDC670KXZWE1
Combination (FDC)			-	-	-	224KXZWE1	224KXZWE1	280KXZWE1	280KXZWE1	335KXZWE1
			-	-	-	224KXZWE1	280KXZWE1	280KXZWE1	335KXZWE1	335KXZWE1
Nominal horse power			8HP	10HP	12HP	16HP	18HP	20HP	22HP	24HP
Power source			3 Phase 380-415V, 50Hz							
Nominal capacity	Cooling	kW	22.4	28.0	33.5	45.0	50.0	56.0	61.5	67.0
	Heating		25.0	31.5	37.5	50.0	56.0	63.0	69.0	75.0
Exterior dimensions	HxWxD	mm	1100x780x550					(1100x780x550)x2		
Sound pressure level		dB(A)	48	50	52	50	52	53	54	55
Net weight		kg	185			185x2				

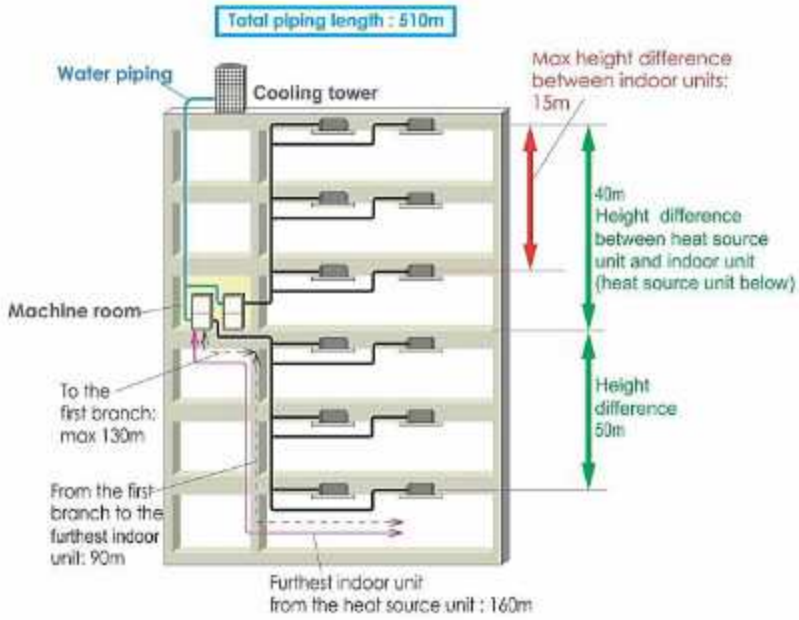
Item		Model	FDC730KXZWE1	FDC775KXZWE1	FDC850KXZWE1	FDC900KXZWE1	FDC950KXZWE1	FDC1000KXZWE1
Combination (FDC)			224KXZWE1	224KXZWE1	280KXZWE1	280KXZWE1	280KXZWE1	335KXZWE1
			224KXZWE1	280KXZWE1	280KXZWE1	280KXZWE1	335KXZWE1	335KXZWE1
			280KXZWE1	280KXZWE1	280KXZWE1	335KXZWE1	335KXZWE1	335KXZWE1
Nominal horse power			26HP	28HP	30HP	32HP	34HP	36HP
Power source			3 Phase 380-415V, 50Hz					
Nominal capacity	Cooling	kW	73.0	77.5	85.0	90.0	95.0	100
	Heating		82.5	90.0	95.0	100	106	112
Power consumption	Cooling	kW	14.2	15.5	17.5	19.5	21.7	24.3
	Heating		13.8	14.8	15.4	16.4	17.6	18.8
Exterior dimensions	HxWxD	mm	(1100x780x550)x3					
Sound pressure level		dB(A)	54	54	55	56	56	57
Net weight		kg	185x3					

The data is based on the rating condition:
Cooling: Indoor temp. of 27 °C DB,19 °C WB, and heat source unit inlet water temp. of 30 °C, water flow rate 96 L/min
Heating: Indoor temp. of 20 °C DB,15 °C WB, and heat source unit inlet water temp. of 20 °C, water flow rate 96 L/min

Heat source units on every floor
- New building projects -

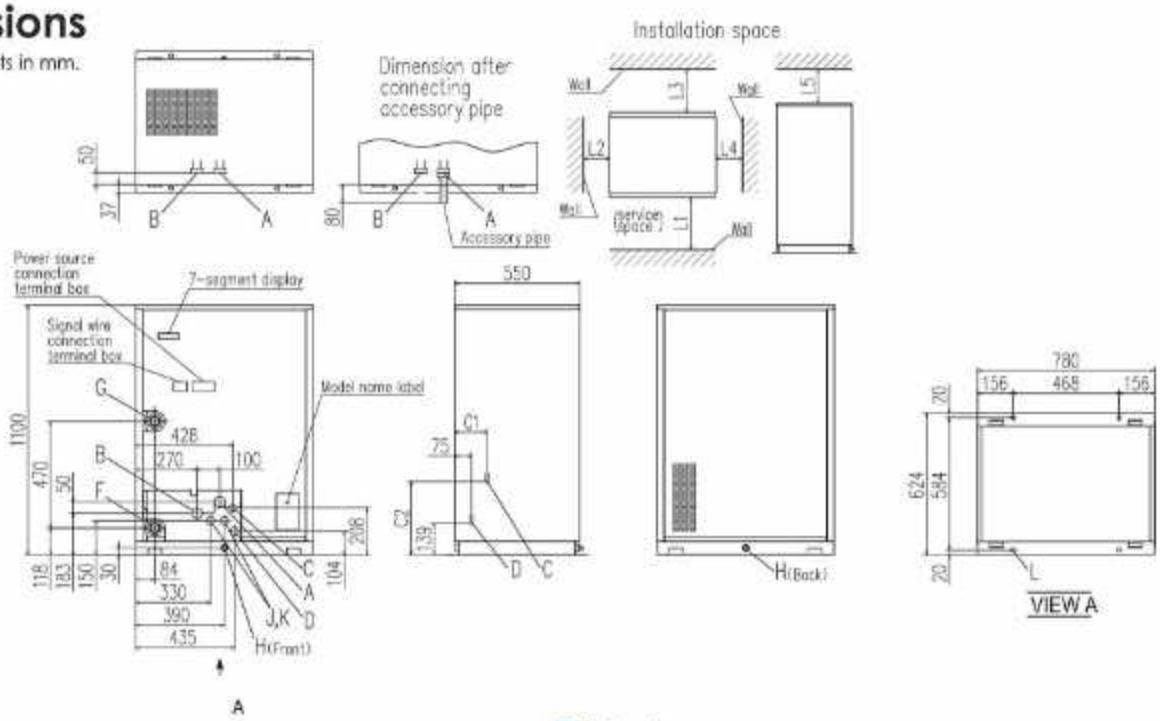


Heat source units in the machine room
- Renovation projects -



Dimensions

All measurements in mm.



Mark	Content	
A	High/low gas line	Refer to piping size
B	–	Not to use.
C	Liquid line	Refer to piping size
D	Oil equalization line	
F	Water inlet	R1 1/4
G	Water outlet	R1 1/4
H	Drain outlet	Rp 1/2,2places
J	Power source intake	ø35
K	Signal wiring intake	ø35
L	Anchor bolt hole	ø18,4places

Dimension	FDC-KXZWE1	
	224,280	335
C1	142	139
C2	322	316

Dimension \ Installation example	1
L1	600 or more
L2	20 or more
L3	500 or more
L4	20 or more
L5	300 or more

Piping size

	FDC224KXZWE1	FDC280KXZWE1	FDC335KXZWE1	Connection method
High/low gas line	ø19.05	ø22.22	ø25.4	Flange
Liquid line	ø9.52	ø9.52	ø12.7	Flare
Oil equalization line	ø9.52	ø9.52	ø9.52	

High Head series (100m) cooling only
14~48HP (40.0~136.0kW)

Model No.	Nominal Cooling Capacity
FDCH335CKXE6G-K※	33.5 kW(380V)
FDCH400CKXE6G	40.0 kW(380V)
FDCH450CKXE6G	45.0 kW(380V)
FDCH504CKXE6G	50.4 kW(380V)
FDCH560CKXE6G	56.0 kW(380V)
FDCH560CKXE6G-K※	56.0 kW(380V)
FDCH615CKXE6G	61.5 kW(380V)
FDCH680CKXE6G	68.0 kW(380V)

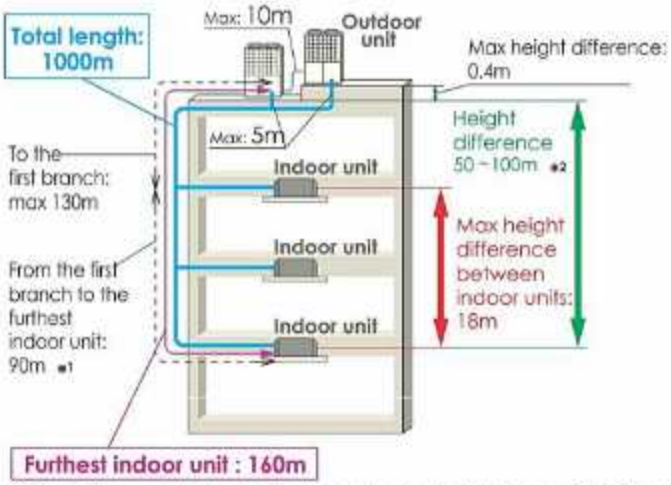
※FDCH335CKXE6G-K & FDCH560CKXE6G-K are only used for combining with other models.

Model No.	Nominal Cooling Capacity
FDCH735CKXE6G (FDCH335-K+FDCH400)	73.5 kW(380V)
FDCH800CKXE6G (FDCH400x2)	80.0 kW(380V)
FDCH850CKXE6G (FDCH400+FDCH450)	85.0 kW(380V)
FDCH900CKXE6G (FDCH450x2)	90.0 kW(380V)
FDCH960CKXE6G (FDCH450+FDCH504)	96.0 kW(380V)
FDCH1010CKXE6G (FDCH504x2)	101.0 kW(380V)
FDCH1065CKXE6G (FDCH504+FDCH560)	106.5 kW(380V)
FDCH1130CKXE6G (FDCH560x2)	113.0 kW(380V)
FDCH1180CKXE6G (FDCH560-K+FDCH615)	118.0 kW(380V)
FDCH1235CKXE6G (FDCH615x2)	123.5 kW(380V)
FDCH1300CKXE6G (FDCH615+FDCH680)	130.0 kW(380V)
FDCH1360CKXE6G (FDCH680x2)	136.0 kW(380V)

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

FDCH335CKXE6G-K
FDCH400CKXE6G
FDCH450CKXE6G

FDCH504~680CKXE6G



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

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

Specifications

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

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

Item		Model	FDCH960CKXE6G	FDCH1010CKXE6G	FDCH1065CKXE6G	FDCH1130CKXE6G
Combination (FDCH)			450CKXE6G	504CKXE6G	504CKXE6G	560CKXE6G
			504CKXE6G	504CKXE6G	560CKXE6G	560CKXE6G
Nominal horse power			34HP	36HP	38HP	40HP
Power source			3 Phase 380-415V, 50Hz			
Nominal capacity	Cooling	kW	96.0	101.0	106.5	113.0
Electrical characteristics	Starting current	A	16			
Exterior dimensions	HxWxD	mm	2048x2700x720			
Net weight		kg	326+358	358x2		
Refrigerant charge	R410A	kg	11.5x2			
Refrigerant piping size	Liquid line	mm(in)	ø19.05(3/4")		ø22.22(7/8")	
	Gas line		ø31.8(1 1/4")[ø34.92(1 3/8")]		ø38.1(1 1/2")	
Capacity connection		%	50~160	50~130		
Number of connectable indoor units			69	59	62	66

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

1. The data are measured under the following conditions(ISO-T1). Cooling: Indoor temp. of 27°CDB, 19°CWB, and outdoor temp. of 35°CDB. Heating: Indoor temp. of 20°CDB, and outdoor temp. of 7°CDB, 6°CWB. Piping length is 7.5m.
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.
3. [ ] : Pipe sizes applicable to European installations are shown in parentheses.
4. The above data applies to D service code models. Please check service codes for full specification.

Refresh series

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

Blue Fin

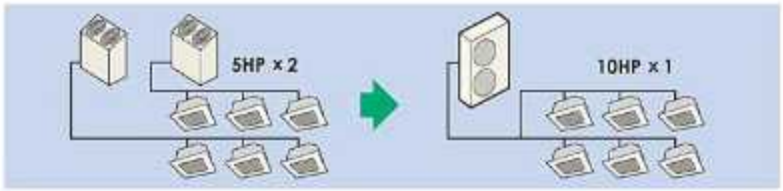
Model No.	Nominal Cooling Capacity
FDCR224KXE6	22.4kW
FDCR280KXE6	28.0kW

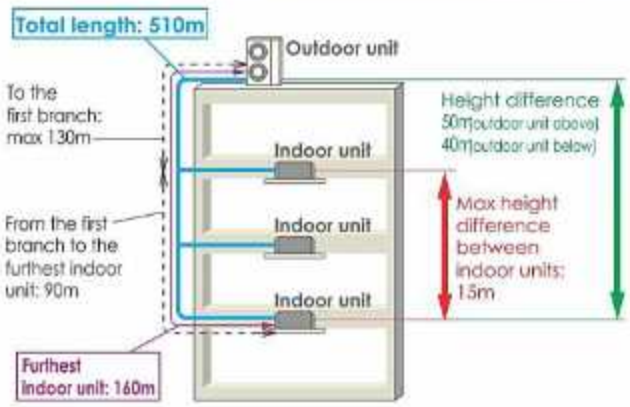
<Option>

FDCR-KIT-E : Service valve kit

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

Note: FDUT15KXE6F-E, FDTC15KXZE1 and FDK15KXZE1 can not be connected to the above systems.





Specifications

Item			Model	FDCR224KXE6	FDCR280KXE6
Nominal horse power				8HP	10HP
Power source				3 Phase 380-415V, 50Hz	
Nominal capacity	Cooling		kW	22.4	28.0
	Heating			25.0	31.5
Electrical characteristics	Starting current		A	5	
	Running current	Cooling	A	9.25-8.47	13.22-12.10
		Heating		9.85-9.02	13.41-12.28
Exterior dimensions	HxWxD		mm	1675x1080x480	
Net weight			kg	224	
Refrigerant charge	R410A		kg	11.5	
Sound pressure level	Cooling/Heating		dB(A)	58/58	59/60
Refrigerant piping size	Liquid line		mm(in)	ø9.52(3/8")~ø15.88(5/8")	
	Gas line			ø19.05(3/4")~ø25.4(1")	ø22.22(7/8")~ø28.58(1 1/8")
Capacity connection			%	50~130	
Number of connectable indoor units				13	16

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

Advanced refresh function

◆When the existing unit is operable

The existing pipe can be reused by cooling operation only.
Pipe refresh kit and Service valve kit are not required.

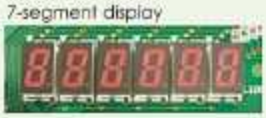
1.Implement cooling operation of all indoor units for more than 30 minutes.
2.Implement pump-down after cooling operation.
3.Recover refrigerant and remove the existing outdoor unit and indoor unit.

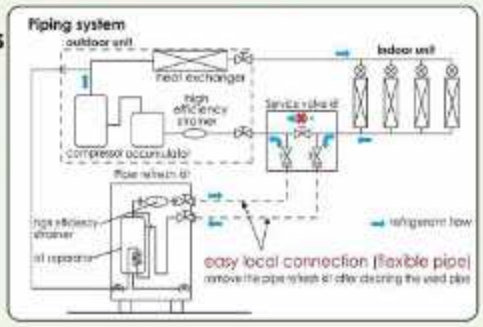
◆When the existing unit is not operable

The existing pipe can be reused by washing operation after connecting Refresh outdoor units, Pipe refresh kit and Service valve kit.
Connecting and removing of Refresh outdoor units and Pipe refresh kit is very easy by use of flexible pipe and flanges.

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

7-segment display

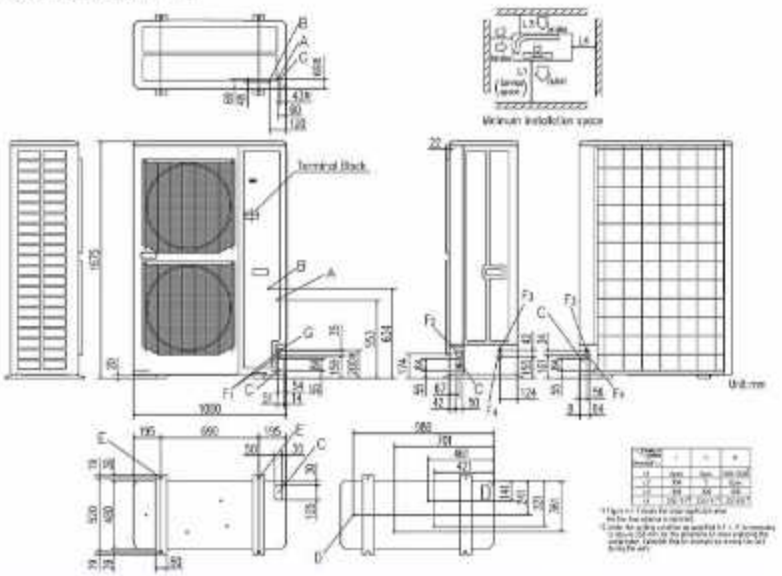




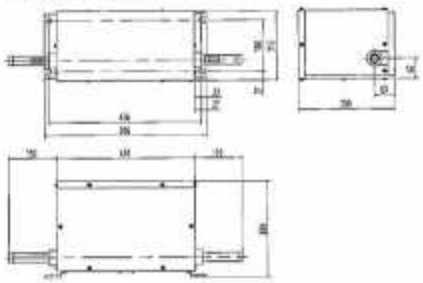
Pipe refresh kit (FDCR-KIT-E)

Dimensions

All measurements in mm.



Service valve kit



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

Notes:
(1) It must not be surrounded by walls on the four sides.
(2) The unit must be fixed with anchor bolts. An anchor bolt must not protrude more the 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 1m or more 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)

Genuine Spares & Service Center

Our Motto
" Customer Satisfaction
Index No.-1"

TOWARDS A BETTER FUTURE TOGETHER

NOTES

NOTES

Before starting use

Heating Performance
The heating performance values (kW) described in catalogue 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 catalogue 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 catalogue 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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