MITSUBISHI HEAVY INDUSTRIES

MOVE THE WORLD FORWARD MITSUBISHI HEAVY INDUSTRIES GROUP

# VRF inverter multi-system Air Conditioners

KXZ

High Performance Air Conditioning

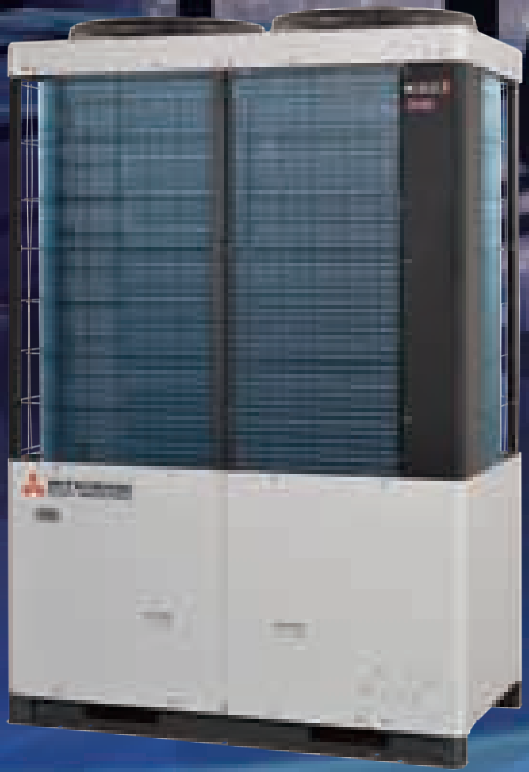
2022

50Hz

22KX01E

# High Performance Air Conditioning

# 2022



## KXZ2

The Mitsubishi Heavy Industries Thermal Systems KXZ VRF series delivers high performance in cooling and heating for all commercial applications. It offers the highest level of design flexibility, improved efficiency as well as enhanced operational functions.

# Line Up


# Contents

# *KXZ system is the best air conditioning solution for "Sophisticated" buildings*

KXZ VRF series delivers high cooling/heating performance for all commercial applications.

| | |
|---|---|
| **High efficiency & comfort** | ・High energy efficiency with advanced technology<br>・Energy saving control by VTCC (Variable Temperature & Capacity Control)<br>・Individual, centralised and customised comfort control |
| **Design flexibility** | ・Various types of indoor units suiting all applications<br>・Long piping length and wide limitation of piping<br>・Easy selection and design software |
| **Easy & customised control** | ・Individual advanced control by wired and wireless remote controller<br>・Various options for BMS & centralised controller |
| **Good serviceability** | ・Easy access for maintenance<br>・Engineering and monitoring tool available |

## “Micro KXZ series” for small offices, shops and residential applications

Energy efficient and highly reliable industry leading compact units are designed and built by our technology experts.

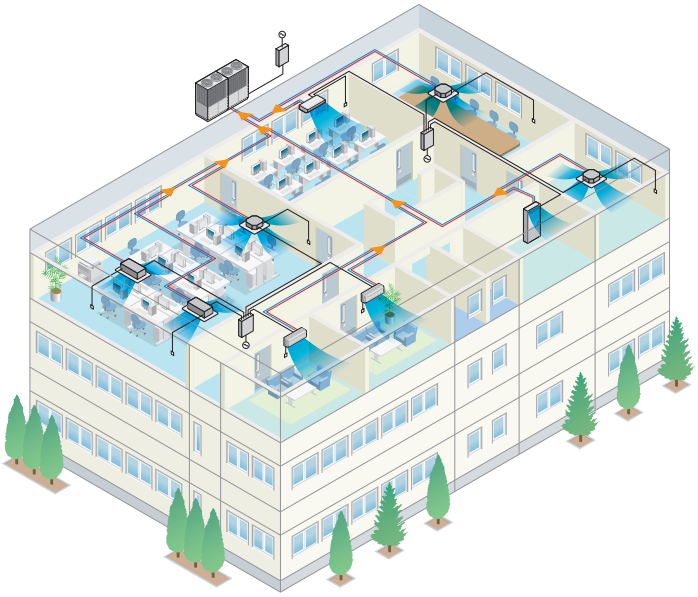
## Heat pump systems

The heat pump systems operate with 2 inter-connecting pipes, and are commonly referred to as a '2-pipe systems'.

These systems provide either a heating or cooling operation to all indoor units at the same time and are suitable for a wide range of applications from an apartment or villa to an entire multi-story building, especially when there are significant open plan areas to be controlled.

The range starts with a 12.1kW 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 (KXZ) from the outdoor unit.



# *Specific cases of VRF system installation from Mitsubishi Heavy Industries Thermal Systems*

## Case study: Hotel and Leisure

The VRF heat recovery systems from Mitsubishi Heavy Industries (MHI) Thermal Systems KX range match the demanding needs and specifications for luxury hotels and ‘airport style’ bus stations. MHI Thermal VRF systems feature advanced inverter technology that adjusts compressor output to match the cooling or heating demands of the indoor units. Allowing to save energy and easily control room temperature by choosing to heat or cool in different areas. Our adaptable system allows to increase the heat in sunnier, south facing rooms; all while providing energy for rooms in cooler, shadier sides of your building.

## Case study: Education

We're proud to have provided Crossways Academy in Lewisham with a VRF system with inverter control - helping to make school a cooler place to learn.

Comfortable temperatures need to be maintained as economically as possible in rooms where large numbers of students will enter or leave at the same time. IT equipment being switched on and off and the use of electric blinds to control glare will all contribute to substantial fluctuations in heat load. A VRF KX system from Mitsubishi Heavy Industries Thermal Systems provides an ideal solution. Much of the building was designed to rely on natural ventilation, with windows operated electronically. The air conditioning system is linked to this control system to close down when windows are opened. Mitsubishi Heavy Industries Thermal Systems KX is particularly appropriate for many such retrofit applications.

# Product Line Up
## Outdoor units

| Capacity Range | 4HP | 5HP | 6HP | 8HP | 10HP | 12HP | 14HP | 16HP | 17HP | 18HP | 20HP |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Model Code : kW | 12.1 | 14 | 15.5 | 22.4 | 28 | 33.5 | 40.0 | 45.0 | 47.5 | 50.0 | 56.0 |
| BTU / h | 41,300 | 47,800 | 52,900 | 76,400 | 95,500 | 114,300 | 136,500 | 153,500 | 162,100 | 170,600 | 191,100 |
| Micro KXZ (4~6HP) R32 | ← | — | → | | | | | | | | |
| Micro KXZ (4~6HP) R410A | ← | — | → | | | | | | | | |
| Micro KXZ (8~12HP) R410A | | ← | — | — | → | | | | | | |
| KXZ Lite R410A | | ← | — | → | | | | | | | |
| Standard model KXZE2 R410A | | | ← | — | — | — | — | — | — | — | → |
| Hi-COP combination KXZXE2 R410A | | | | | | | | | | ↔ | |
| Heat recovery system KXZRE2 R410A | | | | ← | — | — | — | — | — | — | → |
| Heat recovery system Hi-COP KXZRXE2 R410A | | | | | | | | ↔ | | ← | — |

## Micro KXZ NEW

| 12.1kW | 14.0kW | 15.5kW |
|---|---|---|
| 4HP | 5HP | 6HP |
| FDC121KXZEN1-W | FDC140KXZEN1-W | FDC155KXZEN1-W |
| FDC121KXZES1-W | FDC140KXZES1-W | FDC155KXZES1-W |

## Micro KXZ

| 12.1kW | 14.0kW | 15.5kW |
|---|---|---|
| 4HP | 5HP | 6HP |
| FDC121KXZEN1 | FDC140KXZEN1 | FDC155KXZEN1 |
| FDC121KXZES1 | FDC140KXZES1 | FDC155KXZES1 |

## Micro KXZ

| 22.4kW | 28.0kW | 33.5kW |
|---|---|---|
| 8HP | 10HP | 12HP |
| FDC224KXZME1 | FDC280KXZME1 | FDC335KXZME1A |

## KXZ Lite

| 22.4kW | 28.0kW |
|---|---|
| 8HP | 10HP |
| FDC224KXZPE1 | FDC280KXZPE1 |

## Standard model KXZE2 NEW

FDC280, 335 FDC400-560

| 28.0kW | 33.5kW | 40.0kW | 45.0kW | 47.5kW | 50.0kW | 56.0kW |
|---|---|---|---|---|---|---|
| 10HP | 12HP | 14HP | 16HP | 17HP | 18HP | 20HP |
| FDC280KXZE2 | FDC335KXZE2 | FDC400KXZE2 | FDC450KXZE2 | FDC475KXZE2 | FDC500KXZE2 | FDC560KXZE2 |

FDC615, 670

FDC735

FDC800-1120

| 61.5kW | 67.0kW | 73.5kW | 80.0kW | 85.0kW | 90.0kW | 95.0kW | 100.0kW | 106.0kW | 112.0kW |
|---|---|---|---|---|---|---|---|---|---|
| 22HP | 24HP | 26HP | 28HP | 30HP | 32HP | 34HP | 36HP | 38HP | 40HP |
| FDC615KXZE2 | FDC670KXZE2 | FDC735KXZE2 | FDC800KXZE2 | FDC850KXZE2 | FDC900KXZE2 | FDC950KXZE2 | FDC1000KXZE2 | FDC1060KXZE2 | FDC1120KXZE2 |
| FDC280KXZE2 | FDC335KXZE2 | FDC335KXZE2 | FDC400KXZE2 | FDC400KXZE2 | FDC450KXZE2 | FDC475KXZE2 | FDC500KXZE2 | FDC500KXZE2 | FDC560KXZE2 |
| FDC335KXZE2 | FDC335KXZE2 | FDC400KXZE2 | FDC400KXZE2 | FDC450KXZE2 | FDC450KXZE2 | FDC475KXZE2 | FDC500KXZE2 | FDC560KXZE2 | FDC560KXZE2 |

*For Heat recovery system please refer to P53

| 22HP | 24HP | 26HP | 28HP | 30HP | 32HP | 34HP | 36HP | 38HP | 40HP | 42HP | 44HP | 46HP | 48HP | 50HP | 52HP | 54HP | 56HP | 58HP | 60HP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 61.5 | 67.0 | 73.5 | 80.0 | 85.0 | 90.0 | 95.0 | 100.0 | 106.0 | 112.0 | 120.0 | 125.0 | 130.0 | 135.0 | 142.5 | 145.0 | 150.0 | 156.0 | 162.0 | 168.0 |
| 209,800 | 228,600 | 250,800 | 273,000 | 290,000 | 307,100 | 324,100 | 341,200 | 361,700 | 382,100 | 409,400 | 426,500 | 443,600 | 460,600 | 486,200 | 494,700 | 511,800 | 532,200 | 552,700 | 573,200 |

## Standard model KXZE2 NEW

FDC1200-1680

| 120.0kW | 125.0kW | 130.0kW | 135.0kW | 142.5kW | 145.0kW | 150.0kW | 156.0kW | 162.0kW | 168.0kW |
|---|---|---|---|---|---|---|---|---|---|
| 42HP | 44HP | 46HP | 48HP | 50HP | 52HP | 54HP | 56HP | 58HP | 60HP |
| FDC1200KXZE2 | FDC1250KXZE2 | FDC1300KXZE2 | FDC1350KXZE2 | FDC1425KXZE2 | FDC1450KXZE2 | FDC1500KXZE2 | FDC1560KXZE2 | FDC1620KXZE2 | FDC1680KXZE2 |
| FDC400KXZE2 | FDC400KXZE2 | FDC400KXZE2 | FDC450KXZE2 | FDC475KXZE2 | FDC475KXZE2 | FDC500KXZE2 | FDC500KXZE2 | FDC500KXZE2 | FDC560KXZE2 |
| FDC400KXZE2 | FDC400KXZE2 | FDC450KXZE2 | FDC450KXZE2 | FDC475KXZE2 | FDC475KXZE2 | FDC500KXZE2 | FDC500KXZE2 | FDC560KXZE2 | FDC560KXZE2 |
| FDC400KXZE2 | FDC450KXZE2 | FDC450KXZE2 | FDC450KXZE2 | FDC475KXZE2 | FDC500KXZE2 | FDC500KXZE2 | FDC560KXZE2 | FDC560KXZE2 | FDC560KXZE2 |

## Hi-COP combination KXZXE2 NEW

FDC560

| 56.0kW |
|---|
| 20HP |
| FDC560KXZXE2 |
| FDC280KXZE2 |
| FDC280KXZE2 |

FDC850-1000

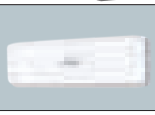
FDC1060

FDC1120

| 85.0kW | 90.0kW | 95.0kW | 100.0kW | 106.0kW | 112.0kW |
|---|---|---|---|---|---|
| 30HP | 32HP | 34HP | 36HP | 38HP | 40HP |
| FDC850KXZXE2 | FDC900KXZXE2 | FDC950KXZXE2 | FDC1000KXZXE2 | FDC1060KXZXE2 | FDC1120KXZXE2 |
| FDC280KXZE2 | FDC280KXZE2 | FDC280KXZE2 | FDC335KXZE2 | FDC335KXZE2 | FDC335KXZE2 |
| FDC280KXZE2 | FDC280KXZE2 | FDC335KXZE2 | FDC335KXZE2 | FDC335KXZE2 | FDC400KXZE2 |
| FDC280KXZE2 | FDC335KXZE2 | FDC335KXZE2 | FDC335KXZE2 | FDC400KXZE2 | FDC400KXZE2 |

# Indoor units

17 types of exposed or concealed indoor units available in a wide range of capacities. 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> | |
|---|---|---|---|---|---|---|
| Ceiling Cassette | 4way FDT  | | | FDT28KXZE1-W | FDT36KXZE1-W | |
| | | | | FDT28KXZE1 | FDT36KXZE1 | |
| | 4way Compact FDTC  | FDTC15KXZE1-W | FDTC22KXZE1-W | FDTC28KXZE1-W | FDTC36KXZE1-W | |
| | | FDTC15KXZE1 | FDTC22KXZE1 | FDTC28KXZE1 | FDTC36KXZE1 | |
| | 2way FDTW  | | | FDTW28KXE6F | | |
| | 1way FDTS  | | | | | |
| | 1way Compact FDTQ  | | FDTQ22KXE6F | FDTQ28KXE6F | FDTQ36KXZE6F | |
| Duct Connected | High Static Pressure FDU  | | | | | |
| | | | | | | |
| | Low/Middle Static Pressure FDUM  | | FDUM22KXE6F-W | FDUM28KXE6F-W | FDUM36KXE6F-W | |
| | | | FDUM22KXE6F | FDUM28KXE6F | FDUM36KXE6F | |
| | Low Static Pressure(thin) FDUT  | FDUT15KXE6F-W | FDUT22KXE6F-W | FDUT28KXE6F-W | FDUT36KXE6F-W | |
| | | FDUT15KXE6F-E | FDUT22KXE6F-E | FDUT28KXE6F-E | FDUT36KXE6F-E | |
| | Compact & Flexible FDUH  | | FDUH22KXE6F | FDUH28KXE6F | FDUH36KXE6F | |
| Wall Mounted FDK  | | FDK15KXZE1-W | FDK22KXZE1-W | FDK28KXZE1-W | FDK36KXZE1-W | |
| | | 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 is not connectable to the Micro model (4~6HP), KXZ Lite. | | | | |
| | Air flow $m^3/h$ | 150 | 250 | 350 | 500 | |
| Fresh Air Ventillation and Heat Exchange unit SAF  | | SAF150E7 | SAF250E7 | SAF350E7 | SAF500E7 | |
| Fresh Air Assembly SAF-DX  | | | SAF-DX250E6 | SAF-DX350E6 | SAF-DX500E6 | |

*R32 indoor unit are not compatible with R410A outdoor unit and vice versa.

| | 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-W | FDT56KXZE1-W | FDT71KXZE1-W | FDT90KXZE1-W | FDT112KXZE1-W | FDT140KXZE1-W | FDT160KXZE1-W | | |
| | FDT45KXZE1 | FDT56KXZE1 | FDT71KXZE1 | FDT90KXZE1 | FDT112KXZE1 | FDT140KXZE1 | FDT160KXZE1 | | |
| | FDTC45KXZE1-W | FDTC56KXZE1-W | | | | | | | |
| | FDTC45KXZE1 | FDTC56KXZE1 | | | | | | | |
| | FDTW45KXE6F | FDTW56KXE6F | FDTW71KXE6F | FDTW90KXE6F | FDTW112KXE6F | FDTW140KXE6F | | | |
| | FDTS45KXE6F | | FDTS71KXE6F | | | | | | |
| | | | | | | | | | |
| | FDU45KXE6F-W | FDU56KXE6F-W | FDU71KXE6F-W | FDU90KXE6F-W | FDU112KXE6F-W | FDU140KXE6F-W | FDU160KXE6F-W | | |
| | FDU45KXE6F | FDU56KXE6F | FDU71KXE6F | FDU90KXE6F | FDU112KXE6F | FDU140KXE6F | FDU160KXE6F | FDU224KXZE1 | FDU280KXZE1 |
| | FDUM45KXE6F-W | FDUM56KXE6F-W | FDUM71KXE6F-W | FDUM90KXE6F-W | FDUM112KXE6F-W | FDUM140KXE6F-W | FDUM160KXE6F-W | | |
| | FDUM45KXE6F | FDUM56KXE6F | FDUM71KXE6F | FDUM90KXE6F | FDUM112KXE6F | FDUM140KXE6F | FDUM160KXE6F | | |
| | FDUT45KXE6F-W | FDUT56KXE6F-W | FDUT71KXE6F-W | | | | | | |
| | FDUT45KXE6F-E | FDUT56KXE6F-E | FDUT71KXE6F-E | | | | | | |
| | | | | | | | | | |
| | FDK45KXZE1-W | FDK56KXZE1-W | FDK71KXZE1-W | FDK90KXZE1-W | | | | | |
| | 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 | | | | | | |

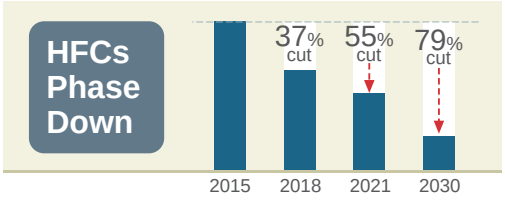
# *Next Generation Refrigerant R32*

New indoor units and outdoor units line up are available for R32 refrigerant


## F-GAS REGULATION (EU) No 517/2014

Introduced in January 2015 to regulate the use of Fluorinated Greenhouse Gases (F-Gases)

The Hydrofluorocarbons (HFCs) are F-Gases used in the HVACR sector (Heating, Ventilation, Air Conditioning and Refrigeration)




| OBJECTIVE | IMPACT ON HFCs(in EU) | SOLUTIONS |
|---|---|---|
| To protect the environment by reducing the F-Gases emissions | HFCs Phase Down<br>HFCs Ban | •Use lower GWP* refrigerants in new equipment<br>•Use high-efficiency equipment with less refrigerant charge<br>•Check refrigerant leaks regularly |

* GWP is the Global Warming Potential of a refrigerant, representing how much heat an F-Gas traps in the atmosphere

**HFCs Ban**

**2020**

- **GWP ≥ 150** — Portable room air conditioner
- **GWP ≥ 2500** — Stationary refrigeration*1 (except < -50°C)
- **GWP ≥ 2500** — Commercial hermetically sealed refrigerators, freezers

**2022**

- **GWP ≥ 150** — Commercial multipack centralised refrigeration
- **GWP ≥ 150** — Commercial hermetically sealed refrigerators, freezers

**2025**

- **GWP ≥ 750** — Single Split Fixed Air Conditioning < 3kg HFC

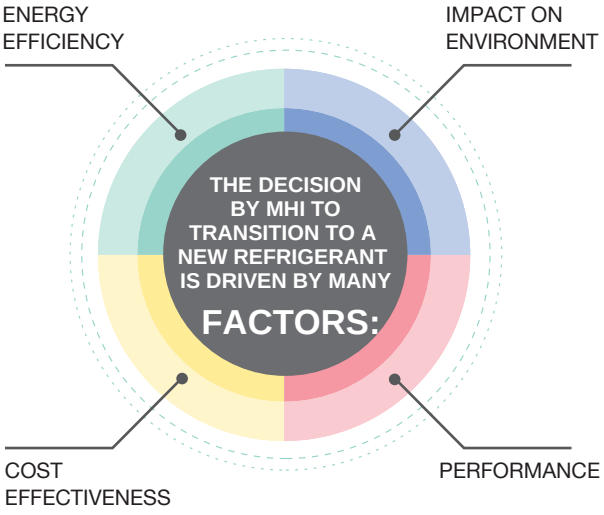
*1 Stationary refrigeration equipment, that contains or relies its functions upon, HFCs with GWP of 2500 or more except equipment intended for application designed to cool products to temperatures below -50℃ application


LOWER GWP + LESS REFRIGERANT CHARGE = LOWER HFCs EMISSIONS

# R32 - A Low GWP Refrigerant

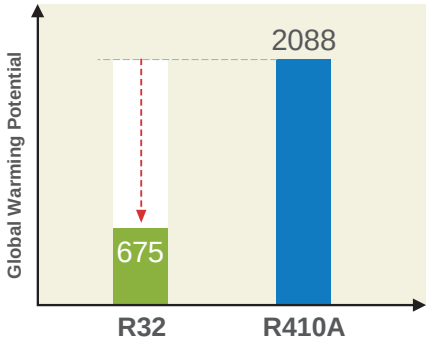
- A single component, easy to handle refrigerant
- Known as a component of the blend R410A(50% R32, 50% R125)
- Already used in Air Conditioning systems worldwide
- Zero Ozone Depletion
- Superior Energy Efficiency vs. R410A
- Reduced refrigerant charge vs. R410A
- Easy to recycle

**Micro KXZ** Heat pump systems
4, 5, 6HP (12.1kW ~ 15.5kW)



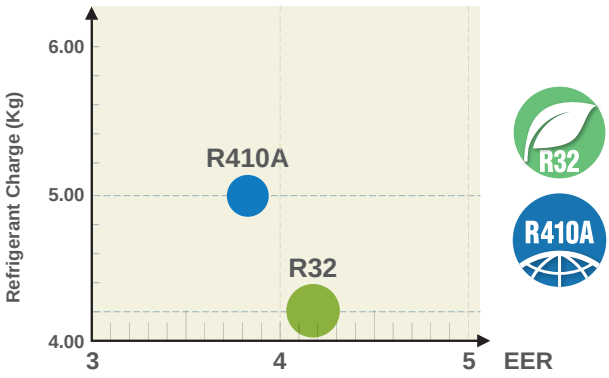

## Low Global Warming Potential

**1/3 GWP VS. R410A**




GWP Values based on IPCC 4th Assessment Report

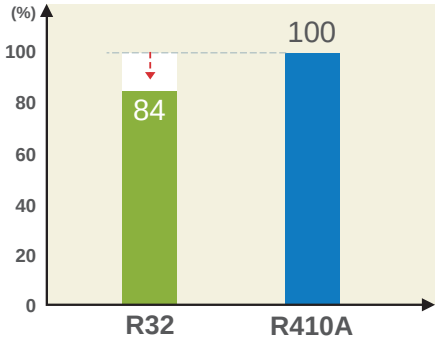
## Superior Energy Efficiency




Energy Efficiency Ratio Based on 12.1kW MicroKXZ Outdoor unit.

## Reduced Refrigerant Charge

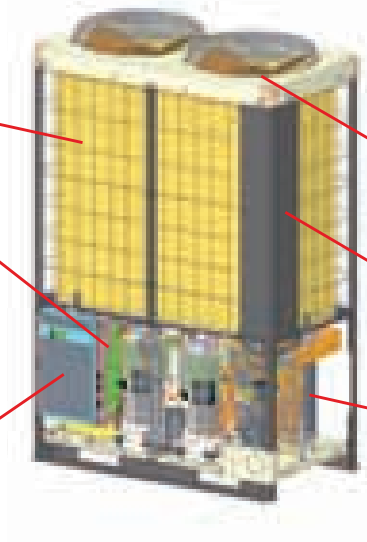
**Saving up to 16%**



# New Generation


## New Design

The new KXZ2 series has a layered design and a refined new form. The flexibility in design and ease of installation are further enhanced to provide optimum response to medium and large building airconditioning systems.



**Highly efficient Heat exchanger**

**Optimised duct shape**

**New inverter control**

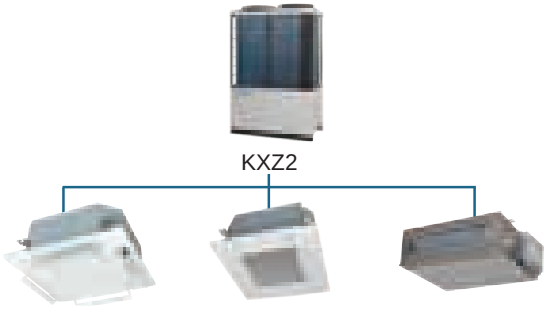
**DC fan motor**

**Rounded design**

**Newly developed compressor**

The newly developed compressor has improved the units efficiency by innovating the thrust plate. Resulting a reduced friction loss, and increased realiability.

## Indoor Unit Capacity Connection



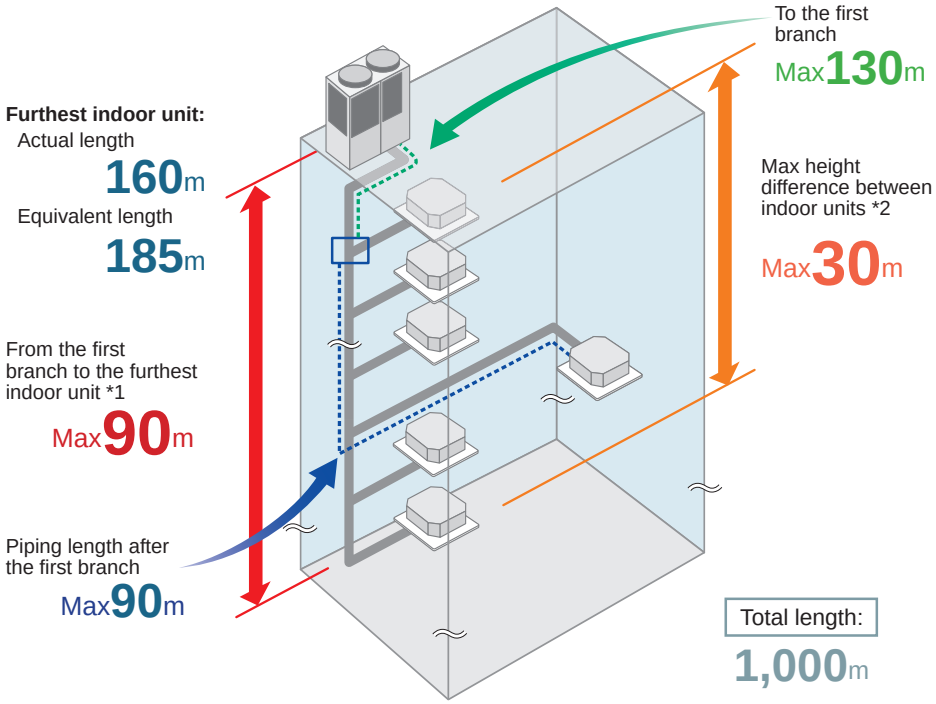

**Increased number of connectable units and max capacity connection (compared to KXZE1)**

| Connectable indoor units | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HP** | 10 | 12 | 14 | 16 | 17 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 |
| **Numbers** | **37** | **44** | **53** | **60** | **50** | **53** | **59** | **65** | **71** | **78** | **80** | **80** | **80** | 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 | |

# Long Pipe Length

The maximum height difference between indoor units has been increased to a maximum of 30m, and the maximum height difference between the outdoor unit and indoor unit has been expanded to 90m. For with few limitations, 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 It is necessary to change the setting corresponding to each height difference in installation. The range of use is also different.




# Technology

## Continuous Heating Capacity Control (CHCC)

Our CHCC defrosting control has been added to our KXZ2 system and allows to achieve greater capacities than that of our previous model in low ambient temperature conditions. CHCC controls the target pressure automatically before the capacity drops, which increases the period of heating operation and reduces the systems defrosting time.

## Variable Temperature and Capacity Control

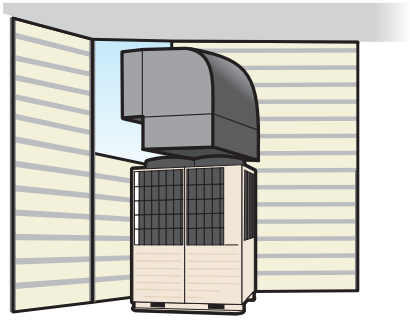
VTCC adjusts the target pressure of the refrigerant cycle in the outdoor unit automatically according to the demand of the indoor units in partial load conditions. These smooth adjustments ensure optimal usage of the indoor units as well as maximised energy savings. Ultimately this also increases comfort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

VTCC

*34% energy savings are based on comparison with a KXZ standard model with VTCC vs. a KXZ standard model both under partial load condition.


## Extended external static pressure

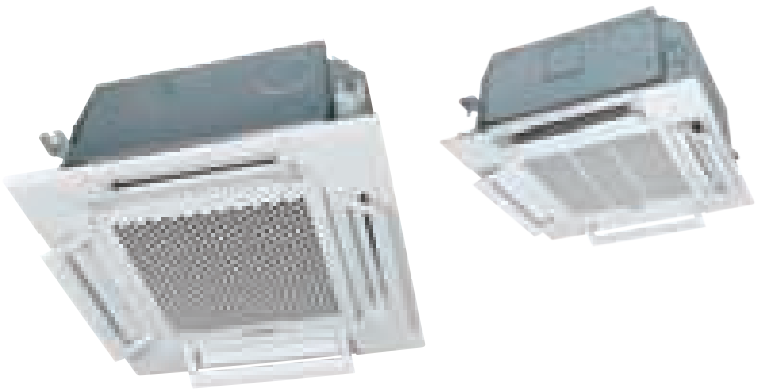
**50Pa to Max 85Pa**



Flexibility to meet installation location needs.

# New Generation FDTC

## European design & Flat panel



Ceiling Cassette
Compact

## FDTC

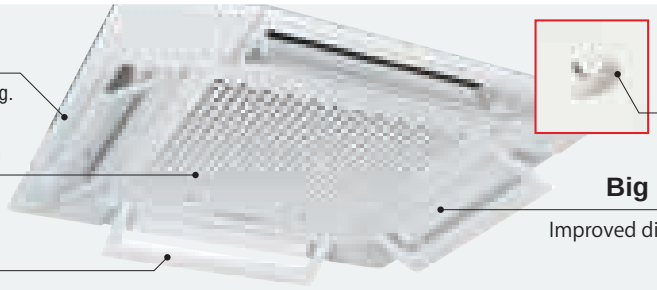
- More comfort and Higher energy savings
- New European Design
- Lower noise

A' Design Award and Competition is the World's largest, most prestigious and influential design accolade, the highest achievement in design. A' Design Award Winner Logo, symbolizes exceptional design excellence in your products, projects and services.

**Thin Panel**
FDTC thin panel fit within 10mm from the ceiling.

**Unique Grille Design**
Honeycomb grille

**Draft Prevension Panel** (Option)
Please refer to page 18



**Motion Sensor** (Option)
Please refer to page 16-17

**Big Louver**
Improved distribution

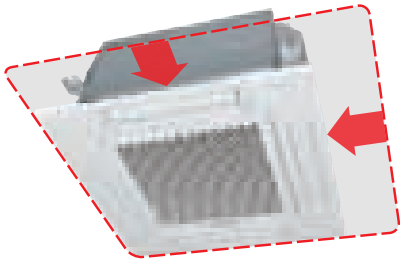
• It is available to set draft prevention panel and motion sensor as well as FDT.

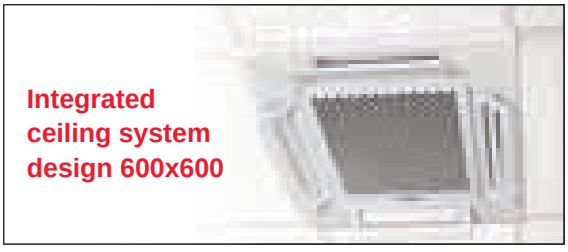
## Compact Design

□700mm → □620mm

**It's only 14kg**

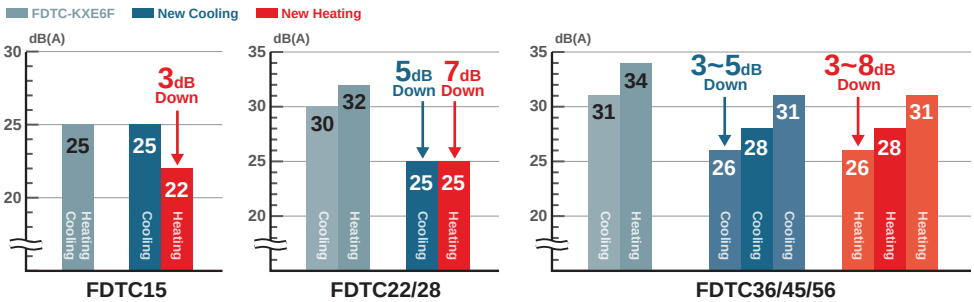
Height of thin panel and main body is only 248mm allowing a very easy installation.






## Quieter operation

Adopting new turbo fan and improving new heat exchanger enables noise reduction. (Sound pressure level in the Lo mode.)



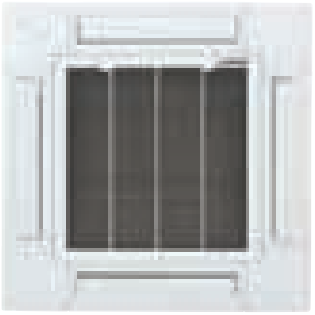
## *FDT colour variation*

**Now available in shadow black**

# *Blend in*, *or stand out*.

**Shadow black**

**Fine snow white**



# *Motion sensor* (Option)

Energy saving operation by
detecting human movement

**Optional for the following models**



FDT FDTC FDTW FDTS FDU FDUM FDUT(71only) FDE FDK FDU-F

NEW



FDTQ FDUT(15~56) FDFL FDFU

# 3 Step Control

### 1 Power Control

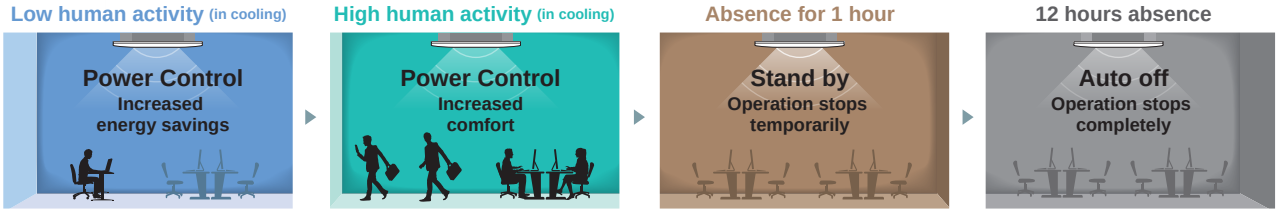
New motion sensor (option) detects human activity. Energy saving control is achieved by shifting set temperature according to detected amount of activity.

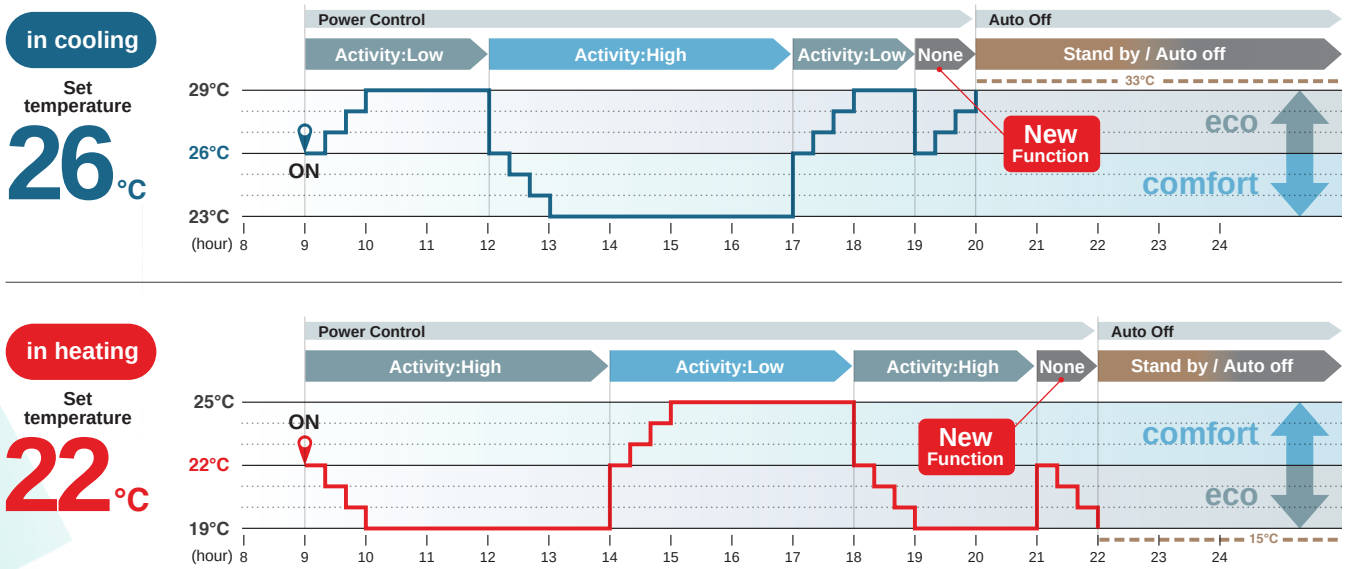
### 2 Stand by

Unit will go on stand-by mode when no activity is detected. When the motion sensor detects activity again, the unit will automatically re-start operation.

### 3 Auto Off

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




# Operation mode and Control of Motion sensor

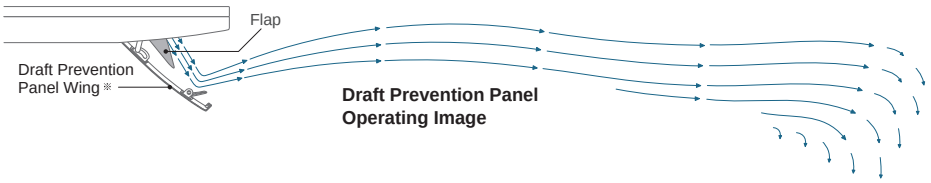
| | | | Operation mode | | | | |
|---|---|---|---|---|---|---|---|
| eco operation / comfort operation | | | Auto | Cool | Heat | Dry | Fan |
| Power Control *1 | Human activity | Low | Cooling +3°C / Heating +3°C | +3°C | +3°C | - | - |
| | | High | Cooling -3°C / Heating -3°C | -3°C | -3°C | - | - |
| | | None | Cooling +3°C / Heating -3°C | +3°C | -3°C | - | - |
| Auto Off *2 | | | ● | ● | ● | ● | ● |

*1 Set temperature is revised maximum ± 3℃ at Cooling/Heating mode by detecting heat volume movement.

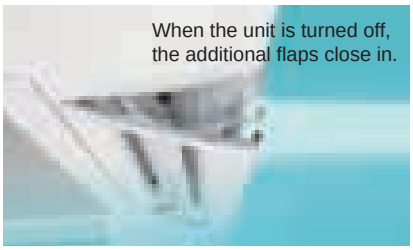
*2 Absence for 1 hour ⇒ Operation stops ("Stand-by") 12 hours absence ⇒ Operation stops completely

# *Draft Prevention Panel* (Option)

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




**Draft Prevention Panel**
**Operating Image**

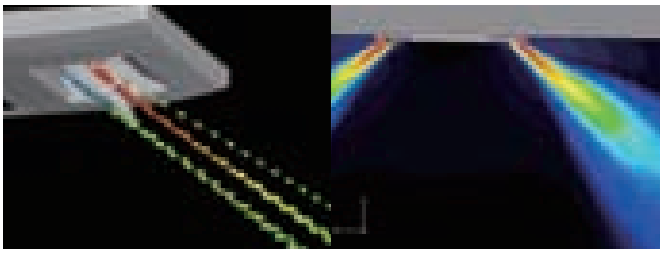



## - Brand new function in the market
## - Flexible flap control for draft prevention

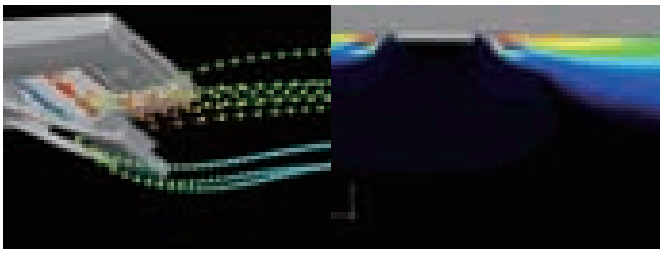
Each of the 4 flaps can be controlled individually at each operation mode. They change air flow direction and prevent draft feeling. This new function also achieve more flexible control for air flow direction.
User can position Draft Prevention Panel panels by using only the remote controller (RC-EX3A, Wireless kit).

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


**Draft Prevention Panel off**



**Draft Prevention Panel working***



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.

* Image is for illustration purposes

Ceiling cassette
**FDT**

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)

# Remote Control

Simple use with advanced settings REMOTE CONTROL

## RC-EX3A

### Intuitive touch controller with Liquid Crystal Display


### Function Switch

The function switch allows you to select and set two functions of your choice among the seven 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. Draft prevention ON/OFF

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

#### 2. High Power Mode


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

#### 3. Energy Saving Mode

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

#### 4. 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.

#### 5. Home Leave Mode

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

#### 6. Favourite Mode

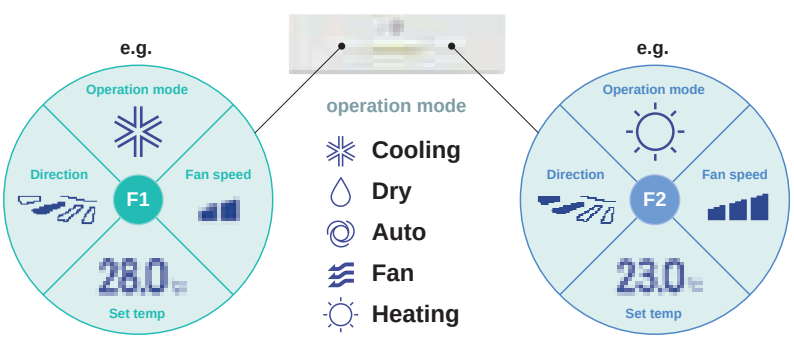
Operation mode, set temperature, fan speed and air flow direction will automatically be adjusted to the programmed favorite setting.

#### 7. Filter Sign


Announces the due time for cleaning the air filter.

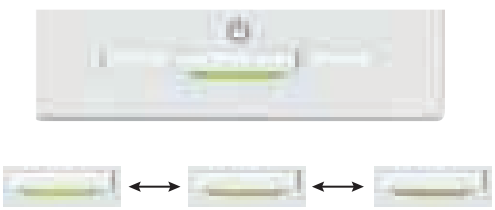
## Favourite Mode

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




## Adjustable Brightness of the Operation Lamp

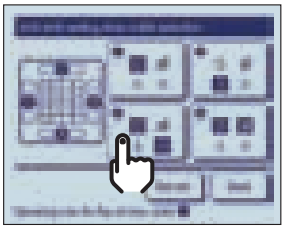
The brightness of the operation lamp behind Run/Stop switch can be adjusted by 10 stages.



## *Draft Prevention Setting*

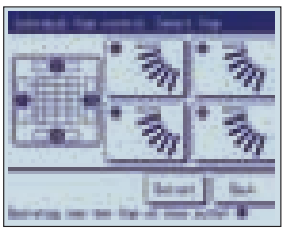
**(only for FDT•FDTC series)**

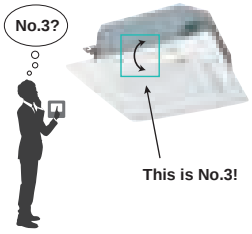
User can enable/disable the motion of Draft prevention panel for each blow outlet for each operation mode. This function can be set while operating.



## *Easy Adjustment of the Air Flow*

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



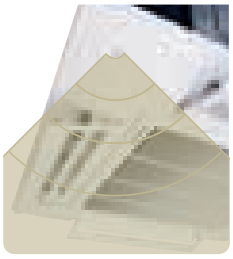



## *Motion Sensor Control*

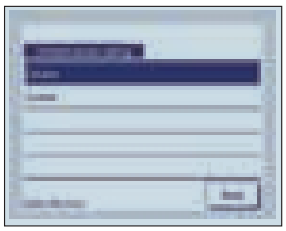
Presence of humans and activity are detected by a motion sensor to perform various controls.

**1** Select Enable / Disable

**Motion sensor control**



**Enable/Disable**

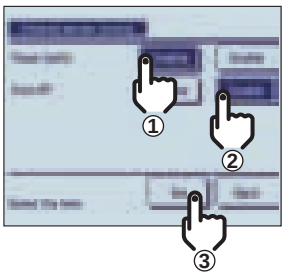


Select Enable / Disable for the motion sensor of the indoor unit connected to the R/C.

**2** Select Enable / Disable per control

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

**Enable/Disable**




## *Backup Control*

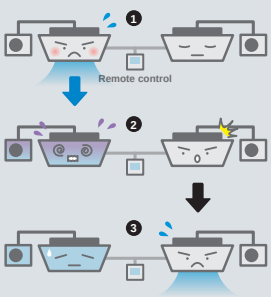
Control restricted to two indoor units (two groups)


### 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.

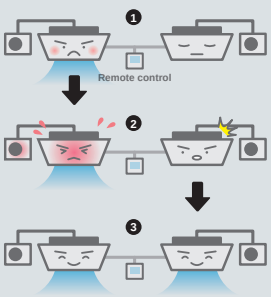



### Capacity backup control

Comfort Energy saving Longer unit life

**Maintains users' comfort!**

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

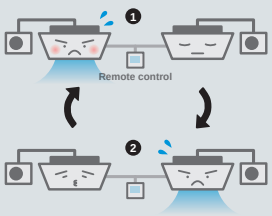



### Rotational operation control

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 1 to 999 hours in increments of 1 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)<br>CNTA (1-2) | |
|---|---|
| Input | On/Off<br>Permission/Prohibition<br>Cooling/Heating<br>Emergency Stop |
| Newly added | Set temp. shift<br>Forced thermo-off<br>IU operation stop<br>Silent mode |

## External Output

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

Newly added

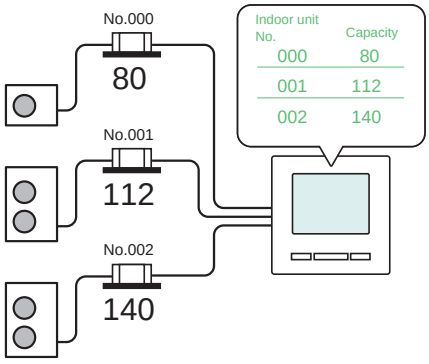
## Silent mode control

The Outdoor unit is controlled prioritising quiet operation. 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.



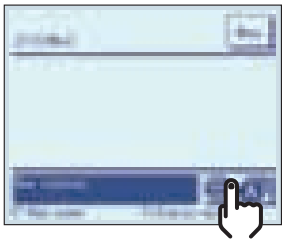
## Indoor unit capacity display

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




## Language Switching

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



English German French Spanish

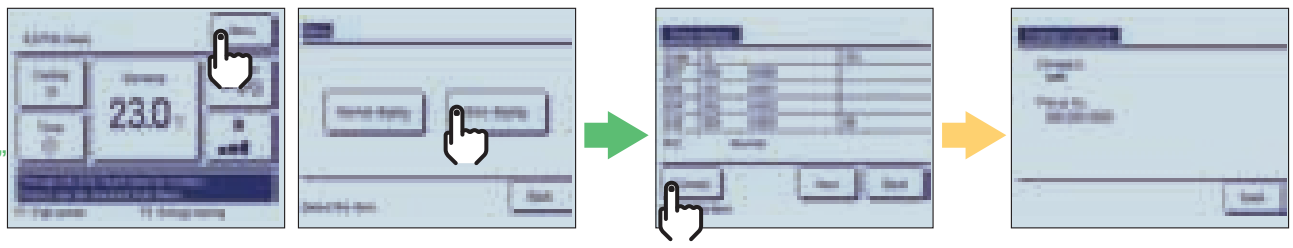
Russian Polish Italian Dutch

Turkish Portuguese Chinese Japanese

## Error display

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

"Error"



# Serviceability & workability (Indoor unit)

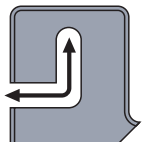
## Easy and quick installation and maintenance

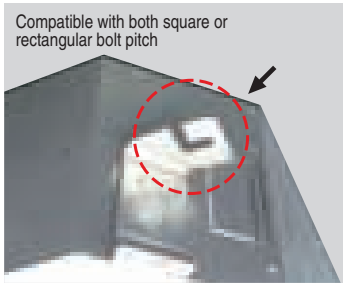

Quick positioning!

### Indoor unit is easily positioned and installed

**1** Adjustable easier positioning of unit by new slits — FDT

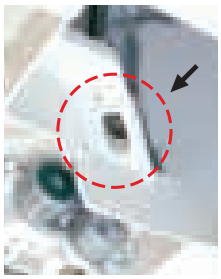
New shape of slit is suitable to install the unit with more flexibility, compatible with many kinds of suspending bolt pitch on site.
Any rectangular or squared pitch of suspending bolts are available with this slit.

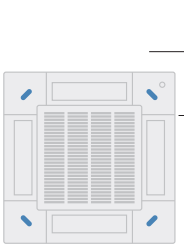


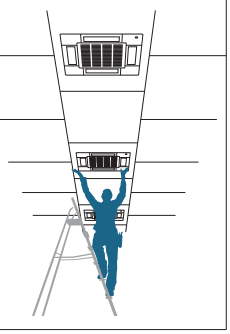



**2** New slit in panel allows easier installation on site — FDT, FDTC

Flexible positioning is available, which helps adjusting the direction of panel accordingly to lines or pattern on the ceiling.





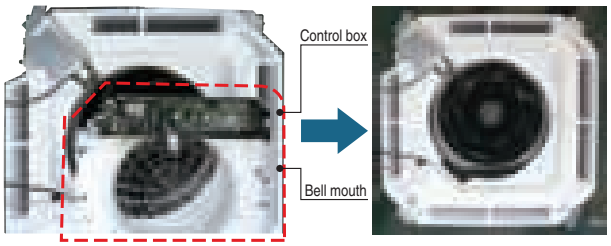



### Quick installation and maintenance

**1** Easy access to component part for easy maintenance — FDT

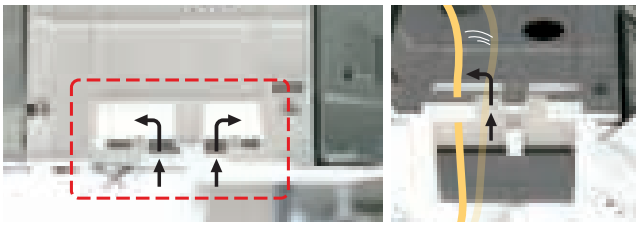
1 **The control box and bell mouth can be removed together.**

2 **Easy access to impeller and fan motor.**



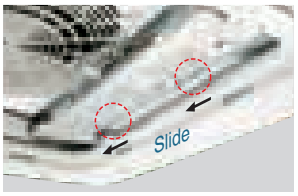

**2** New shape of path of wiring — FDT

New shape of path gives easy wiring work for installation.

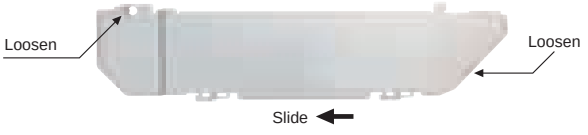


**3** No need to remove screws to open the controller cover — FDT

It is possible to loose and slide open the cover without removing the screws.
This prevents the cover from falling and causing damage on site.

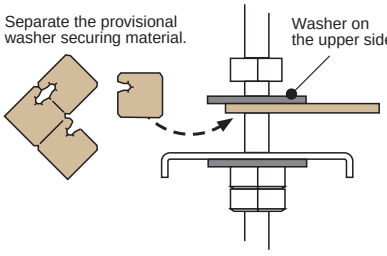


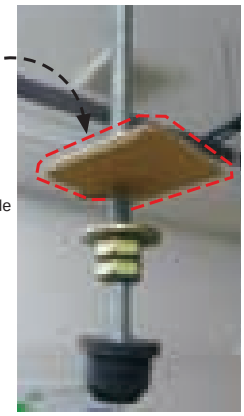





**4** More safe installation by stopper of washer — FDT, FDTC

When unit is installed with hook between washers, this stopper helps to install the unit safely, without adjusting washer.



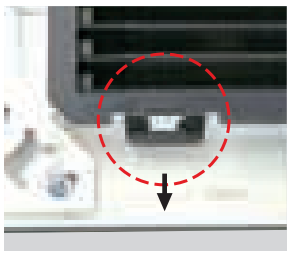

For smooth and easy working

## *Easy installation and maintenance*

### 1 Easy and flexible hook to remove the filter

FDT FDTC

Hook of soft material helps to remove the filter without dust spreading.

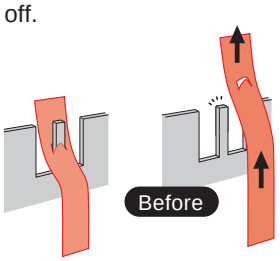


Press the filter tab to the outside and remove the filter.

### 2 Securely fix the corner lid by strap

FDT

The direction of the strap hook part has been changed from longitudinal to lateral. Furthermore, a barb has been added to the hook pin to prevent the strap from coming off.

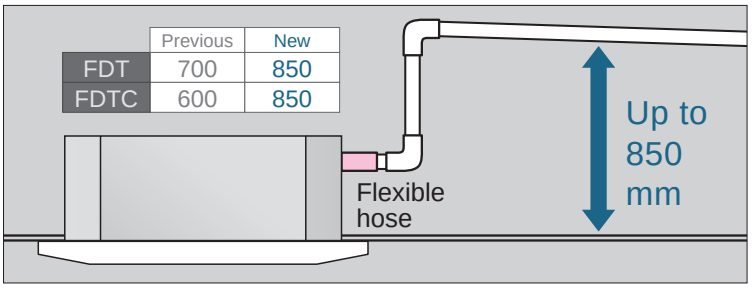




### 3 Drain-up-lift increases up to 850 mm

FDT FDTC

The drain can be lifted up to 850 mm from the ceiling surface.




### 4 New port to check drain water flow

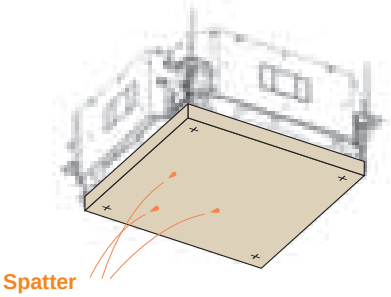
FDT

A water supply port has been provided in the piping lid for easier testing of the drain water flow.
(The port is usually sealed with a rubber cap.)

### 5 Re-use of packages during construction work

FDT FDTC

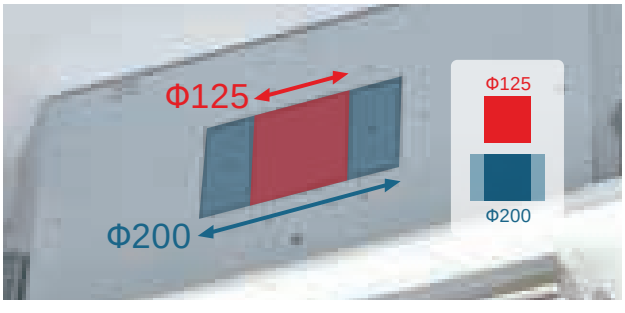
Package material (carton) helps to protect the unit from unexpected welding spatter or dust on the new unit.




### 6 More flexible outlet for ducting

FDT FDTC

Both Φ125 and Φ200 (oval shaped) are available.



# Support tool

## TIME SAVING SOFTWARE

### BIM (Building Information Modelling)

We can provide high quality Building Information Modelling (BIM) models in three formats:

1. Revit
2. 3D Cad
3. IFC (IFC provides an interoperability solution between different software applications. The format establishes international standards to import and export building objects and their properties)

How and why BIM is used

BIM enables all disciplines of a project (Architects, engineers, quantity surveyors, contractors, clients etc..) to share a common model and data representing the project they are building.

- Better design visualization
- BIM reduces conflicts and changes during construction
- Increases overall accuracy of project documentation
- Improves cost estimating
- Improves energy analysis
- Simplifies reporting and scheduling

https://mhiae.com/BIM/

### e-seasonal

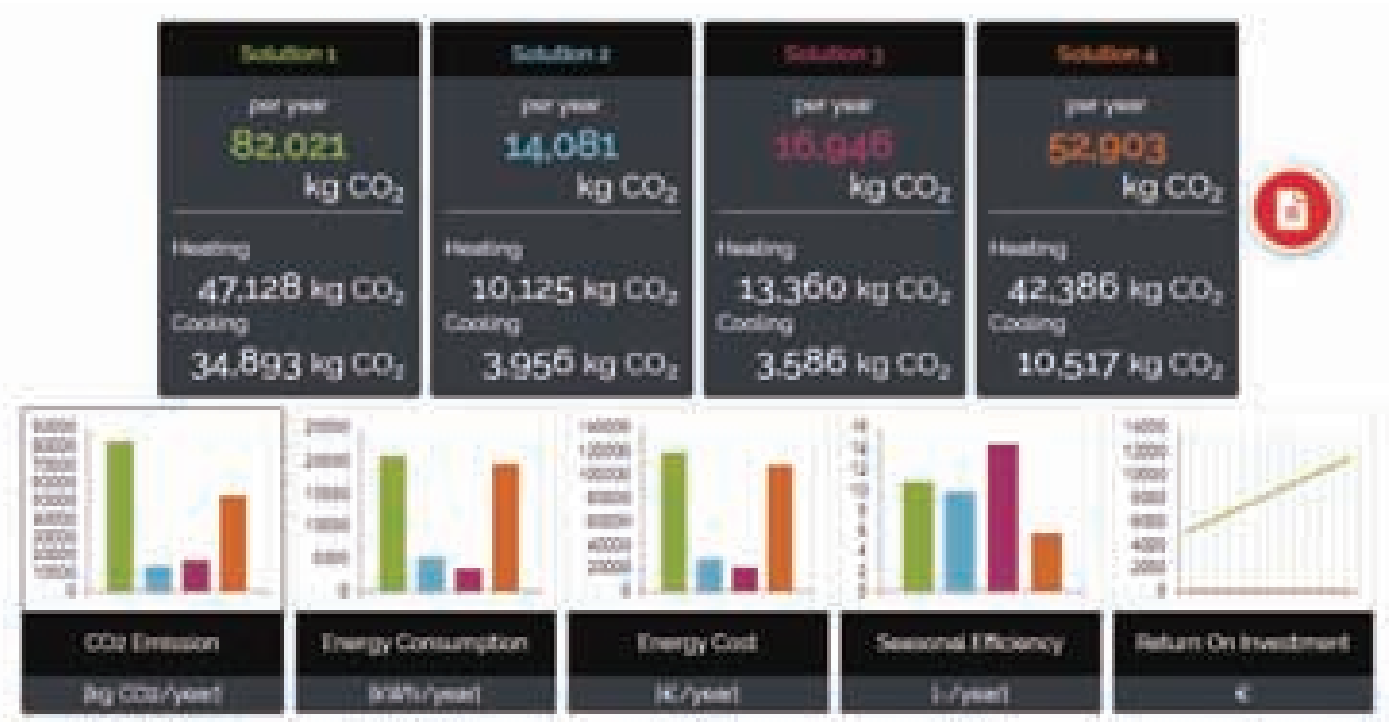
Coming soon

e-seasonal is an application for our Air cooled VRF Outdoor unit selection.

By selecting a combination of systems, location and occupancy profiles you can simulate:

1) Annual seasonal efficiency calculation
2) Annual energy consumption, cost and $CO_2$ emission estimation
3) Comparison with multiple solutions including conventional heaters

It is possible to download to your PC for an offline version or using a web browser for an online version. e-seasonal provides solution suggestions according to your requested design conditions.



## *e-solution*

Use our e-solution design software tool to find the latest specifications for our KXZ VRF systems. This software helps to simplify the processes to enable engineers to select the most suitable indoor units, outdoor units, pipework, controls & calculate any additional required refrigerants.

If you're an engineer interested in using e-solution, please register and download the e-solution via https://mhiae.com/e-solution/ and be sure to download the latest updates when available.

Please be aware that this tool was developed to cater for the design of two and three pipe systems, and specifies the appropriate models and sizes. It also generates wiring diagrams and engineering drawing to export to AutoCAD or PDF. This flexibility allows engineers to print selected design information and technical data to present to potential clients. As well as personalising the design information into their own formats and documents for future proposals.

## *MHI e-service App*

MHI e-service application is available & free to download to both IOS and Android devices.
The application covers "Mitsubishi Heavy Industries Thermal Systems, Ltd" Air conditioning systems: Split (RAC & PAC), VRF, Q-ton & AtoW.
This "MHI e-service" Application enables field engineers to make:

- A quick search of the meaning of error codes that may appear when there is a malfunction in a "Mitsubishi Heavy Industries Thermal Systems, Ltd" Air conditioning system, and the probable cause for the malfunction.
- Scan the unit's QR code and search the meaning of error codes depending on the model type
- Additional refrigerant charge calculation for Split (PAC, RAC) & VRF
- Currently available in English & Spanish languages and Italian

To download the App go to:
iPhone:https://apps.apple.com/gb/app/mhi-e-service/id1208986291
Android:https://play.google.com/store/apps/details?id=com.mitsubishi.apps.conapp&hl=en_GB

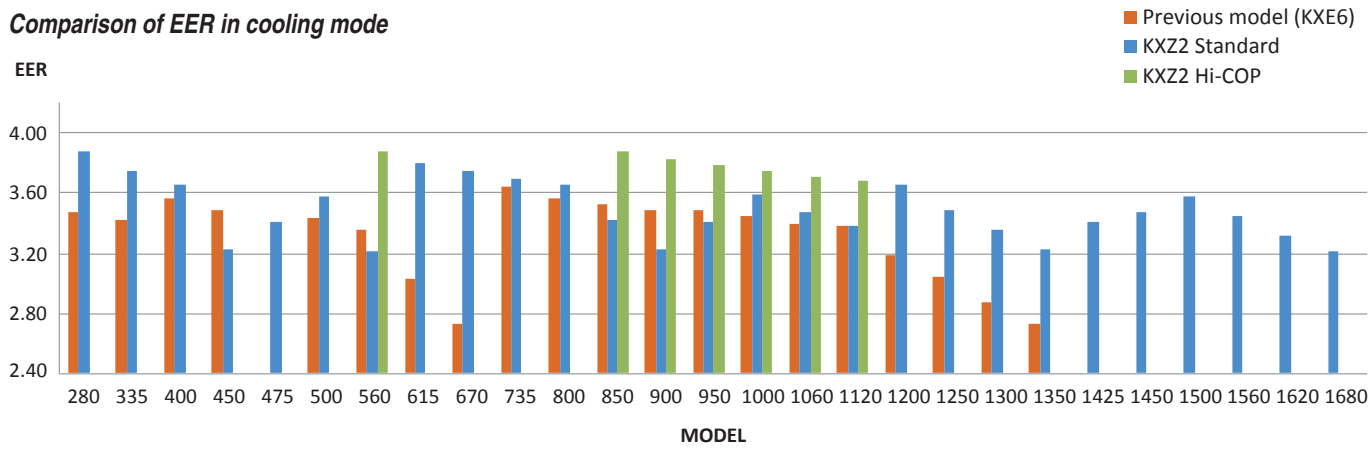
# Outdoor unit

## High Efficiency & Comfort

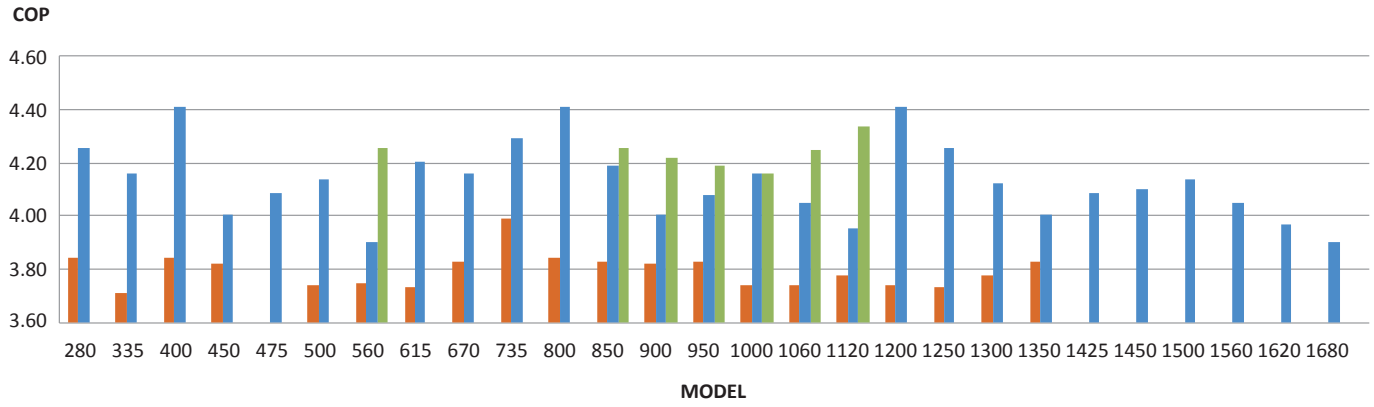
### Improved Efficiency

The graphs below highlight the improved efficiencies of the KXZ2 standard and Hi-COP models compared to the previous models.

***Comparison of EER in cooling mode***

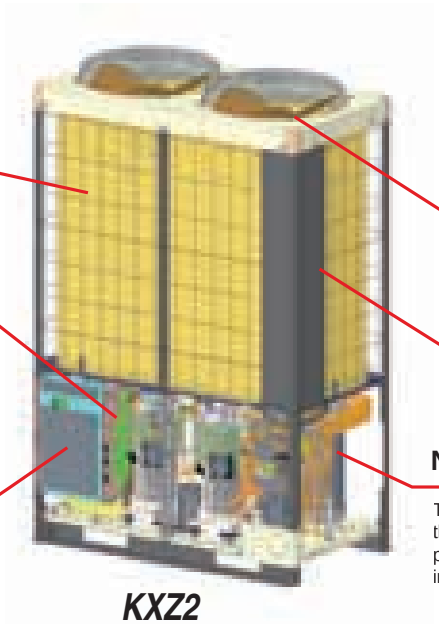



***Comparison of COP in heating mode***




### *High efficiency and compact design are achieved by applying advanced components*

***10~60HP***



**Highly efficient Heat exchanger**

**Optimised duct shape**

**New inverter control**

**DC fan motor**

**Rounded design**

**Newly developed compressor**

The newly developed compressor has improved the units efficiency by innovating the thrust plate. Resulting a reduced friction loss, and increased realiability.

***KXZ2***

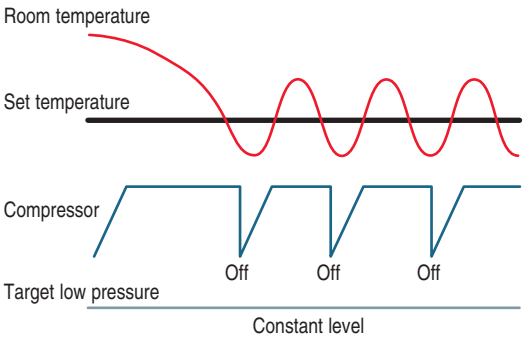
## *Variable Temperature and Capacity Control*

VTCC

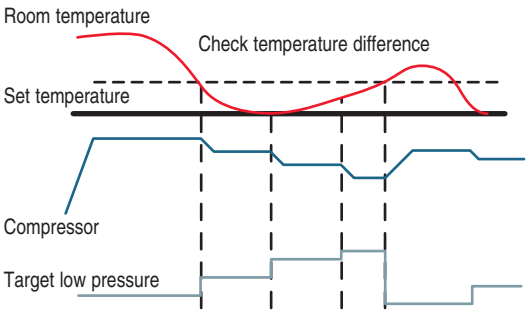
- The VTCC is a energy saving function designed by Mitsubishi Heavy Industries Thermal Systems.
- A new feature to all our KXZ ranges which provides up to 34%* energy savings in both cooling and heating mode.
- VTCC is a function specifically designed to maximise energy savings in partial load conditions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


*34% energy savings are based on comparison with a KXZ standard model with VTCC vs. a KXZ standard model both under partial load condition.

### *Normal operation (in the cooling mode)*




### *Energy saving operation (in the cooling mode)*



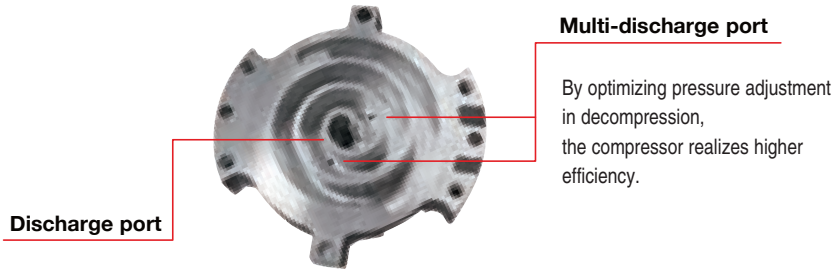

VTCC adjusts the target pressure of the refrigerant cycle in the outdoor unit automatically according to the demand of the indoor units in partial load conditions.
These smooth adjustments ensure an optimal capacity usage of the indoor units as well as maximised energy savings. Ultimately this also increases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

## *Continuous Heating Capacity Control (CHCC)*

Our defrosting control achieves more capacity than that of previous model in low ambient temperature condition.
Target pressure is controlled automatically before capacity drops, which makes longer period of heating operation and shorter defrosting time.

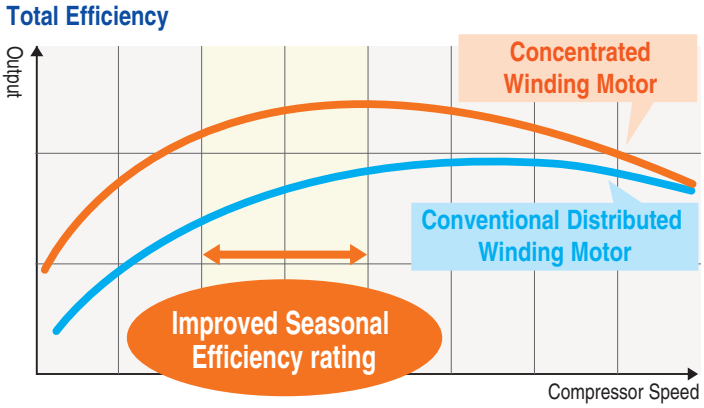
## *Multiport compressor that achieves high efficiency*

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



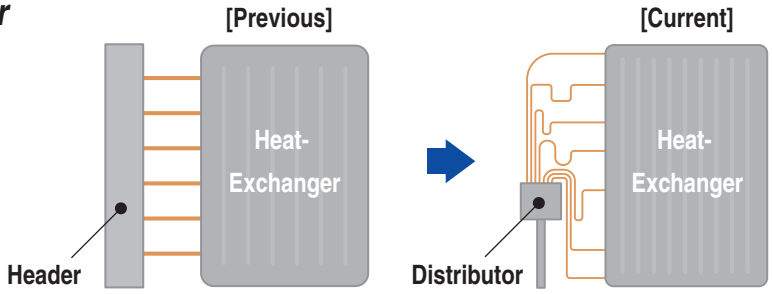
## *Concentrated winding motor achieves "High Output" and "Total Efficiency Improvement"*

The 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.




## *Energy efficient Heat-exchanger*

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



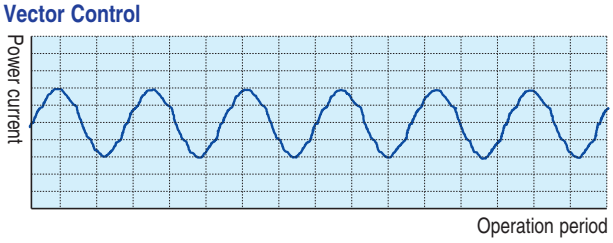

## *Strengthened resistance against frost*

Resistance against frost has been strengthened by adopting the energy efficient heat-exchanger.

## *Vector control*

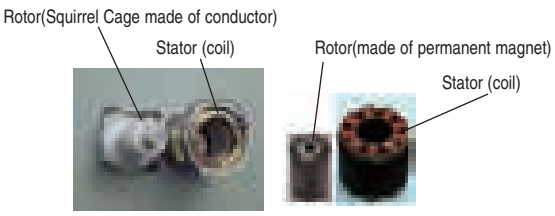
Applied Vector control has a high efficiency and many new advanced features.

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



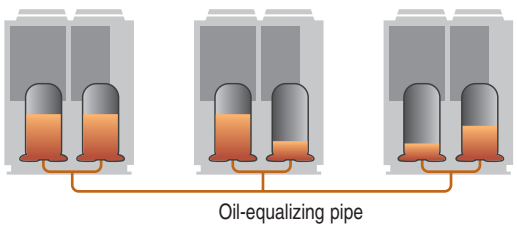

## *DC Fan Motor*

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



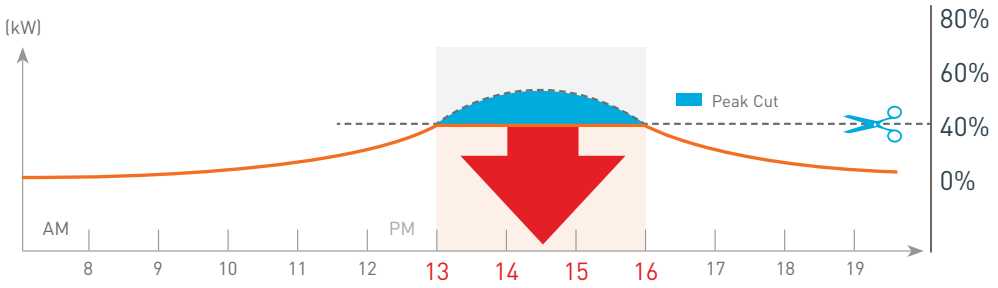

## *Oil level control capability*

Our proprietary technology adjusts the oil level when combining two or three outdoor units, achieving level operation rate, keeping performance of the units and ensuring long life of the system.

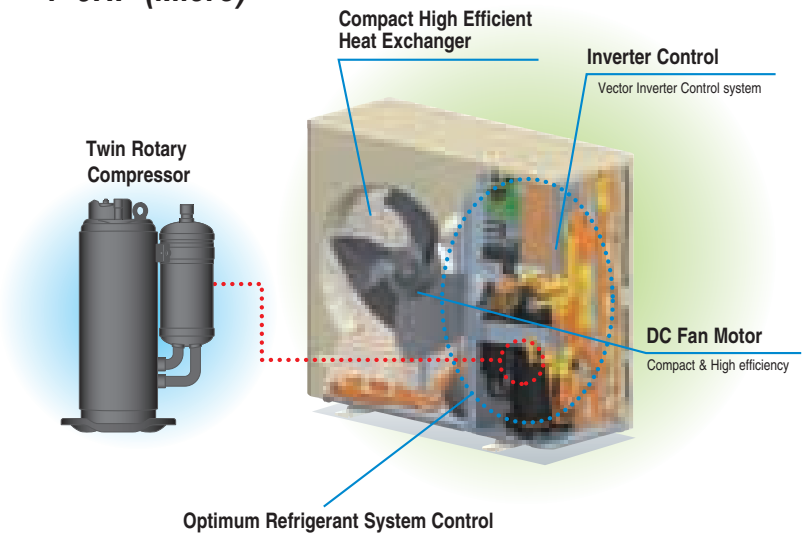


## *Capacity control*

The peak cut function can easily be set on the controller. This function makes the control of the capacity easier and allow a better energy management over the long term. Four steps of capacity control are available with 80%, 60%, 40%, 0% (off). Schedule can be set up to 4 operations/day.




## *4~6HP (Micro)*




- Optimum heat exchanger refrigerant distribution
- Advanced refrigerant liquid return protection control system
- High speed system control by new Superlink system

## *Compact high efficiency Heat Exchanger*

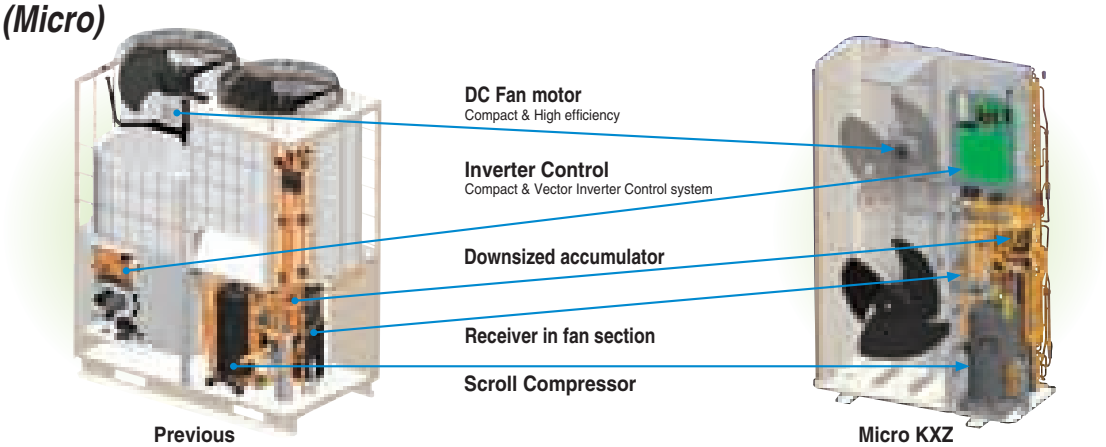
- Optimizing relationship of the air flow velocity & fin pattern
- Improvement of air distribution Maximizing efficiency of heat exchanger

Heat Exchanger

## *Compact Integrated PCB*

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

## *8~12HP (Micro)*



# Design Flexibility

## Indoor unit capacity connection

| | HP | Capacity connection |
|---|---|---|
| Micro KXZ | 4~6 | 150% |
| | 8~12 | 150% |
| KXZ Lite | 8~10 | 120% |
| Standard KXZ2 | 10~16 | 200% |
| | 17~34 | 160% |
| | 36~60 | 130% |


## Connectable indoor units

| Micro KXZ | | | | | | | |
|---|---|---|---|---|---|---|---|
| HP | 4 | 5 | 6 | 8 | 10 | 12 |
| Numbers | 8 | 10* | 10* | 22 | 24 | 24 |

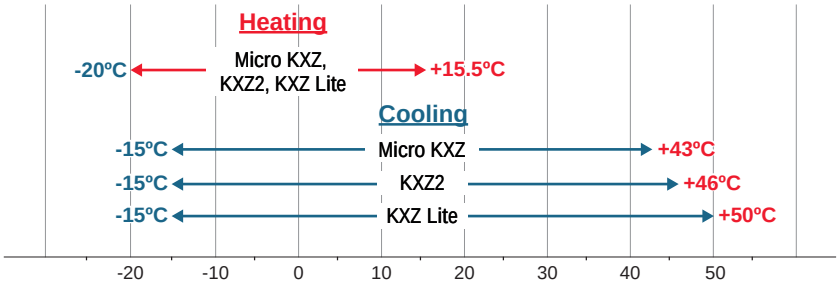
| KXZ Lite | | | |
|---|---|---|---|
| HP | 8 | 10 |
| Numbers | 8 | 8 |

| Standard KXZ2 | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HP | 10 | 12 | 14 | 16 | 17 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 |
| Numbers | 37 | 44 | 53 | 60 | 50 | 53 | 59 | 65 | 71 | 78 | 80 | 80 | 80 | 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 | |

*When connecting 9 units or more, set the total capacity as follows : 5HP : 110% or less, 6HP : 100% or less. In the case of R410A.

## Wide Range of Operation

KXZ series permits an extensible system design with a heating range operation down to -20˚C and a cooling range operation up to 46˚C. Furthermore KXZ Lite extends a cooling range operation up to 50˚C.




## Control Systems

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

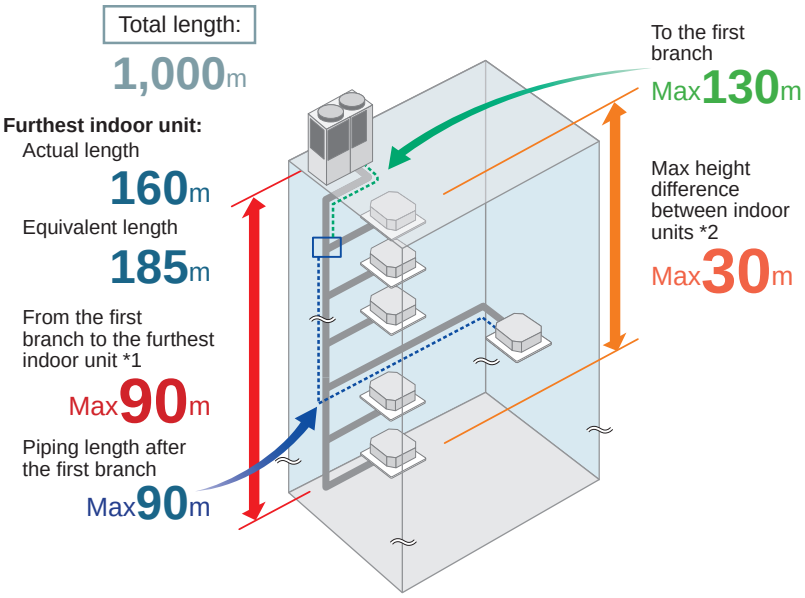
[Control system units with SUPERLINK-Ⅱ]

| Classification | Type | | Model | Connectable Indoor units (Maximum) | Electric power calculation |
|---|---|---|---|---|---|
| Individual controller | Wired | | **RC-E5** | 16 | — |
| | | | **RC-EX3A** | 16 | — |
| | Wireless | | **RCN-T-5BW-E2 etc.** | 16 | — |
| Center Console | Push buttons | | **SC-SL1N-E** | 16 | — |
| | | | **SC-SL2NA-E** | 64 | — |
| | Touch screen | | **SC-SL4-AE2** | 128 | — |
| | | | **SC-SL4-BE2** | 128 | ● |
| | BMS interface units | Web gateway & BACnet | **SC-WBGW256** | 256(128x2) | ● |
| | | Lonworks | **SC-LGWNB** | 96 | — |

## *Long Pipe Length 10~60HP*

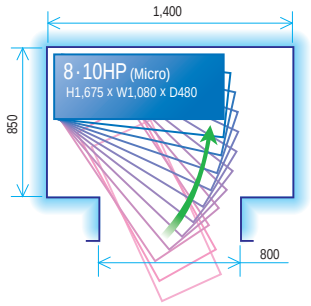
The maximum height difference between indoor units has been increased to a maximum of 30m, and the maximum height difference between the outdoor unit and indoor unit has been expanded to 90m. For with few limitations, contributes to system design flexibility.

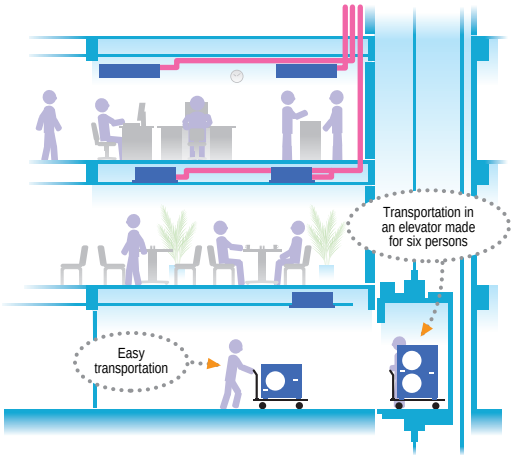
*1 The difference between the longest and the shortest indoor unit piping from the first branch must be within 40m. (MAX85m)
*2 It is necessary to change the setting corresponding to each height difference in installation. The range of use is also different.



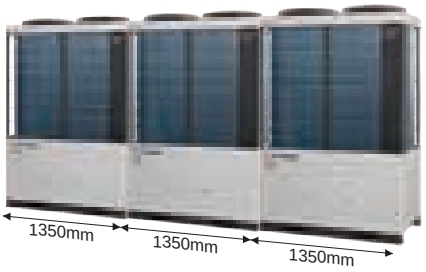

## *Easy Transportation & Installation*

Due to realization of significant reduction in size and footprint 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.




## *Blue Fin*

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

## *Priority operation mode rule*

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

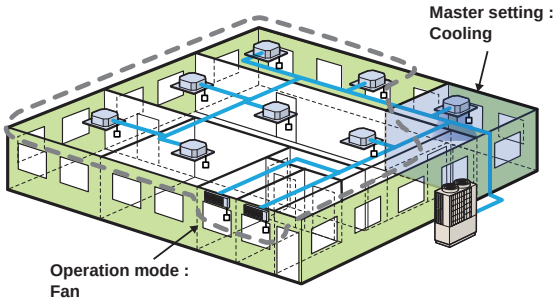
1. First unit's operation mode (by default setting)
2. Last unit's operation mode
3. Majority operation mode (see below)
4. Master operation mode (see below)

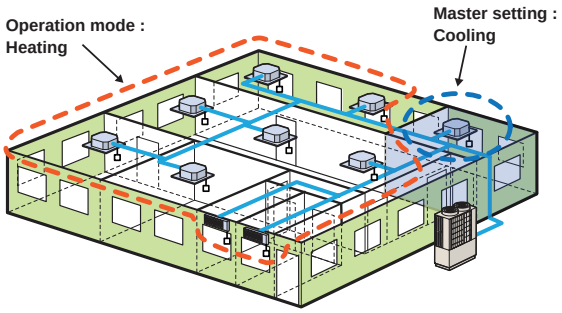
**<Majority operation mode>**

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.



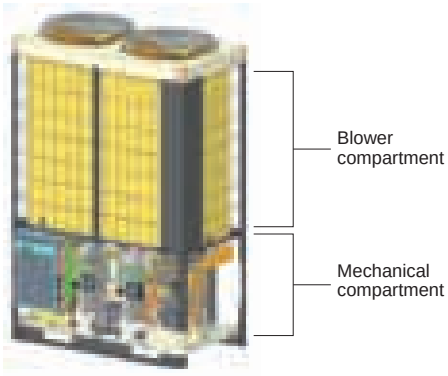

## *Fixed Cooling mode/fixed heating mode (summer/winter switch)*

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

# *Serviceability*

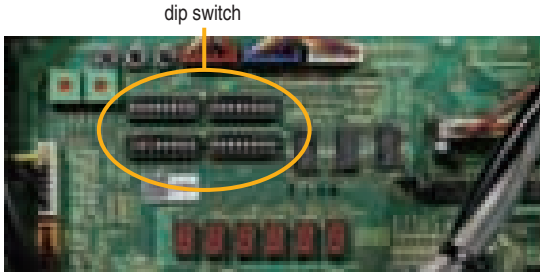
## *Easy Service*

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

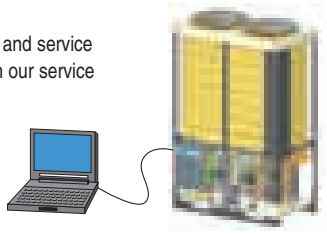
All series include features to assist with servicing and troubleshooting.
Various data can be monitored through 3-digit or 6-digit display on the outdoor unit PCB.

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

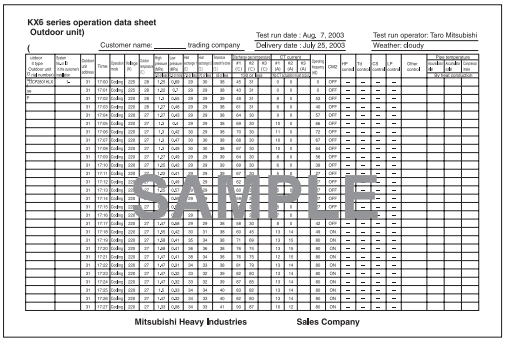
4~6HP
8.10HP(KXZ Lite)

8~60HP

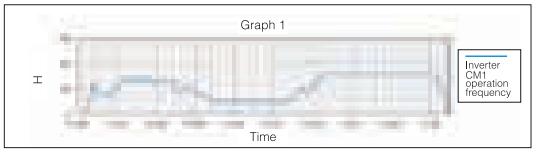
To your PC monitoring and service tasks made simple with our service software (“Mente PC”).



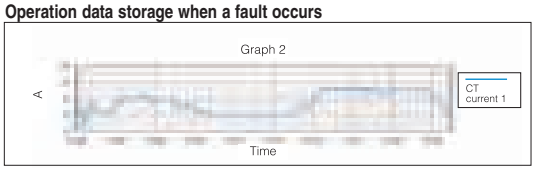
**Automatically produced test-run report**




**Operation data storage during servicing**

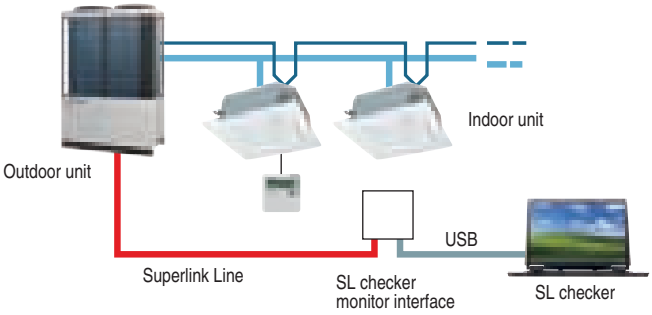



**Operation data storage when a fault occurs**



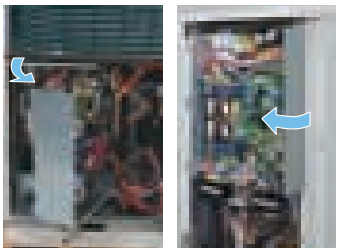

## SL Checker II

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.

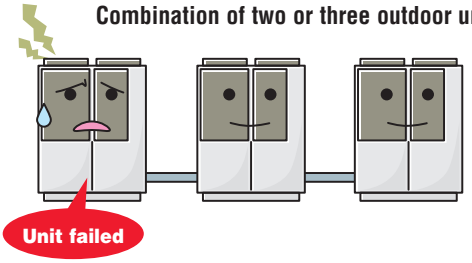


KXZ (3 layer)　KXZ Lite (2 layer)

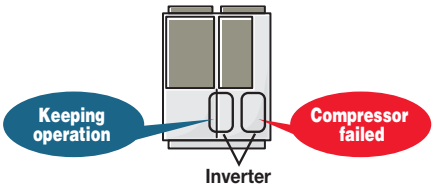
## Back-up Operation

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

**Combination of two or three outdoor units**




For the event that one compressor has a failure, the unit will keep operating with the other second compressor.




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

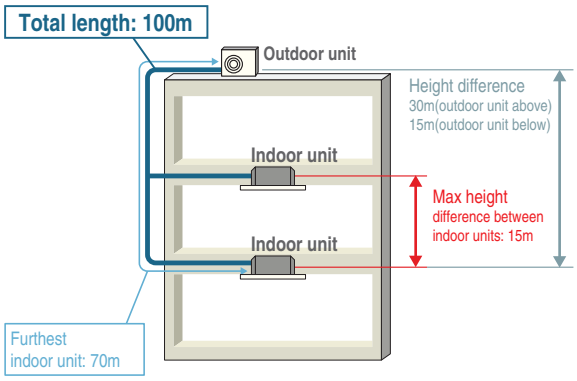
# Micro KXZ Heat pump systems
# 4 ~ 6HP (12.1kW~15.5kW)

| Model No. | Nominal Cooling Capacity |
|---|---|
| FDC121KXZEN1-W | 12.1kW (220V) |
| FDC140KXZEN1-W | 14.0kW (220V) |
| FDC155KXZEN1-W | 15.5kW (220V) |
| FDC121KXZES1-W | 12.1kW (380V) |
| FDC140KXZES1-W | 14.0kW (380V) |
| FDC155KXZES1-W | 15.5kW (380V) |

NEW

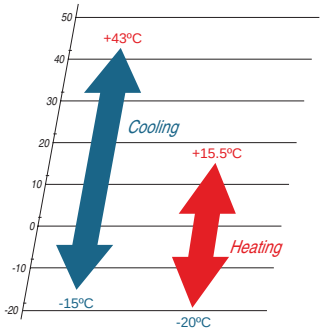
Blue Fin

- Low Global Warming Potential (GWP) and High energy effciency by new refrigerant R32.
- Connect up to 10 indoor units/up to 150% capacity.
- High efficiency with EER up to 4.08.
- 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

**Range of operation**




## Specifications

| Item | | | Model | FDC121KXZEN1-W | FDC140KXZEN1-W | FDC155KXZEN1-W | FDC121KXZES1-W | FDC140KXZES1-W | FDC155KXZES1-W |
|---|---|---|---|---|---|---|---|---|---|
| Nominal horse power | | | | 4HP | 5HP | 6HP | 4HP | 5HP | 6HP |
| Power source | | | | 1 Phase 220-240V, 50Hz | | | 3 Phase 380-415V, 50Hz | | |
| Starting current | | | A | 5 | | | | | |
| Max current | | | A | 23 | | | 13.5 | | |
| Nominal capacity | Cooling | | kW | 12.1 | 14.0 | 15.5 | 12.1 | 14.0 | 15.5 |
| | Heating | | | 12.1 | 14.0 | 15.5 | 12.1 | 14.0 | 15.5 |
| Electrical characteristics | Power consumption | Cooling | kW | 2.97 | 4.00 | 5.20 | 2.97 | 4.00 | 5.20 |
| | | Heating | | 2.88 | 3.52 | 4.06 | 2.88 | 3.52 | 4.06 |
| SEER/SCOP | | | | 9.67 / 4.67 | 8.82 / 4.62 | 8.17 / 4.58 | 9.67 / 4.67 | 8.82 / 4.62 | 8.17 / 4.58 |
| Exterior dimensions | HxWxD | | mm | 845x970x370 | | | | | |
| Net weight | | | kg | 85 | | | 87 | | |
| Sound pressure level | Cooling/Heating | | dB(A) | 54/56 | 54/58 | 54/58 | 54/56 | 54/58 | 54/58 |
| Refrigerant | Type / GWP | | | R32 / 675 | | | | | |
| | Charge | | kg/TCO2Eq | 4.2 / 2.835 | | | | | |
| 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 | | | | 8 | 10 | 10 | 8 | 10 | 10 |

1.The data are measured under the following conditions (ISO-T1, H1). Cooling: indoor temp. of 27°CDB, 19°CWB, and outdoor temp. of 35°CDB. Heating: indoor temp. was 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 were are somewhat higher due to ambient conditions.
3.'tonne(s) of $CO_2$ equivalent' means a quantity of greenhouse gases-expressed as the product of the weight of greenhouse gases in metric tonnes and of their global warming potential

# Refrigerant piping

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

Branch pipes

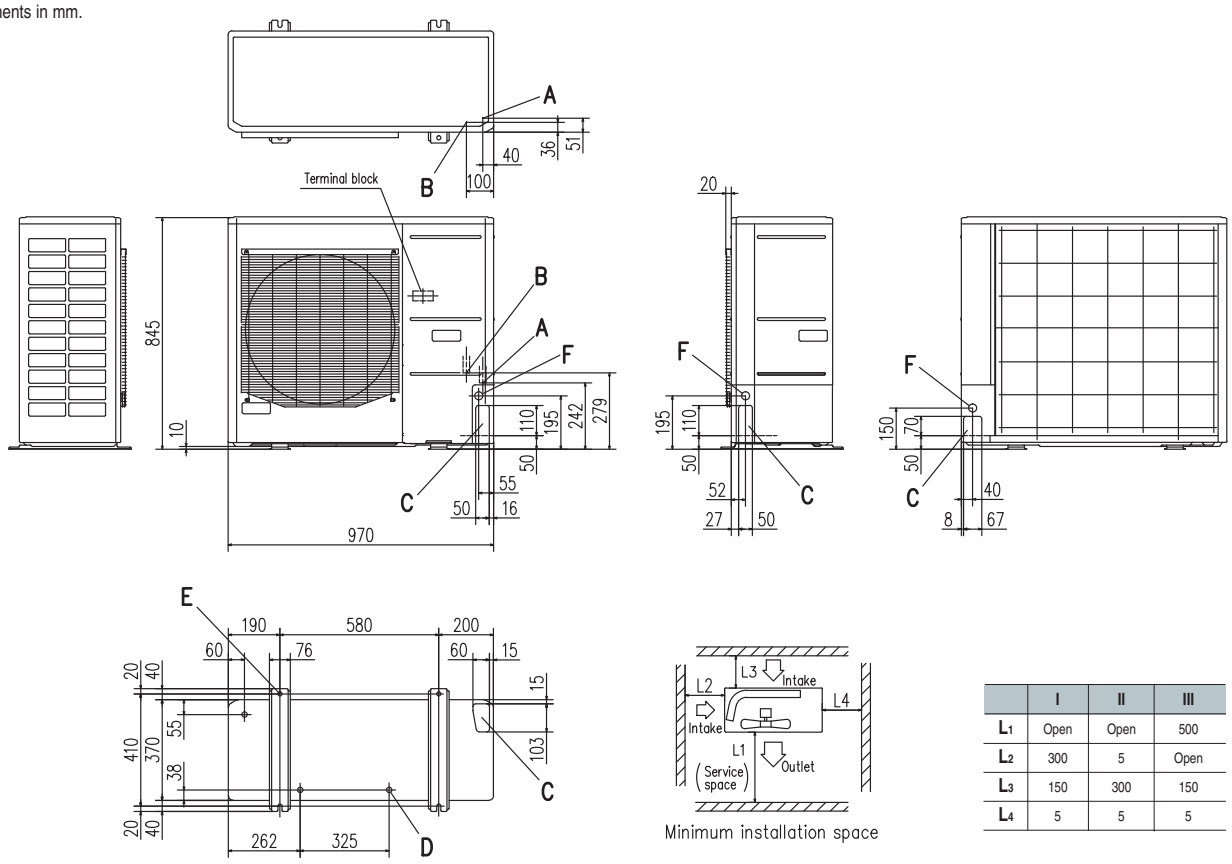
DIS-22-1G
DIS-180-1G

Header pipe

HEAD4-22-1G
HEAD6-180-1G

# Dimensions

All measurements in mm.










Minimum installation space

| | I | II | III |
|---|---|---|---|
| $L_1$ | Open | Open | 500 |
| $L_2$ | 300 | 5 | Open |
| $L_3$ | 150 | 300 | 150 |
| $L_4$ | 5 | 5 | 5 |

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

Notes:
(1) It must not be surrounded by walls on the four sides.
(2) The unit must be fixed with anchor bolts. An anchor bolt must not protrude more than 15mm.
(3) Where the unit is subject to strong winds, lay it in such a direction that the blower outlet faces perpendicularly to the dominant wind direction.
(4) Leave 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 panel.

## Seasonal efficiency of Eurovent certification condition

| Item | Model | | | | | |
|---|---|---|---|---|---|---|
| | FDC121KXZEN1-W | FDC140KXZEN1-W | FDC155KXZEN1-W | FDC121KXZES1-W | FDC140KXZES1-W | FDC155KXZES1-W |
| SEER* | 8.63 | 8.36 | 7.87 | 7.87 | 8.36 | 7.87 |
| SCOP* | 4.40 | 4.43 | 4.41 | 4.40 | 4.43 | 4.41 |

(*) Combination with FDT
(*) The Eurovent certificate condition is based on the max air flow limit of 275m3/h/kW

R410A

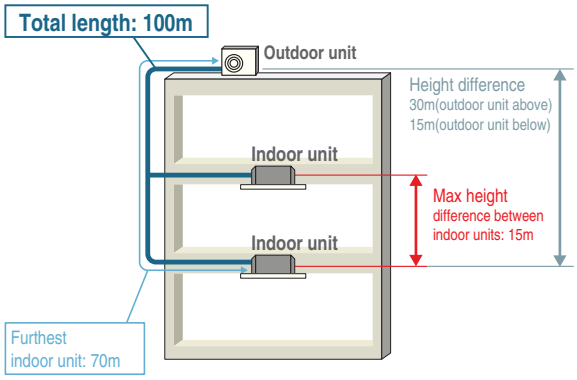
# Micro KXZ Heat pump systems
# 4 ~ 6HP (12.1kW~15.5kW)

| Model No. | Nominal Cooling Capacity |
|---|---|
| FDC121KXZEN1 | 12.1kW (220V) |
| FDC140KXZEN1 | 14.0kW (220V) |
| FDC155KXZEN1 | 15.5kW (220V) |
| FDC121KXZES1 | 12.1kW (380V) |
| FDC140KXZES1 | 14.0kW (380V) |
| FDC155KXZES1 | 15.5kW (380V) |

Blue Fin

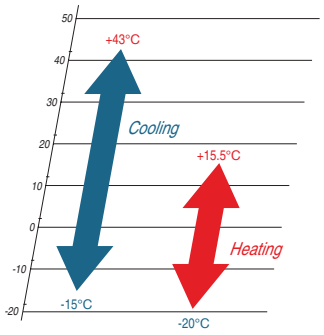
- Connect up to 10* indoor units/up to 150% capacity.
- High efficiency with EER up to 3.82.
- These units employs DC inverter compressors ONLY.
- Industry leading total piping length up to 100m and a maximum pipe run of 70m.

*When connecting 9 units or more, set the total capacity as follows : 5HP : 110% or less, 6HP : 100% or less.




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

**Range of operation**




## Specifications

| Item | | | Model | FDC121KXZEN1 | FDC140KXZEN1 | FDC155KXZEN1 | FDC121KXZES1 | FDC140KXZES1 | FDC155KXZES1 |
|---|---|---|---|---|---|---|---|---|---|
| Nominal horse power | | | | 4HP | 5HP | 6HP | 4HP | 5HP | 6HP |
| Power source | | | | 1 Phase 220-240V, 50Hz | | | 3 Phase 380-415V, 50Hz | | |
| Starting current | | | A | 5 | | | | | |
| Max current | | | A | 28 | | | 13.5 | | |
| Nominal capacity | Cooling | | kW | 12.1 | 14.0 | 15.5 | 12.1 | 14.0 | 15.5 |
| | Heating | | | 12.1 | 14.0 | 15.5 | 12.1 | 14.0 | 15.5 |
| Electrical characteristics | Power consumption | Cooling | kW | 3.16 | 3.96 | 5.20 | 3.16 | 3.96 | 5.20 |
| | | Heating | | 3.09 | 3.66 | 4.28 | 3.09 | 3.66 | 4.28 |
| SEER/SCOP | | | | 8.15 / 4.63 | 7.73 / 4.59 | 7.21 / 4.55 | 8.15 / 4.63 | 7.73 / 4.59 | 7.21 / 4.55 |
| Exterior dimensions | HxWxD | | mm | 845x970x370 | | | | | |
| Net weight | | | kg | 85 | | | 87 | | |
| Sound pressure level | Cooling/Heating | | dB(A) | 53/56 | 53/57 | 54/57 | 53/56 | 53/57 | 54/57 |
| Refrigerant | Type / GWP | | | R410A / 2088 | | | | | |
| | Charge | | kg/TCO2Eq | 5.0 / 10.44 | | | | | |
| 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 | | | | 8 | 10* | 10* | 8 | 10* | 10* |

1.The data are measured under the following conditions (ISO-T1, H1). Cooling: indoor temp. of 27°CDB, 19°CWB, and outdoor temp. of 35°CDB. Heating: indoor temp. was 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 were are somewhat higher due to ambient conditions.
3.'tonne(s) of $CO_2$ equivalent' means a quantity of greenhouse gases-expressed as the product of the weight of greenhouse gases in metric tonnes and of their global warming potential

# Refrigerant piping

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

Branch pipes

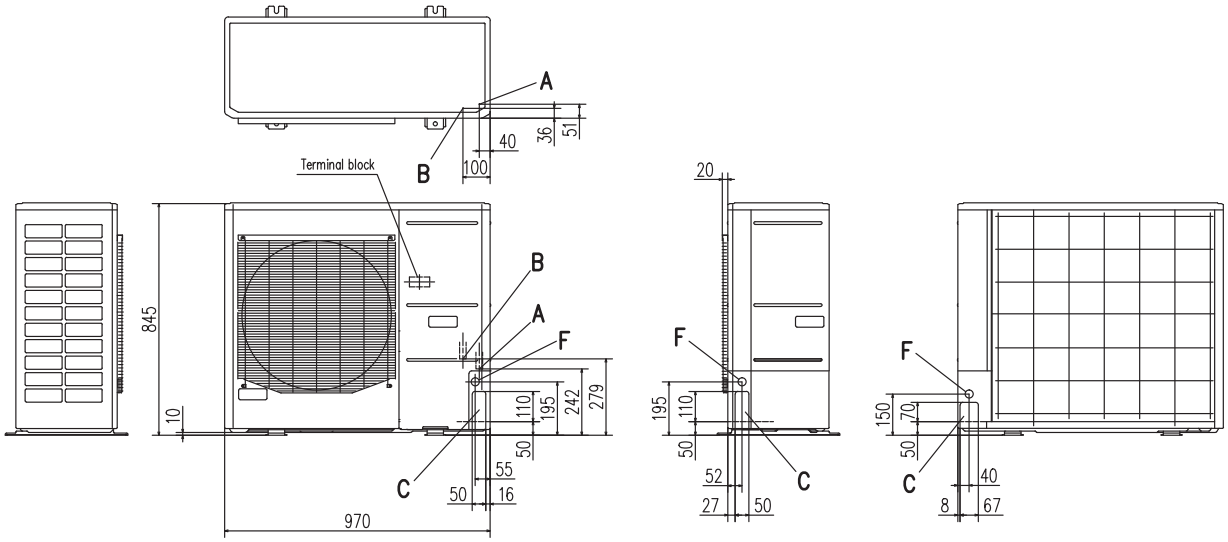
**DIS-22-1G**
**DIS-180-1G**

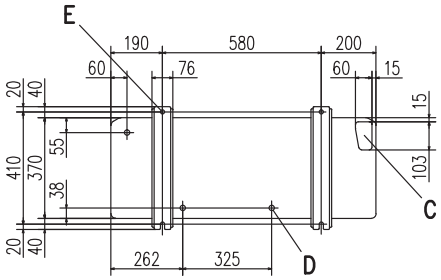
Header pipe

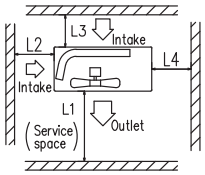
**HEAD4-22-1G**
**HEAD6-180-1G**

# Dimensions

All measurements in mm.




Minimum installation space

| | I | II | III |
|---|---|---|---|
| $L_1$ | Open | Open | 500 |
| $L_2$ | 300 | 5 | Open |
| $L_3$ | 150 | 300 | 150 |
| $L_4$ | 5 | 5 | 5 |

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

Notes:
(1) It must not be surrounded by walls on the four sides.
(2) The unit must be fixed with anchor bolts. An anchor bolt must not protrude more than 15mm.
(3) Where the unit is subject to strong winds, lay it in such a direction that the blower outlet faces perpendicularly to the dominant wind direction.
(4) Leave 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 panel.

## Seasonal efficiency of Eurovent certification condition

| Item | Model | | | | | |
|---|---|---|---|---|---|---|
| | FDC121KXZEN1 | FDC140KXZEN1 | FDC155KXZEN1 | FDC121KXZES1 | FDC140KXZES1 | FDC155KXZES1 |
| SEER* | 7.37 | 7.06 | 6.68 | 7.37 | 7.06 | 6.68 |
| SCOP* | 4.52 | 4.52 | 4.41 | 4.52 | 4.52 | 4.41 |

(*) Combination with FDT
(*) The Eurovent certificate condition is based on the max air flow limit of 275m3/h/kW

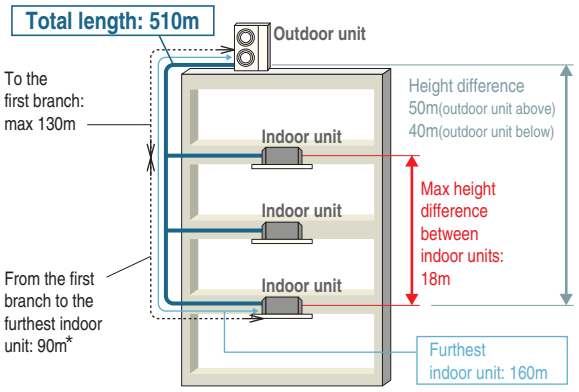
# Micro KXZ Heat pump systems

## 8 ~ 12HP (22.4kW~33.5kW)

| Model No. | Nominal Cooling Capacity |
|---|---|
| FDC224KXZME1 | 22.4kW |
| FDC280KXZME1 | 28.0kW |
| FDC335KXZME1A | 33.5kW |

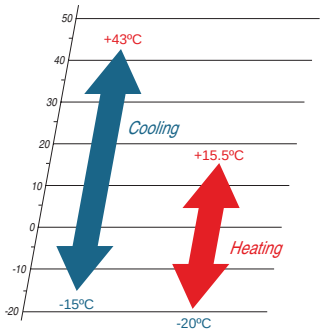
Blue Fin

- Connect up to 24 indoor units/up to 150% capacity.
- High efficiency with EER up to 4.00.
- These units employ DC inverter compressors ONLY.
- Industry leading total piping length up to 510m and a maximum pipe run of 160m.




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

**Range of operation**




## Specifications

| Item | | | Model | FDC224KXZME1 | FDC280KXZME1 | FDC335KXZME1A |
|---|---|---|---|---|---|---|
| Nominal horse power | | | | 8HP | 10HP | 12HP |
| Power source | | | | 3 Phase 380-415V, 50Hz | | |
| Starting current | | | A | 5 | | |
| Max current | | | A | 20 | | 23 |
| Nominal capacity | Cooling | | kW | 22.4 | 28.0 | 33.5 |
| | Heating | | | 22.4 | 28.0 | 33.5 |
| Electrical characteristics | Power consumption | Cooling | kW | 5.59 | 7.90 | 10.68 |
| | | Heating | | 4.97 | 6.53 | 8.44 |
| Exterior dimensions | HxWxD | | mm | 1675x1080x480 | | |
| Net weight | | | kg | 221 | | 224 |
| Sound pressure level | Cooling/Heating | | dB(A) | 58/59 | 60/60 | 60/62 |
| Refrigerant | Type / GWP | | | R410A / 2088 | | |
| | Charge | | kg/TCO2Eq | 11.5 / 24.012 | | |
| Refrigerant piping size | Liquid line | | mm(in) | ø9.52(3/8") | | ø12.7(1/2") |
| | Gas line | | | ø19.05(3/4") | ø22.22(7/8") | ø25.4(1") [ø22.22(7/8")] |
| Capacity connection | | | % | 50~150 | | |
| Number of connectable indoor units | | | | 22 | 24 | 24 |

1. The data are measured under the following conditions(ISO-T1, H1). Cooling: Indoor temp. of 27ºCDB, 19ºCWB, and outdoor temp. of 35ºCDB. Heating: Indoor temp. of 20ºCDB, and outdoor temp. of 7ºCDB, 6ºCWB.
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.
3. 'tonne(s) of $CO_2$ equivalent' means a quantity of greenhouse gases- expressed as the product of the weight of the greenhouse gases in metric tonnes and of their global warming potential.
4. [ ] : Pipe sizes applicable to European installations are shown in parentheses.

# Refrigerant piping

| Outdoor unit (HP) | | Micro KXZ | | | KXZ Lite | |
|---|---|---|---|---|---|---|
| | | 8 | 10 | 12 | 8 | 10 |
| Gas pipe | Furthest indoor unit =<90m | ø19.05 | ø22.22 | ø25.4(ø22.22) | ø19.05 | ø22.22 |
| Liquid pipe | | ø9.52 | | ø12.7 | ø9.52 | |
| Gas pipe | 90m =<Furthest indoor unit | ø22.22 | ø25.4(ø22.22) | | ø22.22 | ø25.4 / ø28.58 |
| Liquid pipe | | ø12.7 | | | ø9.52 | |

Branch pipes

**DIS-22-1G**
**DIS-180-1G**

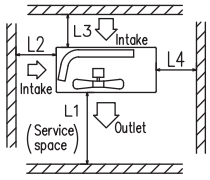
**DIS-371-1G**

Header pipe

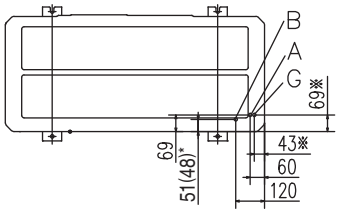
**HEAD4-22-1G**
**HEAD6-180-1G**
**HEAD8-371-2**

# Dimensions

All measurements in mm.

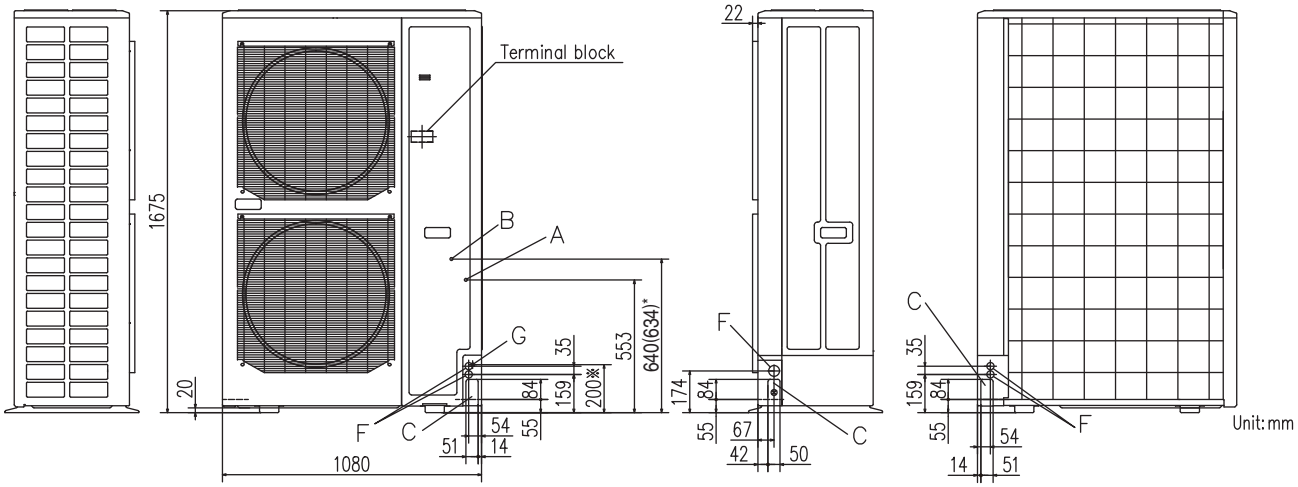


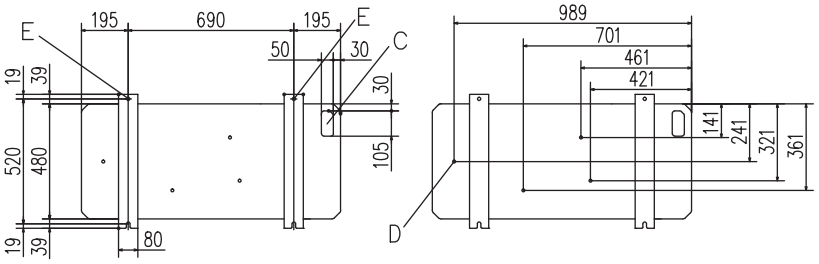

Minimum installation space




| | I | II | III |
|---|---|---|---|
| $L_1$ | Open | Open | 1500(500)*1 |
| $L_2$ | 300 | 5 | Open |
| $L_3$ | 300 | 300 | 300 |
| $L_4$ | 250(5)*2 | 250(5)*2 | 250(5)*2 |

Notes:
*1 Figure in ( ) shows the value applicable when the flex flow adaptor is installed.
*2 Under the setting condition as specified in ( ), it is necessary to secure 250 mm for the dimension L4 when replacing the compressor. Establish this for example by moving the unit during the work.




*The value of 335 model in ( )

| Mark | Content | 224 | 280 | 335 |
|---|---|---|---|---|
| A | Service valve connection of the attached connecting pipe (gas side) | ø19.05 (3/4") (Flare) | ø19.05 (3/4") (Flare) | ø19.05 (3/4") (Flare) |
| B | Service valve connection (liquid side) | ø9.52 (3/8") (Flare) | ø9.52 (3/8") (Flare) | ø12.7 (1/2") (Flare) |
| C | Pipe/cable draw-out hole | 4places | 4places | 4places |
| D | Drain discharge hole | ø20 x 4places | ø20 x 4places | ø20 x 4places |
| E | Anchor bolt hole | M10 x 4places | M10 x 4places | M10 x 4places |
| F | Cable draw-out hole | ø30 x 2places (front)<br>ø45 (side)<br>ø30 x 2places (back) | ø30 x 2places (front)<br>ø45 (side)<br>ø30 x 2places (back) | ø30 x 2places (front)<br>ø45 (side)<br>ø30 x 2places (back) |
| G | Connecting position of the local pipe. (gas side) | ø19.05 (3/4")(Brazing) | ø22.22 (7/8")(Brazing) | ø25.4 (1")(Brazing) |

Notes:
(1) It must not be surrounded by walls on the four sides.
(2) The unit must be fixed with anchor bolts. An anchor bolt must not protrude more than 15mm.
(3) Where the unit is subject to strong winds, the blower outlet shoud face perpendicularly to the dominant wind direction.
(4) Leave a 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)

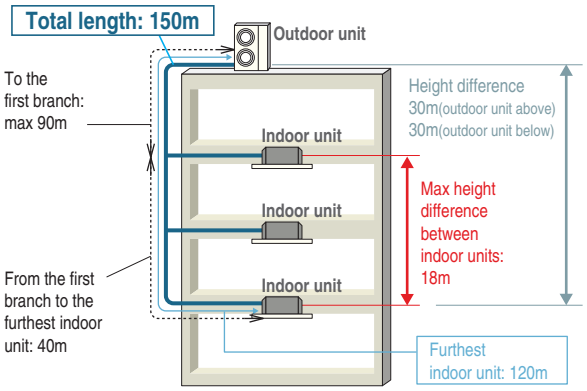
# KXZ Lite Heat pump systems

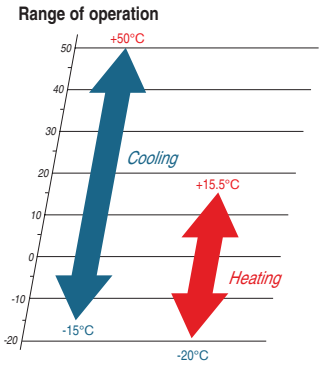
## 8, 10HP (22.4kW, 28.0kW)

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

Blue Fin

- Connect up to 8 indoor units/up to 120% capacity.
- High efficiency with EER up to 4.00.
- These units employ DC inverter multiport compressors with concentrated winding motor.
- KXZ Lite extends a cooling range operation up to 50°C.
- External static pressure is available up to 35 Pa.
- Tropical usage mode.



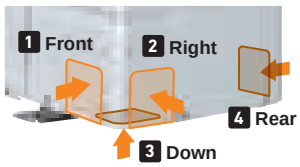

## Specifications

| Item | | | Model | FDC224KXZPE1 | FDC280KXZPE1 |
|---|---|---|---|---|---|
| Nominal horse power | | | | 8HP | 10HP |
| Power source | | | | 3 Phase 380-415V, 50Hz | |
| Starting current | | | A | 5 | |
| Max current | | | A | 21 | 22 |
| Nominal capacity | Cooling | | kW | 22.4 | 28.0 |
| | Heating | | | 22.4 | 28.0 |
| Electrical characteristics | Power consumption | Cooling | kW | 5.6 | 7.87 |
| | | Heating | | 4.8 | 6.47 |
| Exterior dimensions | HxWxD | | mm | 1505x970x370 | |
| Net weight | | | kg | 165 | |
| Sound pressure level | Cooling/Heating | | dB(A) | 59/60 | 60/63 |
| Refrigerant | Type / GWP | | | R410A / 2088 | |
| | Charge | | kg/TCO2Eq | 8.9 / 18.583 | |
| 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, H1). Cooling: Indoor temp. of 27ºCDB, 19ºCCWB, and outdoor temp. of 35ºCDB. Heating: Indoor temp. of 20ºCDB, and outdoor temp. of 7ºCDB, 6ºCWB.
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.
3. 'tonne(s) of $CO_2$ equivalent' means a quantity of greenhouse gases- expressed as the product of the weight of the greenhouse gases in metric tonnes and of their global warming potential.

# Serviceability

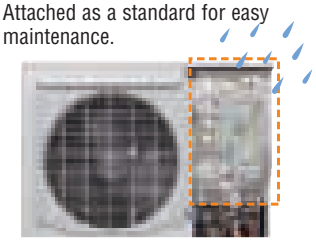
### Improved freedom of piping layout



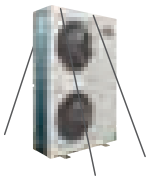

Hole size became 120% bigger.

### A transparent rain cover

Attached as a standard for easy maintenance.



### Wire insertion holes for fall prevention



### Four handles


Located at the same level for easy transport and transfer.

### Fixing screws to service panel

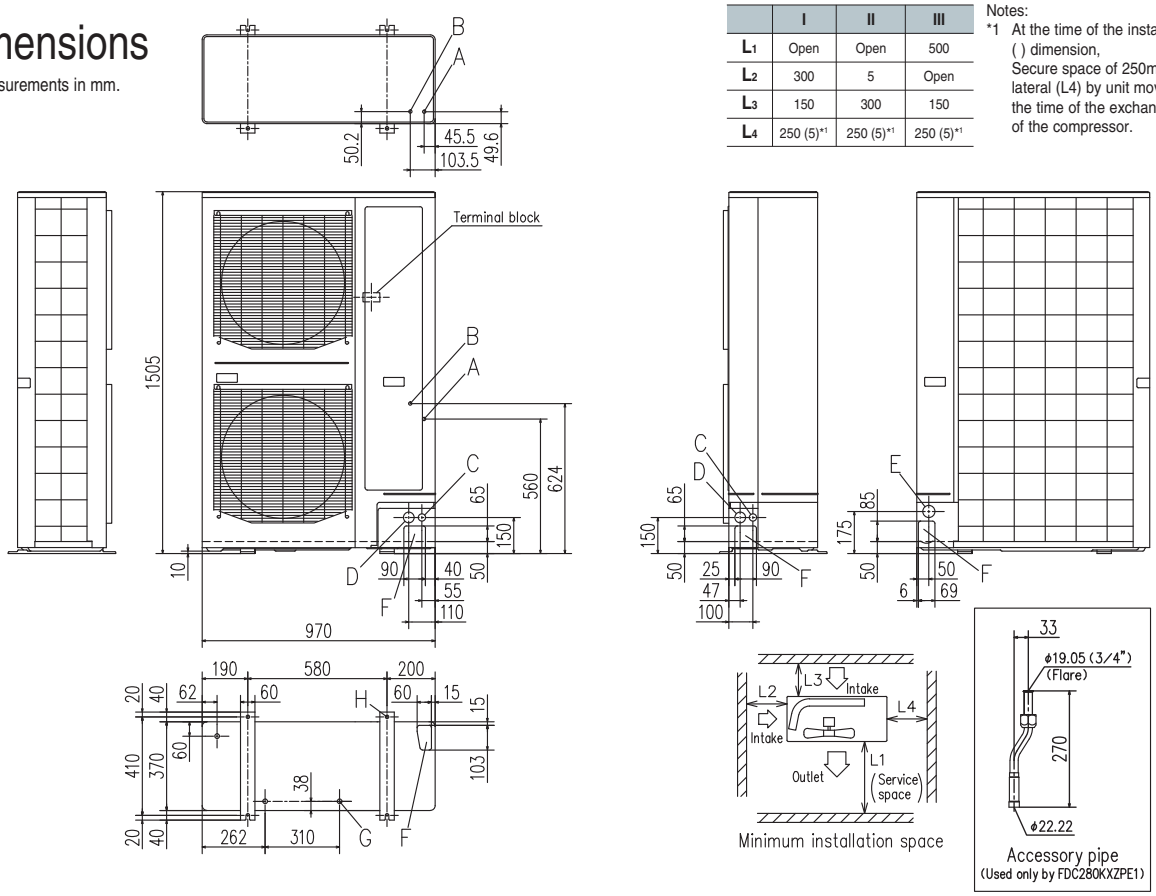
Decreased number of screws from 5 to 2, installation & service speed is improved.

# Refrigerant piping

Please refer to page 39.

# Dimensions

All measurements in mm.




Minimum installation space

Accessory pipe
(Used only by FDC280KXZPE1)

| | I | II | III |
|---|---|---|---|
| $L_1$ | Open | Open | 500 |
| $L_2$ | 300 | 5 | Open |
| $L_3$ | 150 | 300 | 150 |
| $L_4$ | 250 (5)*1 | 250 (5)*1 | 250 (5)*1 |

Notes:
*1 At the time of the installation at ( ) dimension, Secure space of 250mm in lateral (L4) by unit movement at the time of the exchange work of the compressor.

| Mark | Content | |
|---|---|---|
| A | Service valve connection of the attached connecting pipe (gas side) | ø19.05 (3/4") (Flare) |
| B | Service valve connection (liquid side) | ø9.52 (3/8") (Flare) |
| C | Cable draw-out hole (front · side) | ø30 x 2places |
| D | Cable draw-out hole (front · side) | ø45 x 2places |
| E | Cable draw-out hole (back) | ø50 |
| F | Pipe/cable draw-out hole | 4places |
| G | Drain discharge hole | ø20 x 3places |
| H | Anchor bolt hole | M10 x 4places |

Notes:
(1) It must not be surrounded by walls on the four sides.
(2) The unit must be fixed with anchor bolts. An anchor bolt must not protrude more than 15mm.
(3) Where the unit is subject to strong winds, lay it in such a direction that the blower outlet faces perpendicularly to the dominant wind direction.
(4) Leave 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 panel.
(7) Connect the Service valve with local pipe by using the pipe of the attachment. (Gas side only) (Accessory pipe is used only by FDC280KXZPE1)
(8) Regarding attaching the pipe of accessories, refer to an attached installation manual.

R410A

# KXZ2 Heat pump systems

## 10, 12HP (28.0kW, 33.5kW)

| Model No. | Nominal Cooling Capacity |
|---|---|
| FDC280KXZE2 | 28.0kW |
| FDC335KXZE2 | 33.5kW |

NEW

Blue Fin

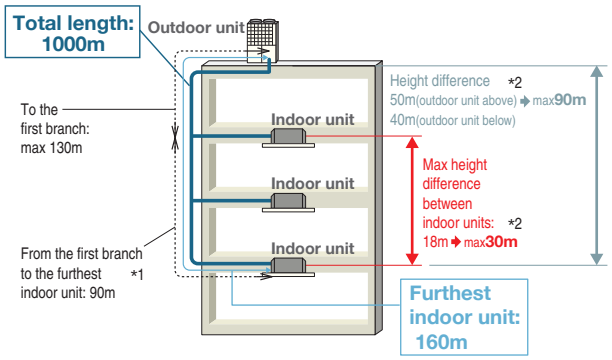
Uniform footprint of models
allows continuous side-by-side installation

- The new KXZ2 series has a layered design and a refined new form.
- Connect up to 44 indoor units/up to 200% capacity.

| Increased number of connectable units | | |
|---|---|---|
| **Size** | **KXZE1** | **KXZE2** |
| 280 | 1-24 | 1-37 |
| 335 | 1-29 | 1-44 |

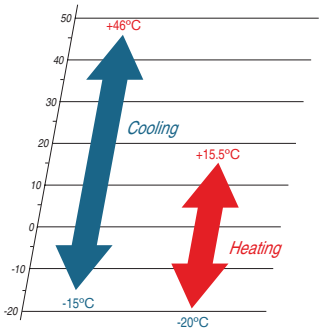
| Increased max connection capacity | | |
|---|---|---|
| **Size** | **KXZE1** | **KXZE2** |
| 280 | 50-130% | 50-200% |
| 335 | 50-130% | 50-200% |

- High efficiency with EER up to 3.86.
- Extended external static pressure 50Pa to Max 85Pa.




*1 The difference between the longest and the shortest indoor unit piping from the first branch must be within 40m. (MAX85m)
*2 It is necessary to change the setting corresponding to each height difference in installation. The range of use is also defferent.

**Range of operation**



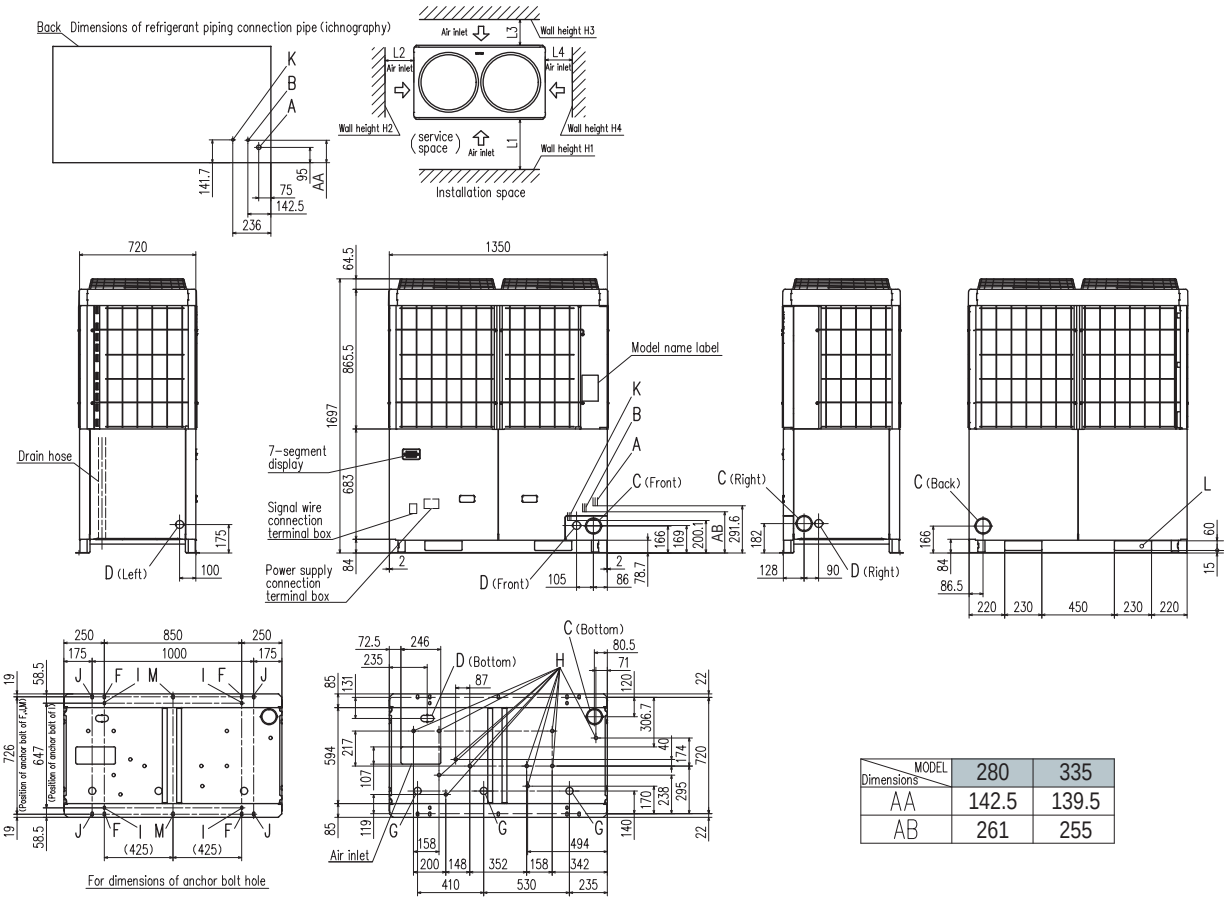

# Specifications

| Item | | | Model | FDC280KXZE2 | FDC335KXZE2 |
|---|---|---|---|---|---|
| Nominal horse power | | | | 10HP | 12HP |
| Power source | | | | 3 Phase 380-415V, 50Hz | |
| Starting current | | | A | 5 | |
| Max current | | | A | 20.1 | |
| Nominal capacity | Cooling | | kW | 28.0 | 33.5 |
| | Heating | | | 31.5 | 37.5 |
| Electrical characteristics | Power consumption | Cooling | kW | 7.25 | 8.98 |
| | | Heating | | 7.41 | 9.03 |
| Exterior dimensions | HxWxD | | mm | 1697x1350x720 | |
| Net weight | | | kg | 288 | |
| Sound pressure level | Cooling/Heating | | dB(A) | 56/57 | 63/62 |
| Refrigerant | Type / GWP | | | R410A / 2088 | |
| | Charge | | kg/TCO2Eq | 11.0 / 22.968 | |
| 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 | | | % | 50~200 | |
| Number of connectable indoor units | | | | 37 | 44 |

1. The data are measured under the following conditions(ISO-T1, H1). Cooling: Indoor temp. of 27ºCDB, 19ºCWB, and outdoor temp. of 35ºCDB. Heating: Indoor temp. of 20ºCDB, and outdoor temp. of 7ºCDB, 6ºCWB.
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.
3. 'tonne(s) of $CO_2$ equivalent' means a quantity of greenhouse gases- expressed as the product of the weight of the greenhouse gases in metric tonnes and of their global warming potential.
4. [ ] : Pipe sizes applicable to European installations are shown in parentheses.

# Dimensions

All measurements in mm.



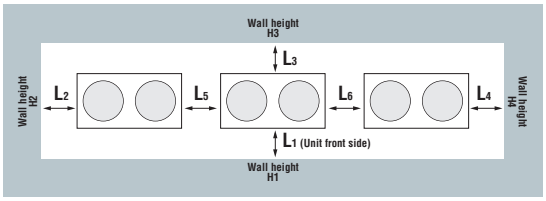

| MODEL / Dimensions | 280 | 335 |
|---|---|---|
| AA | 142.5 | 139.5 |
| AB | 261 | 255 |

| Mark | Content | 280 | 335 |
|---|---|---|---|
| A | Refrigerant gas piping connection pipe | ø22.22(Brazing) | ø25.4(Brazing) |
| B | Refrigerant liquid piping connection pipe | ø9.52(Flare) | ø12.7(Flare) |
| C | Refrigerant piping exit hole | ø88(or ø100) | |
| D | Power supply entry hole | ø50 (right · left · front), long hole 40 x 80 (bottom) | |
| F | Anchor bolt hole | M10 x 4 places | |
| G | Drain waste water hose hole | ø45 x 3 places | |
| H | Drain hole | ø20 x 11 places | |
| K | Refrigerant oil equalization piping connection pipe | ø9.52(Flare) | |
| L | Carrying in or hole for hanging | 230 x 60 | |

| Installation example | | |
|---|---|---|
| Dimensions | 1 | 2 |
| $L_1$ | 500 | Open |
| $L_2$ | 10(30) | 10(30) |
| $L_3$ | 100 | 100 |
| $L_4$ | 10(30) | Open |
| $H_1$ | 1500 | Open |
| $H_2$ | No limit | No limit |
| $H_3$ | 1000 | No limit |
| $H_4$ | No limit | Open |

() :In case it is the promised installation location that the outdoor unit is used on conditions with the ambient temperature of 43ºC or more.

**When more than one unit is installed**




| Installation example | | |
|---|---|---|
| Dimensions | 1 | 2 |
| $L_1$ | 500 | Open |
| $L_2$ | 10(30) | 200 |
| $L_3$ | 100 | 300 |
| $L_4$ | 10(30) | Open |
| $L_5$ | 10(30) | 400 |
| $L_6$ | 10(30) | 400 |
| $H_1$ | 1500 | Open |
| $H_2$ | No limit | No limit |
| $H_3$ | 1000 | No limit |
| $H_4$ | No limit | Open |

# KXZ2 Heat pump systems
# 14 ~ 20HP (40.0kW~56.0kW)

NEW

Blue Fin

| Model No. | Nominal Cooling Capacity |
|---|---|
| FDC400KXZE2 | 40.0kW |
| FDC450KXZE2 | 45.0kW |
| FDC475KXZE2 | 47.5kW |
| FDC500KXZE2 | 50.0kW |
| FDC560KXZE2 | 56.0kW |

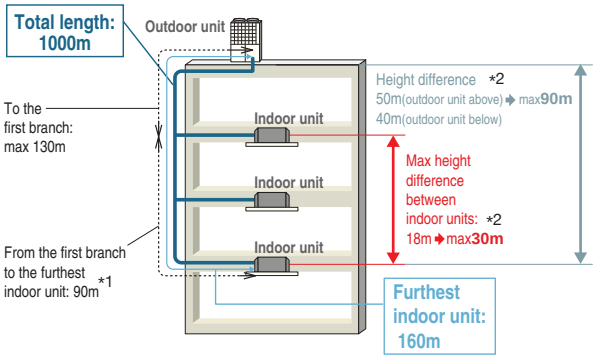
- The new KXZ2 series has a layered design and a refined new form.
- Connect up to 59 indoor units/up to 160% capacity.(FDC400-450:200%.)

| Increased number of connectable units | | |
|---|---|---|
| Size | KXZE1 | KXZE2 |
| 400 | 1-34 | 1-53 |
| 450 | 1-39 | 1-60 |
| 475 | 1-41 | 1-50 |
| 500 | 1-43 | 1-53 |
| 560 | 1-48 | 1-59 |

| Increased max connection capacity | | |
|---|---|---|
| Size | KXZE1 | KXZE2 |
| 400 | 50-130% | 50-200% |
| 450 | 50-130% | 50-200% |
| 475 | 50-130% | 50-160% |
| 500 | 50-130% | 50-160% |
| 560 | 50-130% | 50-160% |

- High efficiency with EER up to 3.64.
- Extended external static pressure 50Pa to Max 85Pa.

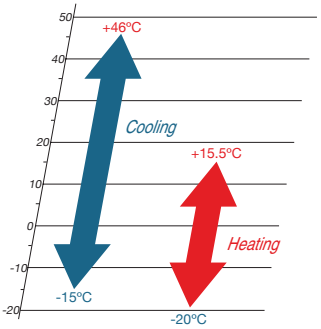
Uniform footprint of all models allows continuous side-by-side installation




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

*2 It is necessary to change the setting corresponding to each height difference in installation. The range of use is also defferent.

**Range of operation**



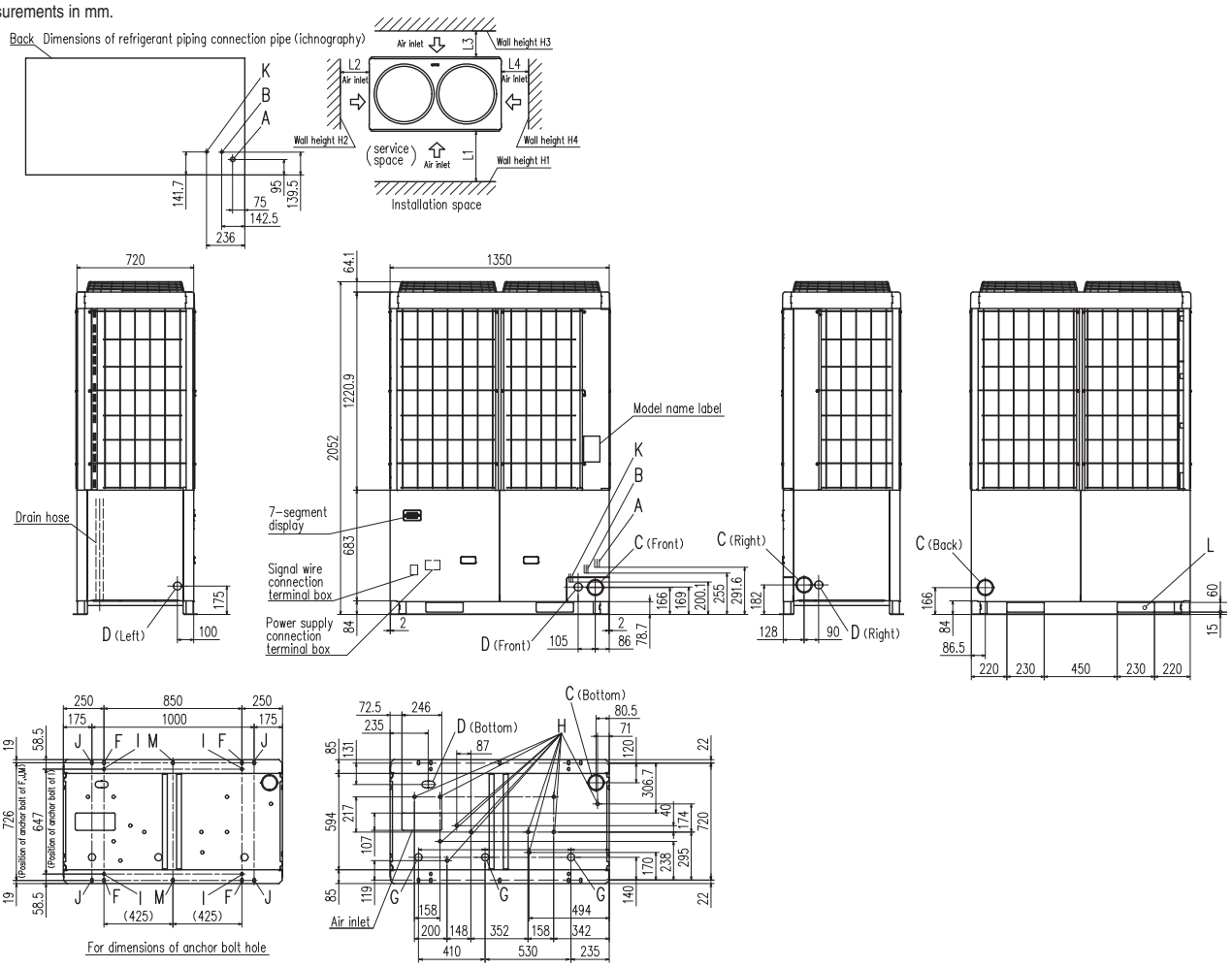

# Specifications

| Item | | | Model | FDC400KXZE2 | FDC450KXZE2 | FDC475KXZE2 | FDC500KXZE2 | FDC560KXZE2 |
|---|---|---|---|---|---|---|---|---|
| Nominal horse power | | | | 14HP | 16HP | 17HP | 18HP | 20HP |
| Power source | | | | 3 Phase 380-415V, 50Hz | | | | |
| Starting current | | | A | 5 | | 8 | | |
| Max current | | | A | 32.0 | | 40.2 | | |
| Nominal capacity | Cooling | | kW | 40.0 | 45.0 | 47.5 | 50.0 | 56.0 |
| | Heating | | | 45.0 | 50.0 | 53.0 | 56.0 | 63.0 |
| Electrical characteristics | Power consumption | Cooling | kW | 10.98 | 13.98 | 13.97 | 14.01 | 17.50 |
| | | Heating | | 10.23 | 12.50 | 12.99 | 13.56 | 16.15 |
| Exterior dimensions | HxWxD | | mm | 2052x1350x720 | | | | |
| Net weight | | | kg | 332 | | 378 | | |
| Sound pressure level | Cooling/Heating | | dB(A) | 60/62 | 61/62 | 61/61 | 61/62 | 63/64 |
| Refrigerant | Type / GWP | | | R410A / 2088 | | | | |
| | Charge | | kg/TCO2Eq | 11.5 / 24.012 | | | | |
| 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 | | | % | 50~200 | | 50~160 | | |
| Number of connectable indoor units | | | | 53 | 60 | 50 | 53 | 59 |

1. The data are measured under the following conditions(ISO-T1, H1). Cooling: Indoor temp. of 27ºCDB, 19ºCWB, and outdoor temp. of 35ºCDB. Heating: Indoor temp. of 20ºCDB, and outdoor temp. of 7ºCDB, 6ºCWB.
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.
3. 'tonne(s) of $CO_2$ equivalent' means a quantity of greenhouse gases- expressed as the product of the weight of the greenhouse gases in metric tonnes and of their global warming potential.
4. [ ] : Pipe sizes applicable to European installations are shown in parentheses.

# Dimensions

All measurements in mm.

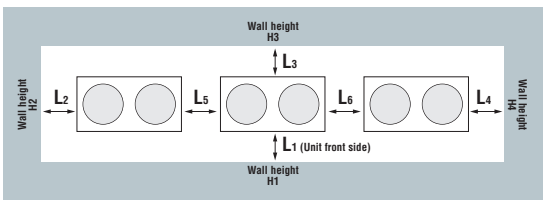



| Mark | Content | 400 | 450, 475, 500, 560 |
|---|---|---|---|
| A | Refrigerant gas piping connection pipe | ø25.4(Brazing) | ø28.58(Brazing) |
| B | Refrigerant liquid piping connection pipe | ø12.7(Flare) | |
| C | Refrigerant piping exit hole | ø88(or ø100) | |
| D | Power supply entry hole | ø50 (right · left · front), long hole 40 x 80 (bottom) | |
| F | Anchor bolt hole | M10 x 4 places | |
| G | Drain waste water hose hole | ø45 x 3 places | |
| H | Drain hole | ø20 x 11 places | |
| K | Refrigerant oil equalization piping connection pipe | ø9.52(Flare) | |
| L | Carrying in or hole for hanging | 230 x 60 | |

| Installation example | | |
|---|---|---|
| Dimensions | 1 | 2 |
| $L_1$ | 500 | Open |
| $L_2$ | 10(30) | 10(30) |
| $L_3$ | 100 | 100 |
| $L_4$ | 10(30) | Open |
| $H_1$ | 1500 | Open |
| $H_2$ | No limit | No limit |
| $H_3$ | 1000 | No limit |
| $H_4$ | No limit | Open |

() :In case it is the promised installation location that the outdoor unit is used on conditions with the ambient temperature of 43ºC or more.

**When more than one unit is installed**




| Installation example | | |
|---|---|---|
| Dimensions | 1 | 2 |
| $L_1$ | 500 | Open |
| $L_2$ | 10(30) | 200 |
| $L_3$ | 100 | 300 |
| $L_4$ | 10(30) | Open |
| $L_5$ | 10(30) | 400 |
| $L_6$ | 10(30) | 400 |
| $H_1$ | 1500 | Open |
| $H_2$ | No limit | No limit |
| $H_3$ | 1000 | No limit |
| $H_4$ | No limit | Open |

# KXZ2 Heat pump systems
# 22, 24HP (61.5kW, 67.0kW)

| Model No. | Nominal Cooling Capacity |
|---|---|
| FDC615KXZE2 | 61.5kW |
| FDC670KXZE2 | 67.0kW |

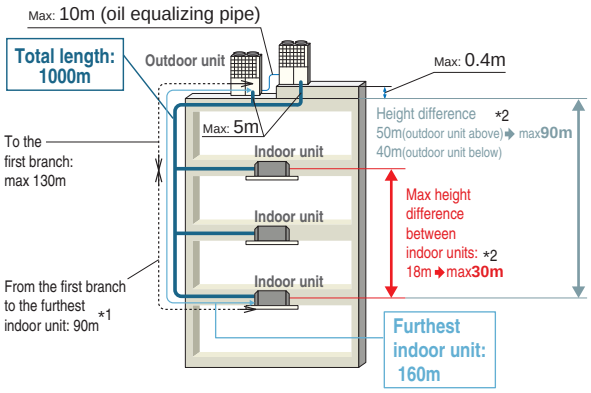
NEW

- The new KXZ2 series has a layered design and a refined new form.
- Connect up to 71 indoor units/up to 160% capacity.

| Increased number of connectable units | | |
|---|---|---|
| Size | KXZE1 | KXZE2 |
| 615 | 2-53 | 2-65 |
| 670 | 2-58 | 2-71 |

| Increased max connection capacity | | |
|---|---|---|
| Size | KXZE1 | KXZE2 |
| 615 | 50-130% | 50-160% |
| 670 | 50-130% | 50-160% |

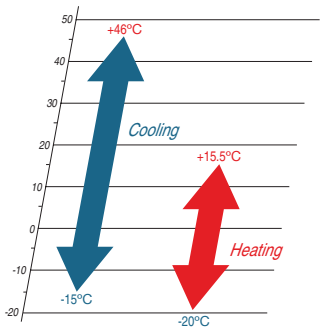
- High efficiency with EER up to 3.78.
- Extended external static pressure 50Pa to Max 85Pa.




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

*2 It is necessary to change the setting corresponding to each height difference in installation. The range of use is also defferent..

**Range of operation**




## Specifications

Exterior dimension : Please refer to page 43.

| Item | | | Model | FDC615KXZE2 | FDC670KXZE2 |
|---|---|---|---|---|---|
| Combination (FDC) | | | | 280KXZE2 | 335KXZE2 |
| | | | | 335KXZE2 | 335KXZE2 |
| Nominal horse power | | | | 22HP | 24HP |
| Power source | | | | 3 Phase 380-415V, 50Hz | |
| Starting current | | | A | 10 | |
| Max current | | | A | 40.2 | |
| Nominal capacity | Cooling | | kW | 61.5 | 67.0 |
| | Heating | | | 69.0 | 75.0 |
| Electrical characteristics | Power consumption | Cooling | kW | 16.24 | 17.96 |
| | | Heating | | 16.44 | 18.06 |
| Exterior dimensions | HxWxD | | mm | 1697x2700x720 | |
| Net weight | | | kg | 576 | |
| Refrigerant charge | R410A | | kg | 11.0x2 | |
| 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 | 71 |

1. The data are measured under the following conditions(ISO-T1,H1). Cooling: Indoor temp. of 27ºCDB, 19ºCWB, and outdoor temp. of 35ºCDB. Heating: Indoor temp. of 20ºCDB, and outdoor temp. of 7ºCDB, 6ºCWB.
2.Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.

# KXZ2 Heat pump systems
# 26 ~ 40HP (73.5kW~112.0kW)

Blue Fin

| Model No. | Nominal Cooling Capacity |
|---|---|
| FDC735KXZE2 | 73.5kW |
| FDC800KXZE2 | 80.0kW |
| FDC850KXZE2 | 85.0kW |
| FDC900KXZE2 | 90.0kW |
| FDC950KXZE2 | 95.0kW |
| FDC1000KXZE2 | 100.0kW |
| FDC1060KXZE2 | 106.0kW |
| FDC1120KXZE2 | 112.0kW |

NEW

FDC735

FDC800~1120

- The new KXZ2 series has a layered design and a refined new form.
- Connect up to 80 indoor units/up to 160% capacity. (FDC1000-1120:130%)

| Increased namber of connectible units | | |
|---|---|---|
| Size | KXZE1 | KXZE2 |
| 735 | 2-63 | 2-78 |
| 800 | 2-69 | 2-80 |
| 850 | 2-78 | 2-80 |

| Increased max connection capacity | | |
|---|---|---|
| Size | KXZE1 | KXZE2 |
| 735 | 50-130% | 50-160% |
| 800 | 50-130% | 50-160% |
| 850 | 50-130% | 50-160% |
| 900 | 50-130% | 50-160% |
| 950 | 50-130% | 50-160% |

- High efficiency with EER up to 3.68.
- Extended external static pressure 50Pa to Max 85Pa.
- Industry leading total piping length up to 1000m and a maximum height difference between indoor units has been increased to maximum of 30m.
- Wide range of operation.

## Specifications

Exterior dimension : Please refer to page 43, 45.

| Item | | | Model | FDC735KXZE2 | FDC800KXZE2 | FDC850KXZE2 | FDC900KXZE2 | FDC950KXZE2 | FDC1000KXZE2 | FDC1060KXZE2 | FDC1120KXZE2 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Combination (FDC) | | | | 335KXZE2 | 400KXZE2 | 400KXZE2 | 450KXZE2 | 475KXZE2 | 500KXZE2 | 500KXZE2 | 560KXZE2 |
| | | | | 400KXZE2 | 400KXZE2 | 450KXZE2 | 450KXZE2 | 475KXZE2 | 500KXZE2 | 560KXZE2 | 560KXZE2 |
| Nominal horse power | | | | 26HP | 28HP | 30HP | 32HP | 34HP | 36HP | 38HP | 40HP |
| Power source | | | | 3 Phase 380-415V, 50Hz | | | | | | | |
| Starting current | | | A | 10 | | | | 16 | | | |
| Max current | | | A | 52.1 | 64.0 | | | 80.4 | | | |
| Nominal capacity | Cooling | | kW | 73.5 | 80.0 | 85.0 | 90.0 | 95.0 | 100.0 | 106.0 | 112.0 |
| | Heating | | | 82.5 | 90.0 | 95.0 | 100.0 | 106.0 | 112.0 | 119.0 | 126.0 |
| Electrical characteristics | Power consumption | Cooling | kW | 19.96 | 21.96 | 24.96 | 27.95 | 27.94 | 28.02 | 31.51 | 35.00 |
| | | Heating | | 19.26 | 20.45 | 22.73 | 25.00 | 25.98 | 27.12 | 29.71 | 32.31 |
| Exterior dimensions | HxWxD | | mm | 2052x2700x720 | | | | | | | |
| Net weight | | | kg | 620 | 664 | | | 756 | | | |
| 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 | | | % | 50~160 | | | | | 50~130 | | |
| Number of connectable indoor units | | | | 78 | 80 | | | | | | |

1.The data are measured under the following conditions(ISO-T1,H1). Cooling: Indoor temp. of 27ºCDB, 19ºCWB, and outdoor temp. of 35ºCDB. Heating: Indoor temp. of 20ºCDB, and outdoor temp. of 7ºCDB, 6ºCWB.
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.

R410A

# KXZ2 Heat pump systems
# 42 ~ 48HP (120.kW~135.0kW)

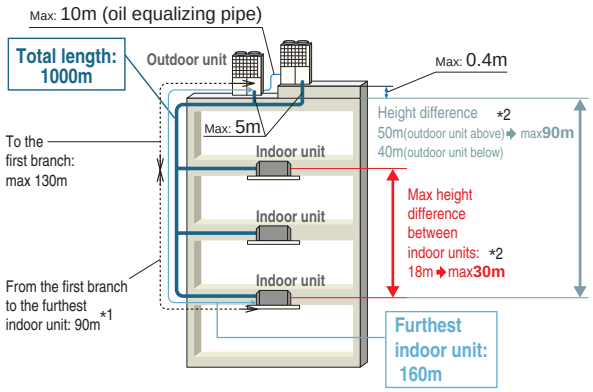
Blue Fin

| Model No. | Nominal Cooling Capacity |
|---|---|
| FDC1200KXZE2 | 120.0kW |
| FDC1250KXZE2 | 125.0kW |
| FDC1300KXZE2 | 130.0kW |
| FDC1350KXZE2 | 135.0kW |

NEW

- The new KXZ2 series has a layered design and a refined new form.
- Connect up to 80 indoor units/up to 130% capacity.
- High efficiency with EER up to 3.64.
- Extended external static pressure 50Pa to Max 85Pa.

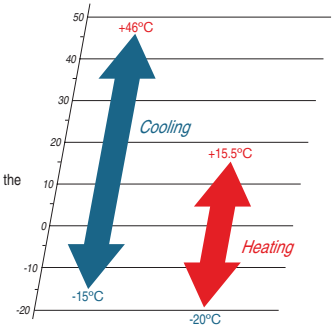
FDC1200~1350




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

*2 It is necessary to change the setting corresponding to each height difference in installation. The range of use is also defferent..

Range of operation




## Specifications

Exterior dimension : Please refer to page 45.

| Item | | | Model | FDC1200KXZE2 | FDC1250KXZE2 | FDC1300KXZE2 | FDC1350KXZE2 |
|---|---|---|---|---|---|---|---|
| Combination (FDC) | | | | 400KXZE2 | 400KXZE2 | 400KXZE2 | 450KXZE2 |
| | | | | 400KXZE2 | 400KXZE2 | 450KXZE2 | 450KXZE2 |
| | | | | 400KXZE2 | 450KXZE2 | 450KXZE2 | 450KXZE2 |
| Nominal horse power | | | | 42HP | 44HP | 46HP | 48HP |
| Power source | | | | 3 Phase 380-415V, 50Hz | | | |
| Starting current | | | A | 15 | | | |
| Max current | | | A | 96.0 | | | |
| Nominal capacity | Cooling | | kW | 120.0 | 125.0 | 130.0 | 135.0 |
| | Heating | | | 135.0 | 140.0 | 145.0 | 150.0 |
| Electrical characteristics | Power consumption | Cooling | kW | 32.94 | 35.94 | 38.93 | 41.93 |
| | | Heating | | 30.68 | 32.95 | 35.23 | 37.50 |
| Exterior dimensions | HxWxD | | mm | 2052x4050x720 | | | |
| Net weight | | | kg | 996 | | | |
| 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 | | | |

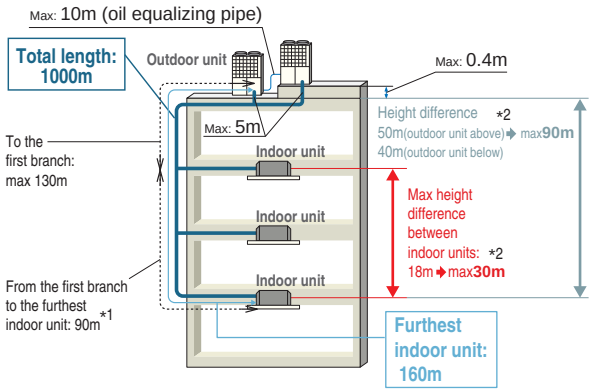
1. The data are measured under the following conditions(ISO-T1,H1). Cooling: Indoor temp. of 27ºCDB, 19ºCWB, and outdoor temp. of 35ºCDB. Heating: Indoor temp. of 20ºCDB, and outdoor temp. of 7ºCDB, 6ºCWB.
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.
3. [ ] : Pipe sizes applicable to European installations are shown in parentheses.

# KXZ2 Heat pump systems
# 50 ~ 60HP (142.5kW~168.0kW)

| Model No. | Nominal Cooling Capacity |
|---|---|
| FDC1425KXZE2 | 142.5kW |
| FDC1450KXZE2 | 145.0kW |
| FDC1500KXZE2 | 150.0kW |
| FDC1560KXZE2 | 156.0kW |
| FDC1620KXZE2 | 162.0kW |
| FDC1680KXZE2 | 168.0kW |

- The new KXZ2 series has a layered design and a refined new form.
- Connect up to 80 indoor units/up to 130% capacity.
- High efficiency with EER up to 3.40.
- Extended external static pressure 50Pa to Max 85Pa.

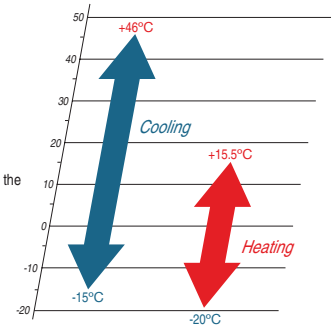
FDC1425~1680




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

*2 It is necessary to change the setting corresponding to each height difference in installation. The range of use is also defferent..

**Range of operation**




# Specifications

Exterior dimension : Please refer to page 45.

| Item | | | Model | FDC1425KXZE2 | FDC1450KXZE2 | FDC1500KXZE2 | FDC1560KXZE2 | FDC1620KXZE2 | FDC1680KXZE2 |
|---|---|---|---|---|---|---|---|---|---|
| Combination (FDC) | | | | 475KXZE2 | 475KXZE2 | 500KXZE2 | 500KXZE2 | 500KXZE2 | 560KXZE2 |
| | | | | 475KXZE2 | 475KXZE2 | 500KXZE2 | 500KXZE2 | 560KXZE2 | 560KXZE2 |
| | | | | 475KXZE2 | 500KXZE2 | 500KXZE2 | 560KXZE2 | 560KXZE2 | 560KXZE2 |
| Nominal horse power | | | | 50HP | 52HP | 54HP | 56HP | 58HP | 60HP |
| Power source | | | | 3 Phase 380-415V, 50Hz | | | | | |
| Starting current | | | A | 24 | | | | | |
| Max current | | | A | 120.6 | | | | | |
| Nominal capacity | Cooling | | kW | 142.5 | 145.0 | 150.0 | 156.0 | 162.0 | 168.0 |
| | Heating | | | 159.0 | 162.0 | 168.0 | 175.0 | 182.0 | 189.0 |
| Electrical characteristics | Power consumption | Cooling | kW | 41.91 | 41.95 | 42.03 | 45.52 | 49.01 | 52.50 |
| | | Heating | | 38.97 | 39.54 | 40.68 | 43.27 | 45.87 | 48.46 |
| Exterior dimensions | HxWxD | | mm | 2052x4050x720 | | | | | |
| Net weight | | | kg | 1134 | | | | | |
| 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,H1). Cooling: Indoor temp. of 27ºCDB, 19ºCWB, and outdoor temp. of 35ºCDB. Heating: Indoor temp. of 20ºCDB, and outdoor temp. of 7ºCDB, 6ºCWB.
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.

R410A

# KXZ2 Hi-COP combination systems
# 20 ~ 40HP(56.0kW~113.5kW)

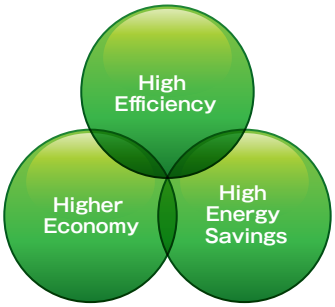
| Model No. | | Nominal Cooling Capacity |
|---|---|---|
| FDC560KXZXE2 | (FDC280+FDC280) | 56.0kW |
| FDC850KXZXE2 | (FDC280+FDC280+FDC280) | 84.0kW |
| FDC900KXZXE2 | (FDC280+FDC280+FDC335) | 89.5kW |
| FDC950KXZXE2 | (FDC280+FDC335+FDC335) | 95.0kW |
| FDC1000KXZXE2 | (FDC335+FDC335+FDC335) | 100.5kW |
| FDC1060KXZXE2 | (FDC280+FDC335+FDC400) | 107.0kW |
| FDC1120KXZXE2 | (FDC335+FDC400+FDC400) | 113.5kW |

NEW

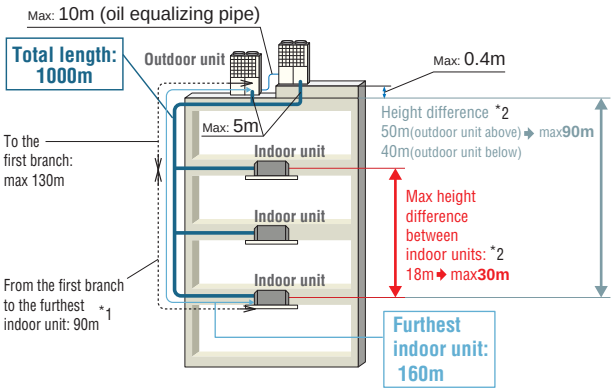
Blue Fin

- The new KXZ2 series has a layered design and a refined new form.
- This series can connect indoor unit capacity up to 160%. (FDC1000-1120:130%)
- High efficiency with EER up to 3.86.
- Extended external static pressure 50Pa to Max 85Pa.

FDC560




FDC850 - 1000

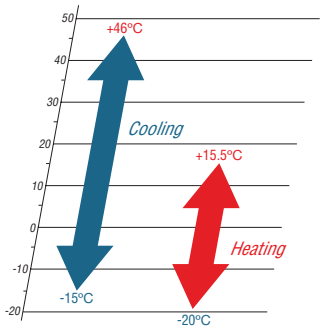



FDC1060

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

*2 It is necessary to change the setting corresponding to each height difference in installation.The range of use is also different.

**Range of operation**




FDC1120

# Specifications

| Item | | | Model | FDC560KXZXE2 | FDC850KXZXE2 | FDC900KXZXE2 |
|---|---|---|---|---|---|---|
| Combination (FDC) | | | | 280KXZE2 | 280KXZE2 | 280KXZE2 |
| | | | | 280KXZE2 | 280KXZE2 | 280KXZE2 |
| | | | | - | 280KXZE2 | 335KXZE2 |
| Nominal horse power | | | | 20HP | 30HP | 32HP |
| Power source | | | | 3 Phase 380-415V, 50Hz | | |
| Starting current | | | A | 10 | 15 | |
| Max current | | | A | 40.2 | 60.3 | |
| Nominal capacity | Cooling | | kW | 56.0 | 84.0 | 89.5 |
| | Heating | | | 63.0 | 94.5 | 100.5 |
| Electrical characteristics | Power consumption | Cooling | kW | 14.51 | 21.76 | 23.49 |
| | | Heating | | 14.82 | 22.23 | 23.85 |
| Exterior dimensions | HxWxD | | mm | 1697x2700x720 | 1697x4050x720 | |
| Net weight | | | kg | 576 | 864 | |
| Refrigerant charge | R410A | | kg | 11.0x2 | 11.0x3 | |
| Refrigerant piping size | Liquid line | | mm(in) | ø12.7(1/2") | ø15.88(5/8") | |
| | Gas line | | | ø28.58(1 1/8") | ø31.75(1 1/4") [ø34.92(1 3/8")] | |
| Capacity connection | | | % | 80~160 | | |
| Number of connectable indoor units | | | | 59 | 80 | |

| Item | | | Model | FDC950KXZXE2 | FDC1000KXZXE2 | FDC1060KXZXE2 | FDC1120KXZXE2 |
|---|---|---|---|---|---|---|---|
| Combination (FDC) | | | | 280KXZE2 | 335KXZE2 | 335KXZE2 | 335KXZE2 |
| | | | | 335KXZE2 | 335KXZE2 | 335KXZE2 | 400KXZE2 |
| | | | | 335KXZE2 | 335KXZE2 | 400KXZE2 | 400KXZE2 |
| Nominal horse power | | | | 34HP | 36HP | 38HP | 40HP |
| Power source | | | | 3 Phase 380-415V, 50Hz | | | |
| Starting current | | | A | 15 | | | |
| Max current | | | A | 60.3 | | 72.2 | 84.1 |
| Nominal capacity | Cooling | | kW | 95.0 | 100.5 | 107.0 | 113.5 |
| | Heating | | | 106.5 | 112.5 | 120.0 | 127.5 |
| Electrical characteristics | Power consumption | Cooling | kW | 25.22 | 26.94 | 28.94 | 30.94 |
| | | Heating | | 25.47 | 27.09 | 28.29 | 29.48 |
| Exterior dimensions | HxWxD | | mm | 1697x4050x720 | | 2052x4050x720 | |
| Net weight | | | kg | 864 | | 908 | 952 |
| Refrigerant charge | R410A | | kg | 11.0x3 | | 11.0x2+11.5 | 11.0+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 | | | % | 80~160 | 80~130 | | |
| Number of connectable indoor units | | | | 80 | | | |

1. The data are measured under the following conditions(ISO-T1,H1). Cooling: Indoor temp. of 27ºCDB, 19ºCWB, and outdoor temp. of 35ºCDB. Heating: Indoor temp. of 20ºCDB, and outdoor temp. of 7ºCDB, 6ºCWB.
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.
3. [ ] : Pipe sizes applicable to European installations are shown in parentheses.

# Dimensions

**Please refer to page 43, 45.**

# KXZ2 Heat recovery systems - for simultaneous heating and cooling

The heat recovery systems operate with 3 inter-connecting pipes, commonly referred to as a '3-pipe system'.
The systems provide both heating and cooling operations simultaneously to individual indoor units according to room conditions or user requirements.
The systems incorporate highly sophisticated controls transferring heat load energy from the entire building to provide an efficient, comfortable heating and cooling environment.

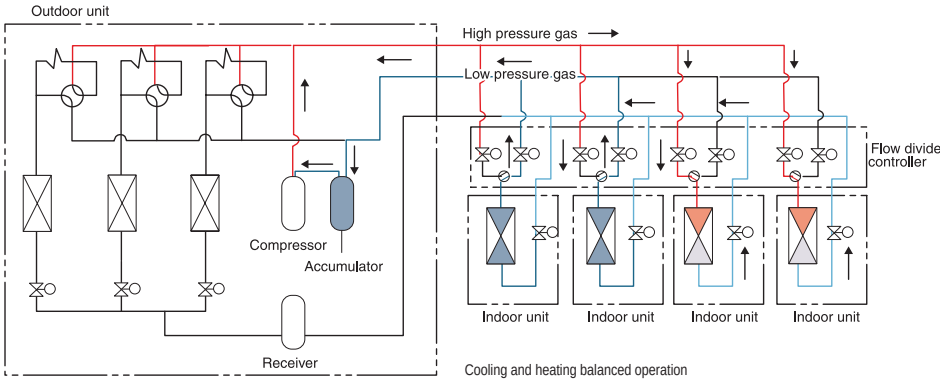
The range starts from a cooling capacity of 8 HP (22.4 kW) and expands up to 24 HP (67.0kW) using a single outdoor unit. Outdoor units can also be used as a modular system (twin or triple) providing up to 60 HP (168.0 kW) of cooling capacity.

## Heat recovery systems

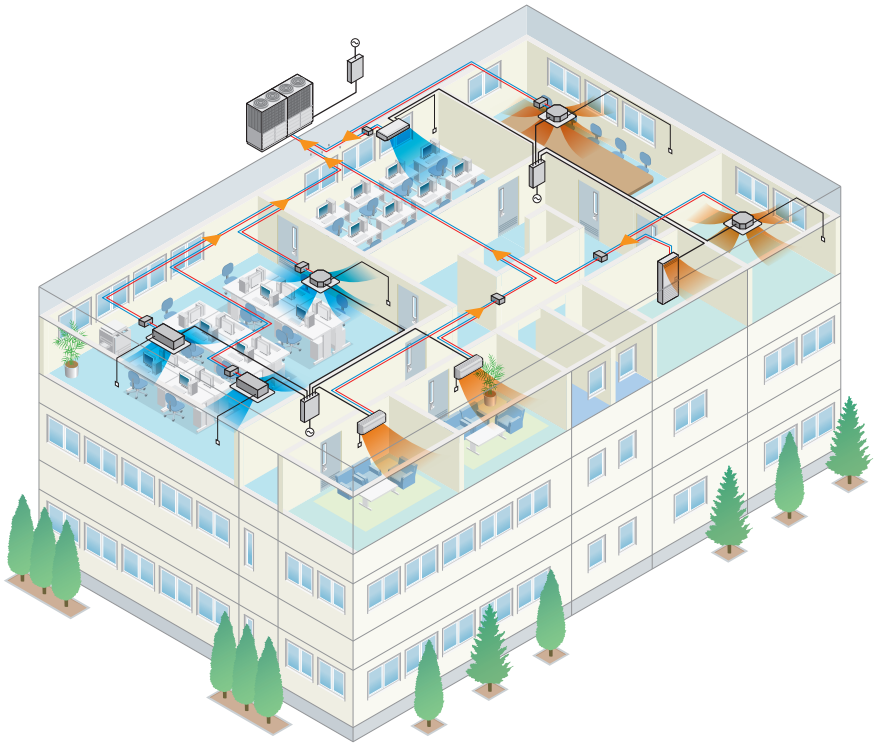
The system interconnecting pipework has a unique arrangement, with two of the interconnecting pipes routed through a PFD Distribution Controller, and the third pipe connected directly to each indoor unit from the main pipe run. This reduces installation time, and the number of brazed connections on site. The PFD Distribution Controllers are available for single connection, or as a combined PFD 4-way connection, with each connected unit having independent cooling or heating operation.

During defrosting or during automatic protection of a compressor, which is activated every several hours in heating operation, heating operation temporarily stops and restarts after some period. The series has the same automatic protection of compressor in cooling operation also. During this protection period air flow only comes on and cooling operation restarts after some period.

These models are not suitable for year round cooling applications -such as server rooms- especially in areas where the outdoor air temperature goes below 5°C.



Cooling and heating balanced operation



# Heat recovery systems KXZRE2

NEW

FDC224~335

FDC400~670

| 22.4kW | 28.0kW | 33.5kW |
|---|---|---|
| 8HP | 10HP | 12HP |
| FDC224KXZRE2 | FDC280KXZRE2 | FDC335KXZRE2 |

| 40.0kW | 45.0kW | 47.5kW | 50.0kW | 56.0kW | 61.5kW | 67.0kW |
|---|---|---|---|---|---|---|
| 14HP | 16HP | 17HP | 18HP | 20HP | 22HP | 24HP |
| FDC400KXZRE2 | FDC450KXZRE2 | FDC475KXZRE2 | FDC500KXZRE2 | FDC560KXZRE2 | FDC615KXZRE2 | FDC670KXZRE2 |

FDC735

FDC800~1120

FDC1200~1680

| 73.5kW | 80.0kW | 85.0kW | 90.0kW | 95.0kW | 100.0kW | 106.0kW | 112.0kW |
|---|---|---|---|---|---|---|---|
| 26HP | 28HP | 30HP | 32HP | 34HP | 36HP | 38HP | 40HP |
| FDC735KXZRE2 | FDC800KXZRE2 | FDC850KXZRE2 | FDC900KXZRE2 | FDC950KXZRE2 | FDC1000KXZRE2 | FDC1060KXZRE2 | FDC1120KXZRE2 |
| FDC335KXZRE2 | FDC400KXZRE2 | FDC400KXZRE2 | FDC450KXZRE2 | FDC475KXZRE2 | FDC500KXZRE2 | FDC500KXZRE2 | FDC560KXZRE2 |
| FDC400KXZRE2 | FDC400KXZRE2 | FDC450KXZRE2 | FDC450KXZRE2 | FDC475KXZRE2 | FDC500KXZRE2 | FDC560KXZRE2 | FDC560KXZRE2 |

| 120.0kW | 125.0kW | 130.0kW | 135.0kW | 142.5kW | 145.0kW | 150.0kW | 156.0kW | 162.0kW | 168.0kW |
|---|---|---|---|---|---|---|---|---|---|
| 42HP | 44HP | 46HP | 48HP | 50HP | 52HP | 54HP | 56HP | 58HP | 60HP |
| FDC1200KXZRE2 | FDC1250KXZRE2 | FDC1300KXZRE2 | FDC1350KXZRE2 | FDC1425KXZRE2 | FDC1450KXZRE2 | FDC1500KXZRE2 | FDC1560KXZRE2 | FDC1620KXZRE2 | FDC1680KXZRE2 |
| FDC400KXZRE2 | FDC400KXZRE2 | FDC400KXZRE2 | FDC450KXZRE2 | FDC475KXZRE2 | FDC475KXZRE2 | FDC500KXZRE2 | FDC500KXZRE2 | FDC500KXZRE2 | FDC560KXZRE2 |
| FDC400KXZRE2 | FDC400KXZRE2 | FDC450KXZRE2 | FDC450KXZRE2 | FDC475KXZRE2 | FDC475KXZRE2 | FDC500KXZRE2 | FDC500KXZRE2 | FDC560KXZRE2 | FDC560KXZRE2 |
| FDC400KXZRE2 | FDC450KXZRE2 | FDC450KXZRE2 | FDC450KXZRE2 | FDC475KXZRE2 | FDC500KXZRE2 | FDC500KXZRE2 | FDC560KXZRE2 | FDC560KXZRE2 | FDC560KXZRE2 |

# Heat recovery systems Hi-COP combination KXZRXE2

NEW

FDC450~670

| 45.0kW | 50.0kW | 56.0kW | 61.5kW | 67.0kW |
|---|---|---|---|---|
| 16HP | 18HP | 20HP | 22HP | 24HP |
| FDC450KXZRXE2 | FDC500KXZRXE2 | FDC560KXZRXE2 | FDC615KXZRXE2 | FDC670KXZRXE2 |
| FDC224KXZRE2 | FDC224KXZRE2 | FDC280KXZRE2 | FDC280KXZRE2 | FDC335KXZRE2 |
| FDC224KXZRE2 | FDC280KXZRE2 | FDC280KXZRE2 | FDC335KXZRE2 | FDC335KXZRE2 |

FDC735~1000

| 73.5kW | 80.0kW | 85.0kW | 90.0kW | 95.0kW | 100.0kW |
|---|---|---|---|---|---|
| 26HP | 28HP | 30HP | 32HP | 34HP | 36HP |
| FDC735KXZRXE2 | FDC800KXZRXE2 | FDC850KXZRXE2 | FDC900KXZRXE2 | FDC950KXZRXE2 | FDC1000KXZRXE2 |
| FDC224KXZRE2 | FDC224KXZRE2 | FDC280KXZRE2 | FDC280KXZRE2 | FDC280KXZRE2 | FDC335KXZRE2 |
| FDC224KXZRE2 | FDC280KXZRE2 | FDC280KXZRE2 | FDC280KXZRE2 | FDC335KXZRE2 | FDC335KXZRE2 |
| FDC280KXZRE2 | FDC280KXZRE2 | FDC280KXZRE2 | FDC335KXZRE2 | FDC335KXZRE2 | FDC335KXZRE2 |

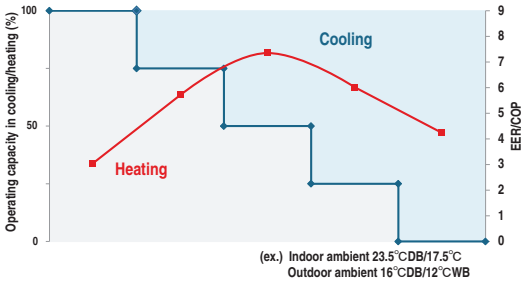
# Heat recovery features

## High efficiency in simultaneous cooling and heating mode

Highly efficient operation mode is automatically determined inside the refrigerant system during simultaneous cooling and heating operation.
Heat recovery efficiency is maximized by this control and Max COP 9.0 (*) is achieved during operation with simultaneous cooling and heating.

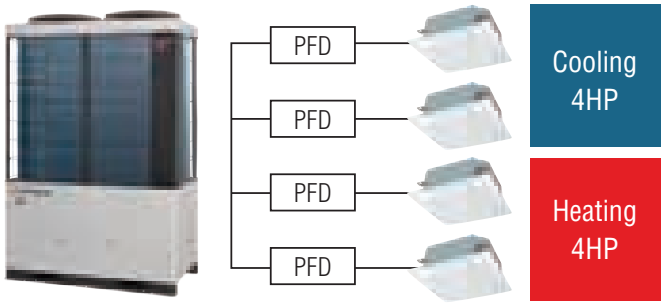
* Conditions for simultaneous cooling and heating (Our estimation in 8HP operation and the following conditions: Temperature outside the room DB16°C/WB12°C, temperature in the cooled room DB27°C/19°C, and temperature in the heated room DB20°C/WB14.5°C)

### Energy efficiency in heat recovery mode




**Max COP > 9.0**

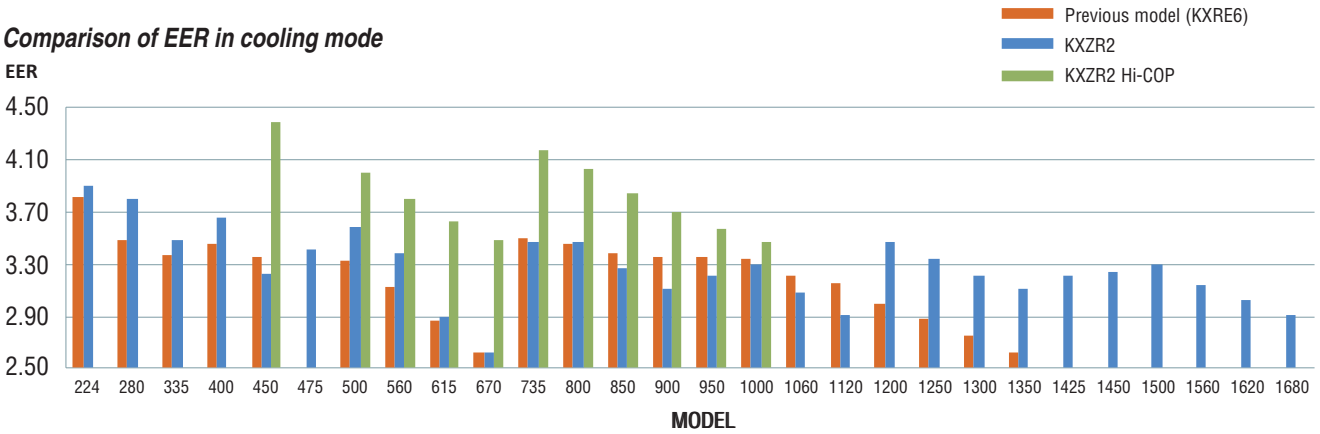
(Condition) FDC224KXZRE2
50% Indoor unit in cooling (27°CDB/19°C)
50% Indoor unit in heating (20°CDB/14.5°C)
Outdoor ambient 16°CDB/12°CWB



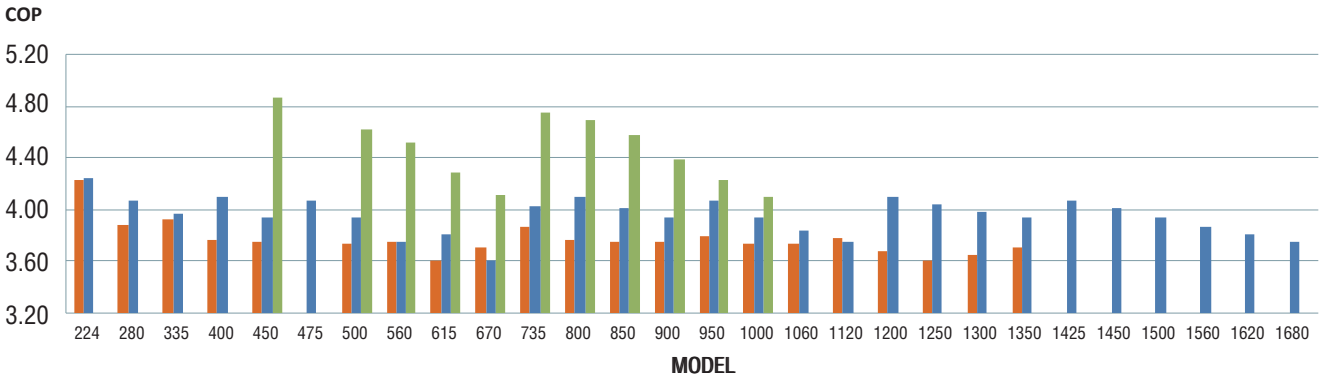

## High Efficiency

The graphs below highlight the improved efficiencies of the KXZR and Hi-COP models compared to the previous models.

### Comparison of EER in cooling mode




### Comparison of COP in heating mode



## *Continuous Heating Capacity Control (CHCC) -*

Our CHCC defrosting control achieves more capacity than that of previous model in low ambient temperature condition.
Target pressure is controlled automatically before capacity drops, which makes longer period of heating operation and shorter defrosting time.
(*1) Patent is now under being applied. (*2) This control will be activated in specific condition. Please refer to the technical manual in detail.

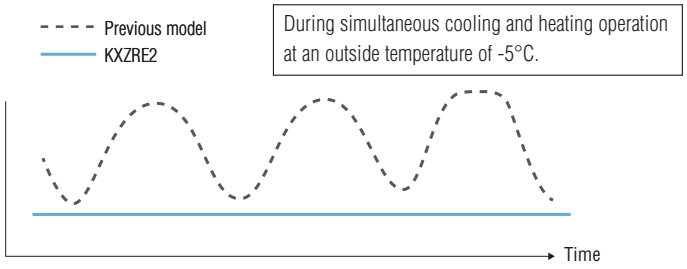
## *Improved cooling capacity in low ambient temperature*

Small split heat exchanger and pressure control make it possible for the outdoor unit to work in cooling operation even at low ambient temperature condition, which achieves more capacity in such low ambient condition as -5℃, compared to previous model.

In previous model, when high demand for heating and low cooling demand are required at the same time in low ambient temperature condition, pressure control is adjusted to keep more heating capacity than the cooling capacity.
Adopted heat exchanger and pressure control in KXZR series, has improved its capacity for both heating and cooling capacity at the same time. (*)

(*) Refrigerant system will prioritize required heating mode more than low cooling demand, in case most of the indoor units are operated in heating mode.

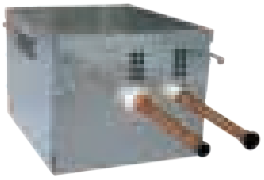
**Blown air temperature in the cooled room**

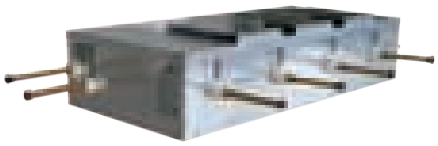



## *Improvement of the PFD controller noise level*

Sound insulation box design specification, reducing the level of noises from the PFD controller generated due to the flow of refrigerant or other causes.

**Sound insulation design**





## *Indoor unit capacity connection*

| HP | KXZR | HP | KXZRX |
|---|---|---|---|
| 8~16 | **200%** | 16 | **200%** |
| 17~34 | **160%** | 18~34 | **160%** |
| 36~60 | 130% | 36 | 130% |

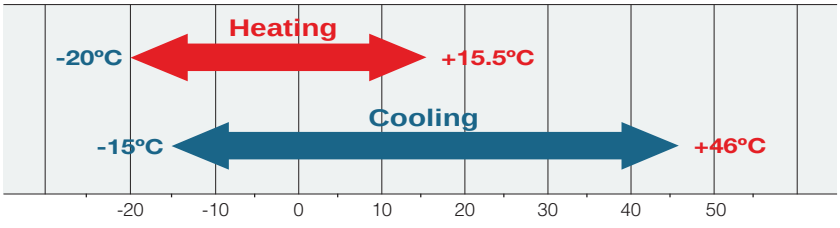
### *Connectable indoor units*

Up to 80 indoor units can be connected to the largest capacity outdoor unit, with a range of 15 types of exposed or concealed indoor unit, in several capacities, a choice of 82 indoor units is available.

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

## *Wide Range of Operation*

KXZR series permits an extensible system design with a heating range operation under a low temperature condition down to -20˚C and a cooling range operation up to 46˚C



R410A

# KXZ2 Heat recovery 3-pipe systems

## 8 ~ 12HP(22.4kW~33.5kW) - *for simultaneous heating and cooling*

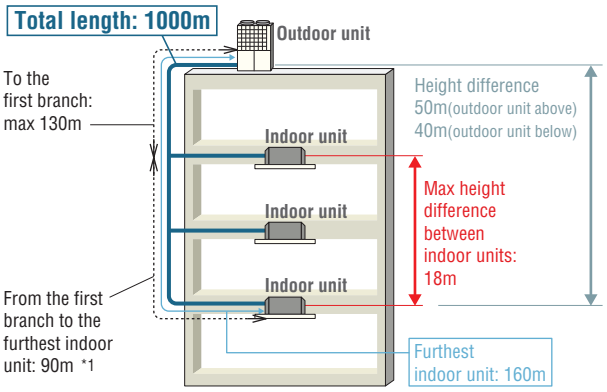
| Model No. | Nominal Cooling Capacity |
|---|---|
| FDC224KXZRE2 | 22.4kW |
| FDC280KXZRE2 | 28.0kW |
| FDC335KXZRE2 | 33.5kW |

NEW

Blue Fin

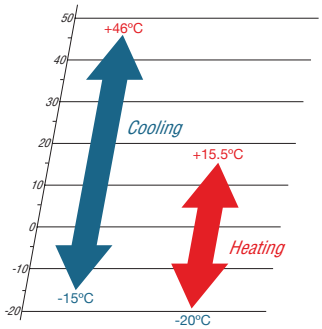
Uniform footprint of models
allows continuous side-by-side installation

- The new KXZ2 series has a layered design and a refined new form.
- Connect up to 44 indoor units / up to 200% capacity.
- High efficiency with EER up to 3.89.
- 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.

**Range of operation**



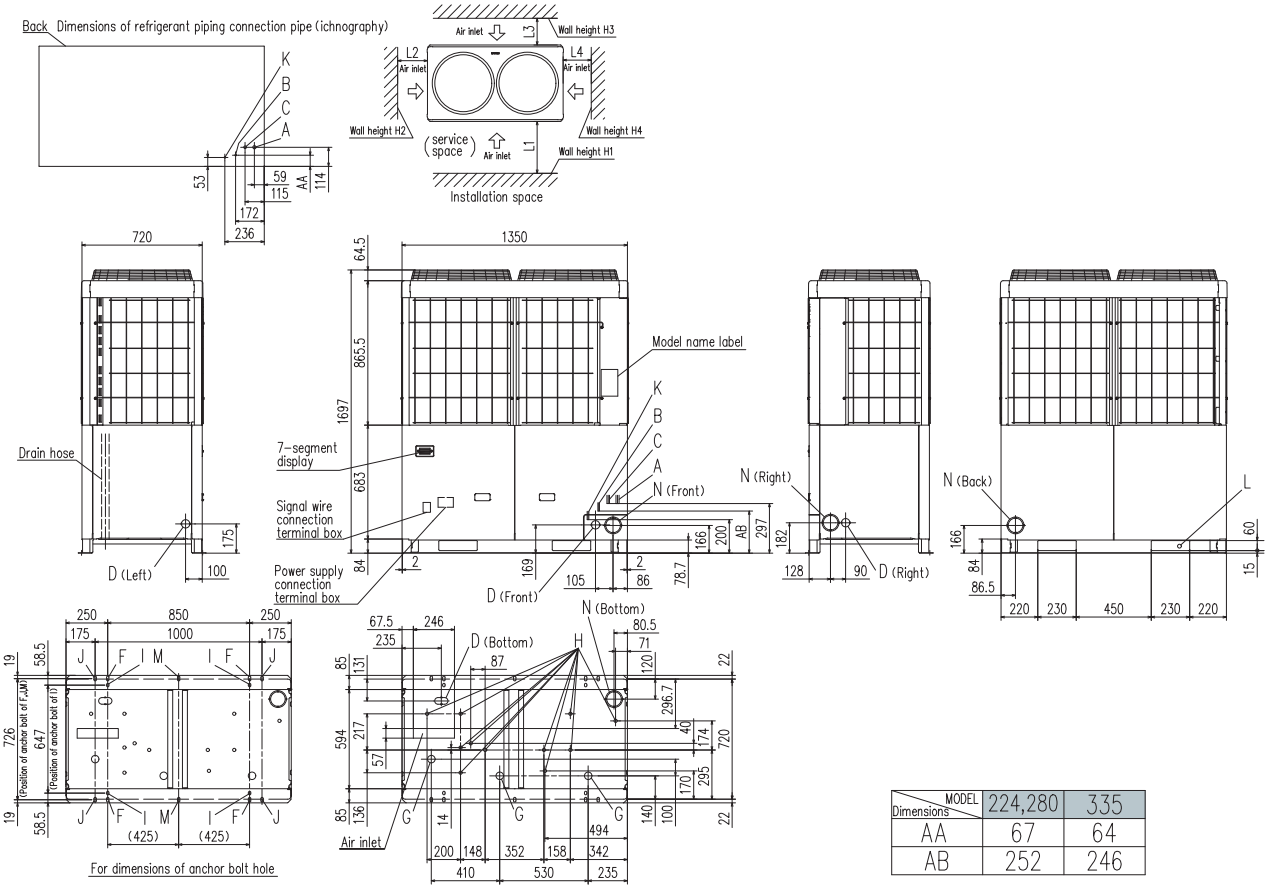

## Specifications

| Item | | | Model | FDC224KXZRE2 | FDC280KXZRE2 | FDC335KXZRE2 |
|---|---|---|---|---|---|---|
| Nominal horse power | | | | 8HP | 10HP | 12HP |
| Power source | | | | 3 Phase 380-415V, 50Hz | | |
| Starting current | | | A | 5 | | |
| Max current | | | A | 16.0 | 20.0 | 21.2 |
| Nominal capacity | Cooling | | kW | 22.4 | 28.0 | 33.5 |
| | Heating | | | 22.4 | 28.0 | 33.5 |
| Electrical characteristics | Power consumption | Cooling | kW | 5.76 | 7.39 | 9.65 |
| | | Heating | | 5.27 | 6.86 | 8.44 |
| Exterior dimensions | HxWxD | | mm | 1697x1350x720 | | |
| Net weight | | | kg | 305 | | |
| Sound pressure level | Cooling/Heating | | dB(A) | 56/58 | 55/57 | 63/64 |
| Refrigerant | Type / GWP | | | R410A / 2088 | | |
| | Charge | | kg/TCO2Eq | 11.5 / 24.012 | | |
| Refrigerant piping size | Liquid line | | mm(in) | ø9.52(3/8") | | ø12.7(1/2") |
| | Suction gas line | | | ø19.05(5/8") | ø22.22(7/8") | ø25.4(1") [ø22.22(7/8")] |
| | Discharge gas line | | | ø15.88(5/8") | ø19.05(3/4") | |
| Capacity connection | | | % | 50~200 | | |
| Number of connectable indoor units | | | | 29 | 37 | 44 |

1. The data are measured under the following conditions(ISO-T1,H1). Cooling: Indoor temp. of 27ºCDB, 19ºCWB, and outdoor temp. of 35ºCDB. Heating: Indoor temp. of 20ºCDB, and outdoor temp. of 7ºCDB, 6ºCWB.
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.
3. 'tonne(s) of $CO_2$ equivalent' means a quantity of greenhouse gases- expressed as the product of the weight of the greenhouse gases in metric tonnes and of their global warming potential.
4. [ ] : Pipe sizes applicable to European installations are shown in parentheses.

# Dimensions

All measurements in mm.




| Dimensions \ MODEL | 224,280 | 335 |
|---|---|---|
| AA | 67 | 64 |
| AB | 252 | 246 |

| Mark | Content | 224 | 280 | 335 |
|---|---|---|---|---|
| A | Refrigerant suction gas piping connection entrance | ø19.05(Brazing) | ø22.22(Brazing) | ø25.4(Brazing) |
| B | Refrigerant liquid piping connection entrance | ø9.52(Flare) | | ø12.7(Flare) |
| C | Refrigerant discharge gas piping connection entrance | ø15.88(Brazing) | ø19.05(Brazing) | |
| D | Power supply entry hole | ø50(right · left · front),long hole 40x80(Bottom) | | |
| F | Anchor bolt hole | M10 x 4 places | | |
| G | Drain waste water hose hole | ø45 x 3 places | | |
| H | Drain hole | ø20 x 11 places | | |
| K | Refrigerant oil equalization piping connection entrance | ø9.52(Flare) | | |
| L | Carrying in or hole for hanging | 230x60 | | |
| N | Refrigerant piping exit hole | ø88(or ø100) | | |

| Installation example | | |
|---|---|---|
| Dimensions | 1 | 2 |
| $L_1$ | 500 | Open |
| $L_2$ | 10(30) | 10(30) |
| $L_3$ | 100 | 100 |
| $L_4$ | 10(30) | Open |
| $H_1$ | 1500 | Open |
| $H_2$ | No limit | No limit |
| $H_3$ | 1000 | No limit |
| $H_4$ | No limit | Open |

() :In case it is the promised installation location that the outdoor unit is used on conditions with the ambient temperature of 43℃ or more.

# KXZ2 Heat recovery 3-pipe systems

## 14 ~ 24HP(40.0kW~67.0kW) - *for simultaneous heating and cooling*

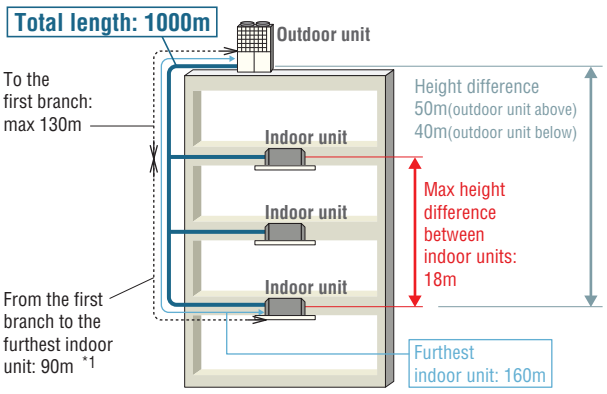
| Model No. | Nominal Cooling Capacity |
|---|---|
| FDC400KXZRE2 | 40.0kW |
| FDC450KXZRE2 | 45.0kW |
| FDC475KXZRE2 | 47.5kW |
| FDC500KXZRE2 | 50.0kW |
| FDC560KXZRE2 | 56.0kW |
| FDC615KXZRE2 | 61.5kW |
| FDC670KXZRE2 | 67.0kW |

NEW

Blue Fin

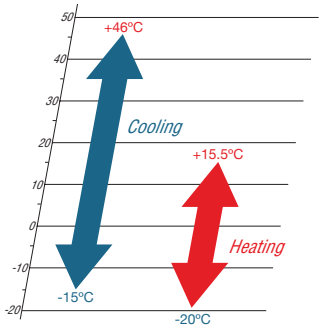
- The new KXZ2 series has a layered design and a refined new form.
- Connect up to 71 indoor units / up to 160% capacity.(FDC400-450:200%)
- High efficiency with EER up to 3.46.
- Industry leading total piping length up to 1000m and a maximum pipe run of 160m.

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




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

**Range of operation**



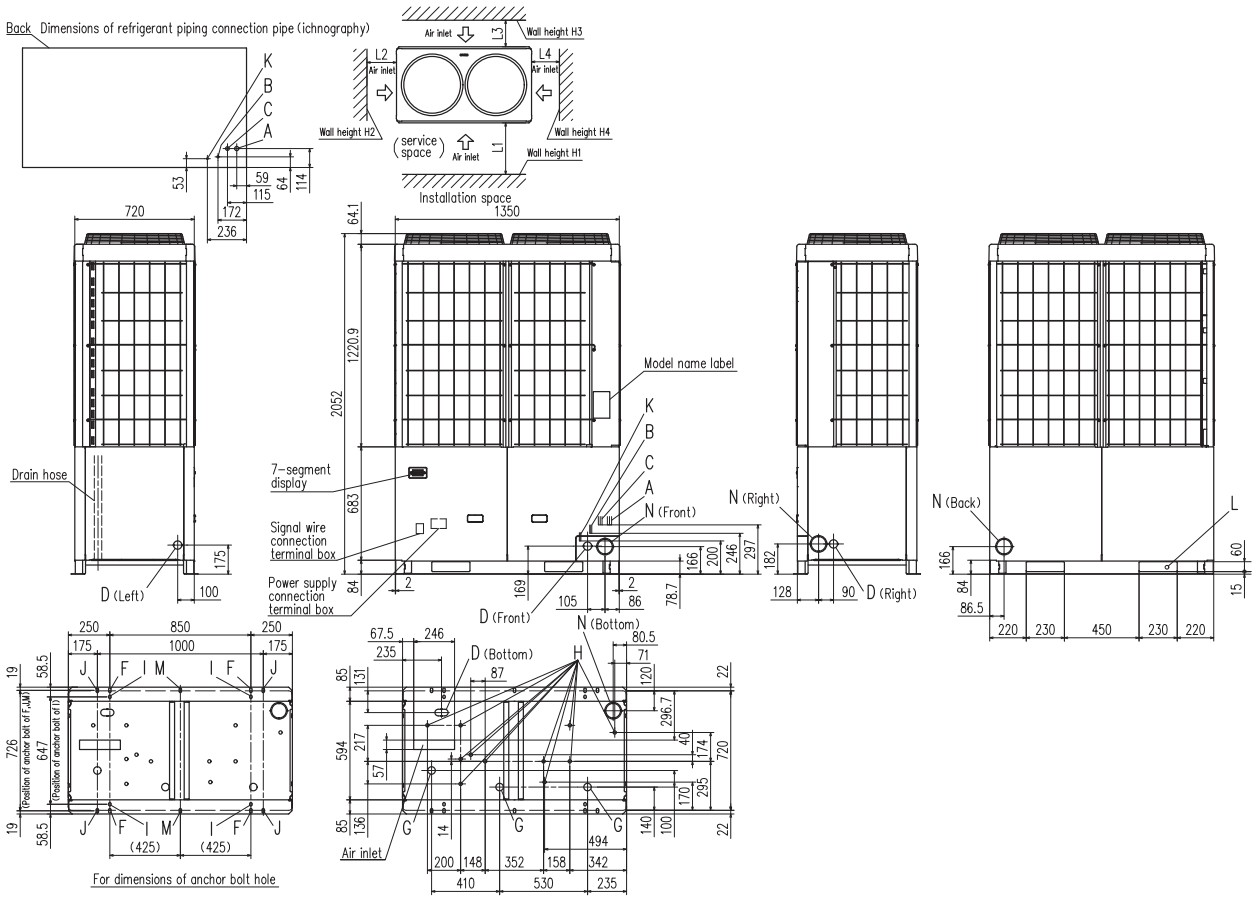

## Specifications

| Item | | | Model | FDC400KXZRE2 | FDC450KXZRE2 | FDC475KXZRE2 | FDC500KXZRE2 | FDC560KXZRE2 | FDC615KXZRE2 | FDC670KXZRE2 |
|---|---|---|---|---|---|---|---|---|---|---|
| Nominal horse power | | | | 14HP | 16HP | 17HP | 18HP | 20HP | 22HP | 24HP |
| Power source | | | | 3 Phase 380-415V, 50Hz | | | | | | |
| Starting current | | | A | 5 | | 8 | | | | |
| Max current | | | A | 30.0 | 32.0 | 40.4 | 41.0 | 41.6 | 42.0 | 42.4 |
| Nominal capacity | Cooling | | kW | 40.0 | 45.0 | 47.5 | 50.0 | 56.0 | 61.5 | 67.0 |
| | Heating | | | 40.0 | 45.0 | 47.5 | 50.0 | 56.0 | 61.5 | 63.0 |
| Electrical characteristics | Power consumption | Cooling | kW | 11.56 | 14.47 | 14.84 | 15.20 | 19.31 | 21.35 | 25.57 |
| | | Heating | | 9.76 | 11.39 | 11.67 | 12.69 | 14.93 | 16.14 | 17.45 |
| Exterior dimensions | HxWxD | | mm | 2052x1350x720 | | | | | | |
| Net weight | | | kg | 372 | | 420 | | | | |
| Sound pressure level | Cooling/Heating | | dB(A) | 61/62 | 61/62 | 61/62 | 61/62 | 64/63 | 65/64 | 65/64 |
| Refrigerant | Type / GWP | | | R410A / 2088 | | | | | | |
| | Charge | | kg/TCO2Eq | 11.5 / 24.012 | | | | | | |
| Refrigerant piping size | Liquid line | | mm(in) | ø12.7(1/2") | | | | | | |
| | Suction gas line | | | ø25.4(1") [ø28.58(1 1/8")] | ø28.58(1 1/8") | | | | | |
| | Discharge gas line | | | ø22.22(7/8") | | | | | ø25.4(1") [ø22.22(7/8")] | |
| Capacity connection | | | % | 50~200 | | 50~160 | | | | |
| Number of connectable indoor units | | | | 53 | 60 | 50 | 53 | 59 | 65 | 71 |

1. The data are measured under the following conditions(ISO-T1, H1). Cooling: Indoor temp. of 27ºCDB, 19ºCWB, and outdoor temp. of 35ºCDB. Heating: Indoor temp. of 20ºCDB, and outdoor temp. of 7ºCDB, 6ºCWB.
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.
3. 'tonne(s) of $CO_2$ equivalent' means a quantity of greenhouse gases- expressed as the product of the weight of the greenhouse gases in metric tonnes and of their global warming potential.
4. [ ] : Pipe sizes applicable to European installations are shown in parentheses.

# Dimensions

All measurements in mm.




| Mark | Content | 400 | 450 | 475 | 500 | 560 | 615 | 670 |
|---|---|---|---|---|---|---|---|---|
| A | Refrigerant suction gas piping connection entrance | ø25.4 (Brazing) | ø28.58(Brazing) | | | | | |
| B | Refrigerant liquid piping connection entrance | ø12.7(Flare) | | | | | | |
| C | Refrigerant discharge gas piping connection entrance | ø22.22(Brazing) | | | | | ø25.4(Brazing) | |
| D | Power supply entry hole | ø50(right · left · front),long hole 40x80(Bottom) | | | | | | |
| F | Anchor bolt hole | M10 x 4 places | | | | | | |
| G | Drain waste water hose hole | ø45 x 3 places | | | | | | |
| H | Drain hole | ø20 x 11 places | | | | | | |
| K | Refrigerant oil equalization piping connection pipe | ø9.52(Flare) | | | | | | |
| L | Carrying in or hole for hanging | 230x60 | | | | | | |
| N | Refrigerant piping exit hole | ø88(or ø100) | | | | | | |

| Installation example | | |
|---|---|---|
| Dimensions | 1 | 2 |
| $L_1$ | 500 | Open |
| $L_2$ | 10(30) | 10(30) |
| $L_3$ | 100 | 100 |
| $L_4$ | 10(30) | Open |
| $H_1$ | 1500 | Open |
| $H_2$ | No limit | No limit |
| $H_3$ | 1000 | No limit |
| $H_4$ | No limit | Open |

() :In case it is the promised installation location that the outdoor unit is used on conditions with the ambient temperature of 43ºC or more.

R410A

# KXZ2 Heat recovery 3-pipe systems
# 26 ~ 40HP (73.5kW~112.0kW)

*- for simultaneous heating and cooling*

Blue Fin

| Model No. | Cooling Capacity |
|---|---|
| FDC735KXZRE2 | 73.5kW |
| FDC800KXZRE2 | 80.0kW |
| FDC850KXZRE2 | 85.0kW |
| FDC900KXZRE2 | 90.0kW |
| FDC950KXZRE2 | 95.0kW |
| FDC1000KXZRE2 | 100.0kW |
| FDC1060KXZRE2 | 106.0kW |
| FDC1120KXZRE2 | 112.0kW |

- The new KXZ2 series has a layered design and a refined new form.
- Connect up to 80 indoor units / up to 160% capacity.(FDC1000-1120:130%)
- High efficiency with EER up to 3.47.
- Industry leading total piping length up to 1000m and a maximum pipe run of 160m.
- Wide range of operation.

NEW

FDC735

## Specifications

| Item | | | Model | FDC735KXZRE2 |
|---|---|---|---|---|
| Combination (FDC) | | | | 335KXZRE2 |
| | | | | 400KXZRE2 |
| Nominal horse power | | | | 26HP |
| Power source | | | | 3 Phase 380-415V, 50Hz |
| Starting current | | | A | 10 |
| Max current | | | A | 51.2 |
| Nominal capacity | Cooling | | kW | 73.5 |
| | Heating | | | 73.5 |
| Electrical characteristics | Power consumption | Cooling | kW | 21.21 |
| | | Heating | | 18.20 |
| Exterior dimensions | HxWxD | | mm | 2052x2700x720 |
| Net weight | | | kg | 677 |
| Refrigerant charge | R410A | | kg | 11.5x2 |
| Refrigerant piping size | Liquid line | | mm(in) | ø15.88(5/8") |
| | Suction gas line | | | ø31.75(1 1/4") [ø34.92(1 3/8")] |
| | Discharge gas line | | | ø25.4(1") [ø28.58(1 1/8")] |
| Capacity connection | | | % | 50~160 |
| Number of connectable indoor units | | | | 78 |

FDC800~1120

Exterior dimension : Please refer to page 57, 59.

| Item | | | Model | FDC800KXZRE2 | FDC850KXZRE2 | FDC900KXZRE2 | FDC950KXZRE2 | FDC1000KXZRE2 | FDC1060KXZRE2 | FDC1120KXZRE2 |
|---|---|---|---|---|---|---|---|---|---|---|
| Combination (FDC) | | | | 400KXZRE2 | 400KXZRE2 | 450KXZRE2 | 475KXZRE2 | 500KXZRE2 | 500KXZRE2 | 560KXZRE2 |
| | | | | 400KXZRE2 | 450KXZRE2 | 450KXZRE2 | 475KXZRE2 | 500KXZRE2 | 560KXZRE2 | 560KXZRE2 |
| Nominal horse power | | | | 28HP | 30HP | 32HP | 34HP | 36HP | 38HP | 40HP |
| Power source | | | | 3 Phase 380-415V, 50Hz | | | | | | |
| Starting current | | | A | 10 | | | 16 | | | |
| Max current | | | A | 60.0 | 62.0 | 64.0 | 80.8 | 82.0 | 82.6 | 83.2 |
| Nominal capacity | Cooling | | kW | 80.0 | 85.0 | 90.0 | 95.0 | 100.0 | 106.0 | 112.0 |
| | Heating | | | 80.0 | 85.0 | 90.0 | 95.0 | 100.0 | 106.0 | 112.0 |
| Electrical characteristics | Power consumption | Cooling | kW | 23.12 | 26.03 | 28.94 | 29.68 | 30.40 | 34.51 | 38.62 |
| | | Heating | | 19.52 | 21.15 | 22.78 | 23.34 | 25.38 | 27.62 | 29.86 |
| Exterior dimensions | HxWxD | | mm | 2052x2700x720 | | | | | | |
| Net weight | | | kg | 744 | | | 840 | | | |
| Refrigerant charge | R410A | | kg | 11.5x2 | | | | | | |
| Refrigerant piping size | Liquid line | | mm(in) | ø15.88(5/8") | | | | | ø19.05(3/4") | |
| | Suction gas line | | | ø31.75(1 1/4") [ø34.92(1 3/8")] | | | | ø38.1(1 1/2") [ø34.92(1 3/8")] | | |
| | Discharge gas line | | | ø28.58(1 1/8") | | | | | ø31.75(1 1/4") [ø28.58(1 1/8")] | |
| Capacity connection | | | % | 50~160 | | | | 50~130 | | |
| Number of connectable indoor units | | | | 80 | | | | | | |

1. The data are measured under the following conditions(ISO-T1,H1). Cooling: Indoor temp. of 27ºCDB, 19ºCWB, and outdoor temp. of 35ºCDB. Heating: Indoor temp. of 20ºCDB, and outdoor temp. of 7ºCDB, 6ºCWB.
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.

# KXZ2 Heat recovery 3-pipe systems
# 42 ~ 60HP (120.0kW~168.0kW)

*- for simultaneous heating and cooling*

Blue Fin

| Model No. | Cooling Capacity |
|---|---|
| FDC1200KXZRE2 | 120.0kW |
| FDC1250KXZRE2 | 125.0kW |
| FDC1300KXZRE2 | 130.0kW |
| FDC1350KXZRE2 | 135.0kW |
| FDC1425KXZRE2 | 142.5kW |
| FDC1450KXZRE2 | 145.0kW |
| FDC1500KXZRE2 | 150.0kW |
| FDC1560KXZRE2 | 156.0kW |
| FDC1620KXZRE2 | 162.0kW |
| FDC1680KXZRE2 | 168.0kW |

NEW

FDC1200~1680

- The new KXZ2 series has a layered design and a refined new form.
- Connect up to 80 indoor units / up to 130% capacity.
- High efficiency with EER up to 3.46.
- Industry leading total piping length up to 1000m and a maximum pipe run of 160m.
- Wide range of operation.

## Specifications

Exterior dimension : Please refer to page 59.

| Item | | | Model | FDC1200KXZRE2 | FDC1250KXZRE2 | FDC1300KXZRE2 | FDC1350KXZRE2 | FDC1425KXZRE2 |
|---|---|---|---|---|---|---|---|---|
| Combination (FDC) | | | | 400KXZRE2 | 400KXZRE2 | 400KXZRE2 | 450KXZRE2 | 475KXZRE2 |
| | | | | 400KXZRE2 | 400KXZRE2 | 450KXZRE2 | 450KXZRE2 | 475KXZRE2 |
| | | | | 400KXZRE2 | 450KXZRE2 | 450KXZRE2 | 450KXZRE2 | 475KXZRE2 |
| Nominal horse power | | | | 42HP | 44HP | 46HP | 48HP | 50HP |
| Power source | | | | 3 Phase 380-415V, 50Hz | | | | |
| Starting current | | | A | 15 | | | | 24 |
| Max current | | | A | 90 | 92 | 94 | 96 | 121.2 |
| Nominal capacity | Cooling | | kW | 120.0 | 125.0 | 130.0 | 135.0 | 142.5 |
| | Heating | | | 120.0 | 125.0 | 130.0 | 135.0 | 142.5 |
| Electrical characteristics | Power consumption | Cooling | kW | 34.68 | 37.59 | 40.50 | 43.41 | 44.52 |
| | | Heating | | 29.28 | 30.91 | 32.54 | 34.17 | 35.01 |
| Exterior dimensions | HxWxD | | mm | 2052x4050x720 | | | | |
| Net weight | | | kg | 1116 | | | | 1260 |
| Refrigerant charge | R410A | | kg | 11.5x3 | | | | |
| Refrigerant piping size | Liquid line | | mm(in) | ø19.05(3/4") | | | | |
| | Suction gas line | | | ø38.1(1 1/2") [ø34.92(1 3/8")] | | | | |
| | Discharge gas line | | | ø31.75(1 1/4") [ø28.58(1 1/8")] | | | | |
| Capacity connection | | | % | 50~130 | | | | |
| Number of connectable indoor units | | | | 80 | | | | |

| Item | | | Model | FDC1450KXZRE2 | FDC1500KXZRE2 | FDC1560KXZRE2 | FDC1620KXZRE2 | FDC1680KXZRE2 |
|---|---|---|---|---|---|---|---|---|
| Combination (FDC) | | | | 475KXZRE2 | 500KXZRE2 | 500KXZRE2 | 500KXZRE2 | 560KXZRE2 |
| | | | | 475KXZRE2 | 500KXZRE2 | 500KXZRE2 | 560KXZRE2 | 560KXZRE2 |
| | | | | 500KXZRE2 | 500KXZRE2 | 560KXZRE2 | 560KXZRE2 | 560KXZRE2 |
| Nominal horse power | | | | 52HP | 54HP | 56HP | 58HP | 60HP |
| Power source | | | | 3 Phase 380-415V, 50Hz | | | | |
| Starting current | | | A | 24 | | | | |
| Max current | | | A | 121.8 | 123.0 | 123.6 | 124.2 | 124.8 |
| Nominal capacity | Cooling | | kW | 145.0 | 150.0 | 156.0 | 162.0 | 168.0 |
| | Heating | | | 145.0 | 150.0 | 156.0 | 162.0 | 168.0 |
| Electrical characteristics | Power consumption | Cooling | kW | 44.88 | 45.60 | 49.71 | 53.82 | 57.93 |
| | | Heating | | 36.03 | 38.07 | 40.31 | 42.55 | 44.79 |
| Exterior dimensions | HxWxD | | mm | 2052x4050x720 | | | | |
| Net weight | | | kg | 1260 | | | | |
| Refrigerant charge | R410A | | kg | 11.5x3 | | | | |
| Refrigerant piping size | Liquid line | | mm(in) | ø19.05(3/4") | | | | |
| | Suction gas line | | | ø38.1(1 1/2") [ø34.92(1 3/8")] | | | | |
| | Discharge gas line | | | ø31.75(1 1/4") [ø28.58(1 1/8")] | | | | |
| Capacity connection | | | % | 50~130 | | | | |
| Number of connectable indoor units | | | | 80 | | | | |

1. The data are measured under the following conditions(ISO-T1,H1). Cooling: Indoor temp. of 27ºCDB, 19ºCWB, and outdoor temp. of 35ºCDB. Heating: Indoor temp. of 20ºCDB, and outdoor temp. of 7ºCDB, 6ºCWB.
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.

# KXZ2 Heat Recovery Hi-COP 3-pipe systems

# 16 ~ 24HP (45.0kW~67.0kW)

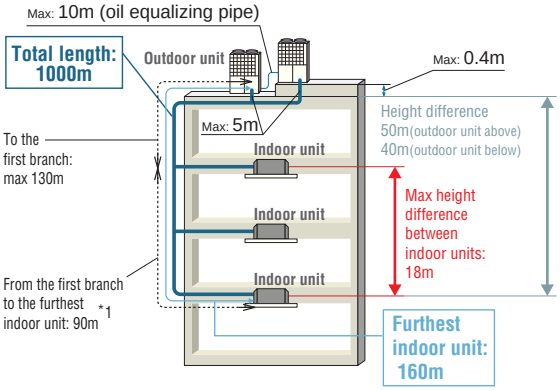
*- for simultaneous heating and cooling*

Blue Fin

NEW

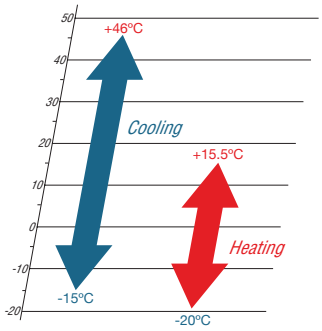
| Model No. | Nominal Cooling Capacity |
|---|---|
| FDC450KXZRXE2 (FDC224+FDC224) | 45.0kW |
| FDC500KXZRXE2 (FDC224+FDC280) | 50.0kW |
| FDC560KXZRXE2 (FDC280+FDC280) | 56.0kW |
| FDC615KXZRXE2 (FDC280+FDC335) | 61.5kW |
| FDC670KXZRXE2 (FDC335+FDC335) | 67.0kW |

- The new KXZ2 series has a layered design and a refined new form.
- This series can connect indoor unit capacity up to 160%.(FDC450:200%)
- High efficiency with EER up to 3.91.
- Industry leading total piping length up to1000m 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.

**Range of operation**




## Specifications

Exterior dimension : Please refer to page 57.

| Item | | | Model | FDC450KXZRXE2 | FDC500KXZRXE2 | FDC560KXZRXE2 | FDC615KXZRXE2 | FDC670KXZRXE2 |
|---|---|---|---|---|---|---|---|---|
| Combination (FDC) | | | | 224KXZRE2 | 224KXZRE2 | 280KXZRE2 | 280KXZRE2 | 335KXZRE2 |
| | | | | 224KXZRE2 | 280KXZRE2 | 280KXZRE2 | 335KXZRE2 | 335KXZRE2 |
| Nominal horse power | | | | 16HP | 18HP | 20HP | 22HP | 24HP |
| Power source | | | | 3 Phase 380-415V, 50Hz | | | | |
| Starting current | | | A | 10 | | | | |
| Max current | | | A | 32.0 | 36.0 | 40.0 | 41.2 | 42.4 |
| Nominal capacity | Cooling | | kW | 45.0 | 50.0 | 56.0 | 61.5 | 67.0 |
| | Heating | | | 45.0 | 50.0 | 56.0 | 61.5 | 67.0 |
| Electrical characteristics | Power consumption | Cooling | kW | 11.52 | 13.15 | 14.78 | 17.04 | 19.30 |
| | | Heating | | 10.54 | 12.13 | 13.72 | 15.30 | 16.88 |
| Exterior dimensions | HxWxD | | mm | 1697x2700x720 | | | | |
| Net weight | | | kg | 610 | | | | |
| Refrigerant charge | R410A | | kg | 11.5x2 | | | | |
| Refrigerant piping size | Liquid line | | mm(in) | ø12.7(1/2") | | | | |
| | Suction gas line | | | ø28.58(1 1/8") | | | | |
| | Discharge gas line | | | ø22.22(7/8") | | | ø25.4(1") [ø22.22(7/8")] | |
| Capacity connection | | | % | 80~200 | 80~160 | | | |
| Number of connectable indoor units | | | | 60 | 53 | 59 | 65 | 71 |

1. The data are measured under the following conditions(ISO-T1,H1). Cooling: Indoor temp. of 27ºCDB, 19ºCWB, and outdoor temp. of 35ºCDB. Heating: Indoor temp. of 20ºCDB, and outdoor temp. of 7ºCDB, 6ºCWB.
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.

# KXZ2 Heat Recovery Hi-COP 3-pipe systems

## 26 ~ 36HP (73.5kW~100.0kW)

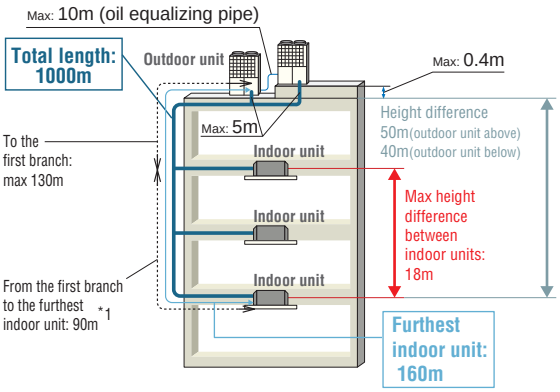
*- for simultaneous heating and cooling*

| Model No. | | Nominal Cooling Capacity |
|---|---|---|
| FDC735KXZRXE2 | (FDC224+FDC224+FDC280) | 73.5kW |
| FDC800KXZRXE2 | (FDC224+FDC280+FDC280) | 80.0kW |
| FDC850KXZRXE2 | (FDC280+FDC280+FDC280) | 85.0kW |
| FDC900KXZRXE2 | (FDC280+FDC280+FDC335) | 90.0kW |
| FDC950KXZRXE2 | (FDC280+FDC335+FDC335) | 95.0kW |
| FDC1000KXZRXE2 | (FDC335+FDC335+FDC335) | 100.0kW |

NEW

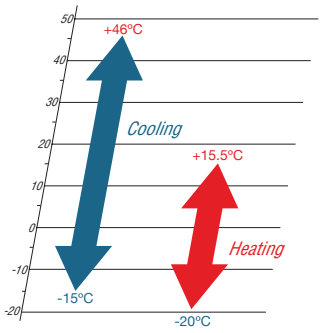
Blue Fin

- The new KXZ2 series has a layered design and a refined new form.
- This series can connect indoor unit capacity up to 160%. (FDC1000:130%)
- High efficiency with EER up to 3.89.
- 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.

**Range of operation**




# Specifications

Exterior dimension : Please refer to page 57.

| Item | | | Model | FDC735KXZRXE2 | FDC800KXZRXE2 | FDC850KXZRXE2 | FDC900KXZRXE2 | FDC950KXZRXE2 | FDC1000KXZRXE2 |
|---|---|---|---|---|---|---|---|---|---|
| Combination (FDC) | | | | 224KXZRE2 | 224KXZRE2 | 280KXZRE2 | 280KXZRE2 | 280KXZRE2 | 335KXZRE2 |
| | | | | 224KXZRE2 | 280KXZRE2 | 280KXZRE2 | 280KXZRE2 | 335KXZRE2 | 335KXZRE2 |
| | | | | 280KXZRE2 | 280KXZRE2 | 280KXZRE2 | 335KXZRE2 | 335KXZRE2 | 335KXZRE2 |
| Nominal horse power | | | | 26HP | 28HP | 30HP | 32HP | 34HP | 36HP |
| Power source | | | | 3 Phase 380-415V, 50Hz | | | | | |
| Starting current | | | A | 15 | | | | | |
| Max current | | | A | 52.0 | 56.0 | 60.0 | 61.2 | 62.4 | 63.6 |
| Nominal capacity | Cooling | | kW | 73.5 | 80.0 | 85.0 | 90.0 | 95.0 | 100.0 |
| | Heating | | | 73.5 | 80.0 | 85.0 | 90.0 | 95.0 | 100.0 |
| Electrical characteristics | Power consumption | Cooling | kW | 18.91 | 20.54 | 22.17 | 24.43 | 26.69 | 28.95 |
| | | Heating | | 17.40 | 18.99 | 20.58 | 22.16 | 23.74 | 25.32 |
| Exterior dimensions | HxWxD | | mm | 1690x4050x720 | | | | | |
| Net weight | | | kg | 915 | | | | | |
| Refrigerant charge | R410A | | kg | 11.5x3 | | | | | |
| Refrigerant piping size | Liquid line | | mm(in) | ø15.88(5/8") | | | | | |
| | Suction gas line | | | ø31.75(1 1/4") [ø34.92(1 3/8")] | | | | | ø38.1(1 1/2") [ø34.92(1 3/8")] |
| | Discharge gas line | | | ø25.4(1") [ø28.58(1 1/8")] | ø28.58(1 1/8") | | | | |
| Capacity connection | | | % | 80~160 | | | | | 80~130 |
| Number of connectable indoor units | | | | 78 | 80 | | | | |

1. The data are measured under the following conditions(ISO-T1,H1). Cooling: Indoor temp. of 27ºCDB, 19ºCWB, and outdoor temp. of 35ºCDB. Heating: Indoor temp. of 20ºCDB, and outdoor temp. of 7ºCDB, 6ºCWB.
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.

# PFD refrigerant flow branch control

| Branch control | Total downstream indoor unit capacity |
|---|---|
| PFD1124-E | less than 11.2kW |
| PFD1804-E | less than 18.0kW |
| PFD2804-E | 28.0kW or less |
| PFD1124X4-E | less than 37.1kW(less than 11.2kWx4 branches) |

Relay kit
(Relay kit comes attached to the branch control)

4-Way PFD box

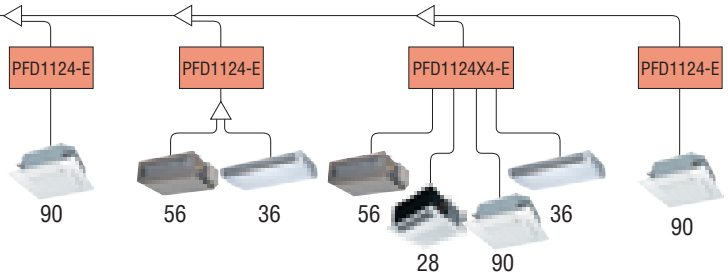
## Design flexibility

A total of 37.1 kW group of indoor units can be connected to a PFD box single branch.
All connected units will operate in the same mode only (cooling or heating).

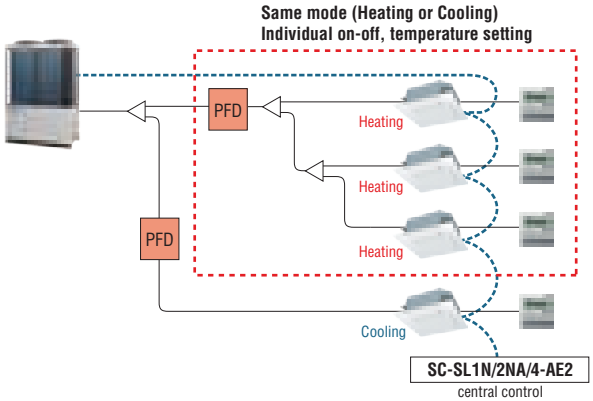
The recent 4-way PFD control PFD1124X4-E can connect to up to four indoor units with individual control – allowing for simultaneous cooling or heating.

| Branch control | Total downstream capacity | Connectable indoor units |
|---|---|---|
| PFD1124-E | less than 112 | 1-5 |
| PFD1804-E | 112 or more but less than 180 | 1-8 |
| PFD2804-E | 180 or more but less than 280 | 1-10 |
| PFD1124X4-E | less than 371(less than 112 per branch) | Up to 16 |

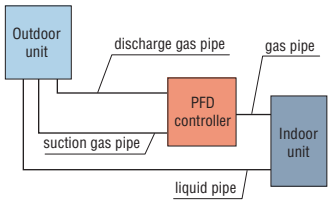
*Refer to Data Book for details




- The remote control setting (as individual indoor unit on-off, temperature setting other than cooling/heating mode control) is possible with one remote control connected to each indoor unit, while at the same time, Center Control (SC-SL1N/2NA/4-AE2) can be used together with the individual remote control.
- It is necessary to set the central control to use this function. Please refer to the Installation Manual for details.
- In case of mode changeover from cooling to heating and from heating to cooling, by the use of only the indoor units and PFD box combination, the mode changeover noise is reduced. All this made possible without turning off the compressor and at the same time without the reduction of capacity.
  The risk of refrigerant leakage is reduced by changing piping connection at the PFD box to brazing method.
- The use of optional PFD box extension cable that has a connector at ends, makes it possible to further separate the indoor unit and PFD box. This will enable the PFD box to be located away from the indoor unit and help reduce the influence of sound caused by PFD box and refrigerant flow.



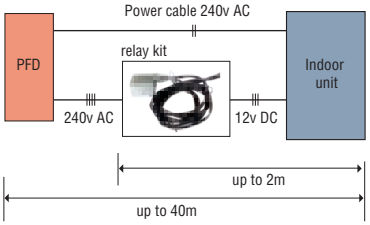

**Easy installation**
PFD control box design allows to directly connect the liquid pipe from indoor unit to outdoor unit by bypassing the PFD box. As a result, the piping connections per indoor unit are reduced by a third, thus reducing installation time and cost.




**extension cable 15m**

PFD4-15WR-E (option)

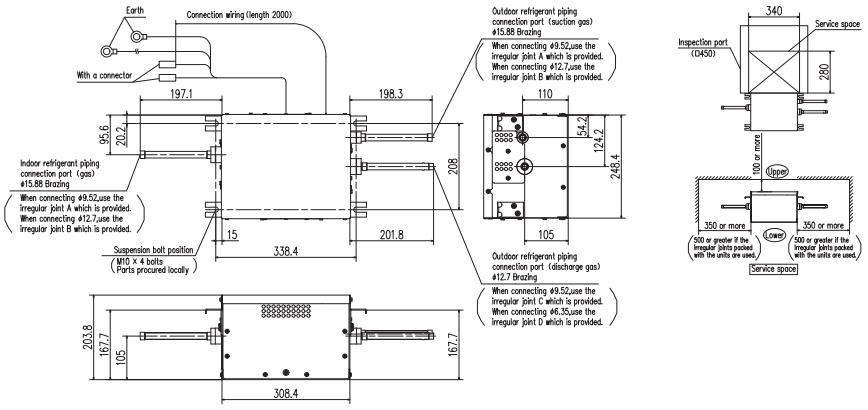
The PFD is connected to the indoor unit by 3 core signal wire via a relay kit (supplied) to be located within 2m of each other. The indoor unit however can be up to 40m away. Power to the PFD can be connected from the indoor unit or other supply.



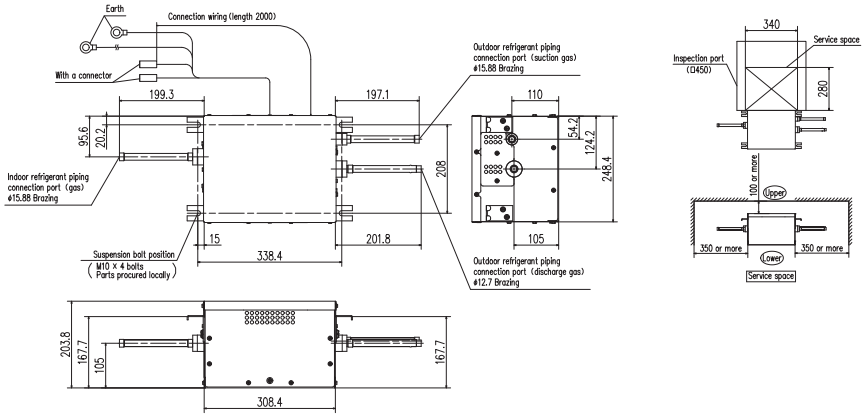
# Dimensions

All measurements in mm.

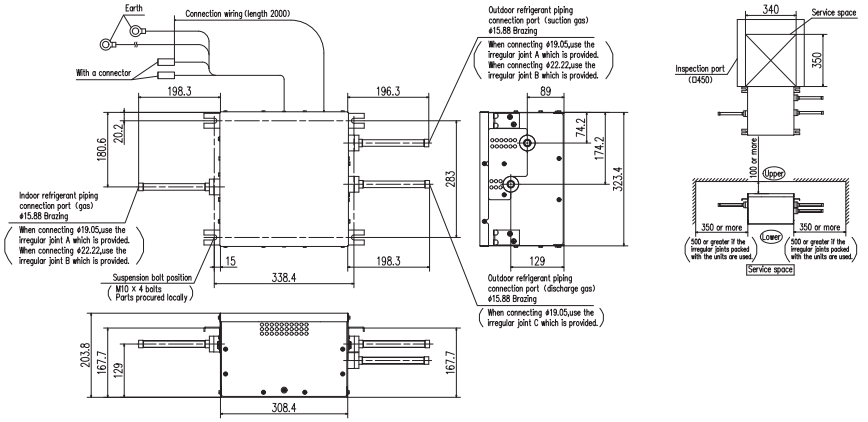
PFD1124-E



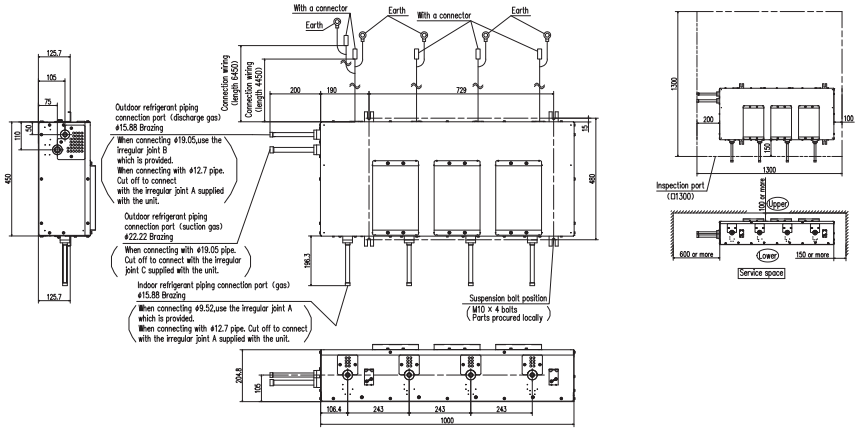

PFD1804-E




PFD2804-E




PFD1124X4-E



R410A

# 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) | 100kW |

## Features

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

**2. Compact design**
- Easy transportation and installation
- Carriable by elevator

**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

8, 10, 12HP

16, 18, 20, 22, 24HP

26, 28, 30, 32, 34, 36HP

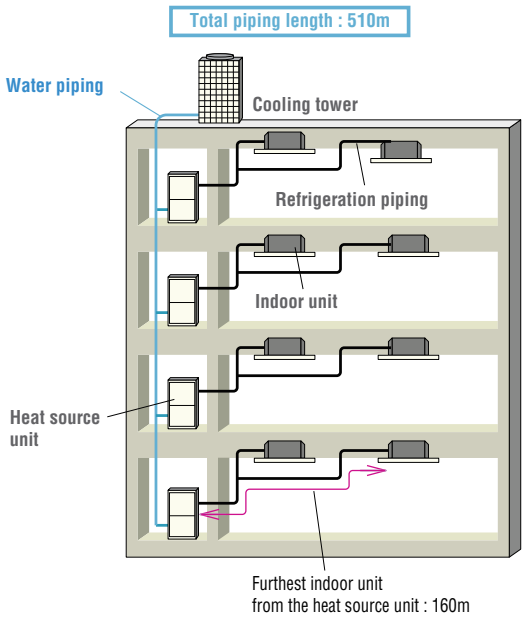
## Specifications

| 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 |
| Power consumption | Cooling | kW | 4.23 | 5.75 | 8.13 | 8.49 | 9.83 | 11.5 | 13.7 | 16.3 |
| | Heating | | 4.24 | 5.10 | 6.30 | 8.47 | 9.27 | 10.2 | 11.4 | 12.6 |
| EER | Cooling | | 5.3 | 4.9 | 4.1 | 5.3 | 5.1 | 4.9 | 4.5 | 4.1 |
| COP | Heating | | 5.9 | 6.2 | 6.0 | 5.9 | 6.0 | 6.2 | 6.1 | 6.0 |
| Exterior dimensions | HxWxD | mm | 1100x780x550 | | | (1100x780x550)x2 | | | | |
| Sound pressure level | | dB(A) | 48 | 50 | 52 | 51 | 52 | 53 | 54 | 55 |
| Net weight | | kg | 185 | | | 185x2 | | | | |

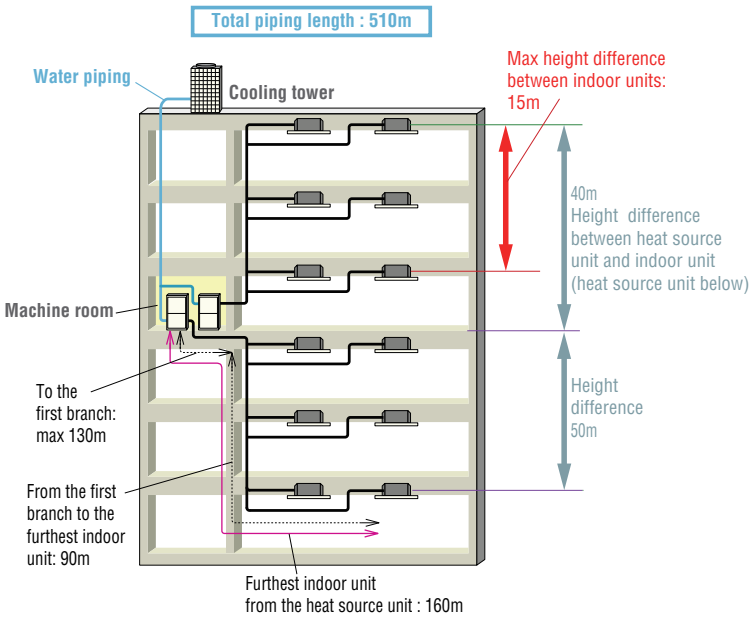
| Item | | Model | FDC730KXZWE1 | FDC775KXZWE1 | FDC850KXZWE1 | FDC900KXZWE1 | FDC950KXZWE1 | FDC1000KXZWE1 |
|---|---|---|---|---|---|---|---|---|
| Combination (FDC) | | | 224KXZWE1 | 224KXZWE1 | 280KXZWE1 | 280KXZWE1 | 280KXZWE1 | 335KXZWE1 |
| | | | 224KXZWE1 | 280KXZWE1 | 280KXZWE1 | 280KXZWE1 | 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 |
| EER | Cooling | | 5.1 | 5.0 | 4.9 | 4.6 | 4.4 | 4.1 |
| COP | Heating | | 6.0 | 6.1 | 6.2 | 6.1 | 6.0 | 6.0 |
| Exterior dimensions | HxWxD | mm | (1100x780x550)x3 | | | | | |
| Sound pressure level | | dB(A) | 54 | 54 | 55 | 56 | 56 | 57 |
| Net weight | | kg | 185x3 | | | | | |

The data are 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 -

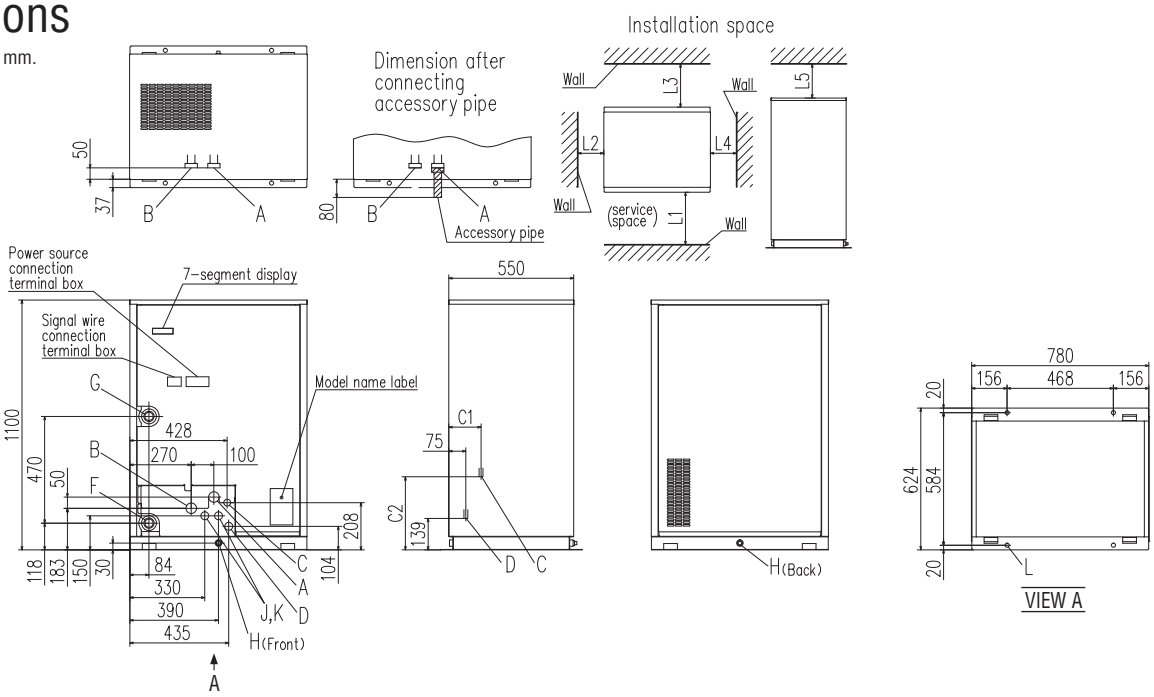



Heat source units in the machine room
- Renovation projects -




# 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 | |

# Refrigerant piping

**Installation of Interconnecting Pipework**

KXZ equipment is manufactured to meet the highest standards of quality and reliability. It is imperative that the method of installation and the materials used are also to the 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 R32・R410A refrigerant, and that high pressures will occur throughout the system because of the reverse cycle operation. All pipework material used should comply with 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 EN378.

All brazed joints shall be made with dry nitrogen purge to ensure the prevention of oxidisation of 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**

Only R32・R410A refrigerant shall be used, it 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.

---

**Standard (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 | | |
| 400 | ø25.4 (ø28.58) × t 1.0 | | ø28.58 × t 1.0 | |
| 450 | ø28.58 × t 1.0 | | ø31.8 × t 1.1 (ø28.58 × t 1.0) | ø15.88 × 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 | | | | |

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

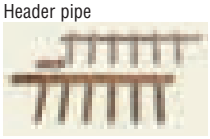
| mm | inch |
|---|---|
| ø9.52 | 3/8" |
| ø12.7 | 1/2" |
| ø15.88 | 5/8" |
| ø19.05 | 3/4" |
| ø22.22 | 7/8" |
| ø25.4 | 1" |

| 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" |

Branch pipes

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

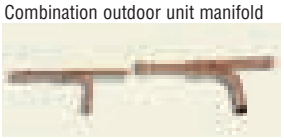
Header pipe



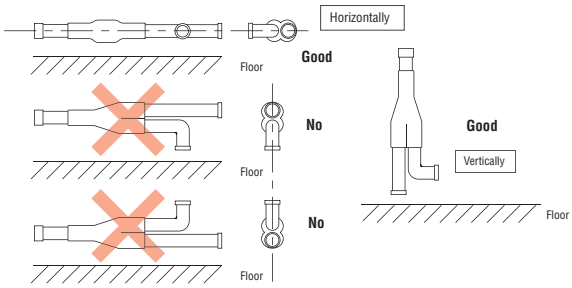
**HEAD6-180-1G**

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

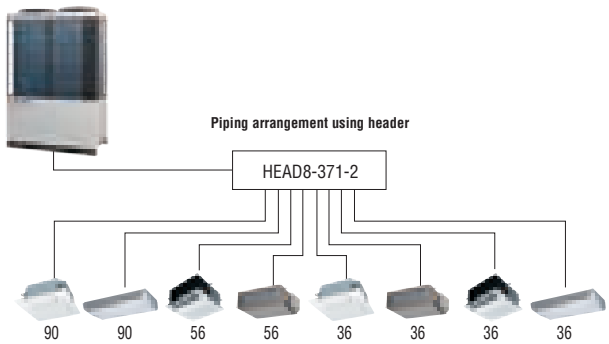
Combination outdoor unit manifold

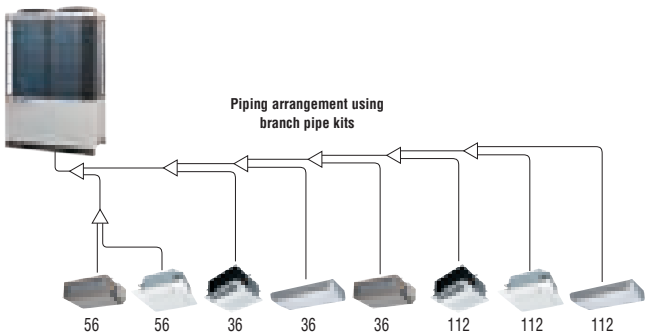


**DOS-2A-3**
**DOS-3A-3**

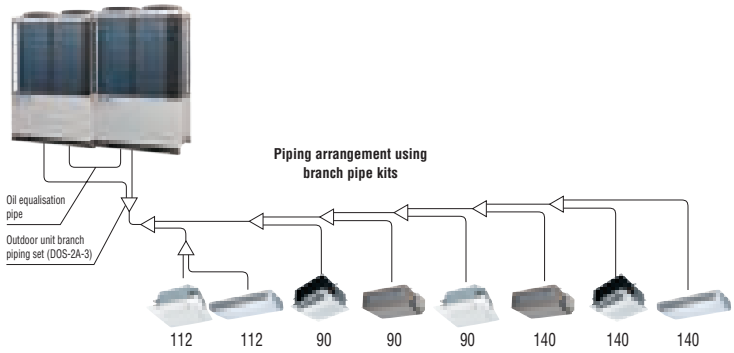


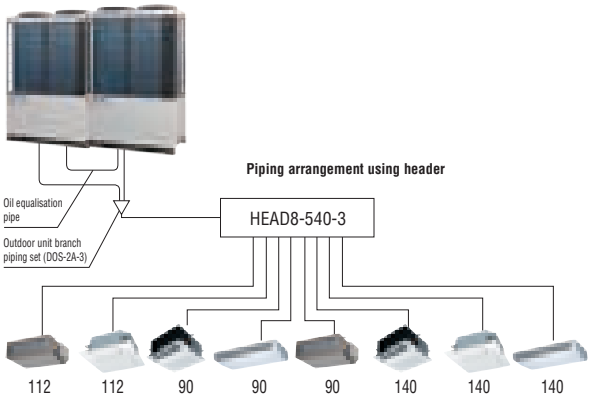

## Single outdoor unit piping examples:



# Combination outdoor unit piping examples:




Outdoor unit's branch piping set

| Outdoor unit | Branch piping set |
|---|---|
| For two units | DOS-2A-3 |
| For three units | 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 |

**Heat recovery systems** **(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.

※Even if the longest distance exceeds 90m (actual length), you do not need to change the size of discharge gas pipes.

| Outdoor unit | Main pipe size (normal) | | | Pipe size for an actual length of 90m or longer | | |
|---|---|---|---|---|---|---|
| | Suction gas pipe | Discharge gas pipe | Liquid pipe | Suction gas pipe | Discharge gas pipe | Liquid pipe |
| 224 | ø19.05×t1.0 | ø15.88×t1.0 | ø9.52×t0.8 | ø22.22×t1.0 | ø15.88×t1.0 | ø12.7×t0.8 |
| 280 | ø22.22×t1.0 | ø19.05×t1.0 | ø12.7×t0.8 | ø25.4 (ø22.22)×t1.0 | ø19.05×t1.0 | |
| 335 | ø25.4 (ø22.22)×t1.0 | | | | | |
| 400 | ø25.4 (ø28.58)×t1.0 | ø22.22×t1.0 | | ø28.58×t1.0 | ø22.22×t1.0 | |
| 450 | ø28.58×t1.0 | | | ø31.8×t1.1 (ø28.58×t1.0) | | ø15.88×t1.0 |
| 475 | | | | | | |
| 500 | | | | | | |
| 560 | | | | | | |
| 615 | | ø25.4 (ø22.22)×t1.0 | | | ø25.4 (ø22.22)×t1.0 | |
| 670 | | | | | | |
| 735 | ø31.8×t1.1 (ø34.92×t1.2) | ø28.58 (ø25.4)×t1.0 | ø15.88×t1.0 | ø38.1×t1.35 (ø34.92×t1.2) | ø28.58×t1.0 | ø19.05×t1.0 |
| 800 | | ø28.58×t1.0 | | | | |
| 850 | | | | | | |
| 900 | | | | | | |
| 950 | | | | | | |
| 1000 | ø38.1×t1.35 (ø34.92×t1.2) | ø31.8×t1.1 (ø28.58×t1.0) | ø19.05×t1.0 | | ø31.8×t1.1 (ø28.58×t1.0) | ø22.22×t1.0 |
| 1060 | | | | | | |
| 1120 | | | | | | |
| 1200 | | | | | | |
| 1350 | | | | | | |
| 1425 | | | | | | |
| 1450 | | | | | | |
| 1500 | | | | | | |
| 1560 | | | | | | |
| 1620 | | | | | | |
| 1680 | | | | | | |

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

| 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" |

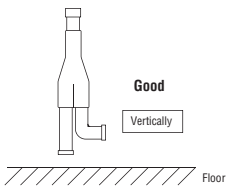
| mm | inch |
|---|---|
| ø28.58 | 1 1/8" |
| ø31.8 | 1 1/4" |
| ø34.92 | 1 3/8" |
| ø38.1 | 1 1/2" |
| ø44.5 | 1 3/4" |
| ø50.8 | 2" |

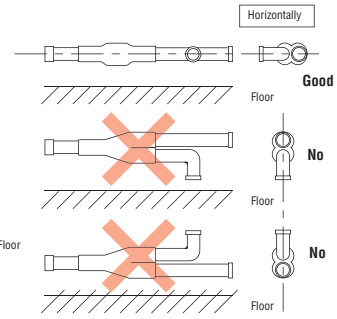
Branch pipes

**DIS-22-1-RG/DIS-180-1-RG**

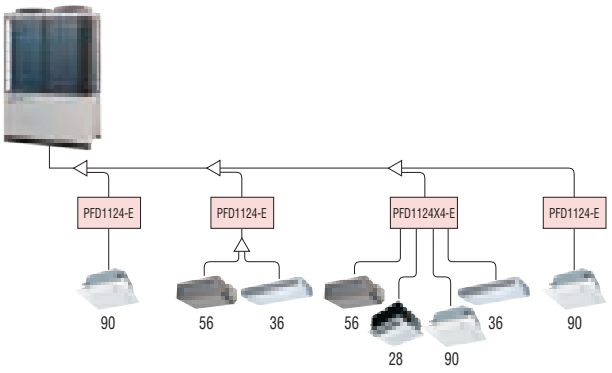
Combination outdoor unit manifold

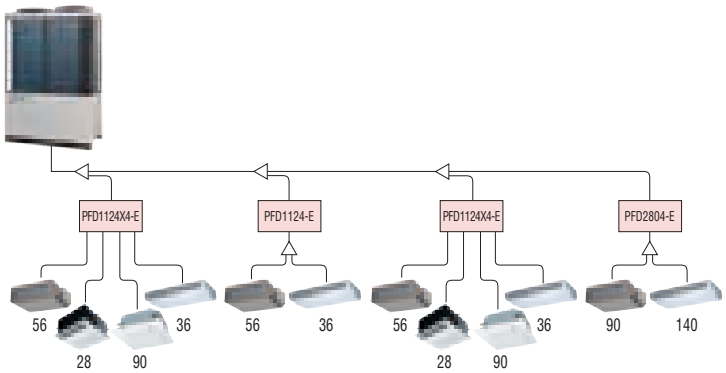
**DOS-2A-3-R**



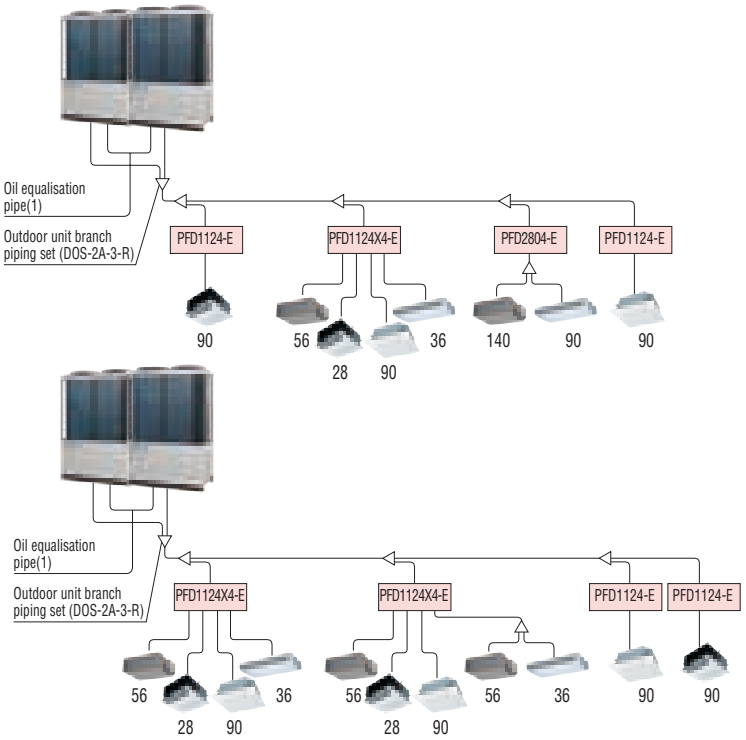




# Single outdoor unit piping examples:



# Combination outdoor unit piping examples:




Outdoor unit's branch piping set

| Outdoor unit | Branch piping set |
|---|---|
| 2 units (for 735~1120) | DOS-2A-3-R |
| 3 units (for 1200~1680) | DOS-3A-3-R |

Indoor unit's first branch piping set

| Total capacity of indoor units | Branch piping set |
|---|---|
| ~179 | DIS-22-1-RG |
| 180~370 | DIS-180-1-RG |
| 371~539 | DIS-371-2-RG |
| 540~ | DIS-540-2-RG |

For Down Stream of PFD box

| Total capacity of indoor units | Branch piping set |
|---|---|
| ~179 | DIS-22-1G |
| 180~370 | DIS-180-1G |
| 371~539 | DIS-371-1G |
| 540~ | DIS-540-3 |

# Electrical wiring – power supply

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

**Power wiring**

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

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

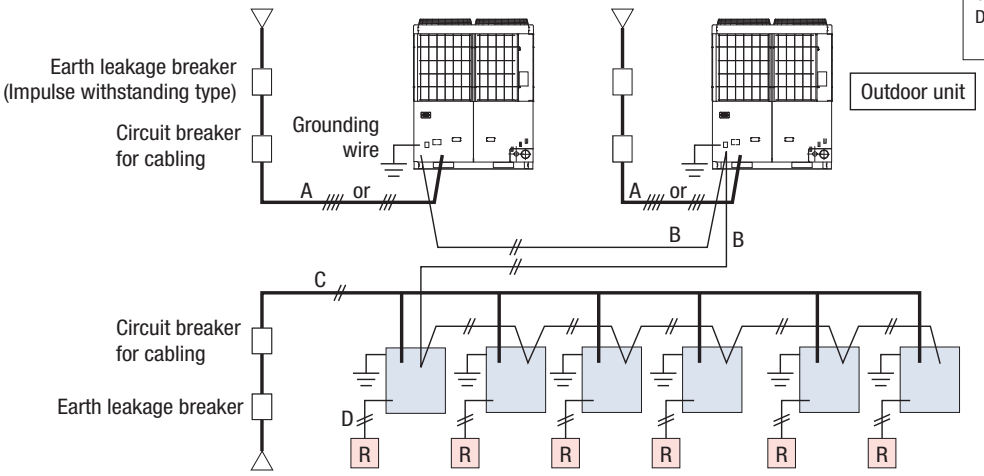
Only control wiring is connected from outdoor to indoor unit.

Outdoor unit power supply: 3 Phase 4 wiring 380-415V

Distributed, separate power supply system

A: Power cable (Main power cable) [4 cores or 3 cores]
B: Signal wire (Superlink wire) [2 cores]
C: Power cable (indoor unit power cable) [2 cores]
D: Remote control cord
[2 cores (FD○△△KXE6 indoor unit)]

* Do not connect N-phase wire to the unit when the power supply is 3-phase and 4-wire.




Indoor unit power source: Single phase 220-240V

**CAUTION**

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

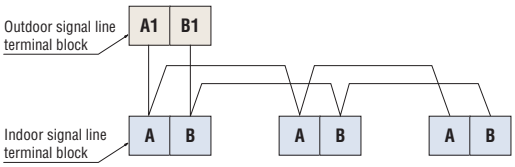
# Electrical wiring – control wiring

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.

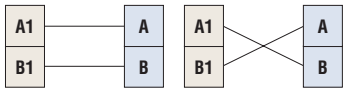
| | 0.75mm² | 1.25mm² |
|---|---|---|
| ~1000m | YES | YES |
| 1000~1500m | YES | NO |

3. We recommend both ends of the shield of the cable are connected to ground (earth) at all the indoor units and outdoor units.
4. When multiple 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 dealer.

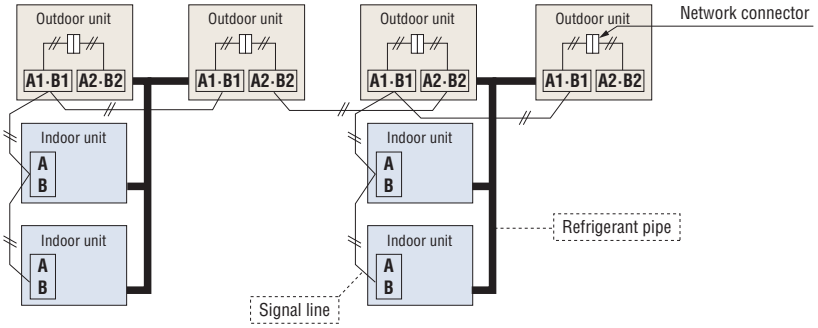
(1) When one outdoor unit is used




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

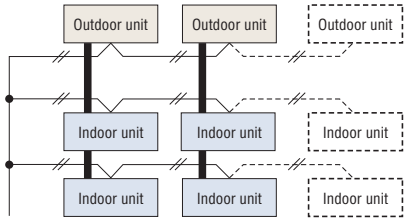



(2) When plural outdoor units are used

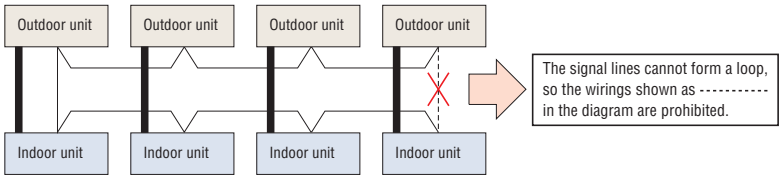



The maximum number of indoor units that can be connected in a system is 128 and it is possible to configure outdoor units and/or indoor units as an outdoor or indoor unit group connected with each other with two wires.

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



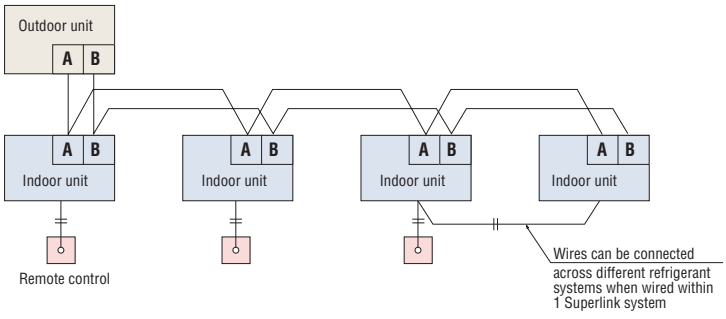

**Important** ○ Loop wiring prohibited




# 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 |



# Indoor units

## Benefits Summary

When using RC-EX3A (Remote control), functions with symbol ● are available.
However, for RC-E5 (Remote control), functions with ★ are not available.

| | | |
|---|---|---|
| Energy Saving | Inverter technology | Inverter control technology delivers high efficiency and a smooth operation from high speed to low speed. A smooth sine voltage wave is attained. |
| | Energy-saving★ | Since the capacity is controlled automatically based on the outdoor temperature, energy can be saved without losing comfort. |
| | Motion sensor★ | This sensor detects human activity and shifts the temperature setting according to the amount of activity in the room. |
| | Home leave operation★ | This function ensures that when the room is unoccupied for long periods of time, the unit will maintain a moderate indoor temperature, avoiding extremely hot or cool temperatures. |
| | Set temperature auto return★ | This function allows the user to program a preferred set temperature that the unit will return to each time it is operated. |
| Comfort | Automatic operation | This function automatically selects the required heating or cooling function based on the current room conditions. |
| | Silent operation | This function allows the user to program periods where the unit will operate with reduced noise levels, perfect for night time and an uninterrupted sleep. |
| | Hi power operation★ | Use the high power function to quickly reach your optimum temperature level when you first turn on the unit. This function will operate for a maximum of 15 minutes before returning to normal operation. |
| Air flow | Flap control system | This function allows the user to set the upper and lower limit positions of the flap at each air outlet individually, providing you with complete control over interior air flow. |
| | Vertical auto swing | The vertical louvers on your unit will move up and down continuously during operation. This function allows you to set the up/down swing position of the louver to the preferred operation angle. |
| | Draft prevention setting★ | Draft Prevention setting provides a comfortable air flow 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. |
| | Automatic fan speed | The unit's on-board microcomputer continuously monitors the room's air temperature and adjusts the air flow automatically. |
| Timer | Sleep timer | This function allows the user to set a pre-determined amount of time between 30 and 240 minutes that your unit will operate for before switching off. |
| | Peak-cut timer★ | This function lets the user to preset the capacity limit during certain periods of the day, minimising energy consumption during peak billing times, thus reducing operation costs. |
| | Weekly timer | Set the unit to turn on and off automatically on a weekly basis to suit your usual room usage on each day. |
| Convenient | Function Switch★ | From the eight available functions on the unit, this function allows the user to set two functions to operate automatically. |
| | Favourite setting★ | Operation mode, set temperature, fan speed and air flow direction automatically adjust to the programmed favourite setting. |
| | Static pressure adjustment | This is operable when connecting duct type indoor units equipped with the external static pressure adjustment function. It will adjust the airflow accordingly based on the connected duct static pressure. |
| | Select the language★ | Set the language to be displayed on the remote control. |
| | Air filter | The air filter in the unit traps and removes airborne dust particles and other allergens to provide you clean air. |
| | Filter sign | This warning alerts when the filter needs to be cleaned. |
| | Outside air intake | This function provides clean fresh air into the room through the external air intake, avoiding the constant recycling of internal air. |
| Others | Self diagnostics | The internal microcomputer automatically runs a diagnostic of the system in the event of a malfunction. This enables authorised dealers to isolate and repair any issues. |
| | Built in drain pump | The built-in drain pump, allows greater flexibility with installation, offering a great solution for applications with limited space. |
| | Improved serviceability | The fan unit (comprised of impeller and motor) is easily accessible from either the side or bottom of the unit and can be slid out for easy maintenance. |

| | FDT | FDTC | FDTW | FDTS | FDTQ | FDU | FDUM | FDUT | FDUH | FDK | FDE | FDFW | FDFL | FDFU | FDU-F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | ● Option | ● Option | ● Option | ● Option | ● Option | ● Option | ● Option | ● Option | ● Option | ● Option | ● Option | | ● Option | ● Option | ● Option |
| | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | ● | ● | ● | ● | | | | | | ● | ● | ● | | | |
| | ● | ● | ● | ● | ● | | | | | ● | ● | ● | | | |
| | ● Option | ● Option | | | | | | | | | | | | | |
| | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | | | | | | ● | ● | ● (71only) | | | | | | | ● |
| | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | ● | ● | ● | ● | ● | procure locally | ● Option | ● Option | ● Option | ● | ● | ● | ● | ● | procure locally |
| | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | ● | ● Option | ● | ● | ● | ● | ● | ● | ● | | | | | | ● |
| | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | ● | ● | ● | ● | ● | ● ⋆1 | ● | ● | ● Option | | | | | | ● ⋆2 |
| | | | | | | ● | ● | | | | | | | | |

⋆1 : Except 224 • 280 ⋆2 : Except 1800 • 2400

# Ceiling Cassette -4way- FDT

**Model No.**

| | |
|---|---|
| FDT28KXZE1-W | FDT28KXZE1 |
| FDT36KXZE1-W | FDT36KXZE1 |
| FDT45KXZE1-W | FDT45KXZE1 |
| FDT56KXZE1-W | FDT56KXZE1 |
| FDT71KXZE1-W | FDT71KXZE1 |
| FDT90KXZE1-W | FDT90KXZE1 |
| FDT112KXZE1-W | FDT112KXZE1 |
| FDT140KXZE1-W | FDT140KXZE1 |
| FDT160KXZE1-W | FDT160KXZE1 |

*R32 indoor unit are not compatible with R410A outdoor unit and vice versa.


Draft Prevention Panel (Option)

**Remote control (option)**

Wired

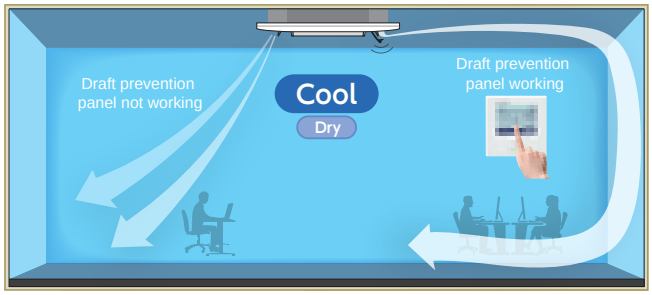
RC-EX3A RC-E5 RCH-E3

Wireless

RCN-T-5BW-E2(White)
RCN-T-5BB-E2(black)

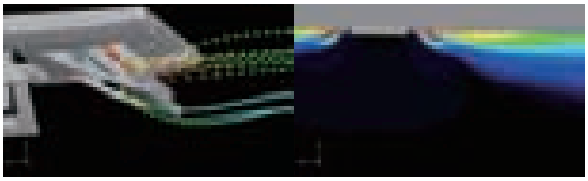
## Draft Prevention Panel (Option)

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.

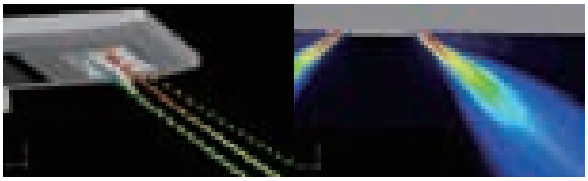



User can position panels by using the remote controller (RC-EX3A, Wireless kit) only when Draft Prevention Panel is available.

Advanced airflow control technology cultivated through aircraft development.



Draft Prevention Panel working

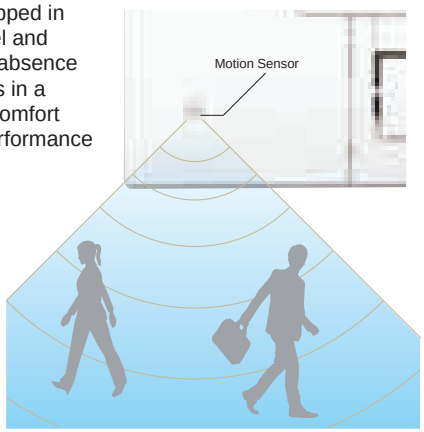


Draft Prevention Panel placed at off position

## Motion Sensor (Option)

Motion sensor is equipped in the corner of the panel 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-5BW-E(White)
LB-T-5BB-E(Black)

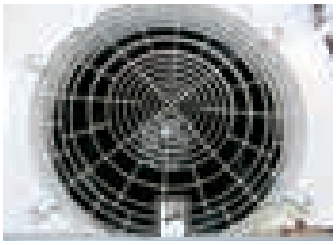



## Improve the aerodynamic performance of the unit

New designed component has better aerodynamic performance and achieve lower noise.

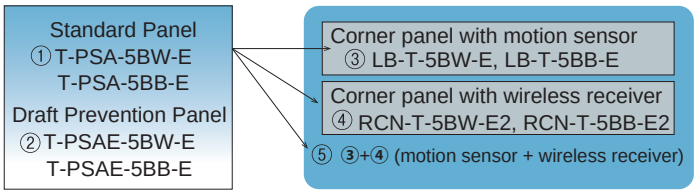
### New design turbo fan

### Fan guard (standard equipment)



## Panel select pattern (Option)

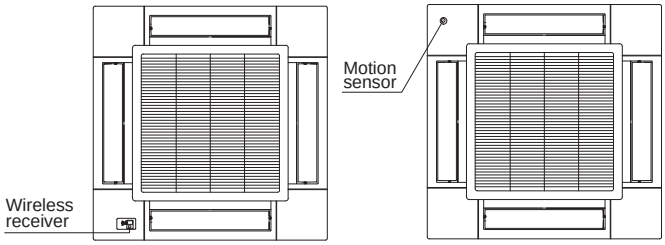
8 patterns of panel are available.




① Standard Panel only
①+③ Standard Panel with corner panel with motion sensor
①+④ 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

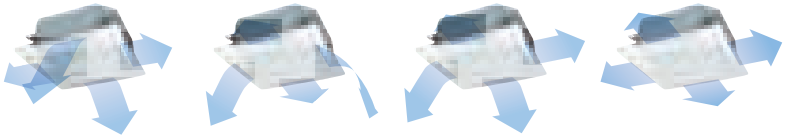
Installation position of Wireless kit and Motion sensor kit




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

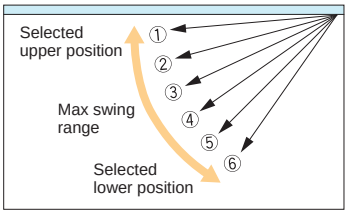
## Individual flap control system

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 that can be selected with a wired remote control.

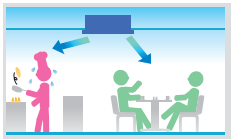
※The wireless remote control is not applicable to the Individual flap control system.





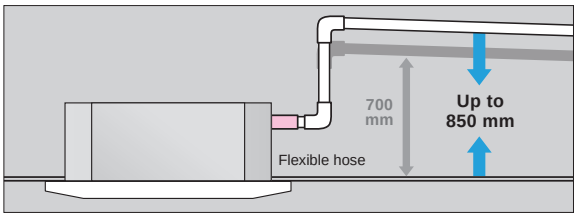
For person who is far from the indoor unit


For both persons who are feeling hot or cold


Can cool both the kitchen and the guests

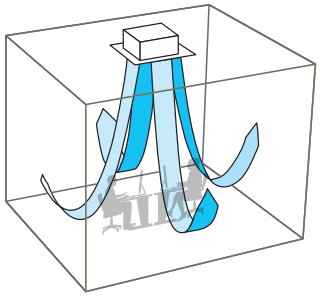
## 850mm Drain Pump

Drain can be discharged upwards up to 850mm from the ceiling surface, allowing a piping layout with a high degree of freedom. Thanks to the 185mm flexible hose, equipment supports easy workability.




## Suitable for High ceilings

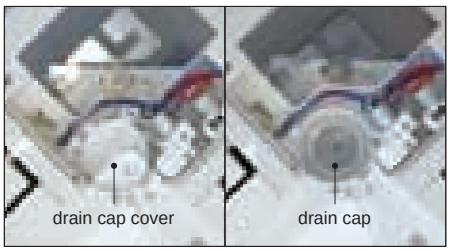
The Powerful blowout carries comfortable air flow to the floor even in high ceiling applications. It is ideal for high ceiling offices, stores, etc., with a wide, uniform air flow throughout the room.



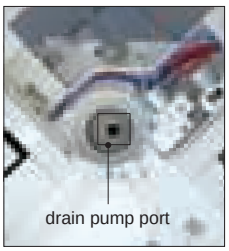
## Easy check of drain pan

Easy inspection of the condition of the drain pan is possible by removing only the corner lid.


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 R32

| Item | | Model | FDT28KXZE1-W | FDT36KXZE1-W | FDT45KXZE1-W | FDT56KXZE1-W | FDT71KXZE1-W |
|---|---|---|---|---|---|---|---|
| Nominal cooling capacity | | kW | 2.8 | 3.6 | 4.5 | 5.6 | 7.1 |
| Nominal heating capacity | | kW | 3.2 | 4.0 | 5.0 | 6.3 | 8.0 |
| Power source | | | 1 Phase 220-240V, 50Hz | | | | |
| Power consumption | Cooling | kW | 0.04-0.04 | | | 0.07-0.07 | 0.08-0.08 |
| | Heating | | 0.04-0.04 | | | 0.07-0.07 | 0.08-0.08 |
| Sound power level | | dB(A) | 55 | | | 60 | 62 |
| Sound pressure level | Cooling | dB(A) | P-Hi:40 Hi:32 Me:30 Lo:28 | P-Hi:40 Hi:34 Me:30 Lo:28 | P-Hi:40 Hi:34 Me:31 Lo:28 | P-Hi:44 Hi:34 Me:31 Lo:28 | P-Hi:47 Hi:35 Me:32 Lo:28 |
| | Heating | | P-Hi:40 Hi:31 Me:29 Lo:26 | P-Hi:40 Hi:33 Me:29 Lo:26 | P-Hi:40 Hi:33 Me:30 Lo:26 | P-Hi:44 Hi:34 Me:30 Lo:27 | P-Hi:47 Hi:35 Me:32 Lo:28 |
| Exterior dimensions (H x W x D) | | mm | Unit:236x840x840 Panel:35x950x950 | | | | |
| Net weight | | kg | Unit:20 Standard Panel:5 | | | Unit:21.5 Standard Panel:5 | |
| Air flow | Cooling | $m^3$/min | P-Hi:20 Hi:14 Me:12 Lo:10 | P-Hi:20 Hi:15 Me:12 Lo:10 | P-Hi:20 Hi:15 Me:13 Lo:10 | P-Hi:26 Hi:16 Me:13 Lo:11 | P-Hi:28 Hi:17 Me:14 Lo:12 |
| | Heating | | P-Hi:20 Hi:14 Me:12 Lo:11 | P-Hi:20 Hi:15 Me:12 Lo:11 | P-Hi:20 Hi:15 Me:13 Lo:11 | | |
| Outside air intake | | | Possible | | | | |
| Panel | | | T-PSA-5BW-E, T-PSAE-5BW-E (White) / T-PSA-5BB-E, T-PSAE-5BB-E (Black) | | | | |
| Air filter, Q'ty | | | Pocket Plastic net x1 (Washable) | | | | |
| Remote control (option) | | | wired:RC-EX3A, RC-E5, RCH-E3 wireless:RCN-T-5BW-E2, RCN-T-5BB-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") |

| Item | | Model | FDT90KXZE1-W | FDT112KXZE1-W | FDT140KXZE1-W | FDT160KXZE1-W |
|---|---|---|---|---|---|---|
| Nominal cooling capacity | | kW | 9.0 | 11.2 | 14.0 | 16.0 |
| Nominal heating capacity | | kW | 10.0 | 12.5 | 16.0 | 18.0 |
| Power source | | | 1 Phase 220-240V, 50Hz | | | |
| Power consumption | Cooling | kW | 0.13-0.13 | 0.14-0.14 | | |
| | Heating | | 0.13-0.13 | 0.14-0.14 | | |
| Sound power level | | dB(A) | 65 | | 66 | |
| Sound pressure level | Cooling | dB(A) | P-Hi:49 Hi:38 Me:36 Lo:31 | P-Hi:49 Hi:39 Me:37 Lo:31 | P-Hi:49 Hi:42 Me:39 Lo:32 | P-Hi:49 Hi:42 Me:39 Lo:32 |
| | Heating | | P-Hi:49 Hi:38 Me:36 Lo:30 | P-Hi:49 Hi:39 Me:37 Lo:30 | P-Hi:49 Hi:42 Me:39 Lo:31 | P-Hi:49 Hi:42 Me:39 Lo:31 |
| Exterior dimensions (H x W x D) | | mm | Unit:298x840x840 Panel:35x950x950 | | | |
| Net weight | | kg | Unit:25 Standard Panel:5 | | | |
| Air flow | Cooling | $m^3$/min | P-Hi:37 Hi:25 Me:22 Lo:15 | P-Hi:38 Hi:26 Me:23 Lo:17 | P-Hi:38 Hi:28 Me:25 Lo:18 | P-Hi:38 Hi:29 Me:26 Lo:19 |
| | Heating | | | | | |
| Outside air intake | | | Possible | | | |
| Panel | | | T-PSA-5BW-E, T-PSAE-5BW-E (White) / T-PSA-5BB-E, T-PSAE-5BB-E (Black) | | | |
| Air filter, Q'ty | | | Pocket Plastic net x1 (Washable) | | | |
| Remote control (option) | | | wired:RC-EX3A, RC-E5, RCH-E3 wireless:RCN-T-5BW-E2, RCN-T-5BB-E2 | | | |
| Installation data Refrigerant piping size | | mm(in) | Liquid line:ø9.52(3/8") Gas line:ø15.88(5/8") | | | |

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

# Specifications R410A

| Item | | Model | FDT28KXZE1 | FDT36KXZE1 | FDT45KXZE1 | FDT56KXZE1 | FDT71KXZE1 |
|---|---|---|---|---|---|---|---|
| Nominal cooling capacity | | kW | 2.8 | 3.6 | 4.5 | 5.6 | 7.1 |
| Nominal heating capacity | | kW | 3.2 | 4.0 | 5.0 | 6.3 | 8.0 |
| Power source | | | 1 Phase 220-240V, 50Hz | | | | |
| Power consumption | Cooling | kW | 0.04-0.04 | | | 0.07-0.07 | 0.08-0.08 |
| | Heating | | 0.04-0.04 | | | 0.07-0.07 | 0.08-0.08 |
| Sound power level | | dB(A) | 55 | | | 60 | 62 |
| Sound pressure level | Cooling | dB(A) | P-Hi:38 Hi:33 Me:30 Lo:28 | | P-Hi:38 Hi:33 Me:31 Lo:29 | P-Hi:44 Hi:33 Me:31 Lo:29 | P-Hi:47 Hi:35 Me:32 Lo:28 |
| | Heating | | | | | | |
| Exterior dimensions (H x W x D) | | mm | Unit:236x840x840 Panel:35x950x950 | | | | |
| Net weight | | kg | Unit:20 Standard Panel:5 | | | Unit:21.5 Standard Panel:5 | |
| Air flow | Cooling | $m^3$/min | P-Hi:20 Hi:14 Me:12 Lo:10 | P-Hi:20 Hi:14 Me:12 Lo:10 | P-Hi:20 Hi:15 Me:13 Lo:10 | P-Hi:26 Hi:16 Me:13 Lo:11 | P-Hi:28 Hi:17 Me:14 Lo:12 |
| | Heating | | | | | | |
| Outside air intake | | | Possible | | | | |
| Panel | | | T-PSA-5BW-E, T-PSAE-5BW-E (White) / T-PSA-5BB-E, T-PSAE-5BB-E (Black) | | | | |
| Air filter, Q'ty | | | Pocket Plastic net x1 (Washable) | | | | |
| Remote control (option) | | | wired:RC-EX3A, RC-E5, RCH-E3 wireless:RCN-T-5BW-E2, RCN-T-5BB-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") |

| Item | | Model | FDT90KXZE1 | FDT112KXZE1 | FDT140KXZE1 | FDT160KXZE1 |
|---|---|---|---|---|---|---|
| Nominal cooling capacity | | kW | 9.0 | 11.2 | 14.0 | 16.0 |
| Nominal heating capacity | | kW | 10.0 | 12.5 | 16.0 | 18.0 |
| Power source | | | 1 Phase 220-240V, 50Hz | | | |
| Power consumption | Cooling | kW | 0.13-0.13 | 0.14-0.14 | | |
| | Heating | | 0.13-0.13 | 0.14-0.14 | | |
| Sound power level | | dB(A) | 65 | 66 | | |
| Sound pressure level | Cooling | dB(A) | P-Hi:49 Hi:38 Me:36 Lo:31 | P-Hi:49 Hi:39 Me:37 Lo:31 | P-Hi:49 Hi:42 Me:39 Lo:32 | P-Hi:49 Hi:42 Me:39 Lo:33 |
| | Heating | | | | | |
| Exterior dimensions (H x W x D) | | mm | Unit:298x840x840 Panel:35x950x950 | | | |
| Net weight | | kg | Unit:25 Standard Panel:5 | | | |
| Air flow | Cooling | $m^3$/min | P-Hi:37 Hi:25 Me:22 Lo:15 | P-Hi:38 Hi:26 Me:23 Lo:17 | P-Hi:38 Hi:28 Me:25 Lo:18 | P-Hi:38 Hi:29 Me:26 Lo:19 |
| | Heating | | | | | |
| Outside air intake | | | Possible | | | |
| Panel | | | T-PSA-5BW-E, T-PSAE-5BW-E (White) / T-PSA-5BB-E, T-PSAE-5BB-E (Black) | | | |
| Air filter, Q'ty | | | Pocket Plastic net x1 (Washable) | | | |
| Remote control (option) | | | wired:RC-EX3A, RC-E5, RCH-E3 wireless:RCN-T-5BW-E2, RCN-T-5BB-E2 | | | |
| Installation data Refrigerant piping size | | mm(in) | Liquid line:ø9.52(3/8") Gas line:ø15.88(5/8") | | | |

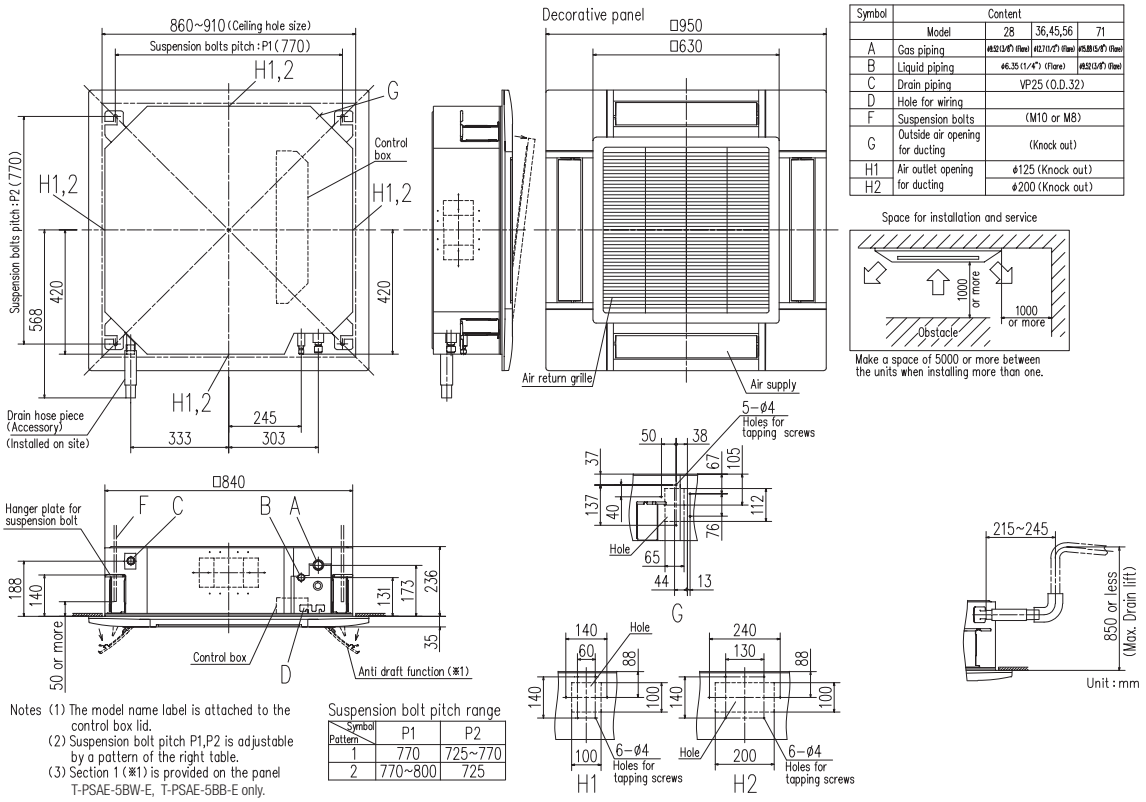
1. The data are measured under the following conditions(ISO-T1). Cooling: Indoor temp. of 27ºCDB, 19ºCWB, and outdoor temp. of 35ºCDB. Heating: Indoor temp. of 20ºCDB, and outdoor temp. of 7ºCDB, 6ºCWB.
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values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

# Dimensions

**All measurements in mm.**

FDT28KXZE1-W, 36KXZE1-W, 45KXZE1-W, 56KXZE1-W, 71KXZE1-W

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) |
| C | Drain piping | VP25 (O.D.32) | | |
| D | Hole for wiring | | | |
| F | Suspension bolts | (M10 or M8) | | |
| G | Outside air opening for ducting | (Knock out) | | |
| H1 | Air outlet opening for ducting | ø125 (Knock out) | | |
| H2 | | ø200 (Knock out) | | |

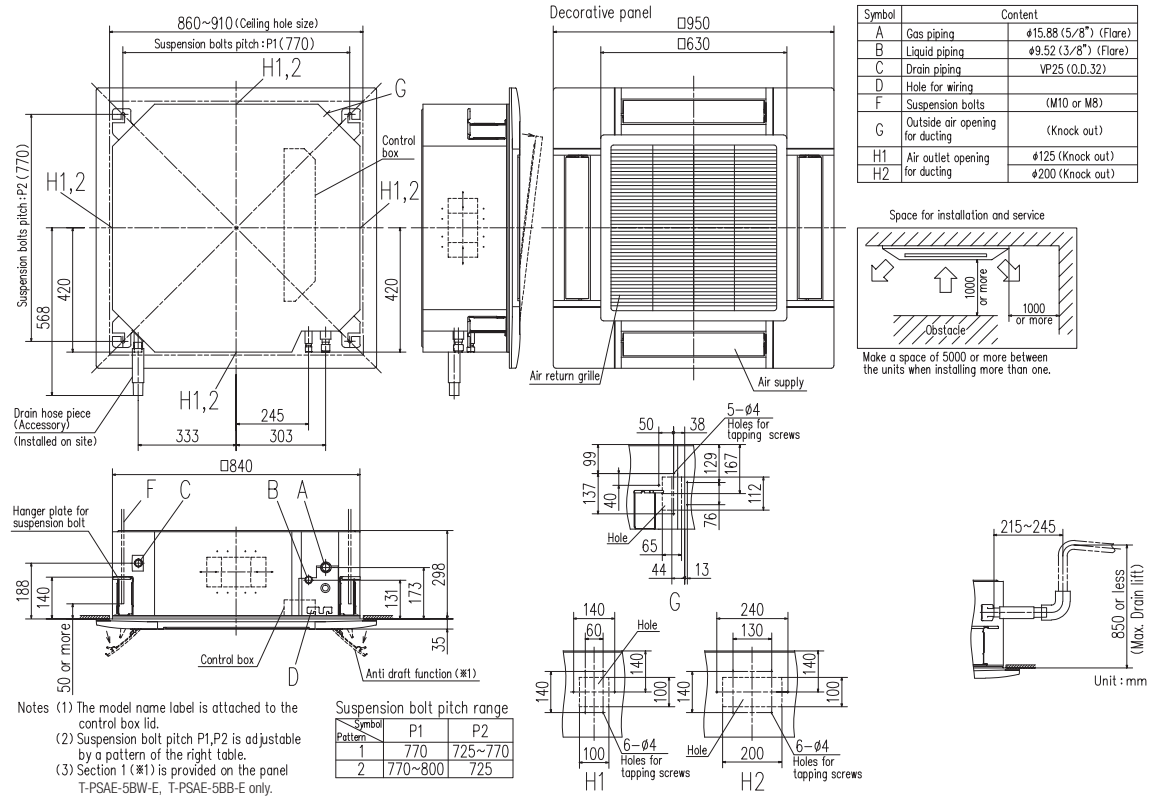
Notes (1) The model name label is attached to the control box lid.
(2) Suspension bolt pitch P1,P2 is adjustable by a pattern of the right table.
(3) Section 1 (※1) is provided on the panel T-PSAE-5BW-E, T-PSAE-5BB-E only.

Suspension bolt pitch range

| Symbol / Pattern | P1 | P2 |
|---|---|---|
| 1 | 770 | 725~770 |
| 2 | 770~800 | 725 |

FDT90KXZE1-W, 112KXZE1-W, 140KXZE1-W, 160KXZE1-W

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 M8) |
| G | Outside air opening for ducting | (Knock out) |
| H1 | Air outlet opening for ducting | ø125 (Knock out) |
| H2 | | ø200 (Knock out) |

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-5BW-E, T-PSAE-5BB-E only.

Suspension bolt pitch range

| Symbol / Pattern | P1 | P2 |
|---|---|---|
| 1 | 770 | 725~770 |
| 2 | 770~800 | 725 |

# Ceiling Cassette - 4way Compact FDTC

Model No.

FDTC15KXZE1-W
FDTC22KXZE1-W
FDTC28KXZE1-W
FDTC36KXZE1-W
FDTC45KXZE1-W
FDTC56KXZE1-W

FDTC15KXZE1
FDTC22KXZE1
FDTC28KXZE1
FDTC36KXZE1
FDTC45KXZE1
FDTC56KXZE1

NEW

**Draft Prevention Panel (option)**

**Remote control (option)**

Wired

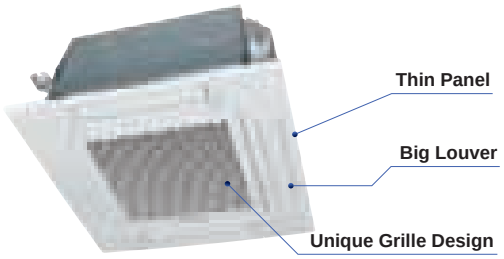
**RC-EX3A RC-E5 RCH-E3**

Wireless

**RCN-TC-5AW-E3**

*R32 indoor unit are not compatible with R410A outdoor unit and vice versa.

## European design & Flat panel




### Unique Grille Design

A grille designed with a unique structure and a clean white panel that blends with the room.

**Honeycomb type**

NEW

**Grid type**

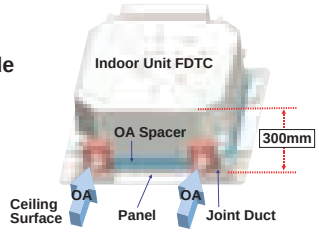
### Integrated ceiling system design 600x600

Easy installation - with a weight of only 14kg, a thin panel, and a main body size of only 248mm.

### Taking OA (Outside Air) into inside

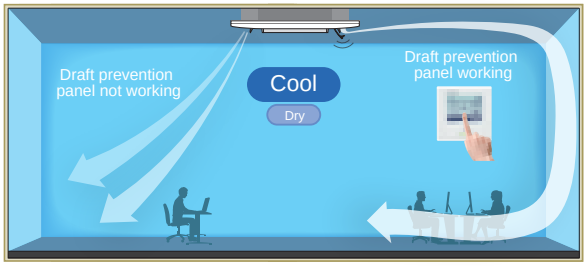
Fresh air can be taken in without optional parts. When the fresh air is insufficient, optional parts can be used.

**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.

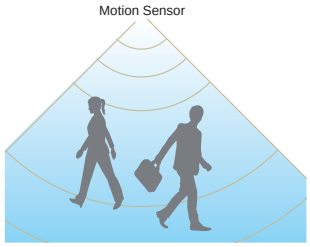



User can position panels by using the remote controller (RC-EX3A, Wireless kit) only when Draft Prevention Panel is available.

## Motion Sensor (Option)

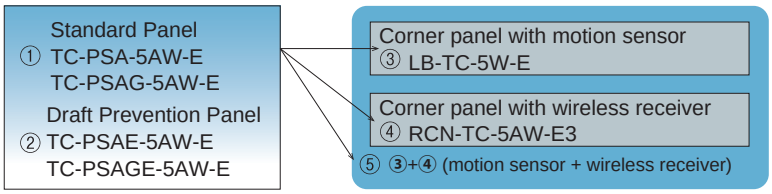
Motion sensor is equipped in the corner of the panel and detects the presence/absence and activity of humans in a room to improve the comfort and energy saving performance of the unit.

**LB-TC-5W-E**



## Panel select pattern (Option)

8 patterns of panel are available.

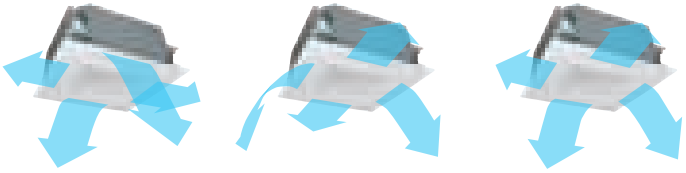



① Standard Panel only
①+③ Standard Panel with corner panel with motion sensor
①+④ Standard Panel with corner panel with wireless receiver
①+⑤ Standard Panel with corner panel with motion sensor & corner panel with wireless receiver

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

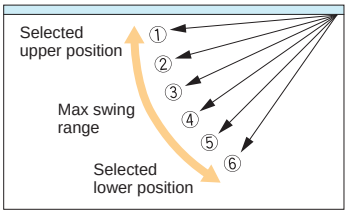
## Individual flap control system

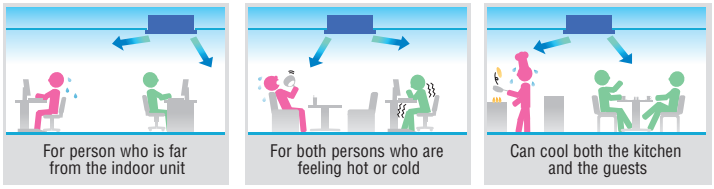
According to room temperature conditions, four directions of air flow can be controlled individually by following Flap control system. Individual flap control is available even after installation.



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

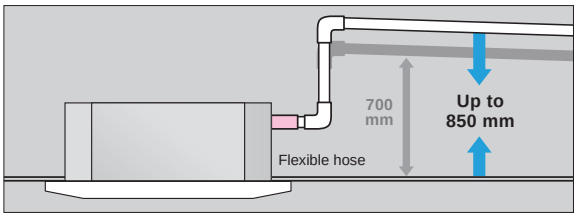
※The wireless remote control is not applicable to the Individual flap control system.



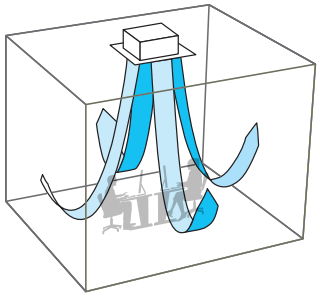

## 850mm Drain Pump

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.




## Suitable for High ceilings

The Powerful blowout carries comfortable air flow to the floor even in high ceiling applications. It is ideal for high ceiling offices, stores, etc., with a wide, uniform air flow throughout the room.



# Specifications

| Item | | Model | FDTC15KXZE1-W | FDTC22KXZE1-W | FDTC28KXZE1-W | FDTC36KXZE1-W | FDTC45KXZE1-W | FDTC56KXZE1-W |
|---|---|---|---|---|---|---|---|---|
| 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<br>Heating:46 | 49 | | Cooling:54<br>Heating:53 | Cooling:58<br>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 | | | | | |
| Exterior dimensions (H x W x D) | | mm | Unit:248x570x570 Panel:10x620x620 | | | | | |
| Net weight | | kg | Unit:12.5<br>Standard Panel:2.5 | Unit:13 Standard Panel:2.5 | | Unit:14 Standard Panel:2.5 | | |
| Air flow | Cooling | $m^3$/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 | | | | | | | |
| Outside air intake | | | Possible | | | | | |
| Panel | | | TC-PSA-5AW-E, TC-PSAE-5AW-E (Honeycomb) / TC-PSAG-5AW-E, TC-PSAGE-5AW-E (Grid) | | | | | |
| Air filter, Q'ty | | | Pocket Plastic net x1 (Washable) | | | | | |
| Remote control (option) | | | wired:RC-EX3A, RC-E5, RCH-E3 wireless:RCN-TC-5AW-E3 | | | | | |
| 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 27ºCDB, 19ºCWB, and outdoor temp. of 35ºCDB. Heating: Indoor temp. of 20ºCDB, and outdoor temp. of 7ºCDB, 6ºCWB.
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.

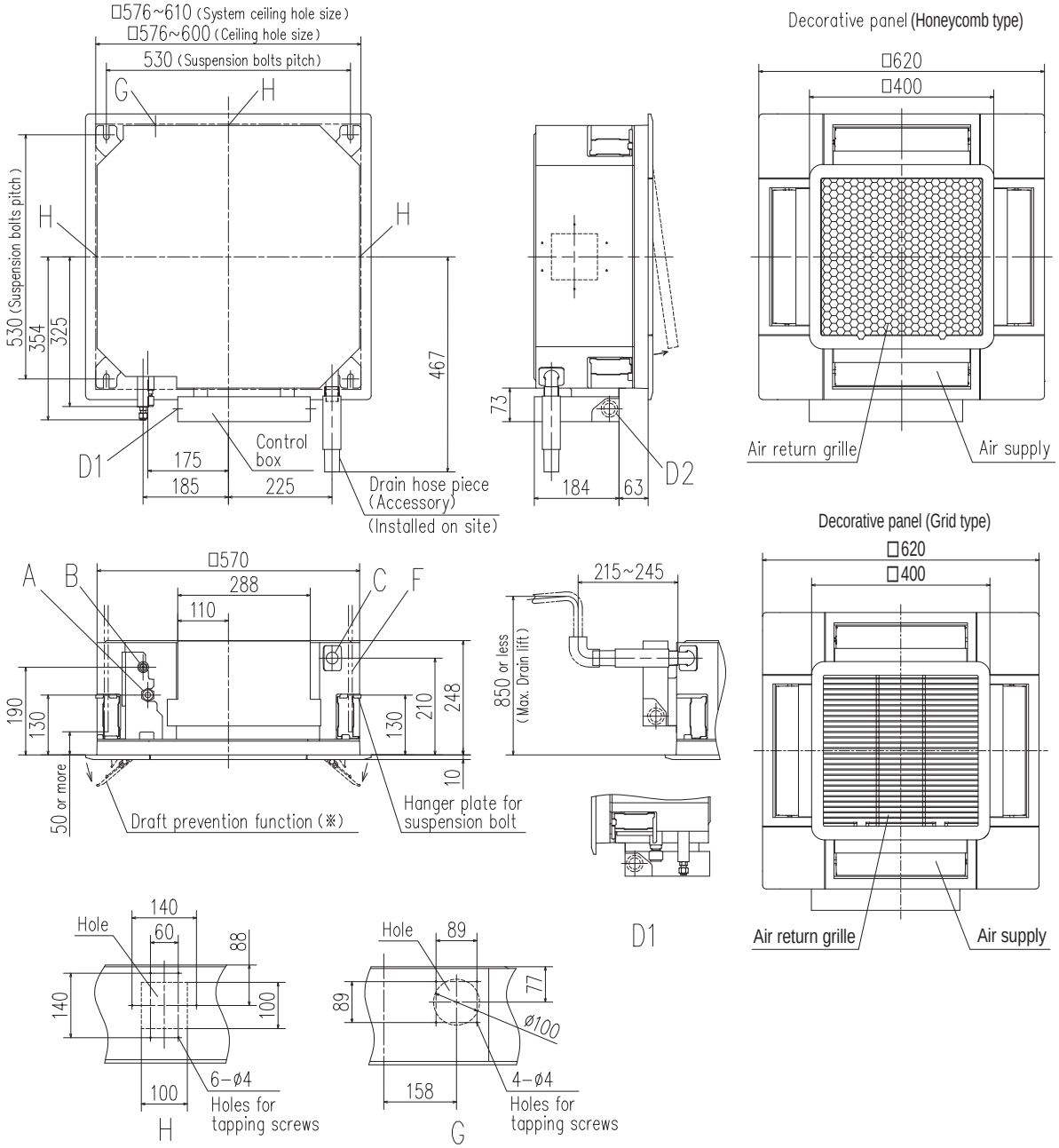
# Specifications

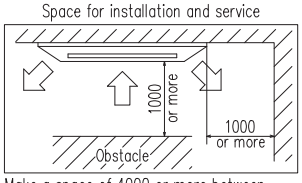
| Item | | Model | FDTC15KXZE1 | FDTC22KXZE1 | FDTC28KXZE1 | FDTC36KXZE1 | FDTC45KXZE1 | FDTC56KXZE1 |
|---|---|---|---|---|---|---|---|---|
| Nominal cooling capacity | | kW | 1.5 | 2.2 | 2.8 | 3.6 | 4.5 | 5.6 |
| Nominal heating capacity | | kW | 1.7 | 2.5 | 3.2 | 4.0 | 5.0 | 6.3 |
| Power source | | | 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<br>Heating:46 | 49 | | Cooling:54<br>Heating:53 | Cooling:58<br>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 | | | | | |
| Exterior dimensions (H x W x D) | | mm | Unit:248x570x570 Panel:10x620x620 | | | | | |
| Net weight | | kg | Unit:12.5<br>Standard Panel:2.5 | Unit:13 Standard Panel:2.5 | | Unit:14 Standard Panel:2.5 | | |
| Air flow | Cooling | $m^3$/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 | | | | | | | |
| Outside air intake | | | Possible | | | | | |
| Panel | | | TC-PSA-5AW-E, TC-PSAE-5AW-E (Honeycomb) / TC-PSAG-5AW-E, TC-PSAGE-5AW-E (Grid) | | | | | |
| Air filter, Q'ty | | | Pocket Plastic net x1 (Washable) | | | | | |
| Remote control (option) | | | wired:RC-EX3A, RC-E5, RCH-E3 wireless:RCN-TC-5AW-E3 | | | | | |
| 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 27ºCDB, 19ºCWB, and outdoor temp. of 35ºCDB. Heating: Indoor temp. of 20ºCDB, and outdoor temp. of 7ºCDB, 6ºCWB.
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.

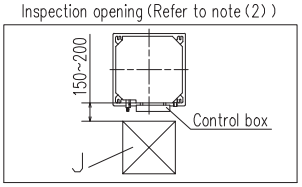
# Dimensions

All measurements in mm.




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

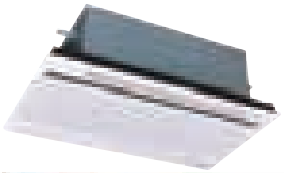



| Symbol | Content | | |
|---|---|---|---|
| | Model | 15,22,28 | 36,45,56 |
| A | Gas piping | ϕ9.52 (3/8") (Flare) | ϕ12.7 (1/2") (Flare) |
| B | Liquid piping | ϕ6.35 (1/4") (Flare) | |
| C | Drain piping | VP25 (O.D.32) | |
| D1 | Power source connection | | |
| D2 | Remote control code and signal wiring connection | | |
| F | Suspension bolts | (M10 or M8) | |
| G | Outside air opening for ducting | (Knock out) | |
| H | Air outlet opening for ducting | ϕ125 (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, TC-PSAGE-5AW-E only.

R410A

# Ceiling Cassette -2way- FDTW



FDTW28~71

FDTW90~140

**Model No.**

FDTW28KXE6F
FDTW45KXE6F
FDTW56KXE6F
FDTW71KXE6F
FDTW90KXE6F
FDTW112KXE6F
FDTW140KXE6F

**Remote control (option)**

Wired

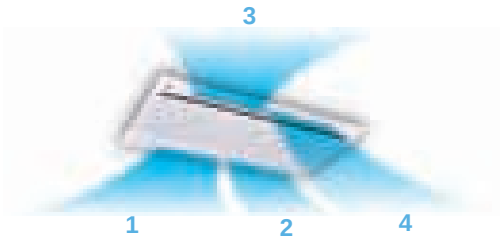
RC-EX3A RC-E5 RCH-E3

Wireless

RCN-TW-E2

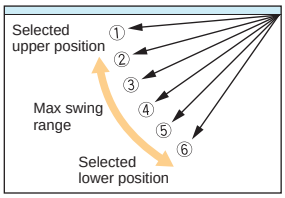
## Individual flap control system

We've optimised our outlet design with advanced technology to allow you to control up to four directions of air flow. Allowing you to control air direction via the flap systems and room temperature.




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

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




## 750mm Drain Pump

The drain discharge system allows for a piping layout with a high degree of freedom (dependent on installation location). Discharge from above 750mm from a ceiling surface to the indoor unit.

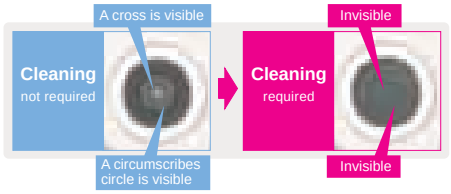
## Installation workability

### Drainage spout

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

### Transparent access hole to drain pan

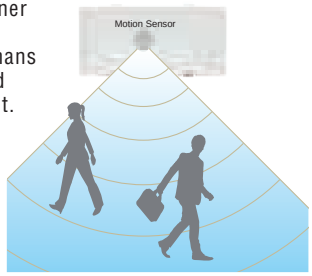
Condition of the bottom of a drain pan can be checked through this transparent access hole without removing drain pan.




## Motion Sensor (Option)

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

LB-TW-6W




# Specifications

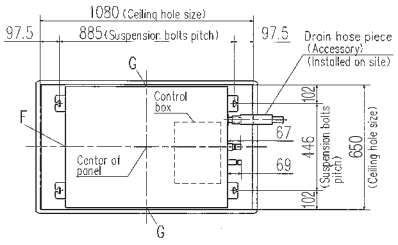
| Item | | Model | FDTW28KXE6F | FDTW45KXE6F | FDTW56KXE6F | FDTW71KXE6F | FDTW90KXE6F | FDTW112KXE6F | FDTW140KXE6F |
|---|---|---|---|---|---|---|---|---|---|
| Nominal cooling capacity | | kW | 2.8 | 4.5 | 5.6 | 7.1 | 9.0 | 11.2 | 14.0 |
| Nominal heating capacity | | kW | 3.2 | 5.0 | 6.3 | 8.0 | 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 | kW | 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) | P-Hi:42 Hi:38 Me:34 Lo:31 | | | | P-Hi:48 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 | P-Hi:14.5 Hi:12 Me:10 Lo:9 | | | | P-Hi:31 Hi:27 Me:23 Lo:20 | | |
| Outside air intake | | | Possible | | | | | | |
| Panel | | | TW-PSA-26W-E | | | | TW-PSA-46W-E | | |
| Air filter, Q'ty | | | Pocket Plastic net x2 (Washable) | | | | Pocket Plastic net x3 (Washable) | | |
| Remote control(option) | | | wired:RC-EX3A, 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") | | | |

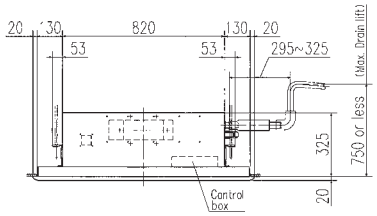
1. The data are measured under the following conditions(ISO-T1). Cooling: Indoor temp. of 27ºCDB, 19ºCWB, and outdoor temp. of 35ºCDB. Heating: Indoor temp. of 20ºCDB, and outdoor temp. of 7ºCDB, 6ºCWB.
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values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

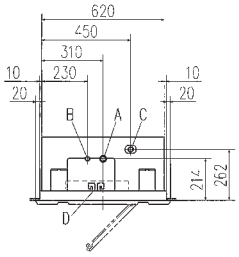
# Dimensions

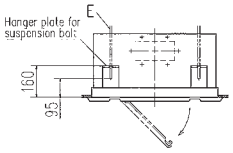
All measurements in mm.

## FDTW28KXE6F, 45KXE6F, 56KXE6F, 71KXE6F



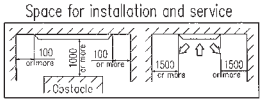




| Symbol | Content | | | |
|---|---|---|---|---|
| | Model | 28 | 45,56 | 71 |
| A | Gas piping | ø9.52 (3/8") (Flare) | ø12.7 (1/2") (Flare) | ø15.88 (5/8") (Flare) |
| B | Liquid piping | ø6.35 (1/4") (Flare) | | ø9.52 (3/8") (Flare) |
| C | Drain piping | VP25 (O.D. 32) | | |
| D | Hole for wiring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

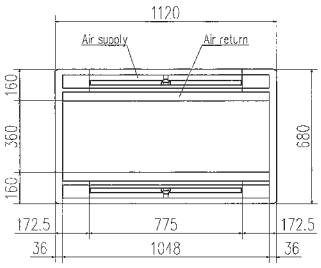
Notes (1) The model name label is attached on the lid of the control box.

Space for installation and service

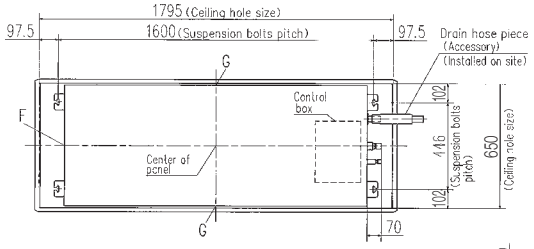


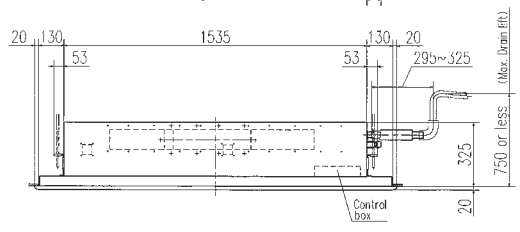

Make a space of 4000 or more between the units when installing more than one.

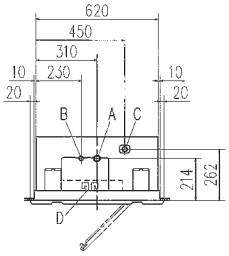
Decorative panel

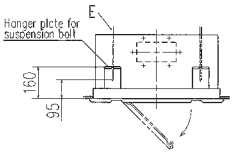



## FDTW90KXE6F, 112KXE6F, 140KXE6F



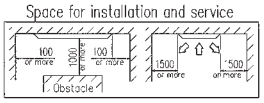




| Symbol | Content | |
|---|---|---|
| A | Gas piping | ø15.88 (5/8") (Flare) |
| B | Liquid piping | ø9.52 (3/8") (Flare) |
| C | Drain piping | VP25 (O.D. 32) |
| D | Hole for wiring | |
| E | Suspension bolts | (M10) |
| F | Outside air opening for ducting | (Knock out) |
| G | Air outlet opening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

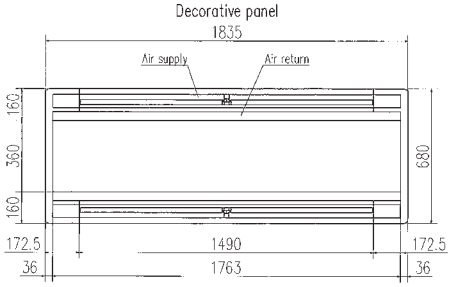
Notes (1) The model name label is attached on the lid of the control box.

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

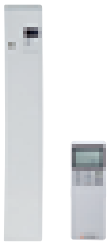
**Model No.**
FDTS45KXE6F
FDTS71KXE6F

**Remote control (option)**

Wired

RC-EX3A RC-E5 RCH-E3

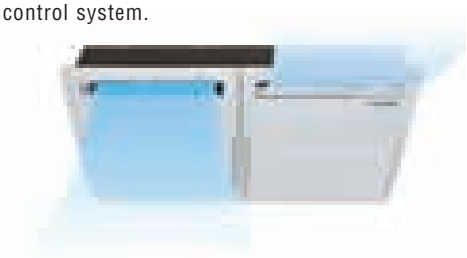
Wireless



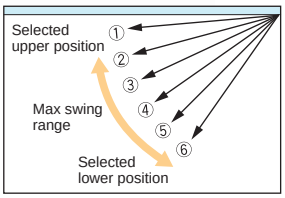
RCN-TS-E2

## Individual flap control system

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



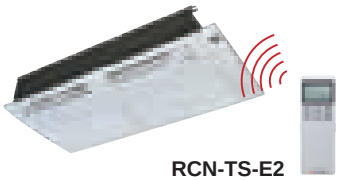
The flap can swing within the range of upper and lower flap position selected with wired remote control.




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

## Wireless remote control

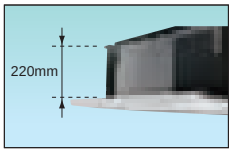
For wireless remote control simply attach an additional panel with infrared receiver on the right side of the main decorative panel.



RCN-TS-E2

## Compact design

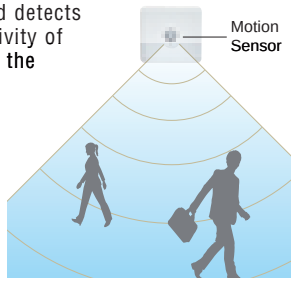
Indoor unit size (W:1,150 x D:565) brings easy installation for 1,200 x 600 ceiling and Panel size (1,250 x 650) is suitable for 1,200 x 600 ceiling. Height is the industry's lowest height level 220mm and weight is only 27, 28kg.




## Motion Sensor (Option)

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

LB-KIT2




## 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.

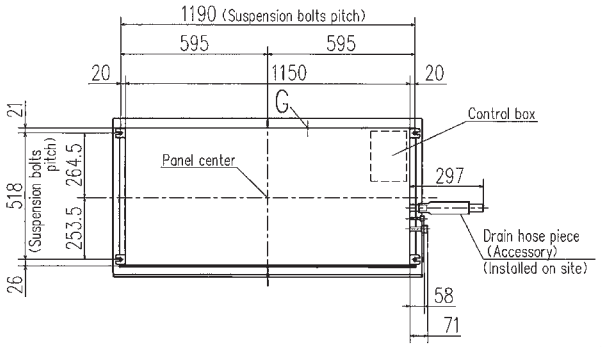
# Specifications

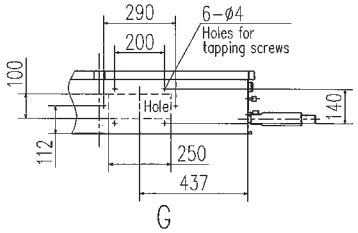
| Item | | Model | FDTS45KXE6F | FDTS71KXE6F |
|---|---|---|---|---|
| Nominal cooling capacity | | kW | 4.5 | 7.1 |
| Nominal heating capacity | | kW | 5.0 | 8.0 |
| Power source | | | 1 Phase 220-240V, 50Hz | |
| Power consumption | Cooling | kW | 0.04-0.04 | 0.09-0.09 |
| | Heating | | 0.04-0.04 | 0.09-0.09 |
| Sound power level | | dB(A) | 60 | 61 |
| Sound pressure level | | dB(A) | P-Hi:42 Hi:40 Me:38 Lo:35 | P-Hi:49 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 | P-Hi:13 Hi:12 Me:11 Lo:9.5 | P-Hi:17 Hi:15 Me:12 Lo:10 |
| Outside air intake | | | Possible | |
| Panel | | | TS-PSA-3AW-E | |
| Air filter, Q'ty | | | Pocket Plastic net x2 (Washable) | |
| Remote control(option) | | | wired:RC-EX3A, 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") |

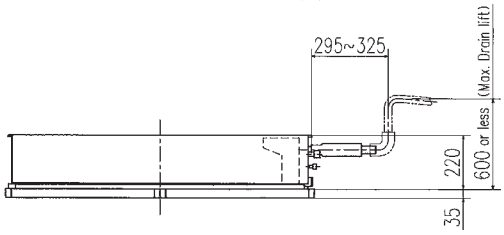
1. The data are measured under the following conditions(ISO-T1). Cooling: Indoor temp. of 27ºCDB, 19ºCWB, and outdoor temp. of 35ºCDB. Heating: Indoor temp. of 20ºCDB, and outdoor temp. of 7ºCDB, 6ºCWB.
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values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

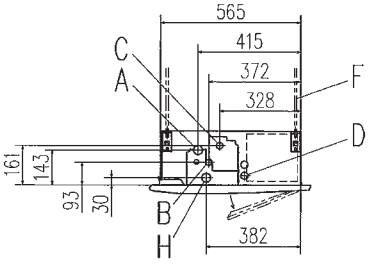
# Dimensions

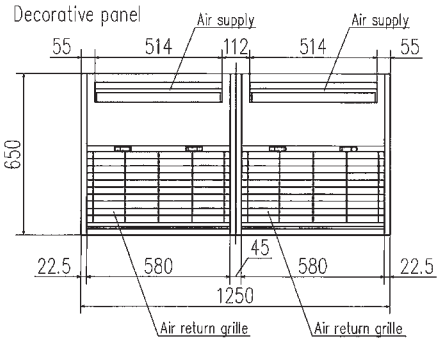
All measurements in mm.

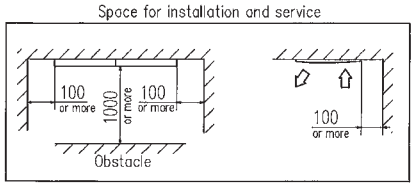


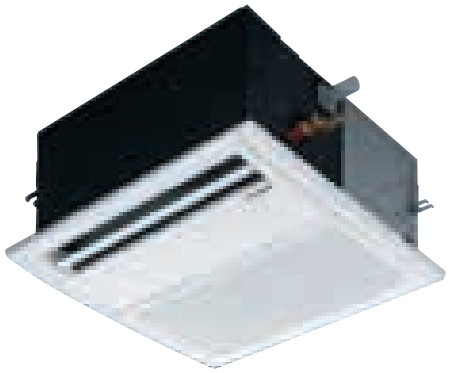




Make a space of 4000 or more between the units when installing more than one.

| 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-EX3A RC-E5 RCH-E3**

Wireless

**RCN-KIT4-E2**

## Compact design

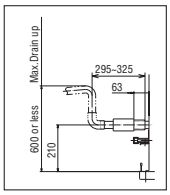
- **Comfortable effective cooling for small rooms, with low fan speed air flow at just 5.4m³/min.**

Optional wide panel shown for solid ceiling

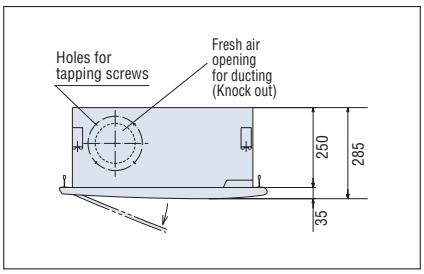
## Motion Sensor NEW (Option)

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

**LB-KIT2**




Condensate drain pump included as standard




Ultra slim design at just 250mm above the ceiling

# Specifications

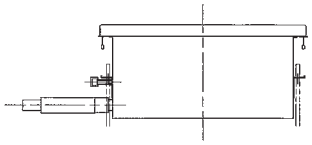
| Item | | Model | FDTQ22KXE6F | | | | FDTQ28KXE6F | | | | FDTQ36KXE6F | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Panel Name | | | Direct blow panel | | Duct panel | | Direct blow panel | | Duct panel | | Direct blow panel | | Duct panel | |
| Panel mode (Option) | | | TQ-PSA-15W-E | 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) | P-Hi:45Hi:41 Me:38 Lo:33 | | | | P-Hi:45 Hi:41 Me:38 Lo:33 | | | | P-Hi:45 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:19 Panel:2.5 | Unit:19 Panel:3 | Unit:19 Panel:2.5 | Unit:19 Panel:3 | Unit:19 Panel:2.5 | Unit:19 Panel:3 | Unit:19 Panel:2.5 | Unit:19 Panel:3 | Unit:19 Panel:2.5 | Unit:19 Panel:3 | Unit:19 Panel:2.5 | Unit:19 Panel:3 |
| Air flow | | m³/min | P-Hi:8 Hi:7 Me:6 Lo:5 | | | | P-Hi:8 Hi:7 Me:6 Lo:5 | | | | P-Hi:8 Hi:7 Me:6 Lo:5 | | | |
| Outside air intake | | | Possible | | | | | | | | | | | |
| Air filter, Q'ty | | | Pocket Plastic net x1 (Washable) | | | | | | | | | | | |
| 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:ø9.52(3/8") | | | | | | | | Liquid line:ø6.35(1/4") Gas line:ø12.7(1/2") | | | |

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

# Dimensions

All measurements in mm.

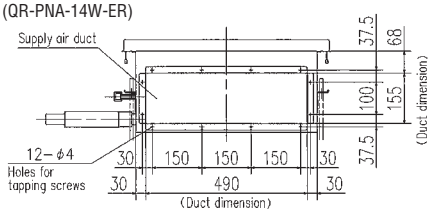
Direct blow panel (TQ-PSA-15W-E)



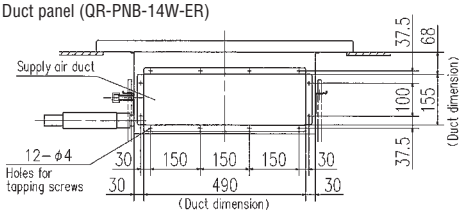
Direct blow panel (TQ-PSB-15W-E)

| Symbol | Content | | |
|---|---|---|---|
| | Model | FDTQ22KXE6F, 28KXE6F | FDTQ36KXE6F |
| A | Gas piping | ϕ9.52 (3/8") (Flare) | ϕ12.7 (1/2") (Flare) |
| B | Liquid piping | ϕ6.35 (1/4") (Flare) | |
| C | Drain piping | VP25 (O.D.32) | |
| D | Hole for wiring | ϕ30 | |
| E | Suspension bolts | M10 | |
| F1,2 | Outside air opening for ducting | (Knock out) | |

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




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

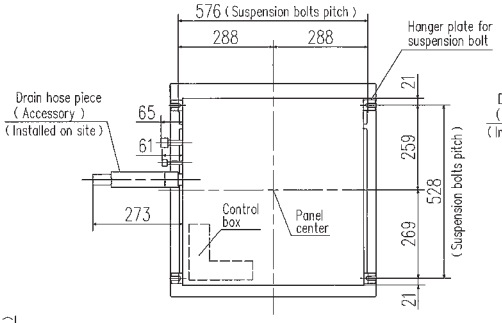


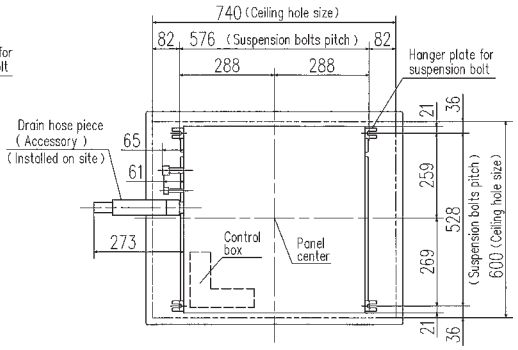

Notes

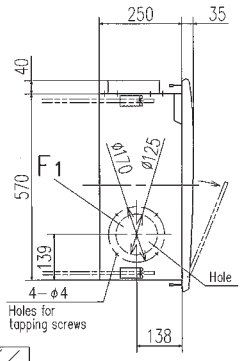
(1) The model name label is attached on the fan case inside the air return grille.

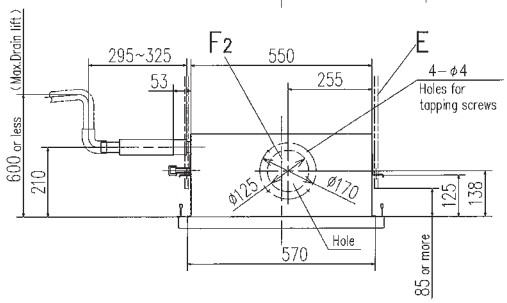
(2) This unit is designed for 2X2 grid ceiling.

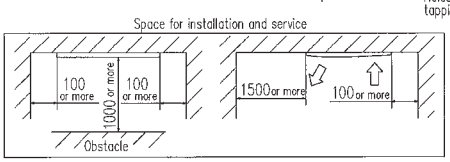
★ In case of Direct blow panel



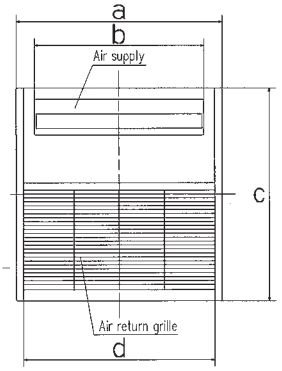



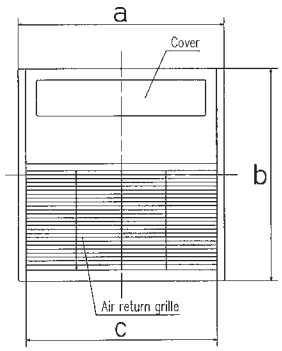



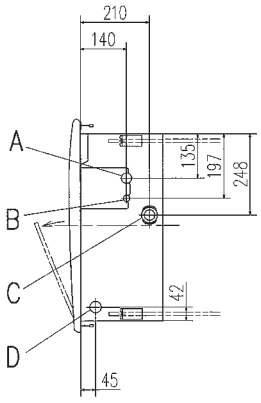

Make a space of 3000 or more between the units when installing more than one.

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 |

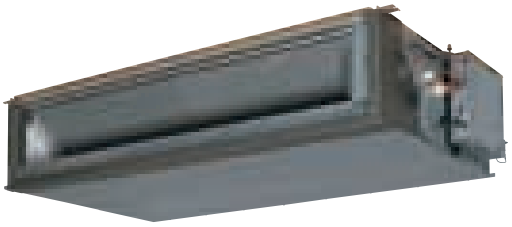
## Dimension Table

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

NEW



224・280

**Model No.**

| | |
|---|---|
| FDU45KXE6F-W | FDU45KXE6F |
| FDU56KXE6F-W | FDU56KXE6F |
| FDU71KXE6F-W | FDU71KXE6F |
| FDU90KXE6F-W | FDU90KXE6F |
| FDU112KXE6F-W | FDU112KXE6F |
| FDU140KXE6F-W | FDU140KXE6F |
| FDU160KXE6F-W | FDU160KXE6F |

**Model No.**

FDU224KXZE1
FDU280KXZE1

**Remote control (option)**

Wired

RC-EX3A RC-E5 RCH-E3

Wireless

RCN-KIT4-E2

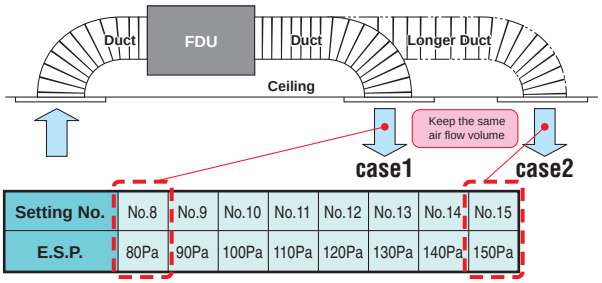
*R32 indoor unit are not compatible with R410A outdoor unit and vice versa.

## External Static Pressure(E.S.P) control

Manually set the E.S.P on the wired controller, and the indoor unit will control the fan speed to keep rated air flow volume at each fan speed setting. You can set a required E.S.P by your wired remote controller – calculated with the set air flow rate and the pressure loss of the duct.

E.S.P. button RC-E5

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



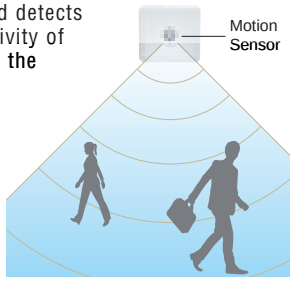

| Setting No. | No.8 | No.9 | No.10 | No.11 | No.12 | No.13 | No.14 | No.15 |
|---|---|---|---|---|---|---|---|---|
| E.S.P. | 80Pa | 90Pa | 100Pa | 110Pa | 120Pa | 130Pa | 140Pa | 150Pa |

*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.

## Motion Sensor (Option)

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

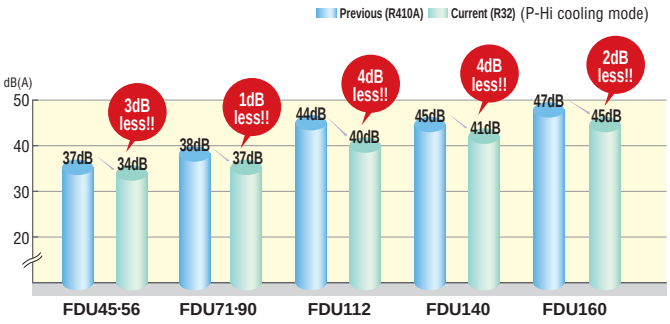
LB-KIT2




## Thin design

The height of all FDU models only 280mm


## Reduction of sound pressure level

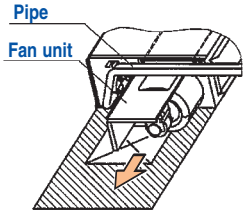



## Transparent inspection window

Dirt condition of the bottom of the drain pan can be checked through this transparent inspection window without removing drain pan. (Please refer to P82)

## Improvement of the serviceability

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




**Round duct adapter**

In case of requirements of round duct adapter, please refer to P95.

Company AIRZONE
URL http://www:airzone.es

# Specifications

| Item | | Model | FDU45KXE6F-W | FDU56KXE6F-W | FDU71KXE6F-W | FDU90KXE6F-W | FDU112KXE6F-W | FDU140KXE6F-W | FDU160KXE6F-W |
|---|---|---|---|---|---|---|---|---|---|
| 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) | Cooling:58 Heating:60 | | Cooling:63 Heating:65 | | Cooling:68 Heating:69 | | 72 |
| Sound pressure level | Cooling | dB(A) | P-Hi:34 Hi:29 Me:27 Lo:25 | | P-Hi:37 Hi:31 Me:27 Lo:22 | | P-Hi:40 Hi:36 Me:34 Lo:28 | P-Hi:41 Hi:37 Me:34 Lo:28 | P-Hi:45 Hi:38 Me:34 Lo:29 |
| | Heating | | P-Hi:35 Hi:30 Me:29 Lo:25 | | P-Hi:39 Hi:33 Me:28 Lo:23 | | P-Hi:41 Hi:36 Me:34 Lo:28 | P-Hi:41 Hi:37 Me:34 Lo:28 | P-Hi:45 Hi:38 Me:34 Lo:29 |
| Exterior dimensions (H x W x D) | | mm | 280x750x635 | | 280x950x635 | | 280x1368x740 | | |
| Net weight | | kg | 29 | | 34 | | 54 | | |
| Air flow | | $m^3$/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, Q'ty | | | 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 27ºCDB, 19ºCWB, and outdoor temp. of 35ºCDB. Heating: Indoor temp. of 20ºCDB, and outdoor temp. of 7ºCDB, 6ºCWB.
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.

# 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 | | 71 | 72 | 74 |
| 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 | | 280x1368x740 | | |
| Net weight | | kg | 29 | | 34 | | 54 | | |
| Air flow | | $m^3$/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, Q'ty | | | 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") | | | | |

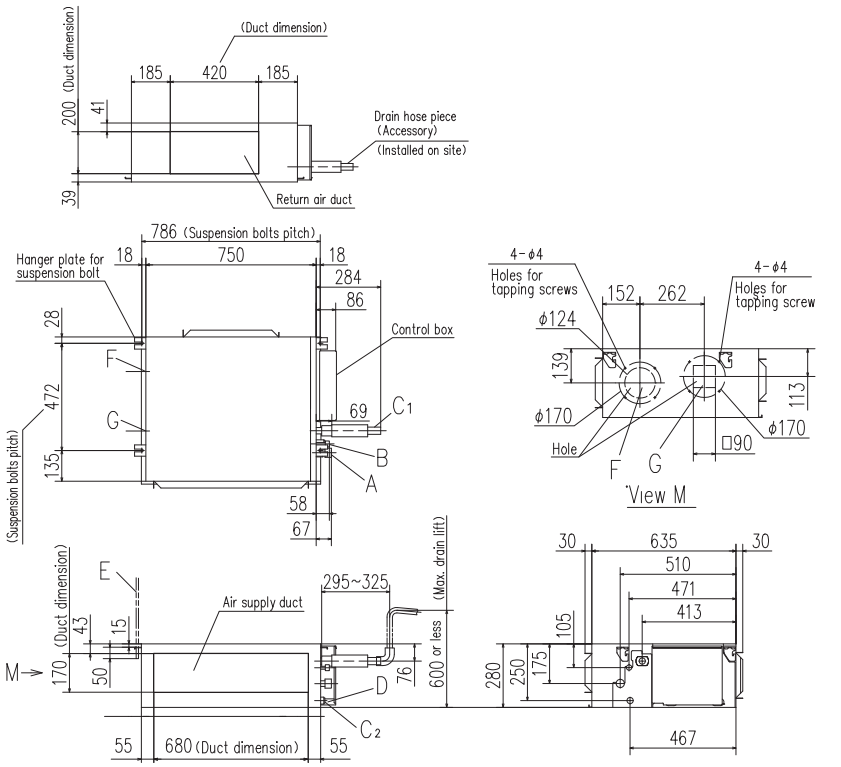
| Item | | Model | FDU224KXZE1 | FDU280KXZE1 |
|---|---|---|---|---|
| Nominal cooling capacity | | kW | 22.4 | 28.0 |
| Nominal heating capacity | | kW | 25.0 | 31.5 |
| Power source | | | 1 Phase 220-240V, 50Hz | |
| Power consumption | Cooling | kW | 1.16-1.20 | 1.16-1.20 |
| | Heating | | 1.16-1.20 | 1.16-1.20 |
| Sound power level | | dB(A) | 75 | |
| 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 | | $m^3$/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, Q'ty | | | 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 27ºCDB, 19ºCWB, and outdoor temp. of 35ºCDB. Heating: Indoor temp. of 20ºCDB, and outdoor temp. of 7ºCDB, 6ºCWB.
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-W, 56KXE6F-W
## FDU45KXE6F, 56KXE6F

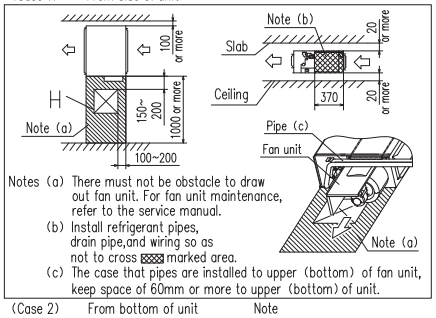



| Symbol | Content | |
|---|---|---|
| A | Gas piping | φ12.7 (1/2") (Flare) |
| B | Liquid piping | φ6.35 (1/4") (Flare) |
| C1 | Drain piping | VP25 (O.D.32) |
| C2 | Drain piping (Gravity drainage) | VP20 |
| D | Hole for wiring | |
| E | Suspension bolts | M10 |
| F | Outside air opening for ducting | (Knock out) |
| G | Air outlet opening for ducting | (Knock out) |
| H | Inspection opening | (450X450) |

Space for installation and service

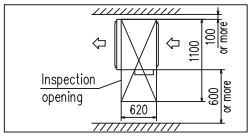
Select either of two cases to keep space for installation and services.

(Case 1) From side of unit



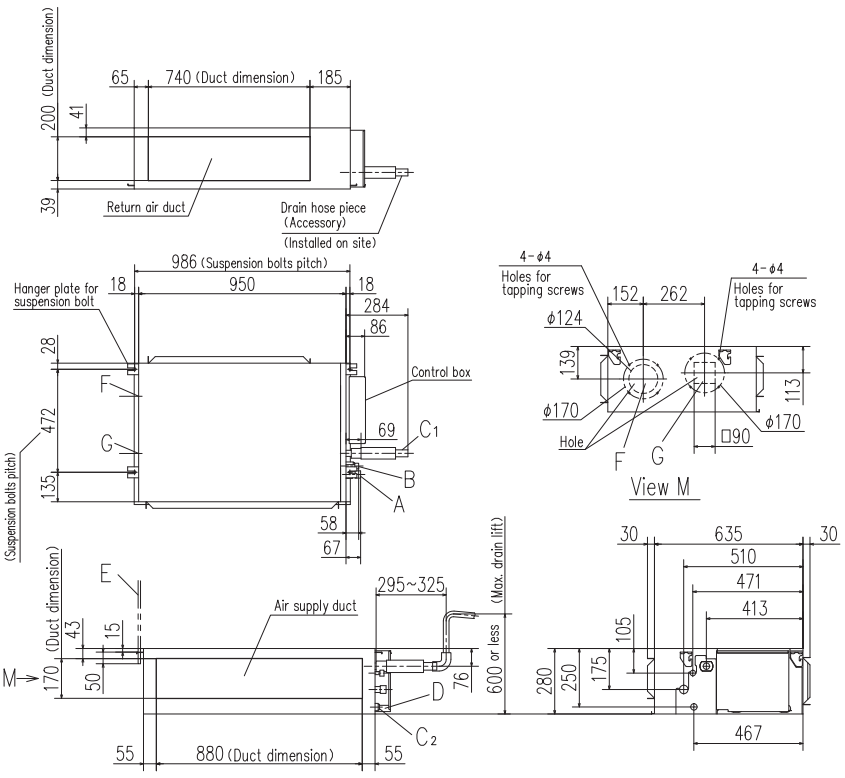

Notes (a) There must not be obstacle to draw out fan unit. For fan unit maintenance, refer to the service manual.
(b) Install refrigerant pipes, drain pipe,and wiring so as not to cross ▨ marked area.
(c) The case that pipes are installed to upper (bottom) of fan unit, keep space of 60mm or more to upper (bottom) of unit.

(Case 2) From bottom of unit




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

## FDU71KXE6F-W, 90KXE6F-W
## FDU71KXE6F, 90KXE6F

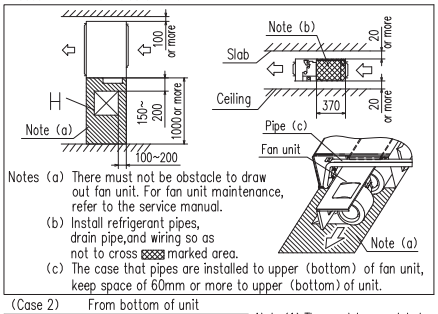



| Symbol | Content | |
|---|---|---|
| A | Gas piping | φ15.88 (5/8") (Flare) |
| B | Liquid piping | φ9.52 (3/8") (Flare) |
| C1 | Drain piping | VP25 (O.D.32) |
| C2 | Drain piping (Gravity drainage) | VP20 |
| D | Hole for wiring | |
| E | Suspension bolts | M10 |
| F | Outside air opening for ducting | (Knock out) |
| G | Air outlet opening for ducting | (Knock out) |
| H | Inspection opening | (450X450) |

Space for installation and service

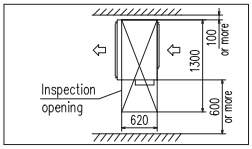
Select either of two cases to keep space for installation and services.

(Case 1) From side of unit



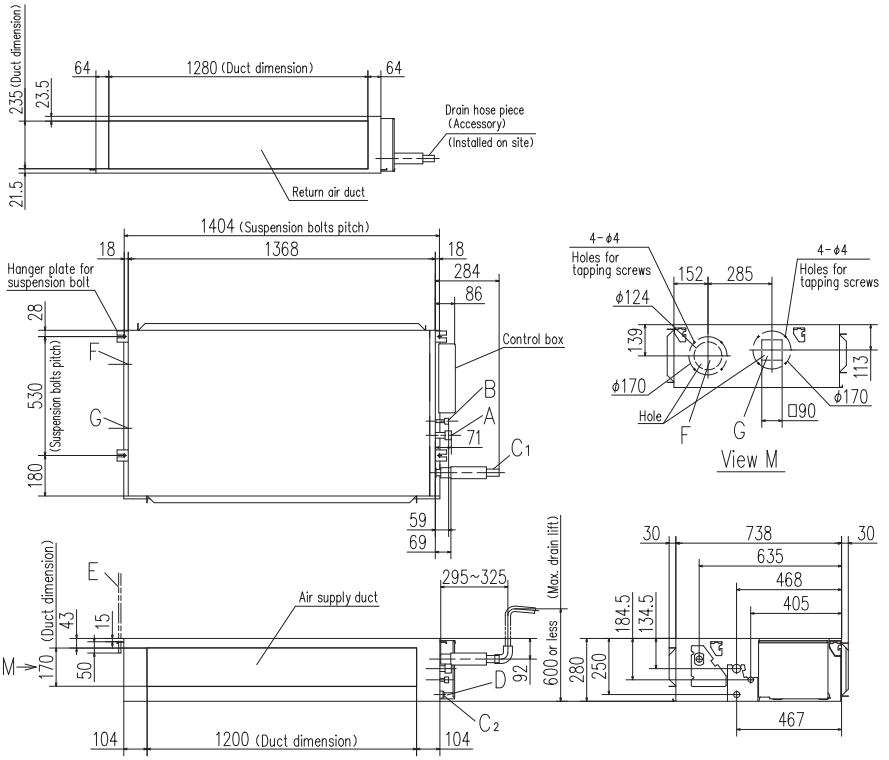

Notes (a) There must not be obstacle to draw out fan unit. For fan unit maintenance, refer to the service manual.
(b) Install refrigerant pipes, drain pipe,and wiring so as not to cross ▨ marked area.
(c) The case that pipes are installed to upper (bottom) of fan unit, keep space of 60mm or more to upper (bottom) of unit.

(Case 2) From bottom of unit




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

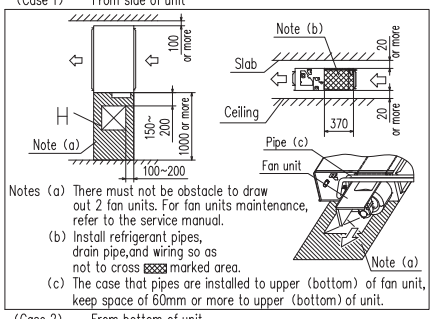
## FDU112KXE6F-W, 140KXE6F-W, 160KXE6F-W
## FDU112KXE6F, 140KXE6F, 160KXE6F



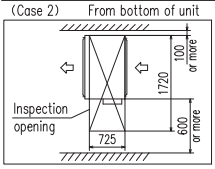

| Symbol | Content | |
|---|---|---|
| A | Gas piping | φ15.88 (5/8") (Flare) |
| B | Liquid piping | φ9.52 (3/8") (Flare) |
| C1 | Drain piping | VP25 (O.D.32) |
| C2 | Drain piping (Gravity drainage) | VP20 |
| D | Hole for wiring | |
| E | Suspension bolts | M10 |
| F | Outside air opening for ducting | ( Knock out) |
| G | Air outlet opening for ducting | ( Knock out) |
| H | Inspection opening | (450X450) |

Space for installation and service

Select either of two cases to keep space for installation and services.

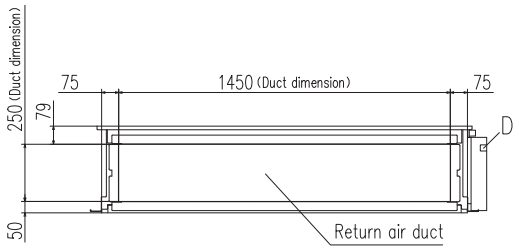



Notes (a) There must not be obstacle to draw out 2 fan units. For fan units maintenance, refer to the service manual.
(b) Install refrigerant pipes, drain pipe,and wiring so as not to cross ▨ marked area.
(c) The case that pipes are installed to upper (bottom) of fan unit, keep space of 60mm or more to upper (bottom) of unit.

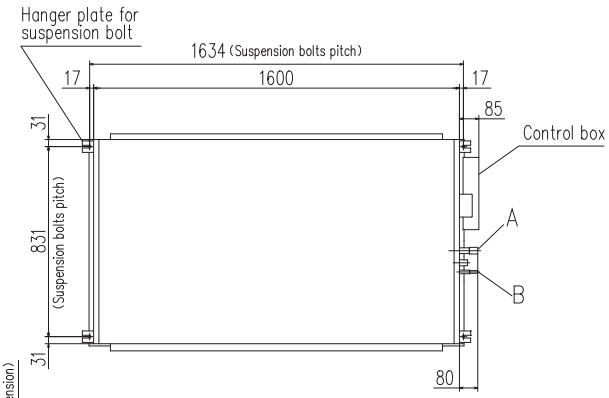


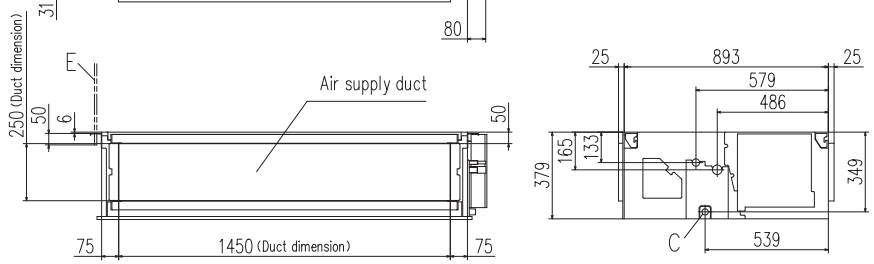

Note
(1) The model name label is attached on the lid of the control box.

## FDU224KXZE1, 280KXZE1



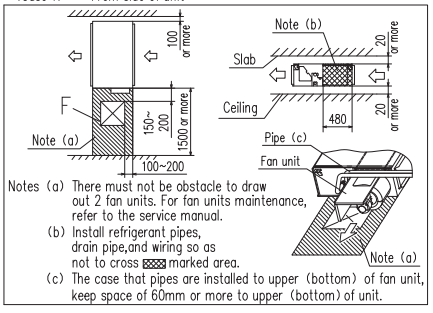

| Symbol | Content | | |
|---|---|---|---|
| | MODEL | 224 | 280 |
| A | Gas piping | φ19.05 (3/4") (Brazing) | φ22.22 (7/8") (Brazing) |
| B | Liquid piping | φ9.52 (3/8") (Brazing) | |
| C | Drain piping (Gravity drainage) | VP25 (O.D.32) | |
| D | Hole for wiring | | |
| E | Suspension bolts | M10 | |
| F | Inspection hole | (450X450) | |



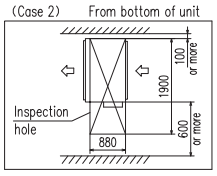




Space for installation and service

Select either of two cases to keep space for installation and services.




Notes (a) There must not be obstacle to draw out 2 fan units. For fan units maintenance, refer to the service manual.
(b) Install refrigerant pipes, drain pipe,and wiring so as not to cross ▨ marked area.
(c) The case that pipes are installed to upper (bottom) of fan unit, keep space of 60mm or more to upper (bottom) of unit.




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

# Duct Connected -Low/Middle Static Pressure-
# FDUM

NEW

**Model No.**

| | |
|---|---|
| FDUM22KXE6F-W | FDUM22KXE6F |
| FDUM28KXE6F-W | FDUM28KXE6F |
| FDUM36KXE6F-W | FDUM36KXE6F |
| FDUM45KXE6F-W | FDUM45KXE6F |
| FDUM56KXE6F-W | FDUM56KXE6F |
| FDUM71KXE6F-W | FDUM71KXE6F |
| FDUM90KXE6F-W | FDUM90KXE6F |
| FDUM112KXE6F-W | FDUM112KXE6F |
| FDUM140KXE6F-W | FDUM140KXE6F |
| FDUM160KXE6F-W | FDUM160KXE6F |

**Filter kit (option)**

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

*Filter pressure loss:5pa

**Remote control (option)**

Wired

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

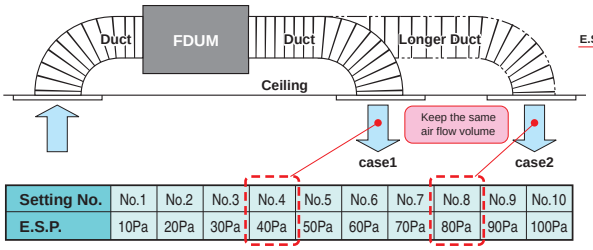
Wireless

**RCN-KIT4-E2**

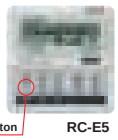
*R32 indoor unit are not compatible with R410A outdoor unit and vice versa.

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

Using the automatic control, DC motor, the most optimum air flow volume is achieved. The Indoor unit will recognise external static pressure automatically and keep rated air flow volume.




| 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 |

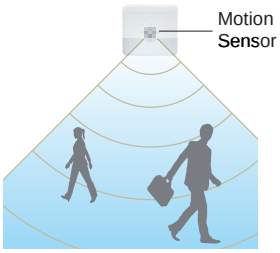



External static pressure (E.S.P.) can be set by E.S.P. button.

## Motion Sensor (Option)

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

**LB-KIT2**




## Thin design

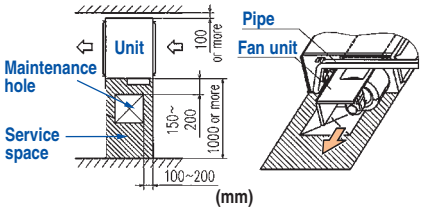
The height of all FDUM models only 280mm


## Transparent inspection window

Dirt condition of the bottom of the drain pan can be checked through this transparent inspection window without removing drain pan. (Please refer to P82)

## 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 carried out from the right side or the bottom side of the unit.




# Specifications

| Item | | Model | FDUM22KXE6F-W | FDUM28KXE6F-W | FDUM36KXE6F-W | FDUM45KXE6F-W | FDUM56KXE6F-W |
|---|---|---|---|---|---|---|---|
| Nominal cooling capacity | | kW | 2.2 | 2.8 | 3.6 | 4.5 | 5.6 |
| Nominal heating capacity | | kW | 2.5 | 3.2 | 4.0 | 5.0 | 6.3 |
| Power source | | | 1 Phase 220-240V, 50Hz | | | | |
| Power consumption | Cooling | kW | 0.08-0.08 | | | | |
| | Heating | | 0.08-0.08 | | | | |
| Sound power level | | dB(A) | Cooling:57 Heating:60 | | Cooling:58 Heating:60 | | |
| Sound pressure level | Cooling | dB(A) | P-Hi:33 Hi:27 Me:25 Lo:23 | | P-Hi:34 Hi:29 Me:27 Lo:25 | | |
| | Heating | | P-Hi:36 Hi:30 Me:29 Lo:25 | | P-Hi:35 Hi:30 Me:29 Lo:25 | | |
| Exterior dimensions (H x W x D) | | mm | 280 x 750 x 635 | | | | |
| Net weight | | kg | 29 | | | | |
| Air flow | | $m^3$/min | P-Hi:13 Hi:10 Me:9 Lo:8 | | | | |
| Maximum external static pressure | | Pa | 100 | | | | |
| Outside air intake | | | Possible | | | | |
| Air filter, Q'ty | | | Filter kit:UM-FL1EF | | | | |
| 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:ø9.52(3/8") | | Liquid line:ø6.35(1/4") Gas line:ø12.7(1/2") | | |

| Item | | Model | FDUM71KXE6F-W | FDUM90KXE6F-W | FDUM112KXE6F-W | FDUM140KXE6F-W | FDUM160KXE6F-W |
|---|---|---|---|---|---|---|---|
| Nominal cooling capacity | | kW | 7.1 | 9.0 | 11.2 | 14.0 | 16.0 |
| Nominal heating capacity | | kW | 8.0 | 10.0 | 12.5 | 16.0 | 18.0 |
| Power source | | | 1 Phase 220-240V, 50Hz | | | | |
| Power consumption | Cooling | kW | 0.16-0.16 | | 0.25-0.25 | 0.26-0.26 | 0.38-0.38 |
| | Heating | | 0.16-0.16 | | 0.25-0.25 | 0.26-0.26 | 0.38-0.38 |
| Sound power level | | dB(A) | Cooling:63 Heating:65 | | Cooling:68 Heating:69 | | 72 |
| Sound pressure level | Cooling | dB(A) | P-Hi:37 Hi:31 Me:27 Lo:22 | | P-Hi:40 Hi:36 Me:34 Lo:28 | P-Hi:41 Hi:37 Me:34 Lo:28 | P-Hi:45 Hi:38 Me:34 Lo:29 |
| | Heating | | P-Hi:39 Hi:33 Me:28 Lo:23 | | P-Hi:41 Hi:36 Me:34 Lo:28 | | |
| Exterior dimensions (H x W x D) | | mm | 280 x 950 x 635 | | 280 x 1368 x 740 | | |
| Net weight | | kg | 34 | | 54 | | |
| Air flow | | $m^3$/min | 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 | 100 | | | | |
| Outside air intake | | | Possible | | | | |
| Air filter, Q'ty | | | Filter kit:UM-FL2EF | | Filter kit:UM-FL3EF | | |
| 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:ø15.88(5/8") | | | | |

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

# Specifications

R410A

| Item | | Model | FDUM22KXE6F | FDUM28KXE6F | FDUM36KXE6F | FDUM45KXE6F | FDUM56KXE6F |
|---|---|---|---|---|---|---|---|
| Nominal cooling capacity | | kW | 2.2 | 2.8 | 3.6 | 4.5 | 5.6 |
| Nominal heating capacity | | kW | 2.5 | 3.2 | 4.0 | 5.0 | 6.3 |
| Power source | | | 1 Phase 220-240V, 50Hz | | | | |
| Power consumption | Cooling | kW | 0.10-0.10 | | | | |
| | Heating | | 0.10-0.10 | | | | |
| Sound power level | | dB(A) | 60 | | | | |
| Sound pressure level | | dB(A) | P-Hi:37 Hi:32 Me:29 Lo:26 | | | | |
| Exterior dimensions (H x W x D) | | mm | 280 x 750 x 635 | | | | |
| Net weight | | kg | 29 | | | | |
| Air flow | | $m^3$/min | P-Hi:13 Hi:10 Me:9 Lo:8 | | | | |
| Maximum external static pressure | | Pa | 100 | | | | |
| Outside air intake | | | Possible | | | | |
| Air filter, Q'ty | | | Filter kit:UM-FL1EF | | | | |
| 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:ø9.52(3/8") | | Liquid line:ø6.35(1/4") Gas line:ø12.7(1/2") | | |

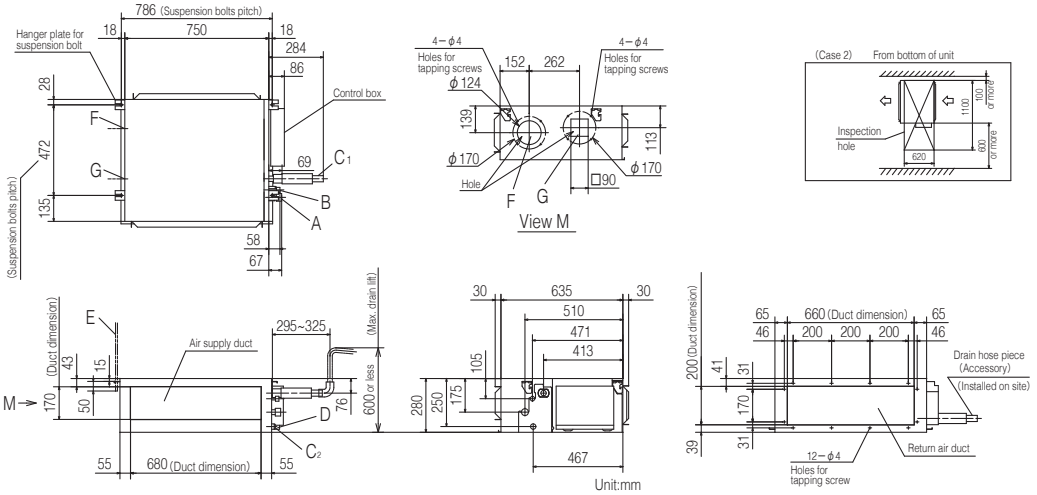
| Item | | Model | FDUM71KXE6F | FDUM90KXE6F | FDUM112KXE6F | FDUM140KXE6F | FDUM160KXE6F |
|---|---|---|---|---|---|---|---|
| Nominal cooling capacity | | kW | 7.1 | 9.0 | 11.2 | 14.0 | 16.0 |
| Nominal heating capacity | | kW | 8.0 | 10.0 | 12.5 | 16.0 | 18.0 |
| Power source | | | 1 Phase 220-240V, 50Hz | | | | |
| Power consumption | Cooling | kW | 0.20-0.20 | | 0.29-0.29 | 0.33-0.33 | 0.45-0.45 |
| | Heating | | 0.20-0.20 | | 0.29-0.29 | 0.33-0.33 | 0.45-0.45 |
| Sound power level | | dB(A) | 65 | | 71 | 72 | 74 |
| Sound pressure level | | dB(A) | 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 | 280 x 950 x 635 | | 280 x 1368 x 740 | | |
| Net weight | | kg | 34 | | 54 | | |
| Air flow | | $m^3$/min | 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 | 100 | | | | |
| Outside air intake | | | Possible | | | | |
| Air filter, Q'ty | | | Filter kit:UM-FL2EF | | Filter kit:UM-FL3EF | | |
| 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:ø15.88(5/8") | | | | |

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

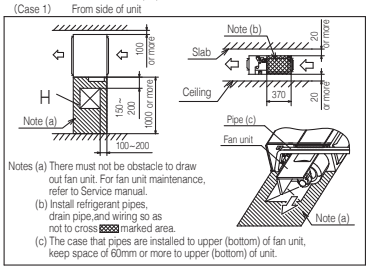
## FDUM22KXE6F-W, 28KXE6F-W, 36KXE6F-W, 45KXE6F-W, 56KXE6F-W
## FDUM22KXE6F, 28KXE6F, 36KXE6F, 45KXE6F, 56KXE6F




Space for installation and service

Select either of two cases to keep space for installation and services.

(Case 1) From side of unit

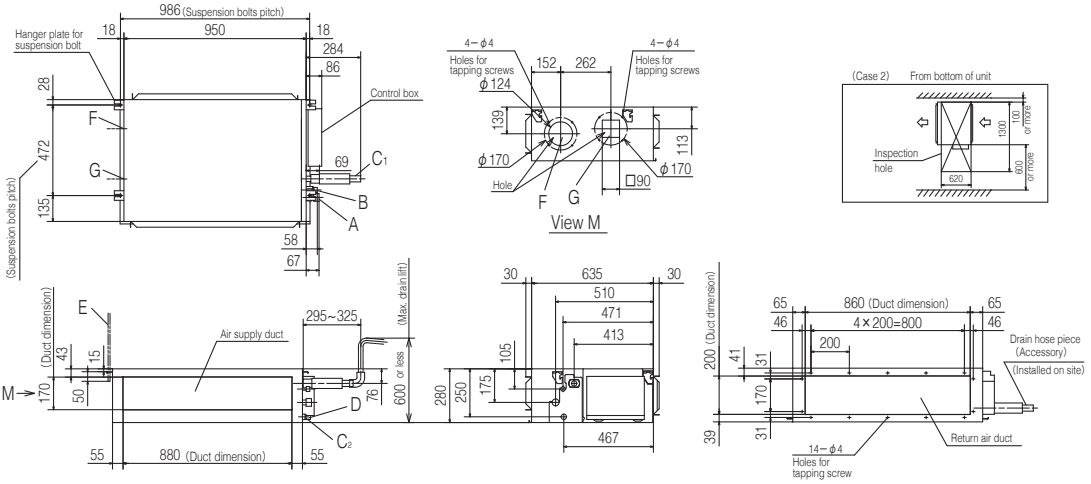



Notes (a) There must not be obstacle to draw out fan unit. For fan unit maintenance, refer to Service manual.
(b) Install refrigerant pipes, drain pipe,and wiring so as not to cross ▨ marked area.
(c) The case that pipes are installed to upper (bottom) of fan unit, keep space of 60mm or more to upper (bottom) of unit.

| Symbol | Content | | |
|---|---|---|---|
| | Model | 22,28 | 36,45,56 |
| A | Gas piping | φ9.52(3/8") (Flare) | φ12.7(1/2") (Flare) |
| B | Liquid piping | φ6.35(1/4") (Flare) | |
| C1 | Drain piping | VP20(I.D.20,O.D.26) (Standard) or VP25(I.D.25,O.D.32) (Used with attached socket) Note(2) | |
| C2 | Drain piping (Gravity drainage) | VP20(I.D.20,O.D.26) (Standard) or VP25(I.D.25,O.D.32) (Used with attached socket) | |
| D | Hole for wiring | | |
| E | Suspension bolts | (M10) | |
| F | Outside air opening for ducting | (φ150) (Knock out) | |
| G | Air outlet opening for ducting | (φ125) (Knock out) | |
| H | Inspection hole | (450X450) | |

Notes (1) The model name label is attached on the lid of the control box.
(2) Prepare the connecting socket (VP20 or VP25) on site.

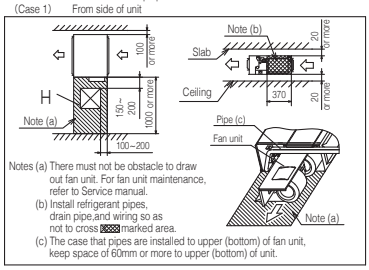
## FDUM71KXE6F-W, 90KXE6F-W
## FDUM71KXE6F, 90KXE6F




Space for installation and service

Select either of two cases to keep space for installation and services.

(Case 1) From side of unit

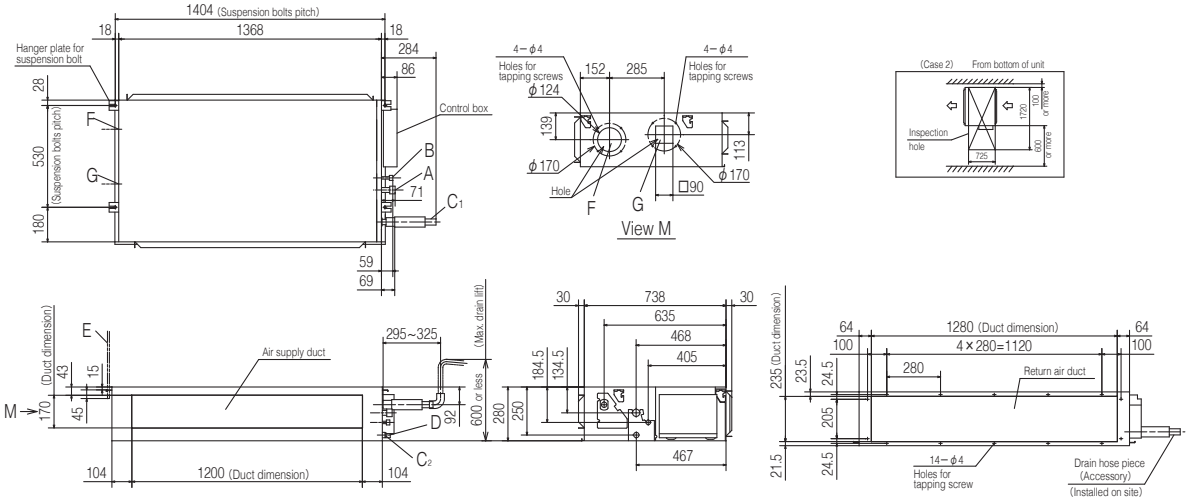



Notes (a) There must not be obstacle to draw out fan unit. For fan unit maintenance, refer to Service manual.
(b) Install refrigerant pipes, drain pipe,and wiring so as not to cross ▨ marked area.
(c) The case that pipes are installed to upper (bottom) of fan unit, keep space of 60mm or more to upper (bottom) of unit.

| Symbol | Content | |
|---|---|---|
| A | Gas piping | φ15.88(5/8")(Flare) |
| B | Liquid piping | φ9.52(3/8")(Flare) |
| C1 | Drain piping | VP20(I.D.20,O.D.26) (Standard) or VP25(I.D.25,O.D.32) (Used with attached socket) Note(2) |
| C2 | Drain piping (Gravity drainage) | VP20(I.D.20,O.D.26) (Standard) or VP25(I.D.25,O.D.32) (Used with attached socket) |
| D | Hole for wiring | |
| E | Suspension bolts | (M10) |
| F | Outside air opening for ducting | (φ150)(Knock out) |
| G | Air outlet opening for ducting | (φ125)(Knock out) |
| H | Inspection hole | (450X450) |

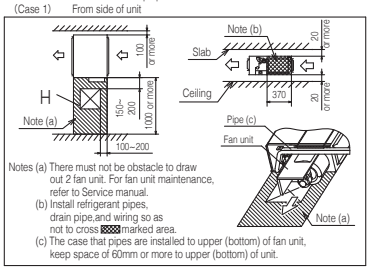
Notes(1) The model name label is attached on the lid of the control box.
(2) Prepare the connecting socket (VP20 or VP25) on site.

FDUM112KXE6F-W, 140KXE6F-W, 160KXE6F-W
FDUM112KXE6F, 140KXE6F, 160KXE6F




Space for installation and service

Select either of two cases to keep space for installation and services.




Notes (a) There must not be obstacle to draw out 2 fan unit. For fan unit maintenance, refer to Service manual.
(b) Install refrigerant pipes, drain pipe,and wiring so as not to cross ▩ marked area.
(c) The case that pipes are installed to upper (bottom) of fan unit, keep space of 60mm or more to upper (bottom) of unit.

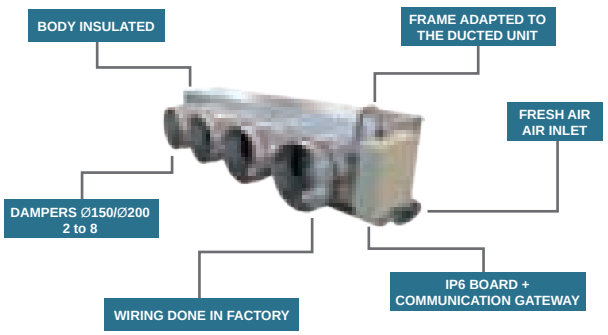
| Symbol | Content | |
|---|---|---|
| A | Gas piping | ϕ15.88 (5/8") (Flare) |
| B | Liquid piping | ϕ9.52 (3/8") (Flare) |
| C1 | Drain piping | VP20 (I.D.20,O.D.26) (Standard) or VP25 (I.D.25,O.D.32) (Used with attached socket) Note (2) |
| C2 | Drain piping (Gravity drainage) | VP20 (I.D.20,O.D.26) (Standard) or VP25 (I.D.25,O.D.32) (Used with attached socket) |
| D | Hole for wiring | |
| E | Suspension bolts | (M10) |
| F | Outside air opening for ducting | (ϕ150) ( Knock out) |
| G | Air outlet opening for ducting | (ϕ125) ( Knock out) |
| H | Inspection hole | (450X450) |

Notes (1) The model name label is attached on the lid of the control box.
(2) Prepare the connecting socket (VP20 or VP25) on site.

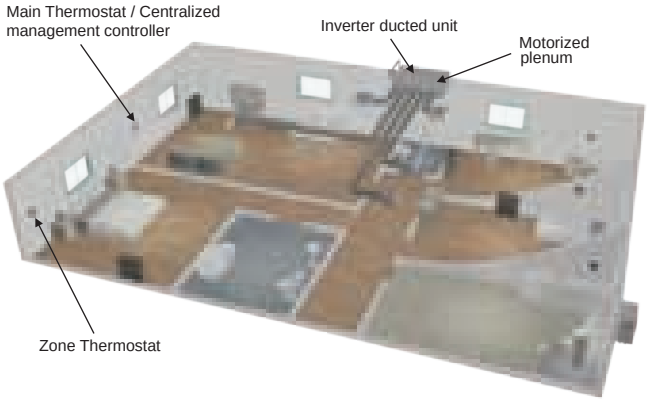
## Round duct adapter (Available for FDU 45~160, FDUM 22~160)

Company : AIRZONE
URL : http://www.airzone.es

All-in-one solution: the whole zoning system in a plug&play device perfectly adapted to the indoor DX unit




### Main components



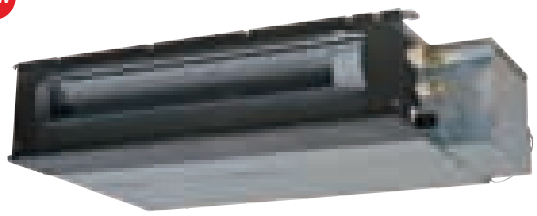
# Duct Connected (thin) -Low Static Pressure- FDUT

NEW

**Model No.**

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

*R32 indoor unit are not compatible with R410A outdoor unit and vice versa.



**Remote control (option)**

Wired

RC-EX3A RC-E5 RCH-E3

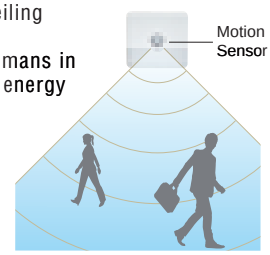
Wireless

RCN-KIT4-E2

## Motion Sensor NEW (Option)

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

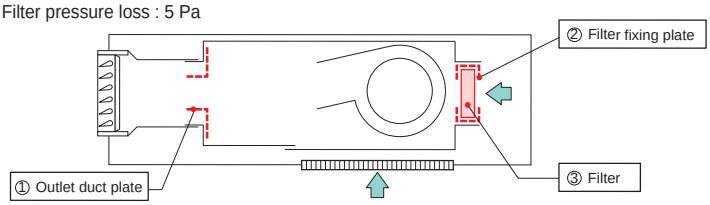
LB-KIT2




## Duct kit and filter (Option)

| Item | Contents | for FDUT15/22/28/36 | for FDUT45/56 | for FDUT71 |
|---|---|---|---|---|
| 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-W | FDUT22KXE6F-W | FDUT28KXE6F-W | FDUT36KXE6F-W | FDUT45KXE6F-W | FDUT56KXE6F-W | FDUT71KXE6F-W |
|---|---|---|---|---|---|---|---|---|---|
| Nominal cooling capacity | | kW | 1.5 | 2.2 | 2.8 | 3.6 | 4.5 | 5.6 | 7.1 |
| Nominal heating capacity | | kW | 1.7 | 2.5 | 3.2 | 4.0 | 5.0 | 6.0 | 8.0 |
| Power source | | | 1 Phase 220-240V, 50Hz | | | | | | |
| Power consumption | Cooling | kW | 0.057-0.058 | 0.063-0.066 | | 0.067-0.070 | 0.075-0.078 | 0.076-0.080 | 0.08-0.08 |
| | Heating | | 0.057-0.058 | 0.065-0.067 | | 0.070-0.072 | 0.072-0.076 | 0.073-0.078 | 0.07-0.07 |
| Sound power level | | dB(A) | Cooling:52 Heating:51 | 52 | | Cooling:54 Heating:55 | 54 | 55 | Cooling:56 Heating:57 |
| Sound pressure level *1 | Cooling | dB(A) | Hi:28 Me:26 Lo:21 | Hi:28 Me:26 Lo:22 | | Hi:30 Me:28 Lo:24 | Hi:30 Me:26 Lo:24 | Hi:31 Me:27 Lo:24 | Hi:32 Me:28 Lo:27 |
| | Heating | | Hi:28 Me:25 Lo:20 | | | Hi:31 Me:29 Lo:25 | Hi:30 Me:27 Lo:25 | Hi:31 Me:28 Lo:26 | Hi:32 Me:28 Lo:26 |
| Sound pressure level *2 | | dB(A) | Hi:32 Me:29 Lo:25 | Hi:32 Me:29 Lo:25 | | 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 | 22 | 21 | | 22 | 25 | | 31 |
| Air flow (Standard) | | $m^3$/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 (option) | | | Filter set:UT-FL1EF | | | | Filter set:UT-FL2EF | | Filter set:UT-FL3EF |
| 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: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") |

# Specifications

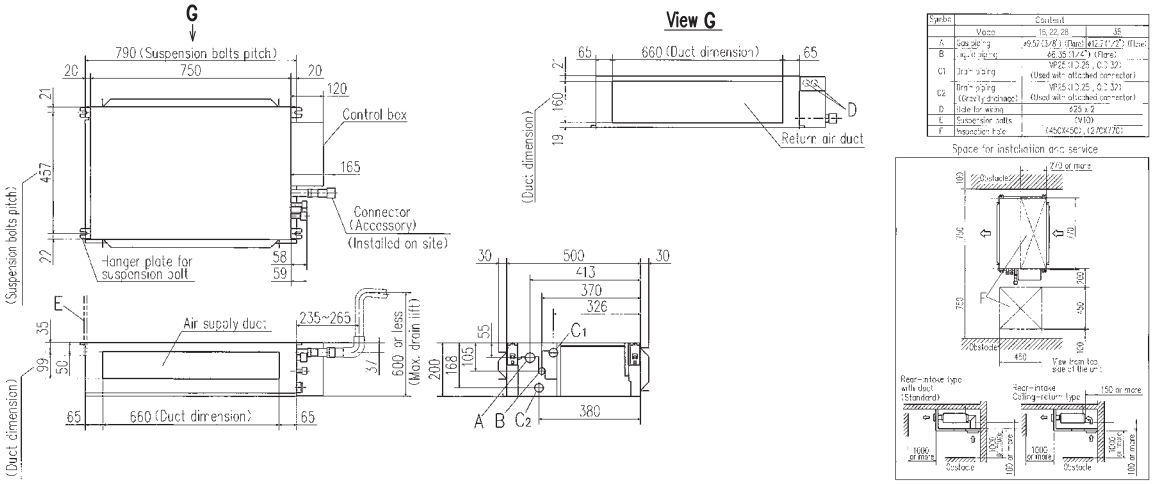
| Item | | Model | FDUT15KXE6F-E | FDUT22KXE6F-E | FDUT28KXE6F-E | FDUT36KXE6F-E | FDUT45KXE6F-E | FDUT56KXE6F-E | FDUT71KXE6F-E |
|---|---|---|---|---|---|---|---|---|---|
| Nominal cooling capacity | | kW | 1.5 | 2.2 | 2.8 | 3.6 | 4.5 | 5.6 | 7.1 |
| Nominal heating capacity | | kW | 1.7 | 2.5 | 3.2 | 4.0 | 5.0 | 6.0 | 8.0 |
| Power source | | | 1 Phase 220-240V, 50Hz | | | | | | |
| Power consumption | Cooling | kW | 0.06-0.06 | 0.07-0.07 | | | 0.08-0.08 | | 0.08-0.08 |
| | Heating | | 0.06-0.06 | 0.07-0.07 | | | 0.08-0.08 | | 0.07-0.07 |
| Sound power level | | dB(A) | 52 | | | 57 | 58 | 59 | |
| Sound pressure level *1 | | dB(A) | Hi:28 Me:26 Lo:22 | | | Hi:33 Me:30 Lo:26 | Hi:34 Me:32 Lo:28 | Hi:35 Me:33 Lo:30 | Hi:35 Me:31 Lo:28 |
| Sound pressure level *2 | | dB(A) | Hi:32 Me:29 Lo:25 | | | Hi: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 | 22 | 21 | | 22 | 25 | | 31 |
| Air flow (Standard) | | $m^3$/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 (option) | | | Filter set:UT-FL1EF | | | | Filter set:UT-FL2EF | | Filter set:UT-FL3EF |
| 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: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 27ºCDB, 19ºCWB, and outdoor temp. of 35ºCDB. Heating: Indoor temp. of 20ºCDB, and outdoor temp. of 7ºCDB, 6ºCWB.
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 Level shows the value when the supply duct of 2m and the return duct of 1m (except the Bottom air return) are connected the unit.
   Sound pressure level *1 : Mike position is 1.5m below the unit, *2 : Mike position is 1m in front and 1m below od the air supply duct.

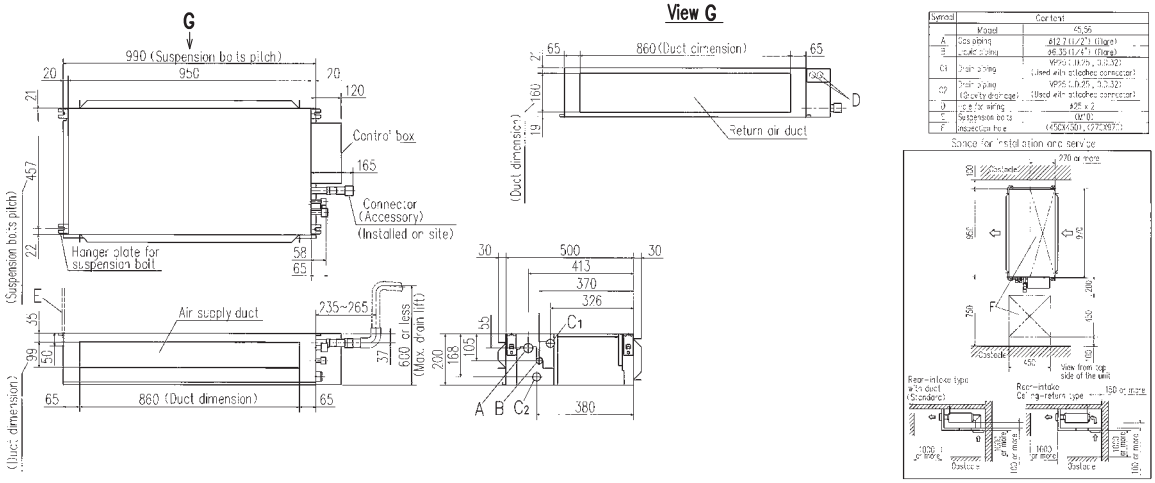
# Dimensions

All measurements in mm.

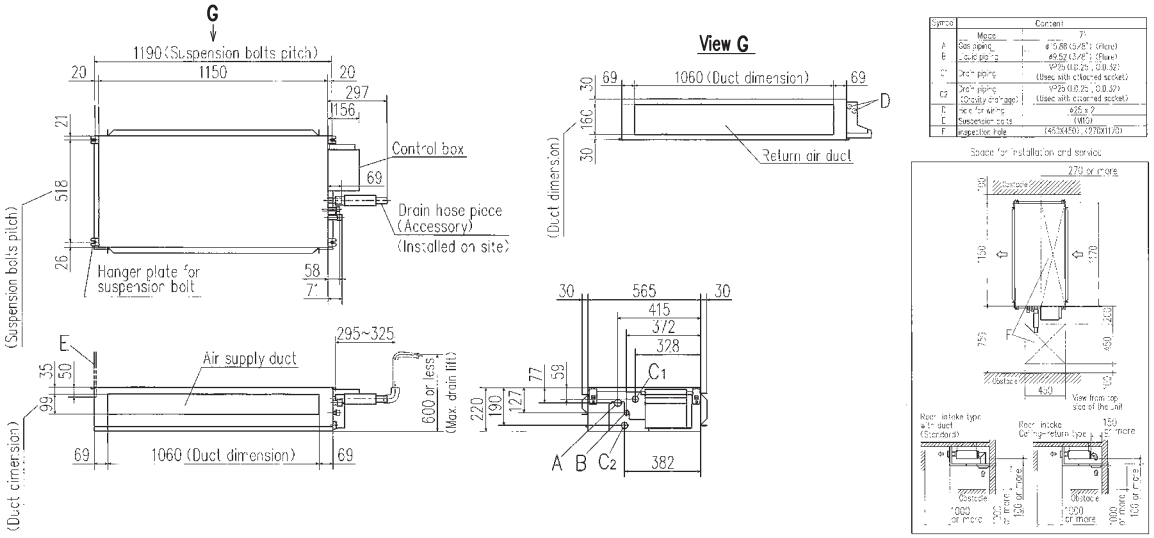
FDUT15KXE6F-W, 22KXE6F-W, 28KXE6F-W, 36KXE6F-W
FDUT15KXE6F-E, 22KXE6F-E, 28KXE6F-E, 36KXE6F-E




FDUT45KXE6F-W, 56KXE6F-W
FDUT45KXE6F-E, 56KXE6F-E




FDUT71KXE6F-W
FDUT71KXE6F-E



# Duct Connected (Compact & Flexible)
# FDUH

**Model No.**
FDUH22KXE6F
FDUH28KXE6F
FDUH36KXE6F

**Remote control (option)**

Wired

RC-EX3A RC-E5 RCH-E3

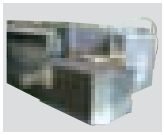
Wireless

RCN-KIT4-E2

**Filter kit (option)**
**UH-FL1E**

*Filter pressure loss:5pa

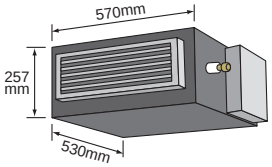
**Drain up kit (option)**
(600mm)
**UH-DU-E**



## Compact and thin size, light weight

Our leading high technology has created the best solution for air conditioning in hotels. The compact and thin sized units don't compromise on high energy efficiency all while weighing in at only 20kg.

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



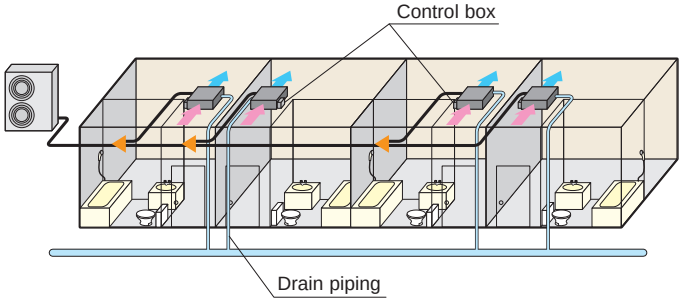

## Motion Sensor NEW (Option)

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

**LB-KIT2**

## 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

Designed specially for hotel rooms, control buttons are limited only to the minimum required functions such as ON/OFF, mode, temperature setting and fan speed. It is really simple and easy to use.

# Specifications

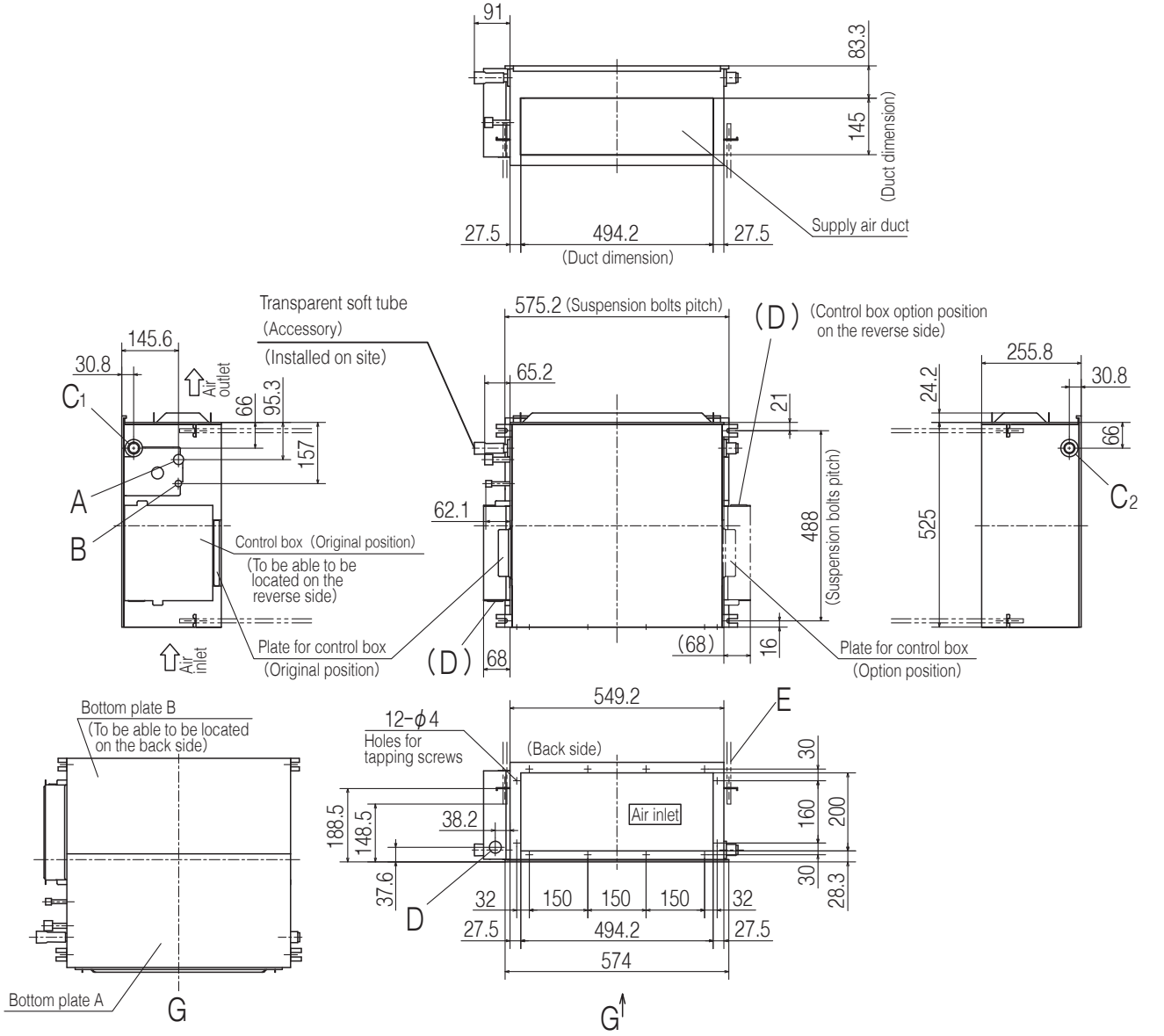
| Item | Model | FDUH22KXE6F | FDUH28KXE6F | FDUH36KXE6F |
|---|---|---|---|---|
| Nominal cooling capacity | kW | 2.2 | 2.8 | 3.6 |
| Nominal heating capacity | kW | 2.5 | 3.2 | 4.0 |
| Power source | | 1 Phase 220-240V, 50Hz | | |
| Power consumption Cooling | kW | 0.05-0.07 | | |
| Power consumption Heating | kW | 0.05-0.07 | | |
| Sound power level | dB(A) | 60 | | |
| Sound pressure level | dB(A) | P-Hi:39 Hi: 33 Me: 30 Lo: 27 | | |
| Exterior dimensions HxWxD | mm | 257x570x530 | | |
| Net weight | kg | 20 | | |
| Air flow | m³/min | P-Hi:8.5 Hi: 7 Me: 6.5 Lo: 6 | | |
| External static pressure | Pa | 30 | | |
| Outside air intake | | Not possible | | |
| Air filter | | Filter kit:UH-FL1E(option) | | |
| Remote control(option) | | wired:RC-EX3A, RC-E5, RCH-E3 wireless:RCN-KIT4-E2 | | |
| Installation data Refrigerant piping size | mm(in) | 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 27ºCDB, 19ºCWB, and outdoor temp. of 35ºCDB. Heating: Indoor temp. of 20ºCDB, and outdoor temp. of 7ºCDB, 6ºCWB.
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.

**Rear air return type**

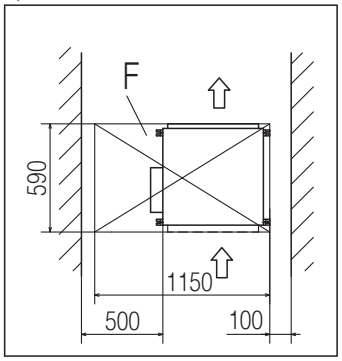



| Symbol | Content | | |
|---|---|---|---|
| | Model | 22,28 | 36 |
| A | Gas piping | ϕ9.52 (3/8") (Flare) | ϕ12.7 (1/2") (Flare) |
| B | Liquid piping | ϕ6.35 (1/4") (Flare) | |
| $C_1$ | Drain piping | VP20 (I.D.20, O.D.26) Note (2) | |
| $C_2$ | Drain piping | To be used instead of "$C_1$" | |
| D | Hole for wiring | ϕ30 | |
| E | Suspension bolts | (M10) | |
| F | Inspection hole | (590 × 1150) Note (3) | |

Notes

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

Space for installation and service



# Dimensions

All measurements in mm.

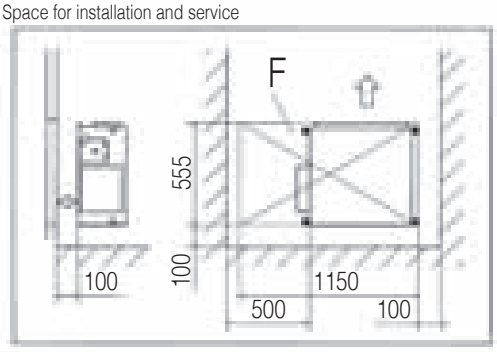
**Bottom suction type**

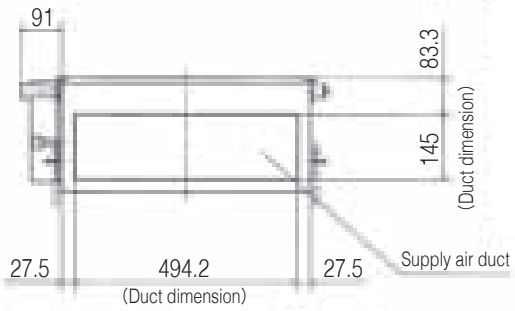
| Symbol | Content | | |
|---|---|---|---|
| | Model | 22,28 | 36 |
| A | Gas piping | $\phi$9.52 (3/8") (Flare) | $\phi$12.7 (1/2") (Flare) |
| B | Liquid piping | $\phi$6.35 (1/4") (Flare) | |
| $C_1$ | Drain piping | VP20 (I.D.20,O.D.26) Note (2) | |
| $C_2$ | Drain piping | To be used instead of "$C_1$" | |
| D | Hole for wiring | $\phi$30 | |
| E | Suspension bolts | (M10) | |
| F | Inspection hole | (555 x 1150) Note (3) | |

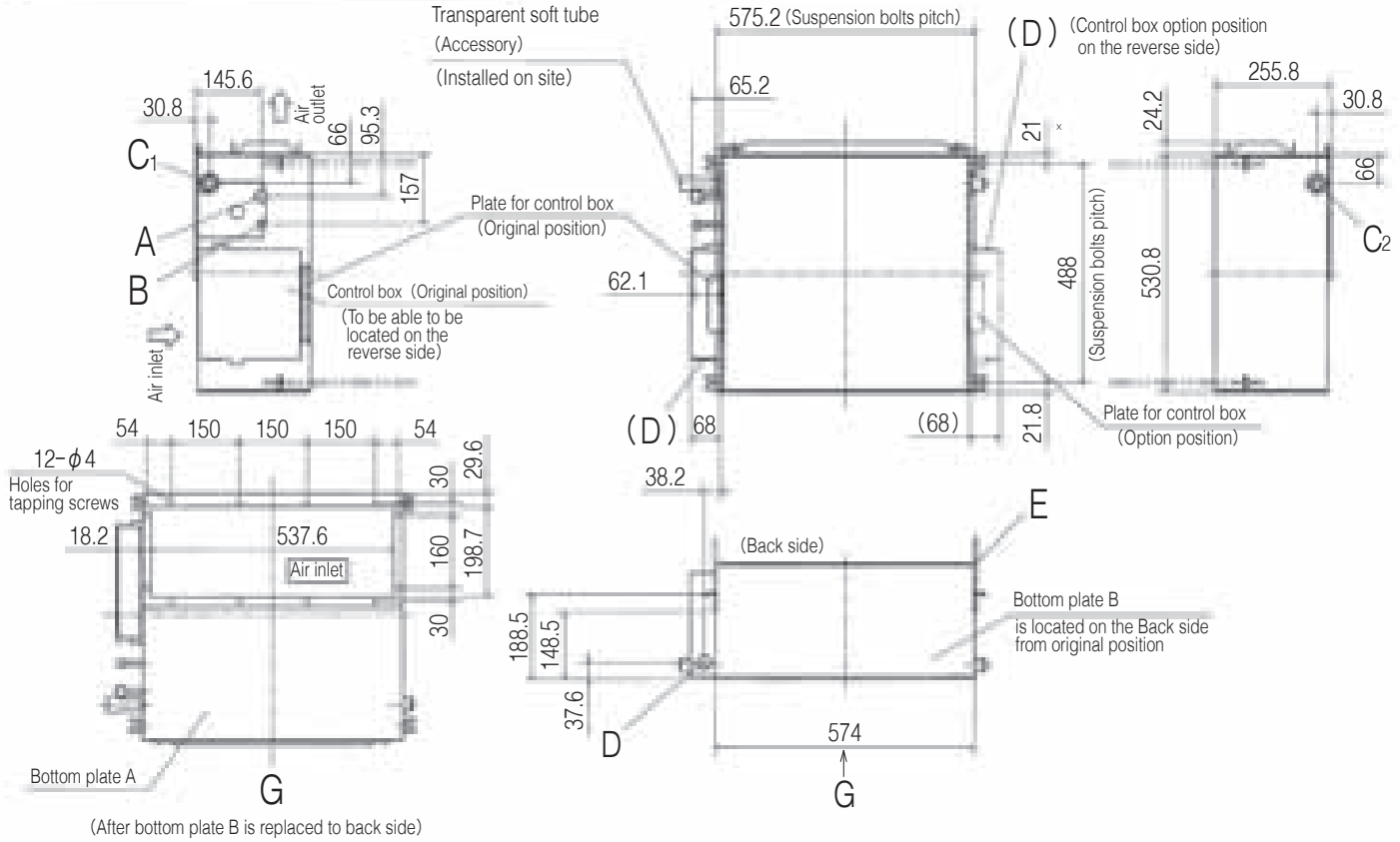
Notes

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

Space for installation and service



# Wall Mounted
# FDK

**Model No.**

| | |
|---|---|
| FDK15KXZE1-W | FDK15KXZE1 |
| FDK22KXZE1-W | FDK22KXZE1 |
| FDK28KXZE1-W | FDK28KXZE1 |
| FDK36KXZE1-W | FDK36KXZE1 |
| FDK45KXZE1-W | FDK45KXZE1 |
| FDK56KXZE1-W | FDK56KXZE1 |
| FDK71KXZE1-W | FDK71KXZE1 |
| FDK90KXZE1-W | FDK90KXZE1 |

*R32 indoor unit are not compatible with R410A outdoor unit and vice versa.

NEW

FDK15~56

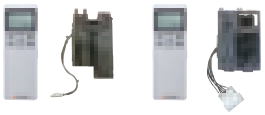
FDK71,90

**Remote control (option)**

Wired

RC-EX3A RC-E5 RCH-E3

Wireless



RCN-K-E2: FDK15~56

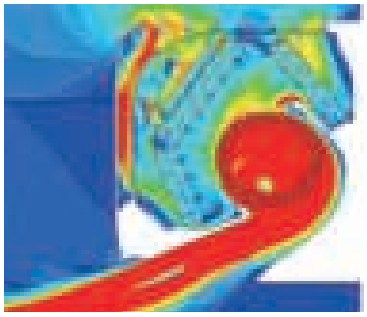
RCN-K71-E2: FDK71,90

## Elegant Timeless Design

The FDK series air conditioners are stylishly designed with rounded contours that beautifully fit into any of Europe's diverse interior settings. Created by an Italian industrial design studio based in Milan, Tensa srl, the design meets a broad range of local user needs. (FDK15-56)

## Jet Technology

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.

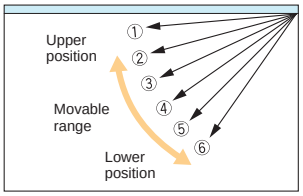


Fast ⟷ Slow
Colours in the figure show the air speed.

## Flap control system

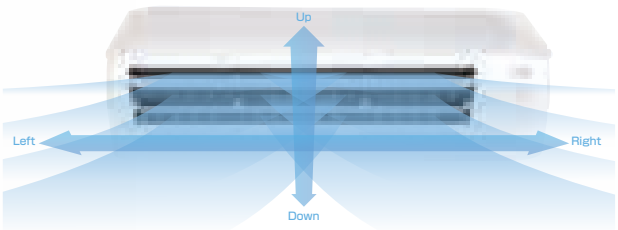
Selection of flap position is possible. A flap can be set at different angles.

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




**Lateral Swing** ▶ flap swings from right to left automatically

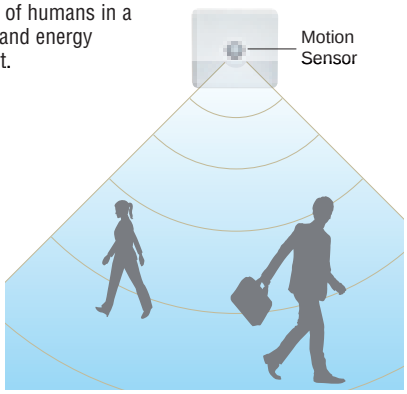
**Up/Down Flap swing + Lateral swing**




## Motion Sensor (Option)

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

LB-KIT2



# Specifications

| Item | | Model | FDK15KXZE1-W | FDK22KXZE1-W | FDK28KXZE1-W | FDK36KXZE1-W | FDK45KXZE1-W | FDK56KXZE1-W | FDK71KXZE1-W | FDK90KXZE1-W |
|---|---|---|---|---|---|---|---|---|---|---|
| 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:30 Lo:27 | | 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:44 Hi:42 Me:37 Lo:33 | | |
| 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:21 Hi:19 Me:16 Lo:14 | P-Hi:23 Hi:21 Me:19 Lo:16 |
| | Heating | | | | | | | P-Hi:13 Hi:12 Me:10 Lo:8 | | |
| 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 | | | | | | wired:RC-EX3A, RC-E5, RCH-E3 wireless: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 27ºCDB, 19ºCWB, and outdoor temp. of 35ºCDB. Heating: Indoor temp. of 20ºCDB, and outdoor temp. of 7ºCDB, 6ºCWB.
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.

# Specifications

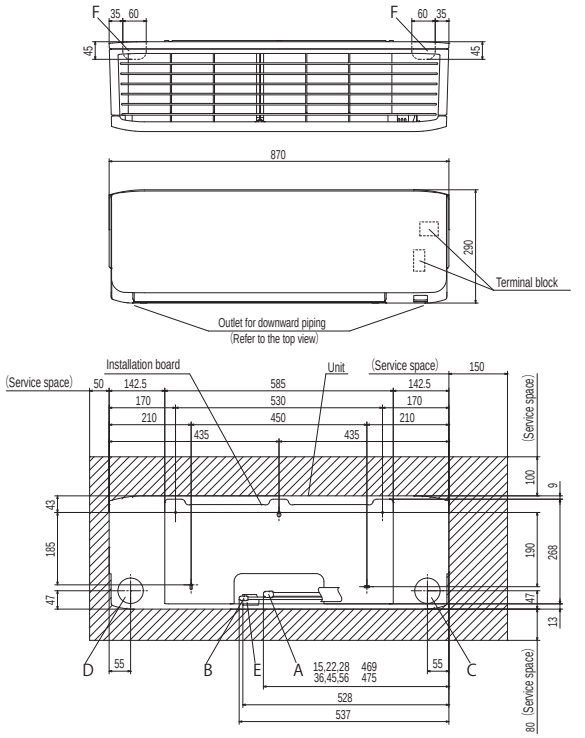
| Item | | Model | FDK15KXZE1 | FDK22KXZE1 | FDK28KXZE1 | FDK36KXZE1 | FDK45KXZE1 | FDK56KXZE1 | FDK71KXZE1 | FDK90KXZE1 |
|---|---|---|---|---|---|---|---|---|---|---|
| Nominal cooling capacity | | kW | 1.5 | 2.2 | 2.8 | 3.6 | 4.5 | 5.6 | 7.1 | 9.0 |
| Nominal heating capacity | | kW | 1.7 | 2.5 | 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:44 Hi:42 Me:37 Lo:33 | | |
| 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:21 Hi:19 Me:16 Lo:14 | P-Hi:23 Hi:21 Me:19 Lo:16 |
| | Heating | | | | | | | P-Hi:13 Hi:12 Me:10 Lo:8 | | |
| 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 | | | | | | wired:RC-EX3A, RC-E5, RCH-E3 wireless: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 27ºCDB, 19ºCWB, and outdoor temp. of 35ºCDB. Heating: Indoor temp. of 20ºCDB, and outdoor temp. of 7ºCDB, 6ºCWB.
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-W, 22KXZE1-W, 28KXZE1-W, 36KXZE1-W, 45KXZE1-W, 56KXZE1-W
FDK15KXZE1, 22KXZE1, 28KXZE1, 36KXZE1, 45KXZE1, 56KXZE1

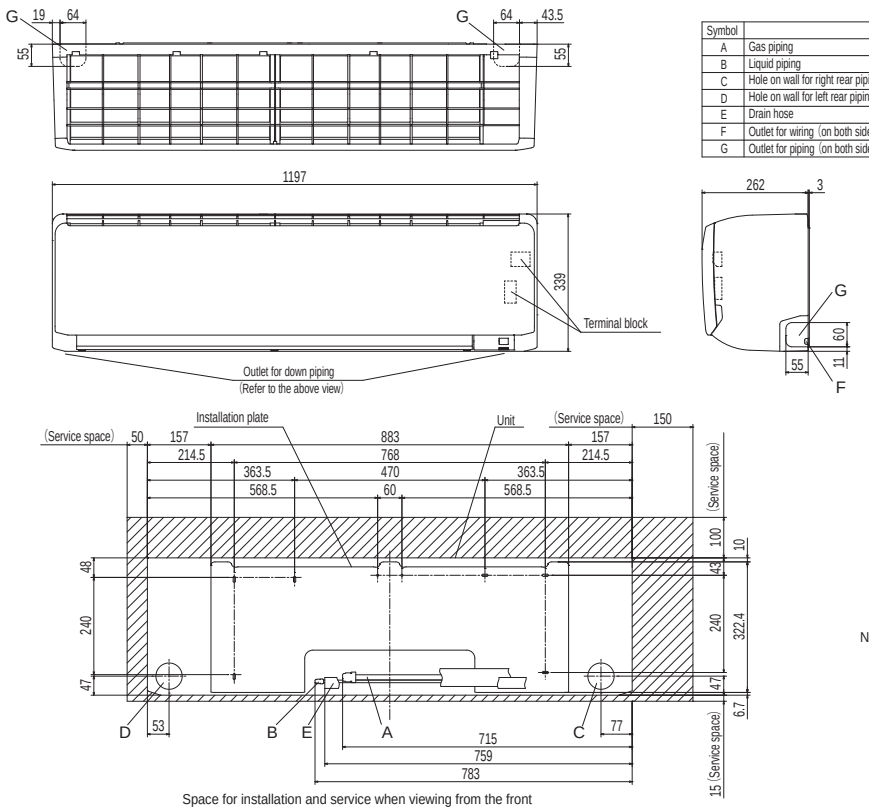



| Symbol | Content | | |
|---|---|---|---|
| | Model | 15,22,28 | 36,45,56 |
| A | Gas piping | ϕ9.52 (3/8") (Flare) | ϕ12.7 (1/2") (Flare) |
| B | Liquid piping | ϕ6.35 (1/4") (Flare) | |
| C | Hole on wall for right rear piping | (ϕ65) | |
| D | Hole on wall for left rear piping | (ϕ65) | |
| E | Drain hose | VP16 (O.D.22) | |
| F | Outlet for wiring (on both side) | | |

Note (1) The model name label is attached on the right side of the unit.

Space for installation and service when viewing from the front

FDK71KXZE1-W, 90KXZE1-W
FDK71KXZE1, 90KXZE1



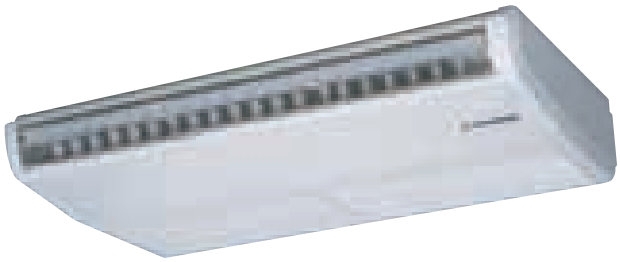

| Symbol | Content | |
|---|---|---|
| A | Gas piping | ϕ15.88 (5/8") (Flare) |
| B | Liquid piping | ϕ9.52 (3/8") (Flare) |
| C | Hole on wall for right rear piping | (ϕ65) |
| D | Hole on wall for left rear piping | (ϕ65) |
| E | Drain hose | VP16 (O.D.22) |
| F | Outlet for wiring (on both side) | |
| G | Outlet for piping (on both side) | |

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

Space for installation and service when viewing from the front

# Ceiling Suspended
# FDE

**Model No.**
FDE36KXZE1
FDE45KXZE1
FDE56KXZE1
FDE71KXZE1
FDE112KXZE1
FDE140KXZE1



**Remote control (option)**

Wired

RC-EX3A RC-E5 RCH-E3

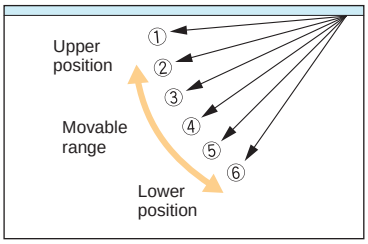
Wireless

RCN-E-E3

## 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.




## Lighter than ever

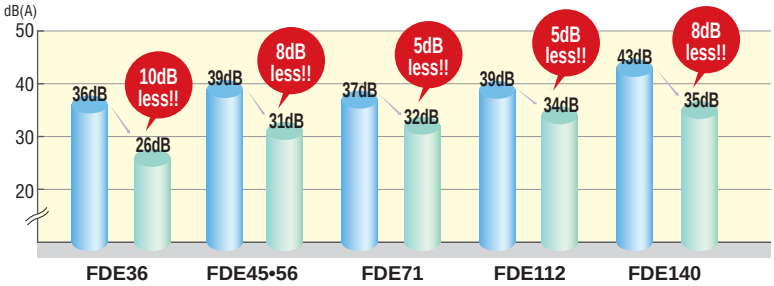
By decreasing the number of fan motors from two to one, we reduced the overall weight of our FDE units.

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

## Reduction of sound pressure level (Lo mode)

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

(comparison of previous model)

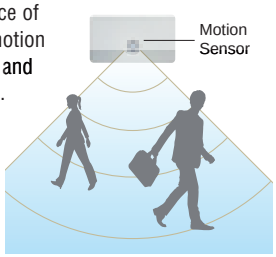



## Motion Sensor (Option)

Reduce your environmental impact with our optional motion sensor feature.

By detecting presence or absence of human activity in a room, the motion sensor improves room comfort and unit energy saving performance.

LB-E




# Specifications

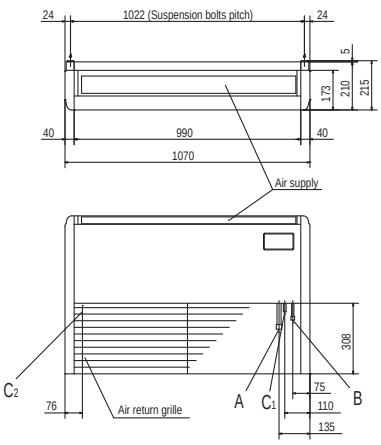
| Item | | Model | FDE36KXZE1 | FDE45KXZE1 | FDE56KXZE1 | FDE71KXZE1 | FDE112KXZE1 | FDE140KXZE1 |
|---|---|---|---|---|---|---|---|---|
| Nominal cooling capacity | | kW | 3.6 | 4.5 | 5.6 | 7.1 | 11.2 | 14.0 |
| Nominal heating capacity | | kW | 4.0 | 5.0 | 6.3 | 8.0 | 12.5 | 16.0 |
| Power source | | | 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 | 61 | 64 |
| Sound pressure level | | dB(A) | P-Hi:46 Hi:38 Me:31 Lo:26 | P-Hi:46 Hi:38 Me:36 Lo:31 | P-Hi:46 Hi:38 Me:36 Lo:31 | P-Hi:47 Hi:39 Me:37 Lo:32 | P-Hi:45 Hi:42 Me:38 Lo:34 | P-Hi:48 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 | P-Hi:13 Hi:10 Me:7 Lo:5.5 | P-Hi:13 Hi:10 Me:9 Lo:7 | | P-Hi:20 Hi:15 Me:13 Lo:10 | P-Hi:28 Hi:25 Me:21 Lo:16.5 | P-Hi:32 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-EX3A, RC-E5, RCH-E3 wireless:RCN-E-E3 | | | | | |
| 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") | | |

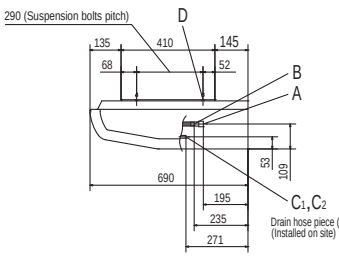
1. The data are measured under the following conditions(ISO-T1). Cooling: Indoor temp. of 27ºCDB, 19ºCWB, and outdoor temp. of 35ºCDB. Heating: Indoor temp. of 20ºCDB, and outdoor temp. of 7ºCDB, 6ºCWB.
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values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

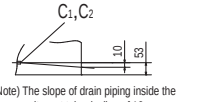
# Dimensions

All measurements in mm.

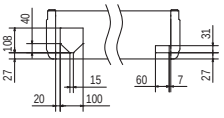
## FDE36KXZE1, 45KXZE1, 56KXZE1



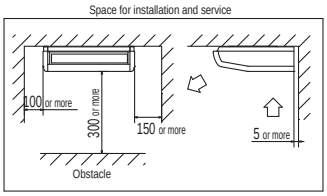



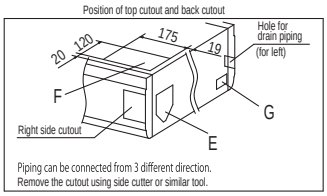

Note) The slope of drain piping inside the unit must take decline of 10mm.




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

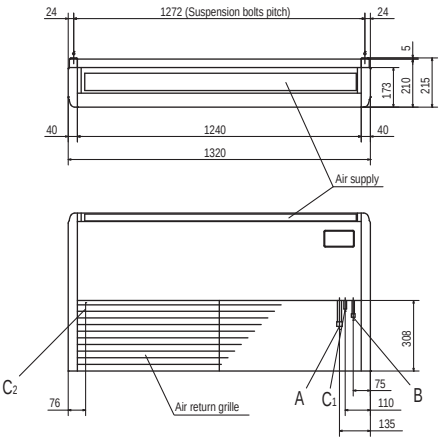


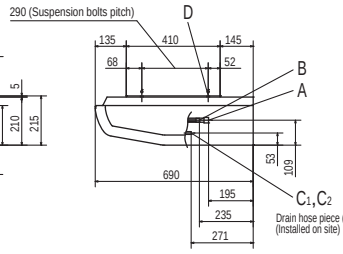

Make a space of 4000 or more between the units when installing more than one.

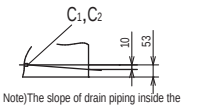



Note(1)The model name label is attached on the fan casing inside the air return grille.

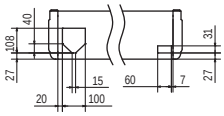
## FDE71KXZE1



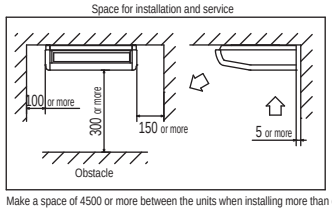



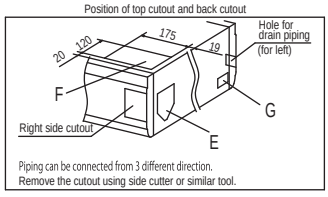

Note)The slope of drain piping inside the unit must take decline of 10mm.




| Symbol | Content | |
|---|---|---|
| A | Gas piping | ø15.88 (5/8") (Flare) |
| B | Liquid piping | ø9.52 (3/8") (Flare) |
| C 1,2 | Drain piping | VP20 (I.D.20) |
| D | Hole for suspension bolt | (M10 or M8) |
| E | Back cutout | PE cover |
| F | Top cutout | Plate cover |
| G | Hole for drain piping(for left back) | (Knock out) |

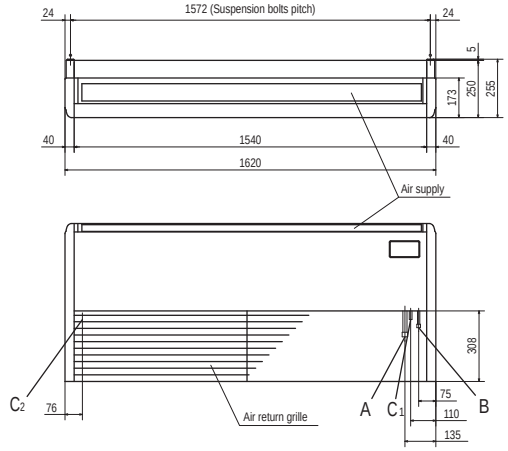


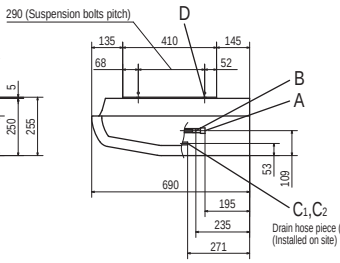

Make a space of 4500 or more between the units when installing more than one.

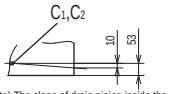



Note(1)The model name label is attached on the fan casing inside the air return grille.

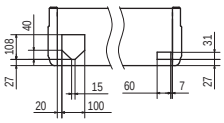
## FDE112KXZE1, 140KXZE1



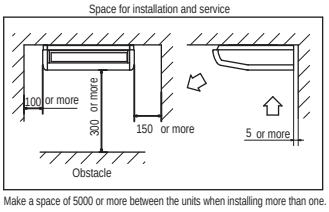



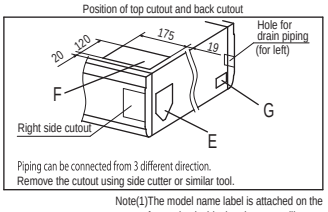

Note) The slope of drain piping inside the unit must take decline of 10mm.




| Symbol | Content | |
|---|---|---|
| A | Gas piping | ø15.88 (5/8") (Flare) |
| B | Liquid piping | ø9.52 (3/8") (Flare) |
| C 1,2 | Drain piping | VP20 (I.D.20) |
| D | Hole for suspension bolt | (M10 or M8) |
| E | Back cutout | PE cover |
| F | Top cutout | Plate cover |
| G | Hole for drain piping (for left back) | (Knock out) |




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




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

# Floor Standing -2way- FDFW

**Model No.**
FDFW28KXE6F
FDFW45KXE6F
FDFW56KXE6F

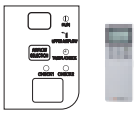
**Auto air outlet selection**

**Remote control (option)**

Wired

RC-EX3A RC-E5 RCH-E3

Wireless



RCN-FW-E2

## Sophisticated Design

With an elegant semi flat front panel in stylish 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.

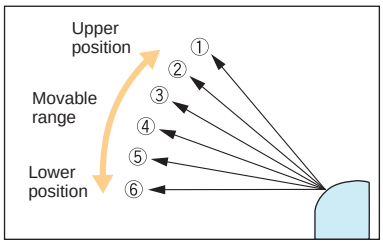
## Quiet Operation

Thanks to the 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 only 30dB(A).

## Flap control system

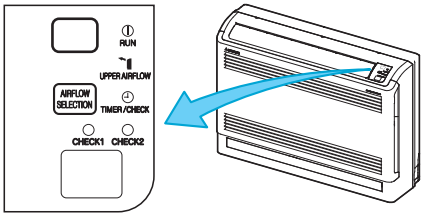
Selection of flap position is possible. A flap can be set at different angles.

*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)

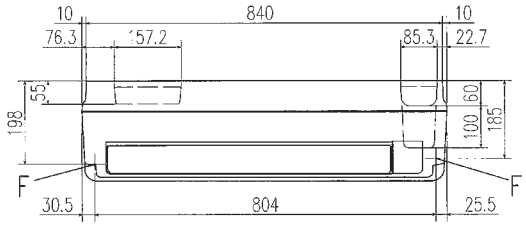
# Specifications

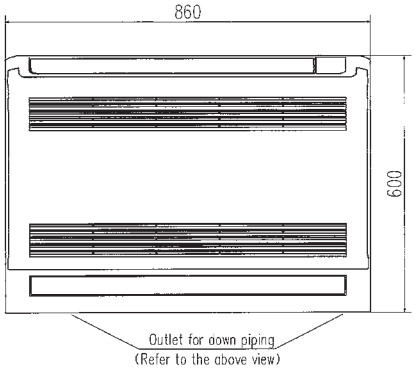
| Item | Model | FDFW28KXE6F | FDFW45KXE6F | FDFW56KXE6F |
|---|---|---|---|---|
| Nominal cooling capacity | kW | 2.8 | 4.5 | 5.6 |
| Nominal heating capacity | kW | 3.2 | 5.0 | 6.3 |
| Power source | | 1 Phase 220-240V, 50Hz | | |
| Power consumption Cooling | kW | 0.02-0.02 | 0.02-0.02 | 0.03-0.03 |
| Power consumption Heating | kW | 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-EX3A, 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") | |

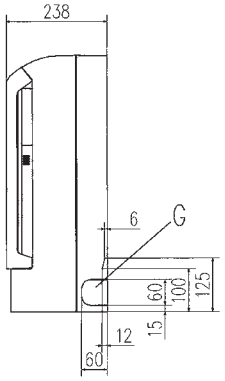
1. The data are measured under the following conditions(ISO-T1). Cooling: Indoor temp. of 27ºCDB, 19ºCWB, and outdoor temp. of 35ºCDB. Heating: Indoor temp. of 20ºCDB, and outdoor temp. of 7ºCDB, 6ºCWB.
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values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

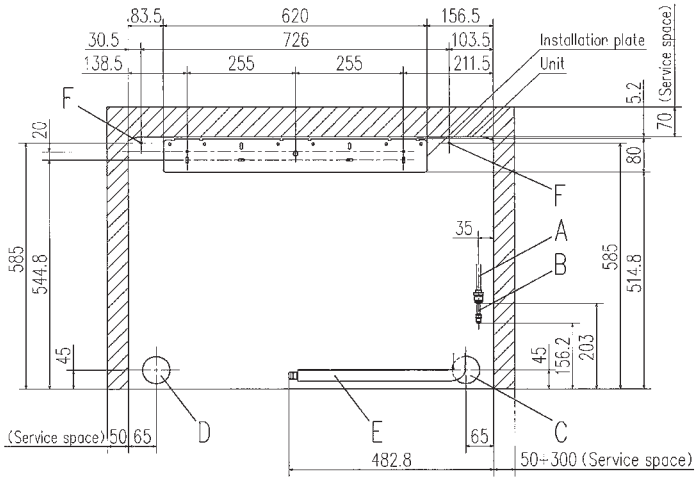
# Dimensions

All measurements in mm.




Space for installation and service when viewing from the front

| Symbol | Content | | |
|---|---|---|---|
| | Model | FDFW28KXE6F | FDFW45KXE6F,56KXE6F |
| A | Gas piping | ϕ9.52 (3/8") (Flare) | ϕ12.7 (1/2") (Flare) |
| B | Liquid piping | ϕ6.35 (1/4") (Flare) | |
| C | Hole on wall for right rear piping | (ϕ65) | |
| D | Hole on wall for left rear piping | (ϕ65) | |
| E | Drain hose | VP16 (I.D.16) | |
| F | Screw point fasten the indoor unit | ϕ5 | |
| 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-EX3A RC-E5 RCH-E3

Wireless

RCN-KIT4-E2

**Model No.**
FDFL71KXE6F

FDFU28KXE6F
FDFU45KXE6F
FDFU56KXE6F
FDFU71KXE6F

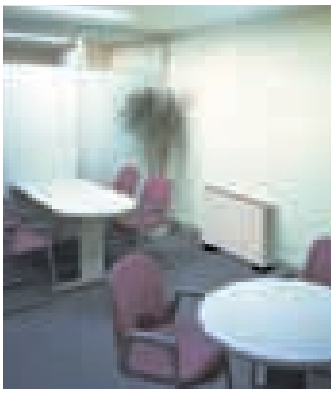
FDFL

FDFU (concealed type)

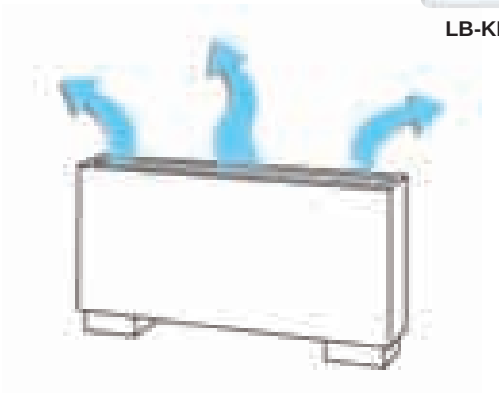
Motion Sensor NEW (Option)

The optional motional sensor on our floor standing units saves energy by operations by detecting human movement. Our smart technology provides energy saving control by shifting set temperature by detecting human activity.

LB-KIT2



Compact design at 630mm height



Wider air flow for optimum comfort

# Specifications

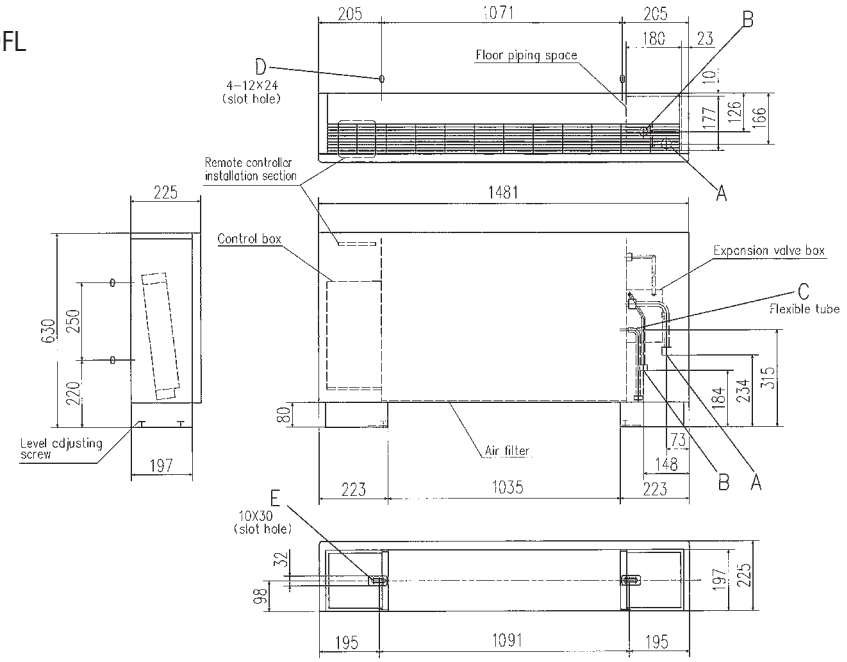
| Item | | Model | FDFL71KXE6F | FDFU28KXE6F | FDFU45KXE6F | FDFU56KXE6F | FDFU71KXE6F |
|---|---|---|---|---|---|---|---|
| Nominal cooling capacity | | kW | 7.1 | 2.8 | 4.5 | 5.6 | 7.1 |
| Nominal heating capacity | | kW | 8.0 | 3.2 | 5.0 | 6.3 | 8.0 |
| Power source | | | 1 Phase 220-240V, 50Hz | | | | |
| 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 | 630x1087x225 | | | 630x1372x225 |
| 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-EX3A, 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 27ºCDB, 19ºCWB, and outdoor temp. of 35ºCDB. Heating: Indoor temp. of 20ºCDB, and outdoor temp. of 7ºCDB, 6ºCWB.
2. Sound pressure level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.

# Dimensions

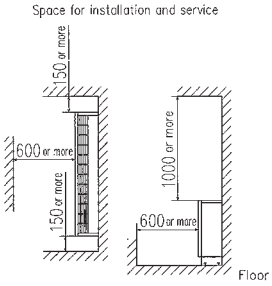
All measurements in mm.

## FDFL

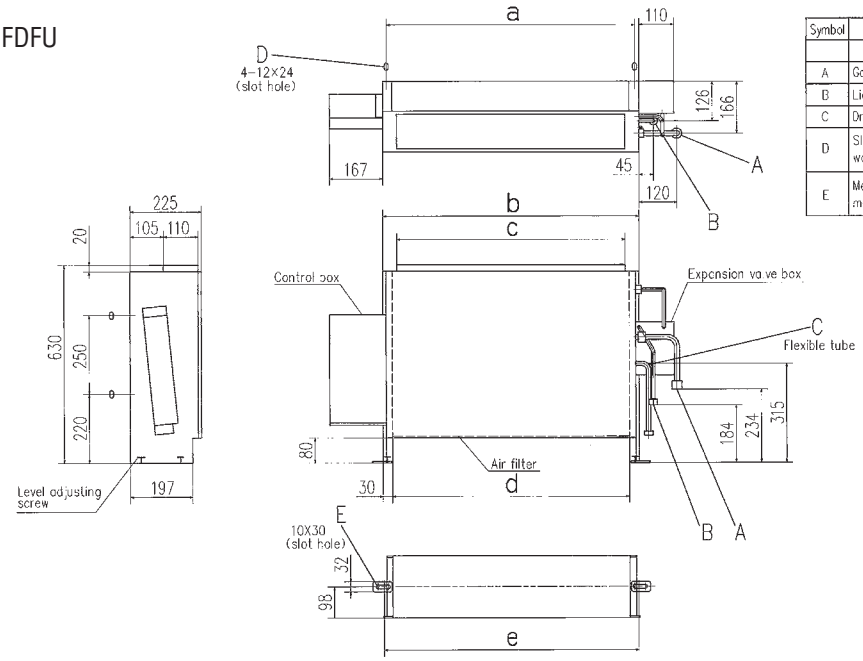



| Symbol | Content | |
|---|---|---|
| | Model | FDFL71KXE6F |
| A | Gas piping (Accessory) | ϕ15.88 (5/8") (Flare) |
| B | Liquid piping | ϕ9.52 (3/8") (Flare) |
| C | Drain piping (Accessory) | PT20A female screw, 360mm |
| D | Slot hole for wall mounting | (M10) |
| E | Metal plate for floor mounting (Accessory) | (M8) |

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

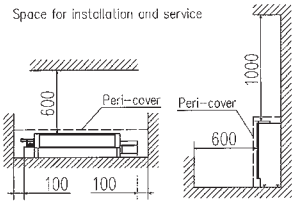



## FDFU




| Symbol | Content | | | |
|---|---|---|---|---|
| | Model | FDFU28KXE6F | FDFU45KXE6F,56KXE6F | FDFU71KXE6F |
| A | Gas piping (Accessory) | ϕ9.52 (3/8") (Flare) | ϕ12.7 (1/2") (Flare) | ϕ15.88 (5/8") (Flare) |
| B | Liquid piping | ϕ6.35 (1/4") (Flare) | | ϕ9.52 (3/8") (Flare) |
| C | Drain piping (Accessory) | PT20A female screw, 360mm | | PT20A female screw, 360mm |
| D | Slot hole for wall mounting | (M10) | | (M10) |
| E | Metal plate for floor mounting (Accessory) | (M8) | | (M8) |

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



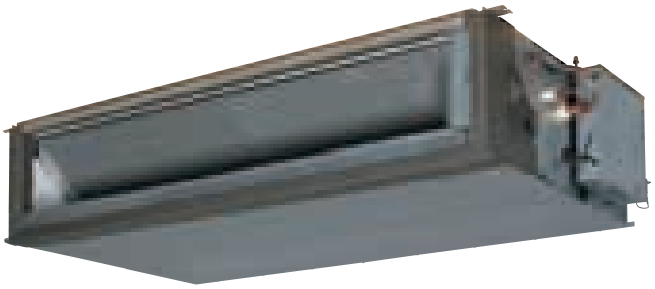

## Dimension Table

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

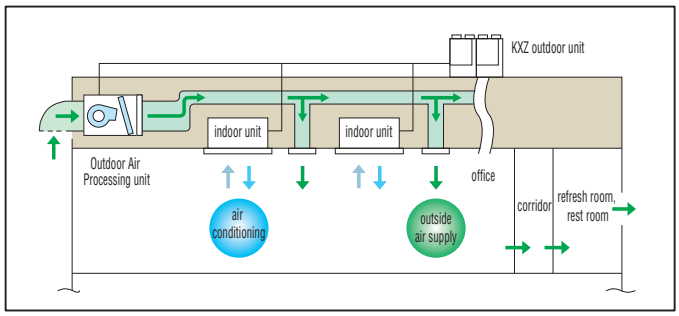
RC-EX3A RC-E5 RCH-E3

Wireless

RCN-KIT4-E2

## Create a fresher environment with the Outdoor Air Processing feature

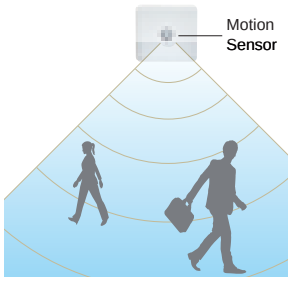
Connect your KXZ system to an Outdoor Air Processing unit with one streamlined system. This advanced technology allows you to enjoy a fresh and comfortable air supply.




## Motion Sensor (Option)

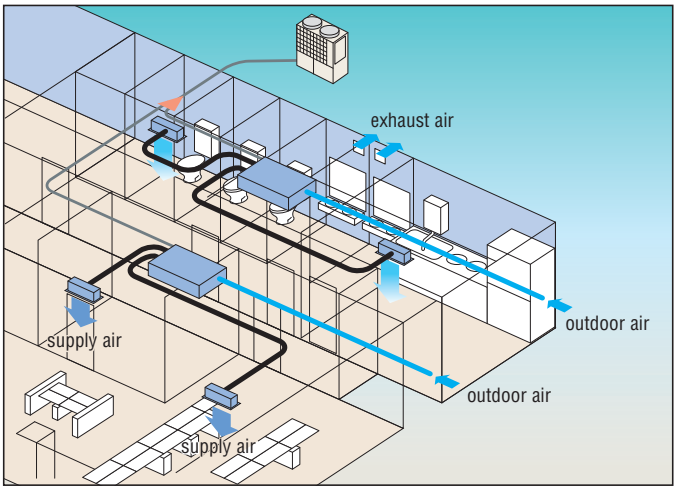
Built into the ceiling or wall plane, our motion sensor smart technology improves energy saving performance and overall room comfort.

LB-KIT2




## 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 locations for offices, refresh rooms, restrooms and kitchens of restaurants etc.



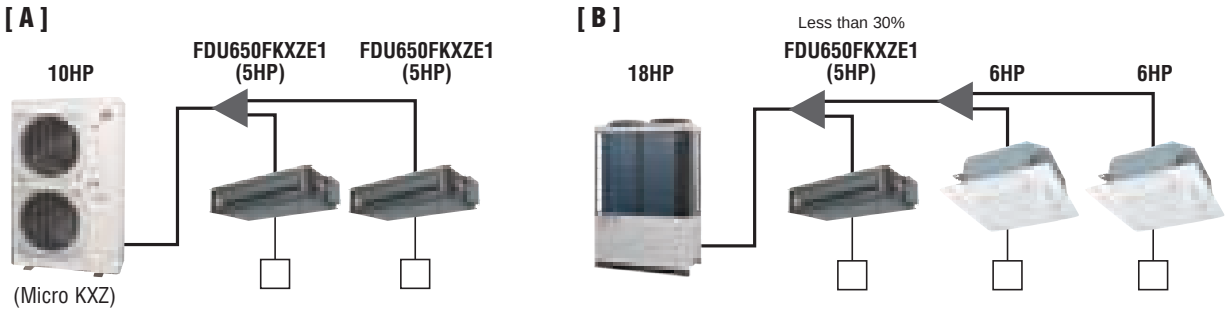

(1) This unit is the specific unit for processing the outdoor air temperature closer to the room temperature. For conditioning the room temperature a dedicated air conditioner is required additionally.
(2) This unit monitors the outdoor air temperature and controls the thermostat's ON/OFF at the setting temperature by the remote controller, which indicates the outdoor air temperature for controlling the thermostat's ON/OFF. When the 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 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 the 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 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 KXZ outdoor units, not connectable to 4~6HP, KXZ Lite.

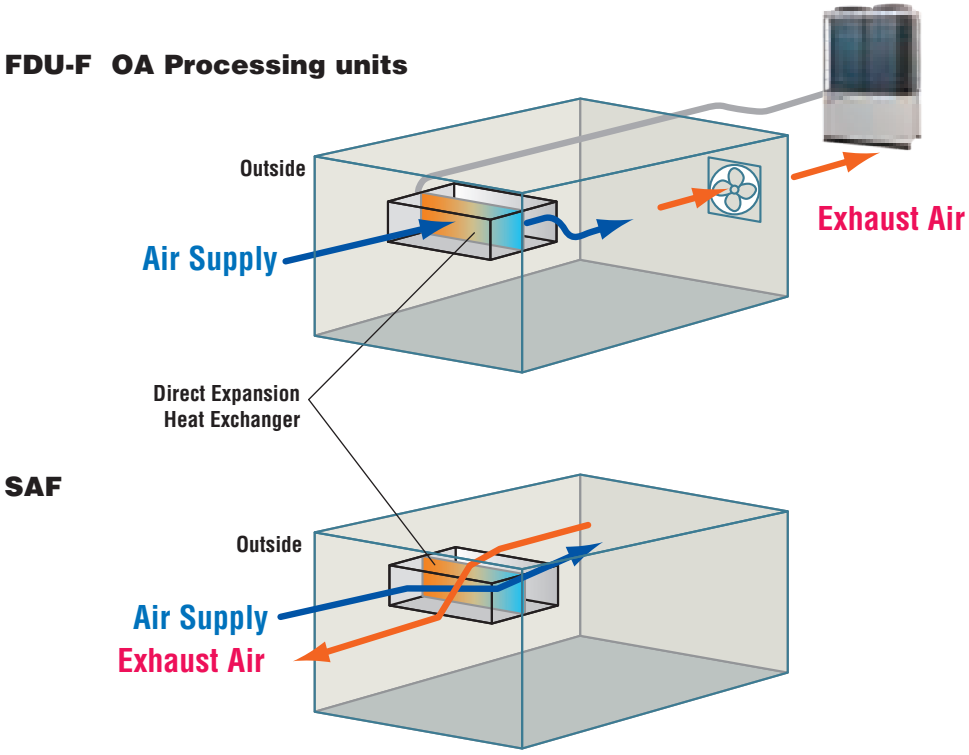
## Combination with Outdoor units

| | case | Combination |
|---|---|---|
| A | Only OA processing units<br>are connected with outdoor units. | The total capacity of FDU-F is 50~100% of outdoor capacity<br>and max quantity of FDU-F is 2 units. |
| B | Both of OA processing units<br>and dedicated air conditioner<br>are connected with outdoor units. | The total capacity of FDU-F and dedicated air conditioners is 50~100% of outdoor<br>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 an 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

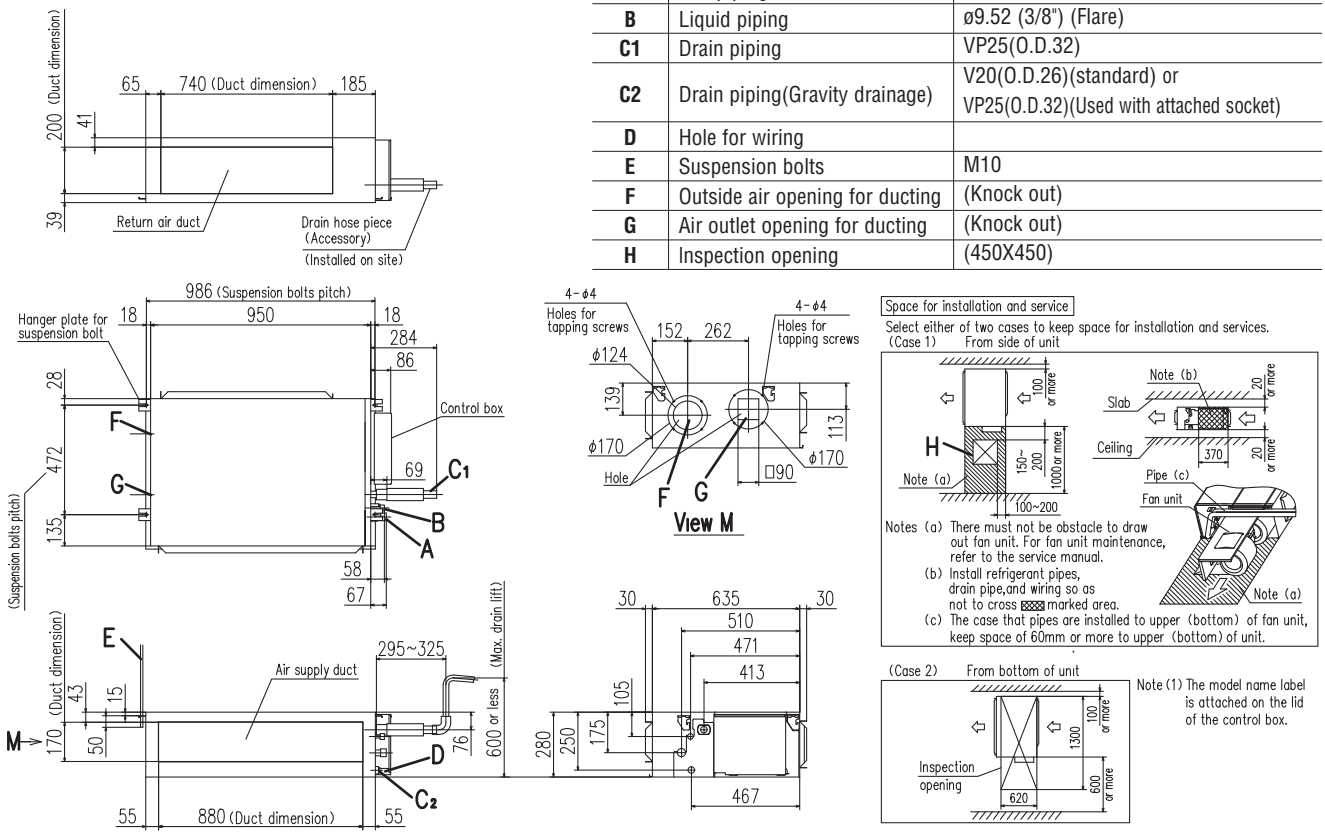
| Item | | Model | FDU650FKXZE1 | FDU1100FKXZE1 | FDU1800FKXZE1 | FDU2400FKXZE1 |
|---|---|---|---|---|---|---|
| Nominal cooling capacity | | kW | 9.0 | 14.0 | 22.4 | 28.0 |
| Nominal heating capacity | | kW | 6.5 | 10.5 | 16.0 | 21.5 |
| Power source | | | 1 Phase 220-240V, 50Hz | | | |
| Power consumption | Cooling | kW | 0.24-0.25 | 0.35-0.36 | 1.16-1.20 | 1.16-1.20 |
| | Heating | | 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-EX3A, 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 33ºCDB 28ºCWB (68%RH) during cooling and 0ºCDB-2.9ºCWB (50%RH) during heating (no frost).
2. Temperature range of outdoor air must be 20~40ºCDB (32ºCWB) during cooling and 0~24ºCDB 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-EX3A and RC-E5 only)

# Dimensions

All measurements in mm.

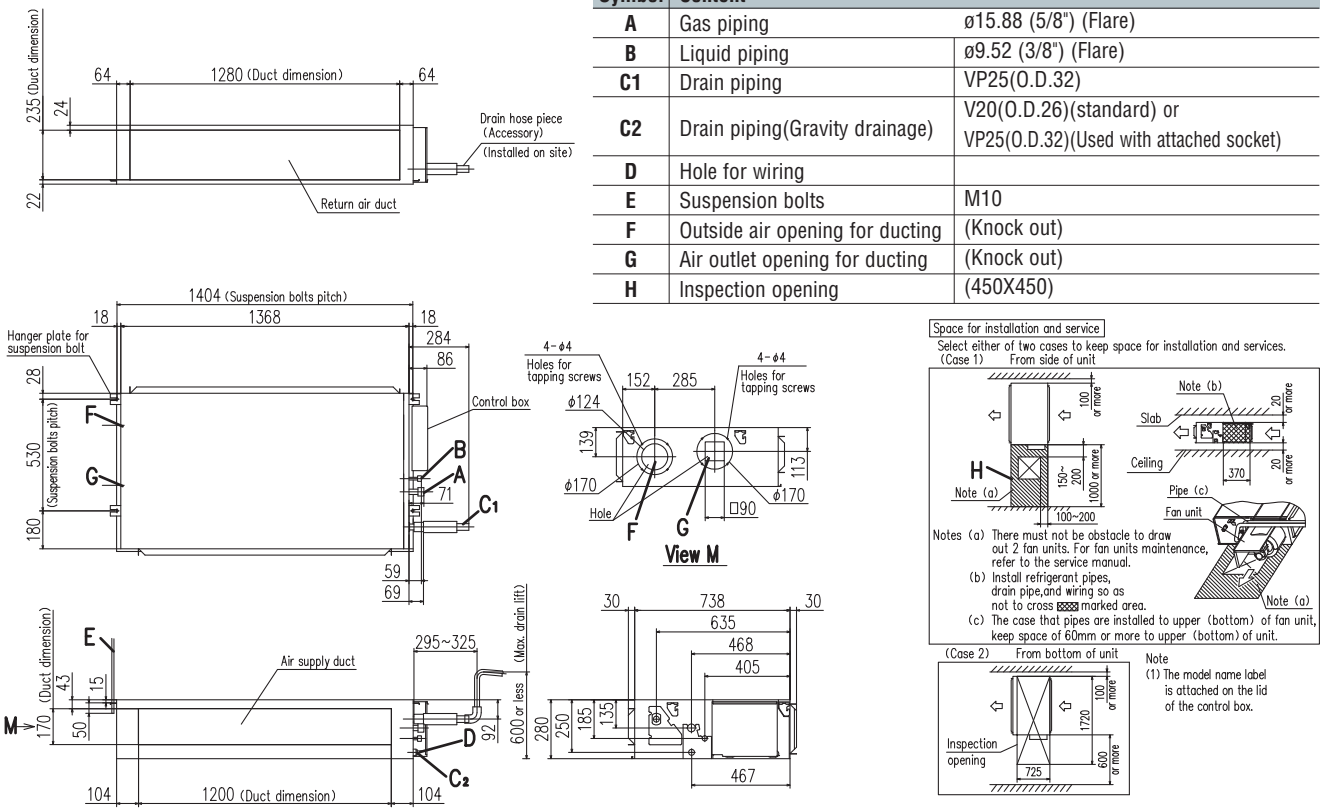
FDU650FKXZE1




| 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)(standard) or VP25(O.D.32)(Used with attached socket) |
| 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 opening | (450X450) |

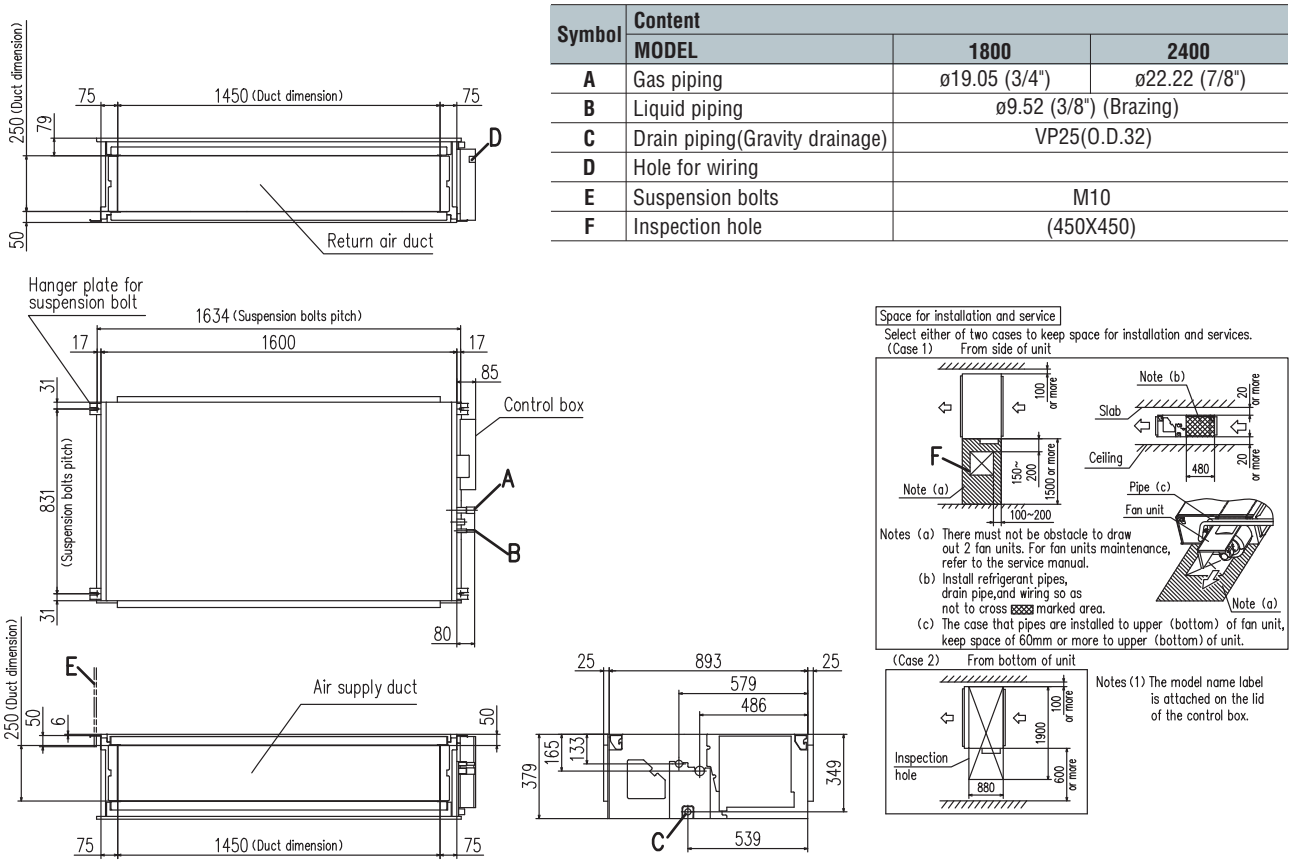
## FDU1100FKXZE1

| 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)(standard) or VP25(O.D.32)(Used with attached socket) |
| 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 opening | (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

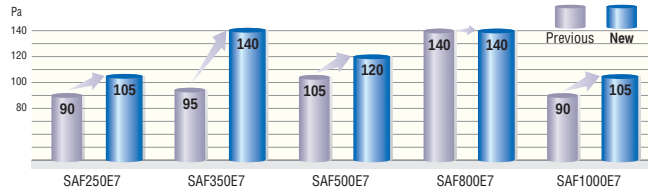
**Model No.**
SAF150E7
SAF250E7
SAF350E7
SAF500E7
SAF800E7
SAF1000E7

## Energy Performance of Building Directive - EPBD

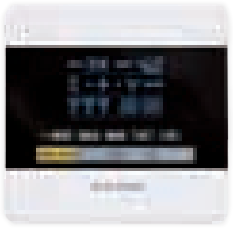
The EPBD function limits electrical/gas power to provide heating or cooling to commercial buildings. To use this function, the building designer needs to select energy efficient heating/cooling equipment and to minimise energy losses through ventilation systems.

SAF smart technology recovers heat energy in the atmosphere which would have otherwise been lost. It then uses this energy to warm air entering the building. The reverse happens in warmer climates where the exhausted cool air is used to partially cool the incoming air.

**Increased external static pressure at UHi air flow**




Helping you to reduce energy consumption and carbon emissions by capturing waste energy. EFBD also allows for smaller sized units as less heating/cooling requirements are needed!



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.

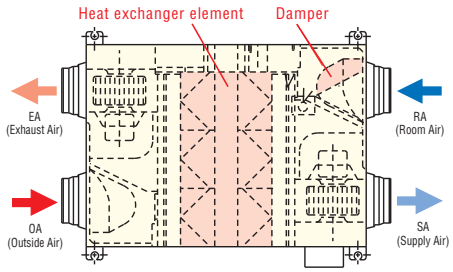
# Specifications

| 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 | | | | | | | | | |

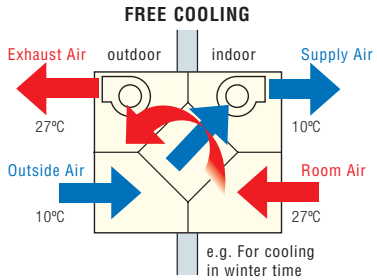
(1) The data are mesured at the following conditions.

| | | Summer | Winter |
|---|---|---|---|
| Indoor side (Supply air) | DB | 27ºC | 20ºC |
| | WB | 20ºC | 14ºC |
| Outdoor side (Outside air) | DB | 35ºC | 5ºC |
| | WB | 29ºC | 2ºC |
| Unit around | DB | 27ºC | 20ºC |

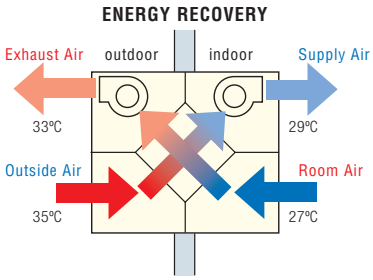
Structure (SAF800E7)




Principle of operation (simple ventilation)



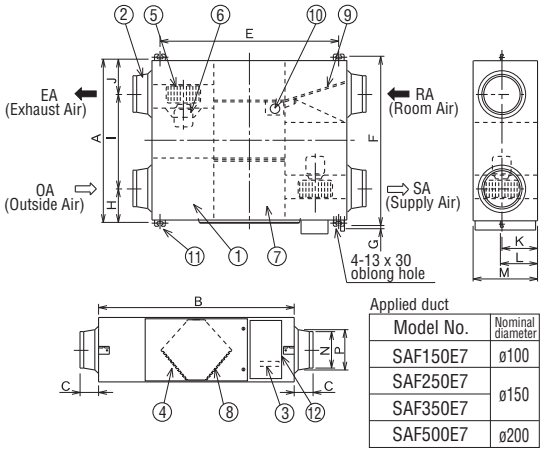

Principle of operation (heat exchanging)




# Dimensions

All measurements in mm.

## SAF150E7, SAF250E7, SAF350E7, SAF500E7




Applied duct

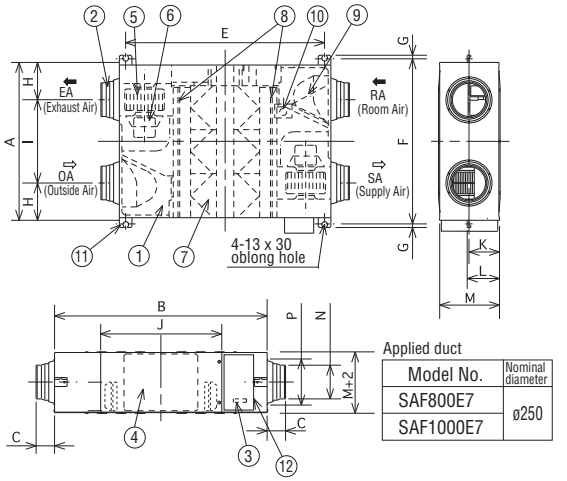
| Model No. | Nominal diameter |
|---|---|
| SAF150E7 | ø100 |
| SAF250E7 | ø150 |
| SAF350E7 | |
| SAF500E7 | ø200 |

### 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 |

## SAF800E7, SAF1000E7




Applied duct

| Model No. | Nominal diameter |
|---|---|
| SAF800E7 | ø250 |
| SAF1000E7 | |

### Dimension table

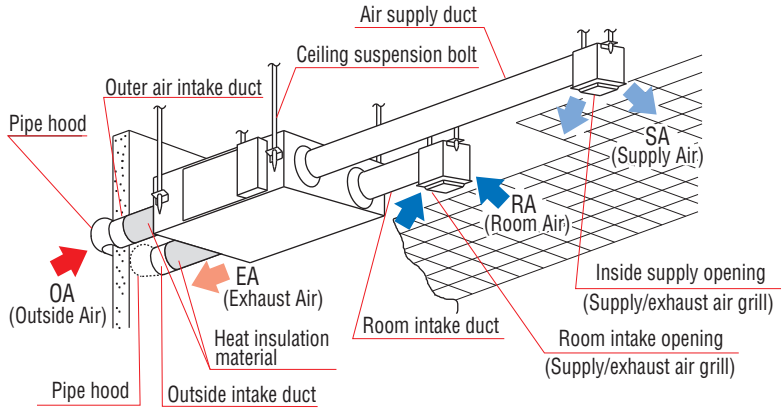
Unit:mm

| Model | 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<br>SAF150E7<br>SAF250E7<br>SAF350E7<br>SAF500E7<br>SAF800E7<br>SAF1000E7 | <br>1<br>1<br>2<br>2<br>3<br>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



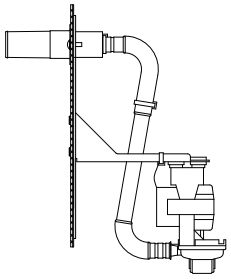

Note:An inspection port is needed for cleaning the heat exchanger and filter 1 or 2 times a year.

# 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)**

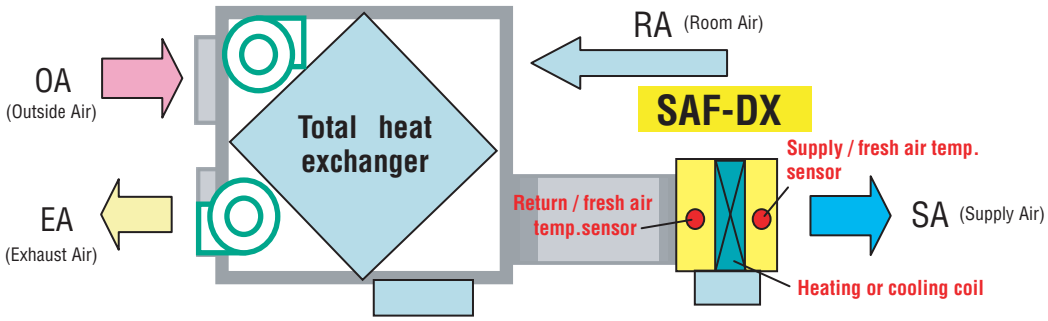
Wired

**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 total heat exchanger. (SAF series)
- Combination of SAF-DX 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 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 selected.




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 | 27ºC | 19ºC | 35ºC | 24ºC | ISO-T1 |
| Heating*2 | 20ºC | | 7ºC | 6ºC | |

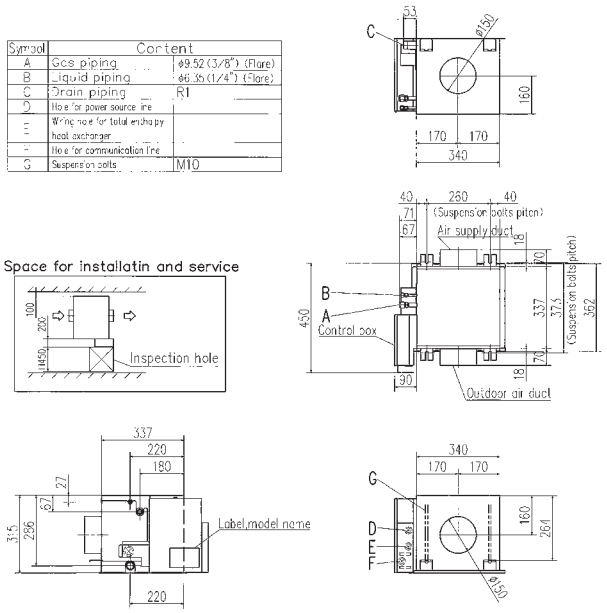
(2) This air conditioner is manufactured and tested in conformity with ISO-T1 "UNITARY AIR CONDITIONERS".

# Dimensions

All measurements in mm.

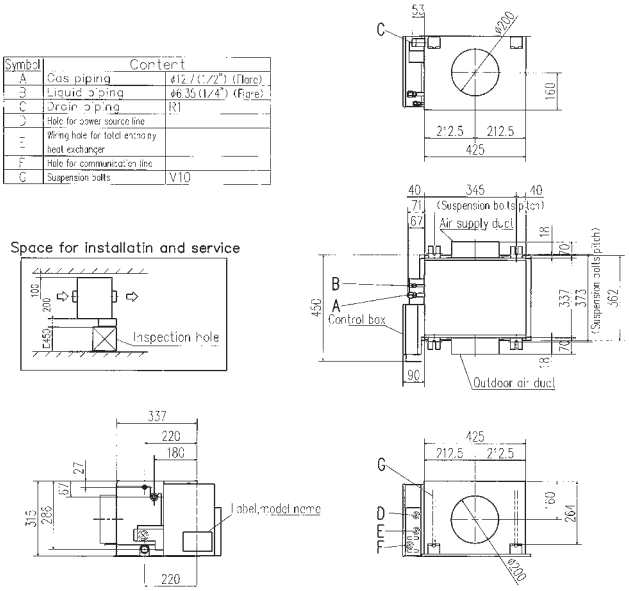
## SAF-DX250E6,350E6

| Symbol | Content | |
|---|---|---|
| A | Gas piping | ø9.52 (3/8") (Flare) |
| B | Liquid piping | ø6.35 (1/4") (Flare) |
| C | Drain piping | R1 |
| D | Hole for power source line | |
| E | Wiring hole for total enthalpy heat exchanger | |
| F | Hole for communication line | |
| G | Suspension bolts | M10 |



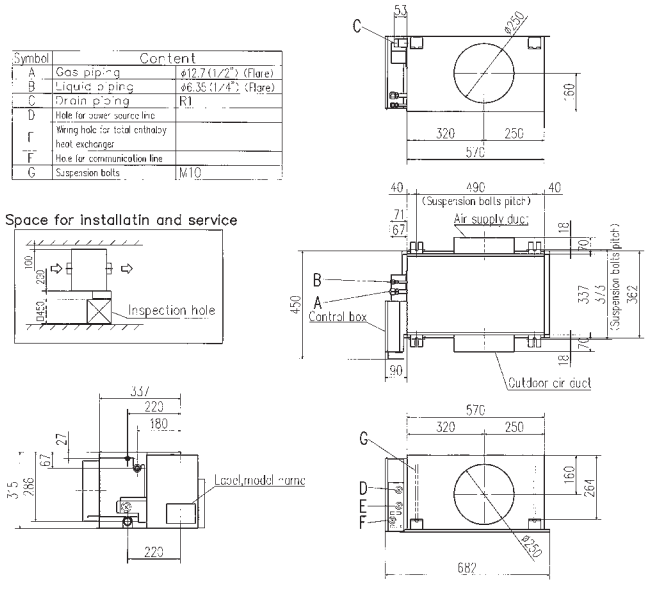

## SAF-DX500E6

| Symbol | Content | |
|---|---|---|
| A | Gas piping | ø12.7 (1/2") (Flare) |
| B | Liquid piping | ø6.35 (1/4") (Flare) |
| C | Drain piping | R1 |
| D | Hole for power source line | |
| E | Wiring hole for total enthalpy heat exchanger | |
| F | Hole for communication line | |
| G | Suspension bolts | M10 |



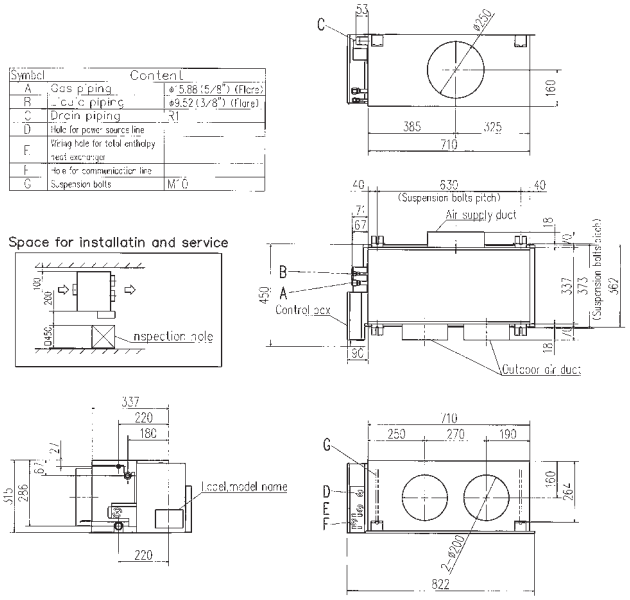

## SAF-DX800E6

| Symbol | Content | |
|---|---|---|
| A | Gas piping | ø12.7 (1/2") (Flare) |
| B | Liquid piping | ø6.35 (1/4") (Flare) |
| C | Drain piping | R1 |
| D | Hole for power source line | |
| E | Wiring hole for total enthalpy heat exchanger | |
| F | Hole for communication line | |
| G | Suspension bolts | M10 |



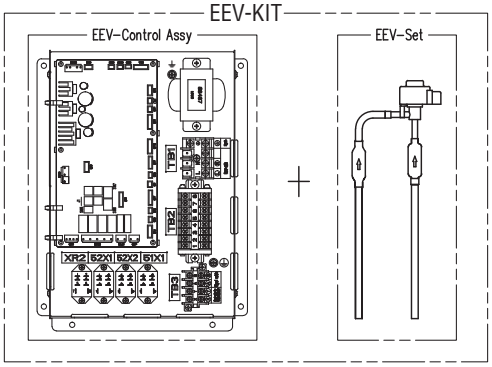

## SAF-DX1000E6

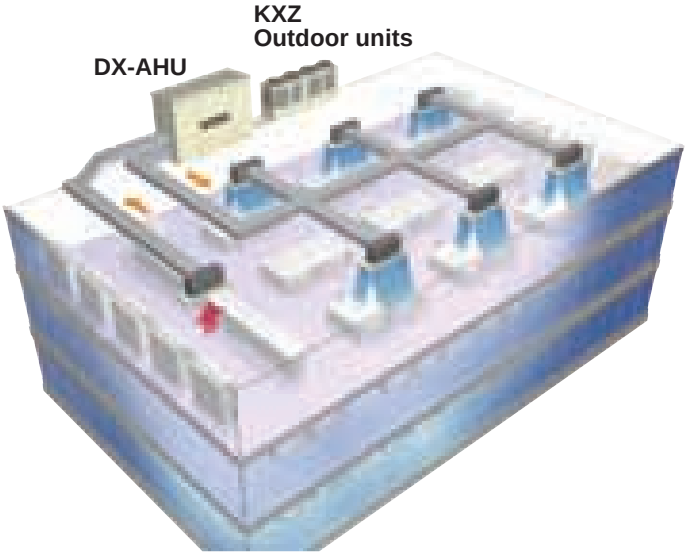
| Symbol | Content | |
|---|---|---|
| A | Gas piping | ø15.88 (5/8") (Flare) |
| B | Liquid piping | ø9.52 (3/8") (Flare) |
| C | Drain piping | R1 |
| D | Hole for power source line | |
| E | Wiring hole for total enthalpy heat exchanger | |
| F | Hole for communication line | |
| G | Suspension bolts | M10 |



# 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 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 | | 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

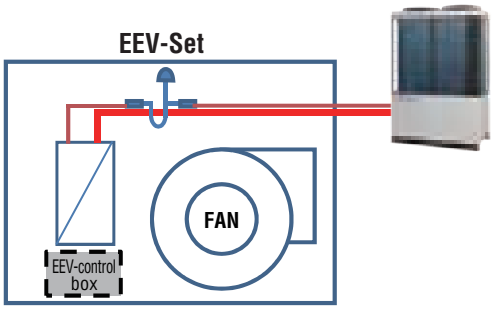
- Single refrigeration system EEVKIT6-E-C ··· Possible with multiple refrigeration systems
- Multiple refrigeration system EEVKIT6-E-M (1) + EEVKIT6-E-C ··· Possible with multiple refrigeration systems(Max32)
- EEVKIT6-E-C is common for both single and multiple refrigeration systems

## Single refrigerant system

- Single refrigeration system is the 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.

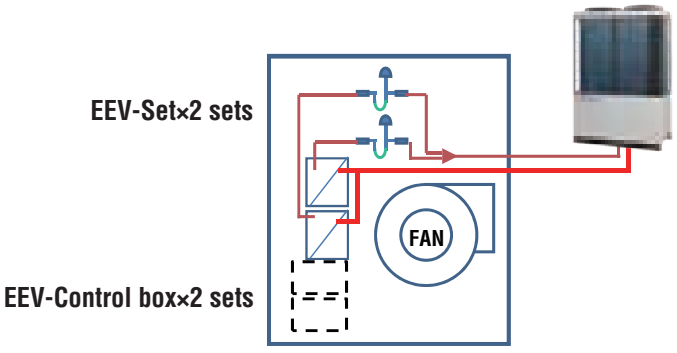
### System A

- 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.



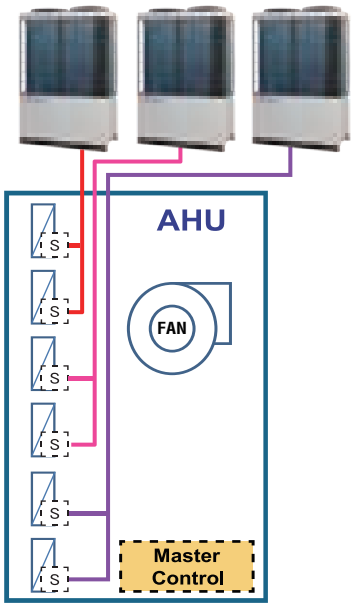

### System B

- 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) AHU capacity.



# Multiple refrigerant system

Multiple refrigeration system is an AHU system with multiple independent refrigerant circuits and one master control to control the whole system.

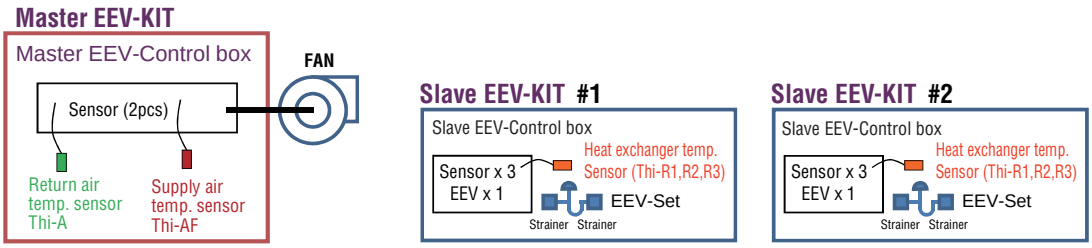



## Advantages

- Large systems are possible [max capacity 896kW ]
- External control
- Capacity step control
- Can connect to 32 units

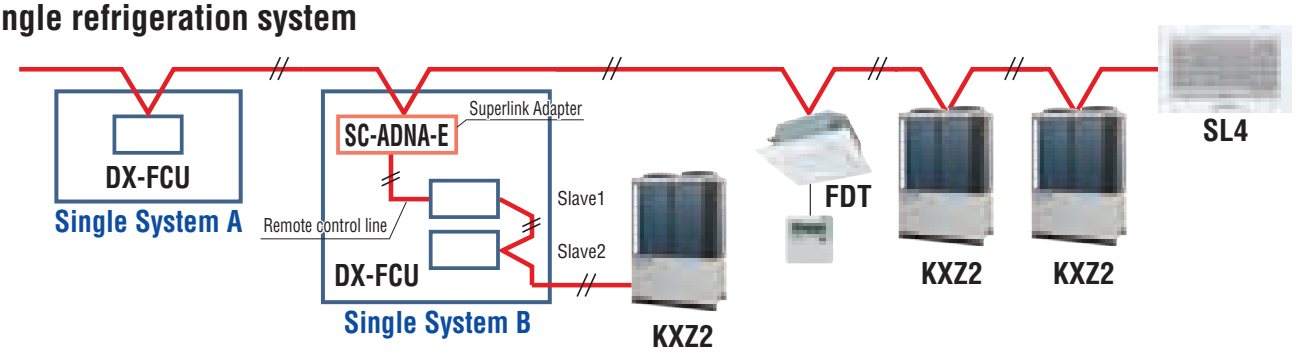
## Additional parts over a single refrigeration system

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

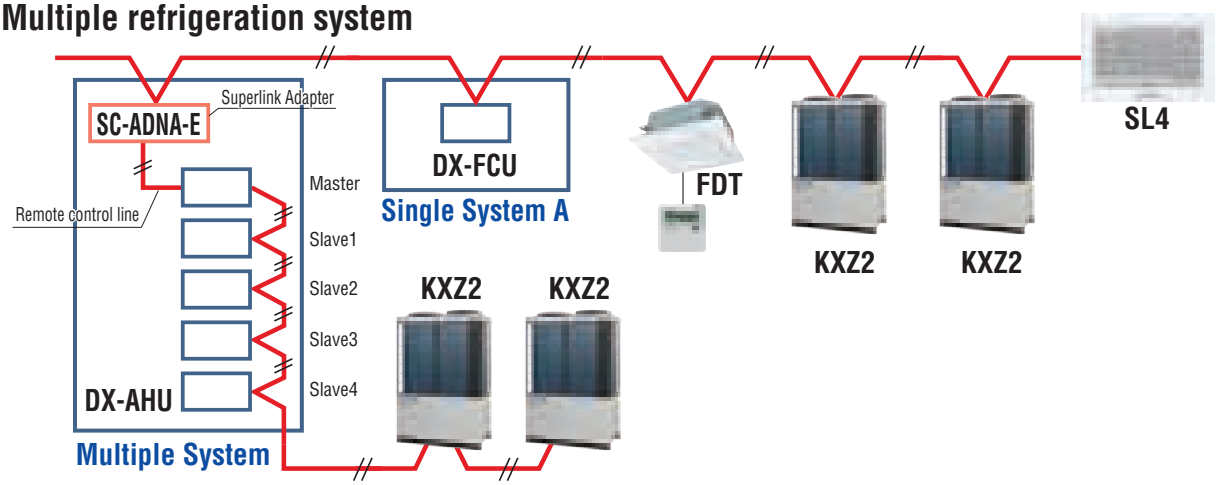



# Connection to SUPERLINK II

## Single refrigeration system

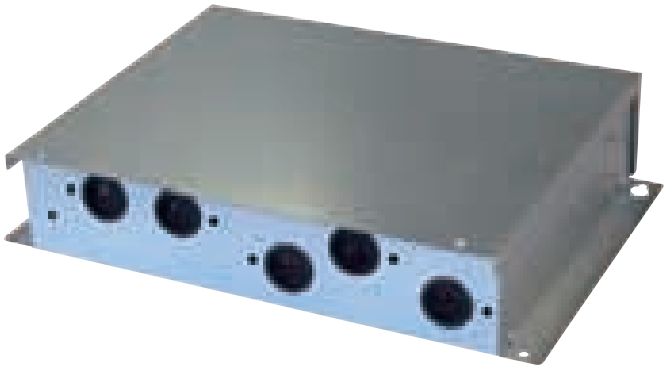



## Multiple refrigeration system



# HMU-KIT

- HMU-KIT is the control kit for operating HMU (HMU : Hydro Module Unit) with water heat exchanger, water pump and EEV-set.



## HMU-CONTROL ASSY HMU-KIT

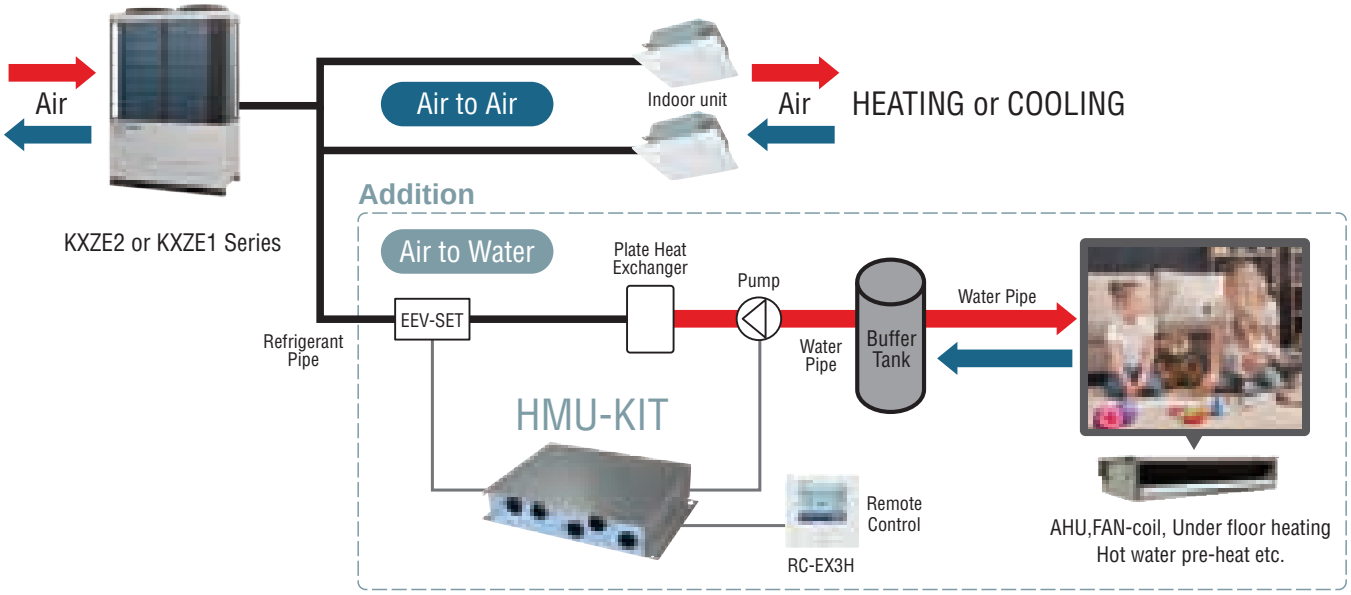
EEV-Set Select from following 2 types according to the capacity.

| Type | EEV6-160-E | EEV6-280-E |
|---|---|---|
| Capacity | 140 | 280 |

# System image

Water heating / heating & cooling / Pre-heat of Domestic Hot Water (DHW)

MHI's HMU has the flexibility to adapt efficiently to any building requirement. A wide range of indoor units and simple piping systems enable an easy fit to even the most complex configurations.
The HMU is designed to achieve a hot water temperature of 55°C.




# Features

## 1. Target outlet water temperature constant control

- This is achieved by controlling compressor frequency and control of EEVs.
- Controlling the capacity of HMUs in accordance with the load.

## 2. Mixed operation

- Mixed operation is possible in the air to air indoor unit and HMU.
- During the operation only of HMU , it can accommodate a wide range of outlet water temperature controlled by a dedicated control.
- When the system is in mixed operation, the HMU or air conditioner can be set as priority.

## 3. Antifreeze control

- Anti-freeze protection of plate heat exchanger is enabled during defrost operation.

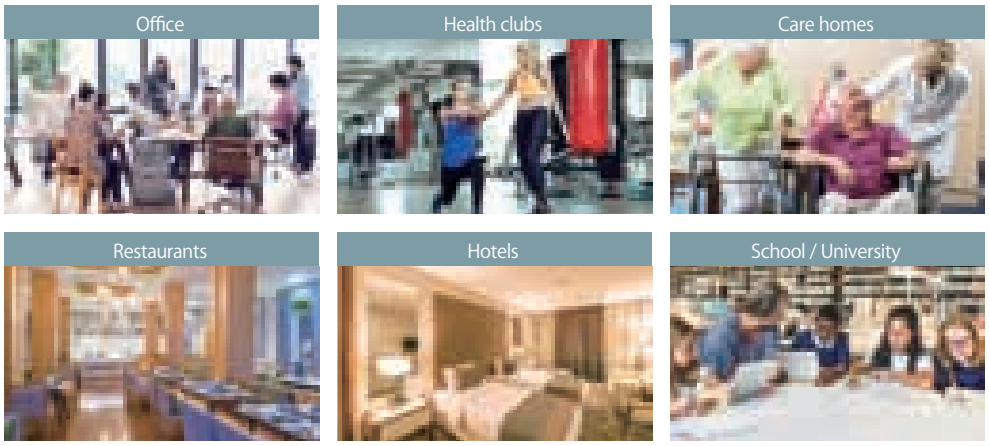
## 4. External equipment linked

- External output of interlocking signal to an external heat source for the secondary heating.
- Possible target setting temperature change from the external input. (3 points)
- Water pump control (ON / OFF) possible.

*HMU is designed for closed loop heat exchange applications. Connections to any other open loop systems (such as domestic water) should be handled via a secondary heat exchanger.

# Application example

Heating system using HMU kit and air conditioner propose various solutions.



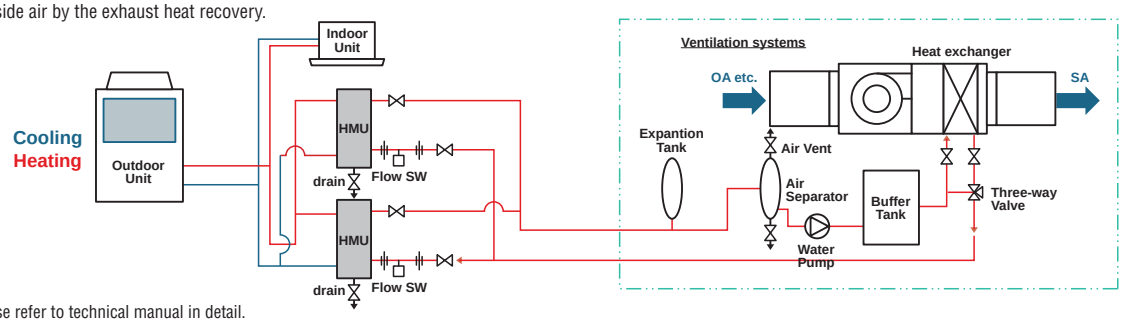

# Specification

| Model | | | HMU-KIT | |
|---|---|---|---|---|
| Power source | | | 1 phase 220-240V, 50Hz | |
| Nominal capacity | Cooling | [kW] | 14.0 , 28.0 | |
| | Heating | [kW] | 14.0 , 28.0 | |
| Connectable outdoor unit | | | KXZ2, KXZ1 series | |
| Dimensions | Height | [mm] | 100 | |
| | Width | [mm] | 495 | |
| | Depth | [mm] | 355 | |
| Inlet Water temp. range of cooling | HMU only | [℃] | 10～30 | |
| | Not HMU only | | 19～24 | |
| Inlet Water temp. range of heating | HMU only | [℃] | 10～50 | |
| | Not HMU only | | 20～35 | |
| Water flow rate range | | [%] | 50～100 | |
| MIN outlet water temp of cooling | HMU only | [℃] | 5 | |
| | Not HMU only | | 14 | |
| MAX outlet water temp of heating | HMU only | [℃] | 55 | |
| | Not HMU only | | 40 | |
| | | | ＜Nominal cooling condition＞ | ＜Nominal heating condition＞ |
| Outdoor temp. | | [℃] | 35℃CDB | 7℃CDB／6℃CWB |
| Inlet water temp. | | [℃] | 23 | 30 |
| Outlet water temp. | | [℃] | 18 | 35 |
| Water flow rate | | [%] | 100 | 100 |

HMU-KIT is applicable on the capacity of 14.0 and 28.0kW. They can be connected to the KXZ series, but the connection limit is different. If only the HMU is connected, the MIN outlet water temp of cooling is 5°C and MAX outlet water temp of heating is 55°C. If HMU and normal indoor units are connected, the MIN outlet water temp of cooling is 14°C and MAX outlet water temp of heating is 40°C. Water temperature range controlled by outdoor temperature. Please refer to technical manual in detail.

# Ventilation (potential application of the HMU)

HMU can provide hot or cool water to the heat exchanger of an AHU which supplies fresh air. In the application shown below, the ventilation air from this system would be better suited for introduction into the return air or mixing section duct of the indoor fan coils, this is due to prevent the lack of air caused to provide the room with neutral conditioned air. It is also possible to be used in conjunction with a total heat exchanger, to reduce the load of processing outside air by the exhaust heat recovery.




*Please refer to technical manual in detail.

# 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-5BW(-5BB)-E2 | FDTS | RCN-TS-E2 | FDE | RCN-E-E3 |
| | FDTC | RCN-TC-5AW-E3 | 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

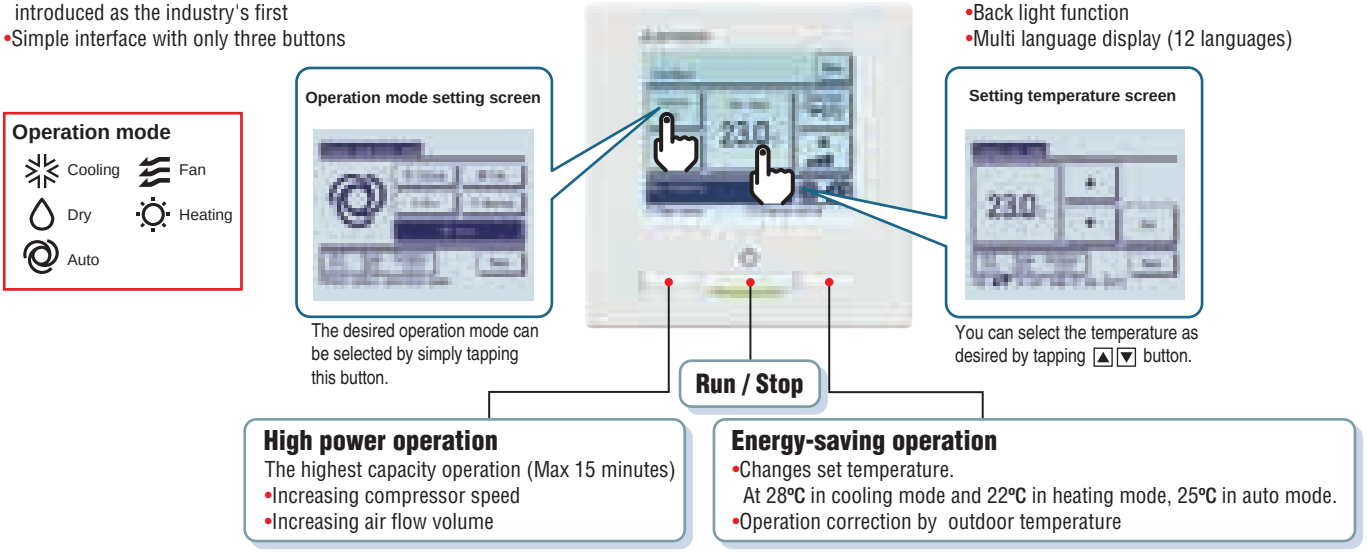
**Intuitive touch controller with Liquid Crystal Display**

#### 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)




## 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 selectable range 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-EX3A 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 | User can visually confirm and set the direction of flaps using the visual display on the remote controller. |
| | Automatic fan speed *1 | 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 | The function switch allows user to select and set two functions among available functions. |
| | Favorite setting | Operation mode, set temperature, fan speed and air flow direction automatically adjust to the programmed favorite setting. |
| | Adjusting Brightness of the background light | The brightness of the background light can be adjusted by 10 stages. |
| | LCD contrast setting | 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 | 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. |

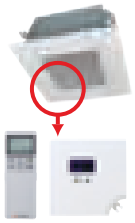
*1 Cannot be used when a centralized control remote is connected.

## Wireless remote control (option)

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

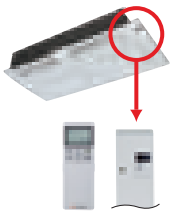
**RCN-T-5BW-E2**
**RCN-T-5BB-E2**

**RCN-TC-5AW-E3**

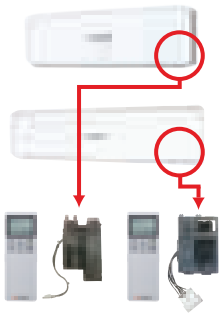


**RCN-TW-E2**

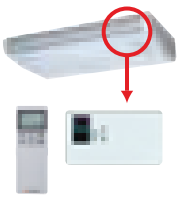
**RCN-TS-E2**



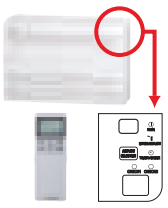
**RCN-K-E2,**
**RCN-K71-E2**



**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)

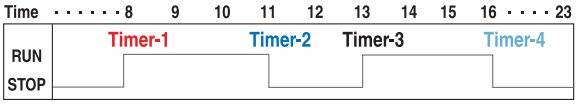
### RC-E5

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)

Designed specially for hotel rooms, the controller's buttons are limited only to the 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 indoor units, by 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)

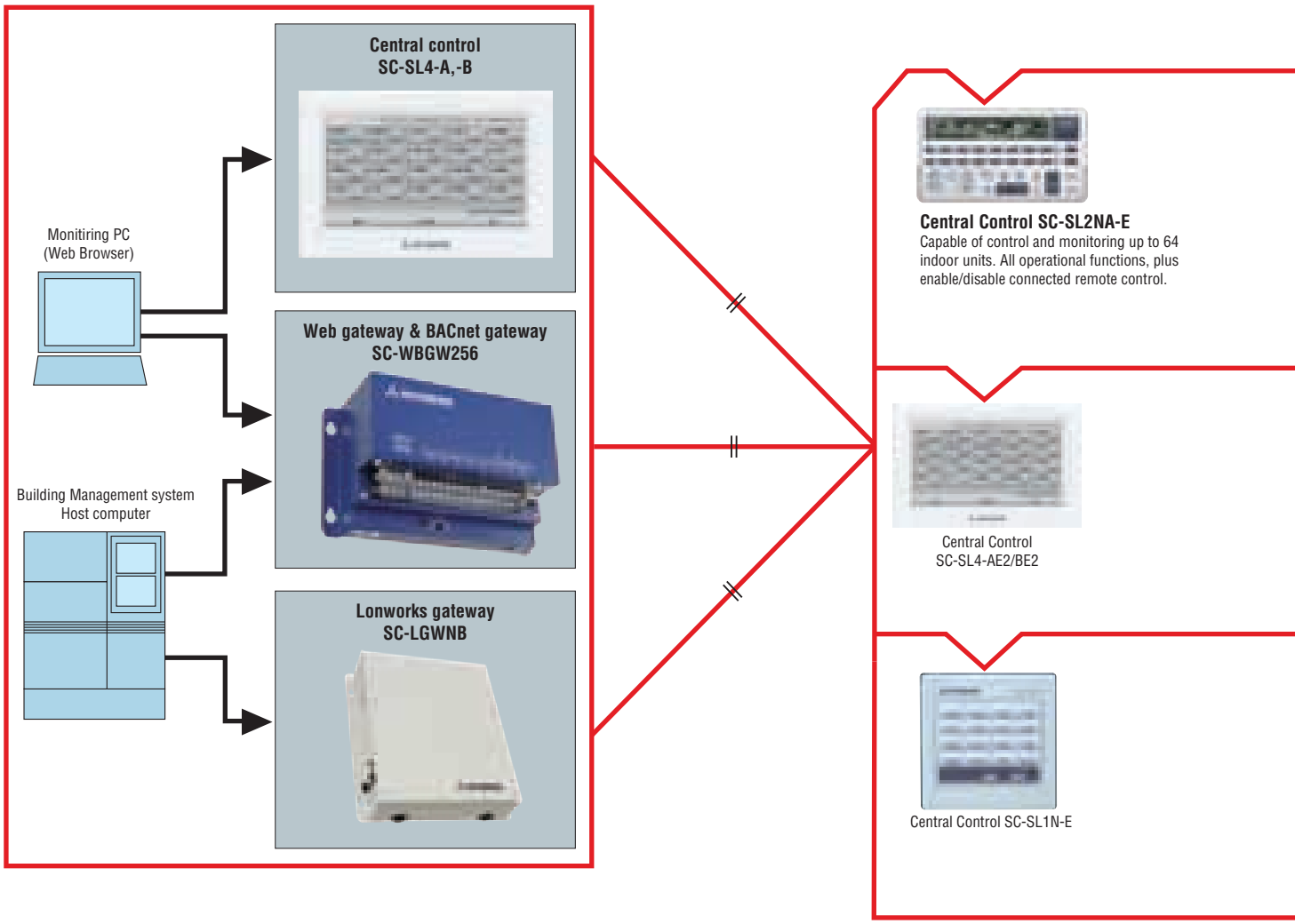
### SC-THB-E3

In case the sensor integrated in the indoor unit or in the remote controller is unable to sense the room temperature correctly, or an individual controller in each room is not required but a temperature sensor is (as when a central control system is in place), install SC-THB-E3 in an adequate location in the room.

**8m**

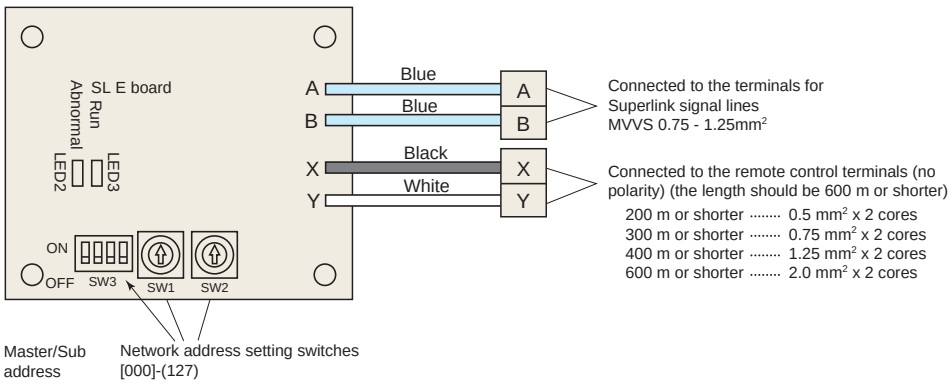
# SUPERLINK®- Ⅱ Control System

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. 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)

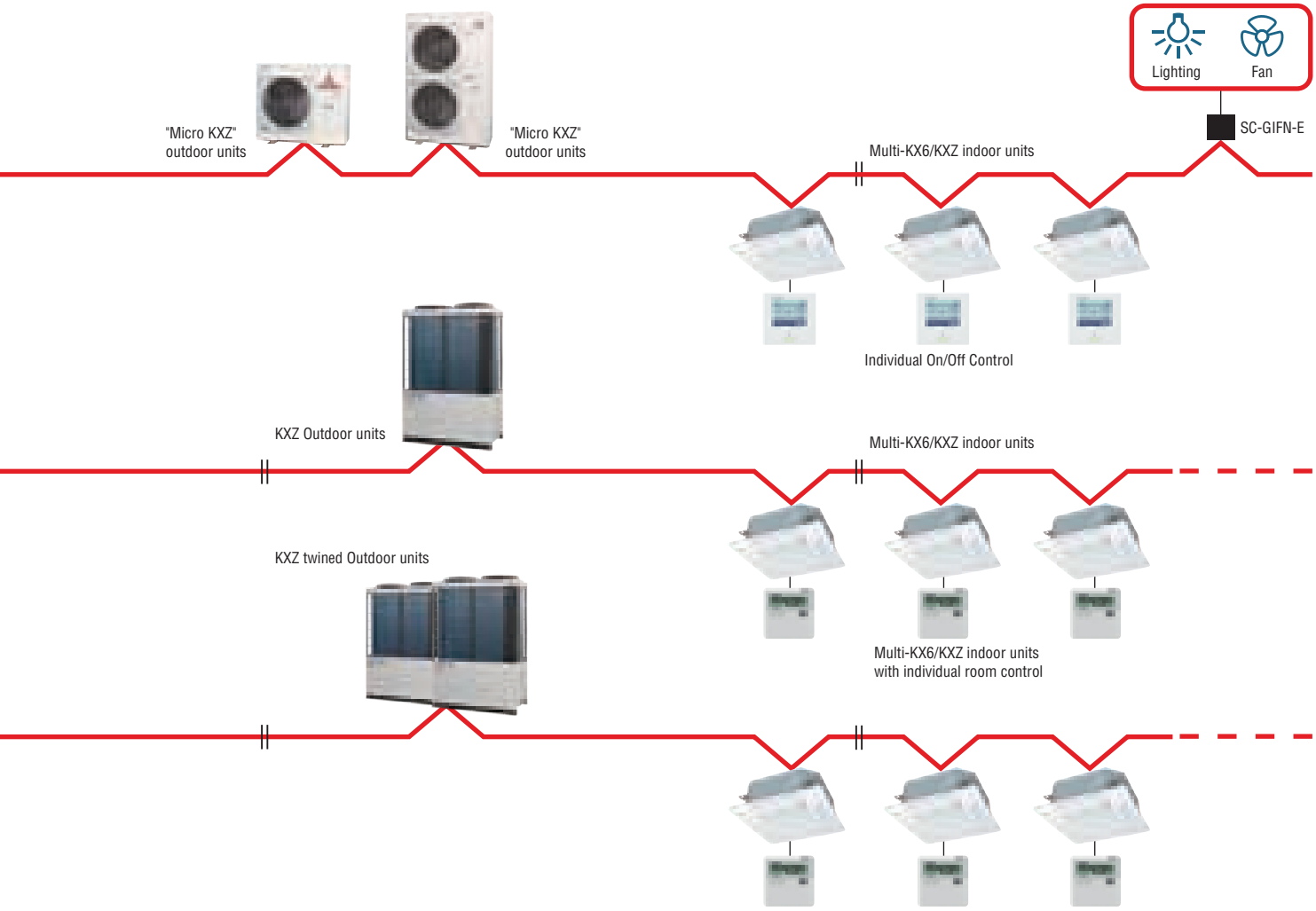
This board is used when conducting control of the single package (wired remote control unit) 1-type series using a network option.

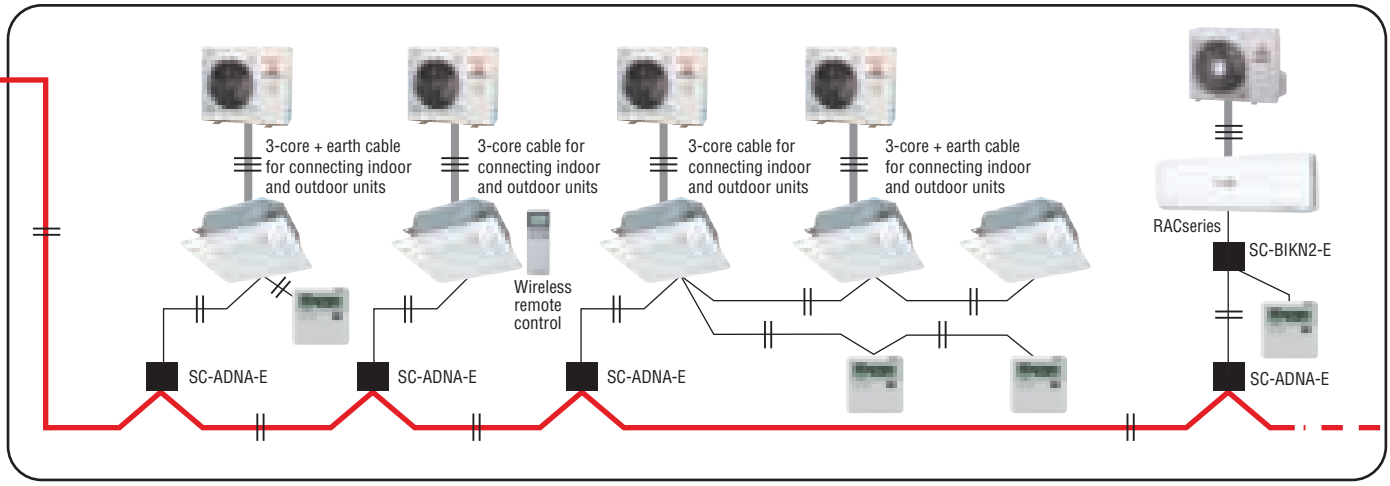



Connected to the terminals for Superlink signal lines
MVVS 0.75 - 1.25mm²

Connected to the remote control terminals (no polarity) (the length should be 600 m or shorter)

- 200 m or shorter ····· 0.5 mm² x 2 cores
- 300 m or shorter ····· 0.75 mm² x 2 cores
- 400 m or shorter ····· 1.25 mm² x 2 cores
- 600 m or shorter ····· 2.0 mm² x 2 cores


Lighting
Fan
SC-GIFN-E
"Micro KXZ"
outdoor units
"Micro KXZ"
outdoor units
Multi-KX6/KXZ indoor units
Individual On/Off Control
KXZ Outdoor units
Multi-KX6/KXZ indoor units
KXZ twined Outdoor units
Multi-KX6/KXZ indoor units
with individual room control

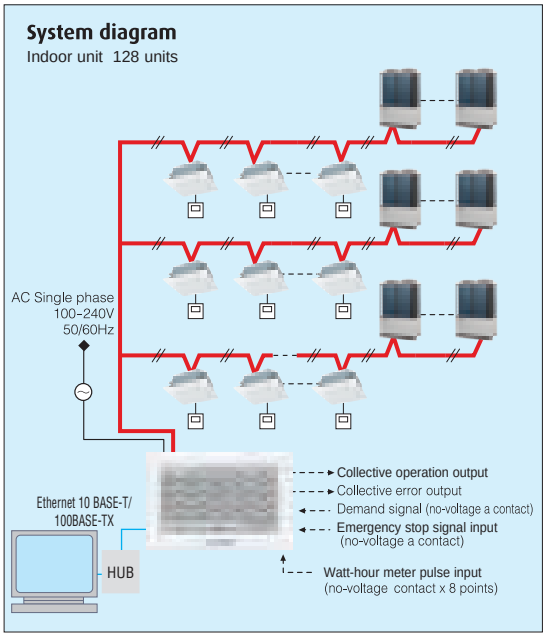

3-core + earth cable
for connecting indoor
and outdoor units
3-core cable for
connecting indoor
and outdoor units
3-core cable for
connecting indoor
and outdoor units
3-core + earth cable
for connecting indoor
and outdoor units
Wireless
remote
control
RACseries
SC-BIKN2-E
SC-ADNA-E
SC-ADNA-E
SC-ADNA-E
SC-ADNA-E

# Central Control
# SC-SL4-AE2/BE2 Added new function

Mitsubishi Heavy Industries Thermal Systems introduces the full colour touch screen central control SC-SL4-AE2/BE2, 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 Microsoft Edge/Google chrome.

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

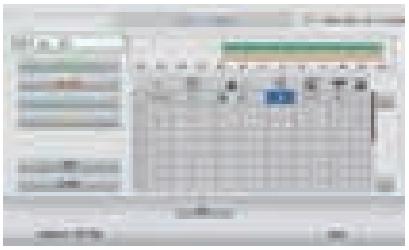
| Control | Monitoring | Scheduling | Administration/Service |
|---|---|---|---|
| Run/Stop / Home leave | Operating state | Yearly schedule | Block definition, Floor layout |
| Mode (cool/heat/fan/dry/Auto) | Mode | Today's schedule | Group definition |
| Set temperature | Set temperature | Detailed 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)<br>Outdoor air temperature | | Operation data monitoring<br>Data logging (Run / Stop set temperature , room temperature , outdoor air temperature ) |




PC requirements: Windows 10
Monitor resolution 1280 x 1024 or more.
Web browser requirements: Microsoft Edge , Google Chrome

## Schedule setting

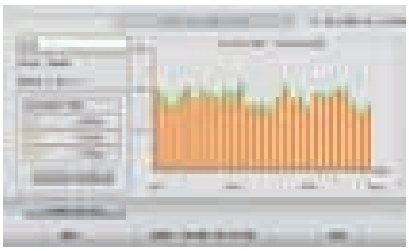
**For each group**
Schedule settings for each group are possible. The RUN/STOP/HOME LEAVE time, operation mode, remote control Lock/Unlock setting, temperature setting, energy setting, and silent mode can be set up to 16 times per day.



**Yearly Schedule** NEW
Schedule settings for a year are also possible. The weekday, holiday, special day 1 or special day 2 can be selected and set.
Able to automatically update the yearly schedule.

## Operation time history

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



## Alarm history

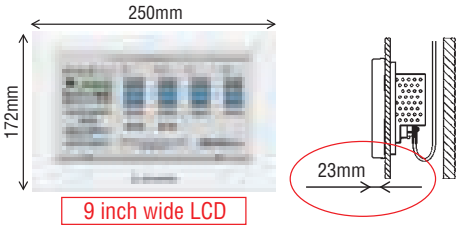
A maximum of 300 records is displayed for the history of error occurrence and restoration in the unit of air conditioner.
It is possible to output the history data to a CSV data file.

## Maintenance code NEW

Able to show the maintenance code

## High visibility

Increase in size from 7 to 9 inches



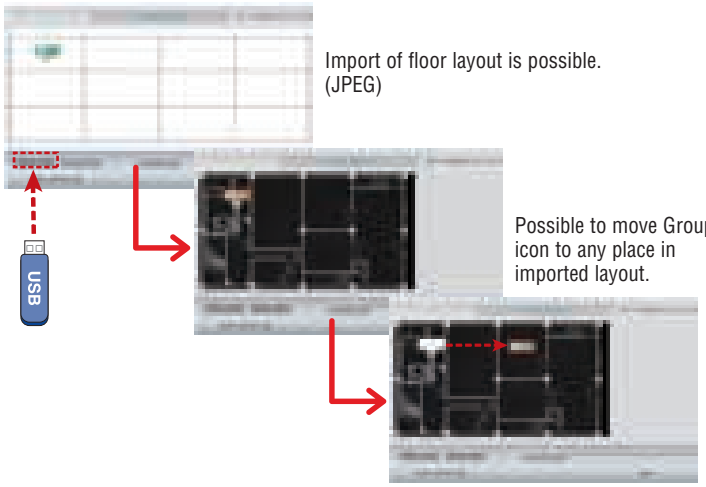

Contrast between five colours for icon display and black light base screen has achieved high visibility.

## Models that can be connected has increased NEW

Can now connect to Q-ton/ HMU. Can have easy centralized control over various modes

*When connecting to Q-ton, an interface(RCI-MDQE2) is necessary.

## Block layout function

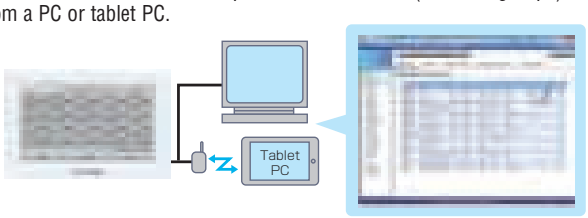



Import of floor layout is possible. (JPEG)

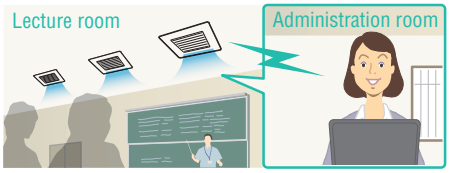
Possible to move Group icon to any place in imported layout.

## Web function

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



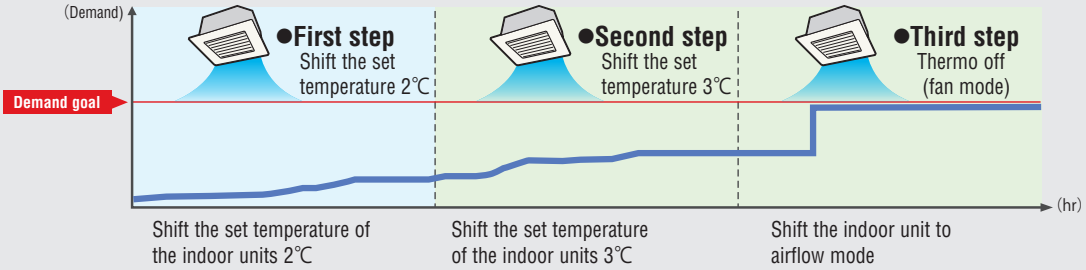

<Example>
Monitoring and operating air conditioners in a lecture room of a university




## New demand control function NEW

With the new demand control, temperature shifts between 1~9℃(Cooling or Drying ;1~9℃, Heating: -1~-9℃),fan mode can be selected.

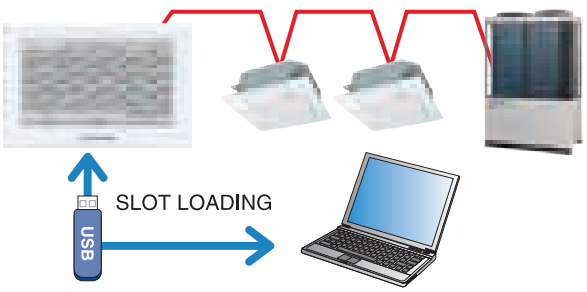
### ■ Image of demand control for temperature shifts and air flow




## Electric power calculation function:

(for SC-SL4-BE2 only)

SC-SL4-BE2 gives electric power consumption data (kWh) for each indoor unit , each group , each SUPERLINK-Ⅱ system , and each watt-hour meter input.




| | SC-SL4-BE2 |
|---|---|
| Export data by | USB / LAN |
| Calculation software | Included |
| Watt-hour meter pulse input (Maximum) | 8 |
| Max connectable indoor units | 128 |

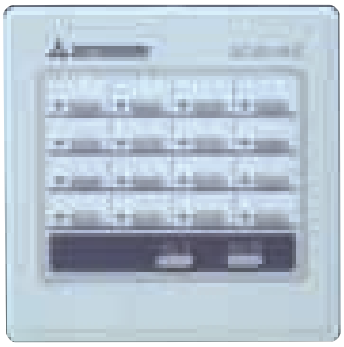
| Item / Model | | SC-SL4-AE2/SC-SL4-BE2 |
|---|---|---|
| Ambient temperature during use | | 0 ~ 40℃ |
| Power supply | | 1 Phase 100-240V 50/60Hz |
| Power consumption | | 9W |
| External dimensions (Height x Width x Depth) | | 172mm x 250mm x 23 (+70) mm |
| Net weight | | 2.0kg |
| Number of connectable 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.**

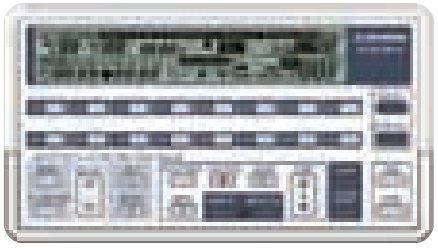
**Simple centralised control.**



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.**



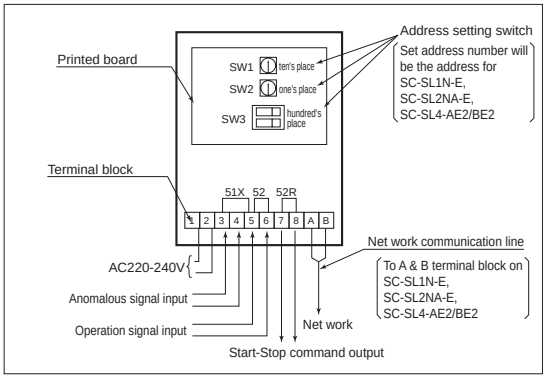
1. The SC-SL2NA-E is connected to the Superlink-Ⅱ network via 2-core, non-polar wires ('AB' connection).
2. It will monitor and control the start/stop function of up to16 units, or 16 groups of units, with the sixteen operation buttons.
3. It also monitors and controls the following functions for individual 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-AE2/BE2, you can start-stop, operate & monitor the operation of applicable products.



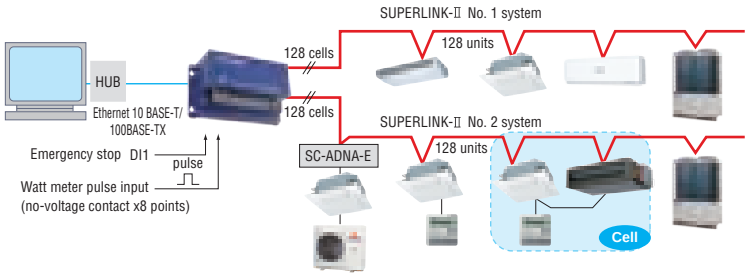

**Note:Please consult dealer for combination of center controls and Building Management Systems interface units.**

# Building Management Systems
# SC-WBGW256 (Web gateway+BACnet gateway)

**Production by order**

SC-WBGW256 controls and monitors 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 Internet Explorer. A low power embedded CPU and compact flash ROM ensure a large storage capacity with high reliability (no moving parts such as a PC fan, etc). An IP address filter function combined with three-level user authentication check also ensures security.
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.

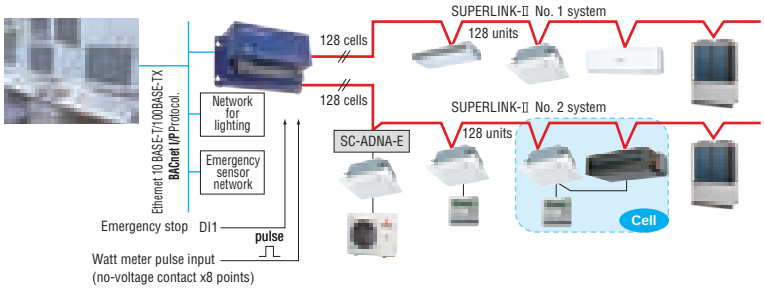
**[ In case of web gateway ]**

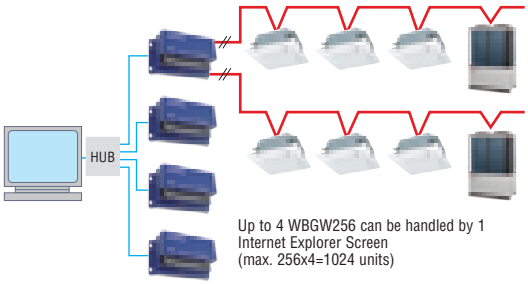



PC requirements: Windows 7 or Windows 8.1.
Monitor resolution 1364 x 768.

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

**[ In case of BACnet gateway ]**



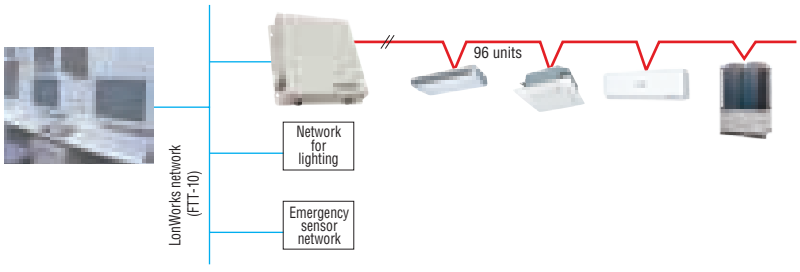




Up to 4 WBGW256 can be handled by 1
Internet Explorer Screen
(max. 256x4=1024 units)

# 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.

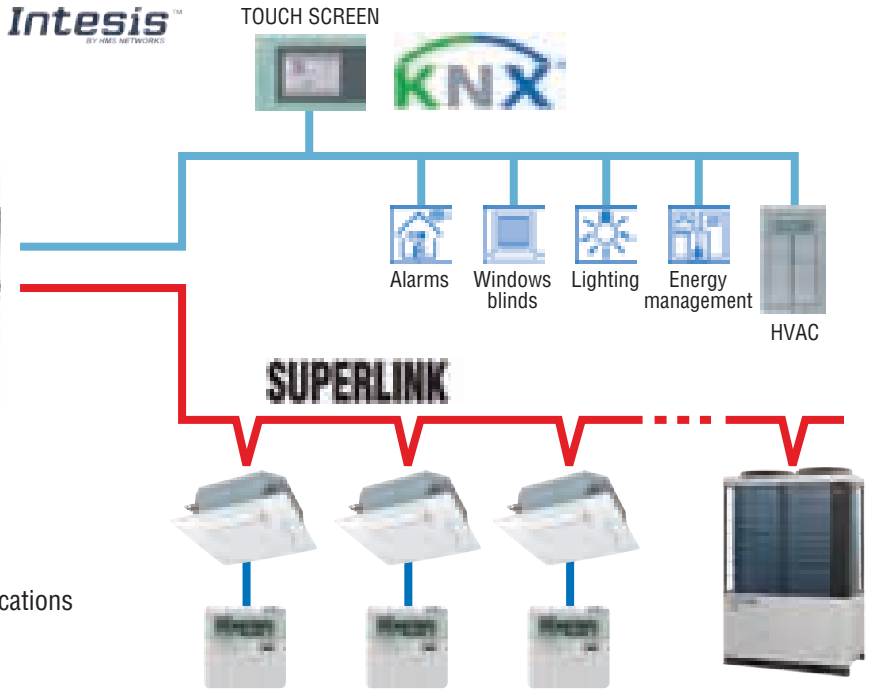
# *INTESIS BMS Interface for Mitsubishi Heavy Industries Thermal Systems Air Conditioners*

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

**INKNXMHI048O000**
(Max 48 indoor units / Superlink I & II)
**INKNXMHI128O000**
(Max 128 indoor units / Superlink II)

INTEGRATED GATEWAY

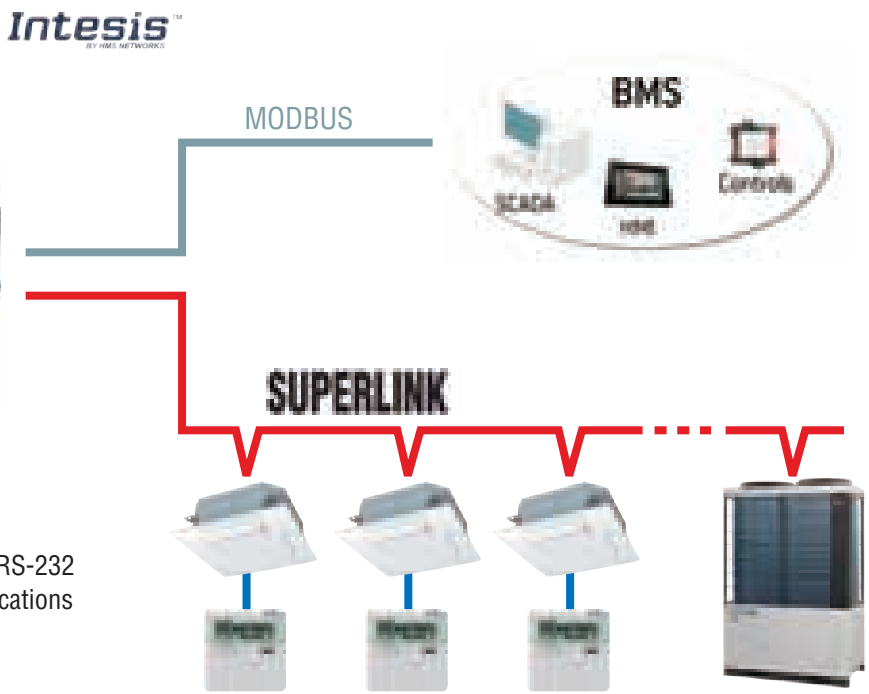



- Bidirectional: Supervision and Control
- Robust and reliable hardware
- Direct connection to KNX TP-1 BUS
- Independent management of communications
- Power supply: 230 VAC 50/60Hz
- Wall mounting case

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

**INMBSMHI048O000**
(Max 48 indoor units / Superlink I & II)
**INMBSMHI128O000**
(Max 128 indoor units / Superlink II)

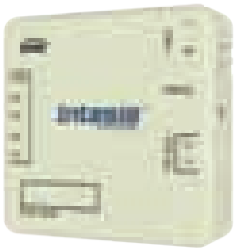
INTEGRATED GATEWAY




- 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

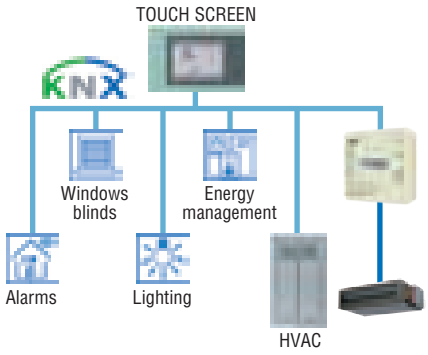
## Integration of Mitsubishi Heavy Industries Thermal Systems PAC in your KNX installation by Remote control line

### INKNXMHI001R000

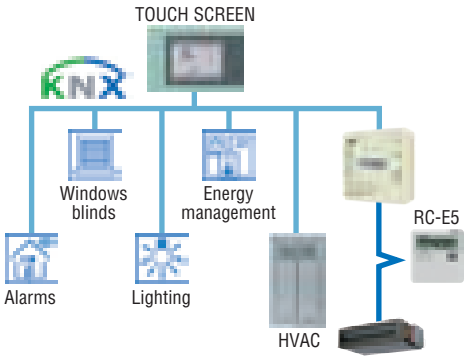


- Protocol : KNX TP-1 bus
- Dimension : 71 x 71 x 27 mm
- External Power supply : no need

**Example :**
**Device as Master**




**Example :**
**Device as Slave**

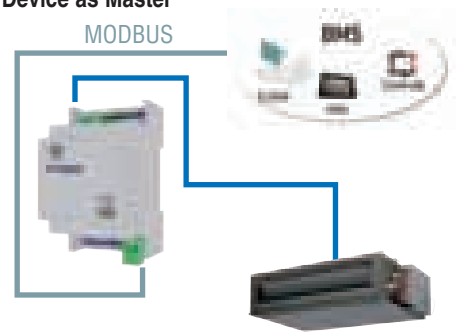



## Integration of Mitsubishi Heavy Industries Thermal Systems PAC in your Modbus installation by Remote control line

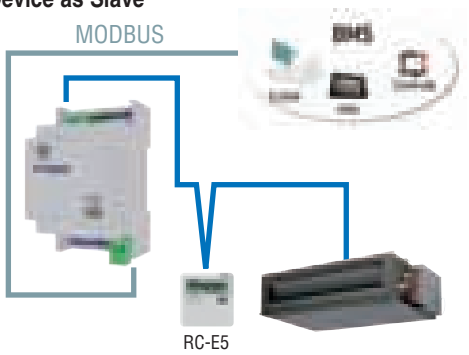
### INMBSMHI001R000

- 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**




## AC Cloud Control

**PAC Model:** INWMPMHI001R000

Please access the followings for details.

Intesis™ BY HMS NETWORKS

URL http://www.intesis.com
email info@intesis.com

# Energy efficient and environmentally conscious

Several radical design changes and engineering developments have brought about a vast improvement in energy efficiency and environmental protection.

**SEER and SCOP is defined in European regulations listed below.**

No.2016/228 1: requirement for air-heating products, cooling products, high temperature process chillers and fan coil units.Seasonal efficiency is the new way of rating the true efficiency of heating and cooling products over an entire year. Set by the EU's new regulation implementing Eco-Design Directive for Energy related Product (ErP) which specifies the minimum efficiency of air conditioners manufacturers must integrate into their products.

The new Seasonal Efficiency rating system that must be used for heating and cooling by all manufacturers are;

SEER - Seasonal Efficiency Ratio (value in cooling)
This ratio represents the annual cooling performance divided by the annual consumption of electricity for cooling.

SCOP - Seasonal Coefficient of Performance (value in heating)
This ratio is calculated as the divided reference annual heating performance by the annual consumption of electricity for heating.

All models meet the performance required by LOT6/21.

## RoHS:Restriction of Hazardous substances

In order to avoid the release of hazardous substances into the environment, all models have utilized lead-free solder application. It has been considered to be difficult to use lead-free solder for practical applications because it requires higher solder temperatures at assembly, which can jeopardize reliability. However our PbF soldering method can produce a higher quality lead-free printed circuit board.

## Employment of R32 R410A

All models use refrigerant R32 or R410A characterized by the ozone depletion coefficient being 0.

## Excellent Energy Saving

High performance and excellent energy savings are achieved at the same time by the increased capacity of the heat exchanger and employment of high efficiency DC motor.

| Outdoor unit | FDC121KXZEN1 -W | FDC121KXZES1 -W | FDC140KXZEN1 -W | FDC140KXZES1 -W | FDC155KXZEN1 -W | FDC155KXZES1 -W |
|---|---|---|---|---|---|---|
| SEER / SCOP (Outdoor unit) | 9.67 / 4.67 | 9.67 / 4.67 | 8.82 / 4.62 | 8.82 / 4.62 | 8.17 / 4.58 | 8.17 / 4.58 |

| Outdoor unit | FDC121KXZEN1 | FDC121KXZES1 | FDC140KXZEN1 | FDC140KXZES1 | FDC155KXZEN1 | FDC155KXZES1 |
|---|---|---|---|---|---|---|
| SEER / SCOP (Outdoor unit) | 8.15 / 4.63 | 8.15 / 4.63 | 7.73 / 4.59 | 7.73 / 4.59 | 7.21 / 4.55 | 7.21 / 4.55 |

| Outdoor unit | FDC224KXZME1 | FDC280KXZME1 | FDC335KXZME1A | FDC224KXZPE1 | FDC280KXZPE1 |
|---|---|---|---|---|---|
| SEER / SCOP (Outdoor unit) | 6.55 / 4.55 | 6.03 / 4.54 | 5.84 / 4.04 | 6.65 / 4.34 | 6.68 / 4.50 |

| Outdoor unit | FDC280KXZE2 | FDC335KXZE2 | FDC400KXZE2 | FDC450KXZE2 | FDC475KXZE2 | FDC500KXZE2 | FDC560KXZE2 |
|---|---|---|---|---|---|---|---|
| SEER / SCOP (Outdoor unit) | 7.30 / 4.88 | 7.54 / 4.68 | 7.12 / 4.87 | 7.01 / 4.36 | 6.84 / 4.45 | 7.29 / 4.58 | 6.73 / 4.30 |

| Outdoor unit | FDC224KXZRE2 | FDC280KXZRE2 | FDC335KXZRE2 | FDC400KXZRE2 | FDC450KXZRE2 | FDC475KXZRE2 | FDC500KXZRE2 |
|---|---|---|---|---|---|---|---|
| SEER / SCOP (Outdoor unit) | 6.21 / 4.06 | 6.36 / 4.02 | 7.15 / 4.43 | 6.78 / 4.39 | 6.29 / 4.33 | 6.60 / 4.27 | 7.01 / 4.39 |

| Outdoor unit | FDC560KXZRE2 | FDC615KXZRE2 | FDC670KXZRE2 |
|---|---|---|---|
| SEER / SCOP (Outdoor unit) | 6.26 / 4.29 | 6.05 / 4.34 | 5.88 / 4.50 |

- refrigerant contained in the products is a fluorinated greenhouse gas listed in Regulation (EU) No 517/2014.
- SEER/SCOP are based on EN14825:2016 and Commission regulation (EU) No.2016/2281. Temperature conditions for calculating SCOP are based on "Average climate".
- The above values are combination with Ceiling casse the 4way unit.

# NOTES

# Before starting use

## Heating performance
The heating performance values (kW) described in the catalogue are the values obtained by operating at an outdoor temperature of 7℃ and indoor temperature of 20℃ as set forth in the ISO Standards. Heating performance is reduced as the 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 an 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 (R32, R410A) used for Air conditioner is non-toxic and 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 continued to use, 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, a maintenance contract by a specialist is recommended.

# 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 food items, 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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**https://www.mhi-mth.co.jp/en/**


**Our factories are ISO9001 and ISO14001 certified.**

**Certified ISO 9001**

Certificate Number : JQA-0709

Certificate Number : 4333-2007-AQ-RGC-RvA

**Certified ISO 14001**

Certificate Number : YKA4005636

Certificate number : 02117E10160R0M


**22KX01E** October 2021 F