**Johnson Controls - Hitachi Air Conditioning**

http://www.jci-hitachi.com

Manufactured by

Distributed by

**ISO 9000 series** The quality of our design and manufacturing systems has been approved.

We are a domestic business office designing and manufacturing air conditioners. We have obtained the international standard ISO 9001 certification regarding quality management systems.

Shimizu Air Conditioning Headquarters, Professional-Use Air Conditioning Business Division, Johnson Controls – Hitachi Air Conditioning
**JQA-1084 obtained in November 1995**

JQA-1084

**ISO 14000 series** Our environmental preservation activities have been approved.

We are a domestic business office designing and manufacturing air conditioners. We have obtained the international standard ISO 14001 certification regarding environmental management systems.

Shimizu Business Office, Johnson Controls – Hitachi Air Conditioning
**EC97J1107 obtained in October 1997**

EC97J1107

HITACHI

# Hitachi VRF Systems
# SET FREE Σ

Heat Pump Type
NS series

Enjoy a new chapter in Hitachi VRF history

Let us regale you,
with the story of our new VRF system, SET FREE Σ.
Leave behind the agonies caused by limitations or inclement weather.
You will be captivated by the freedom and comfort that we offer.
It's a new chapter in VRF history,
where you can feel the future with air conditioning solutions by Hitachi.

SET FREE Σ


# Hitachi VRF Systems
# SET FREE Σ

## Heat Pump Type
## NS series

**Index**

# What can Hitachi VRF offer ?

### Greater Performance

An average of up to 39% energy savings for some applications compared to conventional HVAC systems.

- Higher efficiency ratio in APF, EER and COP
- Lower $CO_2$ emissions
- Lower power consumption

### Greater Design Flexibility

Meet any local requirements and constraints with a number of improvements of Outdoor unit (e.g. Larger capacity range or Smaller footprints).

- Larger capacity with smaller footprint
- Better piping limit
- Extended external static pressure

### Easier Installation

Overall cost/time reduction thanks to the lightweight and modular VRF systems.

- Overall lighter cabinet (16% lighter on average)
- Available for the lift transportation
- New package design to be craned more easily

### Comfort

Delivering precisely the correct amount of heating or cooling to each zone leads to the comfortability, and also quiet operation and defrosting are upgraded.

- Smart compressor control: keep indoor temperature more constant
- Lower noise operation
- New defrosting technology





### System Integration

Delivering the ability of Integrating all management systems, from individual IDU to whole building, which leads to both time saving and cost saving.

- H-LINK solution
- Advanced individual and centralized control system
- Easy BMS connection

### Maintenance Ease

Easier maintenance thanks to Both the elimination of any water treatment like pumps etc., and Design change in unit.

- All PCB visible and easily accessible
- Easy access to compressors and valves
- Smart refrigerant pump-down

### Better life-cycle costs

VRF can operate for 20-30 years with whole easier maintenance, that leads to “Better Lifecycle Costs”!

- More Efficiency Operation thanks to DX system
- Maintenance Ease
- Higher Control capacity thanks to Advanced Individual/Centralized control system

### Aesthetics

Let alone total line-up of Ceiling Concealed type of IDU, Ceiling Cassette type of IDU are also designed not to be the noise in space.

- Higher ESP ODU: the better visual aesthetics compared to outdoor installment
- Wide range of ceiling concealed type of IDU (Ducted type) will suit to your interior requirement
- Ceiling cassette type IDU are also designed to be clean and simple without any disturbance to indoor space.

# Line-up Overview

## NS SERIES

### Single module


8HP class(22.4kW) : RAS-8FSNS 190kg
10HP class(28.0kW) : RAS-10FSNS 190kg
12HP class(33.5kW) : RAS-12FSNS 210kg


14HP class(40.0kW) : RAS-14FSNS 268kg
16HP class(45.0kW) : RAS-16FSNS 310kg
18HP class(50.0kW) : RAS-18FSNS 311kg


20HP class(56.0kW) : RAS-20FSNS 350kg
22HP class(61.5kW) : RAS-22FSNS 364kg
24HP class(67.0kW) : RAS-24FSNS 365kg

### Combination of single module


26HP class(73.0kW) : RAS-26FSNS 478kg
28HP class(77.5kW) : RAS-28FSNS 520kg
30HP class(85.0kW) : RAS-30FSNS 521kg

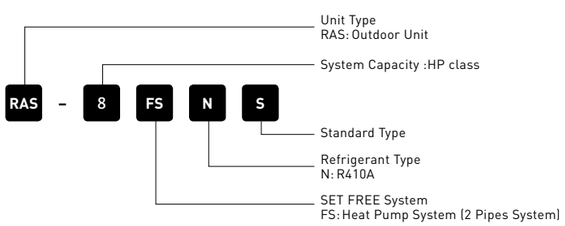

32HP class(90.0kW) : RAS-32FSNS 579kg
34HP class(95.0kW) : RAS-34FSNS 621kg
36HP class(100.0kW) : RAS-36FSNS 622kg


38HP class(106.0kW) : RAS-38FSNS 633kg
40HP class(112.0kW) : RAS-40FSNS 675kg
42HP class(118.0kW) : RAS-42FSNS 676kg


44HP class(122.0kW) : RAS-44FSNS 728kg
46HP class(128.0kW) : RAS-46FSNS 729kg
48HP class(136.0kW) : RAS-48FSNS 730kg


50HP class(140.0kW) : RAS-50FSNS 890kg
52HP class(145.0kW) : RAS-52FSNS 932kg
54HP class(150.0kW) : RAS-54FSNS 933kg

### Nomenclature








### Summary table

| Item | Unit | New | Current (FSXN1) |
|---|---|---|---|
| Capacity | HP class | 8-54 | 8-54 |
| Nominal Cooling Capacity | KW | 22.4-150.0 | 22.4 - 150.0 |
| Nominal Heating Capacity | KW | 25.0-165.0 | 25.0 - 165.0 |
| Maximum Connectable Indoor Unit Quantity | | 64 | 64 |
| Combination Capacity Ratio Between ODU and IDU | % | 50-130 | 50-130 |
| Total Piping Length | m (ft) | 1000 (3281) | 1000 (3281) |
| Maximum Piping Length Between ODU and IDU | m (ft) | 165 (541) | 165 (541) |
| Maximum Equivalent Piping Length Between ODU and IDU | m (ft) | 190 (623) | 190 (623) |
| Maximum Piping Length Between 1st Branch and IDU | m (ft) | 90 (295) | 90 (295) |
| Maximum Height Difference Between ODU and IDU * (when ODU is higher than IDU) | m (ft) | 110 (361)↑ | 90 (295) |
| Maximum Height Difference Between ODU and IDU (when IDU is higher than ODU) | m (ft) | 40 (131) | 40 (131) |
| Maximum Height Difference Between IDU and IDU | m (ft) | 30 (98) | 30 (98) |
| Cooling Operation Range ** | °C DB (°F) | -5 to 48 (23 to 118)↑ | -5 to 43 (23 to 109) |
| Heating Operation Range ** | °C WB (°F) | -20 to 15 (-4 to 59) | -20 to 15 (-4 to 59) |

* Please consult your distributor or dealer if the height different is over 50m.
** For more details, please consult your distributors or dealer, or, refer to technical manuals.

# Features and Benefits Overview

**ARCHITECT & SYSTEM DESIGNER**

| FEATURES | ADVANTAGES | BENEFITS |
|---|---|---|
| Heat pump VRF systems | • Precisely heats or cools multiple zones | • Provides extreme system design flexibility |
| ODU Compact footprint | • Requires less indoor space than conventional systems | • Expands options for positioning outdoor units |
| Modular components ODU | • Provides flexibility to customize systems to each project's needs | • Simplifies design process<br>• Allows easy updates as space is reconfigured or expanded |
| Piping flexibility: with pipe runs up to 1000 meter | • Suitable for short or long runs; accommodates nearly all projects | • Allows design freedom |
| Higher ESP: up to 80 Pa | • Provides more options for outdoor units to be installed inside building by using ducts | • Leads to both less piping length and lower installation cost<br>• Better efficiency<br>• Better visual aesthetics compared to outdoor installment |
| Temperature Range | • Operates from -20°C to 48°C | • Allows design freedom |
| Silent Mode | • Lower sound power/sound pressure level by Three steps | • Meet the local limitations to sound level |
| Non-ducted systems | • Ultimate in design flexibility<br>• Reduces clearance between building floors | • Reduces system costs<br>• Ideal for historic renovations |
| Ducted systems | • Accommodates retrofits by making use of existing duct infrastructure<br>• Suits unique buildings that include ducted and non-ducted areas | • Reduces overall construction costs |
| Connectable IDU/ODU capacity ratio Up | • Up to 130% for Combination Capacity | • Reduces system costs |
| VRF Selection Software | • Intuitive functionality that simplifies and speeds designs | • Allows confident selection and right-sizing of systems |
| H-LINK: Hitachi original communication system to control multiple ODUs and IDUs from one control point. | • No connection boundary among RAC, PAC and VRF<br>• Flexible wiring routes | • Allows design freedom<br>• Reduces system costs |

**MECHANICAL CONTRACTOR & INSTALLER**

| FEATURES | ADVANTAGES | BENEFITS |
|---|---|---|
| Compact footprint | • Requires less indoor space than conventional systems | • Ease of transportation leads to time/cost saving in installation |
| Lighter cabinet | • 16 % lighter cabinet on average compared to Current Model (FSX N1) | • Ease of transportation leads to time/cost saving in installation |
| New Package of ODU | • Easy to understand for craning | • Reduces installation time and cost |
| Installation simplicity | • Outdoor unit piping can be connected from front, back or underneath.<br>• Small and light indoor units are easy to handle without heavy equipment | • Reduces installation time and cost |
| Comprehensive training | • Modules tailored to specific job functions | • Enables professional, high-quality, timely installation |
| Consistent, reliable product delivery | • Ensures correct components are delivered to job sites on time | • Enhances installation efficiency<br>• Allows efficient labor scheduling |
| Easy maintenance access | • The upper panel (on the side of an electric box) independently detached from the lower panel (on the compressor chamber side)<br>• All PCB visible and easily accessible including 7-segment display<br>• More Space in lower section, easy access to compressors and each valve<br>• Refrigerant evacuation: Enforced operation to open ODU EVO/EVB, IDU EVI, and Hi/Low pressure Bi-pass SVB | • Speeds up time spent on maintenance, repair, and troubleshooting |
| Improved Strength | • Rigidity ratio increased by 36.7% | • Extends service life |
| Technical Support Web | • All product information is available on TS-Web<br>→ http://www.jci-hitachi.com/support/technical | • Reduce time to check up the necessary resources |





**BUILDING OWNER**

| | FEATURES | ADVANTAGES | BENEFITS |
|---|---|---|---|
| System | Rotational operation | • In multiple-unit applications at partial load, outdoor units operate alternately so that operating hours are shared equally. | • Optimizes efficiency<br>• Extends service life<br>• Increases reliability |
| | Backup operation function | • Allows one outdoor unit to be taken off-line for maintenance while remaining units keep operating. | • Avoids system downtime<br>• Protects occupant comfort |
| | Efficiency optimized for part-load operation | • APF cooling among industry's highest for VRF systems | • Saves energy |
| | Optimum individualized comfort | • Heat pump systems deliver simultaneous heating and cooling | • Efficient heating/cooling<br>• Maximizes occupant comfort |
| | Noise reduction preference mode | • Let users choose from three settings for a "not to exceed" sound level | • Extremely quiet (24.5-28 dB for indoor units)<br>• Ideal where outdoor units are positioned on side of building or in locations where there are noise restrictions |
| Compressor | DC inverter-driven scroll compressor | • Engineered to deliver the optimum efficiency at normal load conditions | • Among industry's most efficient VRF systems:<br>• Highest EER<br>• Highest APF<br>• Highest COP in low and high heating modes |
| | Newly introduced compressor shield cover | • New cover can shield up the compressor sound | • Lower sound pressure level |
| | Compressor modulation in 0.1 Hz increments | • Smoothly delivers only the exact amount of refrigerant needed for the load | • Allows fine control for optimum comfort<br>• Saves energy |
| Outdoor Units | Demand control | • Users can select from a wide variety of power settings from 100% to 60% and program "not to exceed" a given power level | • Limits electric demand charges<br>• Limits equipment wear and tear<br>• Reduces noise |
| | Smooth Drive: new compressor control operation system | • Controls compressor more efficiently | • Saves energy<br>• Constant room temperature |
| | Load shedding | • Allows programming to turn units on/off in rotation at 10- to 20-minute intervals | • Saves energy<br>• Limits demand charges |
| | Low noise operation | • Improved compressor cover<br>• Improved Fan + Fan-inlet structure | • More quiet operation |
| | New Heat Exchanger ( Σ shape! ) | • Heat exchange are increased by more than 10 % (single module) | • Greater heat exchange rate<br>• More efficient operation |
| | New long blade propeller fan | • Longer fan blades increase airflow quantity by 25%, resulting in higher static pressure | • Operates more efficiently<br>• Extends motor life |
| Indoor Units | As high as 200Pa static pressure in ducted systems | • Offers adjustable speeds to match the static pressure requirement | • Flexibility to accommodate long or short ductwork runs |
| | Widest range of line-up | • Meets any of your indoor requirement | • keeps aesthetic |
| | Optional motion and radiant sensors | • Sets back temperature when space is unoccupied, increasing efficiency even further | • Saves energy |
| Controls | "H-LINK" Protocol | • Controls multiple indoor and outdoor units from one control point<br>• Adds versatility to connect various central control options | • Maximizes indoor comfort<br>• Saves energy<br>• Improves system management |
| | Temperature control | • Adjusts in 0.5/1 degree C increments<br>• Adjustable fan speeds | • Auto-adjusts for daylight saving time<br>• Provides options to satisfy multiple projects/buildings |
| | H-LINK BACnet adapter for integration into BMS | • Enables control of VRF systems by way of a building management system (e.g. Metasys®) for almost unlimited control in a building of campus enterprise. | • Optimizes comfort<br>• Saves energy<br>• Unified interface for all HVAC systems |

# Design Flexibility

## COMPACT

### Combination comparison of outdoor unit

| HP class | 8 to 16 | 18 to 24 | 26 to 32 | 34 to 48 | 50 to 54 |
|---|---|---|---|---|---|
| Cooling Capacity(kW) | 22.4 to 45.0 | 50.0 to 67.0 | 73.0 to 90.0 | 95.0 to 136.0 | 140.0 to 150.0 |
| Current Model (RAS-FSXN1) | Single Module | Two Units | Two Units | Three Units | Four Units |
| New Model (RAS-FSNS) New | Single Module | Single Module | Two Units | Two Units | Three Units |

Expand single module capacity

### More compact case (compare to current model)

Space

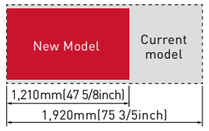
-11% on average

Weight




-16% on average

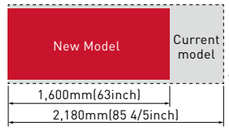
**18HP class 50.0kW**




Space -37%
Weight -30%

Space:1.47m² → 0.93m²
Weight:445kg → 311kg

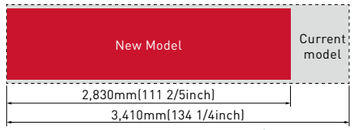
**24HP class 67.0kW**




Space -27%
Weight -32%

Space:1.67m² → 1.22m²
Weight:540kg → 365kg

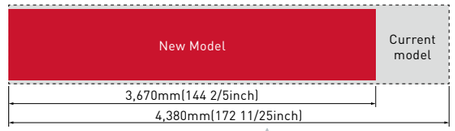
**42HP class 118.0kW**




Space:2.61m² → 2.16m²
Weight:850kg → 676kg

Space -17% Weight -20%

**54HP class 150.0kW**



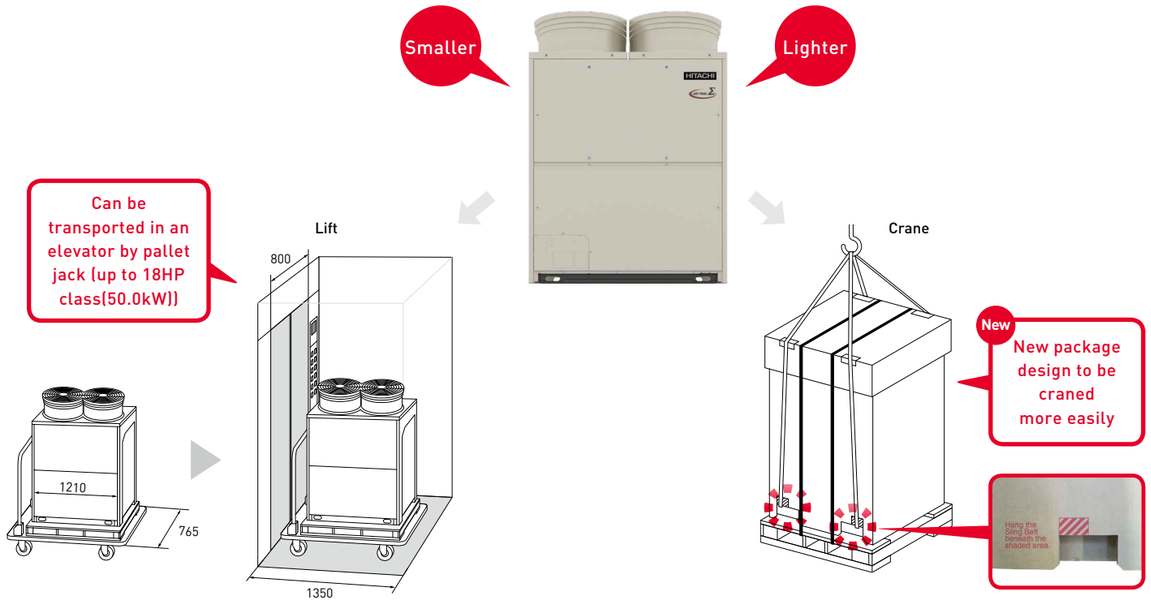

Space:3.35m² → 2.81m²
Weight:1080kg → 933kg

Space -16% Weight -14%





## EASY TRANSPORTATION

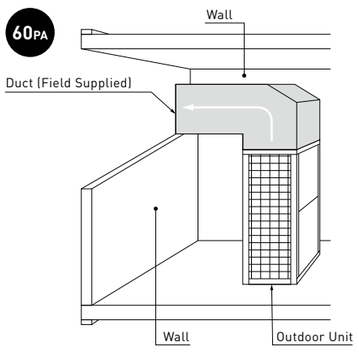



## IMPROVED EXTERNAL STATIC PRESSURE

High static pressure for outdoor units: can handle up to 80Pa

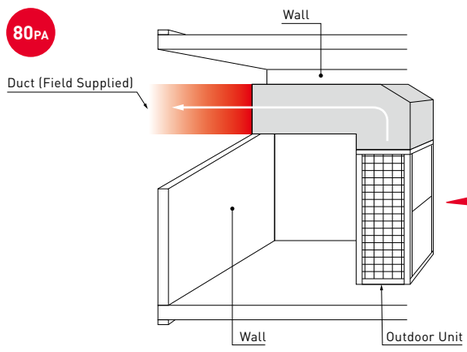
**Current Model**

60PA




**New Model**

80PA




offers more options for the indoor installation of the outdoor unit

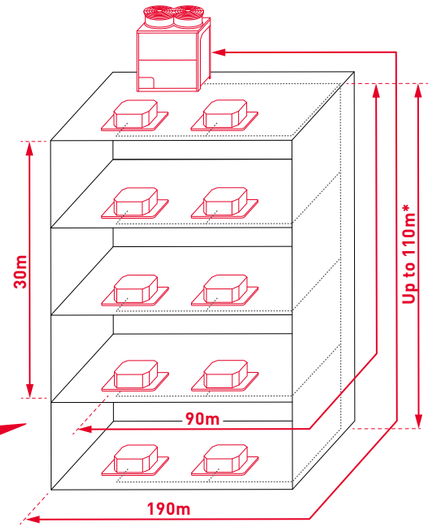
- Less piping length
- Lower installation cost
- Visual aesthetics

# PIPING CONNECTION WORKABILITY

## Improvement of restrictions on piping construction

| | | |
|---|---|---|
| **Total piping length** | | 1000m |
| **Longest length actual (Equivalent)** | | 165m (190m) |
| **Longest length after first branch** | | 90m |
| **Level difference between ODU and IDU** | **Higher ODU** | Standard 50m Optional 110m(*) |
| | **Lower ODU** | 40m |
| **Level difference between IDUs** | | 30m |

* Please consult your distributor or dealer if the height difference is over 50m.

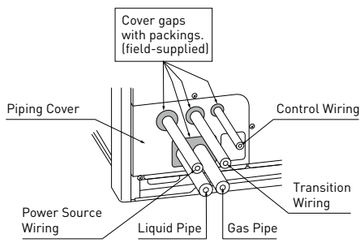



- Suitable for a high-rise building or complex facilities.
- Leads to cost/time saving for designers, with more efficient design.

## Piping direction

The pipes can be installed in three directions (front, rear or bottom side) from the bottom base.

**For Piping from Front cover**



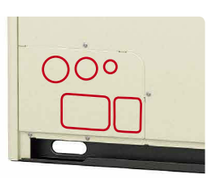
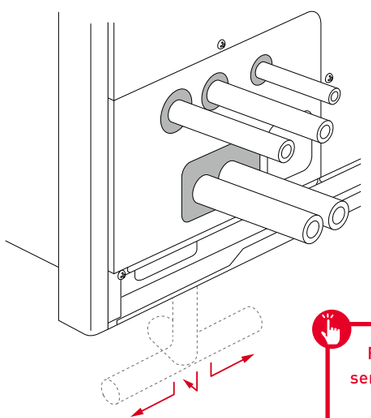
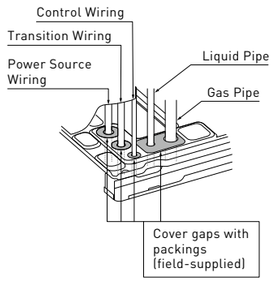



image: front



**For Piping from Bottom base to Left, Right and Rear side**




For more service space in front.

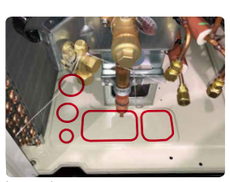


image: bottom



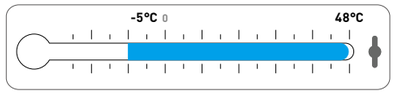


# OPERATION TEMPERATURE RANGE

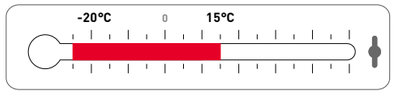
## Expansion of scope of outdoor operating temperature

Improved!

| | | |
|---|---|---|
| **Cooling Capacity Range** | °C DB (°F) | -5 to 48 (23 to 118) |
| **Heating Capacity Range** | °C WB (°F) | -20 to 15 (-4 to 59) |




Cooling mode



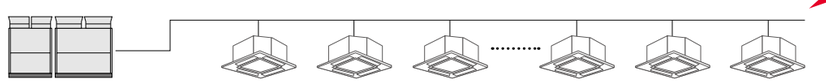

Heating mode

NOTES:
1. Cooling operation at maximum 48°C DB (for standard type) and 52°C DB (for high efficiency type) should be available only if the outdoor air inlet temperature increase temporarily according to the installation condition.
2. If install the units to the place where exceed ambient temperature 48°C continuously, the combination ratio must be lower 130% and not to operate all of the indoor unit simultaneously.
3. The cooling capacity is deteriorated at high ambient temperature. Select the larger capacity outdoor unit than compatible building heat load.
4. The appropriate amount (100%) of refrigerant must be charged. Excessive charging of refrigerant is forbidden.
5. It must be avoided to install the units where affected by direct sunlight reflection and short circuit. There may be the possibility to activate protection control and alarm system if install the units to inappropriate place. Also the life time of the products and parts must be considerably shortened.
6. Periodic maintenance (1/certain month) must be applied to the heat exchanger fin to avoid adhesion of dirt and clogging of sand to the outdoor unit heat exchanger.
7. Refer to the technical catalog for the detail.

# IDU COMBINATIONS RANGE

## Expansion of number of connectable indoor units

Up to 130%



38HP class(106.0kW)

64 units at maximum

| Outdoor Unit Capacity_HP class | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 | 36 | 38-54 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cooling Capacity_kW | 22.4 | 28.0 | 33.5 | 40.0 | 45.0 | 50.0 | 56.0 | 61.5 | 67.0 | 73.0 | 77.5 | 85.0 | 90.0 | 95.0 | 100.0 | 106.0-150.0 |
| Range of combination capacity | Standard Type (FSNS) : 50 to 130% (In case the combination ratio exceed 130%) | | | | | | | | | | | | | | | |
| Maximum Connectable IDU Quantity | 13 | 16 | 19 | 23 | 26 | 26 | 33 | 36 | 40 | 43 | 47 | 50 | 53 | 56 | 59 | 64 |
| Recommended Connectable IDU Quantity | 8 | 10 | 10 | 16 | 16 | 16 | 18 | 20 | 26 | 26 | 32 | 32 | 32 | 32 | 32 | 38 |

NOTES:
1. The connectable indoor unit capacity ratio can be calculated as follows.
   Connectable Indoor Unit Capacity Ratio = Total Indoor Unit Capacity / Total Outdoor Unit Capacity
2. For the system under which all the indoor units are supposed to operate simultaneously, the total indoor unit capacity should be less than outdoor unit capacity. Otherwise, it may cause a decrease of operating performance and operating limit in overload operation.
3. For the system under which all the indoor units are not supposed to operate simultaneously, the total indoor unit capacity is available up to 130% against the outdoor unit capacity.
4. When operating the outdoor unit in cold areas with temperatures of -10°C, or under the high heating load conditions, the total indoor unit capacity should be less than 100% against the outdoor unit capacity and the total piping length should be less than 300m.
5. The air flow volume for indoor units of 0.8 and 1.0HP class is set higher than that for indoor units of 1.5HP class or more. Make sure to select appropriate indoor units when installing indoor units where cold draft may occur during heating operation. If installing indoor units in such places, refer to the recommended number of connectable indoor units.
6. If combination capacity of indoor units exceed 100% of outdoor unit capacity, there might be the possibility of insufficient capacity of 130% (standard) and 150% (high efficiency) combination ratio. Refer to the technical.

# Adaptability

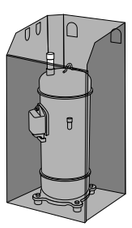
## LOW NOISE OPERATION

### Thanks to below 2 design changes

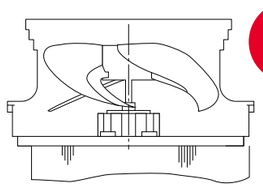
| Sound Power Level | | | | | | | | dB(A) |
|---|---|---|---|---|---|---|---|---|
| ODU capacity_HP class | 8 | 10 | 12 | 14 | 16 | 20 | 22 | 24 |
| Cooling capacity_kW | 22.4 | 28.0 | 33.5 | 40.0 | 45.0 | 56.0 | 61.5 | 67.0 |
| Current Model | 81.5 | 82.5 | 84 | 85.4 | 85.5 | 86 | 87 | 87 |
| New Model | 80 | 82 | 82 | 85 | 85 | 86 | 84 | 86 |

**-1.5dB(A)**
**on Average !**
The performance capability has increased, but the running Sound Power Lebel (dB(A)) has decreased.

**Compressor:**
The model is louder than conventional models due to the utilization of a compact high-speed compressor, but it can reduce the level of the sound pressure by up to 2dB(A) due to the utilization of new pressure covers.



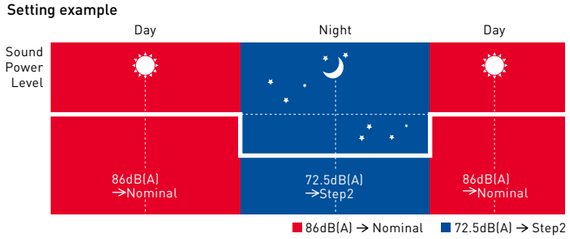

**Air blower:**
The air blower has a new structure where it is placed above the heat exchanger, meaning that the noise on the reverse side can be suppressed.




## SILENT MODE

The user can set a (three-step) nighttime low-noise schedule using the control unit remote controller. The user can set a schedule for operation that takes the ambient environment into account.

**Setting example**



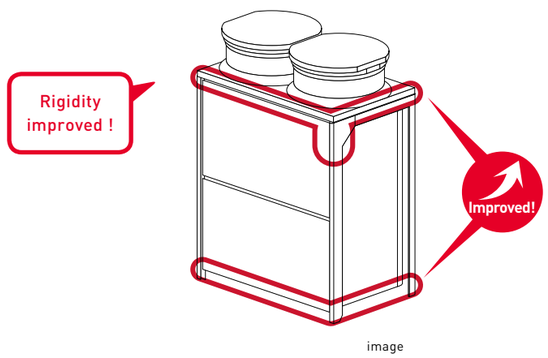

dB(A)

| | 18HP class(50.0kW) | 42HP class(118.0kW) |
|---|---|---|
| Noise Reduction mode | Sound Power Level | Sound Power Level |
| Nominal | 86 | 89 |
| Step1 | 82.5 | 86 |
| Step2 | 77.5 | 81 |
| Step3 | 72.5 | 76 |

*The range of performance and operation is limited, since the rotation frequency of the compressor and ODU fan are forcibly decreased.

## IMPROVED STRENGTH

Rigidity ratio (measured value) in the front and back direction : increased by 36.7%



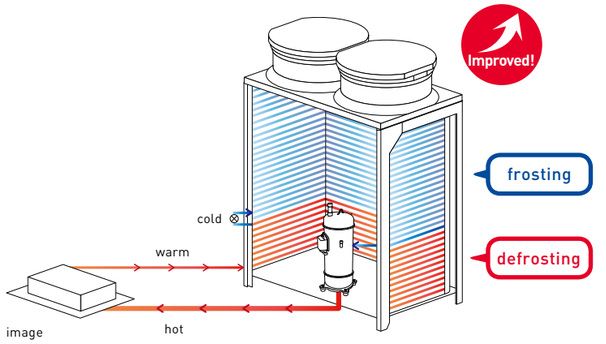





## DEFROSTING

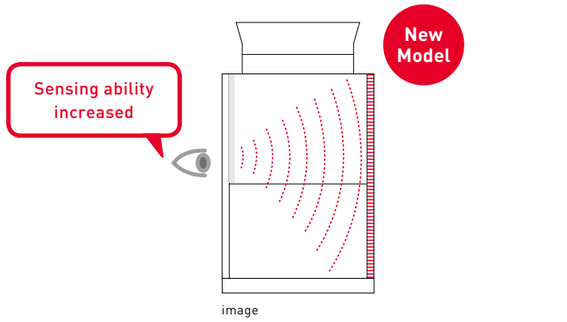
### Prevention

for defrosting prevention, the model controls frost and ice formation during heating operation by running mid-temperature coolant (5°C-20°C) before decreasing the pressure through a heat exchanger to control frost and ice formation on the lower part of the outdoor heat exchanger.



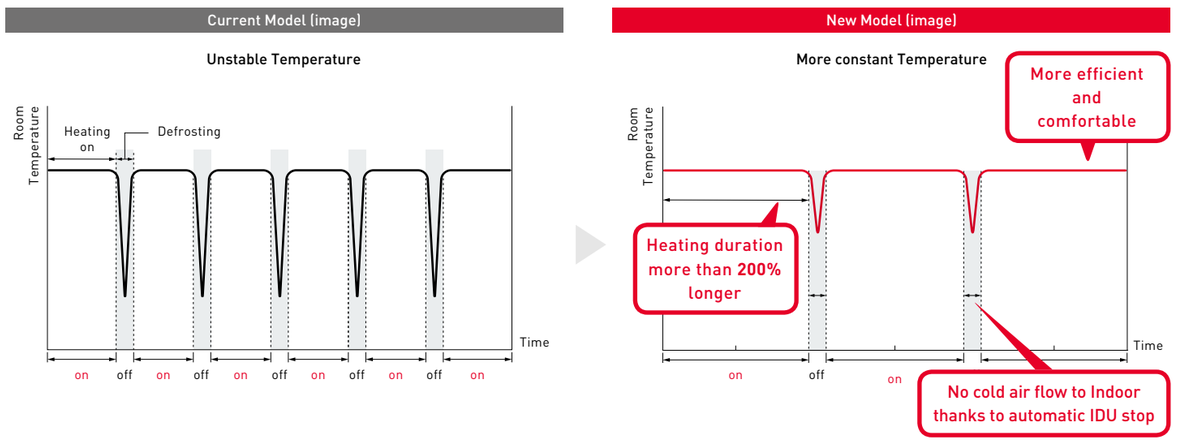

### Better sensing

Even while defrosting, Hitachi's original sensing function has improved the system for detecting the frost amount.




### More efficient defrosting

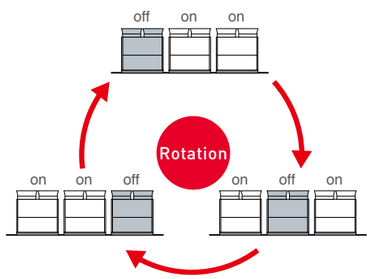
In addition, the defrosting interval has been increased by more than 200%, from 120 minutes to 250 minutes. Undertakes defrosting more efficiently, rather than unnecessary defrosting every two hours.



## TO PREVENT FAILURE AND EMERGENCY OPERATION IN CASE OF FAILURE

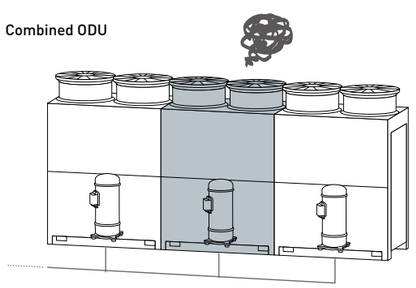
### To prevent failure

Standardize the running time of the individual outdoor units and distribute the load by rotating the order of operation of the compressors of the outdoor units.



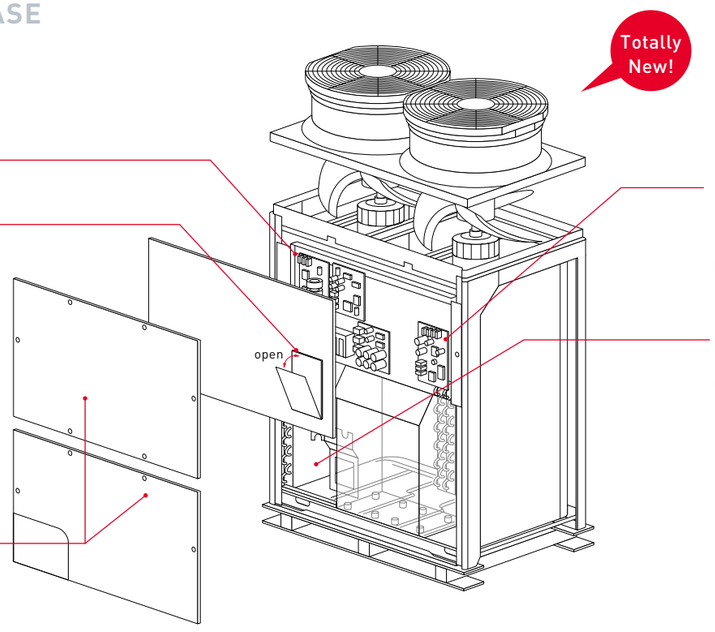

### Back up function

Full introduction of backup operation function. If one outdoor unit should fail, the model can continue to operate using the remaining outdoor units, thereby preventing total system failure.




## MAINTENANCE EASE

### Total structure change




**New Structure:**
In upper section, all PCB visible and easily accessible

**Newly adopted window for 7-segment display:**
Adopting access door to the electrical box in the upper panel, which leads to easy access to 7-segment display, PSW & DSW and so on.

**New Panel:**
The upper panel (on the side of an electric box) can be independently detached from the lower panel (on the compressor chamber side)

**New DSW setting for Refrigerant pump-down:**
Refrigerant evacuation: Enforced operation to open ODU EVO/EVB, IDU EVI, and Hi/Low pressure Bi-pass SVB

**New Structure:**
More Space in lower section, easy access to compressors or valves

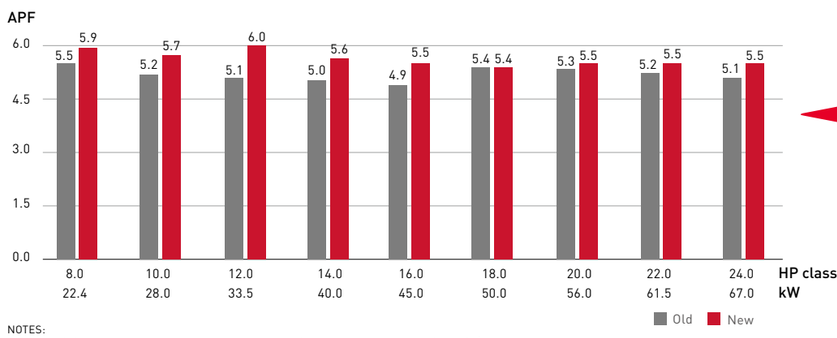




# High Efficiency

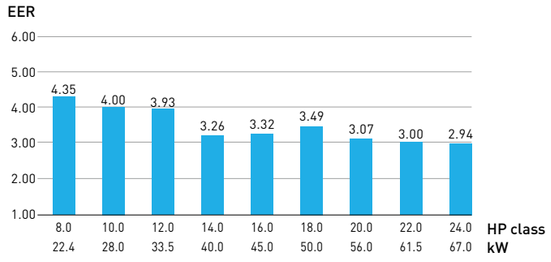
## EFFICIENCY RATIO

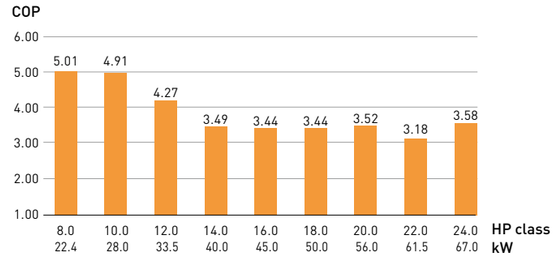
### Apf: annual performance factor




High Efficiency of Overall lineup, with APF improved by **7**% on average.

NOTES:
APF (As Reference in the Japanese seasonal performance benchmark for VRF)
APF is meant for cooling/heating capacity per 1kW of operating power consumption under certain conditions throughout the year.
APF = Accumulated cooling/heating loads (kWh) / Accumulated power input in cooling/heating (kWh)




NOTES:
1. The graphs below show the EER/COP of single units for Oceania.
2. The above values indicate the EER/COP per outdoor unit when it is combined with specified indoor units.
3. The specification of EER/COP of each country is different according to the regulation. Please contact to the Sales person for more information.
4. EER = Energy efficiency ratio = Cooling capacity or Heating capacity ÷ Power consumption of an air conditioner
5. COP = Coefficient of performance of an air conditioner = Output KW (cooling capacity) ÷ Input KW (power consumption)

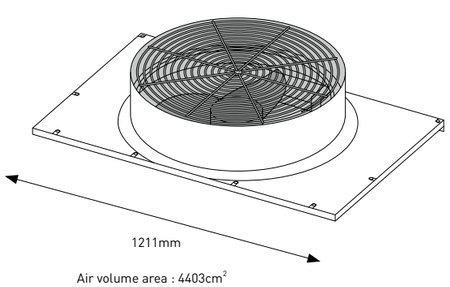
## WHAT'S IMPROVED?

1) FAN 2) Heat Exchanger 3) Compressor 4) Compressor Control

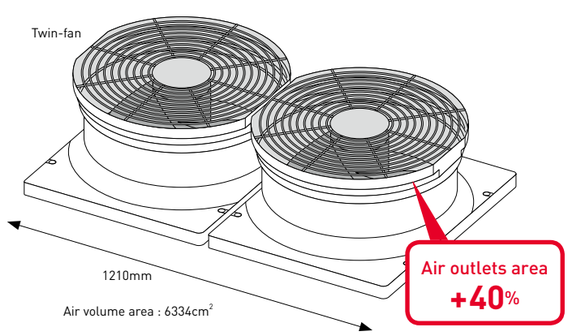
# IMPROVED FAN POWER

## Expansion of air outlets

**Current model**

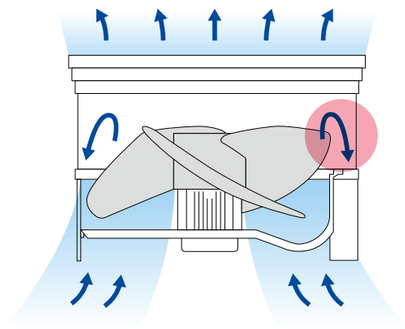



**New model**

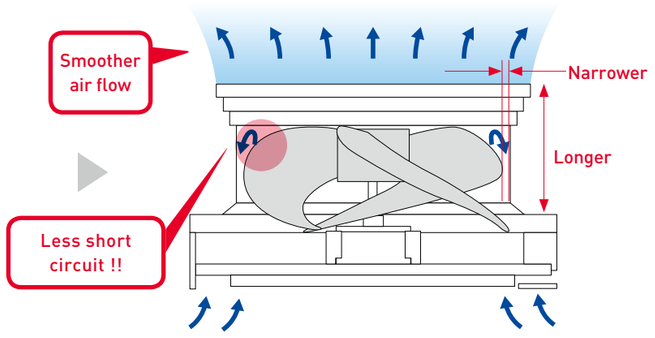



## Improvement in bell-mouth

**Current model**



**New model**




- Improvement of airflow volume by **23%** (single module)
- Energy consumption in the driving shaft has decreased by **20%** on average

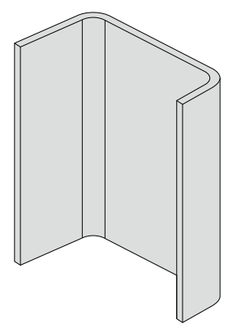




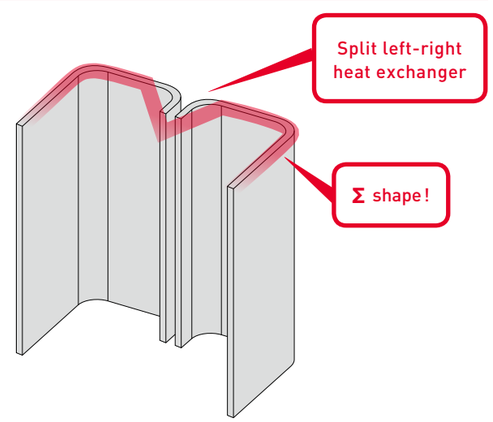
# IMPROVED HEAT EXCHANGER

## New shape

**Current model (single module)**

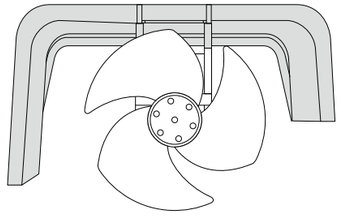


**14-24HP class (40.0-67.0kW)**

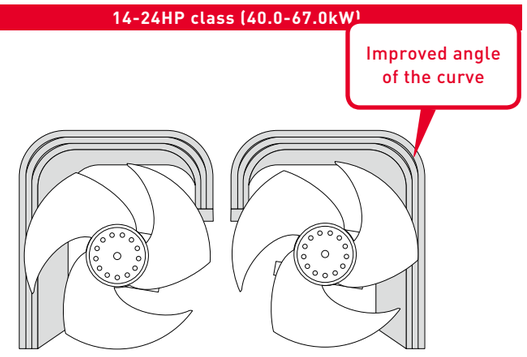



## New angle

**Current model (single module)**



**14-24HP class (40.0-67.0kW)**

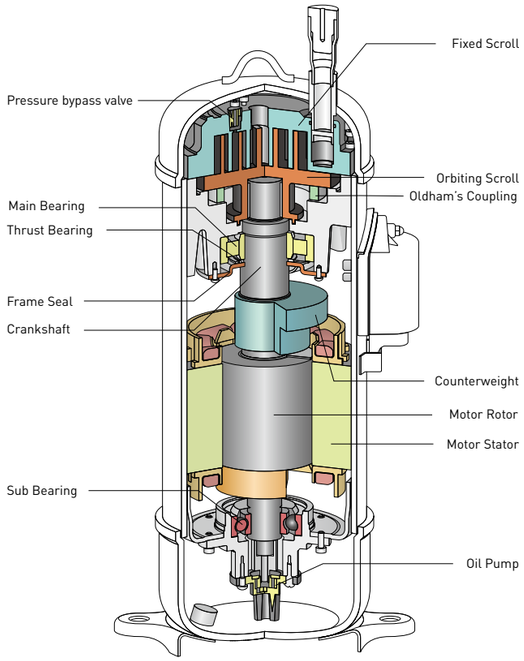



- The heat exchange area has been increased by more than **10%** (single module)
- Greater heat exchange efficiency

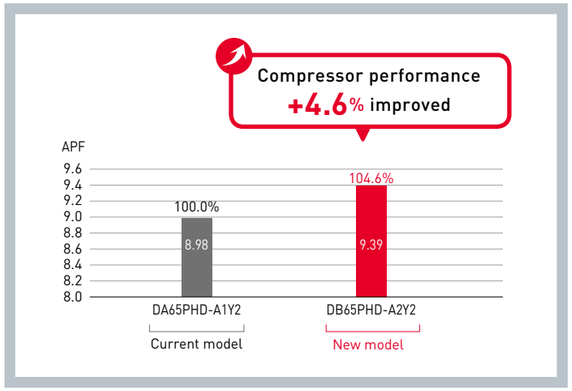
# IMPROVED COMPRESSOR

## New design compressor

INVERTER



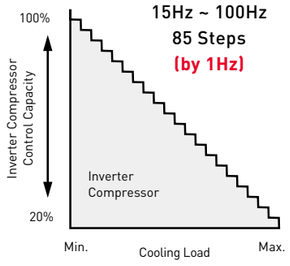

The **13** colored parts are new!



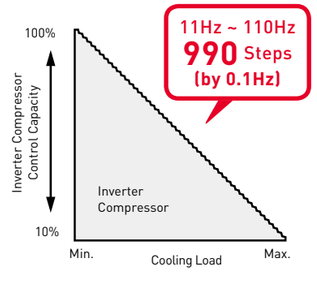

## Greater capacity control

The highly improved performance as well as greater energy saving is achieved by adopting newly developed high efficiency DC inverter compressor, with outstandingly precise control technology of 0.1Hz increments inverter frequency. Another feature is the dramatically extended working range, enabled by expanding the compressor's operating frequency band, both upwards and downwards.

**Current model***




**New model***




*Example at 12HP class (33.5kW)

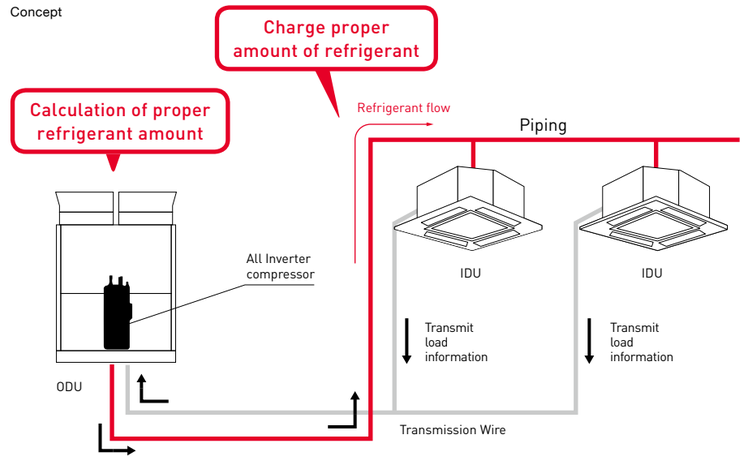




# IMPROVED COMPRESSOR CONTROL

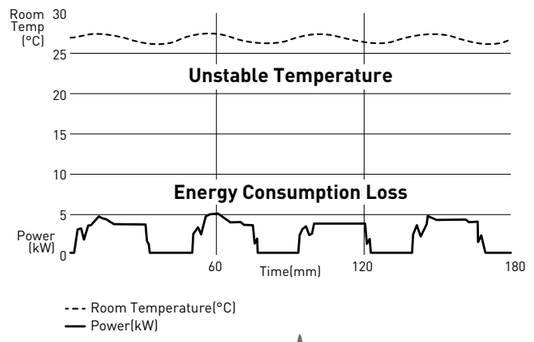
## Smooth drive

The model calculates the appropriate amount of coolant supplied by the outdoor units on the basis of information about the required load from the individual indoor units. The model employs smooth operation control to control the number of revolutions of the inverter compressor. The model supplies the appropriate amount of coolant to the indoor units according to the required load. The model increases energy-saving efficiency by operating smoothly while controlling the switching on and off of the compressor at low-load operation.




## Actual example of the new compressor control

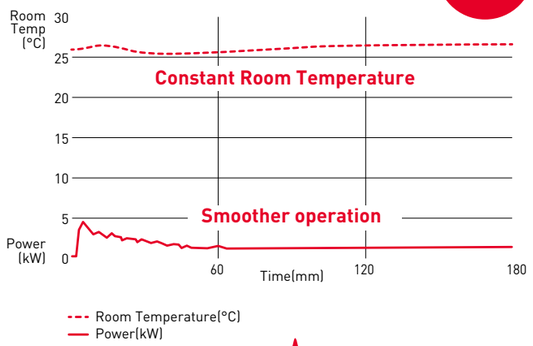
**Current model**



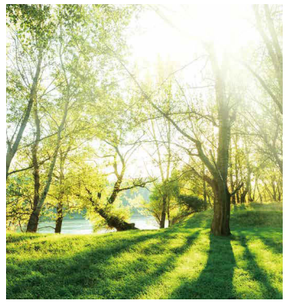

due to frequent switching on/off operation

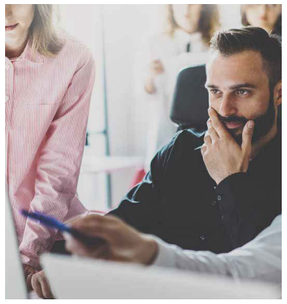
**New model**

Hitachi Original!




**-40%** energy consumption



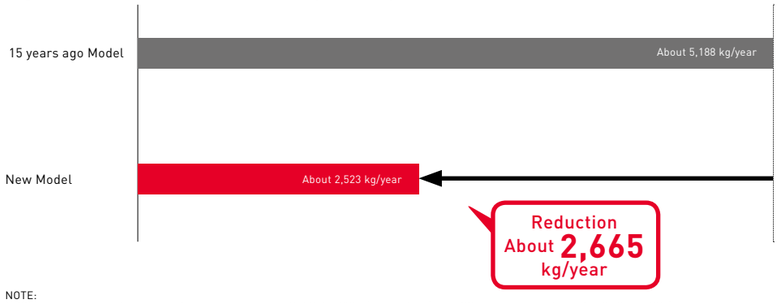


## FOR BOTH YOU AND THE EARTH

### Significant reduction of $CO_2$ emissions

By reducing power consumption, we have significantly reduced $CO_2$ emissions and reduced the environmental impact. (Reduction amount)

**$CO_2$ emissions (for a 10HP class (28.0kW) equivalent system)**

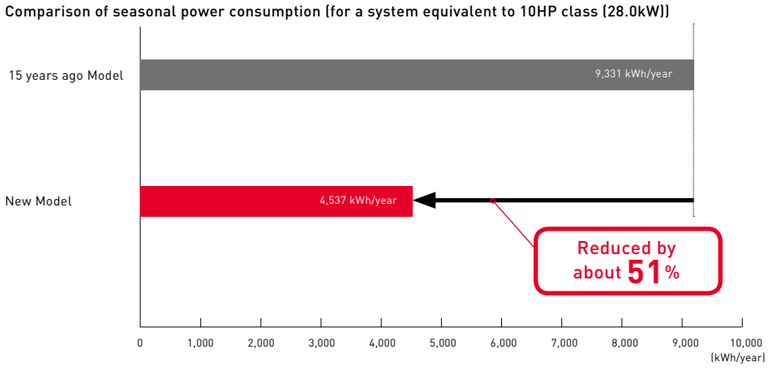



NOTE:
1. $CO_2$ emissions are a trial calculation value based on JIS B 8616: 2015 (Tokyo office). The $CO_2$ emissions coefficient is 0.534 kg-$CO_2$/kWh.
2. Based on the end-use intensity of $CO_2$ emissions (actual emission coefficient in FY 2014) specified by the Federation of Electric Power Companies.
3. As reference in Japanese domestic model

### Significant reduction of power consumption

By increasing the performance of air blowers, heat exchangers and compressors and improving compressor control, we have significantly reduced annual power consumption. (Comparison of power consumption during a specific period)

**Comparison of seasonal power consumption (for a system equivalent to 10HP class (28.0kW))**




NOTE:
1. Seasonal power consumption is a calculated value based on JIS B 8616: 2015 (Tokyo office), and it may vary depending on the area or usage conditions.
2. As reference in Japanese domestic model

Going green saves money and the planet



# Specifications
# Dimensions
# Service space

NOTES:

| | |
|---|---|
| 1 | The cooling and heating performances are the values when combined with our specified indoor units.<br>Cooling Operation Conditions: Indoor Air Inlet Temperature: 27°C DB (80°F DB) / 19.0°C WB (66.2°F WB); Outdoor Air Inlet Temperature: 35°C DB (95°F DB)<br>Heating Operation Conditions: Indoor Air Inlet Temperature: 20°C DB (68°F DB); Outdoor Air Inlet Temperature: 7°C DB (45°F DB) / 6°C WB (43°F WB)<br>Piping Length: 7.5 Meters<br>Piping Lift: 0 Meter |
| 2 | The sound pressure is based on the following conditions.<br>The above data is based on the cooling mode. In case of heating mode, the sound pressure level increases by approximately 1–2 dB.<br>The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field. |
| 3 | Except for the specified combination in the table (26~54HP class 73.0~150.0kW), there is no other combination of the base unit. |
| 4 | The width of outer dimension, it is the value when each distance between the base outdoor units is specified to 20mm. |

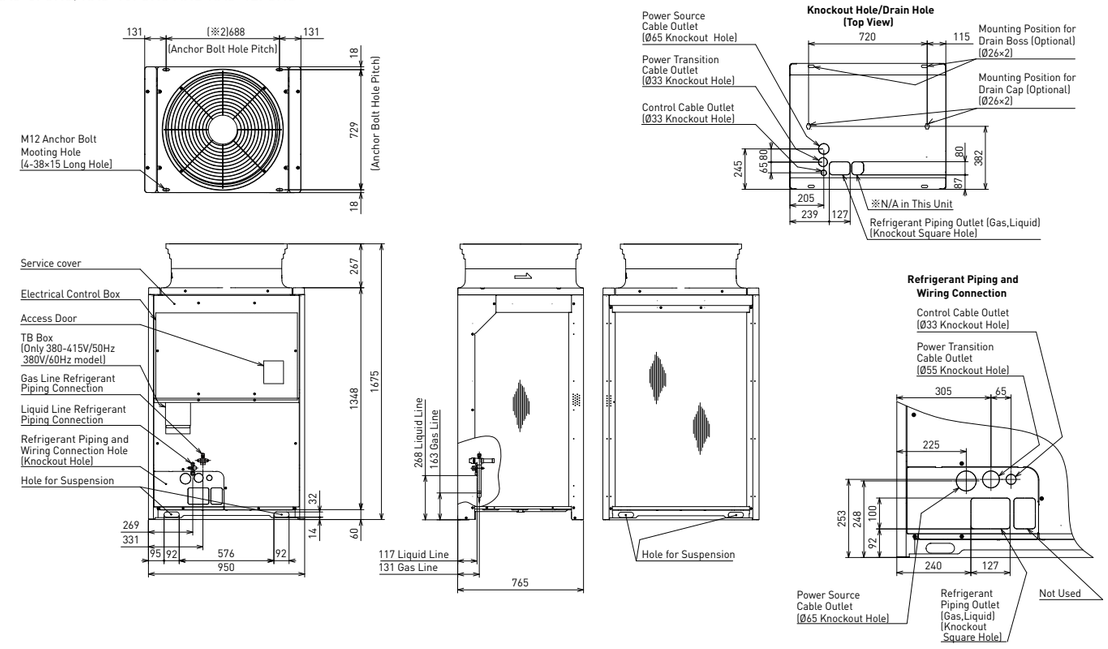
# Specifications / Dimensions

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | |  | | |  | | |
| HP class | | | | 8 | 10 | 12 | 14 | 16 | 18 |
| Model | | | | RAS-8FSNS | RAS-10FSNS | RAS-12FSNS | RAS-14FSNS | RAS-16FSNS | RAS-18FSNS |
| Power Supply | | | | AC 3φ, 380-415V/50Hz, 400V/50Hz, 380V/60Hz, 220V/60Hz | | | | | |
| Nominal Cooling Capacity | | | kW | 22.4 | 28.0 | 33.5 | 40.0 | 45.0 | 50.0 |
| Nominal Heating Capacity | | | kW | 25.0 | 31.5 | 37.5 | 45.0 | 50.0 | 56.0 |
| Cabinet | Color | Munsell Code | | Natural Gray (1.0Y 8.5/0.5) | | | | | |
| | Dimensions | H*W*D | mm | 1,675 × 950 × 765 | | | 1,675 × 1,210 × 765 | | |
| | Footprint | | $m^2$ | 0.73 | | | 0.93 | | |
| Weight | N/W | 380-415V/50Hz, 400V/50Hz, 380V/60Hz | kg | 190 | | 210 | 268 | 310 | 311 |
| | | 220V/60Hz | kg | 185 | | 205 | 263 | 305 | 306 |
| | G/W | 380-415V/50Hz, 400V/50Hz, 380V/60Hz | kg | 206 | | 226 | 286 | 328 | 329 |
| | | 220V/60Hz | kg | 201 | | 221 | 281 | 323 | 324 |
| Refrigerant Gas | Type | | | R410A | | | | | |
| | Charged Amount | | kg | 5.0 | | 7.2 | 8.9 | 9.9 | 10.7 |
| Refrigeration Oil | Type | | | FVC68D | | | | | |
| | Charged Amount | | L/Unit | 6.0 | | | 6.9 | 7.9 | |
| Flow Control | | | | Micro-Computer Control Expansion Valve | | | | | |
| Compressor | Type | | | Hermetic (Scroll) | | | | | |
| | Model | | | AA50PHD | | DC80PHD | | AA50PHD | |
| | | | | | | | | AA50PHD | |
| | Number per unit | | | 1 | | | | 2 | |
| | Motor Output (Pole) | | kW | 3.3(6) | 4.3(6) | 5.4(6) | 8.0(6) | 4.5(6) × 2 | 5.0(6) × 2 |
| Heat Exchanger | Type | | | Multi-Pass Cross-Finned Tube | | | | | |
| | Number of Coil per Unit | | | 1 | | | 2 | | |
| | Maximum Operating Pressure | | MPa | 4.15 | | | | | |
| | Total Face Area | | $m^2$ | 2.36 | | | 3.12 | | |
| | Tube | Material | | Copper Tube | | | | | |
| | | Diameter | φmm | 7.0 | | | | | |
| | | Rows | | 2 | | 3 | | | |
| | | Number of tubes | | 116 | | 174 | | | |
| | Finn | Material | | Aluminum | | | | | |
| | | Pitch | mm | 1.7 | | | | | |
| Condenser Fan | Type | | | Propeller Fan | | | | | |
| | Number per unit | | | 1 | | | 2 | | |
| | Outer Diameter | | mm | 644 | | | 544 + 544 | | |
| | Nominal Air Flow Rate | | $m^3$/min. | 165 | 170 | 190 | 239 | 256 | |
| Outdoor Fan Motor | Type | | | Drip-Proof Type Enclosure | | | | | |
| | Starting Method | | | DC Motor | | | | | |
| | Motor Output (Pole) | | kW | 0.26(8) | 0.28(8) | 0.42(8) | 0.33(8) × 2 | 0.39(8) × 2 | |
| | Number per unit | | | 1 | | | 2 | | |
| | Insulation Class | | | E | | | | | |
| Main Refrigerant Piping | Liquid Line | | mm (in.) | φ9.52 (3/8) | | φ12.7 (1/2) | | | φ15.88 (5/8) |
| | Gas line | | mm (in.) | φ19.05 (3/4) | φ22.2 (7/8) | φ25.4 (1) | | φ28.58 (1-1/8) | |
| Sound Level | Sound Power Level | | dB(A) | 80 | 82 | | 85 | | 86 |
| | Sound Pressure Level | | dB(A) | 58 | 60 | 59 | 63 | | 65 |
| Package | Dimentions | H*W*D | mm | 1,800 × 1,030 × 810 | | | 1,800 × 1,290 × 810 | | |
| | Measurement | | $m^3$ | 1.5 | | | 1.9 | | |

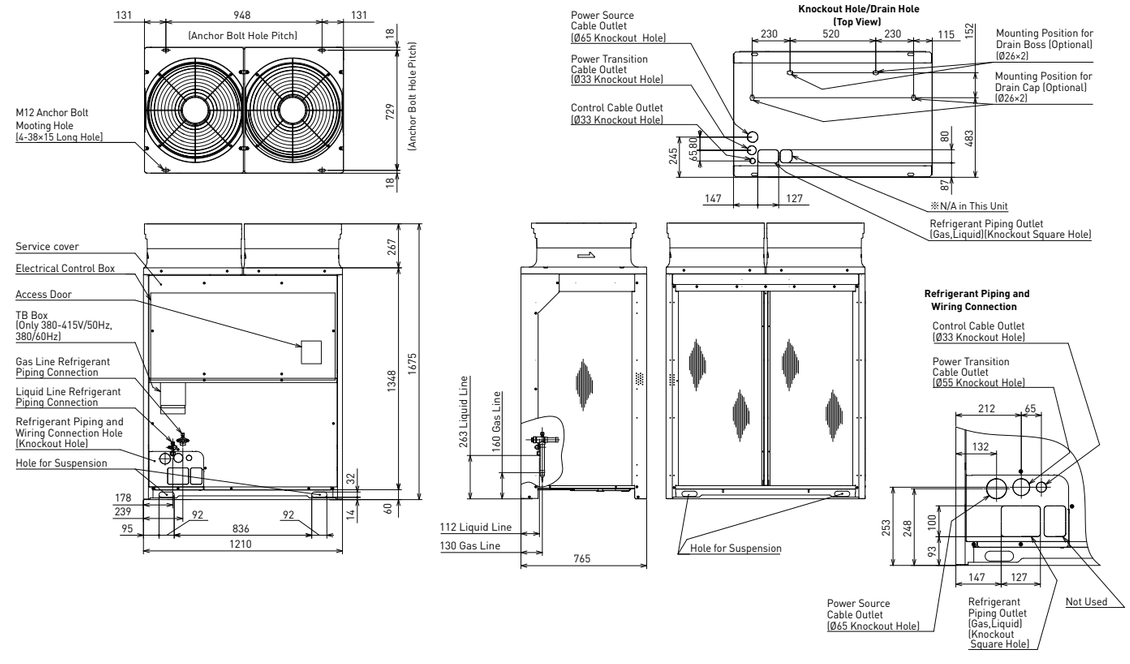




## RAS-8FSNS, RAS-10FSNS AND RAS-12FSNS




## RAS-14FSNS, RAS-16FSNS AND RAS-18FSNS



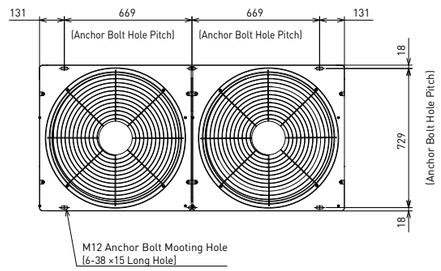
# Specifications / Dimensions

| | | | | | | |
|---|---|---|---|---|---|---|
| HP class | | | | 20 | 22 | 24 |
| Model | | | | RAS-20FSNS | RAS-22FSNS | RAS-24FSNS |
| Power Supply | | | | AC 3ϕ, 380-415V/50Hz, 400V/50Hz, 380V/60Hz, 220V/60Hz | | |
| Nominal Cooling Capacity | | | kW | 56.0 | 61.5 | 67.0 |
| Nominal Heating Capacity | | | kW | 63.0 | 69.0 | 77.5 |
| Cabinet | Color | Munsell Code | | Natural Gray (1.0Y 8.5/0.5) | | |
| | Dimensions | H*W*D | mm | 1,675 × 1,600 × 765 | | |
| | Footprint | | $m^2$ | 1.22 | | |
| Weight | N/W | 380-415V/50Hz, 400V/50Hz, 380V/60Hz | kg | 350 | 364 | 365 |
| | | 220V/60Hz | kg | 345 | 359 | 360 |
| | G/W | 380-415V/50Hz, 400V/50Hz, 380V/60Hz | kg | 370 | 384 | 385 |
| | | 220V/60Hz | kg | 365 | 379 | 380 |
| Refrigerant Gas | Type | | | R410A | | |
| | Charged Amount | | kg | 11.3 | | 11.6 |
| Refrigeration Oil | Type | | | FVC68D | | |
| | Charged Amount | | L/Unit | 8.4 | | |
| Flow Control | | | | Micro-Computer Control Expansion Valve | | |
| Compressor | Type | | | Hermetic (Scroll) | | |
| | Model | | | AA50PHD | DC80PHD | |
| | | | | AA50PHD | DC80PHD | |
| | Number per unit | | | 2 | | |
| | Motor Output (Pole) | | kW | 5.5(6) × 2 | 6.7(6) × 2 | 7.1(6) × 2 |
| Heat Exchanger | Type | | | Multi-Pass Cross-Finned Tube | | |
| | Number of Coil per Unit | | | 2 | | |
| | Maximum Operating Pressure | | MPa | 4.15 | | |
| | Total Face Area | | $m^2$ | 3.58 | | |
| | Tube | Material | | Copper Tube | | |
| | | Diameter | ϕmm | 7.0 | | |
| | | Rows | | 3 | | |
| | | Number of tubes | | 174 | | |
| | Finn | Material | | Aluminum | | |
| | | Pitch | mm | 1.7 | | |
| Condenser Fan | Type | | | Propeller Fan | | |
| | Number per unit | | | 2 | | |
| | Outer Diameter | | mm | 644 + 644 | | |
| | Nominal Air Flow Rate | | $m^3$/min. | 329 | | 348 |
| Outdoor Fan Motor | Type | | | Drip-Proof Type Enclosure | | |
| | Starting Method | | | DC Motor | | |
| | Motor Output (Pole) | | kW | 0.48(8) × 2 | | 0.56(8) × 2 |
| | Number per unit | | | 2 | | |
| | Insulation Class | | | E | | |
| Main Refrigerant Piping | Liquid Line | | mm (in.) | ϕ15.88 (5/8) | | |
| | Gas Line | | mm (in.) | ϕ28.58 (1-1/8) | | |
| Sound Level | Sound Power Level | | dB(A) | 86 | 84 | 86 |
| | Sound Pressure Level | | dB(A) | 65 | 64 | 66 |
| Package | Dimentions | H*W*D | mm | 1,800 × 1,680 × 810 | | |
| | Measurement | | $m^3$ | 2.4 | | |

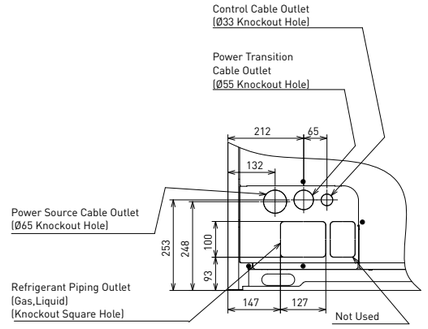


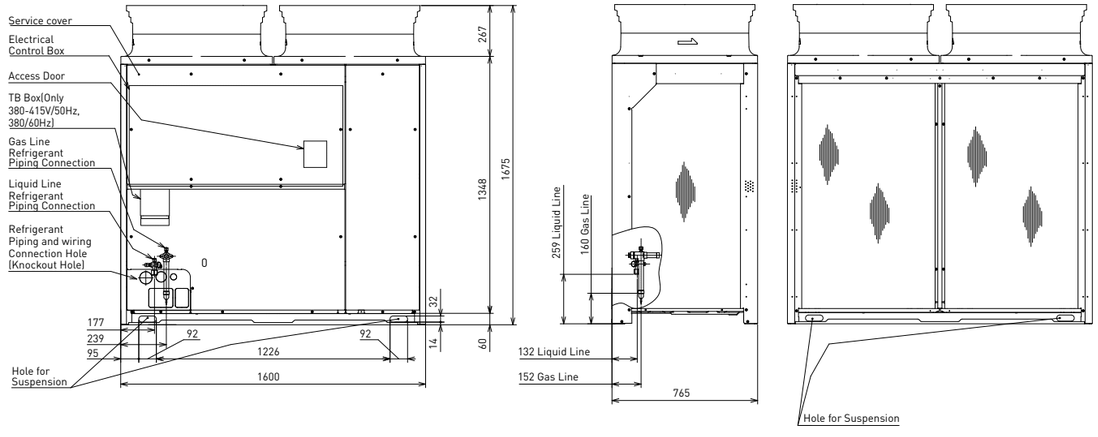


## RAS-20FSNS, RAS-22FSNS AND RAS-24FSNS

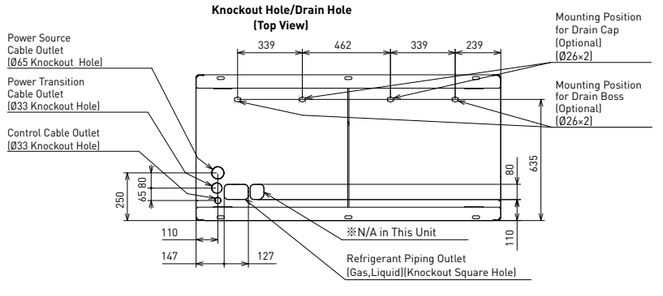



**Refrigerant Piping and Wiring Connection**




**Knockout Hole/Drain Hole (Top View)**



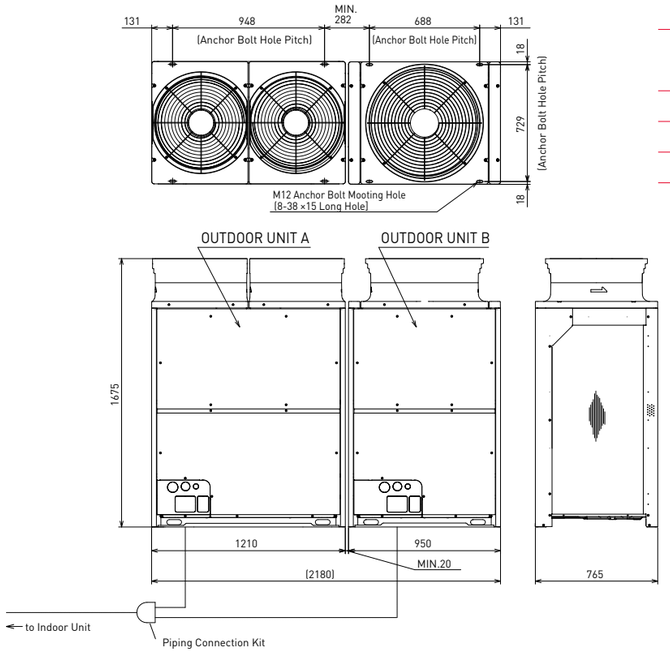
# Specifications / Dimensions

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | |  | | |  | | |
| HP class | | | | 26 | 28 | 30 | 32 | 34 | 36 |
| Model | | | | RAS-26FSNS | RAS-28FSNS | RAS-30FSNS | RAS-32FSNS | RAS-34FSNS | RAS-36FSNS |
| Combination of Base Unit | | | | RAS-14FSNS | RAS-16FSNS | RAS-18FSNS | RAS-18FSNS | RAS-18FSNS | RAS-18FSNS |
| | | | | RAS-12FSNS | RAS-12FSNS | RAS-12FSNS | RAS-14FSNS | RAS-16FSNS | RAS-18FSNS |
| Power Supply | | | | AC 3Φ, 380-415V/50Hz, 400V/50Hz, 380V/60Hz, 220V/60Hz | | | | | |
| Nominal Cooling Capacity | | | kW | 73.0 | 77.5 | 85.0 | 90.0 | 95.0 | 100.0 |
| Nominal Heating Capacity | | | kW | 82.5 | 90.0 | 95.0 | 100.0 | 106.0 | 112.0 |
| Cabinet | Color | Munsell Code | | Natural Gray (1.0Y 8.5/0.5) | | | | | |
| | Dimensions | H*W*D | mm | 1,675 × 2,180 × 765 | | | 1,675 × 2,440 × 765 | | |
| | Footprint | | $m^2$ | 1.67 | | | 1.87 | | |
| Weight | N/W | 380-415V/50Hz, 400V/50Hz, 380V/60Hz | kg | 210 + 268 | 210 + 310 | 210 + 311 | 268 + 311 | 310 + 311 | 311 + 311 |
| | | 220V/60Hz | kg | 205 + 263 | 205 + 305 | 205 + 306 | 263 + 306 | 305 + 306 | 306 + 306 |
| | G/W | 380-415V/50Hz, 400V/50Hz, 380V/60Hz | kg | 226 + 286 | 226 + 328 | 226 + 329 | 286 + 329 | 328 + 329 | 329 + 329 |
| | | 220V/60Hz | kg | 221 + 281 | 221 + 323 | 221 + 324 | 281 + 324 | 323 + 324 | 324 + 324 |
| Refrigerant Gas | Type | | | R410A | | | | | |
| | Charged Amount | | kg | 16.1 | 17.1 | 17.9 | 19.6 | 20.6 | 21.4 |
| Refrigeration Oil | Type | | | FVC68D | | | | | |
| | Charged Amount | | L/Unit | 12.9 | 13.9 | | 14.8 | 15.8 | |
| Flow Control | | | | Micro-Computer Control Expansion Valve | | | | | |
| Compressor | Type | | | Hermetic (Scroll) | | | | | |
| | Model | | | DC80PHD | DC80PHD | DC80PHD | DC80PHD | AA50PHD | AA50PHD |
| | | | | DC80PHD | AA50PHD | AA50PHD | AA50PHD | AA50PHD | AA50PHD |
| | | | | | AA50PHD | AA50PHD | AA50PHD | AA50PHD | AA50PHD |
| | | | | | | | | AA50PHD | AA50PHD |
| | Quantity | | | 2 | 3 | | | 4 | |
| | Motor Output (Pole) | | kW | 5.4 (6) × 1 + 8.0 (6) × 1 | 5.4 (6) × 1 + 4.5 (6) × 2 | 5.4 (6) × 1 + 5.0 (6) × 2 | 8.0 (6) × 1 + 5.0 (6) × 2 | 4.5 (6) × 2 + 5.0 (6) × 2 | 5.0 (6) × 2 + 5.0 (6) × 2 |
| Heat Exchanger | Type | | | Multi-Pass Cross-Finned Tube | | | | | |
| | Number of Coil per Unit | | | 3 | | | 4 | | |
| | Maximum Operating Pressure | | MPa | 4.15 | | | | | |
| | Total Face Area | | $m^2$ | 2.36 + 3.12 | | | 3.12 + 3.12 | | |
| | Tube | Material | | Copper Tube | | | | | |
| | | Diameter | ϕmm | 7.0 | | | | | |
| | | Rows | | 3 + 3 | | | | | |
| | | Number of tubes | | 174 + 174 | | | | | |
| | Finn | Material | | Aluminum | | | | | |
| | | Pitch | mm | 1.7 | | | | | |
| Condenser Fan | Type | | | Propeller Fan | | | | | |
| | Number per unit | | | 3 | | | 4 | | |
| | Outer Diameter | | mm | 644 + 544 + 544 | | | 544 + 544 + 544 + 544 | | |
| | Nominal Air Flow Rate | | $m^3$/min. | 190 + 239 | 190 + 256 | | 239 + 256 | 256 + 256 | |
| Outdoor Fan Motor | Type | | | Drip-Proof Type Enclosure | | | | | |
| | Starting Method | | | DC Motor | | | | | |
| | Motor Output (Pole) | | kW | 0.42 (8) + 0.33 (8) × 2 | 0.42 (8) + 0.39 (8) × 2 | | 0.33 (8) × 2 + 0.39 (8) × 2 | 0.39 (8) × 2 + 0.39 (8) × 2 | |
| | Number per unit | | | 3 | | | 4 | | |
| | Insulation Class | | | E + E | | | | | |
| Main Refrigerant Piping | Liquid Line | | mm (in.) | ϕ19.05 (3/4) | | | | | |
| | Gas Line | | mm (in.) | ϕ31.75 (1-1/4) | | | | | ϕ38.1 (1-1/2) |
| Sound Level | Sound Power Level | | dB(A) | 87 | | | 89 | | |
| | Sound Pressure Level | | dB(A) | 64.5 | 66 | | 67 | | 68 |



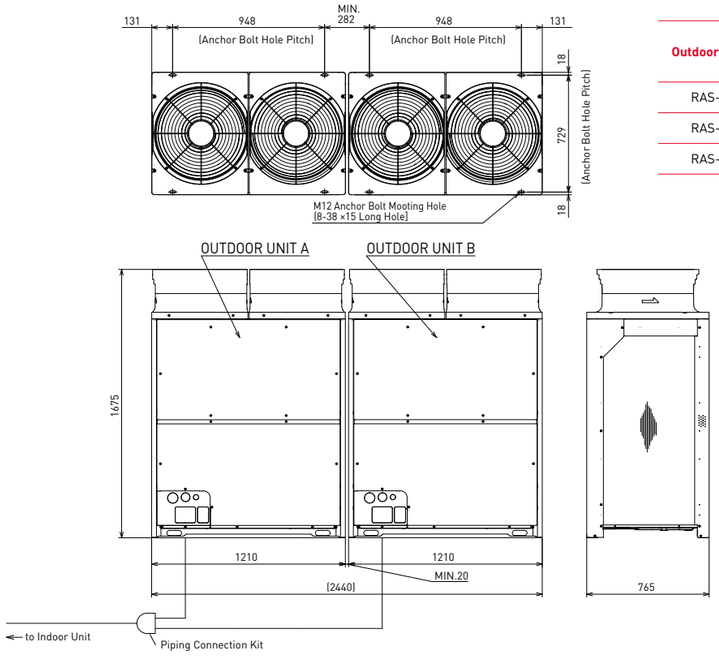


## RAS-26FSNS, RAS-28FSNS AND RAS-30FSNS




| Outdoor Unit Model | Combination of Base Unit Models | |
|---|---|---|
| | OUTDOOR UNIT A | OUTDOOR UNIT B |
| RAS-26FSNS | RAS-14FSNS | RAS-12FSNS |
| RAS-28FSNS | RAS-16FSNS | RAS-12FSNS |
| RAS-30FSNS | RAS-18FSNS | RAS-12FSNS |

## RAS-32FSNS, RAS-34FSNS AND RAS-36FSNS




| Outdoor Unit Model | Combination of Base Unit Models | |
|---|---|---|
| | OUTDOOR UNIT A | OUTDOOR UNIT B |
| RAS-32FSNS | RAS-18FSNS | RAS-14FSNS |
| RAS-34FSNS | RAS-18FSNS | RAS-16FSNS |
| RAS-36FSNS | RAS-18FSNS | RAS-18FSNS |

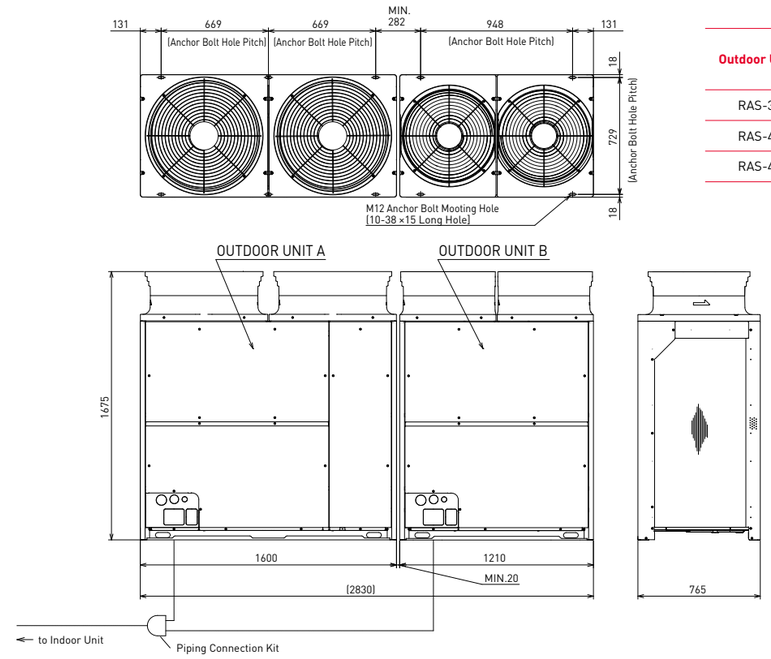
# Specifications / Dimensions

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | |  | |  | | | |
| HP class | | | | 38 | 40 | 42 | 44 | 46 | 48 |
| Model | | | | RAS-38FSNS | RAS-40FSNS | RAS-42FSNS | RAS-44FSNS | RAS-46FSNS | RAS-48FSNS |
| Combination of Base Unit | | | | RAS-24FSNS | RAS-22FSNS | RAS-24FSNS | RAS-22FSNS | RAS-24FSNS | RAS-24FSNS |
| | | | | RAS-14FSNS | RAS-18FSNS | RAS-18FSNS | RAS-22FSNS | RAS-22FSNS | RAS-24FSNS |
| Power Supply | | | | AC 3ϕ, 380-415V/50Hz, 400V/50Hz, 380V/60Hz, 220V/60Hz | | | | | |
| Nominal Cooling Capacity | | | kW | 106.0 | 112.0 | 118.0 | 122.0 | 128.0 | 136.0 |
| Nominal Heating Capacity | | | kW | 118.0 | 125.0 | 132.0 | 140.0 | 145.0 | 150.0 |
| Cabinet | Color | Munsell Code | | Natural Gray (1.0Y 8.5/0.5) | | | | | |
| | Dimensions | H*W*D | mm | 1,675 × 2,830 × 765 | | | 1,675 × 3,220 × 765 | | |
| | Footprint | | $m^2$ | 2.16 | | | 2.46 | | |
| Weight | N/W | 380-415V/50Hz, 400V/50Hz, 380V/60Hz | kg | 268 + 365 | 311 + 364 | 311 + 365 | 364 + 364 | 364 + 365 | 365 + 365 |
| | | 220V/60Hz | kg | 263 + 360 | 306 + 359 | 306 + 360 | 359 + 359 | 359 + 360 | 360 + 360 |
| | G/W | 380-415V/50Hz, 400V/50Hz, 380V/60Hz, | kg | 286 + 385 | 329 + 384 | 329 + 385 | 384 + 384 | 384 + 385 | 385 + 385 |
| | | 220V/60Hz | kg | 281 + 380 | 324 + 379 | 324 + 380 | 379 + 379 | 379 + 380 | 380 + 380 |
| Refrigerant Gas | Type | | | R410A | | | | | |
| | Charged Amount | | kg | 20.5 | 22.0 | 22.3 | 22.6 | 22.9 | 23.2 |
| Refrigeration Oil | Type | | | FVC68D | | | | | |
| | Charged Amount | | L/Unit | 15.3 | 16.3 | | 16.8 | | |
| Flow Control | | | | Micro-Computer Control Expansion Valve | | | | | |
| Compressor | Type | | | Hermetic (Scroll) | | | | | |
| | Model | | | DC80PHD | AA50PHD | AA50PHD | DC80PHD | DC80PHD | DC80PHD |
| | | | | DC80PHD | AA50PHD | AA50PHD | DC80PHD | DC80PHD | DC80PHD |
| | | | | DC80PHD | DC80PHD | DC80PHD | DC80PHD | DC80PHD | DC80PHD |
| | | | | | DC80PHD | DC80PHD | DC80PHD | DC80PHD | DC80PHD |
| | Quantity | | | 3 | 4 | | | | |
| | Motor Output (Pole) | | kW | 8.0 (6) × 1 + 7.1 (6) × 2 | 5.0 (6) × 2 + 6.7 (6) × 2 | 5.0 (6) × 2 + 7.1 (6) × 2 | 6.7 (6) × 2 + 6.7 (6) × 2 | 6.7 (6) × 2 + 7.1 (6) × 2 | 7.1 (6) × 2 + 7.1 (6) × 2 |
| Heat Exchanger | Type | | | Multi-Pass Cross-Finned Tube | | | | | |
| | Number of Coil per Unit | | | 4 | | | | | |
| | Maximum Operating Pressure | | MPa | 4.15 | | | | | |
| | Total Face Area | | $m^2$ | 3.12 + 3.58 | | | 3.58 + 3.58 | | |
| | Tube | Material | | Copper Tube | | | | | |
| | | Diameter | ϕmm | 7.0 | | | | | |
| | | Rows | | 3 + 3 | | | | | |
| | | Number of tubes | | 174 + 174 | | | | | |
| | Finn | Material | | Aluminum | | | | | |
| | | Pitch | mm | 1.7 | | | | | |
| Condenser Fan | Type | | | Propeller Fan | | | | | |
| | Number per unit | | | 4 | | | | | |
| | Outer Diameter | | mm | 544 + 544 + 644 + 644 | | | 644 + 644 + 644 + 644 | | |
| | Nominal Air Flow Rate | | $m^3$/min. | 239 + 348 | 256 + 329 | 256 + 348 | 329 + 329 | 329 + 348 | 348 + 348 |
| Outdoor Fan Motor | Type | | | Drip-Proof Type Enclosure | | | | | |
| | Starting Method | | | DC Motor | | | | | |
| | Motor Output (Pole) | | kW | 0.33 (8) × 2 + 0.56 (8) × 2 | 0.39 (8) × 2 + 0.48 (8) × 2 | 0.39 (8) × 2 + 0.56 (8) × 2 | 0.48 (8) × 2 + 0.48 (8) × 2 | 0.48 (8) × 2 + 0.56 (8) × 2 | 0.56 (8) × 2 + 0.56 (8) × 2 |
| | Number per unit | | | 4 | | | | | |
| | Insulation Class | | | E + E | | | | | |
| Main Refrigerant Piping | Liquid Line | | mm (in.) | ϕ19.05 (3/4) | | | | | |
| | Gas Line | | mm (in.) | ϕ38.1 (1-1/2) | | | | | |
| Sound Level (2 Pipes) | Sound Power Level | | dB(A) | 89 | 88 | 89 | 87 | 88 | 89 |
| | Sound Pressure Level | | dB(A) | 68 | 67.5 | 68.5 | 67 | 68 | 69 |



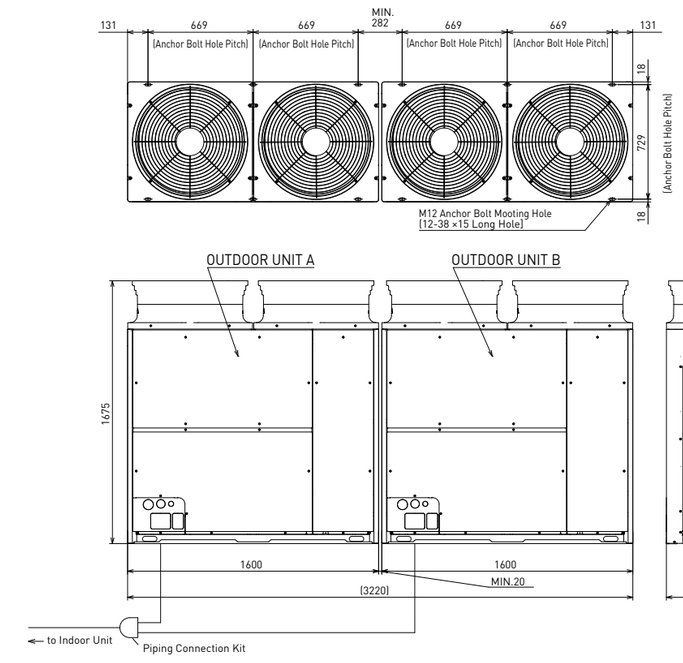


## RAS-38FSNS, RAS-40FSNS AND RAS-42FSNS




| Outdoor Unit Model | Combination of Base Unit Models | |
|---|---|---|
| | OUTDOOR UNIT A | OUTDOOR UNIT B |
| RAS-38FSNS | RAS-24FSNS | RAS-14FSNS |
| RAS-40FSNS | RAS-22FSNS | RAS-18FSNS |
| RAS-42FSNS | RAS-24FSNS | RAS-18FSNS |

## RAS-44FSNS, RAS-46FSNS AND RAS-48FSNS



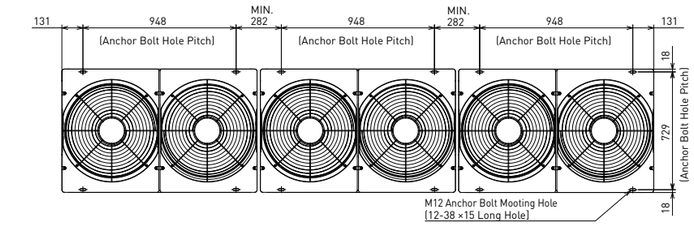

| Outdoor Unit Model | Combination of Base Unit Models | |
|---|---|---|
| | OUTDOOR UNIT A | OUTDOOR UNIT B |
| RAS-44FSNS | RAS-22FSNS | RAS-22FSNS |
| RAS-46FSNS | RAS-24FSNS | RAS-22FSNS |
| RAS-48FSNS | RAS-24FSNS | RAS-24FSNS |

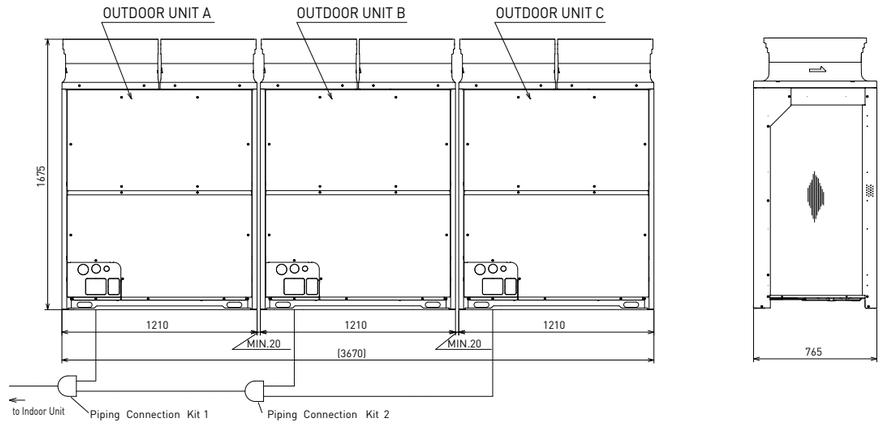
| | | | | | | |
|---|---|---|---|---|---|---|
| HP class | | | | 50 | 52 | 54 |
| Model | | | | RAS-50FSNS | RAS-52FSNS | RAS-54FSNS |
| Combination of Base Unit | | | | RAS-18FSNS | RAS-18FSNS | RAS-18FSNS |
| | | | | RAS-18FSNS | RAS-18FSNS | RAS-18FSNS |
| | | | | RAS-14FSNS | RAS-16FSNS | RAS-18FSNS |
| Power Supply | | | | AC 3φ, 380-415V/50Hz, 400V/50Hz, 380V/60Hz, 220V/60Hz | | |
| Nominal Cooling Capacity | | | kW | 140.0 | 145.0 | 150.0 |
| Nominal Heating Capacity | | | kW | 155.0 | 160.0 | 165.0 |
| Cabinet | Color | Munsell Code | | Natural Gray (1.0Y 8.5/0.5) | | |
| | Dimensions | H*W*D | mm | 1,675 × 3,670 × 765 | | |
| | Footprint | | $m^2$ | 2.81 | | |
| Weight | N/W | 380-415V/50Hz, 400V/50Hz, 380V/60Hz | kg | 268 + 311 + 311 | 310 + 311 + 311 | 311 + 311 + 311 |
| | | 220V/60Hz | kg | 263 + 306 + 306 | 305 + 306 + 306 | 306 + 306 + 306 |
| | G/W | 380-415V/50Hz, 400V/50Hz, 380V/60Hz | kg | 286 + 329 + 329 | 328 + 329 + 329 | 329 + 329 + 329 |
| | | 220V/60Hz | kg | 281 + 324 + 324 | 323 + 324 + 324 | 324 + 324 + 324 |
| Refrigerant Gas | Type | | | R410A | | |
| | Charged Amount | | kg | 30.3 | 31.3 | 32.1 |
| Refrigeration Oil | Type | | | FVC68D | | |
| | Charged Amount | | L/Unit | 22.7 | 23.7 | |
| Flow Control | | | | Micro-Computer Control Expansion Valve | | |
| Compressor | Type | | | Hermetic (Scroll) | | |
| | Model | | | DC80PHD | AA50PHD | AA50PHD |
| | | | | AA50PHD | AA50PHD | AA50PHD |
| | | | | AA50PHD | AA50PHD | AA50PHD |
| | | | | AA50PHD | AA50PHD | AA50PHD |
| | | | | AA50PHD | AA50PHD | AA50PHD |
| | | | | | AA50PHD | AA50PHD |
| | Quantity | | | 5 | 6 | |
| | Motor Output (Pole) | | kW | 8.0 (6) × 1 + 5.0 (6) × 2 + 5.0 (6) × 2 | 4.5 (6) × 2 + 5.0 (6) × 2 + 5.0 (6) × 2 | 5.0 (6) × 2 + 5.0 (6) × 2 + 5.0 (6) × 2 |
| Heat Exchanger | Type | | | Multi-Pass Cross-Finned Tube | | |
| | Number of Coil per Unit | | | 6 | | |
| | Maximum Operating Pressure | | MPa | 4.15 | | |
| | Total Face Area | | $m^2$ | 3.12 + 3.12 + 3.12 | | |
| | Tube | Material | | Copper Tube | | |
| | | Diameter | φmm | 7.0 | | |
| | | Rows | | 3 + 3 + 3 | | |
| | | Number of tubes | | 174 + 174 + 174 | | |
| | Finn | Material | | Aluminum | | |
| | | Pitch | mm | 1.7 | | |
| Condenser Fan | Type | | | Propeller Fan | | |
| | Number per unit | | | 6 | | |
| | Outer Diameter | | mm | 544 + 544 + 544 + 544 + 544 + 544 | | |
| | Nominal Air Flow Rate | | $m^3$/min. | 239 + 256 × 2 | 256 × 3 | |
| Outdoor Fan Motor | Type | | | Drip-Proof Type Enclosure | | |
| | Starting Method | | | DC Motor | | |
| | Motor Output (Pole) | | kW | 0.33 (8) × 2 + 0.39 (8) × 2 + 0.39 (8) × 2 | 0.39 (8) × 2 + 0.39 (8) × 2 + 0.39 (8) × 2 | |
| | Number per unit | | | 6 | | |
| | Insulation Class | | | E + E + E | | |
| Main Refrigerant Piping | Liquid Line | | mm (in.) | φ19.05 (3/4) | | |
| | Gas Line | | mm (in.) | φ38.1 (1-1/2) | | |
| Sound Level | Sound Power Level | | dB(A) | 90 | | 91 |
| | Sound Pressure Level | | dB(A) | 69 | | 70 |





**RAS-50FSNS, RAS-52FSNS AND RAS-54FSNS**




| Outdoor Unit Model | Combination of Base Unit Models | | |
|---|---|---|---|
| | OUTDOOR UNIT A | OUTDOOR UNIT B | OUTDOOR UNIT C |
| RAS-50FSNS | RAS-18FSNS | RAS-18FSNS | RAS-14FSNS |
| RAS-52FSNS | RAS-18FSNS | RAS-18FSNS | RAS-16FSNS |
| RAS-54FSNS | RAS-18FSNS | RAS-18FSNS | RAS-18FSNS |

# SERVICE SPACE

Make the service space when outdoor unit is installed as follows.
If the service spaces for air inlet and outlet are insufficient, it may cause a performance degradation and some abnormalities due to insufficient air intake.
Additionally, the service space is required for facilitating the maintenance.

- In the case of no walls on the front side and the rear side, the service space is required as follows.

* Front Side: Min. 500mm
* Rear Side: Min. 300mm
* Right and Left Sides: Min. 10mm (In the case that the field-supplied snow protection food or the air outlet duct is amounted to the unit, the spaces of min. 50mm are required.)

- If the wall on the front side is over 1,500mm high, the space of (500 + h2/2) mm for the front side is required.

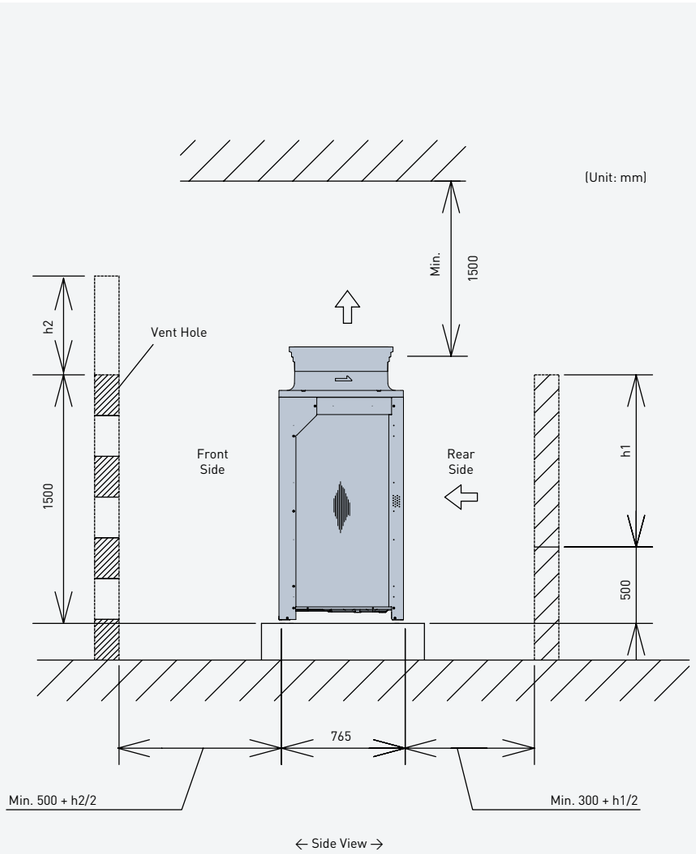
- If the wall on the rear side is over 500mm high, the space of (300 + h1/2) mm for the rear side is required.

- When the units are surrounded by walls on more than 2 sides, the space indicated in the figure above is required.

- For walls on more than 2 sides, secure the service space as shown in the following figures.

- If the space between the unit and an obstacle above the unit is less than 1,500mm or the space above the unit is closed, set up the duct at the air outlet side in order to prevent short circuit.

- When there are obstacles above the unit, the four (front, rear, right and left) sides of the unit shall be open in principle.

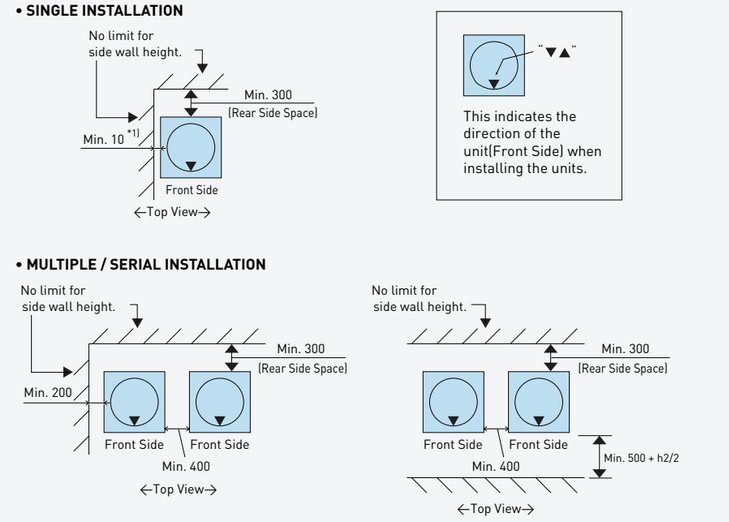




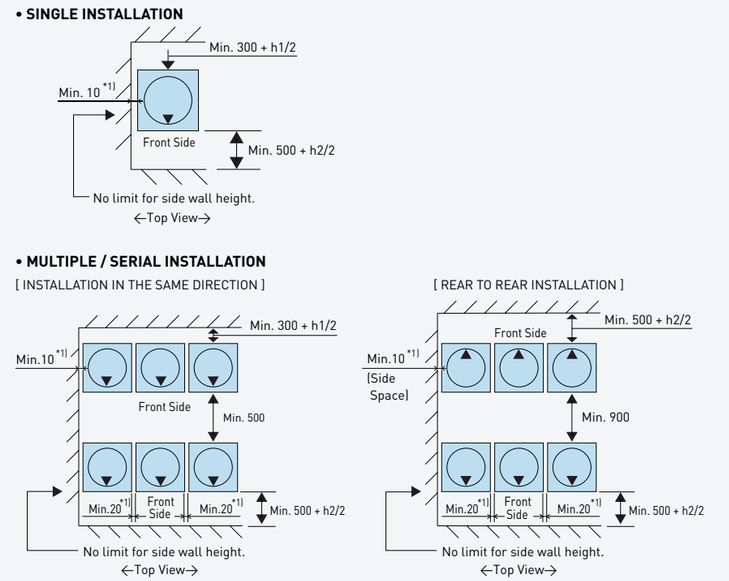



**1) Walls on 2 sides**

In case that the units are installed adjacent to tall buildings and there are no walls on 2 sides, the minimum rear side space must be 300mm.



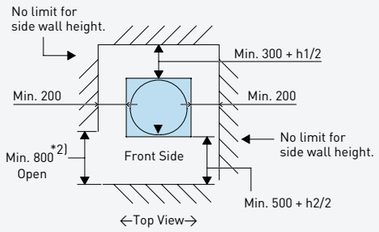

**2) Walls on 3 sides**




*1): In the case that the field-supplied snow protection hood or the air outlet duct is adopted, the space of minimum 50mm is required.

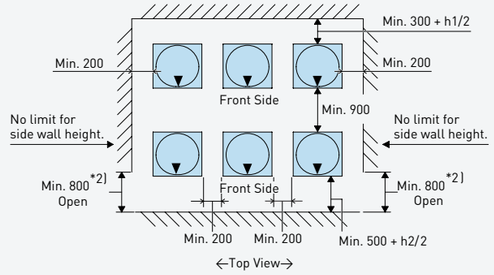
### 3) Walls on 4 sides

**• SINGLE INSTALLATION**

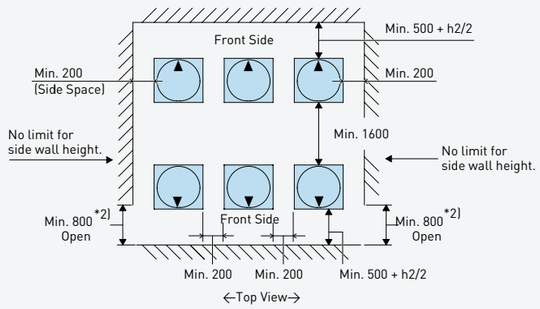



**• MULTIPLE / SERIAL INSTALLATION**

[ INSTALLATION IN THE SAME DIRECTION ]

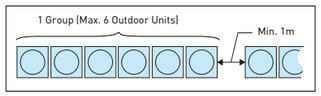



[ REAR TO REAR INSTALLATION ]




*2): Partly open a wall if the unit is surrounded by walls on four sides.

NOTES:
1. Keep the upper side open to prevent mutual interference of inlet and outlet air of each outdoor unit.
2. The figure dimensions indicate sufficient spaces around outdoor units for operation and maintenance at typical installation conditions as follows. [ Operation Mode: Cooling Operation, Outside Temp.: 35°C ] In case that the outdoor unit ambient temperature is higher and also the short circuit is likely to occur compared to the installation condition, find an appropriate dimension by calculating air flow current.
3. For the multiple installation, 1 group shall consist of 6 outdoor units (max.).Keep 1-meter interval between each unit group.






# Options

# 1. PIPING CONNECTION KIT

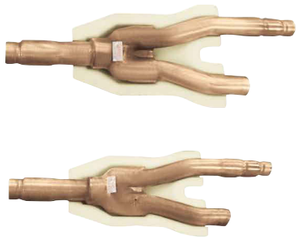
Piping connection kit for the divergence between outdoor units

| Item | Applicable Outdoor Unit | | Model | Remarks |
|---|---|---|---|---|
| | HP class | Connectivity Number | | |
| Piping Connection Kit | 26 - 48 | 2 | MC-NP21SA | for Gas: 1<br>for Liquid: 1 |
| | 50 - 54 | 3 | MC-NP30SA | for Gas: 2<br>for Liquid: 2 |

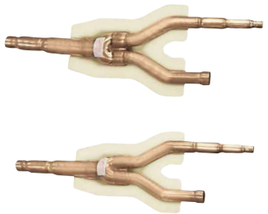
NOTE:The old model (MC-TTA1) is not available.

## images:MC-NP30SA

GAS Side

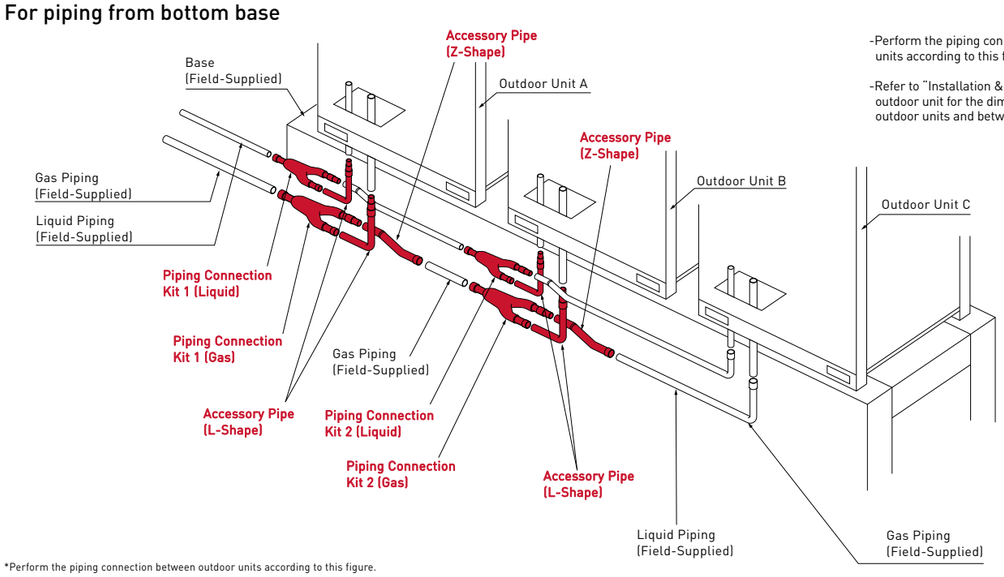


Liquid Side



Reducer

## For piping from bottom base




-Perform the piping connection between outdoor units according to this figure.

-Refer to "Installation & Maintenance Manual" of the outdoor unit for the dimension and distance between outdoor units and between piping connection kits.

*Perform the piping connection between outdoor units according to this figure.
*Refer to the Installation & Maintenance Manual of the outdoor unit for the dimensions and distance between outdoor units and between piping connection kits.

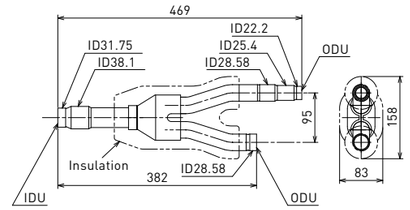




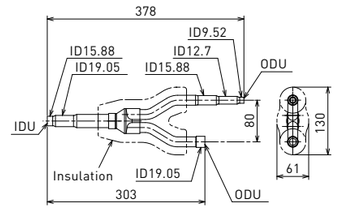
## Dimensions

MC-NP21SA

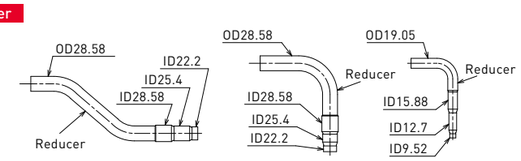
GAS Side




Liquid Side

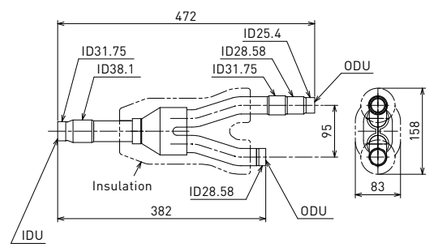



Reducer

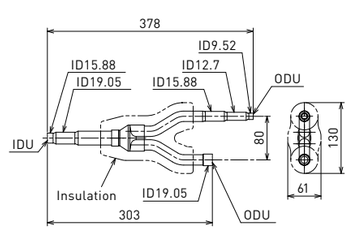



MC-NP30SA

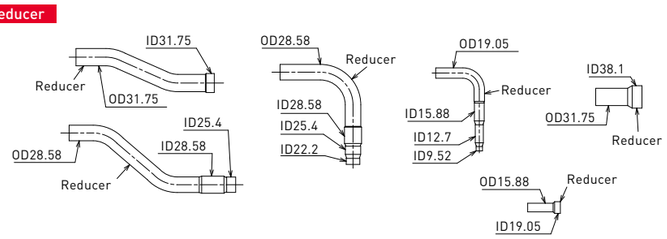
GAS Side




Liquid Side




Reducer



## 2. MULTI-KIT

Branching for indoor and outdoor connecting pipes

### Line branch

### First branching pipes

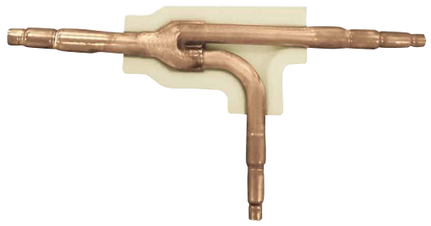
| Outdoor Unit HP class (kW) | Model |
|---|---|
| 8 - 10 (22.4 - 28.0kW) | MW-NP282A3 |
| 12 - 16 (33.5 - 45.0kW) | MW-NP452A3 |
| 18 - 24 (50.0 - 67.0kW) | MW-NP692A3 |
| 26 - 54 (67.0 - 150.0kW) | MW-NP902A3 |

### Pipe diameter after the first branch and multi-kit

| Total Indoor Unit HP class | Diameter (mm) | | Model |
|---|---|---|---|
| | Gas Pipe | Liquid Pipe | |
| < 6 | Φ15.88 | Φ9.52 | MW-NP282A3 |
| 6 - 8.99 | Φ19.05 | Φ9.52 | |
| 9 - 11.99 | Φ22.2 | Φ9.52 | |
| 12 - 15.99 | Φ25.4 | Φ12.7 | MW-NP452A3 |
| 16 - 17.99 | Φ28.58 | Φ12.7 | |
| 18 - 25.99 | Φ28.58 | Φ15.88 | MW-NP692A3 |
| 26 - 35.99 | Φ31.75 | Φ19.05 | MW-NP902A3 |
| ≦ 36 | Φ38.1 | Φ19.05 | |

### images:MW-NP282A3

GAS Side



Liquid Side

Reducer

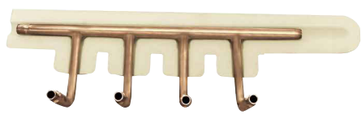
### Header branch

| Total Indoor Unit HP class | No. of Header Branches | Model |
|---|---|---|
| 5 - 8 | 4 | MH-NP224A |
| 5 - 10 | 8 | MH-NP288A |

### images:MH-NP224A

GAS Side

Liquid Side



Reducer

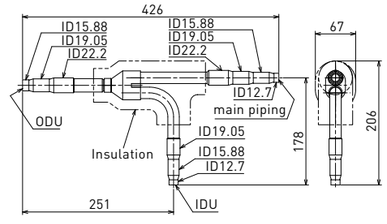




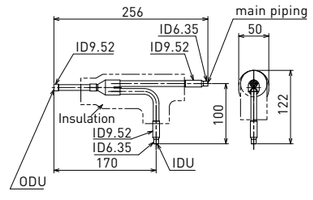
### Dimensions

MW-NP282A3

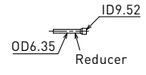
GAS Side




Liquid Side

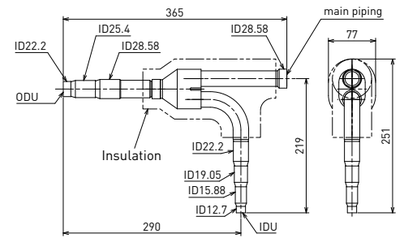



Reducer

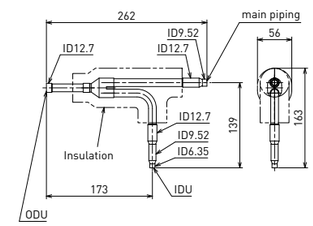



MW-NP452A3

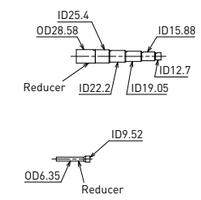
GAS Side




Liquid Side

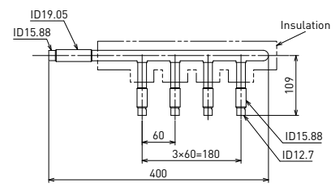



Reducer

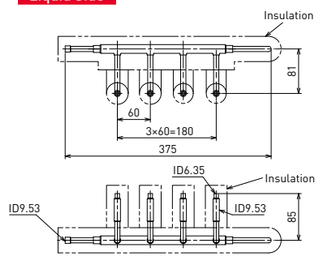



MH-NP224A

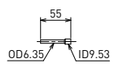
GAS Side




Liquid Side



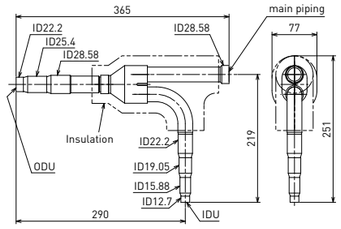

Reducer



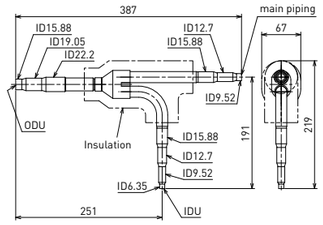
## Dimensions

MW-NP692A3

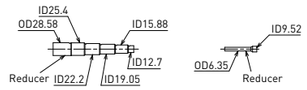
GAS Side




Liquid Side

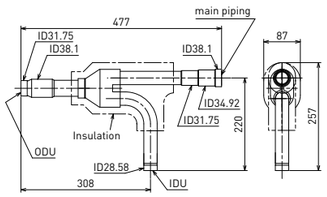



Reducer

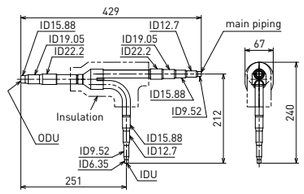



MW-NP902A3

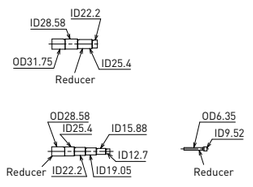
GAS Side




Liquid Side

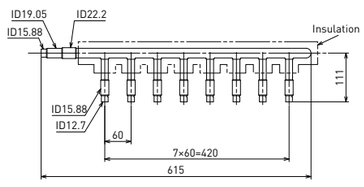



Reducer

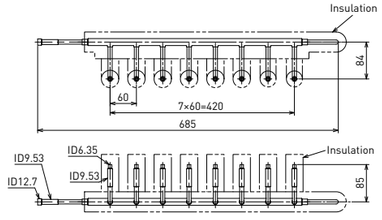



MH-NP288A

GAS Side




Liquid Side




Reducer






## 3. DRAIN BOSS

The drain boss is for the drain pipe connection in order to use the bottom base of the outdoor unit as a drain pan.

### Model name

| Name | Model |
|---|---|
| Drain Boss | DBS-TP10A |

### Quantity

| Outdoor Unit HP class (kW) | Q'ty |
|---|---|
| 8 - 10 (22.4 - 28.0kW) | 1 |
| 20 - 36 (56.0 - 100.0kW) | 2 |
| 38 - 40 (106.0 - 112.0kW) | 3 |
| 42 - 48 (118.0 - 136.0kW) | 4 |
| 50 - 54 (140.0 - 150.0kW) | 3 |

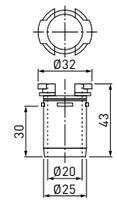
### images:DBS-TP10A

Drain Boss + Rubber Cap

Drain Cap + Rubber Cap

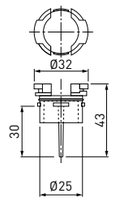
### Dimensions

Drain Boss×2




Drain Cap×2

To close the drain hall



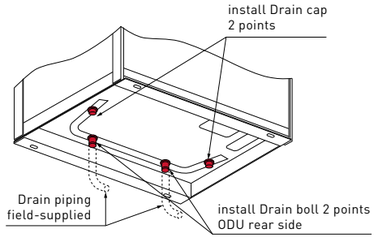

### Drain water treatment

Drain water is discharged during heating and defrosting operation. (Rain water is also discharged.) Pay attention to the following.

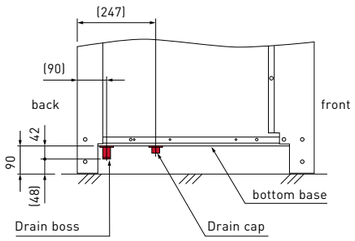
1. Choose a location where well drainage is available, or provide a drain ditch.
2. Do not install the unit over a walkway, as condensation water may drip onto people.
   In the case of installing the unit in such a location, provide an additional drain pan.
3. Do not use the drain boss in a cold area. The drain water in the drain pipe may freeze, and the drain pipe may crack.

### How to use

Bottom view




Side view

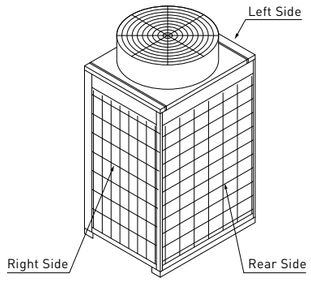


## 4. CABINET COVER

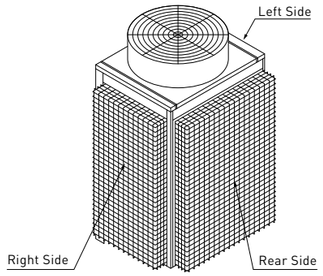
| HP class (kW) | Air Inlet Grille | | |
|---|---|---|---|
| | Rear | Right | Left |
| 8 - 12 (22.4 - 33.5) | PSN-TP20BA | PSN-TP20R | PSN-TP20L |
| 14 - 18 (40.0 - 50.0) | PSN-TP20BB | PSN-TP20R × 2 | |
| 20 - 24 (56.0 - 67.0) | PSN-TP20BC | PSN-TP20R × 2 | |

| HP class (kW) | Protection Net | | |
|---|---|---|---|
| | Rear | Right | Left |
| 8 - 12 (22.4 - 33.5) | PN-TP20BA | PN-TP20R | PN-TP20L |
| 14 - 18 (40.0 - 50.0) | PN-TP20BB | PN-TP20R × 2 | |
| 20 - 24 (56.0 - 67.0) | PN-TP20BC | PN-TP20R × 2 | |

### image:Air inlet grille




### image:Protection net

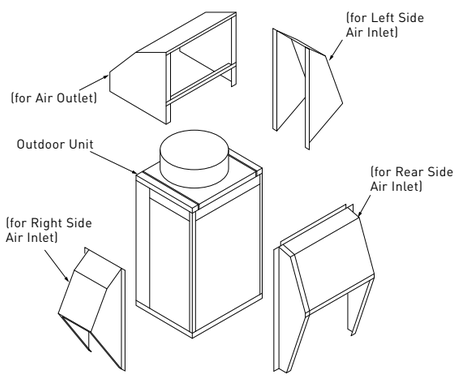



| HP class (kW) | Snow Protection Hood | | | |
|---|---|---|---|---|
| | Upper | Rear | Right | Left |
| | Zinc Coated Steel | | | |
| 8 - 12 (22.4 - 33.5) | ASG-TP50FA | ASG-TP50BA | ASG-TP50R | ASG-TP50L |
| 14 - 18 (40.0 - 50.0) | ASG-TP50FB | ASG-TP50BB | ASG-TP50R × 2 | |
| 20 - 24 (56.0 - 67.0) | ASG-TP50FC | ASG-TP50BC | ASG-TP50R × 2 | |
| | Stainless | | | |
| 8 - 12 (22.4 - 33.5) | ASG-TP50FAS | ASG-TP50BAS | ASG-TP50RS | ASG-TP50LS |
| 14 - 18 (40.0 - 50.0) | ASG-TP50FBS | ASG-TP50BBS | ASG-TP50RS × 2 | |
| 20 - 24 (56.0 - 67.0) | ASG-TP50FS | ASG-TP50BCS | ASG-TP50RS × 2 | |

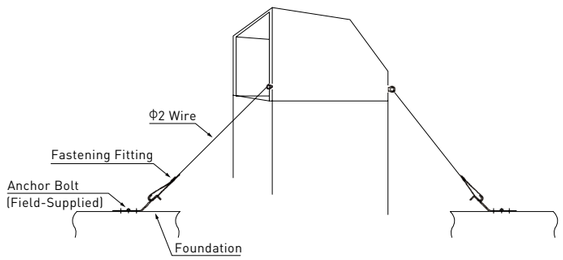
NOTE:Refer to the Technical Catalog for the Optional Parts selection.

| HP class (kW) | Toppling Prevention Tool |
|---|---|
| 8 - 24 (22.4 - 67.0) | ASG-SW20A |

### image:Snow protection hood




### image:Toppling prevention tool

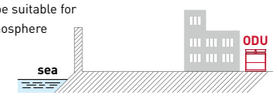






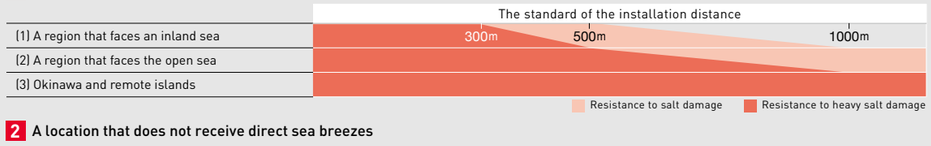

# Resistance to Salt Damage Specifications Products for Order

## About the installation location

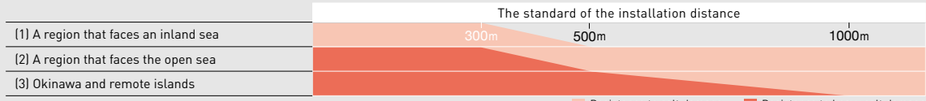
| | Resistance to salt damage specifications | Resistance to heavy salt damage specifications |
|---|---|---|
| Installation Location | A location that is not exposed to sea breezes, but that appears to be suitable for such an atmosphere   | A place that is susceptible to sea breezes (But the device is not directly exposed to water containing salt.)   |
| Requirements for installation location | - A location where the outdoor unit is rinsed by the rain<br>- A location that is not exposed to sea breezes<br>- A location where the distance from the installation location of the outdoor unit to the sea is between approximately 300 meters and one kilometer<br>- A location where the outdoor unit is in the shelter of a building | - A location where the outdoor unit receives little rain<br>- A location that is directly exposed to sea breezes<br>- A location where the distance from the installation location of the outdoor unit to the sea is up to approximately 300 meters<br>- A location where the outdoor unit is mounted on the front of a building (beach side)<br>- A location where corrugated iron roofs and the steel parts of balconies near the installation location of the outdoor unit are often repainted |

## The standard of the installation distance from the beach
**(conditions vary according to the installation environment)**

**1 A location that receives direct sea breezes**




**2 A location that does not receive direct sea breezes**




## Points to note for installation, maintenance and management

### ・Points to note for installation (regarding maintenance and management)

The units of JRA specifications for resistance to salt damage and resistance to heavy salt damage are made with strengthened materials and paints, but they are not fully protected against corrosion.
It is therefore necessary to increase the anti-corrosion effects by carrying out the following installation plans and maintenance work.

(1) Please install the device in a location that avoids direct sea water splashes and sea breezes as much as possible.
  –Please install the device on the leeward side of a building.
  –If you have to install a device on the side of the beach, please avoid exposing it to direct sea breezes by erecting a wind-protective board.
  –Please be careful about the direction of installation. (The degree of corrosion differs depending on whether a device is installed parallel to the coastline or perpendicular to the coastline.)
(2) Please ensure that any sea salt particles that adhere to the exterior panels will be washed away by the rain.
(3) Because the pooling of water on the bottom base of the outdoor unit significantly boosts the corrosion effects, please be careful about the inclination so that the ability for water to run through the bottom base of an outdoor unit will not be affected.
(4) For a device installed in a beach area, please rinse it with water on a regular basis to remove all salt adhering to the device.
(5) Please install the device in a location where water drains away well. In particular, please secure the drainage of the foundation parts.
(6) Please be sure to repair any scratches that are created during the installation and maintenance work.
(7) Please inspect the conditions of the device on a regular basis. (If necessary, please apply anti-rust treatments or replace parts.)

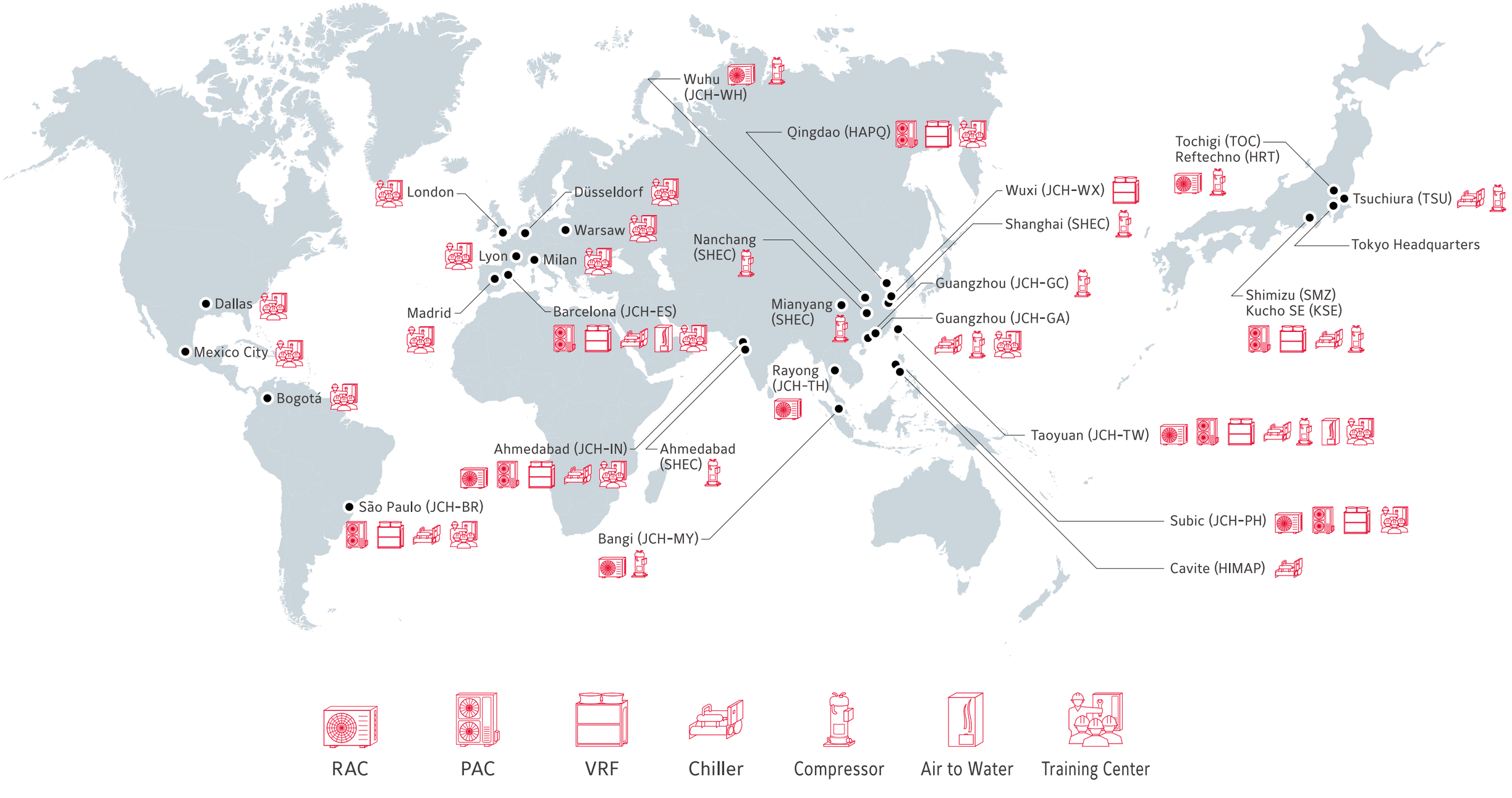
### ・Points to note for maintenance

-Please carry out sufficient maintenance work on the device.
-If you stop using the device for a long time, such as during the off-season, please take measures such as putting a cover on the device.

*If you install the device in a special atmosphere, you will need to undertake sufficient special consideration.
Units that are resistant to salt damage are based on the "Standard of Testing Resistance to Salt Damage of Air Conditioning Devices JRA9002" of the Japan Refrigeration and Air Conditioning Industry Association (JRAIA).

HITACHI

# Global Footprint



**Johnson Controls - Hitachi Air Conditioning**

http://www.jci-hitachi.com

Manufactured by

Distributed by

**ISO 9000 series** The quality of our design and manufacturing systems has been approved.

We are a domestic business office designing and manufacturing air conditioners. We have obtained the international standard ISO 9001 certification regarding quality management systems.

Shimizu Air Conditioning Headquarters, Professional-Use Air Conditioning Business Division, Johnson Controls – Hitachi Air Conditioning
**JQA-1084 obtained in November 1995**

JQA-1084

**ISO 14000 series** Our environmental preservation activities have been approved.

We are a domestic business office designing and manufacturing air conditioners. We have obtained the international standard ISO 14001 certification regarding environmental management systems.

Shimizu Business Office, Johnson Controls – Hitachi Air Conditioning
**EC97J1107 obtained in October 1997**

EC97J1107

HITACHI

# Indoor Units

# Bring your building to life

Hitachi's indoor air conditioning units benefit every person connected with a building.
Since our units are designed with everyone in mind, from those who decide building design and functionality, to the people who produce and install them, as well as users and maintenance personnel, we offer peace of mind to all who interact with our products. That commitment puts smiles on the faces of everyone in the building, and it's what brings your building to life.



## Index

# What's new in Hitachi IDU ?

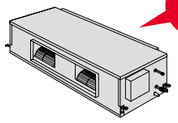
▶ P.18 **Ducted High ESP** — Expanded Line-up!

▶ P.18 **Ducted Medium ESP** — Expanded Line-up!

▶ P.20 **Ducted Slim** — New

▶ P.20 **Ducted Compact** — New

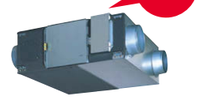
▶ P.21 **Ducted Larger Air Volume** — New



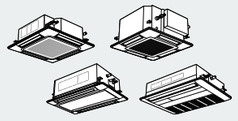
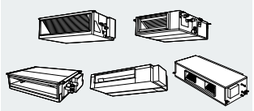
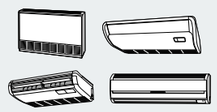
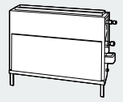
▶ P.23 **Floor / Ceiling Convertible** — New

▶ P.27 **Wall Mounted** — Expanded Line-up!

▶ P.30 **Ventilation** — New



# IDU characterization

| | Ceiling Cassette | Ducted | Exposed | Concealed |
|---|---|---|---|---|
| |  |  |  |  |
| Design Flexibility | ★★☆ Good level of design flexibility | ★★★ Design flexibility | ★★★ Design Flexibility | ★☆☆ Very little installation space required thanks to only 220mm depth |
| Installation Ease | ★★☆ Economical Installation | ★★½ More complicated Installment | ★★★ Most economical Installment | ★★½ more complicated Installment |
| Aesthetics | ★★☆ Less spoil of indoor aesthetics | ★★★ Indoor aesthetics remains | ★☆☆ Exposed | ★★★ more complicated Installment |
| Fresh Air Adaptability | ★★½ Limited flesh air supply | ★★★ Ease of flesh air distribution | ☆☆☆ no flesh air supply | ☆☆☆ no flesh air supply |
| Application Example |  Retails, Restaurant, Outlet, Office |  Hotel, Luxury Condominium, Restaurant |  Residence, Classroom, Office, Hallways, Restaurant |  Residence, Hotel, Hallways, Cultural Heritage |





# Line-up Overview

| IDU category | | HP(Class) | 0.6 | 0.8 | 1.0 | 1.3 | 1.5 | 2.0 | 2.5 | 3.0 | 4.0 | 5.0 | 6.0 | 7.0 | 8.0 | 10.0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Cooling(kW) | 1.6 | 2.2 | 2.8 | 3.6 | 4.3 | 5.6 | 7.1 | 8.0 | 11.2 | 14.0 | 16.0 | 18.0 | 22.4 | 28.0 |
| | | Btu/h | 5.5K | 7.5K | 9.6K | 12.3K | 14.7K | 19.1K | 24.2K | 27.3K | 38.2K | 47.8K | 54.6K | 61.4K | 76.4K | 95.5K |
| Ceiling Cassette | 4-way cassette | | | | • | | • | • | • | • | • | • | • | | | |
| | 4-way cassette compact | | • | • | • | | • | • | • | | | | | | | |
| | 2-way cassette | | | • | • | | • | • | • | • | • | • | • | | | |
| | 1-way cassette | | | • | • | | • | • | • | • | | | | | | |
| Ducted | High ESP | | | | | | | New | New | • | • | • | New | | • | • |
| | Medium ESP | | | • | • | | • | • | • | New | New | New | New | | | |
| | Slim | New | | • | • | • | • | | | | | | | | | |
| | Compact | New | | • | • | • | • | • | • | | | | | | | |
| | Larger Air Volume | New | | | | | | | | • | • | • | • | • | | |
| Exposed and Concealed | Floor Exposed | | | | • | | • | | | | | | | | | |
| | Floor Concealed | | | | • | | • | | | | | | | | | |
| | Floor / Ceiling Convertible | New | | | | | | • | • | • | • | • | | | | |
| | Ceiling Suspended | | | | | | • | • | • | • | • | • | • | | | |
| | Wall mounted | | New | New | • | | • | • | • | • | • | | | | | |

# Recommended Capacity for different size application

| Type | Load for calculation | HP(Class) | 1.5 | 2 | 2.5 | 3 | 4 | 5 | 6 | 8 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Cooling(kW) | 4.3 | 5.6 | 7.1 | 8 | 11.2 | 14 | 16 | 22.4 | 28 |
| | | Btu/h | 14.7K | 19.1K | 24.2K | 27.3K | 38.2K | 47.8K | 54.6K | 76.4K | 95.5K |
| Restaurant | 230-370 (W/m²) | Recommended size | 11-17m² | 14-20m² | 17-27m² | 22-35m² | 30-49m² | 38-61m² | 43-70m² | 61-97m² | 76-122m² |
| Retail Shop | 155-230 (W/m²) | | 17-26m² | 22-32m² | 27-41m² | 35-52m² | 49-72m² | 61-90m² | 70-103m² | 97-145m² | 122-181m² |
| Hotel, Hospital, Office | 115-170 (W/m²) | | 24-35m² | 29-43m² | 37-55m² | 47-70m² | 66-97m² | 82-122m² | 94-139m² | 132-195m² | 165-243m² |

* As a reference in Japanese standard environment
* Please consult your distributor or dealer in inquiry

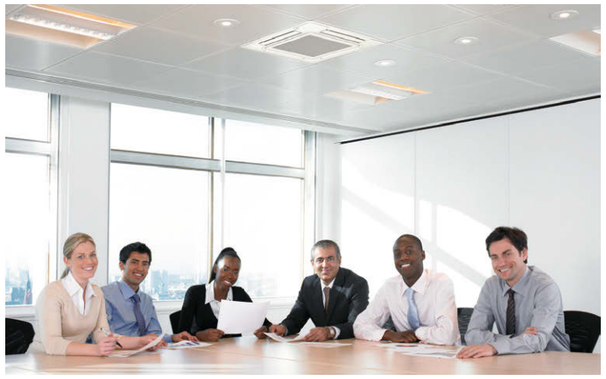
# Features Comparison

| category | Features | Ceiling Cassette Type | | | | Ducted Type | | | | | Exposed & Concealed | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 4-way cassette | 4-way cassette compact | 2-way cassette | 1-way cassette | High ESP | Medium ESP | Slim | Compact | Larger Air Volume | Floor Exposed | Floor Concealed | Floor / Ceiling convertible | Ceiling suspended | Wall Mounted |
| | | RCI | RCIM | RCD | RCS | RPI-FSN3/FSN1 | RPIM-FSN3 | RPIZ-FSNQS | RPIZ-FSN1Q | RPI-FSN2SQ | RPF (*12) | RPFI (*12) | RPFC-FSNQ | RPC | RPK |
| Eco setting | Connection to PC-ARF1 | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| | Motion sensor connection | • | • | • | • | • | • | - | - | - | - | - | - | • | - |
| | Capacity control in IDU/ODU | • | • | • | • | • | • | - | - | - | - | - | - | • | •(*1) |
| | IDU rotating control | • | • | • | • | • | • | - | - | - | - | - | - | • | •(*1) |
| | Automatic fan operation | • | • | • | • | • | • | • | • | • | • | • | • | • | •(*1) |
| | Power Consumption visualization | • | • | • | • | • | • | - | - | - | - | - | - | • | •(*1) |
| | Eco mode guidance | • | • | • | • | • | • | • | • | • | • | • | • | • | •(*1) |
| Adaptability | timer operation | • | • | • | • | • | • | • | • | | • | • | • | • | • |
| | cold draught prevention | • | • | • | • | • | • | - (*7) | - (*7) | - (*7) | - (*7) | - (*7) | - (*7) | - (*7) | - (*7) |
| | High ceiling operation (*9) | 4.2m/4.3m(*10) | 0.6-1.5HP:3.2m<br>2.0-2.5HP:3.5m | 3.5m | 4.0m | - | - | - | - | - | - | - | - | 4.3m | - |
| | Dry mode | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| | Fan speed steps | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 |
| | Louver direction steps | 7 (*2) | 7 (*2) | 7 (*2) | 7 (*3) | - | - | 7 | 7 | 7 | - | - | 7 | 7 (*3) | 7 (*3) |
| | Individual louver setting | • | • | • | - | - | - | - | - | - | - | - | - | - | |
| | Auto louver setting | • | • | • | • | - | - | - | - | - | - | - | • | • | • |
| | Quiet Operation (dB(A))(*4) | - | 0.6HP: 24.5dB | - | 0.8HP: 27dB | - | - | 0.8HP:22dB | 0.8HP:31dB | 3.0HP:39dB | - | - | 1.8HP:30dB | 1.5HP: 28dB | - |
| | Silent Mode | • | • | • | • | • | • | - | - | - | - | - | - | • | • |
| | 0.5 degree temperature setting | • | • | • | • | • | • | - | - | - | - | - | - | • | •(*11) |
| Control | H-LINK Connection | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| | with Total Heat Exchanger | • | • | • | • | • | • | - | - | - | • | • | - | • | • |
| | by centralized control system | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| | Main & Sub remote controller setting | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| | Remote Controller setting | •(*8) | •(*8) | •(*8) | •(*8) | •(*8) | •(*8) | • | • | • | • | • | • | •(*8) | • |
| | Optional Function Setting | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| | Operation Lock / Set | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| | External Signal Input / Output | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| Schedule | Schedule Setting | • | • | • | • | • | • | • | • | • | • | • | • | • | •(*1) |
| | Power-saving schedule | • | • | • | • | • | • | •(*13) | •(*13) | •(*13) | •(*13) | •(*13) | •(*13) | • | •(*1) |
| Maintenance | Self-diagnosis | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| | Dirty filter notice | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| | DC Drain Pump standardization | • | • | • | • | • | • | • | • | - | - | - | - | •(*7) | - |
| Optional Parts | Wide panel for renewal | • | - | • | • | - | - | - | - | - | - | - | - | - | - |
| | Space panel | • | - | • | • | - | - | - | - | - | - | - | - | - | - |
| | Colored decorative panel options | 3(*5) | - | 3(*5) | 3(*5)(*7) | - | - | - | - | - | - | - | - | - | - |
| | Aperture-shielding set | • | - | - | •(*6) | - | - | - | - | - | - | - | - | - | - |
| | Receiver kit for PC-AWR | PC-ALH3 | PC-ALHC1 | PC-ALHD1 | PC-ALHS1 | PC-ALHZ1 | PC-ALHZ1 | PC-ALHZ1 | PC-ALHZ1 | PC-ALHZ1 | PC-ALHZ1 | PC-ALHZ1 | PC-ALHZ1 | PC-ALHP1 | PC-ALHZ1 |
| | Motion Sensor Kit | P-AP160NAE | SOR-NEC | SOR-NED | SOR-NES | SOR-NEZ | SOR-NEZ | - | - | - | - | - | - | SOR-NEP | - |
| | High humidity kit | • | - | - (*7) | - (*7) | - | - | - | - | - | - | - | - | - | - |
| | Fresh air absorption kit | • | • | • | • | - | - | - | - | - | - | - | - | • | - |

| | |
|---|---|
| • | Okay |
| - | No |

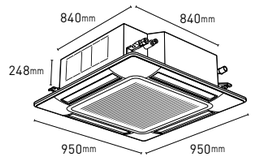
*1 available only in Wired Controller
*2 5 taps only in use of cooling/dry. 7 taps available in setting individual louver setting
*3 5 taps only in use of cooling/dry.
*4 sound pressure level in Low-tap
*5 3 colors available (beige, grey and black)
*6 for Clipped ceiling (one-way) type only, with Aperture-shielding set
*7 Contact your dealer in inquiry
*8 Receiver kit (options) necessary
*9 Ceiling Height, in use of largest HP model in largest air volume
*10 with Aperture-shielding set
*11 optional function setting required in use of PC-AWR
*12 power-saving function is not applicable
*13 Automatic fan operation available only

# 4-way cassette

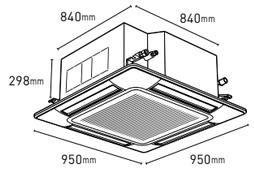


## Dimensions

| | |
|---|---|
| RCI-1.0 FSN3 | 20Kg |
| RCI-1.5~2.0 FSN3 | 21Kg |
| RCI-2.5 FSN3 | 22Kg |
| P-AP160NA(1/E) | 6.5Kg |




| | |
|---|---|
| RCI-3.0~6.0 FSN3 | 26Kg |
| P-AP160NA(1/E) | 6.5Kg |




## Application


| Indoor Unit Type | | | 4-Way Cassette Type | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Model | | | RCI-1.0FSN3 | RCI-1.5FSN3 | RCI-2.0FSN3 | RCI-2.5FSN3 | RCI-3.0FSN3 | RCI-4.0FSN3 | RCI-5.0FSN3 | RCI-6.0FSN3 |
| Indoor Unit Power Supply | | | AC 1Φ, 220-240V/50Hz, 220V/60Hz | | | | | | | |
| Nominal Cooling Capacity | | kW(Btu/h) | 2.8(9,600) | 4.0(13,600) | 5.6(19,100) | 7.1(24,200) | 8.0(27,300) | 11.2(38,200) | 14.0(47,800) | 16.0(54,600) |
| Nominal Heating Capacity | | kW(Btu/h) | 3.2(10,900) | 4.8(16,400) | 6.3(21,500) | 8.5(29,000) | 9.0(30,700) | 12.5(42,600) | 16.0(54,600) | 18.0(61,400) |
| Sound Pressure Level(Overall A Scale) (Hi2/Hi/Me/Lo) | | dB | 33/30/28/27 | 35/31/30/27 | 37/32/30/27 | 42/36/32/28 | 42/36/32/28 | 48/43/39/33 | 48/45/40/35 | 48/46/41/37 |
| Outer Dimensions | Height | mm(in.) | 248(9-3/4) | 248(9-3/4) | 248(9-3/4) | 248(9-3/4) | 298(11-3/4) | 298(11-3/4) | 298(11-3/4) | 298(11-3/4) |
| | Width | mm(in.) | 840(33-1/16) | 840(33-1/16) | 840(33-1/16) | 840(33-1/16) | 840(33-1/16) | 840(33-1/16) | 840(33-1/16) | 840(33-1/16) |
| | Depth | mm(in.) | 840(33-1/16) | 840(33-1/16) | 840(33-1/16) | 840(33-1/16) | 840(33-1/16) | 840(33-1/16) | 840(33-1/16) | 840(33-1/16) |
| Net Weight | | kg(lbs.) | 20(44) | 21(46) | 21(46) | 22(49) | 26(57) | 26(57) | 26(57) | 26(57) |
| Refrigerant | | | R410A | | | | | | | |
| Indoor Fan | Air Flow Rate(Hi2/Hi/Me/Lo) | $m^3$/min.(l/s) | 15/13/11/9 (250/217/ 183/150) | 21/17/14/11 (350/283/ 233/183) | 22/17/14/11 (367/283/ 233/183) | 27/23/18/14 (450/383/ 300/233) | 27/23/18/14 (450/383/ 300/233) | 37/31/24/20 (617/517/ 400/333) | 37/33/26/21 (617/550/ 433/350) | 37/35/28/22 (617/583/ 467/367) |
| Motor | | W | 57 | 57 | 57 | 57 | 57 | 127 | 127 | 127 |
| Connections | | | Flare-Nut Connection (with Flare Nuts) | | | | | | | |
| Refrigerant Piping | Liquid Line | mm(in.) | Φ6.35(1/4) | Φ6.35(1/4) | Φ6.35(1/4) | Φ9.52(3/8) | Φ9.52(3/8) | Φ9.52(3/8) | Φ9.52(3/8) | Φ9.52(3/8) |
| | Gas Line | mm(in.) | Φ12.7(1/2) | Φ12.7(1/2) | Φ15.88(5/8) | Φ15.88(5/8) | Φ15.88(5/8) | Φ15.88(5/8) | Φ15.88(5/8) | Φ15.88(5/8) |
| | Condensate Drain | | VP25 | VP25 | VP25 | VP25 | VP25 | VP25 | VP25 | VP25 |
| Approximate Packing Measurement | | $m^3$ | 0.21 | 0.21 | 0.21 | 0.21 | 0.25 | 0.25 | 0.25 | 0.25 |

| Adaptable Panel Model | | | P-AP160NA1 (without Motion Sensor) | P-AP160NAE (with Motion Sensor) |
|---|---|---|---|---|
| Color | | | Neutral White | |
| Outer Dimensions | Height | mm(in.) | 37(1-7/16) | 37(1-7/16) |
| | Width | mm(in.) | 950(37-3/8) | 950(37-3/8) |
| | Depth | mm(in.) | 950(37-3/8) | 950(37-3/8) |
| Net Weight | | kg(lbs.) | 6.5(14) | 6.5(14) |
| Approximate Packing Measurement | | $m^3$ | 0.10 | 0.10 |

NOTES:

1. The cooling and heating capacities above show the maximum capacities when the outdoor and indoor temperature are under the following conditions.

Cooling Operation Conditions
Indoor Air Inlet Temperature: 27°C DB (80°F DB)
19.0°C WB (66.2°F WB)
Outdoor Air Inlet Temperature: 35°C DB (95°F DB)

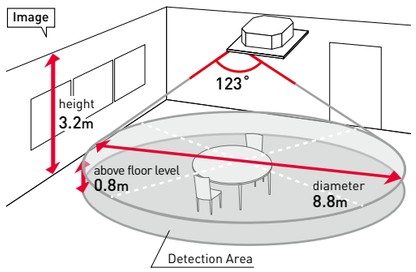
Heating Operation Conditions
Indoor Air Inlet Temperature: 20°C DB (68°F DB)
Outdoor Air Inlet Temperature: 7°C DB (45°F DB)
6°C WB (43°F WB)
Piping Length:7.5 Meters Piping Lift:0 Meter

2. The sound pressure level is based on following conditions.
1.5 Meters Beneath the Unit.
The data in the table above was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.

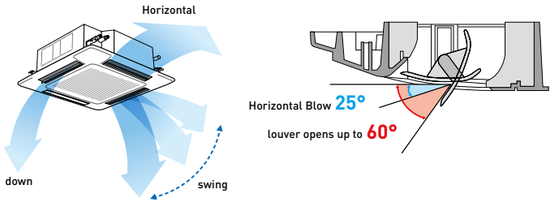
# FEATURES AND BENEFITS

## Adaptability

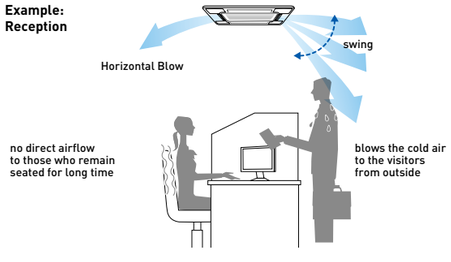
**1) Wide Detection area of motion sensor**
adjust the airflow, air volume and even temperature



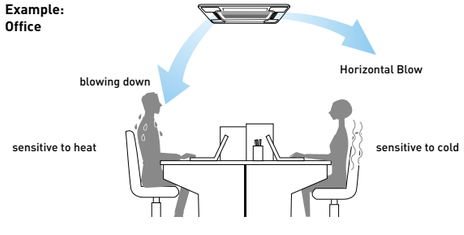

**2) Control air flow with individual four-way louvers**
more comfortable air conditioning can be achieved along each zone requirement




**Example: Reception**

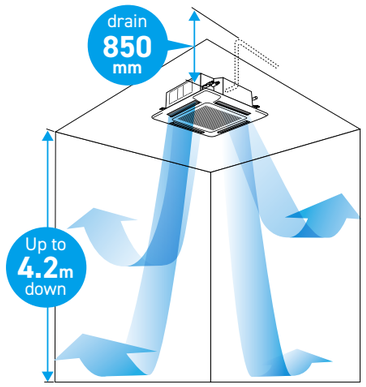



**Example: Office**

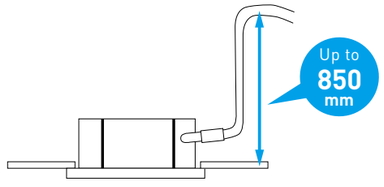



## Design Flexibility

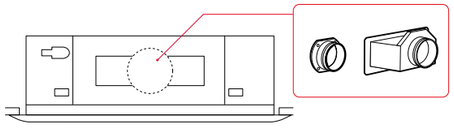
**1) used in both narrow ceiling cavity, and with high ceiling**



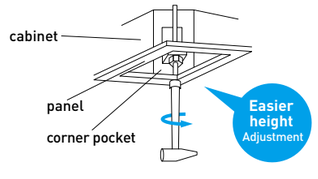

**2) Standard drain pump with 850 mm lift**




**3) Round ducts can be attached directly**



**4) The height of the space for installing the unit can be fine-tuned**

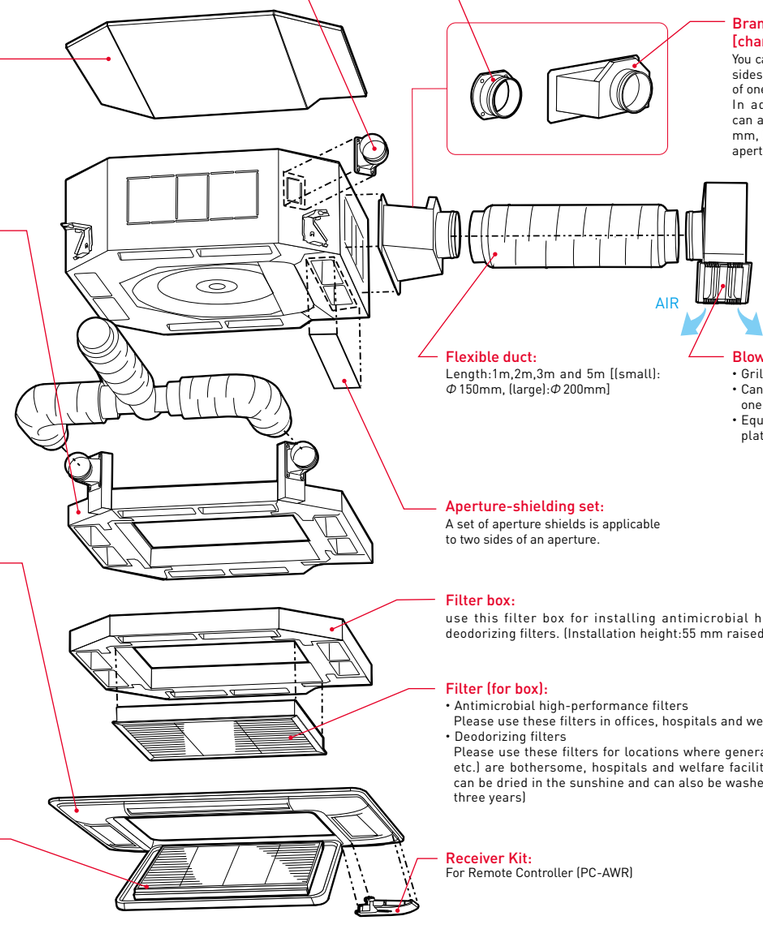







# OPTIONAL PARTS

Please consult your distributors or dealers in inquiry




**Duct adaptor:**
for fresh air absorption aperture

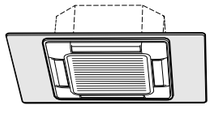
**High humidity kit:**
use this kit for any situation where the temperature at the ceiling appears to be over 30°C and the humidity at the ceiling seems to be above RH80%.

**Fresh air absorption kit:**
Fresh air aperture:two-chamber type (Φ75×2) (Installation height:55 mm raised)

**Decorative panels:**
- Neutral White, Beige, Gray, Black
- For oil guard filters
- Equipped with Motion Sensor Kit
- For high humidity

**Filters (for panels):**
- For exchanging long-life filters (anti-mold)
- Antimicrobial long-life filters
- Oil guard filters
- High-performance filters (colorimetric method 65%)

**Wide panel (for renewal):**
Please choose the size of the wide panel according to the measurements of an existing ceiling opening and the measurements of an already-installed indoor unit.
- Standard
- Oil guard specifications



| Type | Small | Large | Ultra-large |
|---|---|---|---|
| Measurement of External form (mm) | 1020*1020*12 | 1020*1340*12 | 1020*1490*12 |

**Branch duct flange [round duct direct-installation type]:**
Round ducts can be installed even without connecting chambers. [(small):Φ150mm, (large):Φ200mm] (attached to aperture-shielding material)

**Branch duct flange [chamber type]:**
You can remove it from the installation sides in three directions (in the case of one-way separation).
In addition, two-way separation can also be installed. [(Small):Φ 150 mm, (large):Φ 200 mm] (attached to aperture-shielding material)

**Flexible duct:**
Length:1m,2m,3m and 5m [(small): Φ150mm, (large):Φ200mm]

**Blow unit:**
- Grille part resin (no flocking)
- Can be hung in the case of a single one (middle hanging)
- Equipped with airflow adjustment plates

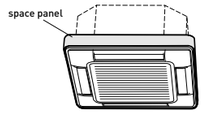
**Aperture-shielding set:**
A set of aperture shields is applicable to two sides of an aperture.

**Filter box:**
use this filter box for installing antimicrobial high-performance filters and deodorizing filters. (Installation height:55 mm raised)

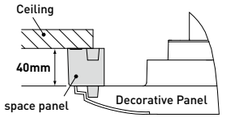
**Filter (for box):**
- Antimicrobial high-performance filters
  Please use these filters in offices, hospitals and welfare facilities for the elderly.
- Deodorizing filters
  Please use these filters for locations where general living odors (ammonia odor, etc.) are bothersome, hospitals and welfare facilities for the elderly. The filters can be dried in the sunshine and can also be washed in water. (Lifespan of around three years)

**Receiver Kit:**
For Remote Controller (PC-AWR)

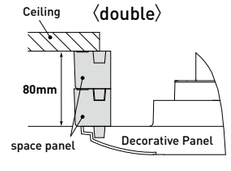
**Space panel:**
Please use these panels for handling the shallow ceiling cavity, and to prevent smudging. If you wish to install a humidifier, branch duct flanges and a fresh air absorption kit in combination with space panels, you may not be able to do so because of the cradling structure of the ceiling. In addition, a shallower ceiling cavity can handle double layers of space panels.




〈single〉




〈double〉



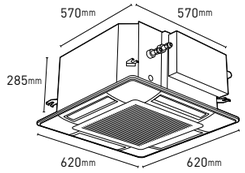
# 4-way cassette compact

## Dimensions

RCIM-0.6~1.5 FSN4 **16Kg**

RCIM-2.0~2.5 FSN4 **17Kg**

P-AP56NAM **3Kg**




## Application

Retails

| Indoor Unit Type | | | 4-Way Cassette (Compact) Type | | | | | |
|---|---|---|---|---|---|---|---|---|
| Model | | | RCIM-0.6FSN4 | RCIM-0.8FSN4 | RCIM-1.0FSN4 | RCIM-1.5FSN4 | RCIM-2.0FSN4 | RCIM-2.5FSN4 |
| Indoor Unit Power Supply | | | AC 1Φ, 230V 50Hz, 220-240V 50Hz, 220V 60Hz | | | | | |
| Nominal Cooling Capacity | | kW(Btu/h) | 1.6(5,500) | 2.2(7,500) | 2.8(9,600) | 4.0(13,600) | 5.6(19,100) | 7.1(24,200) |
| Nominal Heating Capacity | | kW(Btu/h) | 1.9(6,500) | 2.5(8,500) | 3.2(10,900) | 4.8(16,400) | 6.3(21,500) | 8.5(29,000) |
| Sound Pressure Level (Overall A Scale) (Hi2-Hi-Me-Lo) | | dB | 34-30-28-24.5 | 36-33-29-24.5 | 38-34-30-24.5 | 41-37-33-27.5 | 45-39-35-31 | 47-43-39-35 |
| Outer Dimensions | Height | mm(in.) | 285(11-7/32) | 285(11-7/32) | 285(11-7/32) | 285(11-7/32) | 285(11-7/32) | 285(11-7/32) |
| | Width | mm(in.) | 570(22-7/16) | 570(22-7/16) | 570(22-7/16) | 570(22-7/16) | 570(22-7/16) | 570(22-7/16) |
| | Depth | mm(in.) | 570(22-7/16) | 570(22-7/16) | 570(22-7/16) | 570(22-7/16) | 570(22-7/16) | 570(22-7/16) |
| Net Weight | | kg(lbs.) | 16(35.3) | 16(35.3) | 16(35.3) | 16(35.3) | 17(37.5) | 17(37.5) |
| Refrigerant | | | R410A | | | | | |
| Indoor Fan | Air Flow Rate (Hi2-Hi-Me-Lo) | $m^3$/min. (cfm) | 10-8.5-7.5-6 (353-300-265-212) | 11-9.5-8-6 (388-335-282-212) | 12-10-8.5-6 (424-353-300-212) | 13-11-9.5-7 (459-388-335-247) | 15-12-10-8 (530-424-353-282) | 16-14-12-10 (565-494-424-353) |
| Motor | | W | 57 | 57 | 57 | 57 | 57 | 57 |
| Connections | | | Flare-Nut Connection (with Flare Nuts) | | | | | |
| Refrigerant Piping | Liquid Line | mm(in.) | Φ6.35(1/4) | Φ6.35(1/4) | Φ6.35(1/4) | Φ6.35(1/4) | Φ6.35(1/4) | Φ9.52(3/8) |
| | Gas Line | mm(in.) | Φ12.7(1/2) | Φ12.7(1/2) | Φ12.7(1/2) | Φ12.7(1/2) | Φ12.7(1/2) | Φ15.88(5/8) |
| | Condensate Drain | | VP25 | VP25 | VP25 | VP25 | VP25 | VP25 |

| Adaptable Panel Model | | | P-AP56NAM (without Motion Sensor) |
|---|---|---|---|
| Color | | | Neutral White |
| Outer Dimensions | Height | mm(in.) | 30(1-3/16) |
| | Width | mm(in.) | 620(24-13/32) |
| | Depth | mm(in.) | 620(24-13/32) |
| Net Weight | | kg(lbs.) | 3(6.6) |

NOTES:

1. The cooling and heating capacities above show the maximum capacities when the outdoor and indoor temperature are under the following conditions.

Cooling Operation Conditions
Indoor Air Inlet Temperature: 27°C DB (80°F DB) 19.0°C WB (66.2°F WB)
Outdoor Air Inlet Temperature: 35°C DB (95°F DB)

Heating Operation Conditions
Indoor Air Inlet Temperature: 20°C DB (68°F DB)
Outdoor Air Inlet Temperature: 7°C DB (45°F DB) 6°C WB (43°F WB)
Piping Length:7.5 Meters Piping Lift:0 Meter

2. The sound pressure level is based on following conditions.
1.5 Meters Beneath the Unit.
The data in the table above was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.





## FEATURES AND BENEFITS

### Adaptability

1) Top-class silent operation
as quiet as gentle breeze

| IDU Capacity HP(Class) | 0.6 | 0.8 | 1 | 1.5 | 2 | 2.5 |
|---|---|---|---|---|---|---|
| Sound pressure level (dB(A)) | 24.5 | 24.5 | 24.5 | 27.5 | 31 | 35 |

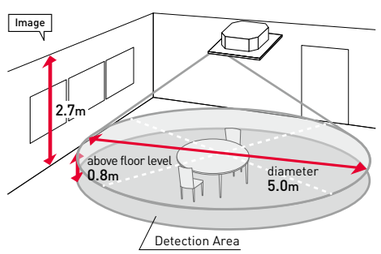
* air flow volume:low.

20dB CLOCK
30dB MIDNIGHT
40dB LIBRARY

2) Aesthetics




3) Wide Detection area of motion sensor
adjust temperature/ volume and air flow direction in better way




### Design Flexibility

1) Compact


2) High Ceiling Available
Standard drain-pump




3) Adopting new antibacterial agent of drain pan
for the better air and easy maintenance



inhibit the generation of slime

# 2-way cassette

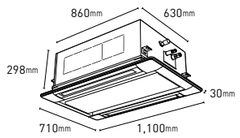
## Application

Office

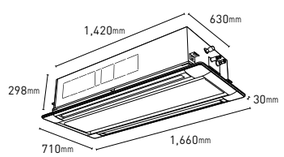
Restaurant

## Dimensions

| | |
|---|---|
| RCD-0.8~1.0 FSN3 | 23Kg |
| RCD-1.5~2.0 FSN3 | 25Kg |
| RCD-2.5~3.0 FSN3 | 25Kg |
| P-AP90DNA | 7.5Kg |




| | |
|---|---|
| RCD-5.0~6.0 FSN3 | 39Kg |
| P-AP160DNA | 10.5Kg |




| Indoor Unit Type | | | 2-Way Cassette Type | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Model | | | RCD-0.8FSN3 | RCD-1.0FSN3 | RCD-1.5FSN3 | RCD-2.0FSN3 | RCD-2.5FSN3 | RCD-3.0FSN3 | RCD-4.0FSN3 | RCD-5.0FSN3 | RCD-6.0FSN3 |
| Indoor Unit Power Supply | | | AC 1Φ, 220-240V/50Hz, 220V/60Hz | | | | | | | | |
| Nominal Cooling Capacity | | kW(Btu/h) | 2.2(7,500) | 2.8(9,600) | 4.0(13,600) | 5.6(19,100) | 7.1(24,200) | 8.0(27,300) | 11.2(38,200) | 14.0(47,800) | 16.0(54,300) |
| Nominal Heating Capacity | | kW(Btu/h) | 2.5(8,500) | 3.2(10,900) | 4.8(16,400) | 6.3(21,500) | 8.5(29,000) | 9.0(30,700) | 12.5(42,600) | 16.0(54,600) | 18.0(61,400) |
| Sound Pressure Level (Overall A Scale)(Hi2-Hi-Me-Lo) | | dB | 30-29-28-27 | 31-29-28-27 | 37-34-31-30 | 39-36-33-30 | 42-39-36-33 | 45-42-38-33 | 43-40-37-34 | 47-44-41-35 | 48-45-42-39 |
| Outer Dimensions | Height | mm(in.) | 298(11-3/4) | 298(11-3/4) | 298(11-3/4) | 298(11-3/4) | 298(11-3/4) | 298(11-3/4) | 298(11-3/4) | 298(11-3/4) | 298(11-3/4) |
| | Width | mm(in.) | 860(33-7/8) | 860(33-7/8) | 860(33-7/8) | 860(33-7/8) | 860(33-7/8) | 860(33-7/8) | 1,420(55-7/8) | 1,420(55-7/8) | 1,420(55-7/8) |
| | Depth | mm(in.) | 630(24-13/16) | 630(24-13/16) | 630(24-13/16) | 630(24-13/16) | 630(24-13/16) | 630(24-13/16) | 630(24-13/16) | 630(24-13/16) | 630(24-13/16) |
| Net Weight | | kg(lbs.) | 23(50.7) | 23(50.7) | 25(55.1) | 25(55.1) | 25(55.1) | 25(55.1) | 39(86.0) | 39(86.0) | 39(86.0) |
| Refrigerant | | | R410A (Nitrogen-Charged for Corrosion-Resistance) | | | | | | | | |
| Indoor Fan | Air Flow Rate (Hi2-Hi-Me-Lo) | $m^3$/min. (cfm) | 10-9-7.5-6.5 (353-318-265-230) | 11-9.5-8.5-7 (388-335-300-247) | 15-13-11.5-10 (530-459-406-353) | 16.5-14.5-12.5-10.5 (583-512-441-371) | 18.5-16.5-14.5-12.5 (653-583-512-441) | 21-18.5-16-12.5 (742-653-565-441) | 30-26.5-23-20 (1,059-936-812-706) | 35-31-27-21 (1,236-1,095-953-742) | 37-32.5-28.5-24 (1,306-1,147-1,006-847) |
| Motor | | W | 57 | 57 | 57 | 57 | 57 | 57 | 57 x 2 | 57 x 2 | 57 x 2 |
| Connections | | | Flare-Nut Connection (with Flare Nuts) | | | | | | | | |
| Refrigerant Piping | Liquid Line | mm(in.) | Φ 6.35(1/4) | Φ 6.35(1/4) | Φ 6.35(1/4) | Φ 6.35(1/4) | Φ 9.52(3/8) | Φ 9.52(3/8) | Φ 9.52(3/8) | Φ 9.52(3/8) | Φ 9.52(3/8) |
| | Gas Line | mm(in.) | Φ 12.7(1/2) | Φ 12.7(1/2) | Φ 12.7(1/2) | Φ 12.7(1/2) | Φ 15.88(5/8) | Φ 15.88(5/8) | Φ 15.88(5/8) | Φ 15.88(5/8) | Φ 15.88(5/8) |
| | Condensate Drain | | VP25 | VP25 | VP25 | VP25 | VP25 | VP25 | VP25 | VP25 | VP25 |
| Approximate Packing Measurement | | $m^3$ | 0.24 | 0.24 | 0.24 | 0.24 | 0.24 | 0.24 | 0.36 | 0.36 | 0.36 |

| Adaptable Panel Model | | | P-AP90DNA (without Motion Sensor) | P-AP160DNA (without Motion Sensor) |
|---|---|---|---|---|
| Color | | | Neutral White | |
| Outer Dimensions | Height | mm(in.) | 30(1-3/16) | 30(1-3/16) |
| | Width | mm(in.) | 1,100(43-5/16) | 1,660(65-3/8) |
| | Depth | mm(in.) | 710(27-15/16) | 710(27-15/16) |
| Net Weight | | kg(lbs.) | 7.5(16.5) | 10.5(23.2) |
| Approximate Packing Measurement | | $m^3$ | 0.13 | 0.20 |

NOTES:

1. The cooling and heating capacities above show the maximum capacities when the outdoor and indoor temperature are under the following conditions.

Cooling Operation Conditions
Indoor Air Inlet Temperature: 27°C DB (80°F DB) 19.0°C WB (66.2°F WB)
Outdoor Air Inlet Temperature: 35°C DB (95°F DB)

Heating Operation Conditions
Indoor Air Inlet Temperature: 20°C DB (68°F DB)
Outdoor Air Inlet Temperature: 7°C DB (45°F DB) 6°C WB (43°F WB)
Piping Length:7.5 Meters Piping Lift:0 Meter

2. The sound pressure level is based on following conditions.
1.5 Meters Beneath the Unit.
The data in the table above was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.

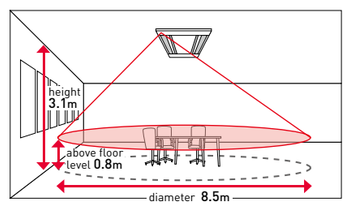




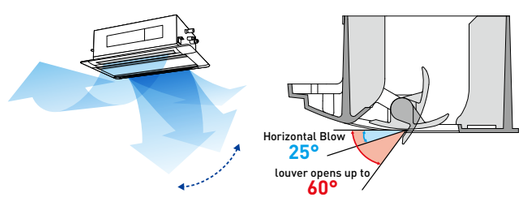
## FEATURES AND BENEFITS

### Adaptability

1) Wide Detection area of motion sensor
adjust the airflow, air volume

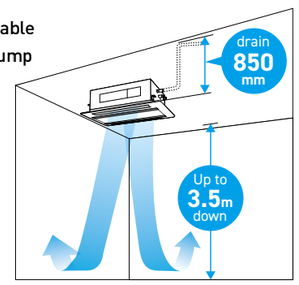



2) Control air flow with individual louvers
suitable environment can be achieved for each person

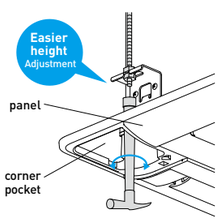



### Design Flexibility

1) High Ceiling Available
Standard drain-pump

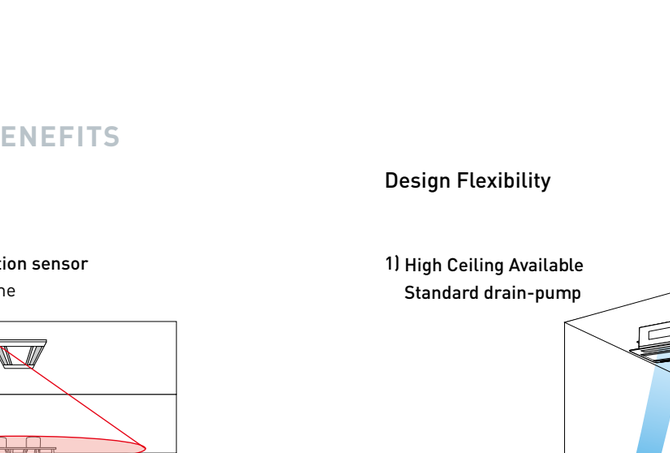



2) The height of the space for installing the unit can be fine-tuned




## OPTIONAL PARTS

Please consult your distributors or dealers in inquiry




**Flexible duct:**
Length:1m, 2m, 3m and 5m (Φ 150 mm)

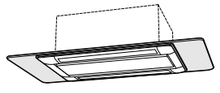
**Blow unit:**
- Grille part resin (no flocking)
- Can be hung in the case of a single one (middle hanging)
- Equipped with airflow adjustment plates

**Aperture-shielding set:**
equipped with Branch duct flange

**Filter box:**
use this filter box for installing antimicrobial high-performance filters and deodorizing filters. (Installation height:83 mm raised)

**Filter (for box):**
- Antimicrobial high-performance filters
  Please use these filters in offices, hospitals and welfare facilities for the elderly.
- Deodorizing filters
  Please use these filters for locations where general living odors (ammonia odor, etc.) are bothersome, hospitals and welfare facilities for the elderly. The filters can be dried in the sunshine and can also be washed in water. (Lifespan of around three years)

**Wide panel (for renewal):**
Please choose the size of the wide panel according to the measurements of an existing ceiling opening and the measurements of an already-installed indoor unit.
- Standard
- Oil guard specifications



| Type | Small | Large |
|---|---|---|
| Measurement of External form (mm) | 780*1580*12 | 780*1940*12 |

**Branch duct flange:**
in case you install the branch duct in to the cassette

**Duct adaptor:**
for fresh air absorption aperture

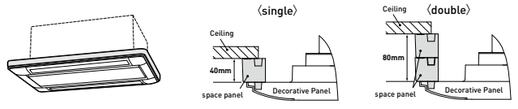
**Decorative panels:**
Neutral White, Beige, Gray, Black

**Filters (for panels):**
- For exchanging long-life filters (anti-mold)
- Antimicrobial long-life filters
- High-performance filters (colorimetric method 65%)

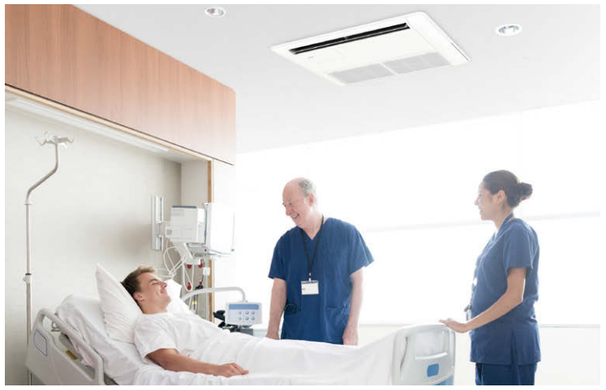
**Receiver Kit:**
For Remote Controller (PC-AWR)

**Motion Sensor Kit**

**Space panel:**
Please use these panels for handling the shallow ceiling cavity, and to prevent smudging. If you wish to install a humidifier, branch duct flanges and a fresh air absorption kit in combination with space panels, you may not be able to do so because of the cradling structure of the ceiling. In addition, a shallower ceiling cavity can handle double layers of space panels.



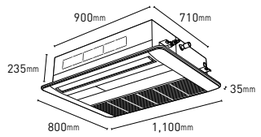
# 1-way cassette



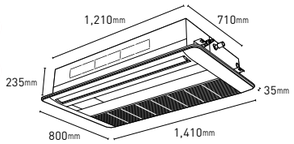
## Application


## Dimensions

RCS-0.8~1.0 FSN 25Kg
RCS-1.5~2.0 FSN 26Kg
P-AP36CNA 4.5Kg
P-AP56CNA 4.5Kg




RCS-2.5~3.0 FSN 33Kg
P-AP80CNA 6Kg




| Indoor Unit Type | | | 1-Way Cassette Type | | | | | |
|---|---|---|---|---|---|---|---|---|
| Model | | | RCS-0.8FSN | RCS-1.0FSN | RCS-1.5FSN | RCS-2.0FSN | RCS-2.5FSN | RCS-3.0FSN |
| Indoor Unit Power Supply | | | AC 1Φ, 220-240V/50Hz, 230V/50Hz, 220V/60Hz | | | | | |
| Nominal Cooling Capacity | | kW(Btu/h) | 2.2(7,500) | 2.8(9,600) | 4.0(13,600) | 5.6(19,100) | 7.1(24,200) | 8.0(27,300) |
| Nominal Heating Capacity | | kW(Btu/h) | 2.5(8,500) | 3.2(10,900) | 4.8(16,400) | 6.3(21,500) | 8.5(29,000) | 9.0(30,700) |
| Sound Pressure Level (Overall A Scale) (Hi2/Hi/Me/Lo) | | dB | 34/32/29/27 | 36/34/31/28 | 40/37/33/31 | 42/38/35/31 | 43/39/36/32 | 43/40/37/33 |
| Outer Dimensions | Height | mm(in.) | 235(9-1/4) | 235(9-1/4) | 235(9-1/4) | 235(9-1/4) | 235(9-1/4) | 235(9-1/4) |
| | Width | mm(in.) | 900(35-7/16) | 900(35-7/16) | 900(35-7/16) | 900(35-7/16) | 1210(47-5/8) | 1210(47-5/8) |
| | Depth | mm(in.) | 710(27-15/16) | 710(27-15/16) | 710(27-15/16) | 710(27-15/16) | 710(27-15/16) | 710(27-15/16) |
| Net Weight | | kg(lbs.) | 25(55.1) | 25(55.1) | 26(57.3) | 26(57.3) | 33(72.8) | 33(72.8) |
| Refrigerant | | | R410A | | | | | |
| Indoor Fan Air Flow Rate(Hi2/Hi/Me/Lo) | | $m^3$/min (cfm) | 8.5/7.5/6.5/6 (300/265/229/212) | 9.5/8.5/7.5/6.5 (335/300/265/229) | 13/11.5/10/8.5 (459/406/353/300) | 14.5/13/11/9.5 (512/459/388/335) | 18.5/16.5/14.5/12.5 (653/582/512/424) | 20/17.5/15.5/13 (706/618/547/459) |
| Motor Output | | W | 50 | 50 | 50 | 50 | 80 | 80 |
| Connections | | | Flare-Nut Connection (with Flare Nuts) | | | | | |
| Refrigerant Piping | Liquid Line | mm(in.) | Φ6.35(1/4) | Φ6.35(1/4) | Φ6.35(1/4) | Φ6.35(1/4) | Φ9.52(3/8) | Φ9.52(3/8) |
| | Gas Line | mm(in.) | Φ12.7(1/2) | Φ12.7(1/2) | Φ12.7(1/2) | Φ12.7(1/2) | Φ15.88(5/8) | Φ15.88(5/8) |
| | Condensate Drain | | VP25 | VP25 | VP25 | VP25 | VP25 | VP25 |
| Approximate Packing Measurement | | $m^3$ | 0.25 | 0.25 | 0.25 | 0.25 | 0.32 | 0.32 |

| Adaptable Panel Model | | | P-AP36CNA | P-AP56CNA | P-AP80CNA |
|---|---|---|---|---|---|
| Color | | | Neutral White | | |
| Outer Dimensions | Height | mm(in.) | 35(1-3/8) | 35(1-3/8) | 35(1-3/8) |
| | Width | mm(in.) | 1100(43-5/16) | 1100(43-5/16) | 1410(55-1/2) |
| | Depth | mm(in.) | 800(31-1/2) | 800(31-1/2) | 800(31-1/2) |
| Net Weight | | kg(lbs.) | 4.5(9.9) | 4.5(9.9) | 6(13.2) |

NOTES:

1. The cooling and heating capacities above show the maximum capacities when the outdoor and indoor temperature are under the following conditions.

Cooling Operation Conditions
Indoor Air Inlet Temperature: 27°C DB (80°F DB) 19.0°C WB (66.2°F WB)
Outdoor Air Inlet Temperature: 35°C DB (95°F DB)

Heating Operation Conditions
Indoor Air Inlet Temperature: 20°C DB (68°F DB)
Outdoor Air Inlet Temperature: 7°C DB (45°F DB) 6°C WB (43°F WB)
Piping Length:7.5 Meters Piping Lift:0 Meter

2. The sound pressure level is based on following conditions.
1.5 Meters Beneath the Unit.
The data in the table above was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.

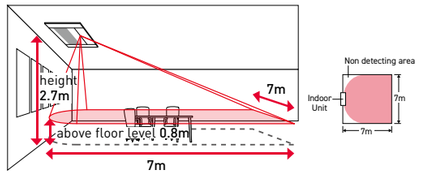




# FEATURES AND BENEFITS

## Adaptability

### 1) Wide Detection area of motion sensor
adjust the airflow, air volume




### 2) Quiet operation
new design in fan inlet and fan resulted in the low sound pressure

| IDU cooling capacity (kW) | 2.2 | 2.8 | 4.0 | 5.6 | 7.1 | 8.0 |
|---|---|---|---|---|---|---|
| Sound Pressure Level (dB(A)) | 27 | 28 | 31 | 31 | 32 | 33 |

* air flow volume:low.

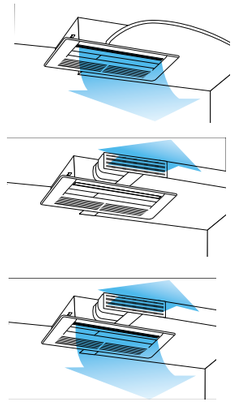

## Design Flexibility

### 1) 3 installation types selectable

**Corner type (standard)**
allows for ceiling planning for lighting and interiors, suitable for installation in the perimeter zone near the window

**Clipped ceiling (one-way) type**
suitable for design that focuses on lighting and clipped ceilings, in case the unit is unable to be directly embedded in the ceiling

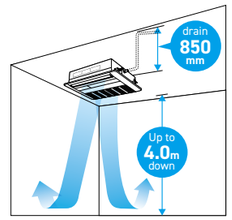
**Clipped ceiling (two-way) type**
provides increased comfort through two-direction airflow by utilizing the advantages of installation on a clipped ceiling Room temperature distribution can be improved by both forward airflow and downward airflow



### 2) High Ceiling Available
Standard drain-pump

| IDU Capacity (HP Class) | 0.8-1.3 | 1.5-2.5 | 3.0 |
|---|---|---|---|
| Height (m) | 3.0 | 3.5 | 4.0 |

* air volume:high
* standard corner type




# OPTIONAL PARTS

Please consult your distributors or dealers in inquiry

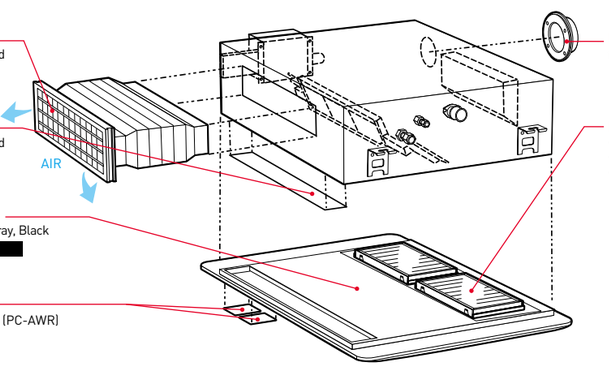
**Grille for front air discharge:**
in case of Clipped ceiling (one-way) type or Clipped ceiling (two-way) type

**Aperture-shielding set:**
in case of Clipped ceiling (one-way) type or Clipped ceiling (two-way) type

**Decorative panels:**
Neutral White, Beige, Gray, Black

**Receiver Kit:**
For Remote Controller (PC-AWR)

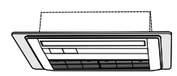
**Motion Sensor Kit**




**Duct adaptor:**
for fresh air absorption aperture (Φ 100 mm)

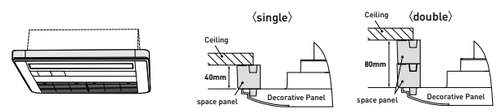
**Filters (for panels):**
- For exchanging long-life filters (anti-mold)
- Antimicrobial long-life filters
- High-performance filters (colorimetric method 65%)

**Wide panel (for renewal):**
Please choose the size of the wide panel according to the measurements of an existing ceiling opening and the measurements of an already-installed indoor unit.
- Standard
- Oil guard specifications



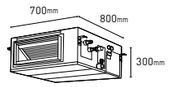
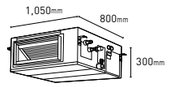
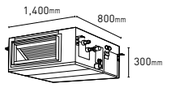
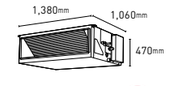
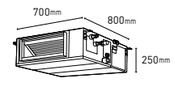
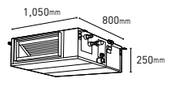
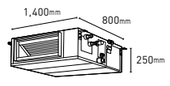
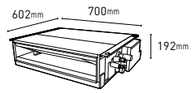
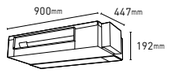
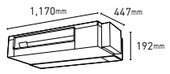
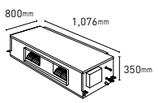
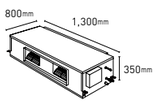
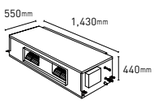
| Type | Small | Medium | Large |
|---|---|---|---|
| Measurement of External form (mm) | 870*1370*12 | 870*1460*12 | 870*1520*12 |

**Space panel:**
Please use these panels for handling the shallow ceiling cavity, and to prevent smudging. In addition, a shallower ceiling cavity can handle double layers of space panels.



# Ducted

## COMPARISON

| Item | | Capacity Range | | | ESP | Weight (overall scale) | Air Flow Rate (Hi2-Hi-Me-Lo) (Hi-Me-Lo) | | | Sound Pressure Level (Overall A Scale) (Hi2-Hi-Me-Lo) (Hi-Me-Lo) |
|---|---|---|---|---|---|---|---|---|---|---|
| Unit | | HP (Class) | Cooling (kW) | Btu/h | (Pa) | (kg) | ($m^3$/min) | (cfm) | (l/S) | dB (A) |
| **High ESP** |  RPI-2.0 FSN3 29Kg<br>  RPI-2.5~3.0 FSN3 38Kg<br>  RPI-4.0~6.0 FSN3 48Kg | 2.0 ~ 6.0 | 5.6 / 16.0 | 19.1K / 54.6K | 50 - 100 - 200 | 29-48 | 14.5-13-11-9.5 / 36-31.5-27.5-24 | 512-459-388-335 / 1,270-1,112-970-847 | 242-217-183-158 / 600-525-458-400 | 41-38-35-32 / 44-40-37-34 |
| |  RPI-8.0~10.0 FSN1 94Kg | 8.0 ~ 10.0 | 22.4 / 28.0 | 76.4K / 95.5K | 50 - 100 - 230 | 94 | 63-58-50-38 / 80-72-64-48 | 2,224-2,048-1,765-1,341 / 2,825-2,542-2,260-1,695 | 1,050-967-833-633 / 1,333-1,200-1,067-800 | 45-43-40-36 / 50-48-46-39 |
| **Medium ESP** |  RPIM-0.8~2.0 FSN3 26-27 Kg<br>  RPIM-2.5~3.0 FSN3 36Kg<br>  RPIM-4.0~6.0 FSN3 44Kg | 0.8 ~ 6.0 | 2.2 / 16.0 | 7.5K / 54.6K | 50 - 100 - 150 | 26-44 | 8.5-7.5-6.5-5.5 / 36-31.5-27.5-24 | 300-265-229-194 / 1,270-1,112-970-847 | 142-125-108-92 / 600-525-458-400 | 32-30-28-27 / 43-40-37-34 |
| **Slim** |  RPIZ-0.8~1.5 FSNQS 21Kg | 0.8 ~ 1.5 | 2.2 / 4.3 | 7.5K / 14.7K | 10 - 30 | 21 | 8-7-6 / 10-8-7 | 283-247-212 / 353-283-247 | 133-117-100 / 167-133-117 | 27-24-21 / 31-29-27 |
| **Compact** |  RPIZ-0.8~1.5 FSN1Q 21-22 Kg<br>  RPIZ-1.8~2.5 FSN1Q 27Kg | 0.8 ~ 1.5 | 2.2 / 4.3 | 7.5K / 14.7K | 10 - 30 | 21-22 | 8-7-6 / 10-8-7 | 283-247-212 / 353-283-247 | 133-117-100 / 167-133-117 | 27-24-21 / 31-29-26 |
| **Larger Air Volume** |  RPI-3.0~4.0 FSN2SQ 52-57 Kg<br>  RPI-5.0~6.0 FSN2SQ 61-63 Kg<br>  RPI-7.0 FSN2SQ 75Kg | 3.0 ~ 7.0 | 8.0 / 18.0 | 27.3K / 61.4K | 70 - 140 | 52-75 | 29-26-20 / 65-57-46 | 1,036-929-714 / 2,321-2,036-1,643 | 483-433-333 / 1,083-950-767 | 46-44-40 / 51-47-42 |





# High ESP (External Static Pressure)

| Indoor Unit Type | | | Ducted (High ESP type) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Model | | | RPI-2.0FSN3 | RPI-2.5FSN3 | RPI-3.0FSN3 | RPI-4.0FSN3 | RPI-5.0FSN3 | RPI-6.0FSN3 | RPI-8.0FSN1 | RPI-10.0FSN1 |
| Indoor Unit Power Supply | | | AC 1Φ, 220-240V / 50Hz, 220V / 60Hz | | | | | | | |
| Nominal Cooling Capacity | | kW | 5.6 | 7.1 | 8.0 | 11.2 | 14.0 | 16.0 | 22.4 | 28.0 |
| Nominal Heating Capacity | | kW | 6.3 | 8.5 | 9.0 | 12.5 | 16.0 | 18.0 | 25.0 | 31.5 |
| Sound Pressure Level(Overall A Scale)(Hi2-Hi-Me-Lo) | | dB | 41-38-35-32 | 37-35-32-30 | 39-36-33-31 | 40-37-34-32 | 42-39-36-33 | 44-40-37-34 | 44-40-37-34 | 44-40-37-34 |
| Sound Power Level(Overall A Scale)(Hi2-Hi-Me-Lo) | | dB | 59-56-53-50 | 55-53-50-48 | 57-54-51-49 | 58-55-52-50 | 60-57-54-51 | 62-58-55-52 | 45-43-40-36 | 50-48-46-39 |
| Outer Dimensions | Height | mm | 300 | 300 | 300 | 300 | 300 | 300 | 470 | 470 |
| | Width | mm | 700 | 1,050 | 1,050 | 1,400 | 1,400 | 1,400 | 1,380 | 1,380 |
| | Depth | mm | 800 | 800 | 800 | 800 | 800 | 800 | 1,060 | 1,060 |
| Net Weight | | kg | 29 | 38 | 38 | 48 | 48 | 48 | 94 | 94 |
| Refrigerant | | | R410A | | | | | | | |
| Indoor Fan | Air Flow Rate(Hi2-Hi-Me-Lo) | $m^3$/min.(cfm) | 14.5-13-11-9.5(512-459-388-335) | 18.5-16.5-14.5-12(653-582-512-423) | 20-17.5-15.5-13(706-618-547-459) | 30-26.5-23-20(1,059-935-812-706) | 33.5-29.5-26-22(1,182-1,041-917-776) | 36-31.5-27.5-24(1,270-1,112-970-847) | 63-58-50-38(2,224-2,048-1,765-1,341) | 80-72-64-48(2,825-2,542-2,260-1,695) |
| External Pressure *3) | | Pa | 50(100-200) | 50(100-200) | 50(100-200) | 50(100-200) | 50(100-200) | 50(100-200) | 50(100-230) | 50(100-230) |
| Motor | | W | 157 | 190 | 190 | 259 | 259 | 259 | 840 | 840 |
| Connections | | | Flare-Nut Connection (with Flare Nuts) | | | | | | | |
| Refrigerant Piping | Liquid Line | mm(in.) | Φ6.35(1/4) | Φ9.52(3/8) | Φ9.52(3/8) | Φ9.52(3/8) | Φ9.52(3/8) | Φ9.52(3/8) | Φ9.52(3/8) | Φ9.52(3/8) |
| | Gas Line | mm(in.) | Φ12.7(1/2) | Φ15.88(5/8) | Φ15.88(5/8) | Φ15.88(5/8) | Φ15.88(5/8) | Φ15.88(5/8) | Φ19.05(3/4) | Φ22.2(7/8) |
| | Condensate Drain | | VP25 | VP25 | VP25 | VP25 | VP25 | VP25 | VP25 | VP25 |
| Approximate Packing Measurement | | $m^3$ | 0.28 | 0.39 | 0.39 | 0.50 | 0.50 | 0.50 | 0.97 | 0.97 |

NOTES:
1.The nominal cooling capacity is the combined capacity of the Hitachi standard split system, and is based on the JIS standard B8616.

Cooling Operation Conditions
Indoor Air Inlet Temperature: 27°C DB (80°F DB)
19.0°C WB (66.2°F WB)
Outdoor Air Inlet Temperature: 35°C DB (95°F DB)

Heating Operation Conditions
Indoor Air Inlet Temperature: 20°C DB (68°F DB)
Outdoor Air Inlet Temperature: 7°C DB (45°F DB)
6°C WB (43°F WB)
Piping Length: 7.5 Meters Piping Lift: 0 Meter

2. The sound pressure level is based on following conditions. 1.5 Meters Beneath the Unit. With Discharge Duct (2.0m) and Return Duct (1.0m). Voltage of the power source for the indoor fan motor is 220V. The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.
3. The data for external pressure *3) indicates "Standard Pressure Setting (High Pressure Setting1 - High Pressure Setting2)" values when a filter is not used. The sound pressure level is based on the Standard Pressure Setting.

# Medium ESP (External Static Pressure)

| Indoor Unit Type | | | Ducted (Medium ESP type) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Model | | | RPIM-0.8FSN3 | RPIM-1.0FSN3 | RPIM-1.5FSN3 | RPIM-2.0FSN3 | RPIM-2.5FSN3 | RPIM-3.0FSN3 | RPIM-4.0FSN3 | RPIM-5.0FSN3 | RPIM-6.0FSN3 |
| Indoor Unit Power Supply | | | AC 1Φ, 220-240V / 50Hz, 220V / 60Hz | | | | | | | | |
| Nominal Cooling Capacity | | kW | 2.2 | 2.8 | 4.0 | 5.6 | 7.1 | 8.0 | 11.2 | 14.0 | 16.0 |
| Nominal Heating Capacity | | kW | 2.5 | 3.2 | 4.8 | 6.3 | 8.5 | 9.0 | 12.5 | 16.0 | 18.0 |
| Sound Pressure Level (Overall A Scale)(Hi2-Hi-Me-Lo) | | dB | 32-30-28-27 | 33-31-29-28 | 38-35-32-30 | 40-37-34-31 | 37-35-33-31 | 38-36-33-31 | 40-38-35-32 | 42-39-36-34 | 43-40-37-34 |
| Sound Power Level (Overall A Scale)(Hi2-Hi-Me-Lo) | | dB | 50-48-46-45 | 51-49-47-46 | 56-53-50-48 | 58-55-52-49 | 55-53-51-49 | 56-54-51-49 | 58-56-53-50 | 60-57-54-52 | 61-58-55-52 |
| Outer Dimensions | Height | mm | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 |
| | Width | mm | 700 | 700 | 700 | 700 | 1,050 | 1,050 | 1,400 | 1,400 | 1,400 |
| | Depth | mm | 800 | 800 | 800 | 800 | 800 | 800 | 800 | 800 | 800 |
| Net Weight | | kg | 26 | 26 | 27 | 27 | 36 | 36 | 44 | 44 | 44 |
| Refrigerant | | | R410A | | | | | | | | |
| Indoor Fan | Air Flow Rate (Hi2-Hi-Me-Lo) | $m^3$/min.(cfm) | 8.5-7.5-6.5-5.5(300-265-229-194) | 9.5-8.5-7.5-6.5(335-300-265-229) | 13-11.5-10-8.5(459-406-353-300) | 14.5-13-11-9.5(512-459-388-335) | 18.5-16.5-14-12(653-582-494-423) | 20-17.5-15.5-13(706-618-547-459) | 30-26.5-23-20(1059-935-812-706) | 33.5-29.5-26-22(1182-1041-917-776) | 36-31.5-27.5-24(1270-1112-970-847) |
| External Pressure *3) | | Pa | 50(100-150) | 50(100-150) | 50(100-150) | 50(100-150) | 50(100-150) | 50(100-150) | 50(100-150) | 50(100-150) | 50(100-150) |
| Motor | | W | 157 | 157 | 157 | 157 | 190 | 190 | 259 | 259 | 259 |
| Connections | | | Flare-Nut Connection (with Flare Nuts) | | | | | | | | |
| Refrigerant Piping | Liquid Line | mm(in.) | Φ6.35(1/4) | Φ6.35(1/4) | Φ6.35(1/4) | Φ6.35(1/4) | Φ9.52(3/8) | Φ9.52(3/8) | Φ9.52(3/8) | Φ9.52(3/8) | Φ9.52(3/8) |
| | Gas Line | mm(in.) | Φ12.7(1/2) | Φ12.7(1/2) | Φ12.7(1/2) | Φ12.7(1/2) | Φ15.88(5/8) | Φ15.88(5/8) | Φ15.88(5/8) | Φ15.88(5/8) | Φ15.88(5/8) |
| | Condensate Drain | | VP25 | VP25 | VP25 | VP25 | VP25 | VP25 | VP25 | VP25 | VP25 |
| Approximate Packing Measurement | | $m^3$ | 0.24 | 0.24 | 0.24 | 0.24 | 0.33 | 0.33 | 0.42 | 0.42 | 0.42 |

NOTES:
1.The nominal cooling capacity is the combined capacity of the Hitachi standard split system, and is based on the JIS standard B8616.

Cooling Operation Conditions
Indoor Air Inlet Temperature: 27°C DB (80°F DB)
19.0°C WB (66.2°F WB)
Outdoor Air Inlet Temperature: 35°C DB (95°F DB)

Heating Operation Conditions
Indoor Air Inlet Temperature: 20°C DB (68°F DB)
Outdoor Air Inlet Temperature: 7°C DB (45°F DB)
6°C WB (43°F WB)
Piping Length: 7.5 Meters Piping Lift: 0 Meter

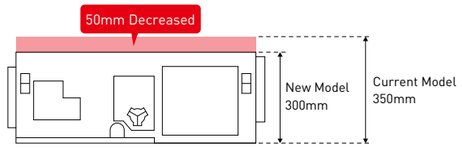
2. The sound pressure level is based on following conditions. 1.5 Meters Beneath the Unit. With Discharge Duct (2.0m) and Return Duct (1.0m). Voltage of the power source for the indoor fan motor is 220V. The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.
3. The data for external pressure *3) indicates "Standard Pressure Setting (High Pressure Setting1 - High Pressure Setting2)" values when a filter is not used. The sound pressure level is based on the Standard Pressure Setting.

# FEATURES AND BENEFITS OF HIGH ESP / MEDIUM ESP MODEL

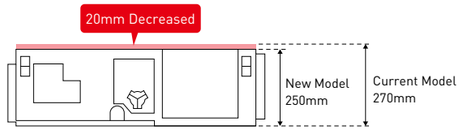
## Design Flexibility

### 1) Powerful yet small

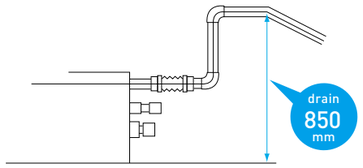
High ESP model



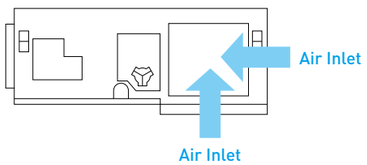

Medium ESP model




### 2) Standard drain pump with 850 mm lift

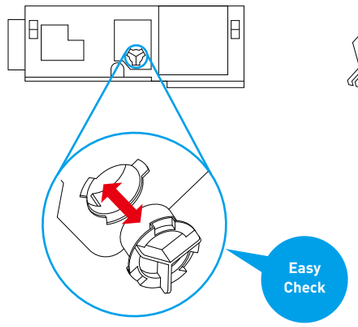



### 3) Air Inlet

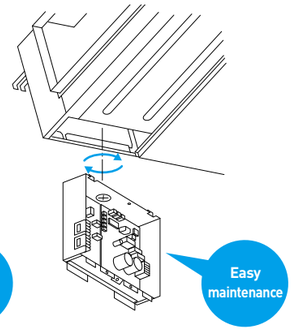



## Maintenance Ease

### 1) Adopting Side Cover for Drain Pan

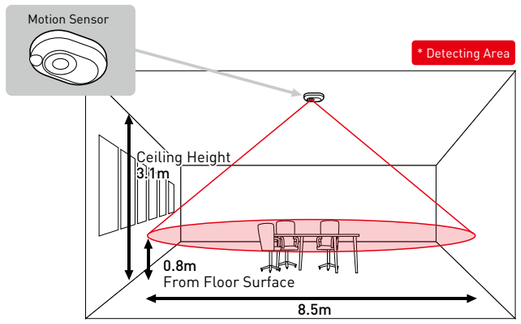



### 2) Changeable Mounting Position for Electrical Box



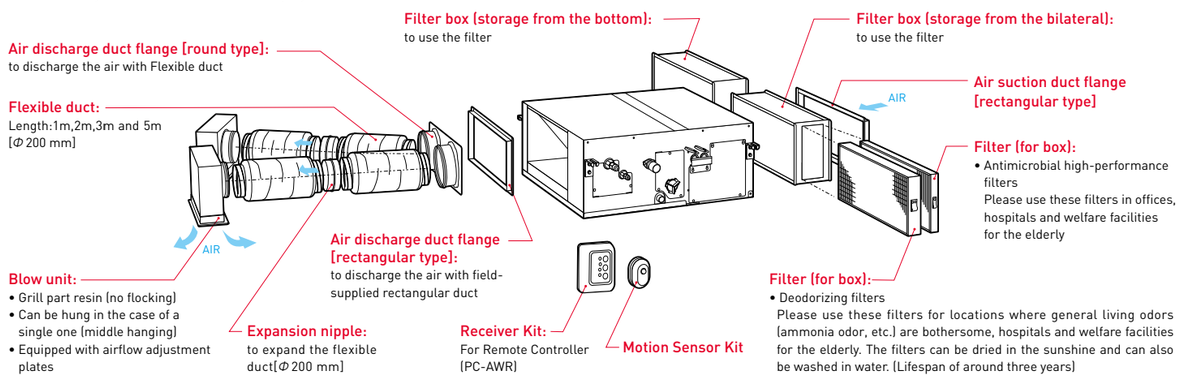

## Adaptability

### 1) Wide Detection area of motion sensor




# OPTIONAL PARTS

Please consult your distributors or dealers in inquiry








# Slim

| Indoor Unit Type | | | Ducted (slim) type | | | |
|---|---|---|---|---|---|---|
| Model | | | RPIZ-0.8FSNQS/P | RPIZ-1.0FSNQS/P | RPIZ-1.3FSNQS/P | RPIZ-1.5FSNQS/P |
| Indoor Unit Power Supply | | | AC 1Φ, 220V ~ 50Hz | | | |
| Nominal Cooling Capacity | | kW | 2.3 | 2.9 | 3.8 | 4.4 |
| | | kcal/h | 2,000 | 2,500 | 3,300 | 3,800 |
| | | Btu/h | 7,900 | 9,900 | 13,000 | 15,100 |
| Nominal Heating Capacity | | kW | 2.8 | 3.3 | 4.2 | 4.9 |
| | | kcal/h | 2,400 | 2,800 | 3,600 | 4,200 |
| | | Btu/h | 9,500 | 11,100 | 14,300 | 16,700 |
| Sound Pressure Level(Overall A Scale) | | dB | 27-24-21 | 27-24-21 | 31-29-27 | 31-29-27 |
| Outer Dimensions | Height | mm(in.) | 192(7.56) | 192(7.56) | 192(7.56) | 192(7.56) |
| | Width | mm(in.) | 700(27.56) | 700(27.56) | 700(27.56) | 700(27.56) |
| | Depth | mm(in.) | 602(23.7) | 602(23.7) | 602(23.7) | 602(23.7) |
| Net Weight | | kg(lbs.) | 21(46) | 21(46) | 21(46) | 21(46) |
| Refrigerant | | | R410A(Nitrogen-Charged for Corrosion-Resistance) | | | |
| Indoor Fan | Air Flow Rate(Hi/Me/Lo) | $m^3$/min | 8/7/6 | 8/7/6 | 10/8/7 | 10/8/7 |
| External Pressure *3) | | Pa | 10/30 | 10/30 | 10/30 | 10/30 |
| Motor | | W | 15 | 15 | 25 | 25 |
| Connections | | | Flare-Nut Connection (with Flare Nuts) | | | |
| Refrigerant Piping | Liquid Line | mm(in.) | Φ6.35(1/4) | Φ6.35(1/4) | Φ6.35(1/4) | Φ6.35(1/4) |
| | Gas Line | mm(in.) | Φ12.7(1/2) | Φ12.7(1/2) | Φ12.7(1/2) | Φ12.7(1/2) |
| | Condensate Drain | | VP25 | VP25 | VP25 | VP25 |
| Approximate Packing Measurement | | $m^3$ | 0.15 | 0.15 | 0.15 | 0.15 |

NOTES:
1.The nominal cooling capacity is the combined capacity of the Hitachi standard split system, and is based on the JIS standard B8616.

Cooling Operation Conditions
Indoor Air Inlet Temperature: 27°C DB (80°F DB)
19.0°C WB (66.2°F WB)
Outdoor Air Inlet Temperature: 35°C DB (95°F DB)

Heating Operation Conditions
Indoor Air Inlet Temperature: 20°C DB (68°F DB)
Outdoor Air Inlet Temperature: 7°C DB (45°F DB)
6°C WB (43°F WB)
Piping Length: 7.5 Meters Piping Lift: 0 Meter

2. The sound pressure level is based on following conditions. 1 Meter Beneath the Unit and 1 Meter from Discharge Grille. Voltage of the power source for the indoor fan motor is 220V. In case of the power source of 240V, the sound pressure level increases by about 1 dB. The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.
3. *3) In case of using R407C or R22, use the accessory adaptor and ϕ19.05 piping .

# Compact

| Indoor Unit Type | | | Ducted (compact) type | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Model | | | RPIZ-0.8FSN1Q/P | RPIZ-1.0FSN1Q/P | RPIZ-1.3FSN1Q/P | RPIZ-1.5FSN1Q/P | RPIZ-1.8FSN1Q/P | RPIZ-2.0FSN1Q/P | RPIZ-2.3FSN1Q/P | RPIZ-2.5FSN1Q/P |
| Indoor Unit Power Supply | | | AC 1Φ, 220-240V / 50Hz, 220V / 60Hz | | | | | | | |
| Nominal Cooling Capacity | | kW | 2.2 | 2.8 | 3.6 | 4.3 | 5.0 | 5.6 | 6.3 | 7.1 |
| | | kcal/h | 1,900 | 2,400 | 3,100 | 3,700 | 4.300 | 4,800 | 5,400 | 6,100 |
| | | Btu/h | 7,500 | 9,500 | 12,300 | 14,700 | 17,100 | 19,100 | 21,500 | 24,200 |
| Nominal Heating Capacity | | kW | 2.8 | 3.3 | 4.2 | 4.9 | 5.6 | 6.5 | 7.5 | 8.5 |
| | | kcal/h | 2,400 | 2,800 | 3,600 | 4,200 | 4.800 | 5,600 | 6,500 | 7,300 |
| | | Btu/h | 9,600 | 11,100 | 14,300 | 16,700 | 19,100 | 22,200 | 25,600 | 29,000 |
| Sound Pressure Level(Overall A Scale) | | dB | 27-24-21 | 27-24-21 | 31-29-26 | 31-29-26 | 34-30-28 | 34-30-28 | 35-33-30 | 35-33-30 |
| Outer Dimensions | Height | mm(in.) | 192(7-9/16) | 192(7-9/16) | 192(7-9/16) | 192(7-9/16) | 192(7-9/16) | 192(7-9/16) | 192(7-9/16) | 192(7-9/16) |
| | Width | mm(in.) | 900(35-7/16) | 900(35-7/16) | 900(35-7/16) | 900(35-7/16) | 1,170(46-1/16) | 1,170(46-1/16) | 1,170(46-1/16) | 1,170(46-1/16) |
| | Depth | mm(in.) | 447(17-19/32) | 447(17-19/32) | 447(17-19/32) | 447(17-19/32) | 447(17-19/32) | 447(17-19/32) | 447(17-19/32) | 447(17-19/32) |
| Net Weight | | kg(lbs.) | 21(46) | 21(46) | 22(48) | 22(48) | 27(59) | 27(59) | 27(59) | 27(59) |
| Refrigerant | | | R410A(Nitrogen-Charged for Corrosion-Resistance) | | | | | | | |
| Indoor Fan | Air Flow Rate(Hi/Me/Lo) | $m^3$/min.(cfm) | 8/7/6 (283/247/212) | 8/7/6 (283/247/212) | 10/8/7 (353/283/247) | 10/8/7 (353/283/247) | 14.5/12.5/10.5 (512/442/371) | 14.5/12.5/10.5 (512/442/371) | 16/14/12 (556/494/424) | 16/14/12 (556/494/424) |
| External Pressure *3) | | Pa | 10(30) | 10(30) | 10(30) | 10(30) | 10(30) | 10(30) | 10(30) | 10(30) |
| Motor | | W | 16 | 16 | 25 | 25 | 40 | 40 | 50 | 50 |
| Connections | | | Flare-Nut Connection (with Flare Nuts) | | | | | | | |
| Refrigerant Piping | Liquid Line | mm(in.) | Φ6.35(1/4) | Φ6.35(1/4) | Φ6.35(1/4) | Φ6.35(1/4) | Φ6.35(1/4) | Φ6.35(1/4) | Φ9.53(3/8) | Φ9.53(3/8) |
| | Gas Line | mm(in.) | Φ12.7(1/2) | Φ12.7(1/2) | Φ12.7(1/2) | Φ12.7(1/2) | Φ15.88(5/8) | Φ15.88(5/8) | Φ15.88(5/8) | Φ15.88(5/8) |
| | Condensate Drain | | VP25 | VP25 | VP25 | VP25 | VP25 | VP25 | VP25 | VP25 |
| Approximate Packing Measurement | | $m^3$ | 0.15 | 0.15 | 0.15 | 0.15 | 0.18 | 0.18 | 0.18 | 0.18 |

NOTES:
1.The nominal cooling capacity is the combined capacity of the Hitachi standard split system, and is based on the JIS standard B8616.

Cooling Operation Conditions
Indoor Air Inlet Temperature: 27°C DB (80°F DB)
19.0°C WB (66.2°F WB)
Outdoor Air Inlet Temperature: 35°C DB (95°F DB)

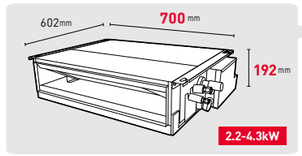
Heating Operation Conditions
Indoor Air Inlet Temperature: 20°C DB (68°F DB)
Outdoor Air Inlet Temperature: 7°C DB (45°F DB)
6°C WB (43°F WB)
Piping Length: 7.5 Meters Piping Lift: 0 Meter

2. The sound pressure level is based on following conditions. 1.5 Meters Beneath the Unit. With Discharge Duct (2.0m) and Return Duct (1.0m). Voltage of the power source for the indoor fan motor is 220V. In case of the power source of 240V, the sound pressure level increases by about 1 dB. The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.
3. The data for external pressure *3] indicates "Standard Pressure Setting values when a filter is not used.

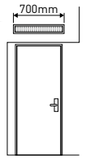
## FEATURES AND BENEFITS OF SLIM / COMPACT MODEL

### Design Flexibility

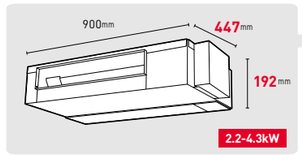
1) Slim & compact design



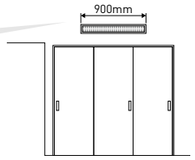

Slim



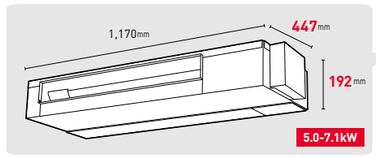

In dropped Ceiling



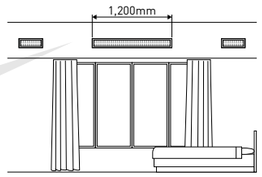

Compact




Over the closet

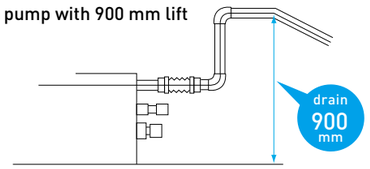



Compact




In dropped Ceiling over the window

2) Standard drain pump with 900 mm lift



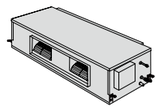

### Adaptability

Quiet Operation

| | | | | | |
|---|---|---|---|---|---|
| Cooling capacity (kW) | slim | 2.2 | 3.6 | | |
| | compact | 2.2 | 3.6 | 5.0 | 6.3 |
| Sound Pressure Level (dB(A)) | | 21 | 26 | 28 | 30 |

* air flow volume:low.


# Larger Air Volume



| Indoor Unit Type | | | Ducted (Larger air volume) type | | | | |
|---|---|---|---|---|---|---|---|
| Model | | | RPI-3.0FSN2SQ | RPI-4.0FSN2SQ | RPI-5.0FSN2SQ | RPI-6.0FSN2SQ | RPI-7.0FSN2SQ |
| Indoor Unit Power Supply | | | | AC 1Φ, 220-240V / 50Hz, 220V / 60Hz | | | AC 1Φ, 240V/50Hz |
| Nominal Cooling Capacity | | kW | 8.0 | 11.2 | 14.0 | 16.0 | 18.0 |
| Nominal Heating Capacity | | kW | 9.0 | 12.5 | 16.0 | 18.0 | 20.0 |
| Sound Pressure Level (Overall A Scale) (Hi/Me/Lo) | High Pressure Setting | dB | 46/44/40 | 48/45/41 | 49/46/43 | 53/49/45 | 51/47/42 |
| | Standard Pressure Setting | dB | 45/43/39 | 47/44/40 | 48/45/42 | 52/48/44 | - |
| Outer Dimensions | Height | mm(in.) | 350(13-3/4) | 350(13-3/4) | 350(13-3/4) | 350(13-3/4) | 440(17-5/16) |
| | Width | mm(in.) | 1,076(42-3/8) | 1,076(42-3/8) | 1,300(51-3/16) | 1,300(51-3/16) | 1,430(56-5/16) |
| | Depth | mm(in.) | 800(31-1/2) | 800(31-1/2) | 800(31-1/2) | 800(31-1/2) | 550(21-5/8) |
| Net Weight | | kg(lbs.) | 52(115) | 57(126) | 61(135) | 63(139) | 75(165) |
| Refrigerant | | | | | R410A | | |
| Indoor Fan Air Flow Rate (Hi/Me/Lo) | High Pressure Setting | $m^3$/min.(l/s) | 29/26/20(483/433/333) | 36/33/25(600/550/417) | 47/43/34(783/717/567) | 56/50/40(933/833/667) | 65/57/46(1,083/950/767) |
| | Standard Pressure Setting | $m^3$/min.(l/s) | 29/26/20(483/433/333) | 36/29/25(600/483/417) | 47/39/36(783/650/600) | 56/48/42(933/800/700) | - |
| External Pressure *1) | | Pa | 120 (70) | 120 (70) | 120 (70) | 120 (70) | 140 |
| Motor Output | | W | 250 | 300 | 420 | 550 | 650 |
| Connections | | | Flare-Nut Connection (with Flare Nuts) | | | | |
| Refrigerant Piping | Liquid Line | mm(in.) | Φ9.52(3/8) | Φ9.52(3/8) | Φ9.52(3/8) | Φ9.52(3/8) | Φ9.52(3/8) |
| | Gas Line | mm(in.) | Φ15.88(5/8) | Φ15.88(5/8) | Φ15.88(5/8) | Φ15.88(5/8) | Φ15.88(5/8) |
| | Condensate Drain | | VP25 | VP25 | VP25 | VP25 | VP25 |
| Approximate Packing Measurement | | $m^3$ | 0.49 | 0.49 | 0.57 | 0.57 | 0.54 |

NOTES:

1. The cooling and heating capacities above show the maximum capacities when the outdoor and indoor temperature are under the following conditions.

Cooling Operation Conditions
Indoor Air Inlet Temperature: 27°C DB (80°F DB)
19.0°C WB (66.2°F WB)
Outdoor Air Inlet Temperature: 35°C DB (95°F DB)

Heating Operation Conditions
Indoor Air Inlet Temperature: 20°C DB (68°F DB)
Outdoor Air Inlet Temperature: 7°C DB (45°F DB)
6°C WB (43°F WB)
Piping Length: 7.5 Meters Piping Lift: 0 Meter

2. The sound pressure level is based on following conditions. 1.5 Meters Beneath the Unit. With Discharge Duct (2.0m) and Return Duct (1.0m). Voltage of the power source for the indoor fan motor is 220V. In case of the power source of 240V, the sound pressure level increases by about 1 or 2 dB. The data in the table above was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.
3. The data for external pressure *1) indicates "High Pressure Setting (Standard Pressure Setting)" values when a filter is not used. The sound pressure level is based on the Standard Pressure Setting.

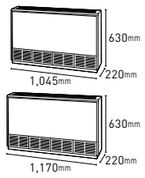
# Floor Exposed

## Application


## Dimensions

RPF-1.0FSN2E **25Kg**

RPF-1.5FSN2E **28Kg**




## Features

- Suitable for installation beneath a window perfectly thanks to only 630mm height
- Smaller footprint

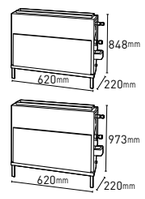
# Floor Concealed

## Application


## Dimensions

RPFI-1.0FSN2E **19Kg**

RPFI-1.5FSN2E **23Kg**




## Features

- Little installation space required thanks to only 220mm depth
- Only suction and discharge grilles visible (indoor aesthetics remains)

# Floor / Ceiling Convertible


## Application




## Dimensions

RPFC-1.8~2.0FSNQ **31Kg**

RPFC-2.3~2.5FSNQ **32Kg**

RPFC-3.0FSNQ **39Kg**

RPFC-3.3FSNQ **40Kg**

RPFC-4.0FSNQ **41Kg**

RPFC-5.0FSNQ **47Kg**


## Features

- literally Floor / Ceiling convertible
- Easy installation





| Indoor Unit Type | | | Floor Exposed Type | |
|---|---|---|---|---|
| Model | | | RPF-1.0FSN2E | RPF-1.5FSN2E |
| Indoor Unit Power Supply | | | AC 1Φ, 220-240V/50Hz, 220V/60Hz | |
| Nominal Cooling Capacity | | kW | 2.8 | 4.0 |
| | | kcal/h | 2,400 | 3,400 |
| | | Btu/h | 9,600 | 13,600 |
| Nominal Heating Capacity | | kW | 3.2 | 4.8 |
| | | kcal/h | 2,800 | 4,100 |
| | | Btu/h | 10,900 | 16,400 |
| Sound Pressure Level (Overall A Scale) | | dB | 35-32-29 | 38-35-31 |
| Cabinet Color | | | Spring White | |
| Outer Dimensions | Height | mm(in.) | 630(24-13/16) | 630(24-13/16) |
| | Width | mm(in.) | 1,045(41-1/8) | 1,170(46-1/16) |
| | Depth | mm(in.) | 220(8-11/16) | 220(8-11/16) |
| Net Weight | | kg(lbs.) | 25(55) | 28(62) |
| Refrigerant | | | R410A / R407C / R22 (Nitrogen-Charged for Corrosion-Resistance) | |
| Indoor Fan | Air Flow Rate (Hi/Me/Lo) | $m^3$/min.(cfm) | 8.5/7/6(300/247/212) | 12/10/9(424/353/318) |
| Motor | | W | 20 | 28 |
| Connections | | | Flare-Nut Connection (with Flare Nuts) | |
| Refrigerant Piping | Liquid Line | mm(in.) | Φ6.35(1/4) | Φ6.35(1/4) |
| | Gas Line | mm(in.) | Φ12.7(1/2) | Φ12.7(1/2) |
| | Condensate Drain | | Φ18.5 OD | Φ18.5 OD |
| Approximate Packing Measurement | | $m^3$ | 0.22 | 0.24 |
| Standard Accessories | | | - | |

| Indoor Unit Type | | | Floor Concealed Type | |
|---|---|---|---|---|
| Model | | | RPFI-1.0FSN2E | RPFI-1.5FSN2E |
| Indoor Unit Power Supply | | | AC 1Φ, 220-240V/50Hz, 220V/60Hz | |
| Nominal Cooling Capacity | | kW | 2.8 | 4.0 |
| | | kcal/h | 2,400 | 3,400 |
| | | Btu/h | 9,600 | 13,600 |
| Nominal Heating Capacity | | kW | 3.2 | 4.8 |
| | | kcal/h | 2,800 | 4,100 |
| | | Btu/h | 10,900 | 16,400 |
| Sound Pressure Level (Overall A Scale) | | dB | 35-32-29 | 38-35-31 |
| Cabinet Color | | | - | - |
| Outer Dimensions | Height | mm(in.) | 620(24-7/16) | 620(24-7/16) |
| | Width | mm(in.) | 848(33-3/8) | 973(38-5/16) |
| | Depth | mm(in.) | 220(8-11/16) | 220(8-11/16) |
| Net Weight | | kg(lbs.) | 19(42) | 23(51) |
| Refrigerant | | | R410A / R407C / R22 (Nitrogen-Charged for Corrosion-Resistance) | |
| Indoor Fan | Air Flow Rate (Hi/Me/Lo) | $m^3$/min.(cfm) | 8.5/7/6(300/247/212) | 12/10/9(424/353/318) |
| Motor | | W | 20 | 28 |
| Connections | | | Flare-Nut Connection (with Flare Nuts) | |
| Refrigerant Piping | Liquid Line | mm(in.) | Φ6.35(1/4) | Φ6.35(1/4) |
| | Gas Line | mm(in.) | Φ12.7(1/2) | Φ12.7(1/2) |
| | Condensate Drain | | Φ18.5 OD | Φ18.5 OD |
| Approximate Packing Measurement | | $m^3$ | 0.22 | 0.23 |
| Standard Accessories | | | - | |

OD: Outer Diameter

NOTES:

1. The nominal cooling capacity is the combined capacity of the Hitachi standard split system, and is based on the JIS standard B8616.

   Cooling Operation Conditions
   Indoor Air Inlet Temperature: 27°C DB (80°F DB) 19.0°C WB (66.2°F WB)
   Outdoor Air Inlet Temperature: 35°C DB (95°F DB)

   Heating Operation Conditions
   Indoor Air Inlet Temperature: 20°C DB (68°F DB)
   Outdoor Air Inlet Temperature: 7°C DB (45°F DB) 6°C WB (43°F WB)
   Piping Length: 7.5 Meters Piping Lift: 0 Meter

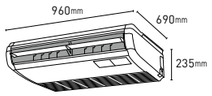
2. The sound pressure level is based on following conditions.
   1 meter from the unit.
   1 meter from floor level.
   Voltage of the power source for the indoor fan motor is 220V.
   The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.

| Indoor Unit Type | | | Floor Ceiling Convertible Type | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Model | | | RPFC-1.8FSNQ | RPFC-2.0FSNQ | RPFC-2.3FSNQ | RPFC-2.5FSNQ | RPFC-3.0FSNQ | RPFC-3.3FSNQ | RPFC-4.0FSNQ | RPFC-5.0FSNQ |
| Indoor Unit Power Supply | | | AC 1Φ, 220-240V/50Hz, 220V/60Hz | | | | | | | |
| Nominal Cooling Capacity | | kW | 5.0 | 5.6 | 6.3 | 7.1 | 8.4 | 9.0 | 11.2 | 14.2 |
| | | kcal/h | 4,300 | 4,800 | 5,400 | 6,100 | 7,200 | 7,700 | 9,600 | 12,200 |
| | | Btu/h | 17,100 | 19,100 | 21,500 | 24,200 | 28,700 | 30,700 | 38,200 | 48,500 |
| Nominal Heating Capacity | | kW | 5.6 | 6.5 | 7.5 | 8.5 | 9.6 | 10.0 | 13.0 | 16.3 |
| | | kcal/h | 4,800 | 5,600 | 6,500 | 7,300 | 8,300 | 8,600 | 11,200 | 14,000 |
| | | Btu/h | 19,100 | 22,000 | 25,600 | 29,000 | 32,800 | 34,100 | 44,400 | 55,600 |
| Sound Pressure Level (Overall A Scale) | | dB | (ceiling) 39-35-30 (Floor) 43-38-35 | (ceiling) 39-35-30 (Floor) 43-38-35 | (ceiling) 45-41-37 (Floor) 48-44-40 | (ceiling) 45-41-37 (Floor) 48-44-40 | 43-39-34 46-41-37 | 45-40-36 48-43-39 | 51-46-40 54-49-43 | 50-46-42 55-50-46 |
| Outer Dimensions | Height | mm(in.) | 230(9) | 230(9) | 230(9) | 230(9) | 230(9) | 230(9) | 230(9) | 230(9) |
| | Width | mm(in.) | 990(39) | 990(39) | 990(39) | 990(39) | 1,285(50-3/5) | 1,285(50-3/5) | 1,285(50-3/5) | 1,580(62-1/5) |
| | Depth | mm(in.) | 680(26-3/4) | 680(26-3/4) | 680(26-3/4) | 680(26-3/4) | 680(26-3/4) | 680(26-3/4) | 680(26-3/4) | 680(26-3/4) |
| Net Weight | | kg(lbs.) | 31(68) | 31(68) | 32(70) | 32(70) | 39(86) | 40(88) | 41(90) | 47(103) |
| Refrigerant | | | R410A(Nitrogen-Charged for Corrosion-Resistance) | | | | | | | |
| Indoor Fan | Air Flow Rate (Hi/Me/Lo) | $m^3$/min | 780/660/540 (459/389/318) | 780/660/540 (459/389/318) | 966/840/678 (569/495/399) | 966/840/678 (569/495/399) | 1,092/912/732 (643/537/431) | 1,164/978/798 (685/576/470) | 1,488/1,230/978 (876/724/576) | 1,980/1,680/1,380 (1,166/989/812) |
| Motor | | W | 40 | 40 | 70 | 70 | 70 | 80 | 130 | 160 |
| Connections | | | Flare-Nut Connection (with Flare Nuts) | | | | | | | |
| Refrigerant Piping | Liquid Line | mm(in.) | Φ6.35(1/4) | Φ6.35(1/4) | Φ6.35(1/4) | Φ6.35(1/4) | Φ9.53(3/8) | Φ9.53(3/8) | Φ9.53(3/8) | Φ9.53(3/8) |
| | Gas Line | mm(in.) | Φ15.88(5/8) | Φ15.88(5/8) | Φ15.88(5/8) | Φ15.88(5/8) | Φ15.88(5/8) | Φ15.88(5/8) | Φ15.88(5/8) | Φ15.88(5/8) |
| Condensate Drain | | | VP25 | | | | | | | |
| Approximate Packing Measurement | | $m^3$ | 0.31 | 0.31 | 0.31 | 0.31 | 0.40 | 0.40 | 0.40 | 0.40 |

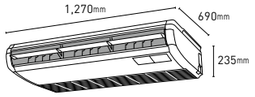
# Ceiling Suspended

## Dimensions

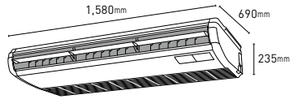
RPC-1.5 FSN3 **26Kg**
RPC-2.0 FSN3 **27Kg**




RPC-2.5~3.0 FSN3 **35Kg**




RPC-4.0~6.0 FSN3 **41Kg**




## Application


Classroom


Kitchen Space

| Indoor Unit Type | | | Ceiling Suspended Type | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Model | | | RPC-1.5FSN3 | RPC-2.0FSN3 | RPC-2.5FSN3 | RPC-3.0FSN3 | RPC-4.0FSN3 | RPC-5.0FSN3 | RPC-6.0FSN3 |
| Indoor Unit Power Supply | | | AC 1Φ, 220-240V/50Hz, 220V/60Hz | | | | | | |
| Nominal Cooling Capacity | | kW(Btu/h) | 4.0(13,600) | 5.6(19,100) | 7.1(24,200) | 8.0(27,300) | 11.2(38,200) | 14.0(47,800) | 16.0(54,600) |
| Nominal Heating Capacity | | kW(Btu/h) | 4.8(16,400) | 6.3(21,500) | 8.5(29,000) | 9.0(30,700) | 12.5(42,600) | 16.0(54,600) | 18.0(61,400) |
| Sound Pressure Level (Overall A Scale) (Hi2/Hi/Me/Lo) | | dB | 37/35/31/28 | 38/35/31/28 | 38/35/31/28 | 40/37/33/29 | 44/42/37/32 | 48/45/41/35 | 49/47/42/36 |
| Cabinet Color | | | | | | Neutral White | | | |
| Outer Dimensions | Height | mm(in.) | 235(9-1/4) | 235(9-1/4) | 235(9-1/4) | 235(9-1/4) | 235(9-1/4) | 235(9-1/4) | 235(9-1/4) |
| | Width | mm(in.) | 960(37-4/5) | 960(37-4/5) | 1270(50) | 1270(50) | 1580(62-1/5) | 1580(62-1/5) | 1580(62-1/5) |
| | Depth | mm(in.) | 690(27-1/5) | 690(27-1/5) | 690(27-1/5) | 690(27-1/5) | 690(27-1/5) | 690(27-1/5) | 690(27-1/5) |
| Net Weight | | kg(lbs.) | 26(57) | 27(60) | 35(78) | 35(78) | 41(91) | 41(91) | 41(91) |
| Refrigerant | | | | | | R410A | | | |
| Indoor Fan | Air Flow Rate (Hi2/Hi/Me/Lo) | $m^3$/min.(l/s) | 15/13/11/9 (530/459/388/318) | 15/13/11/9 (530/459/388/318) | 19/16.5/14/11.5 (671/582/494/406) | 21/18.5/15.5/12.5 (741/653/547/441) | 30/26.5/22/17 (1059/935/777/600) | 35/31/25.5/20(1236 /1094/900/706) | 37/32.5/27/21(1306 /1147/953/741) |
| Motor | | W | 50 | 50 | 80 | 80 | 160 | 160 | 160 |
| Connections | | | | | | Flare-Nut Connection (with Flare Nuts) | | | |
| Refrigerant Piping | Liquid Line | mm(in.) | Φ 6.35(1/4) | Φ 6.35(1/4) | Φ 9.52(3/8) | Φ 9.52(3/8) | Φ 9.52(3/8) | Φ 9.52(3/8) | Φ 9.52(3/8) |
| | Gas Line | mm(in.) | Φ 12.7(1/2) | Φ 15.88(5/8) | Φ 15.88(5/8) | Φ 15.88(5/8) | Φ 15.88(5/8) | Φ 15.88(5/8) | Φ 15.88(5/8) |
| | Condensate Drain | | VP20 | VP20 | VP20 | VP20 | VP20 | VP20 | VP20 |
| Approximate Packing Measurement | | $m^3$ | 0.23 | 0.23 | 0.31 | 0.31 | 0.38 | 0.38 | 0.38 |

NOTES:

1.The cooling and heating capacities above show the maximum capacities when the outdoor and indoor temperature are under the following conditions.

Cooling Operation Conditions
Indoor Air Inlet Temperature: 27°C DB (80°F DB) 19.0°C WB (66.2°F WB)
Outdoor Air Inlet Temperature: 35°C DB (95°F DB)

Heating Operation Conditions
Indoor Air Inlet Temperature: 20°C DB (68°F DB)
Outdoor Air Inlet Temperature: 7°C DB (45°F DB) 6°C WB (43°F WB)
Piping Length:7.5 Meters Piping Lift:0 Meter

2. The sound pressure level is based on following conditions.
1.5 Meters Beneath the Unit.
The data in the table above was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.

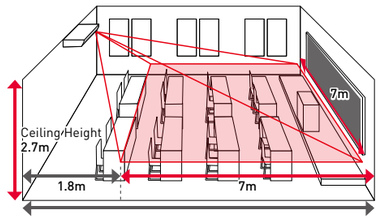




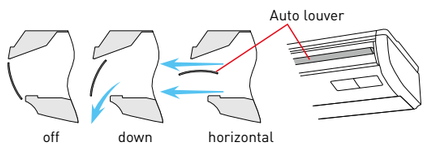
## FEATURES AND BENEFITS

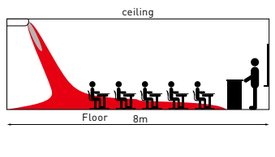
### Adaptability

1) Wide Detection area of motion sensor




2) Auto louver




3) Quiet operation
new design in fan inlet and fan resulted in the low sound pressure

| | | | | |
|---|---|---|---|---|
| Cooling capacity (kW) | 4.0 | 8.0 | 11.2 | 14.0 |
| Sound Pressure Level (dB(A)) | 28 | 29 | 32 | 35 |

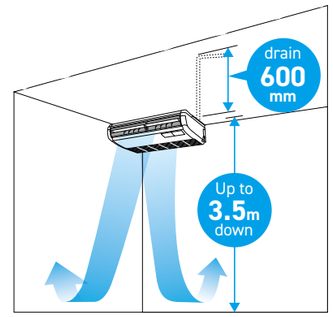
* air flow volume: low.


### Design Flexibility

1) High Ceiling Available
Standard drain-pump

| IDU Capacity HP(Class) | 1.5-3.0 | 4.0-6.0 |
|---|---|---|
| Height (m) | 3.5 | 4.3 |

* air flow volume: high



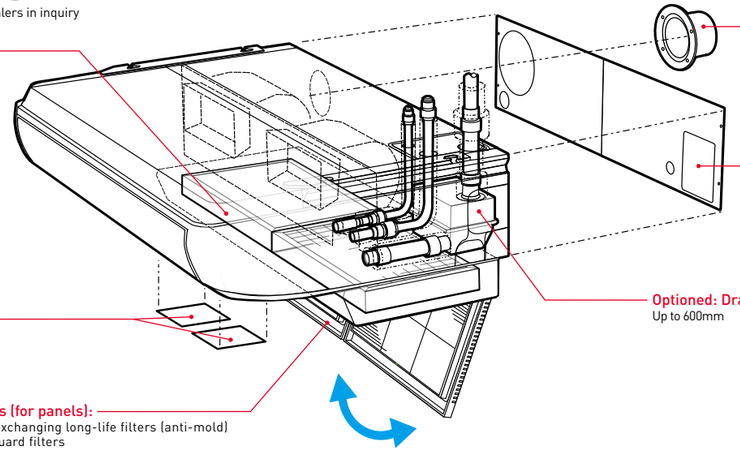

## OPTIONAL PARTS

Please consult your distributors or dealers in inquiry

**Filter (for box):**
- Antimicrobial high-performance filters
  Please use these filters in offices, hospitals and welfare facilities for the elderly.
- Deodorizing filters
  Please use these filters for locations where general living odors (ammonia odor, etc.) are bothersome, hospitals and welfare facilities for the elderly. The filters can be dried in the sunshine and can also be washed in water. (Lifespan of around three years)

**Receiver Kit:**
For Remote Controller (PC-AWR)

**Motion Sensor Kit**



**Duct adaptor:**
for fresh air absorption aperture [Φ 100 mm]

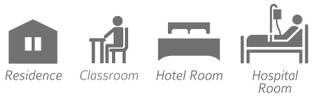
**Rear side decoration panel:**
to conceal the sheet metal in the rear side of unit

**Optioned: Drain pump:**
Up to 600mm

**Filters (for panels):**
- For exchanging long-life filters (anti-mold)
- Oil guard filters

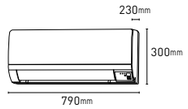
# Wall Mounted

## Application

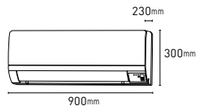



## Dimensions

RPK-0.6~1.0 FSN3M **10Kg**

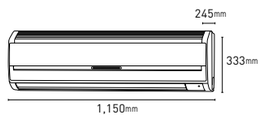



RPK-1.5 FSN3M **11Kg**




RPK-2.0 FSN3M **17Kg**

RPK-2.5~4.0 FSN3M **18Kg**




## Features

- Easy installation
- Simple design matching with any interior
- quiet operation (minimum 29 dB(A))

| Indoor Unit Type | | | Wall mounted type | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | built-in expansion valve | | | | | | | | external expansion valve | | | |
| Model | | | RPK-0.6FSN3M | RPK-0.8FSN3M | RPK-1.0FSN3M | RPK-1.5FSN3M | RPK-2.0FSN3M | RPK-2.5FSN3M | RPK-3.0FSN3M | RPK-4.0FSN3M | RPK-0.6FSNH3M | RPK-0.8FSNH3M | RPK-1.0FSNH3M | RPK-1.5FSNH3M |
| Indoor Unit Power Supply | | | AC 1Φ, 220-240V/50Hz, 220V/60Hz | | | | | | | | | | | |
| Nominal Cooling Capacity *1) | | kW | 1.8 | 2.3 | 2.9 | 4.1 | 5.8 | 7.3 | 8.3 | 11.6 | 1.8 | 2.3 | 2.9 | 4.1 |
| | | kcal/h | 1,550 | 2,000 | 2,500 | 3,550 | 5,000 | 6,300 | 7,100 | 10,000 | 1,550 | 2,000 | 2,500 | 3,550 |
| | | Btu/h | 6,100 | 7,900 | 9,900 | 14,100 | 19,800 | 25,000 | 28,200 | 39,700 | 6,100 | 7,900 | 9,900 | 14,100 |
| Nominal Cooling Capacity *2) | | kW | 1.7 | 2.2 | 2.8 | 4.0 | 5.6 | 7.1 | 8.0 | 11.2 | 1.7 | 2.2 | 2.8 | 4.0 |
| | | kcal/h | 1,450 | 1,900 | 2,400 | 3,400 | 4,800 | 6,100 | 6,900 | 9,600 | 1,450 | 1,900 | 2,400 | 3,400 |
| | | Btu/h | 5,800 | 7,500 | 9,600 | 13,600 | 19,100 | 24,200 | 27,300 | 38,200 | 5,800 | 7,500 | 9,600 | 13,600 |
| Nominal Heating Capacity | | kW | 1.9 | 2.5 | 3.2 | 4.8 | 6.3 | 8.5 | 9.0 | 12.5 | 1.9 | 2.5 | 3.2 | 4.8 |
| | | kcal/h | 1,650 | 2,100 | 2,800 | 4,100 | 5,400 | 7,300 | 7,700 | 10,700 | 1,650 | 2,100 | 2,800 | 4,100 |
| | | Btu/h | 6,500 | 8,500 | 10,900 | 16,400 | 21,500 | 29,000 | 30,700 | 42,600 | 6,500 | 8,500 | 10,900 | 16,400 |
| Sound Pressure Level (Overall A Scale) (Hi2/Hi/Me/Lo) | | dB | 35/32/31/29 | 39/35/32/30 | 39/35/32/30 | 46/40/36/33 | 42/40/38/33 | 49/43/40/36 | 49/43/40/36 | 51/49/46/41 | 35/32/31/29 | 39/35/32/30 | 39/35/32/30 | 46/40/36/33 |
| Cabinet Color | | | White | | | | | | | | | | | |
| Outer Dimensions | Height | mm | 300 | 300 | 300 | 300 | 333 | 333 | 333 | 333 | 300 | 300 | 300 | 300 |
| | Width | mm | 790 | 790 | 790 | 900 | 1,150 | 1,150 | 1,150 | 1,150 | 790 | 790 | 790 | 900 |
| | Depth | mm | 230 | 230 | 230 | 230 | 245 | 245 | 245 | 245 | 230 | 230 | 230 | 230 |
| Net Weight | | kg | 10 | 10 | 10 | 11 | 17 | 18 | 18 | 18 | 10 | 10 | 10 | 11 |
| Refrigerant | | | R410A | | | | | | | | | | | |
| Air Flow Rate (Hi/Me/Lo) | | $m^3$/min. (cfm) | 8/7.5/7/6 (282/265/247/212) | 10/8/7/6.5 (353/283/247/230) | 10/8/7/6.5 (353/282/247/230) | 14/11/9/7.5 (494/388/318/265) | 15/14/13/10 (530/494/459/353) | 19/17/14/12 (671/600/494/424) | 19/17/14/12 (671/600/494/424) | 22/19/17/15 (777/671/600/530) | 8/7.5/7/6 (282/265/247/212) | 10/8/7/6.5 (353/283/247/230) | 10/8/7/6.5 (353/282/247/230) | 14/11/9/7.5 (494/388/318/265) |
| Motor Output | | W | 40 | | | | | | | | | | | |
| Connections | | | Flare-Nut Connection (with Flare Nuts) | | | | | | | | | | | |
| Refrigerant Piping | Liquid Line | mm(in.) | Φ6.35(1/4) | Φ6.35(1/4) | Φ6.35(1/4) | Φ6.35(1/4) | Φ6.35(1/4) | Φ9.52(3/8) | Φ9.52(3/8) | Φ9.52(3/8) | Φ6.35(1/4) | Φ6.35(1/4) | Φ6.35(1/4) | Φ6.35(1/4) |
| | Gas Line | mm(in.) | Φ12.7(1/2) | Φ12.7(1/2) | Φ12.7(1/2) | Φ12.7(1/2) | Φ15.88(5/8) | Φ15.88(5/8) | Φ15.88(5/8) | Φ15.88(5/8) | Φ12.7(1/2) | Φ12.7(1/2) | Φ12.7(1/2) | Φ12.7(1/2) |
| | Condensate Drain | | VP16 | | | | | | | | | | | |
| Approximate Measurement | Packing | $m^3$ | 0.09 | 0.09 | 0.09 | 0.11 | 0.14 | 0.14 | 0.14 | 0.14 | 0.09 | 0.09 | 0.09 | 0.11 |
| Standard Accessories | | | Wall Mounting Bracket | | | | | | | | | | | |

NOTES:

1.The cooling and heating capacities above show the maximum capacities when the outdoor and indoor temperature are under the following conditions.

Cooling Operation Conditions
Indoor Air Inlet Temperature: 27°C DB (80°F DB) 19.0°C WB (66.2°F WB)
Outdoor Air Inlet Temperature: 35°C DB (95°F DB)

Heating Operation Conditions
Indoor Air Inlet Temperature: 20°C DB (68°F DB)
Outdoor Air Inlet Temperature: 7°C DB (45°F DB) 6°C WB (43°F WB)
Piping Length:7.5 Meters Piping Lift:0 Meter

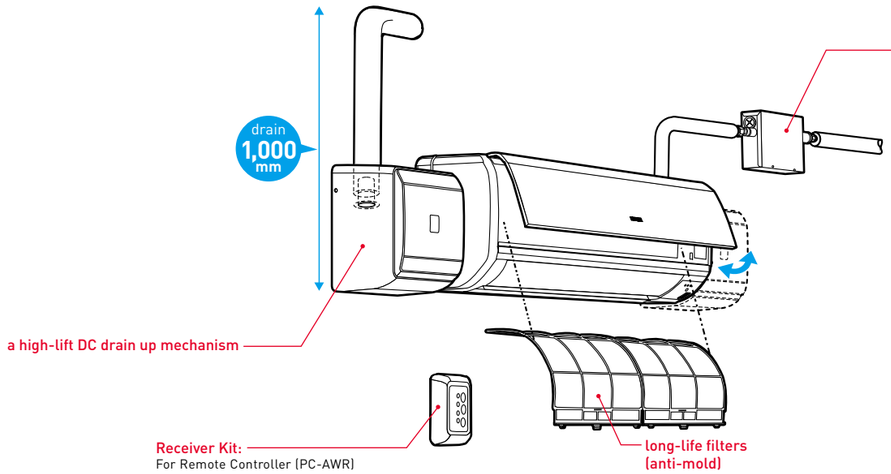
2. The sound pressure level is based on following conditions.
1.5 Meters Beneath the Unit.
The data in the table above was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.





## OPTIONAL PARTS

Please consult your distributors or dealers in inquiry




**Expansion Valve Kit (for the model RPK-FSNH3M only):**
Use in a low background noise (like hotel room or residence)
The running noise can become louder than the displayed values due to the effects of echoing noises. Please use a detached expansion valve installation type (RPK-FSNH3M) for use in a low-background-noise room such as a hotel room. In this case, it will be necessary to use a separate expansion valve kit in combination

Expansion Valve Kit

EV-1.5N1

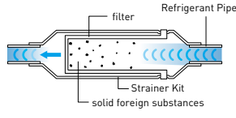
## STRAINER KIT

| Model | IDU to be installed | | |
|---|---|---|---|
| MSF-NP63A1 | RPK | 0.6-2.0 | FSN3M |
| MSF-NP112A1 | RPK | 2.5-4.0 | FSN3M |
| MSF-NP36AH1 | RPK | 0.6-1.5 | FSNH3M |

### What it is?

For the running of the cooling functions in VRF, the electric expansion valves of an indoor unit that is not in operation are fully closed. But if solid foreign substances enter the refrigerant piping at the time of installation, those solid foreign substances sometimes become stuck between the valve parts of the electric expansion valves, which prevents the valves from being completely closed (slightly opening); as a result, a small amount of refrigerant gas runs through the heat exchanger of an indoor unit that is not in operation and cools the heat exchanger. In addition, for a wall-mounted indoor unit, there were occasional cases in which the cooling of the fan beneath a heat exchanger caused dew condensation, and the condensed dew exploded from an aperture when the unit was put into operation. The unit therefore ensures that the solid foreign substances are caught without fail just before the electric expansion valves of a wall-mounted indoor unit, even if such solid foreign substances should have entered the Refrigerant pipes.

### How it works?

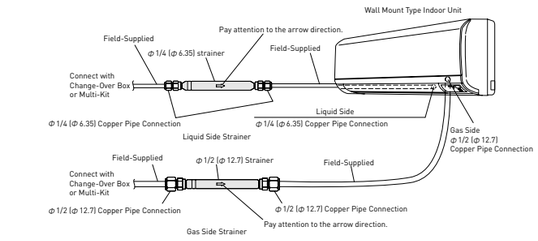



A strainer kit catches foreign substances such as tiny particles of steel and copper powder that have entered the refrigerant piping.

### Where to install?

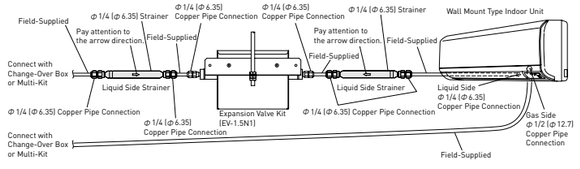
(MSF-NP63A1)

Unit: inch(mm)




For MSF-NP63/112A1: needs to be installed in a location that is as close to "the wall mounted unit" as possible between "multi-kit" and "the wall mounted unit"

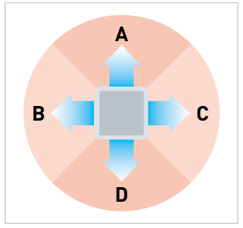
(MSF-NP36AH1)

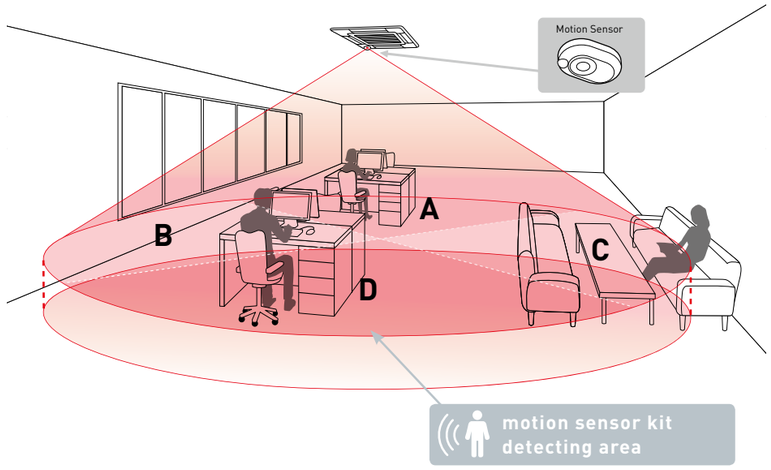



For MSF-NP36AH1: needs to be installed in a location that is as close to "the expansion valve" as possible

# Introduction of Motion Sensor Kit

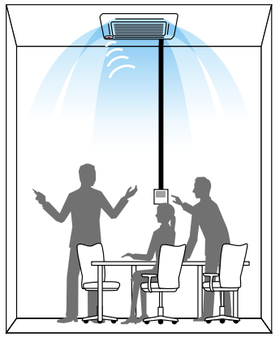
Senses the amount of human activity, undertakes automatic saving and achieves intelligent energy saving



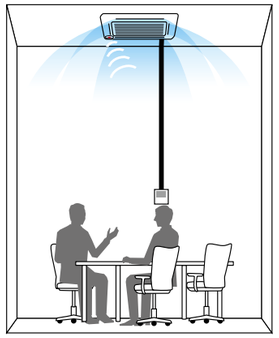




**Saving Energy**

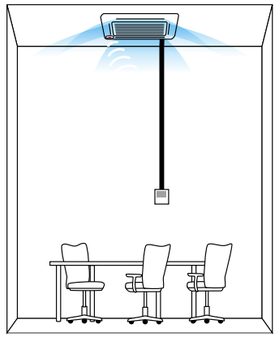
Perceives the amount of human activity and undertakes automatic saving



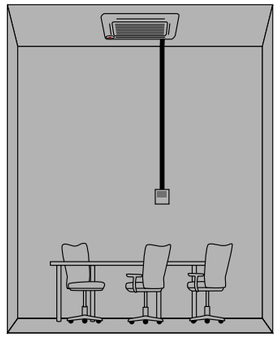
Standard operation for a room with a lot of human movement.



Moderate operation for a room with little human movement.



More moderate operation if people are absent for a certain period of time.



It is also possible to stop the operation of the unit by applying a particular setting if people remain absent for more than 30 minutes.

## Model Name

| Motion Sensor Kit | Indoor Unit | |
|---|---|---|
| P-AP160NAE |  | 4-way cassette |
| S0R-NEC |  | 4-way cassette compact |
| S0R-NED |  | 2-way cassette |
| S0R-NES |  | 1-way cassette |

| Motion Sensor Kit | Indoor Unit | |
|---|---|---|
| S0R-NEZ |  | Ducted High ESP |
| S0R-NEZ |  | Ducted Medium ESP |
| S0R-NEP |  | Ceiling Suspended |



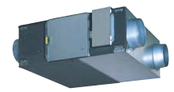


# Ventilation

## LINE UP OVERVIEW

| Air flow rate | | | | | | | | | | Features |
|---|---|---|---|---|---|---|---|---|---|---|
| | (m³/h) | 0.0 | 1,000.0 | 2,000.0 | 3,000.0 | 4,000.0 | 5,000.0 | 6,000.0 | 7,000.0 | 8,000.0 | |
| | (cfm) | 0.0 | 1680.0 | 3360.0 | 5040.0 | 6720.0 | 8400.0 | 10080.0 | 11760.0 | 13440.0 | |
| | (l/s) | 0.0 | 3600.0 | 7200.0 | 10800.0 | 14400.0 | 18000.0 | 21600.0 | 25200.0 | 28800.0 | |
| Total Heat Exchanger | AC 1Φ 220-240V/50Hz | | | | | | | | | | • Ventilation<br>• Heat transfer to incoming fresh-air from outgoing stale-air |
| Fresh Air Unit | AC 1Φ 220V/50Hz | | | | | | | | | | • Ventilation<br>•Conditioning the incoming fresh-air with Refrigerant heat exchanger inside. |
| | AC 3Φ 380V/50Hz | | | | | | | | | | |

1 cfm = 0.028 m³/min
1 l/S = 0.06 m³/min



## TOTAL HEAT EXCHANGER

| Unit Type | | | Total Heat Exchanger | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Model | | | KPI-2521 | KPI-5021 | KPI-8021 | KPI-10021 *1) | KPI-2521 | KPI-5021 | KPI-8021 | KPI-10021 *1) |
| Unit Power Supply | | | AC 1Φ, 220-240V/50Hz | | | | AC 1Φ, 220/60Hz | | | |
| Air Flow Rate(Hi/Me/Lo) | | m³/h | 250/250/165 | 500/500/350 | 800/800/670 | 1,000/1,000/870 | 250/250/150 | 500/500/300 | 800/800/660 | 1,000/1,000/720 |
| External Pressure(Hi/Me/Lo) | | Pa | 65/40/20 | 150/60/30 | 140/100/70 | 160/100/80 | 100/50/20 | 200/60/20 | 230/120/80 | 200/110/60 |
| Temp. Exchange Efficiency(Hi/Me/Lo) | | % | 78/78/83 | 77/77/82 | 78/78/80.5 | 79/79/81 | 78/78/84 | 77/77/83.5 | 78/78/81 | 79/79/83 |
| Enthalpy Exchange Efficiency | For Heating (Hi/Me/Lo) | % | 69/69/74 | 67/67/73 | 71/71/73 | 70/70/73 | 69/69/75 | 67/67/75 | 71/71/73.5 | 70/70/76 |
| | For Cooling (Hi/Me/Lo) | % | 62.5/62.5/68 | 61.5/61.5/68 | 64.5/64.5/68 | 64.5/64.5/67 | 62.5/62.5/70 | 61.5/61.5/70 | 64.5/64.5/68.5 | 64.5/64.5/71 |
| Sound Pressure Level (Over A Scale) | at 1.5m from the unit (under) (Hi/Me/Lo) *2), *4) | dB | 26.5-27.5/25-26/21-22 | 32.5-33.5/30-31/23.5-24.5 | 33.5-34.5/32-33/30-31 | 36-37/34-35/31.5-32.5 | 28.5/25.5/21 | 32.5/28.5/23 | 35/31/29 | 36/34/30 |
| | at Air Outlet (Hi/Me/Lo) *3), *4) | dB | 33.5-34.5/32-33/26-27 | 40.5-41.5/38-39/29.5-30.5 | 44.5-45.5/43-44/40-41 | 47-48/45-46/41.5-42.5 | 35.5/32.5/26 | 40.5/36.5/29 | 46/42/39 | 47/45/40 |
| Outer Dimensions | Height | mm(in.) | 275(10-13/16) | 317(12-1/2) | 398(15-11/16) | 398(15-11/16) | 275(10-13/16) | 317(12-1/2) | 398(15-11/16) | 398(15-11/16) |
| | Width | mm(in.) | 735(28-15/16) | 1,016(40) | 1,004(39-1/2) | 1,231(48-7/16) | 735(28-15/16) | 1,016(40) | 1,004(39-1/2) | 1,231(48-7/16) |
| | Depth | mm(in.) | 780(30-11/16) | 888(34-15/16) | 1,164(45-13/16) | 1,164(45-13/16) | 780(30-11/16) | 888(34-15/16) | 1,164(45-13/16) | 1,164(45-13/16) |
| Net Weight | | kg(lbs.) | 21(46) | 33(73) | 61(134) | 72(159) | 21(46) | 33(73) | 61(134) | 72(159) |
| Connection Duct Diameter | | mm | Φ 150 | Φ 200 | Φ 250 | Φ 250 | Φ 150 | Φ 200 | Φ 250 | Φ 250 |

NOTES:
*1):KPI-10021 has different units according to the applied power supply, 220-240V/50Hz and 220V/60Hz.
*2):The sound pressure level is based on following conditions.
1.5 meters beneath the unit and this data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.
*3):The noise at the air outlets is the values at a 45° angle, 1.5 meters in front of the unit.
*4):The sound pressure level is based on the total heat exchange mode.
In case of the bypass ventilation mode, the sound pressure level increase by approximately 1 dB(A).

## FRESH AIR UNIT

| Indoor Unit Type | | | All Fresh Air | | |
|---|---|---|---|---|---|
| Model | | | RPI-5.0KFNQ | RPI-8.0KFNQ | RPI-10.0KFNQ |
| Fresh Air Processing Unit Power | | | AC 1Φ, 220V~50Hz | | |
| Matched Outdoor Unit Type | | | SET-FREE Energy-saving Pioneer Series | | |
| Cooling Capacity | | kW | 14 | 22.4 | 26 |
| Cooling Input Power | | kW | 0.3 | 0.48 | 0.5 |
| Cooling Rated Electric Current | | A | 1.4 | 2.2 | 2.3 |
| Heating Capacity | | kW | 13.7 | 21.9 | 24.5 |
| Heating Input Power | | kW | 0.3 | 0.48 | 0.5 |
| Heating Rated Electric Current | | A | 1.4 | 2.2 | 2.3 |
| External Dimension | High | mm | 370 | 486 | 486 |
| | Width | mm | 1,320 | 1,270 | 1,270 |
| | Thickness | mm | 800 | 1,069 | 1,039 |
| Noise Level | | dB(A) | 42 | 44 | 45 |
| Net Weight | | kg | 60 | 110 | 110 |
| Refrigerant | | | R410A | | |
| Fresh Air Processing Unit Fan Speed | | $m^3/h$ | 1,080 | 1,680 | 2,100 |
| External Static Pressure | | Pa | 200 | 220 | 220 |
| Drain Pipe Dimension | | | VP25 | | |
| Refrigerant Liquid Pipe Dimension | | mm | Φ9.53 | Φ9.53 | Φ9.53 |
| Refrigerant Gas Pipe Dimension | | mm | Φ15.88 | Φ19.05 | Φ22.2 |
| Inlet Fresh Air Temperature Range | | | Cooling: 20°C~43°C, Heating: -5°C~15°C | | |

Instructions:
1. Cooling capacity and heating capacity test in the following conditions:
   Cooling conditions: 33°CDB, 28°CWB, pipeline length 7.5m, pipe height difference 0.0m
   Heating conditions: 0°CDB, -2.9°CWB, pipeline length 7.5m, pipe height difference 0.0m ( heating is the data without defrosting)
2. Noise test conditions are as follows:
   At a distance of 1.5m from the unit surface
   The above parameters are measured in the anechoic chamber without reflected echo, therefore the impact of the reflected echo must be counted at the scene.
3. An air filter with dust removal efficiency of 50% or more needs to be installed at the air inlet.
4. When the field duct resistance is small and the fan speed is too high, the unit will appear the phenomena of abnormal shutdown, fault, water spray etc., and the duct pipe should be insulated to prevent generating dew.
5. Air processor can only be used for processing fresh air, indoor air conditioning load processing need to use other air conditioners.
6. Fresh air processing unit should be connected with SET-FREE outdoor unit. When fresh air processing unit and other indoor units air all connected to the same SET-FREE outdoor unit, Its equivalent cooling capacity is calculated by the following criteria:
   Type 140: 21.0kW; Type 224 : 33.3kW; Type 280: 42.0kW;
7. When SET-FREE outdoor unit is only connected with fresh air processing unit, the configuration rate is 100%.
8. When outdoor temperature is below 20°C in cooling operation, the system will be automatically converted to ventilation operation. When outdoor temperature is higher than 15°C in heating operation, it will be automatically converted to ventilation operation. When lower than -5°C, the fresh air processing unit will stop running.

| Indoor Unit Type | | | All Fresh Air | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Model | | | RPI-12.0KFNQ | RPI-16.0KFNQL | RPI-16.0KFNQH | RPI-20.0KFNQL | RPI-20.0KFNQH | RPI-20.0KFNQLF | RPI-20.0KFNQHF |
| Fresh Air Processing Unit Power | | | AC 3Φ, 380V~50Hz | | | | | | |
| Matched Outdoor Unit Type | | | RAS-12.0FSN1Q | RAS-16.0FSN1Q | RAS-16.0FSN1Q | RAS-20.0FSN1Q | RAS-20.0FSN1Q | RAS-20.0FSN1Q | RAS-20.0FSN1Q |
| Cooling Capacity | | kW | 33.5 | 45.0 | 45.0 | 56.0 | 56.0 | 56.0 | 56.0 |
| Cooling Input Power | | kW | 0.68 | 0.72 | 1.06 | 1.06 | 1.39 | 1.39 | 1.72 |
| Cooling Rated Electric Current | | A | 1.43 | 1.8 | 2.2 | 2.22 | 3.14 | 3 | 3.9 |
| Heating Capacity | | kW | 26.8 | 36.0 | 36.0 | 44.8 | 44.8 | 44.8 | 44.8 |
| Heating Input Power | | kW | 0.68 | 0.72 | 1.06 | 1.06 | 1.39 | 1.39 | 1.72 |
| Heating Rated Electric Current | | A | 1.43 | 1.8 | 2.2 | 2.22 | 3.14 | 3.0 | 3.9 |
| External Dimension | High | mm | 486 | 635 | 635 | 735 | 735 | 735 | 735 |
| | Width | mm | 1,270 | 1,950 | 1,950 | 1,950 | 1,950 | 1,950 | 1,950 |
| | Thickness | mm | 1,069 | 805 | 805 | 805 | 805 | 805 | 805 |
| Noise Level | | dB(A) | 55 | 57 | 60 | 59 | 63 | 61 | 65 |
| Net Weight | | kg | 95 | 196 | 196 | 222 | 222 | 222 | 222 |
| Refrigerant | | | R410A | | | | | | |
| Fresh Air Processing Unit Fan Speed | | $m^3/h$ | 3,000 | 4,000 | 4,000 | 5,000 | 5,000 | 6,000 | 6,000 |
| External Static Pressure | | Pa | 220 | 200 | 200 | 200 | 300 | 200 | 300 |
| Drain Pipe Dimension | | | VP25 | Rc1(Internal Thread) | | | | | |
| Refrigerant Liquid Pipe Dimension | | mm | Φ12.7 | Φ12.7 | Φ12.7 | Φ15.88 | Φ15.88 | Φ15.88 | Φ15.88 |
| Refrigerant Gas Pipe Dimension | | mm | Φ25.4 | Φ25.4 | Φ25.4 | Φ28.6 | Φ28.6 | Φ28.6 | Φ28.6 |
| Inlet Fresh Air Temperature Range | | | Cooling: 20°C~43°C, Heating: -5°C~15°C | | | | | | |

Instructions:
1. Cooling capacity and heating capacity test in the following conditions:
   Cooling conditions: 33°CDB, 28°CWB, pipeline length 7.5m, pipe height difference 0.0m
   Heating conditions: 0°CDB, -2.9°CWB, pipeline length 7.5m, pipe height difference 0.0m ( heating is the data without defrosting)
2. Noise test conditions are as follows:
   At a distance of 1.5m from the unit surface
   The above parameters are measured in the anechoic chamber without reflected echo, therefore the impact of the reflected echo must be counted at the scene.
3. An air filter with dust removal efficiency of 50% or more needs to be installed at the air inlet.
4. When the field duct resistance is small and the fan speed is too high, the unit will appear the phenomena of abnormal shutdown, fault, water spray etc., and the duct pipe should be insulated to prevent generating dew.
5. Air processor can only be used for processing fresh air, indoor air conditioning load processing need to use other air conditioners.
6. When outdoor temperature is below 20°C in cooling operation, the system will be automatically converted to ventilation operation. When outdoor temperature is higher than 15°C in heating operation, it will be automatically converted to ventilation operation. When lower than -5 °C, the fresh air processing unit will stop running.

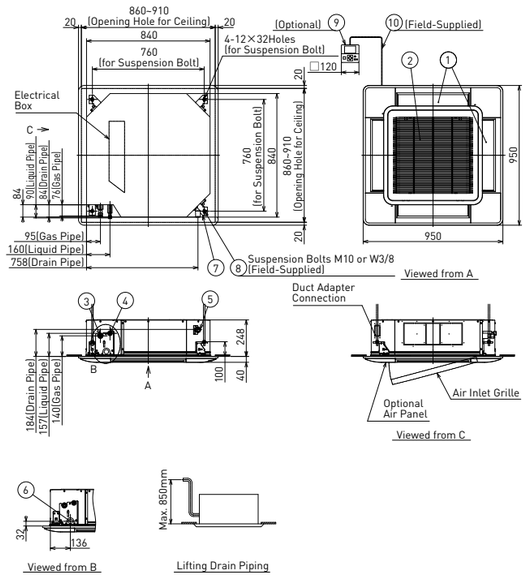


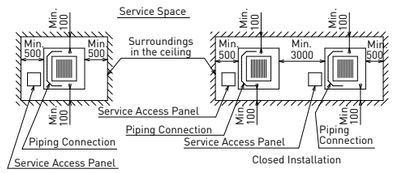
# Index

## 4-way cassette

## Models: RCI-1.0FSN3, RCI-1.5FSN3, RCI-2.0FSN3 AND RCI-2.5FSN3 WITH AIR PANEL P-AP160NA1

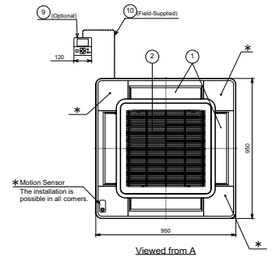
Unit: mm




| Model \ Dimension | a | b |
|---|---|---|
| RCI-1.0FSN3 | 12.7 | 6.35 |
| RCI-1.5FSN3 | 12.7 | 6.35 |
| RCI-2.0FSN3 | 15.88 | 6.35 |
| RCI-2.5FSN3 | 15.88 | 9.52 |

| Mark | Name | Remark |
|---|---|---|
| ① | Air Outlet | 4-way |
| ② | Air Inlet | |
| ③ | Refrigerant Gas Pipe Connection | with Øa Flare Nut |
| ④ | Refrigerant Liquid Pipe Connection | with Øb Flare Nut |
| ⑤ | Drain Pipe Connection | VP25 |
| ⑥ | Wiring Hole | Ø30 Hole |
| ⑦ | Suspension Bracket | |
| ⑧ | Suspension Bolt | 4-M10 or W3/8 |
| ⑨ | Wired Controller (PC-ARF1) | without Cable |
| ⑩ | Shielded Twist-Pair Cable for PC-ARF1 | Min. 0.75mm², Field-Supplied |

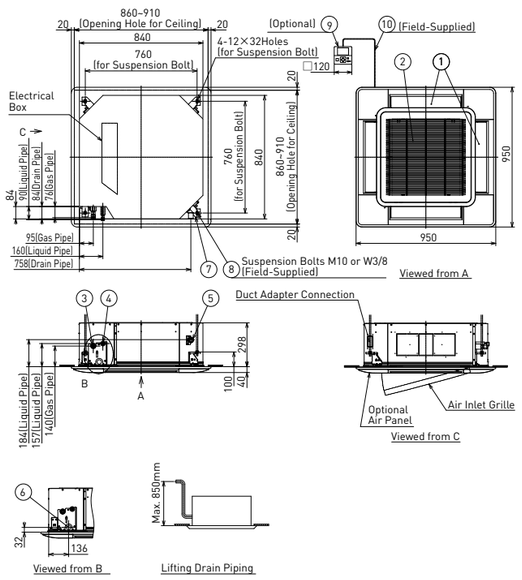


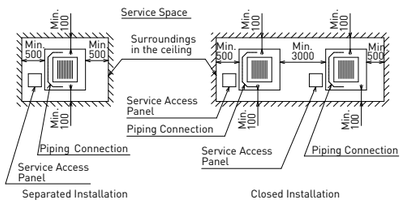

NOTES:
1.Distance between the wall and panel edge must be a min.1500mm to prevent short circuiting.

## 4-way cassette

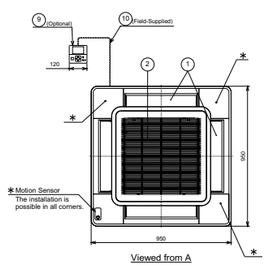
## Models: RCI-3.0FSN3, RCI-4.0FSN3, RCI-5.0FSN3 AND RCI-6.0FSN3 WITH AIR PANEL P-AP160NA1

Unit: mm




| Mark | Name | Remark |
|---|---|---|
| ① | Air Outlet | 4-way |
| ② | Air Inlet | |
| ③ | Refrigerant Gas Pipe Connection | with Ø15.88 Flare Nut |
| ④ | Refrigerant Liquid Pipe Connection | with Ø9.52 Flare Nut |
| ⑤ | Drain Pipe Connection | VP25 |
| ⑥ | Wiring Hole | Ø30 Hole |
| ⑦ | Suspension Bracket | |
| ⑧ | Suspension Bolt | 4-M10 or W3/8 |
| ⑨ | Wired Controller (PC-ARF1) | without Cable |
| ⑩ | Shielded Twist-Pair Cable for PC-ARF1 | Min. 0.75mm², Field-Supplied |




NOTES:
1.Distance between the wall and panel edge must be a min. 1500mm to prevent short circuiting.



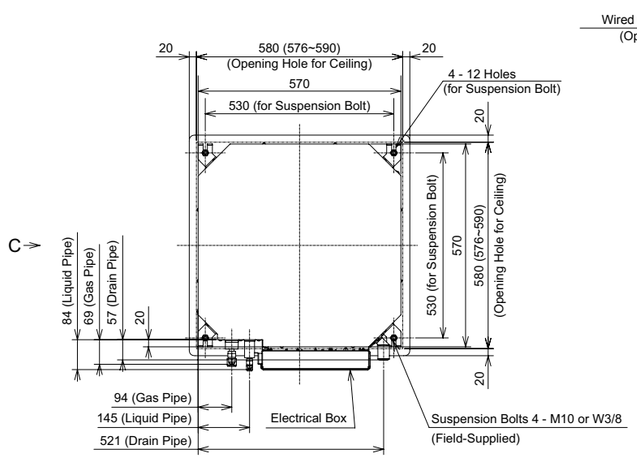


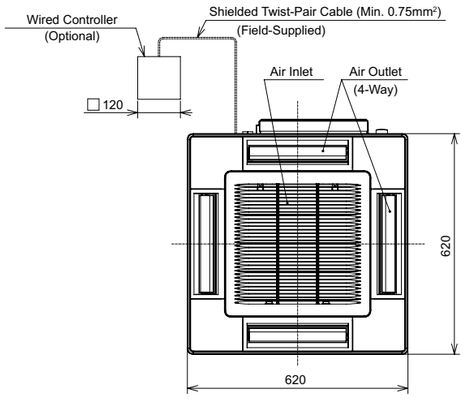
## 4-way cassette compact

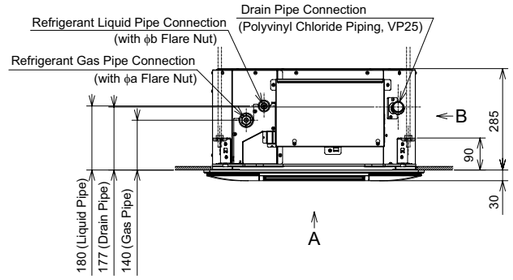
## Models: RCIM-0.6FSN4, RCIM-0.8FSN4, RCIM-1.0FSN4, RCIM-1.5FSN4, RCIM-2.0FSN4 and RCIM-2.5FSN4 with Air Panel P-AP56NAM

Unit: mm

View from A

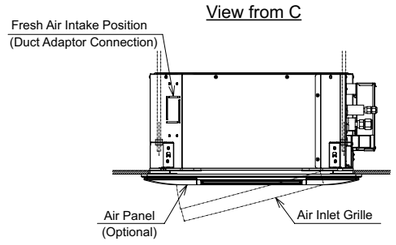


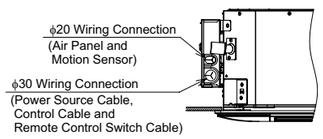




| HP \ Dimension | a | b |
|---|---|---|
| 0.6 | 12.7 | 6.35 |
| 0.8 | 12.7 | 6.35 |
| 1.0 | 12.7 | 6.35 |
| 1.5 | 12.7 | 6.35 |
| 2.0 | 12.7 | 6.35 |
| 2.5 | 15.88 | 9.52 |

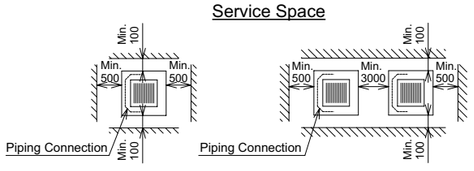
View from C



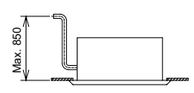

View from B




Service Space




Drain Piping



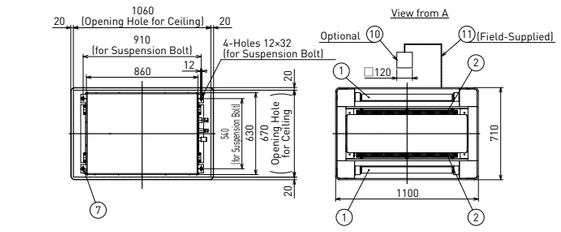

NOTES:
1. Distance between the wall and panel edge must be a min. 1500mm to prevent short circuiting.
2. This dimensional data shows the indoor unit with the air panel.

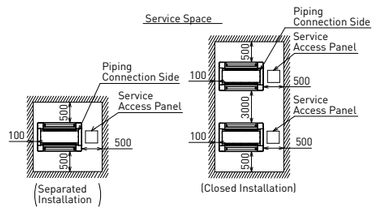
## 2-way cassette

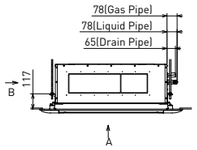
## Models: RCD-0.8FSN3, RCD-1.0FSN3, RCD-1.5FSN3 AND RCD-2.0FSN3 WITH AIR PANEL P-AP90DNA

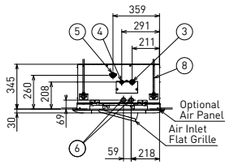
## Models: RCD-2.5FSN3 AND RCD-3.0FSN3 WITH AIR PANEL P-AP90DNA

Unit: mm

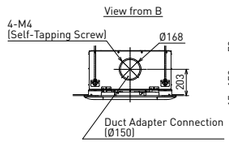


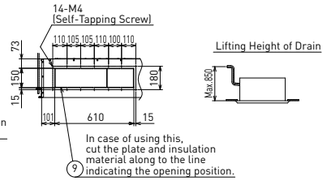




Enlarged View of Duct Connection (2 Sides)







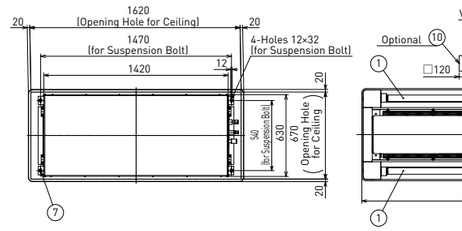
| | | ‹RCD-0.8-2FSN3› | ‹RCD-2.5-3FSN3› |
|---|---|---|---|
| Mark | Name | Remark | Remark |
| ① | Air Outlet | 2-Way | 2-Way |
| ② | Air Inlet | | |
| ③ | Refrigerant Gas Pipe Connection | with Ø12.7 Flare Nut | with Ø15.88 Flare Nut |
| ④ | Refrigerant Liquid Pipe Connection | with Ø6.35 Flare Nut | with Ø9.52 Flare Nut |
| ⑤ | Drain Pipe Connection | VP25 | VP25 |
| ⑥ | Wiring Hole | Ø26 Hole | Ø26 Hole |
| ⑦ | Suspension Bracket | | |
| ⑧ | Suspension Bolt | 4-M10 or W3/8 | 4-M10 or W3/8 |
| ⑨ | Supply Duct Connection | 2-150×610 | 2-150×610 |
| ⑩ | Wired Controller (PC-ARF1) | Optional | Optional |
| ⑪ | Shielded Twist-Pair Cable for PC-ARF1 | Min. 0.75mm², Field-Supplied | Min. 0.75mm², Field-Supplied |

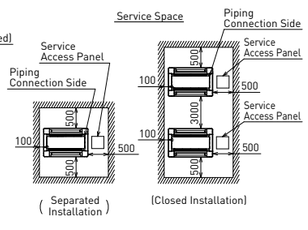
NOTE:
1.Distance between the wall and panel edge must be a min.1500mm to prevent short circuiting.

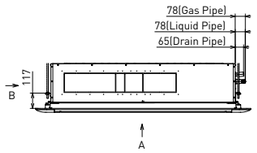
## 2-way cassette

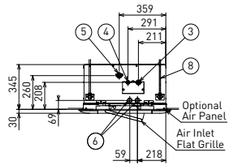
## Models: RCD-4.0FSN3, RCD-5.0FSN3 AND RCD-6.0FSN3 WITH AIR PANEL P-AP160DNA

Unit: mm

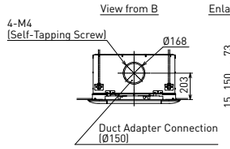


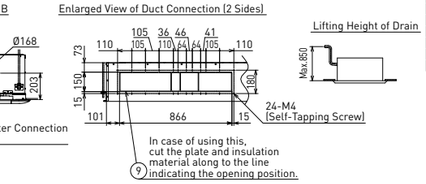




Enlarged View of Duct Connection (2 Sides)







| Mark | Name | Remark |
|---|---|---|
| ① | Air Outlet | 2-Way |
| ② | Air Inlet | |
| ③ | Refrigerant Gas Pipe Connection | with Ø15.88 Flare Nut |
| ④ | Refrigerant Liquid Pipe Connection | with Ø9.52 Flare Nut |
| ⑤ | Drain Pipe Connection | VP25 |
| ⑥ | Wiring Hole | Ø26 Hole |
| ⑦ | Suspension Bracket | |
| ⑧ | Suspension Bolt | 4-M10 or W3/8 |
| ⑨ | Supply Duct Connection | 2-150×866 |
| ⑩ | Wired Controller (PC-ARF1) | Optional |
| ⑪ | Shielded Twist-Pair Cable for PC-ARF1 | Min. 0.75mm², Field-Supplied |

NOTE:
1.Distance between the wall and panel edge must be a min.1500mm to prevent short circuiting.

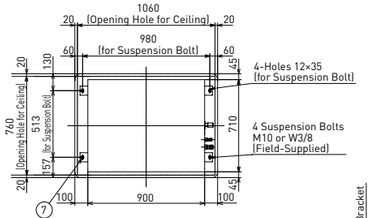


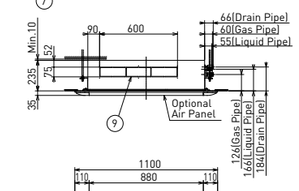


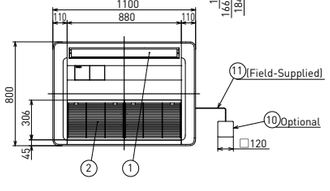
## 1-way cassette

## Models: RCS-0.8FSN, RCS-1.0FSN, RCS-1.5FSN AND RCS-2.0FSN WITH AIR PANEL P-AP36CNA AND P-AP56CNA

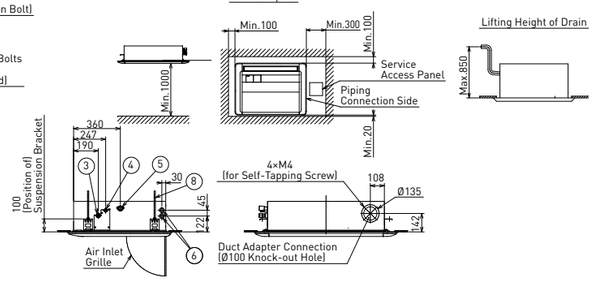
Unit: mm




Service Space

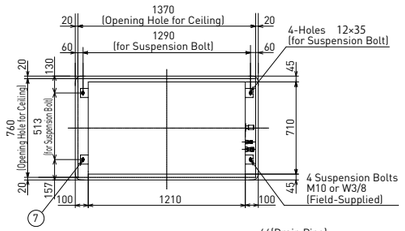


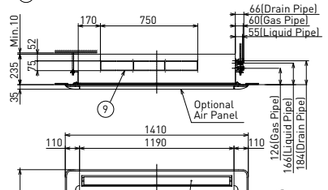

| Mark | Name | Remark |
|---|---|---|
| ① | Air Outlet | 1-Way |
| ② | Air Inlet | |
| ③ | Refrigerant Gas Pipe Connection | with Ø12.7 Flare Nut |
| ④ | Refrigerant Liquid Pipe Connection | with Ø6.35 Flare Nut |
| ⑤ | Drain Pipe Connection | VP25 |
| ⑥ | Wiring Hole | Ø26 Hole |
| ⑦ | Suspension Bracket | |
| ⑧ | Suspension Bolt | 4-M10 or W3/8 |
| ⑨ | Optional Front Air Outlet Grille Connection | 75×600 |
| ⑩ | Wired Controller (PC-ARF1) | Optional |
| ⑪ | Shielded Twist-Pair Cable for PC-ARF1 | Min. 0.75mm², Field-Supplied |

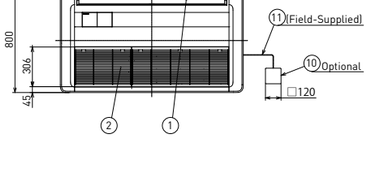
## 1-way cassette

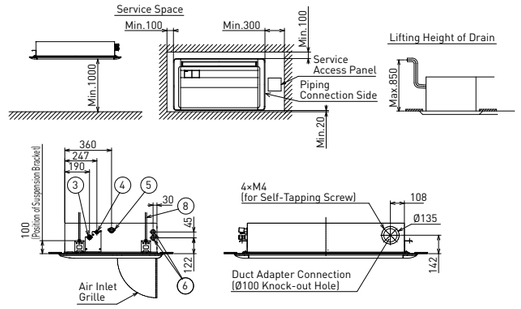
## Models: RCS-2.5FSN AND RCS-3.0FSN WITH AIR PANEL P-AP80CNA

Unit: mm



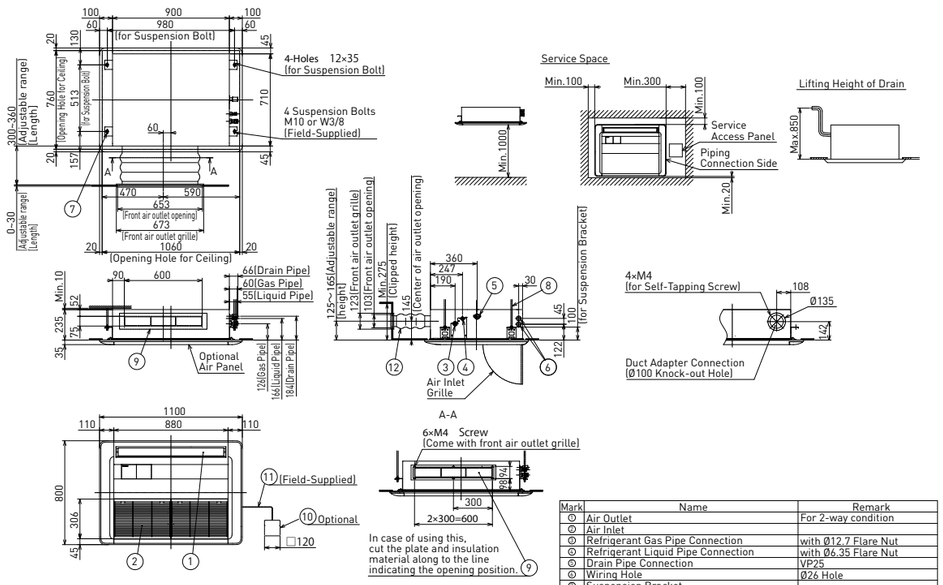




| Mark | Name | Remark |
|---|---|---|
| ① | Air Outlet | 1-Way |
| ② | Air Inlet | |
| ③ | Refrigerant Gas Pipe Connection | with Ø15.88 Flare Nut |
| ④ | Refrigerant Liquid Pipe Connection | with Ø9.52 Flare Nut |
| ⑤ | Drain Pipe Connection | VP25 |
| ⑥ | Wiring Hole | Ø26 Hole |
| ⑦ | Suspension Bracket | |
| ⑧ | Suspension Bolt | 4-M10 or W3/8 |
| ⑨ | Optional Front Air Outlet Grille Connection | 75×750 |
| ⑩ | Wired Controller (PC-ARF1) | Optional |
| ⑪ | Shielded Twist-Pair Cable for PC-ARF1 | Min. 0.75mm², Field-Supplied |

## 1-way cassette (Clipped Ceiling Type)

## Models: RCS-0.8FSN, RCS-1.0FSN, RCS-1.5FSN AND RCS-2.0FSN WITH AIR PANEL P-AP36CNA AND P-AP56CNA

Unit: mm



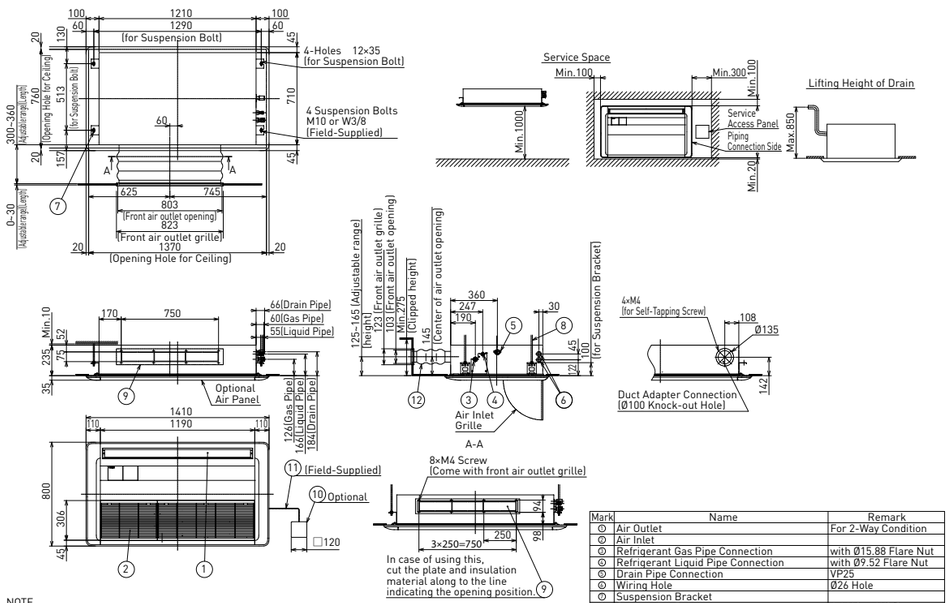

| Mark | Name | Remark |
|---|---|---|
| ① | Air Outlet | For 2-way condition |
| ② | Air Inlet | |
| ③ | Refrigerant Gas Pipe Connection | with Ø12.7 Flare Nut |
| ④ | Refrigerant Liquid Pipe Connection | with Ø6.35 Flare Nut |
| ⑤ | Drain Pipe Connection | VP25 |
| ⑥ | Wiring Hole | Ø26 Hole |
| ⑦ | Suspension Bracket | |
| ⑧ | Suspension Bolt | 4-M10 or W3/8 |
| ⑨ | Optional Front Air Outlet Grille Connection | 75×600 |
| ⑩ | Wired Controller (PC-ARF1) | Optional |
| ⑪ | Shielded Twist-Pair Cable for PC-ARF1 | Min. 0.75mm², Field-Supplied |
| ⑫ | Front Air Outlet Grille(DG-56SW1) | |

NOTE
1.Drawing describes combination of optional panel and optional front air outlet grille.
2.Sure to use Hitachi-genuine parts, front air outlet grille and air outlet opening cover.
Duct connecting between the unit and front air outlet grille is prohibited.
3.For 2-way condition: Configure "Speed up 1" to keep stable amount of air blow.

## 1-way cassette (Clipped Ceiling Type)

## Models: RCS-2.5FSN AND RCS-3.0FSN WITH AIR PANEL P-AP80CNA

Unit: mm




| Mark | Name | Remark |
|---|---|---|
| ① | Air Outlet | For 2-way Condition |
| ② | Air Inlet | |
| ③ | Refrigerant Gas Pipe Connection | with Ø15.88 Flare Nut |
| ④ | Refrigerant Liquid Pipe Connection | with Ø9.52 Flare Nut |
| ⑤ | Drain Pipe Connection | VP25 |
| ⑥ | Wiring Hole | Ø26 Hole |
| ⑦ | Suspension Bracket | |
| ⑧ | Suspension Bolt | 4-M10 or W3/8 |
| ⑨ | Optional Front Air Outlet Grille Connection | 75×750 |
| ⑩ | Wired Controller (PC-ARF1) | Optional |
| ⑪ | Shielded Twist-Pair Cable for PC-ARF1 | Min. 0.75mm², Field-Supplied |
| ⑫ | Front Air Outlet Grille(DG-80SW1) | |

NOTE
1.Drawing describes combination of optional panel and optional front air outlet grille.
2.Sure to use Hitachi-genuine parts, front air outlet grille and air outlet opening cover.
Duct connecting between the unit and front air outlet grille is prohibited.
3.For 2-way Condition: Configure "Speed up 1" to keep stable amount of air blow.

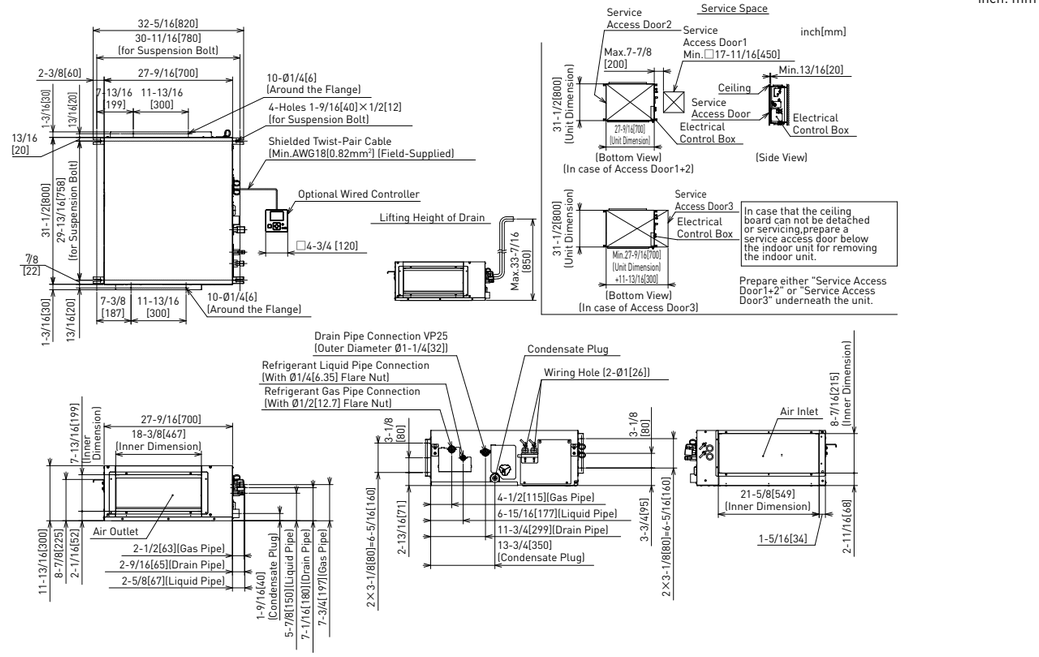




## Ducted (High ESP)

## Model: RPI-2.0FSN3

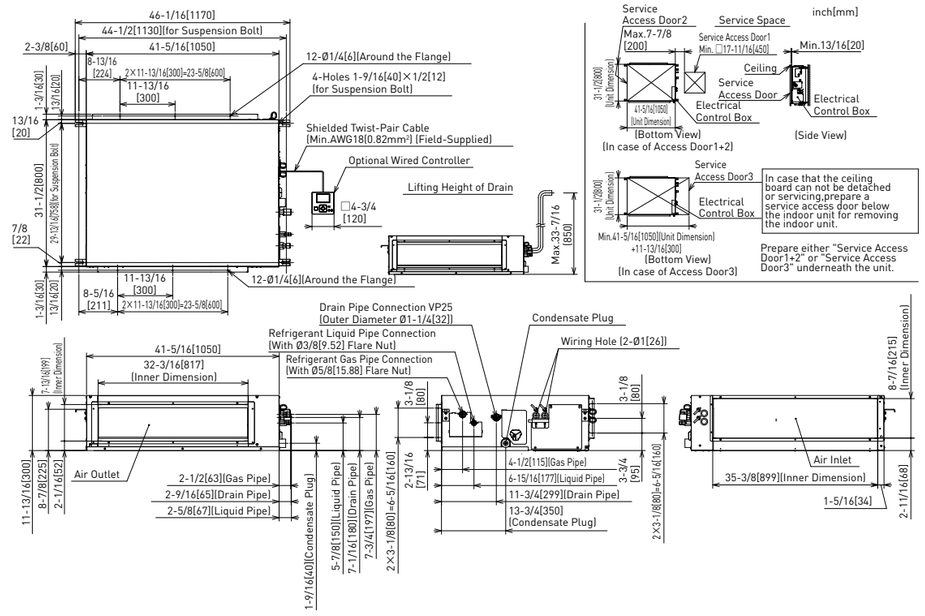
inch: mm




## Ducted (High ESP)

## Models: RPI-2.5FSN3 and RPI-3.0FSN3

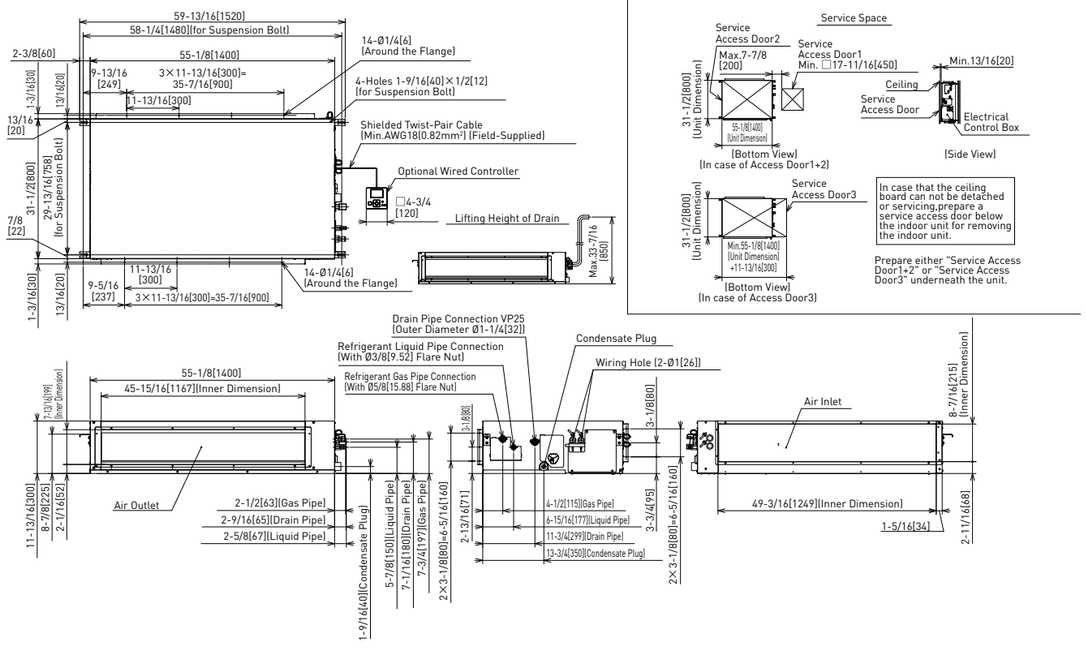
inch: mm



## Ducted (High ESP)

## Models: RPI-4.0FSN3,RPI-5.0FSN3 and RPI-6.0FSN3

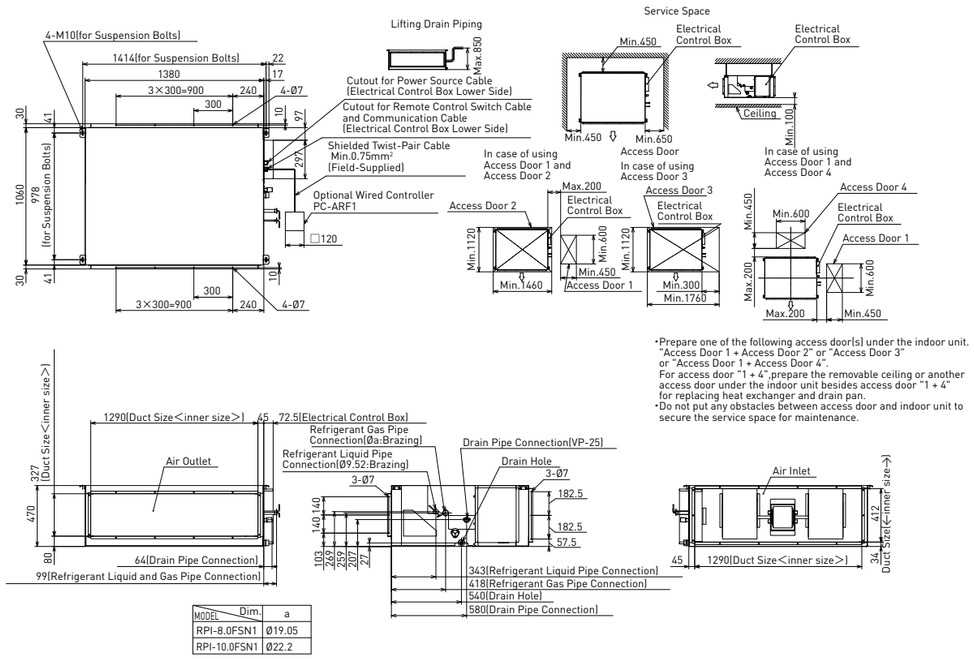
inch: mm




## Ducted (High ESP)

## Models: RPI-8.0FSN1 AND RPI-10.0FSN1

inch: mm




| MODEL \ Dim. | a |
|---|---|
| RPI-8.0FSN1 | Ø19.05 |
| RPI-10.0FSN1 | Ø22.2 |

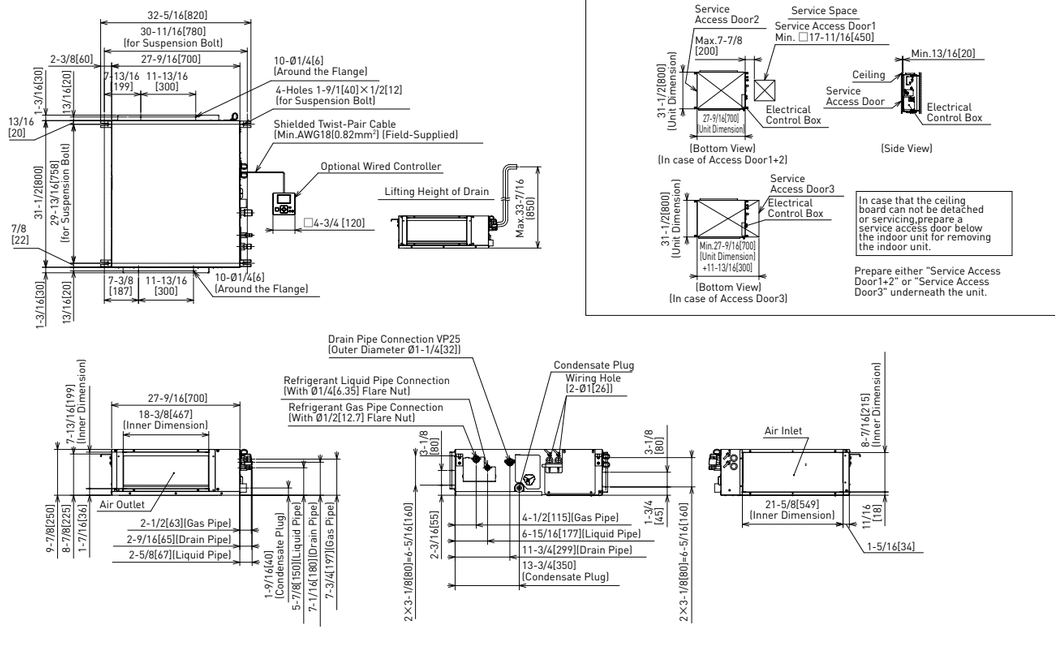




## Ducted (Medium ESP)

## Models: RPIM-0.8FSN3,RPIM-1.0FSN3,RPIM-1.5FSN3 and RPIM-2.0FSN3

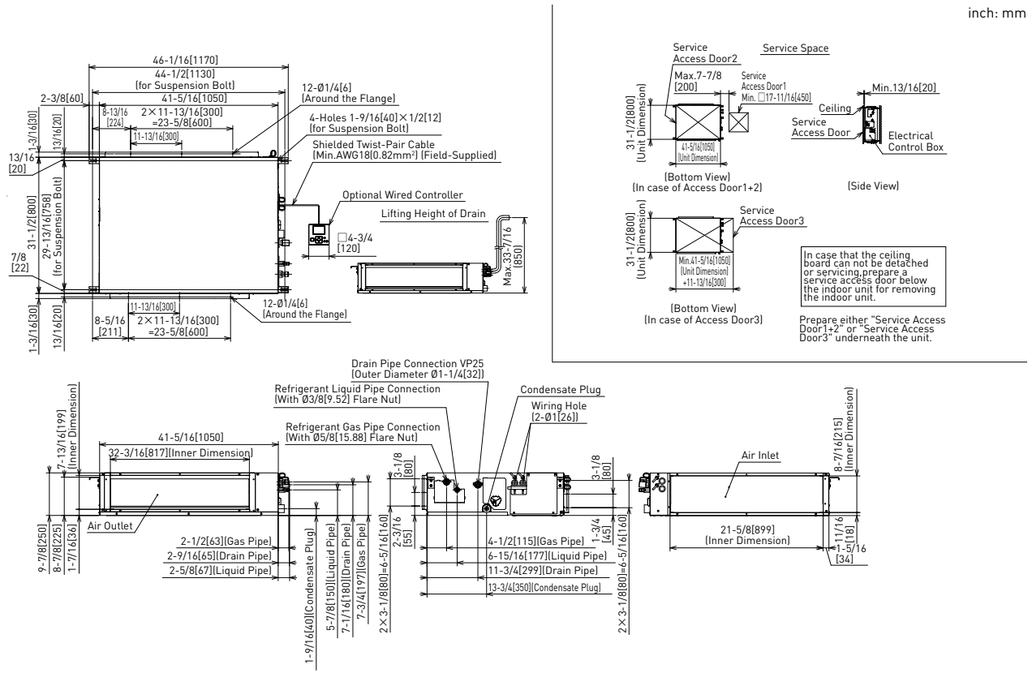
inch: mm




## Ducted (Medium ESP)

## Models: RPIM-2.5FSN3 and RPIM-3.0FSN3

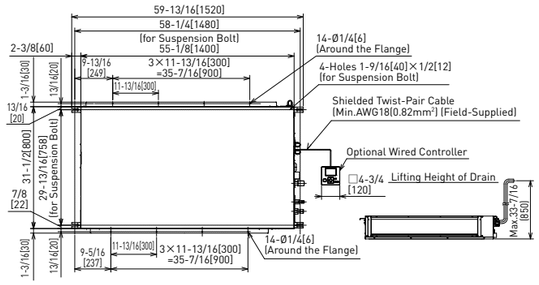
inch: mm

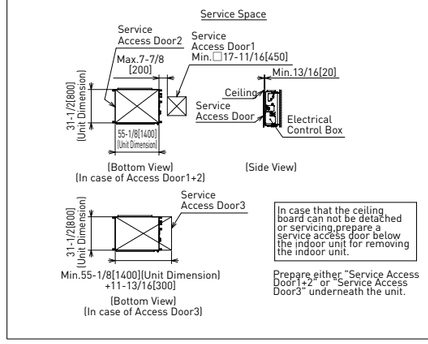


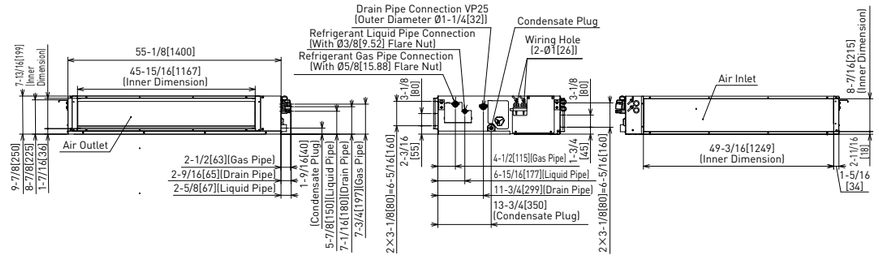
## Ducted (Medium ESP)

## Models: RPIM-4.0FSN3,RPIM-5.0FSN3 and RPIM-6.0FSN3

inch: mm



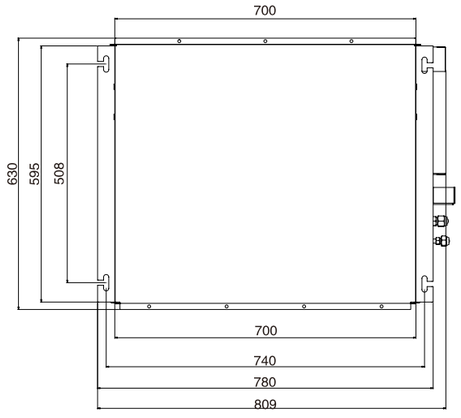


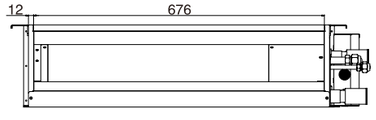


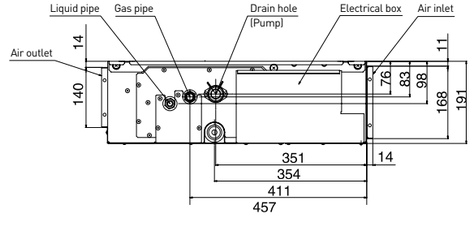

## Ducted (Slim)

## Models: RPIZ- 0.8~1.5FSNQS/P

Unit: mm

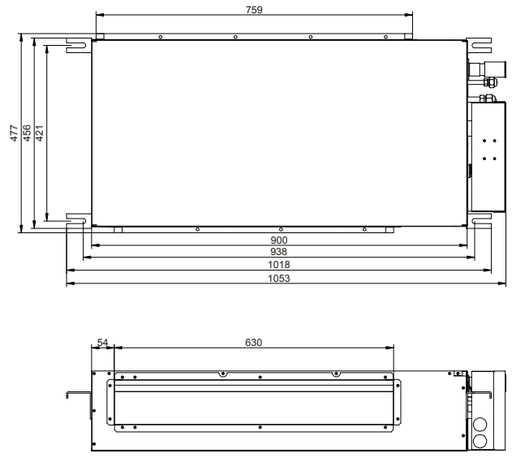


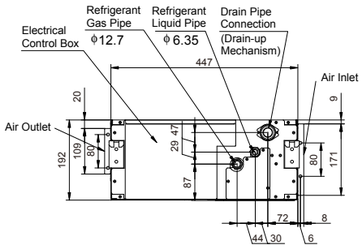



## Ducted (Compact)
## Models: RPIZ- 0.8~1.5FSN1Q/P

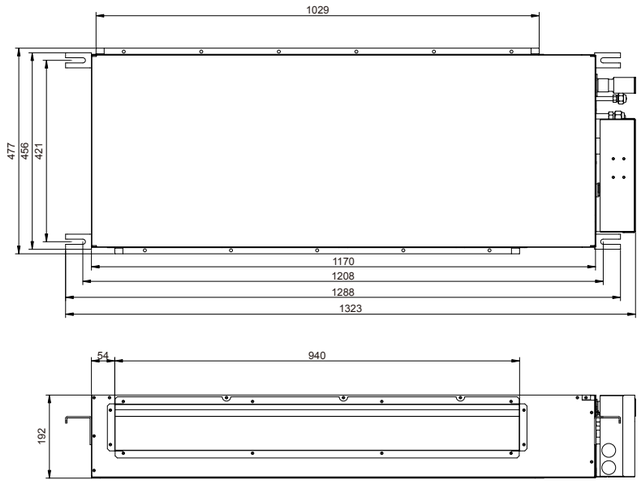
Unit: mm



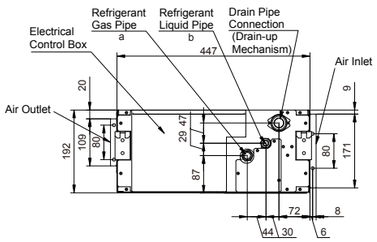




## Ducted (Compact)
## Models: RPIZ-1.8~2.5FSN1Q/P

Unit: mm




| Model \ Dimension | a | b |
|---|---|---|
| 1.8/2.0HP | ϕ15.88 | ϕ 6.35 |
| 2.3/2.5HP | ϕ15.88 | ϕ 9.53 |

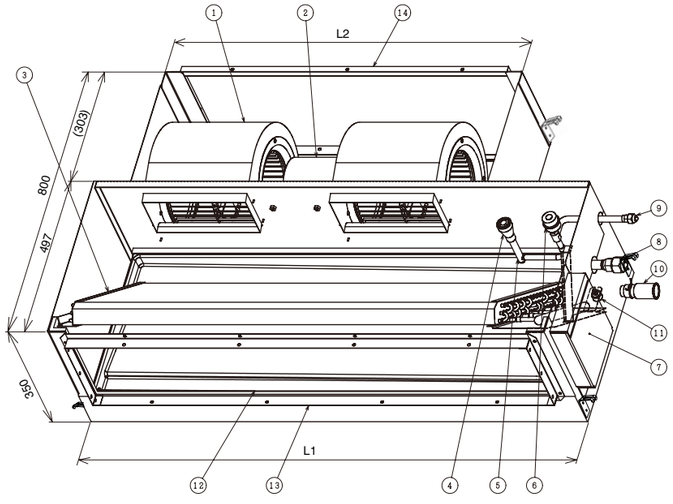







## Ducted (Larger Air Volume)
## Models: RPI-3.0FSN2SQ - RPI-6.0FSN2SQ

Unit: mm

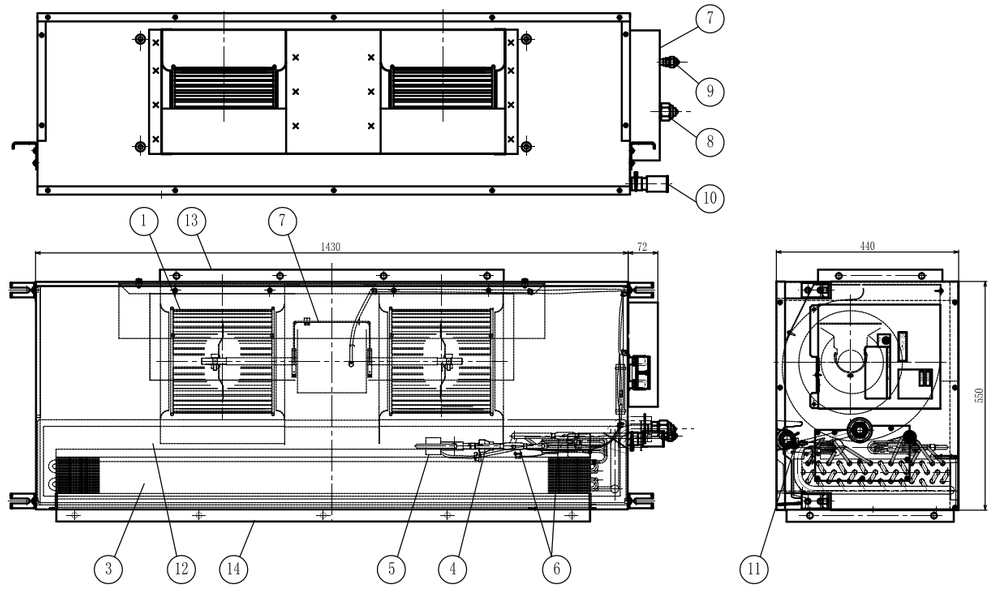



| No. | Part Name |
|---|---|
| 1 | Fan |
| 2 | Fan Motor |
| 3 | Heat Exchanger |
| 4 | Distributor |
| 5 | Strainer |
| 6 | Micro-Computer Control Expansion Valve |
| 7 | Electrical Control Box |
| 8 | Refrigerant Gas Pipe Connection |
| 9 | Refrigerant Liquid Pipe Connection |
| 10 | Drain Pipe Connection |
| 11 | Float Switch |
| 12 | Drain Pan |
| 13 | Air Outlet |
| 14 | Air Inlet |

| Model | L1 | L2 |
|---|---|---|
| RPI-3.0FSN2SQ | 1,076 | 879 |
| RPI-4.0FSN2SQ | 1,076 | 879 |
| RPI-5.0FSN2SQ | 1,300 | 1,000 |
| RPI-6.0FSN2SQ | 1,300 | 1,000 |

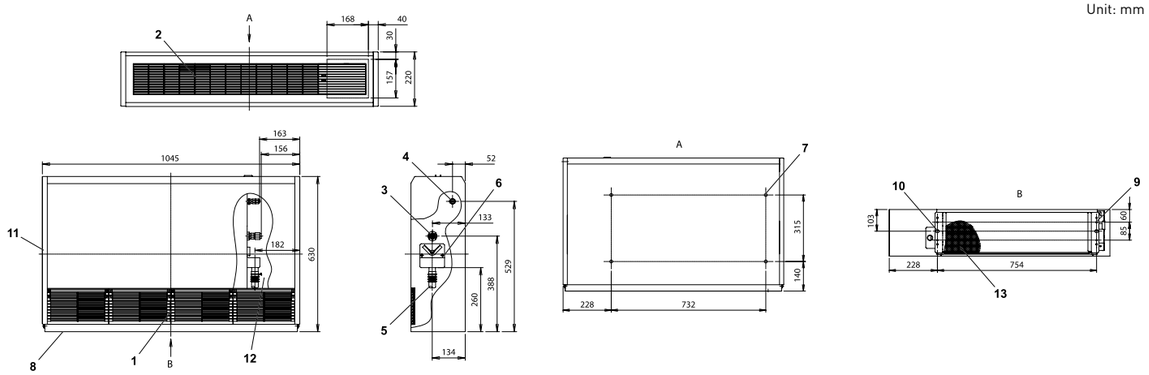
## Ducted (Larger Air Volume)
## Model: RPI-7.0FSN2SQ

Unit: mm



## Floor Exposed
## Model: RPF-1.0FSN2E

Unit: mm

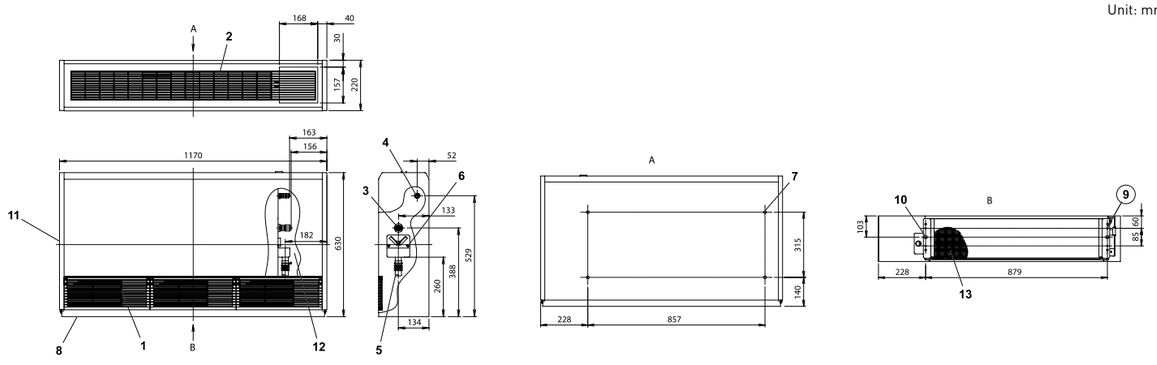



| Number | Description | Remarks |
|---|---|---|
| 1 | Air inlet | |
| 2 | Air outlet | |
| 3 | Refrigerant connection (gas) | Flare nut. ø12.7 |
| 4 | Refrigerant connection (liquid) | Flare nut. ø6.35 |
| 5 | Drain connection | |
| 6 | Drain pan | |
| 7 | Holes to fix the unit to the wall | (4×) ø14 (behind) |
| 8 | Adjusting screw | For the installation |
| 9 | Holes to fix the unit to the floor | (4×) ø7, bolts for wood (4×) M5 |
| 10 | Holes to fix the unit to the floor | (2×) ø12.5×18, bolts (2×) M8 |
| 11 | Wiring hole | Left-hand side |
| 12 | Space for pipe connection | Right-hand side |
| 13 | Filter | |

All measurements are in mm.

## Floor Exposed
## Model: RPF-1.5FSN2E

Unit: mm




| Number | Description | Remarks |
|---|---|---|
| 1 | Air inlet | |
| 2 | Air outlet | |
| 3 | Refrigerant connection (gas) | Flare nut. ø12.7 |
| 4 | Refrigerant connection (liquid) | Flare nut. ø6.35 |
| 5 | Drain connection | |
| 6 | Drain pan | |
| 7 | Holes to fix the unit to the wall | (4×) ø14 (behind) |
| 8 | Adjusting screw | For the installation |
| 9 | Holes to fix the unit to the floor | (4×) ø7, bolts for wood (4×) M5 |
| 10 | Holes to fix the unit to the floor | (2×) ø12.5×18, bolts (2×) M8 |
| 11 | Wiring hole | Left-hand side |
| 12 | Space for pipe connection | Right-hand side |
| 13 | Filter | |

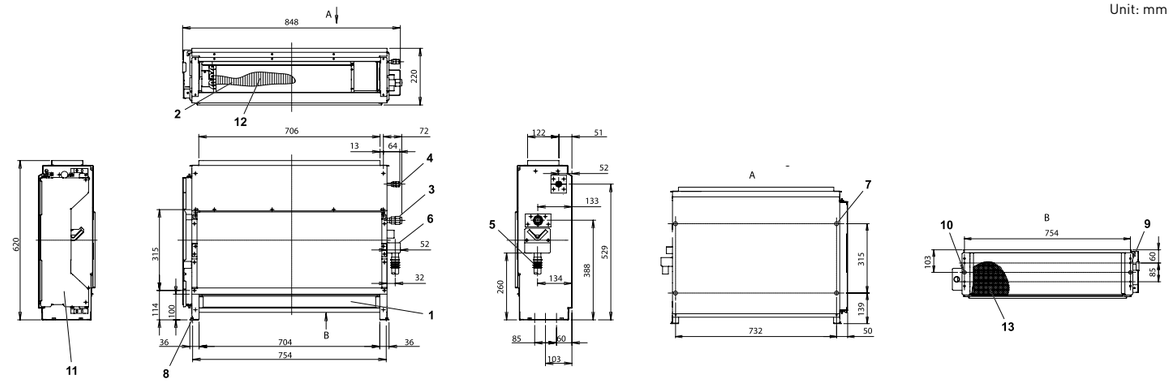
All measurements are in mm.





## Floor Concealed
## Model: RPFI-1.0FSN2E

Unit: mm

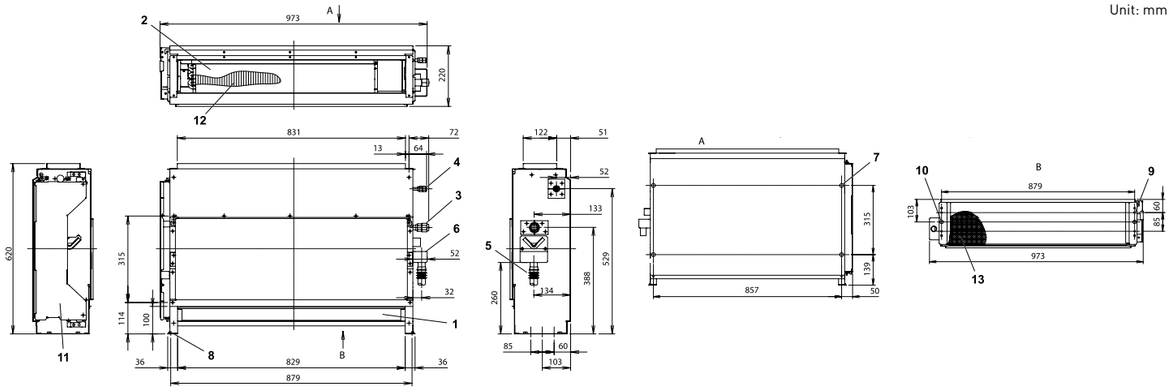



| Number | Description | Remarks |
|---|---|---|
| 1 | Air inlet | |
| 2 | Air outlet | |
| 3 | Refrigerant connection (gas) | Flare nut. ø12.7 |
| 4 | Refrigerant connection (liquid) | Flare nut. ø6.35 |
| 5 | Drain connection | |
| 6 | Drain pan | |
| 7 | Holes to fix the unit to the wall | (4×) ø14 (behind) |
| 8 | Adjusting screw | For the installation |
| 9 | Holes to fix the unit to the floor | (4×) ø7, bolts for wood (4×) M5 |
| 10 | Holes to fix the unit to the floor | (2×) ø12.5×18, bolts (2×) M8 |
| 11 | Electrical box | |
| 12 | Evaporator | |
| 13 | Filter | |

All measurements are in mm.

## Floor Concealed
## Model: RPFI-1.5FSN2E

Unit: mm



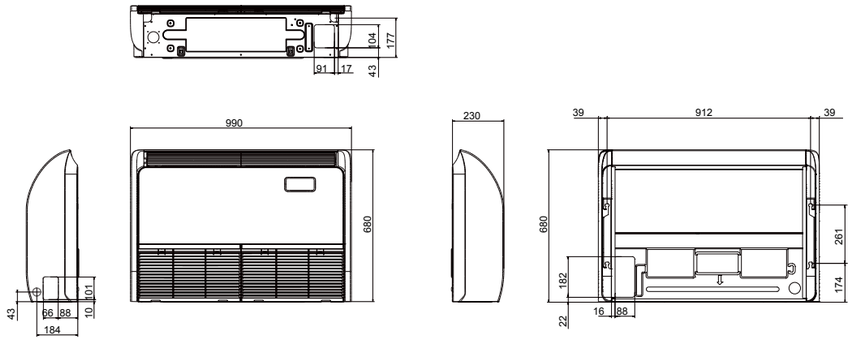

| Number | Description | Remarks |
|---|---|---|
| 1 | Air inlet | |
| 2 | Air outlet | |
| 3 | Refrigerant connection (gas) | Flare nut. ø12.7 |
| 4 | Refrigerant connection (liquid) | Flare nut. ø6.35 |
| 5 | Drain connection | |
| 6 | Drain pan | |
| 7 | Holes to fix the unit to the wall | (4×) ø14 (behind) |
| 8 | Adjusting screw | For the installation |
| 9 | Holes to fix the unit to the floor | (4×) ø7, bolts for wood (4×) M5 |
| 10 | Holes to fix the unit to the floor | (2×) ø12.5×18, bolts (2×) M8 |
| 11 | Electrical box | |
| 12 | Evaporator | |
| 13 | Filter | |

All measurements are in mm.

## Dimensions

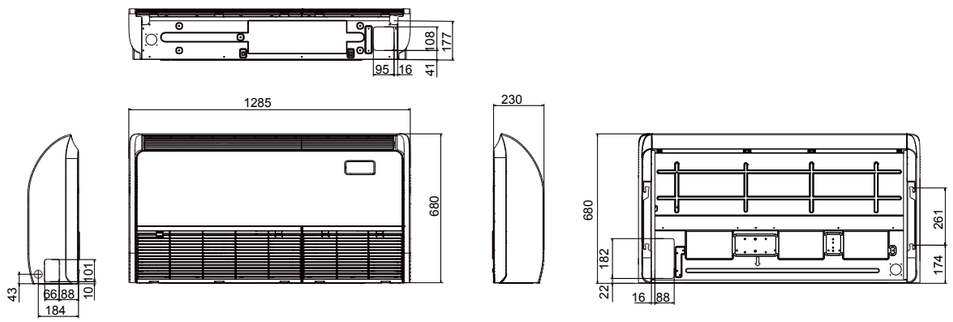
### Floor / Ceiling convertible
### Models: RPFC-1.8~2.5FSNQ

Unit: mm



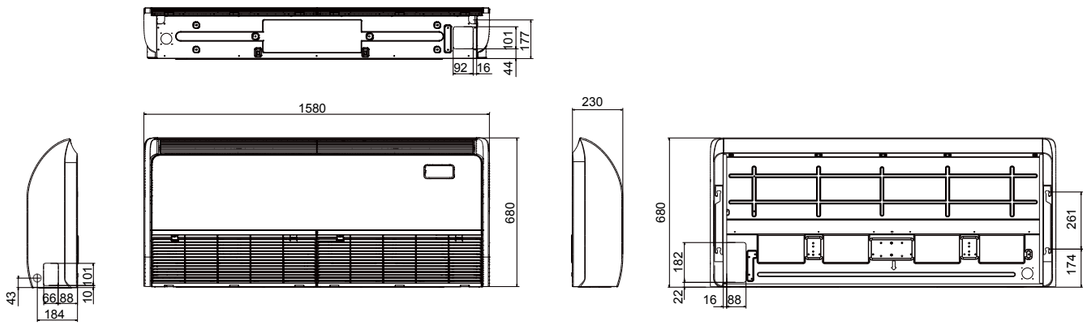

### Floor / Ceiling convertible
### Models: RPFC-3.0~4.0FSNQ

Unit: mm




### Floor / Ceiling convertible
### Model: RPFC-5.0FSNQ

Unit: mm

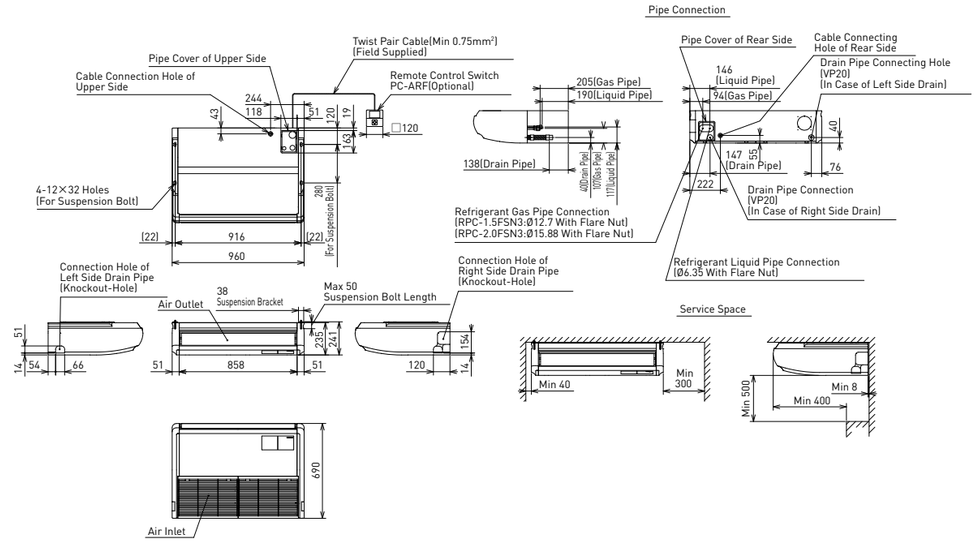






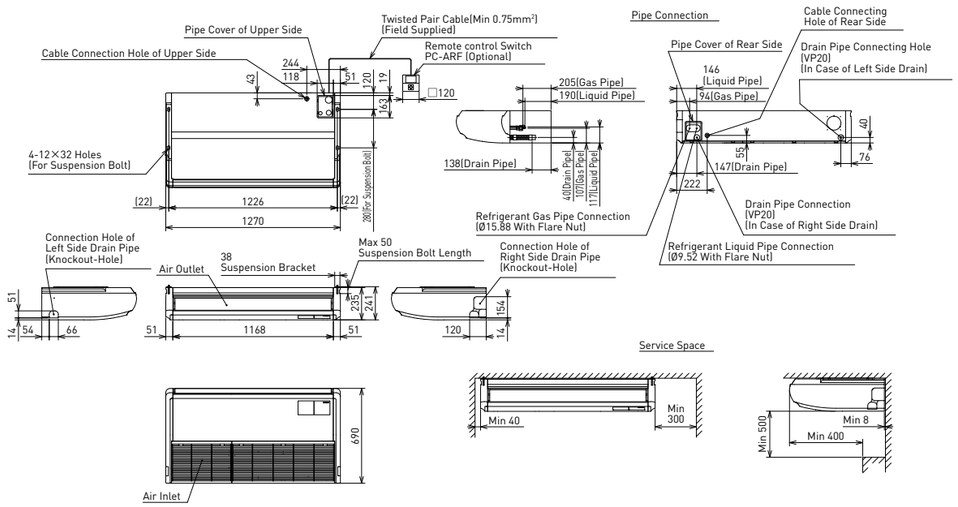

### Ceiling suspended
### Models: RPC-1.5FSN3, RPC-2.0FSN3

Unit: mm




### Ceiling suspended
### Models: RPC-2.5FSN3, RPC-3.0FSN3

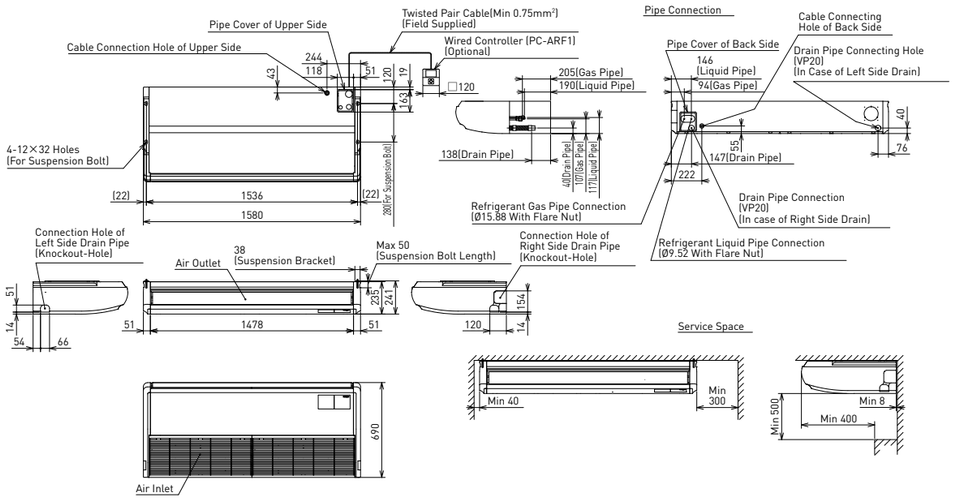
Unit: mm



## Ceiling suspended

## Models: RPC-4.0FSN3, RPC-5.0FSN3, RPC-6.0FSN3

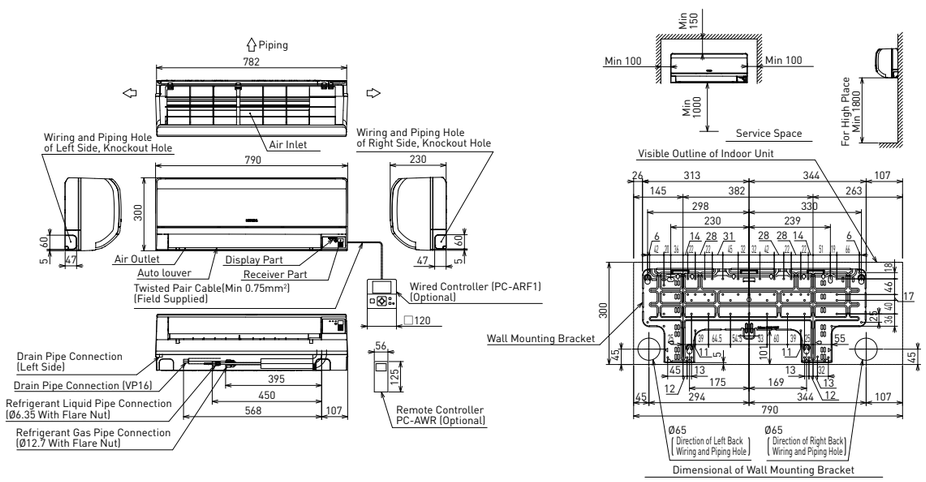
Unit: mm




## Wall Mounted

## Models: RPK-0.6FSN3M,RPK-0.8FSN3M,RPK-1.0FSN3M

Unit: mm

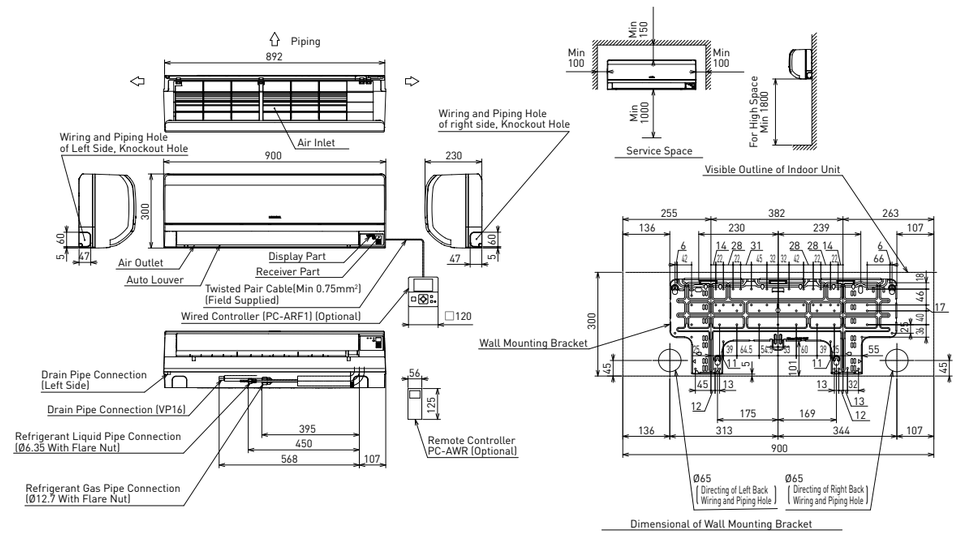



Note
1. Taking out of Drain Pipe is Possible from both sides of Knockout Holes.
   In case of the left side, mount a drain hose to drain pipe connection of the left side.
2. Pay attention to a gap of center position of the Bracket and the Unit.
   Mount them according to the figure on right.

## Wall Mounted

## Model: RPK-1.5FSN3M

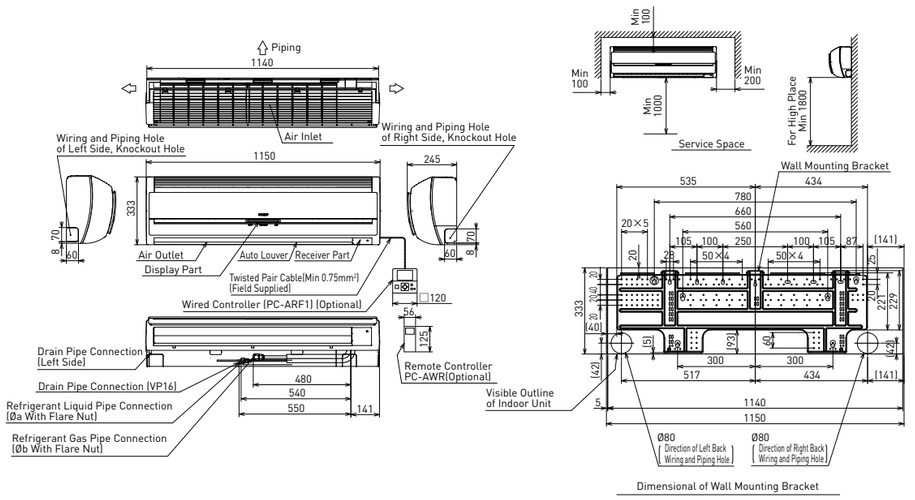
Unit: mm




Note
1. Taking out of Drain Pipe is Possible from both sides of Knockout Holes.
   In case of the left side, mount a drain hose to drain pipe connection of the left side.

## Wall Mounted
## Models: RPK-2.0FSN3M, RPK-2.5FSN3M, RPK-3.0FSN3M and RPK-4.0FSN3M

Unit: mm







Dimensional of Wall Mounting Bracket

| Dimension \ Model | 2.0HP | 2.5~4. OHP |
|---|---|---|
| a | 6.35 | 9.52 |
| b | 15.88 | 15.88 |

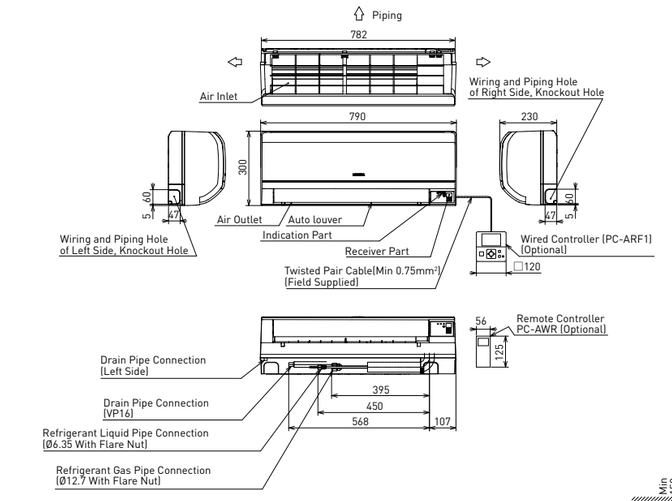
Note
1. Taking out of Drain Pipe is Possible from both sides of Knockout Holes.
   In case of the left side, mount a drain hose to drain pipe connection of the left side.

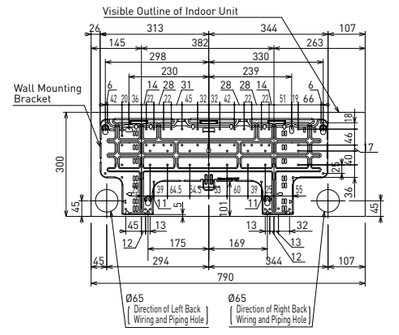




## Wall Mounted (Expansion Valve Kit, Optional)
## Models: RPK-0.6FSNH3M,RPK-0.8FSNH3M,RPK-1.0FSNH3M and EV-1.5N1 (EXPANSION VALVE KIT, OPTIONAL)

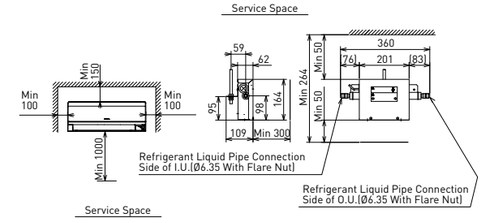
Unit: mm



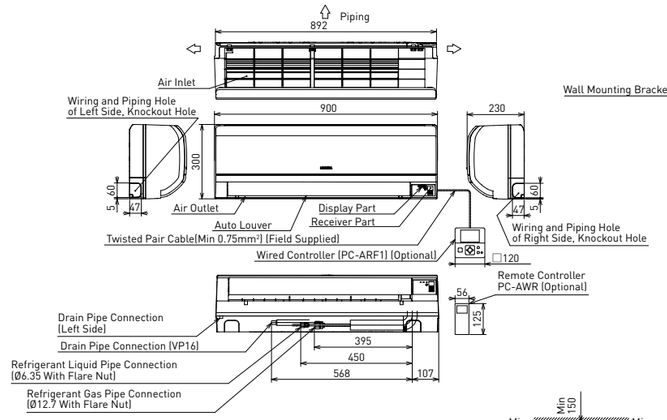

Dimensional of Wall Mounting Bracket
Expansion Valve Kit (Recommended Mounting Situation)

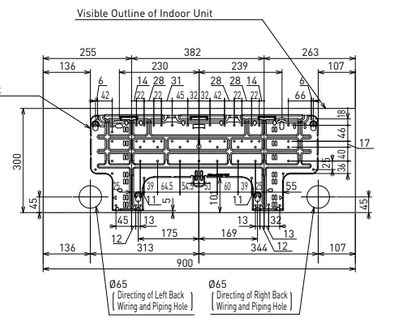
Note
1. Use the Optional Expansion Valve Kit(EV Kit) with the Indoor unit.
2. Use the EV Kit only indoors. Do not use it outdoors.
3. Since refrigerant flow sound may be caused by EV Kit,
   mount it in the ceiling of the corridor and in the position where service is easy.
   Take a pipe out of the right rear side, not the left rear side except in evitable cases.
4. Keep 3 to 5m of pipe and wiring length between the unit and the EV Kit.
5. Keep difference elevation of the unit and the EV Kit at max 2m.
6. Since refrigerant flow sound may be caused by EV Kit in case of transient operation.
7. Refer to installation manual packed with the EV Kit regarding connection pipe size, additional refrigerant charge amount and connecting number.




## Wall Mounted (Expansion Valve Kit, Optional)
## Models: RPK-1.5FSNH3M and EV-1.5N1 (EXPANSION VALVE KIT, OPTIONAL)

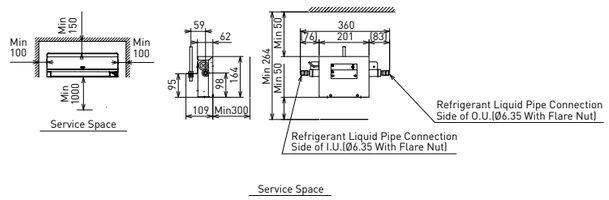
Unit: mm




Dimensional of Wall Mounting Bracket
Expansion Valve Kit (Recommended Mounting Situation)

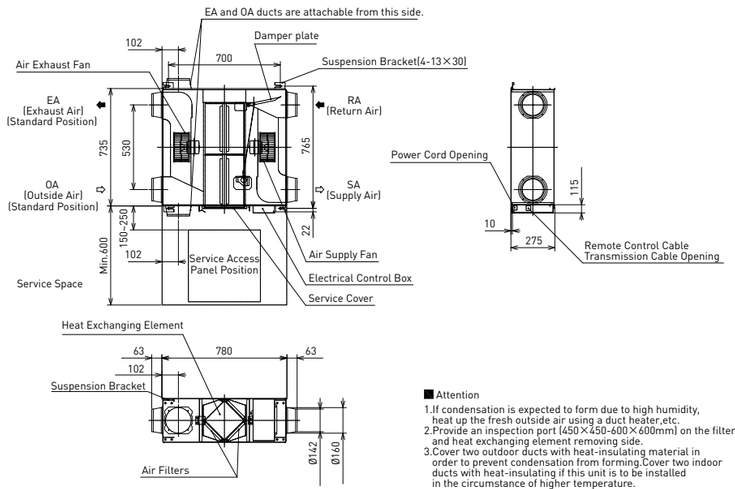
Note
1. Use the Optional Expansion Valve Kit(EV Kit) with the Indoor unit.
2. Use the EV Kit only indoors. Do not use it outdoors.
3. Since refrigerant flow sound may be caused by EV Kit,
   mount it in the ceiling of the corridor and in the position where service is easy.
   Take a pipe out of the right rear side, not the left rear side except in evitable cases.
4. Keep 3 to 5m of pipe and wiring length between the unit and the EV Kit.
5. Keep difference elevation of the unit and the EV Kit at max 2m.
6. Since refrigerant flow sound may be caused by EV Kit in case of transient operation.
7. Refer to installation manual packed with the EV Kit regarding connection pipe size, additional refrigerant charge amount and connecting number.




Service Space

## Total Heat Exchanger (Model: KPI-2521)

Unit: mm

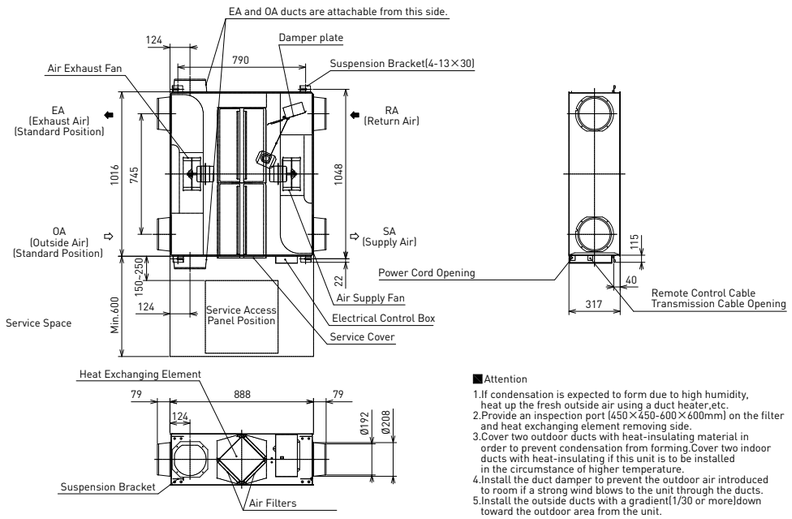



■Attention

1.If condensation is expected to form due to high humidity, heat up the fresh outside air using a duct heater,etc.
2.Provide an inspection port (450×450-600×600mm) on the filter and heat exchanging element removing side.
3.Cover two outdoor ducts with heat-insulating material in order to prevent condensation from forming.Cover two indoor ducts with heat-insulating if this unit is to be installed in the circumstance of higher temperature.
4.Install the duct damper to prevent the outdoor air introduced to room if a strong wind blows to the unit through the ducts.
5.Install the outside ducts with a gradient(1/30 or more)down toward the outdoor area from the unit.

## Total Heat Exchanger (Model: KPI-5021)

Unit: mm




■Attention

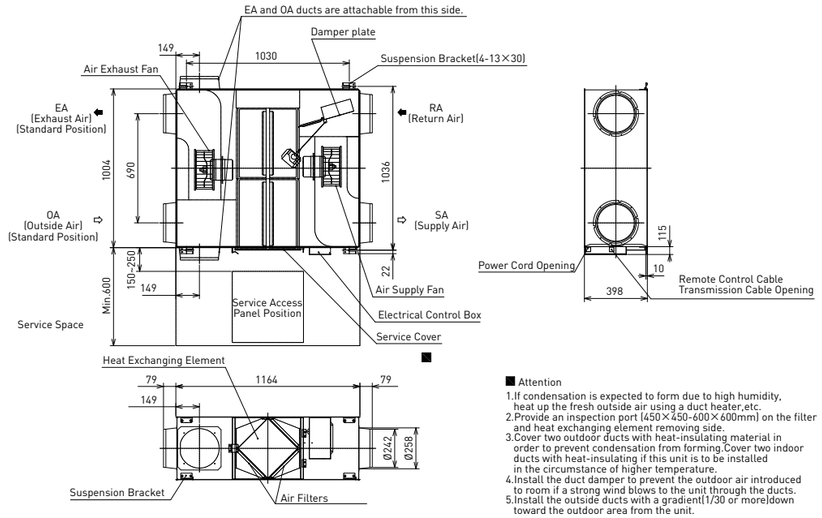
1.If condensation is expected to form due to high humidity, heat up the fresh outside air using a duct heater,etc.
2.Provide an inspection port (450×450-600×600mm) on the filter and heat exchanging element removing side.
3.Cover two outdoor ducts with heat-insulating material in order to prevent condensation from forming.Cover two indoor ducts with heat-insulating if this unit is to be installed in the circumstance of higher temperature.
4.Install the duct damper to prevent the outdoor air introduced to room if a strong wind blows to the unit through the ducts.
5.Install the outside ducts with a gradient(1/30 or more)down toward the outdoor area from the unit.





## Total Heat Exchanger (Model: KPI-8021)

Unit: mm

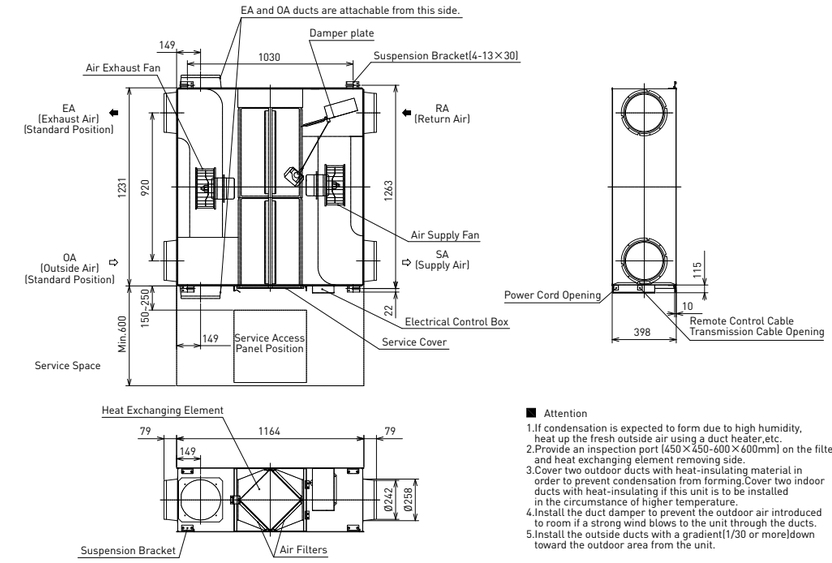



■ Attention

1.If condensation is expected to form due to high humidity, heat up the fresh outside air using a duct heater,etc.
2.Provide an inspection port (450×450-600×600mm) on the filter and heat exchanging element removing side.
3.Cover two outdoor ducts with heat-insulating material in order to prevent condensation from forming.Cover two indoor ducts with heat-insulating if this unit is to be installed in the circumstance of higher temperature.
4.Install the duct damper to prevent the outdoor air introduced to room if a strong wind blows to the unit through the ducts.
5.Install the outside ducts with a gradient(1/30 or more)down toward the outdoor area from the unit.

## Total Heat Exchanger (Model: KPI-10021)

Unit: mm

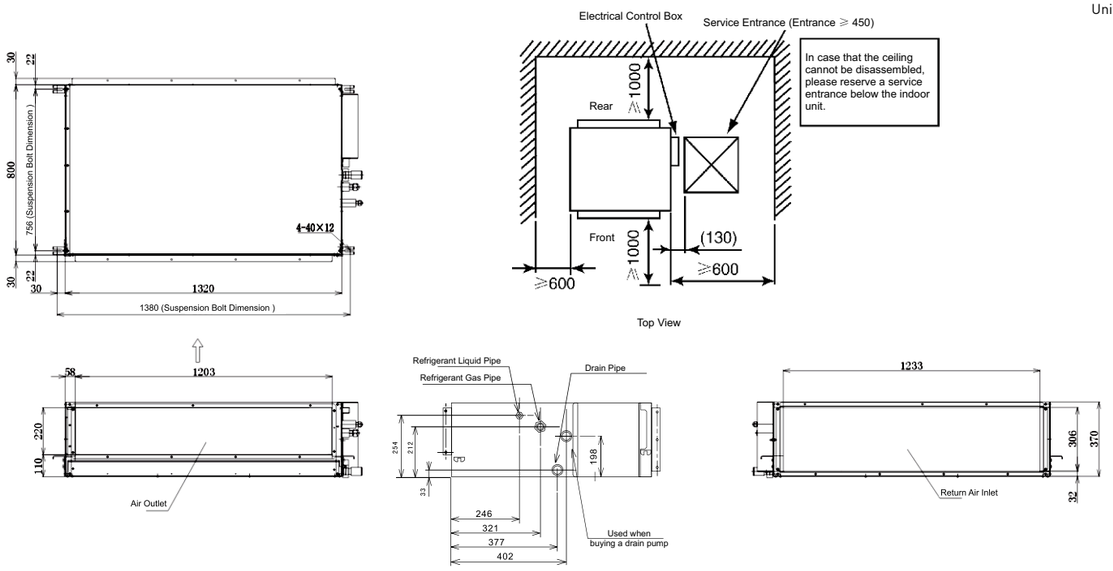



■ Attention

1.If condensation is expected to form due to high humidity, heat up the fresh outside air using a duct heater,etc.
2.Provide an inspection port (450×450-600×600mm) on the filter and heat exchanging element removing side.
3.Cover two outdoor ducts with heat-insulating material in order to prevent condensation from forming.Cover two indoor ducts with heat-insulating if this unit is to be installed in the circumstance of higher temperature.
4.Install the duct damper to prevent the outdoor air introduced to room if a strong wind blows to the unit through the ducts.
5.Install the outside ducts with a gradient(1/30 or more)down toward the outdoor area from the unit.

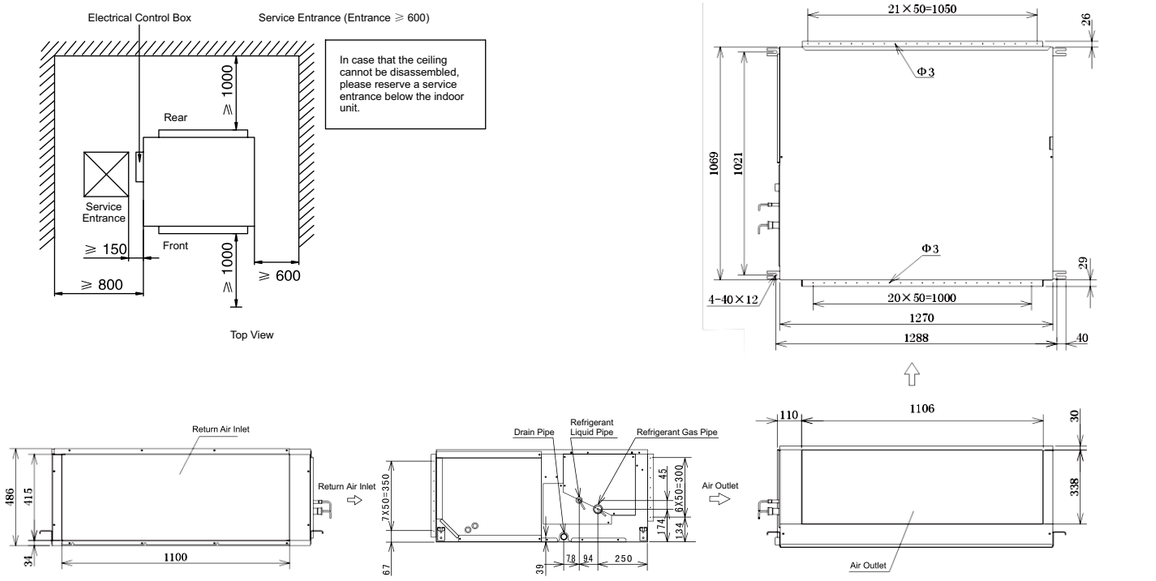
## Fresh Air Unit
## Model: RPI-5.0KFNQ

Unit: mm




## Fresh Air Unit
## Models: RPI-8.0, 10.0, 12.0KFNQ

Unit: mm

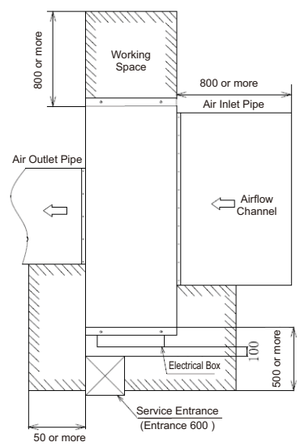


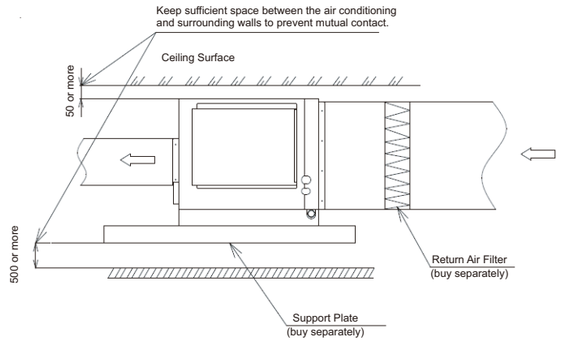




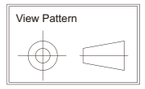

## Fresh Air Unit
## Models: RPI-16.0KFNQL,RPI-16.0KFNQH,RPI-20.0KFNQL,RPI-20.0KFNQH,RPI-20.0KFNQLF,RPI-20.0KFNQHF

Unit: mm

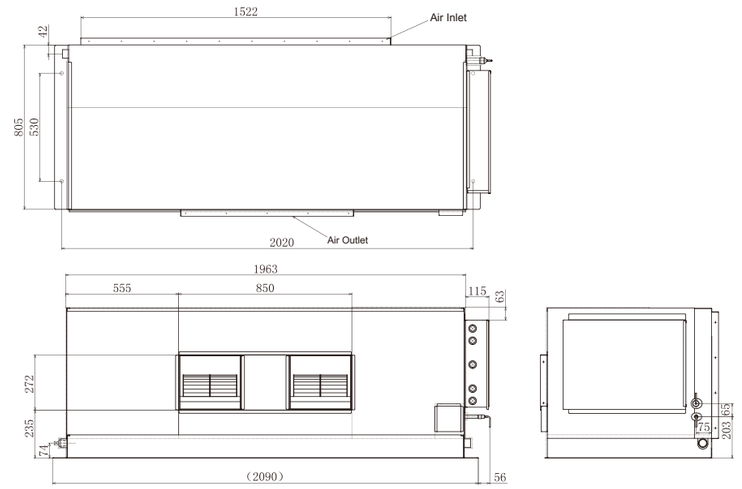


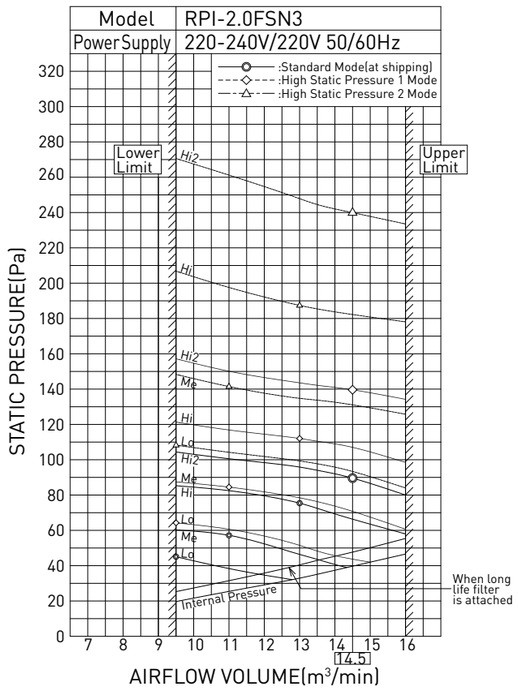

Operation and Service Space



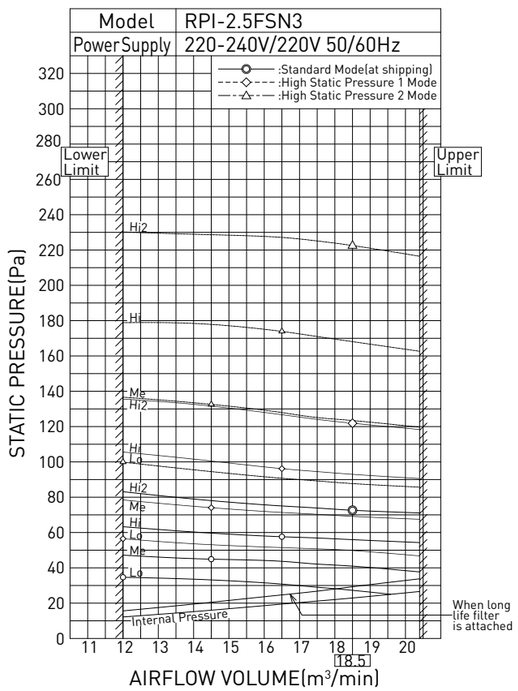

| Model \ Dimension | a | b |
|---|---|---|
| Type 450 | 635 | 522 |
| Type 560 | 735 | 622 |



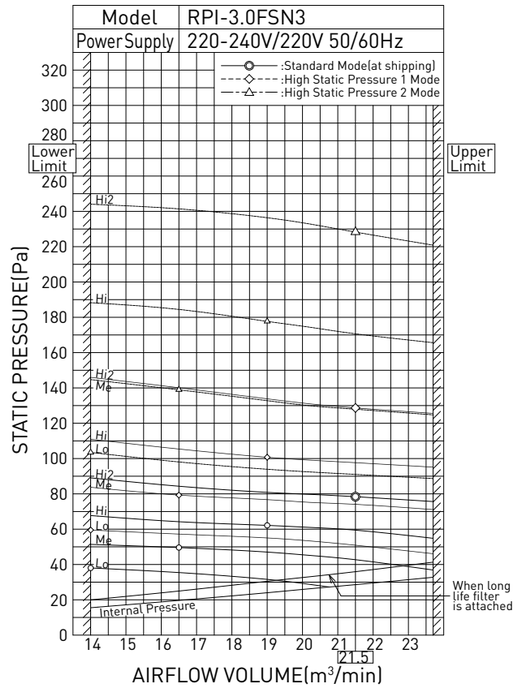
**Ducted (High ESP)**



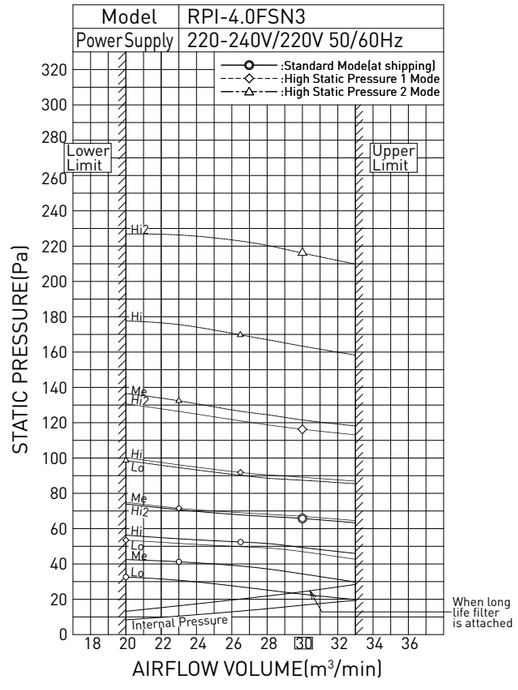

The setting of Standard,High Static Pressure 1 and High Static Pressure 2 mode can be changed by Wired Controller.




The setting of Standard,High Static Pressure 1 and High Static Pressure 2 mode can be changed by Wired Controller.



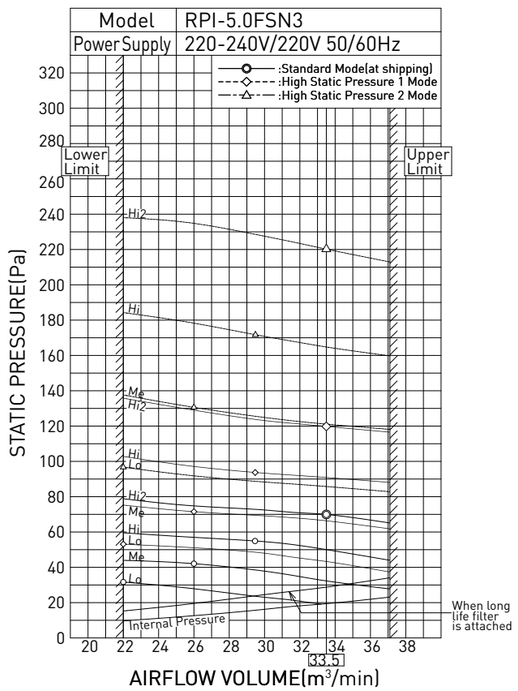

The setting of Standard,High Static Pressure 1 and High Static Pressure 2 mode can be changed by Wired Controller.



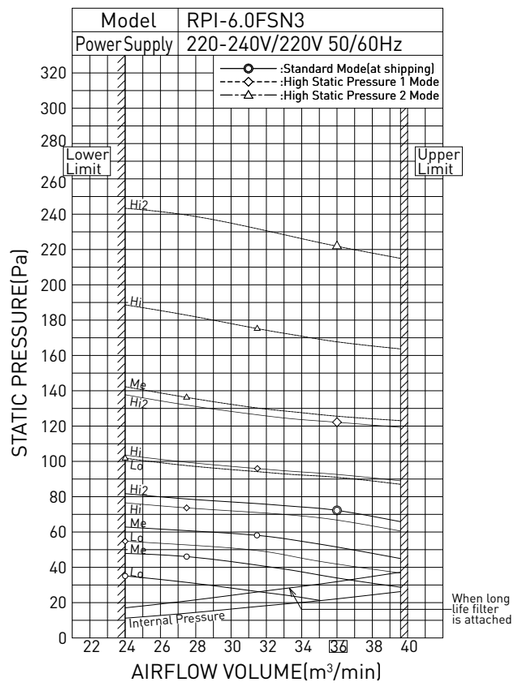

The setting of Standard,High Static Pressure 1 and High Static Pressure 2 mode can be changed by Wired Controller.



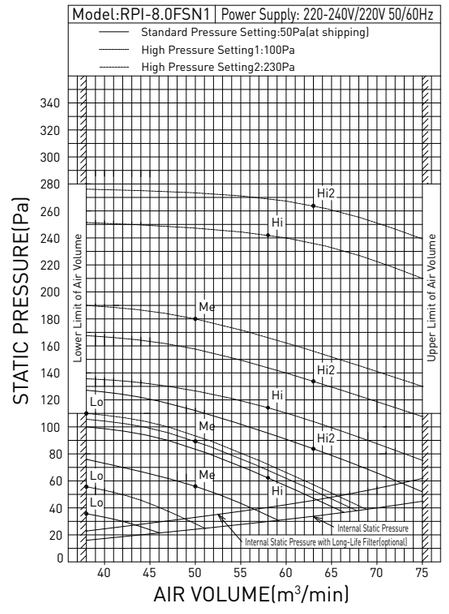




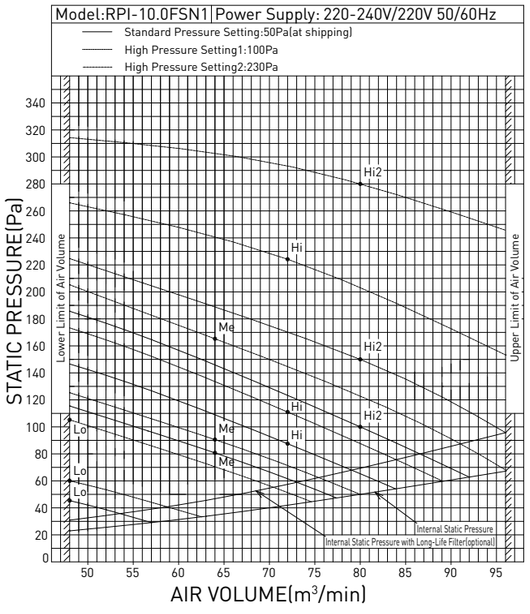

The setting of Standard,High Static Pressure 1 and High Static Pressure 2 mode can be changed by Wired Controller.




The setting of Standard,High Static Pressure 1 and High Static Pressure 2 mode can be changed by Wired Controller.

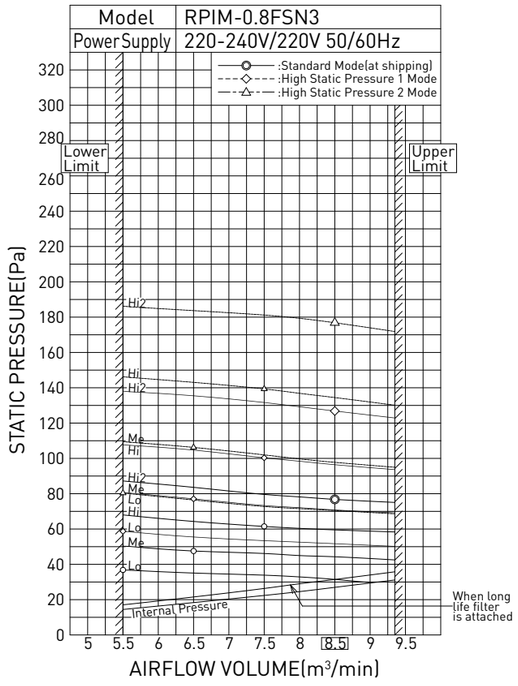



Note) Standard Pressure Setting,High Pressure Setting1,High Pressure Setting2 can be changed by Wired Controller.

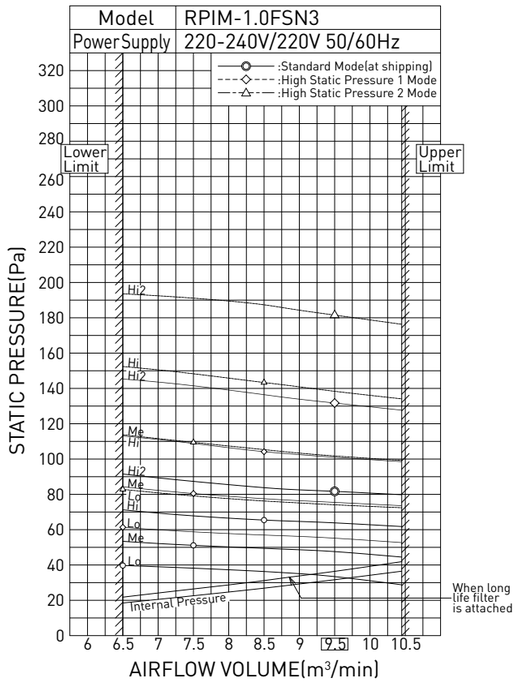



Note) Standard Pressure Setting,High Pressure Setting1,High Pressure Setting2 can be changed by Wired Controller.

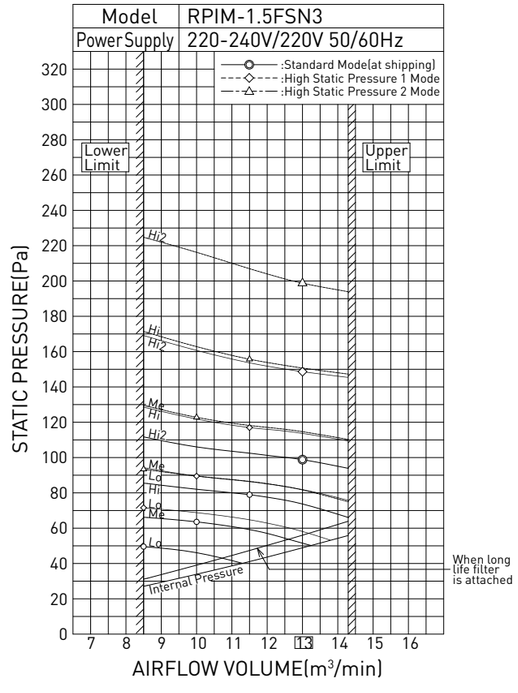
**Ducted (Medium ESP)**



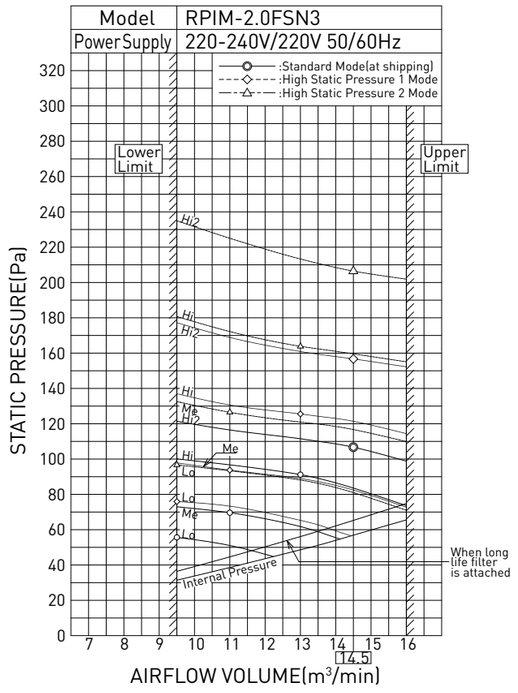

The setting of Standard,High Static Pressure 1 and High Static Pressure 2 mode can be changed by Wired Controller.




The setting of Standard,High Static Pressure 1 and High Static Pressure 2 mode can be changed by Wired Controller.



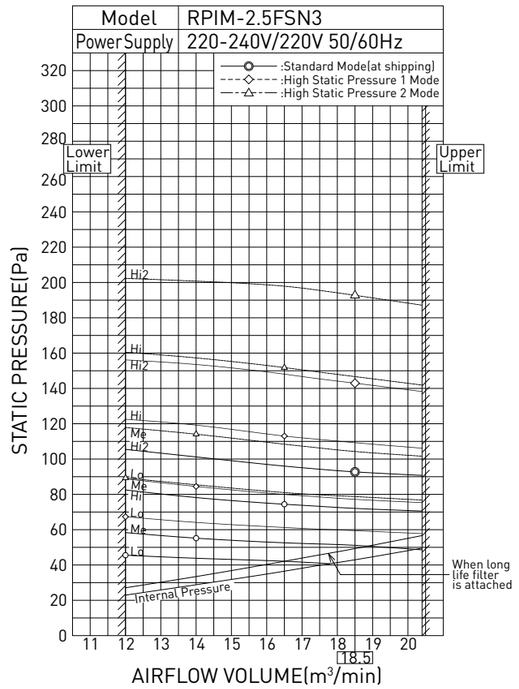

The setting of Standard,High Static Pressure 1 and High Static Pressure 2 mode can be changed by Wired Controller.



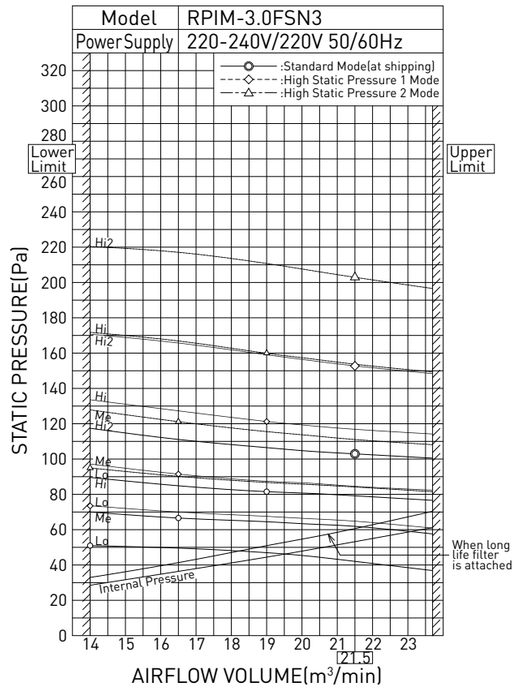

The setting of Standard,High Static Pressure 1 and High Static Pressure 2 mode can be changed by Wired Controller.



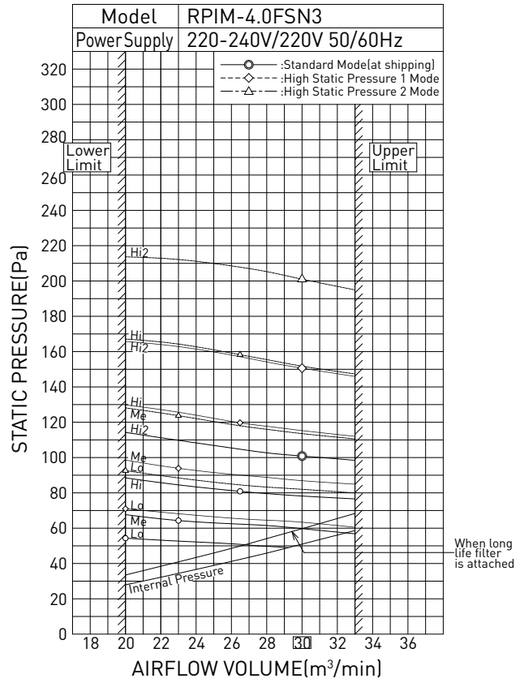




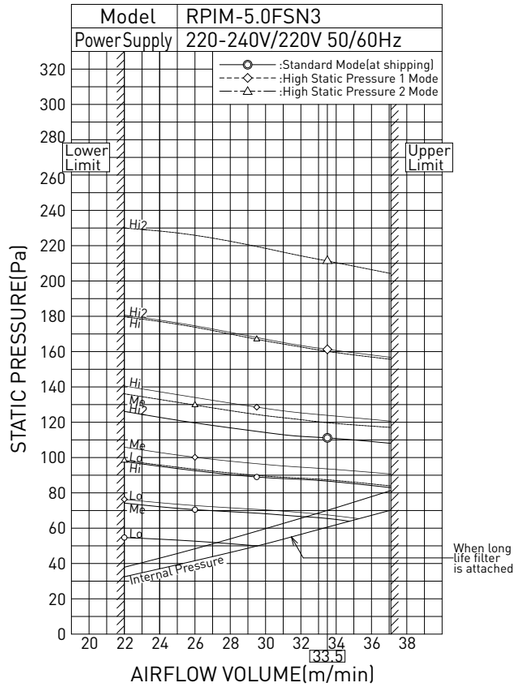

The setting of Standard,High Static Pressure 1 and High Static Pressure 2 mode can be changed by Wired Controller.



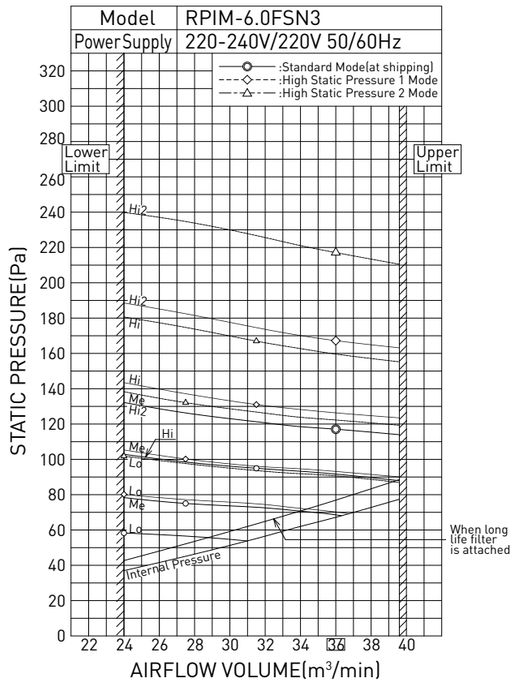

The setting of Standard,High Static Pressure 1 and High Static Pressure 2 mode can be changed by Wired Controller.




The setting of Standard,High Static Pressure 1 and High Static Pressure 2 mode can be changed by Wired Controller.




The setting of Standard,High Static Pressure 1 and High Static Pressure 2 mode can be changed by Wired Controller.



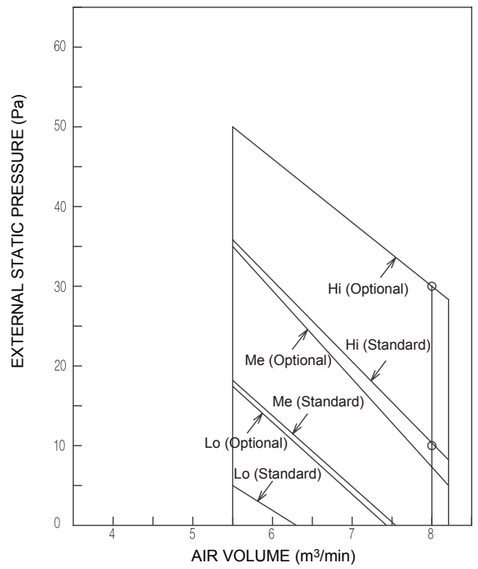

The setting of Standard,High Static Pressure 1 and High Static Pressure 2 mode can be changed by Wired Controller.



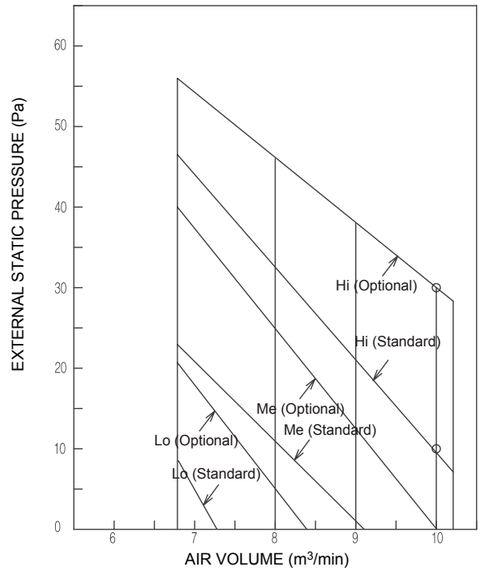


**Ducted (Slim)**

**Models: RPIZ-0.8/1.0FSN1Q/P**
**RPIZ-0.8/1.0FSNQS/P**

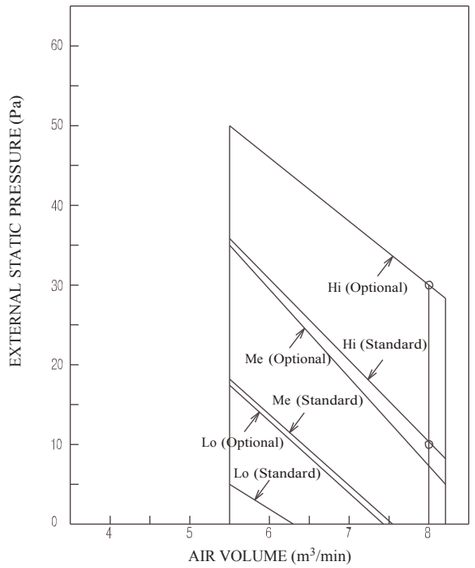



**Models: RPIZ-1.3/1.5FSN1Q/P**
**RPIZ-1.3/1.5FSNQS/P**

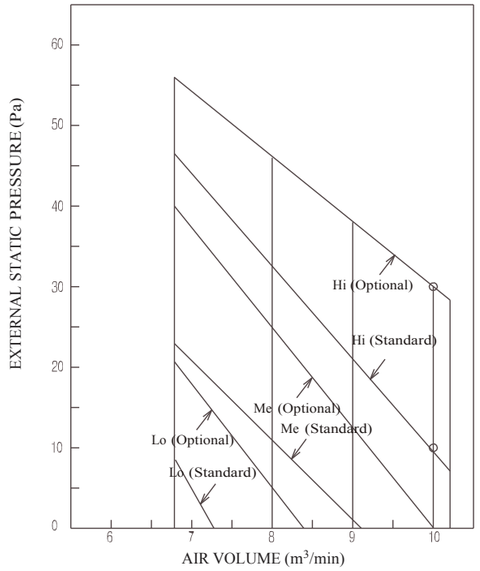


## Ducted (Compact)

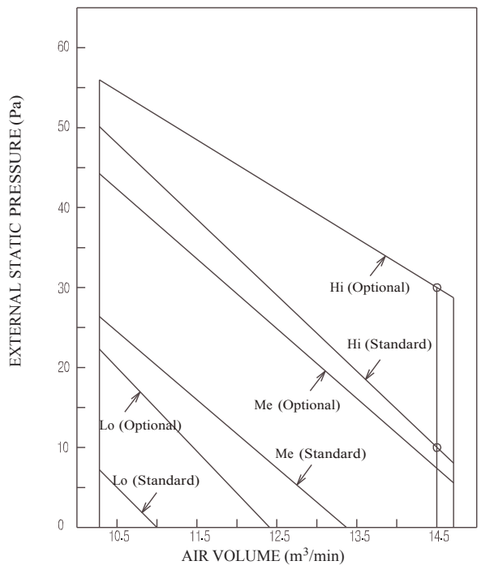
**Models: RPIZ-0.8/1.0FSN1Q**
**RPIZ-0.8/1.0FSNQS**



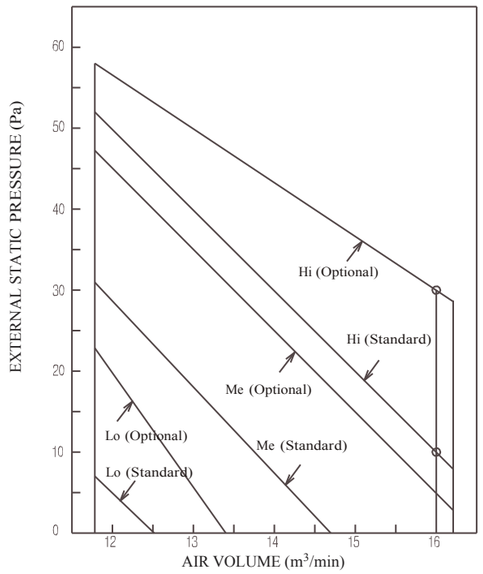

**Models: RPIZ-1.3/1.5FSN1Q**
**RPIZ-1.3/1.5FSNQS**




**Models: RPIZ-1.8/2.0FSN1Q**




**Models: RPIZ-2.3/2.5FSN1Q**

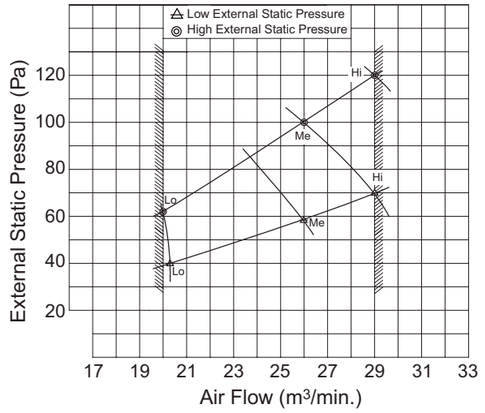




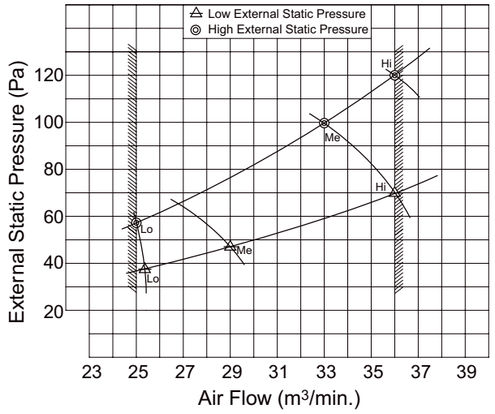



## Ducted (Larger Air Volume)

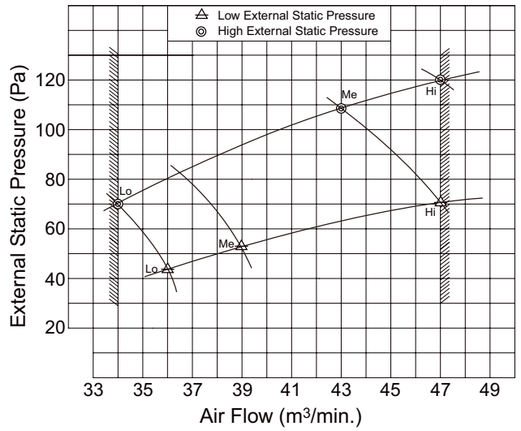
**RPI-3.0FSN2SQ**



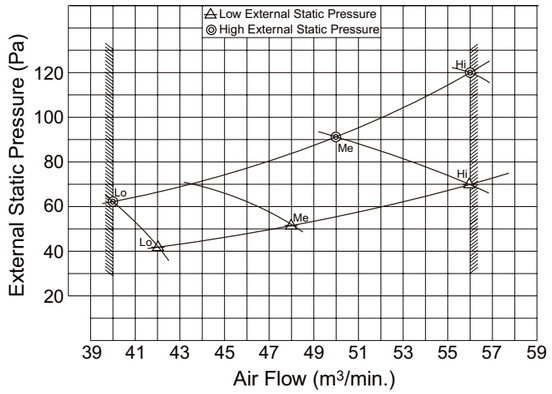

**RPI-4.0FSN2SQ**



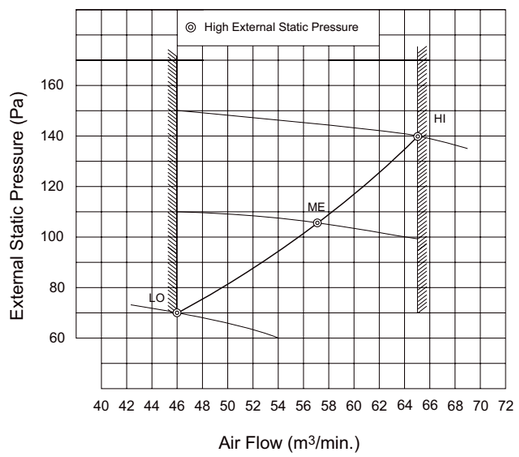

**RPI-5.0FSN2SQ**



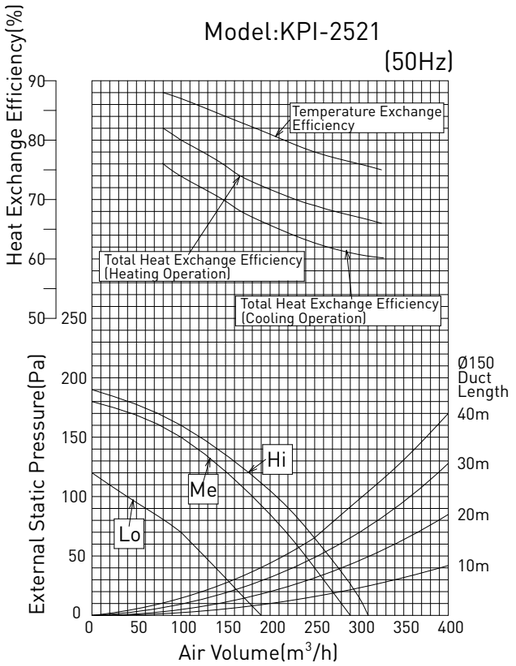

**RPI-6.0FSN2SQ**

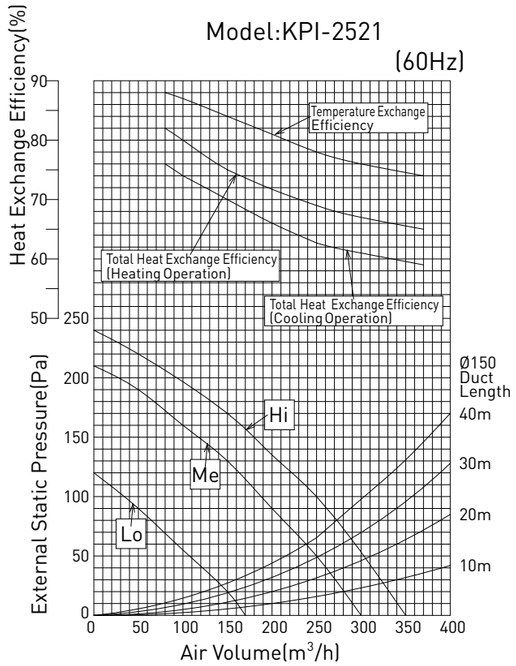


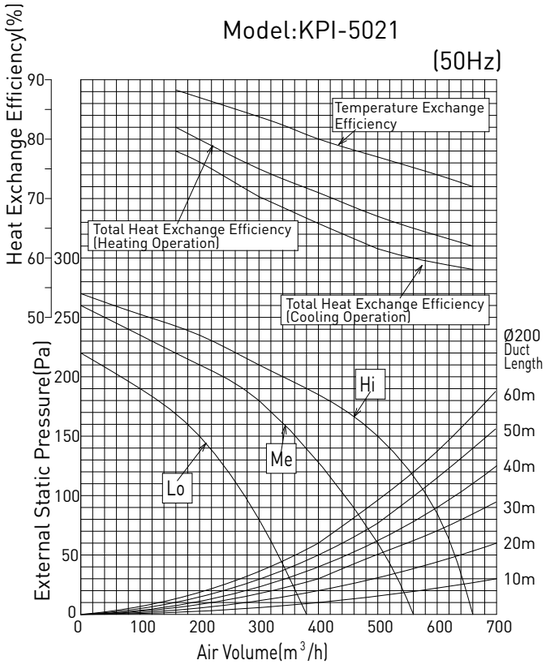

**RPI-7.0FSN2SQ**

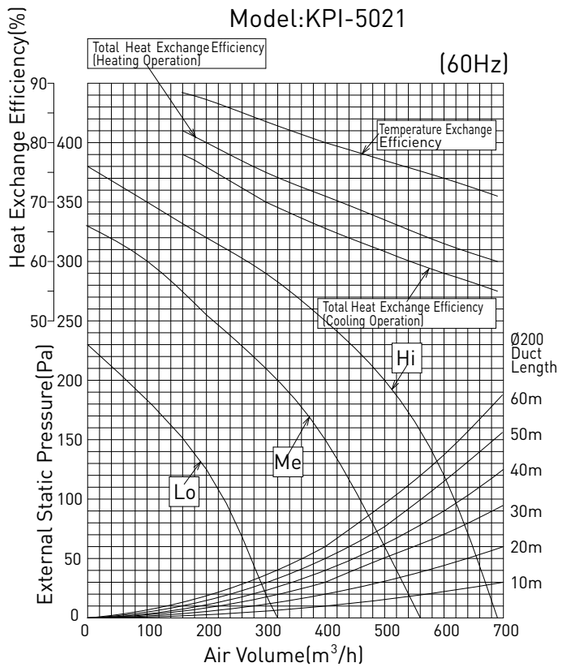


Total Heat Exchanger



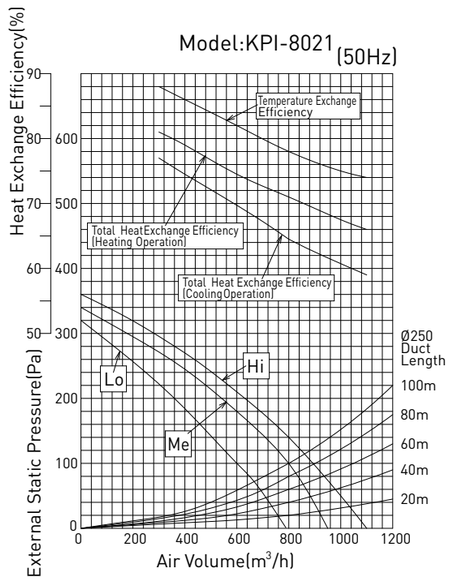



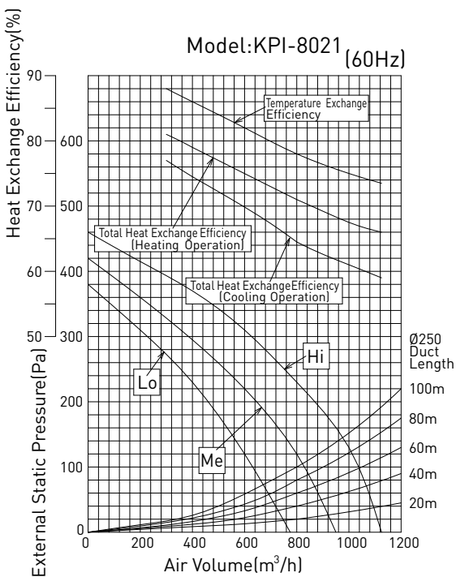





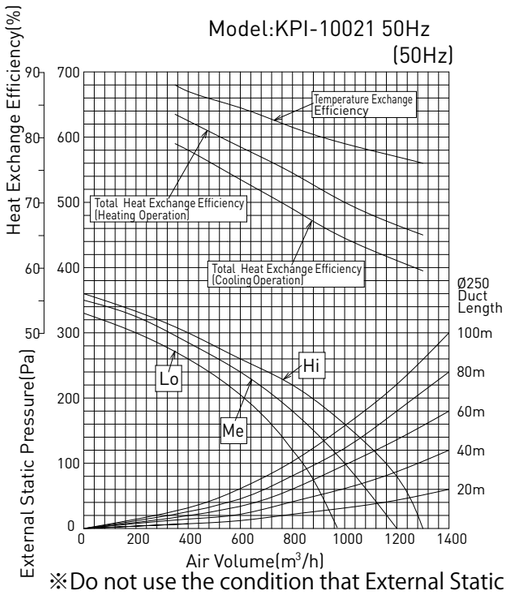


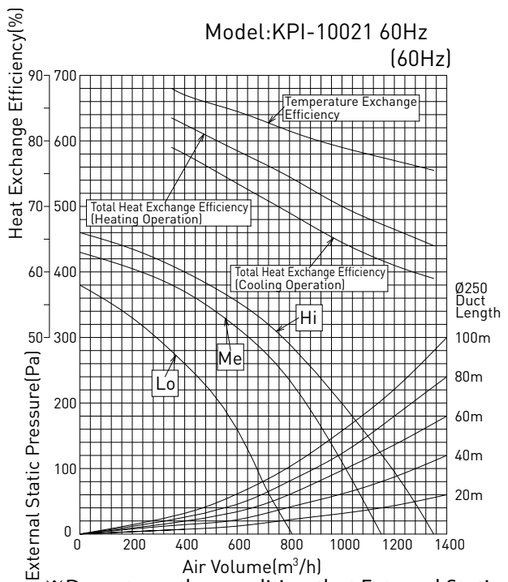

※Do not use the condition that External Static Pressure is under than 29Pa.




※Do not use the condition that External Static Pressure is under than 29Pa.



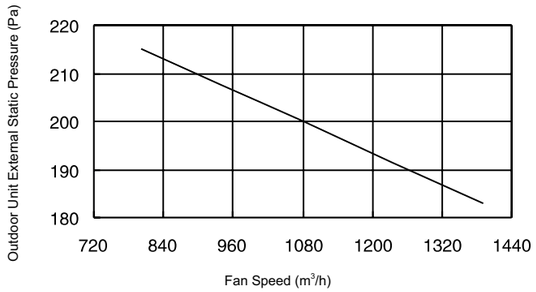

※Do not use the condition that External Static Pressure is under than 49Pa.



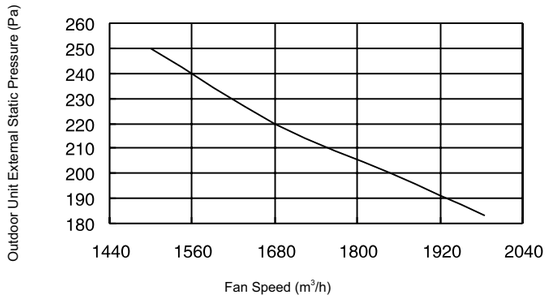

※Do not use the condition that External Static Pressure is under than 49Pa.

Fresh Air Unit

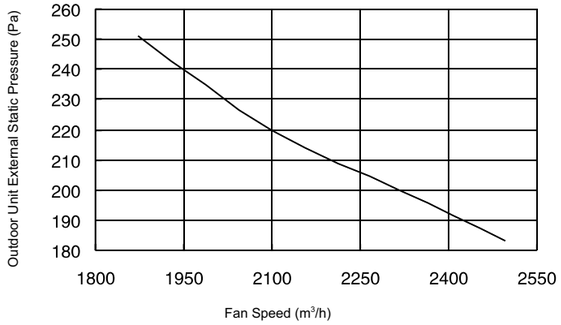
RPI-5.0KFNQ Fan Motor Characteristic Curve



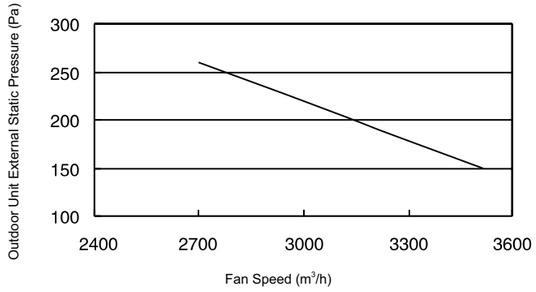

RPI-8.0KFNQ Fan Motor Characteristic Curve



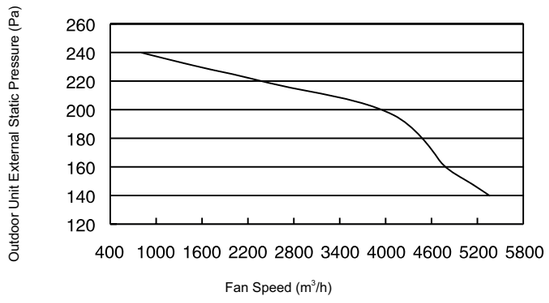

RPI-10.0KFNQ Fan Motor Characteristic Curve




RPI-12.0KFNQ Fan Motor Characteristic Curve




RPI-16.0KFNQ Fan Motor Characteristic Curve

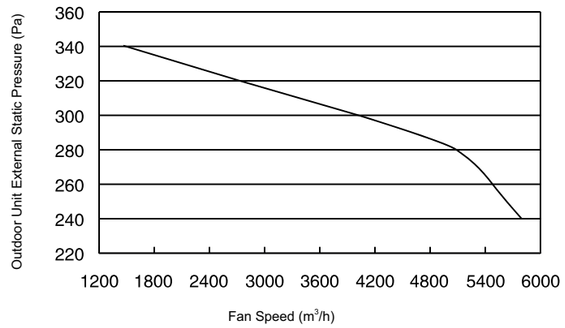




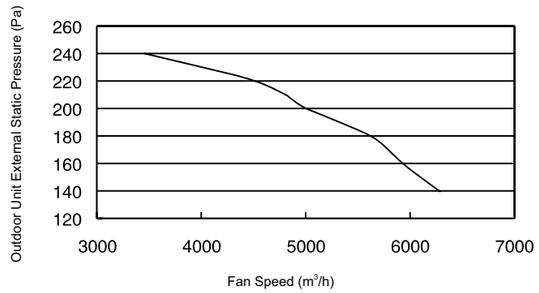



Fresh Air Unit

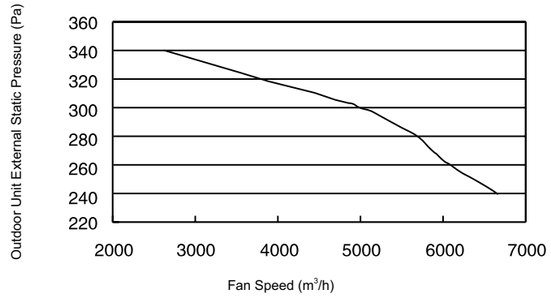
RPI-16.0KFNQ Fan Motor Characteristic Curve



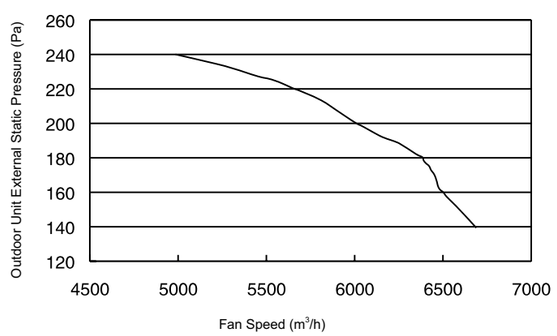

RPI-20.0KFNQ Fan Motor Characteristic Curve



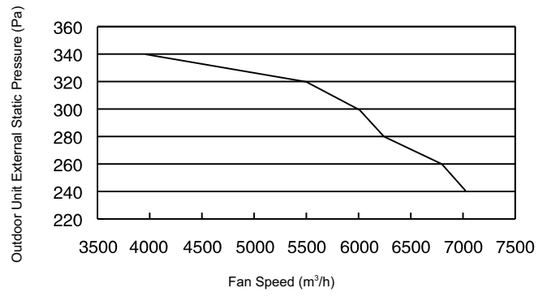

RPI-20.0KFNQ Fan Motor Characteristic Curve




RPI-20.0KFNQ Fan Motor Characteristic Curve




RPI-20.0KFNQ Fan Motor Characteristic Curve



# Hitachi VRF History


3rd overseas factory
in Malaysia in 1990

4th overseas factory
in Spain in 1991

5th overseas factory
in the Philippines in 1996


6th overseas factory in China
in 2003


1st Scroll Compressor Factory
in China in 2003


7th overseas factory in India in 2003

... Main Products

## 1940

### 1943

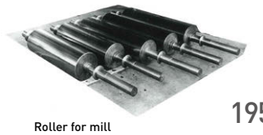
Shimizu Factory Founded

Air compressor
Casting

## 1950

Roller Casting

### 1951



Roller for mill

### 1956

Large casting; fan for tunnel

### 1958

Compressor for Refrigerators

## 1960

PAC Refrigerators
Compressor for REF Casting

### 1961

Hitachi's 1st Packaged AC
(Water-cooled)
(Floor Standing type)

### 1963

PAC exported from Shimizu
to UK for the 1st time

### 1965

1st Overseas Factory founded
in Taiwan

## 1970

PAC Refrigerators
Compressor for REF Casting

### 1970

First training School established

Refrigerators

### 1971

1st air-cooled Unitary PAC for
export market

### 1972

IDU: Floor-exposed type (RPF)

### 1973

2nd Overseas Factory
founded in Brazil

### 1973

IDU: Ceiling Built-in type (RPI)

### 1976

IDU: Ceiling Suspended
type (RPC)

### 1978

ODU: for low-ambient-
temperature market

### 1979

World's First

ODU: PAC controlled by
micro-computer built-in

## 1980

PAC Refrigerators
Compressors

### 1981

IDU: Wall Mounted type (RPK)

### 1982

IDU: Ceiling Cassette type

### 1983

World's First

IDU: 4-way Ceiling Cassette
type (RCI)

### 1983

Scroll Compressor
Production for AC unit.

### 1983

World's First

World's first PAC
with Scroll Compressor built-in

### 1984

VRF 1st generation

Hitachi's first VRF "High-Multi" series
*Contains multiple reciprocating compressors
*Individual IDU control available

## 1990

VRF PAC
Compressors

### 1986

VRF 2nd generation

Hitachi's 1st Inverter-
driven VRF
With Scroll Compressor
built-in

### 1988

VRF 3rd generation

World's First

5HP!

Up to 5 IDUs

World 1st Inverter-driven VRF
Up to 115 Hz in 1986

### 1991

VRF 4th generation

World's First

10HP!

Up to 8 IDUs
(130 % capacity!)

World 1st IGBT Inverter built-in VRF
leading to top-in-class quietest operation

5HP

8HP and 10HP

### 1999

VRF 5th generation

30HP!

Newly R407C adopted VRF
"SET FREE FSG": heat-pump type
"SET FREE FXG": heat-recovery type

Up to 12 IDUs !
(130 % capacity!)

## 2000

VRF PAC
Compressors

### 2005

VRF 6th generation

32HP!

Newly R410A adopted VRF
"SET FREE FSN": heat-pump type
"SET FREE FXN" : heat-recovery type

### 2011

World's First

Centrifugal VRF

Point:"Outdoor unit" that can be
installed inside the building

## 2010

VRF PAC
Compressors

### 2012

VRF 7th generation

54HP!

Heat-pump / Heat-recovery
compatible Modular System
VRF "SET FREE FSXN"

### 2016

VRF 8th generation

96HP
in Sep!

Hitachi New Generation VRF
This New Generation VRF SET FREE Σ is 8th Generation VRF!
after 33Years Experience in VRF