

# HITACHI

VRF Multi-split Air Conditioning System

## SET-FREE FSXN

Selectable **Heat Recovery Operation** and **2 pipe Heat Pump Operation**



R410A

# SET-FREE FSXN

Multi air-conditioning system that embodies usability

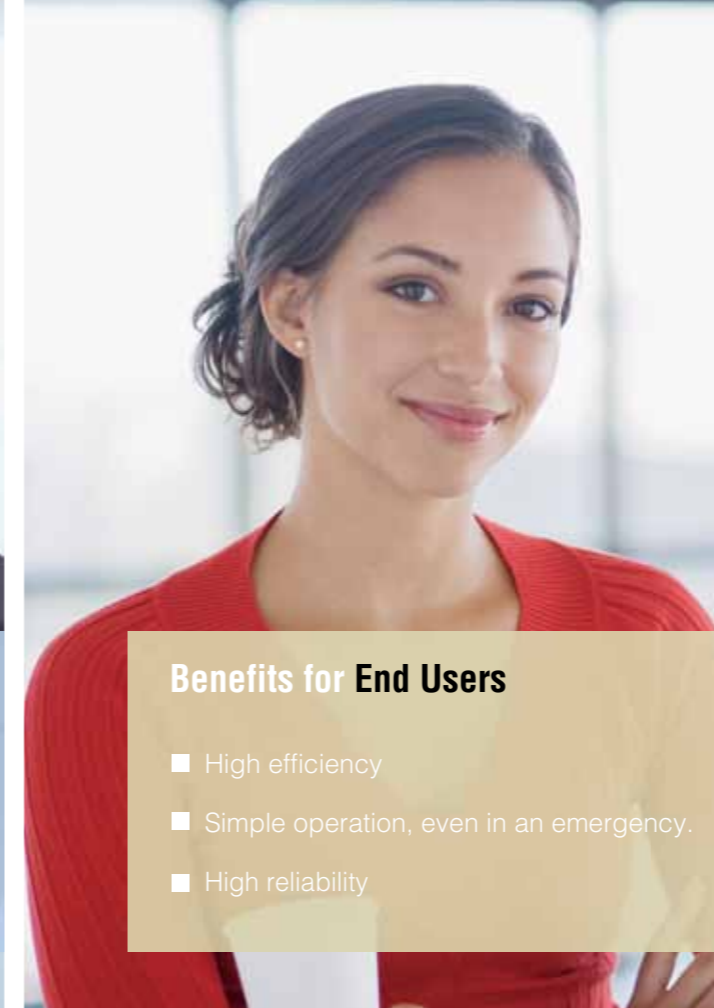
There have been increasing needs, upon the introduction of an air-condition system, for air conditioners capable of simultaneously cooling and heating, because the space where cooling is required all year round and the space where cooling and heating should be changed over seasonally coexist in office buildings and other places. Also, in order to save cost and space, lately, multiple low-capacity units are being integrated into and utilized as a high-capacity outdoor unit with increasing frequency.

Furthermore, from the viewpoint of environmental consideration, a demand is growing for an air-conditioning management system that makes it easier for users to comprehend the operating condition and the usage status of their air conditioners such as overheating, overcooling and unattended operation. To meet various kinds of needs for an air-conditioning system for buildings, Hitachi developed a multi-split air-conditioning system for buildings called "SET-FREE FSXN".



## Benefits for Building Owners

- Heat recovery operation
- Enhancement of efficiency for managing air conditioners
- Consideration for the environment



## Benefits for End Users

- High efficiency
- Simple operation, even in an emergency.
- High reliability

## what we do to the earth, we do to ourselves



## Benefits for Design Companies

- Labor-saving in equipment layout design
- Flexible system designs



## Benefits for Construction Contractors

- Lower workload during construction
- Shorter work period

## Advantages

### ■ Selectable between Heat Recovery and 2-Pipe Heat Pump operations

### ■ Wide Product Range

All Models (8 to 54HP) for Heat Recovery

### ■ Energy Saving

- Heat Recovery Operation
- DC Inverter Driven Compressor

### ■ Flexibility of Installation

- Compact and Light Design
- Flexible Refrigerant Piping Works

### ■ Comfort and Reliability

- Noise Reduction Preference Mode (option)
- Automatic Simple judgement System for Refrigerant Amount
- Rotational Operation to Distribute Load of Outdoor Units
- Backup Operation Function for Emergency

### ■ Control by Network System

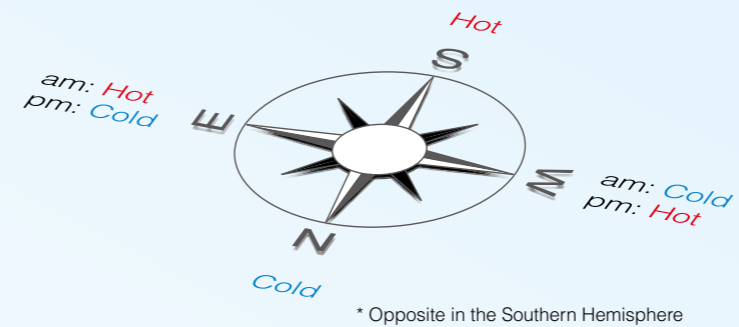


# Heat Recovery Operation

## "Heat Recovery Operation" . . . It's the Air-conditioning Need of the Era

When considering the need to switch between cooling and heating for day and night times at the turn of the season, the difference in room temperatures due to the influence of sunshine and the need to cool offices all year round, which arises from the widespread use of computers and terminal devices, heat recovery operation has already become a precondition for air-conditioning systems for buildings. To meet such needs, Hitachi developed a new multi-split air-

conditioning system called "SET-FREE FSXN", which supports heat recovery operation. Based on our existing sheat recovery operation system, "SET-FREE FXN," we have expanded the lineup, enhanced efficiency, reduced the dimensions and improved workability. As a result, SET-FREE FSXN offers superb energy-saving efficiency and better comfort.



### Heat Recovery Operation System Optimized to Meet Different Air-conditioning Needs in the Same Building



### In commercial buildings ...

Heat recovery operation is essential in commercial buildings where restaurants, shops, etc., coexist.



### In hotels ...

In hotels where all different kinds of people stay, there is a huge difference in the temperatures they can sense. Thus, room temperatures should be set flexibly according to the personal preferences of the guests.



### In office buildings ...

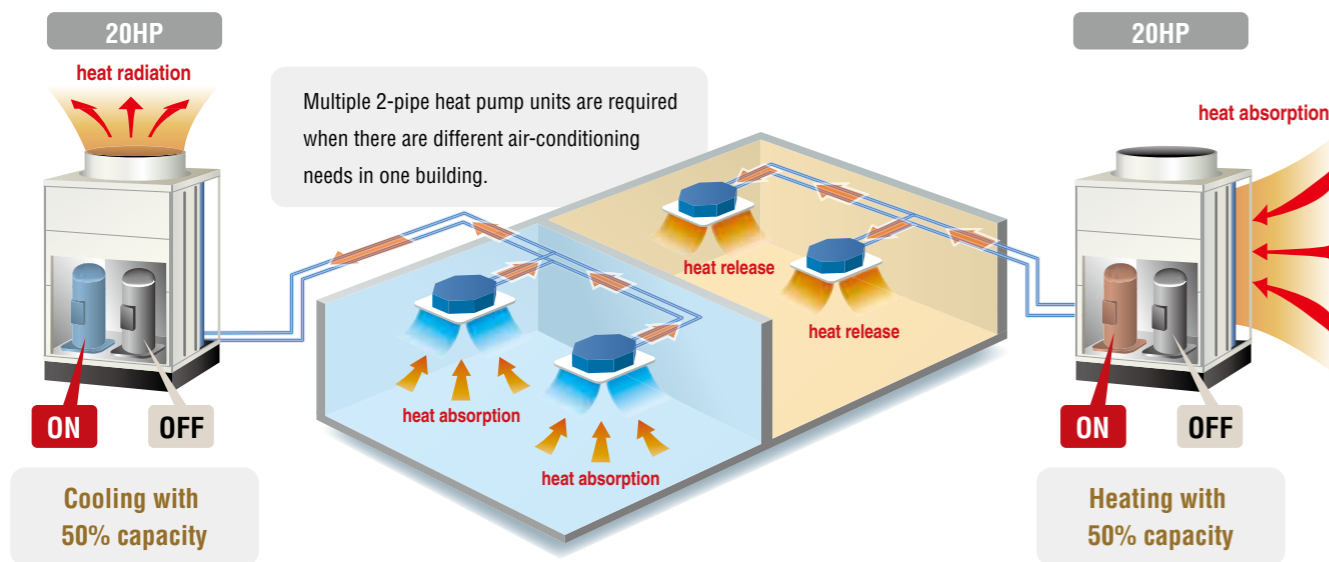
Recently, the heat inside buildings is less likely to be released thanks to changes in building structures, such as the improvement of heat insulator performance and the use of double-pane windows. Cooling is required all through the year in the interior zone where there are a lot of lighting fixtures and OA equipment, while in the perimeter zone, which is easily affected by ambient temperature and sunshine, either cooling or heating is required according to changes in the flow of heat.

# Heat Recovery Operation

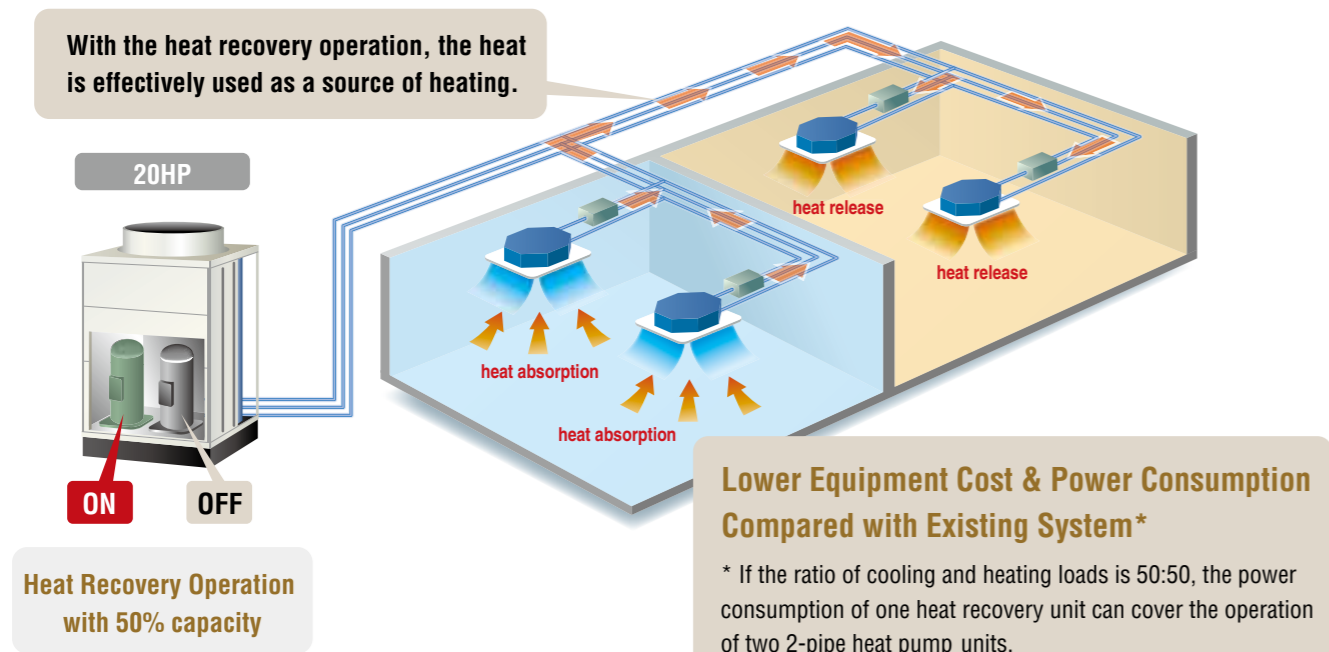
## Heat Recovery Operation Significantly Enhances Energy-saving Efficiency

A heat recovery system offers high energy-saving efficiency by drawing heat from the rooms to be cooled, and effectively using it as a heat source for the rooms to be heated.

### Existing system (2-pipe heat pump operation)



### SET-FREE FSXN (heat recovery operation)



## System Configuration

### Outdoor Unit

- Heat recovery and 2-pipe heat pump operations common unit
- Module type (external connection)

### Refrigerant Piping

Max. length: 165m  
Total length: 1,000m

### Transmission

Corresponding to H-LINK II  
Max. 64 refrigerant groups  
Max. 160 indoor units

### Connectable Indoor Unit

Max. 64 units  
Capacity range: 50-130%



### CH Unit (heat recovery system only)

- Changeover box for heat recovery application
- Compact and light design
- Minimized unit and less suspension bolts facilitate installation and handling methods.

Model	Specifications		Indoor Unit Connection	
	Dimension W x D x H (mm)	Net Weight (kg)	Total HP	Number of Indoor Units*
CH-6.0N2	301 x 214 x 191	7	6HP ≥	1 - 7
CH-10.0N2			6.1HP to 10HP	1 - 8

\* When multiple indoor units are connected to same CH unit, they are controlled with same operation mode.

**NOTE :** When switching the refrigerant flow channel at Operation ON/OFF, Thermo ON/OFF, Defrost Operation and Operation Mode, refrigerant flow noise may be heard from CH Unit. Therefore install the unit in a place such as under the roof of corridor so that the sound may not be heard in the room.

### Remote Control Switch



### Central Station



# Product Line-up

## All 48 models (8 to 54HP) for Heat Recovery and 2-pipe Heat Pump Operation System Most suitable Unit Can be Chosen from Large Selection

Space, structure and necessary functions, in line with evolution in building design and air conditioning requirements, have also diversified. The HITACHI SET-FREE FSXN Series offers 6 types of modular outdoor units and 8 types (48 models) of indoor units. By combining units from a wide selection of models, you can create a custom

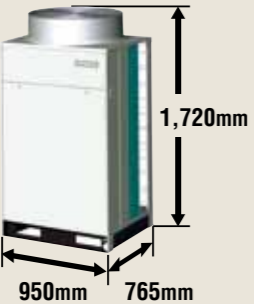
air conditioning environment to satisfy your specific building conditions. Outdoor unit capacity has been extended up to 54HP by combining the base units (max. 3). This system can provide both Heat Recovery Operation and 2-pipe Heat Pump Operation Systems as follows.

### Outdoor Unit

#### Base Unit

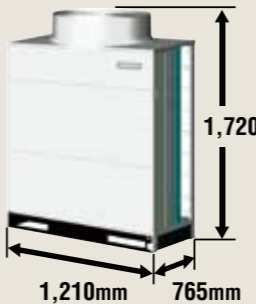
**A RAS-8 to 12FSXN**

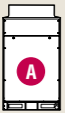



- Outer Dimensions  
Width: 950 mm  
Depth: 765 mm  
Height: 1,720 mm
- Net Weight  
210 kg

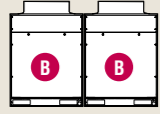
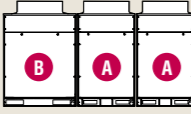
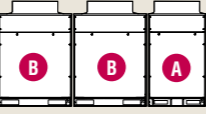
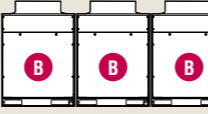


**B RAS-14 to 18FSXN**

- Outer Dimensions  
Width: 1,210 mm  
Depth: 765 mm  
Height: 1,720 mm
- Net Weight  
14, 16HP: 295 kg  
18HP: 315 kg












8HP	RAS-8FSXN	14HP	RAS-14FSXN	20HP	RAS-20FSXN	22HP	RAS-22FSXN
10HP	RAS-10FSXN	16HP	RAS-16FSXN			24HP	RAS-24FSXN
12HP	RAS-12FSXN	18HP	RAS-18FSXN			26HP	RAS-26FSXN
							
28HP	RAS-28FSXN	38HP	RAS-38FSXN	44HP	RAS-44FSXN	50HP	RAS-50FSXN
30HP	RAS-30FSXN	40HP	RAS-40FSXN	46HP	RAS-46FSXN	52HP	RAS-52FSXN
32HP	RAS-32FSXN	42HP	RAS-42FSXN	48HP	RAS-48FSXN	54HP	RAS-54FSXN
34HP	RAS-34FSXN						
36HP	RAS-36FSXN						

Refer to "GENERAL DATA" for information on the combination of base units.

### Indoor Unit

	0.6	0.8	1.0	1.5	2.0	2.5	3.0	4.0	5.0	6.0	8.0	10.0 (HP)
 4-Way Cassette			■	■	■	■	■	■	■	■		
 4-Way Cassette Compact	■	■	■	■	■							
 2-Way Cassette			■	■	■	■	■	■	■			
 In-the-ceiling		■	■	■	■	■	■	■	■		■	■
 Ceiling				■	■	■	■	■	■	■		
 Wall			■	■	■	■	■	■				
 Floor			■	■								
 Floor-Concealed			■	■								

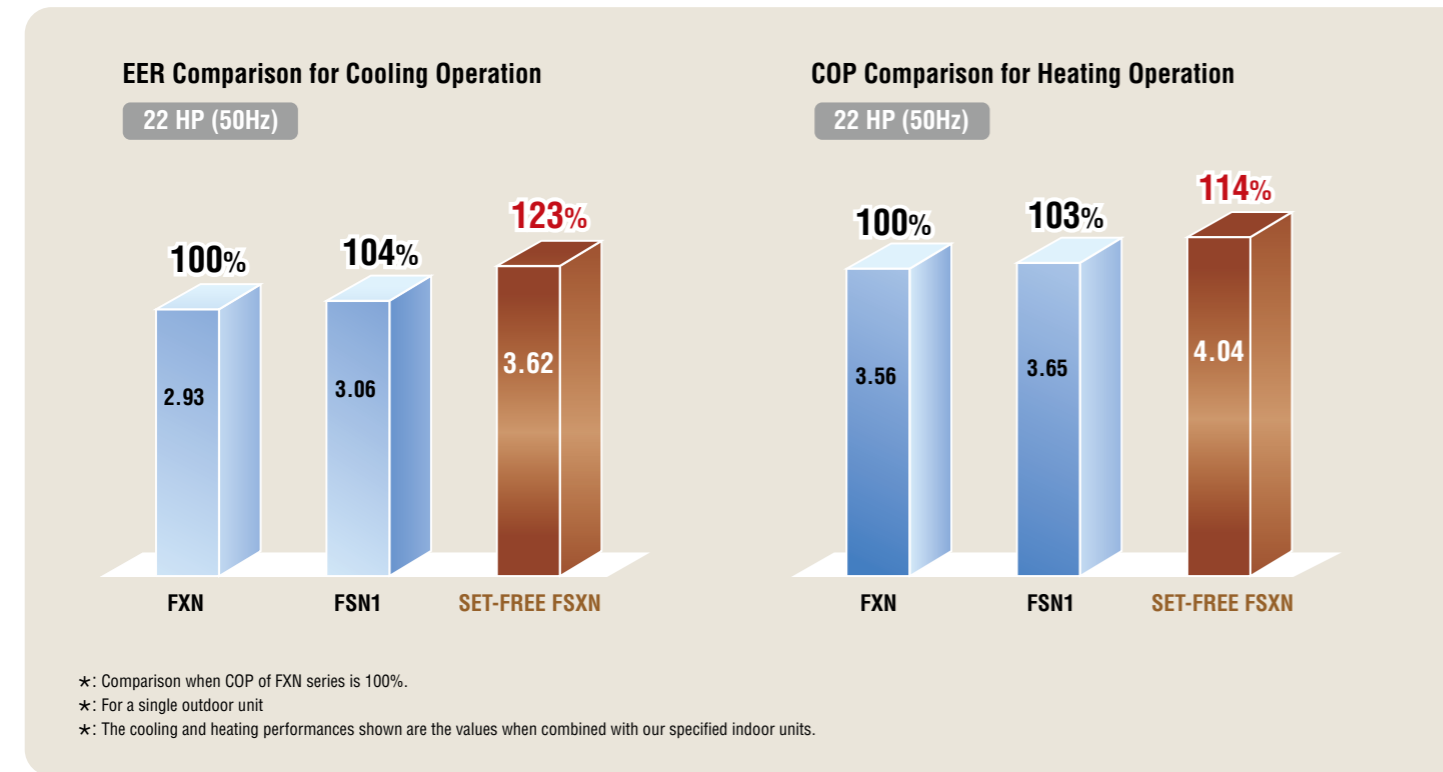
### System Equipment

	250m <sup>3</sup> /h	500m <sup>3</sup> /h	800m <sup>3</sup> /h	1,000m <sup>3</sup> /h
 Total Heat Exchanger	■	■	■	■

# Energy-saving and Comfort

## Sophisticated energy-saving technology delivers outstanding effects

Refrigerant cycle and control achieve an industry-leading level of efficiency and energy-saving performance.



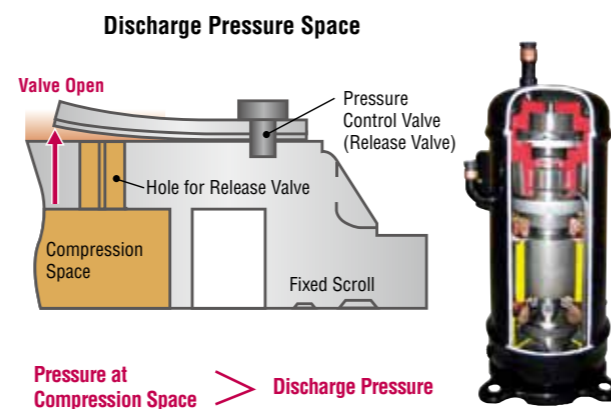
## New Type DC Inverter Scroll Compressor

### Improved Intermediate Pressure Performance

The intermediate pressure performance is drastically improved by using a release valve and optimizing orbiting scroll lifting force in the improved new compression mechanism, therefore intermediate pressure performance is largely improved for energy-saving.

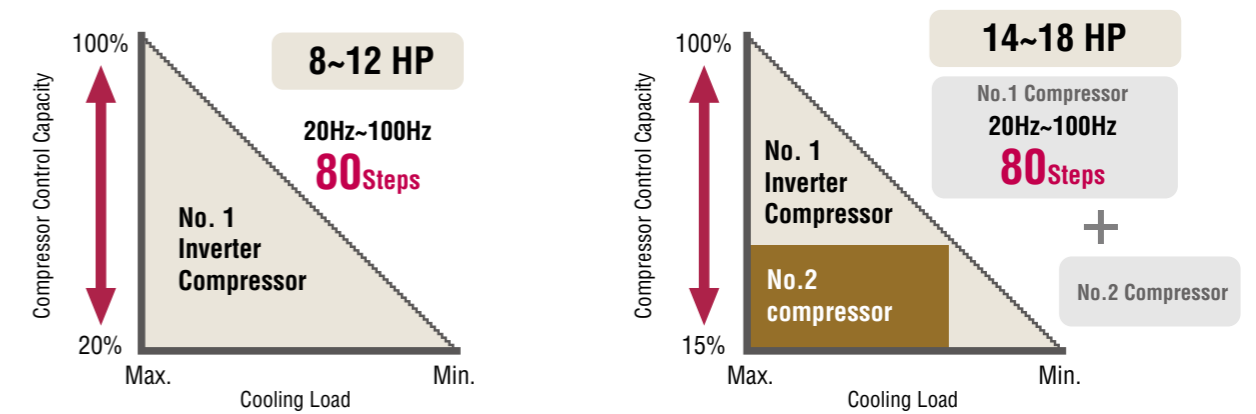
### Release Valve Adoption Prevents from Overcompression.

### Orbiting Scroll Lifting Force Optimization is Improved Leakage Loss Reduction.



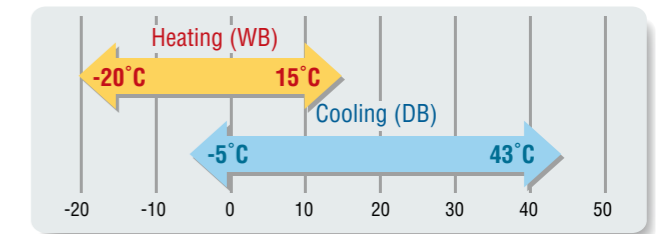
## Capacity Control by 1 Hz

Performance is greatly improved by the high efficiency DC inverter compressor and 100% load compressor, and loss-less energy saving operation is achieved (depending on the building).



## Wide Working Range

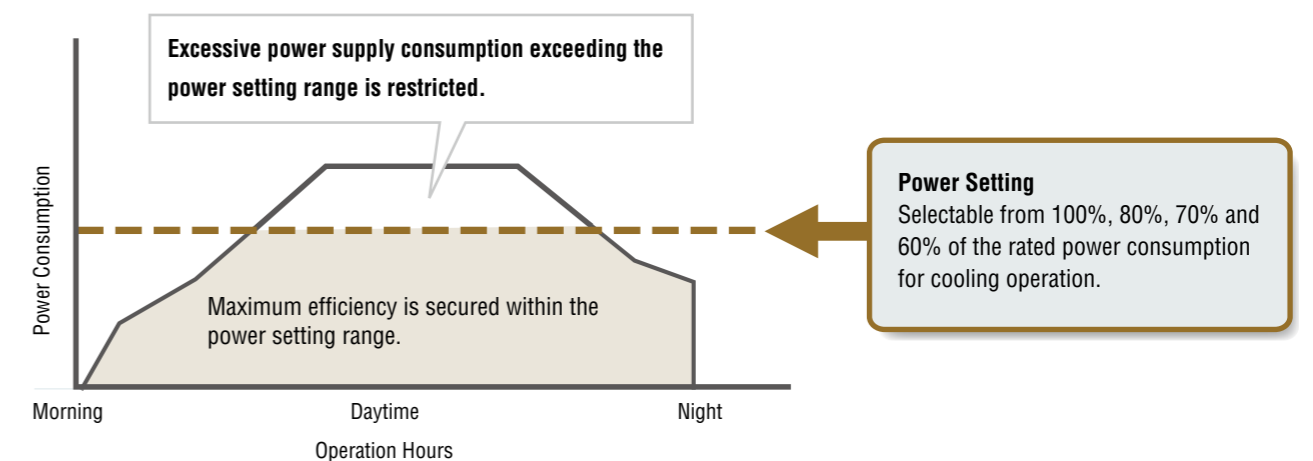
SET-FREE FSXN can handle a wide range of outside air conditions, thus extending the flexibility of installation space and climatic environment.



## Self-demand Control

A newly developed self-demand function has largely improved energy-saving effects.

Since the current is self-detected and demand control is performed automatically, no signal wiring work is required. Conventional demand control using demand signals is also available, and you can select various operations as required.



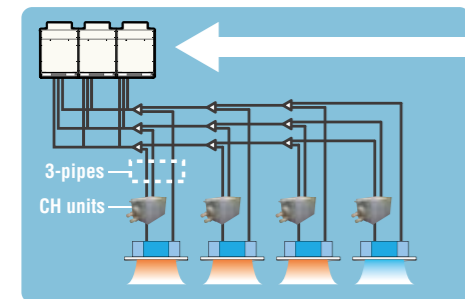
# Flexibility of Installation

## Heat Recovery and 2-pipe Heat Pump operations Selectable for Outdoor Units

Common outdoor units are applicable to the heat recovery operation system as well as the 2-pipe heat pump operation system. This saves the burden of review work when

designing the equipment layout, while reducing the workload of installation on site.

### When used as a heat recovery operation system



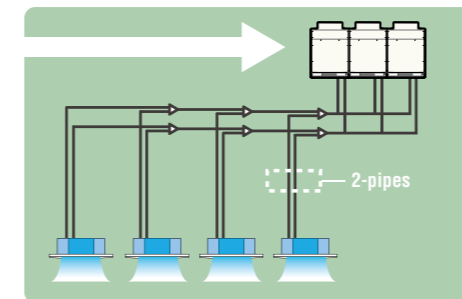
The heat recovery and 2-pipe heat pump operation systems cannot be switched over after installation is complete.

### SET-FREE FSXN (Module Type)



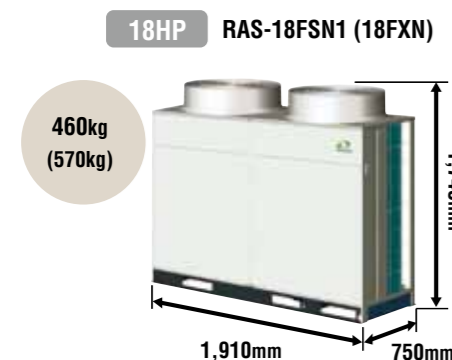
Heat recovery and 2-pipe heat pump operations common unit

### When used as a 2-pipe heat pump operation system

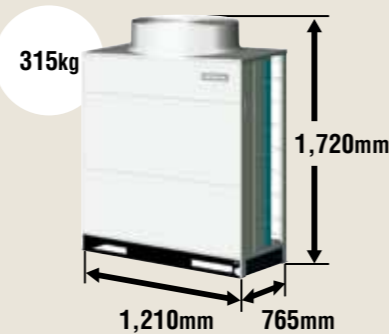


## Compact and Light Design

Ease and flexibility of installation are further enhanced by adopting the outdoor unit's lightweight and compact design as compared to the current model.



### 18HP RAS-18FSXN



■ Installation Space : Reduced by **35% (35%)**

■ Weight : Reduced by **32% (45%)**

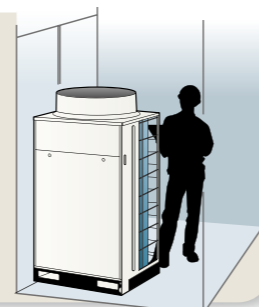
### Transportation and Handling using Elevator

The elevator can be used to transport the base unit separately.

Even the Largest Basic Unit (18HP Model) Can Be Carried in an Elevator

#### Elevator

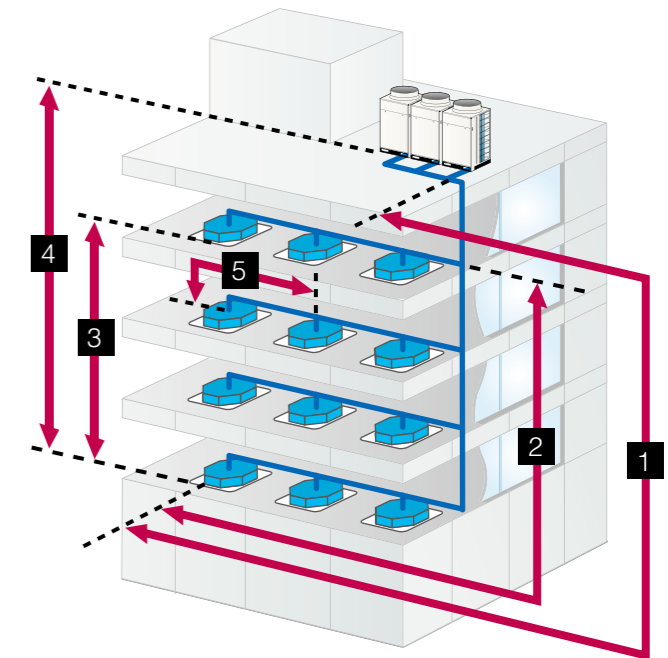
Door Opening: 800 mm  
Depth: 1350 mm



## More Flexible Refrigerant Piping Work

Improved flexibility of design by increasing the pipe length to 165 m max. (equivalent length of 190 m) in FSXN series.

- 1 Max. piping length: **165 m** \*1
- 2 Between first branch and indoor unit: **90m or less**
- 3 Height difference between highest and lowest indoor units: **15m or less**
- 4 Height difference between outdoor and indoor units: **50m** \*2
- 5 Max. length between branch from indoor unit: **40m**



\*1: For 100m or more, the pipe diameter will be one size larger.  
\*2: In case the outdoor unit is installed at a higher level than indoor units. If the outdoor unit is installed lower than indoor units, the maximum height difference is 40m.

	Current Model (FSN1)	New Model (FSXN)
Total maximum piping length	300 m	<b>1,000 m</b>
Max. piping length	150 m	<b>165 m</b>
Between first branch and indoor unit	40 m	<b>90 m</b>
Max. piping length after branch	30 m	<b>40 m</b>

## Connectable to 64 Indoor Units Max.

The number of connectable indoor units has been increased to 64 maximum. Thus, the system can be used in buildings where there are many indoor units to be connected.

		Connection Capacity: 50 to 130%													
		HP	5	8	10	12	14	16	18	20	22	24	26	28	30
Max. Number of Connectable Indoor Units	Current Models	FSN(1) Series	8	13	16	16	20	20	20	20	20	27	29	31	32
		FXN Series	-	13	16	-	-	20	20	20	20	27	29	-	32
	<b>FSXN Series</b>	<b>-</b>	<b>13</b>	<b>16</b>	<b>19</b>	<b>23</b>	<b>26</b>	<b>26</b>	<b>33</b>	<b>36</b>	<b>40</b>	<b>43</b>	<b>47</b>	<b>50</b>	
Max. Number of Connectable Indoor Units	Current Models	FSN(1) Series	32	34	36	38	40	42	44	46	48	50	52	54	
		FXN Series	32	-	-	-	-	-	-	-	-	-	-	-	
	<b>FSXN Series</b>	<b>53</b>	<b>56</b>	<b>59</b>	<b>64</b>	<b>64</b>	<b>64</b>	<b>64</b>	<b>64</b>	<b>64</b>	<b>64</b>	<b>64</b>	<b>64</b>	<b>64</b>	

#### NOTES

\*: For a system in which all indoor units are operated simultaneously, the max. total capacity will be 100%. Determine the number of Indoor Units carefully so that a problem such as decreased outlet air temperature will not occur. Refer to Technical Catalog for more details.

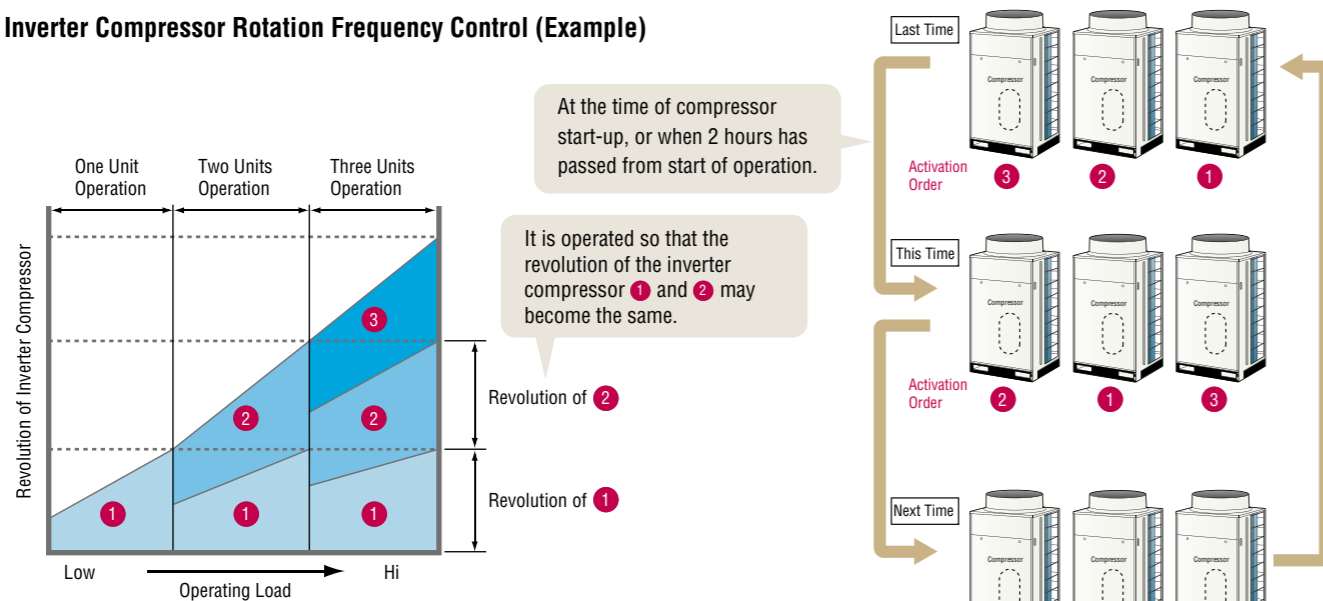
\*: Compared to indoor units of over 1.5HP, indoor units of 0.8 and 1.0HP are set with higher air flow. Do not install these units in a place where a cold draft may occur during heating operation. Determine the usage environment and installation location carefully.

# Other Advanced Technologies

## Rotational Operation\*1 to Distribute Load of Outdoor Units

Regulating the operation time of each outdoor unit leads to load reduction on compressors.\*2  
During multiple unit operation, the same rotation frequency of inverter compressor results in an equivalent load on each compressor. Therefore, outdoor unit endurance is improved.

### Inverter Compressor Rotation Frequency Control (Example)

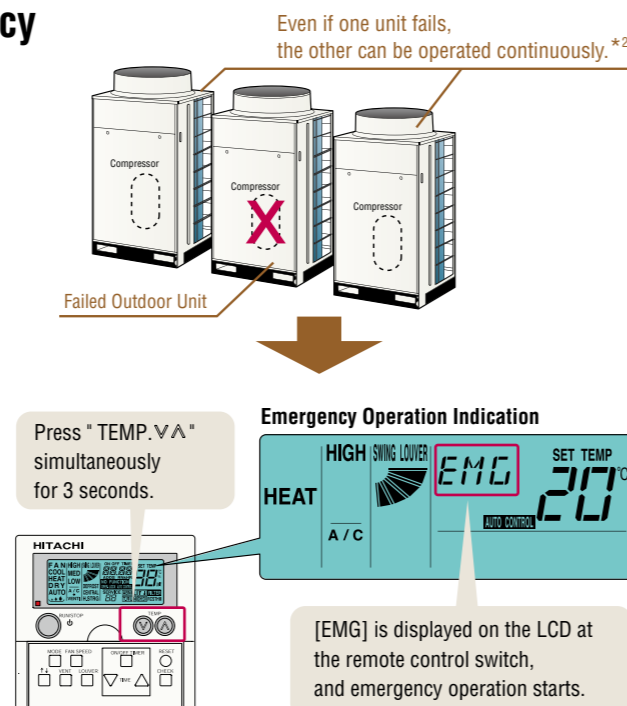


NOTES  
\*1: At least 2 outdoor units are required for this function.  
\*2: Comparison between rotation operation function and non-rotation operation function based on the same system.

## Backup Operation Function for Emergency

The Backup Operation Function prevents the system from coming to a complete stop when outdoor unit failure occurs.\*1 Emergency operation starts with the remote control switch after an alarm.\*3

NOTES  
\*1: At least 2 outdoor units are required for this function.  
\*2: Emergency operation can be performed within 8 hours after unit stoppage. After 8 hours passed from unit stoppage, emergency operation can not be performed.  
\*3: Emergency operation can be performed when the specified alarm code occurs. Refer to "Alarm Code for Emergency Operation".



## Noise Reduction Preference Mode (Optional Function)

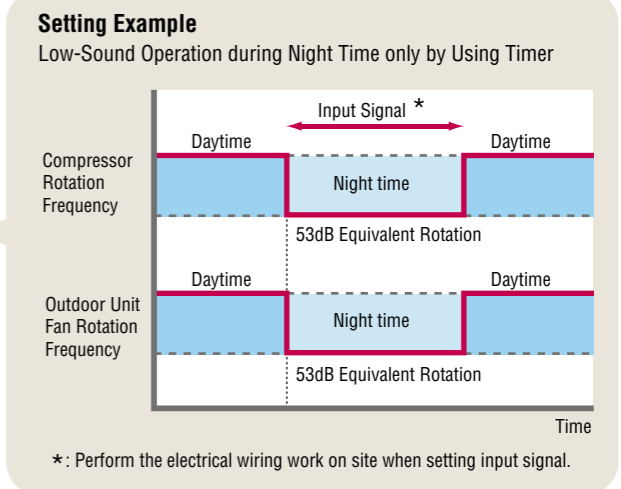
With the new Noise Reduction Preference Mode, the sound pressure level for a particular time zone can be set based upon the usage environment.\*1

Therefore, the operation/management of air conditioners is facilitated in areas where the noise level at night time is restricted by laws and regulations.

### You can select from 3 sound pressure levels

Optional Noise Reduction Function	Setting from Outdoor Unit Input and Output Function	Sound Pressure Level (dB) (Approx. Value)*2
11	<b>Setting 1</b> (Standard Value -2dB)	<b>56</b>
12	<b>Setting 2</b> (Standard Value -5dB)	<b>53</b>
13	<b>Setting 3</b> (Standard Value -8dB)	<b>50</b>

NOTES  
\*1: The range of performance and operation is restricted, because the rotation frequency of the compressor and outdoor fan is forcibly decreased.  
\*2: The table above shows an approximate value of 10HP. In some cases, the value may temporarily become higher than the approximate value in the table above due to operation control conditions.



## Automatic Simple Judgement System for Refrigerant Amount

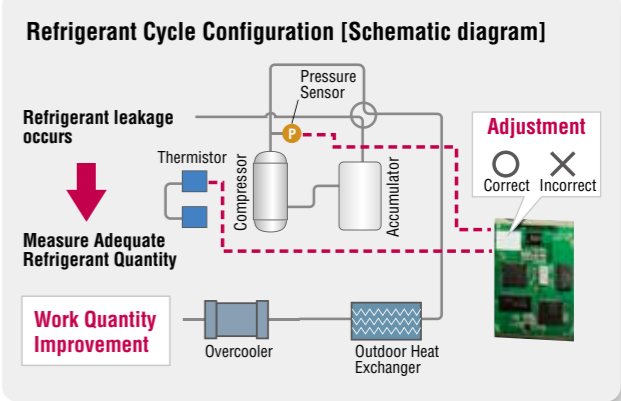
Use this automatic judgement function to check whether or not the refrigerant amount is sufficient in one refrigerant cycle.

### Factor for Judgement

The appropriate refrigerant amount is calculated based upon the following data.

- 1 Refrigerant Cycle Temperature
- 2 Refrigerant Saturation Temperature
- 3 Outdoor Unit Expansion Valve Data
- 4 Indoor Unit Data

NOTES  
\*: Refrigerant over-charging is not detected. Over-charging can be detected by gradually adding refrigerant from the under-charged state at test run or when refrigerant leakage occurs.  
\*: This function does not provide automatic refrigerant charging.  
\*: The adjustment (estimate) is changed according to the operation condition (the number of operating units and temperature).



## High External Static Pressure

The outdoor units provide external static pressure up to 60Pa by setting at site for installation on each floor of the building.



# General Data

Model		RAS-8FSXN	RAS-10FSXN	RAS-12FSXN	RAS-14FSXN	RAS-16FSXN		RAS-18FSXN	RAS-20FSXN	RAS-22FSXN	RAS-24FSXN	RAS-26FSXN	RAS-28FSXN	RAS-30FSXN
Combination of Base Unit		-	-	-	-	-		-	RAS-8FSXN RAS-12FSXN	RAS-8FSXN RAS-14FSXN	RAS-10FSXN RAS-14FSXN	RAS-12FSXN RAS-14FSXN	RAS-14FSXN RAS-14FSXN	RAS-14FSXN RAS-16FSXN
Power Supply		AC 3 φ , 400V/50Hz (380-415V/50Hz), 380V/60Hz, 220V/60Hz							AC 3 φ , 400V/50Hz (380-415V/50Hz), 380V/60Hz, 220V/60Hz					
Nominal Cooling Capacity *1)	kW	23.3	29.1	34.9	40.7	46.5		52.0	-	-	-	-	-	-
Nominal Cooling Capacity *2)	kW	22.4	28.0	33.5	40.0	45.0		50.0	56.0	61.5	69.0	73.0	80.0	85.0
Nominal Heating Capacity	kW	25.0	31.5	37.5	45.0	50.0		56.0	63.0	69.0	77.5	82.5	90.0	95.0
EER [Cooling COP] (50/60Hz)		3.85/3.85	3.79/3.79	3.41/3.41	3.25/3.21	3.23/3.19		3.37/3.35	3.58/3.58	3.62/3.58	3.37/3.35	3.38/3.36	3.25/3.21	3.24/3.20
COP [Heating COP] (50/60Hz)		4.17/4.17	4.11/4.11	3.60/3.60	3.89/3.90	3.90/3.93		3.81/3.85	3.81/3.81	4.04/4.05	3.89/3.89	3.75/3.76	3.89/3.90	3.90/3.92
Cabinet Color (Munsell Code)		Natural Gray (1.0Y 8.5/0.5)							Natural Gray (1.0Y 8.5/0.5)					
Sound Pressure Level [Overall A Scale] (Night-Shift)	dB	Maximum 58 (53)							Maximum 63 (58)					
Outer Dimensions Height x Width x Depth	mm	1,720 x 950 x 765	1,720 x 950 x 765	1,720 x 950 x 765	1,720 x 1,210 x 765	1,720 x 1,210 x 765		1,720 x 1,210 x 765	1,720 x 1,920 x 765	1,720 x 2,180 x 765	1,720 x 2,180 x 765	1,720 x 2,180 x 765	1,720 x 2,440 x 765	1,720 x 2,440 x 765
Net Weight	kg	210	210	210	295	295		315	210 + 210	210 + 295	210 + 295	210 + 295	295 + 295	295 + 295
Refrigerant (Flow Control)		R410A (Micro-Computer Control Expansion Valve)							R410A (Micro-Computer Control Expansion Valve)					
Compressor		Hermetic (Scroll)							Hermetic (Scroll)					
Model		E656DHD	E656DHD	E656DHD	E656DHD + E655DH	E656DHD + E655DH		E656DHD+E855DH	E656DHD+ E656DHD	E656DHD + E656DHD + E655DH	E656DHD + E656DHD + E655DH	E656DHD + E656DHD + E655DH	E656DHD + E655DH + E656DHD + E655DH	E656DHD + E655DH + E656DHD + E655DH
Quantity		1	1	1	1 + 1	1 + 1		1 + 1	1 + 1	1 + 1 + 1	1 + 1 + 1	1 + 1 + 1	1 + 1 + 1 + 1	1 + 1 + 1 + 1
Motor Output (Pole)		4.8 (4)	6.0 (4)	7.2 (4)	4.8 (4) + 4.4 (2)	6.0 (4) + 4.4 (2)		6.0 (4) + 5.6 (2)	4.8 (4) + 7.2 (4)	4.8 (4) + 4.8 (4) + 4.4 (2)	6.0 (4) + 4.8 (4) + 4.4 (2)	7.2 (4) + 4.8 (4) + 4.4 (2)	4.8 (4) + 4.4 (2) + 4.8 (4) + 4.4 (2)	4.8 (4) + 4.4 (2) + 6.0 (4) + 4.4 (2)
Heat Exchanger		Multi-pass Cross-Finned Tube							Multi-pass Cross-Finned Tube					
Main Refrigerant Piping 2-pipe Heat Pump Operation System (2 pipes)														
Liquid Line	mm	φ 9.52* ( φ 9.52 - φ 12.7)	φ 9.52* ( φ 9.52 - φ 12.7)	φ 12.7* ( φ 12.7 - φ 15.88)	φ 12.7* ( φ 12.7 - φ 15.88)	φ 12.7* ( φ 12.7 - φ 15.88)		φ 15.88* ( φ 15.88 - φ 19.05)	φ 15.88* ( φ 15.88 - φ 19.05)	φ 15.88* ( φ 15.88 - φ 19.05)	φ 15.88* ( φ 15.88 - φ 19.05)	φ 19.05* ( φ 19.05 - φ 22.2)	φ 19.05* ( φ 19.05 - φ 22.2)	φ 19.05* ( φ 19.05 - φ 22.2)
Gas Line	mm	φ 19.05 ( φ 19.05 - φ 22.2)	φ 22.2 ( φ 22.2 - φ 25.4)	φ 25.4* ( φ 25.4 - φ 28.6)	φ 25.4* ( φ 25.4 - φ 28.6)	φ 28.6* ( φ 28.6 - φ 31.75)		φ 28.6* ( φ 28.6 - φ 31.75)	φ 28.6* ( φ 28.6 - φ 31.75)	φ 28.6* ( φ 28.6 - φ 31.75)	φ 28.6* ( φ 28.6 - φ 31.75)	φ 31.75* ( φ 31.75 - φ 34.9)	φ 31.75* ( φ 31.75 - φ 34.9)	φ 31.75* ( φ 31.75 - φ 34.9)
Main Refrigerant Piping Heat Recovery Operation System (3 pipes)														
Liquid Line	mm	φ 9.52* ( φ 9.52 - φ 12.7)	φ 9.52* ( φ 9.52 - φ 12.7)	φ 12.7* ( φ 12.7 - φ 15.88)	φ 12.7* ( φ 12.7 - φ 15.88)	φ 12.7* ( φ 12.7 - φ 15.88)		φ 15.88* ( φ 15.88 - φ 19.05)	φ 15.88* ( φ 15.88 - φ 19.05)	φ 15.88* ( φ 15.88 - φ 19.05)	φ 15.88* ( φ 15.88 - φ 19.05)	φ 19.05* ( φ 19.05 - φ 22.2)	φ 19.05* ( φ 19.05 - φ 22.2)	φ 19.05* ( φ 19.05 - φ 22.2)
Gas Line Low Pressure	mm	φ 19.05* ( φ 19.05 - φ 22.2)	φ 22.2* ( φ 22.2 - φ 25.4)	φ 25.4* ( φ 25.4 - φ 28.6)	φ 25.4* ( φ 25.4 - φ 28.6)	φ 28.6* ( φ 28.6 - φ 31.75)		φ 28.6* ( φ 28.6 - φ 31.75)	φ 28.6* ( φ 28.6 - φ 31.75)	φ 28.6* ( φ 28.6 - φ 31.75)	φ 28.6* ( φ 28.6 - φ 31.75)	φ 31.75* ( φ 31.75 - φ 34.9)	φ 31.75* ( φ 31.75 - φ 34.9)	φ 31.75* ( φ 31.75 - φ 34.9)
Gas Line High Pressure	mm	φ 15.88* ( φ 15.88 - φ 19.05)	φ 19.05* ( φ 19.05 - φ 22.2)	φ 22.2* ( φ 22.2 - φ 25.4)	φ 22.2* ( φ 22.2 - φ 25.4)	φ 22.2* ( φ 22.2 - φ 25.4)		φ 22.2* ( φ 22.2 - φ 25.4)	φ 22.2* ( φ 22.2 - φ 25.4)	φ 25.4* ( φ 25.4 - φ 28.6)	φ 25.4* ( φ 25.4 - φ 28.6)	φ 25.4* ( φ 25.4 - φ 28.6)	φ 28.6* ( φ 28.6 - φ 31.75)	φ 28.6* ( φ 28.6 - φ 31.75)
Refrigerant Charge	kg	6.5	6.5	7.0	9.0	9.0		10.5	13.5	15.5	15.5	16.0	18.0	18.0
Packing Dimensions Height x Width x Depth	mm	1,895 x 990 x 810	1,895 x 990 x 810	1,895 x 990 x 810	1,895 x 1,250 x 810	1,895 x 1,250 x 810		1,895 x 1,250 x 810	-	-	-	-	-	-
Approximate Packing Measurement	m <sup>3</sup>	1.52	1.52	1.52	1.92	1.92		1.92	-	-	-	-	-	-

## NOTES:

1. The cooling and heating performances are the values when combined with our specified indoor units.

### Cooling Operation Conditions

Indoor Air Inlet Temperature: 27°C DB (80°F DB)

\*1) 19.5°C WB (67°F WB)

\*2) 19.0°C WB (66.2°F WB)

Outdoor Air Inlet Temperature: 35°C DB (95°F DB)

Piping Length: 7.5 Meters Piping Lift: 0 Meter

### 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)

2. The sound pressure is based on the following conditions.

1 Meter from the unit service cover surface, and 1.5 Meters from floor level. The above data is based on the cooling mode. In case of heating mode, the sound pressure level increases by approximately 1-2 dB. The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.

3. \* If the specified main refrigerant piping on the table is not available on site, follow the allowable piping size in parentheses. When using the main refrigerant piping indicated in parentheses, prepare an appropriate reducer on site.

4. Except for the specified combination in the table (20-30HP), there is no other combination of the base unit.

5. The width of outer dimension, it is the value when each distance between the base outdoor units is specified to 20mm.

# General Data

Model		RAS-32FSXN	RAS-34FSXN	RAS-36FSXN	RAS-38FSXN	RAS-40FSXN		RAS-42FSXN	RAS-44FSXN	RAS-46FSXN	RAS-48FSXN	RAS-50FSXN	RAS-52FSXN	RAS-54FSXN
Combination of Base Unit		RAS-16FSXN RAS-16FSXN	RAS-16FSXN RAS-18FSXN	RAS-18FSXN RAS-18FSXN	RAS-12FSXN RAS-12FSXN RAS-14FSXN	RAS-12FSXN RAS-12FSXN RAS-16FSXN		RAS-12FSXN RAS-12FSXN RAS-18FSXN	RAS-12FSXN RAS-14FSXN RAS-18FSXN	RAS-12FSXN RAS-16FSXN RAS-18FSXN	RAS-12FSXN RAS-18FSXN RAS-18FSXN	RAS-14FSXN RAS-18FSXN RAS-18FSXN	RAS-16FSXN RAS-18FSXN RAS-18FSXN	RAS-18FSXN RAS-18FSXN RAS-18FSXN
Power Supply		AC 3 φ , 400V/50Hz (380-415V/50Hz), 380V/60Hz, 220V/60Hz						AC 3 φ , 400V/50Hz (380-415V/50Hz), 380V/60Hz, 220V/60Hz						
Nominal Cooling Capacity *1)	kW	—	—	—	—	—		—	—	—	—	—	—	—
Nominal Cooling Capacity *2)	kW	90.0	95.0	100.0	109.0	112.0		118.0	125.0	132.0	136.0	140.0	145.0	150.0
Nominal Heating Capacity	kW	100.0	106.0	112.0	118.0	125.0		132.0	140.0	145.0	150.0	155.0	160.0	165.0
EER [Cooling COP] (50/60Hz)		3.23/3.19	3.30/3.27	3.37/3.35	3.29/3.28	3.34/3.32		3.32/3.31	3.27/3.24	3.16/3.15	3.24/3.23	3.33/3.31	3.32/3.30	3.37/3.35
COP [Heating COP] (50/60Hz)		3.90/3.93	3.85/3.89	3.81/3.85	3.87/3.88	3.71/3.72		3.65/3.66	3.75/3.75	3.71/3.71	3.74/3.76	3.98/3.99	3.98/4.00	4.01/4.03
Cabinet Color (Munsell Code)		Natural Gray (1.0Y 8.5/0.5)						Natural Gray (1.0Y 8.5/0.5)						
Sound Pressure Level [Overall A Scale] (Night-Shift)	dB	Maximum 65 (60)						Maximum 66 (61)						
Outer Dimensions														
Height x Width x Depth	mm	1,720 x 2,440 x 765	1,720 x 2,440 x 765	1,720 x 2,440 x 765	1,720 x 3,150 x 765	1,720 x 3,150 x 765		1,720 x 3,150 x 765	1,720 x 3,410 x 765	1,720 x 3,410 x 765	1,720 x 3,410 x 765	1,720 x 3,670 x 765	1,720 x 3,670 x 765	1,720 x 3,670 x 765
Net Weight	kg	295 + 295	295 + 315	315 + 315	210 + 210 + 295	210 + 210 + 295		210 + 210 + 315	210 + 295 + 315	210 + 295 + 315	210 + 315 + 315	295 + 315 + 315	295 + 315 + 315	315 + 315 + 315
Refrigerant (Flow Control)		R410A (Micro-Computer Control Expansion Valve)						R410A (Micro-Computer Control Expansion Valve)						
Compressor		Hermetic (Scroll)						Hermetic (Scroll)						
Model		E656DHD + E655DH + E656DHD + E655DH	E656DHD + E655DH + E656DHD + E855DH	E656DHD + E855DH + E656DHD + E855DH	E656DHD + E656DHD + E656DHD + E655DH	E656DHD + E656DHD + E656DHD + E655DH		E656DHD + E656DHD + E656DHD + E855DH	E656DHD + E656DHD + E655DH + E656DHD + E855DH	E656DHD + E656DHD + E655DH + E656DHD + E855DH	E656DHD + E656DHD + E855DH + E656DHD + E855DH	E656DHD + E655DH + E656DHD + E855DH + E656DHD + E855DH	E656DHD + E655DH + E656DHD + E855DH + E656DHD + E855DH	E656DHD + E855DH + E656DHD + E855DH + E656DHD + E855DH
Quantity		1 + 1 + 1 + 1	1 + 1 + 1 + 1	1 + 1 + 1 + 1	1 + 1 + 1 + 1	1 + 1 + 1 + 1		1 + 1 + 1 + 1	1 + 1 + 1 + 1 + 1	1 + 1 + 1 + 1 + 1	1 + 1 + 1 + 1 + 1	1 + 1 + 1 + 1 + 1 + 1	1 + 1 + 1 + 1 + 1 + 1	1 + 1 + 1 + 1 + 1 + 1
Motor Output (Pole)		6.0 (4) + 4.4 (2) + 6.0 (4) + 4.4 (2)	6.0 (4) + 4.4 (2) + 6.0 (4) + 5.6 (2)	6.0 (4) + 5.6 (2) + 6.0 (4) + 5.6 (2)	7.2 (4) + 7.2 (4) + 4.8 (4) + 4.4 (2)	7.2 (4) + 7.2 (4) + 6.0 (4) + 4.4 (2)		7.2 (4) + 7.2 (4) + 6.0 (4) + 5.6 (2)	7.2 (4) + 4.8 (4) + 4.4 (2) + 6.0 (4) + 5.6 (2)	7.2 (4) + 6.0 (4) + 4.4 (2) + 6.0 (4) + 5.6 (2)	7.2 (4) + 6.0 (4) + 5.6 (2) + 6.0 (4) + 5.6 (2)	4.8 (4) + 4.4 (2) + 6.0 (4) + 5.6 (2) + 6.0 (4) + 5.6 (2)	6.0 (4) + 4.4 (2) + 6.0 (4) + 5.6 (2) + 6.0 (4) + 5.6 (2)	6.0 (4) + 5.6 (2) + 6.0 (4) + 5.6 (2) + 6.0 (4) + 5.6 (2)
Heat Exchanger		Multi-pass Cross-Finned Tube						Multi-pass Cross-Finned Tube						
Main Refrigerant Piping 2-pipe Heat Pump Operation System (2 pipes)														
Liquid Line	mm	φ 19.05* ( φ 19.05 - φ 22.2)	φ 19.05* ( φ 19.05 - φ 22.2)	φ 19.05* ( φ 19.05 - φ 22.2)	φ 19.05* ( φ 19.05 - φ 22.2)	φ 19.05* ( φ 19.05 - φ 22.2)		φ 19.05* ( φ 19.05 - φ 22.2)	φ 19.05* ( φ 19.05 - φ 22.2)	φ 19.05* ( φ 19.05 - φ 22.2)	φ 19.05* ( φ 19.05 - φ 22.2)	φ 19.05* ( φ 19.05 - φ 22.2)	φ 19.05* ( φ 19.05 - φ 22.2)	φ 19.05* ( φ 19.05 - φ 22.2)
Gas Line	mm	φ 31.75* ( φ 31.75 - φ 34.9)	φ 31.75* ( φ 31.75 - φ 34.9)	φ 38.1* ( φ 38.1 - φ 41.3)	φ 38.1* ( φ 38.1 - φ 41.3)	φ 38.1* ( φ 38.1 - φ 41.3)		φ 38.1* ( φ 38.1 - φ 41.3)	φ 38.1* ( φ 38.1 - φ 41.3)	φ 38.1* ( φ 38.1 - φ 41.3)	φ 38.1* ( φ 38.1 - φ 41.3)	φ 38.1* ( φ 38.1 - φ 41.3)	φ 38.1* ( φ 38.1 - φ 41.3)	φ 38.1* ( φ 38.1 - φ 41.3)
Main Refrigerant Piping Heat Recovery Operation System (3 pipes)														
Liquid Line	mm	φ 19.05* ( φ 19.05 - φ 22.2)	φ 19.05* ( φ 19.05 - φ 22.2)	φ 19.05* ( φ 19.05 - φ 22.2)	φ 19.05* ( φ 19.05 - φ 22.2)	φ 19.05* ( φ 19.05 - φ 22.2)		φ 19.05* ( φ 19.05 - φ 22.2)	φ 19.05* ( φ 19.05 - φ 22.2)	φ 19.05* ( φ 19.05 - φ 22.2)	φ 19.05* ( φ 19.05 - φ 22.2)	φ 19.05* ( φ 19.05 - φ 22.2)	φ 19.05* ( φ 19.05 - φ 22.2)	φ 19.05* ( φ 19.05 - φ 22.2)
Gas Line Low Pressure	mm	φ 31.75* ( φ 31.75 - φ 34.9)	φ 31.75* ( φ 31.75 - φ 34.9)	φ 31.75* ( φ 31.75 - φ 34.9)	φ 38.1* ( φ 38.1 - φ 41.3)	φ 38.1* ( φ 38.1 - φ 41.3)		φ 38.1* ( φ 38.1 - φ 41.3)	φ 38.1* ( φ 38.1 - φ 41.3)	φ 38.1* ( φ 38.1 - φ 41.3)	φ 38.1* ( φ 38.1 - φ 41.3)	φ 38.1* ( φ 38.1 - φ 41.3)	φ 38.1* ( φ 38.1 - φ 41.3)	φ 38.1* ( φ 38.1 - φ 41.3)
Gas Line High Pressure	mm	φ 28.6* ( φ 28.6 - φ 31.75)	φ 28.6* ( φ 28.6 - φ 31.75)	φ 28.6* ( φ 28.6 - φ 31.75)	φ 31.75* ( φ 31.75 - φ 34.9)	φ 31.75* ( φ 31.75 - φ 34.9)		φ 31.75* ( φ 31.75 - φ 34.9)	φ 31.75* ( φ 31.75 - φ 34.9)	φ 31.75* ( φ 31.75 - φ 34.9)	φ 31.75* ( φ 31.75 - φ 34.9)	φ 31.75* ( φ 31.75 - φ 34.9)	φ 31.75* ( φ 31.75 - φ 34.9)	φ 31.75* ( φ 31.75 - φ 34.9)
Refrigerant Charge	kg	18.0	19.5	21.0	23.0	23.0		24.5	26.5	26.5	28.0	30.0	30.0	31.5
Packing Dimensions														
Height x Width x Depth	mm	—	—	—	—	—		—	—	—	—	—	—	—
Approximate Packing Measurement	m <sup>3</sup>	—	—	—	—	—		—	—	—	—	—	—	—

## NOTES:

1. The cooling and heating performances are the values when combined with our specified indoor units.

### Cooling Operation Conditions

Indoor Air Inlet Temperature: 27°C DB (80°F DB)  
 \*1) 19.5°C WB (67°F WB)  
 \*2) 19.0°C WB (66.2°F WB)  
 Outdoor Air Inlet Temperature: 35°C DB (95°F DB)  
 Piping Length: 7.5 Meters Piping Lift: 0 Meter

### 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)

2. The sound pressure is based on the following conditions.

1 Meter from the unit service cover surface, and 1.5 Meters from floor level. The above data is based on the cooling mode. In case of heating mode, the sound pressure level increases by approximately 1~2 dB. The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.

3. \* If the specified main refrigerant piping on the table is not available on site, follow the allowable piping size in parentheses. When using the main refrigerant piping indicated in parentheses, prepare an appropriate reducer on site.

4. Except for the specified combination in the table (20~30HP), there is no other combination of the base unit.

5. The width of outer dimension, it is the value when each distance between the base outdoor units is specified to 20mm.



### Motion Sensor Control

The air conditioning capacity is saved automatically depending on a situation and detecting amount of human activity by adopting the motion sensor on the corner of the air panel. The energy-saving can be improved more with the individual operating function. In addition, the operation can be stopped automatically if the absent situation continues for more than 30 minutes\*1. The motion sensor allows maintaining the comfortable indoor environment and eliminating the unnecessary operation\*2.

\*1): The default setting is "30 minutes". However, the setting is changeable.  
 \*2): The default setting is "Running Operation". However, "Automatic Stop" can be selected by setting  
 \*3): The detecting area becomes smaller if the human motion is few such as stretching on a chair, etc.

### Specifications

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				
<b>Indoor Unit Power Supply</b>	AC 1 φ, 220-240V / 50Hz, 220V / 60Hz											
<b>Nominal Cooling Capacity</b> *1)	kW 2.9 kcal/h 9,900 Btu/h	4.1 3,550 14,100	5.8 5,000 19,800	7.3 6,300 25,000	8.3 7,100 28,200	11.6 10,000 39,700	14.5 12,500 49,600	16.5 14,200 56,300				
<b>Nominal Cooling Capacity</b> *2)	kW 2.8 kcal/h 9,600 Btu/h	4.0 3,400 13,600	5.6 4,800 19,100	7.1 6,100 24,200	8.0 6,900 27,300	11.2 9,600 38,200	14.0 12,000 47,800	16.0 13,800 54,600				
<b>Nominal Heating Capacity</b>	kW 3.2 kcal/h 10,900 Btu/h	4.8 4,100 16,400	6.3 5,400 21,500	8.5 7,300 29,000	9.0 7,700 30,700	12.5 10,700 42,600	16.0 13,800 54,600	18.0 15,500 61,400				
<b>Sound Pressure Level (Overall A Scale) Hi2/Hi/Me/Lo</b>	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											
<b>Dimensions</b> H x W x D	mm 248 x 840 x 840				298 x 840 x 840							
<b>Net Weight</b>	kg 20		21		22		26					
<b>Refrigerant</b>	R410A											
<b>Air Flow Rate</b> Hi2/Hi/Me/Lo	m³/min. (cfm) 15/13/11/9 (530/459/388/318)		21/17/14/11 (741/600/494/388)		27/23/18/14 (953/812/635/494)		37/31/24/20 (1,306/1,094/847/706)		37/33/26/21 (1,306/1,165/918/741)		37/35/28/22 (1,306/1,236/988/777)	
<b>Motor</b>	W 57				127							
<b>Connections</b> Liquid / Gas	mm φ 6.35 / φ 12.7   φ 6.35 / φ 15.88   φ 9.52 / φ 15.88											
<b>Condensate Drain</b>	VP25											
<b>Approximate Packing Measurement</b>	m³ 0.21				0.25							
<b>Adaptable Panel Model</b>	P-AP160NA1 (without Motion Sensor) / P-AP160NAE (with Motion Sensor)											
<b>Color</b>	Natural White											
<b>Dimensions</b> H x W x D	mm 37 x 950 x 950											
<b>Net Weight</b>	kg 6.5											
<b>Approximate Packing Measurement</b>	m³ 0.10											

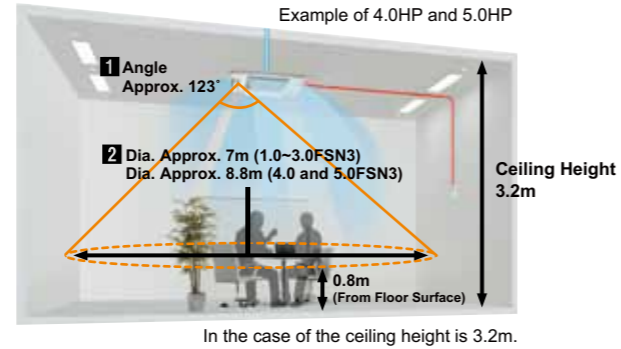
NOTES:  
 1. The nominal cooling and heating capacity is the combined capacity of the HITACHI standard split system, and is based on the JIS standard B8616.  
**Cooling Operation Conditions**  
 Indoor Air Inlet Temperature: 27°C DB (80°F DB)  
 \*1) 19.5°C WB (67°F WB)  
 \*2) 19.0°C WB (66.2°F WB)  
 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 above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.

### Indoor Units

## 4-Way Cassette Type

### Detecting Area



### Adopting New Structured Silky Flow Louver

The new structured silky flow louver is adopted to soften the discomfort by the temperature irregularity and the cold draft. The individual control setting for each louver is available.



### Low Noise (Top-class Sound Pressure Level)

New developed high efficiency turbo-fan is adopted. By improving 3D twisted blade of turbo-fan and air outlet, the fan efficiency is improved and the low noise performance is achieved.

Indoor Unit Capacity (HP)	NEW					CURRENT						
	0.6	0.8	1.0	1.5	2.0	2.5	0.6	0.8	1.0	1.5	2.0	2.5
Sound Pressure Level (dBA)	24.5	24.5	24.5	27.5	31	35	28	28	28	33	37	N/A
Air Flow Volume LOW												

### Light-weight Unit

Compared with the standard 4-Way Cassette Type indoor unit, the weight of this product has been reduced by 4kg (from 21kg to 17kg). This makes the transportation and installation much easier.

### Specifications

Model	RCIM-0.6FSN4	RCIM-0.8FSN4	RCIM-1.0FSN4	RCIM-1.5FSN4	RCIM-2.0FSN4	RCIM-2.5FSN4						
<b>Indoor Unit Power Supply</b>	AC 1 φ, 230V / 50Hz, 220-240V / 50Hz, 220V / 60Hz											
<b>Nominal Cooling Capacity</b> *1)	kW 1.7 kcal/h 5,800 Btu/h	2.3 2,000 7,900	2.9 2,500 9,900	4.1 3,550 14,100	5.8 5,000 19,800	7.3 6,300 25,000						
<b>Nominal Cooling Capacity</b> *2)	kW 1.6 kcal/h 5,500 Btu/h	2.2 1,900 7,500	2.8 2,400 9,600	4.0 3,400 13,600	5.6 4,800 19,100	7.1 6,100 24,200						
<b>Nominal Heating Capacity</b>	kW 1.9 kcal/h 6,500 Btu/h	2.5 2,100 8,500	3.2 2,800 10,900	4.8 4,100 16,400	6.3 5,400 21,500	8.5 7,300 29,000						
<b>Sound Pressure Level (Overall A Scale) Hi2/Hi/Me/Lo</b>	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											
<b>Dimensions</b> H x W x D	mm 285 x 570 x 570											
<b>Net Weight</b>	kg 16			17								
<b>Refrigerant</b>	R410A											
<b>Air Flow Rate</b> Hi2/Hi/Me/Lo	m³/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)	
<b>Motor</b>	W 57											
<b>Connections</b> Liquid / Gas	mm φ 6.35 / φ 12.7											
<b>Condensate Drain</b>	VP25											
<b>Approximate Packing Measurement</b>	m³ 0.13											
<b>Adaptable Panel Model</b>	P-AP56NAM											
<b>Color</b>	Neutral White											
<b>Dimensions</b> H x W x D	mm 30 x 620 x 620											
<b>Net Weight</b>	kg 2.5											
<b>Approximate Packing Measurement</b>	m³ 0.04											

NOTES:  
 1. The nominal cooling and heating 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)  
 \*1) 19.5°C WB (67°F WB)  
 \*2) 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 above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.

NEW



### Indoor Units

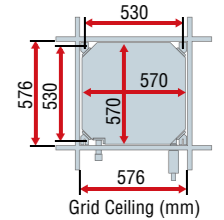
## 4-Way Cassette Compact Type

### New Design & High Specification Air Panel

### Motion Sensor Control (Option)

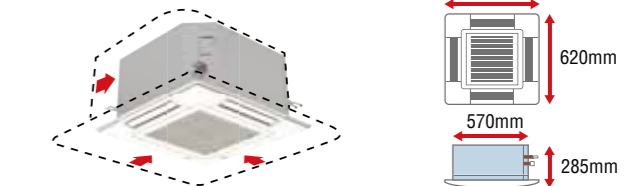
### Installation to Grid Ceiling

This product can be installed to a grid ceiling with a 600mm x 600mm opening without cutting the grid.



### Highly Compact Size

Compared with the standard 4-Way Cassette Type indoor unit, the size of the air panel for this product has been reduced by 330mm (from 950mm to 620mm).



The dashed line shows the size of the standard 4-way cassette type.



## Indoor Units

# 2-Way Cassette Type



### Downsizing and weight reduction simplify handling for easier renewal

The length of the 3.0HP type is shortened from 1,320 mm to 860 mm, the height is also shortened, and the volume is reduced by about 50%. The reduced weight of 30 kg also makes handling much easier.

### Top-class noise control thanks to compact turbo fan

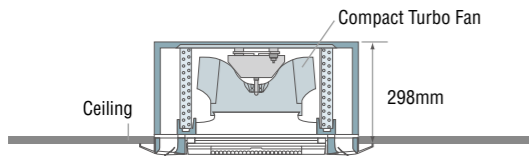
The three-dimensional twisted wings of the compact turbo fan greatly reduce noise, and electromagnetic disturbance is minimized by PWM (Pulse Width Modulation) control.

### Speed-up tap ensures comfortable air conditioning even when installed as in the high ceiling

Even rooms with a high ceiling can be comfortably air-conditioned by setting the speed-up tap with the remote control switch.

### Low-profile design allows installation in a small space inside of ceiling

A compact turbo fan simplifies the structure and reduces the height to 298 mm, for easy installation.



## Specifications

Model	RCD-1.0FSN2	RCD-1.5FSN2	RCD-2.0FSN2	RCD-2.5FSN2	RCD-3.0FSN2	RCD-4.0FSN2	RCD-5.0FSN2
<b>Indoor Unit Power Supply</b>	AC 1 φ, 220-240V / 50Hz, 220V / 60Hz						
<b>Nominal Cooling Capacity</b> *1)	kW 2.9 kcal/h 9,900 Btu/h	4.1 3,550 14,100	5.8 5,000 19,800	7.3 6,300 25,000	8.3 7,100 28,200	11.6 10,000 39,700	14.5 12,500 49,600
<b>Nominal Cooling Capacity</b> *2)	kW 2.8 kcal/h 9,600 Btu/h	4.0 3,400 13,600	5.6 4,800 19,100	7.1 6,100 24,200	8.0 6,900 27,300	11.2 9,600 38,200	14.0 12,000 47,800
<b>Nominal Heating Capacity</b>	kW 3.2 kcal/h 10,900 Btu/h	4.8 4,100 16,400	6.3 5,400 21,500	8.5 7,300 29,000	9.0 7,700 30,700	12.5 10,700 42,600	16.0 13,800 54,600
<b>Sound Pressure Level</b> (Overall A Scale) Hi/Me/Lo	dB 34/32/30	35/32/30		38/34/31		40/36/33	43/40/36
<b>Dimensions</b> H x W x D	mm 298 x 860 x 620			298 x 1,420 x 620			
<b>Net Weight</b>	kg 27			30		48	
<b>Refrigerant</b>	R410A / R407C / R22 (Nitrogen-Charged for Corrosion-Resistance)						
<b>Air Flow Rate</b> Hi/Me/Lo	m³/min. 10/9/8 (353/318/282)	13/11/9 (459/388/318)	15/13/11 (530/459/388)	19/16/14 (671/565/494)	29/24/21 (1,024/847/742)	34/29/25 (1,201/1,024/883)	
<b>Motor</b>	W 35		55		35 x 2		55 x 2
<b>Connections</b> Liquid / Gas	mm φ 6.35 / φ 12.7		φ 6.35 / φ 15.88		φ 9.53 / φ 15.88		φ 9.53 / φ 15.88*3)
<b>Condensate Drain</b>	VP25						
<b>Approximate Packing Measurement</b>	m³ 0.23			0.37			
<b>Adaptable Panel Model</b>	P-N23DNA			P-N46DNA			
<b>Color</b>	Neutral White						
<b>Dimensions</b> H x W x D	mm 30 x 1,100 x 710			30 x 1,660 x 710			
<b>Net Weight</b>	kg 6			8			
<b>Approximate Packing Measurement</b>	m³ 0.10			0.15			

### NOTES:

1. The nominal cooling and heating 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:  
\*1) 27°C DB (80°F DB)  
19.5°C WB (67°F WB)  
\*2) 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. 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 1dB. 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 φ 19.05 piping.



## Indoor Units

# In-the-ceiling Type

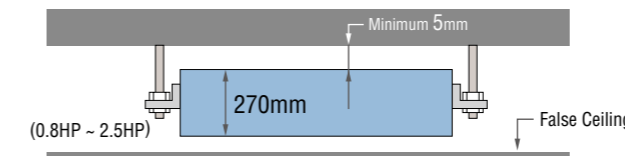


### Broader range of external static pressure. Flexibly supports a wide range of installation conditions at site, e.g. longer ducts

In addition to the standard Hi-Me-Lo, the speed-up tap can be set by remote control. Available for external static pressure of up to 80 Pa for 0.8-2.5 HP and 170 Pa for 3-5 HP.

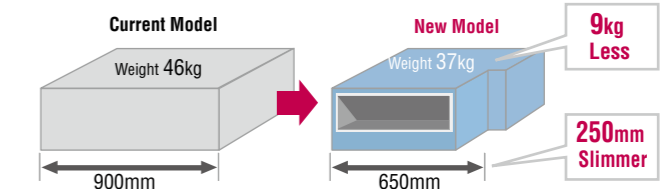
### Space-saving Design

Less than 270 mm in height, this unit can be fit into practically any previously existing false ceiling or formerly ducted space without substantial modification (0.8-2.5HP).



### 3.0HP model downsized

The width is 250mm Slimmer and the weight 9kg lighter than the current model, thus delivery and installation is easier.



## Specifications

Model	RPI-0.8FSN2	RPI-1.0FSN2	RPI-1.5FSN2	RPI-2.0FSN2	RPI-2.5FSN2	RPI-3.0FSN2	RPI-4.0FSN2	RPI-5.0FSN2	RPI-8FSN	RPI-10FSN
<b>Indoor Unit Power Supply</b>	AC 1 φ, 220-240V / 50Hz, 220V / 60Hz								AC 3 φ 4W, 380-415V / 50Hz, 380V / 60Hz	
<b>Nominal Cooling Capacity</b> *1)	kW 2.3 kcal/h 7,900 Btu/h	2.9 2,500 9,900	4.1 3,550 14,100	5.8 5,000 19,800	7.3 6,300 25,000	8.3 7,100 28,200	11.6 10,000 39,700	14.5 12,500 49,600	23.3 20,000 79,400	29.1 25,000 99,200
<b>Nominal Cooling Capacity</b> *2)	kW 2.2 kcal/h 7,500 Btu/h	2.8 2,400 9,600	4.0 3,400 13,600	5.6 4,800 19,100	7.1 6,100 24,200	8.0 6,900 27,300	11.2 9,600 38,200	14.0 12,000 47,800	22.4 19,300 76,400	28.0 24,100 95,500
<b>Nominal Heating Capacity</b>	kW 2.5 kcal/h 8,500 Btu/h	3.2 2,800 10,900	4.8 4,100 16,400	6.3 5,400 21,500	8.5 7,300 29,000	9.0 7,700 30,700	12.5 10,700 42,600	16.0 13,800 54,600	25.0 21,500 85,300	31.5 27,100 107,500
<b>Sound Pressure Level</b> (Overall A Scale) Hi/Me/Lo	dB 35/33/31			36/34/32		42/39/35		43/40/36		44/41/37
<b>Dimensions</b> H x W x D	mm 270 x (650+75) x 720			270 x (900+75) x 720		350 x (650+75) x 800		350 x (900+75) x 800		350 x (1,300+75) x 800
<b>Net Weight</b>	kg 26			35		37		46		58
<b>Refrigerant</b>	R410A / R407C / R22 (Nitrogen-Charged for Corrosion-Resistance)									
<b>Air Flow Rate</b> Hi/Me/Lo	m³/min. 8/7/6 (283/247/212)		13/11/9 (459/388/318)		15/13/11 (530/459/388)		16/14/12 (565/494/424)		19/17/14 (671/600/494)	
<b>External Pressure</b>	50 (80-30)*3)			75		150		290		220 (110)* / 260 (130)* *4)
<b>Motor</b>	W 60			75		150		290		760 (510)* / 1,080 (810)*
<b>Connections</b> Liquid	mm φ 6.35			φ 6.35		φ 9.53		φ 9.53		φ 9.53*6) / φ 9.53*6)
<b>Connections</b> Gas	mm φ 12.7			φ 15.88		φ 15.88		φ 15.88*5)		φ 19.05*7) / φ 22.2*8)
<b>Condensate Drain</b>	VP25									
<b>Approximate Packing Measurement</b>	m³ 0.21			0.27		0.29		0.38		0.52
<b>Adaptable Panel Model</b>	P-N23DNA			P-N46DNA		P-N46DNA		P-N46DNA		P-N46DNA
<b>Color</b>	Neutral White									
<b>Dimensions</b> H x W x D	mm 30 x 1,100 x 710			30 x 1,660 x 710		30 x 1,660 x 710		30 x 1,660 x 710		30 x 1,660 x 710
<b>Net Weight</b>	kg 6			8		8		8		8
<b>Approximate Packing Measurement</b>	m³ 0.10			0.15		0.15		0.15		0.15

### NOTES:

1. The nominal cooling and heating 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:  
\*1) 27°C DB (80°F DB)  
19.5°C WB (67°F WB)  
\*2) 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 Meter Beneath the Unit. With Discharge Duct (2.0m) and Return Duct (1.0m).

0.8-5.0FSN2: 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 2dB.  
8 and 10FSN: Voltage of the power source for the indoor fan motor is 380V. In case of the power source of 415V, the sound pressure level increases by about 2dB.  
The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.

3. The values with (\*) of sound pressure level, air flow rate, external pressure and motor output indicate the values in case of external pressure setting at 110Pa (130Pa for 410V).

4. The data for external pressure \*3) indicates "Standard Pressure Setting (High Pressure Setting - Low Pressure Setting)" values when a filter is not used.

The data for external pressure \*4) indicates the values when a filter is not used.

5. \*5) In case of using R407C or R22, use the accessory adaptor and φ 19.05 piping. \*6) In case of using R407C or R22, use the accessory reducer and φ 12.7 piping.

\*7) In case of using R407C or R22, use the accessory reducer and φ 25.4 piping. \*8) In case of using R407C or R22, use the accessory reducer and φ 28.6 piping.



## Indoor Units Ceiling Type



### Motion Sensor Control (Option)

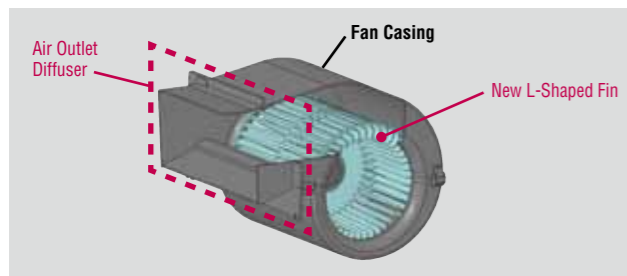
The air conditioning capacity is saved automatically depending on a situation and the amount of detected human activity by adopting the motion sensor kit. In addition, the operation can be stopped automatically if the absent situation continues for more than 30 minutes\*<sup>1</sup>.

The motion sensor can maintain the comfortable indoor environment and eliminate the unnecessary operation\*<sup>2</sup>.

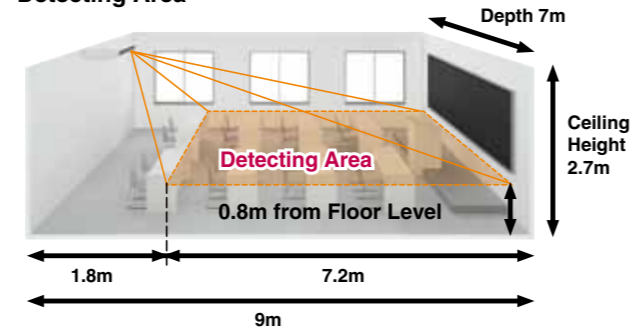
\*1): The default setting is "30 minutes". However, the setting is changeable.  
\*2): The default setting is "Running Operation". However, "Automatic Stop" can be selected by setting from the remote control switch.

### High Efficiency and Low Noise by New Fan Runner

Newly-developed fan runner is adopted. By improving shapes of fin and air outlet, the fan efficiency is improved and the low noise performance is achieved.



### Detecting Area



## Specifications

Model	RPC-1.5FSN3	RPC-2.0FSN3	RPC-2.5FSN3	RPC-3.0FSN3	RPC-4.0FSN3	RPC-5.0FSN3	RPC-6.0FSN3	
<b>Indoor Unit Power Supply</b>	AC 1φ, 220-240V / 50Hz, 220V / 60Hz							
<b>Nominal Cooling Capacity</b> *1)	kW kcal/h Btu/h	4.1 3,550 14,100	5.8 5,000 19,800	7.3 6,300 25,000	8.3 7,100 28,200	11.6 10,000 39,700	14.5 12,500 49,600	16.5 14,200 56,300
<b>Nominal Cooling Capacity</b> *2)	kW kcal/h Btu/h	4.0 3,400 13,600	5.6 4,800 19,100	7.1 6,100 24,200	8.0 6,900 27,300	11.2 9,600 38,200	14.0 12,000 47,800	16.0 13,800 54,600
<b>Nominal Heating Capacity</b>	kW kcal/h Btu/h	4.8 4,100 16,400	6.3 5,400 21,500	8.5 7,300 29,000	9.0 7,700 30,700	12.5 10,700 42,600	16.0 13,800 54,600	18.0 15,500 61,400
<b>Sound Pressure Level</b> (Overall A Scale) Hi2/Hi/Me/Lo	dB	37/35/31/28	38/35/31/28	38/35/32/29	40/37/33/29	44/42/37/32	48/45/41/35	49/47/42/36
<b>Cabinet Color</b>		Neutral White						
<b>Dimensions</b> H x W x D	mm	235 x 960 x 690		235 x 1,270 x 690			235 x 1,580 x 690	
<b>Net Weight</b>	kg	26	27	35			41	
<b>Refrigerant</b>		R410A						
<b>Air Flow Rate</b> Hi2/Hi/Me/Lo	m <sup>3</sup> /min. (cfm)	15/13/11/9 (530/459/388/318)		19/16.5/14/11.5 (671/583/494/406)		21/18.5/15.5/12.5 (742/653/547/441)		30/26.5/22/17 (1,059/936/777/600)
<b>Motor</b>	W	50		80			160	
<b>Connections</b> Liquid / Gas	mm	φ6.35 / φ12.7		φ6.35 / φ15.88			φ9.52 / φ15.88	
<b>Condensate Drain</b>		VP20						
<b>Approximate Packing Measurement</b>	m <sup>3</sup>	0.23		0.31			0.38	

- NOTES:**
- The nominal cooling and heating capacity is the combined capacity of the HITACHI standard split system, and is based on the JIS standard B8616.
 

<b>Cooling Operation Conditions</b>		<b>Heating Operation Conditions</b>	
Indoor Air Inlet Temperature:	27°C DB (80°F DB)	Indoor Air Inlet Temperature:	20°C DB (68°F DB)
*1)	19.5°C WB (67°F WB)	Outdoor Air Inlet Temperature:	7°C DB (45°F DB)
*2)	19.0°C WB (66.2°F WB)		6°C WB (43°F WB)
Outdoor Air Inlet Temperature:	35°C DB (95°F DB)	Piping Length: 7.5 Meters	Piping Lift: 0 Meter
  - The sound pressure level is based on following conditions.  
1 Meter Beneath the Unit and 1 Meter from Discharge Grille.  
The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.



## Indoor Units Wall Type



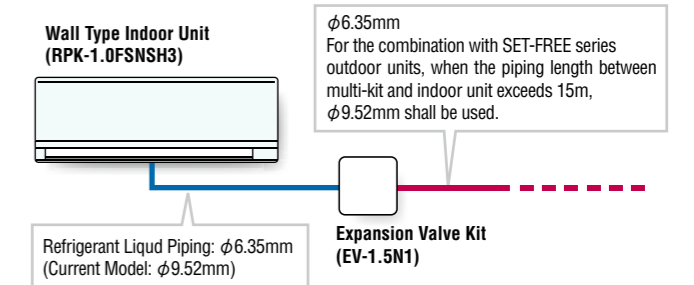
### User Friendly

Easy switching from wireless to wired remote controller by Dip Switch built-in the receiver part. All alarm code is displayed when using wireless remote controller by combining the flashing times of "Timer", "Filter/Defrosting". (All models)

### Reducing Noise by Adopting Distinctive Technology

You can select the new lineup of indoor unit wall type without expansion valve and electronic expansion valve kit according to your preference. The continuous refrigerant running noise from the indoor unit can be reduced by installing the expansion valve away from the living room such as in a false ceiling of the hallway.

### Expansion Valve Kit (Option)



## Specifications

Model	RPK-1.0FSNSM3 RPK-1.0FSNSH3	RPK-1.5FSNSM3 RPK-1.5FSNSH3	RPK-2.0FSNSM3	RPK-2.5FSNSM3	RPK-3.0FSNSM3	RPK-4.0FSNSM3	
<b>Indoor Unit Power Supply</b>	AC 1φ, 220-240V / 50Hz, 220V / 60Hz						
<b>Nominal Cooling Capacity</b> *1)	kW kcal/h Btu/h	2.9 2,500 9,900	4.1 3,550 14,100	5.8 5,000 19,800	7.3 6,300 25,000	8.3 7,100 28,200	11.6 10,000 39,700
<b>Nominal Cooling Capacity</b> *2)	kW kcal/h Btu/h	2.8 2,400 9,600	4.0 3,400 13,600	5.6 4,800 19,100	7.1 6,100 24,200	8.0 6,900 27,300	11.2 9,600 38,200
<b>Nominal Heating Capacity</b>	kW kcal/h Btu/h	3.2 2,800 10,900	4.8 4,100 16,400	6.3 5,400 21,500	8.5 7,300 29,000	9.0 7,700 30,700	12.5 10,700 42,600
<b>Sound Pressure Level</b> (Overall A Scale) Hi2/Hi/Me/Lo	dB	39/35/32/30	46/40/36/33	42/40/38/33	49/43/40/36		51/49/46/41
<b>Cabinet Color</b>		White					
<b>Dimensions</b> H x W x D	mm	300 x 790 x 230	300 x 900 x 230	333 x 1,150 x 245			
<b>Net Weight</b>	kg	10	11	17	18		
<b>Refrigerant</b>		R410A					
<b>Air Flow Rate</b> Hi2/Hi/Me/Lo	m <sup>3</sup> /min. (cfm)	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)		22/19/17/15 (777/671/600/530)
<b>Motor</b>	W	40					
<b>Connections</b> Liquid / Gas	mm	φ6.35 / φ12.7		φ6.35 / φ15.88		φ9.52 / φ15.88	
<b>Condensate Drain</b>		VP16					
<b>Approximate Packing Measurement</b>	m <sup>3</sup>	0.09	0.11	0.14			
<b>Standard Accessories</b>		Wall Mounting Bracket					

- NOTES:**
- The nominal cooling and heating capacity is the combined capacity of the HITACHI standard split system, and is based on the JIS standard B8616.
 

<b>Cooling Operation Conditions</b>		<b>Heating Operation Conditions</b>	
Indoor Air Inlet Temperature:	27°C DB (80°F DB)	Indoor Air Inlet Temperature:	20°C DB (68°F DB)
*1)	19.5°C WB (67°F WB)	Outdoor Air Inlet Temperature:	7°C DB (45°F DB)
*2)	19.0°C WB (66.2°F WB)		6°C WB (43°F WB)
Outdoor Air Inlet Temperature:	35°C DB (95°F DB)	Piping Length: 7.5 Meters	Piping Lift: 0 Meter
  - The sound pressure level is based on following conditions.  
1 Meter Beneath the Unit and 1 Meter from Air Inlet Grille.  
The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.
  - In case of new construction work with wall type indoor unit installed in the VRF system, it is recommended to install certainly to prevent malfunctions during installation previously and maintain quality and reliability of the product.

Indoor Units

# Floor Type Floor Concealed Type



### Space-saving slim unit, only 220 mm in depth

Slim line design only 220 mm in depth, allowing it to be installed without spoiling the style or beauty of the room.

### Effective Use of Space by Window

With a height of 630 mm, may be installed by a window leaving plenty of window space. Best installed in a perimeter zone.

### So compact that it fits into even a tiny space.

Special emphasis placed on interior design compatibility as well as space saving design, allowing it to fit perfectly into the space below a bay window.

## Specifications

Model	Floor Type		Floor Concealed Type		
	RPF-1.0FSN2E	RPF-1.5FSN2E	RPFI-1.0FSN2E	RPFI-1.5FSN2E	
<b>Indoor Unit Power Supply</b>	AC 1 φ, 220-240V / 50Hz, 220V / 60Hz				
<b>Nominal Cooling Capacity</b> *1)	kW	2.9	4.1	2.9	4.1
	kcal/h Btu/h	2,500 9,900	3,550 14,100	2,500 9,900	3,550 14,100
<b>Nominal Cooling Capacity</b> *2)	kW	2.8	4.0	2.8	4.0
	kcal/h Btu/h	2,400 9,600	3,400 13,600	2,400 9,600	3,400 13,600
<b>Nominal Heating Capacity</b>	kW	3.2	4.8	3.2	4.8
	kcal/h Btu/h	2,800 10,900	4,100 16,400	2,800 10,900	4,100 16,400
<b>Sound Pressure Level (Overall A Scale)</b> Hi/Me/Lo	dB	35/32/29	38/35/31	35/32/29	38/35/31
<b>Cabinet Color</b>		Spring White		—	
<b>Dimensions</b> H x W x D	mm	630 x 1,045 x 220	630 x 1,170 x 220	620 x 848 x 220	620 x 973 x 220
<b>Net Weight</b>	kg	25	28	19	23
<b>Refrigerant</b>		R410A / R407C / R22 (Nitrogen-Charged for Corrosion-Resistance)			
<b>Air Flow Rate</b> Hi/Me/Lo	m <sup>3</sup> /min. (cfm)	8.5/7/6 (300/247/212)	12/10/9 (424/353/318)	8.5/7/6 (300/247/212)	12/10/9 (424/353/318)
<b>Motor</b>	W	20	28	20	28
<b>Connections</b> Liquid / Gas	mm	Flare-Nut Connection (With Flare Nuts) φ 6.35 / φ 12.7			
<b>Condensate Drain</b>		18.5 OD			
<b>Approximate Packing Measurement</b>	m <sup>3</sup>	0.26	0.29	0.20	0.23

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

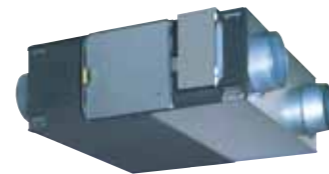
**Cooling Operation Conditions**  
Indoor Air Inlet Temperature: 27°C DB (80°F DB)  
\*1)19.5°C WB (67°F WB)  
\*2)19.0°C WB (66.2°F WB)  
Outdoor Air Inlet Temperature: 35°C DB (95°F DB)

**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 from the Unit and 1.5 Meters from Floor Level.  
The left data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.

System Equipment

# Total Heat Exchanger



## Specifications

Model	KPI-2521		KPI-5021		KPI-8021		KPI-10021	
	<b>Indoor Unit Power Supply</b>	AC 1 φ, 220-240V / 50Hz, 220V / 60Hz						
<b>Air Flow Rate</b>	50Hz	m <sup>3</sup> /h	250/250/165	500/500/350	800/800/670	1,000/1,000/870		
	Hi/Me/Lo	60Hz	m <sup>3</sup> /h	250/250/150	500/500/300	800/800/660	1,000/1,000/720	
<b>External Pressure</b> *1)	50Hz	Pa	65/40/20	150/60/30	140/100/70	160/100/80		
	Hi/Me/Lo	60Hz	Pa	100/50/20	200/60/20	230/120/80	200/110/60	
<b>Sound Pressure Level (Overall A Scale) at 1.5m from the unit under</b> *2) *3)	50Hz	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		
	Hi/Me/Lo	60Hz	dB	28.5/25.5/21	32.5/28.5/23	35/31/29	36/34/30	
<b>Dimensions</b> H x W x D	mm		275 x 735 x 780	317 x 1,016 x 888	398 x 1,004 x 1,164	398 x 1,231 x 1,164		
<b>Net Weight</b>	kg		21	33	61	72		
<b>Approximate Packing Measurement</b>	m <sup>3</sup>		0.26	0.46	0.70	0.84		

**NOTES:**  
\*1. Use it under the following conditions. KPI-8021: 29Pa or more, KPI-10021: 49Pa or more  
\*2. The sound pressure level is based on following conditions. 1.5 Meter 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 sound pressure level is based on the total heat exchange mode. In case of the bypass ventilation mode, the sound pressure level is increased by approximately 1dB(A).

# Optional Parts

## Indoor Units

### 4-Way Cassette Type

HP	1.0 ~ 2.5	3.0 ~ 6.0
<b>Air Panel</b>	P-AP160NA1/P-AP160NAE (with motion sensor)	
<b>3-Way Outlet Parts Set</b>	PI-160LS1	
<b>Kit for Deodorant Filter</b>	F-71L-D1	F-160L-D1
<b>Deodorant Filter</b>	B-160H2	
<b>Antibacterial Long-life Filter</b>	F-160L-K	
<b>Fresh Air Intake Kit</b> *1	OACI-160K2	
<b>T-Pipe Connection Kit</b> *2	TKCI-160K	
<b>Duct Adapter</b> *3	PD-75A (φ75)	

### 2-Way Cassette Type

HP	1.0 ~ 3.0	4.0 and 5.0
<b>Air Panel</b>	P-N23DNA	P-N46DNA
<b>Kit for Deodorant Filter</b>	F-23LD4-D	F-46LD4-D
<b>Deodorant Filter</b>	B-23HD4	B-46HD4
<b>Antibacterial Long-life Filter</b>	F-23LD4-K	F-46LD4-K
<b>Fresh Air Intake Kit</b> *1	OACID-231	OACID-461
<b>Box Connection Kit</b> *4	TBCID-1	

### 4-Way Cassette Compact Type

HP	0.6 ~ 2.5
<b>Air Panel</b>	P-AP56NAM
<b>Duct Adapter</b>	PD-75C
<b>Motion Sensor Kit</b>	SOR-NEC

### Wall Type

HP	1.0 and 1.5
<b>Electronic Expansion Valve Kit</b> *5	EV-1.5N1

### In-the-ceiling Type

HP	0.8 ~ 1.5	2.0 and 2.5	3.0	4.0	5.0	8 and 10
<b>Long-Life Filter Kit</b> Long-Life Filter	F-15LI3C	F-23LI3C	F-23LI3	F-34LI3	F-46LI3	—
<b>Filter Box</b>	B-15MI3C	B-23MI3C	B-23MI3	B-34MI3	B-46MI3	—
<b>Drain-up Mechanism Kit</b>	Standard	DUPI-132C		DUPI-162		DU-M280PIS

### Ceiling Type

HP	1.0	2.0	2.5 to 6.0
<b>Drain-up Mechanism</b>	DUPC-63K1	DUPC-71K1	DUPC-160K1
<b>Motion Sensor Kit</b>	SOR-NEP		

### Receiver Kit for Wireless Control

	RCI	RCIM	RCD	RPC	RPI/RPF(I)	RPK
<b>Model</b>	PC-ALH3	PC-ALHC1	PC-ALHD	PC-ALHP1	PC-ALHZ*6	PC-ALHZF*6

**NOTES:**  
\*1. It is necessary to use the Fresh Air Intake Kit to connect the fresh air intake duct to the unit.  
\*2. Used when two air intakes (φ 100 x 2) of the Fresh Air Intake Kit are changed to one air intake (φ 150 x 1).  
\*3. Used when fresh air intake duct are connected to the indoor unit directly.  
\*4. Used when both of the Fresh Air Intake Kit and Filter Box are used.  
\*5. The electronic expansion valve kit (optional part EV-1.5N1) should be used with indoor unit wall type without expansion valve together.  
\*6. Wall mounted type

## Piping Connection Kit

Operation Type		Applicable Outdoor Unit	
Heat Pump Operation	Heat Recovery Operation	FSXN1 Series (HP)	FSXNH Series (HP)
<b>MC-NP20A1</b>	<b>MC-NP20X1</b>	18 to 24	14 to 24
<b>MC-NP21A1</b>	<b>MC-NP21X1</b>	26 to 32	—
<b>MC-NP30A1</b>	<b>MC-NP30X1</b>	34 to 48	26 to 36
<b>MC-NP40A1</b>	<b>MC-NP40X1</b>	50 to 54	—

## Strainer Kit

Product Name	Model
Strainer Kit	<b>MSF-NP63A</b> <b>MSF-NP12A</b> <b>MSF-NP36AH</b> *1

**NOTE:**  
\*1. For without Expansion Valve indoor unit.

## Multi-kits

### Multi-kit for 2 Pipe Heat Pump Operation

< Line Branch > (First Branch)		< Header Branch >		
Outdoor Unit HP	Model	Total Indoor Unit HP	No. of Header Branches	Model
5 to 10	<b>MW-NP282A2</b>	5 to 8	4	<b>MH-NP224A</b>
12 to 16	<b>MW-NP452A2</b>	5 to 10	8	<b>MH-NP288A</b>
18 to 24	<b>MW-NP692A2</b>			
26 to 54	<b>MW-NP902A2</b>			

**NOTE:** After the second branch, please refer to the technical manual.

### Multi-kit for Heat Recovery Operation

< Line Branch > (First Branch)		< Header Branch >		
Outdoor Unit HP	Model	Total Indoor Unit HP	No. of Header Branches	Model
5	<b>MW-NP142X2</b>	5 to 10	8	<b>MH-NP288X</b>
6 to 10	<b>MW-NP282X2</b>			
12 to 16	<b>MW-NP452X2</b>			
18 and 20	<b>MW-NP562X2</b>			
22 and 24	<b>MW-NP692X2</b>			
26 to 54	<b>MW-NP902X2</b>			

## Control System

● : Applicable    ✕ : Not Applicable

		RCI-FSN3	RCIM-FSN4	RCD-FSN2	RPI-FSN(2)	RPC-FSN3	RPK-FSNM3	RPF(I)-FSN2E	KPI
Remote Control Switch	PC-AR*1 (Without cable)	✕	✕	●	●	✕	✕	●	●
	PC-ARF	●*4	●*4	●	●	●*4	●*4	●	●
Wireless Remote Control Switch	PC-LH3A	✕	✕	●	●	✕	✕	●	✕
	PC-LH3B	●	●	✕	✕	●	●	✕	✕
Half-size Remote Control Switch	PC-ARH	✕	✕	●	●	✕	✕	●	✕
7-Day Timer	PSC-A1T*2	●	●	●	●	●	●	●	✕
Central Station	PSC-5S, PSC-A64S*3	●*5	●*5	●	●	●*5	●*5	●	●
Central Station mini	PSC-A32MN	●*5	●*5	●	●	●*5	●*5	●	●
Central Station EZ	PSC-A64GT	●*5	●*5	●	●	●*5	●*5	●	●
Central Station DX	PSC-128WX + PSC-AS2048WXB	●*5	●*5	●	●	●*5	●*5	●	●
Centralized ON/OFF Controller	PSC-A16RS	●	●	●	●	●	●	●	●
Remote Control Cable	PRC-5K,10K,15Kfor PC-AR	●	●	●	●	●	●	●	●
3P Connector Cable	PCC-1A	●	●	●	●	●	●	●	●
Remote Sensor	THM-R2A	●	●	●	●	●	✕	●	✕

**NOTES:** \*1. As the PC-AR does not include a remote control cable, prepare one in the field, or use PRC-5K, 10K, or 15K.  
\*2. Scheduled operation is possible by using PSC-A1T with Central Station. Remote Control Switch and Centralized ON/OFF Controller.  
\*3. Supply 220V or 240V  
\*4. When FSN3 or FSNM3 type indoor unit is used with the remote control switch, PC-ARF must be used.  
\*5. These central stations dose not support the air flow volume function "HIGH 2" of FSN3 or FSNM3 type indoor unit. Therefore, when FSN3 or FSNM3 type indoor unit is used with the central stations, the remote control switch (PC-ARF) must be required.

# Remote Controllers



## Remote Control Switch PC-ARF

Compatible with the H-LINK II

- The newly adopted LED-backlit LCD provides enhanced legibility. Large, clear character display is realized by Full Dot Matrix LCD.
- The newly adopted the directional key provides optimized operation. The manual operation is facilitated by reducing number of switch buttons from 13 to 9.
- "Schedule Timer" provides the timer operations for "Run/Stop" and "Temperature Setting". The weekly management is available by using this function. In addition "Holiday Setting" and "Schedule ON/OFF" setting are available.
- 4 type of menus are offered for flexible use as follows:
  - Menu:** Contains "Schedule", "Elevating Grill", etc. for users.
  - Help Menu:** Contains information provided by this remote control switch for users such as "About Indication", "Contact Information", etc.
  - Test Run Menu:** This menu provides the functions installation of this remote control switch.
  - Check Menu:** This menu provides the functions for service and maintain



## Remote Control Switch PC-AR

Compatible with the H-LINK II

- The PC-AR has a design that matches the interior.
- The new large LCD display permits users to see the operating conditions and settings.
- The timer can be set at half-hour intervals up to 72 hours.
- All the functions can be selected by remote control switches.
- The PC-AR monitors the operating conditions in the system and an alarm is issued if a problem occurs.
- A "self-diagnosis function" checks for problems on printed boards in indoor and outdoor units.
- Equipped with energy-saving functions such as a preset temperature range limiting function for preventing excessive cooling/heating and a preset temperature automatic reset function, as well as an operation locking mechanism and the capability to prevent users from forgetting to turn off the system. (Function selection setting is required)



## Wireless Remote Control Switch PC-LH3A

Compatible with the H-LINK II

- One-touch handy operation, no wiring work required.
- Two or more units can be operated simultaneously by remote control. \* Receiver kit is required.



## Half-size Remote Control Switch PC-ARH

Compatible with the H-LINK II

- The main function of this easy-to-use remote control system is temperature setting.
- Operation modes can be switched over (when function selection setting is made).
- Suitable for facilities used by various people, such as hotels.
- "2 remote control" or "group control" (up to 16 max.) can be used.
- If a problem occurs, an alarm code immediately shows the details of the problem.



## 7 Day Timer PSC-A1T

Compatible with the H-LINK II

- By using with PSC-5S, PSC-A64S and PC-AR controllers, the air conditioners controlled by them can be operated according to a schedule.
- The timer can be set at 7-day intervals, and operation/stop can be set 3 times daily.
- Remote control can be prohibited in accordance with the OFF time (when used with PSC-5S, PSC-A64S and PC-AR).
- Two types of weekly schedule (A and B) can be set, and can easily be changed for summer and winter.
- Settings are all digitally displayed, allowing operations and settings to be checked easily.
- The power failure backup function prevents the timer from being stopped by a power failure lasting up to 2 weeks.



## Central Station PSC-A64S

Compatible with the H-LINK II

Up to 160 indoor units

Up to 64 remote control groups

- By connecting to the H-LINK, up to 64 remote control groups and 160 indoor units can be controlled. Up to 8 units can be connected to the H-LINK.
- In addition to basic control, such as settings for operation/stop, the operation mode and temperature, the air quantity and auto louver can be set. If a problem occurs, an alarm code immediately shows the details of the problem.
- An external input terminal is provided as standard. External signals enable the following functions: central operation/stop, demand control, emergency stop, central operation output, and central alarm output.
- Can be used in combination with the One-touch Controller.

## PSC-5S

Up to 128 indoor units

Up to 16 remote control groups



## Centralized ON/OFF Controller PSC-A16RS

Compatible with the H-LINK II

Up to 160 indoor units

Up to 16 remote control groups

- Only performs operation/stop control per remote control group.
- By connecting to the H-LINK, up to 16 remote control groups and 160 indoor units can be controlled. Up to 8 units can be connected to the H-LINK.
- An external input terminal is provided as standard. External signals enable the following functions: central operation/stop, emergency stop, central operation output, central alarm output
- Can be used in combination with the Central Station.

\* Make sure to use it with a remote control switch. Indoor units cannot be used without a remote control switch.  
\* There are restrictions on remote group registration. Please contact our sales staff for more information.

# Network Systems

## H-LINK . . .

Hitachi's proprietary high-performance transmission system for connecting control wires between indoor and outdoor units, and between a centralized control system and indoor/outdoor units, across two or more refrigerant systems.

### Flexible Wiring Routes

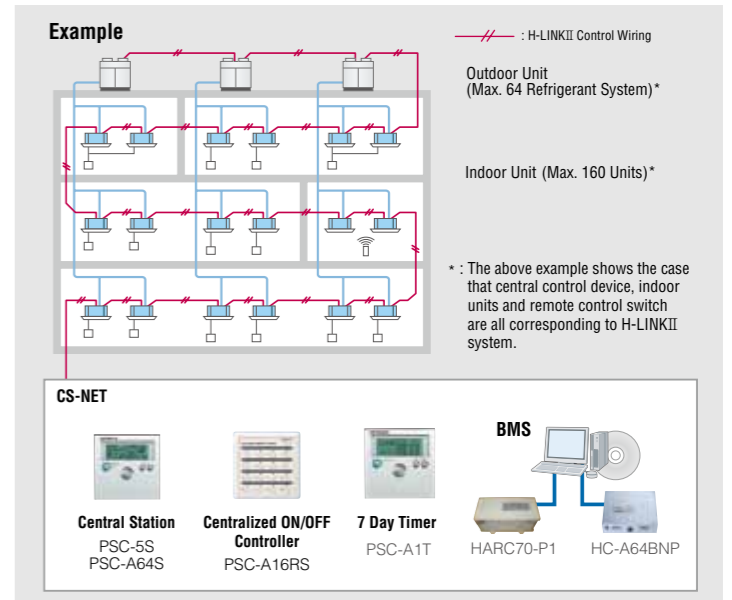
Absolutely no restrictions on the order of wiring, the wiring route and the number of branches. Simply connect to the adjacent units or the terminal block of a centralized control system.

### Regardless of Multi-Split System for Buildings or Packaged System for Commercial Use

By providing a common control function and wiring method, a multi-split air conditioning system for buildings and a packaged air conditioning system for commercial use are simultaneously used in the same system, and so are the EHP and GHP air conditioning systems. Just connect all the systems with twin core cables by crossover connection. Adapters or other appliances are not required.

## H-LINK II

The H-LINK transmission system for connection between outdoor and indoor units provides an extended system configuration and improved functions without sacrificing workability and the flexibility.



## H-LINK II System

Item	H-LINK II		
Max. Number of Refrigerant Group / System	64		
Address Setting Range of Indoor Units / Refrigerant Group	0 to 63		
Max. Number of Indoor Unit / System	160		
Total Number of Devices in the same H-LINK	200		
Max. Wiring Length	Total 1,000m (5,000m)*		

\* : In case 4 units of PSC-5HR are used.

## System Configuration

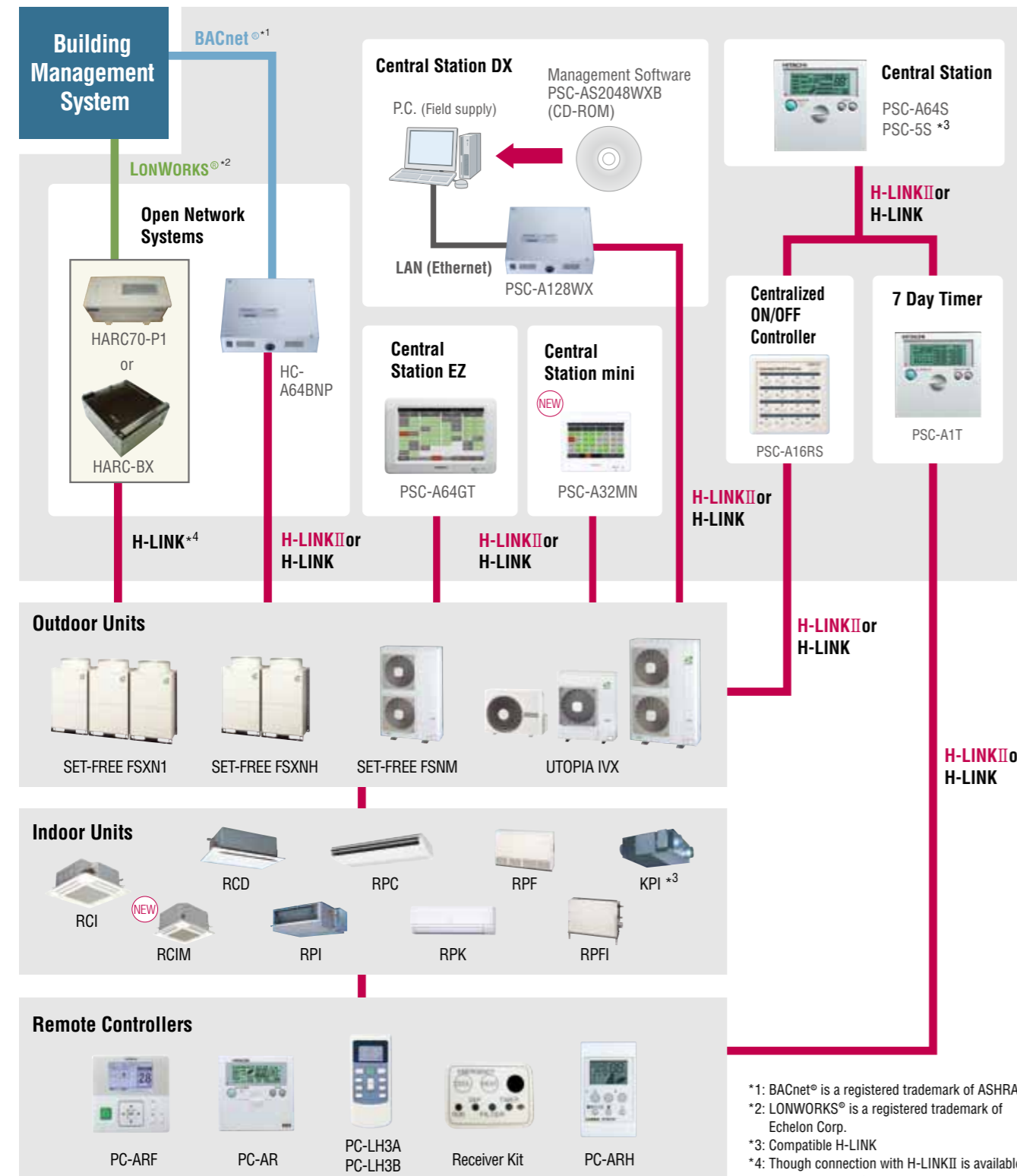
Outdoor Unit	SET-FREE FSXN1 and FSXNH Series H-LINK II		
Indoor Unit	H-LINK II or H-LINK	H-LINK	H-LINK II
Remote Control Switch	H-LINK	H-LINK II	H-LINK II
Setting Range of Refrigerant Group* <sup>1)</sup>	0 to 15		
Setting Range of Address* <sup>1)</sup>	0 to 15	0 to 15	0 to 63
Automatic Reset of Setting Temperature* <sup>2)</sup>	×	●	●
Operation Lock* <sup>2)</sup>	×	●	●
Limitation of Setting Temperature Range* <sup>3)</sup>	×	●	●
ON / OFF Timer Setting (72Hr.)* <sup>2)</sup>	×	●	●
Different Operation Mode Indication* <sup>3)</sup>	×	×	●
Indoor Unit Hot-Start Indication* <sup>3)</sup>	×	×	●
Change of Indoor Unit Ref. Group No. and Address* <sup>2)</sup>	×	×	●
Outdoor Unit Comp. Pre-heating Indication / Cancel* <sup>2)</sup>	×	×	●
Emergency Operation from Remote Control Switch* <sup>4)</sup>	×	×	●

\*1): The range of ref. group setting and address setting is 0 to 15 when H-LINK corresponding central controller is used.  
\*2): These functions can be set by wired remote control switch (PC-AR) only.  
\*3): These functions can be set by wired remote control switch (PC-ARH) and half size remote control switch (PC-ARH) only.  
\*4): This function is not available depending on the outdoor unit type.

# Network Systems

## CS-NET

CS-NET is Hitachi's control network system for the SET-FREE FS series, SET-FREE FSNM and UTOPIA ranges. The flexibility of the SET-FREE system allows the internal data to be easily accessed and controlled by the user, with features including temperature, mode and fan speed setting and groupings.



\*1: BACnet® is a registered trademark of ASHRAE.  
 \*2: LONWORKS® is a registered trademark of Echelon Corp.  
 \*3: Compatible H-LINK  
 \*4: Though connection with H-LINKII is available, the resulting performance is equivalent to that of the H-LINK specifications.

## Interface (Option)

You can select the air conditioner control interface depending on your needs to create a comfortable space.

### HC-A64BNP (for BACnet®)



Connecting the HC-A64BNP to an H-LINK (communication line between machines) allows control of up to 64 indoor units. Up to eight HC-A64BNP can be connected to the same H-LINK.

<b>Connection Method to Upper System</b>	• Connection by IEEE802.3 Compliance (100BASE-TX/10BASE-T) to BACnet® Network
<b>Quantity of Connection</b>	• Up to 64 Indoor Units per BACnet® Adaptor
<b>Control Item at Upper System</b>	<ul style="list-style-type: none"> <li>• RUN/STOP</li> <li>• Operation Mode Setting</li> <li>• Temperature Setting</li> <li>• Fan Speed Setting</li> </ul> <ul style="list-style-type: none"> <li>• Available / Not Available for Operation by Remote control Switch</li> <li>• Filter Sign Reset</li> </ul>
<b>Monitoring Item at Upper System</b>	<ul style="list-style-type: none"> <li>• RUN/STOP State Notification</li> <li>• Alarm Signal Notification</li> <li>• Operation Mode State Notification</li> <li>• Fan Speed State Notification</li> </ul> <ul style="list-style-type: none"> <li>• Indoor Suction Temperature Notification</li> <li>• Alarm Code Notification</li> <li>• Communication Abnormality Notification</li> <li>• Filter Sign</li> </ul>

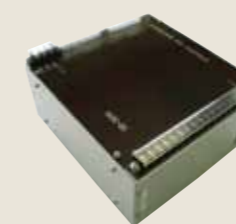
### HARC70-P1 (for LONWORKS®)



By using the HARC70-P1 adapter for LONWORKS® to connect air conditioners to the total building control system, air conditioners can be centrally controlled.

<b>Connection Method to Upper System</b>	• Connection by SNVT (Standard Network Variable Type) to LONWORKS® Network
<b>Quantity of Connection</b>	• 8 Remote Control Groups (Max. 120 indoor Units)
<b>Control Item at Upper System</b>	<ul style="list-style-type: none"> <li>• On/Off Order</li> <li>• Operation Mode Setting</li> </ul> <ul style="list-style-type: none"> <li>• Temperature Setting</li> <li>• All On/Off Order</li> </ul>
<b>Monitoring Item at Upper System</b>	<ul style="list-style-type: none"> <li>• On/Off State &amp; Alarm</li> <li>• Operation Mode State</li> </ul> <ul style="list-style-type: none"> <li>• Temperature Setting</li> <li>• Individual Thermostat State</li> </ul>

### HARC-BX (for LONWORKS®)



A HARC-BX can connect to multiple H-LINK with H-LINK transmission terminal to 8 PCB.

Points for control and monitor have been increased to meet more points. (Points for control and monitor is 8 times larger than HARC70P-1.)

You can select the number of controls, monitor, and what to control in the indoor unit from three choices (Standard, Option A and Option B) as needed.

#### ■ HARC-BX E (Standard)

<b>Connection Method to Upper System</b>	• Connection by SNVT (Standard Network Variable Type) to LONWORKS® Network
<b>Quantity of Connection</b>	• 64 Indoor Units
<b>Control Item at Upper System</b>	<ul style="list-style-type: none"> <li>• On/Off Order</li> <li>• Operation Mode Setting</li> </ul> <ul style="list-style-type: none"> <li>• Temperature Setting</li> <li>• All On/Off Order</li> </ul>
<b>Monitoring Item at Upper System</b>	<ul style="list-style-type: none"> <li>• On/Off State &amp; Alarm</li> <li>• Operation Mode State</li> </ul> <ul style="list-style-type: none"> <li>• Temperature Setting</li> <li>• Individual Thermostat State</li> </ul>

#### ■ HARC-BX E (Option A)

<b>Connection Method to Upper System</b>	• Connection by SNVT (Standard Network Variable Type) to LONWORKS® Network
<b>Quantity of Connection</b>	• 64 Indoor Units
<b>Control Item at Upper System</b>	<ul style="list-style-type: none"> <li>• On/Off Order</li> <li>• Operation Mode Setting</li> <li>• Temperature Setting</li> </ul> <ul style="list-style-type: none"> <li>• Fan Speed Setting</li> <li>• R.C.Sw Permission/Prohibition</li> </ul>
<b>Monitoring Item at Upper System</b>	<ul style="list-style-type: none"> <li>• On/Off State &amp; Alarm</li> <li>• Inlet Air Temperature</li> </ul>

#### ■ HARC-BX E (Option B)

<b>Connection Method to Upper System</b>	• Connection by SNVT (Standard Network Variable Type) to LONWORKS® Network
<b>Quantity of Connection</b>	• 32 Indoor Units
<b>Control Item at Upper System</b>	<ul style="list-style-type: none"> <li>• On/Off Order</li> <li>• Operation Mode Setting</li> <li>• Temperature Setting</li> </ul> <ul style="list-style-type: none"> <li>• Fan Speed Setting</li> <li>• R.C.Sw Permission/Prohibition</li> </ul> <ul style="list-style-type: none"> <li>• All On/Off Order</li> <li>• Louver Position Setting</li> </ul>
<b>Monitoring Item at Upper System</b>	<ul style="list-style-type: none"> <li>• On/Off State &amp; Alarm</li> <li>• Operation Mode State</li> <li>• Fan Speed Setting</li> </ul> <ul style="list-style-type: none"> <li>• Temperature Setting</li> <li>• Louver Position</li> <li>• Alarm Code</li> </ul> <ul style="list-style-type: none"> <li>• Inlet Air Temperature</li> <li>• Outlet Air Temperature</li> <li>• Outdoor Air Temperature</li> </ul>




# Network Systems

## Central Station

**Central Station mini**  
PSC-A32MN


**NEW**



120 mm  
140 mm

Most compact in our touch panel centralized controller. Its down-to-detail control functionalities, such as Weekly Scheduling, Accumulated Work Hours, etc., help you save energy. Up to 32 remote-controlled groups and up to 160 indoor units can be connected to the single air-conditioning system.

**Central Station EZ**  
PSC-A64GT



170 mm  
250 mm

Easy control with 8.5 inch color touch panel. Its down-to-detail control functionalities, such as Weekly Scheduling, Accumulated Work Hours, etc., help you save energy. Up to 64 remote-controlled groups and up to 160 indoor units can be connected to the single air-conditioning system.

### Specification for Management Computer

<b>Communication Unit</b>	Units of Adopting for H-LINKII				
<b>Communication Line</b>	Non-Polar 2-Wire				
<b>Communication Method</b>	Half-Duplex Communication				
<b>Synchro System</b>	Asynchronous (start-stop synchronous communication)				
<b>Communication Speed</b>	9,600bps				
<b>Wiring Length</b>	1,000m (Total Length)				
<b>Connecting Unit Number*</b>		Outdoor Unit	Indoor Unit	Central Controller	Total Unit Number
	H-LINKII	64	160	8	200
	H-LINK	16	128	8	145

\*: Connecting unit quantity indicates the maximum unit numbers which is possible to connect in the same H-LINK (Control Wiring).

### Functions

<b>Monitor Function</b>	<ul style="list-style-type: none"> <li>Run/Stop/Abnormality</li> <li>Operation Mode</li> <li>Setting Temperature</li> <li>Setting Fan Speed</li> <li>Setting Louver</li> <li>RCS Operation Prohibited Setting</li> <li>Filter Sign</li> <li>Alarm Code</li> <li>Accumulated Operating Time</li> </ul>
<b>Control Function</b>	<ul style="list-style-type: none"> <li>Run/Stop*</li> <li>Operation Mode</li> <li>Temperature Setting</li> <li>Fan Speed</li> <li>Louver</li> <li>RCS Operation Prohibited</li> <li>Filter Sign Reset</li> </ul>

\*: "All Groups Run/Stop" command signal exception function for selected groups is available by "Exception of Run/Stop Ope." function.

### Specification for Management Computer

<b>Communication Unit</b>	Units of Adopting for H-LINKII				
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<b>Communication Method</b>	Half-Duplex Communication				
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	H-LINKII	64	160	8	200
	H-LINK	16	128	8	145

\*: Connecting unit quantity indicates the maximum unit numbers which is possible to connect in the same H-LINK (Control Wiring).

### Functions

<b>Monitor Function</b>	<ul style="list-style-type: none"> <li>Run/Stop/Abnormality</li> <li>Operation Mode</li> <li>Setting Temperature</li> <li>Setting Fan Speed</li> <li>Setting Louver</li> <li>RCS Operation Prohibited Setting</li> <li>Filter Sign</li> <li>Alarm Code</li> <li>Accumulated Operating Time</li> </ul>
<b>Control Function</b>	<ul style="list-style-type: none"> <li>Run/Stop*</li> <li>Operation Mode</li> <li>Temperature Setting</li> <li>Fan Speed</li> <li>Louver</li> <li>RCS Operation Prohibited</li> <li>Filter Sign Reset</li> </ul>

\*: "All Groups Run/Stop" command signal exception function for selected groups is available by "Exception of Run/Stop Ope." function.

**Central Station DX**  
PSC-A128WX + PSC-AS2048WXB



Managing maximum 2,048 groups of air-conditioners. Up to 2560 units of indoor units can be controlled and monitored with just one computer. Advanced functions but easy control for huge air-conditioning system.

### Specification for Management Computer

<b>OS</b>	Windows® XP (English version 32 bit)
<b>CPU</b>	CPU Intel Core™ TM 2Duo 1.8GHz or more
<b>Memory</b>	2GB or more
<b>Free Space in Hard Disk Drive</b>	Minimum 5GB for each H-LINK + 0.3GB for each additional REFGN Cycle. (Further additional 16GB or more is required for Check-Unit data collection.)
<b>Display Resolution</b>	1,280 x 1,024
<b>Drive</b>	CD-ROM Drive (for upon installation only)
<b>Interface</b>	IEEE 802.3 (10BASE-T/100BASE-TX) (With wake-on-LAN function*2)
	USB
	RS-232C (*2)

\*1: Use the management computer exclusively to this system.

\*2: LAN with wake on LAN function or RS-232 Interface is required for UPS.

\*3: Management computer is assumed to be always ON. It is strongly recommended to use computer for server or industrial use and/or to create hard disk mirror.

\*4: Durable period for management computer may differ from that of air conditioners. Update periodically and discuss updating procedure in advance.

### Functions

<b>Energy Saving Function</b>	<ul style="list-style-type: none"> <li>Run/Stop</li> <li>RC (Remote Control Switch) Operation Prohibition</li> <li>Shifting Set Temperature (During Cool/Dry: +1°C to +9°C, During Heating: -1°C to -9°C)</li> <li>Switching Mode (Cool/Dry to Fan and Stop during Heating)</li> <li>Outdoor Unit Capacity Control (Only if supported) (0, 40, 50, 60, 70, 80, 90, 100%)</li> </ul>	
<b>Facility Control and Monitor Function (Level Signal Only)</b>	<b>Control</b>	<ul style="list-style-type: none"> <li>Run/Stop</li> <li>Operation Mode (Cool/Heat)</li> <li>Emergency Stop (Only for Indoor Units Supporting this function)</li> </ul>
	<b>Monitor</b>	<ul style="list-style-type: none"> <li>Run/Stop</li> <li>Operation Mode (Cool/Heat)</li> <li>Alarm State</li> </ul>



ISO 9001



ISO 14001



# Johnson Controls-Hitachi Air Conditioning

<http://www.jci-hitachi.com>

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