HITACHI
Inspire the Next

VRF Multi-split Air Conditioning System

SET-FREE FSXN 1
SET-FREE FSXNH

Selectable
Heat Recovery Operation and
2 Pipe Heat Pump Operation

R410A

Introducing a new addition to Hitachi's SET-FREE range of VRF air conditioning units - enhancing efficiency and user experience

Hitachi has over 25 years of experience on VRF system

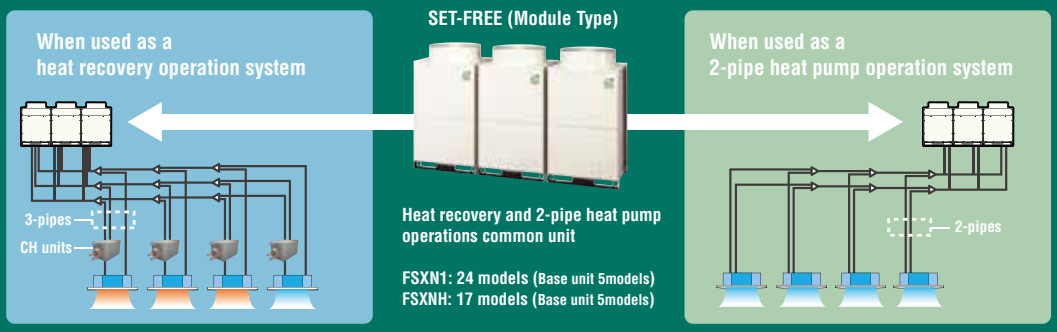
There is increasing demand for a holistic approach to air conditioning in modern offices - units that are capable of simultaneously cooling and heating, adapting to the different seasons and various temperature requirements of rooms.
Customers also want to save time, money and space with their air conditioning and have the flexibility to extend or modify their air conditioning set-up to suit changing needs.
And of course there is a growing demand for air conditioning to be as environmentally friendly as possible - enabled through an air-conditioning management system that makes it easier for users to have simple, effective control of their air conditioning units to avoid unnecessary energy wastage, including overheating, overcooling and unattended operation.
To meet and exceed these important requirements,
Hitachi has developed the SET-FREE FSXN1 and FSXNH air conditioning system.

SET-FREE FSXN1 / SET-FREE FSXNH

- **Compatible with Hitachi's system free indoor units and heat recovery ventilation units**
- **Wide product range**
  -FSXN1 (Standard Type): 8 to 54HP
  FSXNH (High efficiency Type): 5 to 36HP
- **Energy saving**
  -Heat recovery and DC Inverter Driven Compressor
- **Flexibility of Installation**
  -Compact and light design and flexible refrigerant piping
- **Comfort and Reliability**
  -Capable of impressively low noise levels with noise reduction preference mode (option)
- **Control by Network System**
- **Off coil temperature control**

Capable of Heat Recovery and 2-pipe Heat Pump Operations

Hitachi's outdoor units feature a heat recovery operation system as well as a 2-pipe heat pump operation system. This avoids the need for review work when designing the equipment layout, while reducing the workload and time spent installing the units on site.



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

Hitachi air conditioning successfully meets installer and customer demands - offering greater functionality, control and cost savings

Needs of End Users

- Heat recovery operation
- Energy efficient
- Greater user control
- Flexibility to extend system

Needs of Consultants

- Time saving with equipment layout design
- Flexible, modular system designs
- Intelligent controls

Needs of Contractor and installer

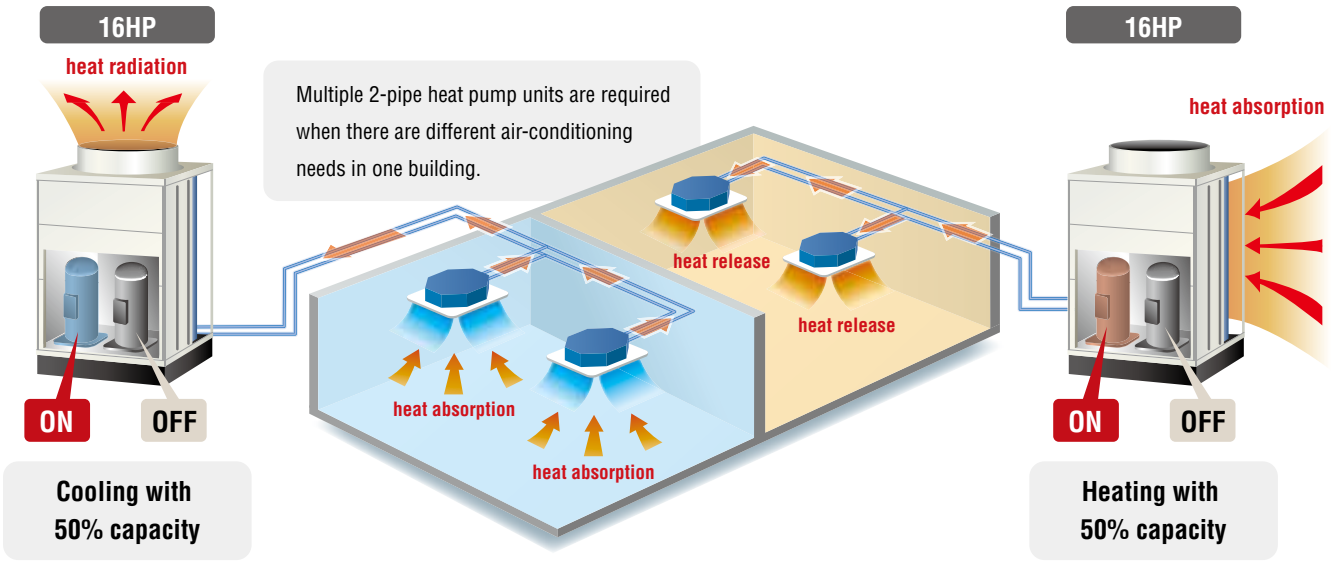
- Modular and lightweight for quicker (or phased) installations
- Increased piping lengths for flexibility

Heat Recovery Operation

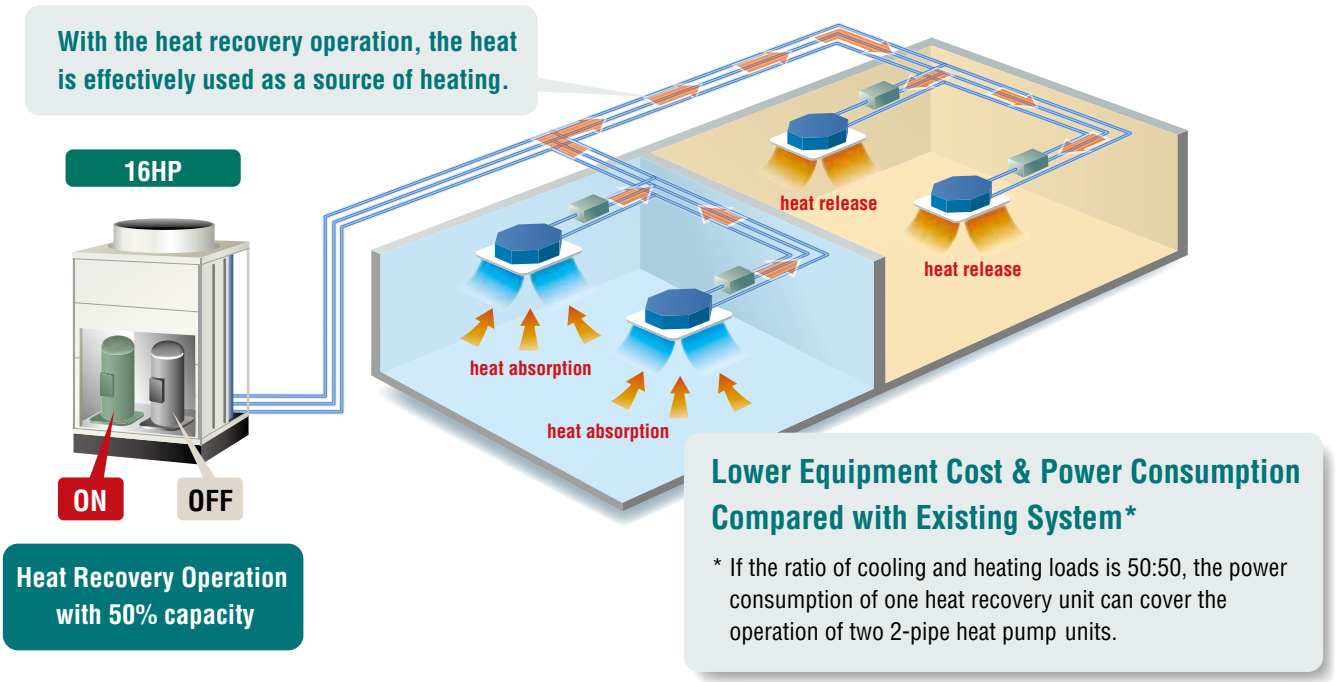
Heat Recovery Operation Significantly Enhances Energy-saving Efficiency

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 FSXN1 (heat recovery operation)



Lower Equipment Cost & Power Consumption Compared with Existing System*

* If the ratio of cooling and heating loads is 50:50, the power consumption of one heat recovery unit can cover the operation of two 2-pipe heat pump units.

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

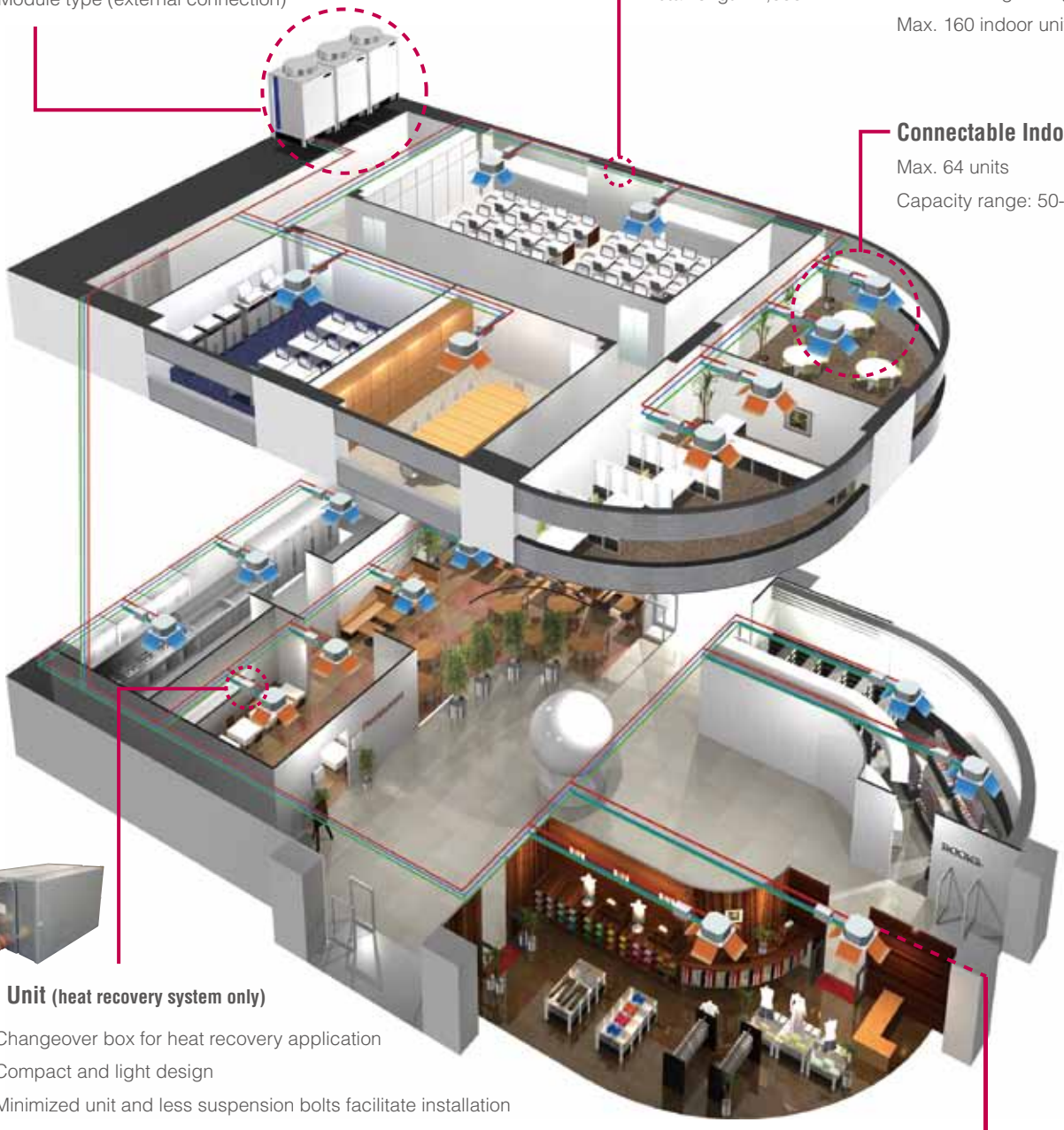
Max. 64 refrigerant groups

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-6.0N1	301 x 214 x 191	7	6HP ≥	1 ~ 7
CH-10.0N1			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 beheard in the room.

New Model

Remote Controller

New Model

Central Station

Product Line-up

Choose the best suited model from a selection of each base unit used individually or in combinations.
All integrating heat recovery and heat pump operation suit the customer requirements.

Outdoor Unit: Standard Type

Base Unit (5models)

8HP
10HP
12HP

14HP
16HP

18HP
20HP

22HP
24HP
26HP

28HP
30HP
32HP

34HP
36HP

38HP
40HP

42HP
44HP

46HP
48HP

50HP
52HP
54HP

Outdoor Unit: High Efficiency Type

Base Unit (5models)

5HP
6HP

8HP
10HP
12HP

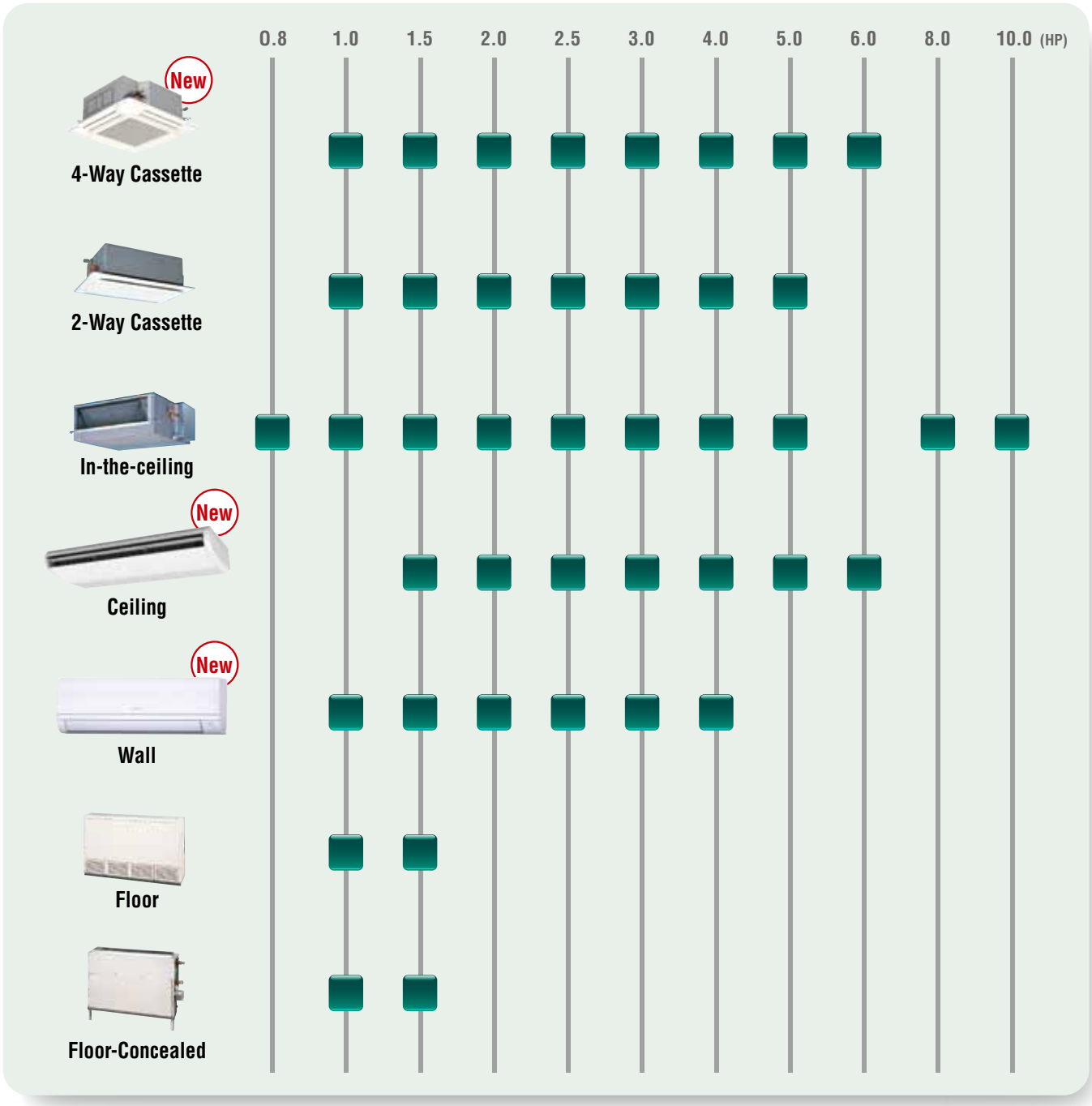
14HP

16HP
18HP
20HP
22HP
24HP

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

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

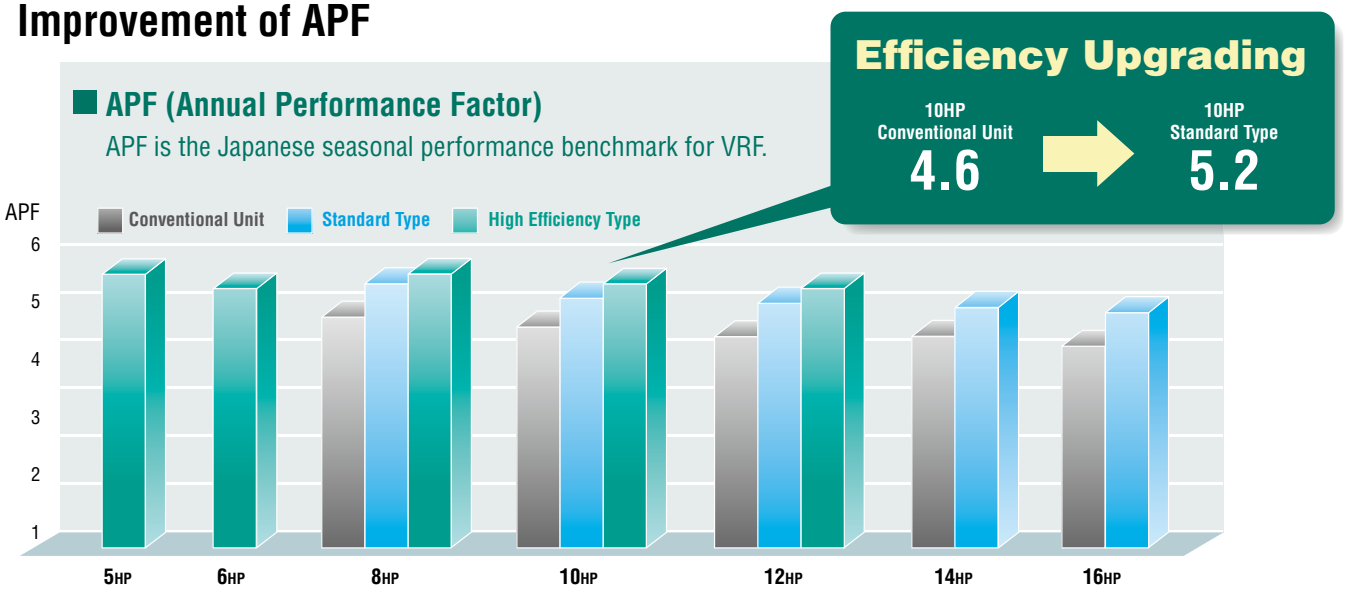
Indoor Unit



System Equipment

Energy-saving and Comfort

Improvement of APF



What is APF ?

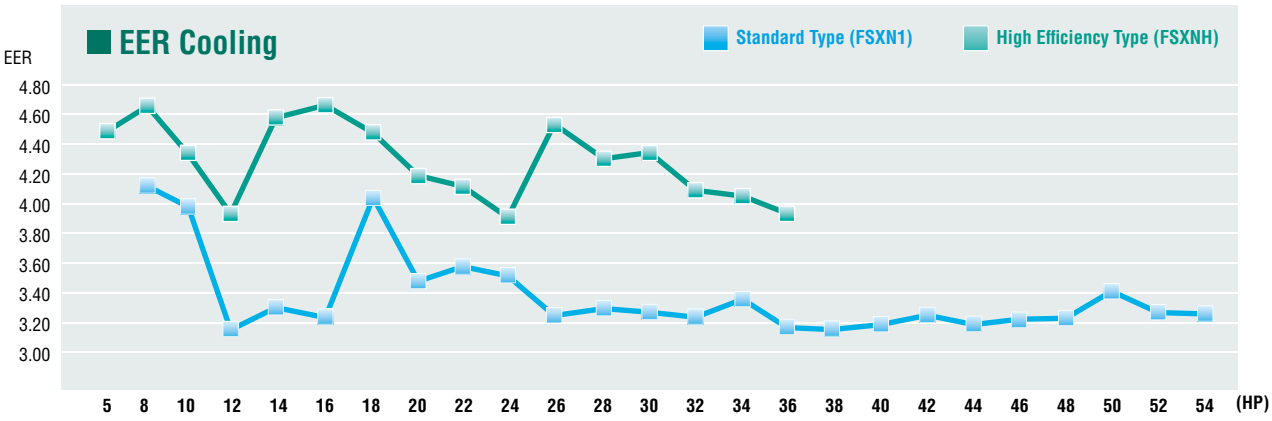
APF is meant for cooling/heating capacity per 1kW of operating power consumption under certain conditions throughout the year.

$$APF = \frac{\text{Accumulated cooling/heating loads (kWh)}}{\text{Accumulated power input in cooling/heating (kWh)}}$$

NOTE:
The APF is calculated value when operating Japanese domestic base unit under below conditions, and is based on JIS B 8616:2006, JRA4048:2006 and JRA4048:2009 (Supplement 1).
The evaluated indoor units are adopted to Japanese domestic standard.

Area : Tokyo Usage : Office Operating hours : 8:00 - 20:00
Operating period : Cooling 16/April - 8/November, Heating 14/December - 23/March

High COP Design



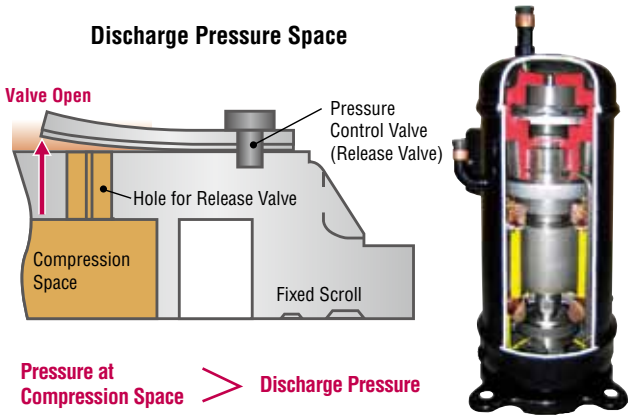
New Type DC Inverter Scroll Compressor

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.

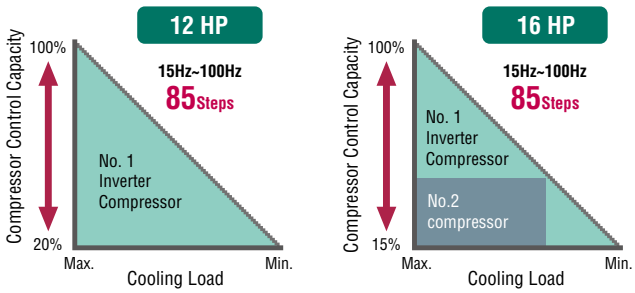
Release valve adoption prevents over compression.

Orbiting scroll lifting force optimization has achieved leakage loss reduction.



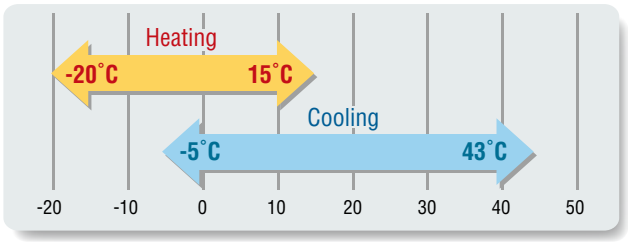
Capacity Control by 1 Hz

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).



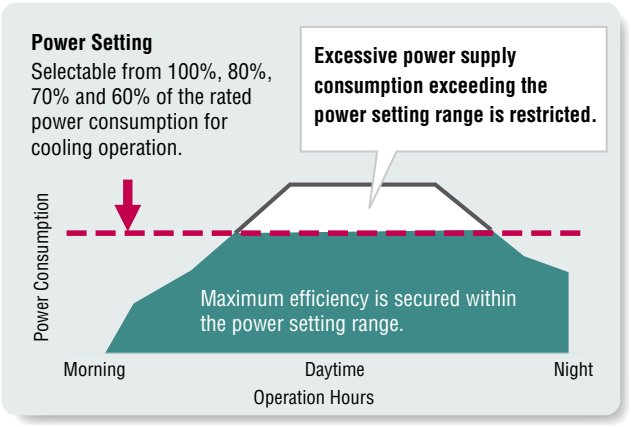
Wide Working Range

SET-FREE FSXN1 and FSXNH can handle a wide range of outside air conditions, thus extending the flexibility of installation space and climatic environment.



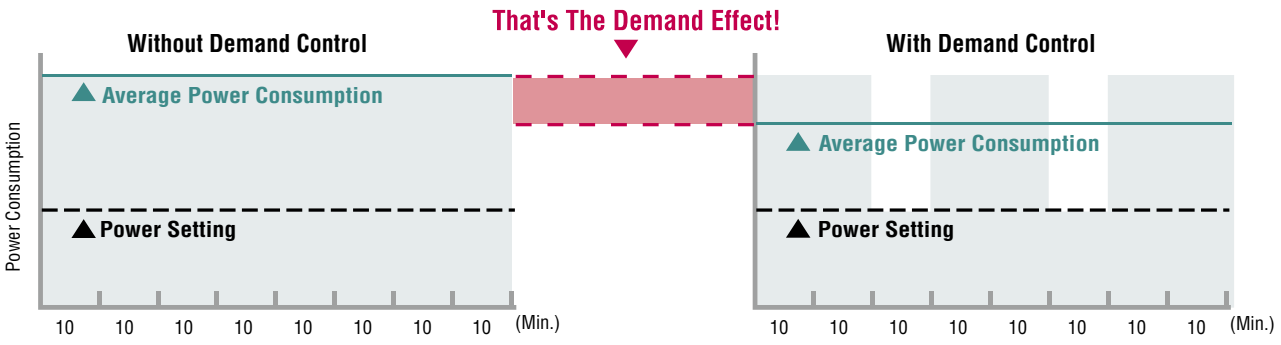
Self-demand Control

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.



Wave Mode

Wave mode turns demand control ON and OFF alternately at intervals of about 20 min or 10 min.
While power is always saved, temperature changes are also minimized to maintain a comfortable room temperature.

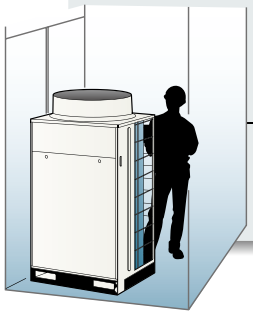


Flexibility of Installation

Compact and Light Design

Transportation and Handling using Elevator

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

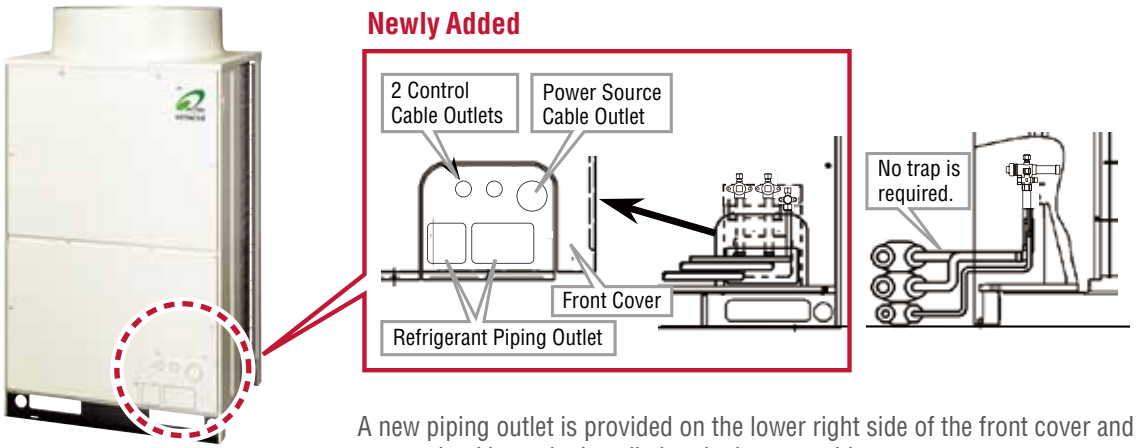


Even the Largest Basic Unit (16HP Model) Can Be Carried in an Elevator

Elevator
Door Opening: 800 mm
Depth: 1350 mm

Improvement of Workability

The piping connection work is newly available from the refrigerant piping outlet (right bottom side of the front cover) in addition to three directions (front, rear or bottom) from the bottom base.

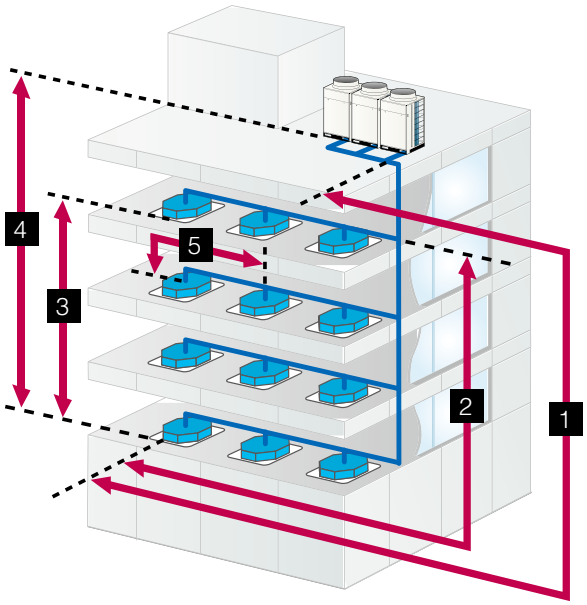


A new piping outlet is provided on the lower right side of the front cover and so the piping connection kit can be installed at the lower position.
This makes an easy and clear installation of the piping from multiple outdoor units possible.

More Flexible Refrigerant Piping Work

Improved flexibility of design by increasing the total pipe length to 1,000 m max.

	Heat Pump System	Heat Recovery System
1 Max. piping length	165 m*1	165 m*1
2 Between first branch and indoor unit	90m or less*2	90m or less*2
3 Height difference between highest and lowest indoor units	30m or less	15m or less
4 Height difference between outdoor and indoor units	50m*3	50m*3
Sales on order	90m or less*2*4	—
5 Max. length between branch from indoor units	40m	40m



*1: For 100m or more, the pipe diameter will be one size larger.
*2: There're restrictions for connectable indoor units and refrigerant amount.
Please refer to technical manual for details.
*3: 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.
*4: In case the outdoor unit is installed at a higher level than indoor units, and only when it is a base unit.

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%

Outdoor units Capacity (HP)		5	6	8	10	12	14	16	18	20	22	24	26	28
Max. Number of Connectable Indoor Units	FSXN1 Series	–	–	13	16	19	23	26	26	33	36	40	43	47
	FSXNH Series	8	9	13	16	19	23	26	26	33	36	40	43	47

Outdoor units Capacity (HP)		30	32	34	36	38	40	42	44	46	48	50	52	54
Max. Number of Connectable Indoor Units	FSXN1 Series	50	53	56	59	64	64	64	64	64	64	64	64	64
	FSXNH Series	50	53	56	59	–	–	–	–	–	–	–	–	–

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.

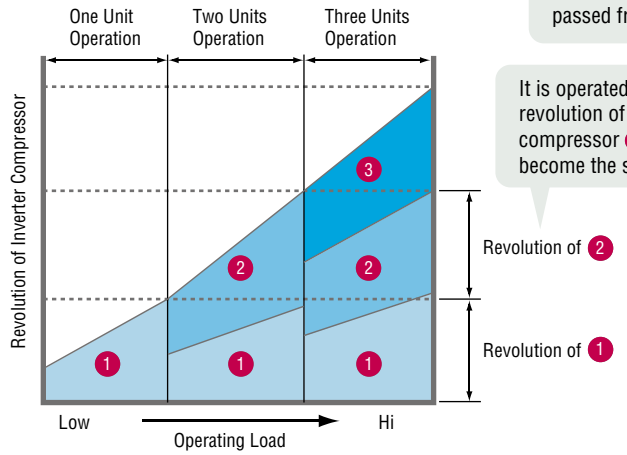
*: Compared to indoor units of over 1.5HP, indoor units of 0.8 and 1.0HP are set with higher air flow. Make sure to select appropriate indoor units when installing indoor units where cold draft may occur during heating operation. Determine the usage environment and installation location carefully.

Other Advanced Technologies

Rotational Operation*1 to Distribute Load of Outdoor Units

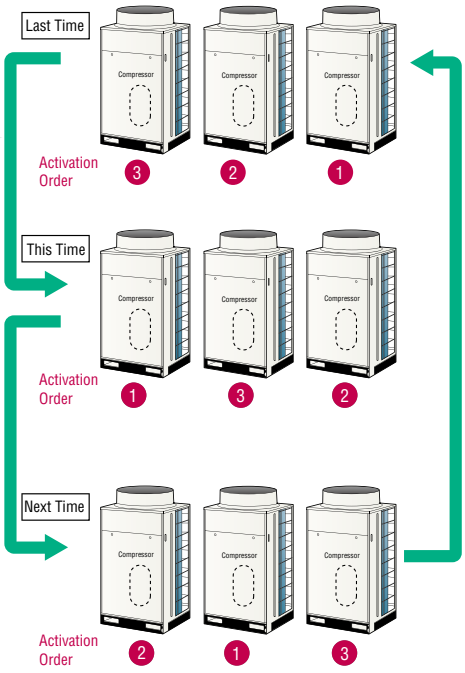
Regulating the operation time of each outdoor unit leads to load reduction on compressors.*2 During multiple unit operation, the same rotation frequency of inverter compressor results in an equivalent load on each compressor. Therefore, outdoor unit endurance is improved.

Inverter Compressor Rotation Frequency Control (Example)



At the time of compressor start-up, or when 2 hours has passed from start of operation.

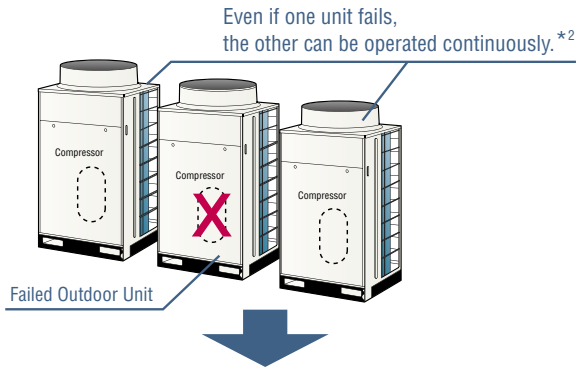
It is operated so that the revolution of the inverter compressor 1 and 2 may become the same.



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.

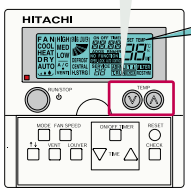
Backup Operation Function for Emergency

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

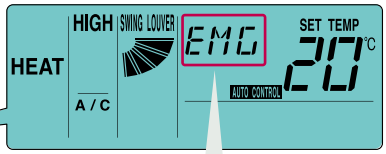


NOTES
*1: At least 2 outdoor units are required for this function.
*2: Emergency operation can be performed within 8 hours after unit stoppage. After 8 hours pass from unit stoppage, emergency operation can not be performed.
*3: Emergency operation can be performed when the specified alarm code occurs.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

Press " TEMP.∨∧ " simultaneously for 3 seconds.



Emergency Operation Indication



[EMG] is displayed on the LCD of the remote control switch, and emergency operation starts.

Noise Reduction Preference Mode (Optional Function)

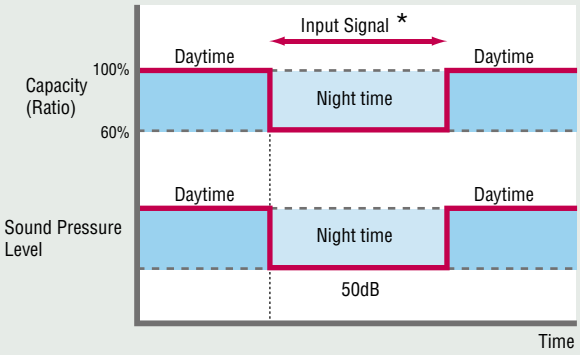
With the new Noise Reduction Preference Mode, the sound pressure level for a particular time zone can be set based upon the usage environment. *1 Therefore, the operation/management of air conditioners is facilitated in areas where the noise level at night time is restricted by laws and regulations.

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)
11	**Setting 1**	**55** *2
12	**Setting 2**	**50**
13	**Setting 3**	**45**

NOTES
*1: The range of performance and operation is restricted, because the rotation frequency of the compressor and outdoor fan is forcibly decreased.
*2: For 5 HP and 6 HP, the sound pressure level is 52 dB.

Setting Example
Low-Sound Operation during Night Time only by Using Timer



*: Perform the electrical wiring work on site when setting input signal.

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.

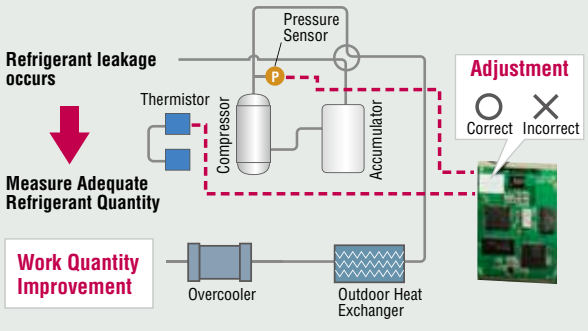
Factor for Judgement

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).

Refrigerant Cycle Configuration [Schematic diagram]



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 Standard Type

Model			RAS-8FSXN1	RAS-10FSXN1	RAS-12FSXN1	RAS-14FSXN1	RAS-16FSXN1	RAS-18FSXN1
Combination of Base Unit			–	–	–	–	–	8FSXN1
			–	–	–	–	–	10FSXN1
Power Supply			AC 3ϕ, 380-415V/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
EER [Cooling COP]		-	4.12	3.98	3.16	3.30	3.24	4.04
COP [Heating COP]		-	4.08	4.07	3.79	3.62	3.12	4.08
Cabinet Color (Munsell Code)		-	Natural Gray (1.0Y 8.5/0.5)					
Sound Pressure Level		-	Maximum					
[Overall A Scale] (Night-Shift)		dB	58 (53)	58 (53)	60 (55)	62 (57)	64 (57)	61 (56)
Outer Dimensions	H x W x D	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 1,920 x 765
Net Weight	380-415V/ 50Hz, 380V/ 60Hz	kg	215	230	230	310	310	215+230
	220V/ 60Hz	kg	210	225	225	305	305	210+225
Gross Weight	380-415V/ 50Hz, 380V/ 60Hz	kg	230	245	245	325	325	230+245
	220V/ 60Hz	kg	225	240	240	320	320	225+240
Refrigerant (Flow Control)			R410A (Micro-Computer Control Expansion Valve)					
Compressor (Scroll)	Quantity		1	1	1	1+1	1+1	1+1
	Motor Output (Pole)	kW	4.8 (6)	6.0 (6)	7.2 (6)	4.8 (6)+4.4 (2)	6.0 (6)+4.4 (2)	4.8 (6)+6.0 (6)
Condenser Fan (Propeller Fan)	Quantity		1	1	1	1	1	2
	Air Flow Rate	m³/min.	155	170	175	195	210	155+170
	Motor Output (Pole)	kW	0.33 (8)	0.44 (8)	0.49 (8)	0.66 (8)	0.91 (8)	0.33 (8)+0.44 (8)
Main Refrigerant Piping								
Heat Pump System (2 pipes)								
Liquid Line		mm [in.]	ϕ9.52 [3/8]*	ϕ9.52 [3/8]*	ϕ12.7 [1/2]*	ϕ12.7 [1/2]*	ϕ12.7 [1/2]*	ϕ15.88 [5/8]*
Gas Line	High / Low Pressure	mm [in.]	ϕ19.05 [3/4]*	ϕ22.2 [7/8]*	ϕ25.4 [1]*	ϕ25.4 [1]*	ϕ28.58 [1-1/8]*	ϕ28.58 [1-1/8]*
Main Refrigerant Piping								
Heat Recovery System (3 pipes)								
Liquid Line		mm [in.]	ϕ9.52 [3/8]*	ϕ9.52 [3/8]*	ϕ12.7 [1/2]*	ϕ12.7 [1/2]*	ϕ12.7 [1/2]*	ϕ15.88 [5/8]*
Gas Line	Low Pressure	mm [in.]	ϕ19.05 [3/4]*	ϕ22.2 [7/8]*	ϕ25.4 [1]*	ϕ25.4 [1]*	ϕ28.58 [1-1/8]*	ϕ28.58 [1-1/8]*
Gas Line	High / Low Pressure	mm [in.]	ϕ15.88 [5/8]*	ϕ19.05 [3/4]*	ϕ22.2 [7/8]*	ϕ22.2 [7/8]*	ϕ22.2 [7/8]*	ϕ22.2 [7/8]*
Refrigerant Charge		kg	5.4	6.4	7.3	8.5	9.5	11.8
Packing Dimensions	H x W x D	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	–
Approx. Packing Measurement		m³	1.52	1.52	1.52	1.92	1.92	–

Model			RAS-20FSXN1	RAS-22FSXN1	RAS-24FSXN1	RAS-26FSXN1	RAS-28FSXN1	RAS-30FSXN1
Combination of Base Unit			8FSXN1	8FSXN1	10FSXN1	12FSXN1	14FSXN1	14FSXN1
			12FSXN1	14FSXN1	14FSXN1	14FSXN1	14FSXN1	16FSXN1
Power Supply			AC 3ϕ, 380-415V/50Hz, 380V/60Hz, 220V/60Hz					
Nominal Cooling Capacity		kW	56.0	61.5	69.0	73.0	80.0	85.0
Nominal Heating Capacity		kW	63.0	69.0	77.5	82.5	90.0	95.0
EER [Cooling COP]		-	3.48	3.58	3.52	3.25	3.30	3.27
COP [Heating COP]		-	3.90	3.80	3.77	3.69	3.62	3.34
Cabinet Color (Munsell Code)		-	Natural Gray (1.0Y 8.5/0.5)					
Sound Pressure Level		-	Maximum					
[Overall A Scale] (Night-Shift)		dB	63 (58)	64 (59)	64 (59)	65 (60)	65 (60)	66 (61)
Outer Dimensions	H x W x D	mm	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	380-415V/ 50Hz, 380V/ 60Hz	kg	215+230	215+310	230+310	230+310	310+310	310+310
	220V/ 60Hz	kg	210+225	210+305	225+305	225+305	305+305	305+305
Gross Weight	380-415V/ 50Hz, 380V/ 60Hz	kg	230+245	230+325	245+325	245+325	325+325	325+325
	220V/ 60Hz	kg	225+240	225+320	240+320	240+320	320+320	320+320
Refrigerant (Flow Control)			R410A (Micro-Computer Control Expansion Valve)					
Compressor (Scroll)	Quantity		1+1	1+1+1	1+1+1	1+1+1	1+1+1+1	1+1+1+1
	Motor Output (Pole)	kW	4.8 (6)+7.2 (6)	4.8 (6)+4.8 (6)+ 4.4 (2)+	6.0 (6)+4.8 (6)+ 4.4 (2)+	7.2 (6)+4.8 (6)+ 4.4 (2)	4.8 (6)+4.4 (2)+ 4.8 (6)+4.4 (2)	4.8 (6)+4.4 (2)+ 6.0 (6)+4.4 (2)
Condenser Fan (Propeller Fan)	Quantity		2	2	2	2	2	2
	Air Flow Rate	m³/min.	155+175	155+195	170+195	175+195	195+195	195+210
	Motor Output (Pole)	kW	0.33 (8)+0.49 (8)	0.33 (8)+0.66 (8)	0.44 (8)+0.66 (8)	0.49 (8)+0.66 (8)	0.66 (8)+0.66 (8)	0.66 (8)+0.91 (8)
Main Refrigerant Piping								
Heat Pump System (2 pipes)								
Liquid Line		mm [in.]	ϕ15.88 [5/8]*	ϕ15.88 [5/8]*	ϕ15.88 [5/8]*	ϕ19.05 [3/4]*	ϕ19.05 [3/4]*	ϕ19.05 [3/4]*
Gas Line	High / Low Pressure	mm [in.]	ϕ28.58 [1-1/8]*	ϕ28.58 [1-1/8]*	ϕ28.58 [1-1/8]*	ϕ31.75 [1-1/4]*	ϕ31.75 [1-1/4]*	ϕ31.75 [1-1/4]*
Main Refrigerant Piping								
Heat Recovery System (3 pipes)								
Liquid Line		mm [in.]	ϕ15.88 [5/8]*	ϕ15.88 [5/8]*	ϕ15.88 [5/8]*	ϕ19.05 [3/4]*	ϕ19.05 [3/4]*	ϕ19.05 [3/4]*
Gas Line	Low Pressure	mm [in.]	ϕ28.58 [1-1/8]	ϕ28.58 [1-1/8]	ϕ28.58 [1-1/8]	ϕ31.75 [1-1/4]	ϕ31.75 [1-1/4]	ϕ31.75 [1-1/4]
Gas Line	High / Low Pressure	mm [in.]	ϕ22.2 [7/8]	ϕ25.4 [1]	ϕ25.4 [1]	ϕ25.4 [1]	ϕ28.58 [1-1/8]	ϕ28.58 [1-1/8]
Refrigerant Charge		kg	12.7	13.9	14.9	15.8	17.0	18.0

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)
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 Mete

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.

Model			RAS-32FSXN1	RAS-34FSXN1	RAS-36FSXN1	RAS-38FSXN1	RAS-40FSXN1	RAS-42FSXN1
Combination of Base Unit			16FSXN1 16FSXN1	10FSXN1, 12FSXN1 12FSXN1	12FSXN1, 12FSXN1 12FSXN1	12FSXN1, 12FSXN1 14FSXN1	12FSXN1, 12FSXN1 16FSXN1	12FSXN1, 14FSXN1 16FSXN1
Power Supply			AC 3 ϕ, 380-415V/50Hz, 380V/60Hz, 220V/60Hz					
Nominal Cooling Capacity		kW	90.0	95.0	100.0	109.0	112.0	118.0
Nominal Heating Capacity		kW	100.0	106.0	112.0	118.0	125.0	132.0
EER [Cooling COP]		-	3.24	3.36	3.17	3.16	3.19	3.25
COP [Heating COP]		-	3.12	3.88	3.81	3.78	3.49	3.47
Cabinet Color (Munsell Code)		-	Natural Gray (1.0Y 8.5/0.5)					
Sound Pressure Level		-	Maximum					
[Overall A Scale] (Night-Shift)		dB	66 (61)	65 (60)	65 (60)	66 (61)	67 (61)	67 (62)
Outer Dimensions H x W x D		mm	1,720 x 2,440 x 765	1,720 x 2,890 x 765	1,720 x 2,890 x 765	1,720 x 3,150 x 765	1,720 x 3,150 x 765	1,720 x 3,410 x 765
Net Weight	380-415V/ 50Hz, 380V/ 60Hz	kg	310+310	230+230+230	230+230+230	230+230+310	230+230+310	230+310+310
	220V/ 60Hz	kg	305+305	225+225+225	225+225+225	225+225+305	225+225+305	225+305+305
Gross Weight	380-415V/ 50Hz, 380V/ 60Hz	kg	325+325	245+245+245	245+245+245	245+245+325	245+245+325	245+325+325
	220V/ 60Hz	kg	320+320	240+240+240	240+240+240	240+240+320	240+240+320	240+320+320
Refrigerant (Flow Control)			R410A (Micro-Computer Control Expansion Valve)					
Compressor (Scroll)	Quantity		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)	kW	6.0 (6)+4.4 (2)+ 6.0 (6)+4.4 (2)	6.0 (6)+7.2 (6)+ 7.2 (6)	7.2 (6)+7.2 (6)+ 7.2 (6)	7.2 (6)+7.2 (6)+ 4.8 (6)+4.4 (2)	7.2 (6)+7.2 (6)+ 6.0 (6)+4.4 (2)	7.2 (6)+4.8 (6)+4.4 (2) +6.0 (6)+4.4 (2)
Condenser Fan (Propeller Fan)	Quantity		2	3	3	3	3	3
	Air Flow Rate	m^3/min.	210+210	175+175+175	175+175+175	175+175+195	175+175+210	175+195+210
	Motor Output (Pole)	kW	0.91 (8)+0.91 (8)	0.44 (8)+0.49 (8)+ 0.49 (8)	0.49 (8)+0.49 (8)+ 0.49 (8)	0.49 (8)+0.49 (8)+ 0.66 (8)	0.49 (8)+0.49 (8)+ 0.91 (8)	0.49 (8)+0.66 (8)+ 0.91 (8)
Main Refrigerant Piping Heat Pump System (2 pipes)								
Liquid Line		mm [in.]	ϕ19.05 [3/4]*	ϕ19.05 [3/4]*	ϕ19.05 [3/4]*	ϕ19.05 [3/4]*	ϕ19.05 [3/4]*	ϕ19.05 [3/4]*
Gas Line High / Low Pressure		mm [in.]	ϕ31.75 [1-1/4]*	ϕ31.75 [1-1/4]*	ϕ38.1 [1-1/2]*	ϕ38.1 [1-1/2]*	ϕ38.1 [1-1/2]*	ϕ38.1 [1-1/2]*
Main Refrigerant Piping Heat Recovery System (3 pipes)								
Liquid Line		mm [in.]	ϕ19.05 [3/4]*	ϕ19.05 [3/4]*	ϕ19.05 [3/4]*	ϕ19.05 [3/4]*	ϕ19.05 [3/4]*	ϕ19.05 [3/4]*
Gas Line Low Pressure		mm [in.]	ϕ31.75 [1-1/4]*	ϕ31.75 [1-1/4]*	ϕ38.1 [1-1/2]*	ϕ38.1 [1-1/2]*	ϕ38.1 [1-1/2]*	ϕ38.1 [1-1/2]*
Gas Line High / Low Pressure		mm [in.]	ϕ28.58 [1-1/8]*	ϕ28.58 [1-1/8]*	ϕ28.58 [1-1/8]*	ϕ31.75 [1-1/4]*	ϕ31.75 [1-1/4]*	ϕ31.75 [1-1/4]*
Refrigerant Charge		kg	19.0	21.0	21.9	23.1	24.1	25.3

Model			RAS-44FSXN1	RAS-46FSXN1	RAS-48FSXN1	RAS-50FSXN1	RAS-52FSXN1	RAS-54FSXN1
Combination of Base Unit			12FSXN1, 16FSXN1 16FSXN1	14FSXN1, 16FSXN1 16FSXN1	16FSXN1, 16FSXN1 16FSXN1	10FSXN1, 12FSXN1 14FSXN1, 14FSXN1	12FSXN1, 12FSXN1 14FSXN1, 14FSXN1	12FSXN1, 12FSXN1 14FSXN1, 16FSXN1
Power Supply			AC 3 ϕ, 380-415V/50Hz, 380V/60Hz, 220V/60Hz					
Nominal Cooling Capacity		kW	125.0	132.0	136.0	140.0	145.0	150.0
Nominal Heating Capacity		kW	140.0	145.0	150.0	155.0	160.0	165.0
EER [Cooling COP]		-	3.19	3.22	3.23	3.41	3.27	3.26
COP [Heating COP]		-	3.23	3.26	3.12	3.81	3.78	3.61
Cabinet Color (Munsell Code)		-	Natural Gray (1.0Y 8.5/0.5)					
Sound Pressure Level		-	Maximum					
[Overall A Scale] (Night-Shift)		dB	68 (62)	68 (63)	69 (63)	67 (62)	68 (63)	68 (63)
Outer Dimensions H x W x D		mm	1,720 x 3,410 x 765	1,720 x 3,670 x 765	1,720 x 3,670 x 765	1,720 x 4,380 x 765	1,720 x 4,380 x 765	1,720 x 4,380 x 765
Net Weight	380-415V/ 50Hz, 380V/ 60Hz	kg	230+310+310	310+310+310	310+310+310	230+230+310+310	230+230+310+310	230+230+310+310
	220V/ 60Hz	kg	225+305+305	305+305+305	305+305+305	225+225+305+305	225+225+305+305	225+225+305+305
Gross Weight	380-415V/ 50Hz, 380V/ 60Hz	kg	245+325+325	325+325+325	325+325+325	245+245+325+325	245+245+325+325	245+245+325+325
	220V/ 60Hz	kg	240+320+320	320+320+320	320+320+320	240+240+320+320	240+240+320+320	240+240+320+320
Refrigerant (Flow Control)			R410A (Micro-Computer Control Expansion Valve)					
Compressor (Scroll)	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
	Motor Output (Pole)	kW	7.2 (6)+6.0 (6)+4.4 (2) +6.0 (6)+4.4 (2)	4.8 (6)+4.4 (2)+6.0 (6)+ 4.4 (2)+6.0 (6)+4.4 (2)	6.0 (6)+4.4 (2)+6.0 (6)+ 4.4 (2)+6.0 (6)+4.4 (2)	6.0 (6)+7.2 (6)+4.8 (6)+ 4.4 (2)+4.8 (6)+4.4 (2)	7.2 (6)+7.2 (6)+4.8 (6)+ 4.4 (2)+4.8 (6)+4.4 (2)	7.2 (6)+7.2 (6)+4.8 (6)+ 4.4 (2)+6.0 (6)+4.4 (2)
Condenser Fan (Propeller Fan)	Quantity		3	3	3	4	4	4
	Air Flow Rate	m^3/min.	175+210+210	195+210+210	210+210+210	170+175+195+195	175+175+195+195	175+175+195+210
	Motor Output (Pole)	kW	0.49 (8)+0.91 (8)+ 0.91 (8)	0.66 (8)+0.91 (8)+ 0.91 (8)	0.91 (8)+0.91 (8)+ 0.91 (8)	0.44 (8)+0.49 (8)+ 0.66 (8)+0.66 (8)	0.49 (8)+0.49 (8)+ 0.66 (8)+0.66 (8)	0.49 (8)+0.49 (8)+ 0.66 (8)+0.91 (8)
Main Refrigerant Piping Heat Pump System (2 pipes)								
Liquid Line		mm [in.]	ϕ19.05 [3/4]*	ϕ19.05 [3/4]*	ϕ19.05 [3/4]*	ϕ19.05 [3/4]*	ϕ19.05 [3/4]*	ϕ19.05 [3/4]*
Gas Line High / Low Pressure		mm [in.]	ϕ38.1 [1-1/2]*	ϕ38.1 [1-1/2]*	ϕ38.1 [1-1/2]*	ϕ38.1 [1-1/2]*	ϕ38.1 [1-1/2]*	ϕ38.1 [1-1/2]*
Main Refrigerant Piping Heat Recovery System (3 pipes)								
Liquid Line		mm [in.]	ϕ19.05 [3/4]*	ϕ19.05 [3/4]*	ϕ19.05 [3/4]*	ϕ19.05 [3/4]*	ϕ19.05 [3/4]*	ϕ19.05 [3/4]*
Gas Line Low Pressure		mm [in.]	ϕ38.1 [1-1/2]*	ϕ38.1 [1-1/2]*	ϕ38.1 [1-1/2]*	ϕ38.1 [1-1/2]*	ϕ38.1 [1-1/2]*	ϕ38.1 [1-1/2]*
Gas Line High / Low Pressure		mm [in.]	ϕ31.75 [1-1/4]*	ϕ31.75 [1-1/4]*	ϕ31.75 [1-1/4]*	ϕ31.75 [1-1/4]*	ϕ31.75 [1-1/4]*	ϕ31.75 [1-1/4]*
Refrigerant Charge		kg	26.3	27.5	28.5	30.7	31.6	32.6

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 (18~54HP), 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 High Efficiency Type

Model			RAS-5FSXNH	RAS-6FSXNH	RAS-8FSXNH	RAS-10FSXNH	RAS-12FSXNH	RAS-14FSXNH
Combination of Base Unit			–	–	–	–	–	6FSXNH
			–	–	–	–	–	8FSXNH
Power Supply			AC 3ϕ, 380-415V/50Hz, 380V/60Hz, 220V/60Hz					
Nominal Cooling Capacity		kW	14.0	16.0	22.4	28.0	33.5	40.0
Nominal Heating Capacity		kW	16.0	18.0	25.0	31.5	37.5	45.0
EER [Cooling COP]		-	4.49	4.56	4.66	4.34	3.93	4.58
COP [Heating COP]		-	4.80	4.58	4.67	4.67	4.11	4.59
Cabinet Color (Munsell Code)		-	Natural Gray (1.0Y 8.5/0.5)					
Sound Pressure Level		-	Maximum					
[Overall A Scale] (Night-Shift)		dB	55 (52)	56 (52)	58 (53)	59 (54)	61 (56)	61 (56)
Outer Dimensions	H x W x D	mm	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 2,160 x 765
Net Weight	380-415V/ 50Hz, 380V/ 60Hz	kg	215	215	260	260	260	215+260
	220V/ 60Hz	kg	210	210	255	255	255	210+255
Gross Weight	380-415V/ 50Hz, 380V/ 60Hz	kg	230	230	275	275	275	230+275
	220V/ 60Hz	kg	225	225	270	270	270	225+270
Refrigerant (Flow Control)			R410A (Micro-Computer Control Expansion Valve)					
Compressor (Scroll)	Quantity		1	1	1	1	1	1+1
	Motor Output (Pole)	kW	3.0 (6)	3.6 (6)	4.8 (6)	6.0 (6)	7.2 (6)	3.6 (6)+4.8 (6)
Condenser Fan (Propeller Fan)	Quantity		1	1	1	1	1	2
	Air Flow Rate	m³/min.	140	155	160	175	195	155+160
	Motor Output (Pole)	kW	0.30 (8)	0.33 (8)	0.40 (8)	0.52 (8)	0.66 (8)	0.33 (8)+0.40 (8)
Main Refrigerant Piping								
Heat Pump System (2 pipes)								
Liquid Line		mm [in.]	ϕ9.52 [3/8]*	ϕ9.52 [3/8]*	ϕ9.52 [3/8]*	ϕ9.52 [3/8]*	ϕ12.7 [1/2]*	ϕ12.7 [1/2]*
Gas Line	High / Low Pressure	mm [in.]	ϕ15.88 [5/8]*	ϕ19.05 [3/4]*	ϕ19.05 [3/4]*	ϕ22.2 [7/8]*	ϕ25.4 [1]*	ϕ25.4 [1]*
Main Refrigerant Piping								
Heat Recovery System (3 pipes)								
Liquid Line		mm [in.]	ϕ9.52 [3/8]*	ϕ9.52 [3/8]*	ϕ9.52 [3/8]*	ϕ9.52 [3/8]*	ϕ12.7 [1/2]*	ϕ12.7 [1/2]*
Gas Line	Low Pressure	mm [in.]	ϕ15.88 [5/8]*	ϕ19.05 [3/4]*	ϕ19.05 [3/4]*	ϕ22.2 [7/8]*	ϕ25.4 [1]*	ϕ25.4 [1]*
Gas Line	High / Low Pressure	mm [in.]	ϕ12.7 [1/2]*	ϕ15.88 [5/8]*	ϕ15.88 [5/8]*	ϕ19.05 [3/4]*	ϕ22.2 [7/8]*	ϕ22.2 [7/8]*
Refrigerant Charge		kg	5.6	5.6	7.7	7.7	8.3	13.3
Packing Dimensions	H x W x D	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	–
Approx. Packing Measurement		m³	1.52	1.52	1.52	1.92	1.92	–

Model			RAS-16FSXNH	RAS-18FSXNH	RAS-20FSXNH	RAS-22FSXNH	RAS-24FSXNH	RAS-26FSXNH
Combination of Base Unit			8FSXNH	8FSXNH	8FSXNH	10FSXNH	12FSXNH	8FSXNH, 8FSXNH
			8FSXNH	10FSXNH	12FSXNH	12FSXNH	12FSXNH	10FSXNH
Power Supply			AC 3ϕ, 380-415V/50Hz, 380V/60Hz, 220V/60Hz					
Nominal Cooling Capacity		kW	45.0	50.0	56.0	61.5	69.0	73.0
Nominal Heating Capacity		kW	50.0	56.0	63.0	69.0	77.5	82.5
EER [Cooling COP]		-	4.65	4.48	4.19	4.11	3.91	4.53
COP [Heating COP]		-	4.67	4.68	4.31	4.35	4.09	4.66
Cabinet Color (Munsell Code)		-	Natural Gray (1.0Y 8.5/0.5)					
Sound Pressure Level		-	Maximum					
[Overall A Scale] (Night-Shift)		dB	61 (56)	62 (57)	63 (58)	64 (59)	64 (59)	64 (59)
Outer Dimensions	H x W x D	mm	1,720 x 2,420 x 765	1,720 x 2,420 x 765	1,720 x 2,420 x 765	1,720 x 2,420 x 765	1,720 x 2,420 x 765	1,720 x 3,630 x 765
Net Weight	380-415V/ 50Hz, 380V/ 60Hz	kg	260+260	260+260	260+260	260+260	260+260	260+260+260
	220V/ 60Hz	kg	255+255	255+255	255+255	255+255	255+255	255+255+255
Gross Weight	380-415V/ 50Hz, 380V/ 60Hz	kg	275+275	275+275	275+275	275+275	275+275	275+275+275
	220V/ 60Hz	kg	270+270	270+270	270+270	270+270	270+270	270+270+270
Refrigerant (Flow Control)			R410A (Micro-Computer Control Expansion Valve)					
Compressor (Scroll)	Quantity		1+1	1+1	1+1	1+1	1+1	1+1+1
	Motor Output (Pole)	kW	4.8 (6)+4.8 (6)	4.8 (6)+6.0 (6)	4.8 (6)+7.2 (6)	6.0 (6)+7.2 (6)	7.2 (6)+7.2 (6)	4.8 (6)+4.8 (6)+ 0.52 (8)
Condenser Fan (Propeller Fan)	Quantity		2	2	2	2	2	3
	Air Flow Rate	m³/min.	160+160	160+175	160+195	175+195	195+195	160+160+175
	Motor Output (Pole)	kW	0.40 (8)+0.40 (8)	0.40 (8)+0.52 (8)	0.40 (8)+0.66 (8)	0.52 (8)+0.66 (8)	0.66 (8)+0.66 (8)	0.40 (8)+0.40 (8)+ 0.52 (8)
Main Refrigerant Piping								
Heat Pump System (2 pipes)								
Liquid Line		mm [in.]	ϕ12.7 [1/2]*	ϕ15.88 [5/8]*	ϕ15.88 [5/8]*	ϕ15.88 [5/8]*	ϕ15.88 [5/8]*	ϕ19.05 [3/4]*
Gas Line	High / Low Pressure	mm [in.]	ϕ28.58 [1-1/8]*	ϕ28.58 [1-1/8]*	ϕ28.58 [1-1/8]*	ϕ28.58 [1-1/8]*	ϕ28.58 [1-1/8]*	ϕ31.75 [1-1/4]*
Main Refrigerant Piping								
Heat Recovery System (3 pipes)								
Liquid Line		mm [in.]	ϕ12.7 [1/2]*	ϕ15.88 [5/8]*	ϕ15.88 [5/8]*	ϕ15.88 [5/8]*	ϕ15.88 [5/8]*	ϕ19.05 [3/4]*
Gas Line	Low Pressure	mm [in.]	ϕ28.58 [1-1/8]*	ϕ28.58 [1-1/8]*	ϕ28.58 [1-1/8]*	ϕ28.58 [1-1/8]*	ϕ28.58 [1-1/8]*	ϕ31.75 [1-1/4]*
Gas Line	High / Low Pressure	mm [in.]	ϕ22.2 [7/8]*	ϕ22.2 [7/8]*	ϕ22.2 [7/8]*	ϕ25.4 [1]*	ϕ25.4 [1]*	ϕ25.4 [1]*
Refrigerant Charge		kg	15.4	15.4	16.0	16.0	16.6	23.0

Model			RAS-28FSXNH	RAS-30FSXNH	RAS-32FSXNH	RAS-34FSXNH	RAS-36FSXNH
Combination of Base Unit			8FSXNH, 8FSXNH 12FSXNH	8FSXNH, 10FSXNH 12FSXNH	8FSXNH, 12FSXNH 12FSXNH	10FSXNH, 12FSXNH 12FSXNH	12FSXNH, 12FSXNH 12FSXNH
Power Supply			AC 3ϕ, 380-415V/50Hz, 380V/60Hz, 220V/60Hz				
Nominal Cooling Capacity		kW	80.0	85.0	90.0	95.0	100.0
Nominal Heating Capacity		kW	90.0	95.0	100.0	106.0	112.0
EER [Cooling COP]		-	4.30	4.24	4.09	4.05	3.93
COP [Heating COP]		-	4.39	4.42	4.24	4.27	4.11
Cabinet Color (Munsell Code)		-	Natural Gray (1.0Y 8.5/0.5)				
Sound Pressure Level		-	Maximum				
[Overall A Scale] (Night-Shift)		dB	64 (59)	65 (60)	65 (60)	66 (61)	66 (61)
Outer Dimensions	H x W x D	mm	1,720 x 3,630 x 765	1,720 x 3,630 x 765	1,720 x 3,630 x 765	1,720 x 3,630 x 765	1,720 x 3,630 x 765
Net Weight	380-415V/ 50Hz, 380V/ 60Hz	kg	260+260+260	260+260+260	260+260+260	260+260+260	260+260+260
	220V/ 60Hz	kg	255+255+255	255+255+255	255+255+255	255+255+255	255+255+255
Gross Weight	380-415V/ 50Hz, 380V/ 60Hz	kg	275+275+275	275+275+275	275+275+275	275+275+275	275+275+275
	220V/ 60Hz	kg	270+270+270	270+270+270	270+270+270	270+270+270	270+270+270
Refrigerant (Flow Control)			R410A (Micro-Computer Control Expansion Valve)				
Compressor (Scroll)	Quantity		1+1+1	1+1+1	1+1+1	1+1+1	1+1+1
	Motor Output (Pole)	kW	4.8 (6)+4.8 (6)+ 7.2 (6)	4.8 (6)+6.0 (6)+ 7.2 (6)	4.8 (6)+7.2 (6)+ 7.2 (6)	6.0 (6)+7.2 (6)+ 7.2 (6)	7.2 (6)+7.2 (6)+ 7.2 (6)
Condenser Fan (Propeller Fan)	Quantity		3	3	3	3	3
	Air Flow Rate	m^3/min.	160+160+195	160+175+195	160+195+195	175+195+195	195+195+195
	Motor Output (Pole)	kW	0.40 (8)+0.40 (8)+ 0.66 (8)	0.40 (8)+0.52 (8)+ 0.66 (8)	0.40 (8)+0.66 (8)+ 0.66 (8)	0.52 (8)+0.66 (8)+ 0.66 (8)	0.66 (8)+0.66 (8)+ 0.66 (8)
Main Refrigerant Piping							
Heat Pump System (2 pipes)							
Liquid Line		mm [in.]	ϕ19.05 [3/4]*	ϕ19.05 [3/4]*	ϕ19.05 [3/4]*	ϕ19.05 [3/4]*	ϕ19.05 [3/4]*
Gas Line	High / Low Pressure	mm [in.]	ϕ31.75 [1-1/4]*	ϕ31.75 [1-1/4]*	ϕ31.75 [1-1/4]*	ϕ31.75 [1-1/4]*	ϕ38.1 [1-1/2]*
Main Refrigerant Piping							
Heat Recovery System (3 pipes)							
Liquid Line		mm [in.]	ϕ19.05 [3/4]*	ϕ19.05 [3/4]*	ϕ19.05 [3/4]*	ϕ19.05 [3/4]*	ϕ19.05 [3/4]*
Gas Line	Low Pressure	mm [in.]	ϕ31.75 [1-1/4]*	ϕ31.75 [1-1/4]*	ϕ31.75 [1-1/4]*	ϕ31.75 [1-1/4]*	ϕ38.1 [1-1/2]*
Gas Line	High / Low Pressure	mm [in.]	ϕ28.58 [1-1/8]*	ϕ28.58 [1-1/8]*	ϕ28.58 [1-1/8]*	ϕ28.58 [1-1/8]*	ϕ28.58 [1-1/8]*
Refrigerant Charge		kg	23.7	23.7	24.3	24.3	24.9

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)
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

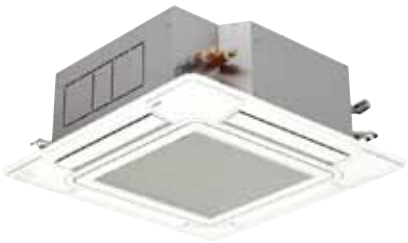
Indoor Air Inlet Temperature: 20°C DB (68°F DB)
Outdoor Air Inlet Temperature: 7°C DB (45°F DB)
6°C WB (43°F WB)

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 (14~36HP), 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.

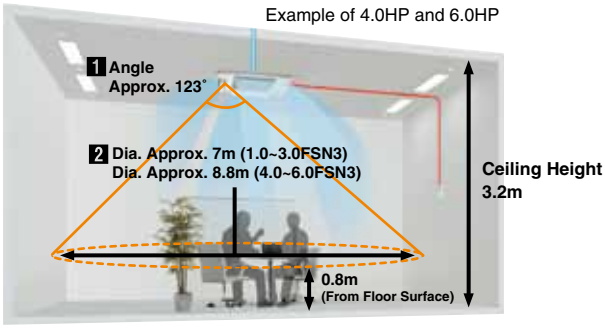


NEW

Indoor Units

4-Way Cassette Type

Detecting Area



In the case of the ceiling height is 3.2m.

Motion Sensor Control (Option)

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 can maintain 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 people stay motion less is few such as stretching on a chair, etc.

Adopting New Structured Silky Flow Louver

The newly-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.

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
Indoor Unit Power Supply		AC 1φ, 220-240V / 50Hz, 220V / 60Hz							
Nominal Cooling Capacity *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	14.5 12,500 49,600	16.5 14,200 56,300
Nominal Cooling Capacity *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	14.0 12,000 47,800	16.0 13,800 54,600
Nominal Heating Capacity	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	16.0 13,800 54,600	18.0 15,500 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
Dimensions H x W x D	mm	248 x 840 x 840				298 x 840 x 840			
Net Weight	kg	20	21		22	26			
Refrigerant		R410A							
Air Flow Rate Hi2/Hi/Me/Lo	m³/min. (cfm)	15/13/11/9 (530/459/388/318)	21/17/14/11 (741/600/494/388)	21/17/14/11 (777/600/494/388)	27/23/18/14 (953/812/635/494)	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)
Motor	W	57					127		
Connections Liquid / Gas	mm	φ6.35 /φ12.7		φ6.35 /φ15.88	φ9.52 /φ15.88				
		Flare-Nut Connection (With Flare Nuts)							
Condensate Drain		VP25							
Approximate Packing Measurement	m³	0.21				0.25			
Adaptable Panel Model		**P-AP160NA1** (without Motion Sensor) / **P-AP160NAE** (with Motion Sensor)							
Color		Natural White							
Dimensions H x W x D	mm	37 x 950 x 950							
Net Weight	kg	6.5							
Approximate Packing Measurement	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

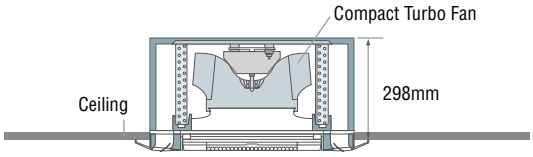
2-Way Cassette Type

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.

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

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



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 in the high ceiling

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

Specifications

Model		RCD-1.0FSN2	RCD-1.5FSN2	RCD-2.0FSN2	RCD-2.5FSN2	RCD-3.0FSN2	RCD-4.0FSN2	RCD-5.0FSN2
Indoor Unit Power Supply		AC 1ϕ, 220-240V / 50Hz, 220V / 60Hz						
Nominal Cooling Capacity *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	14.5 12,500 49,600
Nominal Cooling Capacity *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	14.0 12,000 47,800
Nominal Heating Capacity	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	16.0 13,800 54,600
Sound Pressure Level (Overall A Scale) Hi/Me/Lo	dB	34/32/30	35/32/30		38/34/31		40/36/33	43/40/36
Dimensions H x W x D	mm	298 x 860 x 620					298 x 1,420 x 620	
Net Weight	kg	27			30		48	
Refrigerant		R410A / R407C / R22 (Nitrogen-Charged for Corrosion-Resistance)						
Air Flow Rate Hi/Me/Lo	m^3/min. (cfm)	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)
Motor	W	35			55		35 x 2	55 x 2
Connections Liquid / Gas	mm	Flare-Nut Connection (With Flare Nuts) ϕ6.35 /ϕ12.7		ϕ6.35 /ϕ15.88	ϕ9.52 /ϕ15.88		ϕ9.52 /ϕ15.88*3)	
Condensate Drain		VP25						
Approximate Packing Measurement	m^3	0.23					0.37	
Adaptable Panel Model		P-N23DNA					P-N46DNA	
Color		Neutral White						
Dimensions H x W x D	mm	30 x 1,100 x 710					30 x 1,660 x 710	
Net Weight	kg	6					8	
Approximate Packing Measurement	m^3	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			Heating Operation Conditions	
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

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 ϕ19.05 piping.

Indoor Units

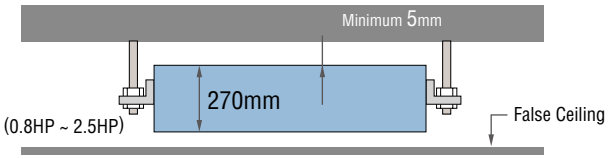
In-the-ceiling Type

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.

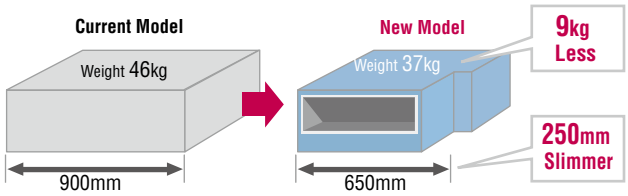
Space-saving Design

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
Indoor Unit Power Supply		AC 1φ, 220-240V / 50Hz, 220V / 60Hz								AC 3φ4W, 380-415V / 50Hz, 380V / 60Hz	
Nominal Cooling Capacity *1)	kW kcal/h 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	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
Nominal Cooling Capacity *2)	kW kcal/h 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	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
Nominal Heating Capacity	kW kcal/h 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	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
Sound Pressure Level (Overall A Scale) Hi/Me/Lo	dB	35/33/31				36/34/32	42/39/35	43/40/36	44/41/37	45(42)*	52(50)*
Dimensions 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	470 x 1,250 x 1,120	
Net Weight	kg	26			35		37	46	58	100	
Refrigerant		R410A / R407C / R22 (Nitrogen-Charged for Corrosion-Resistance)									
Air Flow Rate Hi/Me/Lo	m³/min. (cfm)	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)	27/23/19 (954/812/671)	37/31/25 (1,306/1,095/883)	58 (58)* (2,048 (2,048)*)	72 (72)* (2,542 (2,542)*)
External Pressure		50 (80-30)*3)					120 (170-60)*3)			220 (110)* / 260 (130)* *4)	
Motor	W	60			75		150	290		760 (510)*	1,080 (810)*
Connections		Flare-Nut Connection (With Flare Nuts)								Brazing Connection	
Liquid	mm	φ6.35			φ6.35	φ9.52		φ9.52		φ9.52*6)	φ9.52*6)
Gas	mm	φ12.7			φ15.88	φ15.88		φ15.88*5)		φ19.05*7)	φ22.2*8)
Condensate Drain		VP25									
Approximate Packing Measurement	m³	0.21			0.27		0.29	0.38	0.52	1.06	1.06

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		**Heating Operation Conditions**	
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

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 incase 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 φ19.05 piping. *6) In case of using R407C or R22, use the accessory reducer and φ12.7 piping.
   *7) In case of using R407C or R22, use the accessory reducer and φ25.4 piping. *8) In case of using R407C or R22, use the accessory reducer and φ28.6 piping.

NEW

Indoor Units

Ceiling Type

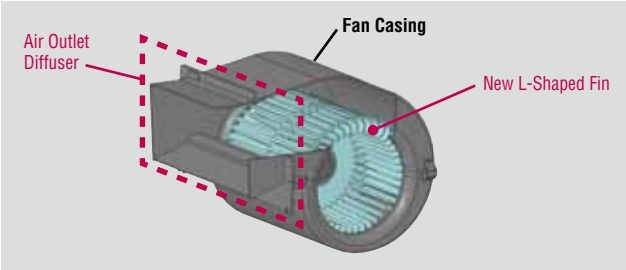
Motion Sensor Control (Option)

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*1.
The motion sensor can maintain the comfortable indoor environment and eliminate the unnecessary operation*2.

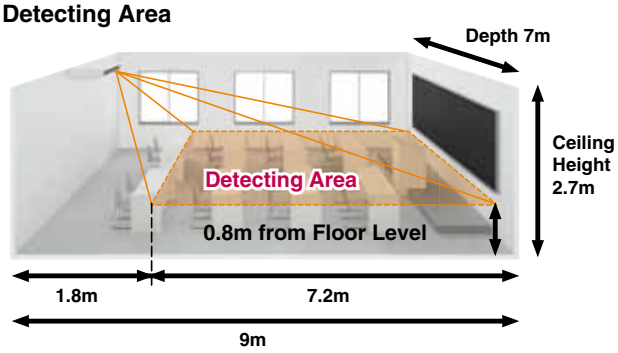
*1): The default setting is "30 minutes". However, the setting is changeable.
*2): The default setting is "Running Operation". However, "Automatic Stop" can be selected by setting from the remote control switch.

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
Indoor Unit Power Supply		AC 1ϕ, 220-240V / 50Hz, 220V / 60Hz						
Nominal Cooling Capacity *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
Nominal Cooling Capacity *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
Nominal Heating Capacity	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
Sound Pressure Level (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
Cabinet Color		Neutral White						
Dimensions H x W x D	mm	235 x 960 x 690		235 x 1,270 x 690		235 x 1,580 x 690		
Net Weight	kg	26	27	35		41		
Refrigerant		R410A						
Air Flow Rate Hi2/Hi/Me/Lo	m³/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)	35/31/25.5/20 (1,236/1,095/900/706)	37/32.5/27/21 (1,306/1,148/953/742)
Motor	W	50		80		160		
Connections Liquid / Gas	mm	Flare-Nut Connection (With Flare Nuts) ϕ6.35 /ϕ12.7	ϕ6.35 /ϕ15.88	ϕ9.52 /ϕ15.88		ϕ9.52 /ϕ15.88		
Condensate Drain		VP20						
Approximate Packing Measurement	m³	0.23		0.31		0.38		

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

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)

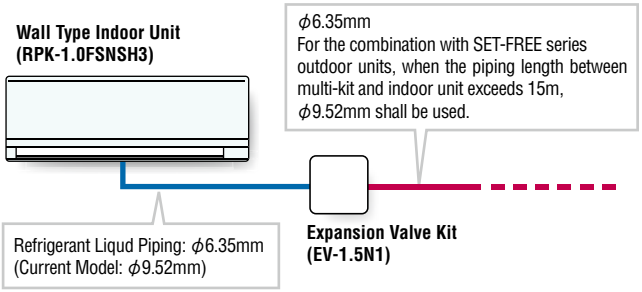
NEW LINE-UP

RPK-1.0FSNSH3
RPK-1.5FSNSH3 (Built-to-order)

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
Indoor Unit Power Supply		AC 1ϕ, 220-240V / 50Hz, 220V / 60Hz					
Nominal Cooling Capacity *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
Nominal Cooling Capacity *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
Nominal Heating Capacity	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
Sound Pressure Level (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
Cabinet Color		White					
Dimensions H x W x D	mm	300 x 790 x 230	300 x 900 x 230	333 x 1,150 x 245			
Net Weight	kg	10	11	17	18		
Refrigerant		R410A					
Air Flow Rate Hi2/Hi/Me/Lo	m^3/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)
Motor	W	40					
Connections Liquid / Gas	mm	Flare-Nut Connection (With Flare Nuts) ϕ6.35 /ϕ12.7		ϕ6.35 /ϕ15.88	ϕ9.52 /ϕ15.88		
Condensate Drain		VP16					
Approximate Packing Measurement	m^3	0.09	0.11	0.14			
Standard Accessories		Wall Mounting Bracket					

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		**Heating Operation Conditions**	
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

2. 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.

Indoor Units

Floor Type
Floor Concealed Type

Compact Design

Special emphasis has been placed on compatibility with interior design. The space saving design 630mm in height, 220mm in depth, fits into the space below bay windows and allows the unit to be freely installed without spoiling the aesthetics of a room.

Specifications

Model			Floor Type		Floor Concealed Type	
			RPF-1.0FSN2E	RPF-1.5FSN2E	RPFI-1.0FSN2E	RPFI-1.5FSN2E
Indoor Unit Power Supply			AC 1ϕ, 220-240V / 50Hz, 220V / 60Hz			
Nominal Cooling Capacity *1)		kW kcal/h Btu/h	2.9 2,500 9,900	4.1 3,550 14,100	2.9 2,500 9,900	4.1 3,550 14,100
Nominal Cooling Capacity *2)		kW kcal/h Btu/h	2.8 2,400 9,600	4.0 3,400 13,600	2.8 2,400 9,600	4.0 3,400 13,600
Nominal Heating Capacity		kW kcal/h Btu/h	3.2 2,800 10,900	4.8 4,100 16,400	3.2 2,800 10,900	4.8 4,100 16,400
Sound Pressure Level (Overall A Scale) Hi/Me/Lo		dB	35/32/29	38/35/31	35/32/29	38/35/31
Cabinet Color			Spring White		—	
Dimensions 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
Net Weight		kg	25	28	19	23
Refrigerant			R410A / R407C / R22 (Nitrogen-Charged for Corrosion-Resistance)			
Air Flow Rate Hi/Me/Lo		m^3/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)
Motor		W	20	28	20	28
Connections Liquid / Gas		mm	Flare-Nut Connection (With Flare Nuts) ϕ 6.35 /ϕ12.7			
Condensate Drain			18.5 OD			
Approximate Packing Measurement		m^3	0.26	0.29	0.20	0.23

NOTES:

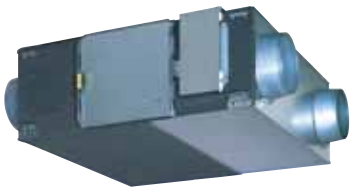
1. The nominal cooling and heating capacity is the combined capacity of the HITACHI standard split system, and is based on the JIS standard B8616.

   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
Indoor Unit Power Supply			AC 1ϕ, 220-240V / 50Hz, 220V / 60Hz			
Air Flow Rate Hi/Me/Lo	50Hz	m^3/h	250/250/165	500/500/350	800/800/670	1,000/1,000/870
	60Hz	m^3/h	250/250/150	500/500/300	800/800/660	1,000/1,000/720
External Pressure *1) Hi/Me/Lo	50Hz	Pa	65/40/20	150/60/30	140/100/70	160/100/80
	60Hz	Pa	100/50/20	200/60/20	230/120/80	200/110/60
Sound Pressure Level (Overall A Scale) at 1.5m from the unit under *2) *3) Hi/Me/Lo	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
	60Hz	dB	28.5/25.5/21	32.5/28.5/23	35/31/29	36/34/30
Dimensions 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
Net Weight		kg	21	33	61	72
Approximate Packing Measurement		m^3	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 incrased by approximately 1dB(A).

Optional Parts

Indoor Units

4-Way Cassette Type

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

2-Way Cassette Type

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

Wall Type

HP	1.0 and 1.5
Electronic Expansion Valve Kit *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
Long-Life Filter Kit Long-Life Filter	F-15LI3C	F-23LI3C	F-23LI3	F-34LI3	F-46LI3	–
Filter Box	B-15MI3C	B-23MI3C	B-23MI3	B-34MI3	B-46MI3	–
Drain-up Mechanism Kit	Standard	DUPI-132C	DUPI-162			DU-M280PIS

Ceiling Type

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

Receiver Kit for Wireless Control

	RCI	RCD	RPC	RPI	RPF(I)	RPK
Model	PC-ALH3	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 (ϕ100 x 2) of the Fresh Air Intake Kit are changed to one air intake (ϕ150 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)
MC-20AN1	MC-20XN1	18 to 24	14 to 24
MC-21AN1	MC-21XN1	26 to 32	–
MC-30AN1	MC-30XN1	34 to 48	26 to 36
MC-40AN1	MC-40XN1	50 to 54	–

Strainer Kit

Product Name	Model
Strainer Kit	**MEF-NP1500A**

Multi-kits

Multi-kit for 2 Pipe Heat Pump Operation

< Line Branch > (First Branch)

Outdoor Unit HP	Model
5 to 10	**MW-102AN1**
12 to 16	**MW-162AN1**
18 to 24	**MW-242AN1**
26 to 54	**MW-302AN1**

< Header Branch >

Total Indoor Unit HP	No. of Header Branches	Model
5 to 8	4	**MH-84AN**
5 to 10	8	**MH-108AN**

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

Multi-kit for Heat Recovery Operation

< Line Branch > (First Branch)

Outdoor Unit HP	Model
5 to 10	**MW-102XN1**
12 to 16	**MW-162XN1**
18 and 20	**MW-202XN1**
22 and 24	**MW-242XN1**
26 to 54	**MW-322XN1**

< Header Branch >

Total Indoor Unit HP	No. of Header Branches	Model
5 to 10	8	**MH-108XN**

Control System

● : Applicable ✕ : Not Applicable

		RCI-FSN3	RCD-FSN2	RPI-FSN(2)	RPC-FSN3	RPK-FSNSM3	RPF(I)-FSN2E	KPI
Remote Control Switch	PC-AR*1 (Without cable)	✕	●	●	✕	✕	●	●
	PC-ARF	●*5	●	●	●*5	●*5	●	●
Wireless Remote Control Switch	PC-LH3A	✕	●	●	✕	✕	●	✕
	PC-LH3B	●	✕	✕	●	●	✕	✕
Half-size Remote Control Switch	PC-ARH*2	✕	●	●	✕	✕	●	✕
7-Day Timer	PSC-A1T*3	●	●	●	●	●	●	✕
Central Station	PSC-5S, PSC-A64S*4	●*6	●	●	●*6	●*6	●	●
Central Station DX	PSC-128WX + PSC-AS2048WXB	●*6	●	●	●*6	●*6	●	●
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. Make sure that it is used with PC-AR or CS-NET.
*3. Scheduled operation is possible by using PSC-A1T with Central Station. Remote Control Switch and Centralized ON/OFF Controller.
*4. Supply 220V or 240V
*5. When FSN3 or FSNSM3 type indoor unit is used with the remote control switch, PC-ARF must be used.
*6. These central stations dose not support the air flow volume function “HIGH 2” of FSN3 or FSNSM3 type indoor unit. Therefore, when FSN3 or FSNSM3 type indoor unit is used with the central stations, the remote control switch (PC-ARF) must be required.

Remote Controllers

NEW

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 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 andoutdoor 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 PC-LH3B

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 PSC-A1T with PSC-5S, PSC-A64S or 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**

PSC-5S

Up to **128 indoor units**

Up to **16 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 controls 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 thefollowing 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.

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 outdoorunits, 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.

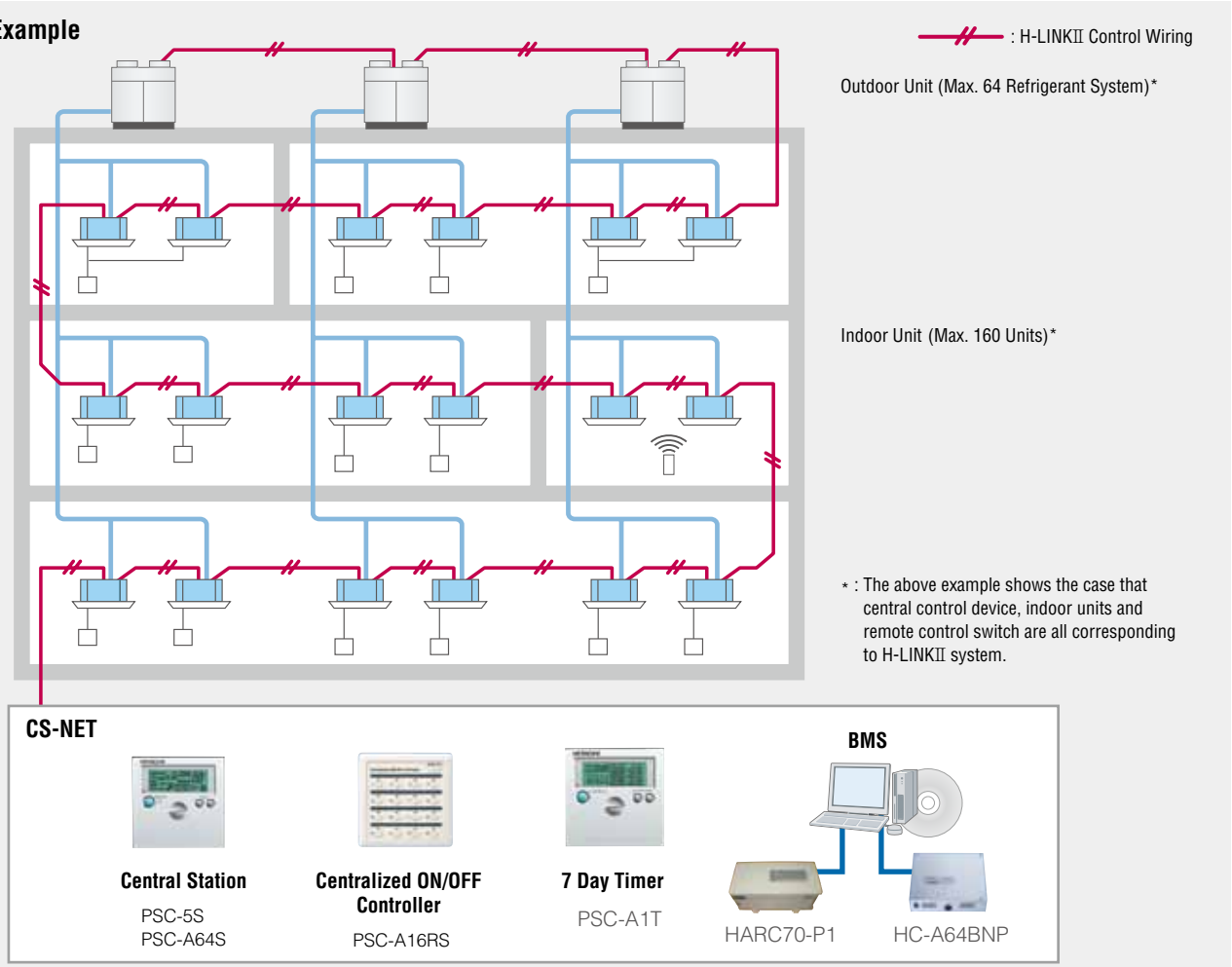
Regardless of Multi-Split System for Buildings or Packaged System for Commercial Use

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-LINKⅡ

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.

Example



Compare with H-LINK System

Item	H-LINK	H-LINKⅡ
Max. Number of Refrigerant Group / System	16	64
Address Setting Range of Indoor Units / Refrigerant Group	0 to 15	0 to 63
Max. Number of Indoor Unit / System	128	160
Total Number of Devices in the same H-LINK	145	200
Max. Wiring Length	Total 1,000m (5,000m)*	

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

Mixture of H-LINK and H-LINKⅡ

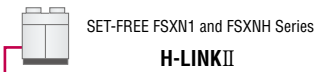
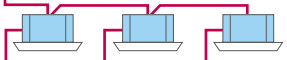
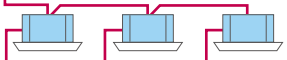
The models supporting H-LINKⅡ can be mixed with the models supporting H-LINK in the same system without any adaptor.

Control System Device	Outdoor Unit Indoor Unit	1(One) H-LINK (Ⅱ) System	
		Outdoor Units (Number of Ref. Groups)	Indoor Units
H-LINKⅡ	H-LINKⅡ	64	160
	H-LINKⅡ/ H-LINK Mixed	16 *	128
H-LINK	H-LINKⅡ	16	128
	H-LINKⅡ/ H-LINK Mixed	16	128

* : A maximum 16 refrigerant groups can be connected in one H-LINK system under the following conditions.
- Outdoor unit corresponding to H-LINK
- Outdoor unit corresponding to H-LINKⅡ connected with the indoor unit corresponding to H-LINK

More than 17 indoor units can be connected with the 1 outdoor unit depending on the outdoor unit capacity. In that case, 2 ref. groups are required for 1 outdoor unit.

System Configuration

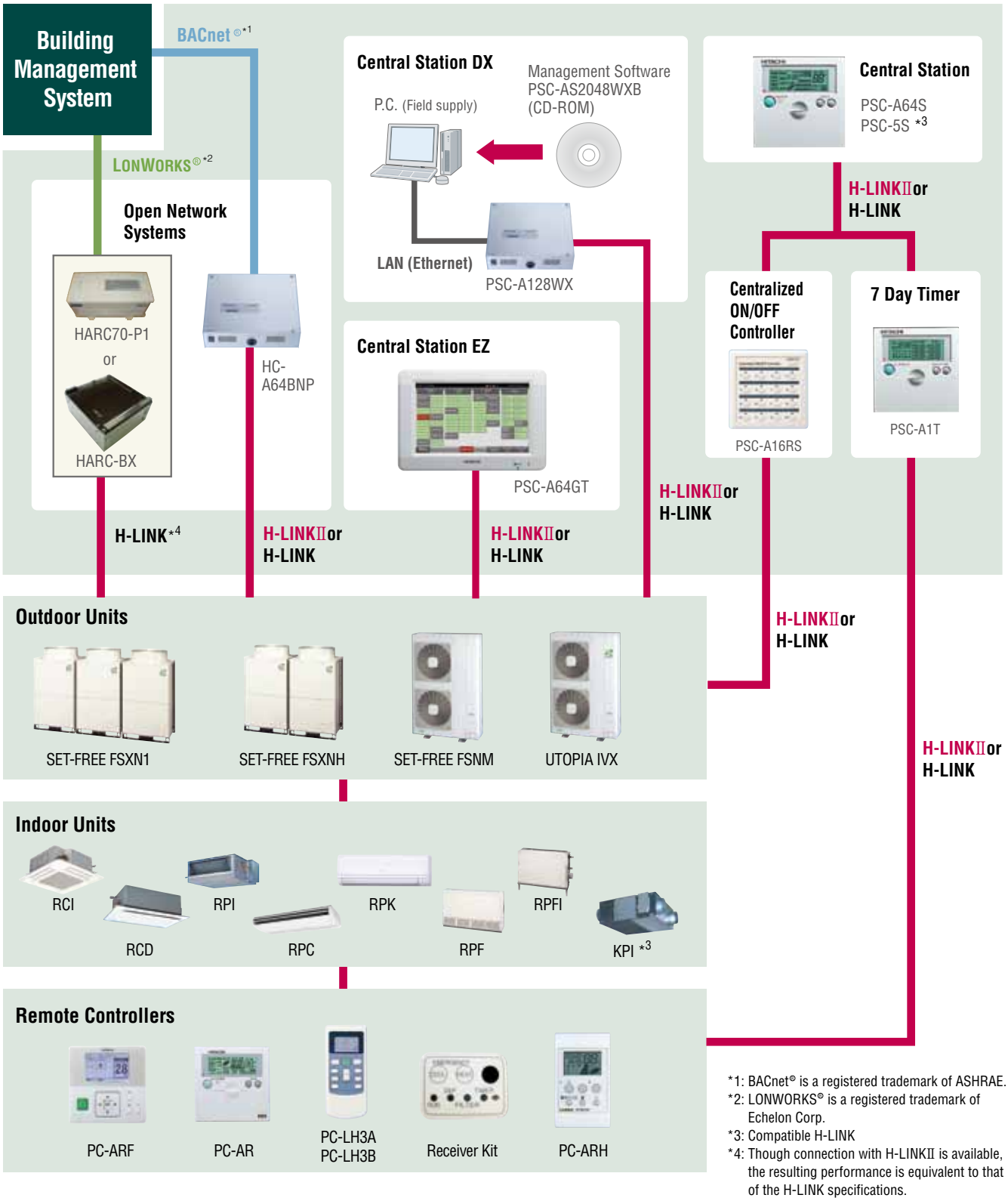
Outdoor Unit	 SET-FREE FSN(1) Series **H-LINK**			 SET-FREE FSXN1 and FSXNH Series **H-LINKⅡ**		
Indoor Unit	 H-LINKⅡ or H-LINK / H-LINK / H-LINKⅡ			 H-LINKⅡ or H-LINK / H-LINK / H-LINKⅡ		
Remote Control Switch	 H-LINK / H-LINKⅡ / H-LINKⅡ			 H-LINK / H-LINKⅡ / H-LINKⅡ		
Setting Range of Refrigerant Group*1)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

*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-AR) 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

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.

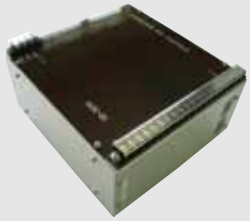
Connection Method to Upper System	• Connection by IEEE802.3 Compliance (100BASE-TX/10BASE-T) to BACnet® Network	
Quantity of Connection	• Up to 64 Indoor Units per BACnet® Adaptor	
Control Item at Upper System	• RUN/STOP • Operation Mode Setting • Temperature Setting • Fan Speed Setting	• Available / Not Available for Operation by Remote control Switch • Filter Sign Reset
Monitoring Item at Upper System	• RUN/STOP State Notification • Alarm Signal Notification • Operation Mode State Notification • Fan Speed State Notification	• Indoor Suction Temperature Notification • Alarm Code Notification • Communication Abnormality Notification • Filter Sign

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.

Connection Method to Upper System	• Connection by SNVT (Standard Network Variable Type) to LONWORKS® Network	
Quantity of Connection	• 8 Remote Control Groups (Max. 120 indoor Units)	
Control Item at Upper System	• On/Off Order • Operation Mode Setting	• Temperature Setting • All On/Off Order
Monitoring Item at Upper System	• On/Off State & Alarm • Operation Mode State	• Temperature Setting • Individual Thermostat State

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)

Connection Method to Upper System	• Connection by SNVT (Standard Network Variable Type) to LONWORKS® Network	
Quantity of Connection	• 64 Indoor Units	
Control Item at Upper System	• On/Off Order • Operation Mode Setting	• Temperature Setting • All On/Off Order
Monitoring Item at Upper System	• On/Off State & Alarm • Operation Mode State	• Temperature Setting • Individual Thermostat State

■ HARC-BX E (Option A)

Connection Method to Upper System	• Connection by SNVT (Standard Network Variable Type) to LONWORKS® Network		
Quantity of Connection	• 64 Indoor Units		
Control Item at Upper System	• On/Off Order • Operation Mode Setting	• Temperature Setting • All On/Off Order	• Fan Speed Setting • R.C.Sw Permission/Prohibition
Monitoring Item at Upper System	• On/Off State & Alarm • Inlet Air Temperature		

■ HARC-BX E (Option B)

Connection Method to Upper System	• Connection by SNVT (Standard Network Variable Type) to LONWORKS® Network		
Quantity of Connection	• 32 Indoor Units		
Control Item at Upper System	• On/Off Order • Operation Mode Setting • Temperature Setting	• Fan Speed Setting • R.C.Sw Permission /Prohibition	• All On/Off Order • Louver Position Setting
Monitoring Item at Upper System	• On/Off State & Alarm • Operation Mode State • Fan Speed Setting	• Temperature Setting • Louver Position • Alarm Code	• Inlet Air Temperature • Outlet Air Temperature • Outdoor Air Temperature

Network Systems

Central Station

Central Station EZ

PSC-A64GT

Eazy 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

Communication Unit		Units of Adopting for H-LINKⅡ			
Communication Line		Non-Polar 2-Wire			
Communication Method		Half-Duplex Communication			
Synchro System		Asynchronous (start-stop synchronous communication)			
Communication Speed		9,600bps			
Wiring Length		1,000m (Total Length)			
		Outdoor Unit	Indoor Unit	Central Controller	Total Unit Number
Connecting 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).

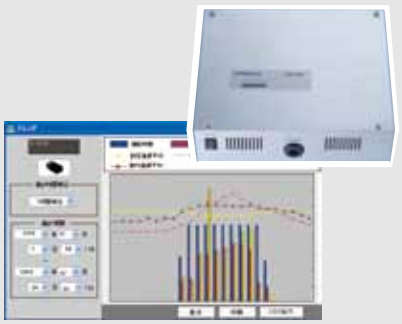
■ Functions

Monitor Function	• Run/Stop/Abnormality • Operation Mode • Setting Temperature • Setting Fan Speed • Setting Louver • RCS Operation Prohibited Setting • Filter Sign • Alarm Code • Accumulated Operating Time
Control Function	• Run/Stop* • Operation Mode • Temperature Setting • Fan Speed • Louver • RCS Operation Prohibited • Filter Sign Reset

*: "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

OS	Windows® XP (English version 32 bit)
CPU	CPU Intel Core TM 2Duo 1.8GHz or more
Memory	2GB or more
Free Space in Hard Disk Drive	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.)
Display Resolution	1,280 x 1,024
Drive	CD-ROM Drive (for upon installation only)
Interface	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

Energy Saving Function		• Run/Stop • RC (Remote Control Switch) Operation Prohibition • Shifting Set Temperature (For Cool/Dry to Fan and Stop during Heating) • Switching Mode (Cool/Dry to Fan and Stop during Heating) • Outdoor Unit Capacity Control (Only if supported) (0, 40, 50, 60, 70, 80, 90, 100%)
Facility Control and Monitor Function (Level Signal Only)	**Control**	• Run/Stop • Operation Mode (Cool/Heat) • Emergency Stop (Only for Indoor Units Supporting this function)
	Monitor	• Run/Stop • Operation Mode (Cool/Heat) • Alarm State

Memo

ISO 9001

ISO 14001

MALAYSIA MS ISO 9001

SIRIM MS ISO 14001

HITACHI

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