

HITACHI

SET FREE Σ

VARIABLE REFRIGERANT FLOW SYSTEM
AIR SOURCE HEAT PUMP TYPE

HIGH EFFICIENCY - FSNP SERIES
STANDARD - FSNS SERIES



Cooling & Heating

air



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Welcome

Air. It's a wonderful thing.

Invisible, silent and life-giving, air makes our entire world possible. It surrounds us, continuously energizing, cooling and warming. It can be unpredictable and sometimes challenging, but when air is in harmony with us, everything seems that much easier.

**This is our vision.
To create the air that makes life better.**





The beauty of balance

No matter what the weather is like outside, when you're indoors, you want to have complete control over your environment. At work or play, awake or asleep, you're free to create your own atmosphere; balancing energy with calm, sound with silence and light with shade. It's the same for cooling and heating.

When the air around you is in balance, you can enjoy life indoors that much more.

SET FREE Σ – FSNP & FSNS SERIES

Living Harmony

At Hitachi Cooling & Heating we like to think of this as creating harmony with your interior environment. When we achieve that wonderful balance, productivity, learning, happiness and health can thrive.

We call this 'Living Harmony' and it's at the center of everything we do.

The future together

Living Harmony puts people first. By balancing the human needs of our customers with an uncompromising approach to innovation and quality, we can continue to create the technologies for a more comfortable and balanced world.

Your world. We live in it together.

WELCOME



Your world and Hitachi

Change in the air.

Change is one of the few constants in life. The world around us changes continuously and as it does, so do our own comfort levels and our requirements of our buildings.

Creating harmony in the face of change has always been the driving force behind Hitachi Cooling & Heating. From maintaining a perfect indoor climate indoors as the seasons change, to developing new technology to address the needs of our changing cities, we're committed to solutions that help people adapt to changes today and in the future.



Design for tomorrow's urban spaces.

Space in our cities is under increasing pressure and as new buildings become more space efficient, the areas allocated to cooling and heating are shrinking.

We are responding to these changes with a new generation of space-efficient outdoor units, giving architects, building managers and owners greater levels of flexibility.

Learn more about Outdoor Unit on page 23



SET FREE Σ – FSNP & FSNS SERIES



Redefining comfort.

Comfort can be felt in a variety of ways, from the temperature to quietness and even the air flow itself. Our wide-ranging lineup of indoor units can meet various comfort requirements. We offer two different types of ventilation units, and optional motion sensors are also available for superior energy saving.

Learn more about Indoor Unit on page 59

WELCOME

You are in control.

Whether you wish to create a relaxing atmosphere in your home, improve productivity at work or manage the energy and maintenance costs for your building, We gives you the technology to achieve your goals. From setting individual climate zones in every room, to centralized monitoring and reporting for multiple buildings.

Learn more about Controller on page 87

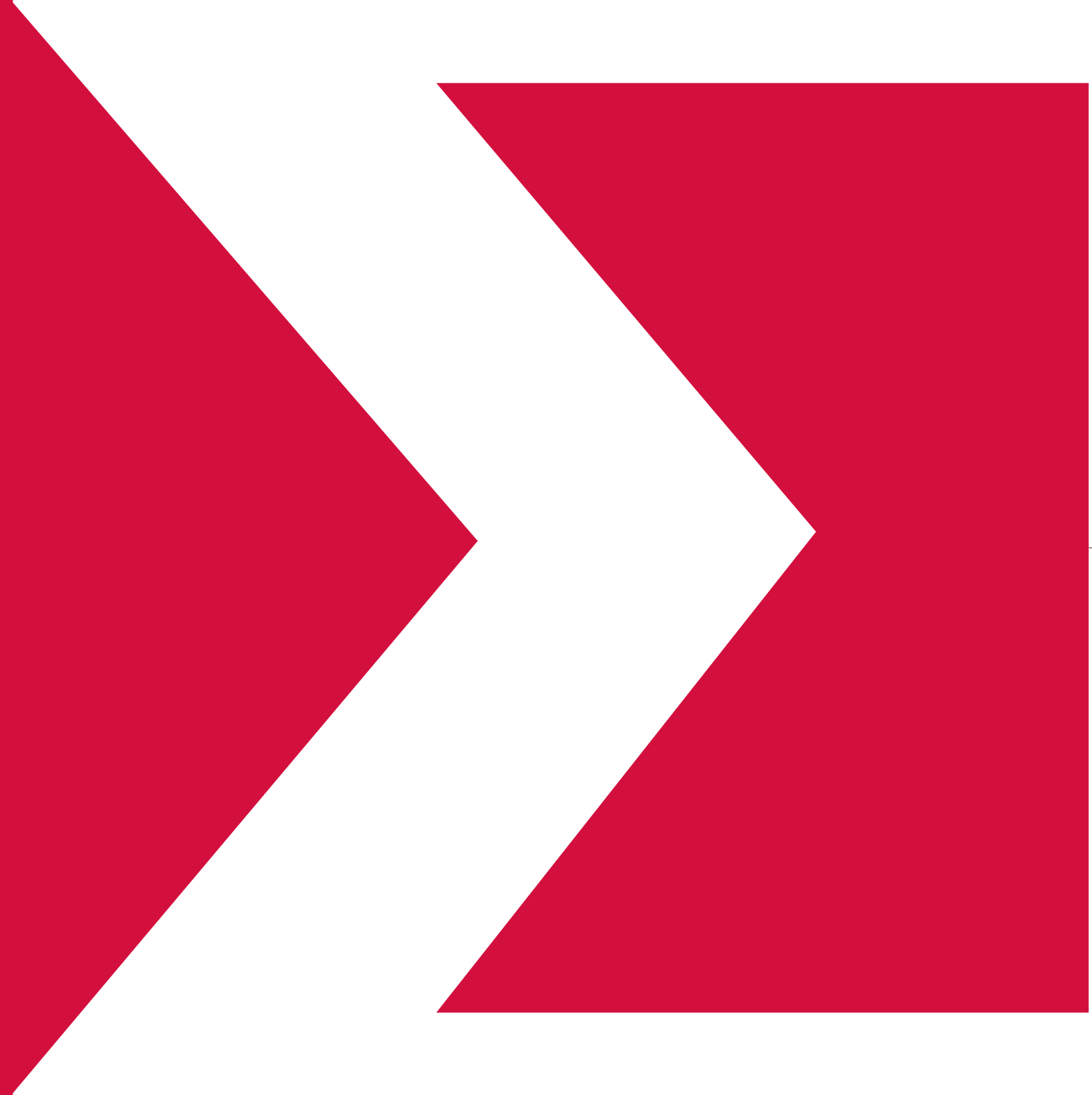


The shape of things to come

We've named our latest VRF system SET FREE Σ

Continuing the evolution of the SET FREE series, the sigma symbol (Σ) references the shape of our revolutionary, ultra-efficient new heat exchanger.

To learn more about our heat exchanger technology, please refer to page 81.



— Introducing Hitachi VRF SET FREE Σ

Helping you create perfect indoor balance

The interior spaces where people work, play, sleep and relax are as individual as they are and the way they are used is every bit as unique as their design.

At Hitachi Cooling & Heating, we understand that everyone needs their own space. So, wherever you go in the world, we have a solution to help create and maintain a perfectly balanced interior environment.

We like to call this balance Living Harmony.



Designing beautiful air

The philosophy of Living Harmony shapes everything we do, but it's really not about us. The design of our Variable Refrigerant Flow (VRF) systems starts with truly understanding the needs of our customers; the people who use, specify and install our products.



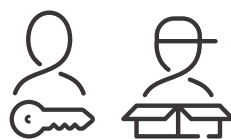
For building occupants

Our systems are designed to ensure superior comfort levels by maintaining a constant and balanced room temperature.



For architects, designers and engineers

Modular components offer complete customization, giving you the freedom to design environments where people can live in total comfort.



For building owners, managers and installers

Reduced footprints and lighter, stronger materials make our units easy and cost effective to install, operate and maintain.

Designed for flexibility and ease

Well-designed cooling and heating should allow the best use of indoor and outdoor spaces. The new SET FREE Σ outdoor units feature an ultra-compact footprint, so they can be placed discreetly out of sight or configured to optimize space usage.

For indoor areas, where we are free to shape our environment, our extensive line-up of indoor units gives you the flexibility to design perfect air in any space, with concealed and compact units allowing for uninterrupted aesthetics.

Choosing is made simple with intuitive selection software and of course, our service and after sales teams are there to assist you at every step.





SET FREE Σ

From Dublin to Dubai, people rely on Hitachi Cooling & Heating to work more productively, play and relax in comfort and sleep soundly. That's why our "SET FREE" range is designed to perform faultlessly under the most challenging conditions, with every component manufactured and tested to the highest tolerance levels.

Designed for commercial applications, SET FREE Σ ("sigma") VRF range sets new standards in reliability and high efficiency. With an innovative sigma-shaped heat exchanger, they can operate in a wide range of climates, from -20.0°C in heating mode to +52.0°C in cooling mode.



Performance taken to new levels

Smooth Drive is the world-leading compressor control technology at the heart of SET FREE Σ.

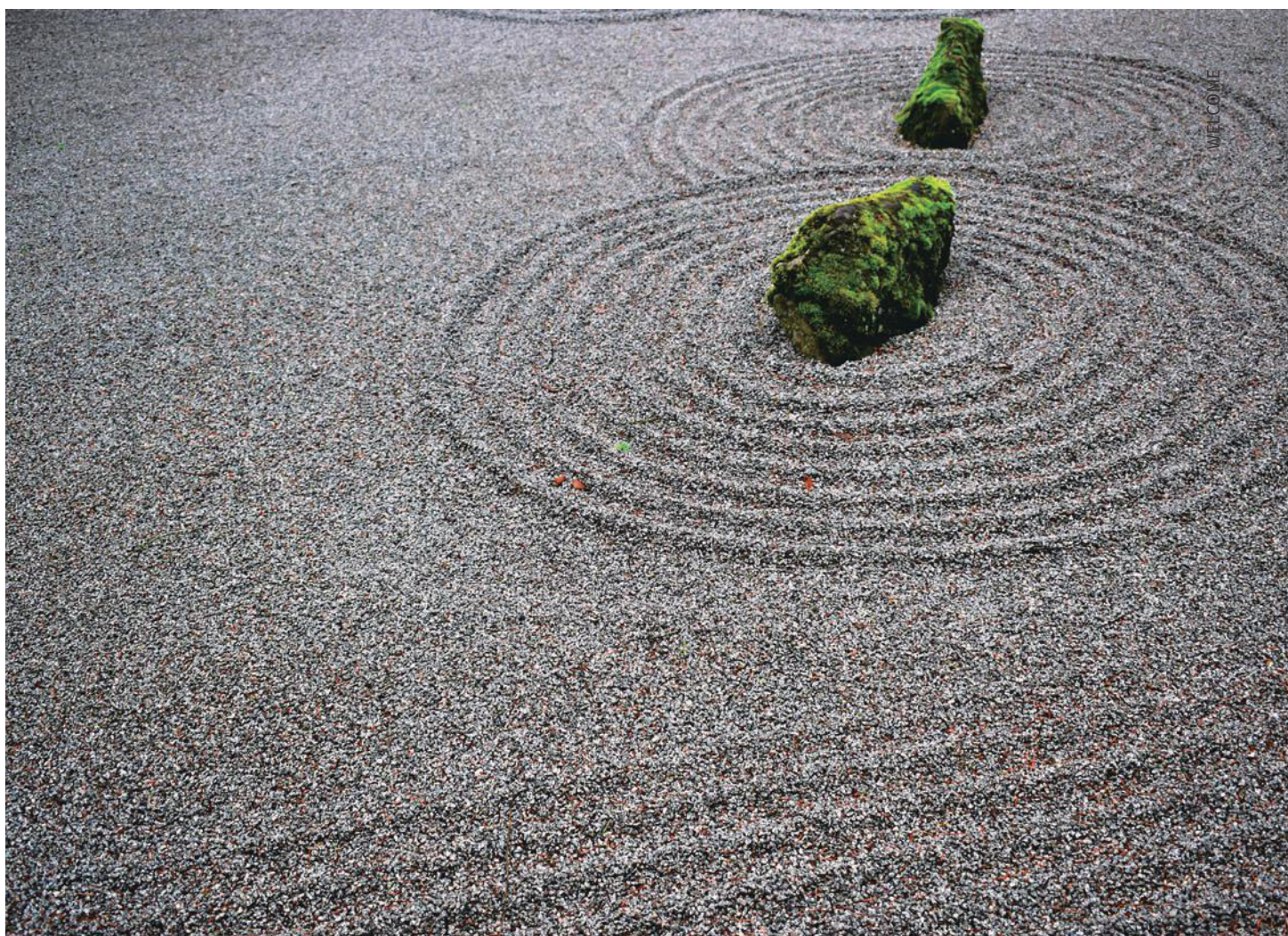
By calculating the exact amount of refrigerant required, based on the demands of indoor units, Smooth Drive manages load operation efficiently and consistently, creating a more comfortable, balanced indoor climate in every part of the building.

Our past shapes the future

In 1952 a small team of Japanese engineers set out to realize a unique vision: to help people around the world create their perfect indoor environment.

Today, we remain true to our legacy of fine Japanese design and engineering. Every Hitachi Cooling & Heating system is designed to perform reliably with innovative technology that sets the benchmark for the industry.

This is our commitment to you. Cooling and heating technologies to help create your interior Living Harmony.



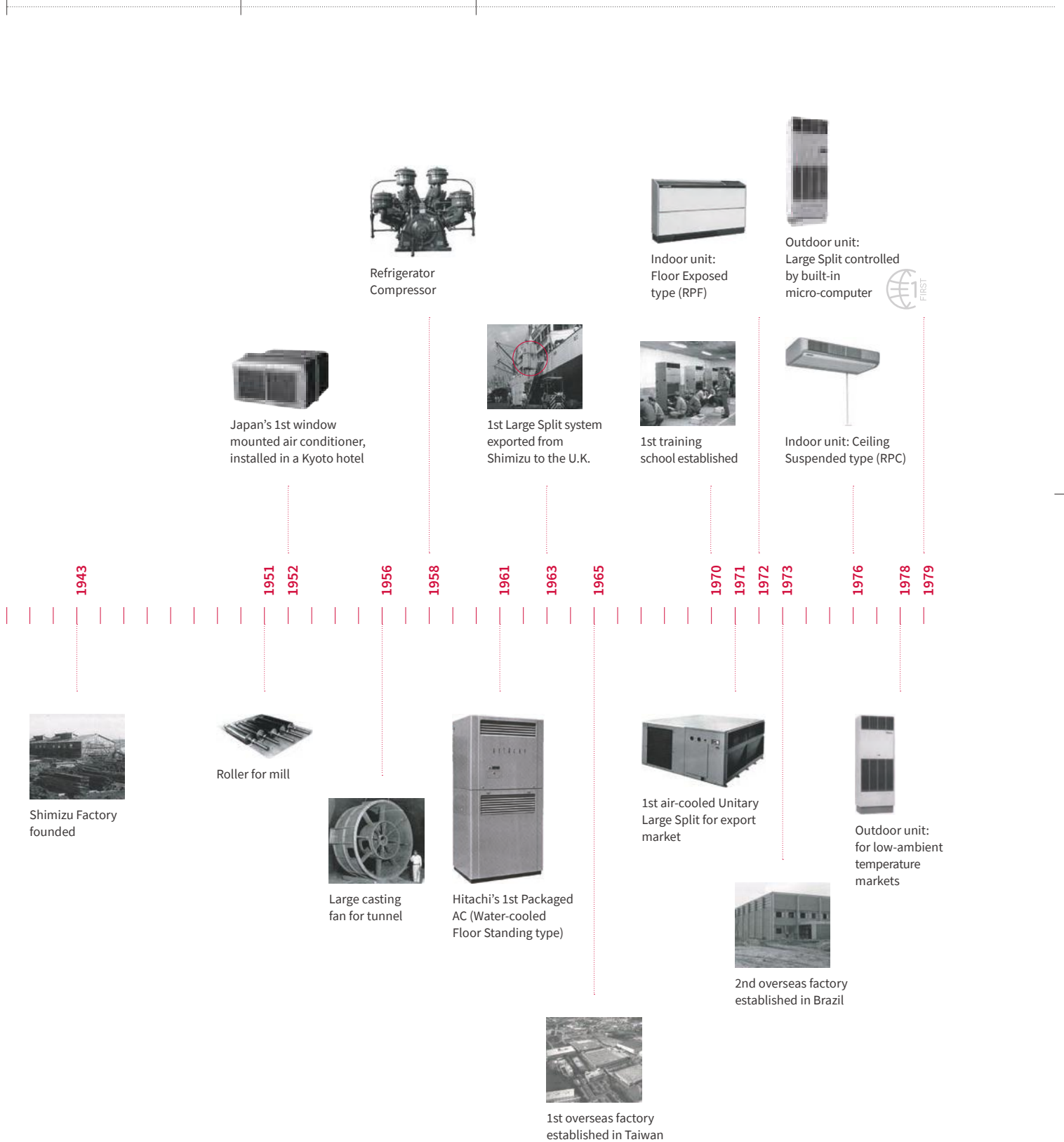
Our heritage in Cooling & Heating

MAIN PRODUCTS

Air Compressor, Casting

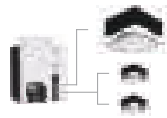
Roller, Casting

Large Split, Refrigerators, Compressor for refrigeration, Casting



Large Split, Refrigerators, Compressor

VRF, Large Split, Compressors



VRF 1ST GENERATION

- Hitachi's first VRF "High-Multi" series with multiple reciprocating compressors and individual indoor unit control available



5th overseas factory opens in the Philippines



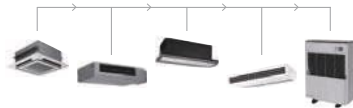
1st Scroll Compressor factory established in China



6th overseas factory opens in China



Indoor unit: Ceiling Cassette type



VRF 3RD GENERATION

- Up to 5 indoor units
World 1st IGBT Inverter-driven VRF up to 115 Hz 1986



VRF 5TH GENERATION 30HP

- Up to 12 indoor units (130% in capacity)
Newly R407C adopted VRF
"SET FREE FSG": Heat-Pump type
"SET FREE FXG": Heat-Recovery type



VRF 7TH GENERATION 54HP

- Heat Pump/Heat Recovery compatible modular VRF system
"SET FREE FSXN"

1981

1982

1983

1984

1986

1988

1990

1991

1996

1999

2003

2005

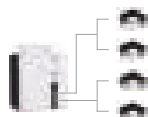
2011

2012

2016



Indoor unit: Wall Mounted type (RPK)



VRF 2ND GENERATION

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



VRF 4TH GENERATION 10 HP

- Up to 8 indoor units (130% capacity)
World 1st IGBT built-in Inverter VRF achieves quietest operation



5HP 8HP & 10HP



Centrifugal VRF: an "Outdoor unit" made for indoor installation



Scroll Compressor production for AC unit



3rd overseas factory opens in Malaysia



VRF 6TH GENERATION 32 HP

- New R410A adopts VRF
"SET FREE FSN": Heat Pump type
"SET FREE FXN": Heat Recovery type



VRF 8TH GENERATION 96HP

- Hitachi's new generation VRF SET FREE Σ, developed over 33 years in the industry

Features & benefits for customers



Features, advantages and benefits at a glance

This table sets out the features and benefits of the SET FREE Σ range with your needs in mind.

For architects & system designers



Your perspective shapes the world we live in together. Our cooling and heating systems are designed to fit with your vision.

Superior Performance

- Cooling EER up to 5.23 & Heating COP up to 6.19 (High Efficiency - FSNP series)
- Cooling EER up to 4.54 & Heating COP up to 5.17 (Standard - FSNS series)
- ✓ **Smooth Drive ensuring your great performance in low-load operation**

Outdoor unit compact footprint

- Requires less space than conventional systems
- ✓ **Broader choice of installation sites**

Night Quiet Mode

- Three-step sound pressure reduction for outdoor units
- ✓ **No outdoor noise disturbance**

Operation temperature range in cooling mode

- -5.0°C DB to +52.0°C DB (High Efficiency - FSNP series)
- -5.0°C DB to +48.0°C DB (Standard - FSNS series)
- ✓ **Suitable for a wide range of climates**

Non-ducted systems

- Makes the most of direct expansion
- Requires less clearance between building floors
- ✓ **Fewer components required**
- ✓ **Ideal for historic building renovations**

Improved Indoor unit/Outdoor unit combination ratio

- Up to 150% (High Efficiency - FSNP series) and 130% (Standard - FSNS series)
- ✓ **Response to greater load demand**

VRF selection software

- Intuitive user experience simplifies and speeds up design process
- ✓ **Allows for confident system specification**

High ESP: up to 80Pa

- Ideal for outdoor units installed indoors (air ducted)
- ✓ **Reduced piping length and costs**
- ✓ **Preservation of outdoor environment**

Piping flexibility

- Pipe runs up to 1,000m
- Piping level different between ODU and IDU is up to 110m for both (ODU above IDU) & (IDU above ODU)
- ✓ **Fits almost all buildings**

Outdoor unit modular components

- Various components can be added or changed
- ✓ **Customization to each project**
- ✓ **Easily updated in case of reconfiguration**

Ducted systems

- Accommodates retrofits into existing duct infrastructure
- Up to 200Pa High ESP ducted indoor unit available, flexibility to accommodate short or long duct runs
- ✓ **Versatility to minimize refurbishment works**

H-LINK

- Exclusive communication system for central control
- No connection boundary between Hitachi Cooling & Heating solutions
- ✓ **Flexible wiring routes**
- ✓ **Easy system optimization**

For contractors & installers



Your skill ensures that our cooling and heating systems run perfectly. We design and build them to make your job easier.

New packaging

- Outdoor unit packaging revised with craning ports addition
- ✓ **Friendly for craning**

Design for convenience

- Pipes to the outdoor units can be connected from the front, back, or underneath
- Compact and light indoor units for easy handling
- ✓ **Time and cost saving installation**

Reliable logistics

- Components delivered to job sites on time
- ✓ **Enhanced installation efficiency**
- ✓ **Proactive labor scheduling**

Online technical support

- All product information available on TS-Web: www.jci-hitachi.com/support/technical
- ✓ **All resources available 24/7 in one click**

Super compact & light

- Outdoor units feature smaller cases and compact footprints
- Best in class light weight
- ✓ **Easier transportation & handling of outdoor units**
- ✓ **Elevator friendly dimensions**

Robust equipment

- Improved rigidity ratio of outdoor units
- ✓ **Extends the service life**

Access for maintenance

- The upper panel (electric box) independently detaches from the lower panel (compressor chamber)
- All PCBs are visible, easily accessible and include a 7-segment display
- Optimized valve and piping position for easy maintenance
- Refrigerant evacuation: function to enforce the opening of outdoor units' and indoor units' expansion valves and solenoid valve's bypass
- ✓ **Easier and faster maintenance, troubleshooting and repair**

Comprehensive training

- Training modules tailored to specific job functions
- ✓ **Best practice installation**
- ✓ **Ensures warranty compliance**

For building owners



You provide the spaces for our cooling and heating systems. We design them to give you exceptional performance and value.

System

Superior Performance

- Cooling EER up to 5.23 & Heating COP up to 6.19 (High Efficiency - FSNP series)
- Cooling EER up to 4.54 & Heating COP up to 5.17 (Standard - FSNS series)

✓ Smooth Drive ensuring your great performance in low-load operation

Rotational operation

- In combination units at partial load, modules operate alternately so that operating hours are shared evenly

✓ Optimizes efficiency

✓ Extends service life

✓ Increases reliability

Three step Night-quiet mode

- Available function to limit the noise of outdoor units (three step)

✓ Ideal for locations with restrictions on noise pollution

Smooth Drive technology

- Exclusive compressor control for VRF systems
- Continuous adjustment of compressor operation and refrigerant load according to indoor demand

✓ Energy savings

✓ Steady room temperature based on set temperature in each zone

Efficiency optimized for part-load operation

- Seasonal performance among industry's highest for VRF systems

✓ Saves energy all year long

Back-up Operation function

- Allows one outdoor unit module to be taken off-line for maintenance while remaining units keep operating

✓ No disruption during maintenance

Compressor

World leading Scroll Compressor technology

- Japanese precision engineering
- ✓ Superior reliability and quality

New compressor shield cover

- Cover reduces sound while maintaining power
- ✓ Contributes to quieter outdoor unit operation

DC Inverter Scroll Compressor

- Optimum efficiency at regular load conditions
- ✓ Amongst the most energy efficient VRF systems, with superior APF (annual performance factor)

Compressor modulation in 0.1Hz increments

- Delivers the exact amount of refrigerant required
- ✓ Enables fine control for optimum comfort
- ✓ Enhanced energy savings

Outdoor Units

New patented Σ shaped heat exchanger

- Improved heat exchange rate
- ✓ Contributes to superior efficiency

Demand control

- Control and reduce power input within required range and time schedule
- ✓ Limits power consumption
- ✓ Slows equipment wear and tear
- ✓ Reduces noise

Corrosion resistance

- Available extra phosphoric acid chromate treatment coating on the heat exchanger
- ✓ Ideal for locations with harsh outdoor conditions (seaside)
- ✓ Extended equipment longevity and efficiency

Innovative propeller fan

- Longer fan blades increase airflow quantity by 25%, resulting in higher static pressure
- ✓ Less energy required for equal output
- ✓ Extends motor life

Load shedding

- Turns units on/off and cycles between units at 10–20 minute intervals
- ✓ Enhanced energy savings
- ✓ Limits electric load demand

Low noise operation

- New compressor cover, fan and fan inlet optimized for noise reduction
- Extremely low sound power level down to 67.5dB(A) (in low-noise setting mode)
- ✓ Less energy required for equal output
- ✓ Extends motor life

Indoor Units

Wide range of indoor units

- 14 types of indoor units available
- Colored panel option available

✓ Greater design flexibility

Motion sensor option available

- Adjusts blown air temperature to the level of occupancy
- Stops air conditioning during extended room vacancy

✓ Adaptive control based on room activity levels

✓ Cuts unnecessary operation and saves energy

Controls

Fine control of indoor unit operation

- 0.5/1.0°C increments of set temperature
- Adjustable fan speeds

✓ Precise control for greater comfort

H-LINK communication system

- Centralized control of multiple indoor and outdoor units
- Versatility to connect various central control options

✓ Indoor comfort tailored to building needs

✓ Enhanced energy savings

✓ Improves system management

Variety of controllers

- Large range of individual and central controllers, from simple to advanced functions
- Intuitive and user friendly

✓ Meets varied user requirements

BACnet® adapter for BMS integration

- Allows integration of SET FREE Σ into the building management system, including Metasys®

✓ Unified interface for all HVAC systems and building functions



Outdoor units

SET FREE Σ – FSNP & FSNS SERIES

OUTDOOR UNITS

25 Outdoor unit overview

26 High efficiency

27 Better Performance

29 Design flexibility

33 Ease of maintenance

34 Reliability

39 Specifications

57 Optional parts

OUTDOOR UNIT OVERVIEW

SUMMARY TABLE

Item	Unit	High Efficiency - FSNP SERIES	Standard - FSNS SERIES
Capacity	HP class	5-72	8-96
Nominal cooling capacity	kW	14.0 - 201.0	22.4 - 268.0
Nominal heating capacity	kW	16.0 - 225.0	25.0 - 305.0
Maximum connectable indoor unit quantity		64	64
Combination capacity ratio between ODU and IDU *	%	50-150	50-130
Total piping length	m	1,000	1,000
Maximum piping length between ODU and IDU	m	165	165
Maximum equivalent piping length between ODU and IDU	m	190	190
Maximum piping length between 1st branch and IDU	m	90	90
Maximum height difference between ODU and IDU ** (when ODU is higher than IDU)	m	110	110
Maximum height difference between ODU and IDU ** (when IDU is higher than ODU)	m	110	110
Maximum height difference between IDU and IDU	m	30	30
Cooling operation range ***	°C DB	-5.0 to 52.0	-5.0 to 48.0
Cooling operation range with low ambient setting ***	°C DB	-10.0 to 52.0 ****	-10.0 to 48.0 ****
Heating operation range ***	°C WB	-20.0 to 15.0	-20.0 to 15.0

* 50-150% (5-54HP class)/50-130% (56-72HP class)

** Please consult your distributor or dealer if the height different is over 50 metre. The maximum piping length for 56 to 72HP class (High Efficiency - FSNP series) & 72-96HP class (Standard - FSNS series) is 90 metre.

*** For more details, please consult your distributors or dealer, or, refer to technical manuals

**** Available only 5-54HP class range



HIGH EFFICIENCY

SETTING THE NEW STANDARD

SET FREE Σ lifts performance and efficiency to a new level. Choose High Efficiency - FSNP series or Standard - FSNS series, offering a wider range of operating ambient temperatures and increased indoor unit combination capacity. Both will reward you with superior performance as well as significant energy and cost savings.

FOUR KEY IMPROVEMENTS FOR GREATER EFFICIENCY



HEAT EXCHANGER



COMPRESSOR CONTROL



FAN

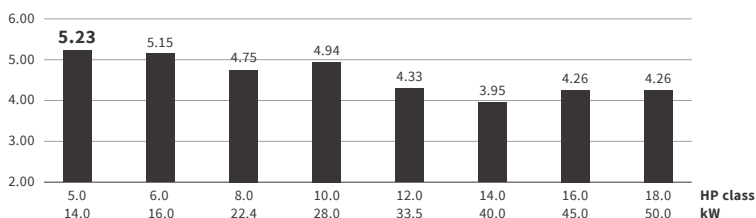


COMPRESSOR

EFFICIENCY RATIO

High Efficiency - FSNP Series

Cooling EER

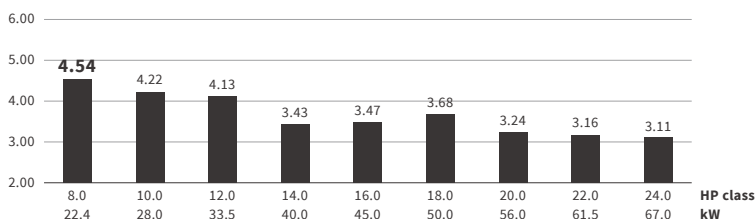


Heating COP

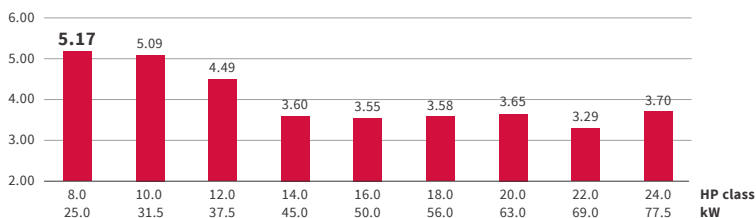


Standard - FSNS Series

Cooling EER



Heating COP



Notes:

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

<p>Cooling Operation Conditions Indoor Air Inlet Temperature: 27.0°C DB 19.0°C WB Outdoor Air Inlet Temperature: 35.0°C DB Piping Length: 7.5 metre Piping Lift: 0 metre</p>	<p>Heating Operation Conditions Indoor Air Inlet Temperature: 20.0°C DB Outdoor Air Inlet Temperature: 7.0°C DB 6.0°C WB Piping Length: 7.5 metre Piping Lift: 0 metre</p>
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SET FREE Σ - FSNP & FSNS SERIES

OUTDOOR UNITS

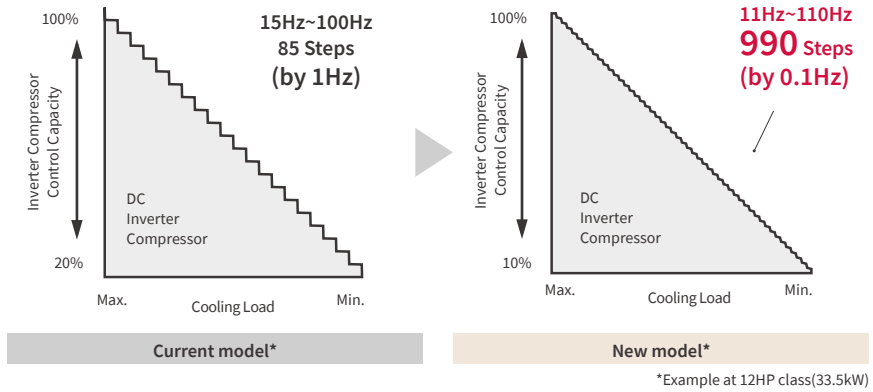
BETTER PERFORMANCE

3 POINTS IMPROVEMENT

1) COMPRESSOR

Greater capacity control

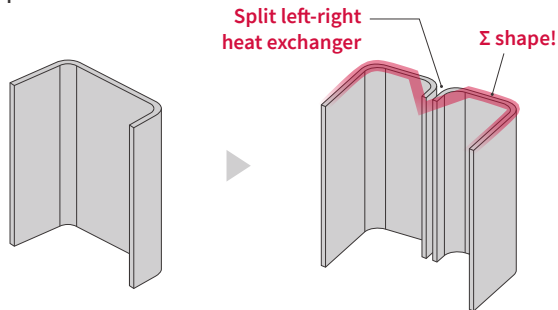
The highly improved performance as well as greater energy saving is achieved by adopting newly developed high efficiency DC inverter compressor, with outstandingly precise control technology of 0.1Hz increments inverter frequency. Another feature is the dramatically extended working range, enabled by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



2) HEAT EXCHANGER

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

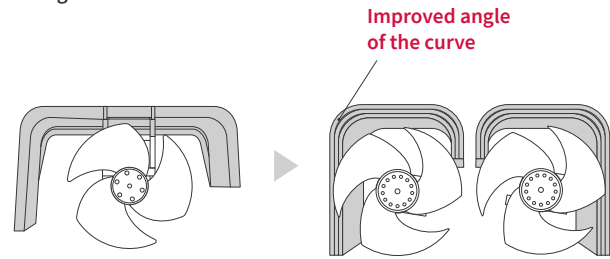
New shape



Current model (single module)

New single medium & Large cabinet

New angle



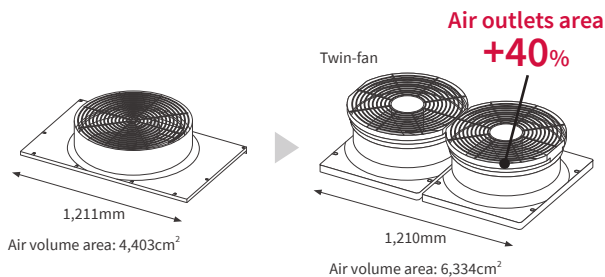
Current model (single module)

New single medium & Large cabinet

3) FAN POWER

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

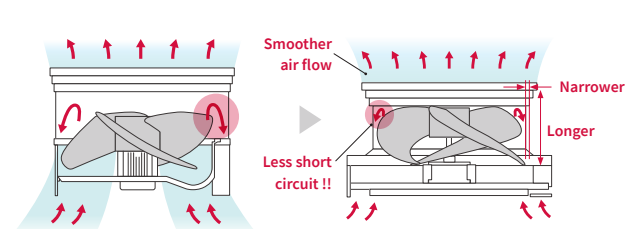
Expansion of air outlets



Current model

New model

Improvement in bell-mouth



Current model

New model

SMOOTH DRIVE: SUPERIOR REFRIGERENT CYCLE CONTROL 

“Smooth Drive” is designed to solve the issue that “Efficiency is much lower in low load operation” which has been raised by specialists for long time, by optimizing both compressor and fan operation in the smoothest way. Exclusive to Hitachi VRF technology, this newly developed refrigerant cycle control technology, Smooth Drive, helps you achieve new standards in performance and efficiency with our new outdoor units.

How does it benefit you?



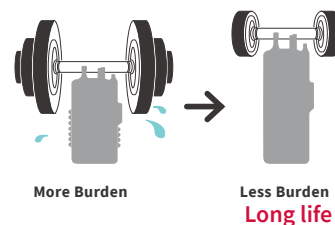
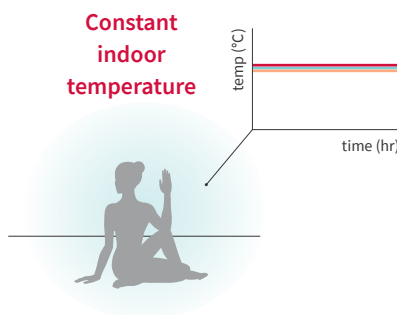
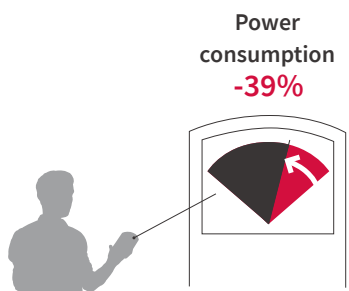
Efficiency
Power consumption is reduced by -39% in the testing condition at air conditioning load 33%.



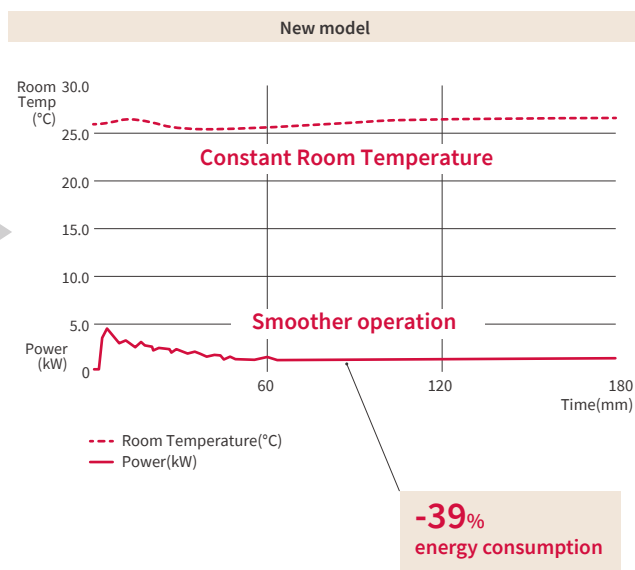
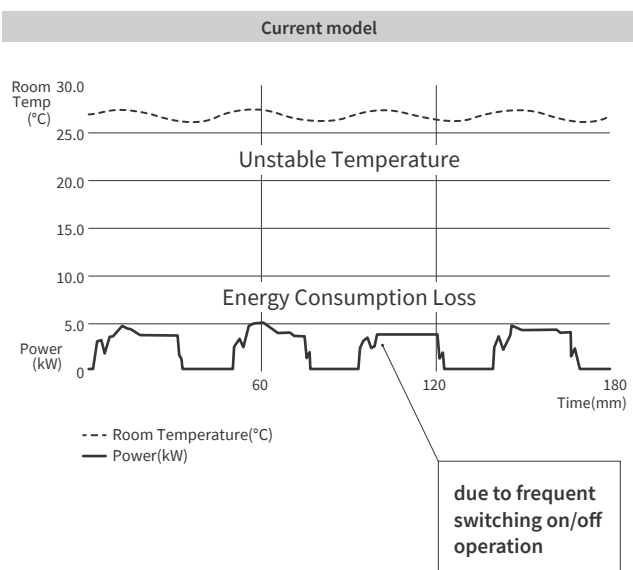
Comfort
More constant indoor temperature achieved by better responsiveness thanks to direct compressor frequency control.



Reliability
Less burden on compressor thanks to suppressing continuous on/off at low load operation, leading to less liquid-back and less shock into the scroll compressor.



Actual example of the new compressor control



DESIGN FLEXIBILITY

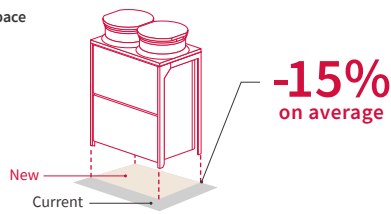
EASIER HANDLING OUTDOOR UNITS

SET FREE Σ outdoor units are compact, lightweight and easily transportable; designed to make life easier for the people who specify, install and service them. Offering a wide choice of capacities with compact and flexible piping options, each unit can be connected to up to 64 indoor units.

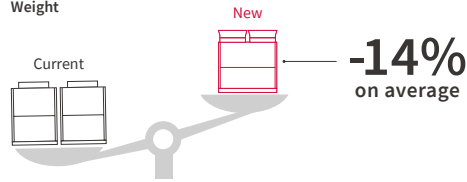
COMPACT

High Efficiency - FSNP series

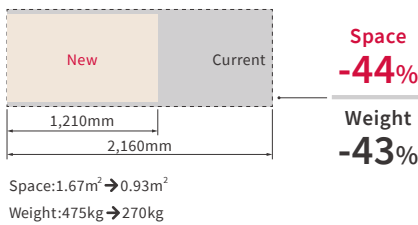
Space



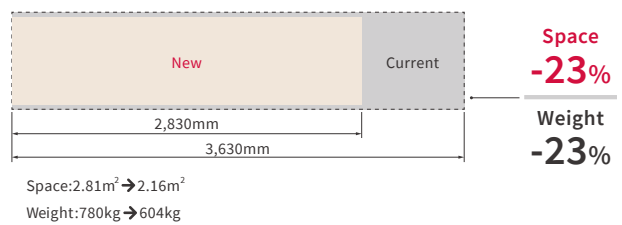
Weight



14HP class
4.0kW

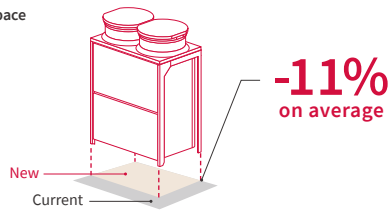


26HP class
73.0kW

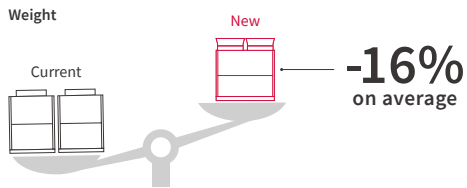


Standard - FSNS series

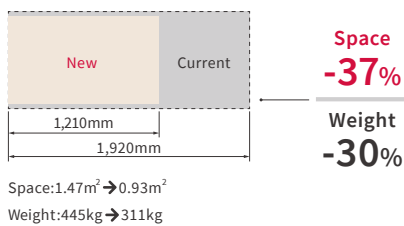
Space



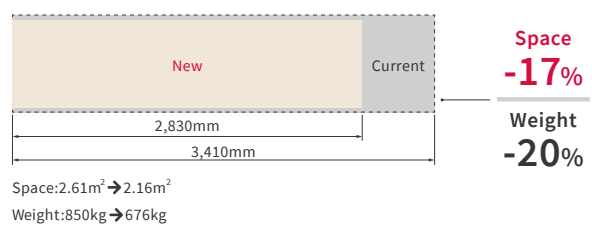
Weight



18HP class
50.0kW



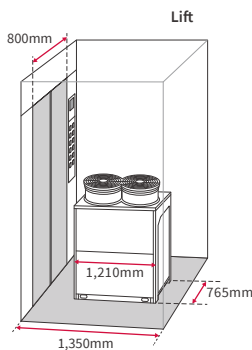
42HP class
118.0kW



EASY TRANSPORTATION

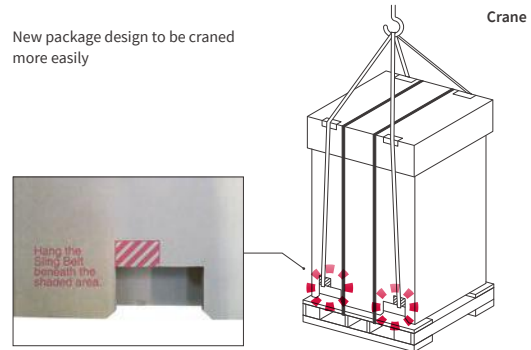
Smaller

Can be transported in an elevator
High Efficiency - FSNP series:
14HP class(40.0kW)
Standard - FSNS series:
18HP class(50.0kW)



Lighter

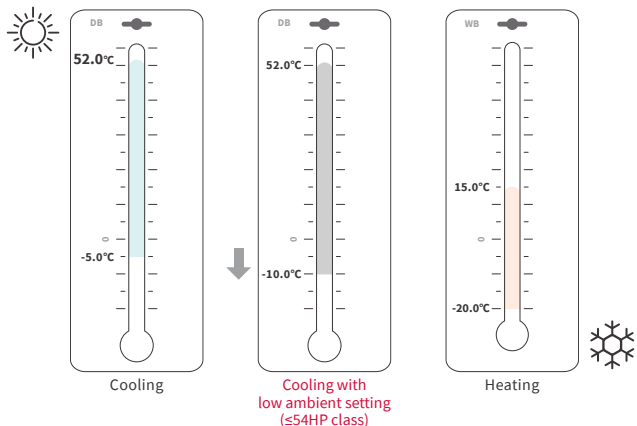
New package design to be craned more easily



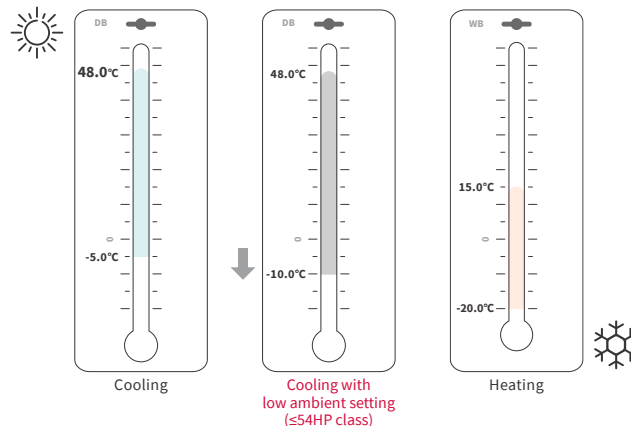
OPERATION TEMPERATURE RANGE

Expansion of scope of outdoor operating temperature

High Efficiency - FSNP series



Standard - FSNS series



NOTES:

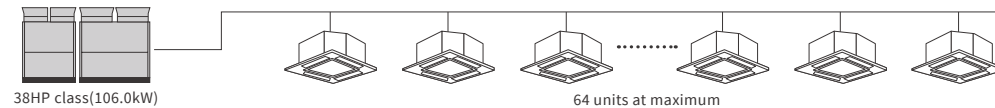
*Refer to the technical catalog for the detail.

** There are some conditions for "Low Ambient Setting". Refer to the technical catalogue for the detail, and, consult your dealer in inquiry.

IDU COMBINATIONS RANGE

Expansion of number of connectable indoor units

Standard - FSNS series



Up to **130%**

Outdoor Unit Capacity_HP class	5	6	8	10	12	14	16, 18	20	22	24	26	28	30	32	34	36	38-54	56-96
Range of Combination Capacity	50-150%: High Efficiency Type (FSNP series)(5-54HP class) 50-130%: High Efficiency Type (FSNP series)(56-72HP class) & Standard Type (FSNS series)																	
Connectable Indoor Units Q'ty	8	9	13	16	19	23	26	33	36	40	43	47	50	53	56	59	64	64
Recommended Connectable Indoor Units Q'ty	5	5	8	10	10	16	16	18	20	26	26	32	32	32	32	32	38	38

NOTES:

- The connectable indoor unit capacity ratio can be calculated as follows. Connectable Indoor Unit Capacity Ratio=Total Indoor Unit Capacity/Total Outdoor Unit Capacity
- For the system under which all the indoor units are supposed to operate simultaneously, the total indoor unit capacity should be less than outdoor unit capacity. Otherwise, it may cause a decrease of operating performance and operating limit in overload operation.
- For the system under which all the indoor units are not supposed to operate simultaneously, the total indoor unit capacity is available up to 130% (or 150%) against the outdoor unit capacity.
- When operating the outdoor unit in cold areas with temperatures of -10.0°C, or under the high heating load conditions, the total indoor unit capacity should be less than 100% against the outdoor unit capacity and the total piping length should be less than 300 metre.
- The air flow volume for indoor units of 0.8 and 1.0HP class is set higher than that for indoor units of 1.5HP class or more. Make sure to select appropriate indoor units when installing indoor units where cold draft may occur during heating operation. If installing indoor units in such places, refer to the recommended number of connectable indoor units.
- For connecting Tempclean Indoor Unit and Outdoor Air Processing Air Conditioner, the number of the indoor units should be within recommended connectable indoor units number.
- If combination capacity of indoor units exceed 100% of outdoor unit capacity, there might be the possibility of insufficient capacity of 130% (High Efficiency Type (FSNP series) (56-72HP class)/ Standard type (FSNS series)) and 150% (High Efficiency Type (FSNP series)(5-54HP class)) combination ratio. Refer to the technical catalog for the detail. If combination capacity exceed 130%(High Efficiency - FSNP series: 56-72HP class & Standard - FSNS series) or 150%(High Efficiency - FSNP series: 5-54HP class) contact your distributor or dealer.

SET FREE Σ - FSNP & FSNS SERIES

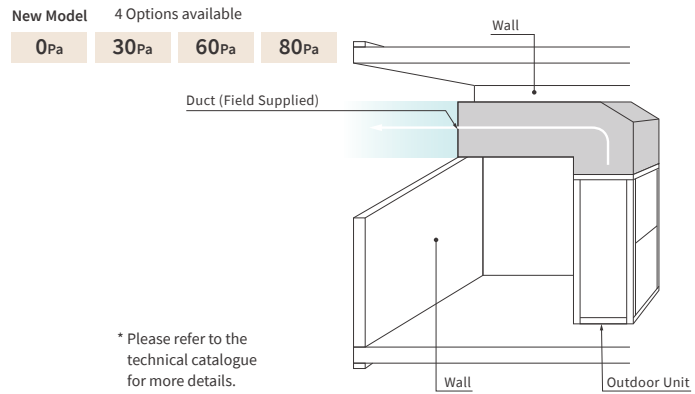
OUTDOOR UNITS

IMPROVED EXTERNAL STATIC PRESSURE

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

Offers more options for the indoor installation of the outdoor unit

- Less piping length
- Lower installation cost
- Visual aesthetics



PIPING CONNECTION WORKABILITY

Improvement of restrictions on piping construction

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

Maximum piping length	Total sum	1,000m
Maximum length from ODU stope valve or Piping connection kit to Terminal IDU	Actual	165m
	Equivalent	190m
Between Piping Connection Kit and Each ODU		10m
Between 1st branch Multi Kit and the farthest IDU		90m
Between each Multi Kit and each IDU		40m

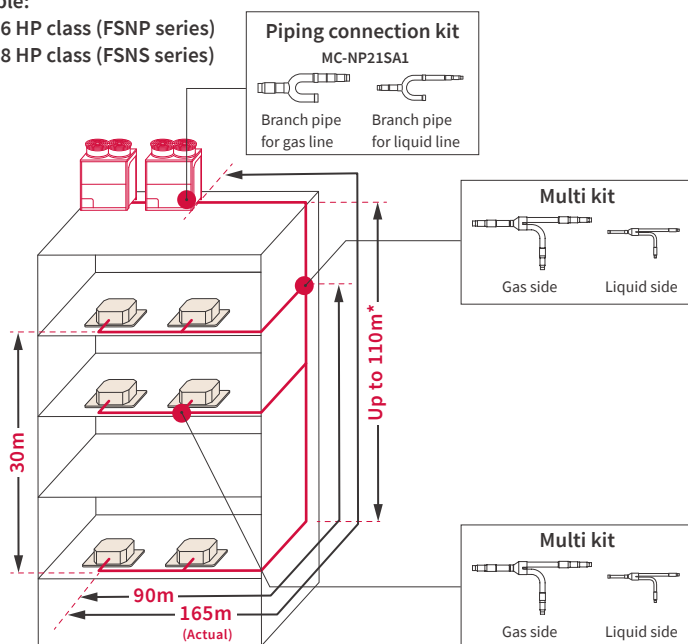
Maximum level difference	Between ODUs	0.1m
Between ODU and IDU	ODU above IDU	Standard: 50m Optional: 110m
	IDU above ODU	Standard: 40m Optional: 110m
Between IDUs		30m

Notes:

1. Please consult your distributor if your required system is over the recommended connectable number of indoor units.
2. Maximum level difference between ODU and IDU (ODU above IDU) for 56-72HP class (High Efficiency - FSNP series) & 56-96HP class (Standard - FSNS series) is 90 metre. Longer piping (up to 110 metre) is available for up to 54HP class only.
3. Your contact to distributor is required when maximum level different between ODU and IDU is over 50 metre (ODU above IDU) / 40 metre (IDU over ODU).

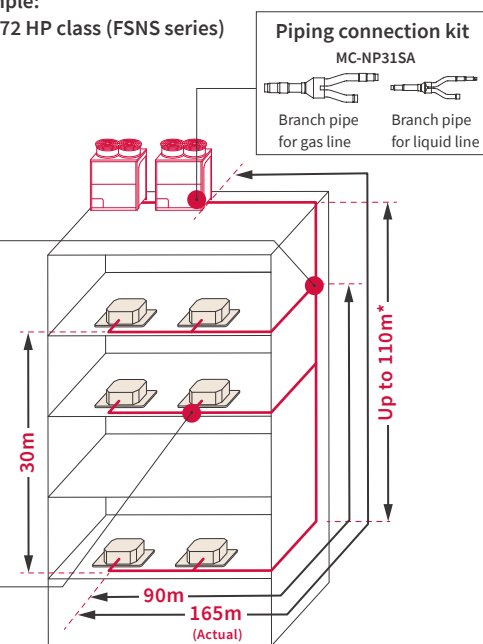
Example:

- 26-36 HP class (FSNP series)
- 26-48 HP class (FSNS series)



Example:

- 56-72 HP class (FSNS series)

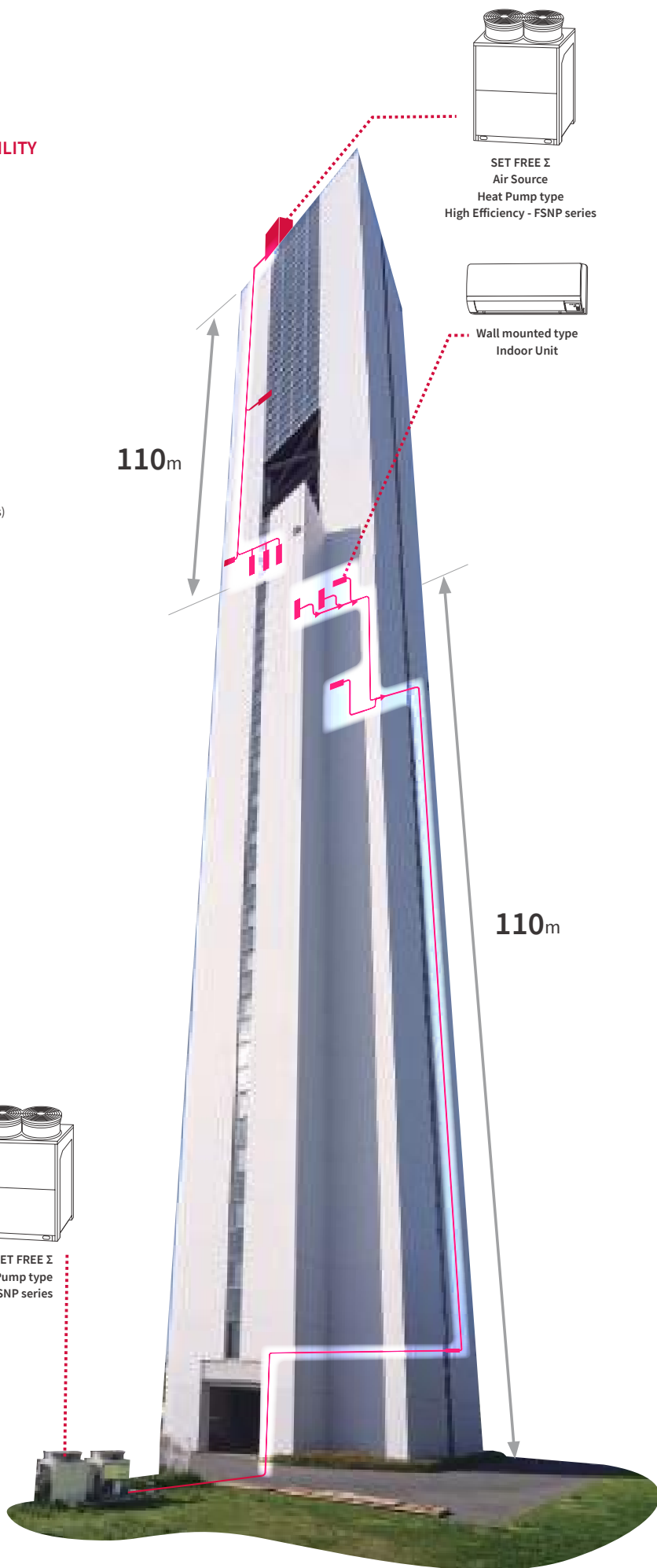


DEDICATED TO HIGH PERFORMANCE AND RELIABILITY

Hitachi's G1TOWER was completed in 2010. One of the world's highest elevator research towers, it's the setting for tests on high-performance, reliable elevators that fit the needs of increasingly high-rise, large-scale buildings inside and outside of Japan.

We also use this tower to test our actual products in line with these trends to evaluate their performance and reliability.

Supported by
 Name: G1TOWER
 Address: 1070 Ichige, Hitachinaka-shi, Ibaraki Prefecture(in Mito Works)
 Land area: 388m²
 Building size: 213.5m above ground, 15m below ground
 Floors: Nine above ground, one below ground
 Owner: Building Systems Business Unit; Hitachi, Ltd.
http://www.hitachi.com/businesses/elevator/about_us/g1tower/



SET FREE Σ - FSNP & FSNS SERIES

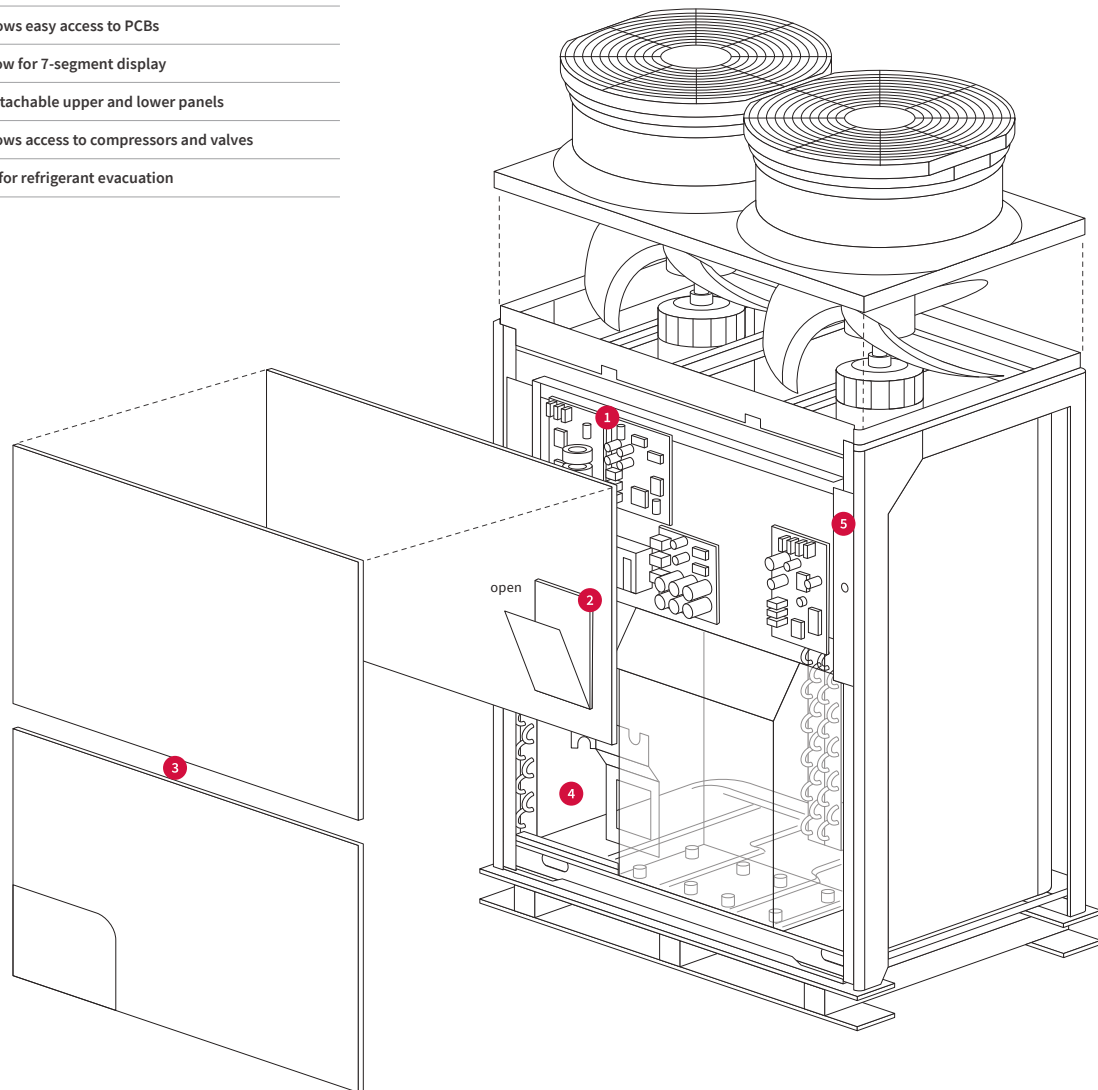
EASE OF MAINTENANCE

With a 7-segment display, revised upper and lower panels and convenient access to compressors and valves, SET FREE Σ outdoor units are easier to access, manage and maintain.

New design features

- Easy maintenance via redesigned service access points
- Upper panel section provides high visibility and easy replacement of PCBs
- Lower panel is independently removable, allowing access to compressors and expansion valves for easy refrigerant recovery

1	Upper section allows easy access to PCBs
2	New access window for 7-segment display
3	Independently detachable upper and lower panels
4	Lower section allows access to compressors and valves
5	New DSW setting for refrigerant evacuation



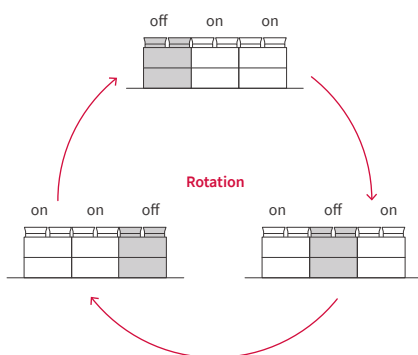
RELIABILITY

BUILT TO PERFORM

You can count on SET FREE Σ to perform reliably in the harshest of environments. The cabinet is built on with a toughened, rigid frame designed to withstand external shocks. Even in the unlikely event of one unit in the module failing, the emergency backup system ensures uninterrupted operation by distributing the load to the modular units.

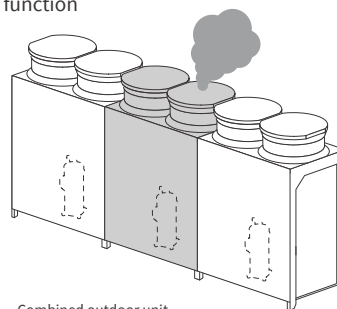
ROTATIONAL OPERATION

- To improve unit endurance, standardized running time evenly distributes the load by rotating the order of compressor operation



SYSTEM FAILURE PREVENTION

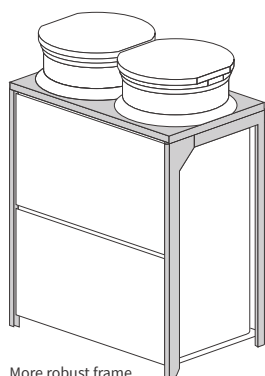
- In case of a combination unit
- The Backup Operation Function prevents the system from coming to a complete stop when module failure occurs
 - If one module should fail, the system can continue to operate using the remaining outdoor units
 - An alarm is triggered and emergency operation can be activated via an individual remote control
 - Emergency operation can be performed within 8 hours after unit stoppage
 - At least 2 modules (combined unit) are required for this function



Combined outdoor unit

SOLID EXTERNAL PARTS

- Increased rigidity in the front and back of the frame reduces the possibility of damage from external impacts

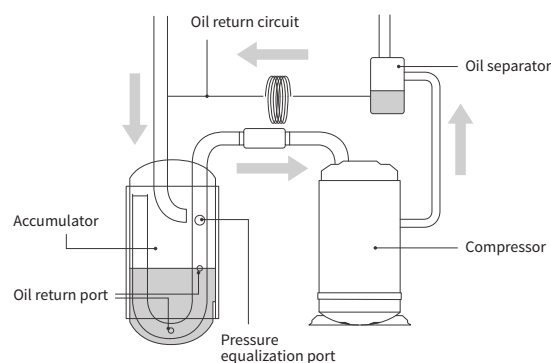


More robust frame

OIL RETURN CONTROL

As well as reducing lubricating oil loss, the patented oil return control cycle consumes less energy and produces much less noise in the surrounding environment – resulting in higher efficiency and greater comfort for occupants.

- Every hour, oil return operation activates for just 60 seconds (cooling mode)/120 seconds (heating mode)
- During oil return mode, indoor units can continue to operate normally



ANTI-CORROSION

- Optional anti-corrosion treatment improves reliability in coastal environments

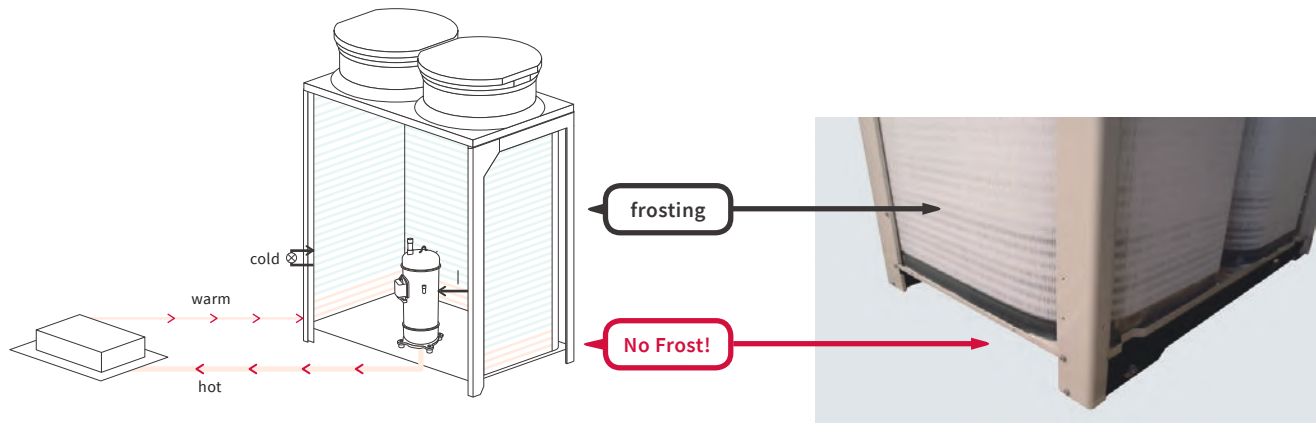
SUPERIOR DEFROSTING PERFORMANCE

During heating mode, revolutionary defrosting technology ensures trouble free operation and lower maintenance. Intelligent sensing detects when defrosting is required and instantly adjusts the exterior case temperature to eliminate ice and frost.

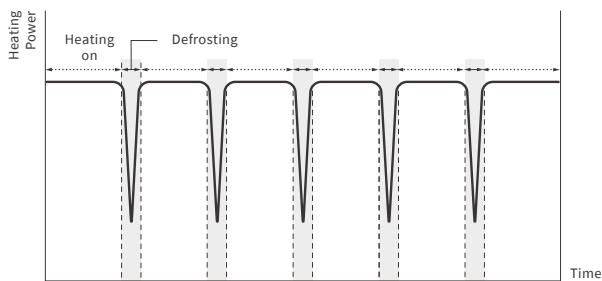
- The lower part of heat exchanger uses sub-cooling refrigerant that prevents frost and ice formation to provide continuous heating
- For the comfort of your building occupants, indoors unit fans are stopped during defrosting so that no cold air is blown on those inside
- The maximum defrosting interval is now 250 minutes

Please refer to the Technical Catalog for more information on defrosting technology.

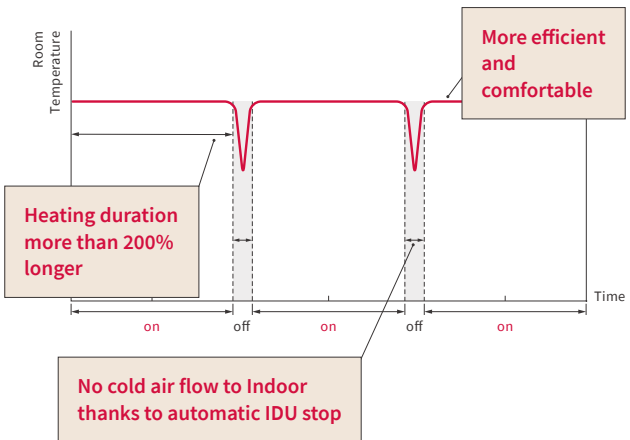
image



Current Model (image)
Unstable Temperature





New Model (image)
More constant Temperature



RESISTANCE TO SALT DAMAGE SPECIFICATIONS PRODUCTS FOR ORDER

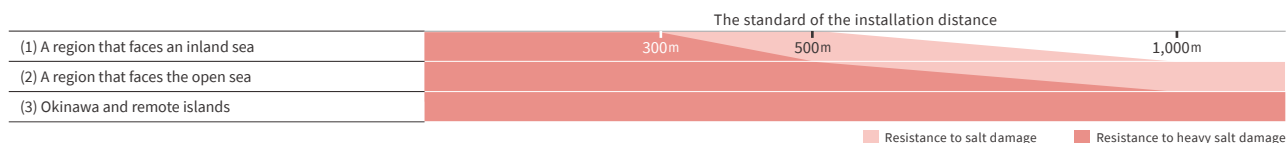
ABOUT THE INSTALLATION LOCATION

	Resistance to salt damage specifications	Resistance to heavy salt damage specifications
Installation Location	A location that is not exposed to sea breezes, but that appears to be suitable for such an atmosphere 	A place that is susceptible to sea breezes (But the device is not directly exposed to water containing salt.) 
Requirements for installation location	<ul style="list-style-type: none"> • A location where the outdoor unit is rinsed by the rain • A location that is not exposed to sea breezes • A location where the distance from the installation location of the outdoor unit to the sea is between approximately 300 meters and one kilometer • A location where the outdoor unit is in the shelter of a building 	<ul style="list-style-type: none"> • A location where the outdoor unit receives little rain • A location that is directly exposed to sea breezes • A location where the distance from the installation location of the outdoor unit to the sea is up to approximately 300 meters • A location where the outdoor unit is mounted on the front of a building (beach side) • A location where corrugated iron roofs and the steel parts of balconies near the installation location of the outdoor unit are often repainted

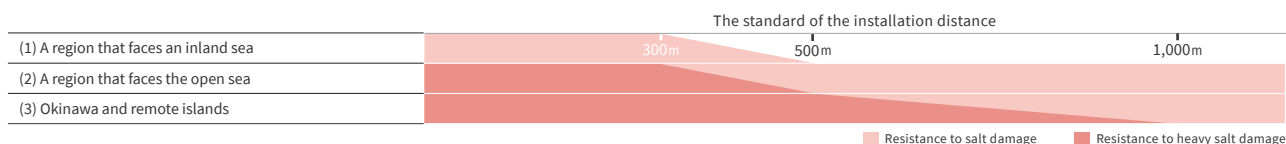
SET FREE Σ – FSNP & FSNS SERIES

THE STANDARD OF THE INSTALLATION DISTANCE FROM THE BEACH (conditions vary according to the installation environment)

1 A LOCATION THAT RECEIVES DIRECT SEA BREEZES



2 A LOCATION THAT DOES NOT RECEIVE DIRECT SEA BREEZES



OUTDOOR UNITS

POINTS TO NOTE FOR INSTALLATION, MAINTENANCE AND MANAGEMENT

Points to note for installation (regarding maintenance and management)

The units of JRA specifications for resistance to salt damage and resistance to heavy salt damage are made with strengthened materials and paints, but they are not fully protected against corrosion.

It is therefore necessary to increase the anti-corrosion effects by carrying out the following installation plans and maintenance work.

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

Points to note for maintenance

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

*If you install the device in a special atmosphere, you will need to undertake sufficient special consideration.

Units that are resistant to salt damage are based on the "Standard of Testing Resistance to Salt Damage of Air Conditioning Devices JRA9002" of the Japan Refrigeration and Air Conditioning Industry Association (JRAIA).

“If we are advertising that the heating function works in an environment down to -20°C , we will test up to -24°C .”

**Mr Tomokazu Inaba,
Quality Assurance**



SET FREE Σ - FSNP & FSNS SERIES

OUTDOOR UNITS

SPECIFICATIONS (High Efficiency - FSNP series)



HP Class			5	6	8	10	12	14	
Model			RAS-5FSNP	RAS-6FSNP	RAS-8FSNP	RAS-10FSNP	RAS-12FSNP	RAS-14FSNP	
Power Supply			3~/N, [400V/50Hz] [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
Cabinet	Color	Munsell Code	Natural Gray (1.0Y 8.5/0.5)						
	Outer Dimensions	H×W×D	mm	1,675×950×765	1,675×950×765	1,675×1,210×765	1,675×1,210×765	1,675×1,210×765	1,675×1,210×765
Sound Level	Sound Power Level		dB(A)	75	78	77	82	83	85
	Sound Pressure Level		dB(A)	54	56	55	59	60	62
Weight	Net Weight	400V/50Hz	kg	190	190	255	259	260	270
		380-415V/50Hz 380V/60Hz	kg	185	185	250	254	255	265
	Gross Weight	400V/50Hz	kg	206	206	273	277	278	288
		380-415V/50Hz 380V/60Hz	kg	201	201	268	272	273	283
Refrigerant	Type		R410A						
	Flow Control		Micro-Computer Control Expansion Valve						
	Charge (before Shipment)		kg	4.7	5.0	8.5	8.5	9.3	9.3
Compressor	Type		Hermetic (Scroll)						
	Model		AA50PHD	AA50PHD	AA50PHD	DB65PHD	DC80PHD	DC80PHD	
	Quantity		1	1	1	1	1	1	
	Motor Output	(Pole)	kW	1.9(6)	2.1(6)	3.1(6)	3.8(6)	5.1(6)	6.4(6)
Refrigeration Oil	Type		FVC68D						
	Charge		L/Unit	6.0	6.0	6.0	6.0	6.0	6.9
Heat Exchanger			Multi-Pass Cross-Finned Tube						
Condenser Fan	Type		Propeller Fan						
	Quantity		1	1	2	2	2	2	
	Air Flow Rate		m ³ /min.	150	170	185	219	219	243
	Motor Output	(Pole)	kW	0.20(8)	0.28(8)	0.18(8)×2	0.26(8)×2	0.26(8)×2	0.34(8)×2
Main Refrigerant Piping	Liquid Line		mm	φ9.52	φ9.52	φ9.52	φ9.52	φ12.7	φ12.7
	Heat Pump System (2 Pipes)	Gas Line	mm	φ15.88	φ19.05	φ19.05	φ22.2	φ25.4	φ25.4
Package	Dimensions	H×W×D	mm	1,800×1,030×810	1,800×1,030×810	1,800×1,290×810	1,800×1,290×810	1,800×1,290×810	1,800×1,290×810
	Measurement		m ³	1.5	1.5	1.9	1.9	1.9	1.9

Notes:

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

Cooling Operation Conditions	Heating Operation Conditions
Indoor Air Inlet Temperature: 27.0°C DB	Indoor Air Inlet Temperature: 20.0°C DB
19.0°C WB	Outdoor Air Inlet Temperature: 7.0°C DB
Outdoor Air Inlet Temperature: 35.0°C DB	6.0°C WB
Piping Length: 7.5 metre	Piping Length: 7.5 metre
Piping Lift: 0 metre	Piping Lift: 0 metre
- The sound pressure is based on the following conditions.
 The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.



SET FREE Σ – FSNP & FSNS SERIES

HP Class				16	18	20	22	24
Model				RAS-16FSNP	RAS-18FSNP	RAS-20FSNP	RAS-22FSNP	RAS-24FSNP
Combination of Base Unit				-	-	RAS-10FSNP RAS-10FSNP	RAS-10FSNP RAS-12FSNP	RAS-12FSNP RAS-12FSNP
Power Supply				3~N, [400V/50Hz] [380-415V/50Hz] [380V/60Hz] [220V/60Hz]				
Nominal Cooling Capacity		kW		45.0	50.0	56.0	61.5	67.0
Nominal Heating Capacity		kW		50.0	56.0	63.0	69.0	77.5
Cabinet	Color	Munsell Code	Natural Gray (1.0Y 8.5/0.5)					
	Outer Dimensions	H×W×D	mm	1,675×1,600×765	1,675×1,600×765	1,675×2,440×765	1,675×2,440×765	1,675×2,440×765
Sound Level	Sound Power Level		dB(A)	85	86	85	86	86
	Sound Pressure Level		dB(A)	65	65	62	62.5	63
Weight	Net Weight	400V/50Hz	kg	345	360	259+259	259+260	260+260
		380-415V/50Hz 380V/60Hz	kg	340	355	254+254	254+255	255+255
	Gross Weight	400V/50Hz	kg	365	380	277+277	277+278	278+278
		380-415V/50Hz 380V/60Hz	kg	360	375	272+272	272+273	273+273
Refrigerant	Type	R410A						
	Flow Control	Micro-Computer Control Expansion Valve						
	Charge (before Shipment)	kg	10.0	10.6	17.0	17.8	18.6	
Compressor	Type	Hermetic (Scroll)						
	Model	AA50PHD+AA50PHD		DC80PHD+DC80PHD	DB65PHD+DB65PHD	DB65PHD+DC80PHD	DC80PHD+DC80PHD	
	Quantity	2		2	2	2	2	
	Motor Output	(Pole)	kW	3.7(6)×2	4.4(6)×2	3.8(6)×2	3.8(6)×1+5.1(6)×1	5.1(6)×2
Refrigeration Oil	Type	FVC68D						
	Charge	L/Unit	7.9	7.9	12	12	12	
Heat Exchanger				Multi-Pass Cross-Finned Tube				
Condenser Fan	Type	Propeller Fan						
	Quantity	2		2	4	4	4	
	Air Flow Rate		m ³ /min.	326	362	219 × 2	219 × 2	219 × 2
	Motor Output	(Pole)	kW	0.47(8)×2	0.62(8)×2	0.26(8)×2+0.26(8)×2	0.26(8)×2+0.26(8)×2	0.26(8)×2+0.26(8)×2
Main Refrigerant Piping	Liquid Line		mm	φ12.7	φ15.88	φ15.88	φ15.88	φ15.88
	Heat Pump System (2 Pipes)	Gas Line		mm	φ28.58	φ28.58	φ28.58	φ28.58
Package	Dimensions	H×W×D	mm	1,800×1,680×810	1,800×1,680×810	-	-	-
	Measurement		m ³	2.4	2.4	-	-	-

OUTDOOR UNITS

Notes:

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

Cooling Operation Conditions	Heating Operation Conditions
Indoor Air Inlet Temperature: 27.0°C DB	Indoor Air Inlet Temperature: 20.0°C DB
19.0°C WB	Outdoor Air Inlet Temperature: 7.0°C DB
Outdoor Air Inlet Temperature: 35.0°C DB	6.0°C WB
Piping Length: 7.5 metre (RAS-16~18FSNP)	Piping Length: 7.5 metre (RAS-16~18FSNP)
10.0 metre (RAS-20~24FSNP)	10.0 metre (RAS-20~24FSNP)
Piping Lift: 0 metre	Piping Lift: 0 metre
- The sound pressure is based on the following conditions.
The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.
- Except for the specified combination in the table (20~72HP class 56.0~201.0kW), there is no other combination of the base unit.
- The width of outer dimension, it is the value when each distance between the base outdoor units is specified to 20mm.

SPECIFICATIONS (High Efficiency - FSNP series)



HP Class			26	28	30	32	34	36	
Model			RAS-26FSNP	RAS-28FSNP	RAS-30FSNP	RAS-32FSNP	RAS-34FSNP	RAS-36FSNP	
Combination of Base Unit			RAS-10FSNP RAS-16FSNP	RAS-12FSNP RAS-16FSNP	RAS-12FSNP RAS-18FSNP	RAS-14FSNP RAS-18FSNP	RAS-16FSNP RAS-18FSNP	RAS-18FSNP RAS-18FSNP	
Power Supply			3~/N, [400V/50Hz] [380-415V/50Hz] [380V/60Hz] [220V/60Hz]						
Nominal Cooling Capacity		kW	73.0	77.5	85.0	90.0	95.0	100.0	
Nominal Heating Capacity		kW	82.5	90.0	95.0	100.0	106.0	112.0	
Cabinet	Color	Munsell Code	Natural Gray (1.0Y 8.5/0.5)						
	Outer Dimensions	H×W×D	mm	1,675×2,830×765	1,675×2,830×765	1,675×2,830×765	1,675×2,830×765	1,675×3,220×765	1,675×3,220×765
Sound Level	Sound Power Level		dB(A)	87	87	88	89	89	89
	Sound Pressure Level		dB(A)	66	66	66	67	68	68
Weight	Net Weight	400V/50Hz	kg	259+345	260+345	260+360	270+360	345+360	360+380
		380-415V/50Hz 380V/60Hz							
	Gross Weight	220V/60Hz	kg	254+340	255+340	255+355	265+355	340+355	355+355
		400V/50Hz 380-415V/50Hz 380V/60Hz	kg	277+365	278+365	278+380	288+380	365+380	380+380
Refrigerant	Type	R410A							
	Flow Control	Micro-Computer Control Expansion Valve							
	Charge (before Shipment)	kg	18.5	19.3	19.9	19.9	20.6	21.2	
Compressor	Type	Hermetic (Scroll)							
	Model		DB65PHD +AA50PHD +AA50PHD	DC80PHD +AA50PHD +AA50PHD	DC80PHD +DC80PHD +DC80PHD	DC80PHD +DC80PHD +DC80PHD	AA50PHD +AA50PHD +DC80PHD +DC80PHD	DC80PHD +DC80PHD +DC80PHD	
	Quantity		3	3	3	3	4	4	
	Motor Output	(Pole)	kW	3.8(6)×1+3.7(6)×2	5.1(6)×1+3.7(6)×2	5.1(6)×1+4.4(6)×2	6.4(6)×1+4.4(6)×2	3.7(6)×2+4.4(6)×2	4.4(6)×2+4.4(6)×2
Refrigeration Oil	Type	FVC68D							
	Charge	L/Unit	13.9	13.9	13.9	14.8	15.8	15.8	
Heat Exchanger	Multi-Pass Cross-Finned Tube								
Condenser Fan	Type	Propeller Fan							
	Quantity		4	4	4	4	4	4	
	Air Flow Rate	m ³ /min.	219+326	219+326	219+362	243+362	326+362	362×2	
	Motor Output	(Pole)	kW	0.26(8)×2 +0.47(8)×2	0.26(8)×2 +0.47(8)×2	0.26(8)×2 +0.62(8)×2	0.34(8)×2 +0.62(2)×2	0.47(2)×2 +0.62(2)×2	0.62(8)×2 +0.62(8)×2
Main Refrigerant Piping	Liquid Line	mm	φ19.05	φ19.05	φ19.05	φ19.05	φ19.05	φ19.05	
Heat Pump System (2 Pipes)	Gas Line	mm	φ31.75	φ31.75	φ31.75	φ31.75	φ31.75	φ38.1	

Notes:

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

Cooling Operation Conditions Indoor Air Inlet Temperature: 27.0°C DB 19.0°C WB Outdoor Air Inlet Temperature: 35.0°C DB Piping Length: 10.0 metre (RAS-26~30FSNP) 12.5 metre (RAS-32~36FSNP) Piping Lift: 0 metre	Heating Operation Conditions Indoor Air Inlet Temperature: 20.0°C DB Outdoor Air Inlet Temperature: 7.0°C DB 6.0°C WB Piping Length: 10.0 metre (RAS-26~30FSNP) 12.5 metre (RAS-32~36FSNP) Piping Lift: 0 metre
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- The sound pressure is based on the following conditions.
 The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.
- Except for the specified combination in the table (20~72HP class 56.0~201.0kW), there is no other combination of the base unit.
- The width of outer dimension, it is the value when each distance between the base outdoor units is specified to 20mm.



SET FREE Σ – FSNP & FSNS SERIES

HP Class				38	40	42	44	46
Model				RAS-38FSNP	RAS-40FSNP	RAS-42FSNP	RAS-44FSNP	RAS-46FSNP
Combination of Base Unit				RAS-12FSNP RAS-12FSNP RAS-14FSNP	RAS-12FSNP RAS-14FSNP RAS-14FSNP	RAS-14FSNP RAS-14FSNP RAS-14FSNP	RAS-12FSNP RAS-14FSNP RAS-18FSNP	RAS-14FSNP RAS-14FSNP RAS-18FSNP
Power Supply				3~/N, [400V/50Hz] [380-415V/50Hz] [380V/60Hz] [220V/60Hz]				
Nominal Cooling Capacity		kW		106.0	112.0	118.0	122.0	128.0
Nominal Heating Capacity		kW		118.0	125.0	132.0	140.0	145.0
Cabinet		Color		Natural Gray (1.0Y 8.5/0.5)				
		Munsell Code						
		Outer Dimensions		H×W×D		mm		
				1,675×3,670×765	1,675×3,670×765	1,675×3,670×765	1,675×4,060×765	1,675×4,060×765
Sound Level		Sound Power Level		dB(A)		89		89
		Sound Pressure Level		dB(A)		65.5		66
						67		67.5
								68
Weight		Net Weight		400V/50Hz		kg		260+260+270
				380-415V/50Hz				260+270+270
				380V/60Hz				270+270+270
				220V/60Hz				260+270+360
								270+270+360
		Gross Weight		400V/50Hz		kg		278+278+288
				380-415V/50Hz				278+288+288
				380V/60Hz				288+288+288
				220V/60Hz				278+288+380
								288+288+380
Refrigerant		Type		R410A				
		Flow Control		Micro-Computer Control Expansion Valve				
		Charge (before Shipment)		kg		27.9		27.9
						27.9		29.2
								30.5
Compressor		Type		Hermetic (Scroll)				
		Model		DC80PHD+DC80PHD +DC80PHD		DC80PHD+DC80PHD +DC80PHD		DC80PHD+DC80PHD +DC80PHD
		Quantity		3		3		4
		Motor Output		(Pole)		kW		5.1(6)×2+6.4(6)×1
								5.1(6)×1+6.4(6)×2
								6.4(6)×3
								5.1(6)×1+6.4(6)×1 +4.4(6)×2
								6.4(6)×1+6.4(6)×1 +4.4(6)×2
Refrigeration Oil		Type		FVC68D				
		Charge		L/Unit		18.9		19.8
						18.9		20.7
								20.8
								21.7
Heat Exchanger				Multi-Pass Cross-Finned Tube				
Condenser Fan		Type		Propeller Fan				
		Quantity		6		6		6
		Air Flow Rate		m ³ /min.		219×2+243		219+243×2
						243×3		219+243×362
								243×2+362
		Motor Output		(Pole)		kW		0.26(8)×2+0.26(8)×2 +0.34(8)×2
								0.26(8)×2+0.34(8)×2 +0.34(8)×2
								0.34(8)×2+0.34(8)×2 +0.34(8)×2
								0.26(8)×2+0.34(8)×2 +0.62(8)×2
								0.34(8)×2+0.34(8)×2 +0.62(8)×2
Main Refrigerant Piping		Liquid Line		mm		φ19.05		φ19.05
		Gas Line		mm		φ38.1		φ38.1
						φ38.1		φ38.1
								φ38.1
								φ38.1

OUTDOOR UNITS

Notes:

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

Cooling Operation Conditions	Heating Operation Conditions
Indoor Air Inlet Temperature: 27.0°C DB	Indoor Air Inlet Temperature: 20.0°C DB
19.0°C WB	Outdoor Air Inlet Temperature: 7.0°C DB
Outdoor Air Inlet Temperature: 35.0°C DB	6.0°C WB
Piping Length: 12.5 metre (RAS-38-44FSNP)	Piping Length: 12.5 metre (RAS-38-44FSNP)
15.0 metre (RAS-46FSNP)	15.0 metre (RAS-46FSNP)
Piping Lift: 0 metre	Piping Lift: 0 metre
- The sound pressure is based on the following conditions.
 The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.
- Except for the specified combination in the table (20~72HP class 56.0~201.0kW), there is no other combination of the base unit.
- The width of outer dimension, it is the value when each distance between the base outdoor units is specified to 20mm.

SPECIFICATIONS (High Efficiency - FSNP series)



HP Class			48	50	52	54		
Model			RAS-48FSNP	RAS-50FSNP	RAS-52FSNP	RAS-54FSNP		
Combination of Base Unit			RAS-12FSNP RAS-18FSNP RAS-18FSNP	RAS-14FSNP RAS-18FSNP RAS-18FSNP	RAS-16FSNP RAS-18FSNP RAS-18FSNP	RAS-18FSNP RAS-18FSNP RAS-18FSNP		
Power Supply			3~/N, [400V/50Hz] [380-415V/50Hz] [380V/60Hz] [220V/60Hz]					
Nominal Cooling Capacity			kW	136.0	140.0	145.0	150.0	
Nominal Heating Capacity			kW	150.0	155.0	160.0	165.0	
Cabinet		Color	Munsell Code				Natural Gray (1.0Y 8.5/0.5)	
		Outer Dimensions	H×W×D	mm	1,675×4,450×765	1,675×4,450×765	1,675×4,840×765	1,675×4,840×765
Sound Level		Sound Power Level	dB(A)	90	90	90	91	
		Sound Pressure Level	dB(A)	68.5	69	70	70	
Weight		Net Weight	400V/50Hz 380-415V/50Hz 380V/60Hz	kg	260+360+360	270+360+360	345+360+360	360+360+360
			220V/60Hz	kg	255+355+355	265+355+355	340+355+355	355+355+355
		Gross Weight	400V/50Hz 380-415V/50Hz 380V/60Hz	kg	278+380+380	288+380+380	365+380+380	380+380+380
			220V/60Hz	kg	273+375+375	283+375+375	360+375+375	375+375+375
Refrigerant		Type	R410A					
		Flow Control	Micro-Computer Control Expansion Valve					
		Charge (before Shipment)	kg	30.5	30.5	31.2	31.8	
Compressor		Type	Hermetic (Scroll)					
		Model	DC80PHD+DC80PHD +DC80PHD+DC80PHD +DC80PHD	DC80PHD+DC80PHD +DC80PHD+DC80PHD +DC80PHD	AA50PHD+AA50PHD +DC80PHD+DC80PHD +DC80PHD+DC80PHD	DC80PHD+DC80PHD +DC80PHD+DC80PHD +DC80PHD+DC80PHD		
		Quantity	5	5	6	6		
		Motor Output	(Pole)	kW	5.1(6)×1+4.4(6)×2+4.4(6)×2	6.4(6)×1+4.4(6)×2+4.4(6)×2	3.7(6)×2+4.4(6)×2+4.4(6)×2	4.4(6)×2+4.4(6)×2+4.4(6)×2
Refrigeration Oil		Type	FVC68D					
		Charge	L/Unit	21.8	22.7	23.7	23.7	
Heat Exchanger		Multi-Pass Cross-Finned Tube						
Condenser Fan		Type	Propeller Fan					
		Quantity	6	6	6	6		
		Air Flow Rate	m ³ /min.	219+362×2	243+362×2	326+362×2	362×3	
		Motor Output	(Pole)	kW	0.26(8)×2+0.62(8)×2 +0.62(8)×2	0.34(8)×2+0.62(8)×2 +0.62(8)×2	0.47(8)×2+0.62(8)×2 +0.62(8)×2	0.62(8)×2+0.62(8)×2 +0.62(8)×2
Main Refrigerant Piping		Liquid Line	mm	φ19.05	φ19.05	φ19.05	φ19.05	
Heat Pump System (2 Pipes)		Gas Line	mm	φ38.1	φ38.1	φ38.1	φ38.1	

Notes:

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

Cooling Operation Conditions	Indoor Air Inlet Temperature: 27.0°C DB 19.0°C WB	Outdoor Air Inlet Temperature: 35.0°C DB	Piping Length: 15.0 metre	Piping Lift: 0 metre
Heating Operation Conditions	Indoor Air Inlet Temperature: 20.0°C DB	Outdoor Air Inlet Temperature: 7.0°C DB	6.0°C WB	Piping Length: 15.0 metre
			Piping Lift: 0 metre	
- The sound pressure is based on the following conditions.
The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.
- Except for the specified combination in the table (20~72HP class 56.0~201.0kW), there is no other combination of the base unit.
- The width of outer dimension, it is the value when each distance between the base outdoor units is specified to 20mm.



SET FREE Σ – FSNP & FSNS SERIES

HP Class		56		58	
Model		RAS-56FSNP		RAS-58FSNP	
Combination of Base Unit		RAS-12FSNP RAS-12FSNP RAS-14FSNP RAS-18FSNP		RAS-12FSNP RAS-14FSNP RAS-14FSNP RAS-18FSNP	
Power Supply		3~/N, [400V/50Hz] [380-415V/50Hz] [380V/60Hz] [220V/60Hz]			
Nominal Cooling Capacity		kW		157.0	
Nominal Heating Capacity		kW		176.0	
Cabinet		Color		Munsell Code	
				Natural Gray (1.0Y 8.5/0.5)	
		Outer Dimensions		H×W×D	
		mm		1,675×5,290×765	
Sound Level		Sound Power Level		dB(A)	
				90	
		Sound Pressure Level		dB(A)	
				68.5	
Weight		Net Weight		400V/50Hz	
				380-415V/50Hz	
				380V/60Hz	
				220V/60Hz	
		kg		260+260+270+360	
				260+270+270+360	
				255+255+265+355	
				255+265+265+355	
		Gross Weight		400V/50Hz	
				380-415V/50Hz	
				380V/60Hz	
				220V/60Hz	
		kg		278+278+288+380	
				278+288+288+380	
				273+273+283+375	
				273+283+283+375	
Refrigerant		Type		R410A	
		Flow Control		Micro-Computer Control Expansion Valve	
		Charge (before Shipment)		kg	
				38.5	
				38.5	
Compressor		Type		Hermetic (Scroll)	
		Model		DC80PHD+DC80PHD+DC80PHD+DC80PHD+DC80PHD	
		Quantity		5	
		Motor Output		(Pole)	
		kW		5.1(6)×2+6.4(6)+4.4(6)×2	
				5.1(6)+6.4(6)×2+4.4(6)×2	
Refrigeration Oil		Type		FVC68D	
		Charge		L/Unit	
				26.8	
				27.7	
Heat Exchanger		Multi-Pass Cross-Finned Tube			
Condenser Fan		Propeller Fan			
		Quantity		8	
		Air Flow Rate		m ³ /min.	
				219 × 2+243+362	
				219+243×2+362	
		Motor Output		(Pole)	
		kW		(0.26(8)×2)×2+0.34(8)×2+0.62(8)×2	
				0.26(8)×2+(0.34(8)×2)×2+0.62(8)×2	
Main Refrigerant Piping		Liquid Line		mm	
				φ19.05	
				φ19.05	
Heat Pump System (2 Pipes)		Gas Line		mm	
				φ44.45	
				φ44.45	

OUTDOOR UNITS

Notes:

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

Cooling Operation Conditions	Heating Operation Conditions
Indoor Air Inlet Temperature: 27.0°C DB	Indoor Air Inlet Temperature: 20.0°C DB
19.0°C WB	Outdoor Air Inlet Temperature: 7.0°C DB
Outdoor Air Inlet Temperature: 35.0°C DB	6.0°C WB
Piping Length: 15.0 metre (RAS-56FSNP)	Piping Length: 15.0 metre (RAS-56FSNP)
17.5 metre (RAS-58FSNP)	17.5 metre (RAS-58FSNP)
Piping Lift: 0 metre	Piping Lift: 0 metre
- The sound pressure is based on the following conditions.
The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.
- Except for the specified combination in the table (20~72HP class 56.0~201.0kW), there is no other combination of the base unit.
- The width of outer dimension, it is the value when each distance between the base outdoor units is specified to 20mm.

SPECIFICATIONS (High Efficiency - FSNP series)



HP Class				60	62
Model				RAS-60FSNP	RAS-62FSNP
Combination of Base Unit				RAS-14FSNP RAS-14FSNP RAS-16FSNP RAS-16FSNP	RAS-14FSNP RAS-16FSNP RAS-16FSNP RAS-16FSNP
Power Supply				3~/N, [400V/50Hz] [380-415V/50Hz] [380V/60Hz] [220V/60Hz]	
Nominal Cooling Capacity		kW		167.0	174.0
Nominal Heating Capacity		kW		188.0	196.0
Cabinet		Color	Munsell Code	Natural Gray (1.0Y 8.5/0.5)	
		Outer Dimensions	H×W×D	mm	1,675×5,680×765
					1,675×6,070×765
Sound Level		Sound Power Level	dB(A)	91	91
		Sound Pressure Level	dB(A)	70	70.5
Weight		Net Weight	400V/50Hz 380-415V/50Hz 380V/60Hz	kg	270+270+345+345
			220V/60Hz	kg	265+265+340+340
		Gross Weight	400V/50Hz 380-415V/50Hz 380V/60Hz	kg	288+288+365+365
			220V/60Hz	kg	283+283+360+360
Refrigerant		Type		R410A	
		Flow Control		Micro-Computer Control Expansion Valve	
		Charge (before Shipment)	kg	38.6	39.3
Compressor		Type		Hermetic (Scroll)	
		Model		DC80PHD+DC80PHD+AA50PHD+AA50PHD +AA50PHD+AA50PHD	DC80PHD+AA50PHD+AA50PHD+AA50PHD +AA50PHD+AA50PHD+AA50PHD
		Quantity		6	7
		Motor Output	(Pole)	kW	6.4(6)×2+(3.7(6)×2)×2
					6.4(6)+(3.7(6)×2)×3
Refrigeration Oil		Type		FVC68D	
		Charge	L/Unit	29.6	30.6
Heat Exchanger				Multi-Pass Cross-Finned Tube	
Condenser Fan		Type		Propeller Fan	
		Quantity		8	8
		Air Flow Rate	m ³ /min.	243×2+326×2	243+326×3
		Motor Output	(Pole)	kW	(0.34(8)×2)×2+(0.47(8)×2)×2
					0.34(8)×2+(0.47(8)×2)×3
Main Refrigerant Piping		Liquid Line	mm	φ19.05	φ19.05
Heat Pump System (2 Pipes)		Gas Line	mm	φ44.45	φ44.45

Notes:

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

Cooling Operation Conditions	Heating Operation Conditions
Indoor Air Inlet Temperature: 27.0°C DB	Indoor Air Inlet Temperature: 20.0°C DB
19.0°C WB	Outdoor Air Inlet Temperature: 7.0°C DB
Outdoor Air Inlet Temperature: 35.0°C DB	6.0°C WB

Piping Length: 17.5 metre
Piping Lift: 0 metre
- The sound pressure is based on the following conditions.
The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.
- Except for the specified combination in the table (20~72HP class 56.0~201.0kW), there is no other combination of the base unit.
- The width of outer dimension, it is the value when each distance between the base outdoor units is specified to 20mm.



SET FREE Σ - FSNP & FSNS SERIES

HP Class				64	66	68	70	72
Model				RAS-64FSNP	RAS-66FSNP	RAS-68FSNP	RAS-70FSNP	RAS-72FSNP
Combination of Base Unit				RAS-16FSNP RAS-16FSNP RAS-16FSNP RAS-16FSNP	RAS-16FSNP RAS-16FSNP RAS-16FSNP RAS-18FSNP	RAS-16FSNP RAS-16FSNP RAS-18FSNP RAS-18FSNP	RAS-16FSNP RAS-18FSNP RAS-18FSNP RAS-18FSNP	RAS-18FSNP RAS-18FSNP RAS-18FSNP RAS-18FSNP
Power Supply				3~/N, [400V/50Hz] [380-415V/50Hz] [380V/60Hz] [220V/60Hz]				
Nominal Cooling Capacity		kW		179.0	184.0	190.0	196.0	201.0
Nominal Heating Capacity		kW		202.0	207.0	213.0	220.0	225.0
Cabinet	Color	Munsell Code	Natural Gray (1.0Y 8.5/0.5)					
	Outer Dimensions	H×W×D	mm	1,675×6,460×765	1,675×6,460×765	1,675×6,460×765	1,675×6,460×765	1,675×6,460×765
Sound Level	Sound Power Level		dB(A)	91	91	92	91	92
	Sound Pressure Level		dB(A)	71	71	71	71	71
Weight	Net Weight	400V/50Hz	kg	345+345+345+345	345+345+345+360	345+345+360+360	345+360+360+360	360+360+360+360
		380-415V/50Hz	kg	340+340+340+340	340+340+340+355	340+340+355+355	340+355+355+355	355+355+355+355
	Gross Weight	400V/50Hz	kg	365+365+365+365	365+365+365+380	365+365+380+380	365+380+380+380	380+380+380+380
		380V/60Hz	kg	360+360+360+360	360+360+360+375	360+360+375+375	360+375+375+375	375+375+375+375
Refrigerant	Type	R410A						
	Flow Control	Micro-Computer Control Expansion Valve						
	Charge (before Shipment)	kg	40.0	40.6	41.2	41.8	42.4	
Compressor	Type	Hermetic (Scroll)						
	Model			AA50PHD+AA50PHD +AA50PHD+AA50PHD +AA50PHD+AA50PHD +AA50PHD+AA50PHD	AA50PHD+AA50PHD +AA50PHD+AA50PHD +AA50PHD+AA50PHD +DC80PHD+DC80PHD	AA50PHD+AA50PHD +AA50PHD+AA50PHD +DC80PHD+DC80PHD +DC80PHD+DC80PHD	AA50PHD+AA50PHD +DC80PHD+DC80PHD +DC80PHD+DC80PHD +DC80PHD+DC80PHD	DC80PHD+DC80PHD +DC80PHD+DC80PHD +DC80PHD+DC80PHD +DC80PHD+DC80PHD
	Quantity			8	8	8	8	8
	Motor Output	(Pole)	kW	(3.7(6)×2)×4	(3.7(6)×2)×3+4.4(6)×2	(3.7(6)×2)×2+(4.4(6)×2)×2	3.7(6)×2+(4.4(6)×2)×3	(4.4(6)×2)×4
Refrigeration Oil	Type	FVC68D						
	Charge	L/Unit	31.6	31.6	31.6	31.6	31.6	
Heat Exchanger		Multi-Pass Cross-Finned Tube						
Condenser Fan	Type	Propeller Fan						
	Quantity			8	8	8	8	8
	Air Flow Rate		m ³ /min.	326×4	326×3+362	326×2+362×2	326+362×3	362×4
	Motor Output	(Pole)	kW	(0.47(8)×2)×4	(0.47(8)×2)×3+0.62(8)×2	(0.47(8)×2)×2 +(0.62(8)×2)×2	0.47(8)×2+(0.62(8)×2)×3	(0.62(8)×2)×4
Main Refrigerant Piping	Liquid Line	mm	φ19.05	φ19.05	φ22.2	φ22.2	φ22.2	
Heat Pump System (2 Pipes)	Gas Line	mm	φ44.45	φ44.45	φ44.45	φ44.45	φ44.45	

OUTDOOR UNITS

Notes:

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

Cooling Operation Conditions	Indoor Air Inlet Temperature: 27.0°C DB 19.0°C WB	Outdoor Air Inlet Temperature: 35.0°C DB	Piping Length: 17.5 metre Piping Lift: 0 metre
Heating Operation Conditions	Indoor Air Inlet Temperature: 20.0°C DB	Outdoor Air Inlet Temperature: 7.0°C DB 6.0°C WB	Piping Length: 17.5 metre Piping Lift: 0 metre
- The sound pressure is based on the following conditions.
 The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.
- Except for the specified combination in the table (20~72HP class 56.0~201.0kW), there is no other combination of the base unit.
- The width of outer dimension, it is the value when each distance between the base outdoor units is specified to 20mm.

SPECIFICATIONS (Standard - FSNS series)



HP Class			8	10	12	14	16	18
Model			RAS-8FSNS	RAS-10FSNS	RAS-12FSNS	RAS-14FSNS	RAS-16FSNS	RAS-18FSNS
Power Supply			3~/N, [400V/50Hz] [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
Cabinet	Color	Munsell Code	Natural Gray (1.0Y 8.5/0.5)					
	Outer Dimensions	H×W×D	mm	1,675×950×765	1,675×950×765	1,675×950×765	1,675×1,210×765	1,675×1,210×765
Sound Level	Sound Power Level		dB(A)	80	82	82	85	85
	Sound Pressure Level		dB(A)	58	60	59	63	63
Weight	Net Weight	400V/50Hz 380-415V/50Hz 380V/60Hz	kg	190	190	210	268	310
		220V/60Hz	kg	185	185	205	263	305
	Gross Weight	400V/50Hz 380-415V/50Hz 380V/60Hz	kg	206	206	226	286	328
		220V/60Hz	kg	201	201	221	281	324
Refrigerant	Type	R410A						
	Flow Control	Micro-Computer Control Expansion Valve						
	Charge (before Shipment)		kg	5.0	5.0	7.2	8.9	9.9
Compressor	Type	Hermetic (Scroll)						
	Model			AA50PHD	AA50PHD	DC80PHD	DC80PHD	AA50PHD+AA50PHD AA50PHD+AA50PHD
	Quantity			1	1	1	1	2
	Motor Output	(Pole)	kW	3.3(6)	4.3(6)	5.4(6)	8.0(6)	4.5(6)×2
Refrigeration Oil	Type	FVC68D						
	Charge		L/Unit	6.0	6.0	6.0	6.9	7.9
Heat Exchanger	Multi-Pass Cross-Finned Tube							
Condenser Fan	Type	Propeller Fan						
	Quantity			1	1	1	2	2
	Air Flow Rate		m ³ /min.	165	170	190	239	256
	Motor Output	(Pole)	kW	0.26(8)	0.28(8)	0.42(8)	0.33(8)×2	0.39(8)×2
Main Refrigerant Piping	Liquid Line		mm	φ9.52	φ9.52	φ12.7	φ12.7	φ12.7
Heat Pump System (2 Pipes)	Gas Line		mm	φ19.05	φ22.2	φ25.4	φ25.4	φ28.58
Package	Dimensions	H×W×D	mm	1,800×1,030×810	1,800×1,030×810	1,800×1,030×810	1,800×1,290×810	1,800×1,290×810
	Measurement		m ³	1.5	1.5	1.5	1.9	1.9

Notes:

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

Cooling Operation Conditions	Heating Operation Conditions
Indoor Air Inlet Temperature: 27.0°C DB	Indoor Air Inlet Temperature: 20.0°C DB
19.0°C WB	Outdoor Air Inlet Temperature: 7.0°C DB
Outdoor Air Inlet Temperature: 35.0°C DB	6.0°C WB
Piping Length: 7.5 metre	Piping Length: 7.5 metre
Piping Lift: 0 metre	Piping Lift: 0 metre
- The sound pressure is based on the following conditions.
 The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.



SET FREE Σ – FSNP & FSNS SERIES

OUTDOOR UNITS

HP Class				20	22	24
Model				RAS-20FSNS	RAS-22FSNS	RAS-24FSNS
Power Supply				3~/N, [400V/50Hz] [380-415V/50Hz] [380V/60Hz] [220V/60Hz]		
Nominal Cooling Capacity		kW		56.0	61.5	67.0
Nominal Heating Capacity		kW		63.0	69.0	77.5
Cabinet	Color	Munsell Code		Natural Gray (1.0Y 8.5/0.5)		
	Outer Dimensions	H×W×D	mm	1,675×1,600×765	1,675×1,600×765	1,675×1,600×765
Sound Level	Sound Power Level		dB(A)	86	84	86
	Sound Pressure Level		dB(A)	65	64	66
Weight	Net Weight	400V/50Hz	kg	350	364	365
		380-415V/50Hz				
	380V/60Hz	kg	345	359	360	
	220V/60Hz	kg	370	384	385	
Gross Weight	400V/50Hz	kg	370	384	385	
	380-415V/50Hz					
380V/60Hz	kg	365	379	380		
Refrigerant	Type			R410A		
	Flow Control			Micro-Computer Control Expansion Valve		
	Charge (before Shipment)		kg	11.3	11.3	11.6
Compressor	Type			Hermetic (Scroll)		
	Model			AA50PHD+AA50PHD	DC80PHD+DC80PHD	DC80PHD+DC80PHD
	Quantity			2	2	2
	Motor Output	(Pole)	kW	5.5(6)×2	6.7(6)×2	7.1(6)×2
Refrigeration Oil	Type			FVC68D		
	Charge		L/Unit	8.4	8.4	8.4
Heat Exchanger				Multi-Pass Cross-Finned Tube		
Condenser Fan	Type			Propeller Fan		
	Quantity			2	2	2
	Air Flow Rate		m ³ /min.	329	329	348
	Motor Output	(Pole)	kW	0.48(8)×2	0.48(8)×2	0.56(8)×2
Main Refrigerant Piping	Liquid Line		mm	φ15.88	φ15.88	φ15.88
	Gas Line		mm	φ28.58	φ28.58	φ28.58
Heat Pump System (2 Pipes)						
Package	Dimensions	H×W×D	mm	1,800×1,680×810	1,800×1,680×810	1,800×1,680×810
	Measurement		m ³	2.4	2.4	2.4

Notes:

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

Cooling Operation Conditions

Indoor Air Inlet Temperature: 27.0°C DB
 19.0°C WB
 Outdoor Air Inlet Temperature: 35.0°C DB
 Piping Length: 10.0 metre
 Piping Lift: 0 metre

Heating Operation Conditions

Indoor Air Inlet Temperature: 20.0°C DB
 Outdoor Air Inlet Temperature: 7.0°C DB
 6.0°C WB
 Piping Length: 10.0 metre
 Piping Lift: 0 metre

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

The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.

SPECIFICATIONS (Standard - FSNS series)



HP Class			26	28	30	32	34	36	
Model			RAS-26FSNS	RAS-28FSNS	RAS-30FSNS	RAS-32FSNS	RAS-34FSNS	RAS-36FSNS	
Combination of Base Unit			RAS-10FSNS RAS-16FSNS	RAS-12FSNS RAS-16FSNS	RAS-12FSNS RAS-18FSNS	RAS-14FSNS RAS-18FSNS	RAS-16FSNS RAS-18FSNS	RAS-18FSNS RAS-18FSNS	
Power Supply			3~/N, [400V/50Hz] [380-415V/50Hz] [380V/60Hz] [220V/60Hz]						
Nominal Cooling Capacity	kW		73.0	77.5	85.0	90.0	95.0	100.0	
Nominal Heating Capacity	kW		82.5	90.0	95.0	100.0	106.0	112.0	
Cabinet	Color	Munsell Code	Natural Gray (1.0Y 8.5/0.5)						
	Outer Dimensions	H×W×D	mm	1,675×2,180×765	1,675×2,180×765	1,675×2,180×765	1,675×2,440×765	1,675×2,440×765	1,675×2,440×765
Sound Level	Sound Power Level		dB(A)	87	87	87	89	89	89
	Sound Pressure Level		dB(A)	64.5	64.5	66	67	67	68
Weight	Net Weight	400V/50Hz	kg	210+268	210+310	210+311	268+311	310+311	311+311
		380-415V/50Hz 380V/60Hz							
	Gross Weight	220V/60Hz	kg	205+263	205+305	205+306	263+306	305+306	306+306
		400V/50Hz 380-415V/50Hz 380V/60Hz	kg	226+286	226+328	226+329	286+329	328+329	329+329
Refrigerant	Type	R410A							
	Flow Control	Micro-Computer Control Expansion Valve							
	Charge (before Shipment)	kg	16.1	17.1	17.9	19.6	20.6	21.4	
Compressor	Type	Hermetic (Scroll)							
	Model		DC80PHD +DC80PHD	DC80PHD +AA50PHD +AA50PHD	DC80PHD +AA50PHD +AA50PHD	DC80PHD +AA50PHD +AA50PHD	AA50PHD +AA50PHD +AA50PHD +AA50PHD	AA50PHD +AA50PHD +AA50PHD +AA50PHD	
	Quantity		2	3	3	3	4	4	
	Motor Output	(Pole)	kW	5.4(6)×1+8.0(6)×1	5.4(6)×1+4.5(6)×2	5.4(6)×1+5.0(6)×2	8.0(6)×1+5.0(6)×2	4.5(6)×2+5.0(6)×2	5.0(6)×2+5.0(6)×2
Refrigeration Oil	Type	FVC68D							
	Charge	L/Unit	12.9	13.9	13.9	14.8	15.8	15.8	
Heat Exchanger	Multi-Pass Cross-Finned Tube								
Condenser Fan	Type	Propeller Fan							
	Quantity		3	3	3	4	4	4	
	Air Flow Rate	m ³ /min.	190+239	190+256	190+256	239+256	256×2	256×2	
	Motor Output	(Pole)	kW	0.42(8)+0.33(8)×2	0.42(8)+0.39(8)×2	0.42(8)+0.39(8)×2	0.33(8)×2+0.39(8)×2	0.39(8)×2+0.39(8)×2	0.39(8)×2+0.39(8)×2
Main Refrigerant Piping	Liquid Line	mm	φ19.05	φ19.05	φ19.05	φ19.05	φ19.05	φ19.05	
	Heat Pump System (2 Pipes)	Gas Line	mm	φ31.75	φ31.75	φ31.75	φ31.75	φ31.75	φ38.1

Notes:

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

Cooling Operation Conditions	Heating Operation Conditions
Indoor Air Inlet Temperature: 27.0°C DB	Indoor Air Inlet Temperature: 20.0°C DB
19.0°C WB	Outdoor Air Inlet Temperature: 7.0°C DB
Outdoor Air Inlet Temperature: 35.0°C DB	6.0°C WB
Piping Length: 10.0 metre (RAS-26-30FSNS)	Piping Length: 10.0 metre (RAS-26-30FSNS)
12.5 metre (RAS-32-36FSNS)	12.5 metre (RAS-32-36FSNS)
Piping Lift: 0 metre	Piping Lift: 0 metre
- The sound pressure is based on the following conditions.
The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.
- Except for the specified combination in the table (26-96HP class 73.0-268.0kW), there is no other combination of the base unit.
- The width of outer dimension, it is the value when each distance between the base outdoor units is specified to 20mm.



SET FREE Σ – FSNP & FSNS SERIES

OUTDOOR UNITS

HP Class			38	40	42	44	46	48	
Model			RAS-38FSNS	RAS-40FSNS	RAS-42FSNS	RAS-44FSNS	RAS-46FSNS	RAS-48FSNS	
Combination of Base Unit			RAS-14FSNS RAS-24FSNS	RAS-18FSNS RAS-22FSNS	RAS-18FSNS RAS-24FSNS	RAS-22FSNS RAS-24FSNS	RAS-22FSNS RAS-24FSNS	RAS-24FSNS RAS-24FSNS	
Power Supply			3~/N, [400V/50Hz] [380-415V/50Hz] [380V/60Hz] [220V/60Hz]						
Nominal Cooling Capacity	kW		106.0	112.0	118.0	122.0	128.0	136.0	
Nominal Heating Capacity	kW		118.0	125.0	132.0	140.0	145.0	150.0	
Cabinet	Color	Munsell Code	Natural Gray (1.0Y 8.5/0.5)						
	Outer Dimensions	H×W×D	mm	1,675×2,830×765	1,675×2,830×765	1,675×2,830×765	1,675×3,220×765	1,675×3,220×765	
Sound Level	Sound Power Level		dB(A)	89	88	89	87	88	89
	Sound Pressure Level		dB(A)	68	67.5	68.5	67	68	69
Weight	Net Weight	400V/50Hz	kg	268+365	311+364	311+365	364+364	364+365	365+365
		380-415V/50Hz 380V/60Hz							
	Gross Weight	220V/60Hz	kg	263+360	306+359	306+360	359+359	359+360	360+360
		400V/50Hz 380-415V/50Hz 380V/60Hz	kg	286+385	329+384	329+385	384+384	384+385	385+385
Refrigerant	Type	R410A							
	Flow Control	Micro-Computer Control Expansion Valve							
	Charge (before Shipment)	kg	20.5	22.0	22.3	22.6	22.9	23.2	
Compressor	Type	Hermetic (Scroll)							
	Model		DC80PHD +DC80PHD +DC80PHD	AA50PHD +AA50PHD +DC80PHD +DC80PHD	AA50PHD +AA50PHD +DC80PHD +DC80PHD	DC80PHD +DC80PHD +DC80PHD +DC80PHD	DC80PHD +DC80PHD +DC80PHD +DC80PHD	DC80PHD +DC80PHD +DC80PHD +DC80PHD	
	Quantity		3	4	4	4	4	4	
	Motor Output	(Pole)	kW	8.0(6)×1+7.1(6)×2	5.0(6)×2+6.7(6)×2	5.0(6)×2+7.1(6)×2	6.7(6)×2+6.7(6)×2	6.7(6)×2+7.1(6)×2	7.1(6)×2+7.1(6)×2
Refrigeration Oil	Type	FVC68D							
	Charge	L/Unit	15.3	16.3	16.3	16.8	16.8	16.8	
Heat Exchanger	Multi-Pass Cross-Finned Tube								
Condenser Fan	Type	Propeller Fan							
	Quantity		4	4	4	4	4	4	
	Air Flow Rate	m ³ /min.	239+348	256+329	256+348	329×2	329+348	348×2	
	Motor Output	(Pole)	kW	0.33(8)×2+0.56(8)×2	0.39(8)×2+0.48(8)×2	0.39(8)×2+0.56(8)×2	0.48(8)×2+0.48(8)×2	0.48(8)×2+0.56(8)×2	0.56(8)×2+0.56(8)×2
Main Refrigerant Piping	Liquid Line	mm	φ19.05	φ19.05	φ19.05	φ19.05	φ19.05	φ19.05	
Heat Pump System (2 Pipes)	Gas Line	mm	φ38.1	φ38.1	φ38.1	φ38.1	φ38.1	φ38.1	

Notes:

- The cooling and heating performances are the values when combined with our specified indoor units.
 Cooling Operation Conditions: Indoor Air Inlet Temperature: 27.0°C DB, 19.0°C WB, Outdoor Air Inlet Temperature: 35.0°C DB
 Heating Operation Conditions: Indoor Air Inlet Temperature: 20.0°C DB, Outdoor Air Inlet Temperature: 7.0°C DB, 6.0°C WB
 Piping Length: 12.5 metre (RAS-38~44FSNS), 15.0 metre (RAS-46~48FSNS)
 Piping Lift: 0 metre
- The sound pressure is based on the following conditions.
 The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.
- Except for the specified combination in the table (26~96HP class 73.0~268.0kW), there is no other combination of the base unit.
- The width of outer dimension, it is the value when each distance between the base outdoor units is specified to 20mm.

SPECIFICATIONS (Standard - FSNS series)



HP Class			50	52	54
Model			RAS-50FSNS	RAS-52FSNS	RAS-54FSNS
Combination of Base Unit			RAS-14FSNS RAS-18FSNS RAS-18FSNS	RAS-16FSNS RAS-18FSNS RAS-18FSNS	RAS-18FSNS RAS-18FSNS RAS-18FSNS
Power Supply			3~/N, [400V/50Hz] [380-415V/50Hz] [380V/60Hz] [220V/60Hz]		
Nominal Cooling Capacity			kW	140.0	145.0
Nominal Heating Capacity			kW	155.0	160.0
Cabinet			Natural Gray (1.0Y 8.5/0.5)		
Color			Munsell Code		
Outer Dimensions			H×W×D	mm	1,675×3,670×765
Sound Level					
Sound Power Level			dB(A)	90	90
Sound Pressure Level			dB(A)	69	69
Weight					
Net Weight			400V/50Hz 380-415V/50Hz 380V/60Hz	kg	268+311+311
			220V/60Hz	kg	263+306+306
Gross Weight			400V/50Hz 380-415V/50Hz 380V/60Hz	kg	286+329+329
			220V/60Hz	kg	281+324+324
Refrigerant			R410A		
Type			R410A		
Flow Control			Micro-Computer Control Expansion Valve		
Charge (before Shipment)			kg	30.3	31.3
Compressor			Hermetic (Scroll)		
Type			Hermetic (Scroll)		
Model			DC80PHD+AA50PHD+AA50PHD +AA50PHD+AA50PHD	AA50PHD+AA50PHD+AA50PHD +AA50PHD+AA50PHD+AA50PHD	AA50PHD+AA50PHD+AA50PHD +AA50PHD+AA50PHD+AA50PHD
Quantity			5	6	6
Motor Output (Pole)			kW	8.0(6)×1+5.0(6)×2+5.0(6)×2	4.5(6)×2+5.0(6)×2+5.0(6)×2
5.0(6)×2+5.0(6)×2+5.0(6)×2					
Refrigeration Oil			FVC68D		
Type			FVC68D		
Charge			L/Unit	22.7	23.7
Heat Exchanger			Multi-Pass Cross-Finned Tube		
Type			Multi-Pass Cross-Finned Tube		
Condenser Fan			Propeller Fan		
Type			Propeller Fan		
Quantity			6	6	6
Air Flow Rate			m ³ /min.	239+256×2	256×3
Motor Output (Pole)			kW	0.33(8)×2+0.39(8)×2+0.39(8)×2	0.39(8)×2+0.39(8)×2+0.39(8)×2
0.39(8)×2+0.39(8)×2+0.39(8)×2					
Main Refrigerant Piping			Liquid Line		
Liquid Line			mm	φ19.05	φ19.05
Heat Pump System (2 Pipes)			Gas Line		
Gas Line			mm	φ38.1	φ38.1

Notes:

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

Cooling Operation Conditions

Indoor Air Inlet Temperature: 27.0°C DB
19.0°C WB

Outdoor Air Inlet Temperature: 35.0°C DB

Piping Length: 15.0 metre

Piping Lift: 0 metre

Heating Operation Conditions

Indoor Air Inlet Temperature: 20.0°C DB
7.0°C DB

Outdoor Air Inlet Temperature: 7.0°C DB
6.0°C WB

Piping Length: 15.0 metre

Piping Lift: 0 metre

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

The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.

3. Except for the specified combination in the table (26~96HP class 73.0~268.0kW), there is no other combination of the base unit.

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



SET FREE Σ – FSNP & FSNS SERIES

OUTDOOR UNITS

HP Class			56	58	60	62	64	66
Model			RAS-56FSNS	RAS-58FSNS	RAS-60FSNS	RAS-62FSNS	RAS-64FSNS	RAS-66FSNS
Combination of Base Unit			RAS-14FSNS RAS-18FSNS RAS-24FSNS	RAS-18FSNS RAS-18FSNS RAS-22FSNS	RAS-18FSNS RAS-18FSNS RAS-24FSNS	RAS-14FSNS RAS-24FSNS RAS-24FSNS	RAS-18FSNS RAS-22FSNS RAS-24FSNS	RAS-18FSNS RAS-24FSNS RAS-24FSNS
Power Supply			3~/N, [400V/50Hz] [380-415V/50Hz] [380V/60Hz] [220V/60Hz]					
Nominal Cooling Capacity	kW		157.0	162.0	167.0	174.0	179.0	184.0
Nominal Heating Capacity	kW		176.0	181.0	188.0	196.0	202.0	207.0
Cabinet	Color	Munsell Code	Natural Gray (1.0Y 8.5/0.5)					
	Outer Dimensions	H×W×D	mm	1,675×4,060×765	1,675×4,060×765	1,675×4,060×765	1,675×4,450×765	1,675×4,450×765
Sound Level	Sound Power Level		dB(A)	90	90	91	90	90
	Sound Pressure Level		dB(A)	69.5	69.5	70	70	70.5
Weight	Net Weight	400V/50Hz 380-415V/50Hz 380V/60Hz	kg	268+311+365	311+311+364	311+311+365	268+365+365	311+364+365
		220V/60Hz	kg	263+306+360	306+306+359	306+306+360	263+360+360	306+359+360
	Gross Weight	400V/50Hz 380-415V/50Hz 380V/60Hz	kg	286+329+385	329+329+384	329+329+385	286+385+385	329+384+385
		220V/60Hz	kg	281+324+380	324+324+379	324+324+380	281+380+380	324+379+380
Refrigerant	Type	R410A						
	Flow Control	Micro-Computer Control Expansion Valve						
	Charge (before Shipment)		kg	31.2	32.7	33.0	32.1	33.6
Compressor	Type	Hermetic (Scroll)						
	Model			DC80PHD+AA50PHD +AA50PHD+DC80PHD +DC80PHD	AA50PHD+AA50PHD +AA50PHD+AA50PHD +DC80PHD+DC80PHD	AA50PHD+AA50PHD +AA50PHD+AA50PHD +DC80PHD+DC80PHD	DC80PHD+DC80PHD +DC80PHD +DC80PHD	AA50PHD+AA50PHD +DC80PHD+DC80PHD +DC80PHD+DC80PHD
	Quantity			5	6	6	5	6
	Motor Output	(Pole)	kW	8.0(6)+5.0(6)×2 +7.1(6)×2	(5.0(6)×2)×2 +6.7(6)×2	(5.0(6)×2)×2 +7.1(6)×2	8.0(6)+(7.1(6)×2)×2	5.0(6)×2+6.7(6)×2 +7.1(6)×2
Refrigeration Oil	Type	FVC68D						
	Charge		L/Unit	23.2	24.2	24.2	23.7	24.7
Heat Exchanger	Multi-Pass Cross-Finned Tube							
Condenser Fan	Type	Propeller Fan						
	Quantity			6	6	6	6	6
	Air Flow Rate		m ³ /min.	239+256+348	256+256+329	256+256+348	239+348+348	256+329+348
	Motor Output	(Pole)	kW	0.33(8)×2+0.39(8)×2 +0.56(8)×2	(0.39(8)×2)×2 +0.48(8)×2	(0.39(8)×2)×2 +0.56(8)×2	0.33(8)×2 +(0.56(8)×2)×2	0.39(8)×2+0.48(8)×2 +0.56(8)×2
Main Refrigerant Piping	Liquid Line		mm	φ19.05	φ19.05	φ19.05	φ19.05	φ19.05
Heat Pump System (2 Pipes)	Gas Line		mm	φ44.45	φ44.45	φ44.45	φ44.45	φ44.45

Notes:

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

Cooling Operation Conditions	Indoor Air Inlet Temperature: 27.0°C DB 19.0°C WB	Outdoor Air Inlet Temperature: 35.0°C DB	Piping Length: 15.0 metre (RAS-56FSNS) 17.5 metre (RAS-58-66FSNS)	Piping Lift: 0 metre
Heating Operation Conditions	Indoor Air Inlet Temperature: 20.0°C DB	Outdoor Air Inlet Temperature: 7.0°C DB	6.0°C WB	Piping Length: 15.0 metre (RAS-56FSNS) 17.5 metre (RAS-58-66FSNS)
				Piping Lift: 0 metre
- The sound pressure is based on the following conditions.
 The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.
- Except for the specified combination in the table (26-96HP class 73.0~268.0kW), there is no other combination of the base unit.
- The width of outer dimension, it is the value when each distance between the base outdoor units is specified to 20mm.

SPECIFICATIONS (Standard - FSNS series)



HP Class			68	70	72	74	76	78	
Model			RAS-68FSNS	RAS-70FSNS	RAS-72FSNS	RAS-74FSNS	RAS-76FSNS	RAS-78FSNS	
Combination of Base Unit			RAS-22FSNS RAS-22FSNS RAS-24FSNS	RAS-22FSNS RAS-24FSNS RAS-24FSNS	RAS-24FSNS RAS-24FSNS RAS-24FSNS	RAS-14FSNS RAS-18FSNS RAS-18FSNS RAS-24FSNS	RAS-18FSNS RAS-18FSNS RAS-18FSNS RAS-22FSNS	RAS-18FSNS RAS-18FSNS RAS-18FSNS RAS-24FSNS	
Power Supply			3~/N, [400V/50Hz] [380-415V/50Hz] [380V/60Hz] [220V/60Hz]						
Nominal Cooling Capacity		kW	190.0	196.0	201.0	207.0	212.0	217.0	
Nominal Heating Capacity		kW	213.0	220.0	225.0	232.0	237.0	244.0	
Cabinet	Color	Munsell Code	Natural Gray (1.0Y 8.5/0.5)						
	Outer Dimensions	H×W×D	mm	1,675×4,840×765	1,675×4,840×765	1,675×4,840×765	1,675×5,290×765	1,675×5,290×765	1,675×5,290×765
Sound Level	Sound Power Level		dB(A)	90	90	91	92	92	92
	Sound Pressure Level		dB(A)	69.5	70	71	71	71	71.5
Weight	Net Weight	400V/50Hz 380-415V/50Hz 380V/60Hz	kg	364+364+365	364+365+365	365+365+365	268+311+311+365	311+311+311+364	311+311+311+365
		220V/60Hz	kg	359+359+360	359+360+360	360+360+360	263+306+306+360	306+306+306+359	306+306+306+360
	Gross Weight	400V/50Hz 380-415V/50Hz 380V/60Hz	kg	384+384+385	384+385+385	385+385+385	286+329+329+385	329+329+329+384	329+329+329+385
		220V/60Hz	kg	379+379+380	379+380+380	380+380+380	281+324+324+380	324+324+324+379	324+324+324+380
Refrigerant	Type	R410A							
	Flow Control	Micro-Computer Control Expansion Valve							
	Charge (before Shipment)		kg	34.2	34.5	34.8	41.9	43.4	43.7
Compressor	Type	Hermetic (Scroll)							
	Model	DC80PHD+DC80PHD DC80PHD+DC80PHD DC80PHD+DC80PHD DC80PHD+AA50PHD AA50PHD+AA50PHD AA50PHD+AA50PHD +DC80PHD+DC80PHD +DC80PHD+DC80PHD +DC80PHD+DC80PHD +AA50PHD+AA50PHD +AA50PHD+AA50PHD +AA50PHD+AA50PHD +DC80PHD+DC80PHD +DC80PHD+DC80PHD +DC80PHD+DC80PHD +AA50PHD+DC80PHD +AA50PHD+AA50PHD +AA50PHD+AA50PHD +DC80PHD +DC80PHD+DC80PHD +DC80PHD+DC80PHD +DC80PHD+DC80PHD +DC80PHD+DC80PHD							
	Quantity	6 6 6 7 8 8							
	Motor Output (Pole)		kW	(6.7(6)×2)×2 +7.1(6)×2	6.7(6)×2 +(7.1(6)×2)×2	(7.1(6)×2)×3	8.0(6)+(5.0(6)×2)×2 +7.1(6)×2	(5.0(6)×2)×3 +6.7(6)×2	(5.0(6)×2)×3 +7.1(6)×2
Refrigeration Oil	Type	FVC68D							
	Charge		L/Unit	25.2	25.2	25.2	31.1	32.1	32.1
Heat Exchanger	Multi-Pass Cross-Finned Tube								
Condenser Fan	Type	Propeller Fan							
	Quantity	6 6 6 8 8 8							
	Air Flow Rate		m ³ /min.	329+329+348	329+348×2	348×3	239+256×2+348	256×3+329	256×3+348
	Motor Output (Pole)		kW	(0.48(8)×2)×2 +0.56(8)×2	0.48(8)×2 +(0.56(8)×2)×2	(0.56(8)×2)×3	0.33(8)×2+(0.39(8)×2)×2 +0.56(8)×2	(0.39(8)×2)×3 +0.48(8)×2	(0.39(8)×2)×3 +0.56(8)×2
Main Refrigerant Piping	Liquid Line		mm	φ22.2	φ22.2	φ22.2	φ22.2	φ22.2	φ22.2
Heat Pump System (2 Pipes)	Gas Line		mm	φ44.45	φ44.45	φ44.45	φ50.8	φ50.8	φ50.8

Notes:

- The cooling and heating performances are the values when combined with our specified indoor units.
 Cooling Operation Conditions: Indoor Air Inlet Temperature: 27.0°C DB, 19.0°C WB, Outdoor Air Inlet Temperature: 35.0°C DB
 Heating Operation Conditions: Indoor Air Inlet Temperature: 20.0°C DB, Outdoor Air Inlet Temperature: 7.0°C DB, 6.0°C WB
 Piping Length: 17.5 metre (RAS-68~72FSNS), 20.0 metre (RAS-74~78FSNS)
 Piping Lift: 0 metre
- The sound pressure is based on the following conditions.
 The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.
- Except for the specified combination in the table (26~96HP class 73.0~268.0kW), there is no other combination of the base unit.
- The width of outer dimension, it is the value when each distance between the base outdoor units is specified to 20mm.



SET FREE Σ – FSNP & FSNS SERIES

OUTDOOR UNITS

HP Class			80	82	84	86	88	90	
Model			RAS-80FSNS	RAS-82FSNS	RAS-84FSNS	RAS-86FSNS	RAS-88FSNS	RAS-90FSNS	
Combination of Base Unit			RAS-14FSNS RAS-18FSNS RAS-24FSNS RAS-24FSNS	RAS-16FSNS RAS-18FSNS RAS-24FSNS RAS-24FSNS	RAS-18FSNS RAS-18FSNS RAS-24FSNS RAS-24FSNS	RAS-14FSNS RAS-24FSNS RAS-24FSNS RAS-24FSNS	RAS-16FSNS RAS-24FSNS RAS-24FSNS RAS-24FSNS	RAS-18FSNS RAS-24FSNS RAS-24FSNS RAS-24FSNS	
Power Supply			3~/N, [400V/50Hz] [380-415V/50Hz] [380V/60Hz] [220V/60Hz]						
Nominal Cooling Capacity		kW	224.0	230.0	234.0	241.0	246.0	251.0	
Nominal Heating Capacity		kW	254.0	261.0	267.0	275.0	282.0	287.0	
Cabinet	Color	Munsell Code	Natural Gray (1.0Y 8.5/0.5)						
	Outer Dimensions	H×W×D	mm	1,675×5,680×765	1,675×5,680×765	1,675×5,680×765	1,675×6,070×765	1,675×6,070×765	1,675×6,070×765
Sound Level	Sound Power Level		dB(A)	92	92	92	92	92	92
	Sound Pressure Level		dB(A)	71	71	71.5	71.5	71.5	72
Weight	Net Weight	400V/50Hz 380-415V/50Hz 380V/60Hz	kg	268+311+365+365	310+311+365+365	311+311+365+365	268+365+365+365	310+365+365+365	311+365+365+365
		220V/60Hz	kg	263+306+360+360	305+306+360+360	306+306+360+360	263+360+360+360	305+360+360+360	306+360+360+360
	Gross Weight	400V/50Hz 380-415V/50Hz 380V/60Hz	kg	286+329+385+385	328+329+385+385	329+329+385+385	286+385+385+385	328+385+385+385	329+385+385+385
		220V/60Hz	kg	281+324+380+380	323+324+380+380	324+324+380+380	281+380+380+380	323+380+380+380	324+380+380+380
Refrigerant	Type	R410A							
	Flow Control	Micro-Computer Control Expansion Valve							
	Charge (before Shipment)		kg	42.8	43.8	44.6	43.7	44.7	45.5
Compressor	Type	Hermetic (Scroll)							
	Model	DC80PHD+AA50PHD AA50PHD+AA50PHD AA50PHD+AA50PHD DC80PHD+DC80PHD AA50PHD+AA50PHD AA50PHD+AA50PHD +AA50PHD+DC80PHD +AA50PHD+AA50PHD +AA50PHD+AA50PHD +DC80PHD+DC80PHD +DC80PHD+DC80PHD +DC80PHD+DC80PHD +DC80PHD+DC80PHD +DC80PHD+DC80PHD +DC80PHD+DC80PHD +DC80PHD+DC80PHD +DC80PHD+DC80PHD +DC80PHD+DC80PHD +DC80PHD +DC80PHD+DC80PHD +DC80PHD+DC80PHD +DC80PHD							
	Quantity	7 8 8 7 8 8							
	Motor Output (Pole)		kW	8.0(6)+5.0(6)×2 +(7.1(6)×2)×2	4.5(6)×2+5.0(6)×2 +(7.1(6)×2)×2	(5.0(6)×2)×2 +(7.1(6)×2)×2	8.0(6) +(7.1(6)×2)×3	4.5(6)×2 +(7.1(6)×2)×3	5.0(6)×2 +(7.1(6)×2)×3
Refrigeration Oil	Type	FVC68D							
	Charge		L/Unit	31.6	32.6	32.6	32.1	33.1	33.1
Heat Exchanger	Multi-Pass Cross-Finned Tube								
Condenser Fan	Type	Propeller Fan							
	Quantity	8 8 8 8 8 8							
	Air Flow Rate		m ³ /min.	239 + 256 + 348 × 2	256 + 256 + 348 × 2	256 × 2 + 348 × 2	239 + 348 × 3	256 + 348 × 3	256 + 348 × 3
	Motor Output (Pole)		kW	0.33(8)×2+0.39(8)×2 +(0.56(8)×2)×2	0.39(8)×2+0.39(8)×2 +(0.56(8)×2)×2	(0.39(8)×2)×2 +(0.56(8)×2)×2	0.33(8)×2 +(0.56(8)×2)×3	0.39(8)×2 +(0.56(8)×2)×3	0.39(8)×2 +(0.56(8)×2)×3
Main Refrigerant Piping	Liquid Line		mm	φ22.2	φ22.2	φ22.2	φ22.2	φ22.2	φ25.4
Heat Pump System (2 Pipes)	Gas Line		mm	φ50.8	φ50.8	φ50.8	φ50.8	φ50.8	φ50.8

Notes:

- The cooling and heating performances are the values when combined with our specified indoor units.
Cooling Operation Conditions: Indoor Air Inlet Temperature: 27.0°C DB, 19.0°C WB, Outdoor Air Inlet Temperature: 35.0°C DB, Piping Length: 20.0 metre (RAS-80-84FSNS), 22.5 metre (RAS-86-90FSNS), Piping Lift: 0 metre.
Heating Operation Conditions: Indoor Air Inlet Temperature: 20.0°C DB, Outdoor Air Inlet Temperature: 7.0°C DB, 6.0°C WB, Piping Length: 20.0 metre (RAS-80-84FSNS), 22.5 metre (RAS-86-90FSNS), Piping Lift: 0 metre.
- The sound pressure is based on the following conditions.
The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.
- Except for the specified combination in the table (26-96HP class 73.0-268.0kW), there is no other combination of the base unit.
- The width of outer dimension, it is the value when each distance between the base outdoor units is specified to 20mm.

SPECIFICATIONS (Standard - FSNS series)



HP Class		92		94		96	
Model		RAS-92FSNS		RAS-94FSNS		RAS-96FSNS	
Combination of Base Unit		RAS-22FSNS RAS-22FSNS RAS-24FSNS RAS-24FSNS		RAS-22FSNS RAS-24FSNS RAS-24FSNS RAS-24FSNS		RAS-24FSNS RAS-24FSNS RAS-24FSNS RAS-24FSNS	
Power Supply		3~/N, [400V/50Hz]		[380-415V/50Hz]		[380V/60Hz] [220V/60Hz]	
Nominal Cooling Capacity	kW	258.0		263.0		268.0	
Nominal Heating Capacity	kW	293.0		299.0		305.0	
Cabinet		Color		Munsell Code		Natural Gray (1.0Y 8.5/0.5)	
		Outer Dimensions		H×W×D		mm	
				1,675×6,460×765		1,675×6,460×765	
				1,675×6,460×765		1,675×6,460×765	
Sound Level		Sound Power Level		dB(A)		92	
		Sound Pressure Level		dB(A)		72	
				72		71.5	
				72		72	
Weight		Net Weight		400V/50Hz		kg	
				380-415V/50Hz		364+364+365+365	
				380V/60Hz		364+365+365+365	
				220V/60Hz		359+359+360+360	
				220V/60Hz		359+360+360+360	
				220V/60Hz		360+360+360+360	
		Gross Weight		400V/50Hz		kg	
				380-415V/50Hz		384+384+385+385	
				380V/60Hz		384+385+385+385	
				220V/60Hz		379+379+380+380	
				220V/60Hz		379+380+380+380	
				220V/60Hz		380+380+380+380	
Refrigerant		Type		R410A			
		Flow Control		Micro-Computer Control Expansion Valve			
		Charge (before Shipment)		kg		45.8	
						46.1	
						46.4	
Compressor		Type		Hermetic (Scroll)			
		Model		DC80PHD+DC80PHD+DC80PHD +DC80PHD+DC80PHD+DC80PHD +DC80PHD+DC80PHD		DC80PHD+DC80PHD+DC80PHD +DC80PHD+DC80PHD+DC80PHD +DC80PHD+DC80PHD	
		Quantity		8		8	
		Motor Output		(Pole)		kW	
				(6.7(6)×2)×2+(7.1(6)×2)×2		6.7(6)×2+(7.1(6)×2)×3	
						(7.1(6)×2)×4	
Refrigeration Oil		Type		FVC68D			
		Charge		L/Unit		33.6	
						33.6	
						33.6	
Heat Exchanger				Multi-Pass Cross-Finned Tube			
Condenser Fan		Type		Propeller Fan			
		Quantity		8		8	
		Air Flow Rate		m ³ /min.		329×2+348×2	
						329+348×3	
						348×4	
		Motor Output		(Pole)		kW	
				(0.48(8)×2)×2+(0.56(8)×2)×2		0.48(8)×2+(0.56(8)×2)×3	
						(0.56(8)×2)×4	
Main Refrigerant Piping		Liquid Line		mm		φ25.4	
						φ25.4	
						φ25.4	
Heat Pump System (2 Pipes)		Gas Line		mm		φ50.8	
						φ50.8	
						φ50.8	

Notes:

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

Cooling Operation Conditions	Heating Operation Conditions
Indoor Air Inlet Temperature: 27.0°C DB	Indoor Air Inlet Temperature: 20.0°C DB
19.0°C WB	Outdoor Air Inlet Temperature: 7.0°C DB
Outdoor Air Inlet Temperature: 35.0°C DB	6.0°C WB
Piping Length: 22.5 metre	Piping Length: 22.5 metre
Piping Lift: 0 metre	Piping Lift: 0 metre
- The sound pressure is based on the following conditions. The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.
- Except for the specified combination in the table (26~96HP class 73.0~268.0kW), there is no other combination of the base unit.
- The width of outer dimension, it is the value when each distance between the base outdoor units is specified to 20mm.

HITACHI

SET FREE Σ – FSNP & FSNS SERIES

OUTDOOR UNITS



OPTIONAL PARTS

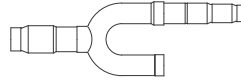
PIPING CONNECTION KIT

Piping connection kit for the divergence between outdoor units

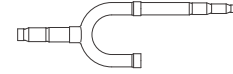
Model	Applicable ODU		Connectivity Number	Remarks
	HP class			
	FSNP series	FSNS series		
MC-NP20SA1	20-24	-	2	for Gas: 1 for Liquid: 1
MC-NP21SA1	26-36	26-48	2	
MC-NP30SA1	38-54	50-54	3	for Gas: 2 for Liquid: 2
MC-NP31SA	-	56-72	3	for Gas: 2 for Liquid: 2
MC-NP40SA	56-72	74-96	4	for Gas: 3 for Liquid: 3

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

Example: MC-NP21SA1

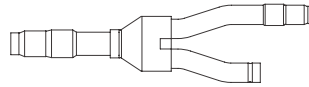


Branch Pipe for Gas Line

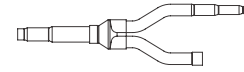


Branch Pipe for Liquid Line

Example: MC-NP31SA



Gas Side



Liquid Side

MULTI-KIT

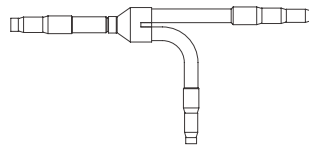
Branching for indoor and outdoor connecting pipes

Line branch

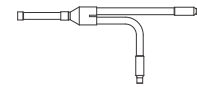
First branching pipes

Model	ODU HP class
MW-NP282A3	5-10
MW-NP452A3	12-16
MW-NP692A3	18-24
MW-NP902A3	26-54
MW-NP2682A3	56-96

Example: MW-NP282A3



Gas Side



Liquid Side

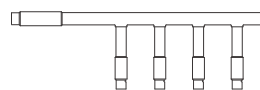
Pipe diameter after the first branch and multi-kit

Model	Total IDU HP class	Diameter (mm)	
		Gas Pipe	Liquid Pipe
MW-NP282A3	< 6	Φ15.88	Φ9.52
	6- 8.99	Φ19.05	Φ9.52
	9-11.99	Φ22.2	Φ9.52
MW-NP452A3	12-15.99	Φ25.4	Φ12.7
	16-17.99	Φ28.58	Φ12.7
MW-NP692A3	18-25.99	Φ28.58	Φ15.88
MW-NP902A3	26-35.99	Φ31.75	Φ19.05
	36-55.99	Φ38.1	Φ19.05
MW-NP2682A3	56-67.99	Φ44.45	Φ19.05
	68-73.99	Φ44.45	Φ22.2
	74-89.99	Φ50.8	Φ22.2
	≥ 90	Φ50.8	Φ25.4

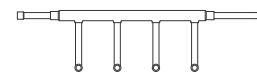
Header branch

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

Example: MH-NP224A



Gas Side



Liquid Side

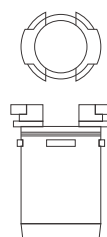
DRAIN BOSS

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

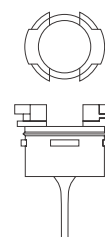
Quantity

Model	Applicable ODU HP class		Q'ty
	FSNP series	FSNS series	
DBS-TP10A	5-14	8-18	1
	16-24	20-36	2
	26-32	38, 40	3
	34, 36	42-48	4
	38-42	50-54	3
	44, 46	56-60	4
	48, 50	62-66	5
	52, 54	68-72	6
	56, 58	74-78	5
	60	80-84	6
	62	86-90	7
	64-72	92-96	8

DBS-TP10A



Drain Boss×2



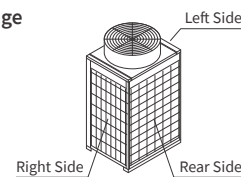
Drain Cap×2
To close the drain hole

CABINET COVER

Air inlet grille

HP class (kW)		Rear	Right	Left
FSNP series	FSNS series			
5-6(14.0-16.0)	8-12(22.4-33.5)	PSN-TP20BA	PSN-TP20R	PSN-TP20L
8-14(22.4-40.0)	14-18(40.0-50.0)	PSN-TP20BB	PSN-TP20R×2	PSN-TP20R×2
16-18(45.0-50.0)	20-24(56.0-67.0)	PSN-TP20BC	PSN-TP20R×2	PSN-TP20R×2

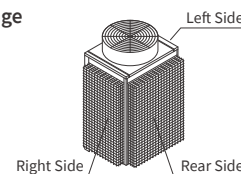
Image



Protection net

HP class (kW)		Rear	Right	Left
FSNP series	FSNS series			
5-6(14.0-16.0)	8-12(22.4-33.5)	PN-TP20BA	PN-TP20R	PN-TP20L
8-14(22.4-40.0)	14-18(40.0-50.0)	PN-TP20BB	PN-TP20R×2	PSN-TP20R×2
16-18(45.0-50.0)	20-24(56.0-67.0)	PN-TP20BC	PN-TP20R×2	PSN-TP20R×2

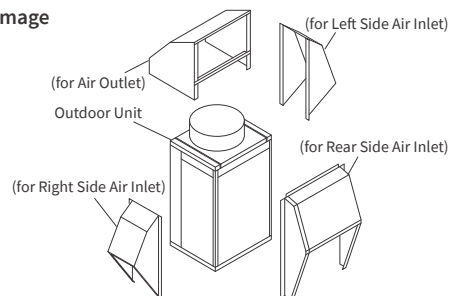
Image



Snow protection hood

HP class (kW)		Upper	Rear	Right	Left
FSNP series	FSNS series	Zinc Coated Steel			
5-6(14.0-16.0)	8-12(22.4-33.5)	ASG-TP50FA	ASG-TP50BA	ASG-TP50R	ASG-TP50L
8-14(22.4-40.0)	14-18(40.0-50.0)	ASG-TP50FB	ASG-TP50BB	ASG-TP50R×2	ASG-TP50R×2
16-18(45.0-50.0)	20-24(56.0-67.0)	ASG-TP50FC	ASG-TP50BC	ASG-TP50R×2	ASG-TP50R×2
		Stainless			
5-6(14.0-16.0)	8-12(22.4-33.5)	ASG-TP50FAS	ASG-TP50BAS	ASG-TP50RS	ASG-TP50LS
8-14(22.4-40.0)	14-18(40.0-50.0)	ASG-TP50FBS	ASG-TP50BBS	ASG-TP50RS×2	ASG-TP50RS×2
16-18(45.0-50.0)	20-24(56.0-67.0)	ASG-TP50FS	ASG-TP50BCS	ASG-TP50RS×2	ASG-TP50RS×2

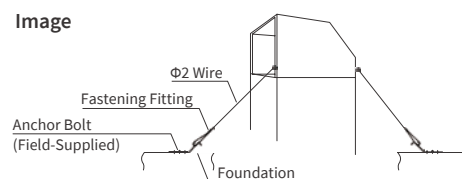
Image



Toppling prevention tool

HP class (kW)		
FSNP series	FSNS series	
5-18(14.0-50.0)	8-24(22.4-67.0)	ASG-SW20A

Image





Indoor units & ventilation

SET FREE Σ – FSNP & FSNS SERIES

61 Line up overview

65 Cassette

- 65 4-way cassette type(RCI-FSN3)
 - 66 4-way cassette compact type
 - 67 2-way cassette type
 - 68 1-way cassette type
-

69 Ducted

- 70 High esp (external static pressure) type
 - 71 Medium esp (external static pressure) type
 - 72 Slim type
 - 73 Compact type
(both AC motor type and DC motor type available)
 - 74 Larger air volume type
-

75 Concealed & Exposed

- 75 Floor concealed type
 - 76 Floor exposed type
 - 77 Floor/Ceiling convertible type
 - 78 Ceiling suspended type
 - 79 Wall mounted type
-

81 Ventilation

- 81 Total heat exchanger
 - 82 All fresh air unit
-

INDOOR UNITS & VENTILATION

LINE UP OVERVIEW

COMPARING INDOOR UNITS CAPACITY

Indoor Unit Category	Cooling (kW)	1.6	1.7	2.2	2.3	2.8	2.9	3.6	3.8	4.0	4.4	5.0	5.6	6.3	7.1	8.0	8.4	9.0	11.2	14.0	14.2	16.0	18.0	22.4	28.0	
CEILING CASSETTE	4-WAY CASSETTE TYPE					•				•			•		•	•				•	•		•			
	4-WAY CASSETTE COMPACT TYPE	•		•		•				•			•		•											
	2-WAY CASSETTE TYPE			•		•				•			•		•	•				•	•		•			
	1-WAY CASSETTE TYPE			•		•				•			•		•	•										
DUCTED	HIGH ESP TYPE												•		•	•				•	•		•		•	•
	MEDIUM ESP TYPE			•		•				•			•		•	•				•	•		•			
	SLIM TYPE				•		•		•		•															
	COMPACT TYPE (BOTH AC MOTOR TYPE AND DC MOTOR TYPE AVAILABLE)			•		•		•		•		•	•	•	•											
	LARGER AIR VOLUME TYPE																•			•	•		•	•		
CONCEALED AND EXPOSED	FLOOR CONCEALED TYPE					•				•			•		•											
	FLOOR EXPOSED TYPE					•				•			•		•											
	FLOOR/CEILING CONVERTIBLE TYPE											•	•	•	•			•	•	•		•				
	CEILING SUSPENDED TYPE									•			•		•	•				•	•		•			
	WALL MOUNTED TYPE	•	•			•				•			•		•	•				•						

COMPARING VENTILATIONS CAPACITY

Fan Air Flow Rate (m³/h)	200	300	400	500	650	800	1,000	1,080	1,250	1,500	1,680	2,000	2,100	2,500	3,000	4,000	5,000	6,000	
TOTAL HEAT EXCHANGER	•	•	•	•	•	•	•		•	•		•		•	•	•	•	•	
ALL FRESH AIR UNIT								•			•		•		•	•	•	•	•

FREEDOM OF CHOICE

Because no two spaces are ever quite the same, your Hitachi VRF system is customizable with additional features that work in complete harmony with your design.



Color Options

Available units: 4-Way, 2-Way, 1-Way Cassettes
Available colors: White, Black, Beige, Grey



Motion Sensor

For extra efficiency, wide angle motion sensors can be included with the following indoor units:
Available units: 4-Way, 4-Way Compact, 2-Way and 1-Way Cassettes, Ducted High ESP, Ducted Medium ESP, and Ceiling Suspended units



Fresh Air Intake

Optional fresh air intake helps to promote air cleanliness. It is ideal for schools, hospitals and other buildings that require fresh air ventilation.
Available units: 4-Way, 4-Way Compact, 2-Way, 1-Way Cassette, and Ceiling Suspended units

Disclaimer

Please note that the features and options listed above must be ordered in addition to your indoor unit.

KEY INFORMATION

FEATURES TO SUIT YOUR PROJECT SPACE

The new SET FREE Σ range offers our widest choice of indoor units to give you the versatility to complement any interior.

CEILING CASSETTE



4-WAY CASSETTE TYPE

- You can distribute air over longer distances with individual four-way louvers that can accommodate optional duct flanges
- Motion sensor available for better energy saving operation
- Ideal for a higher ceiling location for installation (up to 5.5m in cooling mode)
- Setback temperature control available, leading to better operation



4-WAY CASSETTE COMPACT TYPE

- Made to give you greater design flexibility as the dimensions fit 600mm×600mm architectural module ceiling specifications
- Quiet operation level (as low as 24.5dB(A))
- Wide range of air flow rate ideal for high ceiling installation with 4.6m air blow down in cooling mode
- Setback temperature control available, leading to better operation



2-WAY CASSETTE TYPE

- Motion sensor available for better energy saving operation
- Ideal for a higher ceiling location for installation (up to 4.6m in cooling mode)
- Individually operated louvers give room occupants more comfort
- Quiet operation level (as low as 27dB(A))
- Setback temperature control available, leading to better operation



1-WAY CASSETTE TYPE

- Motion sensor available for better energy saving operation
- Optimum air flow conditions are created by either downward air discharge or frontal air discharge (via optional grille) or a combination of both
- Quiet operation level (as low as 27dB(A))
- Setback temperature control available, leading to better operation

DUCTED



HIGH ESP TYPE

- High external static pressure available: Up to 200Pa for RPI-2.0-6.0FSN3 model, up to 230Pa for RPI-8.0/10.0FSN1 model
- You have more design flexibility with both rear and bottom air suction directions available
- Setback temperature control available, leading to better operation



MEDIUM ESP TYPE

- 3 steps of static pressure (50/100/150 Pa) available
- You have more design flexibility with both rear and bottom air suction directions available
- Setback temperature control available, leading to better operation



SLIM TYPE

- Ideal for narrow ceiling voids installation thanks to low height up to 192mm & width just 700mm
- Drain-pump with 900mm lift as standard optional part
- Quiet operation level (as low as 22 dB(A))



COMPACT TYPE (BOTH AC MOTOR TYPE AND DC MOTOR TYPE AVAILABLE)

- Ideal for installation over the closet or windows thanks to the up to the compactness with 192mm height
- Drain-pump with 900mm lift as standard optional part
- Quiet operation level (as low as 20dB(A))
- Fan air flow rate up to 6 taps (DC motor model only)



LARGER AIR VOLUME TYPE

- Two external static pressure settings for better flexibility
- High external static pressure: Up to 120Pa (140Pa in 7HP class)
- Suitable for air distribution for multiple zone

CONCEALED & EXPOSED



FLOOR CONCEALED TYPE

- When there is no ceiling void, this unit gives you a minimal, low visibility option as it can be installed in floor cavities and walls
- Little installation space required, with only 220mm depth
- Suitable for installation under a window, with a 620mm height



FLOOR EXPOSED TYPE

- Easy installation
- Little installation space required, with only 220mm depth
- Suitable for installation under a window, with a 630mm height



FLOOR/CEILING CONVERTIBLE TYPE

- Each unit can be floor mounted or ceiling suspended
- Easy installation
- Fresh air-intake design
- Optional drain pump available



CEILING SUSPENDED TYPE

- Ideal for a higher ceiling (up to 5.6m in cooling)
- Better power-saving with optional Motion Sensor
- Quiet operation level (as low as 28dB(A))
- Setback temperature control available, leading to better operation



WALL MOUNTED TYPE

- Simple installation procedure
- Flexible discreet design suitable for any interior
- Without expansion-valve model available for 0.6-1.5 for more silent indoor space
- Setback temperature control available, leading to better operation

VENTILATION



TOTAL HEAT EXCHANGER

- Creates a healthy indoor environment thanks to introducing fresh air function and ventilation function
- Remote controller for Total Heat Exchanger is equipped in unit as standard part



ALL FRESH AIR UNIT











- Creates a comfortable and healthy indoor environment thanks to introducing fresh air function and heat/cool function
- Various controllers can be selected and interfaced with the H-LINK system
- Longer ducts can be connected on-site, thanks to the higher ESP

SET FREE Σ – FSNP & FSNS SERIES

INDOOR UNITS & VENTILATION

LINE UP OVERVIEW

FEATURES COMPARISON

Model		4-WAY CASSETTE TYPE  RCI-FSN3	4-WAY CASSETTE COMPACT TYPE  RCIM-FSN4	2-WAY CASSETTE TYPE  RCD-FSN3	1-WAY CASSETTE TYPE  RCS-FSN	HIGH/MEDIUM ESP TYPE  RPI-FSN3 RPIM-FSN3	
 COMFORT	Temperature Setting Rate	0.5°C/1.0°C	0.5°C/1.0°C	0.5°C/1.0°C	0.5°C/1.0°C	0.5°C/1.0°C	
	Indoor Fan Speed	4 taps	4 taps	4 taps	4 taps	4 taps	
	Louver Direction	7 (*4)	7 (*4)	7 (*4)	7 (*5)		
	Individual Louver Setting	•	•	•			
	Auto Louver Setting	•	•	•			
	Cold Draft Prevention Availability (*1)	•	•	•	•	•	
	Dry mode Availability	•	•	•	•	•	
 POWER-SAVING (*2)	Power Saving with Motion Sensor (*2)	•	•	•	•	•	
	Outdoor Unit capacity control (*2)	Peak cut control	•	•	•	•	•
		moderate control	•	•	•	•	•
	Indoor Unit Rotation Control (*2)	Indoor Unit Address	•	•	•	•	•
		Indoor Air Temperature difference	•	•	•	•	•
Automatic Fan Operation	•	•	•	•	•		
 MENU (*2)	Quick Function	•	•	•	•	•	
	Comfort setting	Control Cool Air	•	•	•	•	
	Daylight Saving Time	•	•	•	•	•	
	Power Consumption visualization	•	•	•	•	•	
	Weekly Schedule Setting	•	•	•	•	•	
	Power-Saving Setting	•	•	•	•	•	
 MAINTENANCE	Dirty Filter Notice Availability	•	•	•	•	•	
	Check Menu	Sensor Condition Check	•	•	•	•	
		Model Display (*2)			•	•	•
	Indoor / Outdoor PCB Check	•	•	•	•	•	
Alarm History Display	•	•	•	•	•		
 OPTIONAL ACCESSORY	Colored Decoration Panel availability	• (*6)		• (*6)	• (*6)		
	Motion Sensor	P-AP160NAE	SOR-NEC	SOR-NED	SOR-NES	SOR-NEZ	
	Receiver Kit for wireless remote controller	PC-ALH3	PC-ALHC1	PC-ALHD1	PC-ALHS1	PC-ALHZ1	
	Drain-up mechanism availability	• (*3)	• (*3)	• (*3)	• (*3)	• (*3)	
	Fresh air intake design	• (*7)	• (*7)	• (*7)	• (*7)		
	Air filter	F-71L-D1 F-160L-D1 B-160H2 F-160L-K	• (*8)	F-90MD-K1 F-160MD-K1 B-90HD B-160HD	• (*8)	F-56/90/160LI B-56/90/160LI	
	Strainer kit						



4-WAY CASSETTE TYPE (RCI-FSN3)



FEATURES AND BENEFITS

★ Adaptability

- 1) Wide Detection area of motion sensor
- 2) Control air flow with individual four-way louvers

✏ Design Flexibility

- 1) Used in both narrow ceiling cavity, and with high ceiling
- 2) Standard drain pump with 850mm lift
- 3) Round ducts can be attached directly
- 4) The height of the space for installing the unit can be fine-tuned

GENERAL DATA & ACCESSORIES

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

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

Decoration panel	With Motion Sensor	P-AP160NAE	T-Pipe Connection Kit	TKCI-160K
	Without Motion Sensor	P-AP160NA1		Kit for Deodorant Filter & Filter set
Receiver kit	Advanced	PC-ALH3	Kit for Deodorant Filter & Filter Box	B-160H2
Duct Adapter		PD-75A	Antibacterial Long-life Filter	F-160L-K
Fresh Air Intake Kit		OACI-160K2		
3-Way Outlet Parts Set		PI-160LS1		

Notes:

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

Cooling Operation Conditions Indoor Air Inlet Temperature: 27.0°C DB 19.0°C WB Outdoor Air Inlet Temperature: 35.0°C DB Piping Length: 7.5 metre Piping Lift: 0 metre	Heating Operation Conditions Indoor Air Inlet Temperature: 20.0°C DB Outdoor Air Inlet Temperature: 7.0°C DB 6.0°C WB Piping Length: 7.5 metre Piping Lift: 0 metre
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- The sound pressure level is based on following conditions.
 1.5 metre Beneath the Unit.
 The data in the table above was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.



4-WAY CASSETTE COMPACT TYPE



SET FREE Σ – FSNP & FSNS SERIES

FEATURES AND BENEFITS

★ Adaptability

- 1) Top-class silent operation
- 2) Aesthetics
- 3) Wide Detection area of motion sensor

✏ Design Flexibility

- 1) Compact
- 2) High Ceiling Available Standard drain-pump
- 3) Adopting new antibacterial agent of drain pan

GENERAL DATA & ACCESSORIES

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

Adaptable Panel Model	P-AP56NAM (without Motion Sensor)		
Color	Neutral White		
Outer Dimensions	Height	mm	30
	Width	mm	620
	Depth	mm	620
Net Weight	kg(lbs.)		3(6.6)

Decoration panel	P-AP56NAM
Motion Sensor	SOR-NEC
Receiver kit	PC-ALHC1
Duct Adapter	PD-75C

Notes:

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

Cooling Operation Conditions	Heating Operation Conditions
Indoor Air Inlet Temperature: 27.0°C DB	Indoor Air Inlet Temperature: 20.0°C DB
19.0°C WB	Outdoor Air Inlet Temperature: 7.0°C DB
Outdoor Air Inlet Temperature: 35.0°C DB	6.0°C WB
Piping Length: 7.5 metre	Piping Length: 7.5 metre
Piping Lift: 0 metre	Piping Lift: 0 metre

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

1.5 metre Beneath the Unit.

The data in the table above was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.

INDOOR UNITS & VENTILATION



2-WAY CASSETTE TYPE



FEATURES AND BENEFITS

★ Adaptability

- 1) Wide Detection area of motion sensor
- 2) Control air flow with individual louvers

✏ Design Flexibility

- 1) High Ceiling Available Standard drain-pump
- 2) The height of the space for installing the unit can be fine-tuned

GENERAL DATA & ACCESSORIES

Model		RCD-0.8FSN3	RCD-1.0FSN3	RCD-1.5FSN3	RCD-2.0FSN3	RCD-2.5FSN3	RCD-3.0FSN3	RCD-4.0FSN3	RCD-5.0FSN3	RCD-6.0FSN3	
Power Supply		AC 1Φ, [220-240V/50Hz] [220V/60Hz]									
Nominal Cooling Capacity	kW(Btu/h)	2.2(7,500)	2.8(9,600)	4.0(13,600)	5.6(19,100)	7.1(24,200)	8.0(27,300)	11.2(38,200)	14.0(47,800)	16.0(54,300)	
Nominal Heating Capacity	kW(Btu/h)	2.5(8,500)	3.2(10,900)	4.8(16,400)	6.3(21,500)	8.5(29,000)	9.0(30,700)	12.5(42,600)	16.0(54,600)	18.0(61,400)	
Sound Pressure Level (Overall A Scale) (Hi2/Hi/Me/Lo)	dB(A)	30/29/28/27	31/29/28/27	37/34/31/30	39/36/33/30	42/39/36/33	45/42/38/33	43/40/37/34	47/44/41/35	48/45/42/39	
Outer Dimensions	Height	mm	298	298	298	298	298	298	298	298	
	Width	mm	860	860	860	860	860	1,420	1,420	1,420	
	Depth	mm	630	630	630	630	630	630	630	630	
Net Weight	kg(lbs.)	23(50.7)	23(50.7)	25(55.1)	25(55.1)	25(55.1)	25(55.1)	39(86.0)	39(86.0)	39(86.0)	
Refrigerant		R410A									
Indoor Fan	Air Flow Rate	m ³ /min.	10/9/	11/9.5/	15/13/	16.5/14.5/	18.5/16.5/	21/18.5/	30/26.5/	35/31/	37/32.5/
	(Hi2/Hi/Me/Lo)	(l/s)	7.5/6.5	8.5/7	11.5/10	12.5/10.5	14.5/12.5	16/12.5	23/20	27/21	28.5/24
			(353/318/	(388/335/	(530/459/	(583/512/	(653/583/	(742/653/	(1,059/936/	(1,236/1,095/	(1,306/1,147/
			265/230)	300/247)	406/353)	441/371)	512/441)	565/441)	812/706)	953/742)	1,006/847)
Motor	W	57	57	57	57	57	57	57×2	57×2	57×2	
Connections		Flare-Nut Connection (with Flare Nuts)									
Refrigerant Piping	Liquid Line	mm	Φ6.35	Φ6.35	Φ6.35	Φ6.35	Φ9.52	Φ9.52	Φ9.52	Φ9.52	
	Gas Line	mm	Φ12.7	Φ12.7	Φ12.7	Φ12.7	Φ15.88	Φ15.88	Φ15.88	Φ15.88	
	Condensate Drain		VP25	VP25	VP25	VP25	VP25	VP25	VP25	VP25	
Approximate Packing Measurement	m ³	0.24	0.24	0.24	0.24	0.24	0.24	0.36	0.36	0.36	

Adaptable Panel Model		P-AP90DNA (for 2.2~8.0kW)	P-AP160DNA (for 11.2~16.0kW)
Color		Neutral White	Neutral White
Outer Dimensions	Height	mm	30
	Width	mm	1,100
	Depth	mm	710
Net Weight	kg(lbs.)	7.5(16.5)	10.5(23.2)
Approximate Packing Measurement	m ³	0.13	0.2

Decoration panel	0.8-3.0 (HP Class)	P-AP90DNA	Antibacterial	0.8-3.0 (HP Class)	F-90MD-K1
	4.0-6.0 (HP Class)	P-AP160DNA	Long-life Filter	4.0-6.0 (HP Class)	F-160MD-K1
Receiver kit		PC-ALHD1	Filter Box	0.8-3.0 (HP Class)	B-90HD
Motion Sensor		SOR-NED		4.0-6.0 (HP Class)	B-160HD
Duct Adapter		PD-150D			

Notes:

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

Cooling Operation Conditions Indoor Air Inlet Temperature: 27.0°C DB 19.0°C WB Outdoor Air Inlet Temperature: 35.0°C DB Piping Length: 7.5 metre Piping Lift: 0 metre	Heating Operation Conditions Indoor Air Inlet Temperature: 20.0°C DB Outdoor Air Inlet Temperature: 7.0°C DB 6.0°C WB Piping Length: 7.5 metre Piping Lift: 0 metre
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- The sound pressure level is based on following conditions.
 1.5 metre Beneath the Unit.
 The data in the table above was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.

1-WAY CASSETTE TYPE



SET FREE Σ – FSNP & FSNS SERIES

FEATURES AND BENEFITS

★ Adaptability

- 1) Wide Detection area of motion sensor
- 2) Quiet operation

✏ Design Flexibility

- 1) 3 installation types selectable
- 2) High Ceiling Available Standard drain-pump

GENERAL DATA & ACCESSORIES

Model		RCS-0.8FSN	RCS-1.0FSN	RCS-1.5FSN	RCS-2.0FSN	RCS-2.5FSN	RCS-3.0FSN	
Power Supply		AC 1Φ, [220-240V/50Hz] [230V/50Hz] [220V/60Hz]						
Nominal Cooling Capacity	kW(Btu/h)	2.2(7,500)	2.8(9,600)	4.0(13,600)	5.6(19,100)	7.1(24,200)	8.0(27,300)	
Nominal Heating Capacity	kW(Btu/h)	2.5(8,500)	3.2(10,900)	4.8(16,400)	6.3(21,500)	8.5(29,000)	9.0(30,700)	
Sound Pressure Level (Overall A Scale) (HiZ/Hi/Me/Lo)	dB(A)	34/32/29/27	36/34/31/28	40/37/33/31	42/38/35/31	43/39/36/32	43/40/37/33	
Outer Dimensions	Height	235	235	235	235	235	235	
	Width	900	900	900	900	1,210	900	
	Depth	710	710	710	710	710	710	
Net Weight	kg(lbs.)	25(55.1)	25(55.1)	26(57.3)	26(57.3)	33(72.8)	33(72.8)	
Refrigerant		R410A						
Indoor Fan	Air Flow Rate	m ³ /min.	8.5/7.5/6.5/6	9.5/8.5/7.5/6.5	13/11.5/10/8.5	14.5/13/11/9.5	18.5/16.5/14.5/12.5	20/17.5/15.5/13
	(HiZ/Hi/Me/Lo)	(l/s)	(300/265/229/212)	(335/300/265/229)	(459/406/353/300)	(512/459/388/335)	(653/582/512/424)	(706/618/547/459)
Motor	W	50	50	50	50	80	80	
Connections		Flare-Nut Connection (with Flare Nuts)						
Refrigerant Piping	Liquid Line	mm	Φ6.35	Φ6.35	Φ6.35	Φ6.35	Φ9.52	Φ9.52
	Gas Line	mm	Φ12.7	Φ12.7	Φ12.7	Φ12.7	Φ15.88	Φ15.88
	Condensate Drain		VP25	VP25	VP25	VP25	VP25	VP25
Approximate Packing Measurement	m ³	0.25	0.25	0.25	0.25	0.32	0.32	

Adaptable Panel Model		P-AP36CNA (for RCS-[0.8-1.0]FSN)	P-AP56CNA (for RCS-[1.5-2.0]FSN)	P-AP80CNA (for RCS-[2.5-3.0]FSN)
Color		Neutral White		
Outer Dimensions	Height	mm	35	35
	Width	mm	1,100	1,410
	Depth	mm	800	800
Net Weight	kg(lbs.)	4.5(9.9)	4.5(9.9)	6(13.2)
Approximate Packing Measurement	m ³	0.098	0.098	0.125

Decoration panel	0.8-1.0 (HP Class)	P-AP36CNQ
	1.5-2.0 (HP Class)	P-AP56CNA
	2.5-3.0 (HP Class)	P-AP80CNA
Receiver kit		PC-ALHS1
Motion Sensor		SOR-NES
Duct Adapter		PD-100

Drille for Front Discharge	0.8-2.0 (HP Class)	DG-56SW1
	2.5-3.0 (HP Class)	DG-80SW1
Air Outlet Shutter Plate	0.8-2.0 (HP Class)	PIS-56LS
	2.5-3.0 (HP Class)	PIS-80LS

Notes:

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

Cooling Operation Conditions	Heating Operation Conditions
Indoor Air Inlet Temperature: 27.0°C DB	Indoor Air Inlet Temperature: 20.0°C DB
19.0°C WB	Outdoor Air Inlet Temperature: 7.0°C DB
Outdoor Air Inlet Temperature: 35.0°C DB	6.0°C WB
Piping Length: 7.5 metre	Piping Length: 7.5 metre
Piping Lift: 0 metre	Piping Lift: 0 metre

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

1.5 metre Beneath the Unit.

The data in the table above was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.

INDOOR UNITS & VENTILATION



HIGH ESP TYPE (EXTERNAL STATIC PRESSURE TYPE)

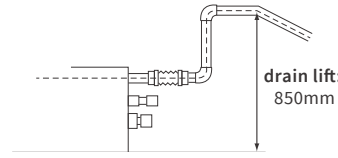


FEATURES AND BENEFITS

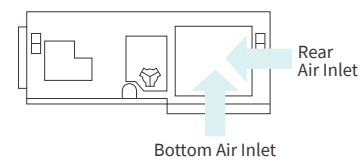


- Setback temperature control available, leading to better operation
- Dual set-point for greater simultaneous cooling & heating operation

Fits a standard drain pump with 850 mm lift



Air Inlet can be chosen from two locations



GENERAL DATA & ACCESSORIES

Model	RPI-2.0FSN3	RPI-2.5FSN3	RPI-3.0FSN3	RPI-4.0FSN3	RPI-5.0FSN3	RPI-6.0FSN3	RPI-8.0FSN1	RPI-10.0FSN1		
Indoor Unit Power Supply	AC 1Φ, [220-240V/50Hz] [220V/60Hz]									
Nominal Cooling Capacity	kW	5.6	7.1	8.0	11.2	14.0	16.0	22.4	28.0	
Nominal Heating Capacity	kW	6.3	8.5	9.0	12.5	16.0	18.0	25.0	31.5	
Sound Pressure Level (Overall A Scale)(Hi2/Hi/Me/Lo)	dB(A)	41/38/35/32	37/35/32/30	39/36/33/31	40/37/34/32	42/39/36/33	44/40/37/34	44/40/37/34	44/40/37/34	
Sound Power Level (Overall A Scale)(Hi2/Hi/Me/Lo)	dB(A)	59/56/53/50	55/53/50/48	57/54/51/49	58/55/52/50	60/57/54/51	62/58/55/52	45/43/40/36	50/48/46/39	
Outer Dimensions	Height	mm	300	300	300	300	300	470	470	
	Width	mm	700	1,050	1,050	1,400	1,400	1,380	1,380	
	Depth	mm	800	800	800	800	800	1,060	1,060	
Net Weight	kg	29	38	38	48	48	48	94	94	
Refrigerant	R410A									
Indoor Fan	Air Flow Rate	m ³ /min	14.5/13/11/9.5	18.5/16.5/14.5/12	20/17.5/15.5/13	30/26.5/23/20	33.5/29.5/26/22	36/31.5/27.5/24	63/58/50/38	80/72/64/48
	(Hi2/Hi/Me/Lo)	(cfm)	(512/459/388/335)	(653/582/512/423)	(706/618/547/459)	(1,059/935/812/706)	(1,182/1,041/917/776)	(1,270/1,112/970/847)	(2,224/2,048/1,765/1,341)	(2,825/2,542/2,260/1,695)
External Pressure (*3)	Pa	50(100-200)	50(100-200)	50(100-200)	50(100-200)	50(100-200)	50(100-200)	50(100-230)	50(100-230)	
Motor	W	157	190	190	259	259	259	840	840	
Connections	m ³ Flare-Nut Connection (with Flare Nuts)									
Refrigerant Piping	Liquid Line	mm	Φ6.35	Φ9.52	Φ9.52	Φ9.52	Φ9.52	Φ9.52	Φ9.52	
	Gas Line	mm	Φ12.7	Φ15.88	Φ15.88	Φ15.88	Φ15.88	Φ19.05	Φ22.2	
	Condensate Drain		VP25	VP25	VP25	VP25	VP25	VP25	VP25	
Approximate Packing Measurement	m ³	0.28	0.39	0.39	0.5	0.5	0.5	0.97	0.97	

Receiver kit	Advanced	PC-ALHZ1
Motion Sensor		SOR-NEZ
Condensate Drain Pump Kit		- (included as standard equipment)
Antifungal Long-Life Filter	0.8-2.0 (HP Class)	F-56LI
	2.5-3.0 (HP Class)	F-90LI
	4.0-6.0 (HP Class)	F-160LI

Filter Box for Long-Life Filter	0.8-2.0 (HP Class)	B-56LI
	2.5-3.0 (HP Class)	B-90LI
	4.0-6.0 (HP Class)	B-160LI
Long-Life Filter Kit/Long-Life Filter	8-10 (HP Class)	F-280LI
MotioFilter Boxn Sensor	8-10 (HP Class)	B-280LI

Notes:

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

Cooling Operation Conditions

Indoor Air Inlet Temperature: 27.0°C DB
19.0°C WB

Outdoor Air Inlet Temperature: 35.0°C DB

Piping Length: 7.5 metre

Piping Lift: 0 metre

Heating Operation Conditions

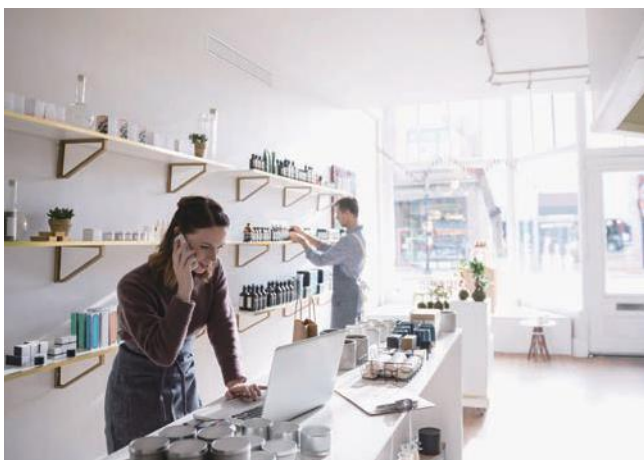
Indoor Air Inlet Temperature: 20.0°C DB
Outdoor Air Inlet Temperature: 7.0°C DB
6.0°C WB

Piping Length: 7.5 metre

Piping Lift: 0 metre

- The sound pressure level is based on following conditions. 1.5 metre Beneath the Unit. With Discharge Duct (2.0 metre) and Return Duct (1.0 metre). Voltage of the power source for the indoor fan motor is 220V. The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.

- The data for external pressure (*3) indicates "Standard Pressure Setting (High Pressure Setting1 - High Pressure Setting2)" values when a filter is not used. The sound pressure level is based on the Standard Pressure Setting.



MEDIUM ESP TYPE (EXTERNAL STATIC PRESSURE TYPE)



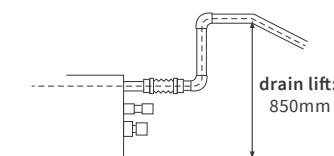
SET FREE Σ – FSNP & FSNS SERIES

FEATURES AND BENEFITS

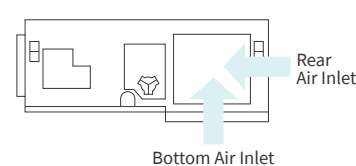


- Setback temperature control available, leading to better operation
- Dual set-point for greater simultaneous cooling & heating operation

Fits a standard drain pump with 850 mm lift



Air Inlet can be chosen from two locations



GENERAL DATA & ACCESSORIES

Model		RPIM-0.8FSN3	RPIM-1.0FSN3	RPIM-1.5FSN3	RPIM-2.0FSN3	RPIM-2.5FSN3	RPIM-3.0FSN3	RPIM-4.0FSN3	RPIM-5.0FSN3	RPIM-6.0FSN3	
Indoor Unit Power Supply		AC 1Φ, [220-240V/50Hz] [220V/60Hz]									
Nominal Cooling Capacity	kW	2.2	2.8	4.0	5.6	7.1	8.0	11.2	14.0	16.0	
Nominal Heating Capacity	kW	2.5	3.2	4.8	6.3	8.5	9.0	12.5	16.0	18.0	
Sound Pressure Level (Overall A Scale)(Hi2/Hi/Me/Lo)	dB(A)	32/30/28/27	33/31/29/28	38/35/32/30	40/37/34/31	37/35/33/31	38/36/33/31	40/38/35/32	42/39/36/34	43/40/37/34	
Sound Power Level (Overall A Scale)(Hi2/Hi/Me/Lo)	dB(A)	50/48/46/45	51/49/47/46	56/53/50/48	58/55/52/49	55/53/51/49	56/54/51/49	58/56/53/50	60/57/54/52	61/58/55/52	
Outer Dimensions	Height	mm	250	250	250	250	250	250	250	250	
	Width	mm	700	700	700	700	1,050	1,050	1,400	1,400	
	Depth	mm	800	800	800	800	800	800	800	800	
Net Weight	kg	26	26	27	27	36	36	44	44	44	
Refrigerant		R410A									
Indoor Fan	Air Flow Rate	m ³ /min	8.5/7.5/6.5/5.5	9.5/8.5/7.5/6.5	13/11.5/10/8.5	14.5/13/11/9.5	18.5/16.5/14/12.20	17.5/15.5/13	30/26.5/23/20	33.5/29.5/26/22	36/31.5/27.5/24
	(Hi2/Hi/Me/Lo)	(cfm)	(300/265/229/194)	(335/300/265/229)	(459/406/353/300)	(512/459/388/335)	(653/582/494/423)	(547/459)	(706/618/812/706)	(1,059/935/1,182/1,041/917/776)	(1270/1,112/970/847)
External Pressure (*3)	Pa	50(100-150)	50(100-150)	50(100-150)	50(100-150)	50(100-150)	50(100-150)	50(100-150)	50(100-150)	50(100-150)	
Motor	W	157	157	157	157	190	190	259	259	259	
Connections	m ³	Flare-Nut Connection (with Flare Nuts)									
Refrigerant Piping	Liquid Line	mm	Φ6.35	Φ6.35	Φ6.35	Φ6.35	Φ9.52	Φ9.52	Φ9.52	Φ9.52	Φ9.52
	Gas Line	mm	Φ12.7	Φ12.7	Φ12.7	Φ12.7	Φ15.88	Φ15.88	Φ15.88	Φ15.88	Φ15.88
	Condensate Drain		VP25	VP25	VP25	VP25	VP25	VP25	VP25	VP25	VP25
Approximate Packing Measurement	m ³	0.24	0.24	0.24	0.24	0.33	0.33	0.42	0.42	0.42	

Receiver kit	Advanced	PC-ALHZ1
Motion Sensor		SOR-NEZ
Condensate Drain Pump Kit		- (included as standard equipment)
Antifungal Long-Life Filter	0.8-2.0 (HP Class)	F-56LI
	2.5-3.0 (HP Class)	F-90LI
	4.0-6.0 (HP Class)	F-160LI

Filter Box for Long-Life Filter	0.8-2.0 (HP Class)	B-56LI
	2.5-3.0 (HP Class)	B-90LI
	4.0-6.0 (HP Class)	B-160LI

Notes:

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

Cooling Operation Conditions	Heating Operation Conditions
Indoor Air Inlet Temperature: 27.0°C DB	Indoor Air Inlet Temperature: 20.0°C DB
19.0°C WB	Outdoor Air Inlet Temperature: 7.0°C DB
Outdoor Air Inlet Temperature: 35.0°C DB	6.0°C WB
Piping Length: 7.5 metre	Piping Length: 7.5 metre
Piping Lift: 0 metre	Piping Lift: 0 metre
- The sound pressure level is based on following conditions. 1.5 metre Beneath the Unit. With Discharge Duct (2.0 metre) and Return Duct (1.0 metre). Voltage of the power source for the indoor fan motor is 220V. The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.
- The data for external pressure (*3) indicates "Standard Pressure Setting (High Pressure Setting1 - High Pressure Setting2)" values when a filter is not used. The sound pressure level is based on the Standard Pressure Setting.

INDOOR UNITS & VENTILATION



SLIM TYPE

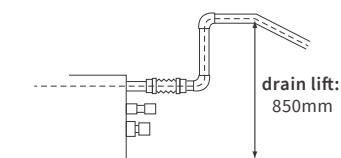


FEATURES AND BENEFITS

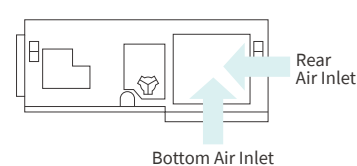


- Ideal for narrow ceiling voids installation thanks to low height up to 192mm & width just 700mm
- Drain-pump with 900mm lift as standard optional part
- Quiet operation level (as low as 22dB(A))

Fits a standard drain pump with 850 mm lift



Air Inlet can be chosen from two locations



GENERAL DATA & ACCESSORIES

Model		RPIZ-0.8FSNQS/P	RPIZ-1.0FSNQS/P	RPIZ-1.3FSNQS/P	RPIZ-1.5FSNQS/P
Indoor Unit Power Supply			AC 1Φ, [220V/50Hz]		
Nominal Cooling Capacity	kW	2.3	2.9	3.8	4.4
	kcal/h	2,000	2,500	3,300	3,800
	Btu/h	7,900	9,900	13,000	15,100
Nominal Heating Capacity	kW	2.8	3.3	4.2	4.9
	kcal/h	2,400	2,800	3,600	4,200
	Btu/h	9,500	11,100	14,300	16,700
Sound Pressure Level (Overall A Scale)(Hi/Me/Lo)	dB(A)	27/24/21	27/24/21	31/29/27	31/29/27
Outer Dimensions	Height	mm	192	192	192
	Width	mm	700	700	700
	Depth	mm	602	602	602
Net Weight	kg	21	21	21	21
Refrigerant		R410A(Nitrogen-Charged for Corrosion-Resistance)			
Indoor Fan	Air Flow Rate (Hi2/Hi/Me/Lo)	m ³ /min (cfm)	8/7/6	8/7/6	10/8/7
	External Pressure (*3)	Pa	10/30	10/30	10/30
Motor	W	15	15	25	25
Connections		m ³ Flare-Nut Connection (with Flare Nuts)			
Refrigerant Piping	Liquid Line	mm	Φ6.35	Φ6.35	Φ6.35
	Gas Line	mm	Φ12.7	Φ12.7	Φ12.7
	Condensate Drain		VP25	VP25	VP25
Approximate Packing Measurement	m ³	0.15	0.15	0.15	0.15
Receiver kit	Advanced	PC-ALHZ1			
Condensate Drain Pump Kit		- (included as standard equipment)			

Notes:

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

Cooling Operation Conditions	Heating Operation Conditions
Indoor Air Inlet Temperature: 27.0°C DB	Indoor Air Inlet Temperature: 20.0°C DB
19.0°C WB	Outdoor Air Inlet Temperature: 7.0°C DB
Outdoor Air Inlet Temperature: 35.0°C DB	6.0°C WB
Piping Length: 7.5 metre	Piping Length: 7.5 metre
Piping Lift: 0 metre	Piping Lift: 0 metre
- The sound pressure level is based on following conditions. 1 metre Beneath the Unit and 1 metre from Discharge Grille. Voltage of the power source for the indoor fan motor is 220V. In case of the power source of 240V, the sound pressure level increases by about 1 dB(A). The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.
- (*3) In case of using R407C or R22, use the accessory adaptor and Φ19.05 piping.

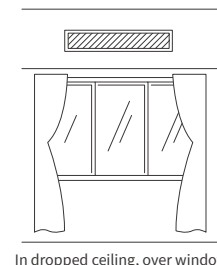
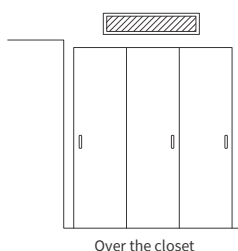
COMPACT TYPE (AC MOTOR TYPE)



FEATURES AND BENEFITS



- Ideal for installation over the closet or windows thanks to the up to the compactness with 192mm height
- Drain-pump with 900mm lift as standard optional part
- Quiet operation level (as low as 21dB(A))
- Fan air flow rate up to 6 taps (DC motor model only)



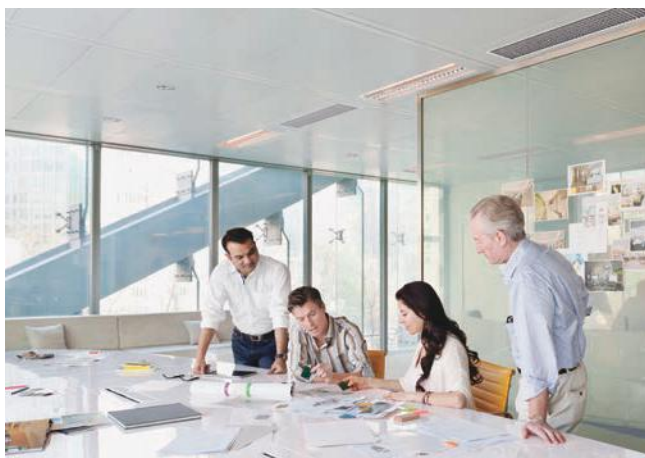
GENERAL DATA & ACCESSORIES

Model			RPIZ-0.8HNATNQ	RPIZ-1.0HNATNQ	RPIZ-1.3HNATNQ	RPIZ-1.5HNATNQ	RPIZ-1.8HNATNQ	RPIZ-2.0HNATNQ	RPIZ-2.3HNATNQ	RPIZ-2.5HNATNQ
Indoor Unit Power Supply			AC 1Φ, [220-240V/50Hz]							
Nominal Capacity	Cooling	kW	2.2	2.8	3.6	4.0	5.0	5.6	6.3	7.1
	Heating	kW	2.5	3.2	4.0	4.5	5.6	6.3	7.1	8.0
Sound Pressure Level	(Hi/Me/Lo)	dB(A)	30/23/20	30/23/20	34/25/22	32.5/26/23	34/26/25	34/26/25	37/29/27	37/29/27
Outer Dimensions	Height	mm	192	192	192	192	192	192	192	192
	Width	mm	700	700	700	910	1,180	1,180	1,180	1,180
	Depth	mm	447	447	447	447	447	447	447	447
Net Weight		kg	17	17	17	21	27	27	28	28
Refrigerant			R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A
Indoor Fan Air Flow Rate	(Hi2/Hi/Me/Lo)	m ³ /min	9.5/6.5/5.5	9.5/6.5/5.5	9.5/6.5/5.5	10/7/6	15/10/9	15/10/9	17/10/9	17/10/9
External Pressure (*3)		Pa	10(30)	10(30)	10(30)	10(30)	10(30)	10(30)	10(30)	10(30)
Connections			Flare-Nut Connection (with Flare Nuts)							
Refrigerant	Liquid Line	mm	Φ6.35	Φ6.35	Φ6.35	Φ6.35	Φ6.35	Φ6.35	Φ9.52	Φ9.52
Piping Diameter	Gas Line	mm	Φ12.70	Φ12.70	Φ12.70	Φ12.70	Φ15.88	Φ15.88	Φ15.88	Φ15.88
Condensate Drain			VP25	VP25	VP25	VP25	VP25	VP25	VP25	VP25
Approximate Packing Volume		m ³	0.142	0.142	0.142	0.15	0.18	0.18	0.18	0.18
Receiver kit	Advanced		PC-ALHZ1							
Condensate Drain Pump Kit			- (included as standard equipment)							
Air filter	0.8-1.5 (HP Class)		KW-PP5Q							
	1.8-2.5 (HP Class)		KW-PP6Q							

Notes:

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

Cooling Operation Conditions	Heating Operation Conditions
Indoor Air Inlet Temperature: 27.0°C DB	Indoor Air Inlet Temperature: 20.0°C DB
19.0°C WB	7.0°C DB
Outdoor Air Inlet Temperature: 35.0°C DB	6.0°C WB
Piping Length: 7.5 metre	Piping Length: 7.5 metre
Piping Lift: 0 metre	Piping Lift: 0 metre
- The sound pressure level is based on following conditions.
 - 1.4 metre Beneath the unit.
 - With Discharge Duct (2.0 metre) and Return Duct (1.0 metre).
 - 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 1~2dB(A).)
 - The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.
- The data for external pressure (*3) indicates "Standard Pressure Setting values when a filter is not used.



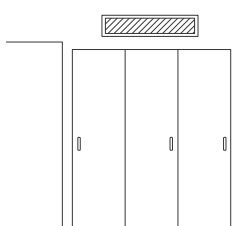
COMPACT TYPE (DC MOTOR TYPE)



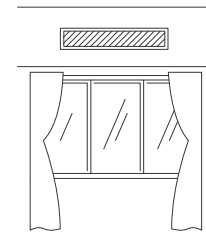
FEATURES AND BENEFITS



- Ideal for installation over the closet or windows thanks to the up to the compactness with 192mm height
- Drain-pump with 900mm lift as standard optional part
- Quiet operation level (as low as 21dB(A))
- Fan air flow rate up to 6 taps (DC motor model only)



Over the closet



In dropped ceiling, over window

GENERAL DATA & ACCESSORIES

Model			RP1Z-0.8HNDTSQ	RP1Z-1.0HNDTSQ	RP1Z-1.3HNDTSQ	RP1Z-1.5HNDTSQ	RP1Z-1.8HNDTSQ	RP1Z-2.0HNDTSQ	RP1Z-2.3HNDTSQ	RP1Z-2.5HNDTSQ	
Indoor Unit Power Supply			AC 1Φ, [220-240V/50Hz] [220V/60Hz]								
Nominal Capacity	Cooling	kW	2.2	2.8	3.6	4.0	5.0	5.6	6.3	7.1	
	Heating	kW	2.5	3.2	4.0	4.5	5.6	6.3	7.1	8.0	
Sound Pressure Level	(6 taps)	dB(A)	33/31/28/ 25/23.5/22.5	33/31/28/ 25/23.5/22.5	33/31/28/ 25/23.5/22.5	31/30/28/ 25/22/20	36/33.5/31/ 28/24.5/22.5	36/33.5/31/ 28/24.5/22.5	36/33.5/31/ 28/24.5/22.5	36/33.5/31/ 28/24.5/22.5	
			Outer Dimensions	Height	mm	192	192	192	192	192	192
Outer Dimensions	Width	mm	700	700	700	910	1,180	1,180	1,180	1,180	
	Depth	mm	447	447	447	447	447	447	447	447	
	Net Weight	kg	17	17	17	20	24	24	24	24	
Refrigerant			R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A	
Indoor Fan Air Flow(6 taps) Rate			m ³ /min	8.5/8/7/6/5.5/5	8.5/8/7/6/5.5/5	8.5/8/7/6/5.5/5	10/9/8/7/5/6.5/6	16.5/15/13/ 12/10/9	16.5/15/13/ 12/10/9	16.5/15/13/ 12/10/9	16.5/15/13/ 12/10/9
External Pressure (*3)			Pa	10(0-10-30)	10(0-10-30)	10(0-10-30)	10(0-10-30)	10(0-10-50)	10(0-10-50)	10(0-10-50)	10(0-10-50)
Connections			Flare-Nut Connection (with Flare Nuts)								
Refrigerant	Liquid Line	mm	Φ6.35	Φ6.35	Φ6.35	Φ6.35	Φ6.35	Φ6.35	Φ9.52	Φ9.52	
Piping Diameter	Gas Line	mm	Φ12.70	Φ12.70	Φ12.70	Φ12.70	Φ15.88	Φ15.88	Φ15.88	Φ15.88	
Condensate Drain			VP25	VP25	VP25	VP25	VP25	VP25	VP25	VP25	
Approximate Packing Volume			m ³	0.142	0.142	0.142	0.15	0.18	0.18	0.18	0.18
Receiver kit	Advanced	PC-ALHZ1									
Condensate Drain Pump Kit			- (included as standard equipment)								
Air filter	0.8-1.5 (HP Class)	KW-PP5Q									
	1.8-2.5 (HP Class)	KW-PP6Q									

Notes:

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

Cooling Operation Conditions	Heating Operation Conditions
Indoor Air Inlet Temperature: 27.0°C DB	Indoor Air Inlet Temperature: 20.0°C DB
19.0°C WB	Outdoor Air Inlet Temperature: 7.0°C DB
Outdoor Air Inlet Temperature: 35.0°C DB	6.0°C WB
Piping Length: 7.5 metre	Piping Length: 7.5 metre
Piping Lift: 0 metre	Piping Lift: 0 metre
- The sound pressure level is based on following conditions.
 - 1.4 metre Beneath the unit.
 - With Discharge Duct (2.0 metre) and Return Duct (1.0 metre).
 - 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 1~2dB(A).)
 - The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.
- The data for external pressure (*3) indicates "Standard Pressure Setting values when a filter is not used."



LARGER AIR VOLUME TYPE



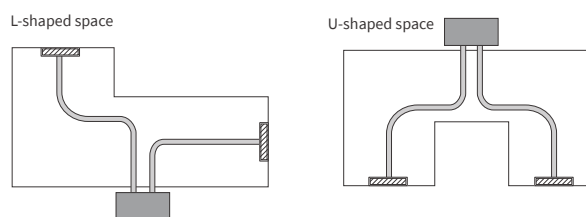
SET FREE Σ – FSNP & FSNS SERIES

FEATURES AND BENEFITS



- Two external static pressure settings for better flexibility
- High external static pressure:
Up to 120Pa (140Pa in 7HP class)
- Suitable for air distribution for multiple zone

Flexible installation options allow for multiple configurations



GENERAL DATA & ACCESSORIES

Model		RPI-3.0FSN2SQ	RPI-4.0FSN2SQ	RPI-5.0FSN2SQ	RPI-6.0FSN2SQ	RPI-7.0FSN2SQ	
Indoor Unit Power Supply				AC 1Φ, [220-240V/50Hz] [220V/60Hz]		AC 1Φ, [240V/50Hz]	
Nominal Cooling Capacity	kW	8.0	11.2	14.0	16.0	18.0	
Nominal Heating Capacity	kW	9.0	12.5	16.0	18.0	20.0	
Sound Pressure Level (Overall A Scale) (Hi/Me/Lo)	High Pressure Setting	dB(A)	46/44/40	48/45/41	49/46/43	53/49/45	51/47/42
	Standard Pressure Setting	dB(A)	45/43/39	47/44/40	48/45/42	52/48/44	-
Outer Dimensions	Height	mm	350	350	350	350	440
	Width	mm	1,076	1,076	1,300	1,300	1,430
	Depth	mm	800	800	800	800	550
Net Weight	kg	52	57	61	63	75	
Refrigerant		R410A					
Indoor Fan	High Pressure Setting	m ³ /min (l/s)	29/26/20(483/433/333)	36/33/25(600/550/417)	47/43/34(783/717/567)	56/50/40(933/833/667)	65/57/46(1,083/950/767)
Air Flow Rate (Hi2/Hi/Me/Lo)	Standard Pressure Setting	m ³ /min (l/s)	29/26/20(483/433/333)	36/29/25(600/483/417)	47/39/36(783/650/600)	56/48/42(933/800/700)	-
External Pressure (*1)	Pa	120(70)	120(70)	120(70)	120(70)	140	
Motor Output	W	250	300	420	550	650	
Connections		Flare-Nut Connection (with Flare Nuts)					
Refrigerant Piping	Liquid Line	mm	Φ 9.52	Φ 9.52	Φ 9.52	Φ 9.52	Φ 9.52
	Gas Line	mm	Φ 15.88	Φ 15.88	Φ 15.88	Φ 15.88	Φ 15.88
	Condensate Drain		VP25	VP25	VP25	VP25	VP25
Approximate Packing Measurement	m ³	0.49	0.49	0.57	0.57	0.54	
Receiver kit	Advanced	PC-ALHZ1					

Notes:

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

Cooling Operation Conditions

Indoor Air Inlet Temperature: 27.0°C DB
19.0°C WB

Outdoor Air Inlet Temperature: 35.0°C DB

Piping Length: 7.5 metre

Piping Lift: 0 metre

Heating Operation Conditions

Indoor Air Inlet Temperature: 20.0°C DB

Outdoor Air Inlet Temperature: 7.0°C DB

6.0°C WB

Piping Length: 7.5 metre

Piping Lift: 0 metre

2. The sound pressure level is based on following conditions. 1.5 metre Beneath the Unit. With Discharge Duct (2.0 metre) and Return Duct (1.0 metre). Voltage of the power source for the indoor fan motor is 220V. In case of the power source of 240V, the sound pressure level increases by about 1 or 2 dB(A). The data in the table above was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.

3. The data for external pressure (*1) indicates "High Pressure Setting (Standard Pressure Setting)" values when a filter is not used. The sound pressure level is based on the Standard Pressure Setting.

INDOOR UNITS & VENTILATION



FLOOR CONCEALED TYPE



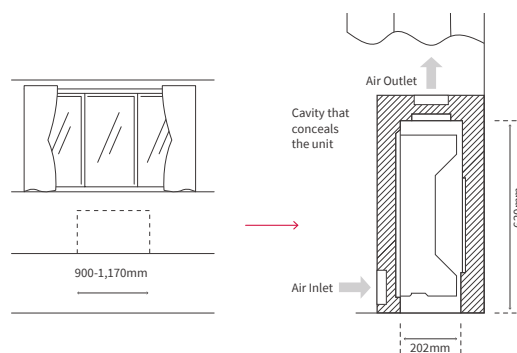
FEATURES AND BENEFITS

Design Flexibility

Blends unobtrusively with any interior décor: only the suction and discharge grilles are visible.

Its low height (only 620mm) enables the unit to fit perfectly beneath a window.

Requires little installation space thanks to its slim 202mm depth.



GENERAL DATA & ACCESSORIES

Model			RPFI-1.0FSN2E	RPFI-1.5FSN2E	RPFI-2.0FSN2E	RPFI-2.5FSN2E
Power Supply	Current					
	V/Hz		AC 1 Phase [220-240/50] [220/60]			
Nominal Cooling Capacity		kW	2.8	4.0	5.6	7.1
Nominal Heating Capacity		kW	3.2	4.8	6.3	8.5
Sound Pressure Level (Hi/Me/Lo)		dB(A)	35/32/29	38/35/31	39/36/32	42/38/34
Outer Dimensions	Height	mm	620	620	620	620
	Width	mm	848	973	1,223	1,223
	Depth	mm	220	220	220	220
Net Weight		kg	19	23	27	28
Refrigerant			R410A			
Indoor Fan	Air Flow Rate (Hi/Me/Lo)	m ³ /min	8.5/7/6	12/10/09	16/14/11	16/14/11
Motor		W	20	28	45	45
Connections			Flare-Nut Connection (with Flare Nuts)			
Refrigerant Piping	Liquid Line	mm	Φ6.35	Φ6.35	Φ6.35	Φ9.52
	Gas Line	mm	Φ12.70	Φ12.70	Φ15.88	Φ15.88
Condensate Drain			VP25			
Packaging Volume		m ³	0.22	0.23	0.25	0.25
Receiver kit	Advanced		PC-ALHZ1			

Notes:

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

Cooling Operation Conditions		Heating Operation Conditions	
Indoor Air Inlet Temperature: 27.0°C DB	19.0°C WB	Indoor Air Inlet Temperature: 20.0°C DB	7.0°C DB
Outdoor Air Inlet Temperature: 35.0°C DB		Outdoor Air Inlet Temperature: 6.0°C WB	
Piping Length: 7.5 metre		Piping Length: 7.5 metre	
Piping Lift: 0 metre		Piping Lift: 0 metre	

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

- 1 metre from the unit.
- 1 metre from floor level.
- Voltage of the power source for the indoor fan motor is 220V.
- The above data was measured in an anechoic chamber.
- Reflected sound should be considered prior to installation

For full specifications, please refer to the Technical Catalog.

FLOOR EXPOSED TYPE

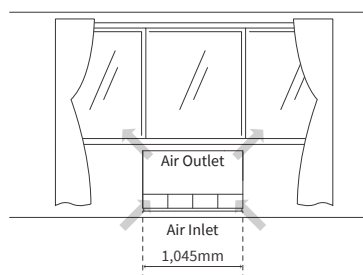


SET FREE Σ – FSNP & FSNS SERIES

FEATURES AND BENEFITS

Design Flexibility

Floor Exposed units can be installed with a minimum of disruption to walls and floors, making them an excellent retrofitting option. The 220mm depth means that little installation space is required. With a total height of up to 630mm, they are well suited to installation beneath a window.



GENERAL DATA & ACCESSORIES

Model			RPF-1.0FSN2E	RPF-1.5FSN2E	RPF-2.0FSN2E	RPF-2.5FSN2E
Power Supply	Current					
	V/Hz					
Nominal Cooling Capacity	kW		2.8	4.0	5.6	7.1
Nominal Heating Capacity	kW		3.2	4.8	6.3	8.5
Sound Pressure Level (Hi/Me/Lo)	dB(A)		35/32/29	38/35/31	39/36/32	42/38/34
Color			Spring White			
Dimensions	Height	mm	630	630	630	630
	Width	mm	1,045	1,170	1,420	1,420
	Depth	mm	220	220	220	220
Net Weight	kg		25	28	33	34
Refrigerant			R410A			
Indoor Fan	Air Flow Rate (Hi/Me/Lo)	m ³ /min	8.5/7/6	12/10/09	16/14/11	16/14/11
	Motor	W	20	28	45	45
Connections			Flare-Nut Connection (with Flare Nuts)			
Refrigerant Piping	Liquid Line	mm	Φ6.35	Φ6.35	Φ6.35	Φ9.52
	Gas Line	mm	Φ12.70	Φ12.70	Φ15.88	Φ15.88
Condensate Drain			Φ 18.5 OD			
Packaging Volume	m ³		0.22	0.24	0.29	0.29
Receiver kit	Advanced		PC-ALHZ1			

Notes:

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

Cooling Operation Conditions Indoor Air Inlet Temperature: 27.0°C DB 19.0°C WB Outdoor Air Inlet Temperature: 35.0°C DB Piping Length: 7.5 metre Piping Lift: 0 metre	Heating Operation Conditions Indoor Air Inlet Temperature: 20.0°C DB Outdoor Air Inlet Temperature: 7.0°C DB 6.0°C WB Piping Length: 7.5 metre Piping Lift: 0 metre
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2. The sound pressure level is based on the following conditions:

- 1 metre from the unit.
- 1 metre from floor level.
- Voltage of the power source for the indoor fan motor is 220V.
- The above data was measured in an anechoic chamber.
- Reflected sound should be considered prior to installation

For full specifications, please refer to the Technical Catalog.

INDOOR UNITS & VENTILATION



FLOOR/CEILING CONVERTIBLE TYPE



FEATURES AND BENEFITS



Adapts to both floor and ceiling

[[CEILING USE]]

Supplies air to a wide area.
High ceiling use capability.

[[FLOOR USE]]

Smaller footprint: Only 230mm in depth.
Suitable for installation beneath a window thanks to the 680mm height.



New air-intake design

Equipped with air-intakes, the unit connects with ventilations such as a Total Heat Exchanger using a duct, providing better interior air quality.

GENERAL DATA & ACCESSORIES

Model			RPFC-1.8FSNQ	RPFC-2.0FSNQ	RPFC-2.3FSNQ	RPFC-2.5FSNQ	RPFC-3.0FSNQ	RPFC-3.3FSNQ	RPFC-4.0FSNQ	RPFC-5.0FSNQ
Indoor Unit Power Supply			AC 1Φ, [220-240V/50Hz] [220V/60Hz]							
Nominal Capacity	Cooling	kW	5.0	5.6	6.3	7.1	8.4	9.0	11.2	14.2
	Heating	kW	5.6	6.5	7.5	8.5	9.6	10.0	13.0	16.3
Sound Pressure Level	Ceiling Mode	dB(A)	39/35/30	39/35/30	45/41/37	45/41/37	43/39/34	45/40/36	51/46/40	50/46/42
	Floor Mode	dB(A)	43/38/35	43/38/35	48/44/40	48/44/40	46/41/37	48/43/39	54/49/43	55/50/46
Outer Dimensions	(H×W×D)	mm	230×990×680	230×990×680	230×990×680	230×990×680	230×1,285×680	230×1,285×680	230×1,285×680	230×1,580×680
Net Weight		kg	31	31	32	32	39	40	41	47
Refrigerant			R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A
Indoor Fan Air Flow Rate	(Hi/Me/Lo)	m ³ /min	780/660/540	780/660/540	966/840/678	966/840/678	1,092/912/732	1,164/978/798	1,488/1,230/978	1,980/1,680/1,380
Connections			Flare-Nut Connection (with Flare Nuts)							
Refrigerant Piping Diameter	Liquid Line	mm	Φ6.35	Φ6.35	Φ9.52	Φ9.52	Φ9.52	Φ9.52	Φ9.52	Φ9.52
	Gas Line	mm	Φ15.88	Φ15.88	Φ15.88	Φ15.88	Φ15.88	Φ15.88	Φ15.88	Φ15.88
Condensate Drain			VP25	VP25	VP25	VP25	VP25	VP25	VP25	VP25
Approximate Packing Volume		m ³	0.31	0.31	0.31	0.31	0.40	0.40	0.40	0.48
Receiver kit	Advanced		PC-ALHZ1							

Notes:

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

Cooling Operation Conditions

Indoor Air Inlet Temperature: 27.0°C DB
19.0°C WB

Outdoor Air Inlet Temperature: 35.0°C DB

Piping Length: 7.5 metre

Piping Lift: 0 metre

Heating Operation Conditions

Indoor Air Inlet Temperature: 20.0°C DB

Outdoor Air Inlet Temperature: 7.0°C DB

6.0°C WB

Piping Length: 7.5 metre

Piping Lift: 0 metre

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

1.0 metre Beneath the unit.

1.0 metre from Discharge grille.

The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.

When bottom air inlet is adopted, sound pressure will increase according to factors such as installation mode and the room structure.

CEILING SUSPENDED TYPE



SET FREE Σ – FSNP & FSN3 SERIES

FEATURES AND BENEFITS

Adaptability



1) Wide Detection area of motion sensor (SOR-NEP)

(Optional part) to achieve better energy-saving



2) Auto louver

Softens the discomfort by temperature irregularity and cold draft

Design Flexibility



Suitable for high ceiling space

Thanks to 5.6m cooling air blow down

GENERAL DATA & ACCESSORIES

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 Capacity	Cooling	kW	4.0	5.6	7.1	8.0	11.2	14.0	16.0
Capacity	Heating	kW	4.8	6.3	8.5	9.0	12.5	16.0	18.0
Sound Pressure Level	(Hi2/Hi/Me/Lo)	dB(A)	37/35/31/28	38/35/31/28	38/35/31/28	40/37/33/29	44/42/37/32	48/45/41/35	49/47/42/36
Color			Neutral White						
Outer Dimensions	(H×W×D)	mm	235×960×690	235×960×690	235×1,270×690	235×1,270×690	235×1,580×690	235×1,580×690	235×1,580×690
Net Weight		kg	26	27	35	35	41	41	41
Refrigerant			R410A						
Indoor Fan Air Flow Rate	(Hi2/Hi/Me/Lo)	m ³ /min	15/13/11/9	15/13/11/9	19/16.5/14/11.5	21/18.5/15.5/12.5	30/26.5/22/17	35/31/25.5/20	37/32.5/27/21
Connections			Flare-Nut Connection (with Flare Nuts)						
Refrigerant Piping Diameter	Liquid Line	mm	Φ6.35	Φ6.35	Φ9.52	Φ9.52	Φ9.52	Φ9.52	Φ9.52
Piping Diameter	Gas Line	mm	Φ12.7	Φ15.88	Φ15.88	Φ15.88	Φ15.88	Φ15.88	Φ15.88
Condensate Drain			VP20						
Approximate Packing Volume		m ³	0.23	0.23	0.31	0.31	0.38	0.38	0.38
Receiver kit	Advanced		PC-ALHP1						
Motion Sensor			SOR-NEP						
Condensate Drain Pump Kit	1.5 (HP Class)		DUPC-63K1						
	2.0 (HP Class)		DUPC-71K1						
	2.5-6.0 (HP Class)		DUPC-160K1						

Notes:

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

Cooling Operation Conditions	Heating Operation Conditions
Indoor Air Inlet Temperature: 27.0°C DB	Indoor Air Inlet Temperature: 20.0°C DB
19.0°C WB	Outdoor Air Inlet Temperature: 7.0°C DB
Outdoor Air Inlet Temperature: 35.0°C DB	6.0°C WB
Piping Length: 7.5 metre	Piping Length: 7.5 metre
Piping Lift: 0 metre	Piping Lift: 0 metre
- The sound pressure level is based on following conditions.
 - 1.0 metre Beneath the unit.
 - 1.0 metre from Discharge grille.

The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field. When bottom air inlet is adopted, sound pressure will increase according to factors such as installation mode and the room structure.

INDOOR UNITS & VENTILATION



WALL MOUNTED TYPE



FEATURES AND BENEFITS



Simple installation procedure

Refrigerant piping can be connected from the rear, base, or left of the unit, providing much greater flexibility for piping and selection of installation sites.



To ensure quieter environment

"External Expansion Valve Type" are suitable for hotel rooms or residences where background noise is lower. To minimize the continuous refrigerant running noise, You can install the expansion valve away from the unit.



Easy maintenance

Front flat panel keeps the unit from dust and facilitates maintenance work. The front grille hinges open easily—no tools are needed to gain quick access to the filter. The filter can be removed and cleaned as required.

GENERAL DATA & ACCESSORIES

Type	Expansion Valve built-in type								External Expansion Valve type				
Model	RPK-0.6 FSN4M	RPK-0.8 FSN4M	RPK-1.0 FSN4M	RPK-1.5 FSN4M	RPK-2.0 FSN4M	RPK-2.5 FSN4M	RPK-3.0 FSN4M	RPK-4.0 FSN4M	RPK-0.6 FSNH4M	RPK-0.8 FSNH4M	RPK-1.0 FSNH4M	RPK-1.5 FSNH4M	
Indoor Unit Power Supply	AC 1Φ, [220-240V/50Hz] [220V/60Hz]								AC 1Φ, [220-240V/50Hz] [220V/60Hz]				
Nominal Capacity	Cooling kW	1.7	2.2	2.8	4.0	5.6	7.1	8.0	11.2	1.7	2.2	2.8	4.0
	Heating kW	1.9	2.5	3.2	4.8	6.3	8.5	9.0	12.5	1.9	2.5	3.2	4.8
Sound Pressure Level	(Hi2/Hi/Me/Lo) dB(A)	35/32/ 31/29	39/35/ 32/30	39/35/ 32/30	46/40/ 36/33	40/37/ 34/31	45/42/ 38/35	47/44/ 40/35	51/48/ 44/39	35/32/ 31/29	39/35/ 32/30	39/35/ 32/30	46/40/ 36/33
Color		White								White			
Outer Dimensions	(H×W×D) mm	300×790 ×230	300×790 ×230	300×790 ×230	300×900 ×230	300×1,100 ×260	300×1,100 ×260	300×1,100 ×260	300×1,100 ×260	300×790 ×230	300×790 ×230	300×790 ×230	300×900 ×230
Net Weight	kg	10	10	10	11	14.5	15	15	15	10	10	10	11
Refrigerant		R410A								R410A			
Indoor Fan Air Flow Rate	(Hi2/Hi/Me/Lo) m³/min	8/7.5/ 7/6	10/8/ 7/6.5	10/8/ 7/6.5	14/11/ 9/7.5	14.5/13/ 11/9.5	18.5/16.5/ 14/12	20/17.5/ 15.5/12.5	23/20/ 17.5/14.5	8/7.5/ 7/6	10/8/ 7/6.5	10/8/ 7/6.5	14/11/ 9/7.5
Motor	W	38	38	38	38	38	38	38	38	38	38	38	38
Connections		Flare-Nut Connection (with Flare Nuts)								Flare-Nut Connection (with Flare Nuts)			
Refrigerant Piping Diameter	Liquid Line mm	Φ6.35	Φ6.35	Φ6.35	Φ6.35	Φ6.35	Φ9.52	Φ9.52	Φ9.52	Φ6.35	Φ6.35	Φ6.35	Φ6.35
	Gas Line mm	Φ12.7	Φ12.7	Φ12.7	Φ12.7	Φ12.7	Φ15.88	Φ15.88	Φ15.88	Φ12.7	Φ12.7	Φ12.7	Φ12.7
Condensate Drain		VP16								VP16			
Approximate Packing Volume	m³	0.09	0.09	0.09	0.11	0.14	0.14	0.14	0.14	0.09	0.09	0.09	0.11
Accessory included		Wall Mounting Bracket								Wall Mounting Bracket			

Receiver kit	Advanced	PC-ALHZ1
Strainer kit (*)	FSN4M: 0.8-2.3 (HP Class)	MSF-NP63A1
	FSN4M: 2.5-4.0 (HP Class)	MSF-NP112A1
	FSNH4M: 0.8-2.3 (HP Class)	MSF-NP36AH1
	External Expansion Valve Kit FSNH4M	EV-1.5N1

* We recommend to install STRAINER KIT with VRF Wall mounted unit, to ensure that any trouble of condensation drop can be avoided.

Notes:

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

Cooling Operation Conditions

Indoor Air Inlet Temperature: 27.0°C DB
19.0°C WB

Outdoor Air Inlet Temperature: 35.0°C DB

Piping Length: 7.5 metre

Piping Lift: 0 metre

Heating Operation Conditions

Indoor Air Inlet Temperature: 20.0°C DB
7.0°C DB

Outdoor Air Inlet Temperature: 7.0°C DB
6.0°C WB

Piping Length: 7.5 metre

Piping Lift: 0 metre

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

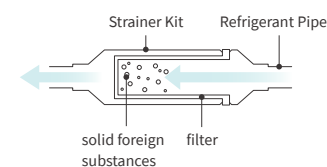
1.0 metre Beneath the Unit.

1.0 metre from Discharge Grille.

The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.

When bottom air inlet is adopted, sound pressure will increase according to factors such as installation mode and the room structure.

STRAINER KIT

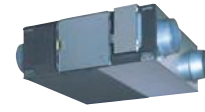


A strainer kit ensures that solid foreign substances, like small particles of metal, are caught before they enter the electric expansion valves of a wall-mounted indoor unit.

Without the strainer kit's filter, these particles may prevent the valves from being fully sealed, creating a risk of explosive condensation when the unit becomes active.



VENTILATION



TOTAL HEAT EXCHANGER

Model			KPI-2521	KPI-5021	KPI-8021	KPI-10021 (*1)
Unit Power Supply			AC 1Φ, [220-240V/50Hz]			
Air Flow Rate	(Hi/Me/Lo)	m ³ /h	250/250/165	500/500/350	800/800/670	1,000/1,000/870
External Pressure	(Hi/Me/Lo)	Pa	65/40/20	150/60/30	140/100/70	160/100/80
Temp. Exchange Efficiency	(Hi/Me/Lo)	%	78/78/83	77/77/82	78/78/80.5	79/79/81
Enthalpy Exchange Efficiency	For Heating (Hi/Me/Lo)	%	69/69/74	67/67/73	71/71/73	70/70/73
	For Cooling (Hi/Me/Lo)	%	62.5/62.5/68	61.5/61.5/68	64.5/64.5/68	64.5/64.5/67
Sound Pressure Level (Over A Scale)	at 1.5m from the unit (under) (Hi/Me/Lo) (*2)(*4)	dB(A)	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
	at Air Outlet (Hi/Me/Lo) (*3)(*4)	dB(A)	33.5-34.5/32-33/26-27	40.5-41.5/38-39/29.5-30.5	44.5-45.5/43-44/40-41	47-48/45-46/41.5-42.5
Outer Dimensions	Height	mm	275	317	398	398
	Width	mm	735	1,016	1,004	1,231
	Depth	mm	780	888	1,164	1,164
Net Weight		kg(lbs.)	21(46)	33(73)	61(134)	72(159)
Connection Duct Diameter		mm	Φ150	Φ200	Φ250	Φ250

Model			KPI-2521	KPI-5021	KPI-8021	KPI-10021 (*1)
Unit Power Supply			AC 1Φ, [220/60Hz]			
Air Flow Rate	(Hi/Me/Lo)	m ³ /h	250/250/150	500/500/300	800/800/660	1,000/1,000/720
External Pressure	(Hi/Me/Lo)	Pa	100/50/20	200/60/20	230/120/80	200/110/60
Temp. Exchange Efficiency	(Hi/Me/Lo)	%	78/78/84	77/77/83.5	78/78/81	79/79/83
Enthalpy Exchange Efficiency	For Heating (Hi/Me/Lo)	%	69/69/75	67/67/75	71/71/73.5	70/70/76
	For Cooling (Hi/Me/Lo)	%	62.5/62.5/70	61.5/61.5/70	64.5/64.5/68.5	64.5/64.5/71
Sound Pressure Level (Over A Scale)	at 1.5m from the unit (under) (Hi/Me/Lo) (*2)(*4)	dB(A)	28.5/25.5/21	32.5/28.5/23	35/31/29	36/34/30
	at Air Outlet (Hi/Me/Lo) (*3)(*4)	dB(A)	35.5/32.5/26	40.5/36.5/29	46/42/39	47/45/40
Outer Dimensions	Height	mm	275	317	398	398
	Width	mm	735	1,016	1,004	1,231
	Depth	mm	780	888	1,164	1,164
Net Weight		kg(lbs.)	21(46)	33(73)	61(134)	72(159)
Connection Duct Diameter		mm	Φ150	Φ200	Φ250	Φ250

Notes:

(*1):KPI-10021 has different units according to the applied power supply, 220-240V/50Hz and 220V/60Hz.

(*2):The sound pressure level is based on following conditions.

1.5 metre beneath the unit and this data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.

(*3):The noise at the air outlets is the values at a 45° angle, 1.5 metre in front of the unit.

(*4):The sound pressure level is based on the total heat exchange mode.

In case of the bypass ventilation mode, the sound pressure level increase by approximately 1 dB(A).



ALL FRESH AIR UNIT

Model		RPI-5.0KFNQ	RPI-8.0KFNQ	RPI-10.0KFNQ	RPI-12.0KFNQ
Unit Power Supply		AC 1Φ, [220-240V/50Hz]	AC 1Φ, [220V/60Hz]	AC 1Φ, [220-240V/50Hz]	AC 1Φ, [220V/60Hz]
Connectable Outdoor Unit		SET FREE Σ Heat Pump Type FSNS/FSNP Series			
Cooling		RAS-12FSNS/P			
Capacity	kW	14.0	14.0	22.4	28.0
Power	kW	0.30	0.35	0.48	0.55
Nominal Current	A	1.4	1.61	2.2	2.53
Heating		RAS-12FSNS/P			
Capacity	kW	13.7	13.7	21.9	24.5
Power	kW	0.30	0.35	0.48	0.55
Nominal Current	A	1.4	1.61	2.2	2.53
Sound Pressure Level (overall a scale)		RAS-12FSNS/P			
	dB(A)	42	42	44	47
Dimensions H×W×D		486×1,270×1,069			
	mm	370×1,320×800	370×1,320×800	486×1,270×1,069	486×1,270×1,069
Net Weight		110			
	kg	63	63	110	110
Refrigerant		R410A			
Air Flow Rate		R410A			
	m ³ /min	18	18	28	35
External Pressure		220			
	Pa	200	200	220	220
Piping		VP25, Outer Diameter: Φ32mm			
Liquid	mm	Φ9.53	Φ9.53	Φ9.53	Φ9.53
Gas	mm	Φ15.88	Φ15.88	Φ19.05	Φ22.2
Condensate Drain		Φ22.2			
Temperature range of fresh air drawn		Cooling: 20.0°C~43.0°C, Heating: -7.0°C~15.0°C			

Model		RPI-16.0KFNQL	RPI-16.0KFNQH	RPI-20.0KFNQL	RPI-20.0KFNQH	RPI-20.0KFNQLF	RPI-20.0KFNQHF
Unit Power Supply		AC 3Φ, [380-415V/50Hz]	AC 3, [380V/60Hz]	AC 3Φ, [380-415V/60Hz]	AC 3Φ, [380V/60Hz]	AC 3Φ, [380-415V/50Hz]	AC 3Φ, [380V/60Hz]
Connectable Outdoor Unit		RAS-16FSNS/P				RAS-20FSNS/P	
Cooling		RAS-20FSNS/P					
Capacity	kW	45.0	45.0	45.0	56.0	56.0	56.0
Power	kW	0.72	0.83	1.06	1.22	1.39	1.6
Nominal Current	A	1.8	2.07	2.2	2.53	2.22	2.55
Heating		RAS-20FSNS/P					
Capacity	kW	36.0	36.0	36.0	44.8	44.8	44.8
Power	kW	0.72	0.83	1.06	1.22	1.39	1.6
Nominal Current	A	1.8	2.07	2.2	2.53	2.22	2.55
Sound Pressure Level (overall a scale)		RAS-20FSNS/P					
	dB(A)	58	58	62	62	61	61
Dimensions H×W×D		735×1,950×805					
	mm	635×1,950×805	635×1,950×805	735×1,950×805	735×1,950×805	735×1,950×805	735×1,950×805
Net Weight		222					
	kg	196	196	196	222	222	222
Refrigerant		R410A					
Air Flow Rate		R410A					
	m ³ /min	67	67	67	83	83	100
External Pressure		300					
	Pa	200	200	300	300	200	200
Piping		RC1 (Internal Screw)					
Liquid	mm	Φ12.7	Φ12.7	Φ12.7	Φ12.7	Φ15.88	Φ15.88
Gas	mm	Φ25.4	Φ25.4	Φ25.4	Φ25.4	Φ28.6	Φ28.6
Condensate Drain		Φ28.6					
Temperature range of fresh air drawn		Cooling: 20.0°C~43.0°C, Heating: -7.0°C~15.0°C					

Notes:

- Cooling capacity and heating capacity test in the following conditions:
Cooling conditions: 33.0°CDB, 28.0°CWB, pipeline length 7.5 metre, pipe height difference 0 metre
Heating conditions: 0°CDB, -2.9°CWB, pipeline length 7.5 metre, pipe height difference 0 metre (heating is the data without defrosting)
- Noise test conditions are as follows:
At a distance of 1.5 metre from the unit surface
The above parameters are measured in the anechoic chamber without reflected echo, therefore the impact of the reflected echo must be counted at the scene.
- An air filter with dust removal efficiency of 50% or more needs to be installed at the air inlet.
- When the field duct resistance is small and the fan speed is too high, the unit will appear the phenomena of abnormal shutdown, fault, water spray etc., and the duct pipe should be insulated to prevent generating dew.
- Air processor can only be used for processing fresh air, indoor air conditioning load processing need to use other air conditioners.
- Fresh air processing unit should be connected with SET FREE Σ Heat Pump Type outdoor unit.
When fresh air processing unit and other indoor units air all connected to the same SET-FREE outdoor unit, its equivalent cooling capacity is calculated by the following criteria:
Type_5HP class: 21.0kW; 8HP class: 33.3kW; 10HP class: 42.0kW
- Refer to capacity restrains shown on Table below for indoor unit capacity connectable to outdoor unit.

System	All Fresh Air Unit System (Only All Fresh Air Unit)	Mixed System (All Fresh Air Unit and Other Indoor Unit)
Range of Combination Capacity	80 to 100%	i) 80 to 100% and ii) Total Capacity of All Fresh Air: 30%

- When outdoor temperature is below 20.0°C in cooling operation, the system will be automatically converted to ventilation operation.
When outdoor temperature is higher than 15.0°C in heating operation, it will be automatically converted to ventilation operation. When lower than -7.0°C, the fresh air processing unit will stop running.

SET FREE Σ – FSNP & FSNS SERIES

INDOOR UNITS & VENTILATION



Controllers

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RECEIVER KIT

93 Centralized controllers

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- 95 CENTRAL STATION mini
- 97 CENTRAL STATION EZ
- 99 CENTRAL STATION EX
- 103 CENTRAL STATION NT
- 105 CENTRAL STATION PSC-A64S
- 106 CENTRALIZED ON/OFF CONTROLLER PSC-A16RS

107 H-LINK

109 Others

- 109 BMS ADAPTER For BACnet® HC-A64BNP1
BMS ADAPTER for LONWORKS® HARC70-PE1
 - 110 BMS ADAPTER for LONWORKS® HARC-BXE
 - 111 7 DAY TIMER PSC-A1T
 - 112 3P CONNECTOR CABLE PCC-1A
REMOTE SENSOR THM-R2A
REMOTE CONTROL CABLE PRC-5K, 10K, 15K
-

LINE UP OVERVIEW

INDIVIDUAL CONTROLLERS

ADVANCED WIRED
REMOTE CONTROLLER



PC-ARF1

WIRED REMOTE
CONTROLLER



PC-AR

SIMPLIFIED WIRED REMOTE
CONTROLLER



PC-ARH1

ADVANCED WIRELESS
REMOTE CONTROLLER



PC-AWR

		PC-ARF1	PC-AR	PC-ARH1	PC-AWR	
Connection Capacity	RC Groups	1	1	1	-	
	Indoor units (*1)	16	16	16	-	
Setting	Temperature Setting Rate (*2)	0.5°C/1.0°C	1.0°C	0.5°C/1.0°C	0.5°C/1.0°C	
	Indoor Fan Speed (*2) (*3)	3/4/6 taps	3 taps	3/4/6 taps	3/4/6 taps	
	Louver Direction (*2)	•	•	•	•	
	Individual Louver Setting (*2)	•	-	-	-	
	Remote Control Primary-Secondary Setting	•	•	•	-	
	Function Selection	Automatic Restart with Eco-operation	•	-	-	-
	Automatic Reset Temperature (Cooling)	•	•	•	-	
	Temperature Indication (*4)	•	-	-	-	
Filter Sign	Filter Sign	•	•	-	-	
	Filter Sign Reset	•	•	-	•	
	Louver Open/Close	•	•	-	-	
	Room Name Setting	•	-	-	-	
	Alarm Sign	•	•	•	-	
	Identifying indoor units side-by-side	-	-	-	•	
	Screen	Screen Adjustment	•	-	-	-
		Language	•	-	-	-
		Temperature Unit_°C	•	-	•	•
		Adjusting Brightness of Run Indicator	•	-	-	-
	Check Menu	Sensor Condition Check	•	•	-	-
		Model Display (*2)	•	-	-	-
Indoor/Outdoor PCB Check		•	-	-	-	
Alarm History Display		•	-	-	-	
Operation Lock/Set	Filter Sign	•	•	-	-	
	Lower Limit for Cooling Operation	•	•	•	-	
	Upper Limit for Heating Operation	•	•	•	-	
	Built-in Timer (On/Off)	•	•	-	•	
	Adjusting Date/Time Setting	•	-	-	-	
	Automatic OFF timer setting	•	-	•	-	
	Schedule	Weekly Schedule	•	•(*5)	-	-
		Settable Timer Operation Times (Per Day)	5	-	-	-
		Holiday Setting	•	-	-	-
Schedule On/Off		•	-	-	-	
Management	Operation Lock/Set	•	-	-	-	
	Outdoor Unit capacity control	Peak cut control	•	-	-	-
		moderate control	•	-	-	-
	Indoor Unit Rotation Control	Indoor Unit Address	•	-	-	-
		Indoor Air Temperature difference	•	-	-	-
	Automatic Fan Operation	•	-	-	-	
MENU	ODU silent mode	•	-	-	-	
	Quick Function	•	-	-	-	
	Comfort setting	•	-	-	-	
	Saving/ODU Noise Reduction Schedule	•	-	-	-	
	Daylight Saving Time	•	-	-	-	
	Power Consumption visualization	•	-	-	-	

(*1) All 16 indoor units need to be connected with transition wire.

(*2) Availability depends on the indoor unit type connected to the each individual controllers. Please consult your distributors for more details.

(*3) 6 taps is available for Ducted indoor unit, compact type, RPIZ-HNDTSQ only.

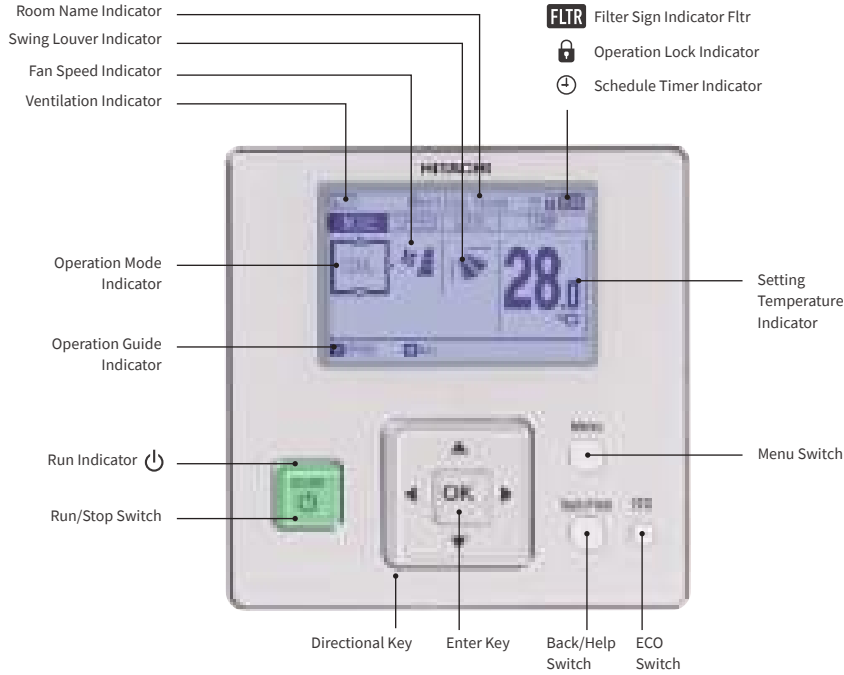
(*4) Indicated temperature can be selected from two options, the thermistor in the indoor unit or in the individual controller.

(*5) Available if using together with the 7-day timer(PSC-A1T).



ADVANCED WIRED REMOTE CONTROLLER

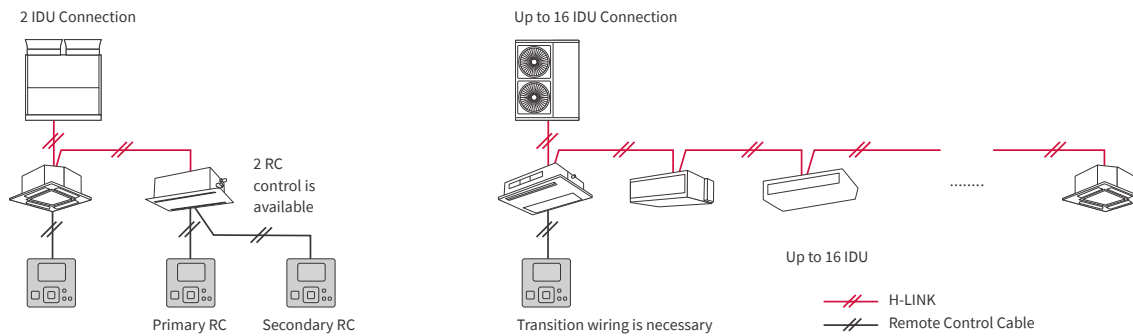
PC-ARF1



SPECIFICATIONS

Outer Dimensions (H×W×D)
(mm) 120.0×120.0×17.9

EXAMPLE OF SYSTEM CONFIGURATION



FUNCTIONS

Setting	Run/Stop	
	Operation Mode	
	Auto Mode Setting	
	Temperature Setting	
	Temperature Setting Rate_0.5°C /1.0°C	
	Fan Speed_3/4/6 Taps	
	Louver Direction	
	Individual Louver Setting	
	Remote Control Primary-Secondary Setting	
	In Use of Total-Heat-Exchanger	Ventilation Total Heat Exchanger Setting
	Function Selection	Automatic Restart with Eco-operation Automatic Reset Temperature (Cooling/Heating) Temperature Indication
	Service	Filter Sign
		Filter Sign Reset
Louver Open/Close		
Room Name Setting		
Alarm Sign		

Screen	Screen Adjustment	
	Language	
	Temperature Unit_°C	
	Adjusting Brightness of Run Indicator	
	Check Menu	
	Sensor Condition Check	
Test Run	Sensor Data Check	
	Model Display	
	Indoor/Outdoor PCB Check	
	Self Checking	
	Alarm History Display	
	Test Run	
	Function Selection (Optional Function Setting)	
	Thermistor Selection	
	Input/Output Setting	
	Indoor Unit Address Change	
Indoor Unit Address Checking Operation		
Indoor Unit Address Initialization		
Input-Output Setting Initialization		
Compressor Pre-Heat Control Cancellation		
Contact Information Registration		

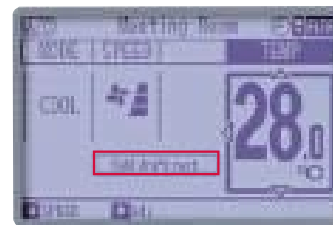
Management	Operation Lock/Set
	Main/Sub Control
	Built-in-Timer (On/Off)
	Adjusting Date/Time Setting
	Thermometer Indication
Power-Saving	With Motion Sensor Kit
	ODU Capacity Control
	• Peak Shaving Control
	• Proper Limit Control
	Indoor Unit Rotation Control
	Automatic Fan Operation
	Auto Recovery of Temperature
	Upper Limit for Heating Operation
Lower Limit for Cooling Operation	
Power Consumption Visualization	
Schedule	Weekly Schedule
	Settable Timer Operation Times (per day): 5
	Holiday Setting
	Schedule On/Off
ODU Noise Reduction Schedule	

COMFORT



GentleCool Control

Set your comfortable temperature not only for "Room" but also for "Air" in cooling operation. To make your room reach to the desired temperature faster, the discharged air from the indoor unit can be sometimes much cooler, causing discomfort at the beginning of operation. Now, you can choose "discharge air temperature = your own comfort level", as you like, by our advanced wired remote controller PC-ARF1. You can be in comfort and avoid cold draft from the moment when cooling operation starts, while the room gently cools down.



"Comfort Setting" Control Cool Air in PC-ARF1

SET FREE Σ – FSNP & FSNS SERIES

Potential Discomfort

GentleCool → No Cold Draft



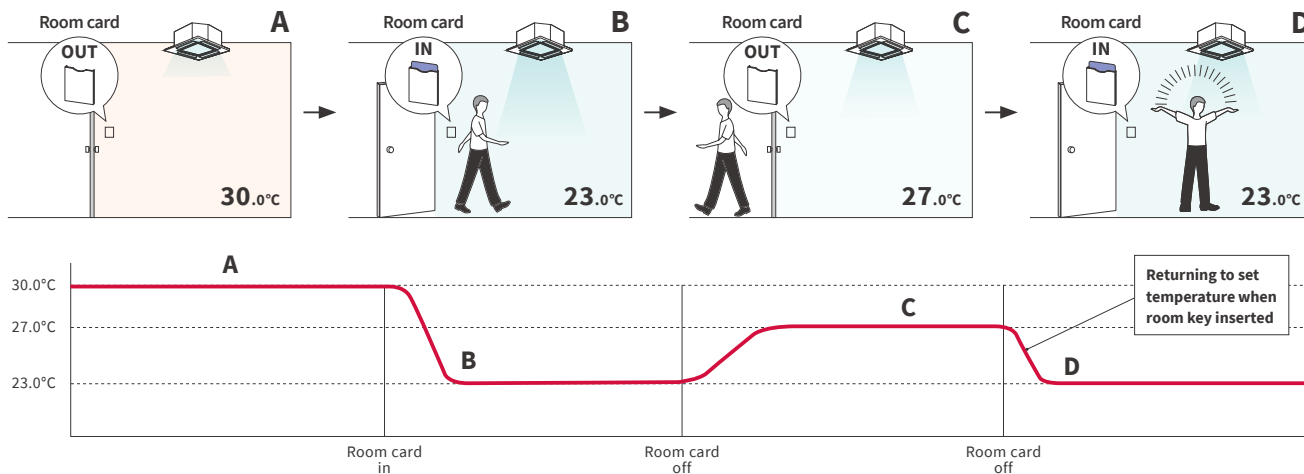
Away Function



Off set the temperature when the space is not occupied reducing the power consumption
Optional accessories required



CONTROLLERS

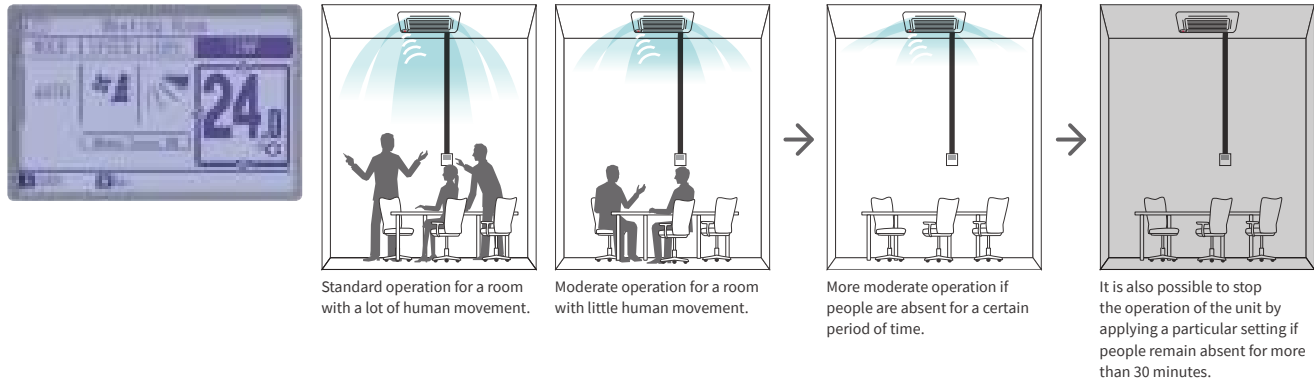


PC-ARF1

POWER-SAVING FUNCTION

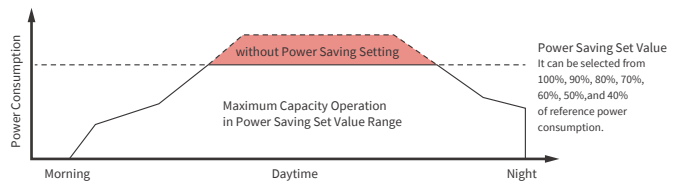
With Motion Sensor

Perceives the amount of human activity and undertakes automatic saving.

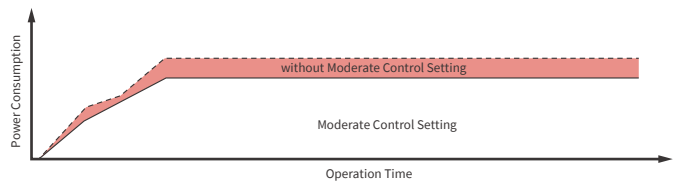


Outdoor Unit Capacity Control ⇔ Two Options

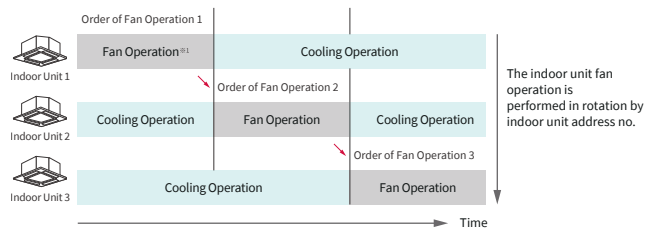
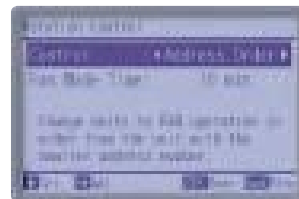
(1) **Peak-shaving control:** set the limit on the power consumption range



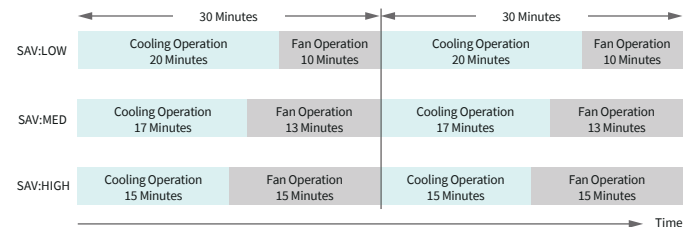
(2) **Proper limit control:** keep the power consumption within proper limit (40-90%)



Indoor Unit Rotation Control
Switch multiple indoor units operation to "FAN" mode, one by one, in order.

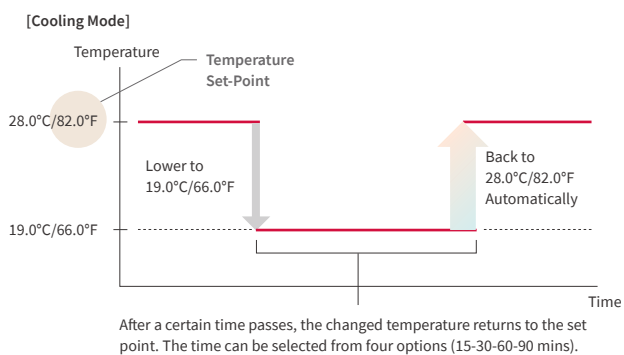


Automatic fan operation
Alternate between "heating/cooling" and "FAN" at a certain interval.



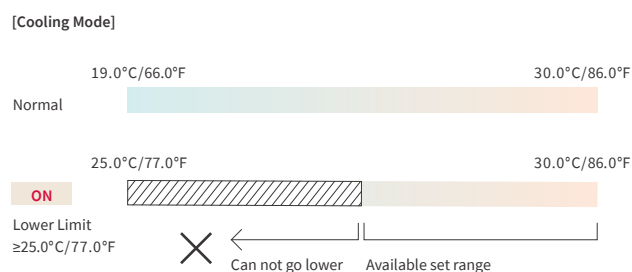
Auto-Recovery of Temperature

Reducing excessive energy consumption thanks to automatic temperature reset.



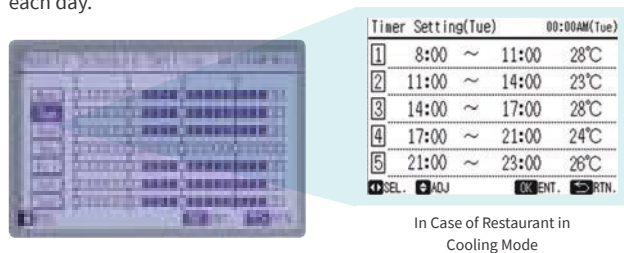
Temperature Range Setting

Prevent wasteful power consumption due to excessive use of cooling/heating mode.



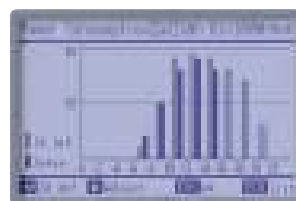
Weekly Schedule

Seven-day timer with multiple set-points (up to 5 actions per day): No need to worry about controlling the air conditioner each time, each day.



Power consumption visualization

Check power consumption in the unit of day, week, and year. ※ODU compressor only

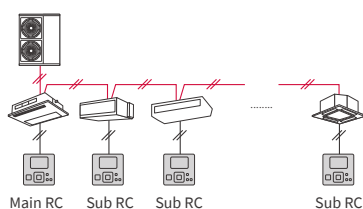


ADAPTABILITY

Improved main-sub RC control

By one main RC, you can control the multiple IDUs which are controlled by sub RC.

- * Operation Mode
- * Setting Temperature



Temperature Setting Rate

Setting available in 0.5°C/1.0°C or 1.0°F.



Alarm code check

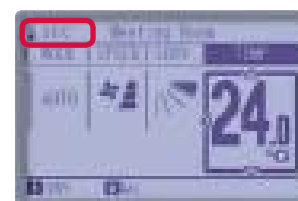
Contact address shown in the same display.



Thermometer function

Current temperature can be displayed anytime, without being in maintenance mode.

* Thermometer can be chosen out of 4 sensors (Air inlet, Air outlet, Remote controller and Remote Sensor (THM-R2A))



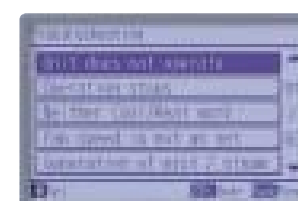
ODU silent mode

Set in the weekly schedule by 5 times.



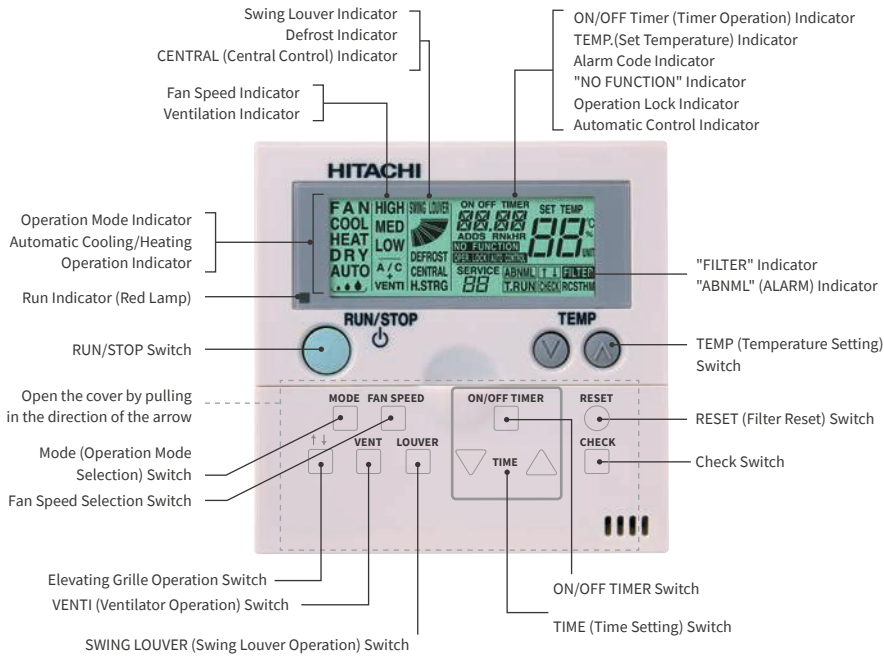
Help Menu

Access when in trouble. Screen guide, Operation Manuals, Troubleshooting Q&A listed.



WIRED REMOTE CONTROLLER

PC-AR



SPECIFICATIONS

Outer Dimensions (H×W×D)
(mm) 120.0×120.0×17.0

FUNCTIONS

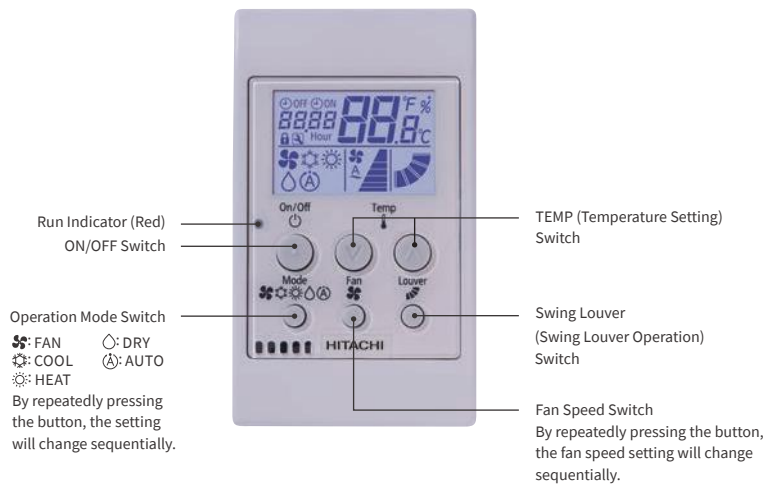
Setting	Run/Stop	
	Operation Mode	
	Auto Mode Setting	
	Temperature Setting	
	Temperature Setting Rate_1.0°C	
	Fan Speed_3 Taps	
	Louver Direction	
	Remote Control Primary-Secondary Setting	
	Automatic Reset Temperature (Cooling/Heating)	
	Service	Filter Sign
		Filter Sign Reset
		Elevating Grille
Louver Open/Close		
	Alarm Sign	

Check Menu	Sensor Condition Check
	Sensor Data Check
Test Run	Test Run
	Function Selection (Optional Function Setting)
	Thermistor Selection
	Input-Output Setting
	Indoor Unit Address Change
	Indoor Unit Address Checking Operation
	Indoor Unit Address Initialization
	Input-Output Setting Initialization
	Compressor Pre-Heat Control Cancellation

Management	Operation Lock-Set
	Lower Limit for Cooling Operation
	Upper Limit for Heating Operation
	Built-in Timer (On/Off)
Schedule	Weekly Schedule (+PSC-A1T)

SIMPLIFIED WIRED REMOTE CONTROLLER

PC-ARH1



SPECIFICATIONS

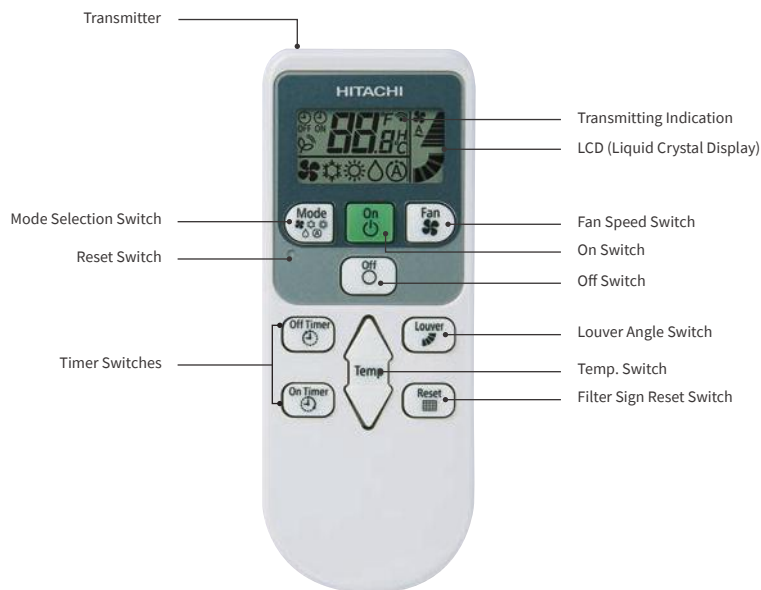
Outer Dimensions (H×W×D)
(mm) 120.0×70.0×17.0

FUNCTIONS

Setting	Run/Stop
	Operation Mode
	Auto Mode Setting
	Temperature Setting
	Temperature setting rate_0.5°C/1.0°C
	Back-light screen
	Fan Speed_3/4 taps
	Louver Direction

WIRELESS REMOTE CONTROLLER

PC-AWR



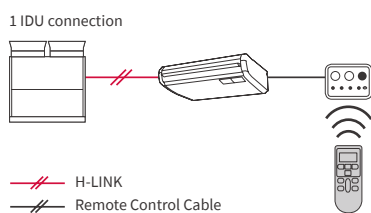
SPECIFICATIONS

Outer Dimensions (H×W×D)
(mm) 140.0×55.0×16.8

FUNCTIONS

Setting	Run/Stop
	Operation Mode
	Auto Mode Setting
	Temperature Setting
	Temperature Setting Rate_0.5°C/1.0°C
	Fan Speed_3/4/6 Taps
	Louver Direction
Service	Filter Sign Reset
	Identifying indoor units side-by-side
	Temperature Unit_°C
Schedule	Built-in Timer (On/Off)

EXAMPLE OF SYSTEM CONFIGURATION



CONTROLLER SYSTEMS – INDIVIDUAL

RECEIVER KIT

FOR WIRELESS REMOTE CONTROLLER (PC-AWR)

		PC-ALH3	PC-ALHC1	PC-ALHD1	PC-ALHS1	PC-ALHP1	PC-ALHZ1
Dimensions (mm)	Height	36.0	35.0	27.5	25.0	23.0	28.0
	Width	203.0	207.4	135.4	102.0	102.0	120.0
	Depth	203.0	207.4	135.4	115.0	115.0	90.0

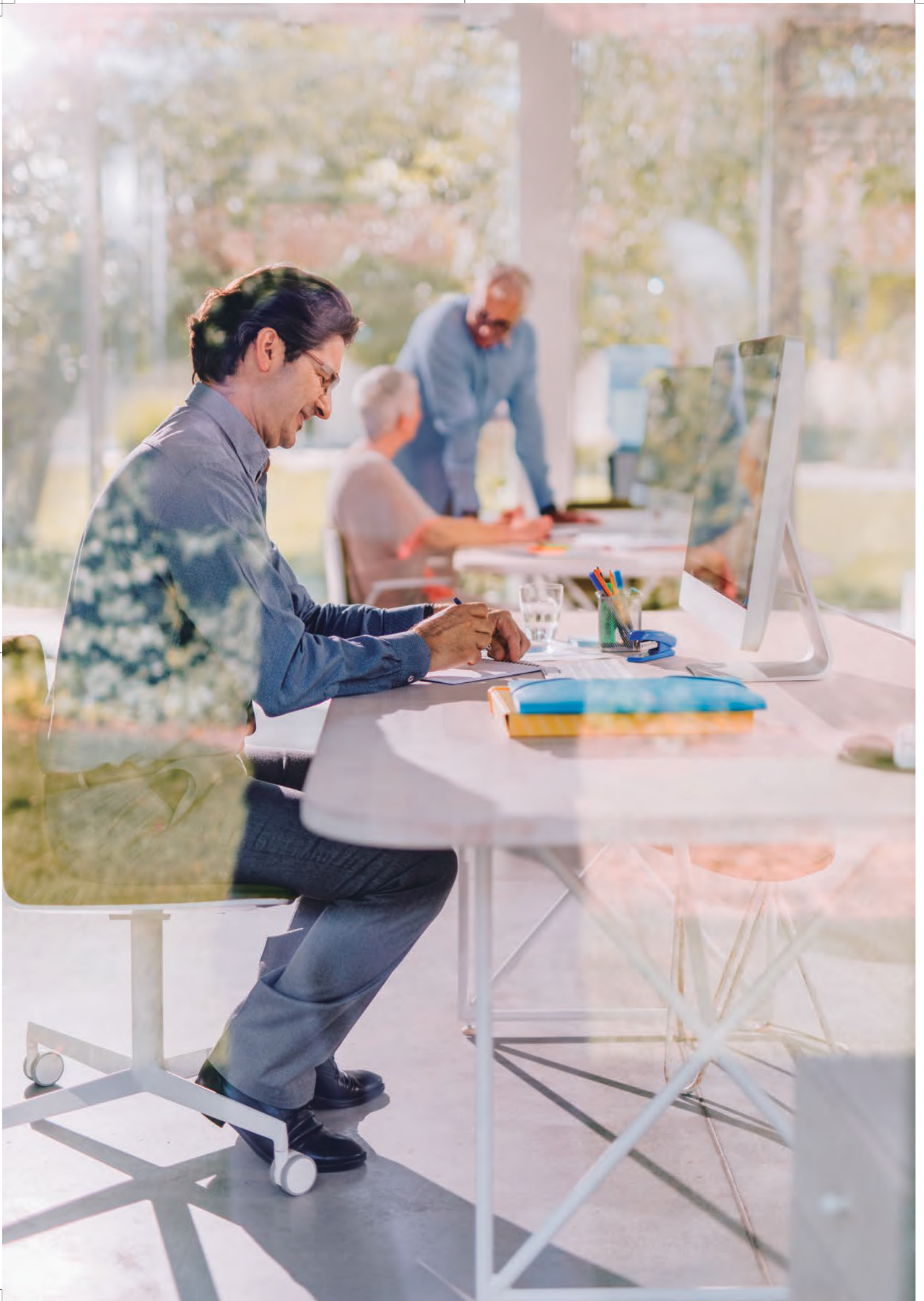


Model	PC-ALH3	PC-ALHC1	PC-ALHD1	PC-ALHS1	PC-ALHP1	PC-ALHZ1				
For indoor unit model	4-Way Cassette	4-Way Cassette Compact	2-Way Cassette	1-Way Cassette	Ceiling Suspended	Ducted	Floor Exposed	Floor Concealed	Floor/Ceiling Convertible	Wall Mounted

For more information about options and accessories, please consult your Hitachi Cooling & Heating channel partner.

SET FREE Σ – FSNP & FSNS SERIES

CONTROLLERS



LINE UP OVERVIEW

CENTRALIZED CONTROLLERS

CENTRAL STATION mini CENTRAL STATION EZ CENTRAL STATION EX CENTRAL STATION NT CENTRAL STATION CENTRALIZED ON/OFF CONTROLLER



PSC-A32MN PSC-A64GT PSC-A128EX PSC-A128WEB3 PSC-A64S PSC-A16RS

		PSC-A32MN	PSC-A64GT	PSC-A128EX	PSC-A128WEB3	PSC-A64S	PSC-A16RS	
Capacity comparison	Total Connection capacity	RC group	32	64	2,560 (*1)	-	64	16
		Group	4	64	2,048 (*1)	128	64	-
		Block	2/4/8/16	4	512 (*2)	64	4	-
		Area	-	-	512 (*2)	-	-	-
		Indoor unit	160	160	2,560 (*1)	160	160	160
		Outdoor unit	64	64	1,024 (*1)	64	64	-
		Building scale	Small	Medium	Large	Medium Large	Medium	Medium
	Operation	Touch screen	Touch screen	Touch screen	PC or touch-panel-PC supplied locally	Button	Button	
Display	Operation panel size options	4	2	7	2	-	-	
	Layout	-	-	•	-	-	-	
	List options	-	-	3	-	-	-	
Operation unit	All together	•	•	•	•	•	•	
	By layout	-	-	•	-	-	-	
	By area	-	-	•	-	-	-	
	By block	•	•	•	•	•	-	
	By group	-	-	•	•	-	-	
	By RC group	•	•	-	-	•	•	
	By indoor unit	-	-	•	•	-	-	
Control Function	Main 5 functions (*5)	•	•	•	•	•	- (*6)	
	Individual controller lock	•	Δ (*3)	•	•	•	-	
	Filter sign reset	•	•	•	•	•	-	
	Outdoor unit capacity control	Δ (*4)	-	•	-	-	-	
	Outdoor unit noise control	-	-	•	-	-	-	
Monitor Function	Main 5 functions (*5)	•	•	•	•	•	-	
	Individual controller lock	•	•	•	•	•	-	
	Alarm status & code	•	•	•	•	•	- (*7)	
	Filter sign	•	•	•	•	•	-	
	Air inlet temperature of indoor unit	•	•	•	•	-	-	
	Air inlet temperature of outdoor unit	•	•	•	•	-	-	
Schedule Function	Weekly	•	•	•	•	- (*8)	- (*8)	
	Setting times per day	10	10	16	16	3 (*8)	3 (*8)	
	Special day setting	-	-	5	•	-	-	
	Annual/Summer/Winter schedule	-	-	•	•	-	-	
Other function	Alarm history (records number)	100	100	10,000	500	-	-	
	External in/output history	-	-	1,000	-	-	-	
	Management report visualization	•	•	•	-	-	-	
	Data output by external media	-	-	SD card, USB flash device	-	-	-	

SET FREE Σ – FSNP & FSNS SERIES

CONTROLLERS

(*1) One external adapter can control (128 remote controller groups/128 groups/32 blocks), and Central Station EX can connect up to 15 adapters.

(*2) No restriction on the number of H-LINK

(*3) Individual Function Control in Each Remote Controller is not applicable

(*4) Applicable by Schedule function or External Signal input

(*5) Main 5 functions mean 1) Run/Stop 2) Operation mode 3) Temperature setting 4) Fan speed 5) Louver control

(*6) Only Run/Stop is available

(*7) Alarm Code cannot be displayed, but Operation indicator keeps flashing in red to inform abnormal condition

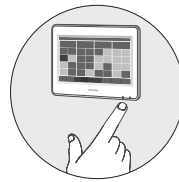
(*8) Available with 7-day timer (PSC-A1T)

CENTRAL STATION

mini

PSC-A32MN

FOR SMALL-SCALE BUILDINGS



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.

CAPACITY

RC group	32
Group	32
Block	4 Patterns (2/4/8/16)
Indoor Unit	160
Outdoor Unit	64
Building Scale	Small

SPECIFICATIONS

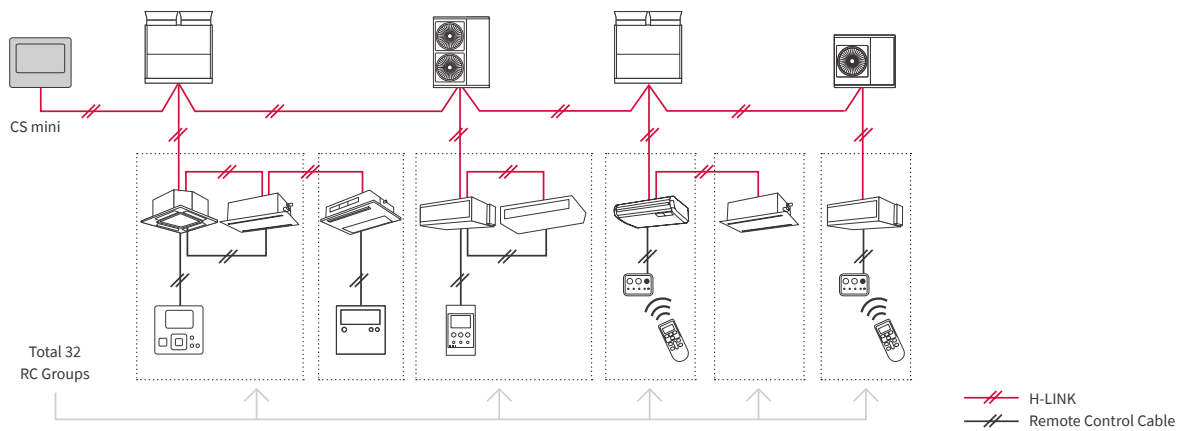
Rated Power Supply	1-, AC 100-240V, 50/60Hz
Electrical Power Consumption	20W (Max.)
Communication Unit	Units of Adopting for H-LINK
Communication Line	Non-polar 2-wire
Communication Speed	9,600bps
Wiring Length	1,000m (Total Length)
Display	5.0-inch Wide Color LCD (Full Dot)
Display Control	Touch Panel

FUNCTIONS

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

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

EXAMPLE OF SYSTEM CONFIGURATION



(5-inch) Touch Panel Operation

Easy to check the operation status using either of two monitoring screens (all groups or four pattern blocks [2/4/8/16])



[Monitor (Block)]

Schedule

Up to 10 actions/day per RC group can be set as available as auto switch-off timer



For example: School



Time	Temp	Class
9:00 ~ 10:00	27 °C	Class: on
10:00 ~ 11:00	27 °C	Class: on
11:00 ~ 12:00	- °C	No class: off
12:00 ~ 13:00	25 °C	LUNCH TIME
13:00 ~ 14:00	- °C	No class: off
14:00 ~ 15:00	27 °C	Class: on
15:00 ~ 16:00	- °C	No class: off
16:00 ~ 17:00	27 °C	Class: on
17:00 ~	- °C	No class: off

RC Group Function Control

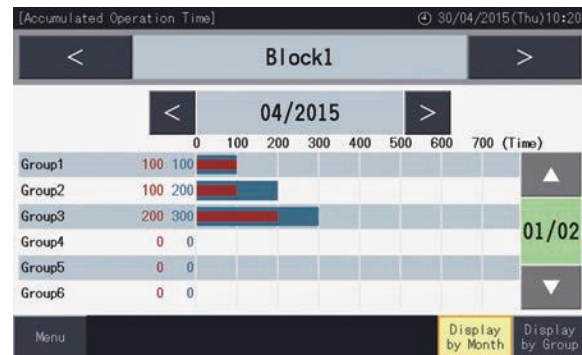
-each operational item blocking-prevent incorrect operation



ON/OFF, "operation mode," "fan speed," "swing louver direction," "setting temperature," and "prohibition of remote control operation for individual items (run/stop, operation mode, fan speed, wind direction, setting temperature)"

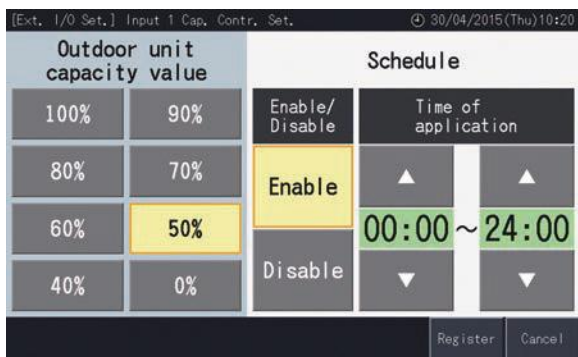
Accumulated Operation-Time Visualization

Support energy-saving management



Energy Saving

Outdoor unit power consumption control by schedule or external signals. Setting temperature range.



[Capacity Control of ODU]



[Temperature Limitation for Each Remote Controller]

CENTRAL STATION

EZ PSC-A64GT

FOR MEDIUM-SCALE BUILDINGS



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.

CAPACITY

RC group	64
Group	64
Block	4 Patterns
Indoor Unit	160
Outdoor Unit	64
Building Scale	Small - Medium

SPECIFICATIONS

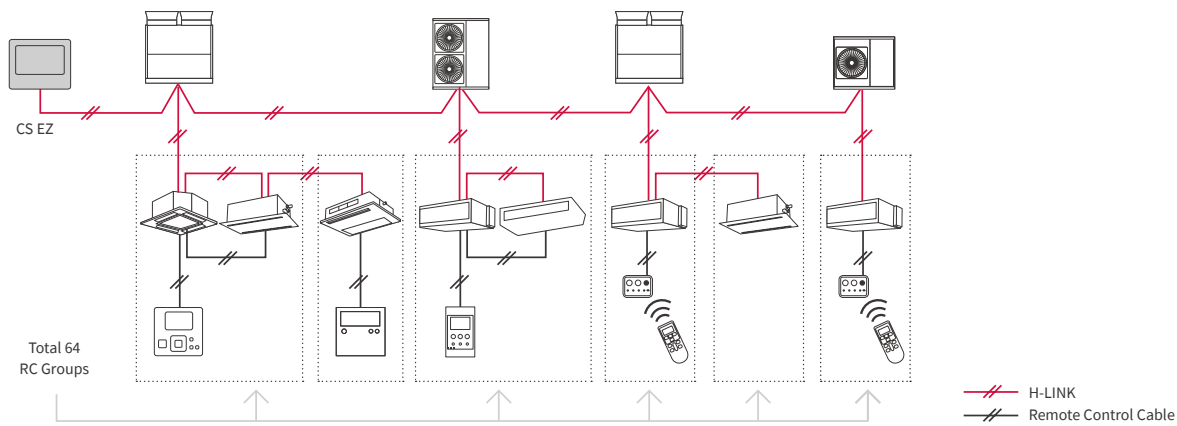
Rated Power Supply	1-, AC 100-240V, 50/60Hz
Electrical Power Consumption	30W (Max.)
Communication Unit	Units of Adopting for H-LINK
Communication Line	Non-polar 2-wire
Communication Speed	9,600bps
Wiring Length	1,000m (Total Length)
Display	8.5-inch Wide Color LCD (Full Dot)
Display Control	Touch Panel

FUNCTIONS

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

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

EXAMPLE OF SYSTEM CONFIGURATION



(8.5-inch) Touch Panel Operation

A total of 64 remote controller groups (4 blocks)(64 outdoor units/160 indoor units) can be controlled

Easy to check the operation status using either of two monitoring screens (all groups or blocks)

The panel for the block is bigger than for the CS MINI; you can check Mode, Fan Speed, Louver, Temperature, Inlet and Ambient Temperature.



[Monitor 1 (all groups)]



[Monitor 2 (block)]

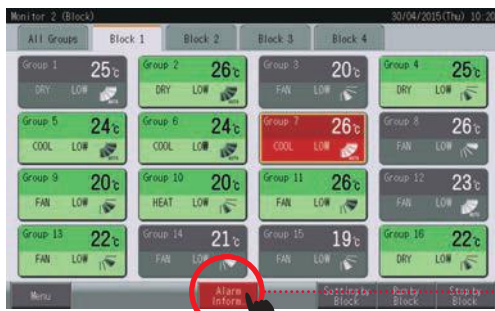
ACCUMULATED OPERATION-TIME VISUALIZATION

Supports Energy-Saving Management



Alarm Information

Red color indication: immediate display of malfunction location and cause.



Schedule

Up to 10 actions/day per RC groups can be set as available as auto switch-off timer.



[Weekly Schedule]



[Holiday Setting]

CENTRAL STATION

EX

PSC-A128EX

FOR LARGE-SCALE BUILDINGS



Extension Adapter
PSC-AD128EX



Energy Calculation Software*
PSC-AS01EXC

*Required only for calculating electricity

CAPACITY

H-LINK	16
Remote Controller group	2,560 (*1)
Group	2,048 (*1)
Block	512 (*2)
Area	512 (*2)
Indoor unit	2,560 (*1)
Outdoor unit	1,024 (*1)
Building scale	Large

(*1) One external adapter can control [160 RC groups / 128 groups / 160 IDUs / 64 ODU's / Each layout], and Central Station EX can connect up to 15 adapters.
(*2) No restriction on the number of H-LINK

SPECIFICATIONS

Rated power supply	100~240VAC ±10% (50/60Hz)
Electrical power consumption	50W (Max.)
Communication unit	Units of Adopting for H-LINK
Communication line	Nonpolar Two Wires
Communication speed	9,600bps
Wiring length	1,000m (Total Length)
Display	12.1 inch TFT color liquid crystal display
Display control	Touch Panel

For large scale buildings such as hotels, educational facilities, or hospitals, our Central Station EX features a highly intuitive and functional 12.1-inch wide, wall-mountable, colorful LCD screen. Control up to 2,560 indoor units with our proprietary H-LINK system with 15 Extension Adapters (PSC-AD128EX)

FUNCTIONS

Operation unit	All together Each area Each block Each group Each RC group
Control function	On/Off Mode Set temperature Fan speed Louver RC prohibition Filter sign reset Function selection for indoor units (*1) Function selection for outdoor units (*2) Capacity control for outdoor units (*2) Lower noise control for outdoor units (*2)
Monitor function	On/Off Mode Set temperature Air intake temperature RC sensor temperature (*3) Air intake temperature of outdoor unit Fan Speed Louver RC prohibition Thermo-ON information Filter sign/Auto cleaning fault Alarm status/Alarm codes

Schedule function	Each of the following setting is available in 3 different [annual] [summer][winter] category → Weekly schedule → Up to 16 actions can be set per day → Exception day setting: 5 different types → Holiday setting Setting items in schedule is as below; • On/Off • Operation mode • Setting temperature • Louver • Fan speed • RC operation prohibition • Capacity control for outdoor units • Lower noise control for outdoor units
History	Alarm history: 10,000 records External In/Output history: 1,000 records Pulse input history: 6 months
Management report visualization	Each of the following data of up to 2 years can be shown: • Accumulated operation time (min.) • Accumulated thermo-ON time (min.) • Average air intake temp temperature of indoor unit • Average air intake temperature of outdoor unit • Average setting temperature • Average RC sensor temperature

External input / output	Energy saving • Run/Stop • RC prohibition • Temperature shift (For Cool/Dry mode: +1.0°C~+9.0°C) (For Heat mode: -1.0°C~-9.0°C) • Mode shift (Mode shifted to Fan when in Cool/Dry mode, and shifted to Stop in Heat mode) • Capacity control on outdoor units • Lower noise control for outdoor units Control/Monitor → Controlled items: • Run/Stop • Mode (Cool/Heat) → Monitored items: • Run/Stop • Mode (Cool/Heat) • Alarm state Others • Power consumption signal input • Emergency stop
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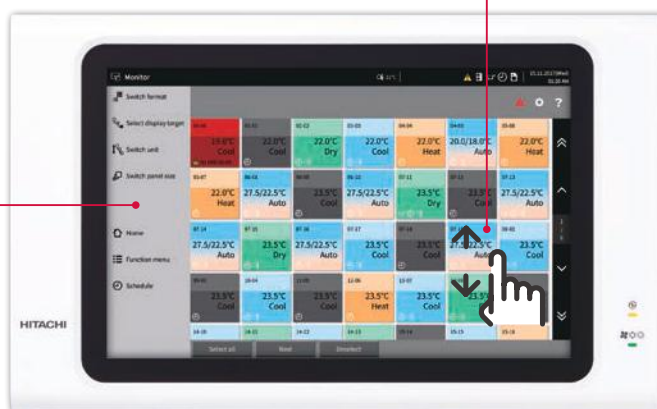
(*1) Some indoor units may not fully support all functions.
(*2) It is available for applicable outdoor units only.
(*3) There is a case that it cannot be shown in the screen, depending on the remote controller setting.

EASY TO READ, EASY TO USE

The stand-alone Central Station EX uses a touch screen, capacitive LCD panel.

Flick and swipe to turn pages

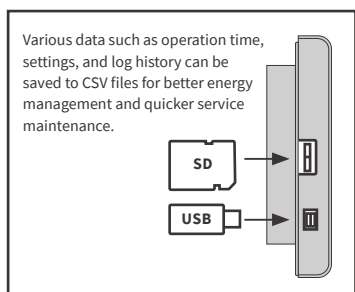
Better display resolution (1,280×800)
Larger screen (12.1 inches wide)



SET FREE Σ – FSNP & FSNs SERIES

BETTER ENERGY SAVING AND QUICKER MANAGEMENT

Management reports can be visualized in various ways, and data can be acquired using SD memory and USB flash devices.



The following data can be displayed up to the previous two years:

- Accumulated operation time (min.)
- Accumulated thermo-ON time (min.)
- Average air intake temperature of indoor unit
- Average air intake temperature of outdoor unit
- Average setting temperature
- Average RC sensor temperature (It may not be available depending on RC settings.)



CONTROLLERS

IMPROVED SCHEDULE SETTING

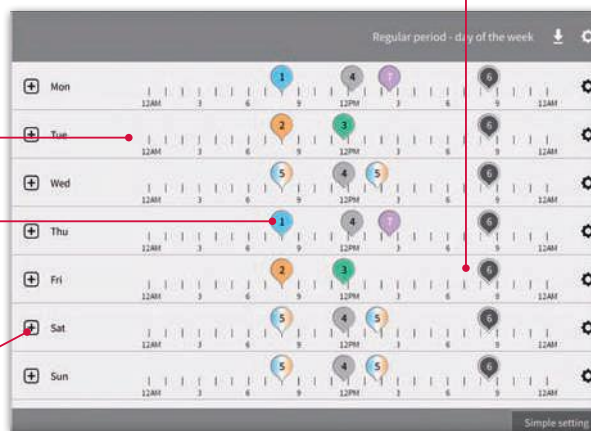
Three long-term category settings are now available: Annual, Summer, and Winter.

Drag to change the schedule
Flick and swipe to see a different screen

Touch and hold the memory axis to add the memory to the schedule

Schedules can be color coded for easy confirmation

Touch the + button to see the detailed schedule



CENTRAL STATION

EX

PSC-A128EX

FOR LARGE-SCALE BUILDINGS

INTUITIVE INTERFACE FOR BETTER MONITORING

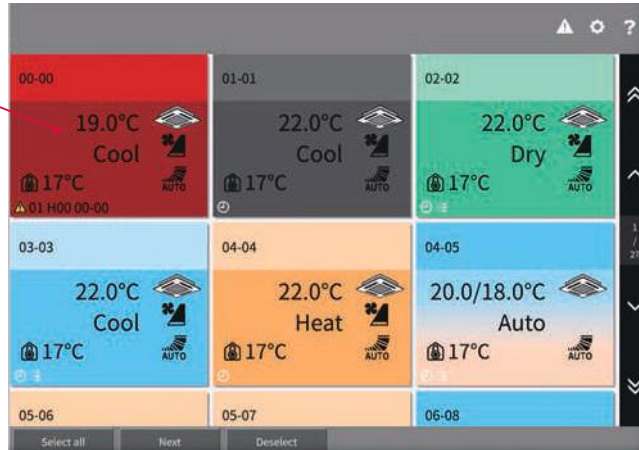
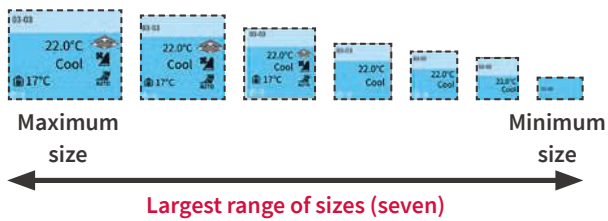
Three monitoring styles are available.

1. Panel style

The panel color clearly shows the air conditioner operation mode.

One maximum-sized panel can show the following items with colors and icons for easy confirmation:

- Room name
- Run/stop
- Mode
- Temperature
- Fan speed
- Louver
- Air intake temperature (RC sensor temperature or indoor temperature)
- Current status icon

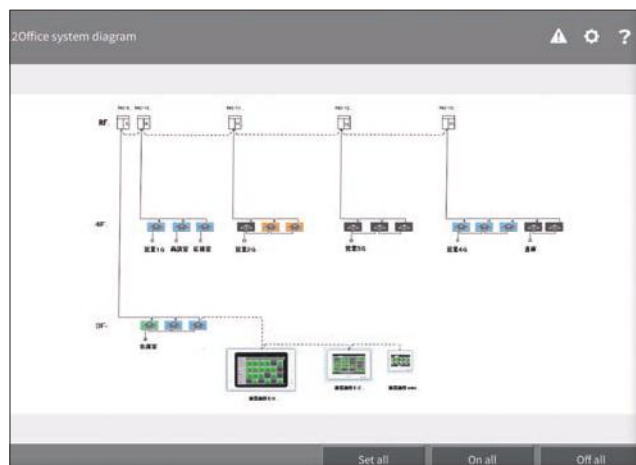


2. Layout style

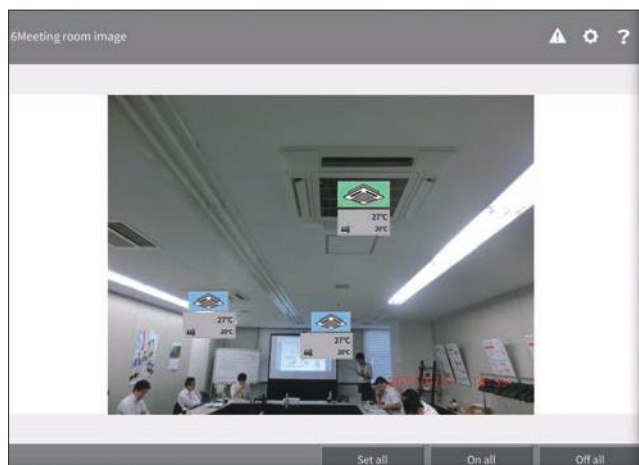
Upload your own layout images in multiple formats (BMP, JPEG, PNG) and easily arrange indoor units by dragging them on the touch panel.



Floor view



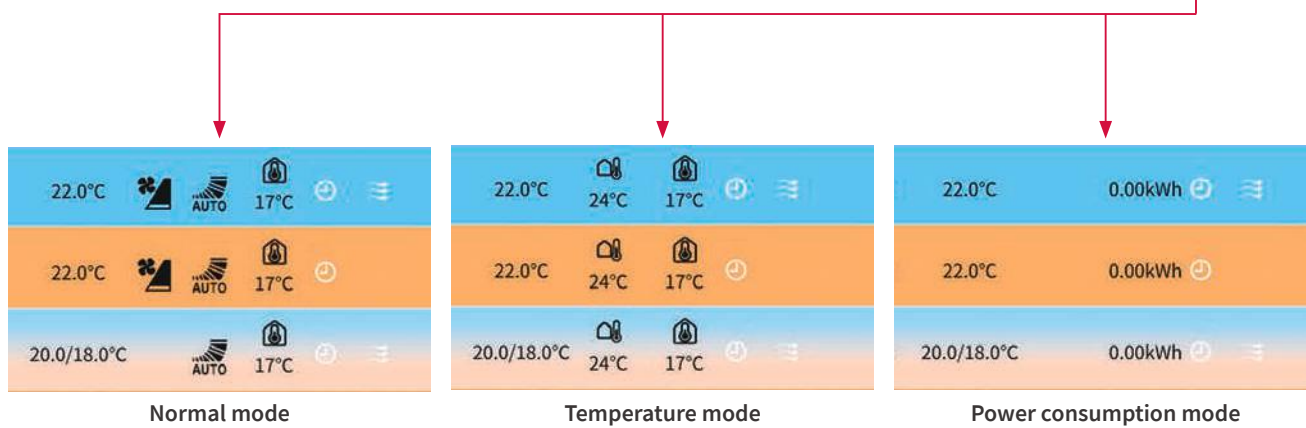
System diagram



Actual room image

3. List style

Setting/control information is shown in a list that can be filtered and sorted for easy confirmation and comparison. In the list display, normal temperature and power consumption are provided so users can select formats according to their desired items.



CENTRAL STATION

NT

PSC-A128WEB3

PC AND TOUCH PANEL: WEB OPERATION



SPECIFICATIONS

Outer Dimensions (H×W×D)
(mm) 68.0×240.0×154.0

FUNCTIONS

Total Connection Capacity	RC group	-
	Group	128
	Block	64
	Indoor Unit	160
	Outdoor Unit	64
Building Scale	Medium Large	

FUNCTIONS

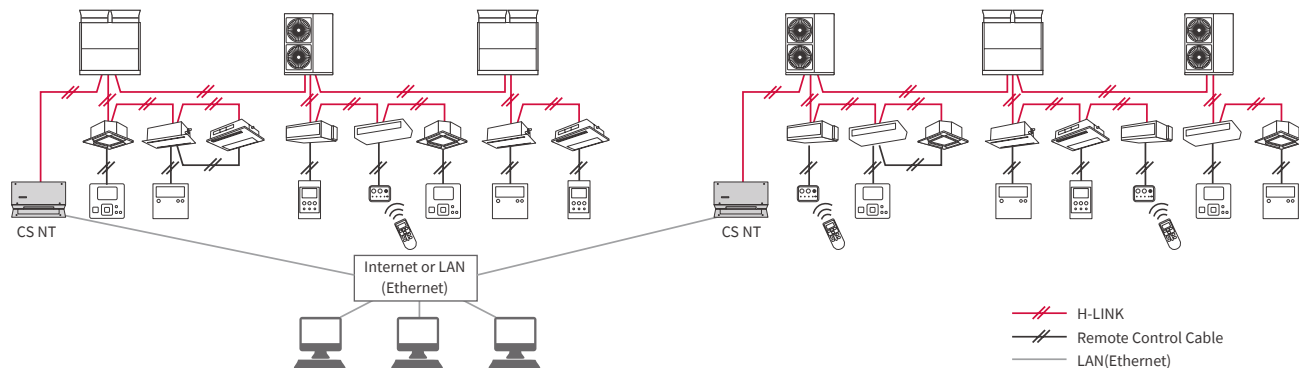
Display	Locally-Supplied PC or Touch-Panel PC
Display Control	Locally-Supplied or Touch-Panel

Total Connection Capacity	One connected unit	Two or three connected units
OS	<ul style="list-style-type: none"> Windows 7 Home Premium (32 bit/64 bit) Windows 7 Professional (32 bit/64 bit) Windows 7 Ultimate (32 bit/64 bit) Windows 8 (32 bit/64 bit) Windows 8 Pro (32 bit/64 bit) 	<ul style="list-style-type: none"> Windows 7 Home Premium (32 bit/64 bit) Windows 7 Professional (32 bit/64 bit) Windows 7 Ultimate (32 bit/64 bit) Windows 8 (32 bit/64 bit) Windows 8 Pro (32 bit/64 bit)
CPU	Intel® Core™2 Duo 1.8GHz or more (When it is a specific unit, it should be Intel Atom 1.6GHz or more)	Intel® Core™2 Duo 1.8GHz or more (When it is a specific unit, it should be Intel Atom 1.6GHz or more)
Memory	1GB or more	2GB or more
Monitor	1,024×768 pixels (Display around 15 inches) 1,366×768 pixels (Wide screen display) 1,280×1024 pixels (Display around 17 to 19 inches)	1,024×768 pixels (Display around 15 inches) 1,366×768 pixels (Wide screen display) 1,280×1024 pixels (Display around 17 to 19 inches)
Browser	<ul style="list-style-type: none"> Internet Explorer 8 (32 bit) Internet Explorer 9 (32 bit) Internet Explorer 10 (32 bit) Internet Explorer 11 (32 bit) 	<ul style="list-style-type: none"> Internet Explorer 8 (32 bit) Internet Explorer 9 (32 bit) Internet Explorer 10 (32 bit) Internet Explorer 11 (32 bit)
HDD Available Capacity	10GB or more	10GB or more
Interface	IEEE 802.3 (10BASE-T/100BASE-TX/1000BASE-T) or IEEE 802.11 (a/b/g/n)	IEEE 802.3 (10BASE-T/100BASE-TX/1000BASE-T) or IEEE 802.11 (a/b/g/n)
Required Software	Java™ Runtime Environment Version 6 Update 33	Java™ Runtime Environment Version 6 Update 33

Remarks

- Use a 2 buttons mouse.
- LAN with wake on LAN function or RS-232C Interface is required for UPS.
- The durable period for a management computer may differ from that of air conditioners. Discuss the updating procedures in advance.
- The required software is included in this product. No preparation is needed.

EXAMPLE OF SYSTEM CONFIGURATION



H-LINK
 Remote Control Cable
 LAN(Ethernet)

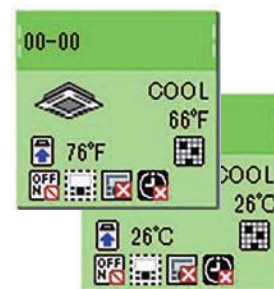
Easy-to-use design

The newly adopted color indication or panel icon will help you recognize each unit status and manage your air conditioner more efficiently.

Operation Mode Color Setting	On (Cool)	On (Heat)	On (Dry)	On (Fan)	On (Auto)	On (in Multiple Mode)	Alarm	Off
On (With Color)	Light Blue	Orange	Sea Green	Light Grey	Light Blue Orange	Purple	Red	Grey
Off (Without Color)	Lime Green						Red	Grey

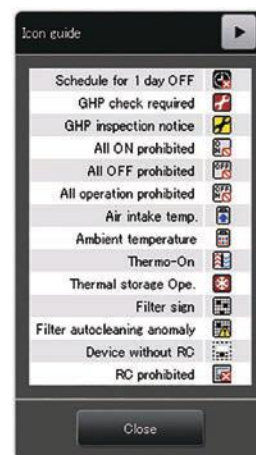
Panel

Icon-based monitoring panel.



Icon

Touch the "Icon Guide" and you can check each icon description along with the details.



Filter

The filtering condition enables you to check the unit easily and quickly.



Schedule

- Weekly setting (up to 16 actions per day)
- Summer/Winter seasonal setting
- Special days setting.



[Pattern Setting]



[Weekly Setting]



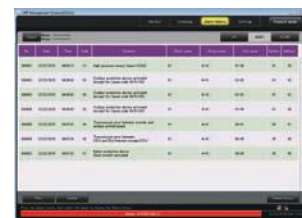
[Special Day Setting]



[Summer - Winter Seasonal Setting]

Alarm History

Up to 500 alarms can be recorded. The installer can diagnose the trend of problems in your air conditioner when necessary.



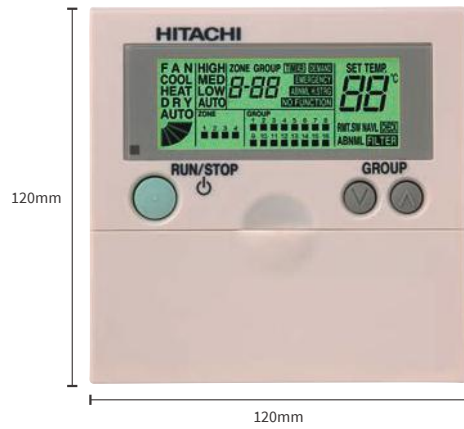
SET FREE Σ - FSNP & FSNS SERIES

CONTROLLERS

CENTRAL STATION

PSC-A64S

FOR SMALL-MEDIUM-SCALE BUILDINGS



If your site has a dedicated building manager, the Central Station PSC-A64S is suitable for providing convenient monitoring of indoor climates. It controls up to 160 indoor units and up to 8 sub-controllers can be connected via H-LINK. In addition to setting the operation mode and temperature, PSC-A64S also gives you advanced control over air quality and louver orientation. Should a problem occur, a dedicated alarm code helps you identify the issue.

SPECIFICATIONS

Outer Dimensions (H×W×D)
(mm) 120.0×120.0×70.5

CAPACITY

RC group	64
Group	64
Block	4 Patterns
Indoor Unit	160
Outdoor Unit	64

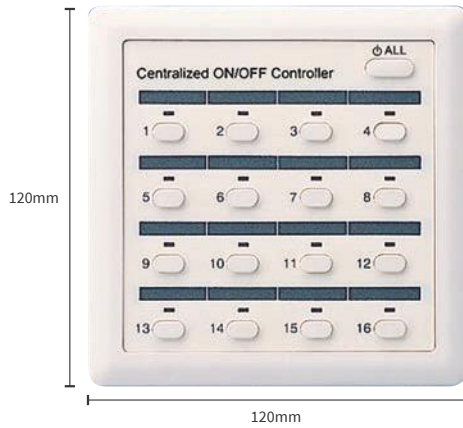
FUNCTIONS

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

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



PSC-A16RS



- 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 controllers 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.
- *Be 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.

SPECIFICATIONS

Outer Dimensions (H×W×D)
(mm) 120.0×120.0×68.5

CAPACITY

RC group	16
Group	64
Block	-
Indoor Unit	160
Outdoor Unit	-

FUNCTIONS

Monitor Function	<ul style="list-style-type: none"> • Run/Stop • Alarm Notification
Control Function	<ul style="list-style-type: none"> • Individual Run/Stop • Simultaneous All Run/Stop

SET FREE Σ – FSNP & FSNS SERIES

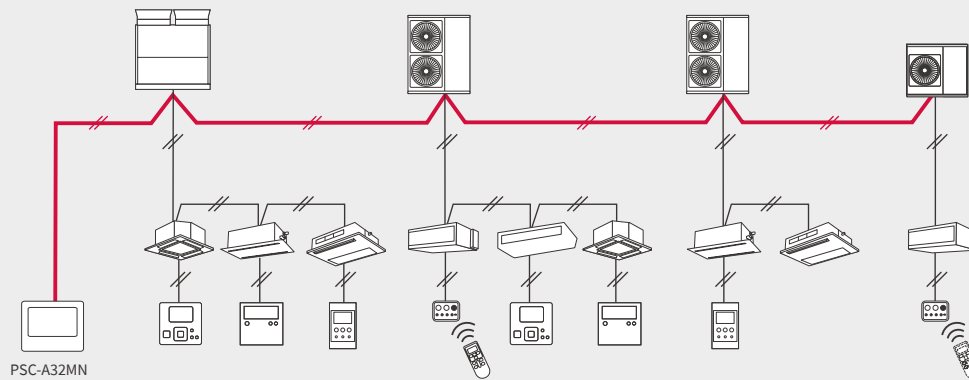
CONTROLLERS

H-LINK

WHAT IS H-LINK?

H-LINK is a “Hitachi” original communication system that can be used to control multiple outdoor and indoor units from one control point. Its use assists installers and service engineers by simplifying commissioning and service maintenance. For building owners and occupants, it provides outstanding versatility enabling the connection of various types of central control options, enabling better system management. Our proprietary high-performance communication system enables the connection of control wiring between indoor and outdoor units, and between a centralized control system and indoor/outdoor units across two or more refrigerant systems.

Basic Wiring



ADVANTAGES

1. A multi air conditioner for a building and a package air conditioner for a store or office. It can be used with a home air conditioner.
2. There are no restrictions on the delivery route or order for wiring.
3. Just connect to a terminal block.
(An adapter and a dedicated connector are not necessary.)

RECOMMENDED FACILITIES (EXAMPLE)



Educational institutions such as primary schools where installation work cannot be performed on weekdays.



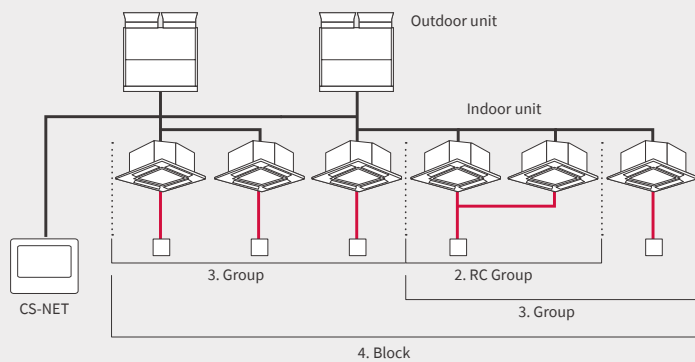
Hotels where it is preferable to complete installation work during late evenings.



Rehabilitation facilities or hospitals where it is necessary to minimize the burden on users.

DEFINITION OF TERMS IN HITACHI CENTRALIZED CONTROL SYSTEMS

1. CS-Net/Central Station
→ Hitachi original central controller
2. RC Group (Remote Controller System Group)
→ Stands for a number of indoor units (up to 16 units) connected using “same remote controller” wiring. In this group, connected indoor units are all controlled in the same way.
3. Group
→ Stands for the multiple “RC groups” that are registered in the central controller network setting.
4. Block
→ Stands for the multiple “groups” that are registered in the central controller network setting.

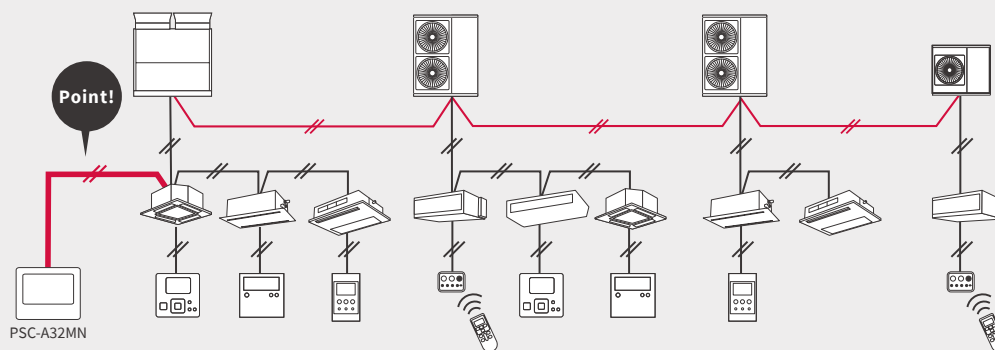


POINT

Flexible Wiring Routes

- (1) If indoor units are located in one place and the indoor unit to be controlled is in the room where "concentrated control" is installed

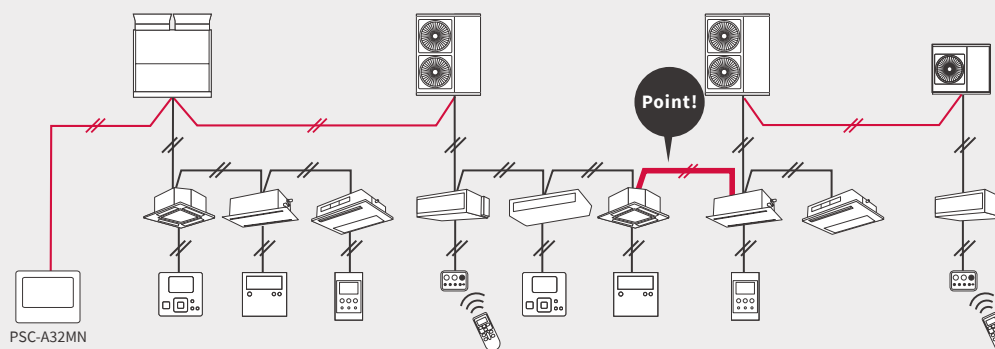
→ Overall control is possible by connecting "concentrated control" to the indoor unit.
 → Delivery distance can be greatly reduced.



SET FREE Σ – FSNP & FSNS SERIES

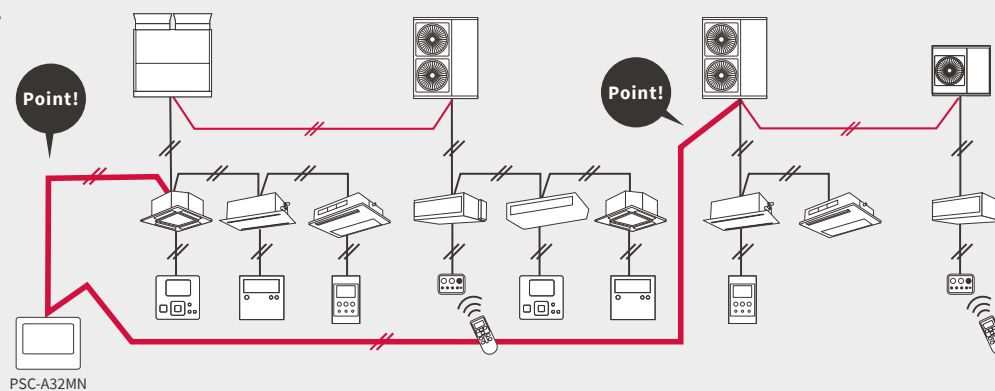
- (2) If indoor units are located in two places and any indoor units of each system are located close together

→ Overall control is possible by connecting part of the indoor units of each system.
 → Delivery distance can be greatly reduced.



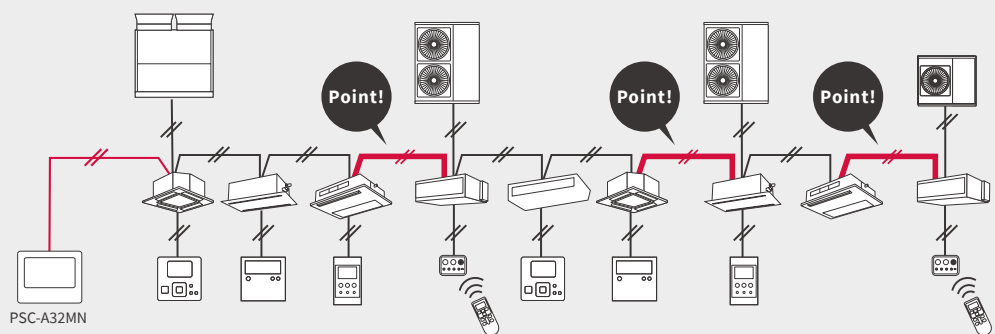
- (3) If two systems are completely separated

→ Overall control is possible by separately connecting the two systems to "concentrated control."
 → It is possible to select a wiring route based on the wiring distance and the ease of installation.



- (4) If indoor units are located discretely

→ Overall control is possible by connecting indoor units.
 → Installation is possible through indoor wiring only without outdoor wiring.



CONTROLLERS

HC-A64BNP1 BMS ADAPTER For BACnet®

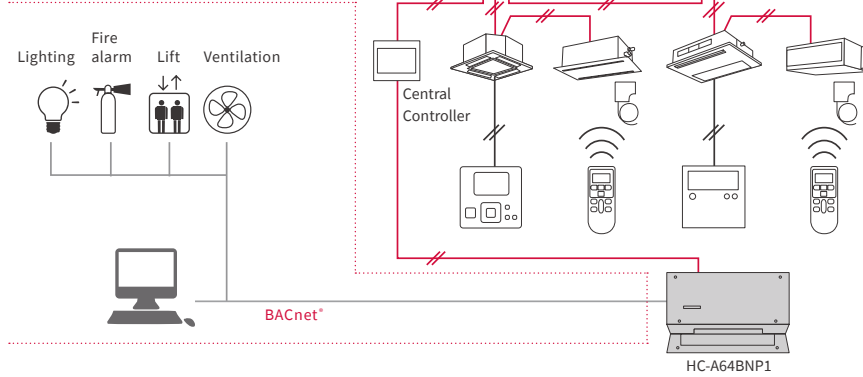
Control Up To 64 Indoor Units



EXAMPLE OF SYSTEM CONFIGURATION

- H-LINK
- Remote Control Cable
- BACnet®

Field-supplied



SPECIFICATIONS

Outer Dimensions (H×W×D)
(mm) 68.0×240.0×154.0

FUNCTIONS

Corresponding BACnet® Standard	ANSI/ASHRAE Standard 135-2004 BACnet®
Control Item at Upper System	<ul style="list-style-type: none"> • Run Stop (Setting) • Operation Mode (Setting) • Fan Speed Level (Setting) • Indoor Temperature (Setting) • Prohibiting RC Operation (Setting) • Filter Sign Reset
Monitoring Item at Upper System	<ul style="list-style-type: none"> • Run Stop (State) • Operation Mode (State) • Fan Speed Level (State) • Indoor Temperature (State) • Prohibiting RC Operation (State) • Filter Sign • Indoor Air Intake Temperature • Alarm Signal • Alarm Code • Communication State

HARC70-PE1 BMS ADAPTER for LONWORKS®

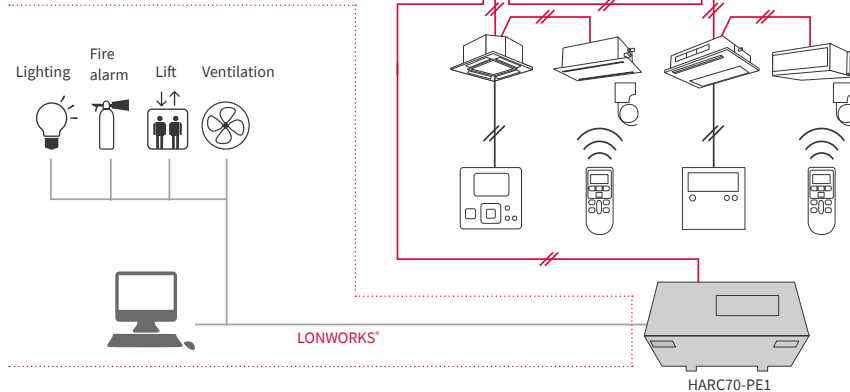
Bigger Connection Capacity (Up to 128 Indoor Units)



EXAMPLE OF SYSTEM CONFIGURATION

- H-LINK
- Remote Control Cable
- LONWORKS®

Field-supplied



SPECIFICATIONS

Outer Dimensions (H×W×D)
(mm) 68.0×240.0×154.0

FUNCTIONS

Connection Method to Upper System	Connection by SNVT (Standard Network Variable Type) to LONWORKS® Network
Quantity of Connection	8 Remote Control Groups (Max. 128 indoor Units)
Control Item in Upper System (ng: 0~7)	<ul style="list-style-type: none"> • On/Off Order (nviOnOff_ng) • Operation Mode Setting (nviMode_ng) • Temperature Setting (nviSetPoint_ng) • All On/Off Order (nvi All OnOff)
Monitoring Item in Upper System (ng: 0~7)	<ul style="list-style-type: none"> • On/Off State & Alarm (nvoOnOff_ng) • Operation Mode State (nvoMode_ng) • Temperature Setting (nvoSetPoint_ng) • Individual Thermostat State (nvoThermo_ng)

• The number of maximum connectable refrigerant systems is 8 (0 to 7). The available setting range of refrigerant system number and indoor unit addresses is 0 to 15.

HARC-BXE BMS ADAPTER for LONWORKS®

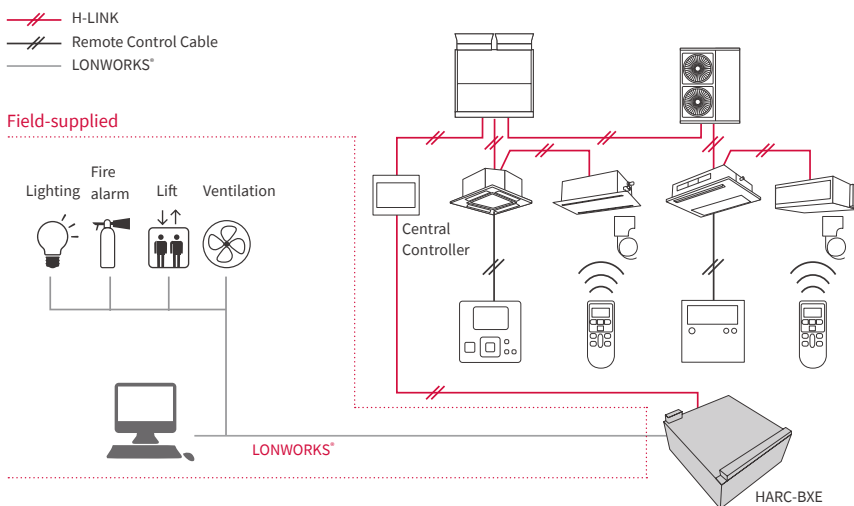
Connect to Multiple H-LINK with H-LINK Transmission Terminal to 8 PCB



SPECIFICATIONS

Outer Dimensions (H×W×D)
(mm) 285.0×240.0×128.5

EXAMPLE OF SYSTEM CONFIGURATION



FUNCTIONS

Standard HARC-BXE

Connection Method to Upper System	Connection by SNVT (Standard Network Variable Type) to LONWORKS® Network
Connection Quantity	64 Indoor Units (8 Indoor Units per 1 PCB)
Control Item in Upper System (n: 0~7)	• On/Off Order (nviOnOff_n) • Temperature Setting (nviSetPoint_n) • Operation Mode Setting (nviMode_n) • All On/Off Order(nviAllOnOff)
Monitoring Item in Upper System (n: 0~7)	• On/Off State & Alarm (nvoOnOff_n) • Temperature Setting (nvoSetPoint_n) • Operation Mode State (nvoMode_n) • Individual Thermostat State (nvoThermo_n)

Option A HARC-BXE (A)

Connection Method to Upper System	Connection by SNVT (Standard Network Variable Type) to LONWORKS® Network
Connection Quantity	64 Indoor Units (8 Indoor Units per 1 PCB)
Control Item at Upper System (n: 0~7)	• On/Off Order (nviOnOff_n) • Temperature Setting (nviSetPoint_n) • Fan Speed Setting (nviFanSpeed_n) • Operation Mode Setting (nviMode_n) • All On/Off Order (nviAllOnOff) • R.C. Sw Permission/Prohibition (nviProhibit_n)
Monitoring Item at Upper System (n: 0~7)	• On/Off State & Alarm (nvoOnOff_n) • Inlet Air Temperature (nvoInletTemp_n)

Option B HARC-BXE (B)

Connection Method to Upper System	Connection by SNVT (Standard Network Variable Type) to LONWORKS® Network
Connection Quantity	32 Indoor Units (4 Indoor Units per 1 PCB)
Control Item at Upper System (n: 0~3)	• On / Off Order (nviOnOff_n) • Fan Speed Setting (nviFanSpeed_n) • Operation Mode Setting (nviMode_n) • R.C. Sw Permission/Prohibition(nviProhibit_n) • Temperature Setting (nviSetPoint_n) • All On/Off Order (nviAllOnOff) • Louver Position Setting (nviLouver_n)
Monitoring Item at Upper System (n: 0~3)	• On/Off State & Alarm (nvoOnOff_n) • Temperature Setting (nvoSetPoint_n) • Operation Mode State (nvoMode_n) • Louver Position (nvoLouver_n) • Fan Speed Setting (nvoFanSpeed_n) • Alarm Code (nvoAlarmDescr_n) • Inlet Air Temperature (nvoInletTemp_n) • Outlet Air Temperature (nvoOutletTemp_n) • Outdoor Air Temperature (nvoAmbientTemp)

- The number of maximum connectable refrigerant system is 8 (0 to 7). The available setting range of refrigerant system number and indoor unit address is 0 to 15.
- All indoor units connected to the PCB need to have same refrigerant system number.

7 DAY TIMER PSC-A1T

Scheduling Operation with PSC-A64S/PSC-A16RS

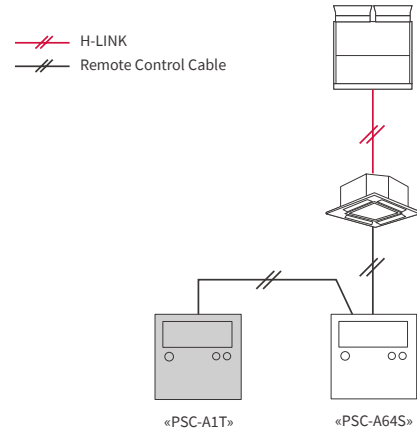


- By using PSC-A1T with PSC-A64S or PSC-A16RS controllers, the air conditioners controlled by them can be operated according to a schedule.
- The timer can be set at 7-day intervals, and operation/stop can be set 3 times daily.
- Remote control can be prohibited in accordance with the OFF time (when used with PSC-A64S and PSC-A16RS).
- Two types of weekly schedule (A and B) can be set, and can easily be changed for summer and winter.
- The settings are all digitally displayed, allowing operations and settings to be checked easily.
- The power failure backup function prevents the timer from being stopped due to a power failure lasting up to 2 weeks.

SPECIFICATIONS

Outer Dimensions (H×W×D)
(mm) 120.0×120.0×17.0

EXAMPLE OF SYSTEM CONFIGURATION



3P CONNECTOR CABLE PCC-1A

(For Connection to Remote On/Off Device/Receipt of Output Signal)



*One set contains five 3P connector cables.
*PCC-1A can connect to external signal input-output terminal both in Outdoor Unit and Indoor Unit.

Operation «example»

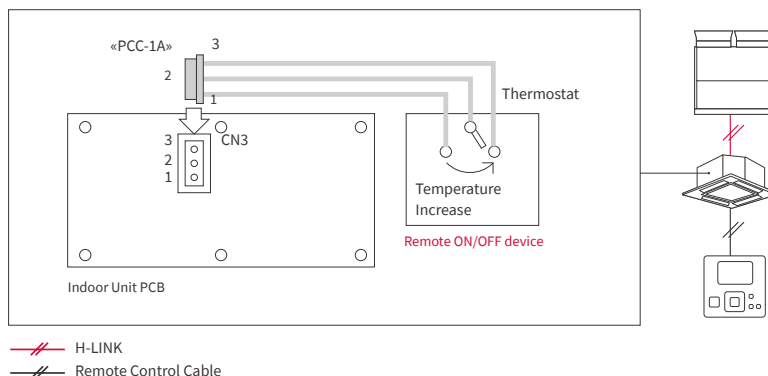
Cooling Operation:

Compressor is ON by closing terminals 2 and 3 of CN3
Compressor is OFF by opening terminals 2 and 3 of CN3

Heating Operation:

Compressor is ON by closing terminals 1 and 2 of CN3
Compressor is OFF by opening terminals 1 and 2 of CN3

EXAMPLE OF SYSTEM CONFIGURATION



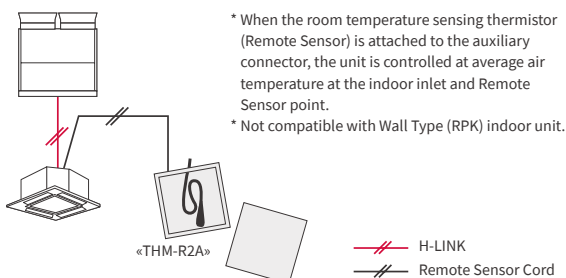
SET FREE Σ – FSNP & FSNS SERIES

REMOTE SENSOR THM-R2A

(To sense the indoor temperature)



EXAMPLE OF SYSTEM CONFIGURATION



SPECIFICATIONS

Outer Dimensions (H×W×D)
(mm) 50.0×50.0×15.0

Length	M	8.00
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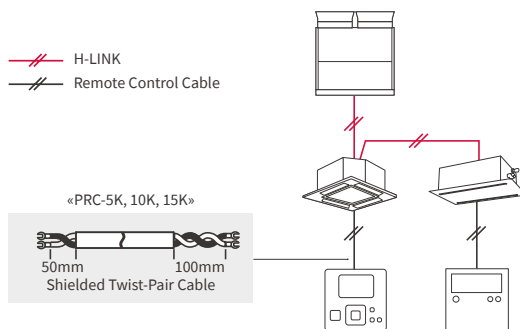
CONTROLLERS

REMOTE CONTROL CABLE PRC-5K, 10K, 15K

(For PC-ARF1 and PC-AR connection (to IDU))



EXAMPLE OF SYSTEM CONFIGURATION



SPECIFICATIONS

	PRC-5K	PRC-10K	PRC-15K
Length M	5.00	10.00	15.00



HITACHI
Air conditioning solutions

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DISTRIBUTOR

CERTIFICATION



ISO 9000 series
Shimizu Air Conditioning Headquarters, Professional-Use Air Conditioning
Business Division, Johnson Controls – Hitachi Air Conditioning
JQA-1084 obtained in November 1995



ISO 14000 series
Shimizu Business Office, Johnson Controls – Hitachi Air Conditioning
EC97J1107 obtained in October 1997