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HITACHI

PRIMAIRY

LARGE SINGLE SPLIT INVERTER SERIES | HEAT PUMP



Cooling & Heating



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Living

Harmony

WELCOME

INVERTER SERIES | HEAT PUMP TYPE

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.





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.

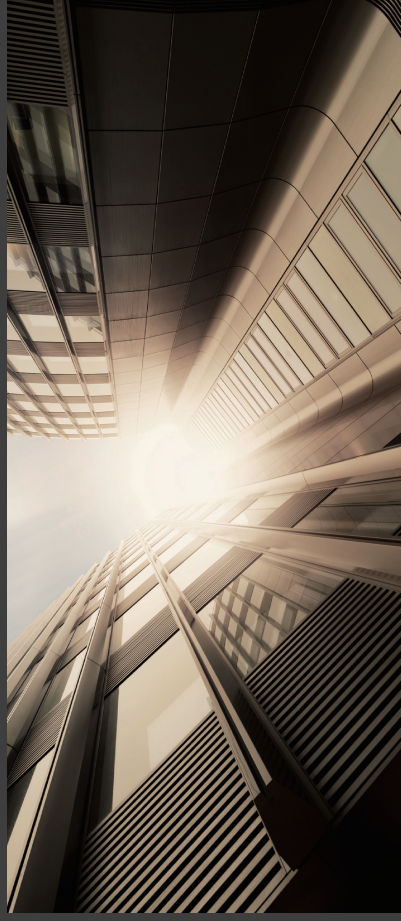
We live & breathe innovation

Since 1952, Hitachi's Cooling & Heating technology has been helping make life more harmonious for people around the world. Today, our long heritage of precision Japanese engineering ensures that no detail is overlooked in our quest to create Living Harmony.

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.



Your world

**We live in it
together**



Connecting with you

Reaching out

Finding the right appliances can be tricky. PRIMARYRY is an air-conditioning system that was created to become a part of your long-term surroundings.



At your service

Your environment will always be filled with fresh air, at the temperature needed, with a minimum of effort or irritation.

Our aim is to bring greater comfort to your working days and to your customers' visits to your store, office or workspace.

PRIMARYRY units integrate smoothly into your daily life, improving the experience for everyone involved with your business. Our range is especially adapted for places such as shops, restaurants, cafés, creative studios, galleries, workshops and classrooms.



Made for you

Each component of your new system will arrive ready for rapid installation and operation. Units not only combine advanced software and hardware design, they are assembled with passion. Every unit undergoes rigorous testing before it is shipped. Climates may vary, but whether it is cold or hot, PRIMARYRY can withstand harsh weather and general wear and tear.

Our adjustable ESP (External Static Pressure) design ensures that all air vents provide cool or heated air evenly and reliably. To accommodate your space, flexible piping and a comprehensive capacity range are available. When facing a unit malfunction, error codes will be clearly displayed to facilitate maintenance. There is always a PRIMARYRY solution suited to your needs.



Your loyal partner

Assisting you by improving the temperature and quality of air in your workspace is our role as a partner. An integral element of this is durability.



Customers from across the globe have voiced concerns to us in the past about their systems' ability to resist deterioration. In the development of PRIMARY, safeguard devices have been added to limit damage, including sensors, special coatings and sturdy surfaces.

Striving for perfection

A set of strong beliefs and practices at Hitachi have paved the way for generations of efficient products. PRIMARY represent the culmination of much collective effort, giving the series a great advantage – and making PRIMARY the right way to go, for you, your employees and your customers.





Introducing PRIMAIRY

PRIMAIRY's aims

PRIMAIRY is an air system series made to cope with the foremost daily needs of small business owners and people living and working in small to medium-sized spaces around the world. The name 'PRIMAIRY' signifies the goal of addressing the 'Primary' needs of people in terms of giving them access to cleaner, consistently modified air in their environments.

Some features may not apply to the units sold in your country.

PRIMAIRY R32 IN NUMBERS

-15°C~+48°C

Heating and cooling at exigent temperatures

PRIMAIRY can work with extreme temperatures, from -15°C to +48°C in cooling mode and to +24°C in heating mode. PRIMAIRY enables reliable climatization to users who requires consistent resistance to demanding climates.

16 steps

Multiple steps of adjustment

Quiet operation is a must. The outdoor DC motor has 16 steps of automatic adjustment to reduce fan speed and frequency of movement, leading to reduced noise.

30%

Maintains 30% refrigerant level

Ensures the strong performance of the refrigerant circulation components. When the refrigerant volume is less than 30%, the unit automatically registers this and displays the relevant fault code, prompting users to maintain the system.

50m

Extended height and length

Up to 50m in pipe length can be covered when the unit is being installed, and up to 30m in height, depending on your needs.



Reliable partners for small businesses

The need for a comfortable and quiet environment as the basis for a small business to thrive. Reliability, adaptability to each physical setting and precise control for users are the technical priorities of PRIMAIRY.



Diligent manufacturing

Stable operation of key equipment like the compressor, in typical and extreme temperatures, the inclusion of auto restart after power failure and self-diagnosis of faults are all the result of improvement and application of research. The careful design and continuous support in maintenance of machines indicates how much we care about ensuring comfort in your space.



Design for different spaces

Different indoor machines can be matched with different spaces to meet the desired level of control, upkeep and comfort. Users also decide how their system will fit into their space aesthetically.



Your need is our motivation

Your requirements for setting up a harmonious space for working and living are our central concern. Based on previous breakthroughs as well as plenty of updated studies, we have assembled a series that targets the core needs shared by global users, while coming equipped to adapt to the personal wishes of each individual owner, no matter how their space is laid out.



Your spaces & PRIMARY

PRIMARY is prepared to take care of the air around you. You, your colleagues and customers deserve to feel comfortable in every situation. This means finding and installing the ideal unit for your particular interior, a process we will be happy to help with. We will also help you run your unit correctly and intervene when repair is needed.



“Having a comfortable setting is essential. The air-conditioning system that management installed is a big part of this.”

Restaurant & Café



“Running a café means noise, buzz, activity and trapped heat. Having a correct and consistent A/C lets my customers relax and enjoy their drinks – and I can see the difference in their moods.”

Retail Space



“I work with clothes, and the fabric can heat up in summer and make things stuffy. The store is cold in winter. Without the system to regulate things all year round, the seasons would really get to me.”

Small Work Space



“I stay late at the office along with my colleagues if there is a big project to finish. Having a comfortable setting is essential, and the airflow system that management installed is a big part of this.”

They might not know each other, but we know them: A community of customers around the world is connected by hard work and a commitment to a harmonious environment. We inside Hitachi will always strive to support them.



General Features

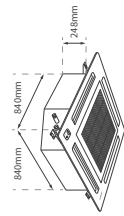
Features, advantages and benefits

PRIMARY includes all required for selection, installation and maintenance, making it the perfect choice for small businesses and workplaces, as well as other interior spaces. When in use, PRIMARY responds sensitively to air temperature and maintains it at the desired level, using just the right amount of energy.

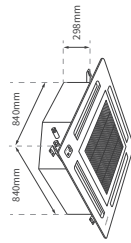


INDOOR UNITS

CASSETTE UNIT

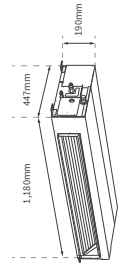


RCI-3.0UFE1NH
RCI-3.5UFE1NH
RCI-4.0UFE1NH

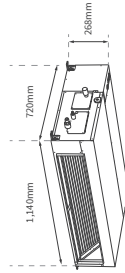


RCI-5.0UFE1NH
RCI-6.0UFE1NH
RCI-6.5UFE1NH

DUCTED UNIT

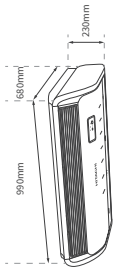


RPI-L3.0UFE1NH

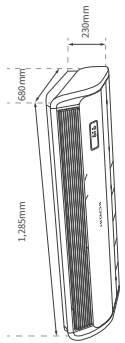


RPIH-3.5UFE1NH
RPIH-4.0UFE1NH

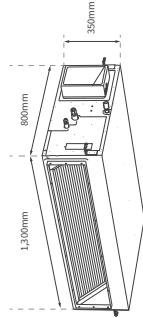
FLOOR CEILING CONVERTIBLE UNIT



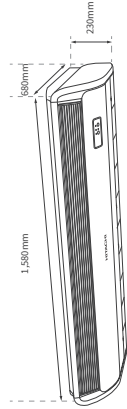
RPF-C3.0UFE1NH



RPF-C3.5UFE1NH
RPF-C4.0UFE1NH



RPIH-5.0UFE1NH
RPIH-6.0UFE1NH
RPIH-6.5UFE1NH

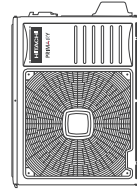


RPF-C5.0UFE1NH
RPF-C6.0UFE1NH
RPF-C6.5UFE1NH

OUTDOOR UNITS

Dimension (W×H×D)

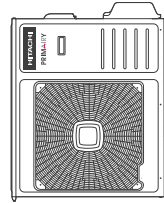
860×670×310mm



RAS-3.0UFESH1
RAS-3.5UFESH1

Dimension (W×H×D)

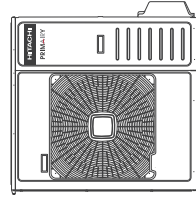
950×840×340mm



RAS-4.0UFESH1

Dimension (W×H×D)

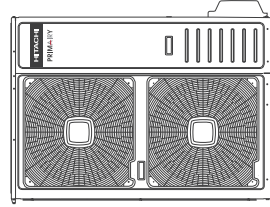
950×1050×340mm



RAS-5.0UFESH1
RAS-5.0UFESH1
RAS-5.0UFESH1

Dimension (W×H×D)

950×1386×340mm



RAS-6.0UFESH1
RAS-6.0UFESH1
RAS-6.5UFESH1

MULTI-SPEED FAN (INDOOR UNIT)

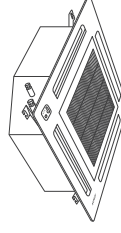
A multi-speed fan helps satisfy various airflow requirements.

AUTO RESTART

Units are automatically returned to previous operation conditions after a power outage, for simplified operation.

QUIET OPERATION

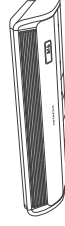
Units have a quiet mode that reduces the fan speed and the frequency of the compressor, resulting in a low operation noise, keeping your family and neighbors content.



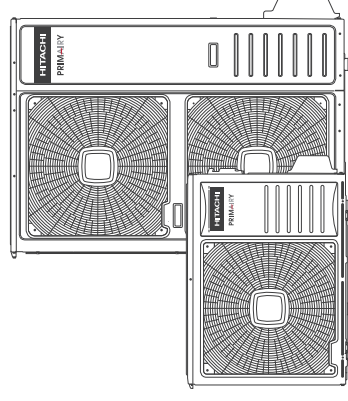
Cassette unit



Ducted unit



Floor Ceiling Convertible unit



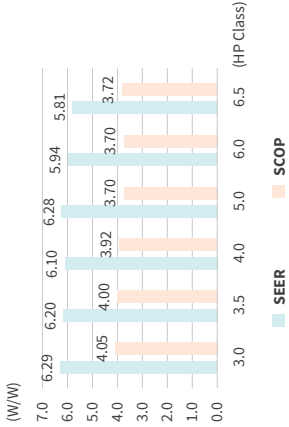
EFFICIENCY

Sustained testing, engineering and design have created air conditioners that are very well suited to keeping their core functions running. The outdoor unit can endure a wide temperature range and regulates its own response to freezing.

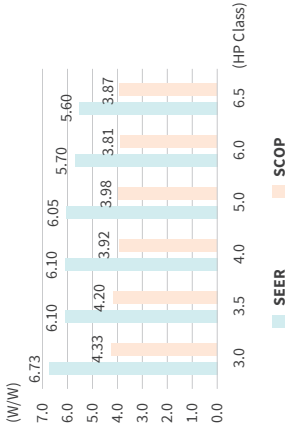


EFFICIENCY RATIO

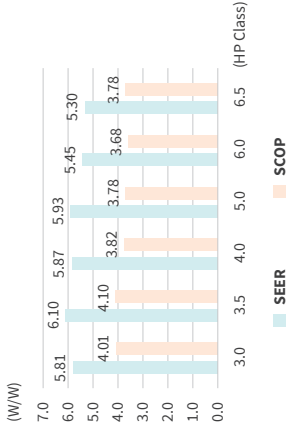
Ducted unit



Cassette unit



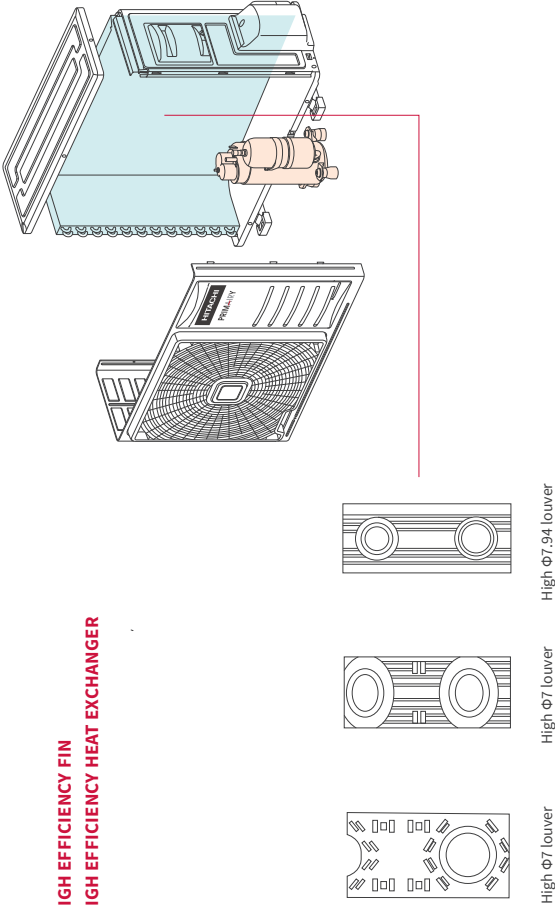
Floor ceiling convertible unit



HIGH EFFICIENCY DC FAN MOTOR

The fan motors of indoor and outdoor units are DC fan motors, which can adjust speed and ESP automatically. This makes the running of the units more reliable and efficient with low noise.

HIGH EFFICIENCY FIN HIGH EFFICIENCY HEAT EXCHANGER



SMART DEFOREST

The smart defrost software and added defrost sensor will precisely control the defrost time and effect, which can effectively avoid the defrost delay.

EFFICIENCY & ECOLOGY

Being eco-friendly by applying R32 Refrigerant

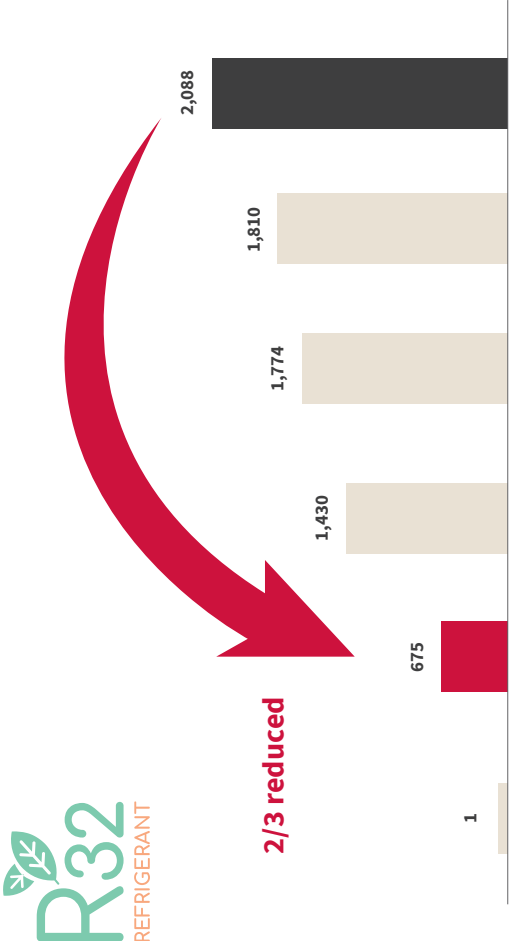
To minimize F-Gas emission, Hitachi applies R32 refrigerant in this series which helps to reduce GWP (Global Warming Potential) by 2/3 while ODP (Ozone Depletion Potential) is 0.

R32 adoption leads to better efficiency levels

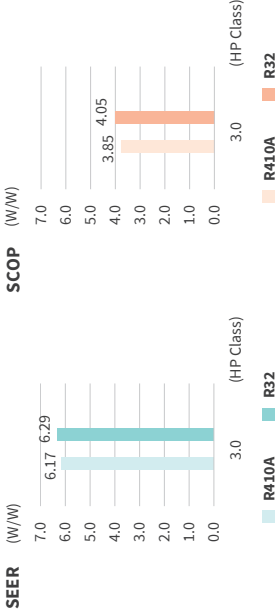
Adopting the use of R32 refrigerant, allows PRIMARY R32 to boost the excellent efficiency levels of its predecessor to an even further level.



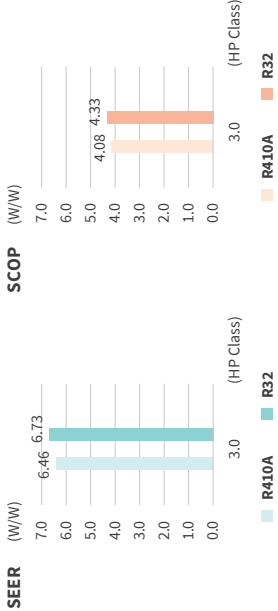
Global warming potential (GWP) comparison:



IMPROVED ENERGY EFFICIENCY
Ducted unit (3.0HP)
** Best efficiency among the industry.*



Cassette unit (3.0HP)



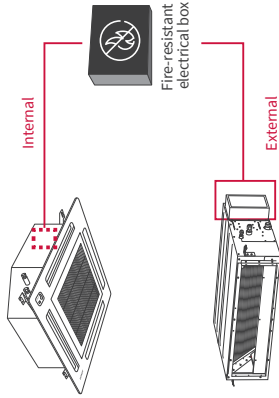
GENERAL FEATURES

RELIABILITY

How to know when a product is truly safe? When it is hardly ever necessary to check it. Each key area requiring a failsafe feature has been thoroughly researched and a dependable solution incorporated. Where possible, Hitachi air-conditioning units are self-diagnosing when it comes to errors. Physical protection is combined with sensors for a system of smooth operation and security.

SAFETY PROTECTION

An encompassing metal box design ensures full product safety.



LOW/HIGH PRESSURE SWITCH

High pressure and Low pressure switches keep the system and compressor reliable.

Comments:
For Inverter series, there's no LP&HP switch for 3.0HP and no LP switch for 4.0HP.

TEMPERATURE PROTECTION SYSTEM

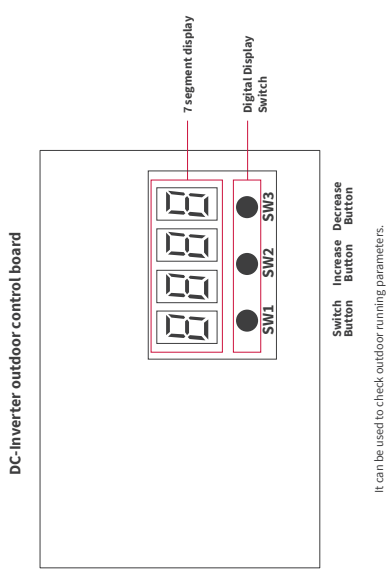
- Fan motor overheating protection
- Compressor overheating protection
- Compressor starts preheating in cold climate (Only for Heat Pump)

ERROR SELF-DIAGNOSIS FUNCTION

The error code is clearly displayed on the diagnostic panel of the outdoor unit for quick troubleshooting and maintenance.

OUTDOOR UNIT ERROR CODE DISPLAY

ON/OFF UNITARY TYPE
(with outdoor control box)
There are two ways an error is displayed: in digits or via a flashing indicator light on an outdoor control board. Based on the digits or the amount of times the light flashes, various faults are represented.

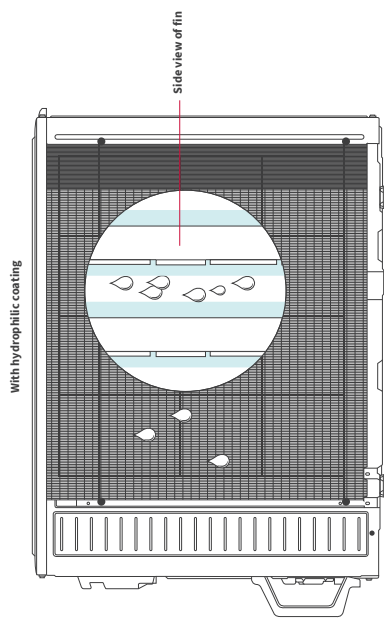


REFRIGERANT LEAKAGE DETECTION

The indoor unit will stop operation automatically and show an error code when the refrigerant charging amount is lower than 30%, which can avoid the compressor being damaged by high temperature due to refrigerant leakage. When the refrigerant charging amount is between 30%~80%, the unit will judge itself if showing an error code is necessary. This feature can also better ensure the heat transfer efficiency and the safety of the unit.

HYDROPHILIC ALUMINUM FIN

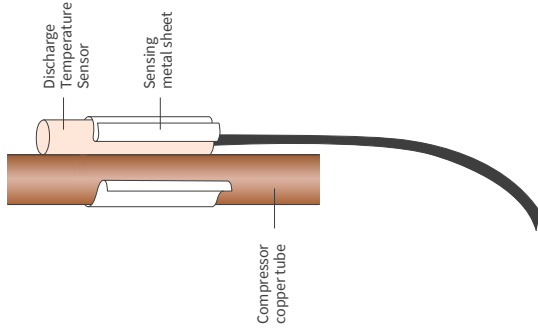
A hydrophilic aluminum fin enhances heat exchanging performance by increasing water mobility on fin surface and preventing water droplets from forming blockage between fins. The blue coating enhances protection from corrosion resulting from environmental and microbiological factors, increasing reliability and ensuring performance.



The coating prevents water droplets collecting on the fins and causing blockages.

DISCHARGE TEMPERATURE SENSOR

Ensures the compressor will operate in the safety range, and prevent the damage caused by refrigerant leakage.



RELIABLE RUNNING

Oil viscosity testing was taken for compressor in order to ensure reliable operation.

DESIGN FLEXIBILITY

WIDE AMBIENT TEMPERATURE RANGE

High cooling and heating performance within a wide ambient temperature range.
If your business requires cooling all year long (technical rooms, server rooms) you can trust PRIMARY, as cooling can operate from -15°C to +48°C. Focus on your business and PRIMARY will take care.



MORE FLEXIBLE PIPING

Both short and long piping may be applicable to the installation needs of different sites. The right placement of the indoor unit is key to distributing the air properly.

Long piping and large height difference

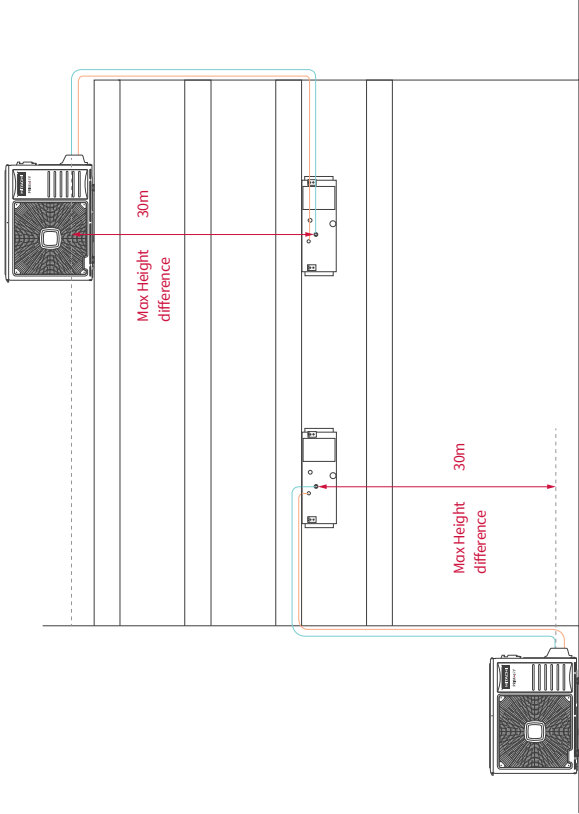
Up to 50m in piping run and 30m in height can be covered, with great overall flexibility in installation.

Piping	HP	3.0	3.5	4.0	5.0	6.0	6.5
Diameter (Liquid)	Inch	3/8	3/8	3/8	3/8	3/8	3/8
Diameter (Gas)	Inch	5/8	5/8	3/4	3/4	3/4	3/4
Max Length	m	50	50	50	50	50	50
Max Height	m	30	30	30	30	30	30

— Liquid pipe

— Gas pipe

Outdoor unit above the indoor unit.



Outdoor unit below the indoor unit.

INDOOR UNIT INPUTS & OUTPUTS

Built in inputs and outputs at the indoor unit enable connection to external systems as key slot or other device.

Inputs typical applications:

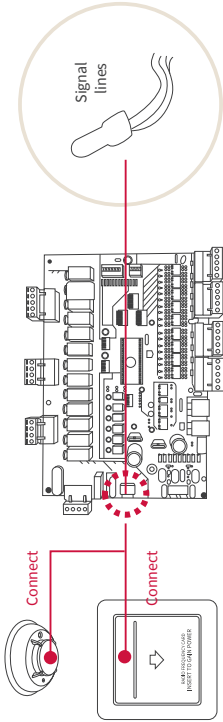
- **Reserved port for fire alarm device**
- **Reserved port for key slot**

For example: Hotel key card systems, where guests can insert their room's key card to use power.

Outputs typical applications:

- **Malfunction alarm signal**

For example: for system redundancy, a signal indicating that a duct is not operating could be used to automatically switch on a backup duct.



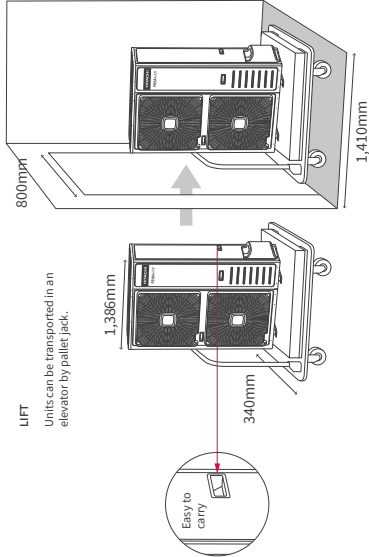
EASY INSTALLATION

EASIER HANDLING OUTDOOR UNITS

As with every other important variable in setting up your PRIMARY system, there are multiple alternatives available for the outdoor unit. Each one is modular and straightforward to fix into place. We will assist you in each key phase of installation as you set up your system.

COMPACTNESS AND LIGHTNESS

Free of unnecessary or weighty components, each unit can be carefully slid into place by the installation team.



Indoor Life

Air moves within your interior spaces, making living and working more comfortable. The balanced design of the indoor units is key to making them unobtrusive, reliable and ultra-efficient. The Indoor unit's flexibility solves users' difficulties in conditioning their spaces, creating a comfortable environment for people to focus on their work or their business.

LINE-UP OVERVIEW

Indoor Unit Category

HP (Class)		3.0	3.5	4.0	5.0	6.0	6.5
Ducted unit (W×H×D)		•					
	1180×190×447						
			•	•			
	1140×268×720						
Cassette unit (W×H×D)					•	•	•
	1300×350×800						
		•	•	•			
	840×248×640						
Floor Ceiling Convertible unit (W×H×D)		•			•	•	•
	840×258×640						
							
Floor Ceiling Convertible unit (W×H×D)							
	990×230×680						
			•	•			
	1285×230×680						
Floor Ceiling Convertible unit (W×H×D)					•	•	•
	1580×230×680						

FREEDOM OF CHOICE

Which unit or units should you choose?
There may be more than one good option, but you should take a little time to find the one that works best for you. Within the category of PRIMAIRY, there are three main units: Ducted, Cassette, and Floor Ceiling Convertible.

CASSETTE

FEATURES & BENEFITS



HCRA31NEWH
(Standard)



HCWA21NEWH
(Optional)*



HCWA21NEHH
(Standard)**

NEW



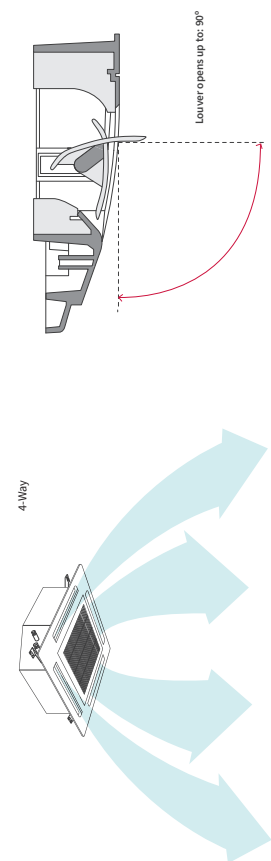
*Available till April 2021

**Available from April 2021

Cassette units are especially suited to narrow ceiling cavities or high ceilings. They fit to a standard ceiling grid and can be easily incorporated between light panels and other overhead fixtures.

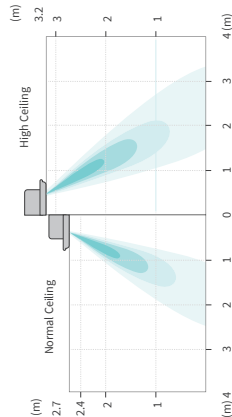
COMFORT

Homogeneous air flow with 4-Way louvers
Homogeneous distribution airflow is available with 4 way louvers for an excellent comfort at every corner of the room. Vertical and horizontal swing are available for air redistribution in all directions.



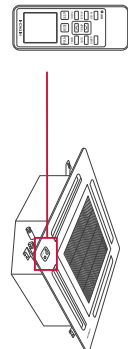
Temperature compensation

Cassette bring temperature compensation setting by wired controller. This function can revise this temperature difference to make a more accurate temperature control.



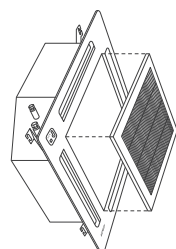
DESIGN FLEXIBILITY

Infrared Receiver for Remote Controller
Reserved port for Remote sensing which makes control more convenient.



EASY MAINTENANCE

Washable Filter
A washable filter allows for cost-saving maintenance.



DUCTED

FEATURES & BENEFITS



HCWA21NEWH
(Standard)*



HCWA21NEHH
(Standard)**



HRBA31NEGH
(Optional, includes
IR receiver)

*Available till April 2021
**Available from April 2021



The efficient design makes the Ducted unit especially discreet. Ducted units can be installed in multiple points to thoroughly aerate each part of a space.



COMFORT

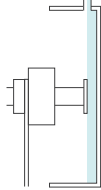
Durable Protection Drainage System

The special design of the drain pan makes condensation water flow smoothly without water leakage, and prevents rust.

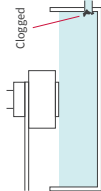
When the drain pipe is clogged and the water rises to a certain level, the water level switch will float and send the signal to turn off the unit.

Built-in drain pan

Compared with outside drain pan design, the new built-in drain pan can reduce dust adhesion, and avoid water leakage.



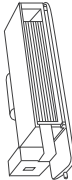
Indoor unit is running.



Indoor unit is turned off.



Built-in drain pan



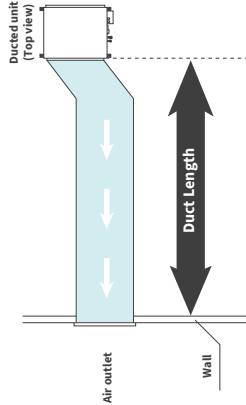
Exposed drain pan

DESIGN FLEXIBILITY

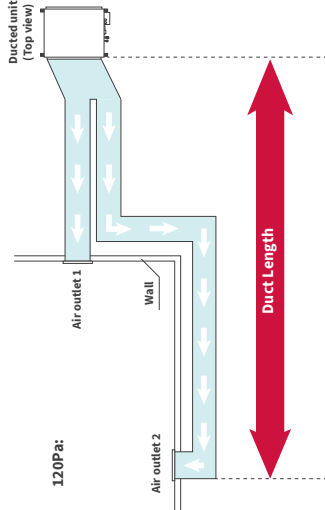
Wide ESP range up to 120Pa*

A wide ESP range means PRIMARY is suitable for spaces with many discrete areas, including corners and recesses. Multiple outlets can be connected to the ducted unit to ensure a uniform gust of air around a complex space. A system can be set up in a short time and will run reliably into the future.

For example:
60Pa:



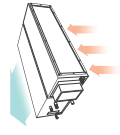
120Pa:



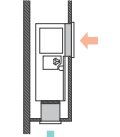
*except 3HP

Flexible air return from bottom or rear

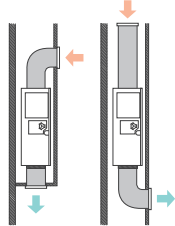
Depending on different space layout, the installation will be highly flexible.



Bottom air intake



Rear air intake



FLOOR CEILING CONVERTIBLE

FEATURES & BENEFITS



HCRA31NEWH
(Standard)



HCWA21NEWH
(Optional)*



HCWA21NEHH
(Optional)**



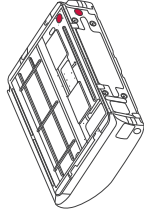
*Available till April 2021
**Available from April 2021

Small to medium-sized spaces benefit well from this slender unit. After a straightforward installation the unit blends into your interior. The fresh air intake, fan housing and other features have all been designed for discretion, comfort and control.

COMFORT

Fresh air inlet

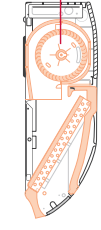
Allows fresh air intake to improve indoor ventilation and air quality.



● Fresh air inlet

Plastic Fan housing

Plastic fan housing can reduce the noise level effectively.



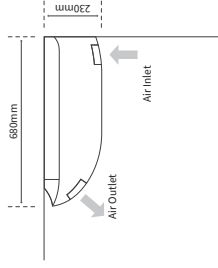
Plastic Fan housing

DESIGN FLEXIBILITY

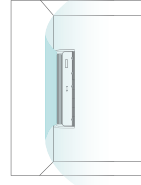
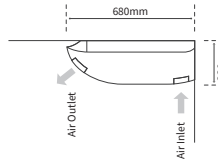
Installation on Floor or Ceiling

A unit that can function equally well after floor installation or suspended ceiling installation can adapt to many different room layouts, business types or living spaces.

Installation on Ceiling

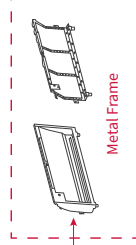
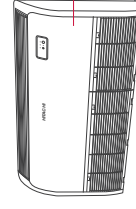


Installation on Floor



Metal frame of drain pan

The drain pan uses an integrated design with high-strength steel and PS foam. This ensures the durability of the drain pan and improves the thermal insulation and anti-condensation properties of the unit.



— Controllers

Selecting temperature range and other options on your PRIMARY device is crucial to a good experience. The simple interface and dependable functions in the wall-mounted and handheld controls make assigning the correct settings easy.

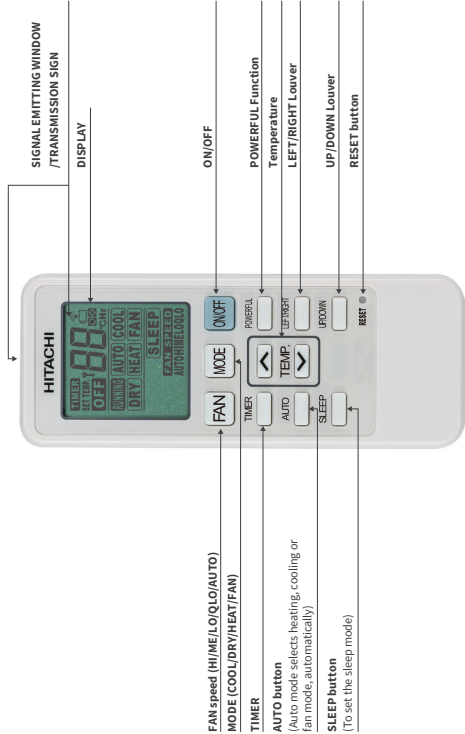


INDIVIDUAL CONTROLLERS

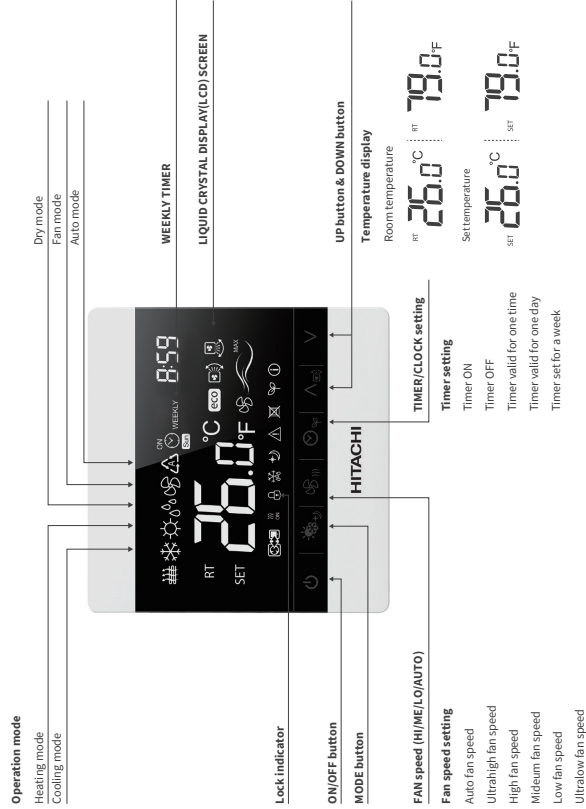
REMOTE CONTROLLER

The remote control is practical and intuitive in design, with a simple button set that allows you to control your unit instantly. The classic LCD display matches the wired control point, with each working element represented in one frame. The remote uses a minimum amount of power, running on a single battery for a long period, before requiring a replacement.

HRBA31NEGH for duct, includes IR receiver



HCWA21NEWH



WIRED CONTROLLER

You can keep an eye on exactly what your system is doing thanks to the ultra-clear touchscreen display on the Wired Control Point. This is your main interaction point with your PRIMARY system, so it is thankfully easy to use from the first try onwards. Choose the temperature, fan speed and timing for your system to ensure an ideal working and living space. Weekly timer to schedule operation for the week, lock function to avoid your customers to accidentally modify the operation gives you freedom to fully dedicate yourself to your business. Room temperature can also be measured at the remote thanks to its built in thermostat, so comfort temperature will be with your customers.

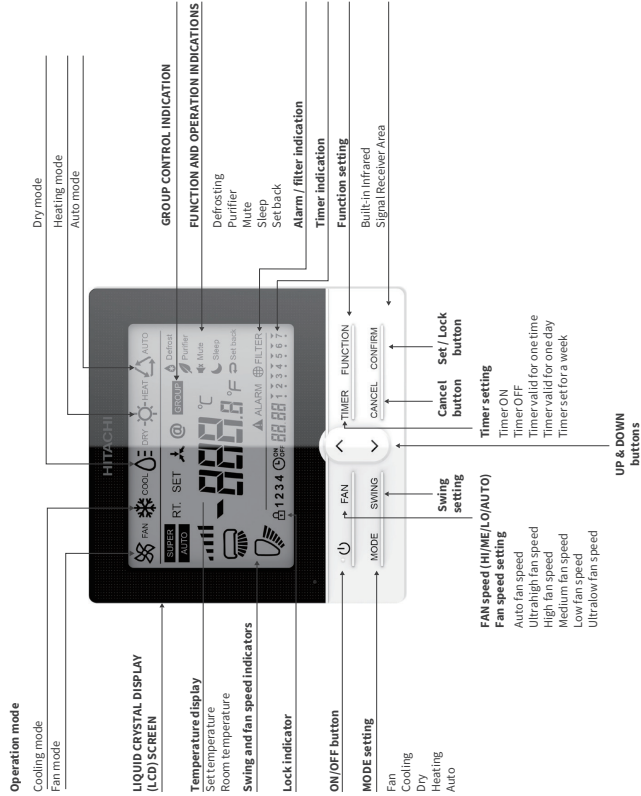
WIRED REMOTE
CONTROLLER

NEW

The new wired remote controller (HCWA21NEHH) has the same functions as its predecessor but also has some additional features for a better comfort and energy savings. Set back function allows to define when the units will have to resume to thermo-on status, allowing you to choose the savings or comfort level you need for your application.

HCWA21NEHH is also equipped with an infrared sensor that can receive orders from a Wireless remote. Whenever you might need to use a Wireless remote for ducted, infrared receiver won't be longer needed.

HCWA21NEHH



NEW GROUP CONTROL
FUNCTION WITH
HCWA21NEHH

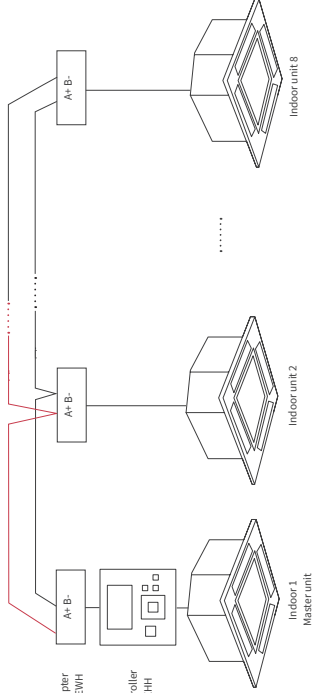
NEW

HCWA21NEHH also allows you to control a group of indoor units from a single remote, facilitating the user interface for those applications where a group of units share the same operation mode and set point.

Up to 8 indoor units can be controlled from a single remote control HCWA21NEHH. One group adapter HDBA21NEWH per indoor unit shall be installed for such combination.

In the combination above, all the units are sharing the same operation parameters. Please refer to the table on the next page for more details about the operation details.

Connection schematic



Specifications	HCWA21NEHH group control
Max. qty of wired controller	1
Maximum quantity of indoor units	8
Quantity of group adapters HDBA21NEWH	1 adapter per PRIMARY indoor unit
Standard wiring length between wired controller and indoor unit (using the connection cords delivered with the unit)	up to 10 m
Standard wiring length between indoor unit and group adapter (using the connection cord delivered with the unit)	0,5 m
Max. wiring length between indoor unit and group adapter (extending manually the standard connection cord)	40 m
Maximum total wiring length between group adapters	1000 m
Wiring specification between group adapters (RS485 communication line)	Shielded twisted pairs 2 x 0,75 mm2
Group adapter communication speed	9600 bps

RAC & HLINK CONTROLLERS

RAC CONTROLLERS



HCAA01NEW1
HLINK adapter

PRIMARY units are compatible with HLINK controls used for Hitachi VRF range thanks to the HCAA01NEW1 adapter. Some RAC control devices may also be used to manage your PRIMARY units thanks to the same adapter.

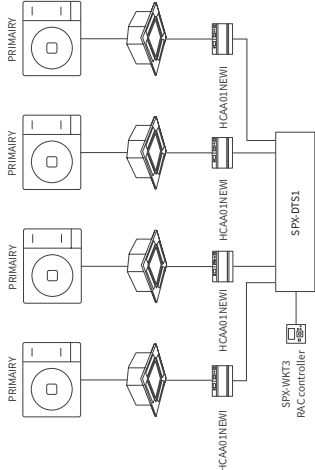
Most frequently used controllers can be found here. For full details of all compatible controls please check the general catalogue.

Combination with HIKUMO gateway



PRIMARY units are now compatible with Hi-Kumo cloud control. You'll be able to operate from everywhere with same functionality as your individual remote.

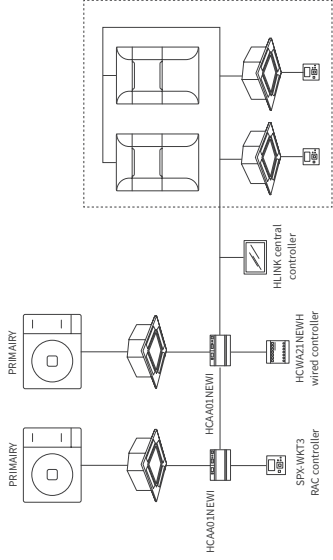
Connection with RAC controller (SPX-WKT3 + SPX-DTS1)



It is possible to combine up to 4 SPX-DTS1 group control adapters, to control up to 13 PRIMARY units with one RAC wired controller SPX-WKT3. In this case, all the PRIMARY units are operated using the same settings.

HLINK CONTROLLERS

Connection to VRF system



It is possible to combine up to 16 PRIMARY systems on the same HLINK line, using one HLINK adapter per PRIMARY system.

Each PRIMARY system is independent and can be controlled either from the Central controller or from its individual controller, if it is available.

Selection tips between HCWA21NEHH + Group control and connection to HLINK Controller

The group control function of the wired controller HCWA21NEHH and the HLINK adapter should not be used together. In case there are only PRIMARY units, the wired controller HCWA21NEHH + group control feature should be used (the same parameters are applied for all the units).

If one or several PRIMARY units are connected to an HLINK system, one HLINK adapter per PRIMARY unit should be used and the control of the whole system is done from the HLINK Central controller. In this case, each PRIMARY unit is independent and can be run with specific parameters.

Differences between group control and central control	Group control with HCWA21NEHH	HLINK adapter HCAA01NEW1
Control description	- All the units are using the same parameters - All units will adopt all commands received from the wired controller installed at the main unit	- Each PRIMARY unit is independent and can be run with specific parameters - From the central controller, you can control one or several units
Use of additional individual controllers (wired / wireless)	- Additional wired controllers cannot be used with sub units - Orders sent to a sub unit with a wireless controller will apply only for that sub unit - If a new command is applied at main wired controller, the settings will overwrite any commands received by the wireless remote controller	- The wired controller or wireless controller can be used on units, as required by the customer - In case a wired controller is used on the PRIMARY units, orders / settings will be synchronized between the central controller and the wired controller of the unit - In case a wireless controller is used on the PRIMARY units, orders / settings from the wireless controller will be updated on the central controller. Orders from the central controller are not updated on the wireless controller
Required devices	1 x wired controller HCWA21NEHH is mandatory (main unit) 1 group adapter per indoor unit (mandatory for all the units, i.e. for main and sub units)	One HLINK adapter per indoor unit is mandatory
Wired controller mandatory	- Wired controller HCWA21NEHH is mandatory (main unit) - Wireless controller can be used on the main unit, in parallel of the wired controller	The wired controller on the PRIMARY unit is not mandatory, control of the unit can be done from the central controller only
Typical application	Large open space with several units that needs to operate in same working condition. To be able to control from a single remote is convenient and more user friendly to end user	Medium large installation where multiple units are used at different rooms, and there is a need to control/monitor them from a single dashboard + connection to a VRF system and its Central Controller.

CENTRAL CONTROLLERS

INTEGRATION WITH HLINK CONTROLS

Several sets of PRIMARY units can be now managed through a central controller, and also together with VRF systems thanks to the HLINK adapter for PRIMARY HCAA01NEW1.

Perfect solution for multitenant applications or installation where some PRIMARY units are mixed with a VRF installation (e.g. Server room managed with PRIMARY in a big office building).

Centralised control systems with touchscreen CSNET Manager 2T10 / 2T15 + HC-A64NET interface



Mounting accessories for the touchscreen:
Wall-mounted support: WALL SUPPORT 2
Table-top support: STAND SUPPORT

- Up to 1,024 indoor units connectable on 16 separate H-LINK buses by means of HC-A64NET accessories (16 x 64)
- 10" capacitive touchscreen (version 2T 10)
- Improved resolution, compact and low weight of just 1.2 kg (version 2T 10)
- Dimensions (h x w x d): 169.4 x 255.2 x 33.3 (version 2T 10)
- 15" capacitive touchscreen (version 2T 15)
- Improved resolution, compact and low weight of just 2.6 kg (version 2T 15)
- Dimensions (h x w x d): 249 x 391 x 37 (version 2T 15)
- Improved access to graphic selection menus
- Web access available via PC, tablet or smartphone
- Check overall depth in accordance with the selection of mounting accessory

Centralised control systems Web version CSNET Manager 2 SL + HC-A64NET interface



Mounting accessory: DIN rail support

- Up to 1,024 indoor units connectable to 16 separate HLINK buses by means of HC-A64NET accessories (16 x 64)
- Hardware centralised control device, independent and connectable to external display devices
- Graphic features equivalent to CSNET Manager 2 series T 10 and T 15
- Stand-alone operation (without a dedicated computer)
- Flexibility of connection via 2 USB ports, 1 Ethernet port and 1 HDMI socket
- Web access available via PC, tablet or smartphone
- Dimensions (h x w x d): 105.2 x 168.5 x 17.5

Centralised control systems Stand-alone Web version CSNET Lite



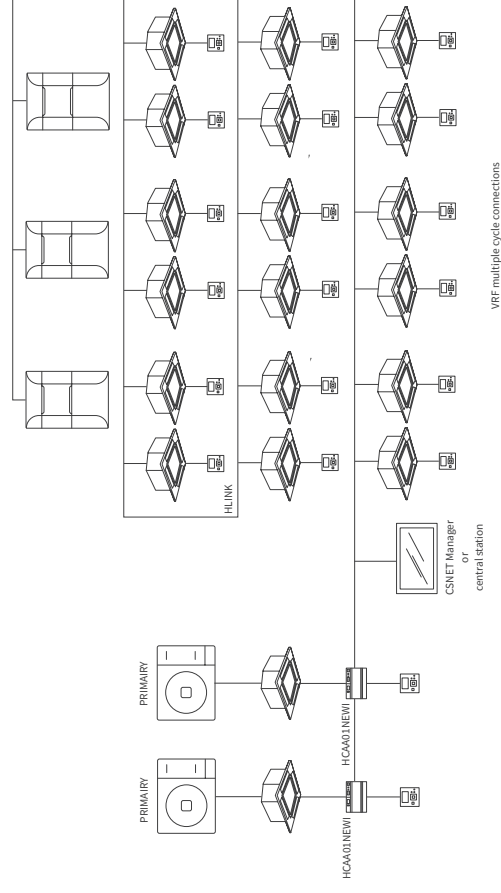
- Up to 64 indoor units connectable on HLINK bus
- Connectable to CSNET Manager touch screens (2T10 / 2T15) or to the SL device
- Optimised solution for small installations
- Simplified installation on DIN rail
- Stand-alone operation (without a dedicated computer)
- Web access available via PC, tablet or smartphone
- Dimensions (h x w x d): 58 x 160 x 90mm

Central Stations PSC-A32MN & PSC-A64GT



- Up to 32 / 64 indoor units connectable on one HLINK line
- 5" or 8,5" touch screen
- Individual control or group control of indoor units
- Simple weekly timer
- Indoor unit operation status (run, stop, alarm)
- Input and output dry contacts available to connect the controller to a BMS (alarm status output, emergency stop)

Connection schematic



PRIMARY is compatible with key BMS protocols such as Modbus, KNX, Bacnet and Lonworks for easy integration with other installations at same facilities premises (such as fire alarm, access control, lighting...).

HLINK adapter HCAA01NEWI is necessary to connect PRIMARY units to these BMS interfaces (1 HLINK adapter per PRIMARY indoor unit, with up to 16 PRIMARY systems per HLINK line).

MODBUS Interface

HC-A16MB/ HC-A64MB



- Allows integration of up to 8/16/64 indoor units
- Basic control parameters for indoor units are available:
 - ON/OFF command
 - Operation selection (heat, cool, auto, dry, fan)
 - Temperature setting
 - Fan speed setting (low, med, high, auto)
 - Louver operation (activate auto swing function)
 - Operation status of the unit can be read (on/off, alarm status)
 - Alarm code can be read but may not match the real alarm code of the unit, depending on the BMS device
- Availability of HC-A16MB: now available (since October 2020)

KNX Interface

HI-AC-KNX-16/ HI-AC-KNX-64



- Allows integration of up to 16/64 indoor units
- New functions:
 - Faster integration thanks to KNX certification
 - Easy maintenance: USB port available, operating and communication LEDs
- Basic control parameters for indoor units are available:
 - ON/OFF command
 - Operation selection (heat, cool, auto, dry, fan)
 - Temperature setting
 - Fan speed setting (low, med, high, auto)
 - Louver operation (activate auto swing function)
 - Operation status of the unit can be read (on/off, alarm status)
 - Alarm code can be read but may not match the real alarm code of the unit, depending on the BMS device

BACNET Interface

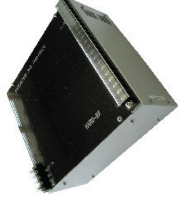
HI-AC-BAC-16/ HI-AC-BAC-64



- Allows integration of up to 16/64 indoor units
- New functions:
 - Faster integration: Bacnet certification, direct communication HLINK-BACnet
 - Easy maintenance: USB port available, operating and communication LED
- Basic control parameters for indoor units are available:
 - ON/OFF command, operation selection (heat, cool, auto, dry, fan), temperature setting, fan speed setting (low, med, high, auto), louver operation (activate auto swing function) etc.

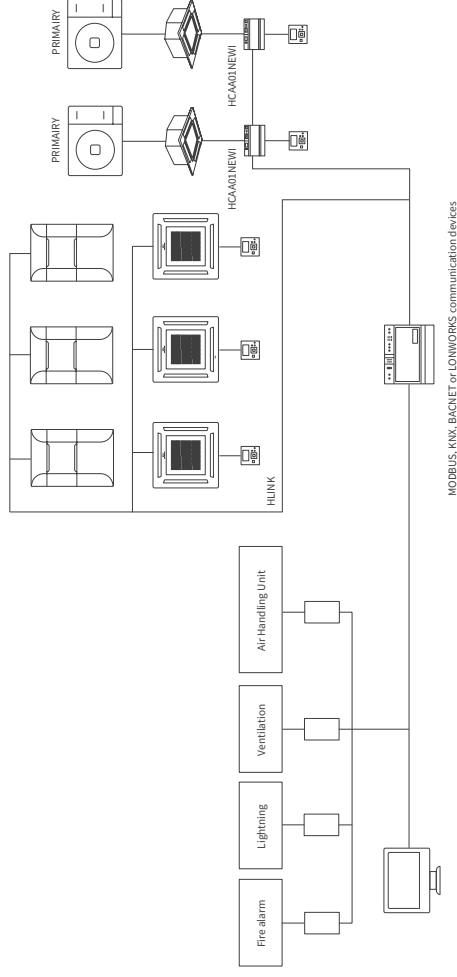
LonWorks Interface

HARC-BX E(A) / HARC-BX-E(B)



- Allows the integration of up to 32 (version E (B)) / 64 (version E (A)) units per single device
- Basic control parameters for indoor units are available:
 - ON/OFF command
 - Operation selection (heat, cool, auto, dry, fan)
 - Temperature setting
 - Fan speed setting (low, med, high, auto)
 - Louver operation (activate auto swing function)
 - Operation status of the unit can be read (on/off, alarm status)
 - Alarm code can be read but may not match the real alarm code of the unit, depending on the BMS device

Connection schematic



I Specifications

On the following pages you will find the full breakdown of technical specifications for the PRIMARY range.



CASSETTE

IDU	RCI-3.0UFE1NH	RCI-3.5UFE1NH	RCI-4.0UFE1NH	RCI-5.0UFE1NH	RCI-6.0UFE1NH	RCI-6.5UFE1NH
ODU	RAS-3.0UFESNH1	RAS-3.5UFESNH1	RAS-4.0UFESNH1	RAS-5.0UFESNH1	RAS-6.0UFESNH1	RAS-6.5UFESNH1
Power supply (Indoor)	V/Ph/Hz	220~240/1/50	220~240/1/50	220~240/1/50	220~240/1/50	220~240/1/50
Max input consumption	V/Ph/Hz	4,100	4,100	5,100	6,400	7,200
Max input current	W	18.1	18.0	22.5	11.6	12.1
Average (Cooling)	A	8.70	8.10	10.10	12.10	13.89
	Pdesign	6.73	6.10	6.10	6.05	5.70
	SEER	6.73	6.10	6.10	6.05	5.70
	ISEER	6.73	6.10	6.10	6.05	5.70
	100%	-	-	-	239%	223%
	Energy Efficiency Class	A++	A++	A++	-	-
	Annual energy consumption	388	511	580	757	894
Average (Heating)	Pdesign	6.00	7.20	8.20	9.00	13.50
	SCOP	4.33	4.33	3.92	3.81	3.87
	100%	-	-	-	149%	147%
	Energy Efficiency Class	A+	A+	A	-	-
	Annual energy consumption	1,907	2,423	3,018	3,305	5,086
Cooling	Capacity (Rated)	7.00	8.70	10.10	12.10	13.89
	Capacity (Range Min-Max)	2.40~7.85	4.00~9.20	3.50~11.00	3.30~13.20	3.40~16.20
	Input	1.91	2.71	3.72	4.24	4.81
	Current	8.5	11.8	16.8	7.4	8.7
	EER	3.66	3.21	2.72	2.85	2.89
Heating	Capacity (Rated)	8.25	9.00	11.20	13.30	15.53
	Capacity (Range Min-Max)	2.10~8.80	3.50~9.50	3.32~12.00	3.00~14.60	3.70~18.00
	Input	2.03	2.25	3.50	3.70	4.71
	Current	9.00	9.80	15.00	6.50	8.40
	COP	4.06	4.00	3.20	3.65	3.51
Indoor unit	Dimension (W×H×D)	mm	840×248×840	840×248×840	840×298×840	840×298×840
	Weight (Net/Gross)	kg	25/34	27/36	32/41	32/41
	Air Volume (Hi/Med/Low)	m³/h	1,180/980/720	1,400/1,120/900	1,850/1,700/1,550	2,100/1,700/1,400
	Sound Level (SPL)(Hi/Med/Low)	dB(A)	45/42/37	48/46/42	51/49/47	51/45/42
	Sound Level (PWL)(Hi)	dB(A)	59	62	64	65
	Controller (Type/Model)	Wireless/HCR311NEWH	Wireless/HCR311NEWH	Wireless/HCR311NEWH	Wireless/HCR311NEWH	Wireless/HCR311NEWH
	Drain pump	Included	Included	Included	Included	Included
	Air filter	Included	Included	Included	Included	Included
Panel	Dimension (W×H×D)	mm	950×37×950	950×37×950	950×37×950	950×37×950
	Weight (Net/Gross)	kg	6.0/10.0	6.0/10.0	6.0/10.0	6.0/10.0
Compressor	Type	ROTARY	ROTARY	ROTARY	ROTARY	ROTARY
Outdoor unit	Dimension (W×H×D)	mm	860×670×310	950×840×340	950×1,050×340	950×1,386×340
	Weight (Net/Gross)	kg	49/53	49/53	89/97	101.5/114.5
	Air Volume (Hi)	m³/h	3,150	3,150	5,800	6,300
	Sound Level (SPL)(Hi)	dB(A)	54	58	62	62
	Sound Level (PWL)(Hi)	dB(A)	69	70	76	80
	Refrigerant (Type/Amount)	kg	R32/1.40	R32/1.45	R32/2.50	R32/3.00
Refrigerant piping	Liquid/Gas	mm(inch)	Φ9.52/Φ15.88 (3/8/5/8)	Φ9.52/Φ15.88 (3/8/5/8)	Φ9.52/Φ19.05 (3/8/3/4)	Φ9.52/Φ19.05 (3/8/3/4)
	Max pipe length	m	50	50	50	50
	Max height difference (OD lower)	m	30	30	30	30
	Max height difference (OD higher)	m	30	30	30	30
	Add Refrigerant Amount	g/m	28	28	28	28
	Pipe Length for Additional Refrigerant	m	5	5	5	5
Ambient temperature	Cooling	°C	-15~+48	-15~+48	-15~+48	-15~+48
	Heating	°C	-15~+24	-15~+24	-15~+24	-15~+24

Nominal testing conditions:
Cooling · Indoor (27°C DB / 19°C WB) & Outdoor (35°C DB / 24°C WB)
Heating · Indoor (20°C DB / 15°C WB) & Outdoor (7°C DB / 6°C WB)

- DUCTED

IDU	RPI-3.0UFE1NH	RPIH-3.5UFE1NH	RPIH-4.0UFE1NH	RPIH-5.0UFE1NH	RPIH-6.0UFE1NH	RPIH-6.0UFE1NH	RPIH-6.5UFE1NH
ODU	RAS-3.0UFESNH1	RAS-3.5UFESNH1	RAS-4.0UFESNH1	RAS-5.0UFESMH1	RAS-5.0UFESNH1	RAS-6.0UFESMH1	RAS-6.5UFESMH1
Power supply (Indoor)	V/Ph/Hz	220~240/1/50	220~240/1/50	220~240/1/50	220~240/1/50	220~240/1/50	220~240/1/50
Power supply (Outdoor)	V/Ph/Hz	220~240/1/50	220~240/1/50	220~240/1/50	220~240/1/50	220~240/1/50	220~240/1/50
Max input consumption	W	4,100	4,100	5,100	6,400	7,200	7,800
Max input current	A	18.1	18.0	22.5	11.6	12.6	13.1
Average (Cooling)	Pdesignic	6.90	8.50	10.10	12.10	14.19	17.10
	SEER	W/W	6.29	6.10	6.28	5.94	5.81
	IP5-c	-	-	-	248%	235%	229%
	Energy Efficiency Class	A++	A++	A++	-	-	-
Average (Heating)	Annual energy consumption	kWh/a	395	499	577	688	849
	Pdesignih	kW	6.00	6.00	8.20	9.00	12.40
	SCOP	W/W	4.05	3.92	3.70	3.70	3.72
	IP5-c	-	-	-	145%	145%	146%
	Energy Efficiency Class	A+	A+	A	-	-	-
	Annual energy consumption	kWh/a	2,313	2,926	3,574	3,392	4,694
	Capacity (Rated)	kW	6.90	8.50	10.10	12.10	14.19
	Capacity (Range Min-Max)	kW	2.45~7.85	4.00~9.50	3.50~11.00	3.30~13.20	3.20~16.00
	Input	kW	2.16	2.67	3.80	4.22	4.78
	Current	A	9.5	11.6	17.1	19.0	8.7
Heating	EER	W/W	3.19	3.18	2.66	2.85	2.97
	Capacity (Rated)	kW	8.30	9.00	10.50	12.80	16.13
	Capacity (Range Min-Max)	kW	2.20~8.70	3.50~9.40	3.32~12.00	3.40~18.50	3.40~18.50
	Input	kW	2.22	2.40	3.50	3.82	4.65
	Current	A	10.3	10.5	16.0	16.6	8.4
	COP	W/W	3.74	3.75	3.00	3.29	3.47
	Dimension (WxHxD)	mm	1,180x190x447	1,140x268x720	1,300x350x800	1,300x350x800	1,300x350x800
	Weight (Net/Gross)	kg	24/27.5	37.5/44.5	51/60	51/60	51/60
	Air Volume (Hi/Med/Low)	m³/h	1,000/700/490	1,450/1,120/900	1,800/1,600/1,400	1,750/1,500/1,300	2,400/2,200/1,900
	Sound Level (SPL)(Hi/Med/Low)	dB(A)	38/34/31	41/38/33	42/40/38	43/40/37	47/45/42
Compressor	Sound Level (PWL)(Hi)	dB(A)	61	63	65	69	77
	External Static Pressure (Rated)	Pa	25	37	37	50	50
	External Static Pressure (Range)	Pa	0~40	0~120	0~120	0~120	0~120
	Controller (Type/Model)		Wired/HCW421NEWH	Wired/HCW421NEWH	Wired/HCW421NEWH	Wired/HCW421NEWH	Wired/HCW421NEWH
	Drain pump		Included	Included	Included	Included	Included
	Air filter		Included	Included	Included	Included	Included
	Type		ROTARY	ROTARY	ROTARY	ROTARY	ROTARY
	Outdoor unit						
	Dimension (WxHxD)	mm	860x670x310	860x670x310	950x840x340	950x1,050x340	950x1,386x340
	Weight (Net/Gross)	kg	49/53	49/53	70/75	85/95	101.5/114.5
Refrigerant piping	Air Volume (Hi)	m³/h	3,150	3,150	3,800	5,800	6,300
	Sound Level (SPL)(Hi)	dB(A)	54	54	58	62	62
	Sound Level (PWL)(Hi)	dB(A)	69	69	70	76	76
	Refrigerant (Type/Amount)	kg	R32/1.40	R32/1.45	R32/2.00	R32/2.50	R32/3.00
	Liquid/Gas	mm(inch)	Ø9.52/Ø15.88 (3/8"/5/8")	Ø9.52/Ø15.88 (3/8"/5/8")	Ø9.52/Ø19.05 (3/8"/3/4")	Ø9.52/Ø19.05 (3/8"/3/4")	Ø9.52/Ø19.05 (3/8"/3/4")
	Max pipe length	m	50	50	50	50	50
	Max height difference (OD lower)	m	30	30	30	30	30
	Max height difference (OD higher)	m	30	30	30	30	30
	Add Refrigerant Amount	g/m	28	28	28	28	28
	Pipe Length for Additional Refrigerant	m	5	5	5	5	5
Ambient temperature	Cooling	°C	-15~+48	-15~+48	-15~+48	-15~+48	-15~+48
	Heating	°C	-15~+24	-15~+24	-15~+24	-15~+24	-15~+24

Nominal testing conditions:
Cooling - Indoor (27°C DB / 19°C WB) & Outdoor (35°C DB / 24°C WB)
Heating - Indoor (20°C DB / 15°C WB) & Outdoor (7°C DB / 6°C WB)

FLOOR CEILING CONVERTIBLE

IDU	RPFC-3.0UFE1NH	RPFC-3.5UFE1NH	RPFC-4.0UFE1NH	RPFC-5.0UFE1NH	RPFC-6.0UFE1NH	RPFC-6.5UFE1NH
ODU	RAS-3.0UFESNH1	RAS-3.5UFESNH1	RAS-4.0UFESNH1	RAS-5.0UFESMH1	RAS-6.0UFESNH1	RAS-6.5UFESMH1
Power supply (Indoor)	V/Ph/Hz	220~240/1/50	220~240/1/50	220~240/1/50	220~240/1/50	220~240/1/50
Power supply (Outdoor)	V/Ph/Hz	220~240/1/50	220~240/1/50	220~240/1/50	220~240/1/50	220~240/1/50
Max input current	W	4,100	4,100	5,100	6,400	7,200
Max input current	A	18.1	18.0	22.5	28.2	30.0
Average (Cooling)	P _{design}	6.50	8.60	9.80	12.10	13.60
	SEER	W/W	5.81	5.87	5.70	5.33
	ISE-C	100%	-	-	225%	210%
	Energy Efficiency Class	A++	A+	A+	-	-
Annual energy consumption	kWh/a	391	509	585	803	940
P _{design}	kW	6.00	7.90	9.50	12.20	14.00
SCOP	W/W	4.01	3.82	3.78	3.55	3.78
ISE-C	100%	-	-	148%	148%	148%
Energy Efficiency Class	A+	A+	A	-	-	-
Annual energy consumption	kWh/a	2,168	2,192	2,825	3,868	5,015
Capacity (Rated)	kW	8.60	9.80	12.10	13.76	16.30
Capacity (Range Min-Max)	kW	2.45~7.85	3.50~9.00	3.50~11.00	3.30~13.20	3.10~16.10
Input	kW	1.94	2.95	3.75	4.40	5.00
Current	A	9.1	12.7	16.9	7.5	8.5
EER	W/W	3.35	2.92	2.61	2.80	2.75
Capacity (Rated)	kW	8.70	10.50	13.30	16.59	18.00
Capacity (Range Min-Max)	kW	2.20~8.70	3.00~9.20	3.32~12.00	3.00~14.60	3.60~18.00
Input	kW	2.07	2.30	3.65	4.17	5.40
Current	A	9.70	10.00	16.50	7.30	9.00
COP	W/W	3.55	3.78	2.88	3.29	3.42
Dimension (W×H×D)	mm	990×230×680	1,285×230×680	1,580×230×680	1,580×230×680	1,580×230×680
Weight (Net/Gross)	kg	30/35	37/44	49/56	48/56	48/56
Air Volume (HI/Med/Lo)	m³/h	1,100/950/800	1,450/1,120/900	1,700/1,500/1,300	2,000/1,800/1,600	2,000/1,600/1,200
Sound Level (SPL)(HI/Med/Lo)	dB(A)	51/48/44	54/48/43	54/52/51	54/51/48	58/52/46
Sound Level (PWL)(HI)	dB(A)	65	65	65	68	75
Controller (Type/Model)	Wireless/HCR31NEWH	Wireless/HCR31NEWH	Wireless/HCR31NEWH	Wireless/HCR31NEWH	Wireless/HCR31NEWH	Wireless/HCR31NEWH
Drain pump	Optional (for ceiling installation)	Optional (for ceiling installation)	Optional (for ceiling installation)	Optional (for ceiling installation)	Optional (for ceiling installation)	Optional (for ceiling installation)
Air filter	Included	Included	Included	Included	Included	Included
Compressor	ROTARY	ROTARY	ROTARY	ROTARY	ROTARY	ROTARY
Outdoor unit	Dimension (W×H×D)	860×670×310	860×670×310	950×840×340	950×1,050×340	950×1,386×340
	Weight (Net/Gross)	49/53	49/53	70/75	85/95	101.5/114.5
	Air Volume (HI)	3,150	3,150	3,800	5,800	6,300
	Sound Level (SPL)(HI)	54	54	58	62	67
	Sound Level (PWL)(HI)	69	70	76	76	80
Refrigerant (Type/Amount)	kg	R32/1.40	R32/1.45	R32/2.00	R32/2.50	R32/3.40
Liquid/Gas	mm(inch)	Ø9.52/Ø15.88 (3/8/5/8)	Ø9.52/Ø15.88 (3/8/5/8)	Ø9.52/Ø19.05 (3/8/3/4)	Ø9.52/Ø19.05 (3/8/3/4)	Ø9.52/Ø19.05 (3/8/3/4)
Max pipe length	m	50	50	50	50	50
Max height difference (OD lower)	m	30	30	30	30	30
Max height difference (OD higher)	m	30	30	30	30	30
Add Refrigerant Amount	g/m	28	28	28	28	28
Pipe Length for Additional Refrigerant	m	5	5	5	5	5
Ambient temperature	°C	-15~+48	-15~+48	-15~+48	-15~+48	-15~+48
Heating	°C	-15~+24	-15~+24	-15~+24	-15~+24	-15~+24

Nominal testing conditions:
Cooling - Indoor (27°C DB / 19°C WB) & Outdoor (35°C DB / 24°C WB)
Heating - Indoor (20°C DB / 15°C WB) & Outdoor (7°C DB / 6°C WB)