

# VRF Systems

HITACHI



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**Hitachi Variable Refrigerant Flow Systems  
Product Catalog**



Cooling & Heating

# VRF SYSTEMS

## Hitachi heritage in Cooling & Heating

1981



IDU: Wall Mounted type

1983



IDU: 4-way Ceiling Cassette type

World's First

1983



World's First

World's first PAC with Scroll Compressor built-in

1982



IDU: Ceiling Cassette type

1983



World's First

Scroll Compressor Production for AC unit.

1984

VRF 1st generation



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

Commercial AC Refrigerators  
Compressor for REF Casting

Commercial AC Refrigerators  
Compressors

1940

1960

1980

1950

1970

Roller Casting

Commercial AC Refrigerators  
Compressor for REF Casting

1958



Compressor for Refrigerators

1972



IDU: Floor Exposed type

1976



IDU: Ceiling Built-in type

1978



ODU: for low-ambient-temperature market

1976



IDU: Ceiling Suspended type

1979



World's First

ODU: PAC controlled by micro-computer built-in

1986

VRF 2nd generation



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

2002

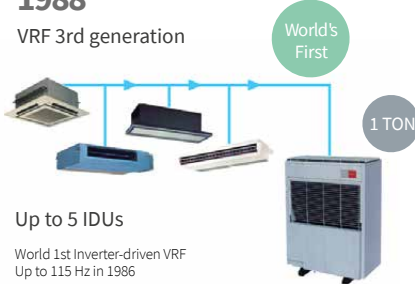
VRF 6th generation



Newly R410A adopted VRF Heat Pump and Heat Recovery

1988

VRF 3rd generation



Up to 5 IDUs

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

2011



Centrifugal VRF  
Point "Outdoor unit" that can be  
installed inside the building

World's  
First

Commercial AC VRF  
Compressors

2000

2015

Johnson Controls  
and Hitachi form the  
global joint venture



1990

Commercial AC  
Compressors VRF

1991

VRF 4th generation



Up to 8 IDUs  
(130 % capacity!)

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

5HP

8HP and 10HP

1999

VRF 5th generation

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

Up to 12 IDUs!  
(130 % capacity!)



2010

Commercial AC  
Compressors VRF

2012

VRF 7th generation



2016

VRF 8th generation



Hitachi New Generation VRF  
This New Generation VRF is 8th Generation VRF  
after 33 Years Experience

2015



7th Generation of  
VRF Technology:  
VRF Systems Debut  
in North America  
Market

2016

8th Generation of VRF Technology:  
Mini VRF and Low Ambient VRF systems  
introduced into North America



2017

8th Generation Technology  
introduced into North America

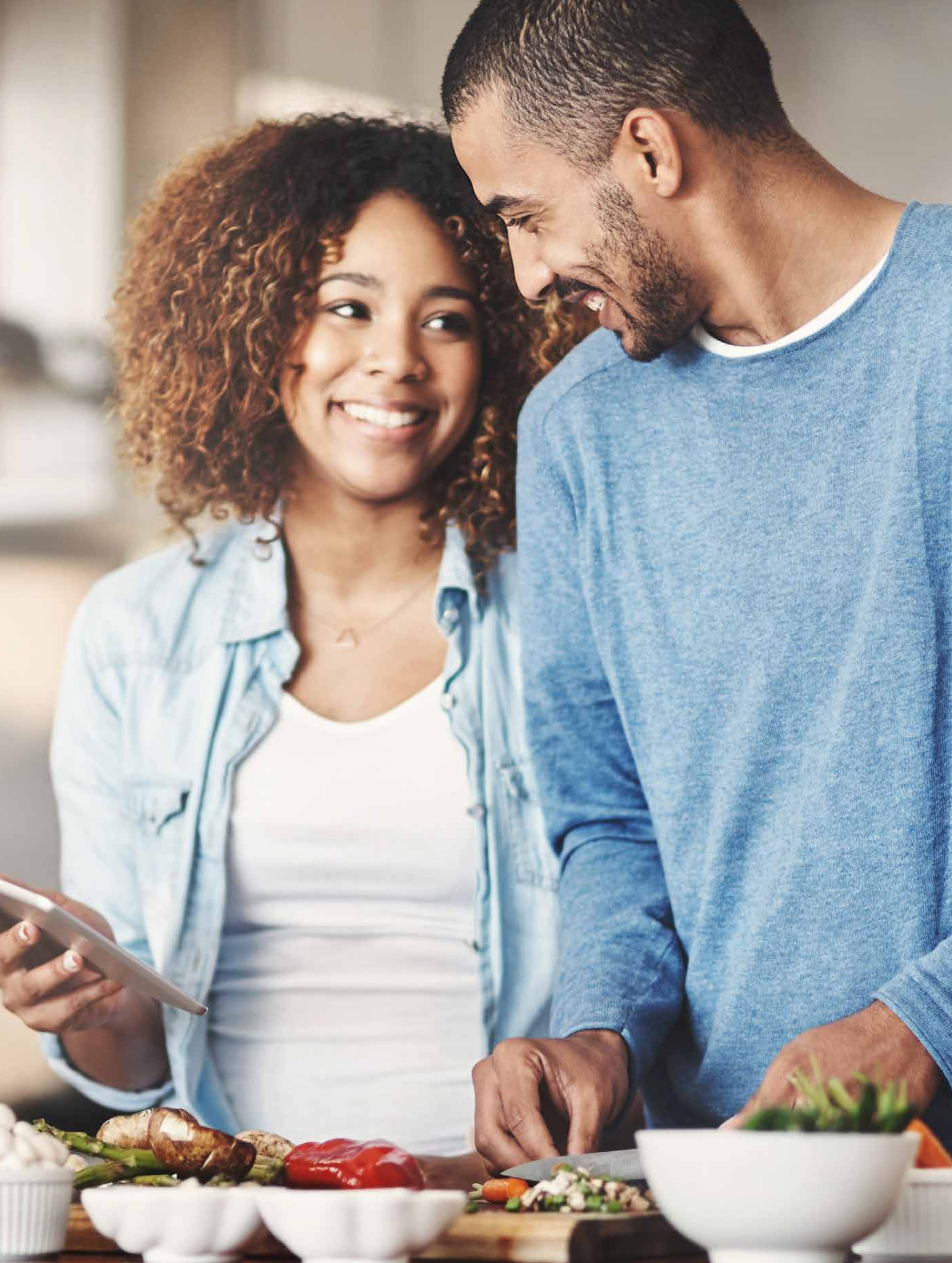


2018

Water-Source VRF  
Technology introduced  
into North America.  
One of the largest capacity  
water-source systems on  
the market.







# HITACHI VRF SYSTEMS

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The information contained in this catalog is for illustration purposes only and is subject to change at the sole discretion of Johnson Controls. Statements, figures, calculations, plans, images and representations are only examples. Johnson Controls encourages you, as the purchaser, to analyze your HVAC requirements and to work with Johnson Controls to determine the exact VRF System to fulfill your needs.

# HITACHI VRF SYSTEMS

## Putting technology to work for you

### Advancing comfort and efficiency

Innovation is nothing new at Hitachi. Engineering advances in the current VRF line are built upon decades of research and development. Each product incorporates the latest innovations with proven technology for leading-edge solutions that work. Our latest line takes advantage of emerging smart technologies to enhance both performance and control for greater comfort, energy savings, and freedom. (Learn more about the

latest innovations you'll find in Hitachi VRF Systems on pages 3-5).

Our complete line of VRF equipment includes air-source and water-source VRF, enabling you to bring fresh solutions to applications that challenge traditional HVAC equipment.

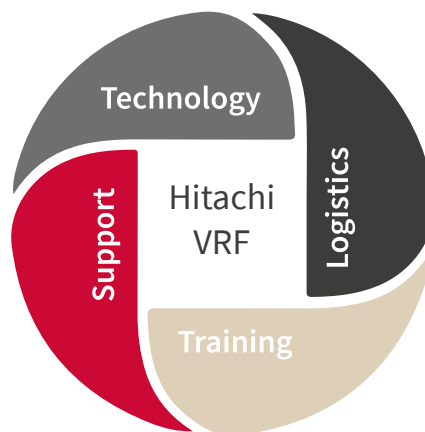
### One comprehensive solution

Hitachi VRF Systems were developed with the needs of designers, contractors, installers, and consumers in mind: Piping lengths provide maximum design flexibility; modular units enable solutions to be sized precisely for application needs; compact, lightweight outdoor

units make installation and maintenance a breeze; and energy-efficient systems provide years of reliable, cost-effective comfort. All backed by a support package that is second to none.

**Innovative technology** solves more application challenges, so you can bring greater comfort and efficiency to more customers than ever before

Our **dedicated VRF support staff** is available to answer questions and provide guidance throughout the life of a project from design to installation and service.



**Ample Inventory, advanced order management and precise logistics systems** ensure equipment arrives when you need it. And our 99% damage-free work record means when equipment arrives, it's ready for installation.

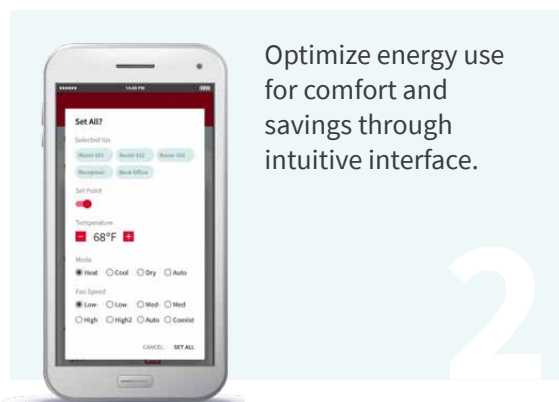
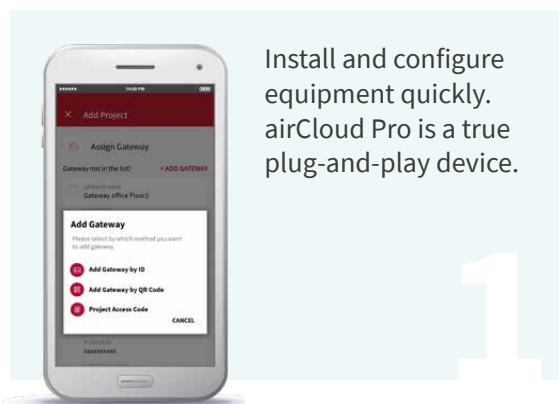
**World-class training** ensures your team has the knowledge and skills to confidently design, build and service Hitachi VRF Systems. Classes are offered at multiple convenient locations, and on-site training is available when needed.

# LATEST INNOVATIONS

## airCloud Pro™

**Control is always close at hand**

**Monitoring and controlling systems is as easy as 1-2-3**



### The app that gives you control on the go

It's never been easier to control Hitachi VRF Systems. Using Internet of Things (IoT) technology, airCloud Pro enables you to manage Hitachi VRF equipment anytime/anywhere. On the web or through a smartphone, control is always close-at-hand.

With airCloud Pro's intuitive interface, you can manage an unlimited number of VRF systems quickly and easily:

- Adjust temperature, fan speed and equipment modes
- Receive error and maintenance alerts
- Set operating schedules
- Add users with customized permissions
- And more

Set up is simple with true plug-and-play installation. And functionality is always current with new features and updates pushed to the app.

airCloud Pro puts the latest technology to work for you.





# LATEST INNOVATIONS

## FrostWash

### A fresh approach to clean air

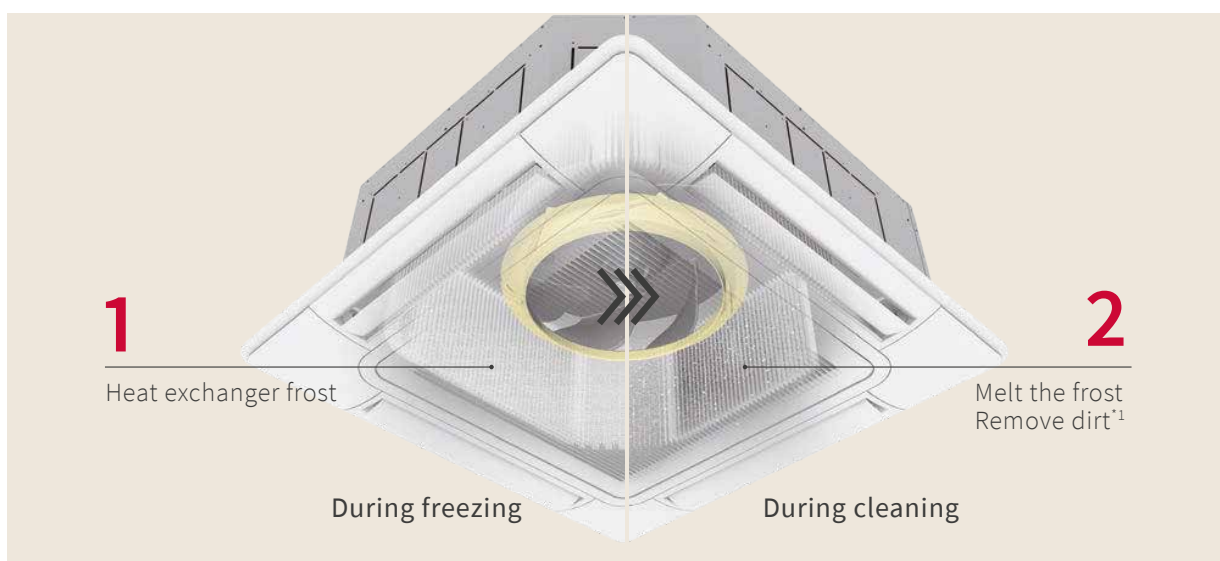
With Hitachi FrostWash, it's never been easier to keep indoor units clean. This innovative technology removes dust, allergens, and bacteria quickly, easily, and automatically for refreshingly pure air.

#### The approach is simple

FrostWash freezes moisture in place that naturally accumulates on the heat exchanger, trapping all impurities that have collected there.

Then, it warms the unit up and drains away the melt, safely flushing contaminants through the drainage pipe.

### How does it work?



- FrostWash™ freezes the heat exchanger, capturing the dirt.
- When the frost melts, the dirt detaches from the fins.
- As a result, the air volume can be maintained over time, which contributes to a sustainable performance of the indoor unit and comfort.

FrostWash™ process can be activated manually or automatically at scheduled intervals.

\* 1 Dirt removal depends on the usage environment.



# LATEST INNOVATIONS

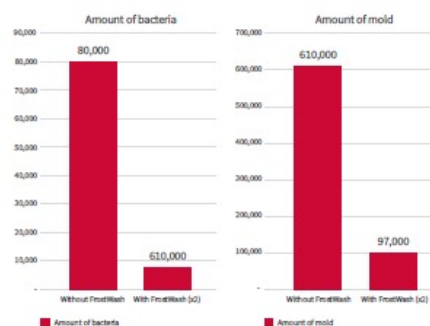
## FrostWash



### The difference is clear

FrostWash has been proven to eliminate 91% of bacteria and 83% of mold from indoor units as demonstrated in laboratory tests.\*

By maintaining a clean heat exchanger, FrostWash helps ensure a healthy environment and keeps the unit in optimal condition for maximum efficiency and performance.



\*Tested by Kitasato Research Center of Environmental Science.

Test no. 2017\_40194: anti-bacteria & anti-mold effects when operating FrostWash 2 times.

\* FrostWash™ function is available for the following outdoor/indoor units and controller.

Unit Type		Model Number
Outdoor Unit	Heat Pump	HVAHP_B(3,4,5)2S
	4-Way Cassette	HIC4_21S
Indoor Unit	4-Way Cassette Mini	HICM_B21S
	2-Way Cassette	HIC2_B21S
	1-Way Cassette	HIC1_B2(1,2)S
	Ceiling Suspended	HICS_B2(1,2)S
	Ducted (High)	HIDH_B2(2,3)S
	Ducted (Medium)	HIDM_B2(2,3)S
	Controller	CIW02-H

# LATEST INNOVATIONS

## Silent-Iconic™ 4-Way Cassette Panel

### Create the perfect atmosphere

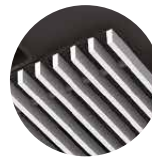
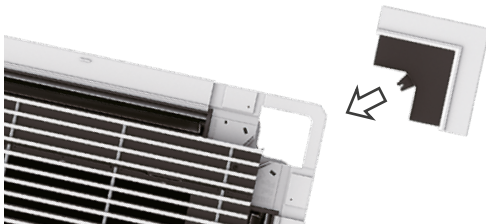
Enjoy the unobtrusive design of ducted indoor units and the cost savings of cassette units with a sophisticated solution that will please the visually discerning and budget-minded alike. The Silent-Iconic 4-Way Cassette Panel gives you the best of both worlds.

The four flaps of the Silent-Iconic are crafted to reduce visual impact yet maintain precise airflow control. Further minimizing the cassette's appearance, the central inlet of the unit is louvred, so it integrates perfectly into the ceiling. Air vents are tastefully hidden, so the indoor unit blends seamlessly into its surroundings.



### Installation is a breeze

Corners slide into place for hassle-free fastening.



Blind-shaped  
air inlet port

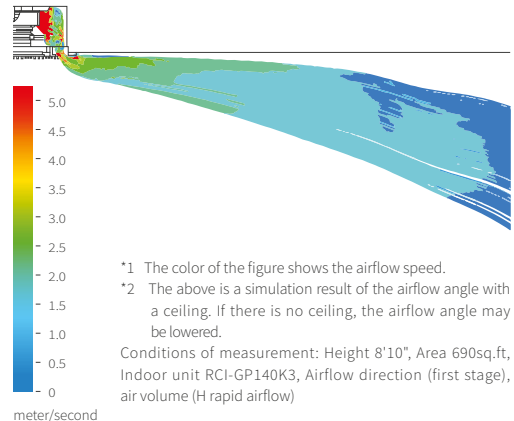


This unique, award-winning panel turns your indoor unit into a design statement.



### Looks and comfort delivered

Used with the Hitachi 4-Way Cassette, air is dispersed uniformly through four artfully concealed ducts, for optimal comfort throughout the space.



### Designed with attention to detail

The small space between the panels and the ceiling creates a "lighter" visual effect.



reddot winner 2021  
best of the best



DESIGN  
AWARD  
2020

The Silent-Iconic 4-Way Cassette Panel has won design excellence awards in prestigious international competitions. Best of all, it provides a cost-effective solution that is as functional as it is good-looking. Available in white or black, the Silent-Iconic offers style and cost-savings in one optimal solution.

# VRF TECHNOLOGY

## Precision engineering

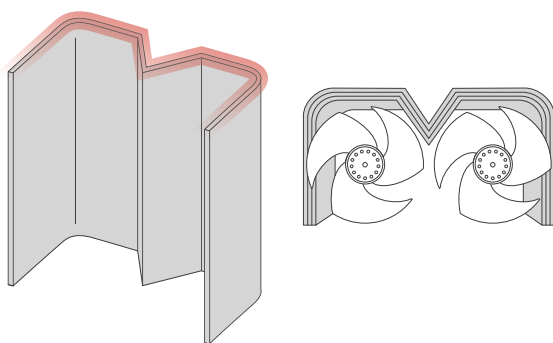
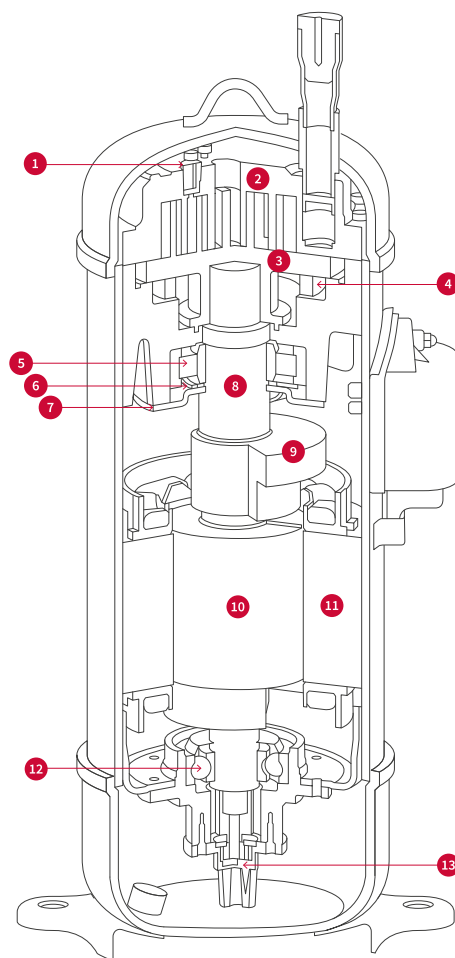
### Compressor

Precision engineering makes our DC inverter scroll compressor exceptionally reliable, quiet, and efficient. Modulating in 0.1 Hz increments, the compressor:

- Delivers the exact amount of cooling/heating required
- Enables fine control for optimal comfort
- Provides energy savings

1	Pressure bypass valve
2	Fixed scroll
3	Orbiting scroll
4	Oldham's coupling
5	Main bearing
6	Thrust bearing
7	Frame seal
8	Crankshaft
9	Counterweight
10	Motor rotor
11	Motor stator
12	Sub bearing
13	Oil pump

### Advanced compressor and heat exchanger achieve new levels of performance and efficiency



### Heat exchanger

Outdoor units feature our patented sigma-shaped heat exchanger for superior efficiency and an improved heat exchange rate. They also feature:

- **Demand control** which limits power consumption, minimizes equipment wear and tear, and reduces noise.
- **Load shedding** which turns units on and off, and cycles between units for enhanced energy savings and reduced electric load demand.
- **Longer fan blades** increase airflow by 25%, resulting in higher static pressure while reducing energy consumption and electric load demand.

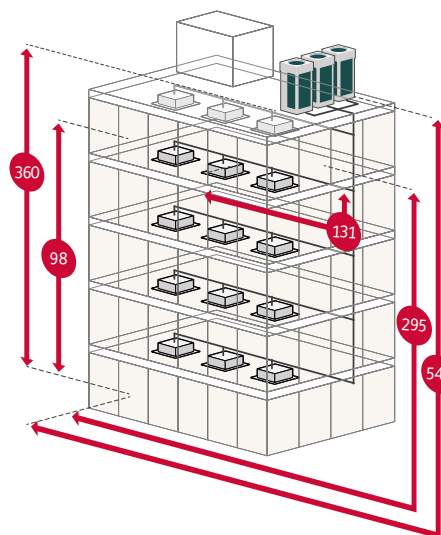
# VRF TECHNOLOGY

## Design flexibility

Our vertical piping distance limits extend to 360 feet, providing more layout options.

Maximum Distances	HP	HR
Total piping, one-way	3,281 ft.	
Vertically between OU and IU	360 ft.	
Vertically between IUs	98 ft.	98 ft.
1st branch and IU	295 ft.	
Linear Length, OU and IU	541 ft.	
Branch and IU	131 ft.	

### Longer piping lengths for greater design freedom

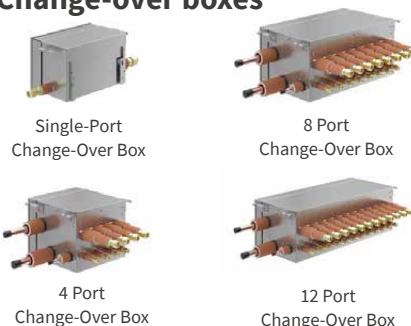


### Indoor units

Enjoy exceptional layout flexibility with a wide selection of indoor units that maximize comfort, convenience and savings.

- **Supply air sensors enable remote readings** of air supply temperature (on all Hitachi VRF Indoor Units).
- **Multi Kits reduce installation time and cost**, because they don't require 20 inches to each elbow installation as most competitors' systems do.
- **A GentleCool feature** (available on many units) eliminates the rush of cold air that can occur when air conditioning first comes on.
- **The exclusive EconoFresh Economizer** (used with a ducted Medium Static unit) provides outside air/free cooling when conditions permit, saving energy and improving air quality.
- **Optional motion sensors eliminate unnecessary operation and save energy** by adjusting supply air temperature to occupancy level and discontinuing operation when room is vacant for extended periods.

### Change-over boxes



Single-port boxes and multi-port boxes with 4, 8, and 12 ports feature:

**Built-in simplicity.** Refrigerant is directed to the desired zone and indoor unit(s), and because our design does not produce condensate, there is no need for a drain in the change-over box.

**Quiet operation.** Each box has an optimal number of valves, eliminating noise and condensation, and increasing layout flexibility.

**Reliable performance.** Valves work according to the cooling and heating demand of each zone, and for added reliability, are protected with a fine mesh strainer in the refrigerant circuit. An optimized box design enables easy service access if required.

# VRF TECHNOLOGY

## Design Flexibility

### Space-saving solutions

Hitachi VRF Outdoor Units are compact and lightweight, making them easy to specify, transport, install and service.

These space-saving solutions reduce installation costs for a true competitive advantage.

### Combination of modules

Air-Source Equipment Line																
Rated Capacity (Ton)	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36
Number of Modules	1						2								3	
Capacity of Module(s) (Ton)	6	8	10	12	14	16	12 6	10 10	12 10	12 12	14 12	16 12	16 14	12 10 10	12 12 10	12 12 12

Water-Source Equipment Line																
Rated Capacity (Ton)	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36
Number of Modules	1						2									
Capacity of Module(s) (Ton)	6	8	10	12	14	16	18	10 10	12 10	12 12	14 12	14 14	16 14	16 16	18 16	18 18
Rated Capacity (Ton)	38	40	42	44	46	48										
Number of Modules	3															
Capacity of Module(s) (Ton)	14 12 12	14 14 12	14 14 14	16 14 14	16 14 14	16 16 16	16 16 16									



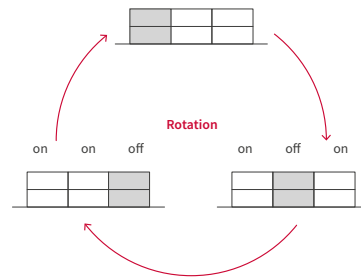
# VRF TECHNOLOGY

## Advanced performance

### Built to be dependable

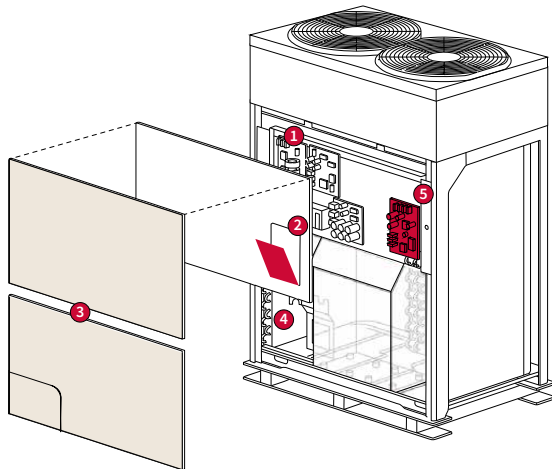
Hitachi VRF equipment is engineered for reliability. In the unlikely event of a compressor failure, the automatic backup system ensures uninterrupted operation by distributing the load to other units in the module. This exceptional performance is built into a compact, smartly-designed cabinet that makes installation and maintenance a breeze.

## Reliability with simple installation & maintenance



### Rotational operation

Compressors in systems with multiple units operate on programmed sequence, equalizing runtime. If one unit fails, remaining units continue operating to safeguard occupant comfort.



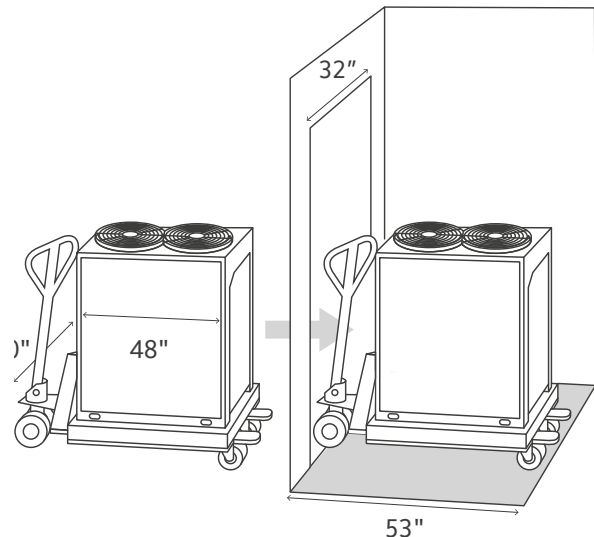
### Maintenance is fast and simple

Systems need little maintenance beyond the changing of filters and cleaning of coils. Removal of a single panel on the outdoor unit provides easy access to control boards, electrical connections, compressor, and piping.

- 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 dip switch setting for refrigerant evacuation

### Install with ease

Small, light outdoor units can be easily transported on pallets.



# VRF TECHNOLOGY

## Next-Generation Control

A choice to suit every application

### Choose from several control options

- Multiple control options are available, from simple units with on/off, set point, load, and speed settings, to programmable units that enable scheduling. Wireless units are available to provide remote control of zone space conditions. All options enable precise control of indoor units through intuitive user interfaces.
- Central station controllers for larger projects provide remote control and scheduling of the entire system from one or more control points.
- Our leading-edge VRF Smart Gateway provides comprehensive control of all Hitachi® VRF technology through building automation systems (BAS) such as *Facility Explorer*® BAS.
- The new VRF Cloud Gateway integrates our VRF systems with smart devices, tablets, and home automation system controllers for comprehensive control of all home systems through one device. The VRF Cloud Gateway works as a stand-alone solution to enable HVAC system control over the web through a smartphone, tablet, or PC.

### Game-changing gateway for unprecedented control

Johnson Controls' revolutionary VRF Smart Gateway achieves what competitive products only approximate: complete integration of VRF system data with building automation systems such as *Facility Explorer* BAS. Unlike other BACnet® adapters, the VRF Smart Gateway makes integration fast and simple. No special programming or expensive technician time is required, because VRF system data is automatically discovered and imported into your BAS:

- Quick, easy integration of all detailed data with automatic formatting
- All data conforms to your BAS conventions
- Detailed data is available for every component across system
- 24/7 control from a laptop, tablet, or smartphone

This breakthrough product makes it possible to install an energy-efficient Hitachi VRF HVAC System without incurring high integration costs or sacrificing data access or equipment control. So, you are free to choose a Hitachi VRF System based on merit alone.



#### Integration at an elite level





The VRF Smart Gateway provides complete data integration for absolute control of Hitachi VRF equipment through a building automation system.








# PRODUCT LINE

## Hitachi VRF Systems

### Indoor Units

- Units are simple to install, service, and maintain
- Exceptionally quiet with sound ratings as low as 24.5 dBA
- Compatible with both air-source and water-source VRF lines as well as Hitachi controllers, adapters, and gateways

Ducted Indoor Units   Tonnage		0.5	0.7	1.0	1.3	1.5	2.0	2.3	2.5	3.0	4.0	4.5	5.0	6.0	8.0	16.0	24.0
High Static (HIDH)																	
Medium Static (HIDM)																	
Slim (HIDS)																	
Dedicated Outside Air System (HDOA)																	
EconoFresh Economizer (HIDM)																	
Multi-Position Air Handler (HMAH)																	
DX-Kit for General AHU Connection (DXF)																	
Multi air Multi-Position Air Handler (Built-in Control Box Type) (TIAH)																	

Non-Ducted Indoor Units   Tonnage		0.5	0.7	1.0	1.3	1.5	2.0	2.3	2.5	3.0	4.0	4.5	5.0	6.0	8.0	16.0	24.0
1-Way Cassette (HIC1)																	
2-Way Cassette (HIC2)																	
4-Way Mini Cassette (HICM)																	
4-Way Cassette (HIC4)																	
Ceiling Suspended (HICS)																	
Wall Mount (TIWM)																	
Floor Exposed (HIFE)																	




# PRODUCT LINE

## Hitachi VRF Systems (continued)

### Air-Source 208/230V, 460V VRF Outdoor Units

Enjoy the design freedom offered by the complete line of Hitachi Air-Source VRF Systems. Modular Hitachi systems allow you to meet today's capacity needs exactly while facilitating future growth for optimal


system performance and long-term cost-savings. Traditional HVAC options simply can't match the combination of flexibility, performance, and energy efficiency of Hitachi VRF Systems.

Tons		3	4	5	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36
Heat Recovery 208/230V & 460V (HVAHR)																				
Heat Pump 208/230V & 460V (HVAHP)																				
Mini VRF Single- Phase Heat Pump 208/230V (HVAHP)																				

### Water-Source 208/230V, 460V VRF Units

Bring the benefits of VRF technology to applications where outdoor conditions or roof lines/weight limit challenge other systems. Hitachi Water-Source VRF Systems are ideal for harsh climates, coastal regions, or anywhere that roof weight, exterior appearance, or

external noise concerns are an issue. With modules in capacities from 6 to 48 tons, Hitachi Water-Source VRF Systems are some of the largest capacity systems on the market.

Tons		6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48
Heat Pump/ Heat Recovery 208/230V & 460V (HVWHP/ HVWHR)																							


# PRODUCT LINE

## Hitachi VRF Systems (continued)

### 575V Air-Source VRF Outdoor Units & Water-Source VRF Units



Deliver the advantages of VRF technology to Canadian customers easily and cost-effectively with Hitachi 575V Air-Source & Water-Source VRF Systems. The 575V line eliminates the need for a transformer, reduces costs, and simplifies installation.

And, for budget-conscious customers, the 575V Air-Source VRF heat pump system prioritizes demand for cooling and automatically switches system operations from heating to cooling for a cost-effective alternative to heat recovery systems.

Tons		6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36
Heat Pump and Heat Recovery 575V (HVAHP/HVAHR)																	

Tons		6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48
Heat Pump/Heat Recovery 575V (HVWHP/HVWHR)																							



### Change-Over Boxes for Heat Recovery Systems

Single-Port (COBS048B22S/C)	4 Port (COB04M132B22S)	8 Port (COB08M264B22S)	12 Port (COB12M264B22S)
			

### Controllers

Wireless Zone Controller (CIR01)	Simplified Wired Zone Controller (CIS01)	Advanced Color Wired Remote Controller (CIW02-H)	Mini Central Controller (CCM01)	Large Central Controller (CCL01)	VRF Central Touchscreen Controller CCXL02
					

### Network Adapters

LonWorks® Adapter (CLW01)	VRF Smart Gateway (CBN02)
	

### IoT Devices

airCloud Pro Gateway (HC-IOTGW)	VRF Cloud Gateway (CMNETS)
	



# THE OPTIMAL CHOICE

## Selecting the right system



The Hitachi VRF line offers several system choices, so how do you know which to choose for a particular project? The following pages provide an overview of each system's advantages. The optimal choice for a specific application will depend upon customer requirements and influencing factors such as budget, location, and project type. For guidance with a particular project, contact your local Hitachi VRF expert.

Heat Recovery or Heat Pump? ..... 16

Air-Source or Water-Source? ..... 17

Features & Benefits Summary .....18-19

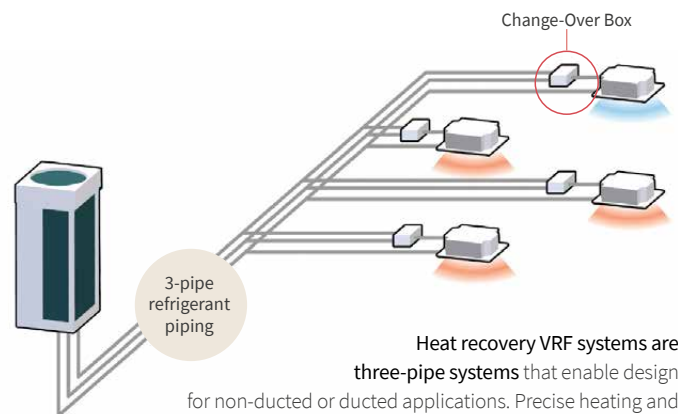
# THE OPTIMAL CHOICE

## Heat Recovery or Heat Pump?

### Heat recovery

Three-pipe systems deliver simultaneous heating and cooling to multiple zones for ultimate flexibility and personalized comfort by transferring excess energy from one zone to another. Heat recovery systems offer:

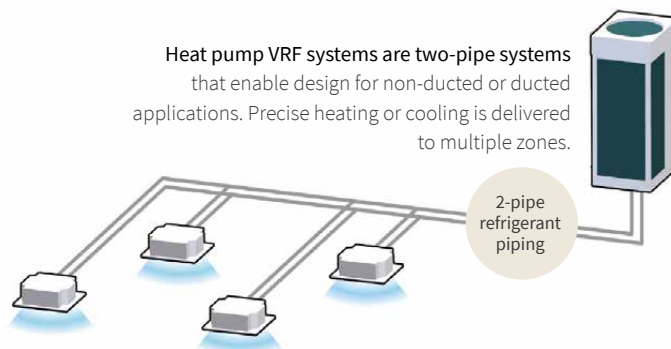
- Customized comfort — each zone controls its own temperature
- Consistent temperature in large zones
- Energy savings
- Heating operation down to -13°F standard



Heat recovery VRF systems are three-pipe systems that enable design for non-ducted or ducted applications. Precise heating and cooling is delivered with an extra measure of flexibility, since the system can provide simultaneous heating and cooling while transferring any excess heat or cooling from one zone to another.

### Heat pump

Two-pipe systems are simple, cost-effective systems that deliver either heating or cooling to multiple zones. Heat pump systems are a good choice for applications that don't require simultaneous heating or cooling, such as locations where spaces are clearly defined, or buildings with large, open plan spaces.



Heat pump VRF systems are two-pipe systems that enable design for non-ducted or ducted applications. Precise heating or cooling is delivered to multiple zones.

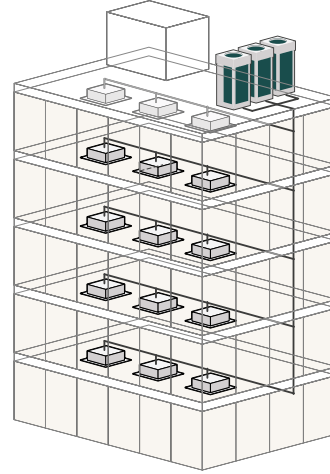
Your Hitachi technical expert can help you select the most suitable system for your application.

# THE OPTIMAL CHOICE

## Air-source systems or water-source systems?

### Air-source VRF systems

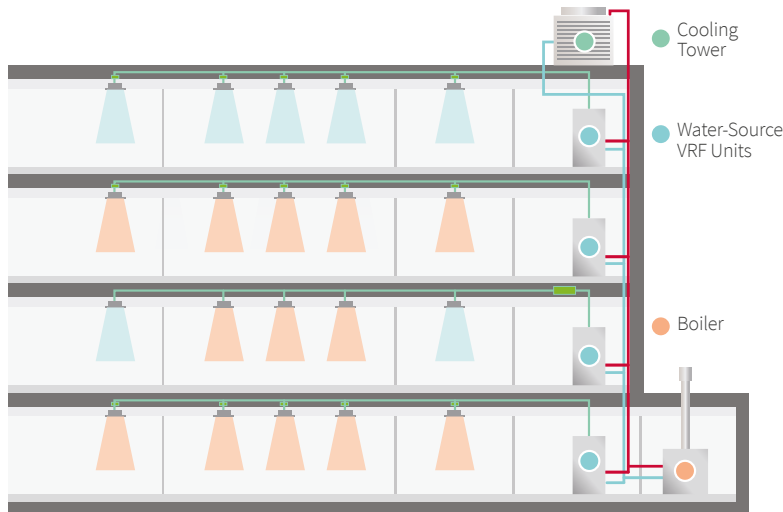
Air-source systems provide a solution that is quick and easy to install and has very low maintenance costs. Units are available in capacities up to 36 tons, and each unit can be connected to up to 64 indoor units. Learn more about Hitachi VRF air-source systems beginning on page 47.



### Water-source VRF systems

Water-source systems are an excellent choice for any application where outdoor equipment placement is problematic, because all equipment is located indoors. Units are available in capacities up to 48 tons,

and each unit can be connected up to 64 indoor units. Learn more about Hitachi VRF water-source systems beginning on page 69.



# THE SMART CHOICE

## Features and Benefits Summary

	FEATURES	ADVANTAGES	BENEFITS
ARCHITECT / SYSTEM DESIGNER	Piping extends to 3,281 feet. Vertical piping distance between Outdoor Unit and Indoor Unit runs up to 360 feet.	• Suitable for short or long runs; accommodate nearly all projects	• Provide exceptional design freedom
	Compact footprint	• Require less space than conventional systems	• Provide more placement options and enables use even within tight lot lines.
	Modular components	• Provide flexibility to customize systems to each project's needs	• Simplify design process • Allow easy updates as space is reconfigured or expanded
	Low Ambient Outdoor Units	• Effective heating down to -13°F	• Provide efficient and reliable cold-climate heating performance
	Non-ducted systems	• Ultimate in design flexibility • Reduce clearance between building floors	• Reduce system costs • Save space • Ideal for historic renovations
	Ducted systems	• Accommodate retrofits by making use of existing duct infrastructure • New fan design increases static pressure. • Suit unique buildings that include ducted and non-ducted areas	• Reduce overall construction costs
	EconoFresh Economizer	• Provide energy-saving free cooling (or outside air to maintain good-quality indoor air)	• Save energy and maintain good-quality indoor air
	Heat Pump Systems	• Precisely heat or cool multiple zones	• Provide extreme system-design flexibility
	Heat Recovery Systems	• Allow simultaneous heating/cooling • Allow transfer of excess heat/cooling from one zone to another space	• Maximize comfort and efficiency • Maximize design flexibility • Increase occupant comfort to specified zones
	Comprehensive training	• Tailor modules to specific job functions	• Enable effective equipment selection and specification
	Web-based system selection software	• Intuitive functionality that simplifies and speeds designs • Accessible from any computer or tablet	• Allow confident selection and right-sizing of systems
	Multi-Port Change-Over Boxes (COBs) available with 4, 8, and 12 ports	• Multi-port COBs provide multiple layout options and accommodate future growth	• Provides exceptional design flexibility

	FEATURES	ADVANTAGES	BENEFITS
MECHANICAL CONTRACTOR / INSTALLER	Installation simplicity	• Outdoor unit piping can be connected from front, back, or underneath. • Small and light indoor units are easy to handle without heavy equipment • Outdoor units are smaller and lighter than previous generation	• Reduce installation time and cost • Provide more placement options
	Comprehensive training	• Tailor modules to specific job functions	• Enable professional, high-quality, timely installation
	Consistent, reliable product delivery	• Ensure correct delivery to job sites on time	• Enhance installation efficiency • Allow efficient labor scheduling
	Easy maintenance access	• Access all components by removal of one panel on outdoor unit	• Speed up time spent on maintenance, repair, and troubleshooting, if required.
	Easy access to product information	• All product information is available on the web portal • QR code on unit nameplate allows access to all information on that unit, including warranty registration.	• Simplify and speed up maintenance, troubleshooting, and repairs
	Refrigerant check	• Automatically verifies that system is charged with the correct amount of refrigerant to meet requirements.	• Adjust for optimum efficiency and performance

# THE SMART CHOICE

## Features & Benefits Summary

		FEATURES	ADVANTAGES	BENEFITS
BUILDING OWNER	System	Rotational outdoor unit operation	<ul style="list-style-type: none"> <li>In multiple-unit applications at partial load, outdoor units operate alternately so that operating hours are shared equally.</li> </ul>	<ul style="list-style-type: none"> <li>Optimize efficiency</li> <li>Extend service life</li> <li>Increase reliability</li> </ul>
		Backup operation function	<ul style="list-style-type: none"> <li>In multi-module VRF system, if one outdoor unit compressor fails, backup operation function ensures other outdoor units continue to operate for uninterrupted service.</li> </ul>	<ul style="list-style-type: none"> <li>Avoid system downtime</li> <li>Protect occupant comfort</li> </ul>
		Efficiency optimized for part-load operation	<ul style="list-style-type: none"> <li>Certified efficiency among industry's highest for VRF systems</li> </ul>	<ul style="list-style-type: none"> <li>Save energy</li> </ul>
		Optimum individualized comfort	<ul style="list-style-type: none"> <li>Heat recovery systems deliver simultaneous heating and cooling</li> </ul>	<ul style="list-style-type: none"> <li>Efficient heating/cooling</li> <li>Maximize occupant comfort</li> </ul>
		Noise reduction preference mode	<ul style="list-style-type: none"> <li>Lets users choose from three settings for a "not to exceed" sound level</li> </ul>	<ul style="list-style-type: none"> <li>Extremely quiet (sound ratings as low as 51 dBA for outdoor units; 26 dBA for indoor units)</li> <li>Ideal where outdoor units are positioned on side of building or in locations where there are noise restrictions</li> </ul>
	Compressor	DC inverter-driven scroll compressor	<ul style="list-style-type: none"> <li>Redesigned to deliver the optimum efficiency at normal load conditions</li> <li>Multiple inverter compressors are standard in 8-ton and larger outdoor units for increased efficiency</li> </ul>	<ul style="list-style-type: none"> <li>Among industry's most efficient VRF systems:</li> <li>Highest IEER</li> <li>Highest SCHE</li> <li>Highest COP</li> </ul>
		Compressor modulation in small increments	<ul style="list-style-type: none"> <li>Smoothly deliver exact amount of heating or cooling needed</li> </ul>	<ul style="list-style-type: none"> <li>Allow fine control for optimum comfort</li> <li>Save energy</li> </ul>
	Outdoor Units	Demand control	<ul style="list-style-type: none"> <li>Select from a wide variety of power settings from 100% to 60% and program "not to exceed" a given power level</li> </ul>	<ul style="list-style-type: none"> <li>Limit electric demand charges</li> <li>Limit equipment runtime</li> <li>Reduces noise</li> </ul>
		Load shedding	<ul style="list-style-type: none"> <li>Allows programming to turn units on/off in rotation at 10- to 20-minute intervals</li> </ul>	<ul style="list-style-type: none"> <li>Save energy</li> <li>Limit demand charges</li> </ul>
		Dual fan design	<ul style="list-style-type: none"> <li>Dual fan design increases airflow over previous generation - up to 23% - and decreases sound</li> </ul>	<ul style="list-style-type: none"> <li>Reduce noise</li> <li>Extend motor life</li> <li>Increase airflow</li> </ul>
		Dual heat exchanger	<ul style="list-style-type: none"> <li>Newly-designed dual heat exchanger in Outdoor Units provides 10% more surface area</li> </ul>	<ul style="list-style-type: none"> <li>Increase capacity</li> <li>Improve efficiency</li> </ul>
	Indoor Units	As high as 1.2 in. WG static pressure in ducted systems	<ul style="list-style-type: none"> <li>Provide adjustable speeds to match any site-specific static pressure requirement</li> </ul>	<ul style="list-style-type: none"> <li>Flexibility to accommodate long or short ductwork runs</li> </ul>
		Optional motion and radiant sensors	<ul style="list-style-type: none"> <li>Set back temperature when space is unoccupied, increasing efficiency even further</li> </ul>	<ul style="list-style-type: none"> <li>Save energy</li> </ul>
	Controls	H-Link II Protocol	<ul style="list-style-type: none"> <li>Control multiple indoor and outdoor units from one control point</li> <li>Add versatility to connect various central control options</li> </ul>	<ul style="list-style-type: none"> <li>Maximizes indoor comfort</li> <li>Save energy</li> <li>Improve system management</li> </ul>
		Temperature control	<ul style="list-style-type: none"> <li>Adjust in 1° Fahrenheit increments</li> <li>Adjust fan speeds</li> </ul>	<ul style="list-style-type: none"> <li>Auto-adjust for daylight saving time</li> <li>Provide options to satisfy multiple projects/buildings</li> </ul>
		VRF Smart Gateway	<ul style="list-style-type: none"> <li>Enable control of VRF systems by way of a building management system (such as <i>Facility Explorer®</i>) for almost unlimited control in a building or campus enterprise.</li> </ul>	<ul style="list-style-type: none"> <li>Automatic data formatting to reduce integration time and expense</li> <li>Full BMS capabilities enable superior control of all system components</li> <li>Wi-Fi accessibility enables 24/7 monitoring and control from laptops, tablets, and smartphones</li> </ul>





# INDOOR UNITS

## A choice for every space



### Indoor Units

All Hitachi Indoor Units are compatible with all Hitachi Air-Source and Water-Source VRF Systems.

Hitachi VRF ducted and non-ducted units deliver both style and performance. Whisper-quiet units have sound ratings as low as 26 dBA and are available in styles and capacities to fit any application. Best of all, they are easy to install, service, and maintain.

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#### Ducted Units Specification Tables

High Static.....24-25

Medium Static.....26-27

Slim..... 28

Dedicated Outside Air System (DOAS) ..... 29

EconoFresh Economizer ..... 30

Multi-Position Air Handler .....31-33

DX-Kit for General AHU Integration ..... 34

Multi air Multi-Position Air Handler  
(Built-in Control Box Type) .....35-37

#### Non-Ducted Units Specification Tables

1-Way Cassette ..... 38

2-Way Cassette ..... 39

4-Way Mini Cassette ..... 40

4-Way Cassette .....41-42

Ceiling Suspended ..... 43

Wall Mount .....44-45

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# INDOOR UNITS

## Overview

### DUCTED HIGH STATIC INDOOR UNIT



This unit has a high-efficiency fan motor, multiple fan speeds and access from underneath for ease of service.



### DEDICATED OUTSIDE AIR SYSTEM (DOAS)



This unit enables fresh air to be brought into the VRF system for a healthier, more comfortable indoor environment.



### DUCTED MEDIUM STATIC INDOOR UNIT



With a high-efficiency fan motor, this unit has multiple fan speeds and access from underneath for ease of service.



### ECONOFRESH ECONOMIZER INDOOR UNIT



This unit combines a ducted Medium Static unit with an Economizer Kit to provide outside air/free cooling when conditions permit.



### DUCTED SLIM INDOOR UNIT



This slim-line unit features a high-efficiency fan motor, multiple fan speeds and access from underneath for ease of service.



### MULTI-POSITION AIR HANDLER



This flexible unit with multiple installation positions is ideal both for residential and light commercial applications.



### DX-KIT FOR GENERAL AHU CONNECTION



This slim-line unit features a high-efficiency fan motor, multiple fan speeds and access from underneath for ease of service.



### MULTI AIR MULTI-POSITION AIR HANDLER



This new Multi air AHU simplify installation, comes in three sizes and eight capacities to suit applications as small as a hotel room or office, and as large as a single-family house



# INDOOR UNITS

## Overview (continued)

### 1-WAY CASSETTE INDOOR UNIT



This slim and stylish yet inexpensive unit is ideal for spaces that only require one-way airflow.



### CEILING SUSPENDED INDOOR UNIT



This unit with its sleek design operates quietly and efficiently while evenly distributing airflow.



### 2-WAY CASSETTE INDOOR UNIT



Providing bi-directional airflow, this exceptionally quiet unit is a good choice for many different spaces.



### WALL MOUNT INDOOR UNIT



With wide-angle louvers, this unit distributes air comfortably throughout a room for an even temperature.



### 4-WAY MINI CASSETTE INDOOR UNIT



This versatile unit is quiet, energy-efficient and compact, making it a great choice for many applications.



### FLOOR EXPOSED INDOOR UNIT



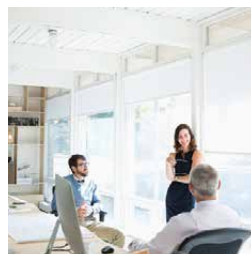
This slim-design unit leaves design options open and is ideal for perimeter conditioning of air.



### 4-WAY CASSETTE INDOOR UNIT



Compact and lightweight, this unit with 4-way airflow is easy to install even in tight spaces.



# INDOOR UNITS

## Ducted High Static



Capacities: 15,000 to 96,000 Btu/hr

These indoor units now feature higher static pressure:  
Up to 0.8" for 1.3 - 4.5 ton units and up to 1.16" for 6  
and 8 ton units.



Tonnage			1.3		1.5		2.0		2.3		2.5	
Ducted High Static Indoor Unit Model #			HIDH015B2(2,3)S		HIDH018B2(2,3)S		HIDH024B2(2,3)S		HIDH027B2(2,3)S		HIDH030B2(2,3)S	
Power Supply			AC 1 Phase, 208/230V, 60Hz									
Nominal Cooling Capacity <sup>1</sup>	Btu/h	15,000		18,000		24,000		27,000		30,000		
	(kW)	(4.4)		(5.3)		(7.1)		(8.0)		(8.8)		
Nominal Heating Capacity <sup>1</sup>	Btu/h	17,000		20,000		27,000		30,000		34,000		
	(kW)	(5.0)		(5.9)		(8.0)		(8.8)		(10.0)		
Sound Pressure Level <sup>2</sup> (Overall A Scale) (Hi2-Hi-Me-Lo)	dB	41-38-35-32		37-35-32-30		40-37-34-32		40-37-34-32		40-37-34-32		
Outer Dimensions	Height	in.(mm)	11-13/16	(300)	11-13/16	(300)	11-13/16	(300)	11-13/16	(300)	11-13/16	(300)
	Width	in.(mm)	27-9/16	(700)	41-5/16	(1050)	41-5/16	(1050)	41-5/16	(1050)	55-1/8	(1400)
	Depth	in.(mm)	31-1/2	(800)	31-1/2	(800)	31-1/2	(800)	31-1/2	(800)	31-1/2	(800)
Net Weight	lbs.(kg)	64	(29)	84	(38)	84	(38)	84	(38)	106	(48)	
Refrigerant			R410A									
Indoor Fan	Airflow Rate (Hi2-Hi-Me-Lo)	cfm	512-459-388-335		653-582-512-424		759-671-582-494		759-671-582-494		1059-935-812-706	
		(m3/min)	(14.5-13-11-9.5)		(18.5-16.5-14.5-12)		(21.5-19-16.5-14)		(21.5-19-16.5-14)		(30-26.5-23-20)	
External Pressure <sup>3</sup> Std (High1 - High2)	in. W.G.	0.2 (0.4-0.8)		0.2 (0.4-0.8)		0.2 (0.4-0.8)		0.2 (0.4-0.8)		0.2 (0.4-0.8)		
	(Pa)	(50 (100-200))		(50 (100-200))		(50 (100-200))		(50 (100-200))		(50 (100-200))		
Motor Nominal Output	W	157		190		190		190		259		
Connections												
Refrigerant Piping			Flare-Nut Connection (with Flare Nuts)									
	Liquid Line	in.(mm)	1/4	(6.35)	3/8	(9.52)	3/8	(9.52)	3/8	(9.52)	3/8	(9.52)
	Gas Line	in.(mm)	1/2	(12.7)	5/8	(15.88)	5/8	(15.88)	5/8	(15.88)	5/8	(15.88)
Condensate Drain	OU	in. (mm)	1-1/4	(32)	1-1/4	(32)	1-1/4	(32)	1-1/4	(32)	1-1/4	(32)

Ducted High Static				
Compatible Accessories	HIDH015B2(2,3)S	HIDH018-027B2(2,3)S	HIDH030-054B2(2,3)S	HIDH072-096B21S
Filter Box for Long-Life Filter	B-56LI	B-90LI	B-160LI	—
Infrared (IR) Receiver Kit	CWDIRK01	CWDIRK01	CWDIRK01	CWDIRK01
Long-Life Filter	F-56LI	F-90LI	F-160LI	—
3-Pin Connector Cable	PCC-1A	PCC-1A	PCC-1A	PCC-1A
Connector Cable for Auxiliary Heater	PCC-6A	PCC-6A	PCC-6A	PCC-CN1925-H
Relay and 3-Pin Connector Kit	PSC-5RA	PSC-5RA	PSC-5RA	PSC-5RA
Motion Sensor Kit (for Ducted Indoor Units)	SOR-NEZ	SOR-NEZ	SOR-NEZ	—
Seismic Suspension Bracket	—	—	—	SSB-IDH01
Remote Sensor (Control)	THM-R2A	THM-R2A	THM-R2A	THM-R2A



# INDOOR UNITS

## Ducted High Static (Continued)

### Key Features

- High-efficiency AC fan motor
- Multiple fan speed settings
- Access from underneath for easy service
- Built-in condensate pump
- Auxiliary/emergency heater control
- Sensor enables remote reading of air supply temperature
- Cooling and heating auto-changeover dual-setpoint control
- GentleCool feature enables discharge air temperature to be set, eliminating the rush of cold air that can occur when air conditioning first comes on for more comfortable cooling.



Capacities: 15,000 to 96,000 Btu/hr

Tonnage			3.0		4.0		4.5		6.0		8.0	
Ducted High Static Indoor Unit Model #			HIDH036B2(2,3)S		HIDH048B2(2,3)S		HIDH054B2(2,3)S		HIDH072B21S		HIDH096B21S	
Power Supply			AC 1 Phase, 208/230V, 60Hz									
Nominal Cooling Capacity <sup>1</sup>	Btu/h		36,000		48,000		54,000		72,000		96,000	
	(kW)		(10.6)		(14.1)		(15.8)		(21.1)		(28.2)	
Nominal Heating Capacity <sup>1</sup>	Btu/h		40,000		54,000		60,000		81,000		108,000	
	(kW)		(11.8)		(15.8)		(17.6)		(23.8)		(31.7)	
Sound Pressure Level <sup>2</sup> (Overall A Scale) (Hi2-Hi-Me-Lo) [(Hi-Lo) (208/230V) for 6.0, 8.0 Ton]	dB		42-39-36-33		44-40-37-34		44-40-37-34		47-43/50-47		51-46/54-50	
Outer Dimensions	Height	in.(mm)	11-13/16	(300)	11-13/16	(300)	11-13/16	(300)	18-3/8	(466)	18-3/8	(466)
	Width	in.(mm)	55-1/8	(1400)	55-1/8	(1400)	55-1/8	(1400)	49-3/16	(1250)	49-3/16	(1250)
	Depth	in.(mm)	31-1/2	(800)	31-1/2	(800)	31-1/2	(800)	44-1/8	(1120)	44-1/8	(1120)
Net Weight	lbs.(kg)		106	(48)	106	(48)	106	(48)	258	(117)	258	(117)
Refrigerant			R410A									
Indoor Fan	Airflow Rate (Hi2-Hi-Me-Lo)	cfm	1183-1041-918-777		1271-1112-971-847		1271-1112-971-847		2047-1765		2542-2189	
		(m3/min)	(33.5-29.5-26-22)		(36-31.5-27.5-24)		(36-31.5-27.5-24)		(58.0-50.0)		(72.0-62.0)	
External Pressure <sup>3</sup> Std (High1-High2) [(Std (High)) (208/230V) for 6.0, 8.0 Ton]	in. W.G.		0.2 (0.4-0.8)		0.2 (0.4-0.8)		0.2 (0.4-0.8)		0.28/0.64 (0.88/1.16)		0.32/0.64 (0.88/1.16)	
	(Pa)		(50 (100-200))		(50 (100-200))		(50 (100-200))		(70/160 (220/290))		(80/160 (220/240))	
Motor Nominal Output	W		259		259		259		840 (420x2pcs)		1240 (620x2pcs)	
Connections												
Refrigerant Piping			Flare-Nut Connection (with Flare Nuts)						Brazed		Brazed	
	Liquid Line	in.(mm)	3/8	(9.52)	3/8	(9.52)	3/8	(9.52)	3/8	(9.52)	3/8	(9.52)
	Gas Line	in.(mm)	5/8	(15.88)	5/8	(15.88)	5/8	(15.88)	3/4	(19.05)	7/8	(22.20)
Condensate Drain	OU	in. (mm)	1-1/4	(32)	1-1/4	(32)	1-1/4	(32)	1-1/4	(32)	1-1/4	(32)

#### NOTES:

1. Nominal capacity conditions are based on AHRI standard. Visit [www.ahrinet.org](http://www.ahrinet.org) for more information.
2. The sound pressure level is based on the following conditions:  
4.9 ft. (1.5m) beneath the unit. The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.
3. The data for external pressure 3 indicates Standard Pressure Setting (High Pressure Setting 1 - High Pressure Setting 2) values when a filter is not used. The sound pressure level is based on the Standard Pressure Setting.

# INDOOR - UNITS

## Ducted Medium Static

These indoor units feature higher static pressure: up to 0.6” for Medium Static Indoor Units.



Capacities: 6,000 to 54,000 Btu/hr



Tonnage			0.5		0.7		1.0		1.3		1.5	
Ducted Medium Static Indoor Unit Model #			HIDM006B2(2,3)S		HIDM008B2(2,3)S		HIDM012B2(2,3)S		HIDM015B2(2,3)S		HIDM018B2(2,3)S	
Power Supply			AC 1 Phase, 208/230V, 60Hz									
Nominal Cooling Capacity <sup>1</sup>		Btu/h	6,000		8,000		12,000		15,000		18,000	
		(kW)	(1.8)		(2.4)		(3.6)		(4.4)		(5.3)	
Nominal Heating Capacity <sup>1</sup>		Btu/h	6,700		9,000		13,500		17,000		20,000	
		(kW)	(2.0)		(2.7)		(4.0)		(5.0)		(5.9)	
Sound Pressure Level <sup>2</sup> (Overall A Scale) (Hi2-Hi-Me-Lo)		dB	32-30-28-27		33-31-29-28		38-35-32-30		40-37-34-31		37-35-33-31	
Outer Dimensions	Height	in. (mm)	9-13/16	(250)	9-13/16	(250)	9-13/16	(250)	9-13/16	(250)	9-13/16	(250)
	Width	in. (mm)	27-9/16	(700)	27-9/16	(700)	27-9/16	(700)	27-9/16	(700)	41-5/16	(1050)
	Depth	in. (mm)	31-1/2	(800)	31-1/2	(800)	31-1/2	(800)	31-1/2	(800)	31-1/2	(800)
Net Weight		lbs. (kg)	57	(26)	57	(26)	60	(27)	60	(27)	79	(36)
Refrigerant			R410A									
Indoor Fan	Airflow Rate (Hi2-Hi-Me-Lo)	cfm	300-265-229-194		335-300-265-229		459-406-353-300		512-459-388-335		653-582-494-424	
		(m3/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)	
External Pressure <sup>3</sup> Std (High1-High2)		in. W.G.	0.2 (0.4-0.6)		0.2 (0.4-0.6)		0.2 (0.4-0.6)		0.2 (0.4-0.6)		0.2 (0.4-0.6)	
		(Pa)	(50 (100-150))		(50 (100-150))		(50 (100-150))		(50 (100-150))		(50 (100-150))	
Motor Nominal Output		W	157		157		157		157		190	
Connections			Flare-Nut Connection (with Flare Nuts)									
Refrigerant Piping												
	Liquid Line	in. (mm)	1/4	(6.35)	1/4	(6.35)	1/4	(6.35)	1/4	(6.35)	3/8	(9.52)
	Gas Line	in. (mm)	1/2	(12.7)	1/2	(12.7)	1/2	(12.7)	1/2	(12.7)	5/8	(15.88)
Condensate Drain	OU	in. (mm)	1-1/4	(32)	1-1/4	(32)	1-1/4	(32)	1-1/4	(32)	1-1/4	(32)

Ducted Medium Static			
Compatible Accessories	HIDM006-015B2(2,3)S	HIDM018-027B2(2,3)S	HIDM030-054B2(2,3)S
Filter Box for Long-Life Filter	B-56LI	B-90LI	B-160LI
Infrared (IR) Receiver Kit	CWDIRK01	CWDIRK01	CWDIRK01
Long-Life Filter	F-56LI	F-90LI	F-160LI
3-Pin Connector Cable	PCC-1A	PCC-1A	PCC-1A
Connector Cable for Auxiliary Heater	PCC-6A	PCC-6A	PCC-6A
Relay and 3-Pin Connector Kit	PSC-5RA	PSC-5RA	PSC-5RA
Motion Sensor Kit (for Ducted Indoor Units)	SOR-NEZ	SOR-NEZ	SOR-NEZ
Remote Sensor (Control)	THM-R2A	THM-R2A	THM-R2A

# INDOOR UNITS

## Ducted Medium Static (Continued)

### Key Features

- High-efficiency DC fan motor
- Multiple fan speed settings
- Up to 0.6 in. WG static pressure
- Access from underneath for easy service and troubleshooting
- Built-in condensate pump
- Auxiliary/emergency heater control
- Setback temperature control
- Cooling and heating auto-changeover dual-setpoint control
- GentleCool feature enables discharge air temperature to be set, eliminating the rush of cold air that can occur when air conditioning first comes on for more comfortable cooling.

Tonnage			2.0		2.3		2.5		3.0		4.0		4.5	
Ducted Medium Static Indoor Unit Model #			HIDM024B2(2,3)S		HIDM027B2(2,3)S		HIDM030B2(2,3)S		HIDM036B2(2,3)S		HIDM048B2(2,3)S		HIDM054B2(2,3)S	
Power Supply			AC 1 Phase, 208/230V, 60Hz											
Nominal Cooling Capacity <sup>1</sup>		Btu/h	24,000		27,000		30,000		36,000		48,000		54,000	
		(kW)	(7.1)		(8.0)		(8.8)		(10.6)		(14.1)		(15.8)	
Nominal Heating Capacity <sup>1</sup>		Btu/h	27,000		30,000		34,000		40,000		54,000		60,000	
		(kW)	(8.0)		(8.8)		(10.0)		(11.8)		(15.8)		(17.6)	
Sound Pressure Level <sup>2</sup> (Overall A Scale) (Hi2-Hi-Me-Lo)		dB	39-37-34-32		39-37-34-32		40-38-35-32		42-39-36-34		43-40-37-34		43-40-37-34	
Outer Dimensions	Height	in.(mm)	9-13/16	(250)	9-13/16	(250)	9-13/16	(250)	9-13/16	(250)	9-13/16	(250)	9-13/16	(250)
	Width	in.(mm)	41-5/16	(1050)	41-5/16	(1050)	55-1/8	(1400)	55-1/8	(1400)	55-1/8	(1400)	55-1/8	(1400)
	Depth	in.(mm)	31-1/2	(800)	31-1/2	(800)	31-1/2	(800)	31-1/2	(800)	31-1/2	(800)	31-1/2	(800)
Net Weight		lbs.(kg)	79	(36)	79	(36)	97	(44)	97	(44)	97	(44)	97	(44)
Refrigerant			R410A											
Indoor Fan	Airflow Rate (Hi2-Hi-Me-Lo)	cfm	759-671-582-494		759-671-582-494		1059-935-812-706		1183-1041-918-777		1271-1112-971-847		1271-1112-971-847	
		(m3/min)	(21.5-19-16.5-14)		(21.5-19-16.5-14)		(30-26.5-23-20)		(33.5-29.5-26-22)		(36-31.5-27.5-24)		(36-31.5-27.5-24)	
External Pressure <sup>3</sup> Std (High1-High2)		in. W.G.	0.2 (0.4-0.6)		0.2 (0.4-0.6)		0.2 (0.4-0.6)		0.2 (0.4-0.6)		0.2 (0.4-0.6)		0.2 (0.4-0.6)	
		(Pa)	(50 (100-150))		(50 (100-150))		(50 (100-150))		(50 (100-150))		(50 (100-150))		(50 (100-150))	
Motor Nominal Output		W	190		190		259		259		259		259	
Connections														
Refrigerant Piping			Flare-Nut Connection (with Flare Nuts)											
	Liquid Line	in.(mm)	3/8	(9.52)	3/8	(9.52)	3/8	(9.52)	3/8	(9.52)	3/8	(9.52)	3/8	(9.52)
	Gas Line	in.(mm)	5/8	(15.88)	5/8	(15.88)	5/8	(15.88)	5/8	(15.88)	5/8	(15.88)	5/8	(15.88)
Condensate Drain	OU	in. (mm)	1-1/4	(32)	1-1/4	(32)	1-1/4	(32)	1-1/4	(32)	1-1/4	(32)	1-1/4	(32)

#### NOTES:

1. Nominal capacity conditions are based on AHRI standard. Visit [www.ahrinet.org](http://www.ahrinet.org) for more information.
2. The sound pressure level is based on the following conditions: 4.9 ft. (1.5m) beneath the unit. The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.
3. The data for external pressure 3 indicates Standard Pressure Setting (High Pressure Setting 1 - High Pressure Setting 2) values when a filter is not used. The sound pressure level is based on the Standard Pressure Setting.

# INDOOR UNITS

## Ducted Slim



Capacities: 6,000 to 18,000 Btu/hr

### Controller Options



MODEL CIR01



MODEL CIS01



MODEL CIW02-H

### Key Features

- High-efficiency DC fan motor
- Multiple fan speed settings
- Up to .20 in. WG static pressure
- Access from underneath for easy service and troubleshooting
- Built-in condensate pump
- Setback temperature control
- Auxiliary/emergency heater control
- Cooling and heating auto-changeover dual-setpoint control
- Sensor enables remote reading of air supply temperature

Tonnage			0.5			0.7		1.0		1.3		1.5	
Ducted Slim Indoor Unit Model #			HIDS006B21S			HIDS008B21S		HIDS012B21S		HIDS015B21S		HIDS018B21S	
Power Supply			AC 1 Phase, 208/230V, 60Hz										
Nominal Cooling Capacity <sup>1</sup>		Btu/h	6,000		8,000		12,000		15,000		18,000		
		(kW)	(1.8)		(2.3)		(3.5)		(4.4)		(5.3)		
Nominal Heating Capacity <sup>1</sup>		Btu/h	6,700		9,000		13,500		17,000		20,000		
		(kW)	(2.0)		(2.6)		(4.0)		(5.0)		(5.9)		
Sound Pressure Level (Overall A Scale) (Hi2-Hi-Me-Lo)		dB	32-30-29-27		32-30-29-27		34-33.5-33-32		36-35-33-32		40-38-36-34		
Outer Dimensions	Height	in.(mm)	7-9/16	(192)	7-9/16	(192)	7-9/16	(192)	7-9/16	(192)	7-9/16	(192)	
	Width	in.(mm)	35-3/4	(908)	35-3/4	(908)	35-3/4	(908)	46-3/8	(1178)	46-3/8	(1178)	
	Depth	in.(mm)	17-19/32	(447)	17-19/32	(447)	17-19/32	(447)	17-19/32	(447)	17-19/32	(447)	
Net Weight		lbs.(kg)	44	(20)	44	(20)	46	(21)	57	(26)	57	(26)	
Refrigerant			R410A										
Indoor Fan	Airflow Rate (Hi2-Hi-Me-Lo)	cfm	318-289-244-205		318-289-244-205		346-318-300-268		512-477-441-381		582-530-494-424		
		(m3/min)	(9-8-7-6)		(9-8-7-6)		(10-9-9-8)		(15-14-13-11)		(17-15-14-12)		
External Pressure <sup>2</sup> Std (High-Low)		in. W.G.	0.04 (0.12-0.00)		0.04 (0.12-0.00)		0.04 (0.12-0.00)		0.04 (0.20-0.00)		0.04 (0.20-0.00)		
		(Pa)	(10 (30-0))		(10 (30-0))		(10 (30-0))		(10 (50-0))		(10 (50-0))		
Motor Nominal Output		W	40		40		40		60		60		
Connections													
Refrigerant Piping			Flare-Nut Connection (with Flare Nuts)										
	Liquid Line	in.(mm)	1/4	(6.35)	1/4	(6.35)	1/4	(6.35)	1/4	(6.35)	3/8	(9.52)	
	Gas Line	in.(mm)	1/2	(12.70)	1/2	(12.70)	1/2	(12.70)	1/2	(12.70)	5/8	(15.88)	
Condensate Drain	OU	in.(mm)	1-1/4	(32)	1-1/4	(32)	1-1/4	(32)	1-1/4	(32)	1-1/4	(32)	

#### NOTES:

1. Nominal capacity conditions are based on AHRI standard. Visit [www.ahrinet.org](http://www.ahrinet.org) for more information.
2. Data values when a filter is not used.

#### Ducted Slim

Compatible Accessories	HIDS006-012B21S	HIDS015-018B21S
Infrared (IR) Receiver Kit	CWDIRK01	CWDIRK01
Air Filter	KW-PP5Q	KW-PP6Q
3-Pin Connector Cable	PCC-1A	PCC-1A
Connector Cable for Auxiliary Heater Control	PCC-CN8-H	PCC-CN8-H
Relay and 3-Pin Connector Kit	PSC-5RA	PSC-5RA
Remote Sensor (Control)	THM-R2A	THM-R2A

# INDOOR UNITS

## Dedicated Outside Air System (DOAS)

Introduce and condition fresh air into a VRF system with the Dedicated Outside Air System indoor unit to create a more comfortable and healthy indoor environment.



Capacity: 96,000 Btu/hr



### Key Features

- 8 ton unit
- Pre-installed condensate pump
- Nominal airflow of 1,236CFM
- High external static pressure up to 1.24 in. WG (at 230V) enables design flexibility
- Sensor enables remote reading of air supply temperature
- Seamlessly integrates with the VRF heat pump system controls and piping
- Multiple control modes for optimizing comfort and energy efficiency include:
  - » Outlet Air Temperature Control
  - » Indoor Temperature Control
  - » Remote Sensor
  - » Sensor in Optional Programmable Wired Zone Controller

Tonnage			8.0	
Dedicated Outside Air System (DOAS) Unit Model #			HDOA096B21S	
Power Supply			AC 1 Phase, 208/230V, 60Hz	
Outlet Air Temperature Control <sup>1</sup>	Nominal Cooling Capacity	Btu/h	96,000	
		(kW)	(28.2)	
	Nominal Heating Capacity	Btu/h	60,000	
		(kW)	(17.6)	
Indoor Temperature Control <sup>2</sup>	Nominal Cooling Capacity	Btu/h	96,000	
		(kW)	(28.2)	
	Nominal Heating Capacity	Btu/h	83,600	
		(kW)	(24.5)	
Sound Pressure Level <sup>3</sup> (Overall A Scale) (208/230V)		dB	50/51	
Outer Dimensions	Height	in.(mm)	19-1/8	(486)
	Width	in.(mm)	50	(1270)
	Depth	in.(mm)	44-1/8	(1120)
Net Weight		lbs.(kg)	247	(112)
Refrigerant			R410A	
Indoor Fan	Airflow Rate <sup>4</sup>	cfm	1236	
		(m3/min)	(35.0)	
External Pressure <sup>4</sup> (208/230V)		in. W.G. (Pa)	1.06/1.24 (265/310)	
Motor Nominal Output		W	402 (201 x 2pcs)	
Connections				
Refrigerant Piping			Brazed	
	Liquid Line	in.(mm)	3/8	(9.52)
	Gas Line	in.(mm)	7/8	(22.20)
Condensate Drain	OU	in.(mm)	1-1/4	(32)

#### NOTES:

##### 1. Outlet Air Temperature Control

A control system to bring the outlet temperature closer to the set point temperature of the wired controller, using an outlet air thermistor of the unit. Nominal capacity (outlet air temperature control) is based on combination with VRF system and following conditions:

##### COOLING OPERATION CONDITIONS

Outdoor Temperature: 91°F DB (33.0°C DB)  
82°F WB (28.0°C WB)  
Discharge Set Temperature: 61°F DB (16.0°C DB)  
Piping Length: 24.6ft (7.5m)

##### HEATING OPERATION CONDITIONS

Outdoor Temperature: 32°F DB (0°C DB)  
27°F WB (-2.9°C WB)  
Discharge Set Temperature: 72°F DB (22.0°C DB)  
Piping Lift: 0ft (0m)

##### 2. Indoor Temperature Control

A control system to bring the room atmosphere temperature closer to the set point temperature of the wired controller, using a temperature sensor (remote sensor or thermistor in wired controller) mounted to any place in the room. Nominal capacity (indoor temperature control) is based on combination with VRF system and following conditions:

##### COOLING OPERATION CONDITIONS

Outdoor Temperature: 91°F DB (33.0°C DB)  
82°F WB (28.0°C WB)  
Indoor Temperature: 81°F DB (27.0°C DB)  
Piping Length: 24.6ft (7.5m)

##### HEATING OPERATION CONDITIONS

Outdoor Temperature: 32°F DB (0°C DB)  
27°F WB (-2.9°C WB)  
Indoor Temperature: 68°F DB (20.0°C DB)  
Piping Lift: 0ft (0m)

#### Dedicated Outdoor Air System

Compatible Accessories	HDOA096B21S
Infrared (IR) Receiver Kit	CWDIRK01
3-Pin Connector Cable	PCC-1A
Relay and 3-Pin Connector Kit	PSC-5RA
Seismic Suspension Bracket	SSB-IDH01
Remote Sensor (Control)	THM-R2A

3. The sound pressure level is based on the following conditions. 4.9 ft. (1.5m) beneath the units.

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

4. Data values when a filter is not used.

# INDOOR UNITS

## EconoFresh Economizer



The EconoFresh unit includes the Economizer Kit and a ducted Medium Static unit in a choice of three capacities: 30,000, 36,000 or 48,000 Btu/hr.



The exclusive EconoFresh unit is a combination of a ducted Medium Static unit paired with an Economizer Kit to provide up to 100% outside air/free cooling when conditions are favorable. Seamlessly integrating with VRF systems, the unit contributes to energy savings and improves air quality.

### Key Features

- Excellent for applications with cooling demand during mid seasons and winter.
- Inputs for optional CO<sub>2</sub> and enthalpy sensors are available for control based on indoor air quality or temperature/humidity.
- Remote control setting of the outside air damper opening to ensure minimum outside airflow requirements are met.
- Auxiliary/emergency heater control
- Setback temperature control
- Cooling and heating auto-changeover dual-setpoint control
- Sensor enables remote reading of air supply temperature

Tonnage			2.5		3.0		4.0	
EconoFresh (Economizer Kit + a ducted Medium Static indoor unit) - Model #			HIDM030B21E		HIDM036B21E		HIDM048B21E	
Power Supply			AC 1 Phase, 208/230V, 60Hz					
Nominal Cooling Capacity *		Btu/h	30,000		36,000		48,000	
		(kW)	(8.8)		(10.5)		(14.1)	
Nominal Heating Capacity *		Btu/h	34,000		40,000		54,000	
		(kW)	(10.0)		(11.7)		(15.8)	
Sound Pressure Level (Overall A Scale) (Hi-Me-Lo)		dB	38-35-32		39-35-33		40-36-33	
Outer Dimensions	Height	in.(mm)	10-7/8	(275)	10-7/8	(275)	10-7/8	(275)
	Width	in.(mm)	58-1/16	(1474)	58-1/16	(1474)	58-1/16	(1474)
	Depth	in.(mm)	23-5/8	(600)	23-5/8	(600)	23-5/8	(600)
Net Weight		lbs.(kg)	106	(48)	106	(48)	106	(48)
Refrigerant			R410A					
Indoor Fan	Airflow Rate <sup>2</sup> (Hi-Me-Lo)	cfm	1059-953-847		1236-1094-988		1271-1130-1024	
		(m3/min)	(30-27-24)		(35-31-28)		(36-32-29)	
External Pressure <sup>2</sup> (High-Med-Low)	in. W.G.	0.17-0.12-0.10		0.16-0.11-0.10		0.12-0.10-0.08		
	(Pa)	(43-30-25)		(40-28-25)		(30-25-20)		
Motor Nominal Output		W	250		250		250	
Connections								
Refrigerant Piping			Flare-Nut Connection (with Flare Nuts)					
	Liquid Line	in.(mm)	3/8	(9.52)	3/8	(9.52)		(9.52)
	Gas Line	in.(mm)	5/8	(15.88)	5/8	(15.88)	5/8	(15.88)
Condensate Drain	OU	in.(mm)	1-1/4	(32)	1-1/4	(32)	1-1/4	(32)
Adaptable EconoFresh Kit Model			EF-456NE					
	Height	in. (mm)	10 (254)					
	Width	in. (mm)	55-1/2 (1410)					
	Depth	in. (mm)	12-3/16 (270)					
	Net Weight	lbs. (kg)	28 (12.5)					

#### NOTES:

1. Nominal capacity condition is based on AHRI standard. See [www.ahrinet.org](http://www.ahrinet.org) for more information.
2. Data values when a filter is not used.

EcoFresh	
Compatible Accessories	HIDM030-048B21E
Infrared (IR) Receiver Kit	CWDIRK01
Air Filter	KW-PP456E
3-Pin Connector Cable	PCC-1A
Connector Cable for Auxiliary Heater	PCC-CN8-H
Relay and 3-Pin Connector Kit	PSC-5RA
Remote Sensor (Control)	THM-R2A

# INDOOR UNITS

## Multi-Position Air Handler



Multi-Position Air Handler  
Capacities: 18,000 to 60,000 Btu/hr

Fully field installed integrated DX-Kit.

### Key Features

- **RC2** - Rigid Case Construction interior endoskeleton for structural support, flush side, and to lock in insulation.
- **Powder Painted** - G30 galvanized steel case provides a coated edge that resists corrosion and rust creep.
- **MaxAlloy™ Coil** - Long life aluminum coils built to deliver lasting performance, efficiency and reliability.
- **Quality Construction** - Structural components are made of aluminum or G90 galvanized steel to prevent corrosion.
- **Improved Insulation Design** - Single piece with no external screws to reduce thermal transmission paths to prevent sweating. Foil faced insulation for ease of cleaning.
- **Case Depth** - Models are 20.5" deep which enables easy access even in tight applications.
- **Thermoset Condensate Pan** - Positive slope for condensate to reduce potential for mold or contaminants.
- **Factory Sealed** - Achieves 2% or less total airflow leakage rate at duct leakage test conditions in positive and negative pressure for system airflow verification.
- **Enhanced Filter Rack** - All models have integrated internal filter racks provided for use with 1" thick standard size filters.
- **Electric Heat Kits** - Field installed electric heat kits are available for installation-friendly and easy service applications.
- **Blowers** - All models use direct-drive, multi-speed motors.
- **Fully connected** to the VRF system through the DX-Kit.
- **Sensor enables remote reading** of air supply temperature



# INDOOR UNITS

## Multi-Position Air Handler



Multi-Position Air Handler with DX-Kit											
Tonnage		1.5 Ton		2.0 Ton		2.5 Ton		3.0 Ton			
Model #		HMAHP18B21S		HMAHP24B21S		HMAHP30B21S		HMAHP36B21S		HMAHP36C21S	
Adaptable Air Handler Model #		AP18BX21		AP24BX21		AP30BX21		AP36BX21		AP36CX21	
Indoor Unit Power Supply				AC 1 Phase, 208/230V, 60Hz							
Nominal Cooling Capacity <sup>1</sup>	Btu/h	18,000		24,000		30,000		36,000		36,000	
	(kW)	(5.3)		(7.0)		(8.8)		(10.5)		(10.5)	
Nominal Heating Capacity <sup>1</sup>	Btu/h	20,000		27,000		34,000		40,000		40,000	
	(kW)	(5.9)		(7.9)		(10.0)		(11.7)		(11.7)	
Outer Dimensions	Height	in. (mm)	41 (1041)	41 (1041)	47-1/2 (1207)	47-1/2 (1207)	51-1/2 (1308)				
	Width	in. (mm)	17-1/2 (445)	17-1/2 (445)	17-1/2 (445)	17-1/2 (445)	21 (533)				
	Depth	in. (mm)	27-7/16 (545)	27-7/16 (545)	27-7/16 (545)	27-7/16 (545)	27-7/16 (545)				
Net Weight	lbs (kg)	85 (39)	87 (40)	113 (51)	113 (51)	114 (52)					
Refrigerant				R410A							
Indoor Fan (208/230V)	Air Flow Rate <sup>2</sup> (Hi-Lo)	cfm	576-382 / 687-500		713-457 / 778-605		843-677 / 917-769		1108-968 / 1178-1057		1110-877 / 1186-974
		(m³/min)	(16-11) / (19-14)		(20-13) / (22-17)		(24-19) / (26-22)		(31-27) / (33-30)		(31-25) / (34-28)
External Pressure <sup>2</sup>		in. W.G.	0.4		0.7		0.7		0.7		0.7
		(Pa)	(99)		(174)		(174)		(174)		(174)
Refrigerant Piping	Liquid Line	in. (mm)	3/8 (9.52)	3/8 (9.52)	3/8 (9.52)	3/8 (9.52)	3/8 (9.52)				
	Gas Line <sup>3</sup>	in. (mm)	5/8 (15.88)	5/8 (15.88)	5/8 (15.88)	5/8 (15.88)	5/8 (15.88)				
Condensate Drain	OU	in. (mm)	1-1/16 (26.7)	1-1/16 (26.7)	1-1/16 (26.7)	1-1/16 (26.7)	1-1/16 (26.7)				
	IU	in. (mm)	13/16 (20.9)	13/16 (20.9)	13/16 (20.9)	13/16 (20.9)	13/16 (20.9)				

#### NOTES:

- Nominal capacity conditions are based on AHRI standard. Visit [www.ahrinet.org](http://www.ahrinet.org) for more information.
- Hi and Lo setting on the wired controller. (Hi = Air Handler's High tap and Lo = Air Handler's Medium tap). Make sure both the external pressure and air flow rate match the specification.
- Gas connection piping diameter of the air handler is changed by using the reducer (accessory of DX-Kit) to connect to VRF system.

Tonnage		1.5 Ton			2.0 Ton		2.5 Ton		3.0 Ton	
Adaptable DX-Kit Model #		EXV-018E			EXV-024E		EXV-030E		EXV-036E	
Control Box										
Power Supply		-		AC208/230V, 1Ph, 60Hz						
Outer Dimensions										
Height	in. (mm)	3-3/16	(81)	3-3/16	(81)	3-3/16	(81)	3-3/16	(81)	
Width	in. (mm)	12-5/8	(320)	12-5/8	(320)	12-5/8	(320)	12-5/8	(320)	
Depth	in. (mm)	7-3/8	(187)	7-3/8	(187)	7-3/8	(187)	7-3/8	(187)	
Net Weight	lbs. (kg)	6.57	(2.98)	6.57	(2.98)	6.57	(2.98)	6.57	(2.98)	
Expansion Valve Box Part										
Power Supply		—		DC 12V						
Outer Dimensions										
Height	in. (mm)	4-5/16	(109)	4-5/16	(109)	4-5/16	(109)	4-5/16	(109)	
Width	in. (mm)	17-1/16	(433)	17-1/16	(433)	17-1/16	(433)	17-1/16	(433)	
Depth	in. (mm)	5-5/16	(151)	5-5/16	(151)	5-5/16	(151)	5-5/16	(151)	
Net Weight	lbs. (kg)	8.84	(4.01)	8.84	(4.01)	8.84	(4.01)	8.84	(4.01)	
Refrigerant		—		R410A						
Refrigerant Piping										
Liquid Line In	in. (mm)	3/8	(9.52)	3/8	(9.52)	3/8	(9.52)	3/8	(9.52)	
Liquid Line Out	in. (mm)	3/8	(9.52)	3/8	(9.52)	3/8	(9.52)	3/8	(9.52)	

# INDOOR UNITS

## Multi-Position Air Handler (Continued)



Multi-Position Air Handler with DX-Kit												
Tonnage			4.0 Ton						5.0 Ton			
Model #			HMAHP48C21S		HMAHP48D21S		HMAHP60C21S		HMAHP60D21S		HMAHP60D22S	
Adaptable Air Handler Model #			AP48CX21		AP48DX21		AP60CX21		AP60DX21		AP60DX22	
Indoor Unit Power Supply			AC 1 Phase, 208/230V, 60Hz									
Nominal Cooling Capacity <sup>1</sup>		Btu/h	48,000		48,000		60,000		60,000		60,000	
		(kW)	(14.1)		(14.1)		(17.6)		(17.6)		(17.6)	
Nominal Heating Capacity <sup>1</sup>		Btu/h	54,000		54,000		64,000		64,000		64,000	
		(kW)	(15.8)		(15.8)		(18.8)		(18.8)		(18.8)	
Outer Dimensions	Height	in. (mm)	51-1/2	(1308)	55-1/2	(1410)	55-3/4	(1416)	55-1/2	(1410)	55-1/2	(1410)
	Width	in. (mm)	21	(533)	24-1/2	(622)	21	(533)	24-1/2	(622)	24-1/2	(622)
	Depth	in. (mm)	27-7/16	(545)	27-7/16	(545)	27-7/16	(545)	27-7/16	(545)	27-7/16	(545)
Net Weight		lbs (kg)	150	(68)	153	(69)	146	(66)	170	(77)	170	(77)
Refrigerant			R410A									
Indoor Fan (208/230V)	Air Flow Rate <sup>2</sup> (Hi-Lo)	cfm	1062-971 / 1190-1059		1391-1139 / 1481-1258		1680-1562 / 1739-1659		1701-1590 / 1779-1694		1757-1639 / 1829-1735	
		(m <sup>3</sup> /min)	(30-28) / (34-30)		(39-32) / (42-36)		(48-44) / (49-47)		(48-45) / (50-48)		(50-46) / (52-49)	
External Pressure <sup>2</sup>		in. W.G.	0.7		0.7		0.4		0.4		0.4	
		(Pa)	(174)		(174)		(99)		(99)		(99)	
Refrigerant Piping	Liquid Line	in. (mm)	3/8	(9.52)	3/8	(9.52)	3/8	(9.52)	3/8	(9.52)	3/8	(9.52)
	Gas Line <sup>3</sup>	in. (mm)	5/8	(15.88)	5/8	(15.88)	3/4	(19.05)	3/4	(19.05)	3/4	(19.05)
Condensate Drain	OU	in. (mm)	1-1/16	(26.7)	1-1/16	(26.7)	1-1/16	(26.7)	1-1/16	(26.7)	1-1/16	(26.67)
	IU	in. (mm)	13/16	(20.9)	13/16	(20.9)	13/16	(20.9)	13/16	(20.9)	13/16	(20.9)

### NOTES:

- Nominal capacity conditions are based on AHRI standard. Visit [www.ahrinet.org](http://www.ahrinet.org) for more information.
- Hi and Lo setting on the wired controller. (Hi = Air Handler's High tap and Lo = Air Handler's Medium tap). Make sure both the external pressure and air flow rate match the specification.
- Gas connection piping diameter of the air handler is changed by using the reducer (accessory of DX-Kit) to connect to VRF system.

Tonnage	4.0 Ton			5.0 Ton	
Adaptable DX-Kit Model #	EXV-048E			EXV-060E	
Control Box					
Power Supply	- AC208/230V, 1Ph, 60Hz				
Outer Dimensions					
Height	in. (mm)	3-3/16	(81)	3-3/16	(81)
Width	in. (mm)	12-5/8	(320)	12-5/8	(320)
Depth	in. (mm)	7-3/8	(187)	7-3/8	(187)
Net Weight	lbs. (kg)	6.57	(2.98)	6.57	(2.98)
Expansion Valve Box Part					
Power Supply	— DC 12V				
Outer Dimensions					
Height	in. (mm)	4-5/16	(109)	4-5/16	(109)
Width	in. (mm)	17-1/16	(433)	17-1/16	(433)
Depth	in. (mm)	5-5/16	(151)	5-5/16	(151)
Net Weight	lbs. (kg)	8.84	(4.01)	11.05	(5.01)
Refrigerant	— R410A				
Refrigerant Piping					
Liquid Line In	in. (mm)	3/8	(9.52)	3/8	(9.52)
Liquid Line Out	in. (mm)	3/8	(9.52)	3/8	(9.52)

Multi-Position Air Handler	
Compatible Accessories	HMAHP 018-060(B,C,D)2(1,2)S
Electric Heater Kit	6HK Series (UPG)
Infrared (IR) Receiver Kit	CWDIRK01
3-Pin Connector Cable	PCC-1A
Connector Cable for Auxiliary Heater	PCC-CN1925
Relay and 3-Pin Connector Kit	PSC-5RA
Remote Sensor (Control)	THM-R2A

# INDOOR UNITS

## DX-Kit for General AHU Connection

The DX-Kit seamlessly connects Hitachi VRF equipment with third-party air handling units (AHU). The kit consists of a control box expansion valve box.



### Features

- Combines VRF system with third-party AHU
- Provides three types of AHU temperature control:
  - » Inlet air
  - » Outlet air
  - » External signal control
- Compatible with multiple AHU types including return air, return air/outside air mix, and heat recovery
- Flexible installation for expansion valve box and control box with IP54 Enclosure rating

Indoor Unit Type		DX-Kit for General AHU Connection					
Tonnage		1.3 Ton	2.5 Ton	4.0 Ton	8.0 Ton <sup>2</sup>	16.0 Ton <sup>2</sup>	24.0 Ton <sup>2</sup>
Model #		DXF-015A1	DXF-030A1	DXF-048A1	DXF-096A1	DXF-192A1	DXF-288A1
Control Box							
Power Supply	-	AC208/230V, 1Ph, 60Hz					
Height	in. (mm)	4-7/16 (112)					
Width	in. (mm)	17-1/8 (435)					
Depth	in. (mm)	13-3/4 (349)					
Weight	lbs (kg)	11.5 (5.2)					
Quantity	Qty	1					
Expansion Valve Box							
Height	in. (mm)	2-3/8 (61)					
Width	in. (mm)	17-3/16 (437)					
Depth	in. (mm)	6-9/16 (166)					
Weight	lbs (kg)	3.7 (1.7)					
Liquid Pipe Size	in. (mm)	φ1/4 (6.35)	φ3/8 (9.52)			φ1/2 (12.7)	
Quantity	Qty	1					2
Acceptable AHU							
Nominal Heat Exchanger Capacity <sup>1</sup>	MBH	15	30	48	72/96	108/120/144/168/192	204/216/240/264/288
Suction Temperature Range	Cooling	°F (°C) DB: 69 to 89 (21 to 32), WB: 59 to 73 (15 to 23)					
	Heating	°F (°C) DB: 59 to 80 (15 to 27)					
Conection Ratio	-	1 OU to 1 AHU: 100% or less, 1 OU to Multiple AHU: 100% or less, 1 OU to AHUs and IUs: 100% or less					

1. DIP-switch on the PCB of DX-Kit must be set to the nominal heat exchanger capacity of the AHU.

Refer to the installation manual for detail.

2. Can use multiple capacities.

# INDOOR UNITS

## Multi air Multi-Position Air Handler (Built-in Control Box Type)

### Fit more spaces with greater ease

It's faster, easier, and less expensive to solve application challenges with the new Multi-position AHU.

Available in capacities ranging from 0.7 to 5 tons, this unit provides a flexible solution for applications as diverse as single hotel rooms or entire houses.

Available in three sizes — small, medium, and large — this unit provides the flexibility for installation in any upflow or horizontal application. Compact cabinets, along with return air options in both the upflow and horizontal positions, allow this unit to fit into tight spaces such as closets, attics, and crawl spaces.



### Key Features

- Refrigerant components pre-installed, single point of power pre-installed for all sizes
- Electrical components and expansion valve are built in and ready to go
- Available with factory installed electric heating coils
- Pre-painted steel on the top, coil, and blower doors and heavy-gauge embossed galvanized steel cabinet casing resist corrosion and rust creep.
- Insulated with one-inch R-4.5 insulation that delivers lasting performance and efficiency.
- Blowers are sized to circulate air both quietly and efficiently. The motor is four-tap constant torque motor (ECM).
- The rifled copper tube and aluminum fin coils produce high performance ratings and provide long-lasting quality by using the latest in heat transfer technology.
- External static pressure can be selected for high (0.8 in. WG) or standard (0.4 in. WG).
- Connectable condensate pump is supplied in the field.

# INDOOR UNITS

## Multi air Multi-Position Air Handler (Built-in Control Box Type)



Tonnage			0.7 Ton		1.0 Ton		1.5 Ton		2.0 Ton	
Model #			TIAH008B22M		TIAH012B22M		TIAH018B22M		TIAH024B22M	
Indoor Unit Power Supply			AC 1Phase, 208/230V, 60Hz							
Nominal Cooling Capacity <sup>1</sup>	Btu/h	8,000		12,000		18,000		24,000		
	(kW)	(2.4)		(3.6)		(5.3)		(7.1)		
Nominal Heating Capacity <sup>1</sup>	Btu/h	9,000		13,500		20,000		27,000		
	(kW)	(2.7)		(4.0)		(5.9)		(8.0)		
Sound Power Level <sup>2</sup> (Overall A Scale) (H-Lo)	dB	TBD		TBD		TBD		TBD		
Outer Dimensions	Height	in. (mm)	43	(1092)	43	(1092)	43	(1092)	43	(1092)
	Width	in. (mm)	17-1/2	(445)	17-1/2	(445)	17-1/2	(445)	17-1/2	(445)
	Depth	in. (mm)	21	(533)	21	(533)	21	(533)	21	(533)
Net Weight	lbs. (kg)	96	(44)	98	(44)	106	(48)	106	(48)	
Refrigerant			R410A							
Indoor Fan	Airflow Rate (Hi-Lo)	cfm	350-250		430-300		690-440		800-530	
		(m <sup>3</sup> /min)	(9.9-7.1)		(12.2-8.5)		(19.5-12.5)		(22.7-15.0)	
External Pressure <sup>3</sup> (Standard-High)	in. W.G.	0.4-0.8		0.4-0.8		0.4-0.8		0.4-0.8		
	(Pa)	(100-199)		(100-199)		(100-199)		(100-199)		
Motor Nominal Output	HP	1/3		1/3		1/3		1/3		
Connections										
Refrigerant Piping		Brazing								
	Liquid Line	in. (mm)	1/4	(6.35)	1/4	(6.35)	3/8	(9.52)	3/8	(9.52)
	Gas Line	in. (mm)	1/2	(12.7)	1/2	(12.7)	5/8	(15.88)	5/8	(15.88)
Condensate Drain	OD	in. (mm)	3/4	(19.05)	3/4	(19.05)	3/4	(19.05)	3/4	(19.05)

### NOTES:

1 Nominal capacity is based on combinations within the VRF system under the following conditions:

#### COOLING OPERATION CONDITIONS

Indoor Air Inlet Temperature: 80°F DB (26.7°C DB)  
67°F WB (19.4°C WB)

Outdoor Air Inlet Temperature: 95°F DB (35.0°C DB)

Piping Length: 24.6 ft. (7.5m)

Piping Lift: 0ft. (0m)

#### HEATING OPERATION CONDITIONS

Indoor Air Inlet Temperature: 70°F DB (21.1°C DB)

Outdoor Air Inlet Temperature: 47°F DB (8.3°C DB)  
43°F WB (6.1°C WB)

2 The sound power level is based on AHRI 260. The sound data is measured when the External Static Pressure is High setting.

3 The data for external pressure indicates the values when a filter is not used.

# INDOOR UNITS

## Multi air Multi-Position Air Handler (Built-in Control Box Type) (continued)



Tonnage			2.5 Ton		3.0 Ton		4.0 Ton		5.0 Ton	
Model #			TIAH030B22M		TIAH036B22M		TIAH048B22M		TIAH060B22M	
Indoor Unit Power Supply			AC 1Phase, 208/230V, 60Hz							
Nominal Cooling Capacity <sup>1</sup>	Btu/h	30,000		36,000		48,000		60,000		
	(kW)	(8.8)		(10.6)		(14.1)		(17.6)		
Nominal Heating Capacity <sup>1</sup>	Btu/h	34,000		40,000		54,000		64,000		
	(kW)	(10.0)		(11.8)		(15.8)		(18.8)		
Sound Power Level <sup>2</sup> (Overall A Scale) (H-Lo)	dB	TBD		TBD		TBD		TBD		
Outer Dimensions	Height	in. (mm)	48	(1219)	48	(1219)	58-3/4	(1492)	58-3/4	(1492)
	Width	in. (mm)	21	(533)	21	(533)	24-1/2	(622)	24-1/2	(622)
	Depth	in. (mm)	21	(533)	21	(533)	21-3/4	(553)	21-3/4	(553)
Net Weight	lbs (kg)	126	(57)	126	(57)	168	(76)	168	(76)	
Refrigerant			R410A							
Indoor Fan	Airflow Rate (Hi-Lo)	cfm	1000-700		1050-750		1520-1060		1800-1260	
		(m <sup>3</sup> /min)	(28.3-19.8)		(29.7-21.2)		(43.0-30.0)		(51.0-35.7)	
External Pressure <sup>3</sup> (Standard-High)	in. W.G.	0.4-0.8		0.4-0.8		0.4-0.8		0.4-0.8		
	(Pa)	(100-199)		(100-199)		(100-199)		(100-199)		
Motor Nominal Output	HP	1/2		1/2		3/4		3/4		
Connections										
Refrigerant Piping		Brazing								
	Liquid Line	in. (mm)	3/8	(9.52)	3/8	(9.52)	3/8	(9.52)	3/8	(9.52)
	Gas Line	in. (mm)	5/8	(15.88)	5/8	(15.88)	5/8	(15.88)	3/4	(19.05)
Condensate Drain	OD	in. (mm)	3/4	(19.05)	3/4	(19.05)	3/4	(19.05)	3/4	(19.05)

### NOTES:

1 Nominal capacity is based on combinations within the VRF system under the following conditions:

#### COOLING OPERATION CONDITIONS

Indoor Air Inlet Temperature: 80°F DB (26.7°C DB)  
67°F WB (19.4°C WB)  
Outdoor Air Inlet Temperature: 95°F DB (35.0°C DB)

Piping Length: 24.6 ft. (7.5m)  
Piping Lift: 0ft. (0m)

#### HEATING OPERATION CONDITIONS

Indoor Air Inlet Temperature: 70°F DB (21.1°C DB)  
Outdoor Air Inlet Temperature: 47°F DB (8.3°C DB)  
43°F WB (6.1°C WB)

2 The sound power level is based on AHRI 260. The sound data is measured when the External Static Pressure is High setting.

3 The data for external pressure indicates the values when a filter is not used.

Multi-Position Air Handler (Built-in Control Box Type)					
Compatible Accessories		TIAH008,012B22M	TIAH018,024B22M	TIAH030,036B22M	TIAH048B22M TIAH060B22M
Filter Base Kit		86ET0002		86ET0001	86ET0003
Downflow Conversion Kit		DFK-S-JH		DFK-M-JH	DFK-L-JH
Electrical Heater Kit	2 kW	BSEHK-02B-JH	BSEHK-02B-JH	-	-
	3 kW	-	BSEHK-03B-JH	BMEHK-03B-JH	-
	5 kW	-	-	BMEHK-05B-JH	BLEHK-05B-JH BLEHK-05B-JH
	8 kW	-	-	-	BLEHK-08B-JH BLEHK-08B-JH
	10 kW	-	-	-	- BLEHK-10B-JH
Infrared Receiver (IR) Kit		CWDIRK01			
3-Pin Connector Cable		PCC-1A			
Relay and 3-Pin Connector Kit		PSC-5RA			
Remote Sensor (Control)		THM-R2A			

# INDOOR UNITS

## 1-way cassette (non-ducted)



Capacities 6,000 to 15,000 Btu/hr

### Controller Options



MODEL CIR01



MODEL CIS01



MODEL CIW02-H

Ceiling-mounted one-way cassettes offer compact designs and a choice of corner-mounted, one-way discharge or two-way discharge (from the front and downward).

### Key Features

- Sensor enables remote reading of air supply temperature
- Automatic swing louver distributes airflow evenly for uniform temperature
- Auxiliary/emergency heater control
- Setback temperature control
- Cooling and heating auto-changeover dual-setpoint control
- GentleCool feature enables discharge air temperature to be set, eliminating the rush of cold air that can occur when air conditioning first comes on for more comfortable cooling.
- Optional energy-saving motion and radiant heat sensor for optimized airflow and temperature control in response to room occupancy

Tonnage				0.5		0.7		1.0		1.3	
1-Way Cassette Indoor Unit Model #				HIC1006B2(1,2)S		HIC1008B2(1,2)S		HIC1012B2(1,2)S		HIC1015B2(1,2)S	
Power Supply				AC 1 Phase, 208/230V, 60Hz							
Nominal Cooling Capacity <sup>1</sup>		Btu / h	(kW)	6000	(1.8)	8000	(2.3)	12000	(3.5)	15000	(4.4)
Nominal Heating Capacity <sup>1</sup>		Btu / h	(kW)	6700	(2.0)	9000	(2.6)	13500	(4.0)	17000	(5.0)
Sound Pressure Level <sup>2</sup> (Overall A Scale) (Hi2-Hi-Me-Lo)		dB		34-32-29-27		36-34-31-28		40-37-33-31		42-38-35-31	
Outer Dimensions	Height	in.	(mm)	9-1/4	(235)	9-1/4	(235)	9-1/4	(235)	9-1/4	(235)
	Width	in.	(mm)	35-7/16	(900)	35-7/16	(900)	35-7/16	(900)	35-7/16	(900)
	Depth	in.	(mm)	27-15/16	(710)	27-15/16	(710)	27-15/16	(710)	27-15/16	(710)
Net Weight		lbs.	(kg)	55	(25)	55	(25)	57	(26)	57	(26)
Refrigerant				R410A							
Indoor Fan	Airflow Rate (Hi2-Hi-Me-Lo)	cfm		300-265-229-212		335-300-265-229		459-406-353-300		512-459-388-335	
		(m3/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)	
Motor Nominal Output		W		50		50		50		50	
Connections											
Refrigerant Piping				Flare-Nut Connection (with Flare Nuts)							
	Liquid Line	in.	(mm)	1/4	(6.35)	1/4	(6.35)	1/4	(6.35)	1/4	(6.35)
	Gas Line	in.	(mm)	1/2	(12.70)	1/2	(12.70)	1/2	(12.70)	1/2	(12.70)
Condensate Drain	OU	in.	(mm)	1-1/4	(32)	1-1/4	(32)	1-1/4	(32)	1-1/4	(32)
Adjustable Panel Model Name				P-AP36CNA				P-AP56CNA			
Applicable Indoor Unit Model				HIC1006B2(1,2)S and HIC1008B2(1,2)S				HIC1012B2(1,2)S and HIC1015B2(1,2)S			
Color				Neutral White							
Dimension	Height	in.	(mm)	1-3/8 (35)							
	Width	in.	(mm)	43-5/16 (1100)							
	Depth	in.	(mm)	31-1/2 (800)							
Net Weight		lbs.	(kg)	10 (4.5)							

#### NOTES:

- Nominal capacity conditions are based on AHRI standard. Visit [www.ahrinet.org](http://www.ahrinet.org) for more information.
- The sound pressure level is based on the following conditions: 4.9 ft. (1.5m) beneath the units. The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.

1-Way Cassette			
Compatible Accessories		Compatible Accessories	
Infrared (IR) Receiver Kit	C1IRK01	Air Outlet Shuttler Plate	PIS-56LS
Grille for Front Discharge	DG-56SW1	Relay and 3-Pin Connector Kit	PSC-5RA
3-Pin Connector Cable	PCC-1A	Motion Sensor Kit (for 1-Way Cassette)	SOR-NES
Connector Cable for Auxiliary Heater	PCC-CN8-H	Remote Sensor (Control)	THM-R2A
Duct Adapter	PD-100		



# INDOOR UNITS

## 2-way cassette (non-ducted)

With a sound level down to 33 dB(A), this unit is among the quietest on the market. Individual louver control with auto-swing or fixed air exhaust angles brings conditioned comfort to a variety of room layouts.



Capacities 18,000 to 24,000 Btu/hr

### Controller Options



MODEL CIR01



MODEL CIS01



MODEL CIW02-H

### Key Features

- Nominal capacity of 18 or 24 MBH
- Compact design - requires only 11-3/4" height
- Energy-efficient DC fan motor
- Standard integrated condensate DC drain pump with 33-7/16 inch lift height
- Auxiliary/emergency heater control
- Setback temperature control
- Cooling and heating auto-changeover dual-setpoint control
- GentleCool feature enables discharge air temperature to be set, eliminating the rush of cold air that can occur when air conditioning first comes on for more comfortable cooling
- Sensor enables remote reading of air supply temperature
- Optional energy-saving motion and radiant heat sensor for optimized airflow and temperature control in response to room occupancy
- Optional air filter box

Tonnage				1.5		2.0	
2-Way Cassette Indoor Unit Model #				HIC2018B21S		HIC2024B21S	
Power Supply				AC 1 Phase, 208/230V, 60Hz			
Nominal Cooling Capacity <sup>1</sup>		Btu/h (kW)	18,000	(5.3)	24,000	(7.0)	
Nominal Heating Capacity <sup>1</sup>		Btu/h (kW)	20,000	(5.9)	27,000	(7.9)	
Sound Pressure Level <sup>2</sup> (Overall A Scale) (Hi2-Hi-Me-Lo)		dB	42-39-36-33		46-43-39-34		
Outer Dimensions	Height	in. (mm)	11-3/4	(298)	11-3/4	(298)	
	Width	in. (mm)	33-7/8	(860)	33-7/8	(860)	
	Depth	in. (mm)	24-13/16	(630)	24-13/16	(630)	
Net Weight		lbs. (kg)	55.1	(25)	55.1	(25)	
Refrigerant				R410A			
Indoor Fan	Airflow Rate (Hi2-Hi-Me-Lo)	cfm	653-582-512-441		777-688-582-459		
		(m3/min)	(18.5-16.5-14.5-12.5)		(22-19.5-16.5-13)		
Motor Nominal Output		W	57		57		
Connections							
Refrigerant Piping			Flare-Nut Connection (with Flare Nuts)				
	Liquid Line	in. (mm)	3/8	(9.52)	3/8	(9.52)	
	Gas Line	in. (mm)	5/8	(15.88)	5/8	(15.88)	
Condensate Drain	OU	in. (mm)	1-1/4	(32)	1-1/4	(32)	
Adaptable Panel Model			P-AP90DNA				
Color			Neutral White				
Outer Dimensions	Height	in. (mm)	1-3/16		(30)		
	Width	in. (mm)	43-5/16		(1,100)		
	Depth	in. (mm)	27-15/16		(710)		
Net Weight		in. (mm)	16.5		(7.5)		

#### NOTES:

1. Nominal capacity conditions are based on AHRI standard. Visit [www.ahrinet.org](http://www.ahrinet.org) for more information.
2. The sound pressure level is based on the following conditions: 4.9 ft. (1.5m) beneath the units. The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.

2-Way Cassette	
Compatibility Accessories	HIC2018-024B21S
Filter Box	B-90HD
IR Receiver Kit	C2IRK01
3-Pin Connector Cable	PCC-1A
Connector Cable for Auxiliary Heater	PCC-CN8-H
Duct Adapter	PD-150D
Relay and 3-Pin Connector Kit	PSC-5RA
Motion Sensor Kit (for 2-Way Cassette)	SOR-NED
Remote Sensor (Control)	THM-R2A

# INDOOR UNITS

## 4-way mini cassette (non-ducted)

Mini-cassette indoor units are designed to meet a variety of building requirements in energy-efficient, quiet packages. Compact size enables installation in tight spaces.



Capacities 8,000 to 18,000 Btu/hr

### Controller Options



MODEL CIR01



MODEL CIS01



MODEL CIW02-H

### Key Features

- High-performance and high-efficiency heat exchanger
- Efficient turbo fan for low-noise performance
- Wide range of air flow settings
- Motorized 2-, 3- or 4-channel air flow louvers with louver kit
- Auxiliary/emergency heater control
- Cooling and heating auto-changeover dual-setpoint control
- Setback temperature control
- GentleCool feature enables discharge air temperature to be set, eliminating the rush of cold air that can occur when air conditioning first comes on for more comfortable cooling.
- Optional energy-saving motion and radiant heat sensor for optimized airflow and temperature control in response to room occupancy.

Tonnage				0.7		1.0		1.3		1.5	
4-Way Mini-Cassette Indoor Unit Model #				HICM008B21S		HICM012B21S		HICM015B21S		HICM018B21S	
Power Supply				AC 1Phase, 208/230V, 60Hz							
Nominal Cooling Capacity <sup>1</sup>		Btu / h	(kW)	8,000	(2.3)	12,000	(3.5)	15,000	(4.4)	18,000	(5.3)
Nominal Heating Capacity <sup>1</sup>		Btu / h	(kW)	9,000	(2.6)	13,500	(4.0)	17,000	(5.0)	20,000	(5.9)
Sound Pressure Level <sup>2</sup> (Overall A Scale) (Hi2-Hi-Me-Lo)		dB		38-34-30-24.5		41-37-33-27.5		45-39-35-31		47-43-39-35	
Outer Dimensions	Height	in.	(mm)	11-1/4	(285)	11-1/4	(285)	11-1/4	(285)	11-1/4	(285)
	Width	in.	(mm)	22-7/16	(570)	22-7/16	(570)	22-7/16	(570)	22-7/16	(570)
	Depth	in.	(mm)	22-7/16	(570)	22-7/16	(570)	22-7/16	(570)	22-7/16	(570)
Net Weight		lbs.	(kg)	35	(16)	35	(16)	37	(17)	37	(17)
Refrigerant				R410A							
Indoor Fan	Airflow Rate (Hi2-Hi-Me-Lo)	cfm		424-353-300-212		459-388-335-247		530-424-353-282		565-494-424-353	
		(m³/min)		(12-10-8.5-6)		(13-11-9.5-7)		(15-12-10-8)		(16-14-12-10)	
Motor Nominal Output		W		57		57		57		57	
Connections											
Refrigerant Piping				Flare-Nut Connection (with Flare Nuts)							
	Liquid Line	in.	(mm)	1/4	(6.35)	1/4	(6.35)	1/4	(6.35)	3/8	(9.52)
	Gas Line	in.	(mm)	1/2	(12.70)	1/2	(12.70)	1/2	(12.70)	5/8	(15.88)
Condensate Drain	OU	in.	(mm)	1-1/4	(32)	1-1/4	(32)	1-1/4	(32)	1-1/4	(32)
Adaptable Panel Model				P-AP56NAM							
Color				Neutral White							
Outer Dimensions	Height	in.	(mm)	1-3/16				(30)			
	Width	in.	(mm)	24-13/32				(620)			
	Depth	in.	(mm)	24-13/32				(620)			
Net Weight		lbs.	(kg)	6				(3)			

#### NOTES:

1. Nominal capacity conditions are based on AHRI standard. Visit [www.ahrinet.org](http://www.ahrinet.org) for more information.

2. The sound pressure level is based on the following conditions: 4.9 ft. (1.5m) beneath the units.

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

### 4-Way Mini Cassette

Compatible Accessories	HICM008-018B21S
IR Receiver Kit	CMIRK01
3-Pin Connector Cable	PCC-1A
Connector Cable for Auxiliary Heater	PCC-CN8-H
Duct Adaptor	PD-75C
Relay and 3-Pin Connector Kit	PSC-5RA
Motion Sensor Kit (for Mini 4-Way Cassette)	SOR-NEC
Remote Sensor (Control)	THM-R2A

# INDOOR UNITS

## 4-way cassette (non-ducted)

Ceiling-mounted 4-way cassettes measuring 33 x 33 inch (84 x 84 cm) are offered with standard decorative panels. Compact, thin and lightweight, they are easy to install even in tight spaces.



Capacities: 8,000 to 48,000 Btu/hr



4-way cassette IDU is compatible with silent-iconic panel



Tonnage			0.7		1.0		1.3		1.5		
4-Way Cassette Indoor Unit Model #			HIC4008B21S		HIC4012B21S		HIC4015B21S		HIC4018B21S		
Power Supply			AC 1Phase, 208/230V, 60Hz								
Nominal Cooling Capacity <sup>1</sup>		Btu/h	8,000		12,000		15,000		18,000		
		(kW)	(2.3)		(3.5)		(4.4)		(5.3)		
Nominal Heating Capacity <sup>1</sup>		Btu/h	9,000		13,500		17,000		20,000		
		(kW)	(2.6)		(4.0)		(5.0)		(5.8)		
Sound Pressure Level <sup>2</sup> (Overall A Scale) (Hi2-Hi-Me-Lo)		dB	33-30-28-27		35-31-30-27		37-32-30-27		42-36-32-28		
Outer Dimensions	Height	in. (mm)	9-3/4	(248)	9-3/4	(248)	9-3/4	(248)	9-3/4	(248)	
	Width	in. (mm)	33-1/16	(840)	33-1/16	(840)	33-1/16	(840)	33-1/16	(840)	
	Depth	in. (mm)	33-1/16	(840)	33-1/16	(840)	33-1/16	(840)	33-1/16	(840)	
Net Weight		lbs. (kg)	44	(20)	46	(21)	46	(21)	48	(22)	
Refrigerant			R410A								
Indoor Fan	Airflow Rate (Hi2-Hi-Me-Lo)	cfm	530-459-388-318		741-600-494-388		777-600-494-388		953-777-635-494		
		(m³/min)	(15-13-11-9)		(21-17-14-11)		(22-17-14-11)		(27-22-18-14)		
Motor Nominal Output		W	57		57		57		57		
Connections											
Refrigerant Piping			Flare-Nut Connection (with Flare Nuts)								
	Liquid Line	in.(mm)	1/4	(6.35)	1/4	(6.35)	1/4	(6.35)	3/8	(9.52)	
	Gas Line	in.(mm)	1/2	(12.70)	1/2	(12.70)	1/2	(12.70)	5/8	(15.88)	
Condensate Drain	OU	in.(mm)	1-1/4	(32)	1-1/4	(32)	1-1/4	(32)	1-1/4	(32)	

### NOTES:

1. Nominal capacity conditions are based on AHRI standard. Visit [www.ahrinet.org](http://www.ahrinet.org) for more information.

2. The sound pressure level is based on the following conditions: 4.9 ft. (1.5m) beneath the units.

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

### 4-Way Cassette

Compatible Accessories	HIC4008-48B21S
Filter Box	B-160H3
IR Receiver Kit	C4IRK01
Fresh Air Intake Kit (for 4-Way Cassette)	OACI-160K3
3-Pin Connector Cable	PCC-1A
Connector Cable for Auxiliary Heater	PCC-CN8-H
Duct Adapter	PD-75A
Air Outlet Shutter Plate	PI-160LS2
Relay and 3-Pin Connector Kit	PSC-5RA
Remote Sensor (Control)	THM-R2A
T-Tube Connecting Kit	TKCI-160K

# INDOOR UNITS

## 4-way cassette (non-ducted) (continued)

### Key Features




- Multiple fan speed settings
- Air filter included
- Four air volume settings including Ultra Hi for higher ceilings
- 4-way airflow standard but can be configured for 2-way or 3-way
- Integrated condensate pumps in all units
- Auxiliary/emergency heater control
- Setback temperature control
- Cooling and heating auto-changeover dual-setpoint control
- GentleCool feature enables discharge air temperature to be set, eliminating the rush of cold air that can occur when air conditioning first comes on for more comfortable cooling.
- Sensor enables remote reading of air supply temperature
- Motorized 2-, 3- or 4-channel air flow louvers with louver kit
- Optional energy-saving motion and radiant heat sensor for optimized airflow and temperature control in response to room occupancy
- Optional fresh air kit available

Tonnage			2.0		2.5		3.0		4.0	
4-Way Cassette Indoor Unit Model #			HIC4024B21S		HIC4030B21S		HIC4036B21S		HIC4048B21S	
Power Supply			AC 1Phase, 208/230V, 60Hz							
Nominal Cooling Capacity <sup>1</sup>		Btu/h	24,000		30,000		36,000		48,000	
		(kW)	(7.0)		(8.8)		(10.5)		(14.1)	
Nominal Heating Capacity <sup>1</sup>		Btu/h	27,000		34,000		40,000		54,000	
		(kW)	(7.9)		(10.0)		(11.7)		(15.8)	
Sound Pressure Level <sup>2</sup> (Overall A Scale) (Hi2-Hi-Me-Lo)		dB	42-36-32-28		48-43-39-33		48-45-40-35		48-46-41-37	
Outer Dimensions	Height	in. (mm)	11-3/4	(298)	11-3/4	(298)	11-3/4	(298)	11-3/4	(298)
	Width	in. (mm)	33-1/16	(840)	33-1/16	(840)	33-1/16	(840)	33-1/16	(840)
	Depth	in. (mm)	33-1/16	(840)	33-1/16	(840)	33-1/16	(840)	33-1/16	(840)
Net Weight		lbs. (kg)	57	(26)	57	(26)	57	(26)	57	(26)
Refrigerant			R410A							
Indoor Fan	Airflow Rate	cfm	953-812-635-494		1306-1094-847-706		1306-1165-918-741		1306-1236-988-777	
	(Hi2-Hi-Me-Lo)	(m³/min)	(27-23-18-14)		(37-31-24-20)		(37-33-26-21)		(37-35-28-22)	
Motor Nominal Output		W	57		127		127		127	
Connections										
Refrigerant Piping			Flare-Nut Connection (with Flare Nuts)							
	Liquid Line	in.(mm)	3/8	(9.52)	3/8	(9.52)	3/8	(9.52)	3/8	(9.52)
	Gas Line	in.(mm)	5/8	(15.88)	5/8	(15.88)	5/8	(15.88)	5/8	(15.88)
Condensate Drain	OU	in.(mm)	1-1/4	(32)	1-1/4	(32)	1-1/4	(32)	1-1/4	(32)

#### NOTES:

1. Nominal capacity conditions are based on AHRI standard. Visit [www.ahrinet.org](http://www.ahrinet.org) for more information.

2. The sound pressure level is based on the following conditions: 4.9 ft. (1.5m) beneath the units. The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.

Adaptable Panel Model			Standard		Silent-Iconic
			P-AP160NA2 (without Motion and Radiant Heat Sensors)	P-AP160NAE1 (with Motion and Radiant Heat Sensors)	P-GP160NAP
(applies to all models)					
Color			Neutral White		
Outer Dimensions	Height	in.(mm)	1-9/16 (40)		2-1/16 (52)
	Width	in.(mm)	37-3/8 (950)		37-3/8 (950)
	Depth	in.(mm)	37-3/8 (950)		37-3/8 (950)
Net Weight		lbs(kg)	14 (6.5)		19 (8.5)

# INDOOR UNITS

## Ceiling suspended (non-ducted)

Ceiling Suspended indoor units have a stylized design and color that make them among the most elegant units on the market. Units are equipped with an automatic swing louver to ensure even air distribution.



Capacities 15,000 to 36,000 Btu/hr

### Controller Options



MODEL CIR01



MODEL CIS01



MODEL CIW02-H

### Key Features

- New fan design for high efficiency and low noise
- Flexible installation for high ceilings
- Cooling and heating auto-changeover dual-setpoint control
- Setback temperature control
- Auxiliary/emergency heater control
- Sensor enables remote reading of air supply temperature
- GentleCool feature enables discharge air temperature to be set, eliminating the rush of cold air that can occur when air conditioning first comes on for more comfortable cooling.
- Optional energy-saving motion and radiant heat sensor for optimized airflow and temperature control in response to room occupancy

Tonnage				1.3		2.0		2.5		3.0	
Ceiling Suspended Indoor Unit Model #				HICS015B2(1,2)S		HICS024B2(1,2)S		HICS030B2(1,2)S		HICS036B2(1,2)S	
Power Supply				AC 1Phase, 208/230V, 60Hz							
Nominal Cooling Capacity <sup>1</sup>		Btu / h	(kW)	15,000	(4.4)	24,000	(7.0)	30,,000	(8.8)	36,000	(10.5)
Nominal Heating Capacity <sup>1</sup>		Btu / h	(kW)	17,000	(5.0)	27,000	(7.9)	34,000	(10.0)	40,000	(11.7)
Sound Pressure Level <sup>2</sup> (Overall A Scale) (Hi2-Hi-Me-Lo)		dB		38-35-31-28		43-40-36-31		44-42-37-32		48-45-41-35	
Outer Dimensions	Height	in.	(mm)	9-1/4	(235)	9-1/4	(235)	9-1/4	(235)	9-1/4	(235)
	Width	in.	(mm)	37-13/16	(960)	50	(1270)	62-3/16	(1580)	62-3/16	(1580)
	Depth	in.	(mm)	27-3/16	(690)	27-3/16	(690)	27-3/16	(690)	27-3/16	(690)
Net Weight		lbs.	(kg)	59	(27)	77	(35)	90	(41)	90	(41)
Refrigerant				R410A							
Indoor Fan	Airflow Rate (Hi2-Hi-Me-Lo)	cfm		530-459-388-318		847-741-635-512		1059-935-777-600		1236-1094-900-706	
		(m3/min)		(15-13-11-9)		(24-21-18-14.5)		(30-26.5-22-17)		(35-31-25.5-20)	
Motor Nominal Output		W		50		80		160		160	
Connections											
Refrigerant Piping				Flare-Nut Connection (with Flare Nuts)							
	Liquid Line	in. (mm)		1/4	(6.35)	3/8	(9.52)	3/8	(9.52)	3/8	(9.52)
	Gas Line	in. (mm)		1/2	(12.70)	5/8	(15.88)	5/8	(15.88)	5/8	(15.88)
Condensate Drain	OU	in. (mm)		1-1/4	(32)	1-1/4	(32)	1-1/4	(32)	1-1/4	(32)

#### NOTES:

1. Nominal capacity conditions are based on AHRI standard. Visit [www.ahrinet.org](http://www.ahrinet.org) for more information.
2. The sound pressure level is based on the following conditions: 4.9 ft. (1.5m) beneath the units. The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.

#### Ceiling Suspended

Compatible Accessories	HICS015B2(1,2)S	HICS024B2(1,2)S	HICS030-036B2(1,2)S
Filter Box	B-56MP	B-90MP	B-160MP
IR Receiver Kit	CSIRK01	CSIRK01	CSIRK01
Condensate Pump Kit	DUPC-63K1	DUPC-160K1	DUPC-160K1
3-Pin Connector Cable	PCC-1A	PCC-1A	PCC-1A
Connector Cable for Auxiliary Heater	PCC-CN8-H	PCC-CN8-H	PCC-CN8-H
Duct Adapter	PD-100	PD-100	PD-100
Relay and 3-Pin Connector Kit	PSC-5RA	PSC-5RA	PSC-5RA
Motion Sensor Kit (for Ceiling Suspended)	SOR-NEP	SOR-NEP	SOR-NEP
Remote Sensor (Control)	THM-R2A	THM-R2A	THM-R2A

# INDOOR UNITS

## Wall mount (non-ducted)



Capacities: 6,000 to 30,000 Btu/hr

Wall Mount indoor units include wide-angle louvers that distribute airflow comfortably. An auto-swing function ensures efficient air distribution and uniform temperature throughout the conditioned space. Condensate piping can be connected at the right, left or rear of the unit for ease of installation.



Tonnage			0.5		0.7		1.0		1.3				
Wall Mount Indoor Unit Model #			TIWM006B2(1,2)S		TIWM008B2(1,2)S		TIWM012B2(1,2)S		TIWM015B21S		TIWM015B22S		
Power Supply			AC 1Phase, 208/230V, 60Hz										
Nominal Cooling Capacity <sup>1</sup>	Btu/h		6,000		8,000		12,000		15,000				
	(kW)		(1.8)		(2.3)		(3.5)		(4.4)				
Nominal Heating Capacity <sup>1</sup>	Btu/h		6,700		9,000		13,500		17,000				
	(kW)		(2.0)		(2.6)		(4.0)		(5.0)				
Sound Pressure Level <sup>2</sup> (Overall A Scale) (Hi2-Hi-Me-Lo)		dB	39-35-32-30		39-35-32-30		46-40-36-33		42-40-38-33		40-37-34-31		
Outer Dimensions	Height	in.(mm)	11-13/16	(300)	11-13/16	(300)	11-13/16	(300)	13-1/8	(333)	11-13/16	(300)	
	Width	in.(mm)	31-1/8	(790)	31-1/8	(790)	35-7/16	(900)	45-1/4	(1150)	43-5/16	(1100)	
	Depth	in.(mm)	9-1/16	(230)	9-1/16	(230)	9-1/16	(230)	9-5/8	(245)	10-1/4	(260)	
Net Weight		lbs.(kg)	22	(10)	22	(10)	24	(11)	35	(16)	32	(15)	
Refrigerant			R410A										
Indoor Fan	Airflow Rate (Hi2-Hi-Me-Lo)	cfm	353-282-247-229		353-282-247-229		494-388-318-265		530-494-459-353		512-459-388-335		
		(m³/min)	(10-8-7-6.5)		(10-8-7-6.5)		(14-11-9-7.5)		(15-14-13-10)		(14.5-13-11-9.5)		
Motor Nominal Output		W	38		38		38		38				
Connections													
Refrigerant Piping			Flare-Nut Connection (with Flare Nuts)										
	Liquid Line	in.(mm)	1/4	(6.35)	1/4	(6.35)	1/4	(6.35)	1/4	(6.35)	1/4	(6.35)	
	Gas Line	in.(mm)	1/2	(12.70)	1/2	(12.70)	1/2	(12.70)	1/2	(12.70)	1/2	(12.70)	
Condensate Drain	OU	in.(mm)	7/8	(22)	7/8	(22)	7/8	(22)	7/8	(22)	7/8	(22)	
	IU	in.(mm)	5/8	(16)	5/8	(16)	5/8	(16)	5/8	(16)	5/8	(16)	

# INDOOR UNITS

## Wall mount (non-ducted) (continued)

### Key Features

- Removable front panel for easy cleaning.
- Built-in wireless sensor for use with optional wireless zone controller.
- Auxiliary/emergency heater control
- Setback temperature control
- Cooling and heating auto-changeover dual-setpoint control
- GentleCool feature enables discharge air temperature to be set, eliminating the rush of cold air that can occur when air conditioning first comes on for more comfortable cooling.
- Sensor enables remote reading of air supply temperature
- Optional condensate pump

Tonnage			1.5				2.0				2.5			
Wall Mount Indoor Unit Model #			TIWM018B21S		TIWM018B22S		TIWM024B21S		TIWM024B22S		TIWM030B21S		TIWM030B22S	
Power Supply			AC 1Phase, 208/230V, 60Hz											
Nominal Cooling Capacity <sup>1</sup>		Btu/h	18,000				24,000				30,000			
		(kW)	(5.3)				(7.0)				(8.8)			
Nominal Heating Capacity <sup>1</sup>		Btu/h	20,000				27,000				34,000			
		(kW)	(5.8)				(7.9)				(10.0)			
Sound Pressure Level <sup>2</sup> (Overall A Scale) (Hi2-Hi-Me-Lo)		dB	49-43-40-36		45-42-38-35		51-49-46-41		49-46-42-38		51-49-46-41		51-48-44-39	
Outer Dimensions	Height	in.(mm)	13-1/8	(333)	11-13/16	(300)	13-1/8	(333)	11-13/16	(300)	13-1/8	(333)	11-13/16	(300)
	Width	in.(mm)	45-1/4	(1150)	43-5/16	(1100)	45-1/4	(1150)	43-5/16	(1100)	45-1/4	(1150)	43-5/16	(1100)
	Depth	in.(mm)	9-5/8	(245)	10-1/4	(260)	9-5/8	(245)	10-1/4	(260)	9-5/8	(245)	10-1/4	(260)
Net Weight		lbs.(kg)	37	(17)	33	(15)	37	(17)	33	(15)	37	(17)	33	(15)
Refrigerant			R410A											
Indoor Fan	Airflow Rate (Hi2-Hi-Me-Lo)	cfm	671-600-494-424		653-582-494-423		777-671-600-530		759-670-582-494		777-671-600-530		812-706-618-512	
		(m³/min)	(19-17-14-12)		(18.5-16.5-14-12)		(22-19-17-15)		(21.5-19-16.5-14)		(22-19-17-15)		(23-20-17.5-14.5)	
Motor Nominal Output		W	38				38				38			
Connections														
Refrigerant Piping			Flare-Nut Connection (with Flare Nuts)											
	Liquid Line	in.(mm)	3/8 (9.52)				3/8 (9.52)				3/8 (9.52)			
	Gas Line	in.(mm)	5/8 (15.88)				5/8 (15.88)				5/8 (15.88)			
Condensate Drain	OU	in.(mm)	7/8 (22)				7/8 (22)				7/8 (22)			
	IU	in.(mm)	5/8 (16)				5/8 (16)				5/8 (16)			

#### NOTES:

- Nominal capacity conditions are based on AHRI standard. Visit [www.ahrinet.org](http://www.ahrinet.org) for more information.
- The sound pressure level is based on the following conditions: 3.3ft (1m) Front of the Unit and 3.3ft (1m) Below the Unit. The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.

Wall Mount Indoor Unit		
Compatible Accessories	TIWM006-015B2(1,2)S	TIWM018-030B2(1,2)S
Infrared (IR) Receiver Kit	CWDIRK01	CWDIRK01
Strainer Kit	MSF-NP63A	MSF-NP112A
3-Pin Connector Cable	PCC-1A	PCC-1A
Connector Cable for Auxiliary Heater	PCC-CN8-H	PCC-CN8-H
Relay and 3-Pin Connector Kit	PSC-5RA	PSC-5RA
Remote Sensor (Control)	THM-R2A	THM-R2A
Condensate Drain Pump	DPWM-83819	DPWM-83819



# INDOOR UNITS

## Floor exposed (non-ducted)



Capacities 6,000 to 15,000 Btu/hr

### Controller Options



MODEL CIR01



MODEL CIS01



MODEL CIW02-H

Floor Exposed indoor units have a slim-line design compatible with the style of the room.

### Key Features

- 8.7-inch (220 mm) depth preserves room space
- 24.8-inch height leaves ample window space
- Ideal for perimeter zone air conditioning
- Setback temperature control
- Sensor enables remote reading of air supply temperature
- Auxiliary/emergency heater control
- Cooling and heating auto-changeover dual-setpoint control

Tonnage				0.5		0.7		1.0		1.3	
Floor Exposed Indoor Unit Model #				HIFE006B21S		HIFE008B21S		HIFE012B21S		HIFE015B21S	
Indoor Unit Power Supply				AC 1Phase, 208/230V, 60Hz							
Nominal Cooling Capacity <sup>1</sup>		Btu / h (kW)		6,000	(1.8)	8,000	(2.3)	12,000	(3.5)	15,000	(4.4)
Nominal Heating Capacity <sup>1</sup>		Btu / h (kW)		6,700	(2.0)	9,000	(2.6)	13,500	(4.0)	17,000	(5.0)
Sound Pressure Level <sup>2</sup> (Overall A Scale) (Hi-Me-Lo)		dB		39-33-29		39-33-29		43-35-32		48-43-36	
Outer Dimensions	Height	in.	(mm)	24-13/16	(630)	24-13/16	(630)	24-13/16	(630)	24-13/16	(630)
	Width	in.	(mm)	41-1/8	(1045)	41-1/8	(1045)	46-1/16	(1170)	55-7/8	(1420)
	Depth	in.	(mm)	8-11/16	(220)	8-11/16	(220)	8-11/16	(220)	8-11/16	(220)
Net Weight		lbs.	(kg)	61	(28)	61	(28)	68	(31)	79	(36)
Refrigerant		R410A									
Indoor Fan	Airflow Rate (Hi-Me-Lo)	cfm		300-247-212		300-247-212		424-353-318		565-494-388	
		(m3 /min)		(8.5-7-6)		(8.5-7-6)		(12-10-9)		(16-14-11)	
Motor Nominal Output		W		20		20		28		45	
Connections											
Refrigerant Piping				Flare-Nut Connection (with Flare Nuts)							
	Liquid Line	in.	(mm)	1/4	(6.35)	1/4	(6.35)	1/4	(6.35)	1/4	(6.35)
	Gas Line	in.	(mm)	1/2	(12.70)	1/2	(12.70)	1/2	(12.70)	1/2	(12.70)
Condensate Drain	OU	in.	(mm)	1-1/4	(32)	1-1/4	(32)	1-1/4	(32)	1-1/4	(32)

#### NOTES:

1. Nominal capacity conditions are based on AHRI standard. Visit [www.ahrinet.org](http://www.ahrinet.org) for more information.
2. The sound pressure level is based on the following conditions: 4.9 ft. (1.5m) beneath the units. The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.

#### Floor Exposed

Compatible Accessories	HIFE006-015B21S
Infrared (IR) Receiver Kit	CWDIRK01
3-Pin Connector Cable	PCC-1A
Connector Cable for Auxiliary Heater	PCC-CN1925-H
Relay and 3-Pin Connector Kit	PSC-5RA
Remote Sensor (Control)	THM-R2A

# AIR-SOURCE OUTDOOR UNITS

## Smart solutions for discerning customers



Reliable, quiet Hitachi VRF outdoor units are available in capacities to fit multiple applications and operate multiple indoor units. Heat pump and heat recovery units provide flexibility of design for a variety of building spaces and ambient conditions. Units are capable to be operated in quiet mode.

Outdoor Units Overview.....48-51

### Heat Recovery Outdoor Units

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Heat Recovery Specifications .....53-57

Change-Over Boxes Specifications ..... 58

### Heat Pump Outdoor Units

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### Mini VRF Outdoor Units

Mini VRF Overview .....65-66

Mini VRF Specifications ..... 67

# AIR-SOURCE OUTDOOR UNITS

## Modular solutions

Hitachi Outdoor Units are equipped with inverter compressors. These state-of-the-art compressors modulate refrigerant flow to Indoor Units, offering precise solutions for indoor comfort needs.



### The Hitachi VRF Outdoor Unit line features:

- An extended operating range to suit all types of climates
- Connection ratios up to 150% and vertical piping lift up to 360 feet for ultimate design flexibility
- Capacities from 6 to 36 tons to meet diverse application requirements
- Outdoor Units in 8, 10, 12, 14 and 16 tons offer dual inverter driven compressors for increased efficiency
- Compact design for easy installation and design flexibility
- Higher capacities at low and high ambient temperatures
- Smooth drive control for improved comfort and efficiency
- Generates frost on the indoor coil and then melts frost to wash the indoor coil. (Only for Heat Pump type)

Hitachi VRF Air-Source Outdoor Units, in capacities from 3.0 (Mini VRF) to 36 tons with modular system combinations, include heat pump and heat recovery units.

Heat pump units can either heat or cool spaces while heat recovery units enable simultaneous heating and cooling of different zones.

### All 6-ton or greater outdoor units feature:

- **Long refrigerant piping lengths** – up to 3,281 feet total pipe run and vertical distance of 360' when outdoor unit is above indoor unit.
- **Continuous heating during defrost operation** for multi-module heat recovery systems.
- **Ability to operate up to 64 indoor units** on a single piping network
- **Power-saving demand control** for reduced peak load and energy savings
- **Automatic judgement system** for refrigerant amount to verify refrigerant charge is correct
- **Diagnostics and malfunction codes** available at push of a button

# AIR-SOURCE OUTDOOR UNITS

## Summary tables

Heat Pump and Heat Recovery Units 208/230V & 460V		Heat Recovery VRF	Heat Pump VRF
Capacity		6 to 36 Tons	6 to 36 Tons
Maximum connectable indoor unit quantity		64	64
Connection ratio OU / IU		As low as 55% and up to 150%	
Total piping length	ft (m)	3,281 (1000)	3,218 (1000)
Maximum piping length between OU and IU	ft (m)	541 (165)	541 (165)
Maximum piping length between 1st branch and IU	ft (m)	295 (90)	295 (90)
Maximum height difference between OU and IU (when OU is higher than IU)	ft (m)	360 (110)	360 (110)
Maximum height difference between OU and IU (when IU is higher than OU)	ft (m)	360 (110)	360 (110)
Maximum height difference between IU and IU	ft (m)	98 (30)	98 (30)
Cooling Operation Range*	°F (°C)	-10 to 122 (-23 to 50)	-10 to 122 (-23 to 50)
Heating Operation Range*	°F (°C)	-13 to 59 (-25 to 15)	-13 to 59 (-25 to 15)

Mini VRF 208/230V Heat Pump Units		3 Ton	4 Ton	5 Ton
Mini VRF Outdoor Unit Model		HVAHP036B21S	HVAHP048B21S	HVAHP060B21S
Performance	Rated Cooling Capacity (Btu/h)	36,000	48,000	60,000
	Rated Heating Capacity (Btu/h)	40,000	54,000	64,000
	Operating Range* — Cooling (°F)	23 to 118		
	Operating Range* — Heating (°F)	-4 to 59		
	Power Supply (V/ph/Hz)	208-230 / 1 / 60		
Configurations	Number Of Indoor Units	1 to 6	1 to 8	1 to 8
Refrigerant Piping	Maximum Piping Length (ft)	492		
	Maximum Total Piping Length (ft)	984		
	Maximum Vertical Distance, IU to OU — OU above IU / OU below IU (ft)	164 / 131		
	Maximum Vertical Distance Between Indoor Units (ft)	49		
Dimensions	H x W x D (in)	54 5/16 x 37 3/8 x 14 9/16		

\* For more details and limitations, please consult Hitachi sales team or refer to product manuals

# OUTDOOR UNITS

## 208/230V | 460V | 575V outdoor units overview

Hitachi VRF outdoor units provide maximum flexibility for modular design.

### Heat Recovery Models 208/230V

6-16 Ton Single Module Systems		18-30 Ton Double Module Systems		32-36 Ton Triple Module Systems					
6 Ton	HVAHR072B32S	12 Ton	HVAHR144B32S	18 Ton	HVAHR216B32S	26 Ton	HVAHR312B32S	32 Ton	HVAHR384B32S
8 Ton	HVAHR096B32S	14 Ton	HVAHR168B32S	20 Ton	HVAHR240B32S	28 Ton	HVAHR336B32S	34 Ton	HVAHR408B32S
10 Ton	HVAHR120B32S	16 Ton	HVAHR192B32S	22 Ton	HVAHR264B32S	30 Ton	HVAHR360B32S	36 Ton	HVAHR432B32S
				24 Ton	HVAHR288B32S				

### Heat Recovery Models 460V

6-16 Ton Single Module Systems		18-30 Ton Double Module Systems		32-36 Ton Triple Module Systems					
6 Ton	HVAHR072B42S	12 Ton	HVAHR144B42S	18 Ton	HVAHR216B42S	26 Ton	HVAHR312B42S	32 Ton	HVAHR384B42S
8 Ton	HVAHR096B42S	14 Ton	HVAHR168B42S	20 Ton	HVAHR240B42S	28 Ton	HVAHR336B42S	34 Ton	HVAHR408B42S
10 Ton	HVAHR120B42S	16 Ton	HVAHR192B42S	22 Ton	HVAHR264B42S	30 Ton	HVAHR360B42S	36 Ton	HVAHR432B42S
				24 Ton	HVAHR288B42S				

### Heat Recovery Models 575V

6-16 Ton Single Module Systems		18-30 Ton Double Module Systems		32-36 Ton Triple Module Systems
6 Ton HVAHR072B52S	12 Ton HVAHR144B52S	18 Ton HVAHR216B52S	26 Ton HVAHR312B52S	32 Ton HVAHR384B52S
8 Ton HVAHR096B52S	14 Ton HVAHR168B52S	20 Ton HVAHR240B52S	28 Ton HVAHR336B52S	34 Ton HVAHR408B52S
10 Ton HVAHR120B52S	16 Ton HVAHR192B52S	22 Ton HVAHR264B52S	30 Ton HVAHR360B52S	36 Ton HVAHR432B52S
		24 Ton HVAHR288B52S		

### Heat Pump Models 208/230V

6-16 Ton Single Module Systems		18-30 Ton Double Module Systems		32-36 Ton Triple Module Systems					
6 Ton	HVAHP072B32S	12 Ton	HVAHP144B32S	18 Ton	HVAHP216B32S	26 Ton	HVAHP312B32S	32 Ton	HVAHP384B32S
8 Ton	HVAHP096B32S	14 Ton	HVAHP168B32S	20 Ton	HVAHP240B32S	28 Ton	HVAHP336B32S	34 Ton	HVAHP408B32S
10 Ton	HVAHP120B32S	16 Ton	HVAHP192B32S	22 Ton	HVAHP264B32S	30 Ton	HVAHP360B32S	36 Ton	HVAHP432B32S
				24 Ton	HVAHP288B32S				

### Heat Pump Models 460V

6-16 Ton Single Module Systems		18-30 Ton Double Module Systems		32-36 Ton Triple Module Systems	
6 Ton	HVAHP072B42S	12 Ton	HVAHP144B42S	24 Ton	HVAHP288B42S
8 Ton	HVAHP096B42S	14 Ton	HVAHP168B42S	26 Ton	HVAHP312B42S
10 Ton	HVAHP120B42S	16 Ton	HVAHP192B42S	28 Ton	HVAHP336B42S
		18 Ton	HVAHP216B42S	30 Ton	HVAHP360B42S
		20 Ton	HVAHP240B42S		
		22 Ton	HVAHP264B42S		
		24 Ton	HVAHP288B42S		

### Heat Pump Models 575V

6-16 Ton Single Module Systems		18-30 Ton Double Module Systems		32-36 Ton Triple Module Systems
6 Ton HVAHP072B52S	12 Ton HVAHP144B52S	18 Ton HVAHP216B52S	26 Ton HVAHP312B52S	32 Ton HVAHP384B52S
8 Ton HVAHP096B52S	14 Ton HVAHP168B52S	20 Ton HVAHP240B52S	28 Ton HVAHP336B52S	34 Ton HVAHP408B52S
10 Ton HVAHP120B52S	16 Ton HVAHP192B52S	22 Ton HVAHP264B52S	30 Ton HVAHP360B52S	36 Ton HVAHP432B52S
		24 Ton HVAHP288B52S		

# OUTDOOR UNITS

## Overview (Continued)

### Mini VRF Heat Pump Models 208/230V

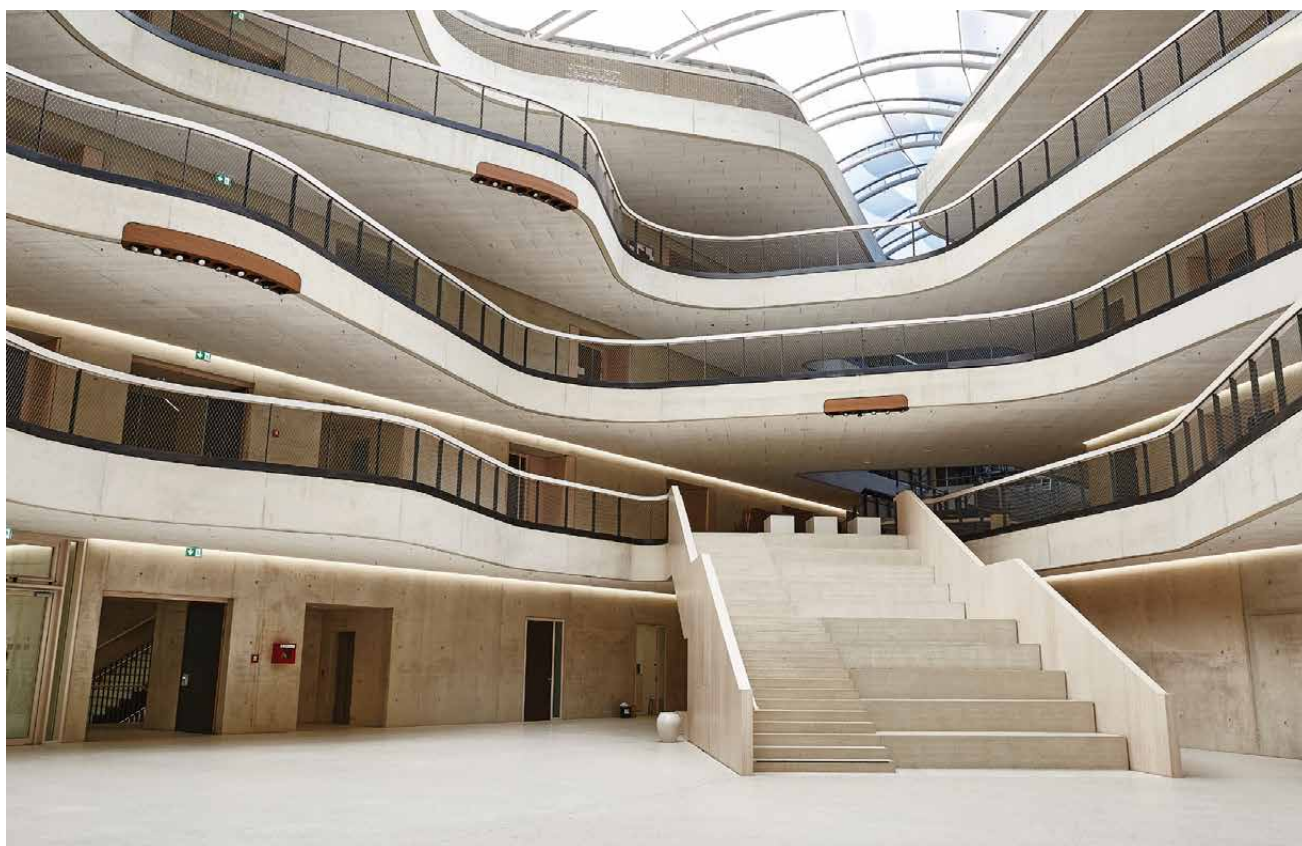
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#### 3-5 Ton Single Module Systems

3 Ton HVAHP036B21S

4 Ton HVAHP048B21S

5 Ton HVAHP060B21S





# OUTDOOR UNITS

## Heat recovery

208/230V | 460V | 575V Systems



Heat recovery units can heat and cool spaces simultaneously. Hitachi VRF Heat Recovery units offer an extended operating temperature range: outdoor ambient temperature as low as -10°F (-23°C) in the cooling mode utilizing a low ambient kit and as low as -13°F (-25°C) in the heating mode. Simultaneous heating and cooling operating range is from -4°F to 75°F.



# Heat recovery outdoor units

## 208/230V | 460V | 575V | 6-16 Ton Systems

6-16 Ton Systems	Type		Single Unit Systems					
	Tonnage		6 Ton	8 Ton	10 Ton	12 Ton	14 Ton	16 Ton
Model #	208/230V, 3PH, 60Hz		HVAHR072B32S	HVAHR096B32S	HVAHR120B32S	HVAHR144B32S	HVAHR168B32S	HVAHR192B32S
	460V, 3PH, 60Hz		HVAHR072B42S	HVAHR096B42S	HVAHR120B42S	HVAHR144B42S	HVAHR168B42S	HVAHR192B42S
	575V, 3PH, 60Hz		HVAHR072B52S	HVAHR096B52S	HVAHR120B52S	HVAHR144B52S	HVAHR168B52S	HVAHR192B52S
Nominal Capacity	Cooling	Btu/h	72,000	96,000	120,000	144,000	168,000	192,000
	Heating	Btu/h	81,000	108,000	135,000	162,000	189,000	216,000
Performance <sup>2</sup> (Non-duct / Duct)	Rated Cooling Capacity <sup>1</sup>	Btu/h	69,000	92,000	114,000	138,000	160,000	184,000
	EER	Btu/Wh	14.9 / 12.2	12.4 / 12.4	12.7 / 12.4	10.9 / 11.2	11.6 / 11.8	10.6 / 11.1
	IEER	Btu/Wh	26.5 / 21.1	23.9 / 22.1	24.4 / 21.7	23.9 / 21.2	23.4 / 21.4	21.4 / 20.8
	Rated Heating Capacity <sup>1</sup>	Btu/h	77,000	103,000	129,000	154,000	180,000	206,000
	COP	W/W	4.25 / 3.54	3.77 / 3.65	3.84 / 3.55	3.42 / 3.4	3.65 / 3.56	3.32 / 3.38
	SCHE	Btu/Wh	26.7 / 24.3	30.3 / 27.5	29.9 / 27.2	30.9 / 28.1	30.7 / 27.9	32.2 / 29.3
	Sound Pressure	dB(A)	60	63	63	65	64	66
	Operating <sup>4</sup> Temperature Range	Cooling <sup>3</sup>	°F DB [°C DB] 23 ~ 122 [-5 ~ 50]					
Heating		°F WB [°C WB] -13 ~ 59 [-25 ~ 15]						
Refrigerant	Type		R410A					
	Factory Charge Amount	lb. [kg]	15.9 [7.2]	19.6 [8.9]	21.8 [9.9]	23.6 [10.7]	24.9 [11.3]	25.6 [11.6]
Refrigerant Piping	Liquid Pipe	in. [mm]	1/2 [12.7]	1/2 [12.7]	1/2 [12.7]	5/8 [15.88]	5/8 [15.88]	5/8 [15.88]
	High/Low Pressure Gas Pipe	in. [mm]	3/4 [19.05]	3/4 [19.05]	7/8 [22.2]	7/8 [22.2]	7/8 [22.2]	7/8 [22.2]
	Low Pressure Gas Pipe	in. [mm]	7/8 [22.2]	7/8 [22.2]	1-1/8 [28.58]	1-1/8 [28.58]	1-1/8 [28.58]	1-1/8 [28.58]
Connection Ratio	Connection Ratio Range <sup>5</sup>	%	70 - 130(150)	65 - 130(150)	60 - 130(150)	55 - 130(150)		
	Number of Indoor Units (Recommended / Maximum)	Qty.	8 / 15	8 / 20	8 / 26	10 / 26	12 / 36	14 / 40
Electrical	Minimum Circuit Amps, MCA (208V/230V/460V/575V)	A	29 / 26 / 15 / 12	39 / 35 / 22 / 16	46 / 42 / 24 / 19	58 / 52 / 30 / 24	65 / 59 / 34 / 27	76 / 68 / 39 / 32
	Maximum Overcurrent Protection, MOP (208V/230V/460V/575V)	A	40 / 40 / 20 / 15	50 / 50 / 30 / 25	60 / 60 / 30 / 25	70 / 70 / 35 / 30	80 / 80 / 40 / 35	90 / 90 / 50 / 40
Compressor	Compressor Type		Inverter					
	Operation Range	%	10 ~ 100	8 ~ 100	7 ~ 100	6 ~ 100	5 ~ 100	
Fan	Fan Type		Propeller Fan x1		Propeller Fan x2			
	Airflow Rate	cfm [m³/min]	6707 [190]	8437 [239]	9037 [256]		11614 [329]	12284 [348]
	External Static Pressure <sup>6</sup>	in. WG [Pa]	0 ~ 0.32 [0 ~ 80]					
Unit	Dimensions (H x W x D)	in. [mm]	66-1/4 x 38-3/8 x 30-1/2 [1683 x 975 x 774]	66-1/4 x 48-5/8 x 30-1/2 [1683 x 1235 x 774]			66-1/4 x 64 x 30-1/2 [1683 x 1625 x 774]	
	Weight (208,230V/460V/575V)	lb. [kg]	527 / 534 / 534 [239 / 242 / 242]	598 / 611 / 611 [271 / 277 / 277]	730 / 734 / 734 [331 / 333 / 333]	732 / 737 / 737 [332 / 334 / 334]	860 / 860 / 860 [390 / 390 / 390]	

### NOTES:

- Nominal capacity conditions are based on AHRI standard. Visit [www.ahrinet.org](http://www.ahrinet.org) for more information.
- Efficiency ratings are based on the AHRI 1230 test standard.
- Extended cooling operating temperature range down to 14 °F DB [-10 °C DB] with snow protection hood, and down to -10 °F DB [-23 °C DB] with low ambient kit. However, upper limit temperature for cooling operation is restricted up to 109 °F DB [43 °C DB].
- For details, refer to Engineering Manual.
- For details, refer to Engineering Manual.
- External static pressure can be changed by DSW setting.

# Heat recovery outdoor units

## 208/230V | 460V | 575V | 18-22 Ton Systems

18-22 Ton Systems	Type		Double Module Systems		
	Tonnage		18 Ton	20 Ton	22 Ton
Model #	208/230V, 3PH, 60Hz		HVAHR216B32S	HVAHR240B32S	HVAHR264B32S
	460V, 3PH, 60Hz		HVAHR216B42S	HVAHR240B42S	HVAHR264B42S
	575V, 3PH, 60Hz		HVAHR216B52S	HVAHR240B52S	HVAHR264B52S
Unit Combination	208/230V, 3PH, 60Hz	Unit A	HVAHR144B32S	HVAHR120B32S	HVAHR144B32S
		Unit B	HVAHR072B32S	HVAHR120B32S	HVAHR120B32S
	460V, 3PH, 60Hz	Unit A	HVAHR144B42S	HVAHR120B42S	HVAHR144B42S
		Unit B	HVAHR072B42S	HVAHR120B42S	HVAHR120B42S
	575V, 3PH, 60Hz	Unit A	HVAHR144B52S	HVAHR120B52S	HVAHR144B52S
		Unit B	HVAHR072B52S	HVAHR120B52S	HVAHR120B52S
Nominal Capacity	Cooling	Btu/h	216,000	240,000	264,000
	Heating	Btu/h	243,000	270,000	297,000
Performance <sup>2</sup> (Non-duct / Duct)	Rated Cooling Capacity <sup>1</sup>	Btu/h	206,000	228,000	252,000
	EER	Btu/Wh	10.9 / 11.2	11.1 / 10.6	10.0 / 10.5
	IEER	Btu/Wh	20.9 / 20.7	20.8 / 21.0	21.1 / 20.8
	Rated Heating Capacity <sup>1</sup>	Btu/h	232,000	258,000	282,000
	COP	W/W	3.82 / 3.51	3.67 / 3.51	3.70 / 3.56
	SCHE	Btu/Wh	29.4 / 26.7	29.0 / 26.4	30.1 / 27.4
	Sound Pressure	dB(A)	66		67
Operating <sup>4</sup> Temperature Range	Cooling <sup>3</sup>	°F DB [°C DB]	23 ~ 122 [-5 ~ 50]		
	Heating	°F WB [°C WB]	-13 ~ 59 [-25 ~ 15]		
Refrigerant	Type		R410A		
	Factory Charge Amount	lb. [kg]	23.6+15.9 [10.7+7.2]	21.8+21.8 [9.9+9.9]	23.6+21.8 [10.7+9.9]
Refrigerant Piping	Liquid Pipe	in. [mm]	3/4 [19.05]	3/4 [19.05]	3/4 [19.05]
	High/Low Pressure Gas Pipe	in. [mm]	7/8 [22.2]	1-1/8 [28.58]	1-1/8 [28.58]
	Low Pressure Gas Pipe	in. [mm]	1-1/8 [28.58]	1-3/8 [34.93]	1-3/8 [34.93]
Connection Ratio	Connection Ratio Range <sup>5</sup>	%	60 - 130 (150)		55 - 130 (150)
	Number of Indoor Units (Recommended / Maximum)	Qty.	18 / 46	18 / 52	20 / 56
Electrical	Minimum Circuit Amps, MCA (Unit A + Unit B) (208V/230V/460V/575V)	A	58+29 / 52+26 / 30+15 / 24+12	46+46 / 42+42 / 24+24 / 19+19	58+46 / 52+42 / 30+24 / 24+19
	Maximum Overcurrent Protection, MOP (Unit A + Unit B) (208V/230V/460V/575V)	A	70+40 / 70+40 / 35+20 / 30+15	60+60 / 60+60 / 30+30 / 25+25	70+60 / 70+60 / 35+30 / 30+25
Compressor	Compressor Type		Inverter		
	Operation Range	%	4 ~ 100		3 ~ 100
Fan	Fan Type		Propeller Fan x3		Propeller Fan x4
	Airflow Rate	cfm [m³/min]	9037+6707 [256+190]		9037+9037 [256+256]
	External Static Pressure <sup>6</sup>	in. WG [Pa]	0 ~ 0.32 [0 ~ 80]		
Unit	Dimensions (H x W x D)	in. [mm]	66-1/4 x 87-13/16 x 30-1/2 [1683 x 2230 x 774]	66-1/4 x 98-1/16 x 30-1/2 [1683 x 2490 x 774]	
	Weight (Unit A + Unit B) (208,230V/460V/575V)	lb. [kg]	732+527 / 737+534 / 737+534 [332+239 / 334+242 / 334+242]	730+730 / 734+734 / 734+734 [331+331 / 333+333 / 333+333]	732+730 / 737+734 / 737+734 [332+331 / 334+333 / 334+333]

### NOTES:

- Nominal capacity conditions are based on AHRI standard. Visit [www.ahrinet.org](http://www.ahrinet.org) for more information.
- Efficiency ratings are based on the AHRI 1230 test standard.

- Extended cooling operating temperature range down to 14 °F DB [-10 °C DB] with snow protection hood, and down to -10 °F DB [-23 °C DB] with low ambient kit. However, upper limit temperature for cooling operation is restricted up to 109 °F DB [43 °C DB].

- For details, refer to Engineering Manual.
- For details, refer to Engineering Manual.
- External static pressure can be changed by DSW setting.

# Heat recovery outdoor units

## 208/230V | 460V | 575V | 24-26 Ton Systems

24-26 Ton Systems	Type		Double Module Systems	
	Tonnage		24 Ton	26 Ton
Model #	208/230V, 3PH, 60Hz		HVAHR288B32S	HVAHR312B32S
	460V, 3PH, 60Hz		HVAHR288B42S	HVAHR312B42S
	575V, 3PH, 60Hz		HVAHR288B52S	HVAHR312B52S
Unit Combination	208/230V, 3PH, 60Hz	Unit A	HVAHR144B32S	HVAHR168B32S
		Unit B	HVAHR144B32S	HVAHR144B32S
	460V, 3PH, 60Hz	Unit A	HVAHR144B42S	HVAHR168B42S
		Unit B	HVAHR144B42S	HVAHR144B42S
	575V, 3PH, 60Hz	Unit A	HVAHR144B52S	HVAHR168B52S
		Unit B	HVAHR144B52S	HVAHR144B52S
Nominal Capacity	Cooling	Btu/h	288,000	312,000
	Heating	Btu/h	324,000	351,000
Performance <sup>2</sup> (Non-duct / Duct)	Rated Cooling Capacity <sup>1</sup>	Btu/h	276,000	298,000
	EER	Btu/Wh	9.5 / 9.9	9.7 / 10.0
	IEER	Btu/Wh	19.4 / 20.7	20.3 / 19.5
	Rated Heating Capacity <sup>1</sup>	Btu/h	308,000	334,000
	COP	W/W	3.42 / 3.42	3.37 / 3.31
	SCHE	Btu/Wh	30.7 / 27.9	27.2 / 24.7
	Sound Pressure	dB(A)	68	
Operating <sup>4</sup> Temperature Range	Cooling <sup>3</sup>	°F DB [°C DB]	23 ~ 122 [-5 ~ 50]	
	Heating	°F WB [°C WB]	-13 ~ 59 [-25 ~ 15]	
Refrigerant	Type		R410A	
	Factory Charge Amount	lb. [kg]	23.6+23.6 [10.7+10.7]	24.9+23.6 [11.3+10.7]
Refrigerant Piping	Liquid Pipe	in. [mm]	3/4 [19.05]	3/4 [19.05]
	High/Low Pressure Gas Pipe	in. [mm]	1-1/8 [28.58]	1-1/8 [28.58]
	Low Pressure Gas Pipe	in. [mm]	1-3/8 [34.93]	1-3/8 [34.93]
Connection Ratio	Connection Ratio Range <sup>5</sup>	%	55 - 130(150)	
	Number of Indoor Units (Recommended / Maximum)	Qty.	20 / 59	22 / 64
Electrical	Minimum Circuit Amps, MCA (Unit A + Unit B) (208V/230V/460V/575V)	A	58+58 / 52+52 / 30+30 / 24+24	65+58 / 59+52 / 34+30 / 27+24
	Maximum Overcurrent Protection, MOP (Unit A + Unit B) (208V/230V/460V/575V)	A	70+70 / 70+70 / 35+35 / 30+30	80+70 / 80+70 / 40+35 / 35+30
Compressor	Compressor Type		Inverter	
	Operation Range	%	3 ~ 100	
Fan	Fan Type		Propeller Fan x4	
	Airflow Rate	cfm [m <sup>3</sup> /min]	9037+9037 [256+256]	11614+9037 [329+256]
	External Static Pressure <sup>6</sup>	in. WG [Pa]	0 ~ 0.32 [0 ~ 80]	
Unit	Dimensions (H x W x D)	in. [mm]	66-1/4 x 98-1/16 x 30-1/2 [1683 x 2490 x 774]	66-1/4 x 113-3/8 x 30-1/2 [1683 x 2880 x 774]
	Weight (Unit A + Unit B) (208,230V/460V/575V)	lb. [kg]	732+732 / 737+737 / 737+737 [332+332 / 334+334 / 334+334]	860+732 / 860+737 / 860+737 [390+332 / 390+334 / 390+334]

### NOTES:

- Nominal capacity conditions are based on AHRI standard. Visit [www.ahrinet.org](http://www.ahrinet.org) for more information.
- Efficiency ratings are based on the AHRI 1230 test standard.
- Extended cooling operating temperature range down to 14 °F DB [-10 °C DB] with snow protection hood, and down to -10 °F DB [-23 °C DB] with low ambient kit. However, upper limit temperature for cooling operation is restricted up to 109 °F DB [43 °C DB].
- For details, refer to Engineering Manual.
- For details, refer to Engineering Manual.
- External static pressure can be changed by DSW setting.

# Heat recovery outdoor units

## 208/230V | 460V | 575V | 28-30 Ton Systems

28-30 Ton Systems	Type		Double Module Systems	
	Tonnage		28 Ton	30 Ton
Model #	208/230V, 3PH, 60Hz		HVAHR336B32S	HVAHR360B32S
	460V, 3PH, 60Hz		HVAHR336B42S	HVAHR360B42S
	575V, 3PH, 60Hz		HVAHR336B52S	HVAHR360B52S
Unit Combination	208/230V, 3PH, 60Hz	Unit A	HVAHR192B32S	HVAHR192B32S
		Unit B	HVAHR144B32S	HVAHR168B32S
	460V, 3PH, 60Hz	Unit A	HVAHR192B42S	HVAHR192B42S
		Unit B	HVAHR144B42S	HVAHR168B42S
	575V, 3PH, 60Hz	Unit A	HVAHR192B52S	HVAHR192B52S
		Unit B	HVAHR144B52S	HVAHR168B52S
Nominal Capacity	Cooling	Btu/h	336,000	360,000
	Heating	Btu/h	378,000	405,000
Performance <sup>2</sup> (Non-duct / Duct)	Rated Cooling Capacity <sup>1</sup>	Btu/h	320,000	344,000
	EER	Btu/Wh	9.5 / 9.8	9.5 / 10.2
	IEER	Btu/Wh	20.8 / 19.1	19.8 / 19.5
	Rated Heating Capacity <sup>1</sup>	Btu/h	360,000	382,000
	COP	W/W	3.27 / 3.32	3.27 / 3.20
	SCHE	Btu/Wh	27.8 / 25.3	26.6 / 24.2
	Sound Pressure	dB(A)	69	68
Operating <sup>4</sup> Temperature Range	Cooling <sup>3</sup>	°F DB [°C DB]	23 ~ 122 [-5 ~ 50]	
	Heating	°F WB [°C WB]	-13 ~ 59 [-25 ~ 15]	
Refrigerant	Type		R410A	
	Factory Charge Amount	lb. [kg]	25.6+23.6 [11.6+10.7]	25.6+24.9 [11.6+11.3]
Refrigerant Piping	Liquid Pipe	in. [mm]	3/4 [19.05]	3/4 [19.05]
	High/Low Pressure Gas Pipe	in. [mm]	1-1/8 [28.58]	1-1/8 [28.58]
	Low Pressure Gas Pipe	in. [mm]	1-3/8 [34.93]	1-3/8 [34.93]
Connection Ratio	Connection Ratio Range <sup>5</sup>	%	55 - 130(150)	
	Number of Indoor Units (Recommended / Maximum)	Qty.	24/64	28/64
Electrical	Minimum Circuit Amps, MCA (Unit A + Unit B) (208V/230V/460V/575V)	A	76+58 / 68+52 / 39+30 / 32+24	76+65 / 68+59 / 39+34 / 32+27
	Maximum Overcurrent Protection, MOP (Unit A + Unit B) (208V/230V/460V/575V)	A	90+70 / 90+70 / 50+35 / 40+30	90+80 / 90+80 / 50+40 / 40+35
Compressor	Compressor Type		Inverter	
	Operation Range	%	3 ~ 100	
Fan	Fan Type		Propeller Fan x4	
	Airflow Rate	cfm [m³/min]	12284+9037 [348+256]	12284+11614 [348+329]
	External Static Pressure <sup>6</sup>	in. WG [Pa]	0 ~ 0.32 [0 ~ 80]	
Unit	Dimensions (H x W x D)	in. [mm]	66-1/4 x 113-3/8 x 30-1/2 [1683 x 2880 x 774]	66-1/4 x 128-3/4 x 30-1/2 [1683 x 3270 x 774]
	Weight (Unit A + Unit B) (208,230V/460V/575V)	lb. [kg]	860+732 / 860+737 / 860+737 [390+332 / 390+334 / 390+334]	860+860 / 860+860 / 860+860 [390+390 / 390+390 / 390+390]

### NOTES:

- Nominal capacity conditions are based on AHRI standard. Visit [www.ahrinet.org](http://www.ahrinet.org) for more information.
- Efficiency ratings are based on the AHRI 1230 test standard.
- Extended cooling operating temperature range down to 14 °F DB [-10 °C DB] with snow protection hood, and down to -10 °F DB [-23 °C DB] with low ambient kit. However, upper limit temperature for cooling operation is restricted up to 109 °F DB [43 °C DB].
- For details, refer to Engineering Manual.
- For details, refer to Engineering Manual.
- External static pressure can be changed by DSW setting.



# Heat recovery outdoor units

## 208/230V | 460V | 575V | 32-36 Ton Systems

32-36 Ton Systems	Type		Triple Module Systems		
	Tonnage		32 Ton	34 Ton	36 Ton
Model #	208/230V, 3PH, 60Hz		HVAHR384B32S	HVAHR408B32S	HVAHR432B32S
	460V, 3PH, 60Hz		HVAHR384B42S	HVAHR408B42S	HVAHR432B42S
	575V, 3PH, 60Hz		HVAHR384B52S	HVAHR408B52S	HVAHR432B52S
Unit Combination	208/230V, 3PH, 60Hz	Unit A	HVAHR144B32S	HVAHR144B32S	HVAHR144B32S
		Unit B	HVAHR120B32S	HVAHR144B32S	HVAHR144B32S
		Unit C	HVAHR120B32S	HVAHR120B32S	HVAHR144B32S
	460V, 3PH, 60Hz	Unit A	HVAHR144B42S	HVAHR144B42S	HVAHR144B42S
		Unit B	HVAHR120B42S	HVAHR144B42S	HVAHR144B42S
		Unit C	HVAHR120B42S	HVAHR120B42S	HVAHR144B42S
	575V, 3PH, 60Hz	Unit A	HVAHR144B52S	HVAHR144B52S	HVAHR144B52S
		Unit B	HVAHR120B52S	HVAHR144B52S	HVAHR144B52S
		Unit C	HVAHR120B52S	HVAHR120B52S	HVAHR144B52S
Nominal Capacity	Cooling	Btu/h	384,000	408,000	432,000
	Heating	Btu/h	432,000	459,000	486,000
Performance <sup>2</sup> (Non-duct / Duct)	Rated Cooling Capacity <sup>1</sup>	Btu/h	366,000	380,000	400,000
	EER	Btu/Wh	9.6 / 9.5	9.5 / 9.5	9.5 / 9.6
	IEER	Btu/Wh	19.6 / 18.6	19.3 / 19.2	19.5 / 19.0
	Rated Heating Capacity <sup>1</sup>	Btu/h	410,000	435,000	460,000
	COP	W/W	3.37 / 3.33	3.34 / 3.37	3.21 / 3.35
	SCHE	Btu/Wh	28.6 / 26.0	28.9 / 26.3	30.1 / 27.4
	Sound Pressure	dB(A)	69		70
Operating <sup>4</sup> Temperature Range	Cooling <sup>3</sup>	°F DB [°C DB]	23 ~ 122 [-5 ~ 50]		
	Heating	°F WB [°C WB]	-13 ~ 59 [-25 ~ 15]		
Refrigerant	Type		R410A		
	Factory Charge Amount	lb. [kg]	23.6+21.8+21.8 [10.7+9.9+9.9]	23.6+23.6+21.8 [10.7+10.7+9.9]	23.6+23.6+23.6 [10.7+10.7+10.7]
Refrigerant Piping	Liquid Pipe	in. [mm]	3/4 [19.05]	3/4 [19.05]	3/4 [19.05]
	High/Low Pressure Gas Pipe	in. [mm]	1-1/8 [28.58]	1-1/8 [28.58]	1-1/8 [28.58]
	Low Pressure Gas Pipe	in. [mm]	1-5/8 [41.28]	1-5/8 [41.28]	1-5/8 [41.28]
Connection Ratio	Connection Ratio Range <sup>5</sup>	%	55 - 130(150)		
	Number of Indoor Units (Recommended / Maximum)	Qty.	30 / 64		
Electrical	Minimum Circuit Amps, MCA (Unit A + Unit B + Unit C) (208V/230V/460V/575V)	A	58+46+46 / 52+42+42 / 30+24+24 / 24+19+19	58+58+46 / 52+52+42 / 30+30+24 / 24+24+19	58+58+58 / 52+52+52 / 30+30+30 / 24+24+24
	Maximum Overcurrent Protection, MOP (Unit A + Unit B + Unit C) (208V/230V/460V/575V)	A	70+60+60 / 70+60+60 / 35+30+30 / 30+25+25	70+70+60 / 70+70+60 / 35+35+30 / 30+30+25	70+70+70 / 70+70+70 / 35+35+35 / 30+30+30
Compressor	Compressor Type		Inverter		
	Operation Range	%	2 ~ 100		
Fan	Fan Type		Propeller Fan x6		
	Airflow Rate	cfm [m³/min]	9037+9037+9037 [256+256+256]		
	External Static Pressure <sup>6</sup>	in. WG [Pa]	0 ~ 0.32 [0 ~ 80]		
Unit	Dimensions (H x W x D)	in. [mm]	66-1/4 x 147-7/16 x 30-1/2 [1683 x 3745 x 774]		
	Weight (Unit A + Unit B + Unit C) (208,230V/460V/575V)	lb. [kg]	732+730+730 / 737+734+734 / 737+734+734 [332+331+331 / 334+333+333 / 334+333+333]	732+732+730 / 737+737+734 / 737+737+734 [332+332+331 / 334+334+333 / 334+334+333]	732+732+732 / 737+737+737 / 737+737+737 [332+332+332 / 334+334+334 / 334+334+334]

### NOTES:

- Nominal capacity conditions are based on AHRI standard. Visit [www.ahrinet.org](http://www.ahrinet.org) for more information.
- Efficiency ratings are based on the AHRI 1230 test standard.

- Extended cooling operating temperature range down to 14 °F DB [-10 °C DB] with snow protection hood, and down to -10 °F DB [-23 °C DB] with low ambient kit. However, upper limit temperature for cooling operation is restricted up to 109 °F DB [43 °C DB].

- For details, refer to Engineering Manual.
- For details, refer to Engineering Manual.
- External static pressure can be changed by DSW setting.

# CHANGE-OVER BOXES

## Overview

### Multi-port change-over boxes provide multiple benefits:

- Provide unprecedented design freedom
- Reduce costs, including material and labor, with more efficient designs
- Eliminate concerns around condensate
- Easily accommodate future expansion



Single-Port  
Change-Over Box



4 Port  
Change-Over Box



8 Port  
Change-Over Box



12 Port  
Change-Over Box

Change-Over Box Type			Single Port		Multiple Port		
Model #			COBS048B22S/C	COBS096B22S/C	COB04M132B22S	COB08M264B22S	COB12M264B22S
Power Supply			1 Phase, 208/230V, 60Hz				
Number of Ports			1	1	4	8	12
Single Indoor Unit Per Port	Maximum Total Capacity of All Connected Indoor Units	MBH	≤48	≤96	≤132	≤264	≤264
	Maximum Total Capacity of Connected Indoor Units Per Port	MBH	≤48	≤96	≤96	≤96	≤96
Multiple Indoor Units Per Port	Maximum Number of Connected Indoor Units Per Port	-	7	8	6	6	6
	Maximum Total Capacity of All Connected Indoor Units	MBH	≤41	≤71	≤114	≤216	≤216
	Maximum Total Capacity of Connected Indoor Units Per Port	MBH	≤41	≤71	≤41	≤41	≤41
Dimensions	Height	in. (mm)	7-1/2 (191)	7-1/2 (191)	10-1/4 (260)	10-1/4 (260)	10-1/4 (260)
	Width	in. (mm)	11-7/8 (301)	11-7/8 (301)	11-15/16 (303)	21-3/8 (543)	30-13/16 (783)
	Depth	in. (mm)	8-7/16 (214)	8-7/16 (214)	13-7/8 (352)	13-7/8 (352)	13-7/8 (352)
Net Weight		lbs. (kg)	13 (6)	13 (6)	31 (14)	56 (25)	80 (36)
Refrigerant		-	R410A				
Power Consumption		W	5	5	11.2	22.4	33.6
Minimum Circuit Ampacity		A	0.1	0.1	0.2	0.4	0.6
Recommended Fuse/Breaker Size		A	15	15	15	15	15
Refrigerant Piping (Outdoor Unit)	Gas Line (High/Low Pressure)	in. (mm)	5/8 (15.88)	5/8 (15.88)	7/8 (22.2)	7/8 (22.2)	1 (25.4)
	Gas Line (Low Pressure)	in. (mm)	3/4 (19.05)	3/4 (19.05)	1 (25.4)	1-1/8 (28.58)	1-1/8 (28.58)
	Liquid Line	in. (mm)	-	-	1/2 (12.7)	1/2 (12.7)	5/8 (15.88)
Refrigerant Piping (Indoor Unit)	Gas Line	in. (mm)	5/8 (15.88)	3/4 (19.05)	5/8 (15.88)	5/8 (15.88)	5/8 (15.88)
	Liquid Line	in. (mm)	-	-	3/8 (9.53)	3/8 (9.53)	3/8 (9.53)



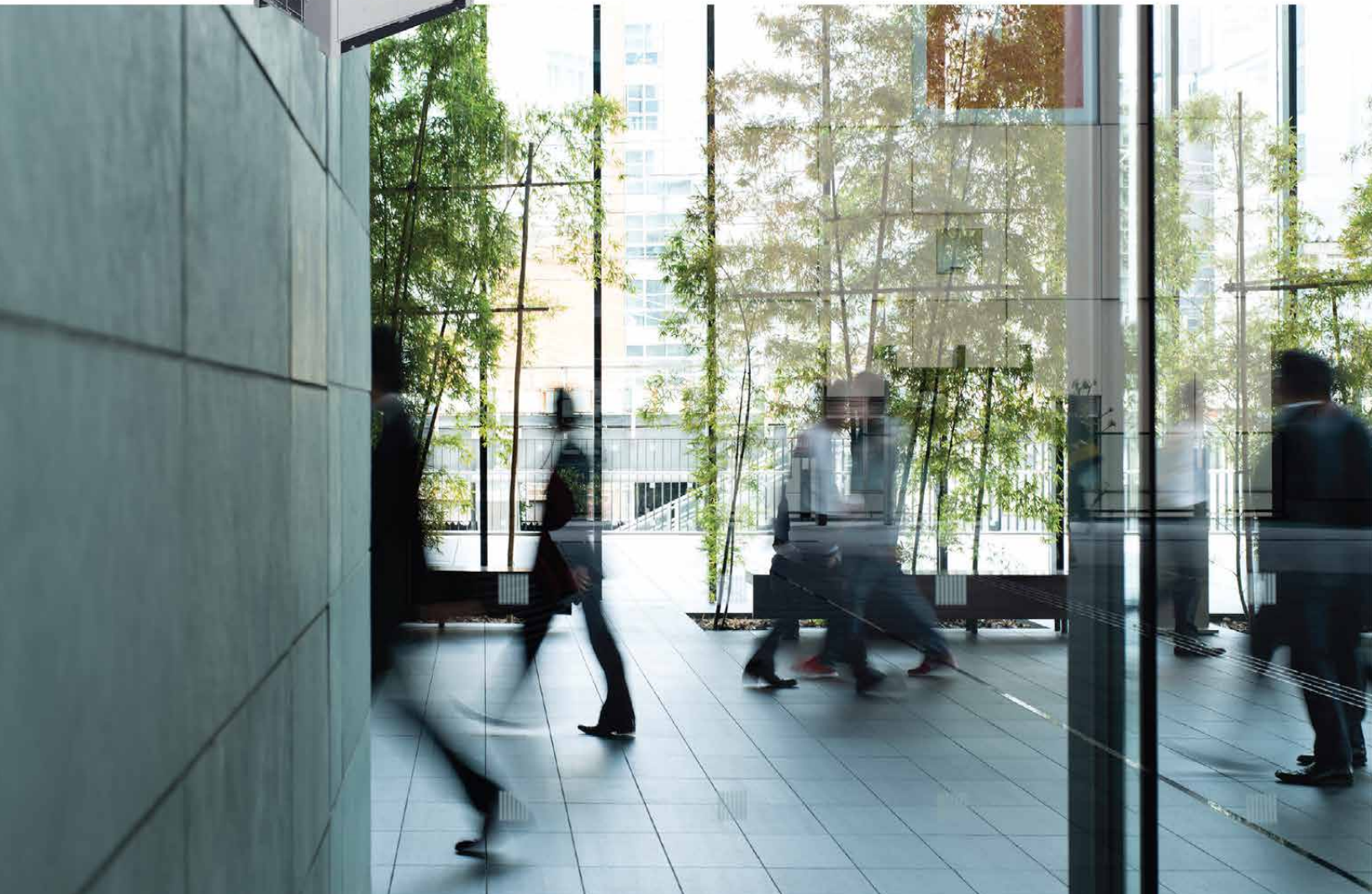
# OUTDOOR UNITS

## Heat pump

208/230V | 460V | 575V Systems



Heat pump units can either heat or cool spaces. Hitachi VRF Heat Pump units offer an extended operating temperature range: outdoor ambient temperature as low as -10°F in cooling mode utilizing a low ambient kit and as low as -13°F (-25°C) in the heating mode.



# Heat pump outdoor units

## 208/230V | 460V | 575V | 6-16 Ton Systems

6-16 Ton Systems	Type		Single Unit Systems					
	Tonnage		6 Ton	8 Ton	10 Ton	12 Ton	14 Ton	16 Ton
Model #	208/230V, 3PH, 60Hz		HVAHP072B32S	HVAHP096B32S	HVAHP120B32S	HVAHP144B32S	HVAHP168B32S	HVAHP192B32S
	460V, 3PH, 60Hz		HVAHP072B42S	HVAHP096B42S	HVAHP120B42S	HVAHP144B42S	HVAHP168B42S	HVAHP192B42S
	575V, 3PH, 60Hz		HVAHP072B52S	HVAHP096B52S	HVAHP120B52S	HVAHP144B52S	HVAHP168B52S	HVAHP192B52S
Nominal Capacity	Cooling	Btu/h	72,000	96,000	120,000	144,000	168,000	192,000
	Heating	Btu/h	81,000	108,000	135,000	162,000	189,000	216,000
Performance <sup>2</sup> (Non-duct / Duct)	Rated Cooling Capacity <sup>1</sup>	Btu/h	69,000	92,000	114,000	138,000	160,000	184,000
	EER	Btu/Wh	14.9 / 12.2	12.4 / 12.4	12.7 / 12.4	10.9 / 11.2	11.6 / 11.8	10.6 / 11.1
	IEER	Btu/Wh	26.5 / 21.1	23.9 / 22.1	24.4 / 21.7	23.9 / 21.2	23.4 / 21.4	21.4 / 20.8
	Rated Heating Capacity <sup>1</sup>	Btu/h	77,000	103,000	129,000	154,000	180,000	206,000
	COP	W/W	4.25 / 3.54	3.77 / 3.65	3.84 / 3.55	3.42 / 3.4	3.65 / 3.56	3.32 / 3.38
	Sound Pressure	dB(A)	60	63	63	65	64	66
Operating <sup>4</sup> Temperature Range	Cooling <sup>3</sup>	°F DB [°C DB]	23 ~ 122 [-5 ~ 50]					
	Heating	°F WB [°C WB]	-13 ~ 59 [-25 ~ 15]					
Refrigerant	Type		R410A					
	Factory Charge Amount	lb. [kg]	15.9 [7.2]	19.6 [8.9]	21.8 [9.9]	23.6 [10.7]	24.9 [11.3]	25.6 [11.6]
Refrigerant Piping	Liquid Pipe	in. [mm]	1/2 [12.7]	1/2 [12.7]	1/2 [12.7]	5/8 [15.88]	5/8 [15.88]	5/8 [15.88]
	Gas Pipe	in. [mm]	7/8 [22.2]	7/8 [22.2]	1-1/8 [28.58]	1-1/8 [28.58]	1-1/8 [28.58]	1-1/8 [28.58]
Connection Ratio	Connection Ratio Range <sup>5</sup>	%	70 - 130 (150)	65 - 130(150)	60 - 130(150)	55 - 130(150)		
	Number of Indoor Units (Recommended / Maximum)	Qty.	8 / 15	8 / 20	8 / 26	10 / 26	12 / 36	14 / 40
Electrical	Minimum Circuit Amps, MCA (208V/230V/460V/575V)	A	29 / 26 / 15 / 12	39 / 35 / 22 / 16	46 / 42 / 24 / 19	58 / 52 / 30 / 24	65 / 59 / 34 / 27	76 / 68 / 39 / 32
	Maximum Overcurrent Protection, MOP (208V/230V/460V/575V)	A	40 / 40 / 20 / 15	50 / 50 / 30 / 25	60 / 60 / 30 / 25	70 / 70 / 35 / 30	80 / 80 / 40 / 35	90 / 90 / 50 / 40
Compressor	Compressor Type		Inverter					
	Operation Range	%	10 ~ 100	8 ~ 100	7 ~ 100	6 ~ 100	5 ~ 100	
Fan	Fan Type		Propeller Fan x1	Propeller Fan x2				
	Airflow Rate	cfm [m³/min]	6707 [190]	8437 [239]	9037 [256]		11614 [329]	12284 [348]
	External Static Pressure <sup>6</sup>	in. WG [Pa]	0 ~ 0.32 [0 ~ 80]					
Unit	Dimensions (H x W x D)	in. [mm]	66-1/4 x 38-3/8 x 30-1/2 [1683 x 975 x 774]	66-1/4 x 48-5/8 x 30-1/2 [1683 x 1235 x 774]			66-1/4 x 64 x 30-1/2 [1683 x 1625 x 774]	
	Weight (208,230V/460V/575V)	lb. [kg]	516 / 523 / 523 [234 / 237 / 237]	591 / 604 / 604 [268 / 274 / 274]	721 / 725 / 725 [327 / 329 / 329]	723 / 728 / 728 [328 / 330 / 330]	849 / 849 / 849 [385 / 385 / 385]	

### NOTES:

- Nominal capacity conditions are based on AHRI standard. Visit [www.ahrinet.org](http://www.ahrinet.org) for more information.
- Efficiency ratings are based on the AHRI 1230 test standard.
- Extended cooling operating temperature range down to 14 °F DB [-10 °C DB] with snow protection hood, and down to -10 °F DB [-23 °C DB] with low ambient kit. However, upper limit temperature for cooling operation is restricted up to 109 °F DB [43 °C DB].
- For details, refer to Engineering Manual.
- For details, refer to Engineering Manual.
- External static pressure can be changed by DSW setting.

# Heat pump outdoor units

## 208/230V | 460V | 575V | 18-22 Ton Systems

18-22 Ton Systems	Type		Double Module Systems		
	Tonnage		18 Ton	20 Ton	22 Ton
Model #	208/230V, 3PH, 60Hz		HVAHP216B32S	HVAHP240B32S	HVAHP264B32S
	460V, 3PH, 60Hz		HVAHP216B42S	HVAHP240B42S	HVAHP264B42S
	575V, 3PH, 60Hz		HVAHP216B52S	HVAHP240B52S	HVAHP264B52S
Unit Combination	208/230V, 3PH, 60Hz	Unit A	HVAHP144B32S	HVAHP120B32S	HVAHP144B32S
		Unit B	HVAHP072B32S	HVAHP120B32S	HVAHP120B32S
	460V, 3PH, 60Hz	Unit A	HVAHP144B42S	HVAHP120B42S	HVAHP144B42S
		Unit B	HVAHP072B42S	HVAHP120B42S	HVAHP120B42S
	575V, 3PH, 60Hz	Unit A	HVAHP144B52S	HVAHP120B52S	HVAHP144B52S
		Unit B	HVAHP072B52S	HVAHP120B52S	HVAHP120B52S
Nominal Capacity	Cooling	Btu/h	216,000	240,000	264,000
	Heating	Btu/h	243,000	270,000	297,000
Performance <sup>2</sup> (Non-duct / Duct)	Rated Cooling Capacity <sup>1</sup>	Btu/h	206,000	228,000	252,000
	EER	Btu/Wh	10.9 / 11.2	11.1 / 10.6	10.0 / 10.5
	IEER	Btu/Wh	20.9 / 20.7	20.8 / 21.0	21.1 / 20.8
	Rated Heating Capacity <sup>1</sup>	Btu/h	232,000	258,000	282,000
	COP	W/W	3.82 / 3.51	3.67 / 3.51	3.70 / 3.56
	Sound Pressure	dB(A)	66		67
Operating <sup>4</sup> Temperature Range	Cooling <sup>3</sup>	°F DB [°C DB]	23 ~ 122 [-5 ~ 50]		
	Heating	°F WB [°C WB]	-13 ~ 59 [-25 ~ 15]		
Refrigerant	Type		R410A		
	Factory Charge Amount	lb. [kg]	23.6+15.9 [10.7+7.2]	21.8+21.8 [9.9+9.9]	23.6+21.8 [10.7+9.9]
Refrigerant Piping	Liquid Pipe	in. [mm]	3/4 [19.05]	3/4 [19.05]	3/4 [19.05]
	Gas Pipe	in. [mm]	1-1/8 [28.58]	1-3/8 [34.93]	1-3/8 [34.93]
Connection Ratio	Connection Ratio Range <sup>5</sup>	%	60 - 130(150)		55 - 130(150)
	Number of Indoor Units (Recommended / Maximum)	Qty.	18 / 46	18 / 52	20 / 56
Electrical	Minimum Circuit Amps, MCA (Unit A + Unit B) (208V/230V/460V/575V)	A	58+29 / 52+26 / 30+15 / 24+12	46+46 / 42+42 / 24+24 / 19+19	58+46 / 52+42 / 30+24 / 24+19
	Maximum Overcurrent Protection, MOP (Unit A + Unit B) (208V/230V/460V/575V)	A	70+40 / 70+40 / 35+20 / 30+15	60+60 / 60+60 / 30+30 / 25+25	70+60 / 70+60 / 35+30 / 30+25
Compressor	Compressor Type		Inverter		
	Operation Range	%	4 ~ 100		3 ~ 100
Fan	Fan Type		Propeller Fan x3	Propeller Fan x4	
	Airflow Rate	cfm [m³/min]	9037+6707 [256+190]	9037+9037 [256+256]	
	External Static Pressure <sup>6</sup>	in. WG [Pa]	0 ~ 0.32 [0 ~ 80]		
Unit	Dimensions (H x W x D)	in. [mm]	66-1/4 x 87-13/16 x 30-1/2 [1683 x 2230 x 774]	66-1/4 x 98-1/16 x 30-1/2 [1683 x 2490 x 774]	
	Weight (Unit A + Unit B) (208,230V/460V/575V)	lb. [kg]	723+516 / 728+523 / 728+523 [328+234 / 330+237 / 330+237]	721+721 / 725+725 / 725+725 [327+327 / 329+329 / 329+329]	723+721 / 728+725 / 728+725 [328+327 / 330+329 / 330+329]

### NOTES:

- Nominal capacity conditions are based on AHRI standard. Visit [www.ahrinet.org](http://www.ahrinet.org) for more information.
- Efficiency ratings are based on the AHRI 1230 test standard.
- Extended cooling operating temperature range down to 14 °F DB [-10 °C DB] with snow protection hood, and down to -10 °F DB [-23 °C DB] with low ambient kit. However, upper limit temperature for cooling operation is restricted up to 109 °F DB [43 °C DB].
- For details, refer to Engineering Manual.
- For details, refer to Engineering Manual.
- External static pressure can be changed by DSW setting.

# Heat pump outdoor units

## 208/230V | 460V | 575V | 24-26 Ton Systems

24-26 Ton Systems	Type		Double Module Systems	
	Tonnage		24 Ton	26 Ton
Model #	208/230V, 3PH, 60Hz		HVAHP288B32S	HVAHP312B32S
	460V, 3PH, 60Hz		HVAHP288B42S	HVAHP312B42S
	575V, 3PH, 60Hz		HVAHP288B52S	HVAHP312B52S
Unit Combination	208/230V, 3PH, 60Hz	Unit A	HVAHP144B32S	HVAHP168B32S
		Unit B	HVAHP144B32S	HVAHP144B32S
	460V, 3PH, 60Hz	Unit A	HVAHP144B42S	HVAHP168B42S
		Unit B	HVAHP144B42S	HVAHP144B42S
	575V, 3PH, 60Hz	Unit A	HVAHP144B52S	HVAHP168B52S
		Unit B	HVAHP144B52S	HVAHP144B52S
Nominal Capacity	Cooling	Btu/h	288,000	312,000
	Heating	Btu/h	324,000	351,000
Performance <sup>2</sup> (Non-duct / Duct)	Rated Cooling Capacity <sup>1</sup>	Btu/h	276,000	298,000
	EER	Btu/Wh	9.5 / 9.9	9.7 / 10.0
	IEER	Btu/Wh	19.4 / 20.7	20.3 / 19.5
	Rated Heating Capacity <sup>1</sup>	Btu/h	308,000	334,000
	COP	W/W	3.42 / 3.42	3.37 / 3.31
	Sound Pressure	dB(A)	68	
Operating <sup>4</sup> Temperature Range	Cooling <sup>3</sup>	°F DB [°C DB]	23 ~ 122 [-5 ~ 50]	
	Heating	°F WB [°C WB]	-13 ~ 59 [-25 ~ 15]	
Refrigerant	Type		R410A	
	Factory Charge Amount	lb. [kg]	23.6+23.6 [10.7+10.7]	24.9+23.6 [11.3+10.7]
Refrigerant Piping	Liquid Pipe	in. [mm]	3/4 [19.05]	3/4 [19.05]
	Gas Pipe	in. [mm]	1-3/8 [34.93]	1-3/8 [34.93]
Connection Ratio	Connection Ratio Range <sup>5</sup>	%	55 - 130(150)	
	Number of Indoor Units (Recommended / Maximum)	Qty.	20 / 59	22 / 64
Electrical	Minimum Circuit Amps, MCA (Unit A + Unit B) (208V/230V/460V/575V)"	A	58+58 / 52+52 / 30+30 / 24+24	65+58 / 59+52 / 34+30 / 27+24
	Maximum Overcurrent Protection, MOP (Unit A + Unit B) (208V/230V/460V/575V)	A	70+70 / 70+70 / 35+35 / 30+30	80+70 / 80+70 / 40+35 / 35+30
Compressor	Compressor Type		Inverter	
	Operation Range	%	3 ~ 100	
Fan	Fan Type		Propeller Fan x4	
	Airflow Rate	cfm [m <sup>3</sup> /min]	9037+9037 [256+256]	11614+9037 [329+256]
	External Static Pressure <sup>6</sup>	in. WG [Pa]	0 ~ 0.32 [0 ~ 80]	
Unit	Dimensions (H x W x D)	in. [mm]	66-1/4 x 98-1/16 x 30-1/2 [1683 x 2490 x 774]	66-1/4 x 113-3/8 x 30-1/2 [1683 x 2880 x 774]
	Weight (Unit A + Unit B) (208,230V/460V/575V)	lb. [kg]	723+723 / 728+728 / 728+728 [328+328 / 330+330 / 330+330]	849+723 / 849+728 / 849+728 [385+328 / 385+330 / 385+330]

### NOTES:

- Nominal capacity conditions are based on AHRI standard. Visit [www.ahrinet.org](http://www.ahrinet.org) for more information.
- Efficiency ratings are based on the AHRI 1230 test standard.
- Extended cooling operating temperature range down to 14 °F DB [-10 °C DB] with snow protection hood, and down to -10 °F DB [-23 °C DB] with low ambient kit. However, upper limit temperature for cooling operation is restricted up to 109 °F DB [43 °C DB].
- For details, refer to Engineering Manual.
- For details, refer to Engineering Manual.
- External static pressure can be changed by DSW setting.

# Heat pump outdoor units

## 208/230V | 460V | 575V | 28-30 Ton Systems

28-30 Ton Systems	Type		Double Module Systems	
	Tonnage		28 Ton	30 Ton
Model #	208/230V, 3PH, 60Hz		HVAHP336B32S	HVAHP360B32S
	460V, 3PH, 60Hz		HVAHP336B42S	HVAHP360B42S
	575V, 3PH, 60Hz		HVAHP336B52S	HVAHP360B52S
Unit Combination	208/230V, 3PH, 60Hz	Unit A	HVAHP192B32S	HVAHP192B32S
		Unit B	HVAHP144B32S	HVAHP168B32S
	460V, 3PH, 60Hz	Unit A	HVAHP192B42S	HVAHP192B42S
		Unit B	HVAHP144B42S	HVAHP168B42S
	575V, 3PH, 60Hz	Unit A	HVAHP192B52S	HVAHP192B52S
		Unit B	HVAHP144B52S	HVAHP168B52S
Nominal Capacity	Cooling	Btu/h	336,000	360,000
	Heating	Btu/h	378,000	405,000
Performance <sup>2</sup> (Non-duct / Duct)	Rated Cooling Capacity <sup>1</sup>	Btu/h	320,000	344,000
	EER	Btu/Wh	9.5 / 9.8	9.5 / 10.2
	IEER	Btu/Wh	20.8 / 19.1	19.8 / 19.5
	Rated Heating Capacity <sup>1</sup>	Btu/h	360,000	382,000
	COP	W/W	3.27 / 3.32	3.27 / 3.20
	Sound Pressure	dB(A)s	69	68
Operating <sup>4</sup> Temperature Range	Cooling <sup>3</sup>	°F DB [°C DB]	23 ~ 122 [-5 ~ 50]	
	Heating	°F WB [°C WB]	-13 ~ 59 [-25 ~ 15]	
Refrigerant	Type		R410A	
	Factory Charge Amount	lb. [kg]	25.6+23.6 [11.6+10.7]	25.6+24.9 [11.6+11.3]
Refrigerant Piping	Liquid Pipe	in. [mm]	3/4 [19.05]	3/4 [19.05]
	Gas Pipe	in. [mm]	1-3/8 [34.93]	1-3/8 [34.93]
Connection Ratio	Connection Ratio Range <sup>5</sup>	%	55 - 130(150)	
	Number of Indoor Units (Recommended / Maximum)	Qty.	24 / 64	28 / 64
Electrical	Minimum Circuit Amps, MCA (Unit A + Unit B) (208V/230V/460V/575V)	A	76+58 / 68+52 / 39+30 / 32+24	76+65 / 68+59 / 39+34 / 32+27
	Maximum Overcurrent Protection, MOP (Unit A + Unit B) (208V/230V/460V/575V)	A	90+70 / 90+70 / 50+35 / 40+30	90+80 / 90+80 / 50+40 / 40+35
Compressor	Compressor Type		Inverter	
	Operation Range	%	3 ~ 100	
Fan	Fan Type		Propeller Fan x4	
	Airflow Rate	cfm [m³/min]	12284+9037 [348+256]	12284+11614 [348+329]
	External Static Pressure <sup>6</sup>	in. WG [Pa]	0 ~ 0.32 [0 ~ 80]	
Unit	Dimensions (H x W x D)	in. [mm]	66-1/4 x 113-3/8 x 30-1/2 [1683 x 2880 x 774]	66-1/4 x 128-3/4 x 30-1/2 [1683 x 3270 x 774]
	Weight (Unit A + Unit B) (208,230V/460V/575V)	lb. [kg]	849+723 / 849+728 / 849+728 [385+328 / 385+330 / 385+330]	849+849 / 849+849 / 849+849 [385+385 / 385+385 / 385+385]

### NOTES:

- Nominal capacity conditions are based on AHRI standard. Visit [www.ahrinet.org](http://www.ahrinet.org) for more information.
- Efficiency ratings are based on the AHRI 1230 test standard.
- Extended cooling operating temperature range down to 14 °F DB [-10 °C DB] with snow protection hood, and down to -10 °F DB [-23 °C DB] with low ambient kit. However, upper limit temperature for cooling operation is restricted up to 109 °F DB [43 °C DB].
- For details, refer to Engineering Manual.
- For details, refer to Engineering Manual.
- External static pressure can be changed by DSW setting.

# Heat pump outdoor units

## 208/230V | 460V | 575V | 32-36 Ton Systems

32-36 Ton Systems	Type		Triple Module Systems		
	Tonnage		32 Ton	34 Ton	36 Ton
Model #	208/230V, 3PH, 60Hz		HVAHP384B32S	HVAHP408B32S	HVAHP432B32S
	460V, 3PH, 60Hz		HVAHP384B42S	HVAHP408B42S	HVAHP432B42S
	575V, 3PH, 60Hz		HVAHP384B52S	HVAHP408B52S	HVAHP432B52S
Unit Combination	208/230V, 3PH, 60Hz	Unit A	HVAHP144B32S	HVAHP144B32S	HVAHP144B32S
		Unit B	HVAHP120B32S	HVAHP144B32S	HVAHP144B32S
		Unit C	HVAHP120B32S	HVAHP120B32S	HVAHP144B32S
	460V, 3PH, 60Hz	Unit A	HVAHP144B42S	HVAHP144B42S	HVAHP144B42S
		Unit B	HVAHP120B42S	HVAHP144B42S	HVAHP144B42S
		Unit C	HVAHP120B42S	HVAHP120B42S	HVAHP144B42S
	575V, 3PH, 60Hz	Unit A	HVAHP144B52S	HVAHP144B52S	HVAHP144B52S
		Unit B	HVAHP120B52S	HVAHP144B52S	HVAHP144B52S
		Unit C	HVAHP120B52S	HVAHP120B52S	HVAHP144B52S
Nominal Capacity	Cooling	Btu/h	384,000	408,000	432,000
	Heating	Btu/h	432,000	459,000	486,000
Performance <sup>2</sup> (Non-duct / Duct)	Rated Cooling Capacity <sup>1</sup>	Btu/h	366,000	380,000	400,000
	EER	Btu/Wh	9.6 / 9.5	9.5 / 9.5	9.5 / 9.6
	IEER	Btu/Wh	19.6 / 18.6	19.3 / 19.2	19.5 / 19.0
	Rated Heating Capacity <sup>1</sup>	Btu/h	410,000	435,000	460,000
	COP	W/W	3.37 / 3.33	3.34 / 3.37	3.21 / 3.35
	Sound Pressure	dB(A)	69		70
Operating <sup>4</sup> Temperature Range	Cooling <sup>3</sup>	°F DB [°C DB]	23 ~ 122 [-5 ~ 50]		
	Heating	°F WB [°C WB]	-13 ~ 59 [-25 ~ 15]		
Refrigerant	Type		R410A		
	Factory Charge Amount	lb. [kg]	23.6+21.8+21.8 [10.7+9.9+9.9]	23.6+23.6+21.8 [10.7+10.7+9.9]	23.6+23.6+23.6 [10.7+10.7+10.7]
Refrigerant Piping	Liquid Pipe	in. [mm]	3/4 [19.05]	3/4 [19.05]	3/4 [19.05]
	Gas Pipe	in. [mm]	1-5/8 [41.28]	1-5/8 [41.28]	1-5/8 [41.28]
Connection Ratio	Connection Ratio Range <sup>5</sup>	%	55 - 130(150)		
	Number of Indoor Units (Recommended / Maximum)	Qty.	30 / 64		
Electrical	Minimum Circuit Amps, MCA (Unit A + Unit B + Unit C) (208V/230V/460V/575V)	A	58+46+46 / 52+42+42 / 30+24+24 / 24+19+19	58+58+46 / 52+52+42 / 30+30+24 / 24+24+19	58+58+58 / 52+52+52 / 30+30+30 / 24+24+24
	Maximum Overcurrent Protection, MOP (Unit A + Unit B + Unit C) (208V/230V/460V/575V)	A	70+60+60 / 70+60+60 / 35+30+30 / 30+25+25	70+70+60 / 70+70+60 / 35+35+30 / 30+30+25	70+70+70 / 70+70+70 / 35+35+35 / 30+30+30
Compressor	Compressor Type		Inverter		
	Operation Range	%	2 ~ 100		
Fan	Fan Type		Propeller Fan x6		
	Airflow Rate	cfm [m <sup>3</sup> /min]	9037+9037+9037 [256+256+256]		
	External Static Pressure <sup>6</sup>	in. WG [Pa]	0 ~ 0.32 [0 ~ 80]		
Unit	Dimensions (H x W x D)	in. [mm]	66-1/4 x 147-7/16 x 30-1/2 [1683 x 3745 x 774]		
	Weight (Unit A + Unit B + Unit C) (208,230V/460V/575V)	lb. [kg]	723+721+721 / 728+725+725 / 328+327+327 / 330+329+329 / 330+329+329]	723+723+721 / 728+728+725 / 728+728+725 [328+328+327 / 330+330+329 / 330+330+329]	723+723+723 / 728+728+728 / 728+728+728 [328+328+328 / 330+330+330 / 330+330+330]

### NOTES:

- Nominal capacity conditions are based on AHRI standard. Visit [www.ahrinet.org](http://www.ahrinet.org) for more information.
- Efficiency ratings are based on the AHRI 1230 test standard.
- Extended cooling operating temperature range down to 14 °F DB [-10 °C DB] with snow protection hood, and down to -10 °F DB [-23 °C DB] with low ambient kit. However, upper limit temperature for cooling operation is restricted up to 109 °F DB [43 °C DB].
- For details, refer to Engineering Manual.
- For details, refer to Engineering Manual.
- External static pressure can be changed by DSW setting.



# OUTDOOR UNITS

## Mini VRF single phase heat pump



### Air-Source Mini VRF Outdoor Units 208/230V HP | 3-, 4- & 5-Ton Systems

Meet diverse application needs with Hitachi Mini VRF Outdoor Units. Units are available in a range of capacities, providing exceptional design freedom. Each unit can operate multiple indoor units. Building occupants will appreciate the unit's industry leading quiet operation.





# OUTDOOR UNITS

## — Good things come in small packages

Mini VRF systems offer a host of benefits to you and your customers. These small-footprint systems offer tremendous design flexibility, enabling you to solve multiple HVAC challenges. And your customers will appreciate the exceptional energy savings and individualized comfort they provide.

### Design with freedom

Customize and size equipment to meet specific project requirements. Because ductwork is generally needed only for ventilation, ducts can be smaller, reducing capital cost. Systems can easily be adapted as space is reconfigured. There is no need to remove and replace the original unit or reconfigure ductwork.

### Install with ease

Hitachi Air-Source Mini VRF Systems are designed for quick and simple installation. Piping from the outdoor units can be connected from the front, back, side, or underneath. Indoor units are relatively small and light and easy to transport and handle.

Service is simple, too: systems need little maintenance beyond changing filters and cleaning coils. Removal of a single panel provides easy access to all components: control boards, electrical connections, compressor and piping.



#### Industry certified

Hitachi Air-Source Mini VRF Systems are Intertek ETL Listed (Canada & USA), signifying that they comply with the standard of Heating and Cooling Equipment (ANSI/UL 1995 and CAN/CSA C22.2 No. 236-11, 4th Edition, October 14, 2011). Our Mini VRF products are tested under AHRI 210/240.

The systems are also certified by the Air Conditioning, Heating & Refrigeration Institute.

### Enjoy guilt-free comfort

These compact systems are among the most energy-efficient HVAC options available today, so customers never have to choose between comfort and savings.

Variable-speed compressors provide extremely high part-load efficiency. And the systems essentially eliminate the energy loss that occurs in conventional, ducted central systems which may account for as much as 30% of energy consumption. In fact, these green technology systems can help customers attain LEED® certification points for resource efficiency.

Occupants will enjoy unparalleled comfort with Hitachi Air-Source Mini VRF Systems. Temperature can be set individually for multiple zones to suit different needs. And, once the temperature is set, the system's variable-speed compressors and precise modulation help maintain it within a narrow range, ensuring consistent comfort. Occupants will also appreciate the system's whisper-quiet operation.

### Hitachi Mini VRF Systems boast impressive efficiency ratings:

- Seasonal Energy Efficiency Ratio (SEER) up to 24.1
- Energy Efficiency Ratio (EER) up to 16.7
- Heating Seasonal Performance Factor (HSPF) up to 12.8



ENERGY STAR certified product (only for 3 and 4 Ton)  
Proper sizing and installation of equipment is critical to achieve optimal performance.

# OUTDOOR UNITS



## Mini VRF heat pump outdoor units 208/230V HP | 3-, 4- & 5-Ton Systems

3, 4 & 5 Ton Systems		Type			Mini VRF Outdoor Units						
		Tonnage			3 Ton5		4 Ton5		5 Ton		
Model #					HVAHP036B21S		HVAHP048B21S		HVAHP060B21S		
Power Supply				208/230V/ 1PH 60Hz		208/230V/ 1PH 60Hz		208/230V/ 1PH 60Hz			
Capacity (Nominal) 1	Cooling	Capacity (Nominal)	Btu/h	(kW)	36,000	(10.6)	48,000	(14.1)	60,000	(17.6)	
		Power input	kW		2.53		3.78		5.05		
		Current input	A		12.3 / 11.1		18.6 / 16.9		24.8 / 22.4		
	Heating	Capacity (Nominal)	Btu/h	(kW)	40,000	11.7	54,000	15.8	64,000	18.7	
		Power input	kW		2.40		4.00		4.40		
		Current input	A		11.8 / 10.6		19.6 / 17.7		21.7 / 19.6		
Efficiency Ratings 2	Cooling (for Non-ducted and Ducted)	Capacity (Rated)	Btu/h		36,000	36,000	48,000	48,000	60,000	55,000	
		EER	Btu/Wh		16.70	13.80	16.70	13.10	12.20	9.70	
		SEER	Btu/Wh		23.50	18.70	24.10	18.40	16.80	16.00	
	Heating (for Non-ducted and Ducted)	Rated Capacity	Btu/h		40,000	40,000	54,000	54,000	64,000	64,000	
		COP	W/W		5.12	3.90	4.56	3.86	3.90	3.30	
		HSPF	Btu/Wh		12.80	11.00	11.70	11.80	12.10	11.00	
Cooling Operating Range3		Outdoor	°F DB (°C DB)	23 (-5) ~ 118 (48)		23 (-5) ~ 118 (48)		23 (-5) ~ 118 (48)			
Heating Operating Range3		Outdoor	°F WB (°C WB)	-4 (-20) ~ 59 (15)		-4 (-20) ~ 59 (15)		-4 (-20) ~ 59 (15)			
Outer Dimensions	Height	in	(mm)	54-5/16	(1380)	54-5/16	(1380)	54-5/16	(1380)		
	Width	in	(mm)	37-3/8	(950)	37-3/8	(950)	37-3/8	(950)		
	Depth	in	(mm)	14-9/16	(370)	14-9/16	(370)	14-9/16	(370)		
Weight	Net	lbs	(kg)	249	(113)	249	(113)	249	(113)		
Connection Ratio	Total Indoor Unit Capacity		%		60-130		60-130		60-105		
	Max. (Recommendation) indoor units/system				6		8		8		
Compressor	Type		—		HA36PHD-A1S2		HA36PHD-A1S2		A36PHD-A1S2		
	Motor Output (Pole)		— / —		3PH / 6		3PH / 6		3PH / 6		
	Operation Range		%		10 ~ 100		10 ~ 100		10 ~ 100		
	Refrigeration Oil Type		-		FVC68D		FVC68D		FVC68D		
Fan	Type		-		Propeller Fan		Propeller Fan		Propeller Fan		
	Motor Output		W		58 + 58		58 + 58		58 + 58		
	Quantity		Q'ty		2		2		2		
	Air Flow Rate		cfm	(m³/min)	3177	(90)	3530	(100)	3530	(100)	
Electrical	Min Circuit Amps		A		31		31		31		
	Max. Overcurrent Protective Device		A		40		40		40		
Sound Pressure Level4	Cooling (Night-Shift)		dB(A)		51	(44)	52	(46)	53	(46)	
	Heating		dB(A)		52		54		56		
Refrigerant	Type		-		R410A						
	Charge amount		lbs	(kg)	7.9	(3.6)	7.9	(3.6)	7.9	(3.6)	
Main Refrigerant Piping	Gas Line		in	(mm)	5/8	(15.88)	5/8	(15.88)	5/8	(15.88)	
	Liquid Line		in	(mm)	3/8	(9.52)	3/8	(9.52)	3/8	(9.52)	

### NOTES:

- Nominal capacity conditions are based on AHRI standard. Visit [www.ahrinet.org](http://www.ahrinet.org) for more information.
- Efficiency ratings are based on the AHRI 210/240 test standard.
- There are some exceptions and notes for cooling and cooling operation ranges. For details, refer to Section 2.12 "Operation Range".
- Measurement Point: 3.3 ft. (1m) from the air outlet side, 4.9 ft. (1.5m) from floor level. The operation sound is measured in an anechoic chamber. However, the actual operation sound may appear louder or with an echo because of surrounding environmental noise. Be sure to check environmental conditions before installation. The sound of the air inlet side may be 3dB higher than that of the air outlet side.
- Unit is ENERGY STAR certified.

# WATER-SOURCE VRF UNITS

## Solve More HVAC Challenges



Bring the advantages of VRF technology to more customers with Hitachi Water-Source VRF Systems. Because all equipment is housed indoors, Hitachi Water-Source VRF Systems are the ideal solution for any application where outdoor equipment placement is problematic.

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Water-Source VRF Units

# WATER-SOURCE VRF UNITS

## Design with freedom

### Custom solutions for challenging applications

Bring cost-efficient Hitachi VRF technology to applications where outdoor conditions or roof lines/weight limits challenge other systems.

#### Key Benefits

All components are protected from the elements, solving problems presented by:

- Harsh climates and coastal regions
- Roof weight, exterior appearance, and external noise concerns

#### Largest-capacity systems in industry

- Modules in capacities from 6 to 48 tons can be configured in multiple ways to meet exact application requirements

#### Connection ratio range of 50 – 130%

- Provides design flexibility
- Minimizes initial costs

#### Impressive efficiency ratings

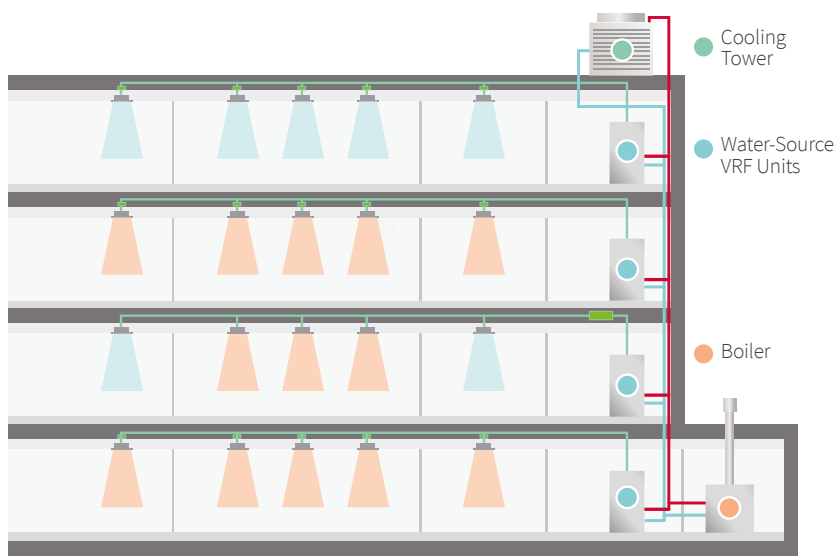
- Non-ducted systems
  - » IEER 18.9 to 29
  - » COP: 4.00 to 6.30
- Ducted systems
  - » IEER 16.9 to 23.8
  - » COP: 4.00 to 5.00

#### Small, light, modular units

- Require minimal space
- Increase design flexibility
- Simplify transportation and installation
- Enable modules to be stacked with racking
- Allow more space to be rented

#### Code compliance

- Less refrigerant is required for water-source VRF for easier compliance with ASHRAE Standard 15



#### System basics

A water loop between a cooling tower and the water-source VRF unit is used as a heat exchanger for the refrigerant. Water inlet temperature remains 50-113°F.

The water-source VRF unit modulates so only the amount of refrigerant needed to meet individual zone demand is distributed.

Heat pump systems can gain efficiencies utilizing heat recovery to and from the water loop.

Heat recovery water-source units gain efficiencies because heat is exchanged both within the refrigerant circuit and in the water loop.

Boilers can be added in cold-weather climates to maintain the temperature of the water loop.

# WATER-SOURCE VRF UNITS

## Problem solved

Project challenges are no match for Hitachi Water-Source VRF Systems:

- High-rise buildings
- Coastal areas and cold-weather climates
- Architecturally restricted properties
- Where local codes limit refrigerant use
- Buildings with cooling towers/boilers
- Applications in which cost savings are paramount
- Where space or weight are an issue

Heat Pump and Heat Recovery Units 208/230V, 460V & 575V		Heat Recovery VRF	Heat Pump VRF
Capacity		6 to 48 Tons	6 to 48 Tons
Maximum connectable indoor unit quantity		64	64
Connection ratio OU / IU		As low as 50% and up to 130%	
Total piping length	ft (m)	984 (300)	393(120)
Maximum piping length between OU and IU	ft (m)	393 (120)	393(120)
Maximum piping length between 1st branch and IU	ft (m)	131(40)	131(40)
Maximum height difference between OU and IU (when OU is higher than IU)	ft (m)	164 (50)	164(50)
Maximum height difference between OU and IU (when IU is higher than OU)	ft (m)	131 (40)	131 (40)
Maximum height difference between IU and IU	ft (m)	49 (15)	49 (15)
Entering Water Temperature*	°F (°C)	50(10) to 113(45)	50(10) to 113(45)

\* For more details and limitations, please consult Hitachi sales team or refer to product manuals

## THE HITACHI VRF WATER-SOURCE VRF SYSTEM ADVANTAGE

Systems are designed with dual heat recovery — heat can be recovered in both the water and refrigerant circuits



Dual fuels can be used — electricity for VRF units and natural gas or electricity for boiler



Defrost mode is not required — increasing energy savings and comfort



# WATER-SOURCE VRF UNITS

## Overview

Hitachi VRF unified water-source units provide maximum flexibility for modular design.

### Heat Recovery Models 208/230V

6-18 Ton Single Module Systems				20-36 Ton Double Module Systems				38-48 Ton Triple Module Systems			
6 Ton	HVWHR072B32S	14 Ton	HVWHR168B32S	20 Ton	HVWHR240B32S	30 Ton	HVWHR360B32S	38 Ton	HVWHR456B32S	44 Ton	HVWHR528B32S
8 Ton	HVWHR096B32S	16 Ton	HVWHR192B32S	22 Ton	HVWHR264B32S	32 Ton	HVWHR384B32S	40 Ton	HVWHR480B32S	46 Ton	HVWHR552B32S
10 Ton	HVWHR120B32S	18 Ton	HVWHR216B32S	24 Ton	HVWHR288B32S	34 Ton	HVWHR408B32S	42 Ton	HVWHR504B32S	48 Ton	HVWHR576B32S
12 Ton	HVWHR144B32S			26 Ton	HVWHR312B32S	36 Ton	HVWHR432B32S				
				28 Ton	HVWHR336B32S						

### Heat Recovery Models 460V

6-18 Ton Single Module Systems				20-36 Ton Double Module Systems				38-48 Ton Triple Module Systems			
6 Ton	HVWHR072B42S	14 Ton	HVWHR168B42S	20 Ton	HVWHR240B42S	30 Ton	HVWHR360B42S 32	38 Ton	HVWHR456B42S	44 Ton	HVWHR528B42S
8 Ton	HVWHR096B42S	16 Ton	HVWHR192B42S	22 Ton	HVWHR264B42S	Ton	HVWHR384B42S	40 Ton	HVWHR480B42S	46 Ton	HVWHR552B32S
10 Ton	HVWHR120B42S	18 Ton	HVWHR216B42S	24 Ton	HVWHR288B42S	34 Ton	HVWHR408B42S	42 Ton	HVWHR504B42S	48 Ton	HVWHR576B42S
12 Ton	HVWHR144B42S			26 Ton	HVWHR312B42S	36 Ton	HVWHR432B42S				
				28 Ton	HVWHR336B42S						

### Heat Recovery Models 575V

6-18 Ton Single Module Systems				20-36 Ton Double Module Systems				38-48 Ton Triple Module Systems			
6 Ton	HVWHR072B52S	14 Ton	HVWHR168B52S	20 Ton	HVWHR240B52S	30 Ton	HVWHR360B52S 32	38 Ton	HVWHR456B52S	44 Ton	HVWHR528B52S
8 Ton	HVWHR096B52S	16 Ton	HVWHR192B52S	22 Ton	HVWHR264B52S	Ton	HVWHR384B52S	40 Ton	HVWHR480B52S	46 Ton	HVWHR552B52S
10 Ton	HVWHR120B52S	18 Ton	HVWHR216B52S	24 Ton	HVWHR288B52S	34 Ton	HVWHR408B52S	42 Ton	HVWHR504B52S	48 Ton	HVWHR576B52S
12 Ton	HVWHR144B52S			26 Ton	HVWHR312B52S	36 Ton	HVWHR432B52S				
				28 Ton	HVWHR336B52S						

### Heat Pump Models 208/230V

6-18 Ton Single Module Systems				20-36 Ton Double Module Systems				38-48 Ton Triple Module Systems			
6 Ton	HVWHP072B32S	14 Ton	HVWHP168B32S	20 Ton	HVWHP240B32S	30 Ton	HVWHP360B32S	38 Ton	HVWHP456B32S	44 Ton	HVWHP528B32S
8 Ton	HVWHP096B32S	16 Ton	HVWHP192B32S	22 Ton	HVWHP264B32S	32 Ton	HVWHP384B32S	40 Ton	HVWHP480B32S	46 Ton	HVWHP552B32S
10 Ton	HVWHP120B32S	18 Ton	HVWHP216B32S	24 Ton	HVWHP288B32S	34 Ton	HVWHP408B32S	42 Ton	HVWHP504B32S	48 Ton	HVWHP576B32S
12 Ton	HVWHP144B32S			26 Ton	HVWHP312B32S	36 Ton	HVWHP432B32S				
				28 Ton	HVWHP336B32S						

### Heat Pump Models 460V

6-18 Ton Single Module Systems				20-36 Ton Double Module Systems				38-48 Ton Triple Module Systems			
6 Ton	HVWHP072B42S	14 Ton	HVWHP168B42S	20 Ton	HVWHP240B42S	30 Ton	HVWHP360B42S	38 Ton	HVWHP456B42S	44 Ton	HVWHP528B42S
8 Ton	HVWHP096B42S	16 Ton	HVWHP192B42S	22 Ton	HVWHP264B42S	32 Ton	HVWHP384B42S	40 Ton	HVWHP480B42S	46 Ton	HVWHP552B42S
10 Ton	HVWHP120B42S	18 Ton	HVWHP216B42S	24 Ton	HVWHP288B42S	34 Ton	HVWHP408B42S	42 Ton	HVWHP504B42S	48 Ton	HVWHP576B42S
12 Ton	HVWHP144B42S			26 Ton	HVWHP312B42S	36 Ton	HVWHP432B42S				
				28 Ton	HVWHP336B42S						

### Heat Pump Models 575V

6-18 Ton Single Module Systems				20-36 Ton Double Module Systems				38-48 Ton Triple Module Systems			
6 Ton	HVWHP072B52S	14 Ton	HVWHP168B52S	20 Ton	HVWHP240B52S	30 Ton	HVWHP360B52S	38 Ton	HVWHP456B52S	44 Ton	HVWHP528B52S
8 Ton	HVWHP096B52S	16 Ton	HVWHP192B52S	22 Ton	HVWHP264B52S	32 Ton	HVWHP384B52S	40 Ton	HVWHP480B52S	46 Ton	HVWHP552B52S
10 Ton	HVWHP120B52S	18 Ton	HVWHP216B52S	24 Ton	HVWHP288B52S	34 Ton	HVWHP408B52S	42 Ton	HVWHP504B52S	48 Ton	HVWHP576B52S
12 Ton	HVWHP144B52S			26 Ton	HVWHP312B52S	36 Ton	HVWHP432B52S				
				28 Ton	HVWHP336B52S						

# Water-source VRF

## Heat pump and heat recovery units

### 208/230V, 460V & 575V | 6-8 Ton Systems

Tonnage			6 Ton		8 Ton	
Model #	208/230V, 3PH, 60Hz		HVWHP072B32S	HVWHR072B32S	HVWHP096B32S	HVWHR096B32S
	460V, 3PH, 60Hz		HVWHP072B42S	HVWHR072B42S	HVWHP096B42S	HVWHR096B42S
	575V, 3PH, 60Hz		HVWHP072B52S	HVWHR072B52S	HVWHP096B52S	HVWHR096B52S
Unit Type (Heat Pump: HP, Heat Recovery: HR)			HP	HR	HP	HR
Nominal Capacity	Cooling	Btu/h	72,000		96,000	
	Heating	Btu/h	81,000		108,000	
Performance <sup>2</sup> (Non-ducted / Ducted)	Rated Cooling Capacity <sup>1</sup>	Btu/h	69,000		92,000	
	EER	Btu/Wh	17.1 / 13.6		13.7 / 12.6	
	IEER	Btu/Wh	29.0 / 22.5		25.2 / 22.3	
	Rated Heating Capacity <sup>1</sup>	Btu/h	77,000		103,000	
	COP	W/W	6.30 / 4.65		5.05 / 4.40	
	SCHE	Btu/Wh	-	21.7 / 12.4	-	16.6 / 15.1
	Sound Pressure <sup>5</sup>	dB(A)	55		57	
Refrigerant Piping	Liquid Pipe	in. [mm]	3/8 [9.52]		3/8 [9.52]	
	High/Low Pressure Gas Pipe	in. [mm]	3/4 [19.05]	5/8 [15.88]	7/8 [22.2]	3/4 [19.05]
	Low Pressure Gas Pipe	in. [mm]	-	3/4 [19.05]	-	7/8 [22.2]
Connection Ratio	Connection Ratio Range <sup>4</sup>	%	50 -130			
	Number of Indoor Units (Recommended / Maximum)	Qty.	8 / 13		8 / 16	
Water Side	Inlet Pipe	in. [mm]	1-1/4 - 11-1/2 NPT			
	Outlet Pipe	in. [mm]	1-1/4 - 11-1/2 NPT			
	Condensation Pipe	in. [mm]	1/2 NPT			
	Maximum System Water Pressure	psi [MPa]	285 [1.96]			
	Inlet Water Temperature Range <sup>3</sup>	°F [°C]	50 -113 [10 - 45]			
	Water Flow Range per Unit (Rated/Range)	gpm [L/m]	15.1 [57] / 11 - 31 [40 - 120]		20.3 [77] / 14 - 39 [50 - 150]	
Electrical	Minimum Circuit Amps, MCA (208V/230V/460V/575V)	A	20 / 18 / 11 / 9		32 / 29 / 17 / 13	
	Maximum Overcurrent Protection, MOP (208V/230V/460V/575V)	A	30 / 30 / 15 / 10		50 / 45 / 25 / 15	
Compressor	Compressor Type		Inverter			
	Operating Range	%	10 - 100			
Unit	Dimensions (H x W x D)	in. [mm]	39-3/8 x 30-11/16 x 21-5/8 [1000 x 780 x 550]			
	Weight (208,230V/460,575V)	lb. [kg]	370 / 379 [168 / 172]			

#### NOTES:

1 Rating Conditions:

##### COOLING

Indoor Air Inlet Temperature:	80.6°F (27°C) DB 66.2°F (19°C) WB 86°F (30°C)
Entering Water Temperature:	
Piping Length:	24.6ft. (7.5m)
Piping Lift:	0ft. (0m)

##### HEATING

Indoor Air Inlet Temperature:	68°F (20°C) DB
Entering Water Temperature:	68°F (20°C)

2 Efficiency ratings are based on the AHRI 1230 test standard.

3 There are some exceptions and notes for each operation range. For details, refer to Engineering Manual.

4 For details, refer to Engineering Manual.

5 Measurement Point: 3.3ft. (1m) from the air outlet side, 3.3ft. (1m) from floor level. The operation sound is measured in an anechoic chamber. However, the actual operation sound may appear louder or with an echo because of surrounding environmental noise. Be sure to check environmental conditions before installation.



# Water-source VRF

## Heat pump and heat recovery units

### 208/230V, 460V & 575V | 10-12 Ton Systems

Tonnage			10 Ton		12 Ton	
Model #	208/230V, 3PH, 60Hz		HVWHP120B32S	HVWHP120B32S	HVWHP144B32S	HVWHR144B32S
	460V, 3PH, 60Hz		HVWHP120B42S	HVWHR120B42S	HVWHP144B42S	HVWHR144B42S
	575V, 3PH, 60Hz		HVWHP120B52S	HVWHR120B52S	HVWHR144B42S	HVWHR144B52S
Unit Type (Heat Pump: HP, Heat Recovery: HR)			HP	HR	HP	HR
Nominal Capacity	Cooling	Btu/h	120,000		144,000	
	Heating	Btu/h	135,000		162,000	
Performance <sup>2</sup> (Non-ducted / Ducted)	Rated Cooling Capacity <sup>1</sup>	Btu/h	115,000		138,000	
	EER	Btu/Wh	14.4 / 13.0		15.0 / 14.0	
	IEER	Btu/Wh	26.1 / 22.6		24.9 / 23.8	
	Rated Heating Capacity <sup>1</sup>	Btu/h	129,000		154,000	
	COP	W/W	4.95 / 4.62		5.42 / 5.00	
	SCHE	Btu/Wh	-	21.8 / 19.8	-	21.9 / 19.9
	Sound Pressure <sup>5</sup>	dB(A)	60		58	
Refrigerant Piping	Liquid Pipe	in. [mm]	1/2 [12.7]		1/2 [12.7]	
	High/Low Pressure Gas Pipe	in. [mm]	7/8 [22.2]	3/4 [19.05]	1-1/8 [28.58]	7/8 [22.2]
	Low Pressure Gas Pipe	in. [mm]	-	7/8 [22.2]	-	1-1/8 [28.58]
Connection Ratio	Connection Ratio Range <sup>4</sup>	%	50 -130			
	Number of Indoor Units (Recommended / Maximum)	Qty.	8 / 23		10 / 26	
Water Side	Inlet Pipe	in. [mm]	1-1/4 - 11-1/2 NPT			
	Outlet Pipe	in. [mm]	1-1/4 - 11-1/2 NPT			
	Condensation Pipe	in. [mm]	1/2 NPT			
	Maximum System Water Pressure	psi [MPa]	285 [1.96]			
	Inlet Water Temperature Range <sup>3</sup>	°F [°C]	50 -113 [10 - 45]			
	Water Flow Range per Unit (Rated/Range)	gpm [L/m]	25.4 [96] / 20 - 56 [72 - 214]		36.5 [138] / 22 - 63 [81 - 241]	
Electrical	Minimum Circuit Amps, MCA (208V/230V/460V/575V)	A	38 / 34 / 20 / 16		37 / 34 / 20 / 16	
	Maximum Overcurrent Protection, MOP (208V/230V/460V/575V)	A	60 / 50 / 30 / 20		50 / 45 / 25 / 20	
Compressor	Compressor Type		Inverter			
	Operating Range	%	10 - 100			
Unit	Dimensions (H x W x D)	in. [mm]	39-3/8 x 30-11/16 x 21-5/8 [1000 x 780 x 550]		39-3/8 x 39-3/8 x 21-5/8 [1000 x 1000 x 550]	
	Weight (208,230V/460,575V)	lb. [kg]	381 / 390 [173 / 177]		556 / 564 [252 / 256]	

#### NOTES:

##### 1 Rating Conditions:

###### COOLING

Indoor Air Inlet Temperature:	80.6°F (27°C) DB 66.2°F (19°C) WB
Entering Water Temperature:	86°F (30°C)
Piping Length:	24.6ft. (7.5m)
Piping Lift:	0ft. (0m)

###### HEATING

Indoor Air Inlet Temperature:	68°F (20°C) DB
Entering Water Temperature:	68°F (20°C)

2 Efficiency ratings are based on the AHRI 1230 test standard.

3 There are some exceptions and notes for each operation range. For details, refer to Engineering Manual.

4 For details, refer to Engineering Manual.

5 Measurement Point: 3.3ft. (1m) from the air outlet side, 3.3ft. (1m) from floor level. The operation sound is measured in an anechoic chamber. However, the actual operation sound may appear louder or with an echo because of surrounding environmental noise.

Be sure to check environmental conditions before installation.

# Water-source VRF

## Heat pump and heat recovery units

### 208/230V, 460V & 575V | 14-18 Ton Systems

Tonnage			14 Ton		16 Ton		18 Ton	
Model #	208/230V, 3PH, 60Hz		HVWHP 168B32S	HVWHR 168B32S	HVWHP 192B32S	HVWHR 192B32S	HVWHP 216B32S	HVWHR 216B32S
	460V, 3PH, 60Hz		HVWHP 168B42S	HVWHR 168B42S	HVWHP 192B42S	HVWHR 192B42S	HVWHP 216B42S	HVWHR 216B42S
	575V, 3PH, 60Hz		HVWHP 168B52S	HVWHR 168B52S	HVWHP 192B52S	HVWHR 192B52S	HVWHP 216B52S	HVWHR 216B52S
Unit Type (Heat Pump: HP, Heat Recovery: HR)			HP	HR	HP	HR	HP	HR
Nominal Capacity	Cooling	Btu/h	168,000		192,000		216,000	
	Heating	Btu/h	189,000		216,000		243,000	
Performance <sup>2</sup> (Non-ducted / Ducted)	Rated Cooling Capacity <sup>1</sup>	Btu/h	160,000		184,000		206,000	
	EER	Btu/Wh	13.9 / 13.2		12.9 / 12.3		11.3 / 10.7	
	IEER	Btu/Wh	22.7 / 20.4		20.9 / 21.0		20.3 / 19.5	
	Rated Heating Capacity <sup>1</sup>	Btu/h	180,000		206,000		232,000	
	COP	W/W	5.30 / 4.90		4.85 / 4.50		4.30 / 4.05	
	SCHE	Btu/Wh	-	22.6 / 20.5	-	26.5 / 25.4	-	19.3 / 17.6
	Sound Pressure <sup>5</sup>	dB(A)	58		59			
Refrigerant Piping	Liquid Pipe	in. [mm]	5/8 [15.88]		5/8 [15.88]		5/8 [15.88]	
	High/Low Pressure Gas Pipe	in. [mm]	1-1/8 [28.58]	7/8 [22.2]	1-1/8 [28.58]	7/8 [22.2]	1-1/8 [28.58]	7/8 [22.2]
	Low Pressure Gas Pipe	in. [mm]	-	1-1/8 [28.58]	-	1-1/8 [28.58]	-	1-1/8 [28.58]
Connection Ratio	Connection Ratio Range <sup>4</sup>	%	50 -130					
	Number of Indoor Units (Recommended / Maximum)	Qty.	12 / 29		14 / 33			
Water Side	Inlet Pipe	in. [mm]	1-1/4 - 11-1/2 NPT					
	Outlet Pipe	in. [mm]	1-1/4 - 11-1/2 NPT					
	Condensation Pipe	in. [mm]	1/2 NPT					
	Maximum System Water Pressure	psi [MPa]	285 [1.96]					
	Inlet Water Temperature Range <sup>3</sup>	°F [°C]	50 -113 [10 - 45]					
	Water Flow Range per Unit (Rated/Range)	gpm [L/m]	44.1 [167] / 24 - 70 [90 - 268]	51 [193] / 27 - 79 [101 - 301]		56 [212] / 27 - 79 [101 - 301]		
Electrical	Minimum Circuit Amps, MCA (208V / 230V / 460V)	A	41 / 37 / 22 / 18		55 / 50 / 29 / 23		71 / 64 / 37 / 29	
	Maximum Overcurrent Protection, MOP (208V / 230V / 460V)	A	50 / 50 / 25 / 20		70 / 60 / 40 / 30		90 / 80 / 50 / 35	
Compressor	Compressor Type		Inverter					
	Operating Range	%	10 - 100					
Unit	Dimensions (H x W x D)	in. [mm]	39-3/8 x 39-3/8 x 21-5/8 [1000 x 1000 x 550]					
	Weight (208, 230V / 460V)	lb. [kg]	558 / 567 [253 / 257]					

#### NOTES:

1 Rating Conditions:

##### COOLING

Indoor Air Inlet Temperature: 80.6°F (27°C)DB  
66.2°F (19°C)WB  
Entering Water Temperature: 86°F (30°C)  
  
Piping Length: 24.6ft. (7.5m)  
Piping Lift: 0ft. (0m)

##### HEATING

Indoor Air Inlet Temperature: 68°F (20°C)DB  
Entering Water Temperature: 68°F (20°C)

2 Efficiency ratings are based on the AHRI 1230 test standard.

3 There are some exceptions and notes for each operation range. For details, refer to Engineering Manual.

4 For details, refer to Engineering Manual.

5 Measurement Point: 3.3ft. (1m) from the air outlet side, 3.3ft. (1m) from floor level. The operation sound is measured in an anechoic chamber. However, the actual operation sound may appear louder or with an echo because of surrounding environmental noise. Be sure to check environmental conditions before installation.

# Water-source VRF

## Heat pump and heat recovery units

### 208/230V, 460V & 575V | 20-24 Ton Systems

Tonnage			20 Ton		22 Ton		24 Ton	
Model #	208/230V, 3PH, 60Hz		HVWHP 240B32S	HVWHR 240B32S	HVWHP 264B32S	HVWHR 264B32S	HVWHP 288B32S	HVWHR 288B32S
	460V, 3PH, 60Hz		HVWHP 240B42S	HVWHR 240B42S	HVWHP 264B42S	HVWHR 264B42S	HVWHP 288B42S	HVWHR 288B42S
	575V, 3PH, 60Hz		HVWHP 240B52S	HVWHR 240B52S	HVWHP 264B52S	HVWHR 264B52S	HVWHP 288B52S	HVWHR 288B52S
Unit Combination	208/230V, 3PH, 60Hz	Unit A	HVWHP 120B32S	HVWHR 120B32S	HVWHP 144B32S	HVWHR 144B32S	HVWHP 144B32S	HVWHR 144B32S
		Unit B	HVWHP 120B32S	HVWHR 120B32S	HVWHP 120B32S	HVWHR 120B32S	HVWHP 144B32S	HVWHR 144B32S
	460V, 3PH, 60Hz	Unit A	HVWHP 120B42S	HVWHR 120B42S	HVWHP 144B42S	HVWHR 144B42S	HVWHP 144B42S	HVWHR 144B42S
		Unit B	HVWHP 120B42S	HVWHR 120B42S	HVWHP 120B42S	HVWHR 120B42S	HVWHP 144B42S	HVWHR 144B42S
	575V, 3PH, 60Hz	Unit A	HVWHP 120B52S	HVWHR 120B52S	HVWHP 144B52S	HVWHR 144B52S	HVWHP 144B52S	HVWHR 144B52S
		Unit B	HVWHP 120B52S	HVWHR 120B52S	HVWHP 120B52S	HVWHR 120B52S	HVWHP 144B52S	HVWHR 144B52S
Unit Type (Heat Pump: HP, Heat Recovery: HR)			HP	HR	HP	HR	HP	HR
Nominal Capacity	Cooling	Btu/h	240,000		264,000		288,000	
	Heating	Btu/h	2700,00		297,000		324,000	
Performance <sup>2</sup> (Non-ducted / Ducted)	Rated Cooling Capacity <sup>1</sup>	Btu/h	230,000		252,000		276,000	
	EER	Btu/Wh	13.5 / 12.0		13.4 / 12.9		14.0 / 13.5	
	IEER	Btu/Wh	24.2 / 21.5		23.1 / 22.0		22.5 / 22.0	
	Rated Heating Capacity <sup>1</sup>	Btu/h	258,000		282,000		308,000	
	COP	W/W	5.15 / 4.50		5.05 / 4.60		5.00 / 4.65	
	SCHE	Btu/Wh	-	20.0 / 19.1	-	18.5 / 21.5	-	18.9 / 19.8
	Sound Pressure <sup>5</sup>	dB(A)	63		62.5		61	
Refrigerant Piping	Liquid Pipe	in. [mm]	3/4 [19.05]		3/4 [19.05]		3/4 [19.05]	
	High/Low Pressure Gas Pipe	in. [mm]	1-1/8 [28.58]	7/8 [22.2]	1-3/8 [34.93]	1-1/8 [28.58]	1-3/8 [34.93]	1-1/8 [28.58]
	Low Pressure Gas Pipe	in. [mm]	-	1-1/8 [28.58]	-	1-3/8 [34.93]	-	1-3/8 [34.93]
Connection Ratio	Connection Ratio Range <sup>4</sup>	%	50 - 130					
	Number of Indoor Units (Recommended / Maximum)	Qty.	16 / 46		18 / 49		20 / 52	
Water Side	Inlet Pipe	in. [mm]	1-1/4 - 11-1/2 NPT					
	Outlet Pipe	in. [mm]	1-1/4 - 11-1/2 NPT					
	Condensation Pipe	in. [mm]	1/2 NPT					
	Maximum System Water Pressure	psi [MPa]	285 [1.96]					
	Inlet Water Temperature Range <sup>3</sup>	°F [°C]	50 - 113 [10 - 45]					
	Water Flow Range per Unit (Rated/Range) (Unit A + Unit B)	gpm [L/m]	25.4 + 25.4 [96 + 96] / 20 - 56 [72 - 214] + 21 - 56 [72 - 214]		36.5 + 25.4 [138 + 96] / 22 - 63 [81 - 241] + 20 - 56 [72 - 214]		36.5 + 36.5 [138 + 138] / 22 - 63 [81 - 241] + 22 - 63 [81 - 241]	
Electrical	Minimum Circuit Amps, MCA (208V/230V/460V/575V) (Unit A + Unit B)	A	38+38 / 34+34 / 20+20 / 16+16		37+38 / 34+34 / 20+20 / 16+16		37+37 / 34+34 / 20+20 / 16+16	
	Maximum Overcurrent Protection, MOP (208V/230V/460V/575V) (Unit A + Unit B)	A	60+60 / 50+50 / 30+30 / 20+20		50+60 / 45+50 / 25+30 / 20+20		50+50 / 45+45 / 25+25 / 20+20	
Compressor	Compressor Type		Inverter					
	Operating Range	%	10 - 100					
Unit	Dimensions (H x W x D)	in. [mm]	39-3/8 x 65-3/8 x 21-5/8 [1000 x 1660 x 550]		39-3/8 x 74 x 21-5/8 [1000 x 1880 x 550]		39-3/8 x 82-11/16 x 21-5/8 [1000 x 2100 x 550]	
	Weight (208,230V/460,575V) (Unit A + Unit B)	lb. [kg]	381+381 / 390+390 [173+173 / 177+177]		556+381 / 564+390 [252+173 / 256+177]		556+556 / 564+564 [252+252 / 256+256]	

NOTES:

1 Rating Conditions:

#### COOLING

Indoor Air Inlet Temperature:	80.6°F (27°C) DB 66.2°F (19°C) WB
Entering Water Temperature:	86°F (30°C)
Piping Length:	24.6ft. (7.5m)
Piping Lift:	0ft. (0m)

#### HEATING

Indoor Air Inlet Temperature:	68°F (20°C) DB
Entering Water Temperature:	68°F (20°C)

2 Efficiency ratings are based on the AHRI 1230 test standard.

3 There are some exceptions and notes for each operation range. For details, refer to Engineering Manual.

4 For details, refer to Engineering Manual.

5 Measurement Point: 3.3ft. (1m) from the air outlet side, 3.3ft. (1m) from floor level. The operation sound is measured in an anechoic chamber. However, the actual operation sound may appear louder or with an echo because of surrounding environmental noise. Be sure to check environmental conditions before installation.

# Water-source VRF

## Heat pump and heat recovery units

### 208/230V, 460V & 575V | 26-30 Ton Systems

Tonnage			26 Ton		28 Ton		30 Ton	
Model #	208/230V, 3PH, 60Hz		HVWHP 312B32S	HVWHR 312B32S	HVWHP 336B32S	HVWHR 336B32S	HVWHP 360B32S	HVWHR 360B32S
	460V, 3PH, 60Hz		HVWHP 312B42S	HVWHR 312B42S	HVWHP 336B42S	HVWHR 336B42S	HVWHP 360B42S	HVWHR 360B42S
	575V, 3PH, 60Hz		HVWHP 312B52S	HVWHR 312B52S	HVWHP 336B52S	HVWHR 336B52S	HVWHP 360B52S	HVWHR 360B52S
Unit Combination	208/230V, 3PH, 60Hz	Unit A	HVWHP 168B32S	HVWHR 168B32S	HVWHP 168B32S	HVWHR 168B32S	HVWHP 192B32S	HVWHR 192B32S
		Unit B	HVWHP 144B32S	HVWHR 144B32S	HVWHP 168B32S	HVWHR 168B32S	HVWHP 168B32S	HVWHR 168B32S
	460V, 3PH, 60Hz	Unit A	HVWHP 168B42S	HVWHR 168B42S	HVWHP 168B42S	HVWHR 168B42S	HVWHP 192B42S	HVWHR 192B42S
		Unit B	HVWHP 144B42S	HVWHR 144B42S	HVWHP 168B42S	HVWHR 168B42S	HVWHP 168B42S	HVWHR 168B42S
	575V, 3PH, 60Hz	Unit A	HVWHP 168B52S	HVWHR 168B52S	HVWHP 168B52S	HVWHR 168B52S	HVWHP 192B52S	HVWHR 192B52S
		Unit B	HVWHP 144B52S	HVWHR 144B52S	HVWHP 168B52S	HVWHR 168B52S	HVWHP 168B52S	HVWHR 168B52S
UNIT TYPE (HEAT PUMP: HP, HEAT RECOVERY: HR)			HP	HR	HP	HR	HP	HR
Nominal Capacity	Cooling	Btu/h	312,000		336,000		360,000	
	Heating	Btu/h	351,000		378,000		405,000	
Performance <sup>2</sup> (Non-ducted / Ducted)	Rated Cooling Capacity <sup>1</sup>	Btu/h	298,000		320,000		344,000	
	EER	Btu/Wh	13.4 / 13.2		12.9 / 12.8		12.65 / 12.6	
	IEER	Btu/Wh	21.4 / 21.5		20.7 / 20.5		19.7 / 18.6	
	Rated Heating Capacity <sup>1</sup>	Btu/h	334,000		360,000		382,000	
	COP	W/W	4.70 / 4.45		4.60 / 4.50		4.50 / 4.40	
	SCHE	Btu/Wh	-	18.5 / 20.2	-	18.2 / 21.8	-	18.1 / 23.6
	Sound Pressure <sup>5</sup>	dB(A)	61				61.5	
Refrigerant Piping	Liquid Pipe	in. [mm]	3/4 [19.05]		3/4 [19.05]		3/4 [19.05]	
	High/Low Pressure Gas Pipe	in. [mm]	1-3/8 [34.93]	1-1/8 [28.58]	1-3/8 [34.93]	1-1/8 [28.58]	1-5/8 [41.28]	1-3/8 [34.93]
	Low Pressure Gas Pipe	in. [mm]	-	1-3/8 [34.93]	-	1-3/8 [34.93]	-	1-5/8 [41.28]
Connection Ratio	Connection Ratio Range <sup>4</sup>	%	50 -130					
	Number of Indoor Units (Recommended / Maximum)	Qty.	22 / 55		24 / 58		26 / 62	
Water Side	Inlet Pipe	in. [mm]	1-1/4 - 11-1/2 NPT					
	Outlet Pipe	in. [mm]	1-1/4 - 11-1/2 NPT					
	Condensation Pipe	in. [mm]	1/2 NPT					
	Maximum System Water Pressure	psi [MPa]	285 [1.96]					
	Inlet Water Temperature Range <sup>3</sup>	°F [°C]	50 -113 [10 - 45]					
	Water Flow Range per Unit (Rated/Range) (Unit A + Unit B)	gpm [L/m]	44.1+36.5 [167+138] / 24 - 70 [90 - 268] + 22 - 63 [81 - 241]		44.1+44.1 [167+167] / 24 - 70 [90 - 268] + 24 - 70 [90 - 268]		51+44.1 [193+167] / 27 - 79 [101 - 301] + 24 - 70 [90 - 268]	
Electrical	Minimum Circuit Amps, MCA (208V/230V/460V/575V) (Unit A + Unit B)	A	41+37 / 37+34 / 22+20 / 18+16		41+41 / 37+37 / 22+22 /18+18		55+41 / 50+37 / 29+22 / 23+18	
	Maximum Overcurrent Protection, MOP (208V/230V/460V/575V) (Unit A + Unit B)	A	50+50 / 50+45 / 25+25 / 20+20		50+50 / 50+50 / 25+25 / 20+20		70+50 / 60+50 / 40+25 / 30+20	
Compressor	Compressor Type		Inverter					
	Operating Range	%	10 - 100					
Unit	Dimensions (H x W x D)	in. [mm]	39-3/8 x 82-11/16 x 21-5/8 [1000 x 2100 x 550]					
	Weight (Unit A + Unit B) (208, 230V / 460V)	lb. [kg]	558+556 / 567+564 [253+252 / 257+256]			558+558 / 567+567 [253+253 / 257+257]		

#### NOTES:

1 Rating Conditions:

##### COOLING

Indoor Air Inlet Temperature: 80.6°F (27°C) DB  
66.2°F (19°C) WB  
Entering Water Temperature: 86°F (30°C)

Piping Length: 24.6ft. (7.5m)  
Piping Lift: 0ft. (0m)

##### HEATING

Indoor Air Inlet Temperature: 68°F (20°C) DB  
Entering Water Temperature: 68°F (20°C)

2 Efficiency ratings are based on the AHRI 1230 test standard.

3 There are some exceptions and notes for each operation range. For details, refer to Engineering Manual.

4 For details, refer to Engineering Manual.

5 Measurement Point: 3.3ft. (1m) from the air outlet side, 3.3ft. (1m) from floor level.

The operation sound is measured in an anechoic chamber. However, the actual operation sound may appear louder or with an echo because of surrounding environmental noise. Be sure to check environmental conditions before installation.

# Water-source VRF

## Heat pump and heat recovery units

### 208/230V, 460V & 575V | 32-36 Ton Systems

Tonnage			32 Ton		34 Ton		36 Ton	
Model #	208/230V, 3PH, 60Hz		HVWHP 384B32S	HVWHR 384B32S	HVWHP 408B32S	HVWHR 408B32S	HVWHP 432B32S	HVWHR 432B32S
	460V, 3PH, 60Hz		HVWHP 384B42S	HVWHR 384B42S	HVWHP 408B42S	HVWHR 408B42S	HVWHP 432B42S	HVWHR 432B42S
	575V, 3PH, 60Hz		HVWHP 384B52S	HVWHR 384B52S	HVWHP 408B52S	HVWHR 408B52S	HVWHP 432B52S	HVWHR 432B52S
Unit Combination	208/230V, 3PH, 60Hz	Unit A	HVWHP 192B32S	HVWHR 192B32S	HVWHP 216B32S	HVWHR 216B32S	HVWHP 216B32S	HVWHR 216B32S
		Unit B	HVWHP 192B32S	HVWHR 192B32S	HVWHP 192B32S	HVWHR 192B32S	HVWHP 216B32S	HVWHR 216B32S
	460V, 3PH, 60Hz	Unit A	HVWHP 192B42S	HVWHR 192B42S	HVWHP 216B42S	HVWHR 216B42S	HVWHP 216B42S	HVWHR 216B42S
		Unit B	HVWHP 192B42S	HVWHR 192B42S	HVWHP 192B42S	HVWHR 192B42S	HVWHP 216B42S	HVWHR 216B42S
	575V, 3PH, 60Hz	Unit A	HVWHP 192B52S	HVWHR 192B52S	HVWHP 216B52S	HVWHR 216B52S	HVWHP 216B52S	HVWHR 216B52S
		Unit B	HVWHP 192B52S	HVWHR 192B52S	HVWHP 192B52S	HVWHR 192B52S	HVWHP 216B52S	HVWHR 216B52S
Unit Type (Heat Pump: HP, Heat Recovery: HR)			HP	HR	HP	HR	HP	HR
Nominal Capacity	Cooling	Btu/h	384,000		408,000		432,000	
	Heating	Btu/h	432,000		459,000		486,000	
Performance <sup>2</sup> (Non-ducted / Ducted)	Rated Cooling Capacity <sup>1</sup>	Btu/h	366,000		390,000		414,000	
	EER	Btu/Wh	12.2 / 12.4		11.7 / 11.7		11.1 / 11.0	
	IEER	Btu/Wh	18.9 / 18.5		19.0 / 18.0		19.5 / 17.5	
	Rated Heating Capacity <sup>1</sup>	Btu/h	410,000		434,000		460,000	
	COP	W/W	4.30 / 4.20		4.15 / 4.10		4.10 / 4.00	
	SCHE	Btu/Wh	-	17.9 / 19.4	-	17.5 / 18.8	-	20.0 / 18.4
	Sound Pressure <sup>5</sup>	dB(A)	62					
Refrigerant Piping	Liquid Pipe	in. [mm]	3/4 [19.05]		3/4 [19.05]		3/4 [19.05]	
	High/Low Pressure Gas Pipe	in. [mm]	1-5/8 [41.28]	1-3/8 [34.93]	1-5/8 [41.28]	1-3/8 [34.93]	1-5/8 [41.28]	1-3/8 [34.93]
	Low Pressure Gas Pipe	in. [mm]	-	1-5/8 [41.28]	-	1-5/8 [41.28]	-	1-5/8 [41.28]
Connection Ratio	Connection Ratio Range <sup>4</sup>	%	50 - 130					
	Number of Indoor Units (Recommended / Maximum)	Qty.	28 / 64					
Water Side	Inlet Pipe	in. [mm]	1-1/4 - 11-1/2 NPT					
	Outlet Pipe	in. [mm]	1-1/4 - 11-1/2 NPT					
	Condensation Pipe	in. [mm]	1/2 NPT					
	Maximum System Water Pressure	psi [MPa]	285 [1.96]					
	Inlet Water Temperature Range <sup>3</sup>	°F [°C]	50 - 113 [10 - 45]					
	Water Flow Range per Unit (Rated/Range) (Unit A + Unit B)	gpm [L/m]	51+51 [193+193] / 27 - 79 [101 - 301] + 27 - 79 [101 - 301]		56+51 [212+193] / 27 - 79 [101 - 301] + 27 - 79 [101 - 301]		56+56 [212+212] / 27 - 79 [101 - 301] + 27 - 79 [101 - 301]	
Electrical	Minimum Circuit Amps, MCA (208V/230V/460V/575V) (Unit A + Unit B)	A	55+55 / 50+50 / 29+29 / 23+23		71+55 / 64+50 / 37+29 / 29+23		71+71 / 64+64 / 37+37 / 29+29	
	Maximum Overcurrent Protection, MOP (208V/230V/460V/575V) (Unit A + Unit B)	A	70+70 / 60+60 / 40+40 / 30+30		90+70 / 80+60 / 50+40 / 35+30		90+90 / 80+80 / 50+50 / 35+35	
Compressor	Compressor Type		Inverter					
	Operating Range	%	10 - 100					
Unit	Dimensions (H x W x D)	in. [mm]	39-3/8 x 82-11/16 x 21-5/8 [1000 x 2100 x 550]					
	Weight (208,230V/460,575V) (Unit A + Unit B)	lb. [kg]	558+558 / 567+567 [253+253 / 257+257]					

#### NOTES:

1 Rating Conditions:

##### COOLING

Indoor Air Inlet Temperature:	80.6°F (27°C) DB 66.2°F (19°C) WB
Entering Water Temperature:	86°F (30°C)
Piping Length:	24.6ft. (7.5m)
Piping Lift:	0ft. (0m)

##### HEATING

Indoor Air Inlet Temperature:	68°F (20°C) DB
Entering Water Temperature:	68°F (20°C)

2 Efficiency ratings are based on the AHRI 1230 test standard.

3 There are some exceptions and notes for each operation range. For details, refer to Engineering Manual.

4 For details, refer to Engineering Manual.

5 Measurement Point: 3.3ft. (1m) from the air outlet side, 3.3ft. (1m) from floor level.

The operation sound is measured in an anechoic chamber. However, the actual operation sound may appear louder or with an echo because of surrounding environmental noise. Be sure to check environmental conditions before installation.

# Water-source VRF

## Heat pump and heat recovery units

### 208/230V, 460V & 575V | 38-42 Ton Systems

Tonnage			38 Ton		40 Ton		42 Ton	
Model #	208/230V, 3PH, 60Hz		HVWHP 456B32S	HVWHR 456B32S	HVWHP 480B32S	HVWHR 480B32S	HVWHP 504B32S	HVWHR 504B32S
	460V, 3PH, 60Hz		HVWHP 456B42S	HVWHR 456B42S	HVWHP 480B42S	HVWHR 480B42S	HVWHP 504B42S	HVWHR 504B42S
	575V, 3PH, 60Hz		HVWHP 456B52S	HVWHR 456B52S	HVWHP 480B52S	HVWHR 480B52S	HVWHP 504B52S	HVWHR 504B52S
Unit Combination	208/230V, 3PH, 60Hz	Unit A	HVWHP 168B32S	*VWHR 168B32S	HVWHP 168B32S	HVWHR 168B32S	HVWHP 168B32S	HVWHR 168B32S
		Unit B	HVWHP 144B32S	*VWHR 144B32S	HVWHP 168B32S	HVWHR 168B32S	HVWHP 168B32S	HVWHR 168B32S
		Unit C	HVWHP 144B32S	HVWHR 144B32S	HVWHP 144B32S	HVWHR 144B32S	HVWHP 168B32S	HVWHR 168B32S
	460V, 3PH, 60Hz	Unit A	HVWHP 168B42S	HVWHR 168B42S	HVWHP 168B42S	HVWHR 168B42S	HVWHP 168B42S	HVWHR 168B42S
		Unit B	HVWHP 144B42S	HVWHR 144B42S	HVWHP 168B42S	HVWHR 168B42S	HVWHP 168B42S	HVWHR 168B42S
		Unit C	HVWHP 144B42S	HVWHR 144B42S	HVWHP 144B42S	HVWHR 144B42S	HVWHP 168B42S	HVWHR 168B42S
	575V, 3PH, 60Hz	Unit A	HVWHP 168B52S	HVWHR 168B52S	HVWHP 168B52S	HVWHR 168B52S	HVWHP 168B52S	HVWHR 168B52S
		Unit B	HVWHP 144B52S	HVWHR 144B52S	HVWHP 168B52S	HVWHR 168B52S	HVWHP 168B52S	HVWHR 168B52S
		Unit C	HVWHP 144B52S	HVWHR 144B52S	HVWHP 144B52S	HVWHR 144B52S	HVWHP 168B52S	HVWHR 168B52S
Unit Type (Heat Pump: HP, Heat Recovery: HR)			HP	HR	HP	HR	HP	HR
Nominal Capacity	Cooling	Btu/h	456,000		480,000		504,000	
	Heating	Btu/h	513,000		540,000		567,000	
Performance <sup>2</sup> (Non-ducted / Ducted)	Rated Cooling Capacity <sup>1</sup>	Btu/h	436,000		460,000		480,000	
	EER	Btu/Wh	12.5 / 14.0		11.9 / 13.6		11.5 / 13.1	
	IEER	Btu/Wh	22.0 / 20.2		21.5 / 19.9		21.0 / 18.8	
	Rated Heating Capacity <sup>1</sup>	Btu/h	484,000		510,000		540,000	
	COP	W/W	4.55 / 4.60		4.40 / 4.55		4.30 / 4.50	
	SCHE	Btu/Wh	-	23.5 / 18.9		-	21.0 / 18.8	
Refrigerant Piping	Sound Pressure <sup>5</sup>	dB(A)	63					
	Liquid Pipe	in. [mm]	3/4 [19.05]		3/4 [19.05]		3/4 [19.05]	
	High/Low Pressure Gas Pipe	in. [mm]	1-5/8 [41.28]	1-3/8 [34.93]	1-5/8 [41.28]	1-3/8 [34.93]	1-5/8 [41.28]	1-3/8 [34.93]
	Low Pressure Gas Pipe	in. [mm]	-	1-5/8 [41.28]	-	1-5/8 [41.28]	-	1-5/8 [41.28]
Connection Ratio	Connection Ratio Range <sup>4</sup>	%	50 - 130					
	Number of Indoor Units (Recommended / Maximum)	Qty.	28/64					
Water Side	Inlet Pipe	in. [mm]	1-1/4 - 11-1/2 NPT					
	Outlet Pipe	in. [mm]	1-1/4 - 11-1/2 NPT					
	Condensation Pipe	in. [mm]	1/2 NPT					
	Maximum System Water Pressure	psi [MPa]	285 [1.96]					
	Inlet Water Temperature Range <sup>3</sup>	°F [°C]	50 - 113 [10 - 45]					
Electrical	Water Flow Range per Unit (Rated/Range) (Unit A + Unit B + Unit C)	gpm [L/m]	44.1 + 36.5 + 36.5 [167 + 138 + 138] / 24 - 70 [90 - 268] + 22 - 63 [81 - 241] + 22 - 63 [81 - 241]		44.1 + 44.1 + 36.5 [167 + 167 + 138] / 24 - 70 [90 - 268] + 24 - 70 [90 - 268] + 22 - 63 [81 - 241]		44.1 + 44.1 + 44.1 [167 + 167 + 167] / 24 - 70 [90 - 268] + 24 - 70 [90 - 268] + 24 - 70 [90 - 268]	
	Minimum Circuit Amps, MCA (208V/230V/460V/575V) (Unit A + Unit B + Unit C)	A	41+37+37 / 37+34+34 / 22+20+20 / 18+16+16		41+41+37 / 37+37+34 / 22+22+20 / 18+18+16		41+41+41 / 37+37+37 / 22+22+22 / 18+18+18	
Compressor	Maximum Overcurrent Protection, MOP (208V/230V/460V/575V) (Unit A + Unit B + Unit C)	A	50+50+50 / 50+45+45 / 25+25+25 / 20+20+20		50+50+50 / 50+50+45 / 25+25+25 / 20+20+20		50+50+50 / 50+50+50 / 25+25+25 / 20+20+20	
	Compressor Type		Inverter					
Unit	Operating Range	%	10 - 100					
	Dimensions (H x W x D)	in. [mm]	39-3/8 x 126 x 21-5/8 [1000 x 3200 x 550]					
Unit	Weight (208,230V/460,575V) (Unit A + Unit B + Unit C)	lb. [kg]	558+556+556 / 567+564+564 [253+252+252 / 257+256+256]		558+558+556 / 567+567+564 [253+253+252 / 257+257+256]		558+558+558 / 567+567+567 [253+253+253 / 257+257+257]	

#### NOTES:

1 Rating Conditions:

#### COOLING

Indoor Air Inlet Temperature:	80.6°F (27°C)DB 66.2°F (19°C)WB
Entering Water Temperature:	86°F (30°C)
Piping Length:	24.6ft. (7.5m)
Piping Lift:	0ft. (0m)

#### HEATING

Indoor Air Inlet Temperature:	68°F (20°C)DB
Entering Water Temperature:	68°F (20°C)

2 Efficiency ratings are based on the AHRI 1230 test standard.

3 There are some exceptions and notes for each operation range. For details, refer to Engineering Manual.

4 For details, refer to Engineering Manual.

5 Measurement Point: 3.3ft. (1m) from the air outlet side, 3.3ft. (1m) from floor level. The operation sound is measured in an anechoic chamber. However, the actual operation sound may appear louder or with an echo because of surrounding environmental noise. Be sure to check environmental conditions before installation.

# Water-source VRF

## Heat pump and heat recovery units

### 208/230V, 460V & 575V | 44-48 Ton Systems

Tonnage			44 Ton		46 Ton		48 Ton	
Model #	208/230V, 3PH, 60Hz		HVWHP 528B32S	HVWHR 528B32S	HVWHP 552B32S	HVWHR 552B32S	HVWHP 576B32S	HVWHR 576B32S
	460V, 3PH, 60Hz		HVWHP 528B42S	HVWHR 528B42S	HVWHP 552B42S	HVWHR 552B42S	HVWHP 576B42S	HVWHR 576B42S
	575V, 3PH, 60Hz		HVWHP 528B52S	HVWHR 528B52S	HVWHP 552B52S	HVWHR 552B52S	HVWHP 576B52S	HVWHR 576B52S
Unit Combination	208/230V, 3PH, 60Hz	Unit A	HVWHP 192B32S	HVWHR 192B32S	HVWHP 192B32S	HVWHR 192B32S	HVWHP 192B32S	HVWHR 192B32S
		Unit B	HVWHP 168B32S	HVWHR 168B32S	HVWHP 192B32S	HVWHR 192B32S	HVWHP 192B32S	HVWHR 192B32S
		Unit C	HVWHP 168B32S	HVWHR 168B32S	HVWHP 168B32S	HVWHR 168B32S	HVWHP 192B32S	HVWHR 192B32S
	460V, 3PH, 60Hz	Unit A	HVWHP 192B42S	HVWHR 192B42S	HVWHP 192B42S	HVWHR 192B42S	HVWHP 192B42S	HVWHR 192B42S
		Unit B	HVWHP 168B42S	HVWHR 168B42S	HVWHP 192B42S	HVWHR 192B42S	HVWHP 192B42S	HVWHR 192B42S
		Unit C	HVWHP 168B42S	HVWHR 168B42S	HVWHP 168B42S	HVWHR 168B42S	HVWHP 192B42S	HVWHR 192B42S
	575V, 3PH, 60Hz	Unit A	HVWHP 192B52S	HVWHR 192B52S	HVWHP 192B52S	HVWHR 192B52S	HVWHP 192B52S	HVWHR 192B52S
		Unit B	HVWHP 168B52S	HVWHR 168B52S	HVWHP 192B52S	HVWHR 192B52S	HVWHP 192B52S	HVWHR 192B52S
		Unit C	HVWHP 168B52S	HVWHR 168B52S	HVWHP 168B52S	HVWHR 168B52S	HVWHP 192B52S	HVWHR 192B52S
Unit Type (Heat Pump: HP, Heat Recovery: HR)			HP	HR	HP	HR	HP	HR
Nominal Capacity	Cooling	Btu/h	528,000		552,000		576,000	
	Heating	Btu/h	594,000		621,000		648,000	
Performance <sup>2</sup> (Non-ducted / Ducted)	Rated Cooling Capacity <sup>1</sup>	Btu/h	504,000		530,000		550,000	
	EER	Btu/Wh	11.0 / 12.6		10.8 / 11.8		10.35 / 11.4	
	IEER	Btu/Wh	20.5 / 18.8		20.5 / 17.2		20.5 / 16.9	
	Rated Heating Capacity <sup>1</sup>	Btu/h	564,000		590,000		614,000	
	COP	W/W	4.20 / 4.35		4.10 / 4.30		4.00 / 4.10	
	SCHE	Btu/Wh	-	18.0 / 18.5	-	17.0 / 18.3	-	15.0 / 18.1
	Sound Pressure <sup>5</sup>	dB(A)	63.5		63.5		64	
Refrigerant Piping	Liquid Pipe	in. [mm]	3/4 [19.05]		3/4 [19.05]		3/4 [19.05]	
	High/Low Pressure Gas Pipe	in. [mm]	1-5/8 [41.28]	1-3/8 [34.93]	1-5/8 [41.28]	1-3/8 [34.93]	1-5/8 [41.28]	1-3/8 [34.93]
	Low Pressure Gas Pipe	in. [mm]	-	1-5/8 [41.28]	-	1-5/8 [41.28]	-	1-5/8 [41.28]
Connection Ratio	Connection Ratio Range <sup>4</sup>	%	50 - 130					
	Number of Indoor Units (Recommended / Maximum)	Qty.	28 / 64					
Water Side	Inlet Pipe	in. [mm]	1-1/4 - 11-1/2 NPT					
	Outlet Pipe	in. [mm]	1-1/4 - 11-1/2 NPT					
	Condensation Pipe	in. [mm]	1/2 NPT					
	Maximum System Water Pressure	psi [MPa]	285 [1.96]					
	Inlet Water Temperature Range <sup>3</sup>	°F [°C]	50 - 113 [10 - 45]					
Electrical	Water Flow Range per Unit (Rated/Range) (Unit A + Unit B + Unit C)	gpm [L/m]	51 + 44.1 + 44.1 [193 + 167 + 167] / 27 - 79 [101 - 301] + 24 - 70 [90 - 268] + 24 - 70 [90 - 268]		51 + 51 + 44.1 [193 + 193 + 167] / 27 - 79 [101 - 301] + 27 - 79 [101 - 301] + 24 - 70 [90 - 268]		51 + 51 + 51 [193 + 193 + 193] / 27 - 79 [101 - 301] + 27 - 79 [101 - 301] + 27 - 79 [101 - 301]	
	Minimum Circuit Amps, MCA (208V/230V/460V/575V) (Unit A + Unit B + Unit C)	A	55+41+41 / 50+37+37 / 29+22+22 / 23+18+18		55+55+41 / 50+50+37 / 29+29+22 / 23+23+18		55+55+55 / 50+50+50 / 29+29+29 / 23+23+23	
Compressor	Maximum Overcurrent Protection, MOP (208V/230V/460V/575V) (Unit A + Unit B + Unit C)	A	70+50+50 / 60+50+50 / 40+25+25 / 30+20+20		70+70+50 / 60+60+50 / 40+40+25 / 30+30+20		70+70+70 / 60+60+60 / 40+40+40 / 30+30+30	
	Compressor Type		Inverter					
Unit	Operating Range	%	10 - 100					
	Dimensions (H x W x D)	in. [mm]	39-3/8 x 126 x 21-5/8 [1000 x 3200 x 550]					
Unit	Weight (208,230V/460,575V) (Unit A + Unit B + Unit C)	lb. [kg]	558+558+558 / 567+567+567 [253+253+253 / 257+257+257]					

#### NOTES:

1 Rating Conditions:

##### COOLING

Indoor Air Inlet Temperature:	80.6°F (27°C) DB 66.2°F (19°C) WB
Entering Water Temperature:	86°F (30°C)
Piping Length:	24.6ft. (7.5m)
Piping Lift:	0ft. (0m)

##### HEATING

Indoor Air Inlet Temperature:	68°F (20°C) DB
Entering Water Temperature:	68°F (20°C)

2 Efficiency ratings are based on the AHRI 1230 test standard.

3 There are some exceptions and notes for each operation range. For details, refer to Engineering Manual.

4 For details, refer to Engineering Manual.

5 Measurement Point: 3.3ft. (1m) from the air outlet side, 3.3ft. (1m) from floor level. The operation sound is measured in an anechoic chamber. However, the actual operation sound may appear louder or with an echo because of surrounding environmental noise. Be sure to check environmental conditions before installation.



# CONTROLLERS

## A control option for every application

### Controllers and Network Adapters

Bring your customers premium control options with Hitachi controllers and gateways. The wide range of options provides an optimal solution for every customer's needs. All Hitachi controllers are compatible with all Hitachi Air-Source and Water-Source Systems.

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# CONTROLLERS

## Overview

Project Requirements	Wireless Zone Controller	Simplified Wired Zone Controller	Advanced Color Wired Remote Controller	Mini Central Station	Large Central Station	Central Touch-screen Controller	LON-Works® Adapter	VRF Smart Gateway (BACnet)®	VRF Cloud Gateway	airCloud Gateway
	CIR01	CIS01	CIW02-H	CCM01	CCL01	CCXL02	CLW01	CBN02	CMNETS	HC-IOTGW
Simple individual zone control	✓	✓	✓	✓	✓	✓			✓	✓
Independent cool and heat setpoints	✓	✓	✓	✓	✓	✓	■	■	✓	✓
Individual zone control with weekly programmable scheduling			✓	✓	✓	✓	■	■	✓	✓
Basic central point on/off control of all units				✓	✓	✓	✓	✓	✓	✓
Advanced multi-zone control of small to medium size projects				✓	✓		■	■	✓	✓
Advanced multi-zone control of large commercial projects					✓	✓	■	■	✓	✓
Automatic cooling/heating changeover for heat recovery systems	✓	✓	✓	✓	✓	✓	■	■	✓	✓
Single input batch shutdown of all connected units				✓	✓	✓	✓	✓	✓	✓
Multiple tenant power billing for shared condenser applications*						✓		■		
Temperature set-point range restrictions		✓	✓	✓	✓	✓	■	■	✓	✓
Graphical user interface with floor plan layout						✓	■	■		
Exposes more points							■	■		
Exposes outdoor unit points							■	■		
Capable of reading Indoor and Outdoor Unit sensors								✓		
Wi-Fi enabled							■	✓	✓	✓
Easy integration							■	✓	✓	✓
Easy commissioning							■	✓	✓	✓
Hotel Mode			✓							
FrostWash			✓							

✓ = Native application or feature of this device

■ = Dependent upon capabilities of a third-party energy management system

\* = Additional metering hardware and software is required for consumption-based tenant billing

# CONTROLLERS

## Zone Controllers

### ZONE CONTROLLERS - Energy-Saving Features

Temperature range limit	Set temperature auto reset	Occupancy-based operation (Sensors available on select Indoor Units.)
Setback	Off timer	Individual function lockout (mode, temperature, fan speed)



MODEL CIW02-H

#### Advanced color wired remote controller

- New wired remote controller for VRF with the brand-new global visual design.
- Stylish curve surface with easy-to-operate touch buttons placed at a touch angle.
- Integrated housing with in-mould labeling (IML) process increases durability and a cleaner look.
- Improved visual monitoring with a large 4.3-inch color screen.
- New home menu design with a different display color for each operation mode.
- Optimized menu structure for easy operation. Provides password protection to Service & Installation menu for maintenance operation
- 7 languages are supported, English, Japanese, Chinese (traditional), Chinese (simplified), French, Spanish and Portuguese, and the regional default language is pre-set on each model.
- New feature for “Hotel Mode” with a quick access icon for “Language” and “OFF Timer” assigned on the home screen.
- Supports FrostWash setting when the feature is available with the unit.
- Service & Installation improvements include new function selection user interface (UI) with command description and quick access from tab design and setting history.



MODEL CIS01

#### Simplified Wired Zone Controller

- Small size for discreet applications
- Controls 1 to 16 indoor units (same settings)
- Error code diagnosis
- Adjustable fan speed
- Typically used in hotels, offices and restaurants



MODEL CIR01

#### Wireless Zone Controller

- Controls up to 16 indoor units
- Built-in 23-hour timer
- Wireless receiver must be added for all indoor units except Wall Mount models (built in)



MODEL C3STAT01

#### 5-Wire Thermostat Adapter

- Enables communication from standard 5-wire thermostats into VRF controls logic
- Small size for discreet installation
- Illuminated 7-segment display
- Field-configurable
- Easy-to-use desktop user interface available
- Single 24VAC power connection can power both adapter and third-party thermostat

# CONTROLLERS

## Central Controllers

### Central Station

Central Controller Large and Mini systems are available.

- Large version controls up to 64 groups of indoor units (maximum 160 units).
- Mini version controls up to 32 groups of indoor units (maximum 160 units).
- Easy-to-use touchscreen interface
- Records accumulated operations time for tenant billing
- Color-coded graphics for quick reference
- Set up to 10 on/off times per day
- Up to 8 stations can be connected to the H-LINK II.
- In addition to basic control, such as settings for operation/stop, the operation mode and temperature, the air quantity and auto louver can be set. If a problem occurs, an alarm code immediately shows the details of the problem.
- An external input terminal is provided as standard. External signals enable the following functions:
  - » central operation/stop
  - » demand control
  - » emergency stop
  - » central operation output and central alarm output



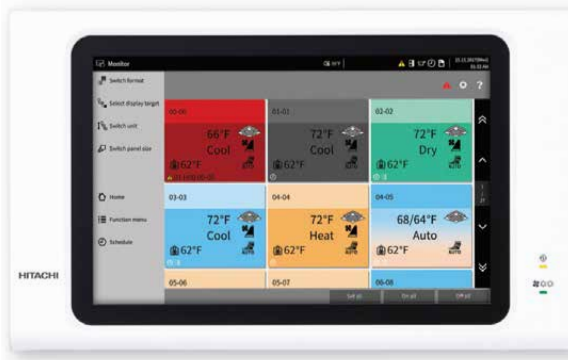
Large Central Controller: MODEL CCL01



Mini Central Controller: MODEL CCM01

# CONTROLLERS

## Central Controllers



VRF Central Touchscreen Controller: MODEL CCXL02  
Extension Adapter (CCXLA02) (Optional)

Choose how data is displayed, and obtain easy-to-read management reports with up to two years of data for:

- Accumulated operation time (min.)
- Accumulated thermo-ON time (min.)
- Average air intake temperature of indoor units and outdoor units
- Average setting temperature
- Average zone controller sensor temperature (may not be available depending on zone controller settings)

### VRF Central Touchscreen Controller

With Remote Access Software (included) & Energy Calculation Software - Tenant Metering (Add-on). Easily control VRF systems in large, commercial properties with the Hitachi Central Touchscreen Controller. And enjoy accurate, easy tenant billing feature with the optional Energy Calculation Software (CCSE01).

The intuitive user interface makes monitoring systems a breeze. Colors and icons enable quick identification and monitoring of commonly checked items such as:

- Room name
- Run/stop
- Mode
- Temperature
- Fan speed
- Louver
- Current status icon
- Air intake temperature

Compatible with the H-LINK II	Control up to 2,560 indoor units	Control up to 2,048 VRF groups	Customize to meet your needs	Up to 15 Extension Adapters (CCXLA02) can be connected to a system	External input: 4 (Level or pulse)
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\*See model details for specifics

# CONTROLLERS

## Network Adapters

### Johnson Controls VRF Smart Gateway

The VRF Smart Gateway enables unprecedented control of Hitachi VRF system components through fast, simple integration into the Facility Explorer® BAS. Complete system data is available for all components in the system.

#### Enhanced features

- Automatically structures and organizes data for faster, easier and less costly integration
- Works over Ethernet to obtain system data and make it accessible through BAS
- Brings all BAS capabilities to VRF components including User Interface, Global Search, schedules, reporting, and offline configuration
- BACnet® compatible
- Information conforms to BAS conventions for quick adoption
- Wi-Fi accessibility enables 24/7 monitoring and control of equipment from laptops, tablets and smartphones



MODEL CBN02



### LONWorks® Adapter

- Supports up to 64 Remote Control Groups
- Supports up to 160 Indoor Units with a variety of network variables on a per indoor unit basis
- Control points include: Run/Stop, Operation Mode, Fan Speed, Temperature Setpoint, Prohibit Zone Controller Functions
- Monitoring points include: Run/Stop Status, Operation Mode Status, Fan Speed Status, Temperature Setpoint, Thermo Status, Alarm Status

#### Features

- 24V AC powered
- Connect up to 4 LonWorks Adapters (CLW01) simultaneously to the same H-LINK II segment
- Connect up to 8 Large (CCL01) and/or Mini (CCM01) Central Controllers and/or LONWorks Adapters (CLW01) simultaneously to the same H-LINK II segment
- Support for the following maximum device limits:
  - » 64 refrigerant systems
  - » 160 indoor units
  - » Total of 200 nodes: A combination of up to 160 indoor units and a maximum of 64 outdoor units, not to exceed a total of 200.



MODEL CLW01



# CONTROLLERS

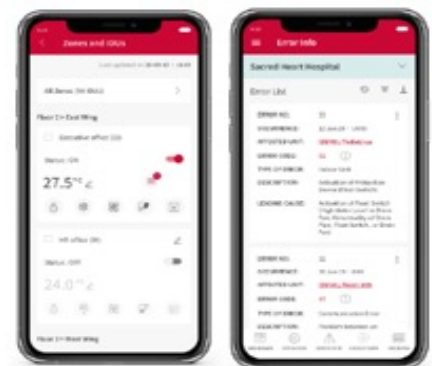
## IoT Devices

### airCloud Gateway

- Easy add-on to new and existing VRF systems, Ideal for small to large-site applications
- Remote access from Web and Mobile devices (iOS and Android)
- Available functions including remote individual and group control, error history management, and schedule setting
- Over-the-Air software update function built-in supports automatic delivery of new functions to the Gateway
- Support Internet connection through Ethernet Cable and optional 4G unit (coming soon)
- Each gateway can connect up to 80 IDUs and 16 ODUs
- No limitation on number of gateways/sites, number of users or mobile devices/sites
- Once customer purchases airCloud Gateway, they can access download link and receive standard APP free of charge



airCloud Gateway: Model HC-IOTGW





# CONTROLLERS

## IoT Devices

### VRF Cloud Gateway

The new VRF Cloud Gateway by Cool Automation seamlessly integrates VRF systems with smart phones, tablets, or any similar wireless device as well as home automaton control systems. This simplifies monitoring and control as VRF systems can be managed through the same interface as lighting, security and other home systems. It can also be used as a stand-alone device with information accessible over the web. And, it comes with the peace of mind that it has been thoroughly tested by the team at Johnson Controls.



MODEL CMNETS

#### Features

- Monitor and control equipment from a laptop, tablet or smartphone anytime, anywhere
- Manage and control indoor units through simple touchscreen display
- Install and integrate with ease (true plug-and-play device)
- Interface through H-Link and Ethernet Network



## H-LINK II Network Systems

### H-LINK II

H-LINK II is a unique 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 great versatility to connect various types of central control options enabling better system management.

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

Our proprietary high-performance communication system enables 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.

#### Flexible wiring routes

The H-LINK allows for easy installation through a simple daisy-chain configuration. Simply connect to the adjacent units or the terminal block of a centralized control system.

H-LINK II System	
Max. Number of Refrigerant Groups / System	64
Max. Number of Indoor Units / System	160
Total Number of Devices in the same H-LINK II	200
Total Max. Wiring Length	Total 3,281 ft

# SERVICE & SUPPORT

## We're on your team



When you purchase a Hitachi VRF System, you have the full support of a team of experienced professionals as well as 24/7 access to online tools. We're there to help at every stage from design to maintenance.

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# SERVICE & SUPPORT

## Selection Software

### HVACNavigator.com – Simply get the job done

Everything you need from initial design to maintenance manuals is available to you through the HVACNavigator.com portal.

Our VRF selection software intuitively guides you step-by-step through equipment selection so you can quickly and accurately choose an appropriate and cost-effective equipment package for each project:

- **Design detailed final system drawings** including piping and wiring diagrams.
- **Accurately select systems** using a System Sizing Analysis. Proprietary algorithms calculate system size using data on all included units and piping, load, and site-specific measurements to ensure your system is optimized.
- **Select options and accessories** using intuitively designed features and functionality that make the design process fast, easy, and accurate.
- **Output reports** as Excel and PDF files and drawings as AutoCAD, Revit and PDF files.

- **Generate pricing** for equipment through our pricing system, UST, and adjust pricing to reflect the desired margin for the project.
- **Generate a complete bill of materials** with itemized pricing and a complete quotation submittal package with drawings and detailed product information.
- **Send the bill of materials directly to the ordering system.**

Once you have ordered equipment, HVACNavigator.com is your source for all the product information you need including product documentation, technical and service manuals, troubleshooting guides, brochures, videos, technical support, contact information, and more. All information is available instantly through your smartphone or tablet simply by scanning the Quick Reference (QR) code on the product nameplate. The QR code can also be used for fast, simple warranty registration.



# SERVICE & SUPPORT

## World-class training

### Expert training for you and your staff

Our premier VRF training center offers an extensive line of classes with specialized modules and topics to ensure you have the knowledge and skills needed to effectively and efficiently deploy our VRF technology. Our classes help:

- **salespeople** submit competitive bids and close deals
- **engineers** easily and accurately design, select and configure equipment
- **installers** proficiently complete jobs on-time and on-budget
- **service technicians** efficiently maintain, troubleshoot, and repair systems



The training center includes a dedicated VRF laboratory with multiple working systems, components, controls and integration equipment to provide hands-on experience for students. Videos and webinars supplement classroom learning on specific subjects to refresh and enhance the skills of your sales, design, installation, and service teams. With our VRF training programs, your staff will have the knowledge and confidence to compete in a growing industry.

#### Courses include:

- VRF System Design and Engineering
- VRF Installation and Commissioning
- VRF Service and Troubleshooting
- Controls Commissioning

For your convenience, we also provide training at regional training centers located in Chicago IL, Kansas MO, Long Island NY, New Freedom PA, Olympia WA and Montréal, Québec.

Please visit [www.us.hitachiaircon.com/training](http://www.us.hitachiaircon.com/training) for the latest training course and schedules.

### State-of-the-art warranty system

Our warranty registration process is the easiest in the industry. Simply complete your commissioning and start-up form, and all your equipment is automatically registered for a standard warranty.

Our system automatically captures the information needed. Once you've completed training, you are automatically upgraded to our extended warranty.

# SERVICE & SUPPORT

## Advanced Logistics & Customer support

### Integrated logistics systems

- Our ample inventory and advanced order management and logistics systems ensure you can set a project timeline, schedule labor efficiently, and meet installation deadlines.
- Fast, accurate delivery from our state-of-the-art distribution center in the Memphis area – where UPS and FedEx have hubs – simplify expedited shipments when additional parts are needed. Most equipment arrives within one to three days, and all shipments arrive within five days.
- When equipment arrives, it is ready for installation. Our 99% damage-free work record exceeds the industry average.

### Expect fast, accurate deliveries

Our warehouse is located near UPS and FedEx hubs, and our distribution center uses advanced order management and logistics systems for quick, correct parts delivery.



DAMAGE-FREE  
WORK RECORD



ATTRACTIVE  
SHIPPING RATES

### Our professionals are one call away

A dedicated support center for VRF systems distinguishes our approach from others in the

industry. One phone number connects you with the support you need to address any issue.

Phone: 1 (844) 873-4445   Fax: 1 (972) 915-3860	Dial In Selections	Email Address
Customer Service	Option 1	BE-VRFCustomerService@jci-hitachi.com
Assistance with using Navigatyor to order equipment, parts and accessories as well as process credits and returns.		
Technical Support	Option 2	BE-VRFTechSupport@jci-hitachi.com
Support during installation, commissioning and service as well as parts look-up and troubleshooting.		
Warranty	Option 3	BE-VRFWarranty@jci-hitachi.com
Assistance with using Navigator to register warranties, enter claims, and obtain extended labor warranty contracts (distribution level only).		
Application and Design	Option 4	BE-VRFApplicationDesign@jci-hitachi.com
Presale assistance with equipment applications and design support as well as use of Selection Navigator tool		
Training	Option 5	BE-VRFTraining@jci-hitachi.com
Support related to training course offerings and registration		



Authorized Distributor



## Johnson Controls-Hitachi Air Conditioning North America

### CUSTOMER SERVICE

844-873-4445 Option 1  
BE-VRFCustomerService@jci-hitachi.com

### HITACHI. CERTIFIED QUALITY



Industry certified

Hitachi VRF Systems are Intertek ETL Listed (Canada & USA), signifying that they comply with the standard of Heating and Cooling Equipment (ANSI/UL 1995 and CAN/CSA C22.2 No. 236-11, 4th Edition, October 14, 2011). The systems are also certified by the Air Conditioning, Heating & Refrigeration Institute.

### HITACHI. TOTAL WARRANTY



[us.hitachiaircon.com](http://us.hitachiaircon.com)



[WWW.ULTIMATEZONING.COM](http://WWW.ULTIMATEZONING.COM)

[INFO@ULTIMATEZONING.COM](mailto:INFO@ULTIMATEZONING.COM)

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