

HITACHI

—
VRF Σ

**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



Scroll Compressor Production for AC unit.

World's First

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

Commercial AC VRF
Compressors

2000

2015

Johnson Controls and Hitachi form the global joint venture



HITACHI
Air conditioning solutions

1990

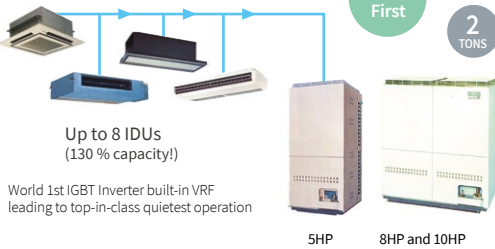
Commercial AC
Compressors VRF

2010

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

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



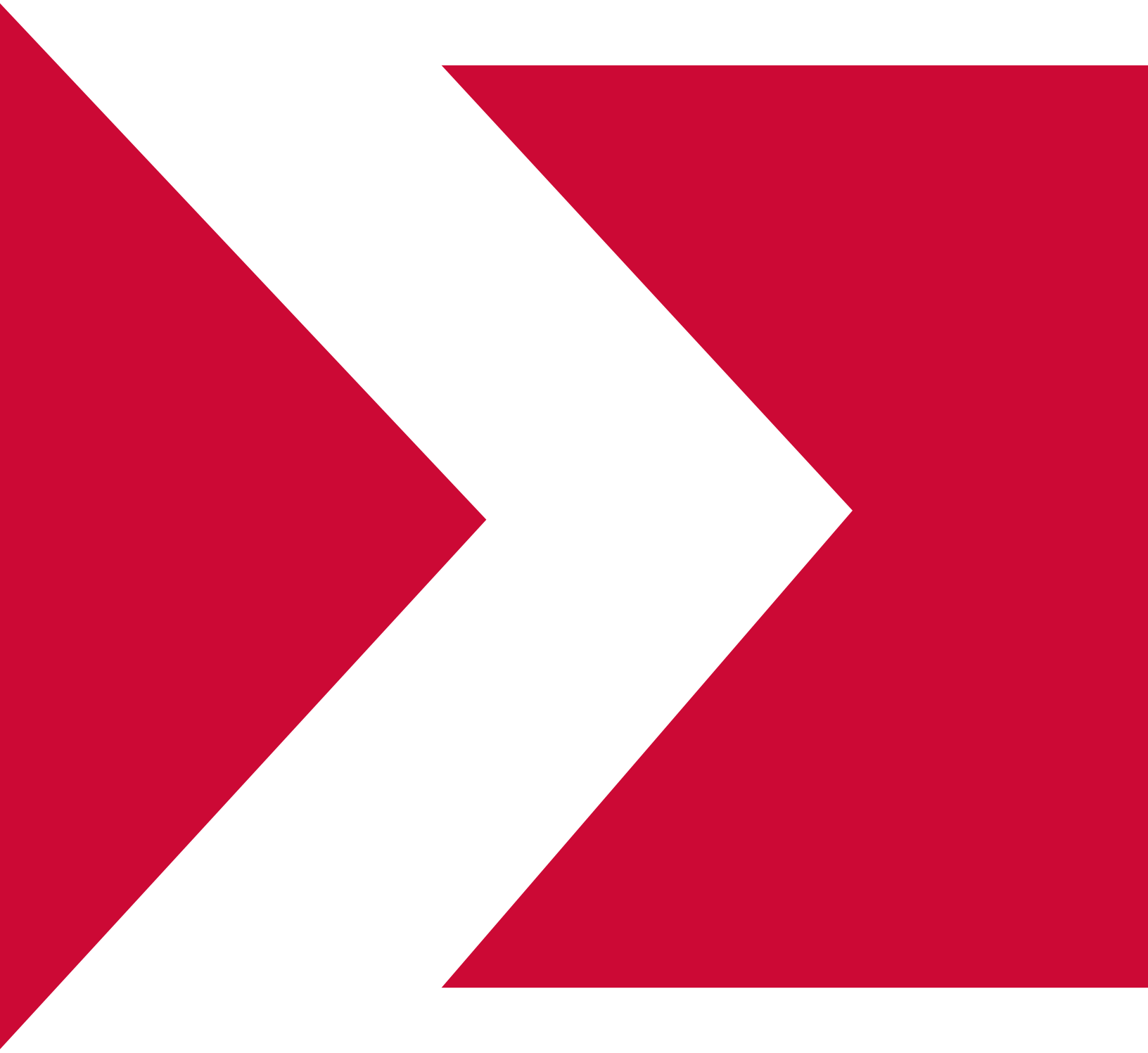
2018

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



2019

Introducing Hitachi VRF Sigma



VRF SIGMA

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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.

VRF SYSTEMS

INTRODUCING HITACHI VRF Σ

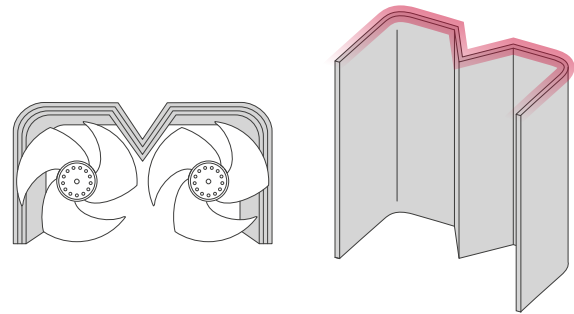
Greater than the sum of its parts

Get to know the Hitachi VRF Σ (Sigma)

Hitachi VRF Sigma is a complete line of VRF equipment — including water-source and 575V units — that enables you to bring smart solutions to applications that challenge other HVAC equipment. At the heart of the outdoor units is a patented sigma-shaped heat exchanger.

Hitachi's VRF engineering experience spans decades, and the patented heat exchanger is just one of many innovations the company has brought to VRF system design. Each development has contributed to making Hitachi VRF Sigma exceptional in both performance and energy efficiency.

Hitachi VRF Σ Outdoor Units feature a patented sigma-shaped heat exchanger that improves heat exchange and efficiency.



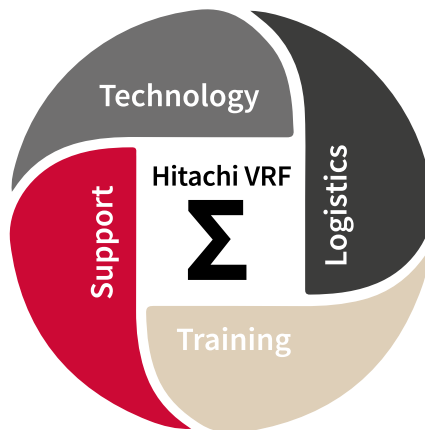
Smart engineering

Smart engineering is evident throughout, including a unit design that makes installation simple and maintenance a breeze. A full range of indoor units, controllers and change-over boxes rounds out the line,

enabling you to offer each client a truly customized solution. Hitachi VRF Sigma is so much more than precisely engineered equipment though.

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, along with advanced order management and logistics systems, ensures equipment arrives when you need it. And our 99% damage-free work record ensures that when equipment arrives, it's ready for installation.

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







Leading-edge technology. Expert training. Skilled support. Advanced logistics. Hitachi VRF Σ. It all adds up to one superior choice.







PRODUCT LINE

HITACHI VRF Σ

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
High Static (HIDH)					■	■	■	■	■	■	■	■	■	■	■
Medium Static (HIDM)		■	■	■	■	■	■	■	■	■	■	■	■		
Slim (HIDS)		■	■	■	■	■									
Dedicated Outside Air System (HDOA)															■
EconoFresh Economizer (HIDM)									■	■	■	■			
Multi-Position Air Handler (HMAH)						■	■	■	■	■	■	■	■		

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
1-Way Cassette (HIC1)		■	■	■	■										
2-Way Cassette (HIC2)						■	■								
4-Way Mini Cassette (HICM)			■	■	■	■									
4-Way Cassette (HIC1)			■	■	■	■	■		■	■	■				
Ceiling Suspended (HIC4)					■		■		■	■					
Wall Mount (TIWM)		■	■	■	■	■	■		■						
Floor Exposed (HIFE)		■	■	■	■										
Floor Concealed (HIFC)		■	■	■	■										





PRODUCT LINE

HITACHI VRF Σ (CONTINUED)

Air-Source 208/230V & 460V VRF Outdoor Units

Enjoy the design freedom offered by the complete line of Hitachi Air-Source VRF Sigma Systems. Modular Hitachi systems enable 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 Sigma 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)					[Red bar spanning from 6 to 36 tons]																
Heat Pump 208/230V & 460V (HVAHP)					[Red bar spanning from 6 to 36 tons]																
Low Ambient Heat Pump 208/230V & 460V (HVAHP)					[Red bar spanning 6-8 tons]			[Red bar spanning 10-12 tons]						[Red bar spanning 24-24 tons]							
Mini VRF Single-Phase Heat Pump 208/230V (HVAHP)		[Red bar spanning 3-5 tons]																			

Air-Source 575V VRF Outdoor Units

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

And, for budget-conscious customers, the 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)		[Red bar spanning from 6 to 36 tons]																


PRODUCT LINE

HITACHI VRF Σ (CONTINUED)

Water-Source 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 Sigma 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 Sigma 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)																						

Change-Over Boxes for Heat Recovery Systems

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

Controllers

Simplified Wired Controller (CIS01)	Wired Controller (CIW01)	Wireless Controller (CIR01)	Mini Central Controller (CCM01)	Large Central Controller (CCL01)	VRF Central Touchscreen Controller (CCXL01)
					

Network Adapters for Integration with BAS

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

VRF SIGMA TECHNOLOGY

INNOVATIVE ENGINEERING

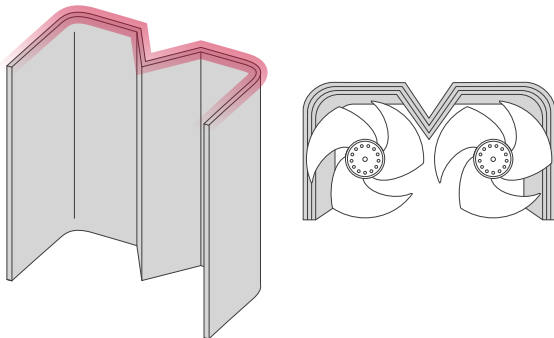
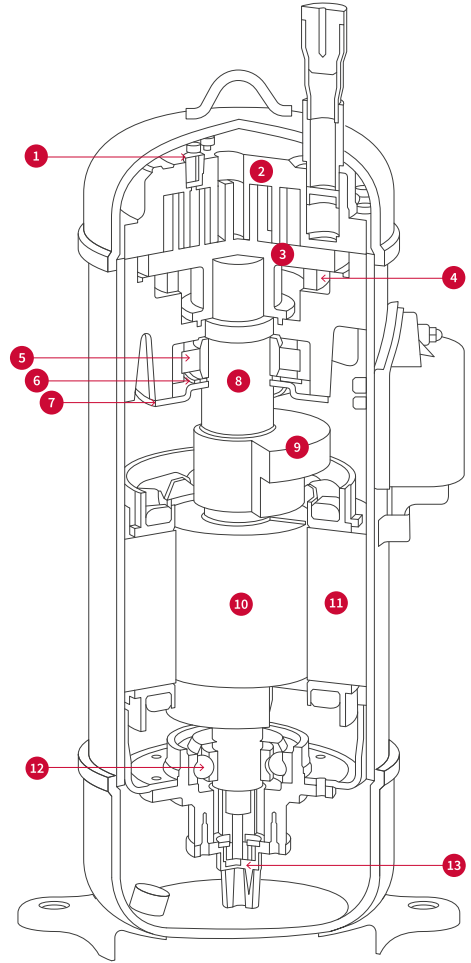
Advanced compressor and heat exchanger achieve new levels of performance and efficiency

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



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** that increase airflow by 25%, resulting in higher static pressure while reducing energy consumption and electric load demand.

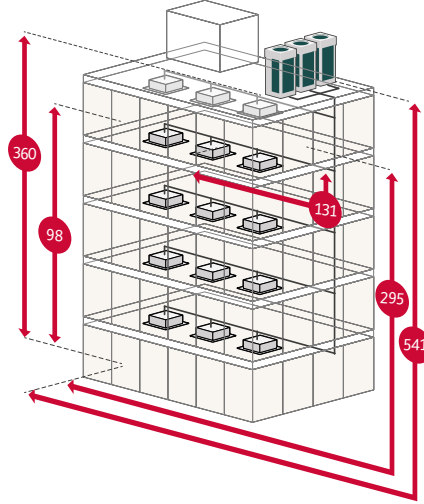
VRF SIGMA TECHNOLOGY

INNOVATIVE ENGINEERING

Longer piping lengths for greater design freedom

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.	49 ft.
1st branch and IU	295 ft.	
Linear Length, OU and IU	541 ft.	
Branch and IU	131 ft.	

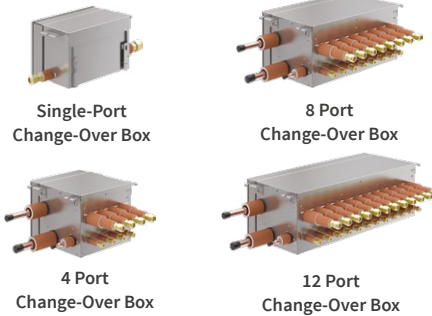


Indoor units

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 Sigma 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 SIGMA TECHNOLOGY

DESIGN FLEXIBILITY

Space-saving solutions

Hitachi VRF Σ 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 14	16 16 16																					

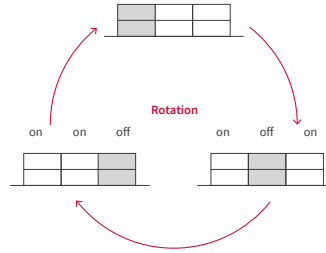
VRF SIGMA TECHNOLOGY

ADVANCED PERFORMANCE

Reliability with simple installation & maintenance

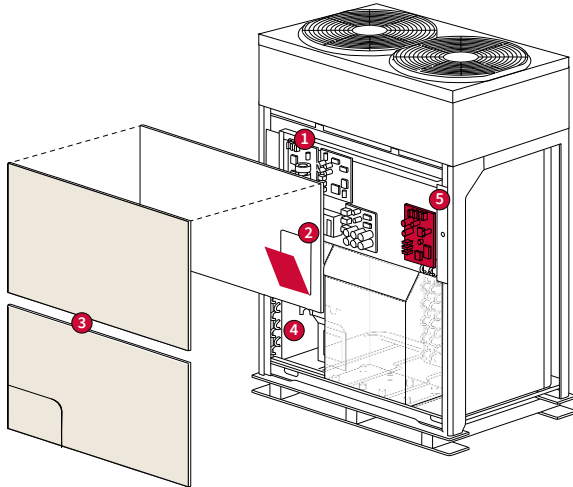
Built to be dependable

Hitachi VRF Σ equipment is engineered for reliability. In the unlikely event of a unit 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.



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.



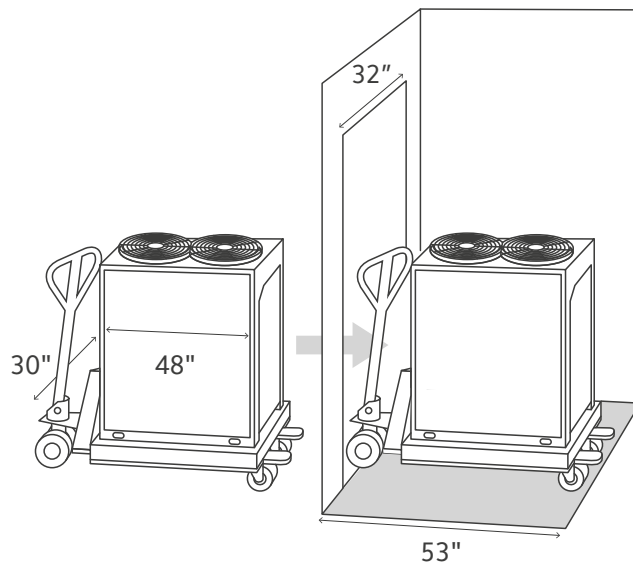
Maintenance is Fast and Simple

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 SIGMA 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 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 Sigma HVAC System without incurring high integration costs or sacrificing data access or equipment control. So, you are free to choose a Hitachi VRF Sigma System based on merit alone.



Integration at an Elite Level

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

THE OPTIMAL CHOICE

Selecting the right system



The Hitachi VRF Sigma 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?	12
Air-Source or Water-Source?	13
Features & Benefits Summary	14-15

THE OPTIMAL CHOICE

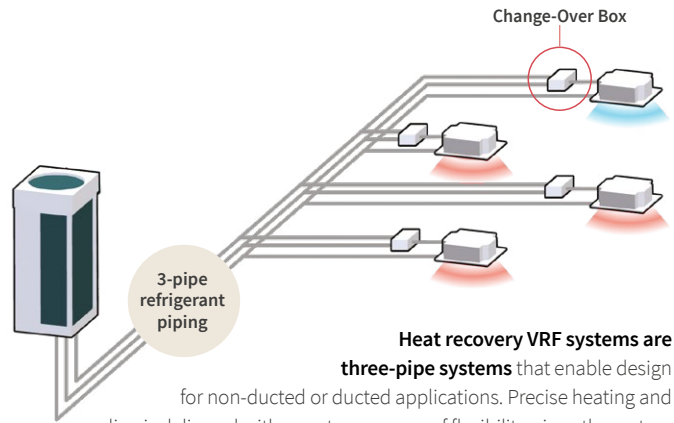
HEAT RECOVERY OR HEAT PUMP?

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:

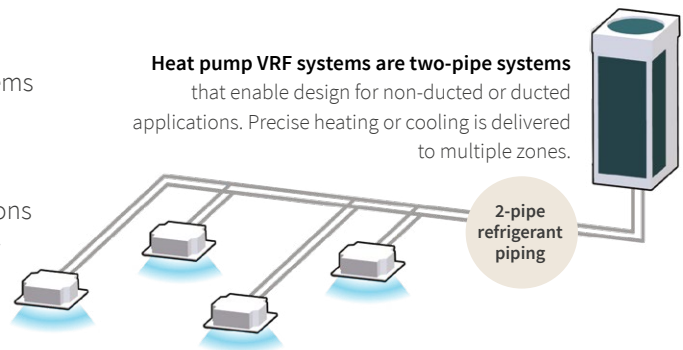
- customized comfort — each zone controls its own temperature
- consistent temperature in large zones
- energy savings
- heating operation down to -13°F standard



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 seasons 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.

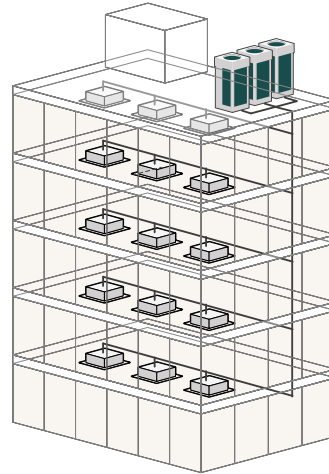
Your Hitachi technical expert can help you to select the most suitable system for your application.

THE OPTIMAL CHOICE

AIR-SOURCE OR WATER-SOURCE?

Air-source VRF systems

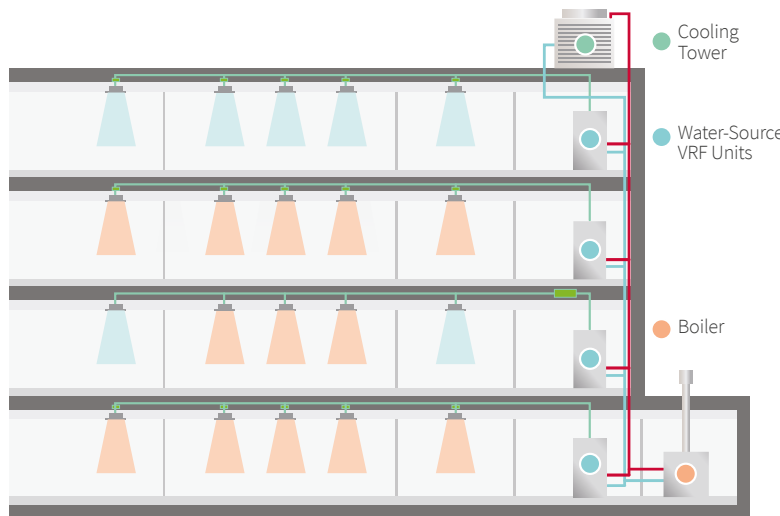
Air-source systems provide a solution that is quick and easy to install and has very low maintenance costs. Units are available in capacities up to 36 tons, and each unit can be connected to up to 64 indoor units. Learn more about Hitachi VRF Σ air-source systems beginning on page 67.



Water-source VRF systems

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

each unit can be connected to up to 64 indoor units. Learn more about Hitachi VRF Σ water-source systems beginning on page 68.



THE SMART CHOICE

FEATURES AND BENEFITS SUMMARY

	FEATURES	ADVANTAGES	BENEFITS
ARCHITECT / SYSTEM DESIGNER	Pipe runs up to 3,281 feet. Vertical piping distance between Outdoor Unit and Indoor Unit is now up to 360 feet.	• Suitable for short or long runs; accommodates nearly all projects	• Provides exceptional design freedom
	Compact footprint	• Requires less space than conventional systems	• Provides more placement options and enables use even within tight lot lines.
	Modular components	• Provides flexibility to customize systems to each project's needs	• Simplifies design process • Allows easy updates as space is reconfigured or expanded
	Low Ambient Outdoor Units	• Effectively heat down to -13°F	• Provides efficient and reliable cold-climate heating performance
	Non-ducted systems	• Ultimate in design flexibility • Reduces clearance between building floors	• Reduces system costs • Saves space • Ideal for historic renovations
	Ducted systems	• Accommodates retrofits by making use of existing duct infrastructure • New fan design increases static pressure. • Suits unique buildings that include ducted and non-ducted areas	• Reduces overall construction costs
	EconoFresh Economizer	• Provides energy-saving free cooling (or outside air to maintain good indoor air quality)	• Saves energy and maintains good indoor air quality
	Heat Pump Systems	• Precisely heats or cools multiple zones	• Provides extreme system design flexibility
	Heat Recovery Systems	• Allows simultaneous heating/cooling • Allows transfer of excess heat/cooling from one zone to another space	• Maximizes comfort and efficiency • Maximizes design flexibility • Increases occupant comfort to specified zones
	Comprehensive training	• Modules tailored to specific job functions	• Enables effective equipment selection and specification
	Web-based system selection software	• Intuitive functionality that simplifies and speeds designs • Accessible from any computer or tablet	• Allows 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	• Reduces installation time and cost • Provides more placement options
	Comprehensive training	• Modules tailored to specific job functions	• Enables professional, high-quality, timely installation
	Consistent, reliable product delivery	• Ensures correct delivery to job sites on time	• Enhances installation efficiency • Allows efficient labor scheduling
	Easy maintenance access	• All components accessible via removal of one panel on outdoor unit	• Speeds 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.	• Simplifies and speeds up maintenance, troubleshooting and repairs
Refrigerant check	• Automatically checks that system is charged with the correct amount of refrigerant to meet requirements.	• Helps contractor and installer 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"> In multiple-unit applications at partial load, outdoor units operate alternately so that operating hours are shared equally. 	<ul style="list-style-type: none"> Optimizes efficiency Extends service life Increases reliability
		Backup operation function	<ul style="list-style-type: none"> Allows one outdoor unit to be taken off-line for maintenance while remaining units keep operating. 	<ul style="list-style-type: none"> Avoids system downtime Protects occupant comfort
		Efficiency optimized for part-load operation	<ul style="list-style-type: none"> Certified efficiency among industry's highest for VRF systems 	<ul style="list-style-type: none"> Saves energy
		Optimum individualized comfort	<ul style="list-style-type: none"> Heat recovery systems deliver simultaneous heating and cooling 	<ul style="list-style-type: none"> Efficient heating/cooling Maximizes occupant comfort
		Noise reduction preference mode	<ul style="list-style-type: none"> Lets users choose from three settings for a "not to exceed" sound level 	<ul style="list-style-type: none"> Extremely quiet (sound ratings as low as 51 dBA for outdoor units; 26 dBA for indoor units) Ideal where outdoor units are positioned on side of building or in locations where there are noise restrictions
	Compressor	DC inverter-driven scroll compressor	<ul style="list-style-type: none"> Redesigned to deliver the optimum efficiency at normal load conditions Multiple inverter compressors are standard in 8-ton and larger outdoor units for increased efficiency 	<ul style="list-style-type: none"> Among industry's most efficient VRF systems: Highest IEER Highest SCHE Highest COP
		Compressor modulation in small increments	<ul style="list-style-type: none"> Smoothly delivers exact amount of heating or cooling needed 	<ul style="list-style-type: none"> Allows fine control for optimum comfort Saves energy
	Outdoor Units	Demand control	<ul style="list-style-type: none"> Users can select from a wide variety of power settings from 100% to 60% and program "not to exceed" a given power level 	<ul style="list-style-type: none"> Limits electric demand charges Limits equipment runtime Reduces noise
		Load shedding	<ul style="list-style-type: none"> Allows programming to turn units on/off in rotation at 10- to 20-minute intervals 	<ul style="list-style-type: none"> Saves energy Limits demand charges
		Dual fan design	<ul style="list-style-type: none"> Dual fan design increases airflow over previous generation - up to 23% - and decreases sound 	<ul style="list-style-type: none"> Reduces noise Extends motor life Increases airflow
		Dual heat exchanger	<ul style="list-style-type: none"> Newly designed dual heat exchanger in Outdoor Units provides 10% more surface area 	<ul style="list-style-type: none"> Increases capacity Improves efficiency
	Indoor Units	As high as 1.2 in. WG static pressure in ducted systems	<ul style="list-style-type: none"> Offers adjustable speeds to match any site-specific static pressure requirement 	<ul style="list-style-type: none"> Flexibility to accommodate long or short ductwork runs
		Optional motion and radiant sensors	<ul style="list-style-type: none"> Sets back temperature when space is unoccupied, increasing efficiency even further 	<ul style="list-style-type: none"> Saves energy
	Controls	H-Link II Protocol	<ul style="list-style-type: none"> Controls multiple indoor and outdoor units from one control point Adds versatility to connect various central control options 	<ul style="list-style-type: none"> Maximizes indoor comfort Saves energy Improves system management
		Temperature control	<ul style="list-style-type: none"> Adjusts in 1° Fahrenheit increments Adjustable fan speeds 	<ul style="list-style-type: none"> Auto-adjusts for daylight saving time Provides options to satisfy multiple projects/buildings
		VRF Smart Gateway	<ul style="list-style-type: none"> Enables 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. 	<ul style="list-style-type: none"> Automatic data formatting reduces integration time and expense Full BMS capabilities enable superior control of all system components Wi-Fi accessibility enables 24/7 monitoring and control from laptops, tablets and smartphones



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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INDOOR UNITS - OVERVIEW

DUCTED HIGH STATIC INDOOR UNIT



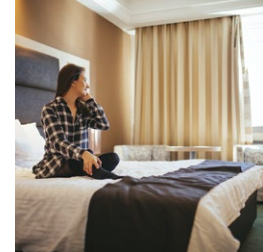
This unit has a high-efficiency fan motor, multiple fan speeds and bottom access for ease of service.



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 bottom access 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



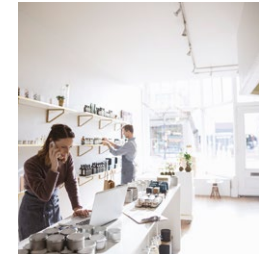
This slim-line unit features a high-efficiency fan motor, multiple fan speeds and bottom access for ease of service.



MULTI-POSITION AIR HANDLER UNIT



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



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



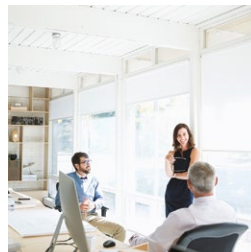
This slim-design unit leaves design options open and is ideal for perimeter conditioning of air.



4-WAY CASSETTE INDOOR UNIT



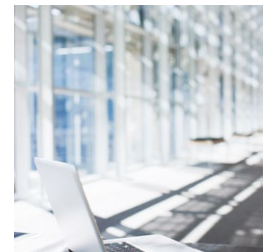
Compact and lightweight, this unit with 4-way airflow is easy to install even in tight spaces.



FLOOR CONCEALED INDOOR UNIT



This unit has a compact design which enables installation in many spaces where perimeter conditioning of air is needed.



INDOOR UNITS

DUCTED HIGH STATIC

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.



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



Tonnage		1.3		1.5		2.0		2.3		2.5		
Ducted High Static Indoor Unit Model #		HIDH015B22S		HIDH018B22S		HIDH024B22S		HIDH027B22S		HIDH030B22S		
Power Supply		AC 1 Phase, 208/230V, 60Hz										
Nominal Cooling Capacity ¹	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 ¹	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 ² (Overall A Scale) (Hi2-Hi-Me-Lo)		dB		41-38-35-32		37-35-32-30		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)	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)	41-5/16 (1050)	41-5/16 (1050)	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)	31-1/2 (800)	31-1/2 (800)		
Net Weight		lbs.(kg)	64 (29)	84 (38)	84 (38)	84 (38)	84 (38)	84 (38)	106 (48)	106 (48)		
Refrigerant		R410A										
Indoor Fan	Air Flow 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 ³ 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		Flare-Nut Connection (with Flare Nuts)										
Refrigerant Piping		Liquid Line	in.(mm)	1/4 (6.35)	3/8 (9.52)	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)	1/2 (12.7)	5/8 (15.88)	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)	1-1/4 (32)	1-1/4 (32)		

Ducted High Static				
Compatible Accessories	HIDH015B22S	HIDH018-027B22S	HIDH030-054B22S	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
- Bottom access 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 #		HIDH036B22S		HIDH048B22S		HIDH054B22S		HIDH072B21S		HIDH096B21S				
Power Supply		AC 1 Phase, 208/230V, 60Hz												
Nominal Cooling Capacity ¹	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 ¹	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 ² (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)		258		(117)		
Refrigerant		R410A												
Indoor Fan	Air Flow 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 ³ 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)	

NOTES:

1. Nominal capacity conditions are based on AHRI standard. Visit 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 #		HIDM006B22S		HIDM008B22S		HIDM012B22S		HIDM015B22S		HIDM018B22S		
Power Supply		AC 1 Phase, 208/230V, 60Hz										
Nominal Cooling Capacity ¹	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 ¹	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 ² (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)	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)	27-9/16 (700)	27-9/16 (700)	27-9/16 (700)	41-5/16 (1050)	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)	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)	79 (36)	79 (36)	79 (36)	79 (36)	79 (36)	
Refrigerant		R410A										
Indoor Fan	Air Flow 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 ³ 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												
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)	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)	1/2 (12.7)	1/2 (12.7)	1/2 (12.7)	1/2 (12.7)	1/2 (12.7)	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)	1-1/4 (32)	1-1/4 (32)	1-1/4 (32)	

Ducted Medium Static			
Compatible Accessories	HIDM006-015B22S	HIDM018-027B22S	HIDM030-054B22S
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
- Bottom access 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 #		HIDM024B22S		HIDM027B22S		HIDM030B22S		HIDM036B22S		HIDM048B22S		HIDM054B22S		
Power Supply		AC 1 Phase, 208/230V, 60Hz												
Nominal Cooling Capacity ¹	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 ¹	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 ² (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)	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)	55-1/8 (1400)	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)	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)	97 (44)	97 (44)	97 (44)	97 (44)	97 (44)	
Refrigerant		R410A												
Indoor Fan	Air Flow 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 ³ 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)	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)	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)	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 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 CIW01

Key Features

- High-efficiency DC fan motor
- Multiple fan speed settings
- Up to .20 in. WG static pressure
- Bottom access 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 ¹	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 ¹	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)	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)	35-3/4 (908)	46-3/8 (1178)	46-3/8 (1178)	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)	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)	57 (26)	57 (26)	57 (26)			
Refrigerant		R410A										
Indoor Fan	Air Flow 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 ² 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		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)	1/4 (6.35)	1/4 (6.35)	1/4 (6.35)	3/8 (9.52)	3/8 (9.52)	
	Gas Line	in.(mm)	1/2 (12.70)	1/2 (12.70)	1/2 (12.70)	1/2 (12.70)	1/2 (12.70)	1/2 (12.70)	1/2 (12.70)	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)	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 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 ¹	Nominal Cooling Capacity	Btu/h (kW)	96,000 (28.2)	
	Nominal Heating Capacity	Btu/h (kW)	60,000 (17.6)	
Indoor Temperature Control ²	Nominal Cooling Capacity	Btu/h (kW)	96,000 (28.2)	
	Nominal Heating Capacity	Btu/h (kW)	83,600 (24.5)	
Sound Pressure Level ³ (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	Air Flow Rate ⁴	cfm	1236	
		(m3/min)	(35.0)	
External Pressure ⁴ (208/230V)		in. W.G. (Pa)	1.06/1.24 (265/310)	
Motor Nominal Output		W	402 (201 x 2pcs)	
Connections			Braze	
Refrigerant Piping			Braze	
	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 CO₂ 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		
Outer Dimensions	Height	in.(mm)	10-7/8 (275)	10-7/8 (275)	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)	58-1/16 (1474)	58-1/16 (1474)	
	Depth	in.(mm)	23-5/8 (600)	23-5/8 (600)	23-5/8 (600)	23-5/8 (600)	23-5/8 (600)	
Net Weight		lbs.(kg)	106 (48)	106 (48)	106 (48)	106 (48)	106 (48)	
Refrigerant		R410A						
Indoor Fan	Air Flow Rate ² (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 ² (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)	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)	
Condensate Drain		OU	in.(mm)	1-1/4 (32)	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)					

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

NOTES:

1. Nominal capacity condition is based on AHRI standard. See www.ahrinet.org for more information.
2. Data values when a filter is not used.

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 ¹	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 ¹	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)	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)	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 ² (Hi-Lo)	cfm	576-382 / 687-500		713-457 / 778-605		843-677 / 917-769		1108-968 / 1178-1057		1110-877 / 1186-974	
		(m ³ /min)	(16-11) / (19-14)		(20-13) / (22-17)		(24-19) / (26-22)		(31-27) / (33-30)		(31-25) / (34-28)	
External Pressure ²	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)	3/8 (9.52)	3/8 (9.52)	3/8 (9.52)		
	Gas Line ³	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)	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)	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)	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 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)	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)	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)	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)	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)	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)	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)	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)	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 ¹	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 ¹	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 ² (Hi-Lo)	cfm	1062-971 / 1190-1059		1391-1139 / 1481-1258		1680-1562 / 1739-1659		1701-1590 / 1779-1694		1757-1639 / 1829-1735	
		(m ³ /min)	(30-28) / (34-30)		(39-32) / (42-36)		(48-44) / (49-47)		(48-45) / (50-48)		(50-46) / (52-49)	
External Pressure ²	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 ³	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:

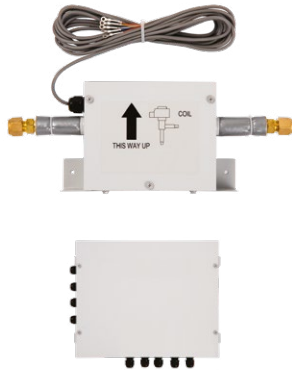
- Nominal capacity conditions are based on AHRI standard. Visit www.ahrinet.org for more information.
- Hi and Lo setting on the wired controller. (Hi = Air Handler's High tap and Lo = Air Handler's Medium tap). Make sure both the external pressure and air flow rate match the specification.
- Gas connection 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

The DX-Kit seamlessly connects Hitachi VRF equipment with third-party air handling units (AHU). The kit consists of a control box and 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 Third-Party AHU Integration						
Tonnage	1.3 Ton	2.5 Ton	4.0 Ton	8.0 Ton	16.0 Ton	24.0 Ton	
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 ¹	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)
Connection Ratio	-	1 OU to 1 AHU: 100% or less, 1 OU to Multiple AHU: 100% or less, 1 OU to AHUs and IUs: 110% 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.

INDOOR UNITS

1-WAY CASSETTE (NON-DUCTED)



Capacities 6,000 to 15,000 Btu/hr



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 #		HIC1006B21S		HIC1008B21S		HIC1012B21S		HIC1015B21S			
Power Supply		AC 1 Phase, 208/230V, 60Hz									
Nominal Cooling Capacity ¹	Btu / h (kW)	6000 (1.8)	8000 (2.3)	12000 (3.5)	15000 (4.4)						
Nominal Heating Capacity ¹	Btu / h (kW)	6700 (2.0)	9000 (2.6)	13500 (4.0)	17000 (5.0)						
Sound Pressure Level ² (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)	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)	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)	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	Air Flow 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		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)	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)	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		HIC1006B21S and HIC1008B21S				HIC1012B21S and HIC1015B21S					
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 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	HIC1006-015B21S	Compatible Accessories	HIC1006-015B21S
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)



Capacities 18,000 to 24,000 Btu/hr

Controller Options



MODEL CIR01



MODEL CIS01



MODEL CIW01

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.

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 ¹	Btu/h (kW)	18,000	(5.3)	24,000	(7.0)
Nominal Heating Capacity ¹	Btu/h (kW)	20,000	(5.9)	27,000	(7.9)
Sound Pressure Level ² (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	Air Flow 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 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)



Capacities 8,000 to 18,000 Btu/hr

Controller Options



MODEL CIR01



MODEL CIS01



MODEL CIW01

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.

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 ¹	Btu / h	(kW)	8,000	(2.3)	12,000	(3.5)	15,000	(4.4)	18,000	(5.3)
Nominal Heating Capacity ¹	Btu / h	(kW)	9,000	(2.6)	13,500	(4.0)	17,000	(5.0)	20,000	(5.9)
Sound Pressure Level ² (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	Air Flow Rate (Hi2-Hi-Me-Lo)	cfm	424-353-300-212		459-388-335-247		530-424-353-282		565-494-424-353	
		(m ³ /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 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



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 ¹	Btu/h	8,000		12,000		15,000		18,000		
	(kW)	(2.3)		(3.5)		(4.4)		(5.3)		
Nominal Heating Capacity ¹	Btu/h	9,000		13,500		17,000		20,000		
	(kW)	(2.6)		(4.0)		(5.0)		(5.8)		
Sound Pressure Level ² (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)	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)	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)	33-1/16 (840)	33-1/16 (840)	33-1/16 (840)	
Net Weight	lbs. (kg)	44 (20)	46 (21)	46 (21)	46 (21)	48 (22)	48 (22)	48 (22)	48 (22)	
Refrigerant		R410A								
Indoor Fan	Air Flow Rate (Hi2-Hi-Me-Lo)	cfm	530-459-388-318		741-600-494-388		777-600-494-388		953-777-635-494	
		(m ³ /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)	1/4 (6.35)	1/4 (6.35)	3/8 (9.52)	3/8 (9.52)	
	Gas Line	in.(mm)	1/2 (12.70)	1/2 (12.70)	1/2 (12.70)	1/2 (12.70)	1/2 (12.70)	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)	1-1/4 (32)	

NOTES:

1. Nominal capacity conditions are based on AHRI standard. Visit 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 ¹	Btu/h	24,000		30,000		36,000		48,000		
	(kW)	(7.0)		(8.8)		(10.5)		(14.1)		
Nominal Heating Capacity ¹	Btu/h	27,000		34,000		40,000		54,000		
	(kW)	(7.9)		(10.0)		(11.7)		(15.8)		
Sound Pressure Level ² (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)	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)	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)	33-1/16 (840)	33-1/16 (840)	33-1/16 (840)	
Net Weight	lbs. (kg)	57 (26)	57 (26)	57 (26)	57 (26)	57 (26)	57 (26)	57 (26)	57 (26)	
Refrigerant		R410A								
Indoor Fan	Air Flow Rate	cfm	953-812-635-494		1306-1094-847-706		1306-1165-918-741		1306-1236-988-777	
	(Hi2-Hi-Me-Lo)	(m ³ /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)	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)	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)	1-1/4 (32)	

NOTES:

1. Nominal capacity conditions are based on AHRI standard. Visit 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 (applies to all models)			P-AP160NA2 (without Motion and Radiant Heat Sensors)		P-AP160NAE1 (with Motion and Radiant Heat Sensors)	
Color			Neutral White			
Outer Dimensions	Height	in.(mm)	1-9/16	(40)	1-9/16	(40)
	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)	14	(6.5)	

INDOOR UNITS

WALL MOUNT (NON-DUCTED)



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

Controller Options



MODEL CIR01



MODEL CIS01



MODEL CIW01

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.

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		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 ¹	Btu/h	6,000		8,000		12,000		15,000					
	(kW)	(1.8)		(2.3)		(3.5)		(4.4)					
Nominal Heating Capacity ¹	Btu/h	6,700		9,000		13,500		17,000					
	(kW)	(2.0)		(2.6)		(4.0)		(5.0)					
Sound Pressure Level ² (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	Air Flow 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		
		(m ³ /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		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)	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)	

NOTES:

1. Nominal capacity conditions are based on AHRI standard. Visit www.ahrinet.org for more information.
2. 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	TIWM006-015B22S	TIWM018-030B22S
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

INDOOR UNITS

WALL MOUNT (NON-DUCTED)



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

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 ¹	Btu/h	18,000				24,000				30,000				
	(kW)	(5.3)				(7.0)				(8.8)				
Nominal Heating Capacity ¹	Btu/h	20,000				27,000				34,000				
	(kW)	(5.8)				(7.9)				(10.0)				
Sound Pressure Level ² (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)	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)	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)	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)	37 (17)	33 (15)	37 (17)	33 (15)			
Refrigerant		R410A												
Indoor Fan	Air Flow 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	
		(m ³ /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		Flare-Nut Connection (with Flare Nuts)												
Refrigerant Piping	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 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.

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



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 #			HICS015B21S		HICS024B21S		HICS030B21S		HICS036B21S	
Power Supply			AC 1Phase, 208/230V, 60Hz							
Nominal Cooling Capacity ¹	Btu / h	(kW)	15,000	(4.4)	24,000	(7.0)	30,000	(8.8)	36,000	(10.5)
Nominal Heating Capacity ¹	Btu / h	(kW)	17,000	(5.0)	27,000	(7.9)	34,000	(10.0)	40,000	(11.7)
Sound Pressure Level ² (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	Air Flow 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			Flare-Nut Connection (with Flare Nuts)							
Refrigerant Piping	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 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	HICS015B21S	HICS024B21S	HICS030-036B21S
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

FLOOR EXPOSED (NON-DUCTED)

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



Capacities 6,000 to 15,000 Btu/hr

Controller Options



MODEL CIR01



MODEL CIS01



MODEL CIW01

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 ¹	Btu / h (kW)	6,000	(1.8)	8,000	(2.3)	12,000	(3.5)	15,000	(4.4)	
Nominal Heating Capacity ¹	Btu / h (kW)	6,700	(2.0)	9,000	(2.6)	13,500	(4.0)	17,000	(5.0)	
Sound Pressure Level ² (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)	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)	46-1/16 (1170)	55-7/8 (1420)	55-7/8 (1420)		
	Depth	in. (mm)	8-11/16 (220)	8-11/16 (220)	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	Air Flow 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)	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)	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)	1-1/4 (32)	1-1/4 (32)		

NOTES:

- Nominal capacity conditions are based on AHRI standard. Visit 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.

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

INDOOR UNITS

FLOOR CONCEALED (NON-DUCTED)

Floor Concealed indoor units are ideal for installation in areas such as the wall beneath windows in a hallway to provide complete comfort with a clean design.



Capacities 6,000 to 15,000 Btu/hr

Controller Options



MODEL CIR01



MODEL CIS01



MODEL CIW01

Key Features

- Compact design for limited spaces
- Provides compatibility with interior designs
- Ideal for perimeter zone air conditioning
- Setback temperature control
- Auxiliary/emergency heater control
- Sensor enables remote reading of air supply temperature
- Cooling and heating auto-changeover dual-setpoint control

Tonnage				0.5		0.7		1.0		1.3	
Floor Concealed Indoor Unit Model #				HIFC006B21S		HIFC008B21S		HIFC012B21S		HIFC015B21S	
Indoor Unit Power Supply				AC 1Phase, 208/230V, 60Hz							
Nominal Cooling Capacity ¹	Btu / h	(kW)		6,000	(1.8)	8,000	(2.3)	12,000	(3.5)	15,000	(4.4)
Nominal Heating Capacity ¹	Btu / h	(kW)		6,700	(2.0)	9,000	(2.6)	13,500	(4.0)	17,000	(5.0)
Sound Pressure Level ² (Overall A Scale) (Hi-Me-Lo)	dB			39-33-29		39-33-29		43-35-32		48-43-36	
Outer Dimensions	Height	in.	(mm)	24-7/16	(620)	24-7/16	(620)	24-7/16	(620)	24-7/16	(620)
	Width	in.	(mm)	33-3/8	(848)	33-3/8	(848)	38-5/16	(973)	48-1/8	(1223)
	Depth	in.	(mm)	8-11/16	(220)	8-11/16	(220)	8-11/16	(220)	8-11/16	(220)
Net Weight	lbs.	(kg)		52	(24)	52	(24)	57	(26)	68	(31)
Refrigerant				R410A							
Indoor Fan	Air Flow Rate (Hi-Me-Lo)	cfm		300-247-212		300-247-212		424-353-318		565-494-388	
		(m ³ / min)		(8.5-7-6)		(8.5-7-6)		(12-10-9)		(16-14-11)	
Motor Nominal Output		W		20		20		28		45	
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)
	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:

- Nominal capacity conditions are based on AHRI standard. Visit 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.

Floor Concealed

Compatible Accessories	HIFC006-015B21S
Infrared (IR) Receiver Kit	CWDIRK01
3-Pin Connector Cable	PCC-1A
Connector Cable for Auxiliary Heater Control	PCC-CN1925-H
Relay and 3-Pin Connector Kit	PSC-5RA
Remote Sensor (Control)	THM-R2A

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 operate quietly with sound ratings as low as 51 dBA.

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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 Sigma Outdoor Unit line features:

- An extended operating range to suit even more 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

Hitachi VRF Sigma 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

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)	1640 (500)
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)	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)	98 (30)
Cooling Operation Range*	°F (°C)	-10 to 122 (-23 to 50)	14 to 118 (-10 to 48)
Heating Operation Range*	°F (°C)	-13 to 59 (-25 to 15)	-13 to 59 (-25 to 15)

Low-Ambient Heat Pump Units 208/230V & 460V		Heat Pump VRF
Capacity		6 to 24 Tons
Maximum connectable indoor unit quantity		50
Connection ratio OU / IU		As low as 60% and up to 130%
Total piping length	ft (m)	1,640 (500)
Maximum piping length between OU and IU	ft (m)	541 (165)
Maximum piping length between 1st branch and IU	ft (m)	295 (90)
Maximum height difference between OU and IU (when OU is higher than IU)	ft (m)	164 (50)
Maximum height difference between OU and IU (when IU is higher than OU)	ft (m)	131 (40)
Maximum height difference between IU and IU	ft (m)	98 (30)
Cooling Operating Range*	°F (°C)	14 to 118 (-10 to 48)
Heating Operating Range*	°F (°C)	-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

6 Ton HVAHR072B32S	12 Ton HVAHR144B32S
8 Ton HVAHR096B32S	14 Ton HVAHR168B32S
10 Ton HVAHR120B32S	16 Ton HVAHR192B32S

18-30 Ton Double Module Systems

18 Ton HVAHR216B32S	26 Ton HVAHR312B32S
20 Ton HVAHR240B32S	28 Ton HVAHP336B32S
22 Ton HVAHR264B32S	30 Ton HVAHP360B32S
24 Ton HVAHR288B32S	

32-36 Ton Triple Module Systems

32 Ton HVAHR384B32S
34 Ton HVAHR408B32S
36 Ton HVAHR432B32S

Heat Recovery Models 460V

6-16 Ton Single Module Systems

6 Ton HVAHR072B42S	12 Ton HVAHR144B42S
8 Ton HVAHR096B42S	14 Ton HVAHR168B42S
10 Ton HVAHR120B42S	16 Ton HVAHR192B42S

18-30 Ton Double Module Systems

18 Ton HVAHR216B42S	26 Ton HVAHR312B42S
20 Ton HVAHR240B42S	28 Ton HVAHP336B42S
22 Ton HVAHR264B42S	30 Ton HVAHP360B42S
24 Ton HVAHR288B42S	

32-36 Ton Triple Module Systems

32 Ton HVAHR384B42S
34 Ton HVAHR408B42S
36 Ton HVAHR432B42S

Heat Pump Models 208/230V

6-16 Ton Single Module Systems

6 Ton HVAHP072B32S	12 Ton HVAHP144B32S
8 Ton HVAHP096B32S	14 Ton HVAHP168B32S
10 Ton HVAHP120B32S	16 Ton HVAHP192B32S

18-30 Ton Double Module Systems

18 Ton HVAHP216B32S	26 Ton HVAHP312B32S
20 Ton HVAHP240B32S	28 Ton HVAHP336B32S
22 Ton HVAHP264B32S	30 Ton HVAHP360B32S
24 Ton HVAHP288B32S	

32-36 Ton Triple Module Systems

32 Ton HVAHP384B32S
34 Ton HVAHP408B32S
36 Ton HVAHP432B32S

Heat Pump Models 460V

6-16 Ton Single Module Systems

6 Ton HVAHP072B42S	12 Ton HVAHP144B42S
8 Ton HVAHP096B42S	14 Ton HVAHP168B42S
10 Ton HVAHP120B42S	16 Ton HVAHP192B42S

18-30 Ton Double Module Systems

18 Ton HVAHP216B42S	26 Ton HVAHP312B42S
20 Ton HVAHP240B42S	28 Ton HVAHP336B42S
22 Ton HVAHP264B42S	30 Ton HVAHP360B42S
24 Ton HVAHP288B42S	

32-36 Ton Triple Module Systems

32 Ton HVAHP384B42S
34 Ton HVAHP408B42S
36 Ton HVAHP432B42S

Heat Recovery Models 575V

6-16 Ton Single Module Systems

6 Ton HVAHR072B52S	12 Ton HVAHR144B52S
8 Ton HVAHR096B52S	14 Ton HVAHR168B52S
10 Ton HVAHR120B52S	16 Ton HVAHR192B52S

18-30 Ton Double Module Systems

18 Ton HVAHR216B52S	26 Ton HVAHR312B52S
20 Ton HVAHR240B52S	28 Ton HVAHR336B52S
22 Ton HVAHR264B52S	30 Ton HVAHR360B52S
24 Ton HVAHR288B52S	

32-36 Ton Triple Module Systems

32 Ton HVAHR384B52S
34 Ton HVAHR408B52S
36 Ton HVAHR432B52S

Heat Pump Models 575V

6-16 Ton Single Module Systems

6 Ton HVAHP072B52S	12 Ton HVAHP144B52S
8 Ton HVAHP096B52S	14 Ton HVAHP168B52S
10 Ton HVAHP120B52S	16 Ton HVAHP192B52S

18-30 Ton Double Module Systems

18 Ton HVAHP216B52S	26 Ton HVAHP312B52S
20 Ton HVAHP240B52S	28 Ton HVAHP336B52S
22 Ton HVAHP264B52S	30 Ton HVAHP360B52S
24 Ton HVAHP288B52S	

32-36 Ton Triple Module Systems

32 Ton HVAHP384B52S
34 Ton HVAHP408B52S
36 Ton HVAHP432B52S

* High efficiency configurations.

OUTDOOR UNITS

OVERVIEW (Continued)

Low Ambient Heat Pump Models 208/230V

6-8 Ton Single Module Systems

6 Ton HVAHP072B31CW
8 Ton HVAHP096B31CW

12-16 Ton Double Module Systems

12 Ton HVAHP144B31CW
14 Ton HVAHP168B31CW
16 Ton HVAHP192B31CW

24 Ton Systems Triple Module Systems

24 Ton HVAHP288B31CW

Low Ambient Heat Pump Models 460V

6-8 Ton Single Module Systems

6 Ton HVAHP072B41CW
8 Ton HVAHP096B41CW

12-16 Ton Double Module Systems

12 Ton HVAHP144B41CW
14 Ton HVAHP168B41CW
16 Ton HVAHP192B41CW

24 Ton Systems Triple Module Systems

24 Ton HVAHP288B41CW

Mini VRF Heat Pump Models 208/230V

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 Sigma Heat Recovery units offer an extended operating temperature range: outdoor ambient temperature as low as -4°F (-20°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 ² (Non-duct / Duct)	Rated Cooling Capacity ¹	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 ¹	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 ⁴ Temperature Range	Cooling ³	°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 ⁵	%	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 [m ³ /min]	6707 [190]	8437 [239]	9037 [256]		11614 [329]	12284 [348]
	External Static Pressure ⁶	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 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 ² (Non-duct / Duct)	Rated Cooling Capacity ¹	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 ¹	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 ⁴ Temperature Range	Cooling ³	°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 ⁵	%	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 [m ³ /min]	9037+6707 [256+190]	9037+9037 [256+256]	
	External Static Pressure ⁶	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 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 ² (Non-duct / Duct)	Rated Cooling Capacity ¹	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 ¹	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 ⁴ Temperature Range	Cooling ³	°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 ⁵	%	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 ³ /min]	9037+9037 [256+256]	11614+9037 [329+256]
	External Static Pressure ⁶	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 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 ² (Non-duct / Duct)	Rated Cooling Capacity ¹	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 ¹	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 ⁴ Temperature Range	Cooling ³	°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 ⁵	%	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 [m ³ /min]	12284+9037 [348+256]	12284+11614 [348+329]
	External Static Pressure ⁶	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 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 ² (Non-duct / Duct)	Rated Cooling Capacity ¹	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 ¹	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 ⁴ Temperature Range	Cooling ³	°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 ⁵	%	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 ³ /min]	9037+9037+9037 [256+256+256]		
	External Static Pressure ⁶	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+737+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 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 -4°F (-20°C) in the 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 ² (Non-duct/ Duct)	Rated Cooling Capacity ¹	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 ¹	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 ⁴ Temperature Range	Cooling ³	°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 ⁵	%	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 [m ³ / min]	6707 [190]	8437 [239]	9037 [256]		11614 [329]	12284 [348]
	External Static Pressure ⁶	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 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 ² (Non-duct / Duct)	Rated Cooling Capacity ¹	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 ¹	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 ⁴ Temperature Range	Cooling ³	°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 ⁵	%	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 [m ³ /min]	9037+6707 [256+190]		9037+9037 [256+256]
	External Static Pressure ⁶	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 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 ² (Non-duct / Duct)	Rated Cooling Capacity ¹	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 ¹	Btu/h	308,000	334,000
	COP	W/W	3.42 / 3.42	3.37 / 3.31
	Sound Pressure	dB(A)	68	
Operating ⁴ Temperature Range	Cooling ³	oF DB [°C DB]	23 ~ 122 [-5 ~ 50]	
	Heating	oF 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 ⁵	%	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 ³ /min]	9037+9037 [256+256]	11614+9037 [329+256]
	External Static Pressure ⁶	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 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 ² (Non-duct / Duct)	Rated Cooling Capacity ¹	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 ¹	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 ⁴ Temperature Range	Cooling ³	°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 ⁵	%	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 [m ³ /min]	12284+9037 [348+256]	12284+11614 [348+329]
	External Static Pressure ⁶	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 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 ² (Non-duct / Duct)	Rated Cooling Capacity ¹	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 ¹	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 ⁴ Temperature Range	Cooling ³	°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 ⁵	%	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 ³ /min]	9037+9037+9037 [256+256+256]		
	External Static Pressure ⁶	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 / 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 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

LOW AMBIENT HEAT PUMP

208/230V | 460V Systems



Bring the benefits of VRF technology to customers in cold-weather climates with Hitachi VRF Sigma Low-Ambient Air-Source VRF Heat Pump Units. Hitachi VRF heat pump units offer an extended operating temperature range: outdoor ambient temperature as low as 14°F (-10°C) in the cooling mode and as low as -13°F (-25°C) in the heating mode.



LOW AMBIENT HEAT PUMP OUTDOOR UNITS

208/230V | 6-8 Ton Systems

6-8 Ton Systems	Type			Low Ambient Outdoor Systems				
	Tonnage			6 Ton		8 Ton		
Model #				HVAHP072B31CW		HVAHP096B31CW		
Power Supply				208/230V/ 3PH 60Hz		208/230V/ 3PH 60Hz		
Capacity (Nominal) ¹	Cooling	Capacity (Nominal)	Btu/h	(kW)	72,000	(21.1)	96,000 (28.1)	
		Power input	kW			5.88		9.61
		Current input	A (208/230V)			16.8 / 16.1		27.2 / 25.9
	Heating	Capacity (Nominal)	Btu/h	(kW)	81,000	(23.7)	108,000 (31.7)	
		Power Input	kW			5.51		8.08
		Current Input	A (208/230V)			15.8 / 15.0		23.1 / 21.8
Efficiency Ratings ²	Cooling	Capacity (Rated)	Btu/h	(kW)	69,000	(20.2)	92,000 (27.0)	
		EER	Btu/Wh	(W/W)	13.00	(3.81)	11.90 (3.49)	
		IEER	Btu/Wh	(Wh/Wh)	18.10	(5.31)	18.90 (5.54)	
	Heating High	Capacity (Rated)	Btu/h	(kW)	76,000	(22.3)	103,000 (30.2)	
		COP	W/W			4.09		3.80
	Heating Low	Capacity	Btu/h	(kW)	64,000	(18.8)	87,000 (25.5)	
COP		W/W			2.57		2.42	
Cooling Operating Range	Indoor	°F WB (°C WB)			59(15)~73(23)		59(15)~73(23)	
	Outdoor ³	°F DB (°C DB)			14(-10)~118(48)		14(-10)~118(48)	
Heating Operating Range	Indoor	°F DB (°C DB)			59(15)~80(27)		59(15)~80(27)	
	Outdoor ⁴	°F WB (°C WB)			-13(-25)~59(15)		-13(-25)~59(15)	
Cabinet Color (Munsell Code)				2.5Y 8/2		2.5Y 8/2		
Outer Dimensions	(H x W x D)			in 68-1/8 x 48-1/8 x 31-1/4		68-1/8 x 48-1/8 x 31-1/4		
Package Dimensions	(H x W x D)			in 74-1/4 x 50-7/8 x 34		74-1/4 x 50-7/8 x 34		
Weight	Net	lbs	(kg)	699	(317)	699 (317)		
	Gross	lbs	(kg)	756	(343)	756 (343)		
Connection Ratio	Connection Ratio Range				130 - 60		110 - 60	
	Max. (Recommendation) indoor units/system				15 (10)		16 (10)	
Heat Exchanger	Type				Multi-pass cross-finned tube			
	Material				Cu-Al (Anti-corrosion)			
Compressor	Type	Inverter				EK655DHD×1		EK655DHD×1
		Fixed Speed				EK655DH×1		EK655DH×1
	Motor Output (Pole)	kW (Pole)			3.2(4)+3.0(2)		3.2(4)+3.0(2)	
	Start Method				inverter			
	Operation Range	%			14 ~ 100		14 ~ 100	
	Refrigeration Oil Type				FVC68D		FVC68D	
Crank Case Heater	W×Qty			40.8 (230V) ×6		40.8 (230V) ×6		
Fan	Type				Propeller Fan			
	Motor Output (Pole)	kW (Pole)			0.66(8)		0.66(8)	
	Quantity	Qty			1			
	Airflow Rate	cfm	(m ³ /min)	6884	(195)	6884	(195)	
	External Static Pressure ⁵	in.WG	(Pa)	0 (0)		0 (0)		
	Drive				Direct-drive			
Electrical	Min Circuit Amps	A			51/46		51/46	
	Max Overcurrent Protective Device	A			72/65		72/65	
	Maximum Fuse Size	A			70/60		70/60	
Sound Pressure Level	Cooling (Night-Shift)	dB (A)			60 (56)		60 (56)	
	Heating	dB (A)			61		61	
Protection devices	Cycle				High pressure switch at 601psi (4.15MPa)			
	Inverter				Over-current protection / Over-heat protection			
	Compressor				Over-heat protection			
	PCB				Over-current protection			
Refrigerant	Type				R410A			
	Charge Amount	lbs	(kg)	17.0	(7.7)	17.0	(7.7)	
Refrigeration Oil	Charge Amount	gal/Unit	(L/Unit)	2.1	(7.9)	2.1	(7.9)	
Defrost Method				Reversed refrigerant cycle / Hot gas bypass				
Main Refrigerant Piping (Heat Pump)	Gas Line	in	(mm)	7/8	(22.2)	7/8	(22.2)	
	Liquid Line	in	(mm)	3/8	(9.52)	3/8	(9.52)	

NOTES:

- Nominal capacity conditions are based on AHRI standard. Visit www.ahrinet.org for more information.
- Rating Conditions are based on the AHRI 1230 test standard.
- For more details, please refer to Engineering manual "Operation range" section.
- For more details, please refer to Engineering manual "Operation range" section.
- External static pressure can be changed via DSW setting 0.24 in. W.G.. (60Pa).

LOW AMBIENT HEAT PUMP OUTDOOR UNITS

208/230V | 12-24 Ton Systems

12-24 Ton Systems	Type		Low Ambient Outdoor Systems										
	Tonnage		12 Ton (6 + 6)		14 Ton (8+6)		16 Ton (8+8)		24 Ton (8+8+8)				
Model # (combination)			HVAHP144B31CW		HVAHP168B31CW		HVAHP192B31CW		HVAHP288B31CW				
Model # (individual)	Unit A		HVAHP072B31CW		HVAHP096B31CW		HVAHP096B31CW		HVAHP096B31CW				
	Unit B		HVAHP072B31CW		HVAHP072B31CW		HVAHP096B31CW		HVAHP096B31CW				
	Unit C		-		-		-		HVAHP096B31CW				
Power Supply			208/230V/ 3PH 60Hz		208/230V/ 3PH 60Hz		208/230V/ 3PH 60Hz		208/230V/ 3PH 60Hz				
Capacity (Nominal) ¹	Cooling	Capacity (Nominal)	Btu/h	(kW)	144,000	(42.2)	168,000	(49.2)	192,000	(56.3)	288,000	(84.4)	
		Power input	kW		11.77		15.50		19.23		28.84		
		Current input	A (208/230V)		33.6 / 32.2		44.0 / 42.0		54.4 / 51.8		81.6 / 77.7		
	Heating	Capacity (Nominal)	Btu/h	(kW)	162,000	(47.5)	189,000	(55.4)	216,000	(63.3)	324,000	(95.0)	
		Power Input	kW		11.02		13.59		16.16		24.25		
		Current Input	A (208/230V)		31.6 / 30.0		38.9 / 36.8		46.2 / 43.6		69.3 / 65.4		
Efficiency Ratings ²	Cooling	Capacity (Rated)	Btu/h	(kW)	138,000	(40.5)	160,000	(46.9)	182,000	(53.4)	274,000	(80.4)	
		EER	Btu/Wh	(W/W)	12.80	(3.75)	12.30	(3.61)	12.20	(3.58)	10.60	(3.11)	
		IEER	Btu/Wh	(Wh/Wh)	17.60	(5.16)	18.50	(5.43)	18.50	(5.43)	17.70	(5.19)	
	Heating High	Capacity (Rated)	Btu/h	(kW)	154,000	(45.2)	178,000	(52.2)	204,000	(59.8)	308,000	(90.3)	
		COP	W/W		3.99		3.80		3.68		3.57		
	Heating Low	Capacity	Btu/h	(kW)	129,000	(37.8)	151,000	(44.3)	174,000	(51.0)	260,000	(76.3)	
COP		W/W		2.50		2.33		2.37		2.34			
Cooling Operating Range	Indoor	°F WB (°C WB)		59(15)~73(23)		59(15)~73(23)		59(15)~73(23)		59(15)~73(23)			
	Outdoor ³	°F DB (°C DB)		14(-10)~118(48)		14(-10)~118(48)		14(-10)~118(48)		14(-10)~118(48)			
Heating Operating Range	Indoor	°F DB (°C DB)		59(15)~80(27)		59(15)~80(27)		59(15)~80(27)		59(15)~80(27)			
	Outdoor ⁴	°F WB (°C WB)		-13(-25)~59(15)		-13(-25)~59(15)		-13(-25)~59(15)		-13(-25)~59(15)			
Cabinet Color (Munsell Code)			-		2.5Y 8/2		2.5Y 8/2		2.5Y 8/2				
Outer Dimensions (H x W x D)			in		(68-1/8 x 48-1/8 x 31-1/4) x2		(68-1/8 x 48-1/8 x 31-1/4) x2		(68-1/8 x 48-1/8 x 31-1/4) x2		(68-1/8 x 48-1/8 x 31-1/4) x3		
Package Dimensions (H x W x D)			in		-		-		-		-		
Weight	Net	lbs	(kg)	1398	(634)	1398	(634)	1398	(634)	2097	(951)		
	Gross	lbs	(kg)	1513	(686)	1513	(686)	1513	(686)	2269	(1029)		
Connection Ratio	Connection Ratio Range		%		130 - 60		110 - 60		110 - 60		110 - 60		
	Max. (Recommendation) indoor units/system		-		31(18)		30(18)		33(18)		50(32)		
Heat Exchanger	Type	Multi-pass cross-finned tube											
	Material	Cu-Al (Anti-corrosion)											
Compressor	Type	Inverter	-		EK655DHD×2		EK655DHD×2		EK655DHD×2		EK655DHD×3		
		Fixed Speed	-		EK655DH×2		EK655DH×2		EK655DH×2		EK655DH×3		
	Motor Output (Pole)	kW (Pole)		3.2(4)+3.0(2)		3.2(4)+3.0(2)		3.2(4)+3.0(2)		3.2(4)+3.0(2)		3.2(4)+3.0(2)	
		-		3.2(4)+3.0(2)		3.2(4)+3.0(2)		3.2(4)+3.0(2)		3.2(4)+3.0(2)		3.2(4)+3.0(2)	
	Start Method	inverter											
	Operation Range	%		7 ~ 100		7 ~ 100		7 ~ 100		7 ~ 100		8 ~ 100	
Refrigeration Oil Type	-		FVC68D		FVC68D		FVC68D		FVC68D		FVC68D		
Crank Case Heater			W×Qty		40.8 (230V) ×12		40.8 (230V) ×12		40.8 (230V) ×12		40.8 (230V) ×18		
Fan	Type	Propeller Fan											
	Motor Output (Pole)	kW (Pole)		0.66(8)×2		0.66(8)×2		0.66(8)×2		0.66(8)×3			
	Quantity	Qty		2		2		2		3			
	Airflow Rate	cfm	(m ³ /min)	6884+6884	(195+195)	6884+6884	(195+195)	6884+6884	(195+195)	6884+6884+6884	(195+195+195)		
	External Static Pressure ⁵	in.WG	(Pa)	0 (0)		0 (0)		0 (0)		0 (0)			
	Drive	Direct-drive											
Electrical	Min Circuit Amps		A										
	Max Overcurrent Protective Device		A		Reference: HVAHP072B31CW HVAHP072B31CW		Reference: HVAHP096B31CW HVAHP072B31CW		Reference: HVAHP096B31CW HVAHP096B31CW		Reference: HVAHP096B31CW HVAHP096B31CW HVAHP096B31CW		
	Maximum Fuse Size		A										
Sound Pressure Level	Cooling (Night-Shift)		dB (A)		63 (59)		63 (59)		63 (59)		65 (61)		
	Heating		dB (A)		64		64		64		66		
Protection devices	Cycle		High pressure switch at 601psi (4.15MPa)										
	Inverter		Over-current protection / Over-heat protection										
	Compressor		Over-heat protection										
	PCB		Over-current protection										
Refrigerant	Type		R410A										
	Charge Amount		lbs	(kg)	17.0+17.0	(7.7+7.7)	17.0+17.0	(7.7+7.7)	17.0+17.0	(7.7+7.7)	17.0+17.0+17.0	(7.7+7.7+7.7)	
Refrigeration Oil	Charge Amount		gal/Unit	(L/Unit)	2.1+2.1	(7.9+7.9)	2.1+2.1	(7.9+7.9)	2.1+2.1	(7.9+7.9)	2.1+2.1+2.1	(7.9+7.9+7.9)	
Defrost Method			Reversed refrigerant cycle / Hot gas bypass										
Main Refrigerant Piping (Heat Pump)	Gas Line		in	(mm)	1-1/8	(28.58)	1-1/8	(28.58)	1-1/8	(28.58)	1-3/8	(34.93)	
	Liquid Line		in	(mm)	5/8	(15.88)	5/8	(15.88)	5/8	(15.88)	3/4	(19.05)	

LOW AMBIENT HEAT PUMP OUTDOOR UNITS

460V HP | 6-8 Ton Systems

6-8 Ton Systems		Type		Low Ambient Outdoor Systems				
Model #		Tonnage		6 Ton		8 Ton		
				HVAHP072B41CW		HVAHP096B41CW		
Power Supply				460V/ 3PH 60Hz		460V/ 3PH 60Hz		
Capacity (Nominal) ¹	Cooling	Capacity (Nominal)	Btu/h	(kW)	72,000	(21.1)	96,000	(28.1)
		Power input	kW		5.88		9.61	
		Current input	A		7.9		12.8	
	Heating	Capacity (Nominal)	Btu/h	(kW)	81,000	(23.7)	108,000	(31.7)
		Power Input	kW		5.51		8.08	
		Current Input	A		7.4		10.8	
Efficiency Ratings ²	Cooling	Capacity (Rated)	Btu/h	(kW)	69,000	(20.2)	92,000	(27.0)
		EER	Btu/Wh	(W/W)	13.00	(3.81)	11.90	(3.49)
		IEER	Btu/Wh	(Wh/Wh)	18.10	(5.31)	18.90	(5.54)
	Heating High	Capacity (Rated)	Btu/h	(kW)	76,000	(22.3)	103,000	(30.2)
		COP	W/W		4.09		3.80	
	Heating Low	Capacity	Btu/h	(kW)	64,000	(18.8)	87,000	(25.5)
		COP	W/W		2.57		2.42	
	Cooling Operating Range	Indoor	°F WB (°C WB)		59(15)~73(23)		59(15)~73(23)	
		Outdoor ³	°F DB (°C DB)		14(-10)~118(48)		14(-10)~118(48)	
Heating Operating Range	Indoor	°F DB (°C DB)		59(15)~80(27)		59(15)~80(27)		
	Outdoor ⁴	°F WB (°C WB)		-13(-25)~59(15)		-13(-25)~59(15)		
Cabinet Color (Munsell Code)				2.5Y 8/2		2.5Y 8/2		
Outer Dimensions (H x W x D)		in		68-1/8 x 48-1/8 x 31-1/4		68-1/8 x 48-1/8 x 31-1/4		
Package Dimensions (H x W x D)		in		74-1/4 x 50-7/8 x 34		74-1/4 x 50-7/8 x 34		
Weight	Net	lbs	(kg)	787	(357)	787	(357)	
	Gross	lbs	(kg)	845	(383)	845	(383)	
Connection Ratio	Connection Ratio Range		%	130 - 60		110 - 60		
	Max. (Recommendation) indoor units/system		-	15 (10)		16 (10)		
Heat Exchanger	Type	Multi-pass cross-finned tube						
	Material	Cu-Al (Anti-corrosion)						
Compressor	Type	Inverter	-		EK655DHD×1	EK655DHD×1		
		Fixed Speed	-		EK655DH×1	EK655DH×1		
	Motor Output (Pole)	kW (Pole)		3.2(4)+3.0(2)		3.2(4)+3.0(2)		
	Start Method	inverter						
	Operation Range	%		14 ~ 100		14 ~ 100		
	Refrigeration Oil Type	-		FVC68D		FVC68D		
Crank Case Heater	W×Qty		40.8 (230V) ×6		40.8 (230V) ×6			
Fan	Type	Propeller Fan						
	Motor Output (Pole)	kW (Pole)		0.66(8)		0.66(8)		
	Quantity	1						
	Airflow Rate	cfm	(m ³ /min)	6884	(195)	6884	(195)	
	External Static Pressure ⁵	in.WG	(Pa)	0 (0)		0 (0)		
	Drive	Direct-drive						
Electrical	Min Circuit Amps	A		24		24		
	Max Overcurrent Protective Device	A		34		34		
	Maximum Fuse Size	A		30		30		
Sound Pressure Level	Cooling (Night-Shift)	dB (A)		60	(56)	60	(56)	
	Heating	dB (A)		61		61		
Protection devices	Cycle	High pressure switch at 601psi (4.15MPa)						
	Inverter	Over-current protection / Over-heat protection						
	Compressor	Over-heat protection						
	PCB	Over-current protection						
Refrigerant	Type	R410A						
	Charge Amount	lbs	(kg)	17.0	(7.7)	17.0	(7.7)	
Refrigeration Oil	Charge Amount	gal/Unit	(L/Unit)	2.1	(7.9)	2.1	(7.9)	
Defrost Method	Reversed refrigerant cycle / Hot gas bypass							
Main Refrigerant Piping (Heat Pump)	Gas Line	in	(mm)	7/8	(22.2)	7/8	(22.2)	
	Liquid Line	in	(mm)	3/8	(9.52)	3/8	(9.52)	

NOTES:

- Nominal capacity conditions are based on AHRI standard. Visit www.ahrinet.org for more information.
- Rating Conditions are based on the AHRI 1230 test standard.
- For more details, please refer to Engineering manual "Operation range" section.
- For more details, please refer to Engineering manual "Operation range" section.
- External static pressure can be changed via DSW setting 0.24 in. W.G. (60Pa).

LOW AMBIENT HEAT PUMP OUTDOOR UNITS

460V | 12-24 Ton Systems

12-24 Ton Systems		Type		Low Ambient Outdoor Systems								
				Tonnage		12 Ton (6 + 6)		14 Ton (8+6)		16 Ton (8+8)		24 Ton (8+8+8)
Model # (combination)				HVAHP144B41CW		HVAHP168B41CW		HVAHP192B41CW		HVAHP288B41CW		
Model # (individual)	Unit A			HVAHP072B41CW		HVAHP096B41CW		HVAHP096B41CW		HVAHP096B41CW		
	Unit B			HVAHP072B41CW		HVAHP072B41CW		HVAHP096B41CW		HVAHP096B41CW		
	Unit C									HVAHP096B41CW		
Power Supply				460V/ 3PH 60Hz		460V/ 3PH 60Hz		460V/ 3PH 60Hz		460V/ 3PH 60Hz		
Capacity (Nominal) ¹	Cooling	Capacity (Nominal)	Btu/h (kW)	144,000 (42.2)	168,000 (49.2)	192,000 (56.3)	288,000 (84.4)					
		Power input	kW	11.77	15.50	19.23	28.84					
		Current input	A	15.8	20.7	25.6	38.4					
	Heating	Capacity (Nominal)	Btu/h (kW)	162,000 (47.5)	189,000 (55.4)	216,000 (63.3)	324,000 (95.0)					
		Power Input	kW	11.02	13.59	16.16	24.25					
		Current Input	A	14.8	18.2	21.6	32.4					
Efficiency Ratings ²	Cooling	Capacity (Rated)	Btu/h (kW)	138,000 (40.5)	160,000 (46.9)	182,000 (53.4)	274,000 (80.4)					
		EER	Btu/Wh (W/W)	12.80 (3.75)	12.30 (3.61)	12.20 (3.58)	10.60 (3.11)					
		IEER	Btu/Wh (Wh/Wh)	17.60 (5.16)	18.50 (5.43)	18.50 (5.43)	17.70 (5.19)					
	Heating High	Capacity (Rated)	Btu/h (kW)	154,000 (45.2)	178,000 (52.2)	204,000 (59.8)	308,000 (90.3)					
		COP	W/W	3.99	3.80	3.68	3.57					
	Heating Low	Capacity	Btu/h (kW)	129,000 (37.8)	151,000 (44.3)	174,000 (51.0)	260,000 (76.3)					
	COP	W/W	2.50	2.33	2.37	2.34						
Cooling Operating Range	Indoor	°F WB (°C WB)		59(15) ~ 73(23)	59(15) ~ 73(23)	59(15) ~ 73(23)	59(15) ~ 73(23)					
	Outdoor ³	°F DB (°C DB)		14(-10) ~ 118(48)	14(-10) ~ 118(48)	14(-10) ~ 118(48)	14(-10) ~ 118(48)					
Heating Operating Range	Indoor	°F DB (°C DB)		59(15) ~ 80(27)	59(15) ~ 80(27)	59(15) ~ 80(27)	59(15) ~ 80(27)					
	Outdoor ⁴	°F WB (°C WB)		-13(-25) ~ 59(15)	-13(-25) ~ 59(15)	-13(-25) ~ 59(15)	-13(-25) ~ 59(15)					
Cabinet Color (Munsell Code)				2.5Y ~ 8/2		2.5Y ~ 8/2		2.5Y ~ 8/2		2.5Y ~ 8/2		
Outer Dimensions (H x W x D)		in		(68-1/8 x 48-1/8 x 31-1/4) x2		(68-1/8 x 48-1/8 x 31-1/4) x2		(68-1/8 x 48-1/8 x 31-1/4) x2		(68-1/8 x 48-1/8 x 31-1/4) x3		
Package Dimensions (H x W x D)		in										
Weight	Net	lbs (kg)	1574 (714)	1574 (714)	1574 (714)	2362 (1071)						
	Gross	lbs (kg)	1689 (766)	1689 (766)	1689 (766)	2534 (1149)						
Connection Ratio	Connection Ratio Range		%		130 - 60		110 - 60		110 - 60			
	Max. Recommendation) indoor units/system				31(18)		30(18)		33(18)		50(32)	
Heat Exchanger	Type						Multi-pass cross-finned tube					
	Material						Cu-Al (Anti-corrosion)					
Compressor	Type	Inverter			EK655DHD×2		EK655DHD×2		EK655DHD×2		EK655DHD×3	
		Fixed Speed			EK655DH×2		EK655DH×2		EK655DH×2		EK655DH×3	
	Motor Output (Pole)		kW (Pole)		3.2(4)+3.0(2) 3.2(4)+3.0(2)		3.2(4)+3.0(2) 3.2(4)+3.0(2)		3.2(4)+3.0(2) 3.2(4)+3.0(2)		3.2(4)+3.0(2) 3.2(4)+3.0(2)	
	Start Method						inverter					
	Operation Range		%		7 ~ 100		7 ~ 100		7 ~ 100		8 ~ 100	
	Refrigeration Oil Type				FVC68D		FVC68D		FVC68D		FVC68D	
Crank Case Heater		W×Qty		40.8 (230V) ×12		40.8 (230V) ×12		40.8 (230V) ×12		40.8 (230V) ×18		
Fan	Type						Propeller Fan					
	Motor Output (Pole)		kW (Pole)		0.66(8)×2		0.66(8)×2		0.66(8)×2		0.66(8)×3	
	Quantity		Qty		2		2		2		3	
	Airflow Rate		cfm (m ³ /min)		6884+6884 (195+195)		6884+6884 (195+195)		6884+6884 (195+195)		6884+6884+6884 (195+195+195)	
	External Static Pressure ⁵		in.WG (Pa)		0 (0)		0 (0)		0 (0)		0 (0)	
	Drive								Direct-drive			
Electrical	Min Circuit Amps		A									
	Max Overcurrent Protective Device		A		Reference: HVAHP072B41CW HVAHP072B41CW		Reference: HVAHP096B41CW HVAHP072B41CW		Reference: HVAHP096B41CW HVAHP096B41CW		Reference: HVAHP096B41CW HVAHP096B41CW HVAHP096B41CW	
	Maximum Fuse Size		A									
Sound Pressure Level	Cooling (Night-Shift)		dB (A)		63 (59)		63 (59)		63 (59)		65 (61)	
	Heating		dB (A)		64		64		64		66	
Protection devices	Cycle						High pressure switch at 601psi (4.15MPa)					
	Inverter						Over-current protection / Over-heat protection					
	Compressor						Over-heat protection					
	PCB						Over-current protection					
Refrigerant	Type						R410A					
	Charge Amount		lbs (kg)		17.0+17.0 (7.7+7.7)		17.0+17.0 (7.7+7.7)		17.0+17.0 (7.7+7.7)		17.0+17.0+17.0 (7.7+7.7+7.7)	
Refrigeration Oil	Charge Amount		gal/Unit (L/Unit)		2.1+2.1 (7.9+7.9)		2.1+2.1 (7.9+7.9)		2.1+2.1 (7.9+7.9)		2.1+2.1+2.1 (7.9+7.9+7.9)	
Defrost Method								Reversed Refrigerant cycle / Hot Gas Bypass				
Main Refrigerant Piping (Heat Pump)	High/Low Pressure Gas Line		in (mm)		1-1/8 (28.58)		1-1/8 (28.58)		1-1/8 (28.58)		1-3/8 (34.93)	
	Liquid Line		in (mm)		5/8 (15.88)		5/8 (15.88)		5/8 (15.88)		3/4 (19.05)	

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 quiet performance with sound ratings as low as 51 dBA.



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.

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 23.1
- Energy Efficiency Ratio (EER) up to 16.7
- Heating Seasonal Performance Factor (HSPF) up to 12.1



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.

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 Ton ⁵		4 Ton ⁵	
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	15.90
	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	10.60
Cooling Operating Range ³	Outdoor	°F DB (°C DB)	23 (-5) ~ 118 (48)		23 (-5) ~ 118 (48)		23 (-5) ~ 118 (48)		
Heating Operating Range ³	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				
	Air Flow Rate	cfm (m ³ /min)	3177	(90)	3530	(100)	3530	(100)	
Electrical	Min Circuit Amps	A	31		31		31		
	Max. Overcurrent Protective Device	A			40				
Sound Pressure Level ⁴	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 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.

Water-Source Units Overview70-72

**Unified Heat Pump / Heat Recovery Systems
Specification Tables**

6 - 8 Ton Units..... 73
10-12 Ton Units..... 74
14-18 Ton Units..... 75
20-24 Ton Units..... 76
26-30 Ton Units..... 77
32-36 Ton Units..... 78
38-42 Ton Units..... 79
44-48 Ton Units..... 80



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

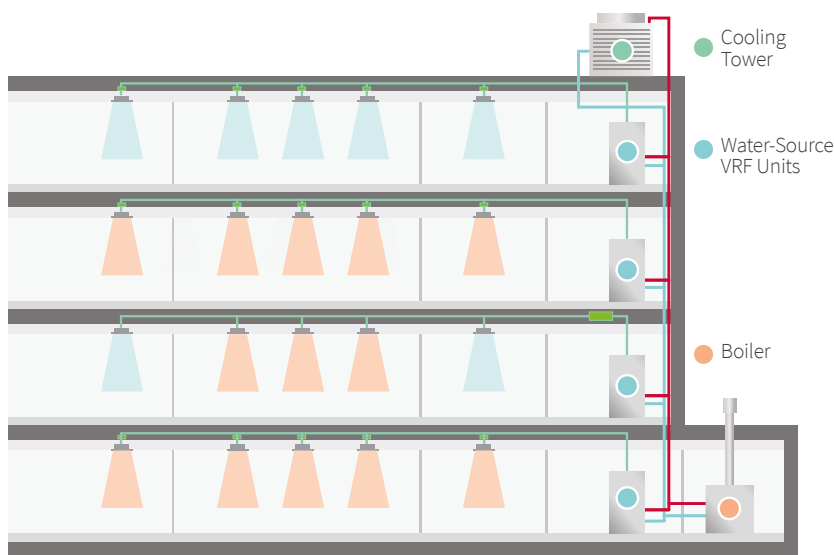
- Non-ducted systems
 - » IEER 18.9 to 29
 - » COP: 4.00 to 6.30
- Ducted systems
 - » IEER 16.9 to 23.8
 - » COP: 4.00 to 5.00

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		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 SIGMA WATER-SOURCE VRF SYSTEM ADVANTAGE


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


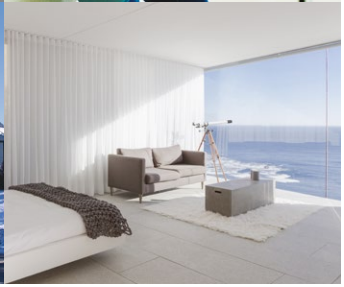


Dual fuels can be used — electricity for VRF units and natural gas or electricity for boiler



Defrost mode is not required — increasing energy savings and comfort



Water-Source VRF Units

WATER-SOURCE VRF UNITS

OVERVIEW

Hitachi VRF Sigma 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	38 Ton	HVWHR456B42S	44 Ton	HVWHR528B42S
8 Ton	HVWHR096B42S	16 Ton	HVWHR192B42S	22 Ton	HVWHR264B42S	32 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 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						

WATER-SOURCE VRF HEAT PUMP AND HEAT RECOVERY UNITS

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

Tonnage		6 Ton		8 Ton		
Model #	208/230V, 3PH, 60Hz	HVWHP 072B32S	HVWHR 072B32S	HVWHP 096B32S	HVWHR 096B32S	
	460V, 3PH, 60Hz	HVWHP 072B42S	HVWHR 072B42S	HVWHP 096B42S	HVWHR 096B42S	
Unit Type (Heat Pump: HP, Heat Recovery: HR)		HP	HR	HP	HR	
Nominal Capacity	Cooling	72,000		96,000		
	Heating	81,000		108,000		
Performance ² (Non-ducted / Ducted)	Rated Cooling Capacity ¹	69,000		92,000		
	EER	17.1 / 13.6		13.7 / 12.6		
	IEER	29.0 / 22.5		25.2 / 22.3		
	Rated Heating Capacity ¹	77,000		103,000		
	COP	6.30 / 4.65		5.05 / 4.40		
	SCHE	-	21.7 / 12.4		-	16.6 / 15.1
	Sound Pressure ⁵	55		57		
Refrigerant Piping	Liquid Pipe	3/8 [9.52]		3/8 [9.52]		
	High/Low Pressure Gas Pipe	3/4 [19.05]	5/8 [15.88]	7/8 [22.2]	3/4 [19.05]	
	Low Pressure Gas Pipe	-	3/4 [19.05]	-	7/8 [22.2]	
Connection Ratio	Connection Ratio Range ⁴	50 -130				
	Number of Indoor Units (Recommended / Maximum)	8 / 13		8 / 16		
Water Side	Inlet Pipe	1-1/4 - 11-1/2 NPT				
	Outlet Pipe	1-1/4 - 11-1/2 NPT				
	Condensation Pipe	1/2 NPT				
	Maximum System Water Pressure	285 [1.96]				
	Inlet Water Temperature Range ³	50 -113 [10 - 45]				
	Water Flow Range per Unit (Rated/Range)	15.1 [57] / 11 - 31 [40 - 120]		20.3 [77] / 14 - 39 [50 - 150]		
Electrical	Minimum Circuit Amps, MCA (208V / 230V / 460V)	20 / 18 / 11		32 / 29 / 17		
	Maximum Overcurrent Protection, MOP (208V / 230V / 460V)	30 / 30 / 15		50 / 45 / 25		
Compressor	Compressor Type	Inverter				
	Operating Range	10 - 100				
Unit	Dimensions (H x W x D)	39-3/8 x 30-11/16 x 21-5/8 [1000 x 780 x 550]				
	Weight (208, 230V / 460V)	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
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 | 10-12 Ton Systems

Tonnage		10 Ton		12 Ton	
Model #	208/230V, 3PH, 60Hz	HVWHP 120B32S	HVWHR 120B32S	HVWHP 144B32S	HVWHR 144B32S
	460V, 3PH, 60Hz	HVWHP 120B42S	HVWHR 120B42S	HVWHP 144B42S	HVWHR 144B42S
Unit Type (Heat Pump: HP, Heat Recovery: HR)		HP	HR	HP	HR
Nominal Capacity	Cooling	Btu/h		120,000	
	Heating	Btu/h		135,000	
Performance ² (Non-ducted / Ducted)	Rated Cooling Capacity ¹	Btu/h		115,000	
	EER	Btu/Wh		14.4 / 13.0	
	IEER	Btu/Wh		26.1 / 22.6	
	Rated Heating Capacity ¹	Btu/h		129,000	
	COP	W/W		4.95 / 4.62	
	SCHE	Btu/Wh		- / 21.8 / 19.8	
	Sound Pressure ⁵	dB(A)		60 / 58	
Refrigerant Piping	Liquid Pipe	in. [mm]		1/2 [12.7]	
	High/Low Pressure Gas Pipe	in. [mm]		7/8 [22.2] / 3/4 [19.05]	
	Low Pressure Gas Pipe	in. [mm]		- / 7/8 [22.2]	
Connection Ratio	Connection Ratio Range ⁴	%		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 ³	°F [°C]		50 -113 [10 - 45]	
Electrical	Water Flow Range per Unit (Rated/Range)	gpm [L/m]		25.4 [96] / 20 - 56 [72 - 214] / 36.5 [138] / 22 - 63 [81 - 241]	
	Minimum Circuit Amps, MCA (208V / 230V / 460V)	A		38 / 34 / 20 / 37 / 34 / 20	
Compressor	Maximum Overcurrent Protection, MOP (208V / 230V / 460V)	A		60 / 50 / 30 / 50 / 45 / 25	
	Compressor Type			Inverter	
Unit	Operating Range	%		10 - 100	
	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 / 460V)	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 | 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	
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 ² (Non-ducted / Ducted)	Rated Cooling Capacity ¹	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 ¹	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 ⁵	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 ⁴	%		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 ³	°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		55 / 50 / 29		71 / 64 / 37		
	Maximum Overcurrent Protection, MOP (208V / 230V / 460V)	A 50 / 50 / 25		70 / 60 / 40		90 / 80 / 50		
Compressor	Compressor Type	Inverter						
	Operating Range	%						
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.

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 | 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
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
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 ² (Non-ducted / Ducted)	Rated Cooling Capacity ¹	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 ¹	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	
	Sound Pressure ⁵	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 ⁴	%	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 ³	°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 (Unit A + Unit B) (208V / 230V / 460V)	A	38+38 / 34+34 / 20+20		37+38 / 34+34 / 20+20		37+37 / 34+34 / 20+20	
	Maximum Overcurrent Protection, MOP (Unit A + Unit B) (208V / 230V / 460V)	A	60+60 / 50+50 / 30+30		50+60 / 45+50 / 25+30		50+50 / 45+45 / 25+25	
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 (Unit A + Unit B) (208, 230V / 460V)	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.

4 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 | 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			
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			
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 ² (Non-ducted / Ducted)	Rated Cooling Capacity ¹	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 ¹	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 ⁵	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 ⁴	%			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 ³	°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 (Unit A + Unit B) (208V / 230V / 460V)	A	41+37 / 37+34 / 22+20		41+41 / 37+37 / 22+22		55+41 / 50+37 / 29+22				
	Maximum Overcurrent Protection, MOP (Unit A + Unit B) (208V / 230V / 460V)	A	50+50 / 50+45 / 25+25		50+50 / 50+50 / 25+25		70+50 / 60+50 / 40+25				
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 | 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
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
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 ² (Non-ducted / Ducted)	Rated Cooling Capacity ¹	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 ¹	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	
	Sound Pressure ⁵	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 ⁴	%			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 ³	°F [°C]			50 -113 [10 - 45]			
Electrical	Minimum Circuit Amps, MCA (Unit A + Unit B) (208V / 230V / 460V)	A	55+55 / 50+50 / 29+29		71+55 / 64+50 / 37+29		71+71 / 64+64 / 37+37	
	Maximum Overcurrent Protection, MOP (Unit A + Unit B) (208V / 230V / 460V)	A	70+70 / 60+60 / 40+40		90+70 / 80+60 / 50+40		90+90 / 80+80 / 50+50	
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+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.

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 | 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
Unit Combination	208/230V, 3PH, 60Hz	Unit A	HVWHP 168B32S	HVWHR 168B32S	HVWHP 168B32S	HVWHR 168B32S	HVWHP 168B32S	HVWHR 168B32S
		Unit B	HVWHP 144B32S	HVWHR 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
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 ² (Non-ducted / Ducted)	Rated Cooling Capacity ¹	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 ¹	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	-	19.5 / 18.8
	Sound Pressure ⁵	dB(A)	63					
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 ⁴	%	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 ³	°F [°C]	50 -113 [10 - 45]					
	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]	
Electrical	Minimum Circuit Amps, MCA (Unit A + Unit B + Unit C) (208V / 230V / 460V)	A	41+37+37 / 37+34+34 / 22+20+20		41+41+37 / 37+37+34 / 22+22+20		41+41+41 / 37+37+37 / 22+22+22	
	Maximum Overcurrent Protection, MOP (Unit A + Unit B + Unit C) (208V / 230V / 460V)	A	50+50+50 / 50+45+45 / 25+25+25		50+50+50 / 50+50+45 / 25+25+25		50+50+50 / 50+50+50 / 25+25+25	
Compressor	Compressor Type		Inverter					
	Operating Range	%	10 - 100					
Unit	Dimensions (H x W x D)	in. [mm]	39-3/8 x 126 x 21-5/8 [1000 x 3200 x 550]					
	Weight (Unit A + Unit B + Unit C) (208, 230V / 460V)	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 | 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		
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		
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 ² (Non-ducted / Ducted)	Rated Cooling Capacity ¹	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 ¹	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 ⁵	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 ⁴	%	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 ³	°F [°C]	50 -113 [10 - 45]							
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]				
Electrical	Minimum Circuit Amps, MCA (Unit A + Unit B + Unit C) (208V / 230V / 460V)	A	55+41+41 / 50+37+37 / 29+22+22		55+55+41 / 50+50+37 / 29+29+22		55+55+55 / 50+50+50 / 29+29+29			
	Maximum Overcurrent Protection, MOP (Unit A + Unit B + Unit C) (208V / 230V / 460V)	A	70+50+50 / 60+50+50 / 40+25+25		70+70+50 / 60+60+50 / 40+40+25		70+70+70 / 60+60+60 / 40+40+40			
Compressor	Compressor Type		Inverter							
	Operating Range	%	10 - 100							
Unit	Dimensions (H x W x D)	in. [mm]	39-3/8 x 126 x 21-5/8 [1000 x 3200 x 550]							
	Weight (Unit A + Unit B + Unit C) (208, 230V / 460V)	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	Programmable Wired Zone Controller	Mini Central Station	Large Central Station	Touchscreen Central Controller	LONWorks® Adapter	VRF Smart Gateway (BACnet)®	VRF Cloud Gateway
	CIR01	CIS01	CIW01	CCM01	CCL01	CCXL01	CLW01	CBN02	CMNETS
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							■	✓	✓

✓ = 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

LOCAL CONTROLLERS



MODEL CIW01

Programmable Wired Zone Controller

- Standard wall controller
- Dual set point
- Controls temperature, mode, fan speed
- Enables GentleCool feature for increased cooling comfort
- Thermistor calibration increases zone temperature accuracy.
- Seven-day schedule with multiple setpoints
- Control up to 16 indoor units
- Built-in 23-hour timer
- Room name and service company name programmable
- Help menus and error code diagnosis
- Large LCD display permits users to see the operating conditions and settings.
- The timer can be set at half-hour intervals up to 23 hours.
- Monitors the operating conditions in the system and an alarm is issued if a problem occurs.
- A “self-diagnosis function” checks for problems on printed boards in indoor and outdoor units.

LOCAL CONTROLLERS Energy-Saving Features

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



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
- External sensor option available
- Easy-to-use desktop user interface available
- Single 24VAC power connection can power both adapter and third-party thermostat



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

CONTROLLERS

CENTRAL CONTROLLERS

Central Station

Mini and large systems are available.

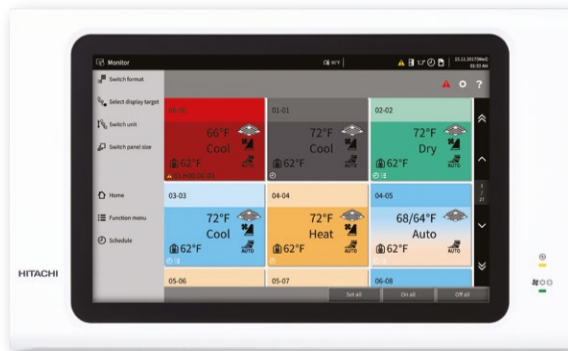
- Large version controls up to 64 groups of indoor units (maximum 160 units).
- Mini version controls up to 32 groups of indoor units (maximum 160 units).
- Easy-to-use touchscreen interface
- Records accumulated operations time for tenant billing
- Color-coded graphics for quick reference
- Set up to 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



VRF Central Touchscreen Controller: MODEL CCXL01

VRF Central Touchscreen Controller

The Hitachi Touchscreen Central Controller offers an intuitive, large touch screen for easy control of 2,560 VRF indoor units and up to 2,048 VRF systems.

- Individual zone control with weekly programmable scheduling
- Basic central point on/off control of all units
- 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 (metering hardware required)
- Graphical user interface with floor plan layout

Compatible with the
H-LINK II

Control up to
160 indoor units

Control up to
32 or 64 groups
(model dependent)*

Connect up to
8 stations

*See model details for specifics

CONTROLLERS

BUILDING MANAGEMENT SYSTEM INTEGRATION FOR VRF

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 BMS 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



MODEL CLW01

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.

CONTROLLERS

VRF CLOUD GATEWAY

Control and integrate Hitachi VRF Systems with smart devices and home automation systems.

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 automation 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 RS232 (ASCII), RS485 (MODBUS RTU) or ethernet (ASCII & MODBUS IP)

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 Sigma 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.

Selection Software	88
World-Class Training.....	89
Advanced Logistics.....	90
Customer Service	90

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 Shrewsbury, Pennsylvania, Long Island, New York and Chicago, Illinois.

Hitachi VRF Training Center features a training lab with multiple working systems and expert instructions.

Please visit 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



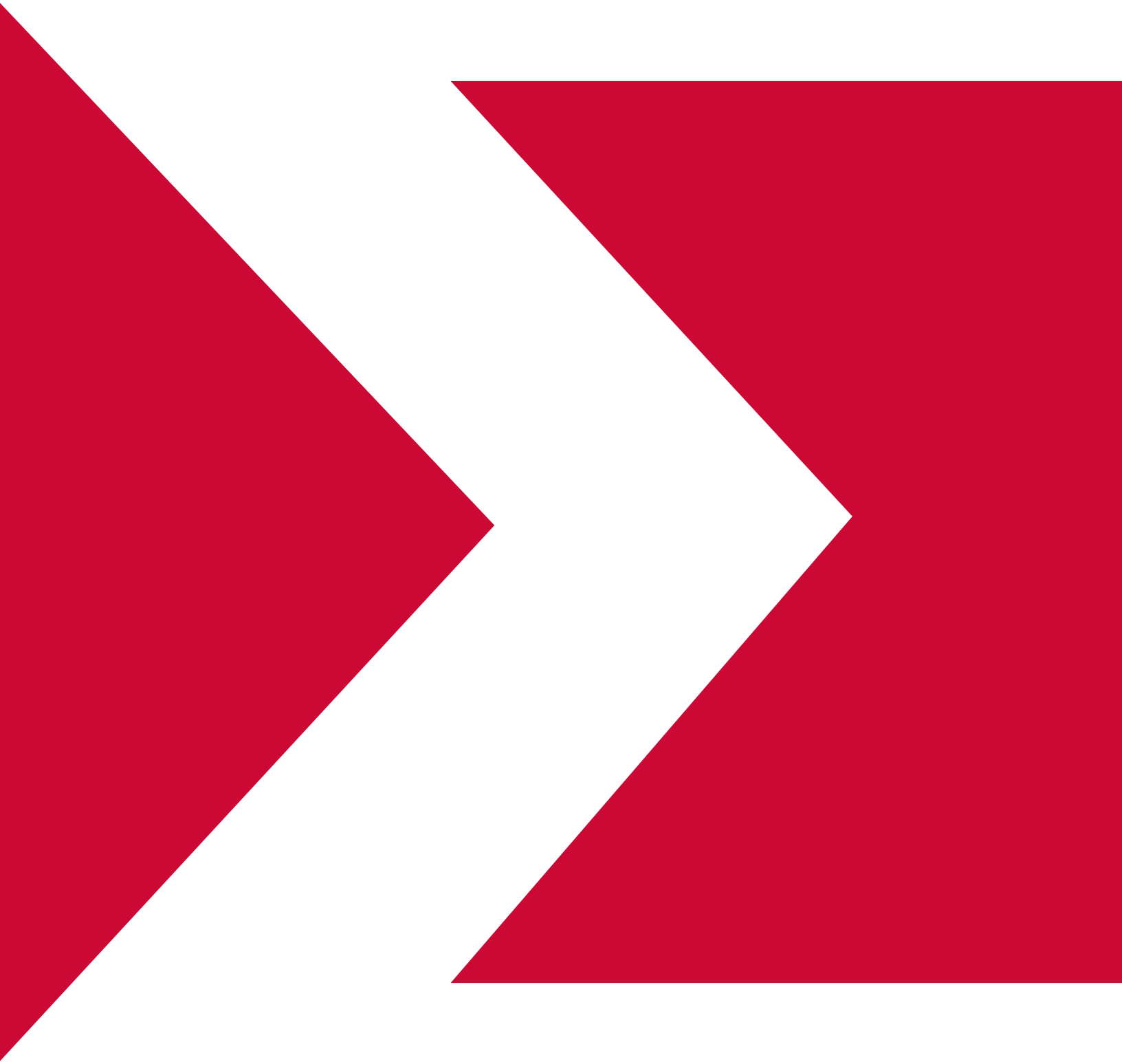
ATTRACTIVE
SHIPPING RATES

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 Navigator 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		





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



COMPRESSOR



PARTS

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