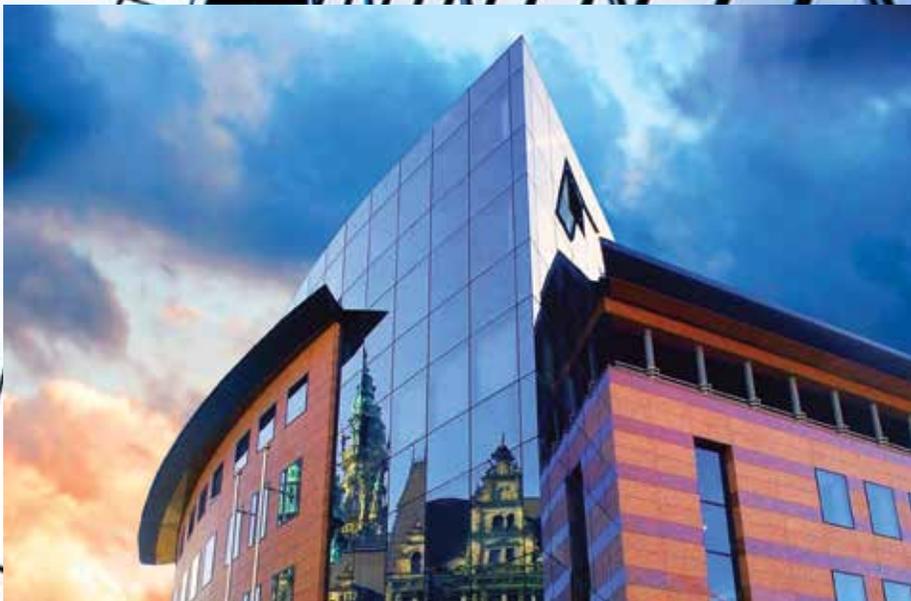


VRV III

AIR-COOLED





VRV III Features and Benefits

Commercial sites can range in size from a few hundred to several thousand square feet. That's why Daikin offers the new VRVIII air-cooled system with advanced features to meet practically any challenge. Completely re-engineered to realize opportunities for VRV in taller / larger buildings, it utilizes the latest advances in refrigeration and air-conditioning technology.

- Available up to 30-Ton in one system, 208-230V/60Hz/3ph or 460V/60Hz/3ph
- Heat pump (heating and cooling) and heat recovery (simultaneous heating and cooling across multiple zones) systems available
- Individual zone control
- Can operate up to 62 indoor fan coil units
- Auto charging function
- Continuous heating during defrost operation
- Longest pipe lengths in product class
- Advanced zoning capabilities
- Excellent energy efficiency, especially at part load conditions
- Daikin's optimized scroll compressor designed for R-410A provides a quiet, reliable energy-efficient operation
- Anticorrosion treatment standard on exterior metal parts and heat exchanger
- Fully compatible with the complete Daikin control suite including Intelligent Touch Controller, Intelligent Manager III, and LonWorks® and BACnet® gateways

It is widely used worldwide in applications such as:

- Health care
- Hotels and conference facilities
- Offices
- Residential multi-family
- Restaurants
- Retail stores
- Schools



VRVIII is available in heat pump and heat recovery versions where heating and cooling can be made available simultaneously across multiple zones.

What is VRV?

VRV is a commercially applied heating and cooling system that distributes refrigerant, rather than water, to multiple fan coil units serving the conditioned spaces. The natural attributes of a VRV system position it as an alternative to a chiller system.

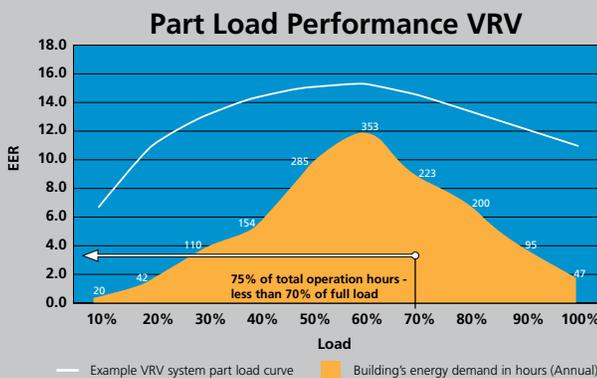
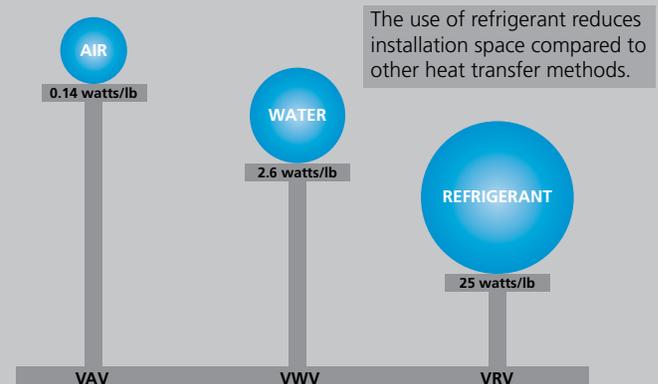
The Features of VRV

- Energy efficient, all systems incorporate inverter “variable speed” compressors
- Many zones (individual control - up to 62 zones on one piping network)
- Centralized system (long piping - up to 3,280 ft. total)
- Tight temperature control (Proportional Integral Derivative)
- Large capacity (modular systems combination)
- Quiet operation (down to 25dB(A) indoor)
- High level control (BACnet, LONWORKS, Intelligent Manager, Intelligent Touch Controller)
- Superior heating performance
- Absolute Comfort

Why Refrigerant?

The commonly used methods of heat transfer in air-conditioning solutions each exercise different operational characteristics regarding adding or removing heat energy to a conditioned space.

This diagram represents the energy transfer possible per pound of media due to the performance characteristic of the fluid used.

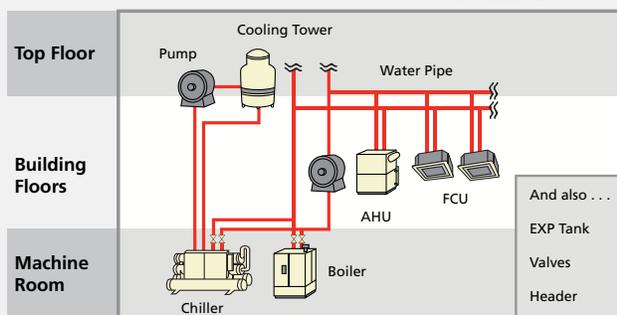


Why is VRV an efficient alternative?

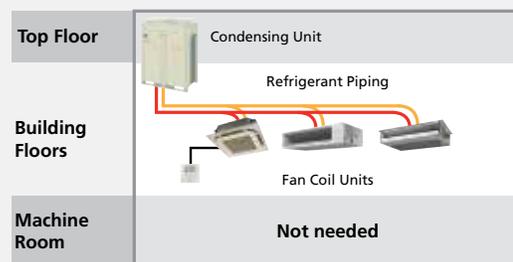
The heating and cooling system in a commercial building is used at 70% or less of its maximum capacity for 75% of the operational time.

VRV offers ease of design and installation

Complicated System Chilled water central plant layout with boiler



Simple System VRV III Layout



VRVIII opens up opportunities in larger, more complex buildings

Daikin is using the latest and most revolutionary technologies in the development of the VRVIII system for large-sized buildings. The system offers greater energy savings, easier installation, longer actual and total piping length, and more.

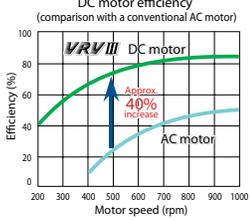
DC fan motor

- Across entire range of models (from 6 to 30-Ton).
- Efficiency improvement by approximately 40% especially at low speed.

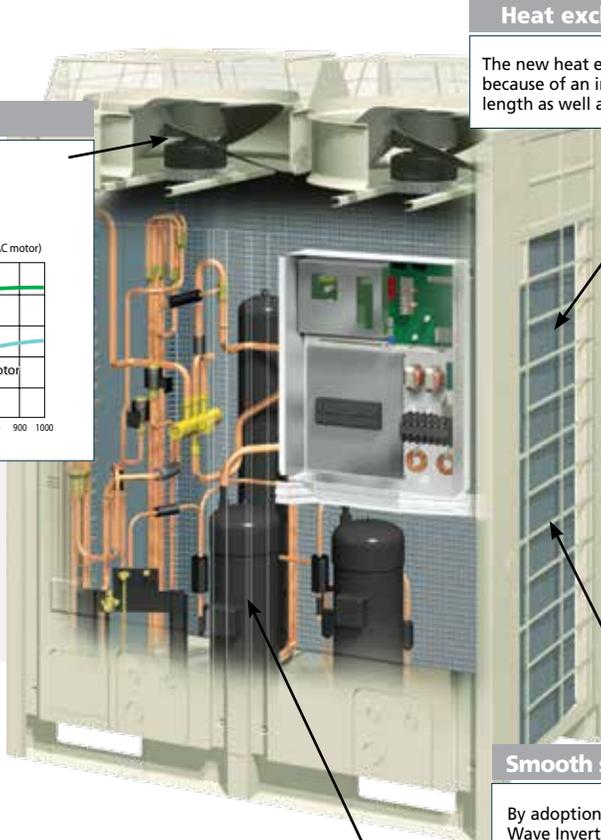
DC fan motor structure



DC motor efficiency (comparison with a conventional AC motor)



Motor speed (rpm)	VRVIII DC motor (%)	AC motor (%)
200	~45	~25
300	~55	~30
400	~65	~35
500	~75	~40
600	~80	~45
700	~82	~48
800	~83	~50
900	~84	~52
1000	~85	~55

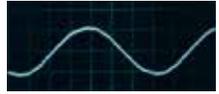


Heat exchanger

The new heat exchanger contributes to a high EER and COP because of an increase from 7% to 10% of the effective length as well as an optimized e-Pass heat exchanger.

Smooth sine wave DC Inverter

By adoption of the Sine Wave Inverter, which smoothes the rotation of the motor, operation efficiency is improved sharply.



Improving the high efficiency compressor to achieve a high EER and COP

Reluctance DC scroll compressor

Daikin's unique scroll compressor minimizes heat loss and is driven by a high efficiency motor to achieve significant energy savings.

High torque and efficiency is attained with the use of neodymium magnets. Achieves 70% reduction in volume.

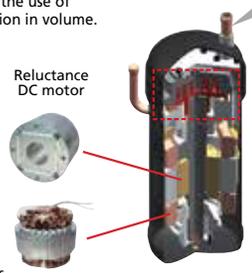
The secret to raising energy efficiency - Powerful magnets!



Ferrite magnet

Neodymium magnet

Neodymium magnets are much more powerful than the widely used ferrite magnets.



Reluctance DC motor

New

High-performance, low-noise new scroll compressor operates at a faster rate. The speed increase has been achieved through advanced stress analysis for increased strength and utilization of the advantages (oil film control) of the high thrust mechanism*.

*High thrust mechanism
By introducing high pressure oil, the reactive force from the fixed scroll is added to the internal force, thereby reducing thrust losses. This results in improved efficiency and lower sound levels.

Did you know?

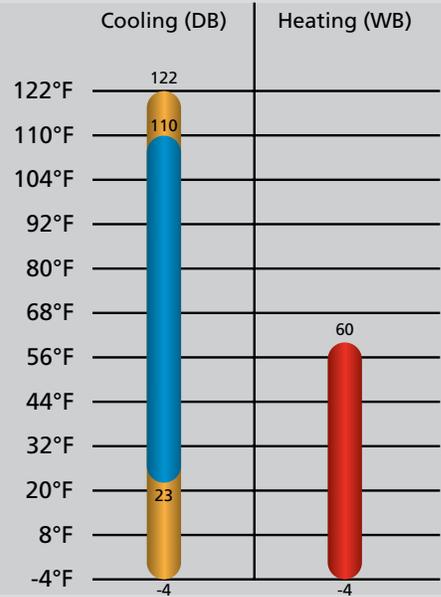
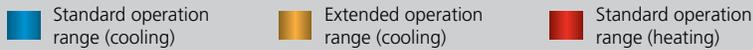
Daikin is the only company in the world dedicated to manufacturing heating and cooling units, compressors and refrigerant. All Daikin systems in North America employ "variable speed" compressors and non-ozone depletion potential R-410A refrigerant, which optimize energy conservation.

VRV8

Extended Operation Range

Advanced Proportional Integral Derivative (PID) control of the outdoor unit enables the VRV8 series to operate at outdoor ambient conditions down to 23°F in cooling mode and down to -4°F in heating mode. A new Low Ambient Cooling feature allows the VRV8 heat recovery systems to operate as low as -4°F in cooling mode as well.

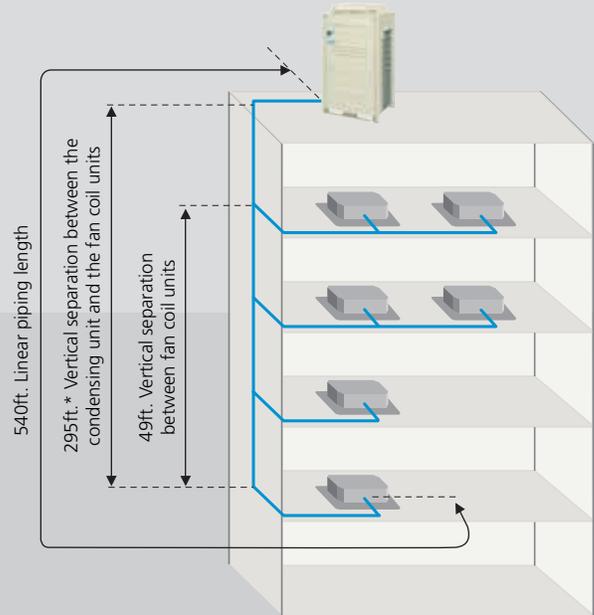
Daikin is the only VRF manufacturer to provide capacity tables up to 122°F for high ambient design applications. The cooling is guaranteed at those temperatures. However, both efficiency and cooling output will start dropping over 110°F.



Long Refrigerant Piping Lengths

Refrigerant piping specifications	Ft.
Linear piping between condensing unit and furthest located fan coil unit (equivalent)	540 (620)
Total "one-way" piping in the complete piping network	3,280
Vertical (height) separation between the condensing unit and the fan coil units (if outdoor unit is below)	164* (295)
Vertical (height) separation between fan coil units	49
Linear piping between 1st REFNET and furthest located fan coil unit	295

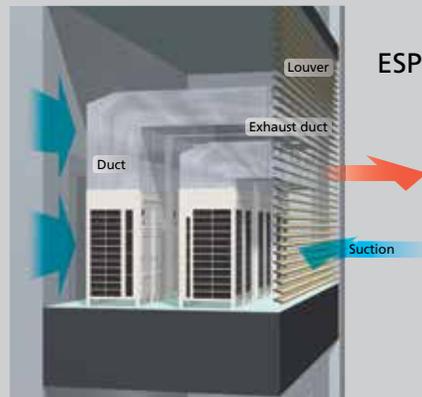
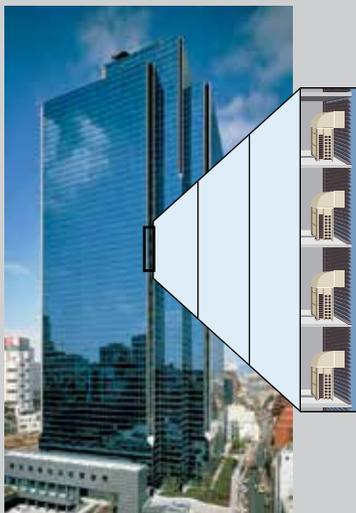
*295ft. if outdoor unit is above and accessory PCB is installed



External Static Pressure (ESP)

The additional ESP (up to 0.32" W.G.) provides far more flexibility when designing condensing units in plant room applications. No additional components are required to extend the fan performance.

It is now even easier to put a condensing unit on each floor or in a mechanical room and duct out the discharge air.



ESP up to 0.32" W.G.

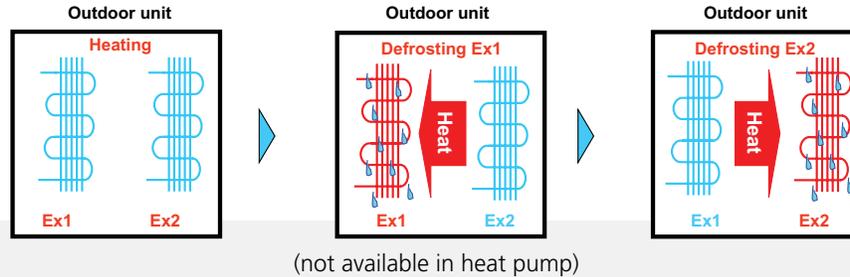
VRVIII Benefits in Heating

Advanced Defrost Cycle Operation in Heating

Superior Heating Comfort

Thanks to the newly adopted continuous heating during defrost function, cold draft discharge from the indoor unit during defrost is eliminated. Therefore, heating comfort is improved and better maintained.

Each heat exchanger is defrosted by using heat transferred from one heat exchanger to the other in the outdoor unit.

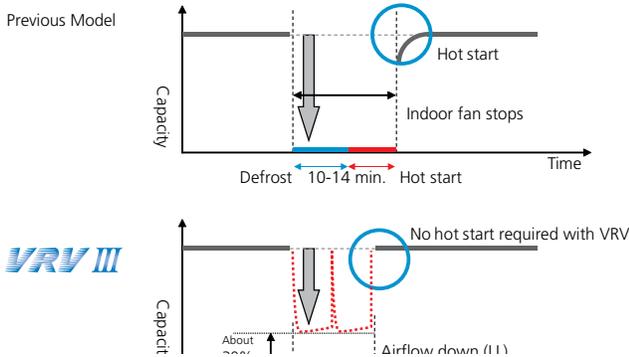


Heating Operation While in Defrost Operation

The first graph below shows the defrost cycle on the previous model where it uses a reverse cycle defrost of 10 to 14 minutes and then has to perform a hot start. With VRVIII the outdoor unit continues in heating and the fans will switch to LL (Low Low). Defrost lasts for 8 to 12 minutes and because heating operation has continued, no hot start is required.

Heating operation while in defrost operation

Heating cycle is continued also while in defrost operation. (No hot start) Manfolded system

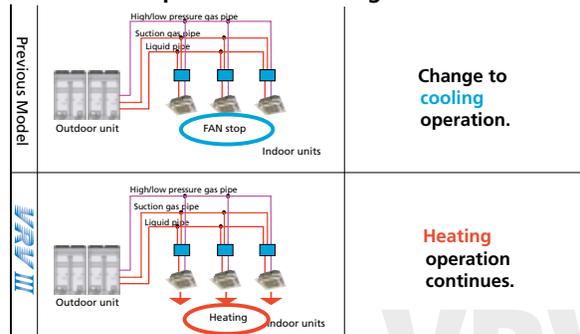


- The new VRVIII allows continuous heating during defrost
- Approximately 30% or more capacity can be produced with no hot start required
- All other VRF systems require the system to switch to cooling then a hot start to preheat the indoor unit before resuming operation
- This causes a disruption to the heating and space temperature

Continuous heating during oil return

When the previous model is in heating mode to perform an oil recovery cycle (two hours after initial start up and every eight hours thereafter), the system must change to cooling. With the improvements to VRVIII outdoor unit and branch selector unit, the system continues in the heating mode during the full oil recovery cycle. Daikin is the only VRF manufacturer that is capable of continuous heating during oil return.

Oil Return Operation in Heating



VRVIII Heat Recovery

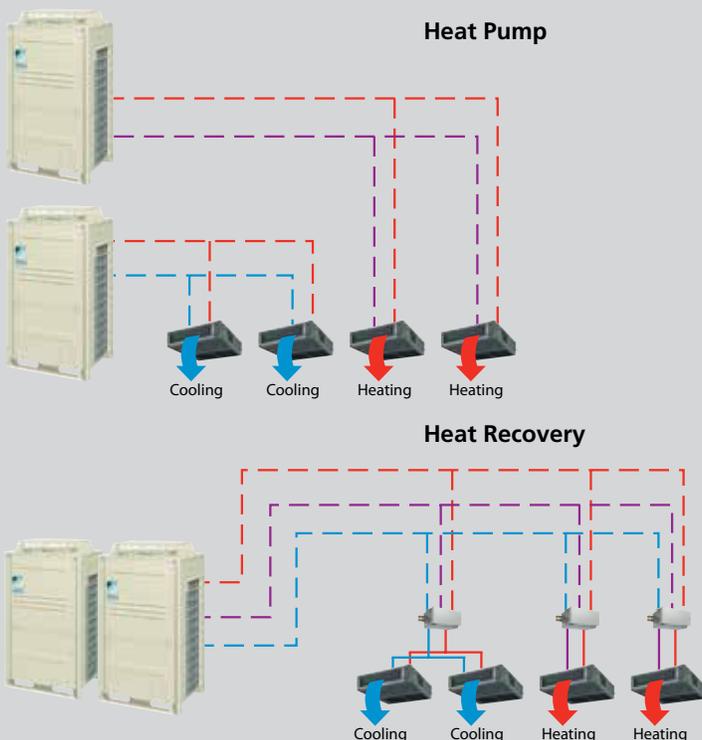
Offers simultaneous cooling and heating operation on the same piping network

Branch Selector Unit

By adding high pressure/low pressure gas piping and a branch selector unit (sold separately), simultaneous heating and cooling operation can be provided by a single system.



The example below shows two 6-Ton heat pump systems, one operating in full cooling (6 Tons) and one operating in full heating (6 Tons), the power inputs were 5.39kW and 6.08kW respectively, giving a total of 11.47kW. When looking at the same example with a heat recovery system, with 50% of the capacity operating in full cooling (6 Tons) and 50% operating in full heating (6 Tons), the power input for the system can be as low as 4.8kW, this would mean about half reduction in power input.



Indoor Temperature: 67 °F WB (cooling)
70 °F DB (heating)
Outdoor Temperature: 95 °F WB (cooling)
47 °F DB (heating)

Power Input



Power Input

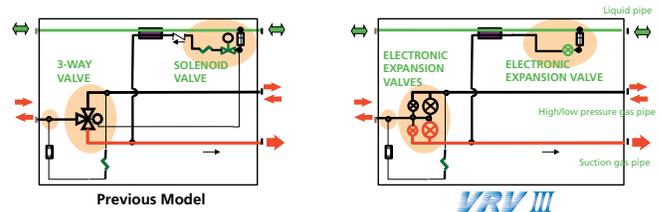


Approximately
58%
Reduction

The new branch selector unit (BSVQ_P) has improved the cooling/heating changeover, oil recovery cycle and sound level by utilizing expansion valves in place of the 3-way valve and solenoid subcooling valve found in the previous model.

In the new branch selector unit there is a main and sub expansion valve for the high/low pressure gas pipe, the suction gas pipe and one for the subcooling circuit.

- Improvement of the cooling/heating changeover
- Continuous operation during oil recovery
- Sound level reduction of branch selector unit



No system interruption in mode changeover

With most VRF systems, when changing an indoor unit from cooling to heating, the heating operation for the full system is shut down. The system pressure must equalize in the hot gas line, which causes disruption to all units in heating. The heating is then started for the full system and each indoor unit has to go through a hot start (the indoor unit coil has to be at approximately 93°F) before the fan starts to avoid cold drafts. This sequence of operation can take approximately 10 minutes.

With the new branch selector unit (BSVQ_P), only the indoor units changing from cooling to heating will shut down and only those will go through a hot start causing no system disruption and only six minutes of downtime for the indoor unit changing operation mode.

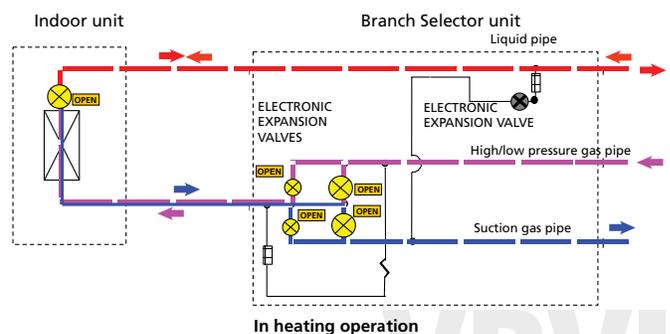
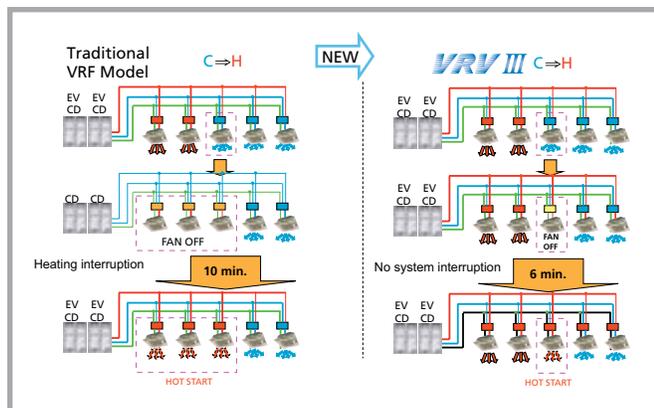
The changeover time can be shortened depending on the pipe length from the branch selector unit to indoor unit by simply reprogramming the indoor unit (range 3-10 minutes).

The Daikin Difference

In most VRF systems, the heating mode for the full system has to allow the high pressure in the hot gas line to equalize before heating is started. There then has to be at least 44 psi difference between gas and suction to have enough force to switch the 3-way valve which could cause refrigerant noise.

The new branch selector unit has dual expansion valves on both suction and high/low pressure gas pipes in place of the 3-way valve in the previous model. This allows the pressure from the branch selector unit to indoor unit to slowly equalize by opening the sub expansion valve on high/low pressure pipe closing all other valves in the branch selector unit before full heating operation begins for that indoor unit.

This eliminates the need to stop the heating mode in the full system and reduces sound level. Also, the solenoid valve and capillary tube supply to the liquid sub-cool heat-exchanger is replaced by an expansion valve to eliminate the switching sound of the solenoid valve, and also to enable some control of the amount of refrigerant to flow through the sub-cool heat-exchanger.

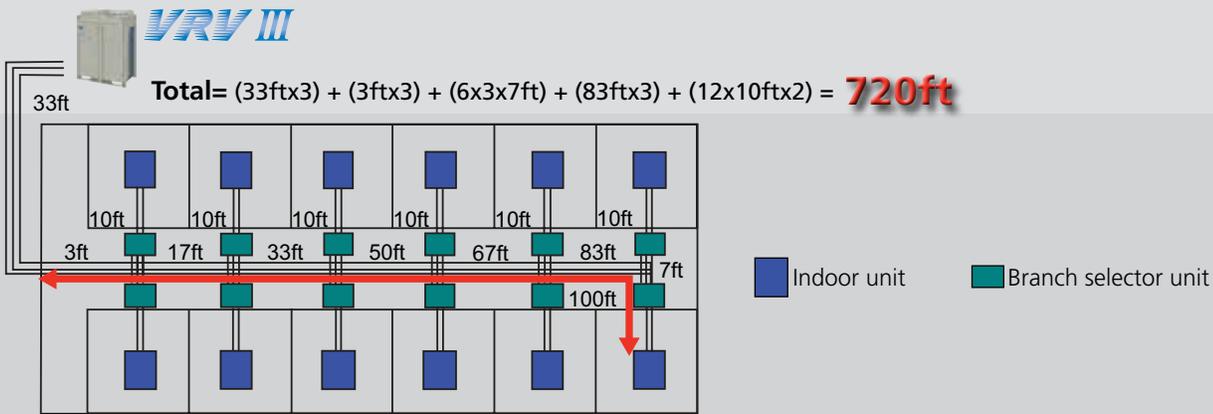


Heat Recovery Built-in Flexibility

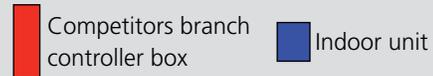
Benefits of Daikin VRV using 3-pipe configuration in its heat recovery version

Daikin's VRV heat recovery uses a dedicated hot gas pipe during heating operation allowing for higher off coil temperatures, even at lower ambient conditions, thus increasing the heating capacity of the system. Compared to a 2-pipe heat recovery system using a liquid/gas mixture line, the Daikin system eliminates the friction occurring between pure gas and pure liquid when used in the same pipe. Also, the 2-pipe heat recovery systems have a lower hot gas temperature which can result in a lack of heating capacity and off coil temperatures.

Daikin's layout example: The Daikin 3-pipe system allows for installation of smaller, easily hidden branch selector units facilitating installation in remote spaces.

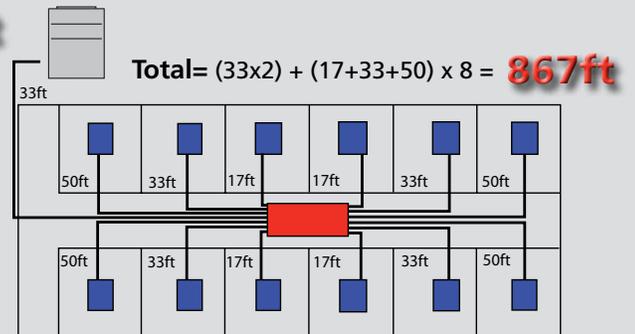
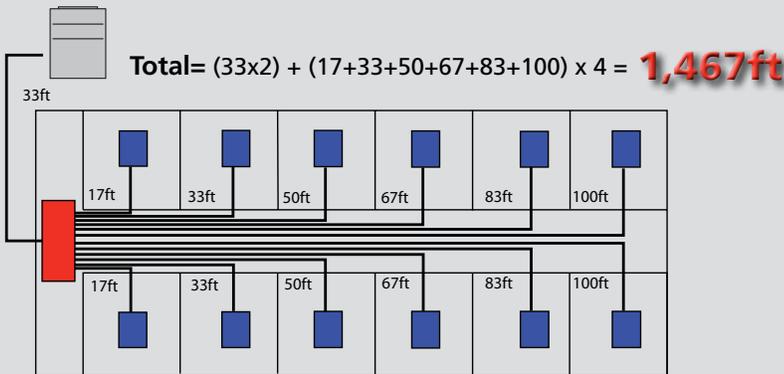


Other VRV layout examples: 2-pipe systems usually require a bulky branch controller box needing a drain connection.



Branch controller box located at the end of the hallway

Branch controller box centrally located



As shown above, using a 2-pipe heat recovery system results in an increase of about 20% additional piping and insulation in best case scenario, augmenting both cost of supplies and labor. Moreover, the Daikin VRV system ensures an easier compliance with local and national refrigerant safety standards such as ASHRAE Standard 15.

VRV's Outstanding performance in cooling and heating

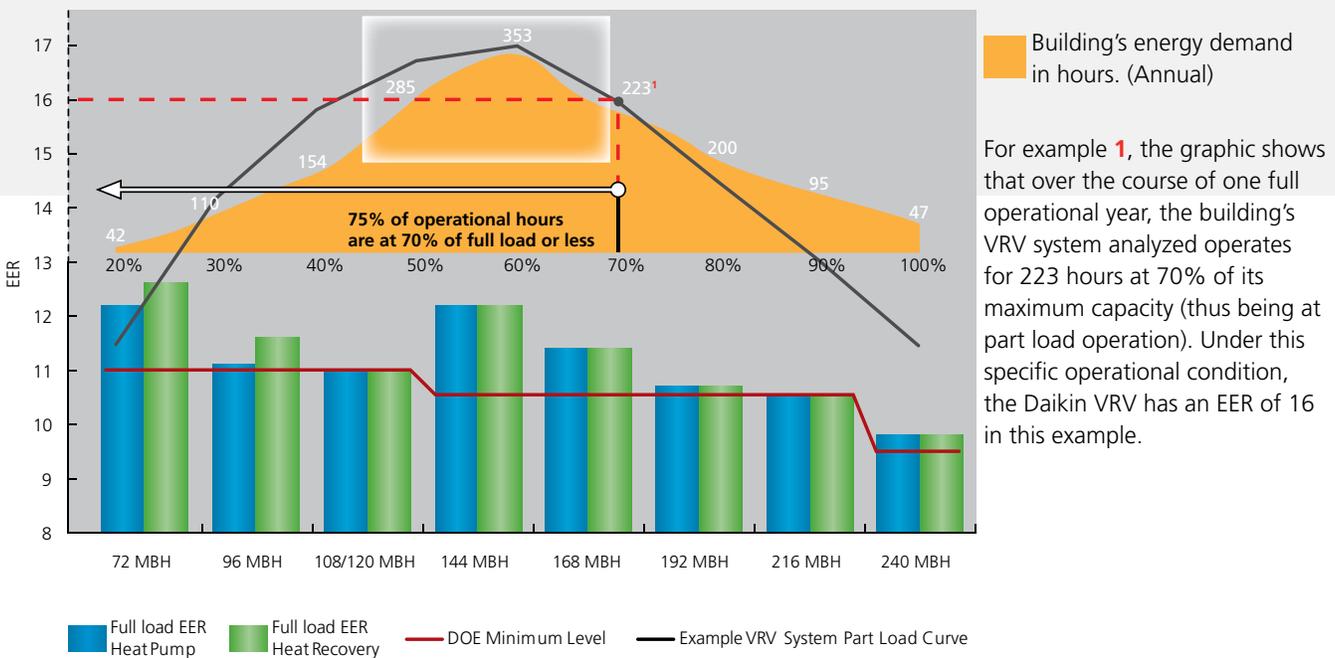
Cooling

Widely acknowledged as the most advanced system of its type in the market, VRV represents a powerful combination of advanced inverter, heat pump and control technologies. When cooling a space, the system can operate at full load EER levels as high as 12.8 (6-Ton heat pump) and 13.8 (6-Ton heat recovery). IEER - integrated energy efficiency ratio, is a new part load efficiency metric. IEER levels during part load operation are as high as 21.0 (6-Ton heat pump) and 22.0 (6-Ton heat recovery).

Buildings are made up of many individual zones which can have varying heating and cooling requirements. It is more efficient to cool or heat an individual space as needed than to condition all of the space throughout the building, all of the time. VRV systems have the ability to control the amount of refrigerant flowing to each of the indoor units, enabling the use of up to 62 indoor units with differing capacities and styles, providing individualized comfort control, simultaneous heating and cooling in different zones and heat recovery from one zone to another.

Based on a simulation developed by Daikin's proprietary tool, EnergyCalc, the graphic below charts an EER curve and the cooling demand of a building over the time period of one year. Analysis of the building's annual cooling demand shows the required cooling capacity is below 70% of the maximum design capacity 75% of the time. With Daikin, building owners save energy by not paying to heat or cool an empty or unused space.

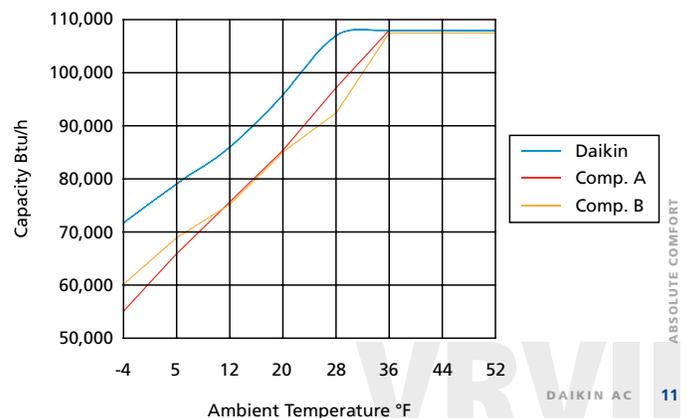
VRV performance and energy use are highly application-dependent and should be obtained from detailed analysis.



Heating

Comparing a VRV and its competition at full load in heating, the VRV 6-Ton heat recovery is 4% more efficient.

VRV has also more capacity in heating during low ambient operation compared to standard VRF systems. At temperatures of -4°F WB, VRV has more heating capacity than equivalent VRF systems by 16% and 23% respectively.

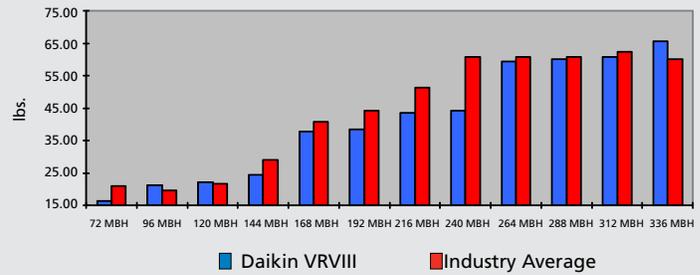


VRV^{III}'s Outstanding performance in cooling and heating

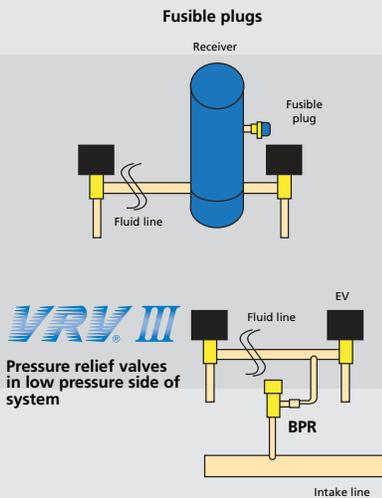
Reduced factory charge

The factory refrigerant charge has been reduced for all outdoor units by up to 34% compared to previous VRV models. This allows for easier application to satisfy local and national safety standards such as ASHRAE standard 15.

The reduction in the factory charge puts Daikin at up to 27% less factory refrigerant charge than our VRF competitors, an excellent advantage to engineers when it comes to satisfying local and national safety standards.



(Heat pump 208-230V used as example)

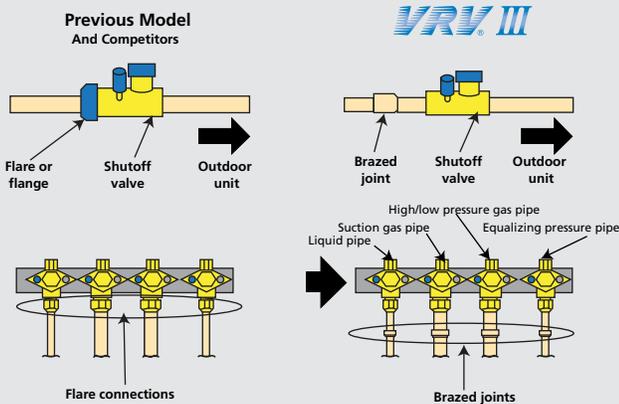
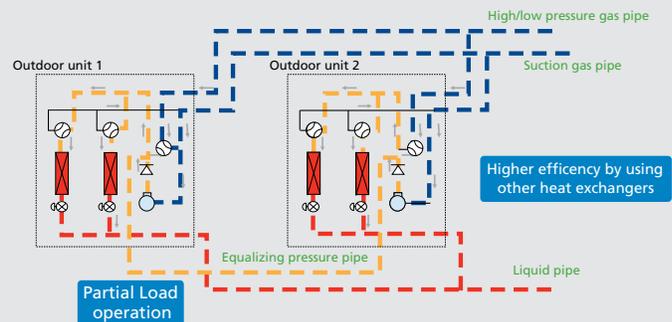


Environmental consciousness

The fusible plugs used in older systems as the pressure relief device in the liquid receiver have been replaced with pressure relief valves. Now instead of releasing the refrigerant to the atmosphere, it is relieved to the low pressure side of the system, a far more environmentally conscious solution (The safety valve is activated if the pressure exceeds 570psi).

Environmental consciousness

When only one of the outdoor unit modules is operating due to low load, refrigerant is bypassed to the other outdoor unit through the pressure equalizing pipe. By utilizing both heat exchangers part load energy efficiency is improved.



To minimize the chance of leaks, the piping connections inside the outdoor unit are all brazed. Also, the flared connections were changed to brazed connections on liquid and gas shutoff valves.

Backup Functions

In order to make operation time equal for each compressor in a manifolded system, the outdoor units are used in rotation. The operation priority starts once the following conditions have been met:

- On completion of oil recovery cycle
- On completion of defrost
- Upon restart once a system has stopped

The cyclical start-up sequence of multiple outdoor unit systems equalize compressor duty and extends operating life.

Back up – redundancy

Should a fault occur on a compressor, the system can be set into “emergency” mode. This will allow the system to operate at partial capacity for a period of 24 hours until the problem can be rectified.

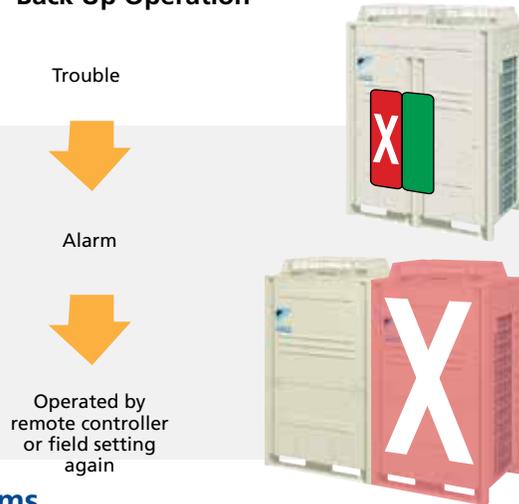
Manual Back Up Single Module

If the system is set to “emergency inverter compressor” operation, the standard compressor will operate at the index of the indoor units in thermostat-on at a minimum 50% of the connected ratio.

Rotation of outdoor units System with two outdoor units		
	Outdoor Unit A	Outdoor Unit B
Previous time	Priority 1	Priority 2
This time	Priority 2	Priority 1
Next time	Priority 1	Priority 2

If the system is set to “emergency standard compressor” operation, the inverter compressor can operate even if only one indoor unit (with less than 50% index) is in thermostat-on.

Back Up Operation



Auto or Manual Back Up of Manifolded Systems

In case of compressor trouble in a manifolded system, it is required to disable the entire module with the malfunction. It is not possible to disable only one compressor and leave the other compressor running in that module. This is due to oil balancing within the system. The “emergency mode” in a manifolded system can be set to manual or automatic via a field code.

The automatic mode is achieved by pressing the on/off button for four seconds once the compressor malfunction code has been activated. This allows the end user (if desired) to reset the system and run on 50% of heating/cooling until a service technician arrives.

10-Ton System

Compressor	INV	STD 1	Capacity (approx.)
INVERTER Alarm	Trouble	Stop	50%
STANDARD Alarm	Operate	Trouble	50%

16-Ton System

	No. 1 Unit		No.2 Unit	Capacity (approx.)
	INV	STD 1		
INVERTER Alarm	Trouble	Stop	Operate	50%
STANDARD 1 Alarm	Stop	Trouble	Operate	50%

24-Ton System

	No. 1 Unit		No.2 Unit	Capacity (approx.)	No.3 Unit	Capacity (approx.)
	INV	STD 1				
INVERTER Alarm	Trouble	Stop	Operate	33%	Operate	33%
STANDARD 1 Alarm	Stop	Trouble	Operate	33%	Operate	33%

Installation & Maintenance

Friendly Design

Automatic Charge Function

Conventional Way:

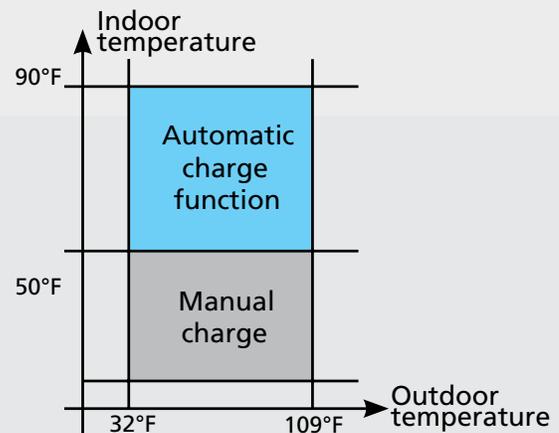
1. Calculation of additional refrigerant charging volume
2. Charging the unit with additional refrigerant
3. Measuring the weight of the cylinder
4. Judgment based on pressure (test operation)



VRVIII

With VRVIII however, these four steps are omitted since the VRVIII unit can be charged with the necessary amount of refrigerant automatically via a push button on the PCB. Automatic charging will cease once the appropriate amount of refrigerant has been transferred.

If temperature drops below 32°F outdoors, manual charging is necessary. After having switched to heating and once the indoor temperature rises above 32°F, push the auto charge button to activate auto charge function.



Automatic Test - Simplified Commissioning

When refrigerant charging has ceased, pushing the test operation button on the PCB will initiate a check on the wiring, shut off valves, sensors and refrigerant volume. This test ceases automatically when completed.

Easy Maintenance Self Diagnostic Function

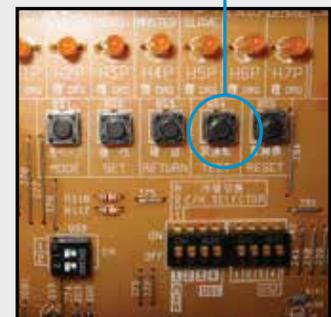
This function operated via push button on the PCB, speeds up troubleshooting and should be used for start-up and maintenance. Disconnected thermistors, faulty solenoid valves or motor operated valves, compressor malfunctions, communication errors, etc can be diagnosed quickly.

Automatic Information Storage

During unit operation, storage of data from the last five minutes occurs automatically. In cases of malfunction, analysis of data from the last five minutes will be carried out to identify the location of the problem and cause of malfunction. Measures to eliminate the cause of malfunction can then be implemented.



Test operation button



VRV Indoor Units

Indoor Type		Capacity Range													
		MBH	7.5	09	12	18	24	30	36	42	48	54	72	96	
		Tons	0.6	0.75	1	1.5	2	2.5	3	3.5	4	4.5	6	8	
Ducted	Vertical air handling unit (horizontal right configuration is possible)	FXTQ_PAVJU 			 	 	 	 	 	 	 	 			
	DC ducted concealed ceiling (medium static)	FXMQ_PVJU 	 	 	 	 	 	 	 		 				
	Concealed ceiling unit (medium static)	FXMQ_MVJU 											 	 	
	Slim duct built-in concealed ceiling unit	FXDQ_MVJU 	 	 	 	 	 								
Duct-free	Round flow ceiling mounted cassette	FXFQ_PVJU 		 	 	 	 	 	 		 				
	2' x 2' 4-way ceiling mounted cassette	FXZQ_M7VJU 	 	 	 	 									
	Wall mounted unit	FXAQ_PVJU 													
	Ceiling suspended unit	FXHQ_MVJU 													
	Floor standing unit	FXLQ_MVJU9 													
	Concealed floor standing unit	FXNQ_MVJU9 			 	 	 								
	Ventilation	100% Outside Air Processing Unit	FXMQ_MFVJU 									 	 	 	
Energy Recovery		cfm VAM_GVJU 	300  	470  	600  	1200  									

 Available (12 types, 55 models)

 Condensate pump standard on model

 Outside air connection possible on model

VRV Systems Branch Selector Units

Branch Selector Units - BSV(4/6)Q_PVJU (for use with REYQ_PBYD / REYQ_PBTJ)		Single-Port Traditional			Multi-Port		
 BSVQ_PVJU  BSV4Q36PVJU  BSV6Q36PVJU	Model	BSVQ36PVJU	BSVQ60PVJU	BSVQ96PVJU	BSV4Q36PVJU	BSV6Q36PVJU	
	Power	V/Ph/Hz	208-230/3/60	208-230/3/60	208-230/3/60	208-230/3/60	208-230/3/60
	Number of branches		1	1	1	4	6
	Number of connectable units per branch		Max. 5	Max. 8	Max. 8	Max. 4	Max. 4
Weight	lbs.	26	26	33	132	196	
Dimensions (H x W x D)	in.	8 1/8 x 15 1/4 x 12 13/16			8-1/4 x 41-1/2 x 25	8-1/4 x 62-1/8 x 25	
Piping Connections	Indoor Unit	Liquid in.	ø 3/8 (Braze)	ø 3/8 (Braze)	ø 3/8 (Braze)	ø 3/8 (Braze)	ø 3/8 (Braze)
		Gas in.	ø 5/8 (Braze)	ø 5/8 (Braze)	ø 7/8 (Braze)	ø 5/8 (Braze)	ø 5/8 (Braze)
	Outdoor Unit	Liquid in.	ø 3/8 (Braze)	ø 3/8 (Braze)	ø 3/8 (Braze)	ø 1/2 (Braze)	ø 5/8 (Braze)
		Suction Gas in.	ø 5/8 (Braze)	ø 5/8 (Braze)	ø 7/8 (Braze)	ø 1-1/8 (Braze)	ø 1-1/8 (Braze)
		HP/LP Gas in.	ø 1/2 (Braze)	ø 1/2 (Braze)	ø 3/4 (Braze)	ø 3/4 (Braze)	ø 1-1/8 (Braze)

Ultimate Flexibility - Choose which product is best for your design

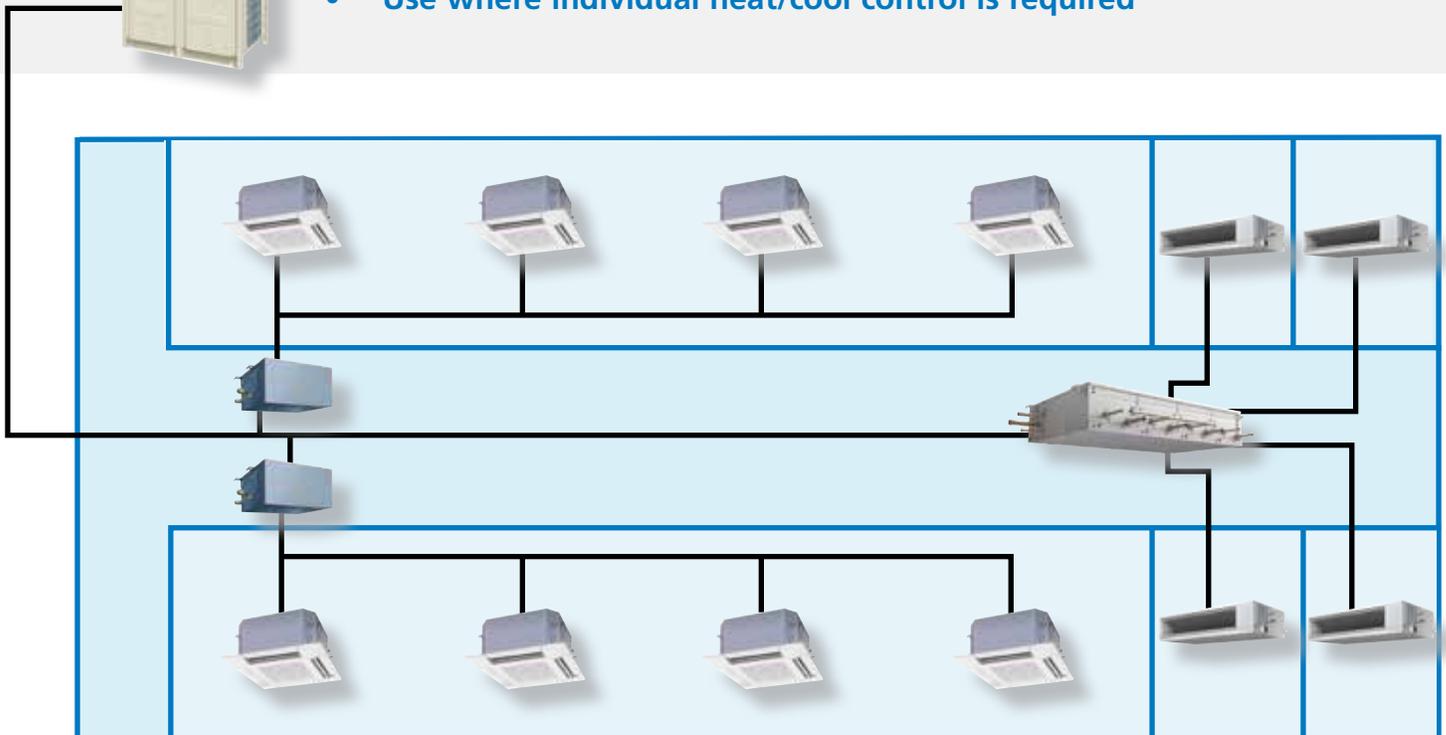
Traditional Branch Selector - BSVQ_PVJU

- Better for open plan design
- Use in spaces where individual heat/cool zones are not required



Multi-Port Branch Selector - BSV4Q36PVJU / BSV6Q36PVJU

- Better for smaller tightly grouped rooms
- Use where individual heat/cool control is required



large common area

small offices

VRV Systems - Condensing Units

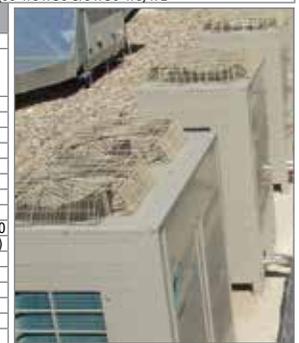
(208 - 230V / 3Ph / 60Hz)

Outdoor Units - RXYQ_PBTJ Heat Pump			6 Ton	8 Ton	10 Ton	12 Ton	14 Ton	16 Ton	18 Ton
Model	Name		RXYQ72PBTJ	RXYQ96PBTJ	RXYQ120PBTJ	RXYQ144PBTJ	RXYQ168PBTJ	RXYQ192PBTJ	RXYQ216PBTJ
	Combination						1x RXYQ96PBTJ + 1x RXYQ72PBTJ	1x RXYQ120PBTJ + 1x RXYQ72PBTJ	1x RXYQ120PBTJ + 1x RXYQ96PBTJ
Performance	Rated Cooling Capacity	Btu/h	69,000	92,000	114,000	138,000	160,000	184,000	206,000
	Rated Cooling Input Power	kW	5.39	7.36	9.58	12.21	13.22	15.59	17.61
	Rated Heating Capacity	Btu/h	77,000	103,000	129,000	154,000	180,000	206,000	231,000
	Rated Heating Input Power	kW (Btu/h)	6.08 (20,472)	8.27 (28,237)	10.42 (35,578)	13.27 (45,309)	14.26 (48,689)	17.01 (58,079)	18.81 (64,225)
	Operating Range - Cooling (DB)	°F	23 - 122	23 - 122	23 - 122	23 - 122	23 - 122	23 - 122	23 - 122
	Operating Range - Heating (DB/WB)	°F	0 - 77 / -4 - 60	0 - 77 / -4 - 60	0 - 77 / -4 - 60	0 - 77 / -4 - 60	0 - 77 / -4 - 60	0 - 77 / -4 - 60	0 - 77 / -4 - 60
	Power	V/Ph/Hz	208-230/3/60	208-230/3/60	208-230/3/60	208-230/3/60	208-230/3/60	208-230/3/60	208-230/3/60
Fan	Sound Pressure Level @3ft	dB(A)	57	60	60	62	62	62	63
	Airflow	cfm	6,350	8,230	8,230	8,300	8,230 + 6,350	8,230 + 6,350	8,230 + 8,230
Refrigerant Piping	Vertical Pipe Length - above	ft.	164 (295 with option)	164 (295 with option)	164 (295 with option)	164 (295 with option)	164 (295 with option)	164 (295 with option)	164 (295 with option)
	Vertical Pipe Length - below	ft.	295	295	295	295	295	295	295
	Actual Pipe Length	ft.	540	540	540	540	540	540	540
	Equivalent Pipe Length	ft.	620	620	620	620	620	620	620
	Total Pipe Length	ft.	3,280	3,280	3,280	3,280	3,280	3,280	3,280
Unit	Weight	lbs.	420	620	620	747	620 + 420	620 + 420	620 + 620
	Dimensions (H x W x D)	in.	66-1/8 x 36-5/8 x 30-1/8	66-1/8 x 48-7/8 x 30-1/8	66-1/8 x 51-3/16 x 30-1/8	66-1/8 x 51-3/16 x 30-1/8	66-1/8 x 48-7/8 x 30-1/8	(66-1/8 x 48-7/8 x 30-1/8) + (66-1/8 x 36-5/8 x 30-1/8)	66-1/8 x 48-7/8 x 30-1/8 x 2

Outdoor Units - RXYQ240PBTJ, RXYQ264PBTJ, RXYQ288PBTJ, RXYQ312PBTJ, RXYQ336PBTJ			20 Ton	22 Ton	24 Ton	26 Ton	28 Ton	30 Ton
Model	Name		RXYQ240PBTJ	RXYQ264PBTJ	RXYQ288PBTJ	RXYQ312PBTJ	RXYQ336PBTJ	RXYQ360PBTJ
	Combination		2x RXYQ120PBTJ	2x RXYQ96PBTJ + 1x RXYQ72PBTJ	1x RXYQ120PBTJ + 1x RXYQ96PBTJ + 1x RXYQ72PBTJ	2x RXYQ120PBTJ + 1x RXYQ72PBTJ	2x RXYQ120PBTJ + 1x RXYQ96PBTJ	3x RXYQ120PBTJ
Performance	Rated Cooling Capacity	Btu/h	228,000	251,000	274,000	297,000	320,000	342,000
	Rated Cooling Input Power	kW	19.66	21.45	26.10	25.83	29.91	31.67
	Rated Heating Capacity	Btu/h	257,000	283,000	308,000	334,000	360,000	385,000
	Rated Heating Input Power	kW (Btu/h)	21.52 (73,478)	23.7 (80,921)	26.17 (89,355)	29.66 (101,271)	30.58 (104,413)	35.26 (120,392)
	Operating Range - Cooling (DB)	°F	23 - 122	23 - 122	23 - 122	23 - 122	23 - 122	23 - 122
	Operating Range - Heating (DB/WB)	°F	0 - 77 / -4 - 60	0 - 77 / -4 - 60	0 - 77 / -4 - 60	0 - 77 / -4 - 60	0 - 77 / -4 - 60	0 - 77 / -4 - 60
	Power	V/Ph/Hz	208-230/3/60	208-230/3/60	208-230/3/60	208-230/3/60	208-230/3/60	208-230/3/60
Fan	Sound Pressure Level @3ft	dB(A)	63	64	64	64	65	65
	Airflow	cfm	8,230 + 8,230	8,230 + 8,230 + 6,350	8,230 + 8,230 + 6,350	8,230 + 8,230 + 6,350	8,230 + 8,230 + 8,230	8,230 + 8,230 + 8,230
Refrigerant Piping	Vertical Pipe Length - above	ft.	164 (295 with option)	164 (295 with option)	164 (295 with option)	164 (295 with option)	164 (295 with option)	164 (295 with option)
	Vertical Pipe Length - below	ft.	295	295	295	295	295	295
	Actual Pipe Length	ft.	540	540	540	540	540	540
	Equivalent Pipe Length	ft.	620	620	620	620	620	620
	Total Pipe Length	ft.	3,280	3,280	3,280	3,280	3,280	3,280
Unit	Weight	lbs.	620 + 620	620 + 620 + 420	620 + 620 + 420	620 + 620 + 420	620 + 620 + 620	620 + 620 + 620
	Dimensions (H x W x D)	in.	66-1/8 x 48-7/8 x 30-1/8 x 2	(66-1/8 x 48-7/8 x 30-1/8) x 2 + (66-1/8 x 36-5/8 x 30-1/8)	(66-1/8 x 48-7/8 x 30-1/8) x 2 + (66-1/8 x 36-5/8 x 30-1/8)	(66-1/8 x 48-7/8 x 30-1/8) x 3	(66-1/8 x 48-7/8 x 30-1/8) x 3	(66-1/8 x 48-7/8 x 30-1/8) x 3

Outdoor Units - REYQ_PBTJ Heat Recovery			6 Ton	8 Ton	10 Ton	12 Ton	14 Ton	16 Ton	18 Ton
Model	Name		REYQ72PBTJ	REYQ96PBTJ	REYQ120PBTJ	REYQ144PBTJ	REYQ168PBTJ	REYQ192PBTJ	REYQ216PBTJ
	Combination						1x REMQ96PBTJ + 1x REMQ72PBTJ	2x REMQ96PBTJ	1x REMQ120PBTJ + 1x REMQ96PBTJ
Performance	Rated Cooling Capacity	Btu/h	69,000	92,000	114,000	138,000	160,000	184,000	206,000
	Rated Cooling Input Power	kW	5.00	7.60	10.09	11.90	13.91	16.73	19.07
	Rated Heating Capacity	Btu/h	77,000	103,000	129,000	154,000	180,000	206,000	231,000
	Rated Heating Input Power	kW (Btu/h)	5.94 (20,281)	8.39 (28,647)	11.12 (37,968)	13.27 (45,309)	15.07 (51,455)	17.76 (60,640)	20.52 (70,064)
	Operating Range - Cooling (DB)	°F	(-4) 23 - 122	(-4) 23 - 122	(-4) 23 - 122	(-4) 23 - 122	(-4) 23 - 122	(-4) 23 - 122	(-4) 23 - 122
	Operating Range - Heating (DB/WB)	°F	0 - 77 / -4 - 60	0 - 77 / -4 - 60	0 - 77 / -4 - 60	0 - 77 / -4 - 60	0 - 77 / -4 - 60	0 - 77 / -4 - 60	0 - 77 / -4 - 60
	Power	V/Ph/Hz	208-230/3/60	208-230/3/60	208-230/3/60	208-230/3/60	208-230/3/60	208-230/3/60	208-230/3/60
Fan	Sound Pressure Level @3ft	dB(A)	58	58	60	62	61	62	62
	Airflow	cfm	6,700	6,700	7,410	8,300	6,530 + 6,350	6,530 + 6,530	7,060 + 6,530
Refrigerant Piping	Vertical Pipe Length - above	ft.	164 (295 with option)	164 (295 with option)	164 (295 with option)	164 (295 with option)	164 (295 with option)	164 (295 with option)	164 (295 with option)
	Vertical Pipe Length - below	ft.	295	295	295	295	295	295	295
	Actual Pipe Length	ft.	540	540	540	540	540	540	540
	Equivalent Pipe Length	ft.	620	620	620	620	620	620	620
	Total Pipe Length	ft.	3,280	3,280	3,280	3,280	3,280	3,280	3,280
Unit	Weight	lbs.	730	730	730	747	560 + 450	560 + 560	560 + 560
	Dimensions (H x W x D)	in.		66-1/8 x 51-3/16 x 30-1/8				(66-1/8 x 36-5/8 x 30-1/8) x 2	

Outdoor Units - REYQ240PBTJ, REYQ264PBTJ, REYQ288PBTJ, REYQ312PBTJ, REYQ336PBTJ			20 Ton	22 Ton	24 Ton	26 Ton	28 Ton
Model	Name		REYQ240PBTJ	REYQ264PBTJ	REYQ288PBTJ	REYQ312PBTJ	REYQ336PBTJ
	Combination		2x REMQ120PBTJ	2x REMQ96PBTJ + 1x REMQ72PBTJ	1x REMQ120PBTJ + 1x REMQ96PBTJ + 1x REMQ72PBTJ	2x REMQ96PBTJ + 1x REMQ120PBTJ	2x REMQ120PBTJ + 1x REMQ96PBTJ
Performance	Rated Cooling Capacity	Btu/h	240,000	251,000	274,000	297,000	320,000
	Rated Cooling Input Power	kW	23.76	22.21	25.61	28.83	31.37
	Rated Heating Capacity	Btu/h	257,000	283,000	308,000	334,000	360,000
	Rated Heating Input Power	kW (Btu/h)	23.54 (80,375)	23.70 (80,921)	26.17 (89,355)	29.66 (101,271)	30.58 (104,413)
	Operating Range - Cooling (DB)	°F	(-4) 23 - 122	(-4) 23 - 122	(-4) 23 - 122	(-4) 23 - 122	(-4) 23 - 122
	Operating Range - Heating (DB/WB)	°F	0 - 77 / -4 - 60	0 - 77 / -4 - 60	0 - 77 / -4 - 60	0 - 77 / -4 - 60	0 - 77 / -4 - 60
	Power	V/Ph/Hz	208-230/3/60	208-230/3/60	208-230/3/60	208-230/3/60	208-230/3/60
Fan	Sound Pressure Level @3ft	dB(A)	63	62	63	64	64
	Airflow	cfm	7,060 + 7,060	6,530 + 6,530 + 6,350	7,060 + 6,530 + 6,350	7,060 + 6,530 + 6,350	7,060 + 7,060 + 6,530
Refrigerant Piping	Vertical Pipe Length - above	ft.	164 (295 with option)	164 (295 with option)	164 (295 with option)	164 (295 with option)	164 (295 with option)
	Vertical Pipe Length - below	ft.	295	295	295	295	295
	Actual Pipe Length	ft.	540	540	540	540	540
	Equivalent Pipe Length	ft.	620	620	620	620	620
	Total Pipe Length	ft.	3,280	3,280	3,280	3,280	3,280
Unit	Weight	lbs.	560 + 560	560 + 560 + 450	560 + 560 + 450	560 + 560 + 560	560 + 560 + 560
	Dimensions (H x W x D)	in.	66-1/8 x 36-5/8 x 30-1/8 x 2		(66-1/8 x 36-5/8 x 30-1/8) x 3		



For all equipment installation and application limitations please refer to the specific Engineering Data Books.



VRV Systems - Condensing Units

(460V / 3Ph / 60Hz)

Outdoor Units - RXYQ_PBYD Heat Pump			6 Ton	8 Ton	10 Ton	12 Ton	14 Ton	16 Ton	18 Ton
Model	Name		RXYQ72PBYD	RXYQ96PBYD	RXYQ120PBYD	RXYQ144PBYD	RXYQ168PBYD	RXYQ192PBYD	RXYQ216PBYD
	Combination					2x RXYQ72PBYD	1x RXYQ96PBYD + 1x RXYQ72PBYD	1x RXYQ120PBYD + 1x RXYQ72PBYD	1x RXYQ120PBYD + 1x RXYQ96PBYD
Performance	Rated Cooling Capacity	Btu/h	69,000	92,000	114,000	138,000	160,000	184,000	206,000
	Rated Cooling Input Power	kW	5.39	7.36	9.58	10.87	13.22	15.59	17.61
	Rated Heating Capacity	Btu/h	77,000	103,000	129,000	154,000	180,000	206,000	231,000
	Rated Heating Input Power	kW (Btu/h)	6.08 (20,472)	8.27 (28,237)	10.42 (35,578)	12.20 (41,655)	14.26 (48,689)	17.01 (58,079)	18.81 (64,225)
	Operating Range - Cooling (DB)	°F	23 - 122	23 - 122	23 - 122	23 - 122	23 - 122	23 - 122	23 - 122
	Operating Range - Heating (DBWB)	°F	0 - 77 / -4 - 60	0 - 77 / -4 - 60	0 - 77 / -4 - 60	0 - 77 / -4 - 60	0 - 77 / -4 - 60	0 - 77 / -4 - 60	0 - 77 / -4 - 60
	Power	V/Ph/Hz	460/3/60	460/3/60	460/3/60	460/3/60	460/3/60	460/3/60	460/3/60
Fan	Sound Pressure Level @3ft	dB(A)	57	60	60	60	62	62	63
	Airflow	cfm	6,350	8,230	8,230	6,350 + 6,350	8,230 + 6,350	8,230 + 6,350	8,230 + 8,230
Refrigerant Piping	Vertical Pipe Length - above	ft.	164 (295 with option)	164 (295 with option)	164 (295 with option)	164 (295 with option)			
	Vertical Pipe Length - below	ft.	295	295	295	295	295	295	295
	Actual Pipe Length	ft.	540	540	540	540	540	540	540
	Equivalent Pipe Length	ft.	620	620	620	620	620	620	620
	Total Pipe Length	ft.	3,280	3,280	3,280	3,280	3,280	3,280	3,280
Unit	Weight	lbs.	433	633	633	433 + 433	633 + 433	633 + 433	633 + 633
	Dimensions (H x W x D)	in.	66-1/8 x 36-5/8 x 30-1/8	66-1/8 x 48-7/8 x 30-1/8	66-1/8 x 48-7/8 x 30-1/8	66-1/8 x 36-5/8 x 30-1/8 x 2	66-1/8 x 48-7/8 x 30-1/8 + 66-1/8 x 36-5/8 x 30-1/8	66-1/8 x 48-7/8 x 30-1/8 x 2	

Outdoor Units - RXYQ_PBYD Heat Pump			20 Ton	22 Ton	24 Ton	26 Ton	28 Ton	30 Ton
Model	Name		RXYQ240PBYD	RXYQ264PBYD	RXYQ288PBYD	RXYQ312PBYD	RXYQ336PBYD	RXYQ360PBYD
	Combination		2x RXYQ120PBYD	2x RXYQ96PBYD + 1x RXYQ72PBYD	1x RXYQ120PBYD + 1x RXYQ96PBYD + 1x RXYQ72PBYD	2x RXYQ120PBYD + 1x RXYQ72PBYD	2x RXYQ120PBYD + 1x RXYQ96PBYD	3x RXYQ120PBYD
Performance	Rated Cooling Capacity	Btu/h	228,000	251,000	274,000	297,000	320,000	342,000
	Rated Cooling Input Power	kW	19.66	21.45	26.10	25.83	29.91	31.67
	Rated Heating Capacity	Btu/h	257,000	283,000	308,000	334,000	360,000	385,000
	Rated Heating Input Power	kW (Btu/h)	21.52 (73,478)	23.70 (80,921)	26.17 (89,355)	29.66 (101,271)	30.58 (104,413)	35.26 (120,392)
	Operating Range - Cooling (DB)	°F	23 - 122	23 - 122	23 - 122	23 - 122	23 - 122	23 - 122
	Operating Range - Heating (DBWB)	°F	0 - 77 / -4 - 60	0 - 77 / -4 - 60	0 - 77 / -4 - 60	0 - 77 / -4 - 60	0 - 77 / -4 - 60	0 - 77 / -4 - 60
	Power	V/Ph/Hz	460/3/60	460/3/60	460/3/60	460/3/60	460/3/60	460/3/60
Fan	Sound Pressure Level @3ft	dB(A)	63	64	64	64	65	65
	Airflow	cfm	8,230 + 8,230	8,230 + 8,230 + 6,350	8,230 + 8,230 + 6,350	8,230 + 8,230 + 6,350	8,230 + 8,230 + 8,230	8,230 + 8,230 + 8,230
Refrigerant Piping	Vertical Pipe Length - above	ft.	164 (295 with option)	164 (295 with option)	164 (295 with option)	164 (295 with option)	164 (295 with option)	164 (295 with option)
	Vertical Pipe Length - below	ft.	295	295	295	295	295	295
	Actual Pipe Length	ft.	540	540	540	540	540	540
	Equivalent Pipe Length	ft.	620	620	620	620	620	620
	Total Pipe Length	ft.	3,280	3,280	3,280	3,280	3,280	3,280
Unit	Weight	lbs.	633 + 633	633 + 633 + 433	633 + 633 + 433	633 + 633 + 433	633 + 633 + 633	633 + 633 + 633
	Dimensions (H x W x D)	in.	(66-1/8 x 48-7/8 x 30-1/8) x 2	(66-1/8 x 48-7/8 x 30-1/8) x 2 + (66-1/8 x 36-5/8 x 30-1/8)	(66-1/8 x 48-7/8 x 30-1/8) x 2 + (66-1/8 x 36-5/8 x 30-1/8)	(66-1/8 x 48-7/8 x 30-1/8) x 3		

Outdoor Units - REYQ_PBYD Heat Recovery			6 Ton	8 Ton	10 Ton	12 Ton	14 Ton	16 Ton	18 Ton
Model	Name		REYQ72PBYD	REYQ96PBYD	REYQ120PBYD	REYQ144PBYD	REYQ168PBYD	REYQ192PBYD	REYQ216PBYD
	Combination					2x REMQ72PBYD	1x REMQ96PBYD + 1x REMQ72PBYD	2x REMQ96PBYD	1x REMQ120PBYD + 1x REMQ96PBYD
Performance	Rated Cooling Capacity	Btu/h	69,000	92,000	114,000	138,000	160,000	184,000	206,000
	Rated Cooling Input Power	kW	5.00	7.60	10.09	10.07	13.91	16.73	19.07
	Rated Heating Capacity	Btu/h	77,000	103,000	129,000	154,000	180,000	206,000	231,000
	Rated Heating Input Power	kW (Btu/h)	5.94 (20,281)	8.39 (28,647)	11.12 (37,968)	12.54 (42,816)	15.07 (51,455)	17.76 (60,640)	20.52 (70,064)
	Operating Range - Cooling (DB)	°F	(-4) 23 - 122	(-4) 23 - 122	(-4) 23 - 122	(-4) 23 - 122	(-4) 23 - 122	(-4) 23 - 122	(-4) 23 - 122
	Operating Range - Heating (DBWB)	°F	0 - 77 / -4 - 60	0 - 77 / -4 - 60	0 - 77 / -4 - 60	0 - 77 / -4 - 60	0 - 77 / -4 - 60	0 - 77 / -4 - 60	0 - 77 / -4 - 60
	Power	V/Ph/Hz	460/3/60	460/3/60	460/3/60	460/3/60	460/3/60	460/3/60	460/3/60
Fan	Sound Pressure Level @3ft	dB(A)	58	58	60	60	61	62	62
	Airflow	cfm	6,700	6,700	7,410	6,350 + 6,350	6,350 + 6,530	6,530 + 6,530	7,060 + 6,530
Refrigerant Piping	Vertical Pipe Length - above	ft.	164 (295 with option)	164 (295 with option)	164 (295 with option)	164 (295 with option)	164 (295 with option)	164 (295 with option)	164 (295 with option)
	Vertical Pipe Length - below	ft.	295	295	295	295	295	295	295
	Actual Pipe Length	ft.	540	540	540	540	540	540	540
	Equivalent Pipe Length	ft.	620	620	620	620	620	620	620
	Total Pipe Length	ft.	3,280	3,280	3,280	3,280	3,280	3,280	3,280
Unit	Weight	lbs.		732		463 + 463	573 + 463	573 + 573	573 + 573
	Dimensions (H x W x D)	in.		66-1/8 x 51-3/16 x 30-1/8			(66-1/8 x 36-5/8 x 30-1/8) x 2		

Outdoor Units - REYQ_PBYD Heat Recovery			20 Ton	22 Ton	24 Ton	26 Ton	28 Ton
Model	Name		REYQ240PBYD	REYQ264PBYD	REYQ288PBYD	REYQ312PBYD	REYQ336PBYD
	Combination		2x REMQ120PBYD	2x REMQ96PBYD + 1x REMQ72PBYD	1x REMQ120PBYD + 1x REMQ96PBYD + 1x REMQ72PBYD	2x REMQ96PBYD + 1x REMQ120PBYD	2x REMQ120PBYD + 1x REMQ96PBYD
Performance	Rated Cooling Capacity	Btu/h	240,000	251,000	274,000	297,000	320,000
	Rated Cooling Input Power	kW	23.76	22.21	25.61	28.83	31.33
	Rated Heating Capacity	Btu/h	257,000	283,000	308,000	334,000	360,000
	Rated Heating Input Power	kW (Btu/h)	23.54 (80,375)	25.13 (85,804)	26.55 (90,653)	29.40 (100,384)	32.97 (112,573)
	Operating Range - Cooling (DB)	°F	(-4) 23 - 122	(-4) 23 - 122	(-4) 23 - 122	(-4) 23 - 122	(-4) 23 - 122
	Operating Range - Heating (DBWB)	°F	0 - 77 / -4 - 60	0 - 77 / -4 - 60	0 - 77 / -4 - 60	0 - 77 / -4 - 60	0 - 77 / -4 - 60
	Power	V/Ph/Hz	460/3/60	460/3/60	460/3/60	460/3/60	460/3/60
Fan	Sound Pressure Level @3ft	dB(A)	63	62	63	64	64
	Airflow	cfm	7,060 + 7,060	6,530 + 6,530 + 6,350	7,060 + 6,530 + 6,350	7,060 + 6,530 + 6,530	7,060 + 7,060 + 6,530
Refrigerant Piping	Vertical Pipe Length - above	ft.	164 (295 with option)	164 (295 with option)	164 (295 with option)	164 (295 with option)	164 (295 with option)
	Vertical Pipe Length - below	ft.	295	295	295	295	295
	Actual Pipe Length	ft.	540	540	540	540	540
	Equivalent Pipe Length	ft.	620	620	620	620	620
	Total Pipe Length	ft.	3,280	3,280	3,280	3,280	3,280
Unit	Weight	lbs.	573 + 573	573 + 573 + 463	573 + 573 + 463	573 + 573 + 573	573 + 573 + 573
	Dimensions (H x W x D)	in.	66-1/8 x 36-5/8 x 30-1/8 x 2		(66-1/8 x 36-5/8 x 30-1/8) x 3		



For all equipment installation and application limitations please refer to the specific Engineering Data Books.



VRVIII PB Series Certified Efficiency Data

Daikin's VRV system has been validated as one of the most efficient heating and air conditioning systems available in the North American market.



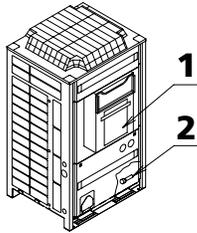
System Type Function	System Name	Nominal Capacity	Individual Condensing Unit Model			Part Load						Full Load								
			Unit 1	Unit 2	Unit 3	IEER Ducted	IEER Non-Ducted	IEER Mixed	SCHE Ducted	SCHE Non-Ducted	SCHE Mixed	EER Ducted	EER Non-Ducted	EER Mixed	COP@47F Ducted	COP@47F Non-Ducted	COP@47F Mixed	COP@17F Non-Ducted	COP@17F Mixed	
VRVIII 460V Heat Pump	RXYQ72PBYD	6-Ton	RXYQ72PBYD			21.5	25.8	23.7				12.8	14.1	13.4	3.71	4.00	3.86	2.40	2.65	2.53
	RXYQ96PBYD	8-Ton	RXYQ96PBYD			18.8	23.0	20.9				12.5	13.5	13.0	3.65	4.20	3.93	2.50	2.85	2.68
	RXYQ120PBYD	10-Ton	RXYQ120PBYD			17.2	20.4	18.8				11.9	12.5	12.2	3.63	3.80	3.72	2.50	2.65	2.58
	RXYQ144PBYD	12-Ton	RXYQ72PBYD	RXYQ72PBYD		22.1	21.5	21.8				12.7	14.0	13.4	3.70	3.90	3.80	2.45	2.55	2.50
	RXYQ168PBYD	14-Ton	RXYQ96PBYD	RXYQ72PBYD		20.2	22.0	21.1				12.1	12.4	12.3	3.70	3.95	3.83	2.45	2.65	2.55
	RXYQ192PBYD	16-Ton	RXYQ120PBYD	RXYQ72PBYD		19.1	19.9	19.5				11.8	11.7	11.8	3.55	3.70	3.63	2.45	2.55	2.50
	RXYQ216PBYD	18-Ton	RXYQ120PBYD	RXYQ96PBYD		19.5	19.2	19.4				11.7	11.6	11.7	3.60	3.80	3.70	2.45	2.60	2.53
	RXYQ240PBYD	20-Ton	RXYQ120PBYD	RXYQ120PBYD		16.1	18.2	17.2				11.6	11.5	11.6	3.50	3.60	3.55	2.35	2.55	2.45
	RXYQ264PBYD	22-Ton	RXYQ96PBYD	RXYQ96PBYD	RXYQ72PBYD	19.1	20.8	20.0				11.7	11.3	11.5	3.50	3.50	3.50	2.30	2.45	2.38
	RXYQ288PBYD	24-Ton	RXYQ120PBYD	RXYQ96PBYD	RXYQ72PBYD	18.8	19.6	19.2				10.5	11.5	11.0	3.45	3.50	3.48	2.45	2.45	2.45
	RXYQ312PBYD	26-Ton	RXYQ120PBYD	RXYQ120PBYD	RXYQ72PBYD	17.0	18.2	17.6				11.5	10.7	11.1	3.30	3.30	3.30	2.35	2.35	2.35
	RXYQ336PBYD	28-Ton	RXYQ120PBYD	RXYQ120PBYD	RXYQ96PBYD	16.1	15.9	16.0				10.7	10.8	10.8	3.45	3.45	3.45	2.35	2.35	2.35
	RXYQ360PBYD	30-Ton	RXYQ120PBYD	RXYQ120PBYD	RXYQ120PBYD	15.3	15.1	15.2				10.8	9.8	10.3	3.20	3.45	3.33	2.40	2.40	2.40
	REYQ72PBYD	6-Ton	REYQ72PBYD			21.3	25.1	23.2	18.0	21.1	19.55	13.8	15.4	14.6	3.80	4.20	4.00	2.60	2.95	2.78
	REYQ96PBYD	8-Ton	REYQ96PBYD			19.7	22.9	21.3	15.4	20.0	17.7	12.1	13.2	12.7	3.60	3.70	3.65	2.65	2.70	2.68
	REYQ120PBYD	10-Ton	REYQ120PBYD			16.1	21.3	18.7	15.3	19.6	17.45	11.3	12.1	11.7	3.40	3.60	3.50	2.35	2.60	2.48
	REYQ144PBYD	12-Ton	REMQ72PBYD	REMQ72PBYD		20.0	22.5	21.3	16.0	19.8	17.9	13.7	13.8	13.8	3.60	3.80	3.70	2.40	2.55	2.48
	REYQ168PBYD	14-Ton	REMQ96PBYD	REMQ72PBYD		19.4	20.3	19.9	16.2	19.0	17.6	11.5	12.0	11.8	3.50	3.70	3.60	2.35	2.50	2.43
REYQ192PBYD	16-Ton	REMQ96PBYD	REMQ96PBYD		16.9	18.7	17.8	15	18.8	16.9	11.0	11.2	11.1	3.40	3.40	3.40	2.30	2.50	2.40	
REYQ216PBYD	18-Ton	REMQ120PBYD	REMQ96PBYD		16.4	17.2	16.8	15.0	17.9	16.45	10.8	10.7	10.8	3.30	3.50	3.40	2.30	2.40	2.35	
REYQ240PBYD	20-Ton	REMQ120PBYD	REMQ120PBYD		15.4	16.1	15.8	14.8	17.5	16.15	10.1	10.1	10.1	3.20	3.33	3.27	2.35	2.40	2.38	
REYQ264PBYD	22-Ton	REMQ96PBYD	REMQ96PBYD	REMQ72PBYD	18.1	18.7	18.4	15.9	19.8	17.85	11.3	10.8	11.1	3.30	3.40	3.35	2.30	2.40	2.35	
REYQ288PBYD	24-Ton	REMQ120PBYD	REMQ96PBYD	REMQ72PBYD	17.5	19.0	18.3	15.8	18.9	17.35	10.7	10.7	10.7	3.40	3.35	3.38	2.35	2.40	2.38	
REYQ312PBYD	26-Ton	REMQ120PBYD	REMQ96PBYD	REMQ96PBYD	16.2	16.9	16.6	15.4	18.9	17.15	10.3	10.2	10.3	3.33	3.23	3.28	2.25	2.25	2.25	
REYQ336PBYD	28-Ton	REMQ120PBYD	REMQ120PBYD	REMQ96PBYD	15.9	15.6	15.8	14.9	18.3	16.6	10.2	10.2	10.2	3.20	3.23	3.22	2.20	2.30	2.25	
VRVIII 208/230V Heat Pump	RXYQ72PBTJ	6-Ton	RXYQ72PBTJ			21.5	25.8	23.7				12.8	14.1	13.4	3.71	4.00	3.86	2.40	2.65	2.53
	RXYQ96PBTJ	8-Ton	RXYQ96PBTJ			18.8	23.0	20.9				12.5	13.5	13.0	3.65	4.20	3.93	2.50	2.85	2.68
	RXYQ120PBTJ	10-Ton	RXYQ120PBTJ			17.2	20.4	18.8				11.9	12.5	12.2	3.63	3.80	3.72	2.50	2.65	2.58
	RXYQ144PBTJ	12-Ton	RXYQ144PBTJ			17.6	20.5	19.1				11.3	11.3	11.3	3.40	3.60	3.50	2.45	2.55	2.50
	RXYQ168PBTJ	14-Ton	RXYQ96PBTJ	RXYQ72PBTJ		20.2	22.0	21.1				12.1	12.4	12.3	3.70	3.95	3.83	2.45	2.65	2.55
	RXYQ192PBTJ	16-Ton	RXYQ120PBTJ	RXYQ72PBTJ		19.1	19.9	19.5				11.8	11.7	11.8	3.55	3.70	3.63	2.45	2.55	2.50
	RXYQ216PBTJ	18-Ton	RXYQ120PBTJ	RXYQ96PBTJ		19.5	19.2	19.4				11.7	11.6	11.7	3.60	3.80	3.70	2.45	2.60	2.53
	RXYQ240PBTJ	20-Ton	RXYQ120PBTJ	RXYQ120PBTJ		16.1	18.2	17.2				11.6	11.5	11.6	3.50	3.60	3.55	2.35	2.55	2.45
	RXYQ264PBTJ	22-Ton	RXYQ96PBTJ	RXYQ96PBTJ	RXYQ72PBTJ	19.1	20.8	20.0				11.7	11.3	11.5	3.50	3.50	3.50	2.30	2.45	2.38
	RXYQ288PBTJ	24-Ton	RXYQ120PBTJ	RXYQ96PBTJ	RXYQ72PBTJ	18.8	19.6	19.2				10.5	11.5	11.0	3.45	3.50	3.48	2.45	2.45	2.45
	RXYQ312PBTJ	26-Ton	RXYQ120PBTJ	RXYQ120PBTJ	RXYQ72PBTJ	17.0	18.2	17.6				11.5	10.7	11.1	3.30	3.30	3.30	2.35	2.35	2.35
	RXYQ336PBTJ	28-Ton	RXYQ120PBTJ	RXYQ120PBTJ	RXYQ96PBTJ	16.1	15.9	16.0				10.7	10.8	10.8	3.45	3.45	3.45	2.35	2.35	2.35
	RXYQ360PBTJ	30-Ton	RXYQ120PBTJ	RXYQ120PBTJ	RXYQ120PBTJ	15.3	15.1	15.2				10.8	9.8	10.3	3.20	3.45	3.33	2.40	2.40	2.40
	REYQ72PBTJ	6-Ton	REYQ72PBTJ			21.3	25.1	23.2	18.0	21.1	19.55	13.8	15.4	14.6	3.80	4.20	4.00	2.60	2.95	2.78
	REYQ96PBTJ	8-Ton	REYQ96PBTJ			19.7	22.9	21.3	15.4	20.0	17.7	12.1	13.2	12.7	3.60	3.70	3.65	2.65	2.70	2.68
	REYQ120PBTJ	10-Ton	REYQ120PBTJ			16.1	21.3	18.7	15.3	19.6	17.45	11.3	12.1	11.7	3.40	3.60	3.50	2.35	2.60	2.48
	REYQ144PBTJ	12-Ton	REYQ144PBTJ			16.5	18.9	17.7	16.0	19.8	17.9	10.6	11.2	10.9	3.40	3.60	3.50	2.40	2.55	2.48
	REYQ168PBTJ	14-Ton	REMQ96PBTJ	REMQ72PBTJ		19.4	20.3	19.9	16.2	19.0	17.6	11.5	12.0	11.8	3.50	3.70	3.60	2.35	2.50	2.43
REYQ192PBTJ	16-Ton	REMQ96PBTJ	REMQ96PBTJ		16.9	18.7	17.8	15.0	18.8	16.9	11.0	11.2	11.1	3.40	3.40	3.40	2.30	2.50	2.40	
REYQ216PBTJ	18-Ton	REMQ120PBTJ	REMQ96PBTJ		16.4	17.2	16.8	15.0	17.9	16.45	10.8	10.7	10.8	3.30	3.50	3.40	2.30	2.40	2.35	
REYQ240PBTJ	20-Ton	REMQ120PBTJ	REMQ120PBTJ		15.4	16.1	15.8	14.8	17.5	16.15	10.1	10.1	10.1	3.20	3.33	3.27	2.35	2.40	2.38	
REYQ264PBTJ	22-Ton	REMQ96PBTJ	REMQ96PBTJ	REMQ72PBTJ	18.1	18.7	18.4	15.9	19.8	17.85	11.3	10.8	11.1	3.30	3.40	3.35	2.30	2.40	2.35	
REYQ288PBTJ	24-Ton	REMQ120PBTJ	REMQ96PBTJ	REMQ72PBTJ	17.5	19.0	18.3	15.8	18.9	17.35	10.7	10.7	10.7	3.40	3.35	3.38	2.35	2.40	2.38	
REYQ312PBTJ	26-Ton	REMQ120PBTJ	REMQ96PBTJ	REMQ96PBTJ	16.2	16.9	16.6	15.4	18.9	17.15	10.3	10.2	10.3	3.33	3.23	3.28	2.25	2.25	2.25	
REYQ336PBTJ	28-Ton	REMQ120PBTJ	REMQ120PBTJ	REMQ96PBTJ	15.9	15.6	15.8	14.9	18.3	16.6	10.2	10.2	10.2	3.20	3.23	3.22	2.20	2.30	2.25	

Certified efficiency data in accordance with ANSI/AHRI Standard 1230-2010, "Performance Rating of Variable Refrigerant Flow (VRF) Multi-Split Air-Conditioning and Heat Pump Equipment" for the VRVIII PB Series. The VRVIII PB Series has been designed and optimized to meet/or exceed the latest minimum efficiency requirements in 10 C.F.R. Part 431 as determined by the U.S. Department of Energy (DOE) and baseline efficiencies as defined by ASHRAE 90.1-2010. Systems under 65MBH are currently certified to AHRI 210/240. IEER ratings are as defined in ASHRAE 90.1-2010.

Please visit www.daikinperforms.com for our efficiency ratings as well as an explanation of the standard and various metrics involved.

VRVIII Installation Space

Figure 1

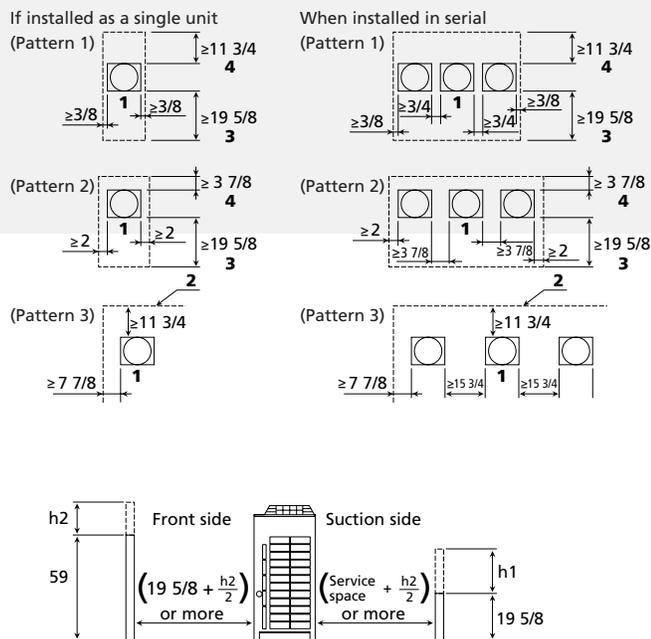


Standard supplied accessories

Confirm the following accessories are included. The storage location of the accessories is shown in figure 1. (Refer to figure 1)

1. Clamps, Manuals, etc.
2. Accessory pipes

Figure 2



Installation Space Examples

- The installation space requirement shown in figure 2 is a reference for cooling.
- During installation, install the units using the most appropriate of the patterns shown in figure 2 for the location in question, taking into consideration human traffic and wind.
- If the number of units installed is more than that shown in the pattern in figure 2, install the units so that there is no air short circuiting.
- As regards to space in front of the unit, consider the space needed for the refrigerant piping when installing the units, as determined by local codes.
- If the space requirements in figure 2 do not apply, contact your contractor or Daikin directly. (Refer to figure 2)
 1. Front side
 2. No limit to wall height
 3. Service space of front side
 4. Service space of suction side

For Patterns 1 and 2 in figure 2:

- Wall height for front side – no higher than 59 in.
- Wall height on the suction side – no higher than $19 \frac{5}{8}$ in.
- Wall height for sides – no limit.
- If the above height is exceeded, calculate h_1 and h_2 shown in the figure below, and add $h_2/2$ to the service space of front side and $h_1/2$ to the service space of suction side.

VRVIII Accessories

VRVIII Heat Recovery - 208-230V and 460V

Unit Model Number	REYQ72PBTJ REYQ72PBYD	REYQ96PBTJ REYQ96PBYD REYQ120PBTJ REYQ120PBYD	REYQ144PBTJ REYQ144PBYD REYQ168PBTJ REYQ168PBYD	REYQ192PBTJ REYQ192PBYD REYQ216PBTJ REYQ216PBYD REYQ240PBTJ REYQ240PBYD	REYQ264PBTJ REYQ264PBYD REYQ288PBTJ REYQ288PBYD REYQ312PBTJ REYQ312PBYD REYQ336PBTJ REYQ336PBYD
REFNET Header	KHRP25M33H (max. 8 branches)	KHRP25M33H (max. 8 branches) KHRP25M72H (max. 8 branches)		KHRP25M33H (max. 8 branches) KHRP25M72H (max. 8 branches) KHRP25M73HU (max. 8 branches)	
REFNET Joint	KHRP25A22T KHRP25A33T	KHRP25A22T KHRP25A33T KHRP25M72TU		KHRP25A22T KHRP25A33T KHRP25M72TU KHRP25M73TU	
Outdoor Unit multi piping connection kit	-		BHFP26P90U		BHFP26P136U
Branch Selector box for Heat Recovery	BSVQ36PVJU BSVQ60PVJU BSVQ96PVJU BSV4Q36PVJU BSV6Q36PVJU				
Increase height difference between indoor and outdoor unit to 295ft.	PCB REYQ_PBTJ PCB REYQ_PBYD				

VRVIII Heat Pump - 208-230V and 460V

Unit Model Number	RXYQ72PBTJ RXYQ72PBYD RXYQ96PBTJ RXYQ96PBYD	RXYQ120PBTJ RXYQ120PBYD RXYQ144PBTJ RXYQ144PBYD	RXYQ168PBTJ RXYQ168PBYD	RXYQ192PBTJ RXYQ192PBYD RXYQ216PBTJ RXYQ216PBYD RXYQ240PBTJ RXYQ240PBYD	RXYQ264PBTJ RXYQ264PBYD RXYQ288PBTJ RXYQ288PBYD RXYQ312PBTJ RXYQ312PBYD RXYQ336PBTJ RXYQ336PBYD RXYQ360PBTJ RXYQ360PBYD
REFNET Header	KHRP26M22H (max. 4 branches) KHRP26M33H (max. 8 branches)	KHRP26M22H (max. 4 branches) KHRP26M33H (max. 8 branches) KHRP26M72H (max. 8 branches)		KHRP26M22H (max. 4 branches) KHRP26M33H (max. 8 branches) KHRP26M72H (max. 8 branches) KHRP26M73HU (max. 8 branches)	
REFNET Joint	KHRP26A22T KHRP26A33T	KHRP26A22T KHRP26A33T KHRP26M72TU		KHRP26A22T KHRP26A33T KHRP26M72TU KHRP26M73TU	
Outdoor Unit multi piping connection kit	-		BHFP22P100U		BHFP22P151U
Increase height difference between indoor and outdoor unit to 295ft.	PCB RXYQ_PBTJ PCB RXYQ_PBYD				

BSVQ

No.	Name of Options	BSVQ36PVJU	BSVQ60PVJU	BSVQ96PVJU	BSV4Q36PVJU	BSV6Q36PVJU
1	Cool/Heat Selector	KRC19-26A			KRC19-26A6	
	Closed Pipe Kit	-			KHFP26A100C	

VRV Controls

Choosing the right controls

Unless it is controlled, managed and operated in an appropriate manner, a high-performing system will not be able to provide the energy-efficiency or comfort it claims. Promoting the systemization of control management not only improves efficiency, but also represents a number of possibilities in terms of convenience. Daikin's line up of intelligent controls gives the user the ability to address all needs in one package and one supplier: Daikin.

Daikin controls are optimized for VRV technology and offers highly scalable solutions for all applications and budgets. It also allows for lower cost alternatives to traditional energy management systems when centralized control is required.

Project Requirements	Daikin VRV Controls								
									
	BRC1E71 Navigation	BRC2A71 Simplified	DCS302C71 Centralized	DCS301C71 Unified	DCS601C71 Intelligent Touch	Intelligent Manager	BACnet Interface	LowWorks Interface	
Simple individual zone control	■	■							
Individual zone control with 7-day programmable scheduling	■								
Multi-zone control without scheduling functions			■						
Basic central point on/off control of all air handling units				■					
Advanced multi-zone control of small to medium size projects					■				
Advanced multi-zone control of large commercial projects						■	■	■	
Advanced multi-zone control with scheduling logic and calendar					■	■			
Automatic cooling/heating changeover for heat pump systems	■				■	■			
Single input batch shutdown of all connected air handlers			■	■	■	■	■	■	
Web browser control and monitoring via Intranet and Internet					■	■	■	■	
E-mail notification of system alarms and equipment malfunctions					■	■	■	■	
Multiple tenant power billing for shared condenser applications					■	■			
Temperature set-point range restrictions	■				■	■	■	■	
Graphical user interface based upon a PC platform						■			
Start/stop control of ancillary building systems ¹					■	■	■	■	
Daikin VRV integration with BACnet based automation systems							■		
Daikin VRV integration with LowWorks based automation systems								■	

¹ Requires one or more DEC102A51-US2 Digital Input/Output units.

- Native application or feature for this device.
- Dependent upon capabilities of the third party energy management system.

Controls that offer freedom to administrators

Freedom to control the air-conditioning system, via the Internet, from home or any other location with a PC. Should a malfunction occur, a notification is sent by e-mail to a cell phone or PC (any e-mail address specified by the user). This gives administrators the freedom to leave the room/building where the controller is located.

Intelligent touch Controller



DCS601C71

- 64 groups (128 indoor units) connectable (128 groups with DCS601A72)
- Management of Daikin units and ancillary equipment
- Touch screen display
- Built-in Ethernet port, Web enabled (optional)
- Alarm e-mail function

Intelligent Manager III



IMP-128/256/512/768/1,024

- 1,024 indoor units (organized in up to 200 control groups)
- Management of Daikin units and ancillary equipment
- Operation on one master PC and one sub PC (sub PC option)
- Remote monitoring via the Web
- Alarm e-mail function

Connect VRV to your BMS via BACnet® or LonWorks® using Daikin's integrated control system solutions.

Compatible with BACnet and LonWorks, the two leading open network communication protocols, the interfaces offered by Daikin provides a seamless connection between VRV and your BMS.



LonWorks Network Compatible Interface

- Interface for LonWorks networks
- Communication via LON protocol (twisted pair wire)
- 64 indoor unit groups connectable per interface
- Unlimited site size
- Quick, easy installation



BACnet Network Compatible Interface

- Interface for Building Management Systems
- Communication via BACnet protocol (BACnet/IP)
- 256 units connectable per BACnet gateway (with DAM411B51)
- Unlimited site size
- Quick, easy installation





WARNINGS:

- Always use a licensed installer or contractor to install this product. Do not try to install the product yourself. Improper installation can result in water or refrigerant leakage, electrical shock, fire or explosion.
- Use only those parts and accessories supplied or specified by Daikin. Ask a licensed contractor to install those parts and accessories. Use of unauthorized parts and accessories or improper installation of parts and accessories can result in water or refrigerant leakage, electrical shock, fire or explosion.
- Read the User's Manual carefully before using this product. The User's Manual provides important safety instructions and warnings. Be sure to follow these instructions and warnings.

For any inquiries, contact your local Daikin sales office.



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PCVUSE13-05C

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