

SINGLE-PHASE VRF HEAT PUMP SYSTEMS

bryant

Heating & Cooling Systems

**WHATEVER
IT TAKES.**



Spring 2017

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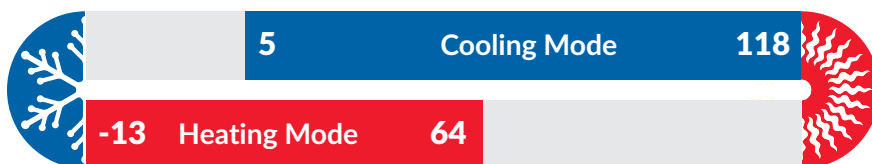
The Bryant® Single-phase VRF (Variable Refrigerant Flow) Heat Pump provides an energy efficient, flexible solution for commercial and residential applications.

If you have a space that is too small for a standard VRF system, yet too large for residential ductless, our Single-phase VRF heat pump system is the perfect answer. It delivers the efficiency, flexibility and control of VRF but in a smaller capacity package and lower power requirement. With Bryant® VRF, you can also integrate a Single-phase with a 3-phase heat pump and heat recovery to create one VRF system without additional controls.

Single-phase VRF system outdoor units are available in three capacities, 3, 4 and 5-ton units to be matched up with up to nine multiple style indoor units, depending on system. All the indoor units can be controlled by their own individual controller or connected to a central controller. There's a variety of control options offered based on feature requirements. The rotary compressor is equipped with DC Inverter and brushless motor to provide high efficient operation and optimize startup. Rotary technology provides better balance and lower compressor vibrations. The DC condenser fan motor can rapidly match up with the changing compressor capacity at operating condition enhancing part load efficiency. Aerodynamically designed condenser fan and air deflector increases air flow over the coil and reduces noise. Outdoor unit is piped to indoor units using branch ('Y') piping.

Product Features

- 2-pipe heat pump system
- Available in three capacities
 - 3-ton outdoor unit can connect up to five indoor units
 - 4-ton outdoor unit can connect up to seven indoor units
 - 5-ton outdoor unit can connect up to nine indoor units
- Ten different style indoor units
- High efficiency and energy saving DC Inverter-driven rotary compressor in outdoor unit (208/230V-1-60Hz voltage)
- Combination of DC fan motor and aerodynamically designed fan blades for condenser to increase air flow and reduce sound
- Field configurable four side piping connection – front, side, back and bottom
- Cooling ambient operating temperature is 5° F to 118° F and heating ambient operating temperature is -13° F to 64° F



Controls

- Wireless Remote Controller (40VM900001)
- Wired Remote Controller (40VM900012 - Non-programmable)
- Programmable Wired Remote Controller (40VM900013)
- Touchscreen Wired Remote Controller (40VM900005)
- 24V Interface (40VM900008)

Accessories

- Branch Joint (40WA900001 - Y-Joint)

Applications

Light Commercial Applications

Single-phase VRF system offers design flexibility when a building needs to be divided into smaller units or expand usable space in size. This system is a perfect choice for applications like one to two story office buildings, strip malls and retail spaces, fire and police stations, and banks, to name just a few.

Residential & Multi-Family Applications

Bryant Single-phase VRF can be easily integrated into any home, no matter the demands of the space. The system allows for a long line length between the outdoor and indoor units, offering more options for installation between floors of your home. Utilize the centralized controls network with an expanded line of ten indoor unit styles.

Single-Phase VRF Heat Pump System Specs

38VMH-1P – 208/230-1-60

Outdoor unit model name			38VMA036HDS3-1	38VMA048HDS3-1	38VMA060HDS3-1	
Nominal tons		Ton	3	4	5	
Cooling capacity (*1) (with non-ducted indoor units/ducted)	Nominal	kBtu/h	36	48	60	
	Rated	kBtu/h	36	48	60	
Heating capacity (*1) (with non-ducted indoor units/ducted)	Nominal	kBtu/h	40	52.5	66	
	Rated	kBtu/h	40	52.5	66	
With non-ducted indoor units	Power supply (*2)		208/230V, 1-Phase, 60Hz			
	Cooling	Power consumption	kW	3.1	4.6	6.1
SEER (Seasonal Energy Efficiency Ratio)		Btu/W	18.0	18.0	18.6	
Electrical characteristics (Nominal) (*1)	Heating	Power consumption	kW	3.1	4.3	5.8
		HSPF (Heating Seasonal Performance Factor)	Btu/W	9.2	9.2	9.60
With non-ducted indoor units	Power supply (*2)		208/230V, 1-Phase, 60Hz			
	Cooling	Power consumption	kW	2.9	4.7	6.1
SEER (Seasonal Energy Efficiency Ratio)		Btu/W	17.8	17.8	18.6	
Electrical characteristics (Nominal) (*1)	Heating	Power consumption	kW	3.0	4.2	5.7
		HSPF (Heating Seasonal Performance Factor)	Btu/W	9.6	9.6	10.0
External dimensions		Height	in	52-1/4		
		Width	in	35-1/2		
		Depth	in	15-3/4		
Total weight	Unit	lb	220			
Compressor	Type / Qty		Hermetic Rotary Compressor (Inverter-Driven) / 1			
Fan unit	Air volume	cfm	4100			
Refrigerant (*3) (Charged refrigerant amount)		lb	8.6			
Electrical specifications	Unit	MCA (*4)	A	36	38	40
		Recommended fuse size	A	40	40	45
Refrigerant piping	Connecting port diameter	Gas side (main pipe) (brazing)	in	5/8		
		Liquid side (main pipe) (brazing)	in	3/8		
Operation temperature range	Cooling	° F DB	5~118			
	Heating	° F WB	-13~64			
Maximum number of connected indoor units			5	7	9	
Maximum capacity of combined indoor units			50% to 130%			
Sound pressure level cooling/heating (*5)		dB(A)	58.7	60.1	60.7	

(*1) Rated conditions. Cooling: Indoor air temperature 80°F dry bulb / 67°F wet bulb, Outdoor air temperature 95°F dry bulb
Heating: Indoor air temperature 70°F dry bulb, Outdoor air temperature 47°F dry bulb / 43°F wet bulb

(*2) The source voltage must not fluctuate more than +/- 10%

(*3) The amount does not consider extra piping length. Refrigerant must be added on site in accordance with the actual piping length.

(*4) Select wire size based on larger value of MCA: Minimum Circuit Amps (Minimum Circuit Amps required for power supply design)

(*5) These values, measured in anechoic chamber, at a point 3.3 ft (1 m) in front of the Unit at a height of 4.6 ft (1.4m).



All Parts Limited Warranty

Company provides a Five-Year Limited Warranty on all parts and components, except refrigerant, air filters and filter driers which are not included in any part of the limited warranty.

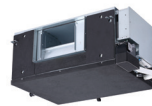
Seven Year Limited Warranty On Compressor Only

Company provides a Seven-Year Parts Only Limited Warranty on the Compressor.

Single-Phase VRF Heat Pump Indoor Unit Offering



NON-DUCTED MODELS	Cooling Capacity kBtu/h	40VMF 4-Way Cassette	40VMC Compact 4-Way Cassette	40VMW High Wall	40VMU Underceiling / Floor Console	40VMR Floor Console (Recessed)
	5,000			•		
	7,000		•	•		•
	9,000	•	•	•		•
	12,000	•	•	•	•	•
	15,000	•	•	•	•	•
	18,000	•		•	•	•
	24,000	•		•	•	•
	30,000	•		•	•	
	36,000	•			•	
48,000	•				•	



DUCTED MODELS	Cooling Capacity kBtu/h	40VML Low Static Duct	40VMM Medium Static Duct	40VMH High Static Duct	40VMV Vertical AHU	40VMA Outside Air Duct
	7,000	•	•			
	9,000	•	•			
	12,000	•	•		•	
	15,000	•	•			
	18,000	•	•		•	
	24,000	•	•	•	•	
	30,000		•	•	•	
	36,000		•	•	•	•
	48,000		•	•	•	•
53,500			•	•	•	

To learn more about the compatible VRF indoor units, refer to Bryant VRF Product Catalog or visit BryantVRF.com



Visit our website at BryantVRF.com