

# 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		4 Ton		5 Ton	
Model				HVAHP036B21S		HVAHP048B21S		HVAHP060B21S	
Power Supply				208/230V/ 1PH 60Hz		208/230V/ 1PH 60Hz		208/230V/ 1PH 60Hz	
Capacity (Nominal)	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 *	Cooling <i>(for Non-ducted and Ducted)</i>	Capacity (Rated)	Btu/h	36,000 (10.6)	48,000 (14.1)	60,000 (17.6)			
		EER	Btu/Wh	16.70	13.70	12.20	9.60		
		SEER	Btu/Wh	23.10	18.70	16.80	15.90		
	Heating <i>(for Non-ducted and Ducted)</i>	Rated Capacity	Btu/h	40,000 (11.7)	54,000 (15.8)	64,000 (18.7)			
		COP	W/W	5.12 / 3.90	4.56 / 3.86	3.90 / 3.30			
		HSPF	Btu/Wh	11.90	11.00	12.10	10.60		
Cooling Operating Range**	Indoor	°F WB (°C WB)	59 (15) ~ 73 (23)	59 (15) ~ 73 (23)	59 (15) ~ 73 (23)				
	Outdoor	°F DB (°C DB)	23 (-5) ~ 118 (48)	23 (-5) ~ 118 (48)	23 (-5) ~ 118 (48)				
Heating Operating Range**	Indoor	°F DB (°C DB)	59 (15) ~ 80 (27)	59 (15) ~ 80 (27)	59 (15) ~ 80 (27)				
	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)				
Package Dimensions	Height	in (mm)	59-9/16 (1513)	59-9/16 (1513)	59-9/16 (1513)				
	Width	in (mm)	40-3/8 (1025)	40-3/8 (1025)	40-3/8 (1025)				
	Depth	in (mm)	18-1/8 (460)	18-1/8 (460)	18-1/8 (460)				
Weight	Net	lbs (kg)	249 (113)	249 (113)	249 (113)				
	Gross	lbs (kg)	267 (121)	267 (121)	267 (121)				
Connection Ratio	Connection Ratio Range	%	60-130	60-130	60-105				
	Max. (Recommendation) indoor units/system		6	8	8				
Heat Exchanger	Type	-	Multi-pass cross-finned tube						
	Material	-	Cu-Al (Anti-corrosion)						
Compressor	Type	-	HA36PHD-A1S2	HA36PHD-A1S2	A36PHD-A1S2				
	Motor Output (Pole)	- / -	3PH / 6	3PH / 6	3PH / 6				
	Start Method	-	Inverter						
	Operation Range	%	10 ~ 100	10 ~ 100	10 ~ 100				
	Refrigeration Oil Type	-	FVC68D	FVC68D	FVC68D				
Crank Case Heater	W×Q'ty		52W(208V) ×1	52W(208V) ×1	52W(208V) ×1				
Fan	Type	-	Propeller Fan	Propeller Fan	Propeller Fan				
	Motor Output (Pole)	W (Pole)	58(10) + 58(10)	58(10) + 58(10)	58(10) + 58(10)				
	Quantity	Q'ty	2						
	Air Flow Rate	cfm (m³/min)	3177 (90)	3530 (100)	3530 (100)				
	Drive	-	Direct drive						
Electrical	Min Circuit Amps	A	31	31	31				
	Max. Overcurrent Protective Device	A	40						
Sound Pressure Level	Cooling (Night-Shift)	dB(A)	51 (44)	52 (46)	53 (46)				
	Heating	dB(A)	52	54	56				
Protection devices	Cycle	-	High pressure switch at 601psi (4.15MPa)						
	Compressor	-	Over-current protection Over-heat protection Circuit breaker (30A)						
	Fan Motor	-	Over-current protection Over-heat protection Self-contained fuse (5A)						
	PCB (Control Circuit)	-	Fuse on PCB(5A)						
Refrigerant	Type	-	R410A						
	Charge amount	lbs (kg)	7.9 (3.6)	7.9 (3.6)	7.9 (3.6)				
Refrigeration Oil	Charge amount	gal/Unit (kg/Unit)	0.34 (1.3)	0.34 (1.3)	0.34 (1.3)				
Defrost Method		-	Reversed refrigerant cycle						
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:

\* Efficiency ratings are based on the AHRI 210/240 test standard. \*\* For more detailed operation ranges, please consult Hitachi SmartFlex™ sales team or refer to product manuals.