

# SUBMITTAL DATA SHEET

20 RT (H,Y)VAHR240B31S (Consists of one (H,Y)VAHR096B31S and two (H,Y)VAHR072B31S modules.)

Job Name:			Location:		
Purchaser:			Order No.:		
Engineer:					
Submitted To:	For:	Ref:	Approval:	Construction:	
Submitted By:			Date:		
Unit Designation:			Schedule No.:	Model No.:	

## FEATURES:

- Three-pipe system for ductless and ducted applications
- Inverter-driven scroll compressor
- Air source simultaneous cooling and heating with change-over box
- Long refrigerant piping lengths – up to 3,280 feet total pipe run

## ACCESSORIES:

- Change-over box (required for a heat recovery system): for details see Change-over box Submittals
- Piping Kit: for details see Pipe Accessories Submittal
- Hail/Snow Protection Hood: for details see Snow/Hail Guards Kit Submittal

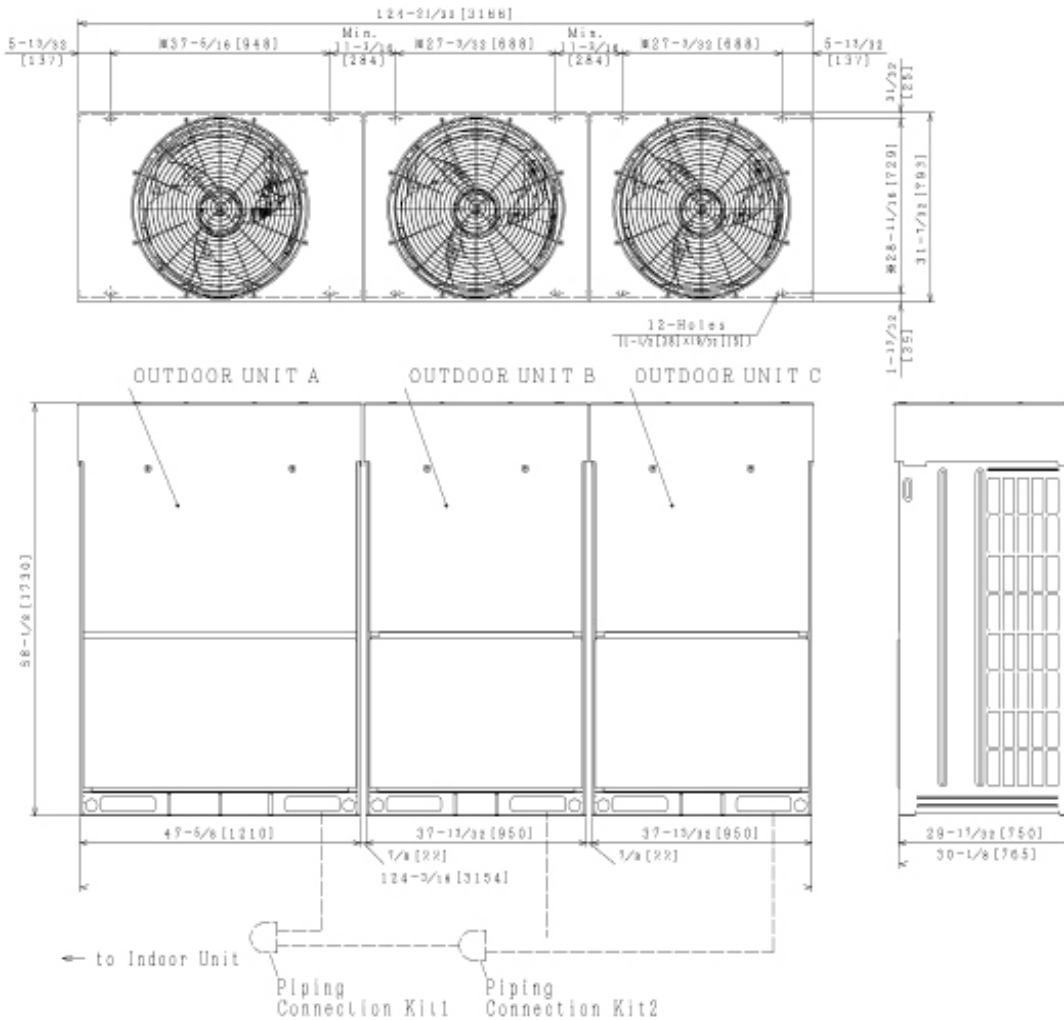
## NOTES:

- \*1 Rating Conditions are based on the AHRI 1230 test standard.
- \*2 Operation under harsh weather requires additional accessories.
- \*3 External static pressure can be changed to 0.24in.W.G.(60Pa).

Category	Type	Ton		Triple Units	
				20RT (8RT+6RT+6RT)	
Model (combination)				(H,Y)VAHR240B31S	
Model (individual)	Unit A			(H,Y)VAHR096B31S	
	Unit B			(H,Y)VAHR072B31S	
	Unit C			(H,Y)VAHR072B31S	
	Unit D			-	
Power Supply				208/230V/ 3PH 60Hz	
Cooling *1	Capacity	Btu/h	(kW)	228000	(66.9)
	EER	Btu/Wh	(W/W)	10.60	(3.11)
	Power input	kW		21.51	
	Current input	A (208V/230V)		66.3	60.0
	IEER	Btu/Wh	(W/W)	20.30	(5.95)
Cooling Operating Range *2	Indoor	F WB	(°C WB)	59(15)~73(23)	
	Outdoor	F DB	(°C DB)	14(-10)~118(48)*1*2	
Heating High *1	Capacity	Btu/h	(kW)	258000	(75.7)
	COP	W/W		3.80	
	Power input	kW		19.92	
	Current input	A (208V/230V)		61.4	55.6
Heating Low *1	Capacity	Btu/h	(kW)	182000	(53.4)
	COP	W/W		2.42	
Heating Operating Range *2	Indoor	F DB	(°C DB)	59(15)~80(27)	
	Outdoor	F WB	(°C WB)	-4(-20)~59(15)	
Cooling and Heating	SCHE	Btu/Wh	(W/W)	27.80	(8.15)
Cabinet Color (Munsell Code)				2.5Y 8/2	
Outer Dimensions	Height	in	(mm)	68-1/8	(1730)
	Width	in	(mm)	124-21/32	(3166)
	Depth	in	(mm)	31-7/32	(793)
Package Dimensions	Height	in	(mm)	-	-
	Width	in	(mm)	-	-
	Depth	in	(mm)	-	-
Weight	Net	lbs	(kg)	1810	(821)
	Gross	lbs	(kg)	1960	(889)
Connection Ratio	Total Indoor Unit Capacity	%		150 - 70	
	Max. (Recommendation) indoor units/system			60 (38)	
Heat Exchanger	Type			Multi-Pass Cross-Finned Tube	
	Material			Anti-corrosion/Cu-Al	
Compressor	Type	Inverter		DA65PHD × 3	
	Fix Speed			E655DH × 1	
	Motor Output(Pole)	kW(Pole)		4.8(6)+4.4(2)	
	Start Method	inverter		7.26(6)	
	Operation Range	%		6~100	
Crank Case Heater	Refrigeration Oil Type			FVC68D	
	W × Q'ty			40.8 (230V) × 8	
Fan	Type	-		Propeller Fan	
	Motor Output(Pole)	kW(Pole)		1.2(10)+0.75(8) × 2	
	Quantity	Q'ty		3	
	Air Flow Rate	cfm	(m <sup>3</sup> /min)	6884+6178	(195+175+175)
	External static pressure *3	in.WG	(Pa)	0 (0)	
Electrical	Drive	Direct-drive			
	Min Circuit Amps	A		-	
	Recommended Fuse/Breaker Size	A		-	
	Maximum Fuse Size	A		-	
Control	Type-Qty			AWG18-2	
	Maximum length	Ft	(m)	3,280 (1000)	
Sound Pressure Level	Cooling (Night-Shift)	dB(A)		66	(61)
	Heating	dB(A)		66	
Protection devices	Cycle			High pressure switch at 4.15 (601psi)	
	Inverter			Over-current protection	
	Compressor			Over-heat protection	
	PCB			Over-current protection	
Refrigerant	Type-Qty	-		R410A	
	Charge amount	lb	(kg)	18.7+16.1	(8.5+7.3+7.3)
Refrigeration Oil	Charge amount	gal/Unit	(L/Unit)	2.1+1.6+1.6	
Defrost Method				Reversed Refrigerant cycle	
Main Refrigerant Piping (Heat Recovery)	Gas Line (High/Low)	in	(mm)	1-5/8	(41.28)
	Gas Line (High/Low)	in	(mm)	1-3/8	(34.93)
	Liquid Line	in	(mm)	3/4	(19.05)

# System Dimensions

Heat Recovery Type Model:  
(H,Y)VAHR240B31S



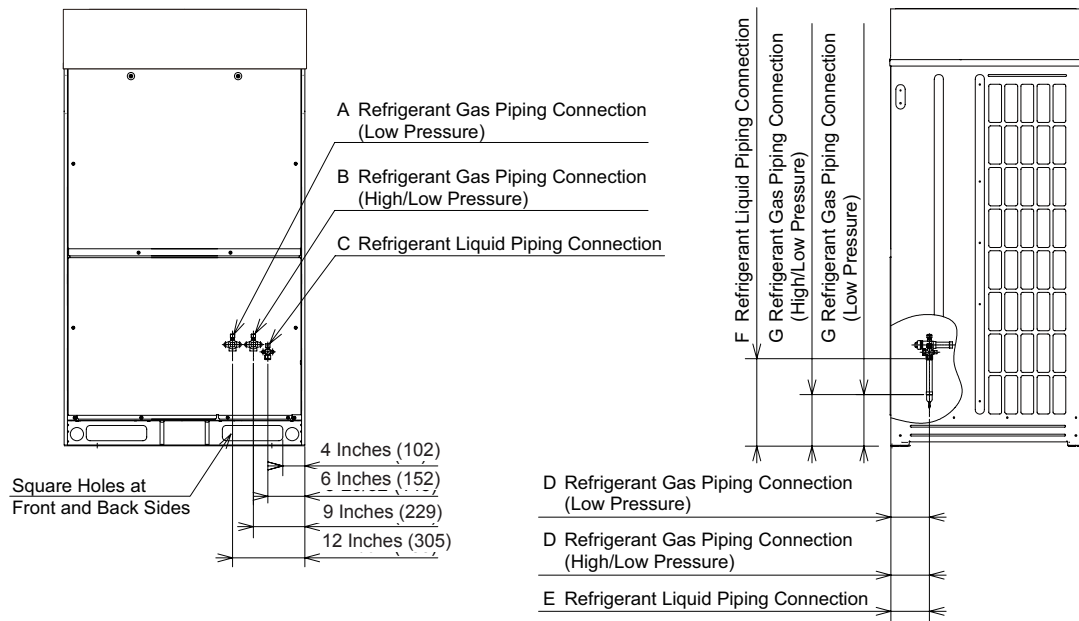
## NOTES:

- Make sure that the outdoor unit A is placed on the indoor unit side.  
Arrange the outdoor units according to the capacity, A<B<C.
- Check "Installation Manual" for the piping connection kit and piping connection size.
- This drawing shows that there is 1/8 inch (2mm) clearance between the base units.  
In case of the outdoor unit with "Snow Protection Hood (Optional Parts)" or "Air Outlet Duct (Field-Supplied)", the clearance between the base units of more than 1-31/32 inch (50mm) is required.
- The dimensions marked with # indicates the mounting pitch dimension for anchor bolts.
- The width of outer dimension and anchor bolt mounting position are changed by clearance between the base units.

Outdoor Unit Model	Combination of Base Unit Models		
	OUTDOOR UNIT A	OUTDOOR UNIT B	OUTDOOR UNIT C
(H, Y) VAHR240B31S	(H, Y) VAHR096B31S	(H, Y) VAHR072B31S	(H, Y) VAHR072B31S
(H, Y) VAHR240B41S	(H, Y) VAHR096B41S	(H, Y) VAHR072B41S	(H, Y) VAHR072B41S
(H, Y) VAHR264B31S	(H, Y) VAHR120B31S	(H, Y) VAHR072B31S	(H, Y) VAHR072B31S
(H, Y) VAHR264B41S	(H, Y) VAHR120B41S	(H, Y) VAHR072B41S	(H, Y) VAHR072B41S

# Piping Connection Dimensions

Unit: inch (mm)



Model Type	Field Piping (*)					A	B	C	D	E	F	G
	Heat Recovery System		Heat Pump System		Liquid							
	Low Pressure Gas	High/ Low Pressure Gas	Low Pressure Gas	High/ Low Pressure Gas								
72	1-1/8 (28.58)	7/8 (22.2)	-	1-1/8 (28.58)	1/2 (12.7)	7/8 (22.2)	7/8 (22.2)	3/8 (9.52)	5-29/32 (150)	5-29/32 (150)	13-3/8 (340)	8-1/16 (205)
96	1-1/8 (28.58)	7/8 (22.2)	-	1-1/8 (28.58)	1/2 (12.7)	1 (25.4)	1 (25.4)	1/2 (12.7)	6-11/16 (170)	6-11/16 (170)	12-25/32 (325)	7-7/8 (200)
120	1-1/8 (28.58)	7/8 (22.2)	-	1-1/8 (28.58)	1/2 (12.7)	1 (25.4)	1 (25.4)	1/2 (12.7)	6-11/16 (170)	6-11/16 (170)	12-25/32 (325)	7-7/8 (200)

\*Using the accessory pipe (refer to Table 3.6 "Factory-Supplied Accessories"), combine the piping size.

Figure 6.2 Refrigerant Piping Connection



version 201606