

SUBMITTAL DATA SHEET

12 RT (H,Y)VAHR144B41S (Consists of two (H,Y)VAHR72B41S 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:

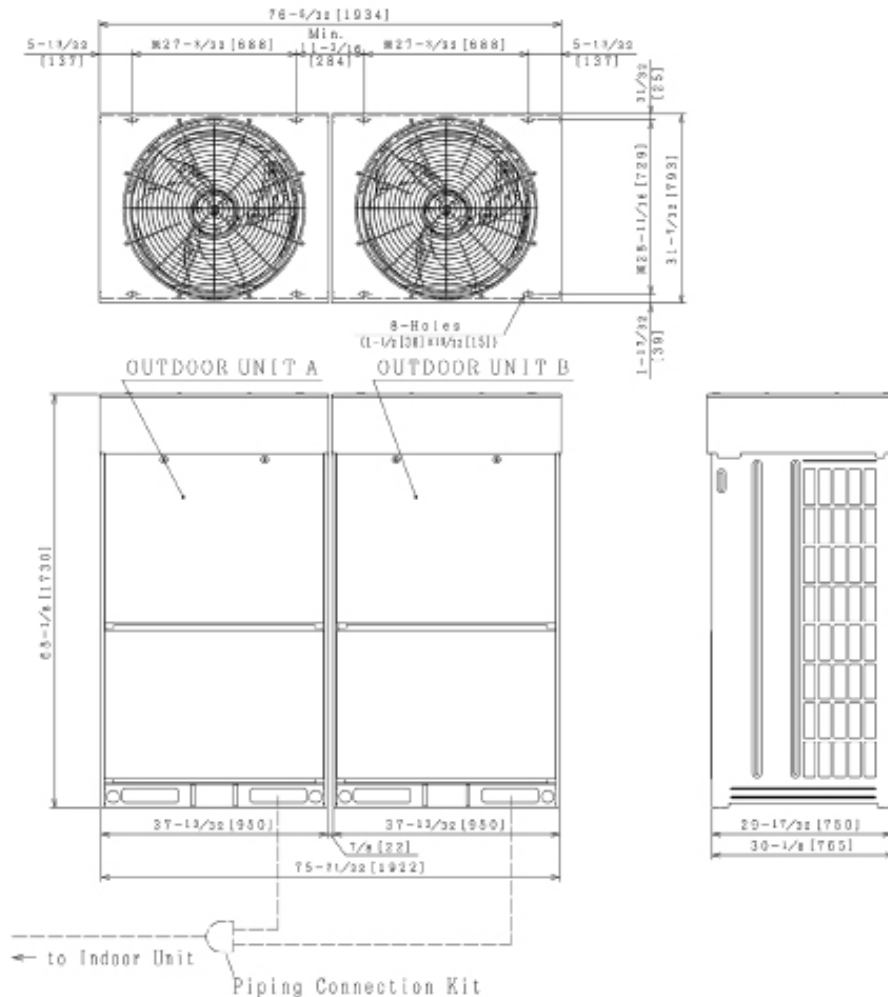
- Rating Conditions are shown as below with piping length 24 feet 7-3/16 inch, piping height 0 feet.
Cooling
Indoor Air Inlet Temperature: 80 DB, 67F WB
Outdoor Air Inlet Temperature: 95F DB
Heating
Indoor Air Inlet Temperature: 70 F DB
Outdoor Air Inlet Temperature: 47F DB, 43F WB
- Rating Conditions are based on the AHRI 1230 test standard.
- For more details, please refer to Engineering manual "Operation range" section.
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- External static pressure can be changed via DSW setting 0.24 in.W.G. (60Pa).

Category		Ton		12RT (6RT+6RT)	
Model (combination)				(H,Y)VAHR144B41S	
Model (individual)		Unit A		(H,Y)VAHR072B41S	
		Unit B		(H,Y)VAHR072B41S	
		Unit C		-	
		Unit D		-	
Power Supply				460V/ 3PH 60Hz	
Capacity (Nominal) ¹	Cooling	Capacity (Nominal)	Btu/h (kW)	144,000	(42.2)
		Power input	kW	12.16	
		Current input	A	17.0	
	Heating	Capacity (Nominal)	Btu/h (kW)	162,000	(47.5)
		Power input	kW	11.86	
		Current input	A	16.6	
Efficiency Ratings ²	Cooling	Capacity (Rated)	Btu/h (kW)	138,000	(40.5)
		EER	Btu/Wh (W/W)	14.30	(4.19)
		IEER	Btu/Wh (Wh/Wh)	23.80	(6.98)
	Heating High	Capacity (Rated)	Btu/h (kW)	154,000	(45.2)
		COP	W/W	4.04	
	Heating Low	Capacity	Btu/h (kW)	109,000	(32.0)
		COP	W/W	2.64	
	Heat Recovery	SCHE	Btu/Wh	28.60	
Cooling Operating Range	Indoor	°F WB (°C WB)		59(15)~73(23)	
	Outdoor ³	°F DB (°C DB)		14(-10)~118(48)	
Heating Operating Range	Indoor	°F DB (°C DB)		59(15)~80(27)	
	Outdoor ⁴	°F WB (°C WB)		-4(-20)~59(15)	
Cabinet Color (Munsell Code)		-		2.5Y 8/2	
Outer Dimensions (H x W x D)		in		(68-1/8 x 37-7/8 x 31-7/32) x 2	
Package Dimensions (H x W x D)		in		(74-1/4 x 40-5/8 x 34-1/32) x 2	
Weight	Net	lbs	(kg)	796	(361)
	Gross	lbs	(kg)	853	(387)
Connection Ratio	Total Indoor Unit Capacity	%		135 - 65	
	Max. (Recommendation) indoor units/system	-		21 (16)	
Heat Exchanger	Type	-		Multi-Pass Cross-Finned Tube	
	Material	-		Cu-Al (Anti-corrosion)	
Compressor	Type	Inverter		DA65PHD×1	
		Fixed Speed		DA65PHC×1	
	Motor Output (Pole)	kW (Pole)		4.8(6)+4.4(2)	
	Start Method	-		inverter	
	Operation Range	%		16~100	
	Refrigeration Oil Type	-		FVC68D	
Crank Case Heater		W×Qty		40.8 (230V) ×4	
Fan	Type	-		Propeller Fan	
	Motor Output (Pole)	kW (Pole)		0.66(8)	
	Quantity	Qty		1	
	Air Flow Rate	cfm	(m ³ /min)	6884	(195)
	External static pressure ⁵	in.WG	(Pa)	0 (0)	
	Drive	-		Direct-drive	
Electrical	Min Circuit Amps	A		21	
	Recommended Fuse/Breaker Size	A		30	
	Maximum Fuse Size	A		30	
Sound Pressure Level	Cooling (Night-Shift)	dB(A)		62	(57)
	Heating	dB(A)		62	
Protection devices	Cycle	-		High pressure switch at 601psi (4.15MPa)	
	Inverter	-		Over-current protection	
	Compressor	-		Over-heat protection	
	PCB	-		Over-current protection	
Refrigerant	Type	-		R410A	
	Charge amount	lbs	(kg)	18.7	(8.5)
Refrigeration Oil	Charge amount	gal/Unit	(ℓ/Unit)	2.1	(7.9)
	Defrost Method	-		Reversed Refrigerant cycle	
Main Refrigerant Piping (Heat Recovery)	Low Pressure Gas Line	in	(mm)	1-1/8	(28.58)
	High/Low Pressure Gas Line	in	(mm)	7/8	(22.2)
	Liquid Line	in	(mm)	1/2	(12.7)

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System Dimensions

Heat Recovery Type Model:
(H,Y)VAHR144B41S



NOTES:

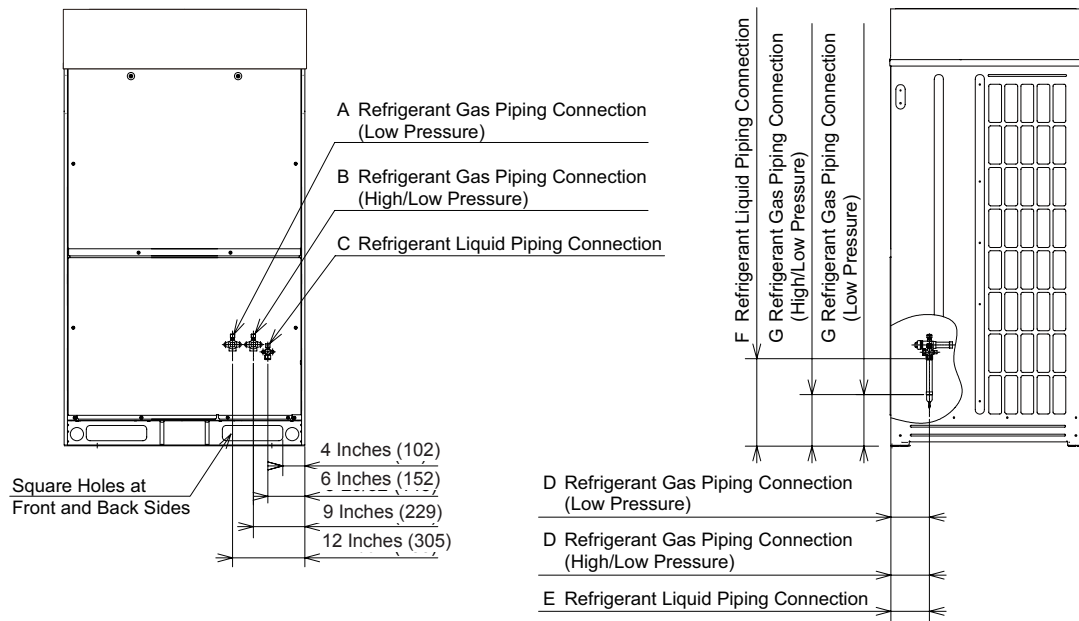
1. Make sure that the outdoor unit A is placed on the indoor unit side.
Arrange the outdoor units according to the capacity, A&B.
2. Check "Installation Manual" for the piping connection kit and piping connection size.
3. This drawing shows that there is $\frac{7}{8}$ inch [22mm] clearance between the 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 $1\frac{31}{32}$ inch [50mm] is required.
4. The dimensions marked with * indicates the mounting pitch dimension for anchor bolts.
5. 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
(H, Y) VAHR144B31S	(H, Y) VAHR072B31S	(H, Y) VAHR072B31S
(H, Y) VAHR144B41S	(H, Y) VAHR072B41S	(H, Y) VAHR072B41S

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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

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