

Job Name:

Schedule Reference:

Date:

**MODULAR WATER-SOURCE
VRF HEAT PUMP**

Standard Installation (*1) PQHY-P144ZSLMU-A1
 Geothermal Installation (*1)(*2) PQHY-P144ZSLMU-A1

ACCESSORIES

Twinning Kit * CMY-Y100CBK3
 Twinning Kit is necessary to combine the refrigerant flow of the modules and is sold separately.

T-Branch Joint ($\leq 72,000$ Btu/h) CMY-Y102SS-G2
 T-Branch Joint (73,000 - 144,000 Btu/h) CMY-Y102LS-G2
 T-Branch Joint (145,000 - 234,000 Btu/h) CMY-Y202S-G2

Header - 4 Branch (Capacity: $\leq 72,000$ Btu/h) CMY-Y104C-G
 Header - 8 Branch (Capacity: $\leq 144,000$ Btu/h) CMY-Y108C-G
 Header - 10 Branch (Capacity: $\leq 234,000$ Btu/h) CMY-Y1010C-G

Specifications		System	Module 1	Module 2
Unit Type		PQHY-P144ZSLMU-A1	PQHY-P72ZLMU-A1	PQHY-P72ZLMU-A1
Nominal Cooling Capacity (575V) (*1)	Btu/h	144,000	72,000	72,000
Nominal Heating Capacity (575V) (*1)(*2)	Btu/h	160,000	80,000	80,000
Operating Temperature Range	Cooling (Indoor)	Refer to Module Data	59~75° F (15~24° C) WB	
	Heating (Indoor)		59~81° F (15~27° C) DB	
Operating Water Temperature Range	Cooling (*3)		50~113° F (10~45° C)	
	Heating (*3)		50~113° F (10~45° C)	
External Dimensions (H x W x D)	In. (mm)	Refer to Module Data	43-5/16 x 34-11/16 x 21-11/16 (1100 x 880 x 550)	43-5/16 x 34-11/16 x 21-11/16 (1100 x 880 x 550)
Net Weight	Lbs. (kg)	826 (374)	413 (187)	413 (187)
External Finish		Refer to Module Data	Galvanized steel sheet	
Electrical Power Requirements	Voltage, Phase, Hertz	Refer to Module Data (*4)	575V, 3-phase, 60Hz	
Minimum Circuit Ampacity (MCA) (*4) (*)	A	Refer to Module Data (*4)	5	5
Maximum Overcurrent Protection (MOP) (*4)	A	Refer to Module Data (*4)	15	15
Circulating Water (quality must meet regulations)				
Flow Rate	GPM	Refer to Module Data	25.4	25.4
Pressure Drop	psi		3.48	3.48
Operation Volume Range	GPM		13.2 - 31.7	13.2 - 31.7
Maximum Water Pressure	psi		290	290
Water-source Connection for Inlet and Outlet	In.		NPT1-1/2 Screw (Install strainer (more than 50 meshes) at water inlet piping of the unit)	
Piping Diameter (Brazed)				
From Twinning Kit to First Joint or Header (In. / mm)	Liquid (High Pressure)	1/2 / 12.7	Refer to System Data	Refer to System Data
	Gas (Low Pressure)	1-1/8 / 28.58	Refer to System Data	Refer to System Data
From Modules to Twinning Kit (In. / mm)	Liquid (High Pressure)	Refer to Module Data	3/8 / 9.52	3/8 / 9.52
	Gas (Low Pressure)	Refer to Module Data	3/4 / 19.05	3/4 / 19.05
Max. Total Refrigerant Line Length	Ft.	2,460	Refer to System Data	Refer to System Data
Max. Refrigerant Line Length (Bet.ODU & IDU)	Ft.	541		
Max. Control Wiring Length	Ft.	1,640		
Indoor Unit	Total Capacity	50~130%	Refer to System Data	Refer to System Data
	Model / Quantity	P06~P96 / 1~31	Refer to System Data	Refer to System Data
Sound Pressure Level	dB(A)	49	46	46
Compressor Operating Range		12% - 100%	Refer to System Data	Refer to System Data
Compressor Type x Quantity		Refer to Module Data (*4)	Inverter scroll hermetic compressor x 1	Inverter scroll hermetic compressor x 1
Refrigerant		Refer to Module Data	R410A x 11 lbs. + 1 oz. (5.0 kg)	R410A x 11 lbs. + 1 oz. (5.0 kg)
Protection Devices	High Pressure	Refer to Module Data	High pressure sensor, High pressure switch at 4.15 MPa (601 psi)	High pressure sensor, High pressure switch at 4.15 MPa (601 psi)
	Inverter Circuit		Over-heat protection, Over-current protection	Over-heat protection, Over-current protection
	Compressor		Over-heat protection	Over-heat protection
AHRI Ratings (Ducted/Non-Ducted)	EER	15.2 / 19.0	Refer to System Data	
	IEER	22.5 / 26.1	Refer to System Data	
	COP	5.32 / 6.01	Refer to System Data	

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NOTES: (*1) <CITY MULTI indoor unit>
 Nominal cooling conditions (Test conditions are based on AHRI 1230)
 Indoor: 81°F D.B./66°F W.B. (27°C D.B./19°C W.B.),
 Water temperature: 86°F (30°C)
 Brine concentration 0%
 Nominal heating conditions (Test conditions are based on AHRI 1230)
 Indoor: 68°F D.B. (20°C D.B.),
 Water temperature: 68°F (20°C)
 Brine concentration 0%

(*2) <PWFY-P36/72NMU-E-AU>
 Nominal cooling conditions
 Circulating water Temp.: 86°F (30°C)
 Pipe length: 25 ft. (7.6 m)
 Level difference: 0 ft. (0 m)
 Inlet water Temp.: 149°F (23°C)
 Water flow rate: 1.93 m³/h (8.3 gpm) <P36> / 3.86 m³/h (16.6 gpm) <P72>
 Brine concentration: 0%
 Nominal heating conditions
 Circulating water Temp.: 68°F (20°C)
 Pipe length: 25 ft. (7.6 m)
 Level difference: 0 ft. (0 m)
 Inlet water Temp.: 86°F (30°C)
 Water flow rate: 2.15 m³/h (9.2 gpm) <P36> / 4.30 m³/h (18.5 gpm) <P72>
 Brine concentration: 0%

(*3) If using circulating water temperatures between 23° and 50° F, Dip switch 3-9 must be turned on and glycol (antifreeze) must be added to the water loop to prevent freezing down to 5° F.

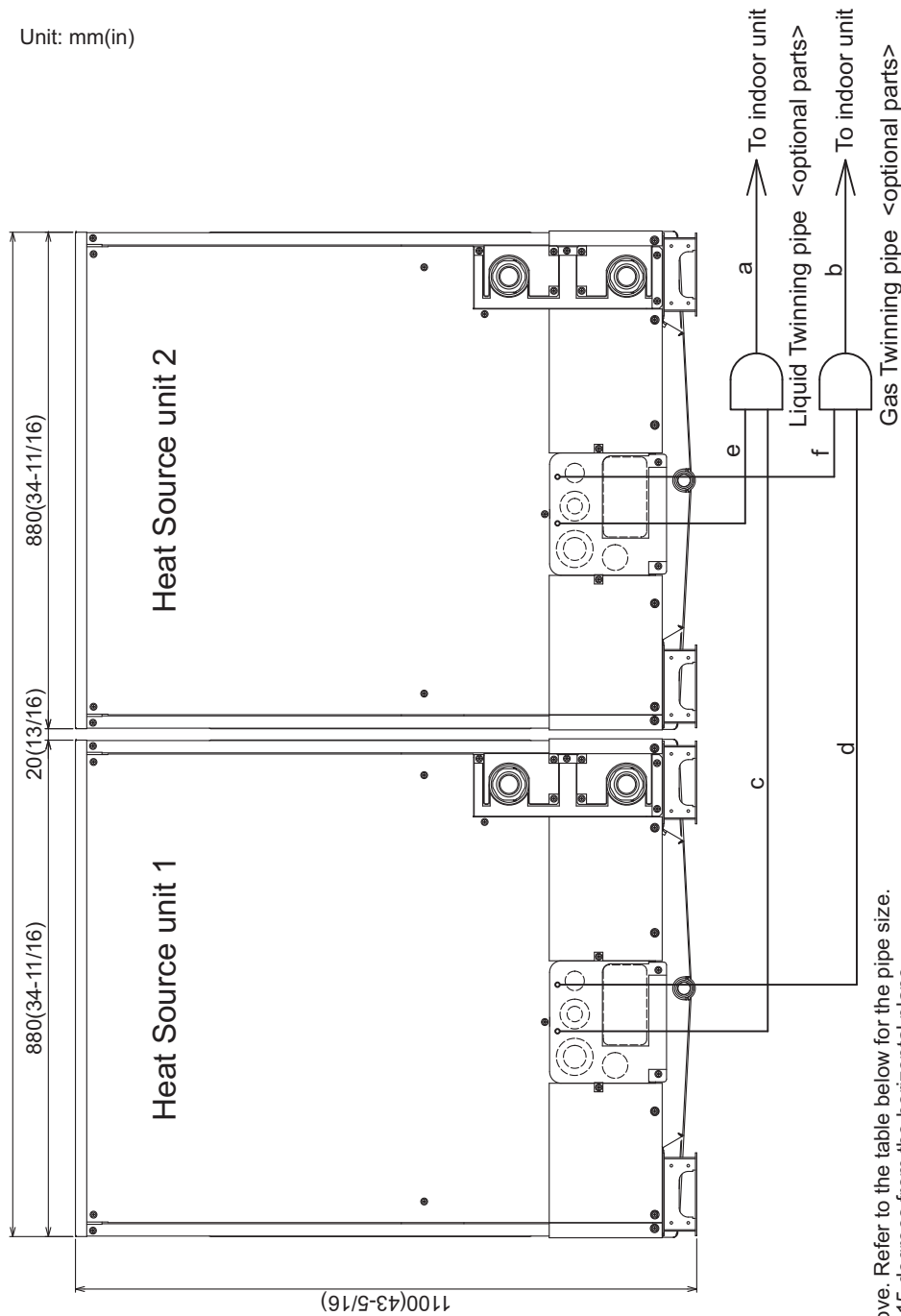
(*4) <Each individual module requires a separate electrical connection.

Note: Mitsubishi Electric (MESCA) supports the use of only MESCA supplied and approved accessories for proper functioning of the unit(s). Use of non-MESCA supported accessories will affect warranty coverage.

Specifications are subject to change without notice.

Module: PQHY-P144ZSLMU-A1 - DIMENSIONS

Unit: mm(in)



Note 1. Connect the pipes as shown in the figure above. Refer to the table below for the pipe size.

2. Twinning pipe should not be tilted more than 15 degrees from the horizontal plane.

3. See the Installation Manual for the details of Twinning pipe installation.

4. The pipe section before the Twinning pipe (sections "a" and "b" in the figure) must have at least 500mm(19-11/16) of straight section (*including the straight pipe that is supplied with the Twinning pipe).

5. Only use the Twinning pipe by Mitsubishi (optional parts).

Twinning pipe connection size

Package unit name		PQHY-P144ZSLMU-A1	PQHY-P72ZLMU-A1	PQHY-P168ZSLMU-A1	PQHY-P192ZSLMU-A1	PQHY-P216ZSLMU-A1	PQHY-P240ZSLMU-A1
Heat Source unit 1		PQHY-P72ZLMU-A1	PQHY-P96ZLMU-A1	PQHY-P96ZLMU-A1	PQHY-P96ZLMU-A1	PQHY-P120ZLMU-A1	PQHY-P120ZLMU-A1
Heat Source unit 2		PQHY-P72ZLMU-A1	PQHY-P72ZLMU-A1	PQHY-P72ZLMU-A1	PQHY-P96ZLMU-A1	PQHY-P96ZLMU-A1	PQHY-P120ZLMU-A1
Twinning pipe Kit(optional parts)		CMY-Y100CBK3					
Indoor unit-Twinning pipe	Liquid a	ø12.7(1/2)			ø15.88(5/8)		
	Gas b				ø28.58(1-1/8)		
Twinning pipe-Heat Source unit 1	Liquid c		ø9.52(3/8)			ø12.7(1/2)	
	Gas d	ø19.05(3/4)			ø22.2(7/8)		
Twinning pipe-Heat Source unit 2	Liquid e		ø9.52(3/8)			ø12.7(1/2)	
	Gas f	ø19.05(3/4)			ø22.2(7/8)		

Specifications are subject to change without notice.

Modules: 1, 2 : PQHY-P72ZLMU-A1 - DIMENSIONS

Unit: mm(in)

<Accessories>

- Refrigerant (Liquid) conn. pipe 1pc.
 • (P72/P96/P120 ; Packaged in the accessory kit)
 • Refrigerant (Gas) conn. elbow 1pc.
 • (P72/P96/P120 ; Packaged in the accessory kit)
 • Water stopper (Liquid Gas) 1pc. each
 • (P72/P96/P120 ; Packaged in the accessory kit)
 • Sealing material for water stopper (Liquid Gas) 1pc. each
 • (P72/P96/P120 ; Packaged in the accessory kit)
 • Sealing material for field piping (Liquid Gas) 1pc. each
 • (P72/P96/P120 ; Packaged in the accessory kit)
 • Sealing material for drain socket 1pc.
 • (P72/P96/P120 ; Packaged in the accessory kit)
 • Pipe cover for gas 1pc.
 • (P72/P96/P120 ; Packaged in the accessory kit)

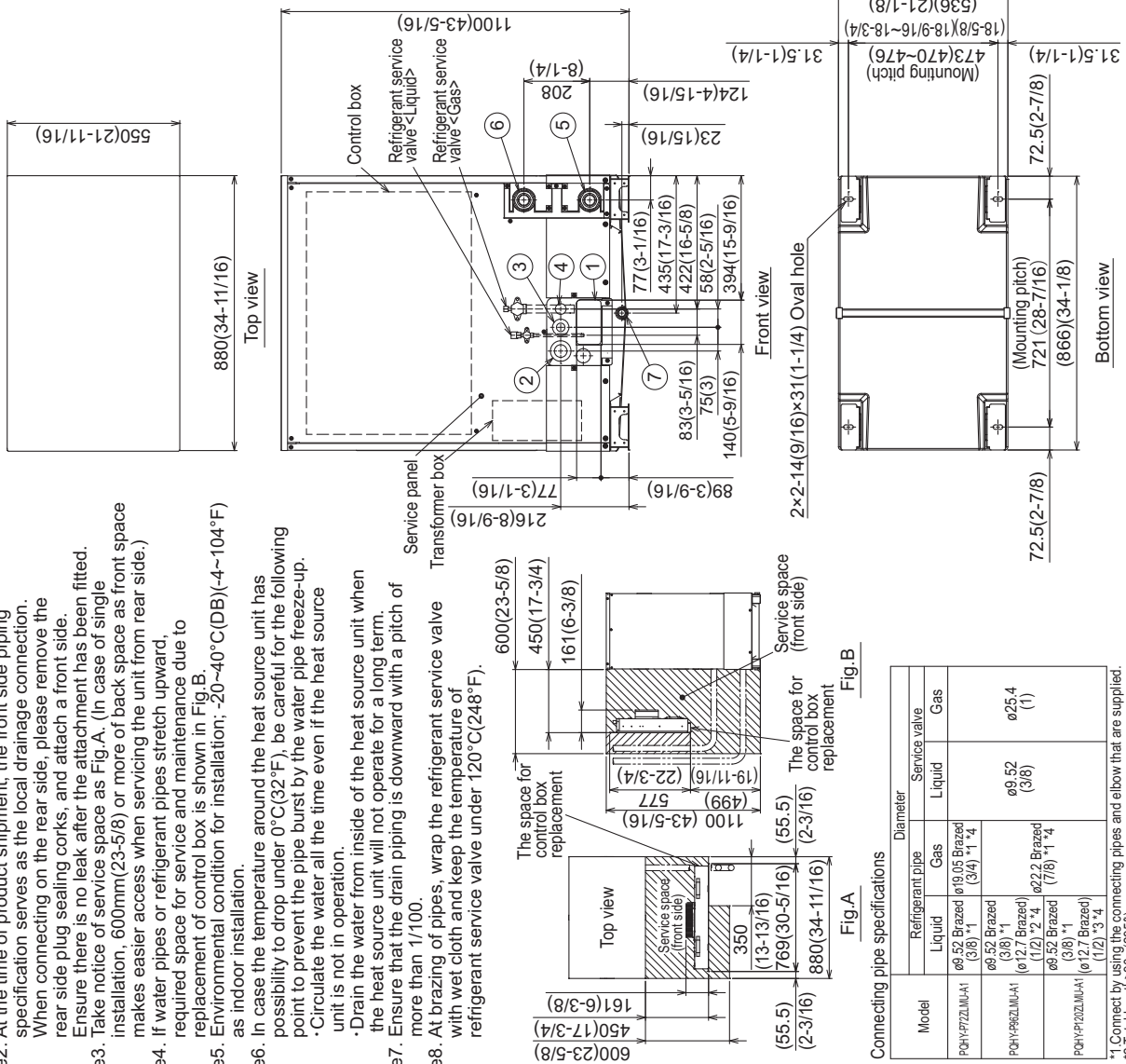


Fig. B

Fig. A

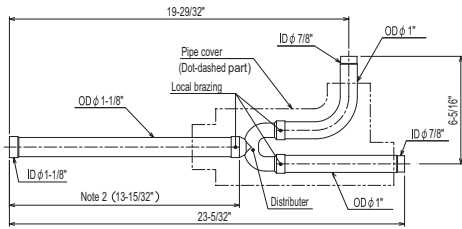
Model		Refrigerant gas				Diameter	
		Liquid	Gas	Liquid	Gas	Liquid	Gas
PQR-Y72ZLM-A1	ø 52 Brazed (3/8)" ¹ *4	ø 19,05 Brazed (3/4)" ¹ *4	ø 25,4 (1)	ø 52 (3/8)	ø 25,4 (1)		
	ø 52 Brazed (3/8)" ¹	ø 19,05 Brazed (3/4)" ¹ *4					
PQR-Y92ZLM-A1	ø 52 Brazed (1/2)" ¹ *4	ø 22,2 Brazed (7/8)" ¹ *4	ø 25,4 (1)	ø 52 (3/8)	ø 25,4 (1)		
	ø 52 Brazed (1/2)" ¹	ø 22,2 Brazed (7/8)" ¹ *4					
PQR-Y72ZLM-A1	ø 52 Brazed (3/8)" ¹	ø 12,7 Brazed (1/2)" ¹ *4	ø 25,4 (1)	ø 52 (3/8)	ø 25,4 (1)		
	ø 52 Brazed (3/8)" ¹	ø 12,7 Brazed (1/2)" ¹ *4					

1. Connect by using the connecting pipes and elbow that are supplied.
2. Total length $\geq 90\text{m}$ (295ft)
3. Total length $\geq 40\text{m}$ (131ft)
4. Use the pipe joint (field supply) and connect to the refrigerant service

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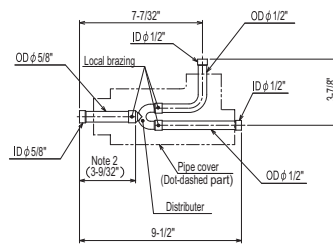
CMY-Y100CBK3

For Gas pipe:

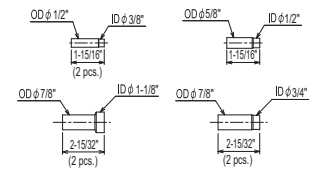


ID: Inner Diameter OD: Outer Diameter

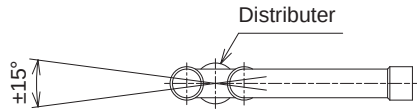
For Liquid pipe:



<Reducer(Accessory)>



Note 1. Reference the attitude angle of the branch pipe below the fig.

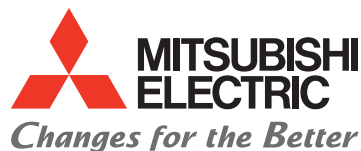


The angle of the branch pipe for high pressure is within $\pm 15^\circ$ against the horizontal plane.

2. Use the attached pipe to braze the port-opening of the distribute
3. Pipe diameter is indicated by inside diamete
4. Only use the Twinning pipe by Mitsubishi (optional parts)

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Notes:



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