CITYMULTI® Outdoor Unit: 20-TON PQRY-P240YSHMU-A

MITSUBISHI ELECTRIC

(Consists of Two PQRY-P120YHMU and One CMY-Q100CBK Twinning Kit)

Job Name:

Schedule Reference: | Date:

MODULAR WATER-SOURCE VRF HEAT PUMP SYSTEM FEATURES

- Modular units connectable to expand capacity
- Designed for closed water loops
- Self-cooling cabinet design
- Compact size
- Connects to CITY MULTI® indoor units
- Controlled via CITY MULTI® Controls Network

OPTIONAL PARTS

□ Twinning Kit*……..CMY-Q100CBK
□ Branch Joint (T-Branch: ≤72,000 Btu/h)……CMY-Y102SS-G2
□ Branch Joint (T-Branch: ≤144,000 Btu/h)……CMY-Y102LS-G2
□ Branch Joint (T-Branch: ≤ 234,000 Btu/h)……CMY-Y202S-G2
□ Joint Adapter (Port Connector > 54,000 Btu/h)……CMY-R160C-J
□ Main BC Controller……CMB-P-NU-GA/HA
□ Sub BC Controller……CMB-P-NU-GB/HB
* Twinning Kit is necessary to combine the refrigerant flows of the modules and is included in the water-source unit set.

Specifications		System	Module 1	Module 2
Unit Type		PQRY-P240YSHMU-A	PQRY-P120YHMU-A	PQRY-P120YHMU-A
Nominal Cooling Capacity	Btu/h	240,000	120,000	120,000
Nominal Heating Capacity	Btu/h	270,000	135,000	135,000
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*		23~113° F (-5~45° C)	
	Heating*		23~113° F (-5~45° 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 / 1,100 x 880 x 550	43-5/16 x 34-11/16 x 21-11/16 / 1,100 x 880 x 550
Net Weight	Lbs. / kg	856 / 388	428 / 194	428 / 194
External Finish		Refer to Module Data	Acrylic-painted Steel Sheets	
Electrical Power Requirements	Voltage, Phase, Hertz	Refer to Module Data**	460V, 3-phase, 60Hz	
Cooling Power Input	kW	15.93	Refer to System Data	
Heating Power Input	kW	15.7		
Cooling Current (460V)	A	22.0	Refer to System Data	
Heating Current (460V)	A	21.8		
Minimum Circuit Ampacity (MCA)**	A	Refer to Module Data**	14**	14**
Recommended Fuse/Breaker Size**	A	Refer to Module Data**	20**	20**
Maximum Fuse Size**	A	Refer to Module Data**	20**	20**
Circulating Water (quality must meet regulations)				
Flow Rate	GPM / L/s	50 / 4	25 / 2	25 / 2
Pressure Drop	Ft. / psi	12 / 6	6 / 3	6 / 3
Operation Volume Range	GPM / L/m	40 - 64 / 150 - 240	20 - 32 / 75 - 120	20 - 32 / 75 - 120
Maximum Water Pressure	MPa / psi	4 / 580	2 / 290	2 / 290
Water-source Connections (Each for Inlet and Outlet)	In.	Refer to Module Data**	1-1/2 FPT	1-1/2 FPT
Piping Diameter			Refer to System Data	
From Twinning Kit to Indoor Units (Brazed) (In. / mm)	Liquid (High Pressure)	1-1/8 / 28.58		
	Gas (Low Pressure)	1-1/8 / 28.58		
From Modules to Twinning Kit (Brazed) (In. / mm)	Liquid (High Pressure)	Refer to Module Data	3/4 / 19.05	3/4 / 19.05
	Gas (Low Pressure)		7/8 / 22.2	-
Max. Total Refrigerant Line Length	Ft	2,461	Refer to System Data	
Max. Refrigerant Line Length	Ft	541		
Max. Control Wiring Length	Ft	1,640		
Indoor Unit	Total Capacity	50 to 150% of WSUs	Refer to System Data	
	Model / Quantity	P06 ~ P96 / 2 to 50 Max. No. Connectable Branch Pipes: 48		
Sound Pressure Levels	dB(A)	54	51	51
Compressor Operating Range		7 - 100%	Refer to System Data	
Compressor Type x Quantity		Refer to Module Data	Inverter-driven Scroll Hermetic x 1	Inverter-driven Scroll Hermetic x 1
Compressor Motor Output	kW		8.5	8.5
Compressor Crankcase Heater	kW		0.051	0.051
Refrigerant		Refer to Module Data	R410A	
Lubricant			MEL32	
High-pressure Protection Device		Refer to Module Data	601 psi / 4.15 MPa	601 psi / 4.15 MPa
Compressor / Fan Protection Device			Overheat Protection	Overheat Protection
Inverter Protection Device			Overheat / Overcurrent Protection	Overheat / Overcurrent Protection

*If using circulating water temperatures between 23° and 50° F, Dip switch 3-9 must be turned on and glycol must be added to the water loop to prevent freezing down to 5° F.
** Each individual module requires a separate electrical connection. Reference electrical data for each individual module.

Specifications are subject to change without notice.
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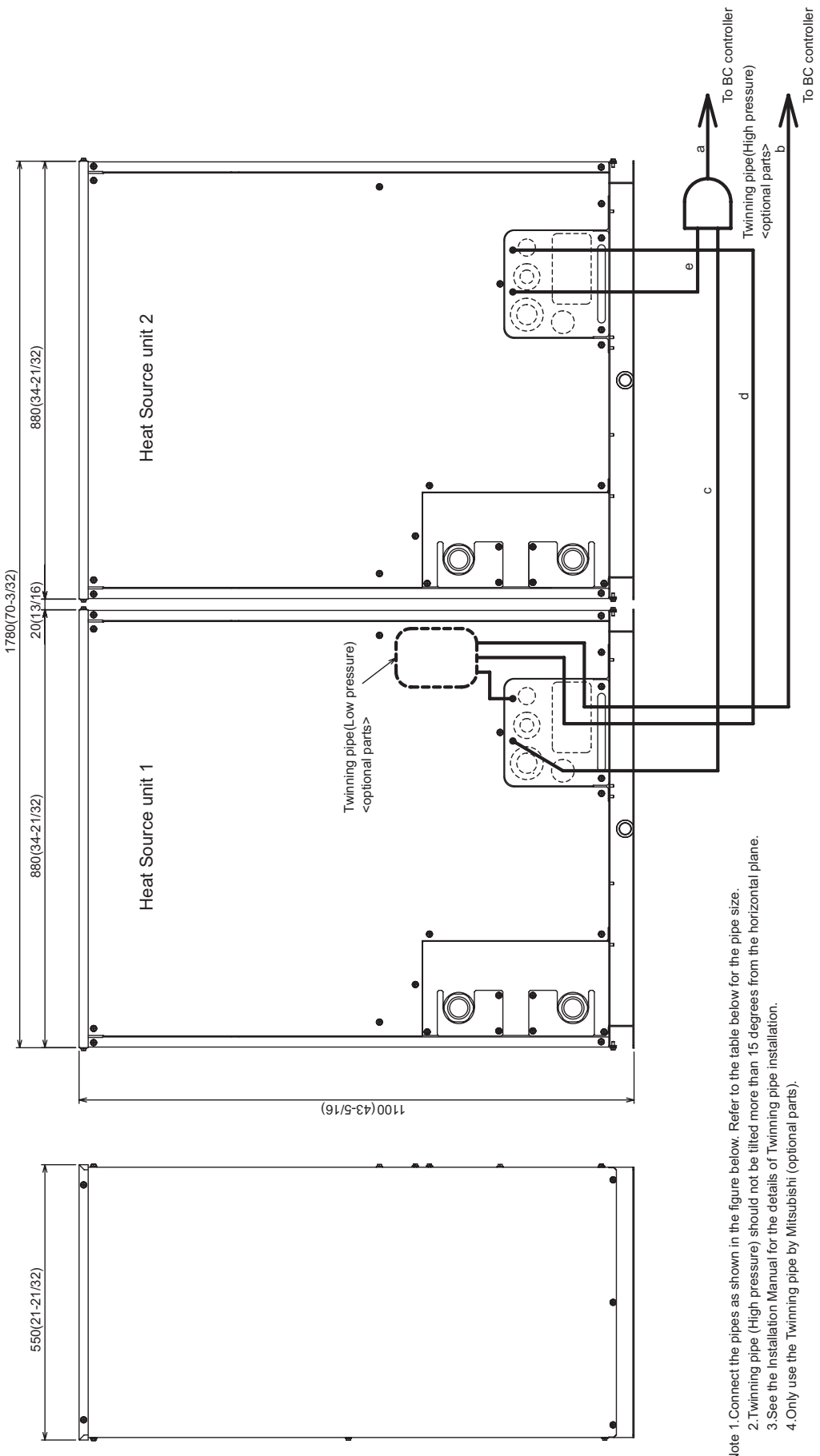
Outdoor Unit: PQRY-P240YSHMU-A – DIMENSIONS



Unit: mm (in.)

Note 1.Connect the pipes as shown in the figure below. Refer to the table below for the pipe size.
2.Twinning pipe (High pressure) 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.Only use the Twinning pipe by Mitsubishi (optional parts).

Twinning pipe connection size

Package unit name			PQRY-P144YSHMU-A	PQRY-P168YSHMU-A	PQRY-P192YSHMU-A	PQRY-P216YSHMU-A	PQRY-P240YSHMU-A
Component unit name	Heat Source unit 1		PQRY-P72YHMU-A	PQRY-P96YHMU-A	PQRY-P96YHMU-A	PQRY-P120YHMU-A	PQRY-P120YHMU-A
	Heat Source unit 2		PQRY-P72YHMU-A	PQRY-P72YHMU-A	PQRY-P96YHMU-A	PQRY-P96YHMU-A	PQRY-P120YHMU-A
Twinning pipe Kit(optional parts)			CMY-Q100VBK				
BC controller~Twinning pipe	High pressure	a	ø22.2(7/8)			ø28.58(1-1/8)	
	Low pressure	b	ø28.58(1-1/8)				

	Unit model	High pressure	Low pressure
Twinning pipe~Heat source unit		c or e	d
	P72	ø19.05(3/4)	ø22.2(7/8)
	P96		
	P120		

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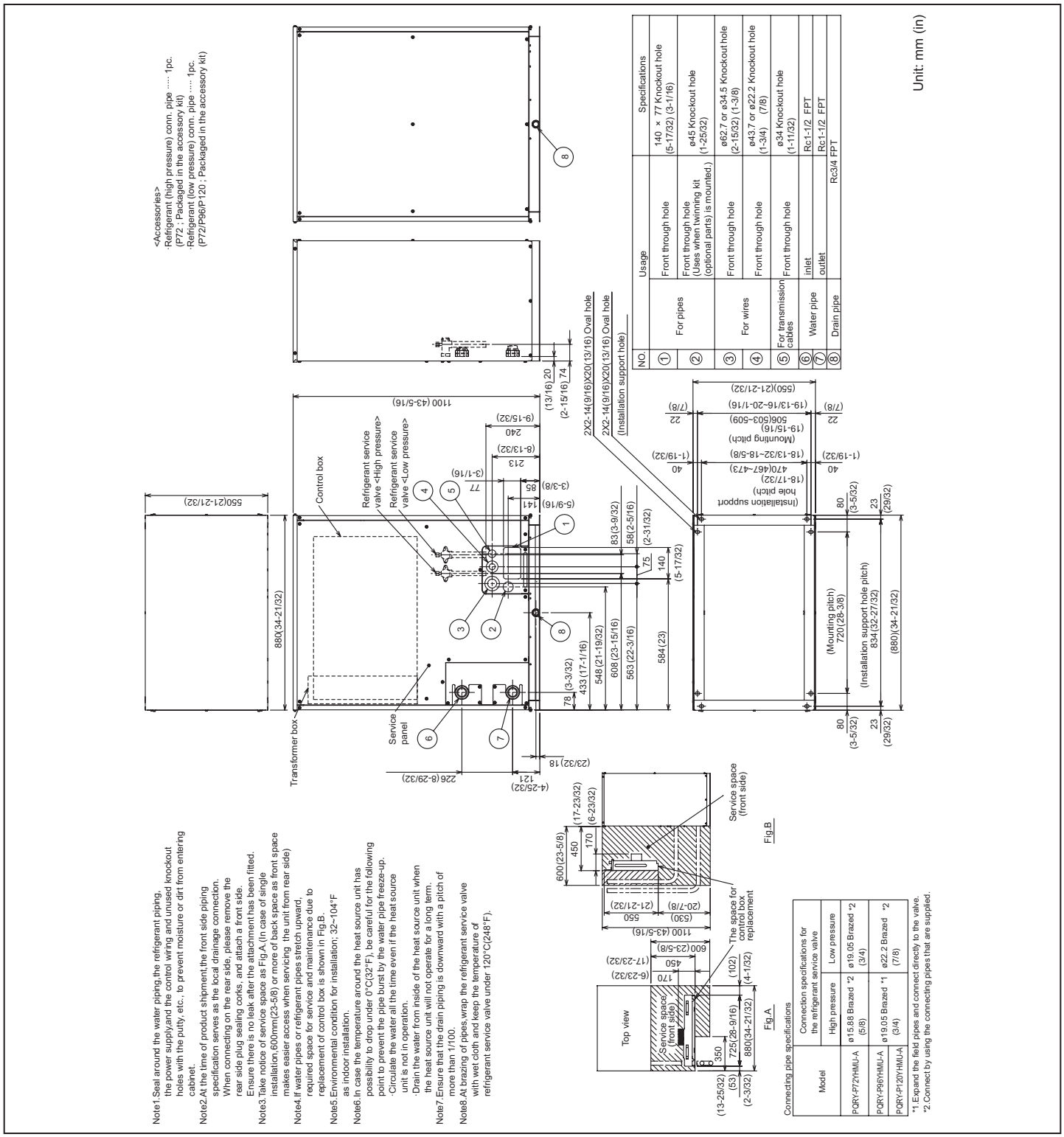
Modules 1 and 2: PQRY-P120YHMU-A – DIMENSIONS



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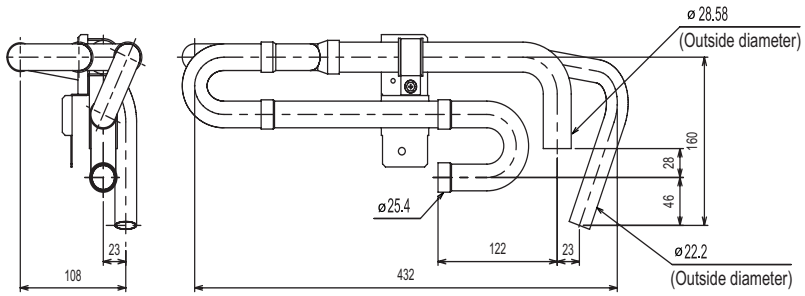
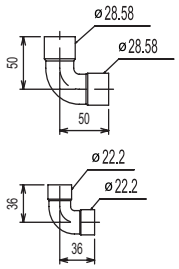
Twinning Kit: CMY-Q100CBK

CMY-Q100CBK

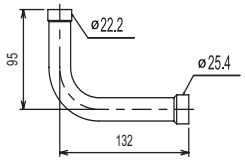
Low-pressure pipe twinning kit



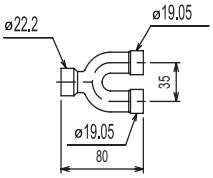
<Elbow pipe(Accessory)>



<Pipe for routing through the front (Accessory)>



High-pressure twinning pipe



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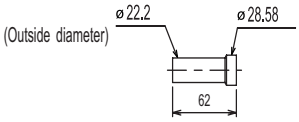

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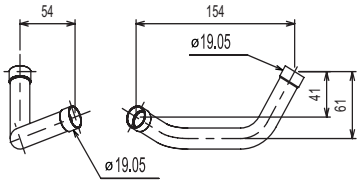

Notes:

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