Submittal Data: PQHY-P168ZSLMU-B

MITSUBISHI ELECTRIC
Heating and Cooling

Job Name:		Location:	
Purchaser:		Submitted By:	
Submitted To:		Engineer:	
Date:		Application:	

☐ Reference ☐ Approval ☐ Construction

*Reference image

GENERAL FEATURES:

- Heat pump operation
- System changeover mode available
- Water flow rate control via DC 0-10V from control board

Outdoor Model	PQHY-P168ZSLMU-B	
Power Source	3-phase 3-wire 575 V ±10% 60 Hz	
Cooling		
Cooling Capacity (Nominal)	168000	BTU/h
Cooling Capacity (Nominal)	49.2	kW
Power Input (Nominal)	9.33	kW
Current Input (Nominal)	10.4	A
Cooling Capacity (Rated)	160000	BTU/h
Cooling Capacity (Rated)	46.9	kW
Power Input (Rated) Non-Ducted/ Ducted	8.87/9.66	kW
Current Input (Rated) Non-Ducted/ Ducted	9.8/10.7	A
Guaranteed Operating Range (Indoor)	59.0°F~75.0°F W.B. (15.0°C~24.0°C)	
Guaranteed Operating Range (Outdoor)	50~113°F (10~45°C)	
Heating		
Heating Capacity (Nominal)	188000	BTU/h
Heating Capacity (Nominal)	55.1	kW
Power Input (Nominal)	9.34	kW
Current Input (Nominal)	10.4	A
Heating Capacity (Rated)	178000	BTU/h
Heating Capacity (Rated)	52.2	kW
Power Input (Rated) Non-Ducted/ Ducted	8.05/8.04	kW
Current Input (Rated) Non-Ducted/ Ducted	8.9/8.9	A
Operating Range (Indoor)	59.0°F~81.0°F D.B. (15.0°C~27.0°C)	
Operating Range (Outdoor)	50~113°F (10~45°C)	
Refrigerant Piping		
Liquid Pipe Diameter	5/8 (15.88) Brazed	
Gas Pipe Diameter	1-1/8 (28.58) Brazed	
Indoor Unit Connectable		
Total Capacity	50~130% of heat source unit capacity	
Model / Maximum Quantity	P04~P96/42	
Sound Power level (in anechoic room)	66.5	dB <A>

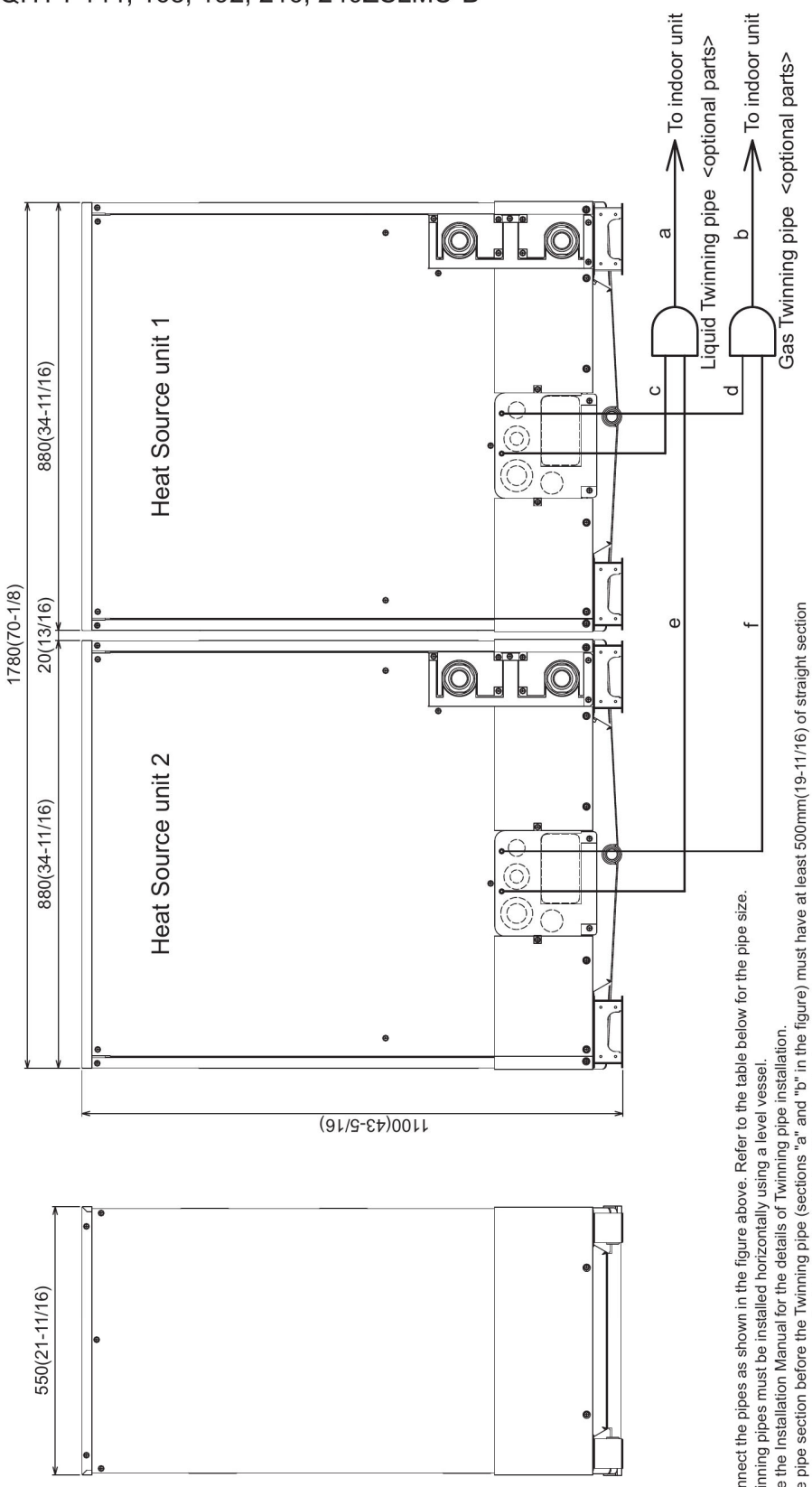
Outdoor Model	PQHY-P96ZLMU-B	PQHY-P72ZLMU-B	
Electrical			
Minimum Circuit Ampacity (MCA)	9	6	A
Maximum Overcurrent Protection (MOP)	15	15	A
Circulating Water			
Circulating water flowrate	25.4 + 25.4 (96 + 96)		G/min (L/min)
Circulating water Pressure drop	3.48 (24)	3.48 (24)	psi (kPa)
Circulating water flowrateure operating range	13.2 + 13.2 ~ 31.7 + 31.7 (3.0 + 3.0 ~ 7.2 + 7.2)		G/min (m3/h)
Refrigerant Piping between unit and distributor			
Liquid Pipe Diameter	3/8 (9.52) Brazed	3/8 (9.52) Brazed	in. (mm)
Gas Pipe Diameter	7/8 (22.2) Brazed	7/8 (22.2) Brazed	in. (mm)
Compressor			
Type × Quantity	Inverter scroll hermetic × 1	Inverter scroll hermetic × 1	
Motor Output	6	4.3	kW
Starting Method	Inverter	Inverter	
Case Heater	0.035	0.035	kW
Lubricant	MEL32	MEL32	
Physical & Finish			
External finish	Galvanized steel sheets	Galvanized steel sheets	
External Dimensions (H × W × D)	43-5/16 x 34-11/16 x 21-11/16	43-5/16 x 34-11/16 x 21-11/16	in
External Dimensions (H × W × D)	1,100 x 880 x 550	1,100 x 880 x 550	mm
Net Weight	400 (181)	400 (181)	lb (kg)
Refrigerant			
Type × Original Charge	R410A x 11 lbs + 1 oz (5.0 kg)	R410A x 11 lbs + 1 oz (5.0 kg)	

Accessories	Model Numbers
Twinning Kit	CMY-Y100CBK3
Joint	CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-Y202S-G2
Header	CMY-Y104, 108, 1010C-G

Notes:
1.Nominal cooling conditions (Test conditions are based on AHRI 1230)
Indoor: 81°F D.B./66°FW.B. (27°C D.B./19°C W.B.), Inlet water temperature: 86°F (30°C)
2.Nominal heating conditions (Test conditions are based on AHRI 1230)
Indoor: 68°F D.B. (20°C D.B.), Inlet water temperature: 68°F (20°C)
3.The sound values are sound power level (PWL) based on ISO 3744:2010 (r=3.5m).
Test conditions: Indoor: 81°FD.B./66°FW.B. (27°CD.B./19°CW.B.), Inlet water temperature: 86°F (30°C)
4. 23°F EWT (Entering water temperature) is possible via DipSwitch Setting. Antifreeze (glycol) must be added to the water loop to prevent freezing down to 5°F
5. The ambient temperature of the Heat Source Unit is to be below 104°F D.B. (40°C D.B.)
6. The ambient relative humidity of the Heat Source Unit is to be below 80%.
7. The Heat Source Unit should not be installed at outdoor.
8. Use a strainer (more than 50 meshes) at the water inlet piping of the unit.
9. Provide interlocking for the unit operation and water circuit.
10. Install the supplied insulation material to the unused drain-socket.
11. When installing insulation material around both water and refrigerant piping, follow the installation manual.
12. The water circuit must be a closed circuit (water is not exposed to the atmosphere).
13. All electrical work shall comply with Nation (CEC) and local codes and regulations
14. Should this document be altered or changed without MESCA's permission, it becomes null and void. MESCA assumes no responsibility for any consequences in such cases.
15. Mitsubishi Electric (MESCA) supports the use of only MESCA supplied and approved accessories. Use of non-MESCA supported accessories will affect warranty coverage

PQHY-P144, 168, 192, 216, 240ZSLMU-B

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 pipes must be installed horizontally using a level vessel.
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

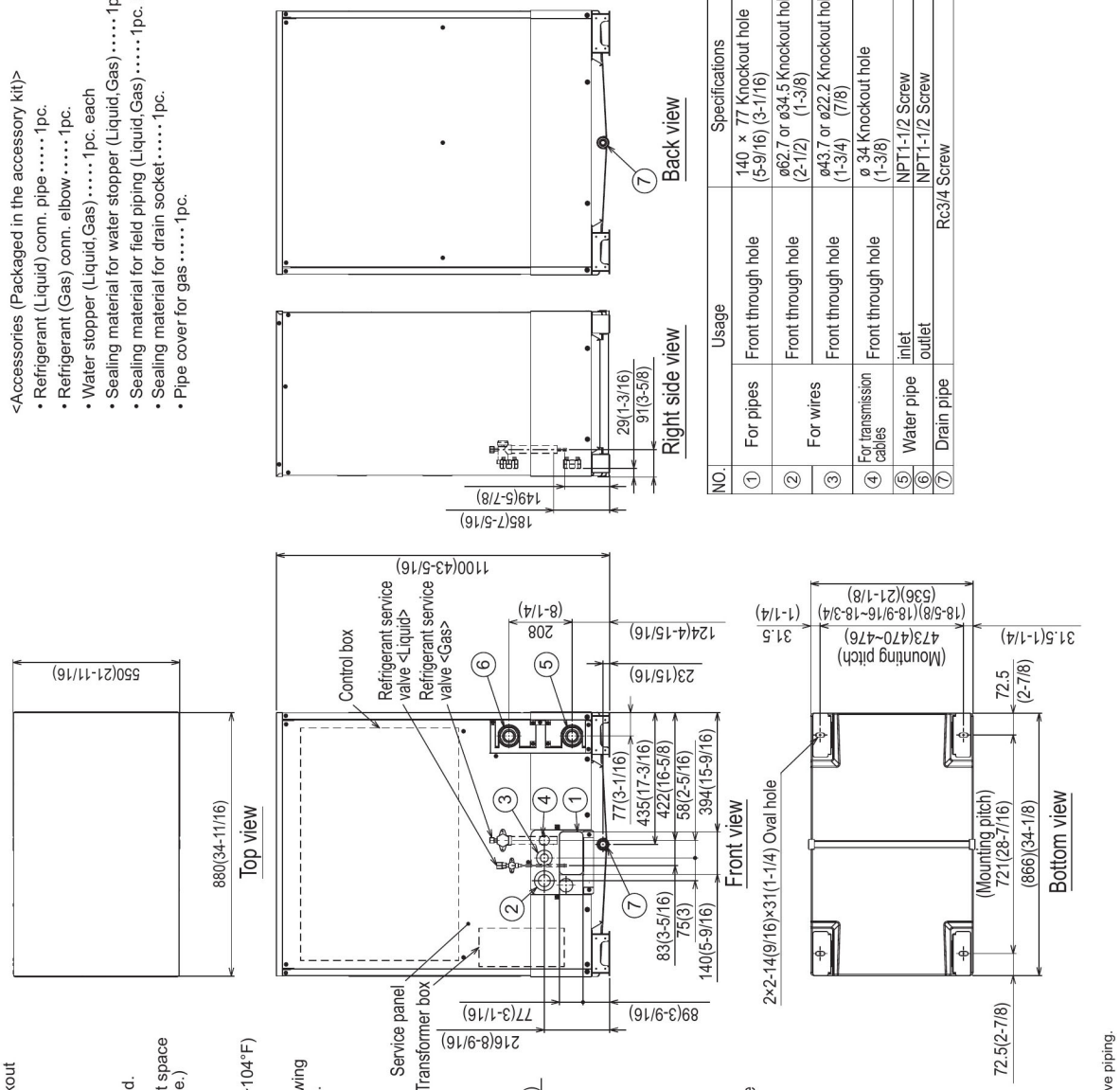
Package unit name			PQHY-P144ZSLMU-B	PQHY-P168ZSLMU-B	PQHY-P192ZSLMU-B	PQHY-P216ZSLMU-B	PQHY-P240ZSLMU-B
Component unit name	Heat Source unit 1		PQHY-P72ZLMU-B	PQHY-P96ZLMU-B	PQHY-P96ZLMU-B	PQHY-P120ZLMU-B	PQHY-P120ZLMU-B
	Heat Source unit 2		PQHY-P72ZLMU-B	PQHY-P72ZLMU-B	PQHY-P96ZLMU-B	PQHY-P96ZLMU-B	PQHY-P120ZLMU-B
Twinning 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)		

PQHY-P72, 96, 120ZLMU-B

Unit: mm(in)

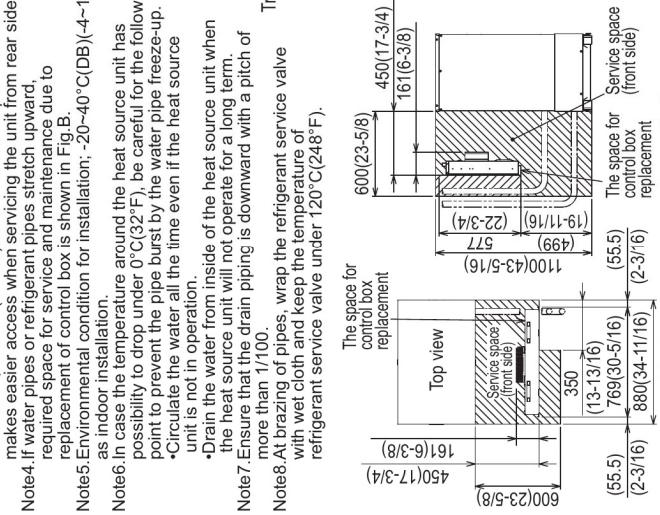
<Accessories (Packaged in the accessory kit)>
- Refrigerant (Liquid) conn. pipe ..... 1pc.
- Refrigerant (Gas) conn. elbow ..... 1pc.
- Water stopper (Liquid,Gas) ..... 1pc. each
- Sealing material for water stopper (Liquid,Gas) ..... 1pc. each
- Sealing material for field piping (Liquid,Gas) ..... 1pc. each
- Sealing material for drain socket ..... 1pc.
- Pipe cover for gas ..... 1pc.

NO.	Usage		Specifications
①	For pipes	Front through hole	140 × 77 Knockout hole (5-9/16) (3-1/16)
②	For wires	Front through hole	ø62.7 or ø34.5 Knockout hole (2-1/2) (1-3/8)
③		Front through hole	ø43.7 or ø22.2 Knockout hole (1-3/4) (7/8)
④	For transmission cables	Front through hole	ø 34 Knockout hole (1-3/8)
⑤	Water pipe	inlet	NPT1-1/2 Screw
⑥		outlet	NPT1-1/2 Screw
⑦	Drain pipe		Rc3/4 Screw



Note1. Close a hole of the water piping, the refrigerant piping, the power supply, and the control wiring and unused knockout holes with the putty etc. so as not to infiltrate rain water etc.(field erection work)
Note2. At the time of product shipment, the front side piping specification serves as the local drainage connection. When connecting on the rear side, please remove the rear side plug sealing corks, and attach a front side. Ensure there is no leak after the attachment has been fitted.
Note3. Take notice of service space as Fig.A. (In case of single installation, 600mm(23-5/8) or more of back space as front space makes easier access when servicing the unit from rear side.)
Note4. If water pipes or refrigerant pipes stretch upward, required space for service and maintenance due to replacement of control box is shown in Fig.B.
Note5. Environmental condition for installation; -20~40°C(DB)(-4~104°F) as indoor installation.
Note6. In case the temperature around the heat source unit has possibility to drop under 0°C(32°F), be careful for the following point to prevent the pipe burst by the water pipe freeze-up.
- Circulate the water all the time even if the heat source unit is not in operation.
- Drain the water from inside of the heat source unit when the heat source unit will not operate for a long term.

Note7. Ensure that the drain piping is downward with a pitch of more than 1/100.
Note8. At brazing of pipes, wrap the refrigerant service valve with wet cloth and keep the temperature of refrigerant service valve under 120°C(248°F).



Connecting pipe specifications

Model	Diameter			
	Refrigerant pipe		Service valve	
	Liquid	Gas	Liquid	Gas
PQHY-P72ZLMU-B	ø9.52 Brazed (3/8)*1	ø19.05 Brazed (3/4)*1 *4	ø9.52 (3/8)	ø25.4 (1)
PQHY-P96ZLMU-B	ø9.52 Brazed (3/8)*1 (ø12.7 Brazed (1/2)*2 *4	ø22.2 Brazed (7/8)*1 *4		
PQHY-P120ZLMU-B	ø9.52 Brazed (3/8)*1 (ø12.7 Brazed (1/2)*3 *4			

*1. Connect by using the connecting pipes and elbow that are supplied.
*2. Total length ≥ 90m(295ft)
*3. Total length ≥ 40m(131ft)
*4. Use the pipe joint(field supply) and connect to the refrigerant service valve piping.