

Job Name:

Schedule Reference:

Date:



OUTDOOR VRF HEAT PUMP SYSTEM

UNIT OPTION

Standard Model.....PQHY-P168TSLMU-A1

ACCESSORIES

- Twinning Kit ... (Required - sold separately) CMY-Y100CBK3
- T-Branch Joint (≤ 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: ≤ 72,000 Btu/h) CMY-Y104C-G
- Header - 8 Branch (Capacity: ≤ 144,000 Btu/h) CMY-Y108C-G
- Header - 10 Branch (Capacity: ≤ 234,000 Btu/h) CMY-Y1010C-G

* All electrical work shall comply with National (NEC) and local codes and regulations.

Specifications		System	Module 1	Module 2
Unit Type		PQHY-P168TSLMU-A1	PQHY-P96TLMU-A1	PQHY-P72TLMU-A1
Nominal Cooling Capacity	Btu/h	168,000	96,000	72,000
Nominal Heating Capacity	Btu/h	188,000	108,000	80,000
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	768 / 348	384 / 174	384 / 174
Electrical Power Requirements	Voltage, Phase, Hertz	Refer to Module Data**	208/230V, 3-phase, 60Hz	
Cooling Power Input	kW	9.33	Refer to System Data	
Heating Power Input	kW	9.34		
Cooling Current (208/230V)	A	28.7 / 26.0		
Heating Current (208/230V)	A	28.8 / 26.0	Refer to System Data	
Minimum Circuit Amp. (MCA)** (*)	A	Refer to Module Data**	19 / 17**	13 / 12**
Maximum Fuse Size**	A	Refer to Module Data**	30 / 25**	20 / 20**
Circulating Water (quality must meet regulations)				
Flow Rate	GPM / L/s	50.8 / 3.2	25.4 / 1.6	25.4 / 1.6
Pressure Drop	psi	6.9	3.48	3.48
Operation Volume Range	GPM / L/s	26.4 - 63.7 / 1.6 - 4	13.2-13.7 / 0.8 - 2	13.2-13.7 / 0.8 - 2
Maximum Water Pressure	MPa / psi	4 / 580	2 / 290	2 / 290
Water-source Connections (Each for Inlet and Outlet)	In.	Refer to Module Data**	NPT-1/2 Screw (Install strainer (more than 50 meshes) at water inlet piping of the unit)	
Piping Diameter				
From Twinning Kit to Indoor Units (Brazed) (In. / mm)	Liquid (High Pressure)	5/8 / 15.88	Refer to System Data	
	Gas (Low Pressure)	1-1/8 / 28.58		
From Modules to Twinning Kit (Brazed) (In. / mm)	Liquid (High Pressure)	Refer to Module Data	3/8 / 9.52	3/8 / 9.52
	Gas (Low Pressure)		7/8 / 22.2	7/8 / 22.2
Indoor Unit	Total Capacity	50 to 130% of WSUs	Refer to System Data	
	Model / Quantity	P06 ~ P96 / 1 to 36		
Sound Pressure Levels	dB(A)	50	48	46
Compressor Operating Range		10 - 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		6.0	4.3
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

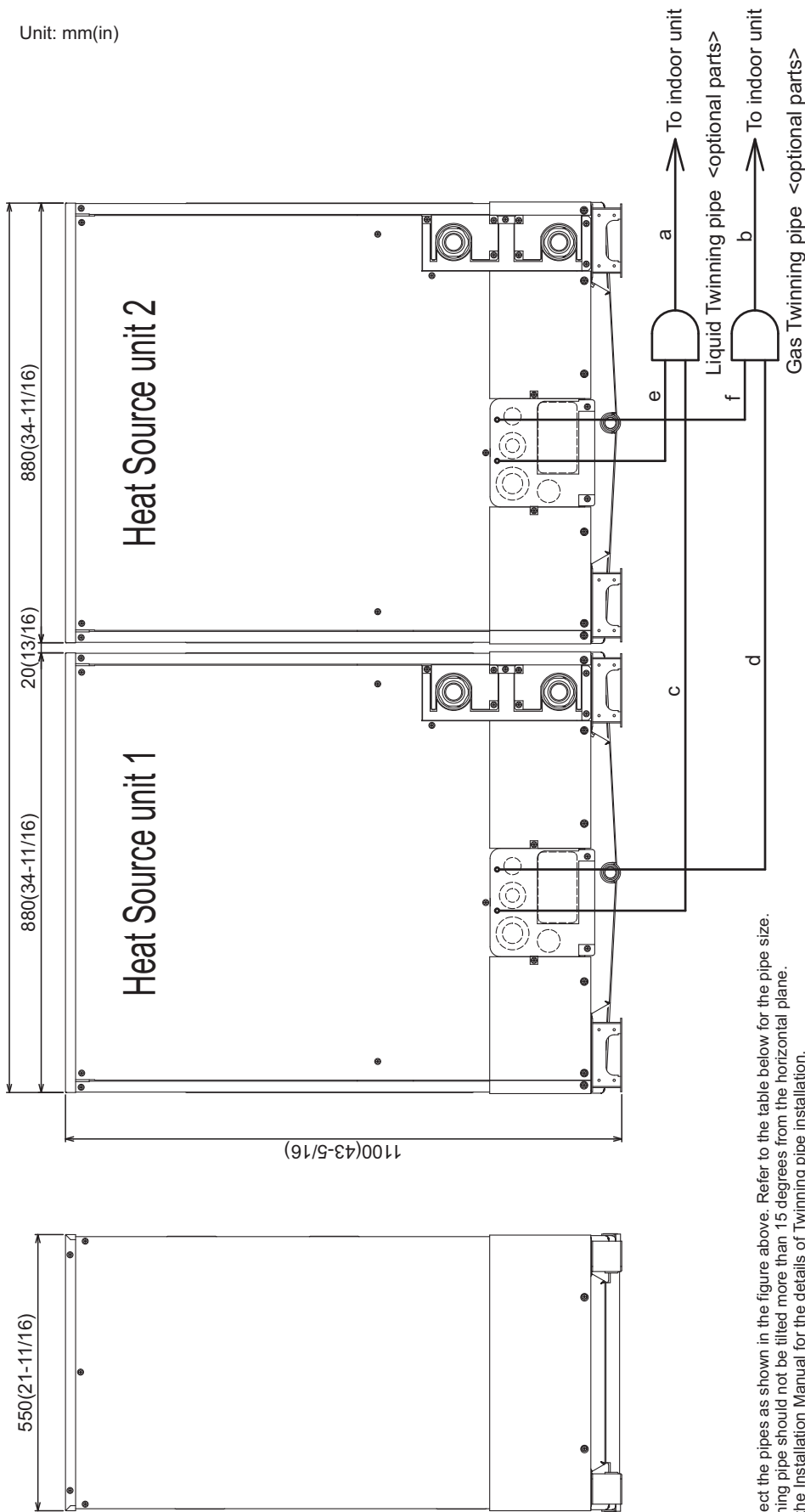
** Each individual module requires a separate electrical connection. Reference electrical data for each individual module.

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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.



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

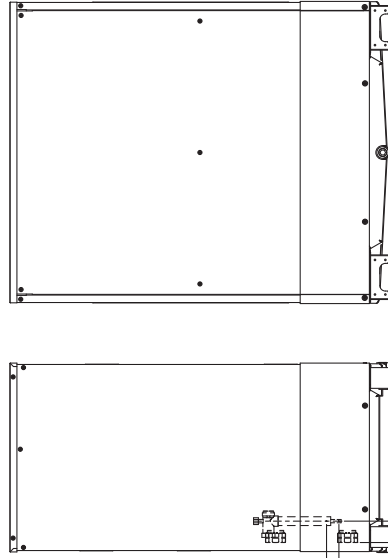
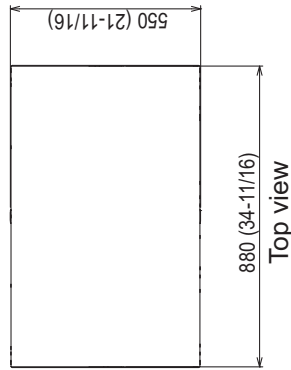
Package unit name	PQHY-P144TSLMU-A1 PQHY-P168TSLMU-A1 PQHY-P192TSLMU-A1 PQHY-P216TSLMU-A1 PQHY-P240TSLMU-A1
Heat Source unit 1	PQHY-P72TLMU-A1 PQHY-P96TLMU-A1 PQHY-P96TLMU-A1 PQHY-P120TLMU-A1 PQHY-P120TLMU-A1
Heat Source unit 2	PQHY-P72TLMU-A1 PQHY-P72TLMU-A1 PQHY-P96TLMU-A1 PQHY-P96TLMU-A1 PQHY-P120TLMU-A1
Twinning pipe Kit(optional parts)	CMY-Y100CBK3
Indoor unit-Twinning pipe	Liquid a
	Gas b
Twinning pipe-Heat Source unit 1	Liquid c
	Gas d
Twinning pipe-Heat Source unit 2	Liquid e
	Gas f
	ø12.7(1/2)
	ø15.88(5/8)
	ø28.58(1-1/8)
	ø9.52(3/8)
	ø12.7(1/2)
	ø22.2(7/8)
	ø9.52(3/8)
	ø12.7(1/2)
	ø22.2(7/8)

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Modules: 1 : PQHY-P72TLMU-A1 - DIMENSIONS

Unit: mm(in)

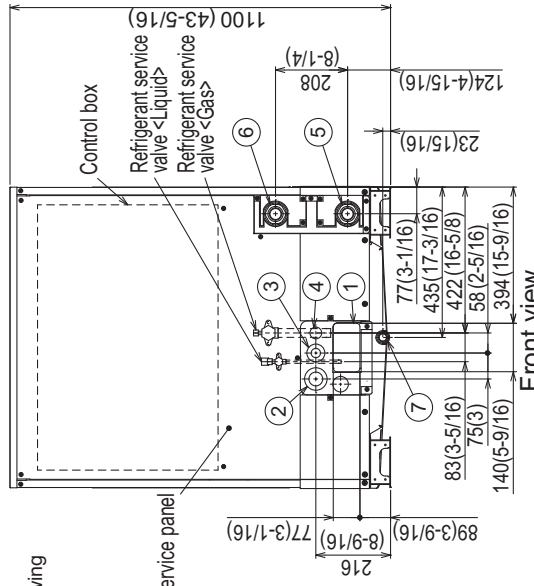
- <Accessories>
- Refrigerant (Liquid) conn. pipe 1pc. (P72/P96/P120 ; Packaged in the accessory kit)
 - Refrigerant (Gas) conn. elbow 1pc. (P72/P96/P120 ; Packaged in the accessory kit)
 - Water stopper(Liquid,Gas) 1pc. each (P72/P96/P120 ; Packaged in the accessory kit)
 - Sealing material for water 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)



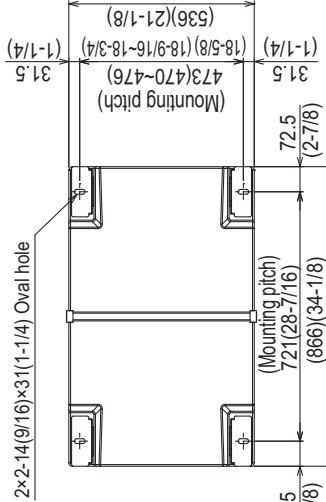
Back view

Right side view

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



Front view



Bottom view

- 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).

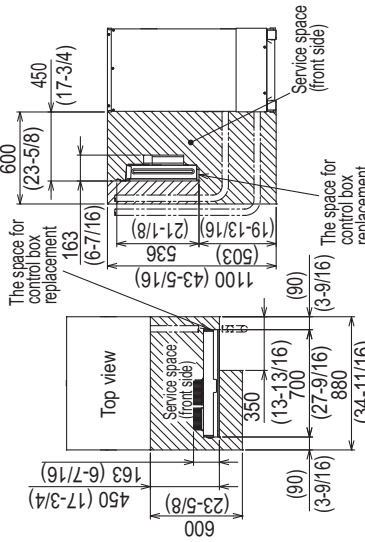


Fig.A

Fig.B

Connecting pipe specifications

Model	Refrigerant pipe	Service valve	Diameter
PQHY-P72TLMU-A1	Liquid	Liquid	ø6.52 (3/8)
	Gas	Gas	
PQHY-P96TLMU-A1	Liquid	Liquid	ø6.52 (3/8)
	Gas	Gas	
PQHY-P120TLMU-A1	Liquid	Liquid	ø6.52 (3/8)
	Gas	Gas	

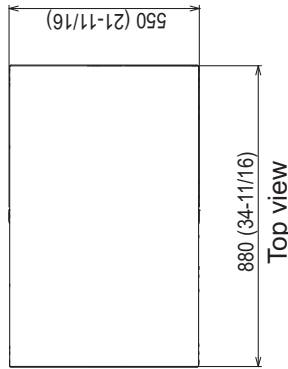
- *1. Connect by using the connecting pipes and elbow that are supplied.
- *2. Total length ≥ 90m (295ft)
- *3. Total length ≥ 40m (131ft)
- *4. Use the pipe joint(field supply) and connect to the refrigerant service valve piping.

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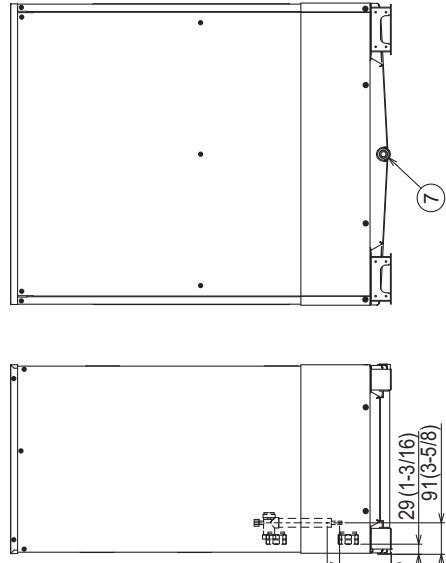
Modules: 1 : PQHY-P96TLMU-A1 - DIMENSIONS

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)
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 - 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)



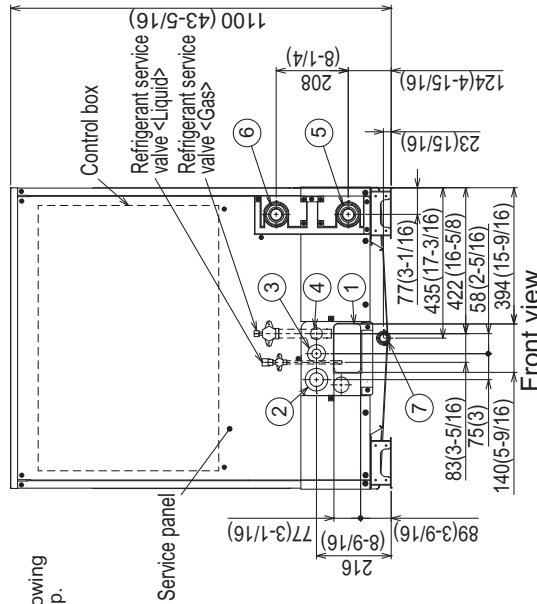
Top view



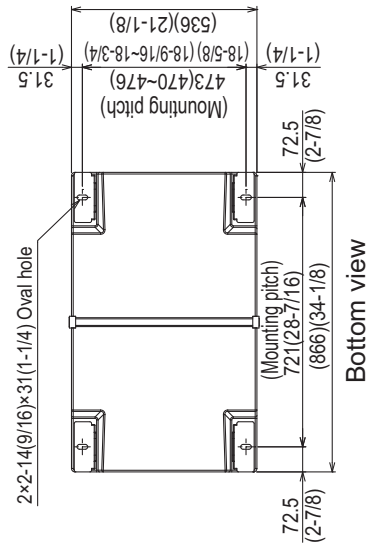
Right side view

Back view

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Front view



Bottom view

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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.

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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).

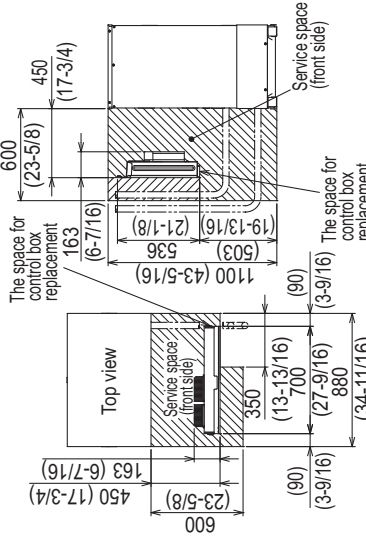


Fig. A

Fig. B

Connecting pipe specifications

Model	Refrigerant pipe		Service valve	
	Liquid	Gas	Liquid	Gas
PQHY-P72TLMU-A1	ø9.52 Brazed (3/8) *1	ø19.05 Brazed (3/4) *1, *4		
PQHY-P96TLMU-A1	ø9.52 Brazed (3/8) *1	ø22.2 Brazed (7/8) *1, *4	ø9.52 (3/8)	ø25.4 (1)
PQHY-P120TLMU-A1	ø9.52 Brazed (3/8) *1	ø12.7 Brazed (1/2) *2, *4		

*1. Connect by using the connecting pipes and elbow that are supplied.

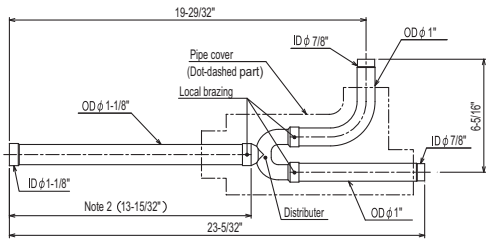
*2. Total length ≤ 90m(295ft)

*3. Total length ≤ 40m(131ft)

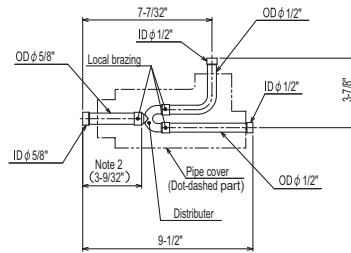
*4. Use the pipe joint(field supply) and connect to the refrigerant service valve piping.

CMY-Y100CBK3

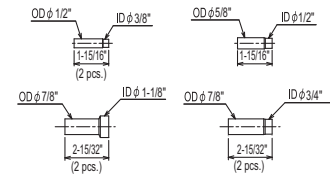
For Gas pipe:



For Liquid pipe:



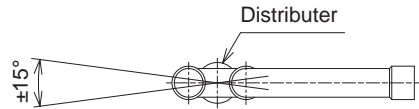
<Reducer(Accessory)>



in.

ID: Inner Diameter OD: Outer Diameter

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

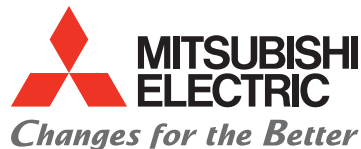


The angle of the branch pipe for high pressure is within $\pm 15^\circ$ against the horizontal plane.

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

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Notes:



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