CITYMULTI®

Outdoor Unit: 24-TON PUHY-P288YSKMU-U (-BS)

(Consists of One PUHY-P120YKMU-U (-BS), One PUHY-P96YKMU-U (-BS), One PUHY-P72YKMU-U (-BS), and One CMY-Y300CBK2 Twinning Kit)

MITSUBISHI ELECTRIC

Job Name:	
System Reference:	Date:

OUTDOOR VRF HEAT PUMP SYSTEM FEATURES

- Assembled in USA
- INVERTER-driven compressor
- Air-source, heat pump system
- Long line lengths - for details see Engineering Manual
- Connects to CITY MULTI indoor units
- Controlled via CITY MULTI Controls Network

UNIT OPTION

□ Standard Model……PUHY-P288YSKMU-U
□ Sea Coast (BS) Model……PUHY-P288YSKMU-U-BS

OPTIONAL PARTS

■ Twinning Kit (required)……CMY-Y300CBK2
□ Joint Kit……for details see Pipe Accesories Submittal
□ Header Kit……for details see Pipe Accesories Submittal
□ Low Ambient Kit ……for details see Low Ambient Kit Submittal
□ Snow/Hail Guards Kit……for details see Snow/Hail Guards Kit Submittal

Specifications		System	Module 1	Module 2	Module 3
Unit Type		PUHY-P288YSKMU-U (-BS)	PUHY-P120YKMU-U (-BS)	PUHY-P96YKMU-U (-BS)	PUHY-P72YKMU-U (-BS)
Nominal Cooling Capacity (460V)	Btu/h	288,000	120,000	96,000	72,000
Nominal Heating Capacity (460V)	Btu/h	323,000	135,000	108,000	80,000
Operating Temperature Range *1	Cooling (Outdoor) *2	Refer to Module Data	23~115° F (-5~46° C) DB		
	Heating (Outdoor)		-13~60° F (-25~15.5° C) WB		
External Dimensions (H x W x D)	In. / mm	Refer to Module Data	64-31/32 x 68-29/32 x 29-5/32 (1,650 x 1,750 x 740)	64-31/32 x 48-1/16 x 29-5/32 (1,650 x 1,220 x 740)	64-31/32 x 36-1/4 x 29-5/32 (1,650 x 920 x 740)
Net Weight	Lbs. / kg	1,747 (792)	726 (329)	558 (253)	463 (210)
External Finish		Refer to Module Data	Pre-coated galvanized steel sheet		
Electrical Power Requirements	Voltage, Phase, Hertz	Refer to Module Data**	460V, 3-Phase, 60Hz		
Minimum Circuit Ampacity (MCA)	A	Refer to Module Data**	20	15	12
Maximum Fuse Size	A	Refer to Module Data**	25	20	15
Piping Diameter					
From Twinning Kit to First Joint or Header (Brazed) (In. / mm)	Liquid (High Pressure)	3/4 (19.05) Brazed	Refer to System Data		
	Gas (Low Pressure)	1-3/8 (34.93) Brazed			
Max. Total Refrigerant Line Length	Ft.	3,280	Refer to System Data		
Max. Refrigerant Line Length (Between ODU & IDU)	Ft.	541			
Max. Control Wiring Length	Ft.	1,650			
Indoor Unit	Total Capacity	50~130% of ODUs	Refer to System Data		
	Model / Quantity	P06~P96/2~50	Refer to System Data		
Sound Pressure Level	dB(A)	64	Refer to System Data		
Fan					
Type x Quantity		Refer to Module Data	Propeller fan x 2	Propeller fan x 1	Propeller fan x 1
Airflow Rate	CFM		11,300	6,200	6,200
External Static Pressure	In. WG (Pa)	Refer to Module Data	Selectable; 0, 0.12 or 0.24"WG; factory set to 0"W.G.		
Compressor Operating Range		4% to 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	Inverter-driven Scroll Hermetic x 1
Refrigerant		Refer to Module Data	R410A; 26 lbs. + 1 oz. (11.8 kg)	R410A; 25 lbs. + 6 oz. (11.5 kg)	R410A; 19 lbs. + 13 oz. (9.0 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)	High pressure sensor, High pressure switch at 4.15 MPa (601 psi)
	Inverter Circuit (Comp. / Fan)		Over-current protection	Over-current protection	Over-current protection
	Fan Motor		Thermal switch	Thermal switch	Thermal switch
AHRI Ratings (Ducted/Non-Ducted)	EER	12.4 / 12.4	Refer to System Data		
	IEER	19.0 / 18.7			
	COP	3.68 / 3.59			

Blue Fin Anti-corrosion Protection: Cellulose- and polyurethane-resin coating treatment applied to condenser coil that protects it from air contaminants
Standard: ≥1µm thick; Salt Spray Test Method - no unusual rust development to 480 hours.
Sea Coast (BS): ≥1µm thick; Salt Spray Test Method - no unusual rust development to 960 hours.

NOTES:

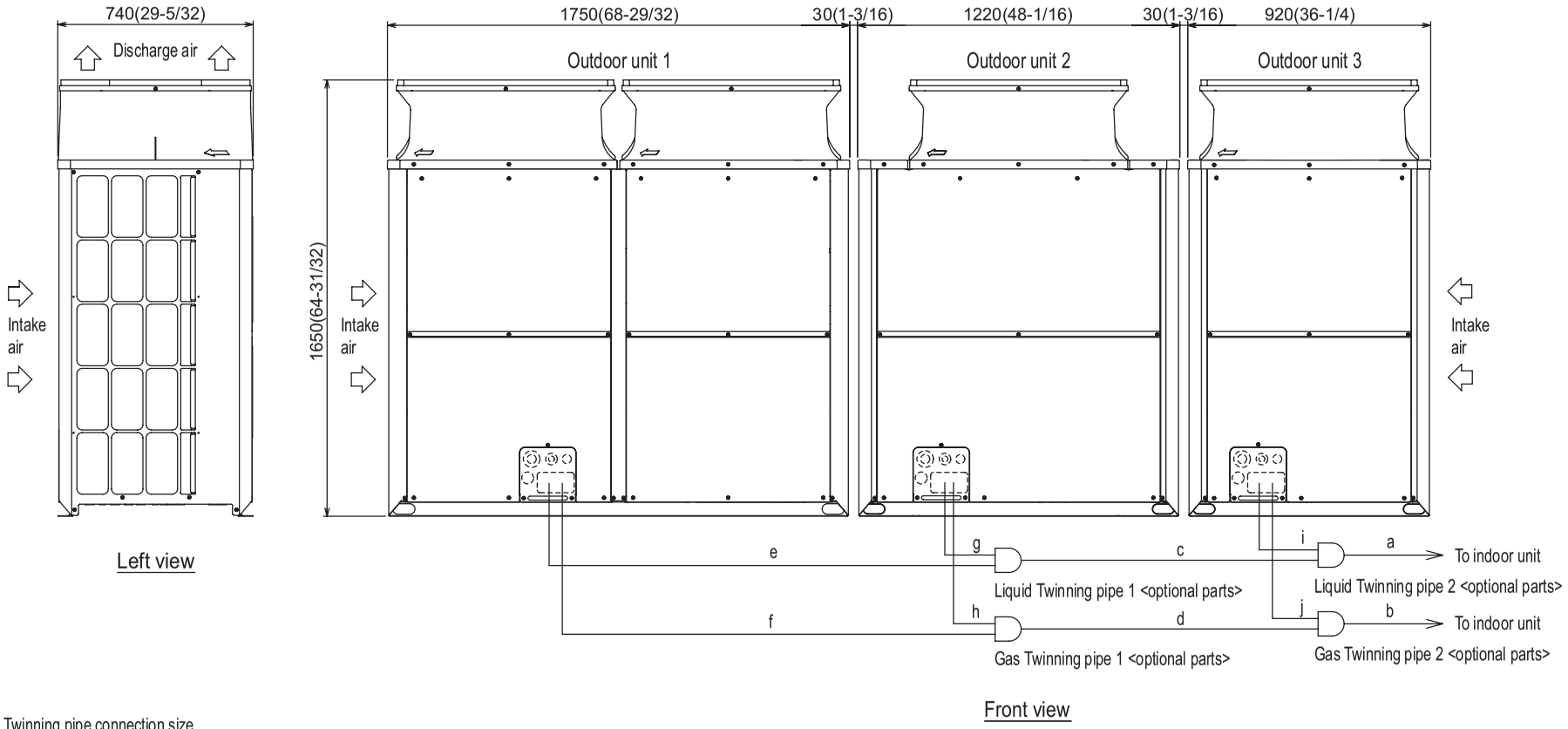
*1. When applying product below -4° F, consult your design engineer for cold climate application best practices, including the use of a backup source for heating.
*2. For details on extended cooling operation range down to -10° F DB, see Low Ambient Kit Submittal.

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

Specifications are subject to change without notice.

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Outdoor Unit: PUHY-P288YSKMU-U (-BS) – DIMENSIONS



Twinning pipe connection size

Package unit name			PUHY-P288YSKMU-A(-BS)
Component unit name	Outdoor unit 1		PUHY-P120YKMU-A(-BS)
	Outdoor unit 2		PUHY-P96YKMU-A(-BS)
	Outdoor unit 3		PUHY-P72YKMU-A(-BS)
Outdoor Twinning Kit(optional parts)			CMY-Y300CBK2
Indoor unit~Twinning pipe 2	Liquid	a	ø19.05(3/4)
	Gas	b	ø34.93(1-3/8)
Twinning pipe 1~Twinning pipe 2	Liquid	c	ø19.05(3/4)
	Gas	d	ø34.93(1-3/8)

	Unit model	Liquid	Gas
		e or g or i	f or h or j
Twinning pipe~Outdoor unit	P72	ø9.52(3/8)	ø22.2(7/8)
	P96	ø9.52(3/8)	ø22.2(7/8)
	P120	ø12.7(1/2)	ø28.58(1-1/8)

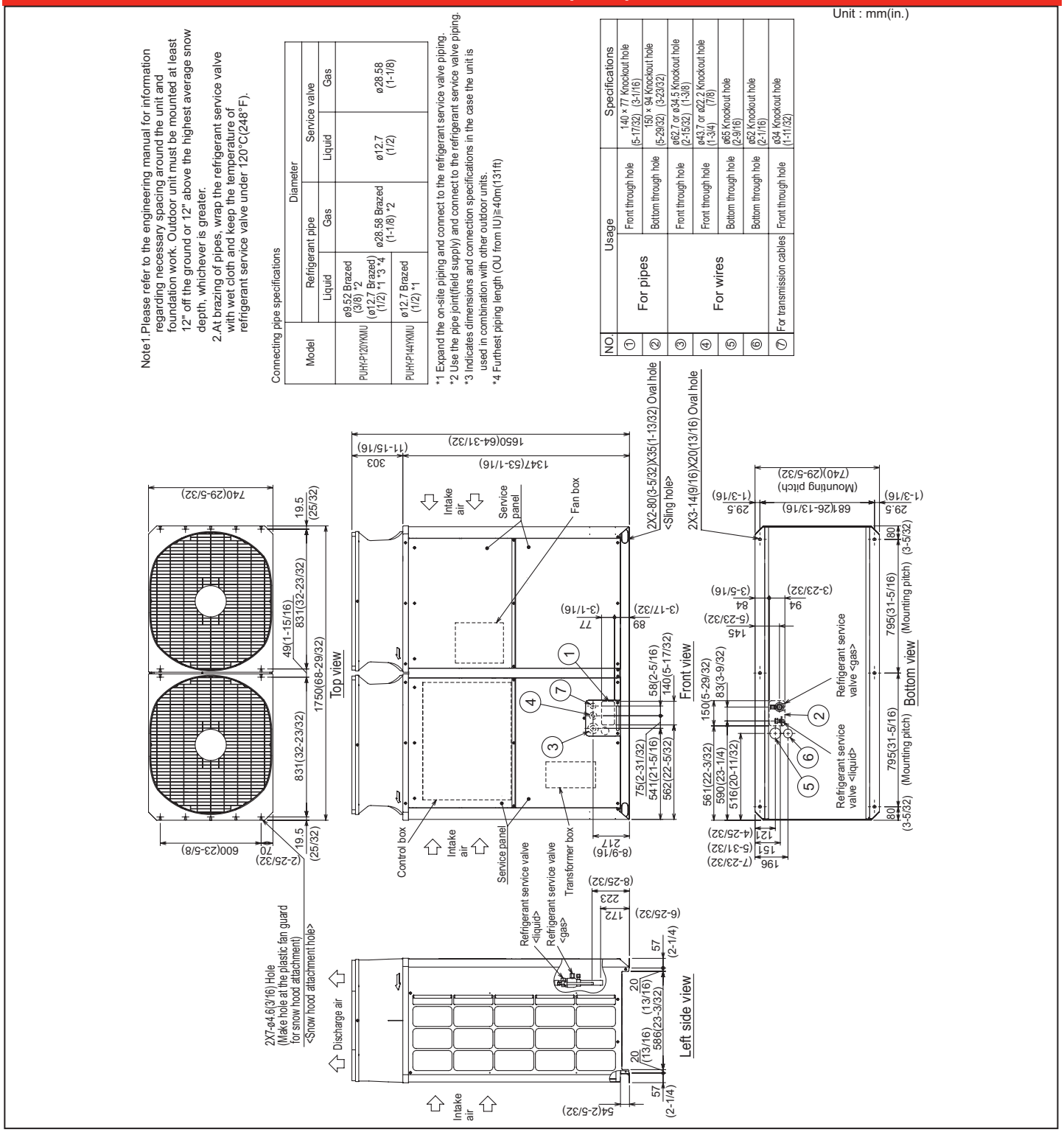
Note 1.Connect the pipes as shown in the figure above. Refer to the table above for the pipe size.
2.Twinning pipes should not be tilted more than 15 degrees from the horizontal plane.
Be sure to see the Installation Manual for details of Twinning pipe installation.
3.The pipe section before the Twinning pipe (sections "a", "b", "c" and "d" 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).
4.Only use the Twinning pipe by Mitsubishi (optional parts).

Unit : mm(in.)

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Model: PUHY-P120YKMU-U (-BS) – DIMENSIONS

Unit : mm(in.)



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Model: PUHY-P96YKMU-U (-BS) – DIMENSIONS

Unit : mm(in.)

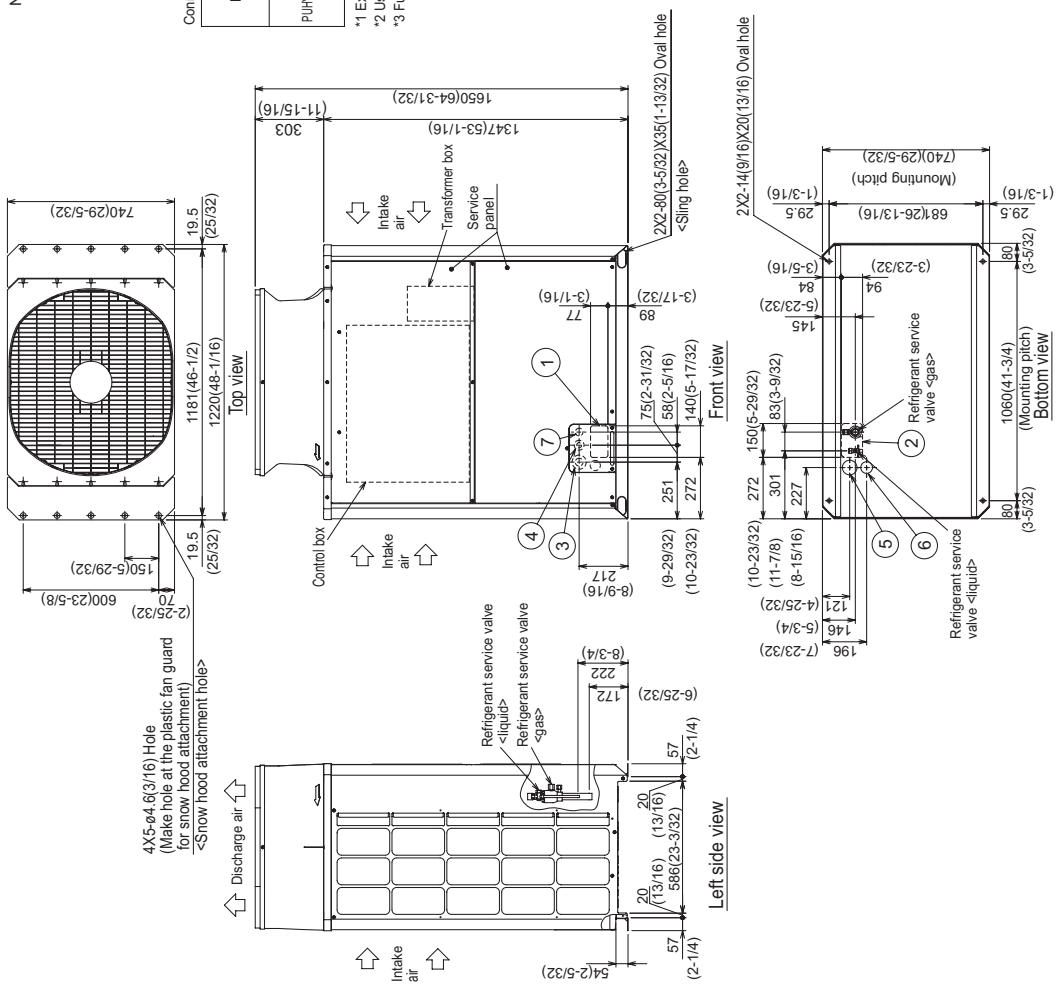
Note 1. Please refer to the engineering manual for information regarding necessary spacing around the unit and foundation work. Outdoor unit must be mounted at least 12" off the ground or 12" above the highest average snow depth, whichever is greater.
2. At brazing of pipes,wrap the refrigerant service 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
PUHY-P96YKMU	ø9.52 Brazed (3/8) *1 (ø12.7 Brazed (1/2) *2*3	ø22.2 Brazed (7/8) *2	ø9.52 (3/8)	ø28.58 (1-1/8)

*1 Expand the on-site piping and connect to the refrigerant service valve piping.
*2 Use the pipe joint(field supply) and connect to the refrigerant service valve piping.
*3 Furthest piping length (OU from IU) ≦ 90m(295ft)

NO.	Usage		Specifications
①	For pipes	Front through hole	140 × 77 Knockout hole (5-17/32) (3-1/16)
②		Bottom through hole	150 × 94 Knockout hole (5-29/32) (3-23/32)
③	For wires	Front through hole	ø62.7 or ø34.5 Knockout hole (2-15/32) (1-3/8)
④		Front through hole	ø43.7 or ø22.2 Knockout hole (1-3/4) (7/8)
⑤		Bottom through hole	ø65 Knockout hole (2-9/16)
⑥		Bottom through hole	ø52 Knockout hole (2-1/16)
⑦	For transmission cables	Front through hole	ø34 Knockout hole (1-11/32)



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Model: PUHY-P72YKMU-U (-BS) – DIMENSIONS

Unit : mm(in.)

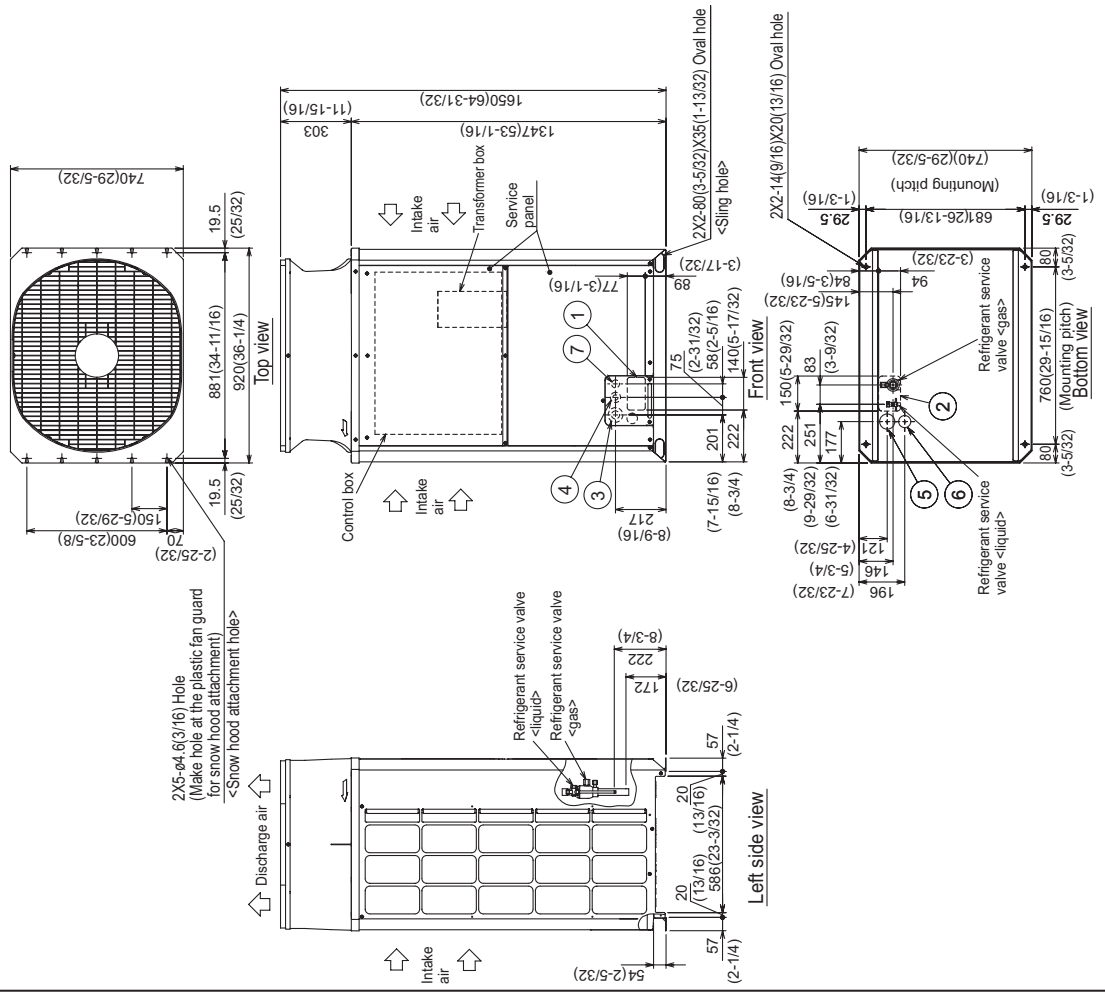
Note1.Please refer to the engineering manual for information regarding necessary spacing around the unit and foundation work. Outdoor unit must be mounted at least 12" off the ground or 12" above the highest average snow depth, whichever is greater.
2.At brazing of pipes, wrap the refrigerant service 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
PUHY-P72YKMU	ø9.52 Brazed (3/8) *1	ø22.2 Brazed (7/8) *2	ø9.52 (3/8)	ø28.58 (1-1/8)

*1 Expand the on-site piping and connect to the refrigerant service valve piping.
*2 Use the pipe joint(field supply) and connect to the refrigerant service valve piping.

NO.	Usage		Specifications
①	For pipes	Front through hole	140 × 77 Knockout hole (5-17/32) (3-1/16)
②		Bottom through hole	150 × 94 Knockout hole (5-29/32) (3-23/32)
③	For wires	Front through hole	ø62.7 or ø34.5 Knockout hole (2-15/32) (1-3/8)
④		Front through hole	ø43.7 or ø22.2 Knockout hole (1-3/4) (7/8)
⑤		Bottom through hole	ø65 Knockout hole (2-9/16)
⑥		Bottom through hole	ø52 Knockout hole (2-1/16)
⑦	For transmission cables	Front through hole	ø34 Knockout hole (1-11/32)



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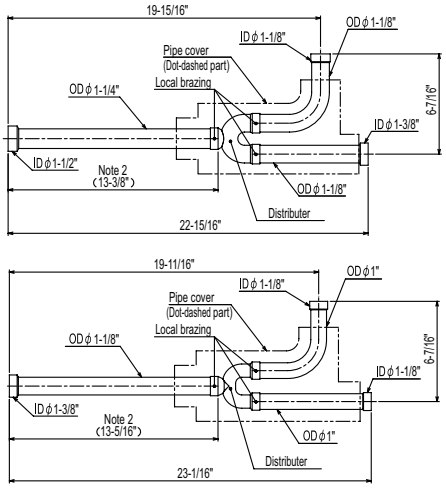
Twinning Kit: CMY-Y300CBK2

CMY-Y300CBK2

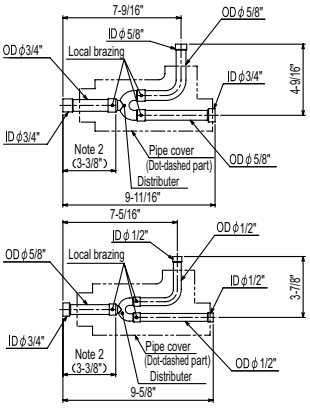
Ref.: CMY_Y300VBK2_EXD_EUDB_SI

in.

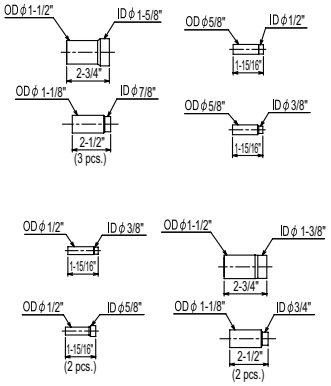
For Gas pipe:



For Liquid pipe:

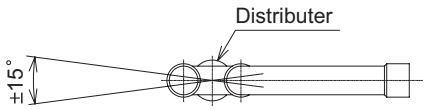


<Reducer(Accessory)>



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 hign pressure is within ±15° against the horizontal plane.

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

MITSUBISHI ELECTRIC

COOLING & HEATING

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FORM# PUHY-P288YSKMU-U (-BS) - 201605

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