CITYMULTI®

12-TON PURY-HP144YSNU-A1

MITSUBISHI ELECTRIC
HEATING & AIR CONDITIONING

Job Name:

System Reference: Date:

460V OUTDOOR VRF HEAT RECOVERY SYSTEM



ACCESSORIES

☑ Big Foot Stand ..... for details see Big Foot Stands submittals
☑ Twinning Kit (Required) CMY-R100NCBK
☑ BC Controller (Required) ..... for details see BC Controller Submittals
☑ Joint Kit ..... for details see Pipe Accessories Submittal
☑ Snow/Hail Guards Kit ..... for details see Snow/Hail Guards Kit Submittal

Specifications			System
Unit Type			PURY-HP144YSNU-A1
Cooling Capacity (Nominal)		BTU/H	144,000
Heating Capacity (Nominal)		BTU/H	160,000
Net Weight		Lbs. [kg]	1,288 [584]
Refrigerant Piping Diameter	Liquid (High Pressure)	In. [mm]	7/8 [22.2] Brazed
	Gas (Low Pressure)	In. [mm]	1-1/8 [28.58] Brazed
Max. Total Refrigerant Line Length		Ft.	1,968
Max. Refrigerant Line Length (Between ODU & IDU)		Ft.	541
Max. Control Wiring Length		Ft.	1,640
Indoor Unit Connectable	Total Capacity		50.0~150.0% of outdoor unit capacity
	Model/Quantity		P04~P96/1.0~36.0
Sound Pressure Levels		dB(A)	59.5/61.0
Sound Power Levels		dB(A)	78.5/80.0
Compressor Operating Range			7.5% to 100.0%
AHRI Ratings (Ducted/Non-ducted)	EER		10.8/11.5
	IEER		19.7/21.6
	COP		3.45/3.82
	SCHE		24.8/27.7

Specifications			Module 1	Module 2
Unit Type			PURY-HP72YNU-A1	PURY-HP72YNU-A1
Cooling Capacity (Nominal)		BTU/H	72,000	72,000
Heating Capacity (Nominal)		BTU/H	80,000	80,000
Guaranteed Operating Range[1]	Cooling[2]	°F [°C]	23~126 [-5.0~52.0]	23~126 [-5.0~52.0]
Guaranteed Operating Range	Heating	°F [°C]	-22~60 [-30.0~15.5]	-22~60 [-30.0~15.5]
Extended Operating Range	Heating	°F [°C]	-27.4~60 [-33.0~15.5]	-27.4~60 [-33.0~15.5]
External Dimensions (H x W x D)		In. [mm]	71-5/8 x 49-1/4 x 29-3/8 [1,818 x 1,250 x 745]	71-5/8 x 49-1/4 x 29-3/8 [1,818 x 1,250 x 745]
Net Weight		Lbs. [kg]	644 [292]	644 [292]
External Finish			Pre-coated galvanized steel sheet [MUNSELL 3Y 7.8/1.1 or similar]	Pre-coated galvanized steel sheet [MUNSELL 3Y 7.8/1.1 or similar]
Electrical Power Requirements	Voltage, Phase, Hertz, Power Tolerance		460V, 3-phase, 60 Hz, ±10%	460V, 3-phase, 60 Hz, ±10%
Minimum Circuit Ampacity		A	25.0	25.0
Maximum Overcurrent Protection		A	40	40
Recommended Fuse Size		A	25	25
Recommended Minimum Wire Size		AWG [mm]	10 [5.3]	10 [5.3]
SCCR		kA	5	5
FAN[4]	Type x Quantity		Propeller fan x 2	Propeller fan x 2
	Airflow Rate	CFM	6,700	6,700
	External Static Pressure	In. WG	Selectable; 0.00, 0.12, 0.24, 0.32, In. WG; factory set to 0 In. WG	Selectable; 0.00, 0.12, 0.24, 0.32, In. WG; factory set to 0 In. WG
Compressor	Type x Quantity		Inverter scroll hermetic compressor x 1	Inverter scroll hermetic compressor x 1
Refrigerant	Type x Original Charge		R410A x 21.0 lbs + 9.0 oz [9.8 kg]	R410A x 21.0 lbs + 9.0 oz [9.8 kg]
Protection Devices	High Pressure Protection		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-heat protection, Over-current protection	Over-heat protection, Over-current protection

NOTES:
Nominal cooling conditions (Test conditions are based on AHRI 1230-2023)
Indoor: 80°FD.B./67°FW.B. (26.7°CD.B./19.4°CW.B.), Outdoor: 95°FD.B. (35°CD.B.)
Nominal heating conditions (Test conditions are based on AHRI 1230-2023)
Indoor: 70°FD.B. (21.1°CD.B.), Outdoor: 47°FD.B./43°FW.B. (8.3°CD.B./6.1°CW.B.)

[1]Harsh weather environments may demand performance enhancing equipment. Ask your Mitsubishi Electric representative for more details about your region
[2]For details on extended cooling operation range down to -10° F DB, see Low Ambient Kit Submittal
[3]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
[4]Unit will continue to operate in extended operating range, but capacity is not guaranteed

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

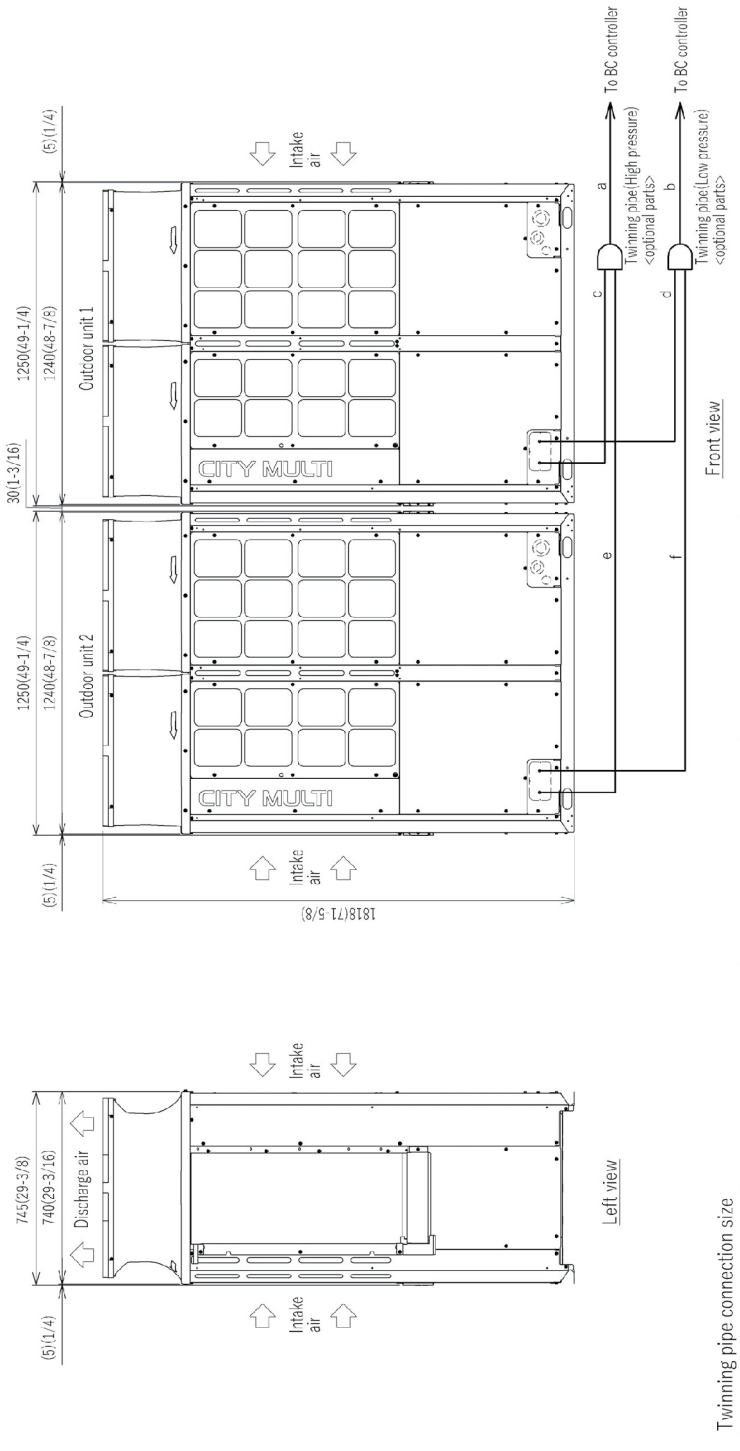
Specifications are subject to change without notice.

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OUTDOOR UNIT: PURY-HP144YSNU-A1 – DIMENSIONS

PURY-HP144, 192, 240T/YSNU-A1

Unit: mm (in.)



Twinning pipe connection size

Package unit name		HP144T/YSNU	HP192T/YSNU	HP240T/YSNU
Component unit name	Outdoor unit 1	HP72T/YNU	HP96T/YNU	HP120T/YNU
	Outdoor unit 2	HP72T/YNU	HP96T/YNU	HP120T/YNU
Outdoor Twinning Kit(optional parts)		CMY-R100NCBK	CMY-R200NCBK	CMY-R200NCBK
BC controller - Twinning pipe	High pressure a	φ22.2(7/8)	φ22.2(7/8)	* φ22.2(7/8)(φ28.58(1-1/8))
	Low pressure b	φ28.58(1-1/8)	φ28.58(1-1/8)	φ34.93(1-3/8)
Twinning pipe -Outdoor unit 1	High pressure c	φ15.88(5/8)	φ19.05(3/4)	φ19.05(3/4)
	Low pressure d	φ19.05(3/4)	φ22.2(7/8)	φ28.58(1-1/8)
Twinning pipe -Outdoor unit 2	High pressure e	φ15.88(5/8)	φ19.05(3/4)	φ19.05(3/4)
	Low pressure f	φ19.05(3/4)	φ22.2(7/8)	φ28.58(1-1/8)

* When the piping length is 65m(213ft) or longer, use the φ28.58(1-1/8) pipe for the part that exceeds 65m(213ft).

Note 1. Connect the pipes as shown in the figure above. Refer to the table above for the pipe size.
2. Twinning pipes must be installed horizontally using a level vessel.
Be sure to see the Installation Manual for details of Twinning pipe installation.
3. The pipe section before the Twinning pipe (section "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).
4. Only use the Twinning pipe by Mitsubishi (optional parts).

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MODULE 1: PURY-HP72YNU-A1 – DIMENSIONS

PURY-HP72, 96, 120T/YNU-A1

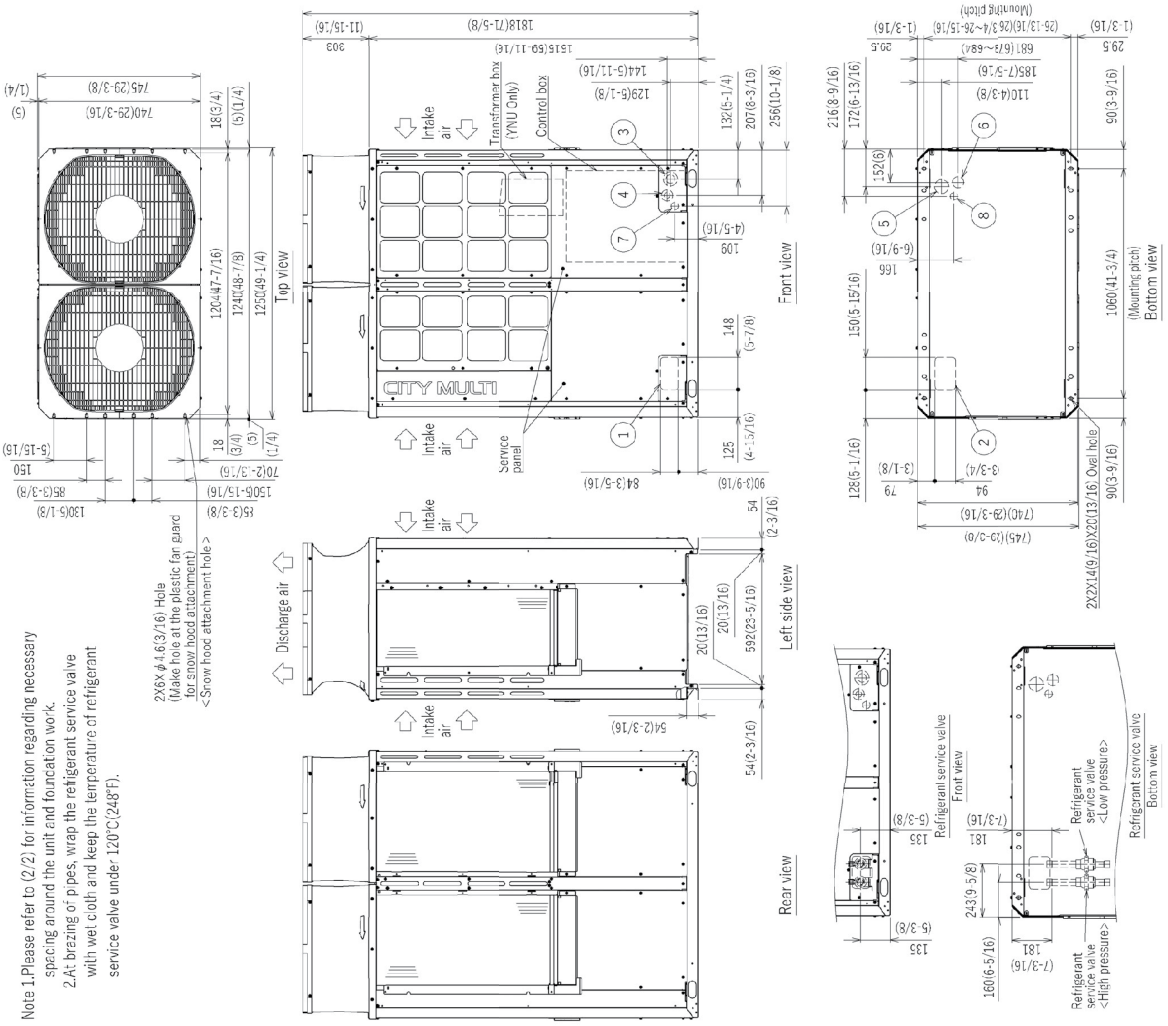
Unit: mm (in.)

Connecting pipe specifications

Model	Diameter			
	Refrigerant pipe *1		Service valve	
	High pressure	Low pressure	High pressure	Low pressure
HP72	φ15.88(5/8) Brazed	φ19.05(3/4) Brazed	φ3.58(1-1/8)	φ28.58(1-1/8)
HP96	φ19.05(3/4) Brazed	φ22.2(7/8) Brazed	φ3.58(1-1/8)	φ28.58(1-1/8)
HP120	φ19.05(3/4) Brazed	φ28.58(1-1/8) Brazed	φ3.58(1-1/8)	φ28.58(1-1/8)

*1 Connect the refrigerant pipe to the service valve according to the Installation Manual.

NO.	Usage		Specifications
①	For pipes	Front through hole	148(5-7/8) X 84(3-5/16) Knockout hole
②		Bottom through hole	156(5-15/16) X 94(3-3/4) Knockout hole
③	For wires	Front through hole	φ62.7(2-1/2) or φ34.5(1-3/8) Knockout hole
④		Front through hole	φ43.7(1-3/4) or φ22.2(7/8) Knockout hole
⑤		Bottom through hole	φ65(2-9/16) Knockout hole
⑥	For transmission cables	Bottom through hole	φ52(2-1/16) Knockout hole
⑦		Front through hole	φ34(1-3/8) Knockout hole
⑧		Bottom through hole	φ34(1-3/8) Knockout hole



Note 1.Please refer to (2/2) for information regarding necessary spacing around the unit and foundation work.
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).

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MODULE 2: PURY-HP72YNU-A1 – DIMENSIONS

PURY-HP72, 96, 120T/YNU-A1

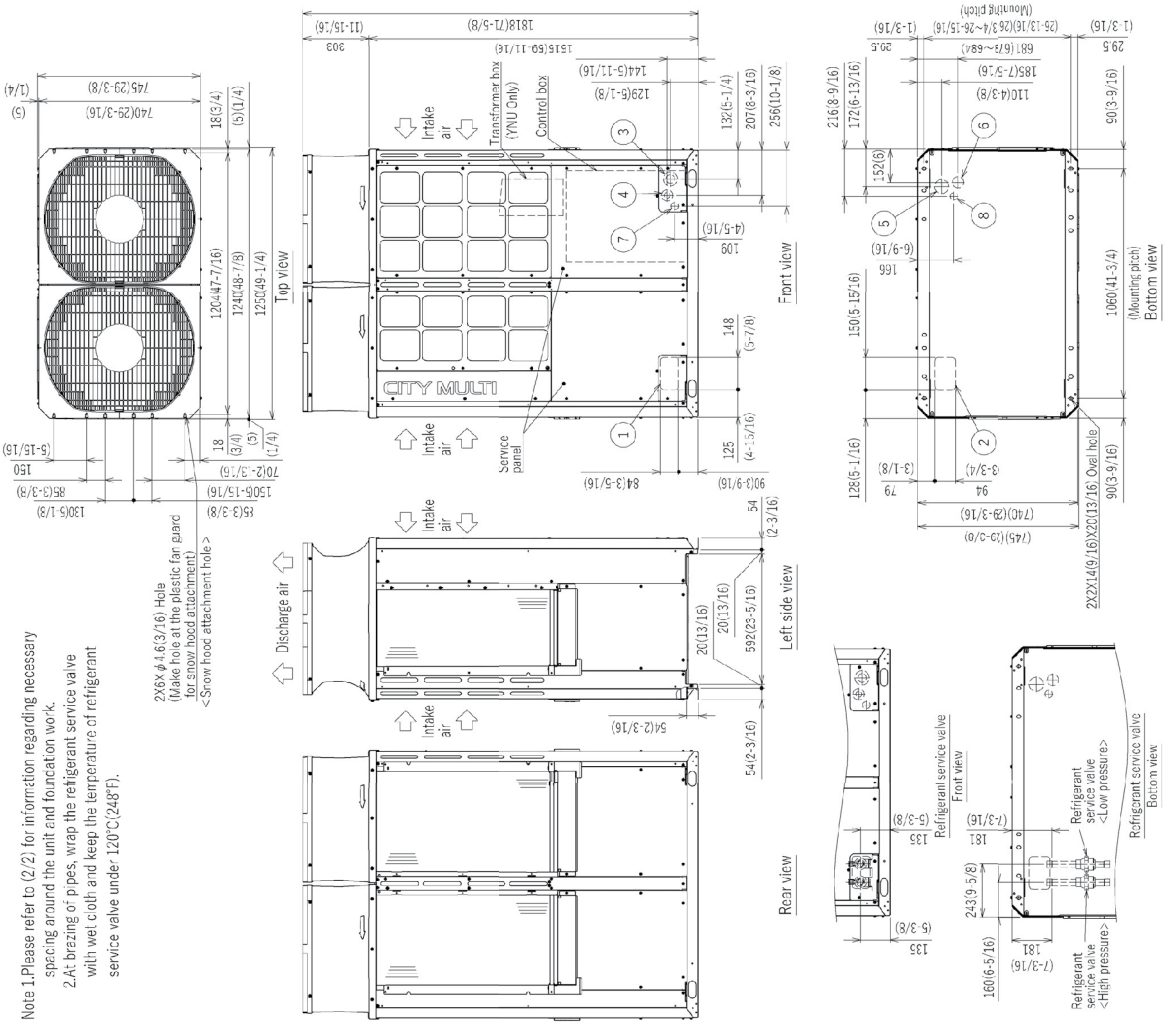
Unit: mm (in.)

Connecting pipe specifications

Model	Diameter			
	Refrigerant pipe *1		Service valve	
	High pressure	Low pressure	High pressure	Low pressure
HP72	φ15.88(5/8) Brazed	φ19.05(3/4) Brazed	φ3.58(1-1/8)	φ28.58(1-1/8)
HP96	φ19.05(3/4) Brazed	φ22.2(7/8) Brazed	φ3.58(1-1/8)	φ28.58(1-1/8)
HP120	φ19.05(3/4) Brazed	φ28.58(1-1/8) Brazed	φ3.58(1-1/8)	φ28.58(1-1/8)

*1 Connect the refrigerant pipe to the service valve according to the Installation Manual.

NO.	Usage		Specifications
①	For pipes	Front through hole	148(5-7/8) X 84(3-5/16) Knockout hole
②		Bottom through hole	156(5-15/16) X 94(3-3/4) Knockout hole
③	For wires	Front through hole	φ62.7(2-1/2) or φ34.5(1-3/8) Knockout hole
④		Front through hole	φ43.7(1-3/4) or φ22.2(7/8) Knockout hole
⑤		Bottom through hole	φ65(2-9/16) Knockout hole
⑥	For transmission cables	Bottom through hole	φ52(2-1/16) Knockout hole
⑦		Front through hole	φ34(1-3/8) Knockout hole
⑧		Bottom through hole	φ34(1-3/8) Knockout hole



Note 1.Please refer to (2/2) for information regarding necessary spacing around the unit and foundation work.
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).

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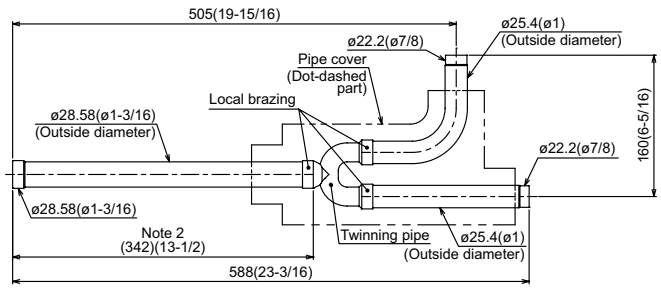
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TWINNING KIT: CMY-R100NCBK – DIMENSIONS

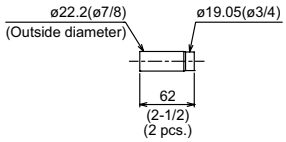
CMY-R100NCBK

Unit: mm (in.)

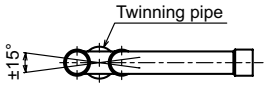
Low-pressure twinning pipe



<Deformed pipe(Accessory)>



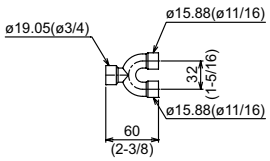
Note:
1. Refer to the figure below for the installation position of the twinning pipe.



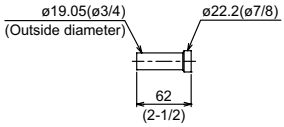
Slope of the twinning pipes are at an angle within ±15° to the horizontal plane.

2. Use the attached pipe to braze the port-opening of the twinning pipe.
3. Pipe diameter is indicated by inside diameter.

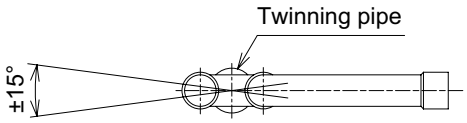
High-pressure twinning pipe



<Deformed pipe(Accessory)>



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



The angle of the twinning pipe is within ±15° against the horizontal plane.

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

1340 Satellite Boulevard Suwanee, GA 30024
Toll Free: 800-433-4822 www.mehvac.com