CITYMULTI®

# 34-TON PUHY-EP408TSNU-A1

MITSUBISHI ELECTRIC
HEATING & AIR CONDITIONING

Job Name:

System Reference: Date:

## 208/230V OUTDOOR VRF HEAT PUMP SYSTEM



## UNIT OPTION

☑ Standard Model ..... PUHY-EP408TSNU-A1

## ACCESSORIES

☑ Big Foot Stand ..... for details see Big Foot Stands submittals

☑ Twinning Kit (Required) ..... CMY-Y300CBK2R1

☑ Header Kit ..... for details see Pipe Accessories Submittal

☑ Joint Kit ..... for details see Pipe Accessories Submittal

☑ Low Ambient Kit ..... for details see Low Ambient Kit Submittal

☑ Panel Heater Kit ..... for details see Panel Heater Kit Submittal

☑ Snow/Hail Guards Kit ..... for details see Snow/Hail Guards Kit Submittal

| Specifications | | | System |
|---|---|---|---|
| Unit Type | | | PUHY-EP408TSNU-A1 |
| Cooling Capacity (Nominal) | | BTU/H | 408,000 |
| Heating Capacity (Nominal) | | BTU/H | 455,000 |
| Net Weight | | Lbs. [kg] | 1,993 [903] |
| Refrigerant Piping Diameter | Liquid (High Pressure) | In. [mm] | 3/4 [19.05] Brazed |
| | Gas (Low Pressure) | In. [mm] | 1-5/8 [41.28] Brazed |
| Max. Total Refrigerant Line Length | | Ft. | 3,280 [1,000] |
| Max. Refrigerant Line Length (Between ODU & IDU) | | Ft. | 541 [165] |
| Max. Control Wiring Length | | Ft. | 1,640 [500] |
| Indoor Unit Connectable | Total Capacity | | 50.0~130.0% of outdoor unit capacity |
| | Model/Quantity | | P04~P96/3.0~50.0 |
| Sound Pressure Levels | | dB(A) | 66.5/68.5 |
| Sound Power Levels | | dB(A) | 88.0/88.0 |
| Compressor Operating Range | | | 5.0% to 100.0% |
| AHRI Ratings (Ducted/Non-ducted) | EER | | 9.8/9.1 |
| | IEER | | 19.1/18.7 |
| | COP | | 3.45/3.49 |

| Specifications | | | Module 1 | Module 2 | Module 3 |
|---|---|---|---|---|---|
| Unit Type | | | PUHY-EP144TNU-A1 | PUHY-EP144TNU-A1 | PUHY-EP120TNU-A1 |
| Cooling Capacity (Nominal) | | BTU/H | 144,000 | 144,000 | 120,000 |
| Heating Capacity (Nominal) | | BTU/H | 160,000 | 160,000 | 135,000 |
| Guaranteed Operating Range[1] | Cooling[2] | °F [°C] | 23~126 [-5.0~52.0] | 23~126 [-5.0~52.0] | 23~126 [-5.0~52.0] |
| Guaranteed Operating Range | Heating | °F [°C] | -13~60 [-25.0~15.5] | -13~60 [-25.0~15.5] | -13~60 [-25.0~15.5] |
| Extended Operating Range | Heating | °F [°C] | -27.4~60 [-33.0~15.5] | -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 48-7/8 x 29-3/16 [1,818 x 1,240 x 740 ] | 71-5/8 x 48-7/8 x 29-3/16 [1,818 x 1,240 x 740 ] | 71-5/8 x 48-7/8 x 29-3/16 [1,818 x 1,240 x 740 ] |
| Net Weight | | Lbs. [kg] | 680 [308] | 680 [308] | 633 [287] |
| External Finish | | | Pre-coated galvanized steel sheet (+powder coating for -BS type) [MUNSELL 3Y 7.8/1.1 or similar] | Pre-coated galvanized steel sheet (+powder coating for -BS type) [MUNSELL 3Y 7.8/1.1 or similar] | Pre-coated galvanized steel sheet (+powder coating for -BS type) [MUNSELL 3Y 7.8/1.1 or similar] |
| Electrical Power Requirements | Voltage, Phase, Hertz, Power Tolerance | | 208/230V, 3-phase, 60 Hz, ±10% | 208/230V, 3-phase, 60 Hz, ±10% | 208/230V, 3-phase, 60 Hz, ±10% |
| Minimum Circuit Ampacity | | A | 60.0/60.0 | 60.0/60.0 | 55.0/49.0 |
| Maximum Overcurrent Protection | | A | 100/100 | 100/100 | 90/80 |
| Recommended Fuse Size | | A | 60/60 | 60/60 | 60/50 |
| Recommended Minimum Wire Size | | AWG [mm] | 4/4 [21.2/21.2] | 4/4 [21.2/21.2] | 4/6 [21.2/13.3] |
| SCCR | | kA | 5 | 5 | 5 |
| FAN[4] | Type x Quantity | | Propeller fan x 2 | Propeller fan x 2 | Propeller fan x 2 |
| | Airflow Rate | CFM | 9,200 | 9,200 | 7,750 |
| | 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 | 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 | Inverter scroll hermetic compressor x 1 |
| Refrigerant | Type x Original Charge | | R410A x 23.0 lbs + 12.0 oz [10.8 kg] | R410A x 23.0 lbs + 12.0 oz [10.8 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) | 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 |

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.

© 2024 Mitsubishi Electric Trane HVAC US LLC. All rights reserved.

# OUTDOOR UNIT: PUHY-EP408TSNU-A1 – DIMENSIONS

PUHY-EP336, 360, 384, 408, 432T/YSNU-A1

Unit: mm (in.)




Twinning pipe connection size

| Package unit name | | | (E)P336T/YSNU | (E)P360T/YSNU | (E)P384T/YSNU | (E)P408T/YSNU | (E)P432T/YSNU |
|---|---|---|---|---|---|---|---|
| Component unit name | Outdoor unit 1 | | (F)P120T/YNU | (F)P120T/YNU | (F)P144T/YNU | (F)P144T/YNU | (F)P144T/YNU |
| | Outdoor unit 2 | | (E)P120T/YNU | (E)P120T/YNU | (E)P120T/YNU | (E)P144T/YNU | (E)P144T/YNU |
| | Outdoor unit 3 | | (E)P96T/YNU | (E)P120T/YNU | (E)P120T/YNU | (E)P120T/YNU | (E)P144T/YNU |
| Outdoor Twinning Kit(optional parts) | | | CMY-Y300CBK2 R1 | CMY-Y300CBK2 R1 | CMY-Y300CBK2 R1 | CMY-Y300CBK2 R1 | CMY-Y300CBK2 R1 |
| Indoor unit ~Twinning pipe 1 | Liquid | a | φ19.05(3/4) | φ19.05(3/4) | φ19.05(3/4) | φ19.05(3/4) | φ19.05(3/4) |
| | Gas | b | φ41.28(1-5/8) | φ41.28(1-5/8) | φ41.28(1-5/8) | φ41.28(1-5/8) | φ41.28(1-5/8) |
| Twinning pipe 1 ~Twinning pipe 2 | Liquid | c | φ19.05(3/4) | φ19.05(3/4) | φ19.05(3/4) | φ19.05(3/4) | φ19.05(3/4) |
| | Gas | d | φ34.93(1-3/8) | φ34.93(1-3/8) | φ34.93(1-3/8) | φ34.93(1-3/8) | φ34.93(1-3/8) |
| Twinning pipe 1 ~Outdoor unit 1 | Liquid | e | φ12.7(1/2) | φ12.7(1/2) | φ12.7(1/2) | φ12.7(1/2) | φ12.7(1/2) |
| | Gas | f | φ28.58(1-1/8) | φ28.58(1-1/8) | φ28.58(1-1/8) | φ28.58(1-1/8) | φ28.58(1-1/8) |
| Twinning pipe 2 ~Outdoor unit 2 | Liquid | g | φ12.7(1/2) | φ12.7(1/2) | φ12.7(1/2) | φ12.7(1/2) | φ12.7(1/2) |
| | Gas | h | φ28.58(1-1/8) | φ28.58(1-1/8) | φ28.58(1-1/8) | φ28.58(1-1/8) | φ28.58(1-1/8) |
| Twinning pipe 2 ~Outdoor unit 3 | Liquid | i | φ9.52(3/8) | φ12.7(1/2) | φ12.7(1/2) | φ12.7(1/2) | φ12.7(1/2) |
| | Gas | j | φ22.2(7/8) | φ28.58(1-1/8) | φ28.58(1-1/8) | φ28.58(1-1/8) | φ28.58(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 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", "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).

Specifications are subject to change without notice.

© 2024 Mitsubishi Electric Trane HVAC US LLC. All rights reserved.

# MODULE 1: PUHY-EP144TNU-A1 – DIMENSIONS

## PUHY-EP96, 120, 144T/YNU-A1

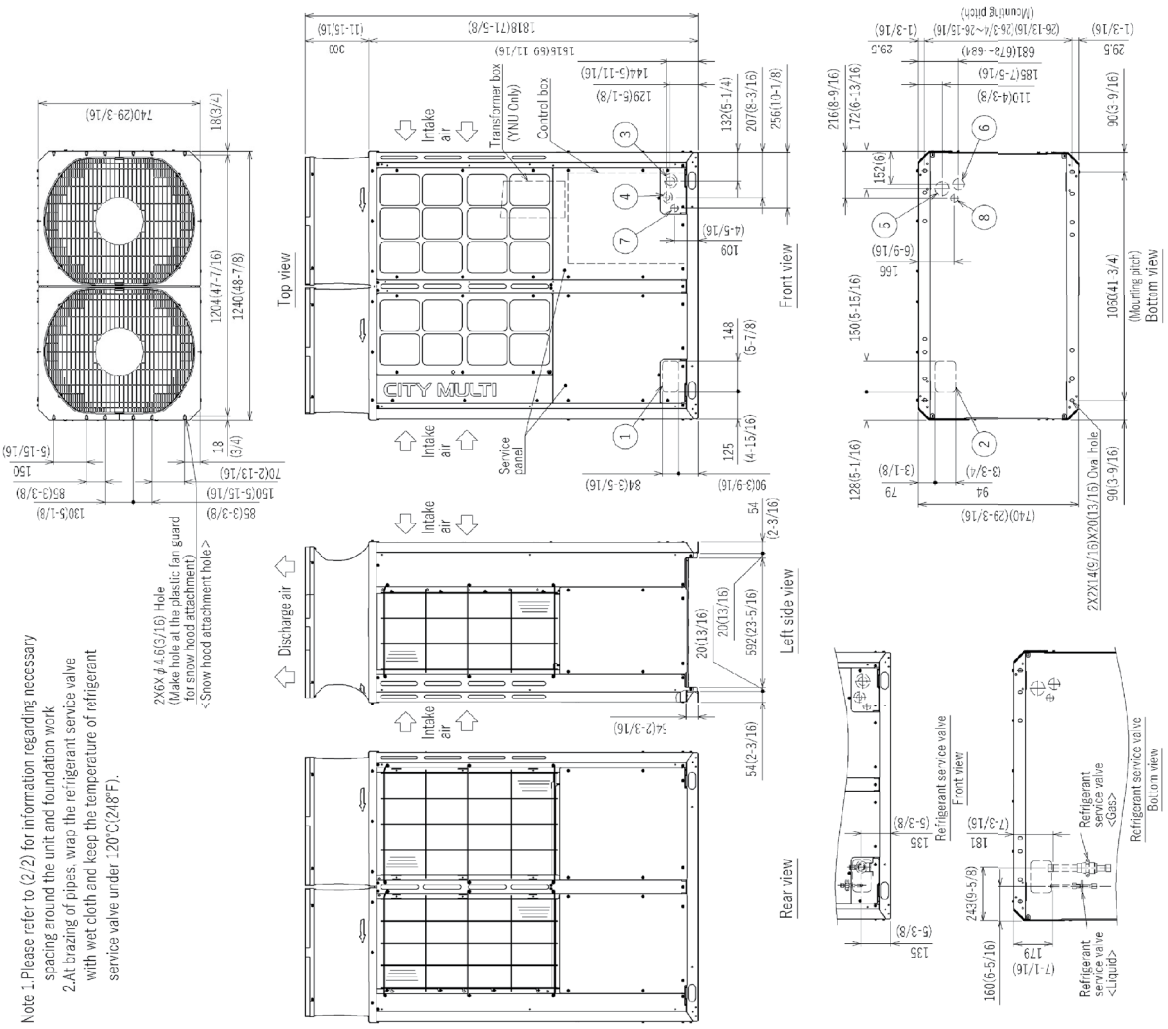
Unit: mm (in.)

Connecting pipe specifications

| Model | Diameter | | | | | |
|---|---|---|---|---|---|---|
| | Refrigerant pipe *1 | | | | Service valve | |
| | Liquid | | Gas | | Liquid | Gas |
| (E)P96 | φ9.52(3/8) | Brazec | φ22.2(7/8) | Brazec | φ12.7(1/2) | φ28.58(1-1/8) |
| (E)P96 | φ12.7(1/2) | Brazec *3 | φ22.2(7/8) | Brazec | φ12.7(1/2) | φ28.58(1-1/8) |
| (E)P120 | φ9.52(3/8) | Brazec | φ28.58(1-1/8) | Brazec | φ12.7(1/2) | φ28.58(1-1/8) |
| (E)P120 | φ12.7(1/2) | Brazec *2*4 | φ28.58(1-1/8) | Brazec | φ12.7(1/2) | φ28.58(1-1/8) |
| (E)P144 | φ12.7(1/2) | Brazec | φ28.58(1-1/8) | Brazec | φ12.7(1/2) | φ28.58(1-1/8) |

*1 Connect the refrigeran: pipe to the service valve according to the Installation Manua .
*2 Indicates dimensions and connection specifications in the case the unit is used in combinat:on with other outdoor units.
*3 Furthest piping length (OU from IU) ≧ 90m (295ft)
*4 Furthest piping length (OU from IU) ≧ 40m (131ft)

| NO. | Usage | | Specifications |
|---|---|---|---|
| ① | For pipes | Front through hole | 148(5-7/8) X 84(3-5/16) Knockout hole |
| ② | | Bottar through hole | 150(5 15/:6) X 94(3 3/4) Knockout hole |
| ③ | For wires | Front through hole | φ 62.7(2-1/2) or φ 34.5(1-3/8) Knockout hole |
| ④ | | Front through hole | φ 43.7(1-3/4) or φ 22.2(7/8) Knockout hole |
| ⑤ | | Bottar through hole | φ 65(2-9/16) Knockout hole |
| ⑥ | For transmission cables | Bottar through hole | φ 52(2-1/16) Knockout hole |
| ⑦ | | Front through hole | φ 34(1-3/8) Knockout hole |
| ⑧ | | Bottar through hole | φ 34(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).

Specifications are subject to change without notice.

© 2024 Mitsubishi Electric Trane HVAC US LLC. All rights reserved.

# MODULE 2: PUHY-EP144TNU-A1 – DIMENSIONS

## PUHY-EP96, 120, 144T/YNU-A1

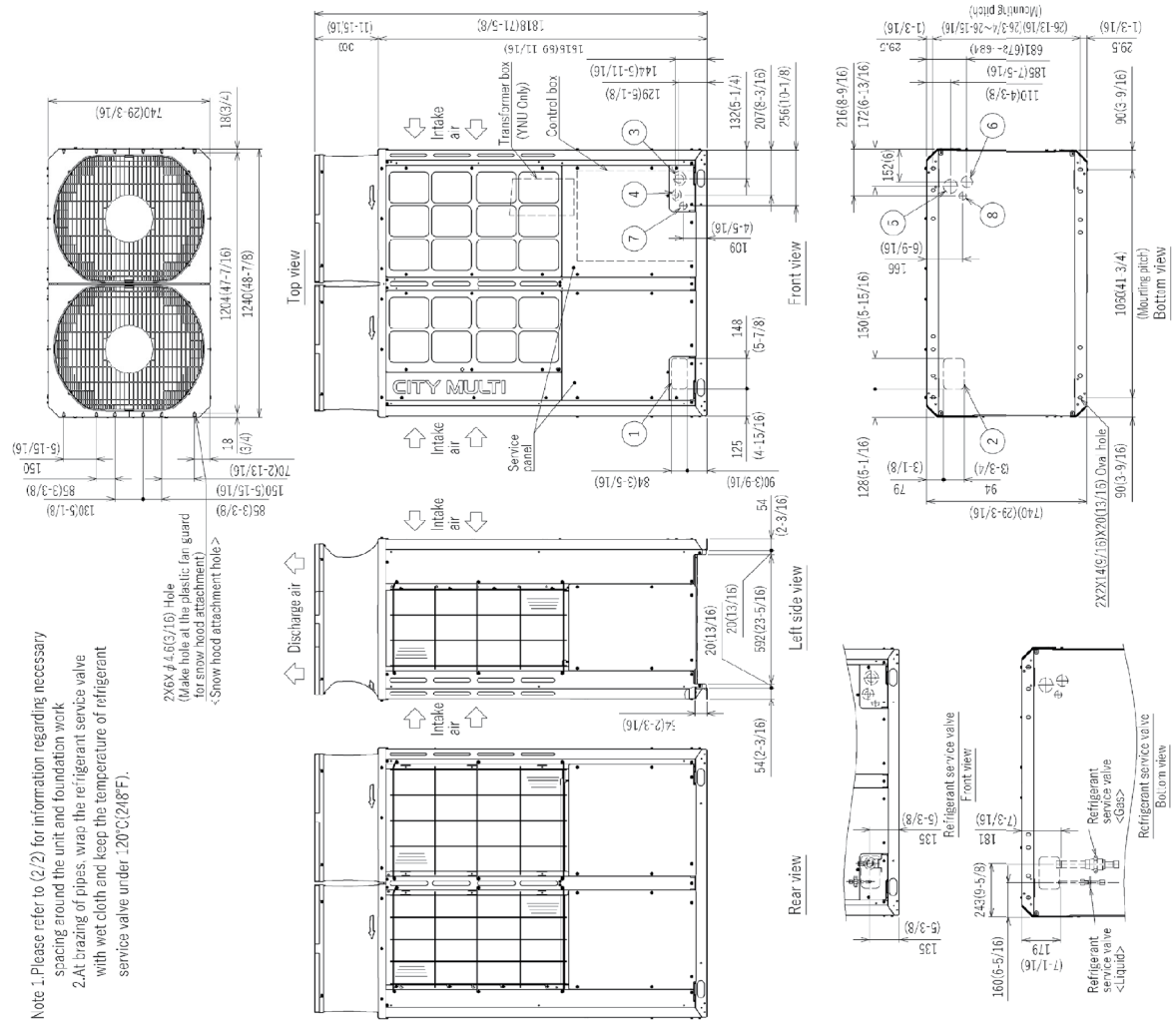
Unit: mm (in.)

Connecting pipe specifications

| Model | Diameter | | | | | |
|---|---|---|---|---|---|---|
| | Refrigerant pipe *1 | | | | Service valve | |
| | Liquid | | Gas | | Liquid | Gas |
| (E)P96 | φ9.52(3/8) | Brazec | φ22.2(7/8) | Brazec | φ12.7(1/2) | φ28.58(1-1/8) |
| (E)P96 | φ12.7(1/2) | Brazec *3 | φ22.2(7/8) | Brazec | φ12.7(1/2) | φ28.58(1-1/8) |
| (E)P120 | φ9.52(3/8) | Brazec | φ28.58(1-1/8) | Brazec | φ12.7(1/2) | φ28.58(1-1/8) |
| (E)P120 | φ12.7(1/2) | Brazec *2*4 | φ28.58(1-1/8) | Brazec | φ12.7(1/2) | φ28.58(1-1/8) |
| (E)P144 | φ12.7(1/2) | Brazec | φ28.58(1-1/8) | Brazec | φ12.7(1/2) | φ28.58(1-1/8) |

*1 Connect the refrigeran: pipe to the service valve according to the Installation Manua .
*2 Indicates dimensions and connection specifications in the case the unit is used in combinat:on with other outdoor units.
*3 Furthest piping length (OU from IU) ≧ 90m (295ft)
*4 Furthest piping length (OU from IU) ≧ 40m (131ft)

| NO. | Usage | | Specifications |
|---|---|---|---|
| ① | For pipes | Front through hole | 148(5-7/8) X 84(3-5/16) Knockout hole |
| ② | | Bottor through hole | 150(5 15/:6) X 94(3 3/4) Knockout hole |
| ③ | For wires | Front through hole | φ 62.7(2-1/2) or φ34.5(1-3/8) Knockout hole |
| ④ | | Front through hole | φ 43.7(1-3/4) or φ22.2(7/8) Knockout hole |
| ⑤ | | Bottor through hole | φ 65(2-9/16) Knockout hole |
| ⑥ | For transmission cables | Bottor through hole | φ 52(2-1/16) Knockout hole |
| ⑦ | | Front through hole | φ 34(1-3/8) Knockout hole |
| ⑧ | | Bottor through hole | φ 34(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).

Specifications are subject to change without notice.

© 2024 Mitsubishi Electric Trane HVAC US LLC. All rights reserved.

# MODULE 3: PUHY-EP120TNU-A1 – DIMENSIONS

## PUHY-EP96, 120, 144T/YNU-A1

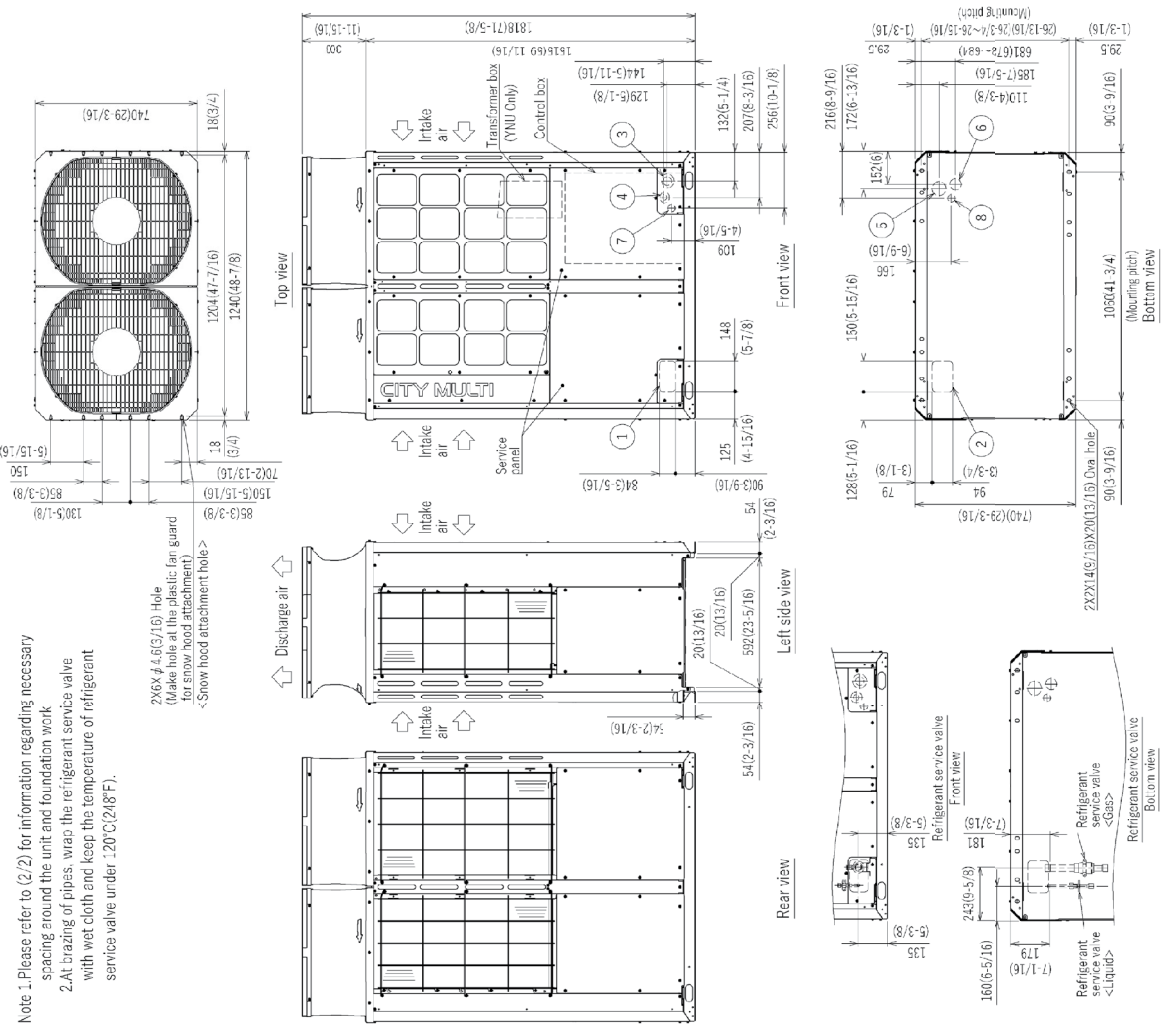
Unit: mm (in.)

Connecting pipe specifications

| Model | Diameter | | | | | |
|---|---|---|---|---|---|---|
| | Refrigerant pipe *1 | | | | Service valve | |
| | Liquid | | Gas | | Liquid | Gas |
| (E)P96 | φ9.52(3/8) | Brazec | φ22.2(7/8) | Brazec | φ12.7(1/2) | φ28.58(1-1/8) |
| (E)P96 | φ12.7(1/2) | Brazec *3 | φ22.2(7/8) | Brazec | φ12.7(1/2) | φ28.58(1-1/8) |
| (E)P120 | φ9.52(3/8) | Brazec | φ28.58(1-1/8) | Brazec | φ12.7(1/2) | φ28.58(1-1/8) |
| (E)P120 | φ12.7(1/2) | Brazec *2*4 | φ28.58(1-1/8) | Brazec | φ12.7(1/2) | φ28.58(1-1/8) |
| (E)P144 | φ12.7(1/2) | Brazec | φ28.58(1-1/8) | Brazec | φ12.7(1/2) | φ28.58(1-1/8) |

*1 Connect the refrigeran: pipe to the service valve according to the Installation Manua .
*2 Indicates dimensions and connection specifications in the case the unit is used in combinat:on with other outdoor units.
*3 Furthest piping length (OU from IU) ≧ 90m (295ft)
*4 Furthest piping length (OU from IU) ≧ 40m (131ft)

| NO. | Usage | | Specifications |
|---|---|---|---|
| ① | For pipes | Front through hole | 148(5-7/8) X 84(3-5/16) Knockout hole |
| ② | | Bottar through hole | 150(5 15/:6) X 94(3 3/4) Knockout hole |
| ③ | For wires | Front through hole | φ 62.7(2-1/2) or φ 34.5(1-3/8) Knockout hole |
| ④ | | Front through hole | φ 43.7(1-3/4) or φ 22.2(7/8) Knockout hole |
| ⑤ | | Bottar through hole | φ 65(2-9/16) Knockout hole |
| ⑥ | For transmission cables | Bottar through hole | φ 52(2-1/16) Knockout hole |
| ⑦ | | Front through hole | φ 34(1-3/8) Knockout hole |
| ⑧ | | Bottar through hole | φ 34(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).

Specifications are subject to change without notice.

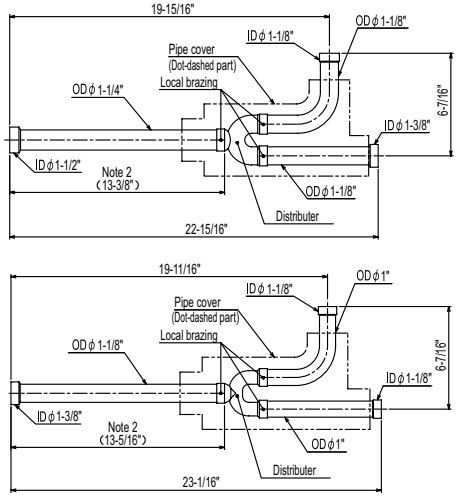
© 2024 Mitsubishi Electric Trane HVAC US LLC. All rights reserved.

# TWINNING KIT: CMY-Y300CBK2R1 – DIMENSIONS

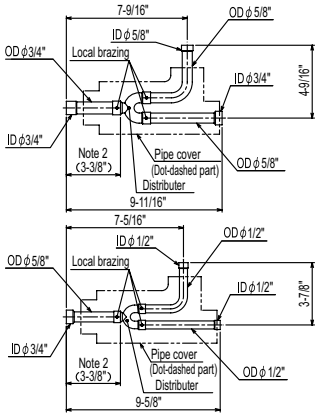
CMY-Y300CBK2R1

in.

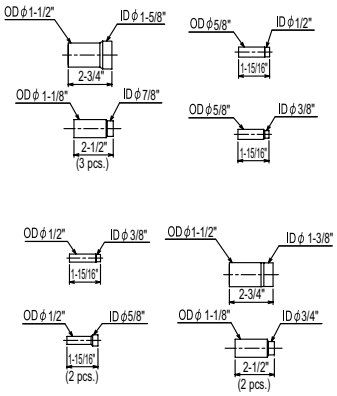
For Gas pipe:




For Liquid pipe:

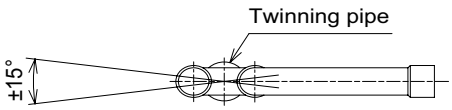



<Reducer(Accessory)>




ID: Inner Diameter OD: Outer Diameter

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