

Mitsubishi Electric Air Conditioner CITY MULTI CMY-R100NCBK, CMY-R200NCBK, CMY-R300NCBK Twinning Kit Installation Manual





WT09183X03

- For your safety, thoroughly read the following instructions prior to installation.

Safety Precautions

- Thoroughly read the following "Safety Precautions" to ensure proper installation.
- Observe the following important safety precautions at all times.
- Hazards that can occur from incorrect handling are classified by the symbols below:

 WARNING	Incorrect handling can result in death or serious injury.
 CAUTION	Incorrect handling can result in bodily injury and/or structure damage.

WARNING

Only a dealer or qualified technician should perform installation.

- Improper installation may result in refrigerant gas leakage and equipment damage.

Do not make any modifications or alterations. Consult your dealer for repair.

- Improper installation may result in water leakage, electric shock, or fire.

In the event of a refrigerant leak, thoroughly ventilate the room.

- If refrigerant leaks and comes in contact with an open flame, toxic gases will be generated.

Properly install all parts according to the instructions in the Installation Manual.

- If the wrong twinning pipe or wrong size connecting pipe is used, air conditioning performance will suffer.

When installing or relocating the unit, check that no substance other than the specified refrigerant (R410A) enters the refrigerant circuit.

- Any presence of foreign substance or air can cause abnormal pressure rise or explosion.

After installation, check for a refrigerant leak.

- If leaked refrigerant comes in contact with a heat source, such as a fan heater, stove, or electric grill, toxic gases will be generated.

CAUTION

Properly dispose of packing materials.

- Plastic bags can pose suffocation and choking hazards: keep them out of the reach of children. Tear the plastics bags before disposing of them.

Do not touch the refrigerant pipes and refrigerant circuit components with bare hands during and immediately after operation.

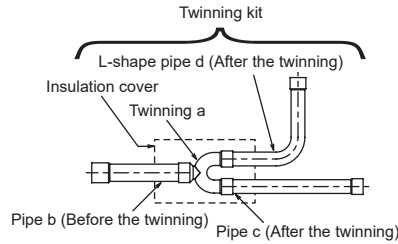
- During or immediately after operation, certain parts of the unit such as pipes and compressor may be either very cold or hot, depending on the state of the refrigerant in the unit at the time. To reduce the risk of frostbites and burns, do not touch these parts with bare hands.

*** See the Installation Manual that came with the outdoor unit for installation instructions.**

1. Confirming the Package Contents

The following items are included with the Twinning Kit (CMY-R100NCBK, CMY-R200NCBK, CMY-R300NCBK). Verify that all items are present before starting installation.

- * Always use the twinning pipes included in the kit when preparing the twinning kit.
- If the field-supplied pipes do not fit the parts in the kit, use the accessory piping parts listed below.



(1) Twinning pipes

Model	Section	Twinning a	Pipe b (Before the twinning)	Pipe c (After the twinning)	L-shape Pipe d (After the twinning)	Insulation cover	Installation Manual
CMY-R100NCBK	High-pressure	15.88 [5/8] × 15.88 [5/8] × 19.05 [3/4]	-	-	-	Small	1 (This booklet)
	Low-pressure	25.4 [1] × 25.4 [1] × 28.58 [1-1/8]	OD28.58 [1-1/8]-ID28.58 [1-1/8]	OD25.4 [1]-ID22.2 [7/8]	OD25.4 [1]-ID22.2 [7/8]	Large	
CMY-R200NCBK	High-pressure	19.05 [3/4] × 19.05 [3/4] × 22.2 [7/8]	-	-	-	Small	
	Low-pressure	25.4 [1] × 25.4 [1] × 28.58 [1-1/8]	OD28.58 [1-1/8]-ID28.58 [1-1/8]	OD25.4 [1]-ID22.2 [7/8]	OD25.4 [1]-ID22.2 [7/8]	Large	
CMY-R300NCBK	High-pressure	19.05 [3/4] × 19.05 [3/4] × 28.58 [1-1/8]	-	-	-	Small	
	Low-pressure	28.58 [1-1/8] × 28.58 [1-1/8] × 31.75 [1-1/4]	OD31.75 [1-1/4]-ID34.93 [1-3/8]	OD28.58 [1-1/8]-ID28.58 [1-1/8]	OD28.58 [1-1/8]-ID28.58 [1-1/8]	Large	

(2) Accessory piping parts

Model	Section	Supplied pipe	
CMY-R100NCBK	High-pressure	OD19.05 [3/4]-ID22.2 [7/8]	-
	Low-pressure	OD22.2 [7/8]-ID19.05 [3/4] (2)	-
CMY-R200NCBK	High-pressure	-	-
	Low-pressure	OD22.2 [7/8]-ID28.58 [1-1/8] (2)	OD28.58 [1-1/8]-ID34.93 [1-3/8]
CMY-R300NCBK	High-pressure	OD19.05 [3/4]-ID22.2 [7/8] (2)	-
	Low-pressure	OD34.93 [1-3/8]-ID41.28 [1-5/8]	-

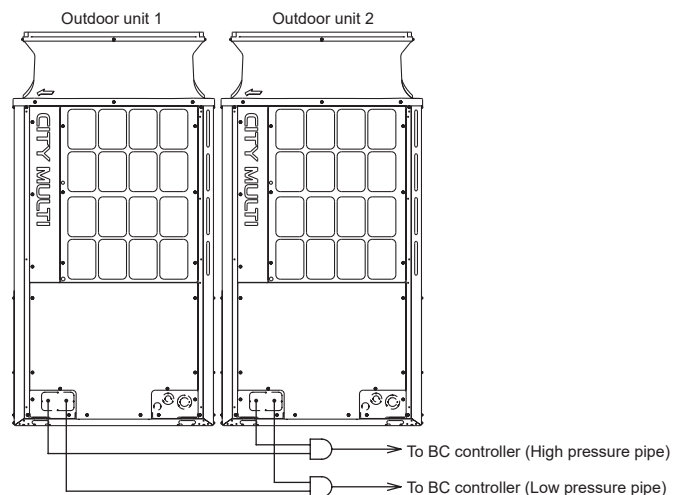
(3) List of field-supplied parts

- Refrigerant pipes other than the ones provided in the kit
- Heat-resistant insulation material (for field-supplied refrigerant pipes)
- Insulation cover tape

2. Selecting the Correct Size Refrigerant Pipes and Using the Twinning Kit

(1) Pipe size

- ① Field-supply the pipes to be connected to the kit.
- ② Select the correct size pipe referring to the Installation manual of the unit model in use or the Databook.
- ③ If the pipe was cut with a pipe cutter, remove the burrs and eliminate foreign materials before connecting.



PURY-HP144 to HP240, (E)P192 to (E)P240

Set model		PURY-HP144	PURY-HP/(E)P192	PURY-(E)P216	PURY-HP/(E)P240
Set Unit	Unit 1	PURY-HP72	PURY-HP/(E)P96	PURY-(E)P120	PURY-HP/(E)P120
	Unit 2	PURY-HP72	PURY-HP/(E)P96	PURY-(E)P96	PURY-HP/(E)P120
Twinning type		CMY-R100NCBK		CMY-R200NCBK	
Twinning pipe - BC Controller	High-pressure	a	ø22.2 [7/8]		ø22.2 [7/8]*
Twinning pipe - BC Controller	Low-pressure	b	ø28.58 [1-1/8]		ø34.93 [1-3/8]

* When the high pressure piping length is 65 m (213 ft) or less, use ø22.2 (ø7/8) pipe. When the high pressure piping length exceeds 65 m (213 ft), use ø22.2 (ø7/8) pipe until 65 m (213 ft), use ø28.58 (ø1-1/8) pipe for the part that exceeds 65 m (213 ft).

See reverse.

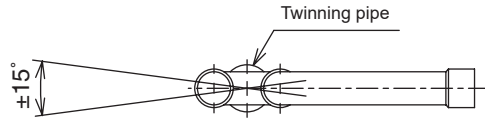
PURY-(E)P264 to (E)P432

Set model			PURY-(E)P264	PURY-(E)P288	PURY-(E)P312	PURY-(E)P336	PURY-EP384	PURY-EP432
Set Unit	Unit 1		PURY-(E)P144	PURY-(E)P144	PURY-(E)P168	PURY-(E)P168	PURY-EP192	PURY-EP216
	Unit 2		PURY-(E)P120	PURY-(E)P144	PURY-(E)P144	PURY-(E)P168	PURY-EP192	PURY-EP216
Twinning type			CMY-R300NCBK					
Twinning pipe - BC Controller	High-pressure	a	ø34.93 [1-3/8]			ø28.58 [1-1/8]		
Twinning pipe - BC Controller	Low-pressure	b	ø34.93 [1-3/8]			ø41.28 [1-5/8]		

Twinning pipe - Outdoor unit	Unit model	High-pressure	Low-pressure
	PURY-HP72	ø15.88 [5/8]	ø19.05 [3/4]
	PURY-HP/(E)P96	ø19.05 [3/4]	ø22.2 [7/8]
	PURY-HP/(E)P120	ø19.05 [3/4]	ø28.58 [1-1/8]
	PURY-(E)P144	ø22.2 [7/8]	ø28.58 [1-1/8]
	PURY-(E)P168	ø22.2 [7/8]	ø28.58 [1-1/8]
	PURY-EP192	ø22.2 [7/8]	ø28.58 [1-1/8]
	PURY-EP216	ø22.2 [7/8]	ø28.58 [1-1/8]

(2) Slope of twinning pipes

Make sure the slope of the twinning pipes are at an angle within ±15° to the horizontal plane.
If the slope exceeds the specified angle, the unit may be damaged.



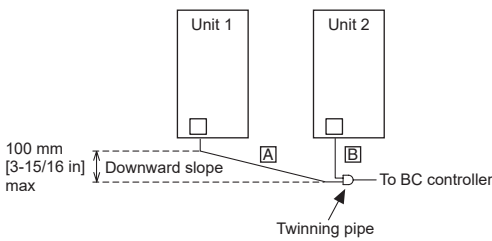
Slope of the twinning pipe is at an angle within ±15° to the horizontal plane.

(3) The length of the straight pipe between indoor units and the twinning pipe

Use the pipes supplied in the twinning kit, and make sure the section of the field-supplied pipe that connects to the twinning pipe has at least 500 mm [19-11/16 in] of straight section. (The section of the field-supplied pipe that connects to the twinning pipe must have at least 500 mm [19-11/16 in] of straight section.) If the straight section is less than 500 mm [19-11/16 in], it may result in equipment damage.

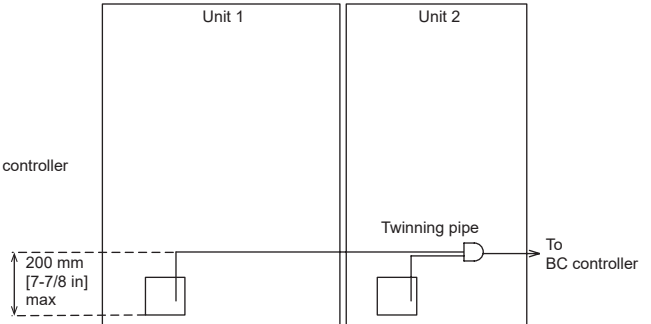
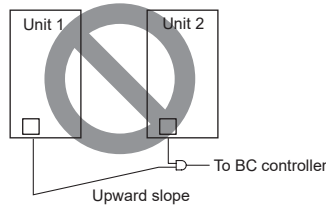
(4) Pipe connection

- Make sure the pipes from the twinning pipe to the outdoor unit are sloped downwards.



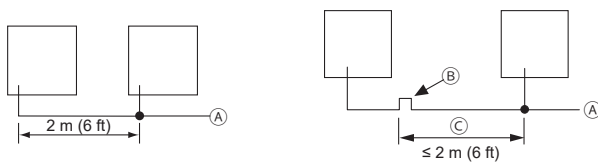
Total pipe length = A + B < 5 m [16-7/16 ft]

- If twinning pipe is installed above the base of the outdoor unit, it should be no more than 200 mm [7-7/8 in].



- If the length of the pipe between the branching point and the outdoor unit exceeds 2 m (6 ft), provide a trap within 2 m (6 ft) from the branching point.
The trap must be at least 200 mm (7-7/8 in) in height. (high-pressure pipe only) If there is no trap, oil can accumulate inside the pipe, causing a shortage of oil and may damage the compressor.

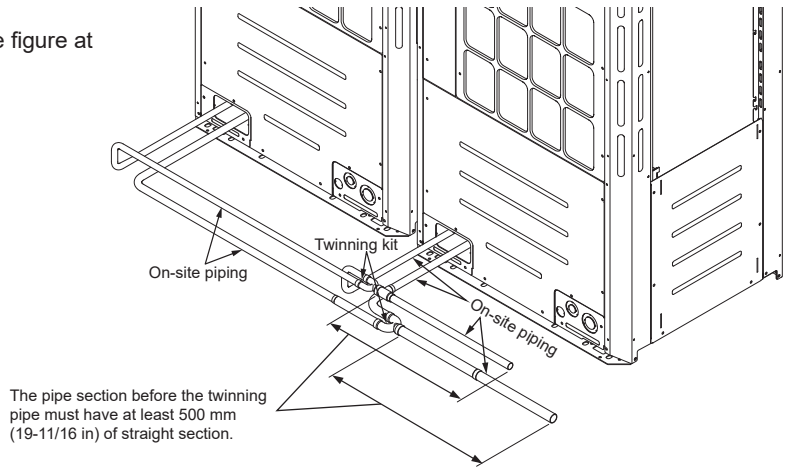
* Small dots in the figures indicate branching points.



- (A) To indoor units
- (B) Trap (high-pressure pipe only)
- (C) High-pressure pipe

3. Pipe Connection Example

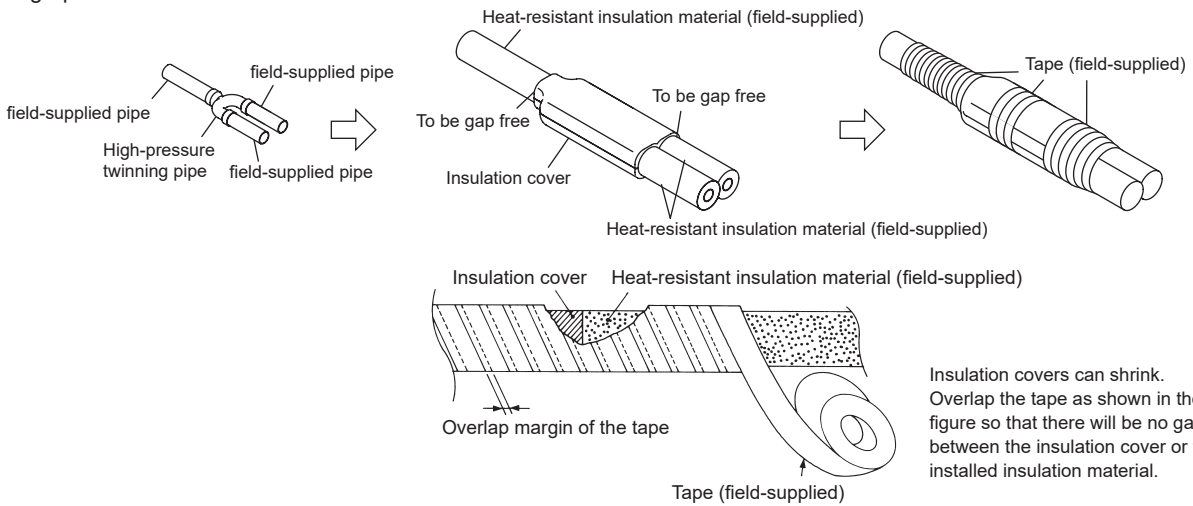
Connect the pipes between outdoor units, referencing the figure at right.



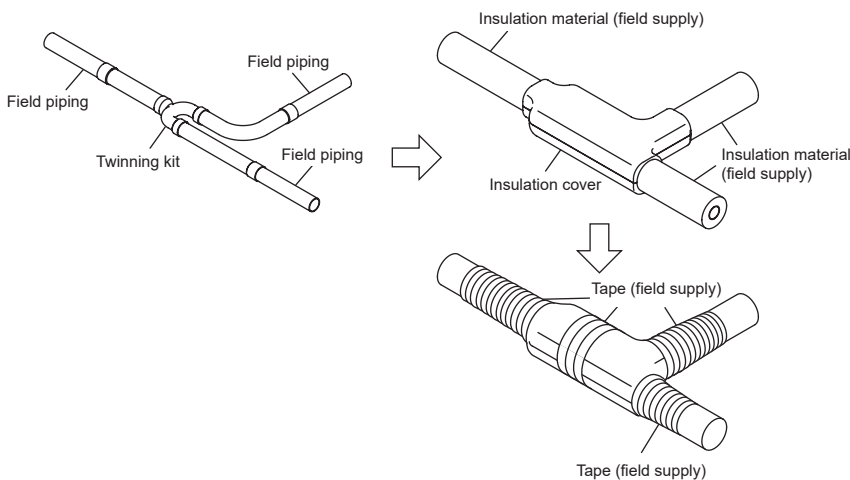
4. Insulation Cover Installation

Install the insulation cover on the twinning kit after brazing the pipes and twinning kit. Insulate all refrigerant pipes. Insulate the high-pressure and low-pressure pipes separately, and pipes located inside the unit as well as the outside. Use heat-resistant insulation material (Heat resistant : at least 120°C [248°F], Thickness: high-pressure = 10 mm [3/8 in], low-pressure = 20 mm [13/16 in]). Position the edges of the insulation cover and heat-resistant insulation material so as not to leave a gap, and then wrap the exterior perimeter of the pipe joints and middle with tape (field-supplied).

(1) High-pressure side



(2) Low-pressure side



5. Miscellaneous Notes

Secure the field-supplied pipes with a pipe cover and a cable tie in place to keep them from coming in contact with other pipes as necessary.

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See reverse.