

# Mitsubishi Electric Air Conditioner CITY MULTI CMY-R100CBK2 Twinning Kit Installation Manual





WT06631X01

- 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:

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

### **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-R100CBK2). 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) Package contents

Model	① Low-pressure twinning kit	② High-pressure twinning pipe	③ Fixing screw	④ Elbow pipe ø22.2 [7/8]	⑤ Elbow pipe ø28.58 [1-1/8]	⑥ OD15.88 [5/8] -ID19.05 [3/4]	⑦ High-pressure pipe (for routing through the bottom)	⑧ High-pressure pipe (for routing through the front)	⑨ Pipe cover	⑩ OD19.05 [3/4] -ID15.88 [5/8]
CMY-R100CBK2	1	1	2	1	1	1	1	1	1	3
Model	⑪ OD22.2 [7/8] -ID19.05 [3/4]	⑫ OD19.05 [3/4] -ID22.2 [7/8]	⑬ U-PIPE ID25.4 [1]	⑭ Saddle	⑮ Packing	⑯ Fixing plate	⑰ Installation Manual (this booklet)	⑱ Insulation cover	⑲ Cable tie	
CMY-R100CBK2	1	1	1	1	1	1	1	1	2	

## (2) List of field-supplied parts

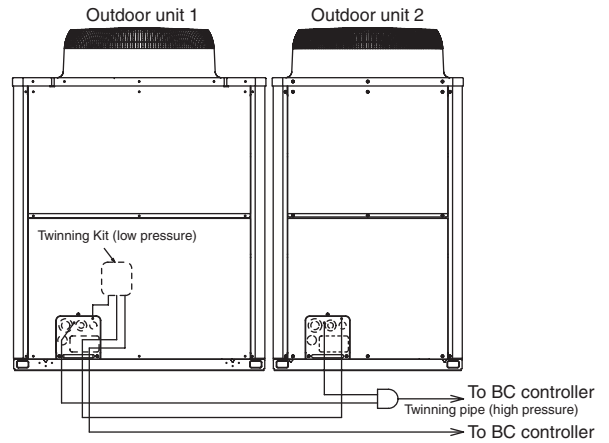
- Refrigerant pipes other than the ones provided in the kit.
- Heat-resistant insulation material (for field-supplied refrigerant pipes)
- Insulation cover tape

# 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 outline diagram 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.

\* On the low-pressure side, the twinning kit connects to the field-supplied pipes inside the outdoor unit.  
 The distributor on the low-pressure side must be placed in the outdoor unit that has a larger capacity index of the two, regardless of the relative positions of the outdoor units or their addresses.  
 If the distributor is placed in the outdoor unit that has a smaller capacity, refrigerant will not be properly distributed and compressor failure may result.  
 (If outdoor units that have the same capacity are used in combination, the distributor can be placed in either outdoor unit.)

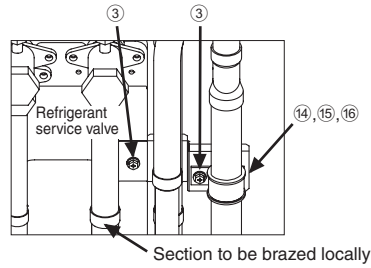


See reverse.

(2) Low-pressure twinning kit in CMY-R100CBK2

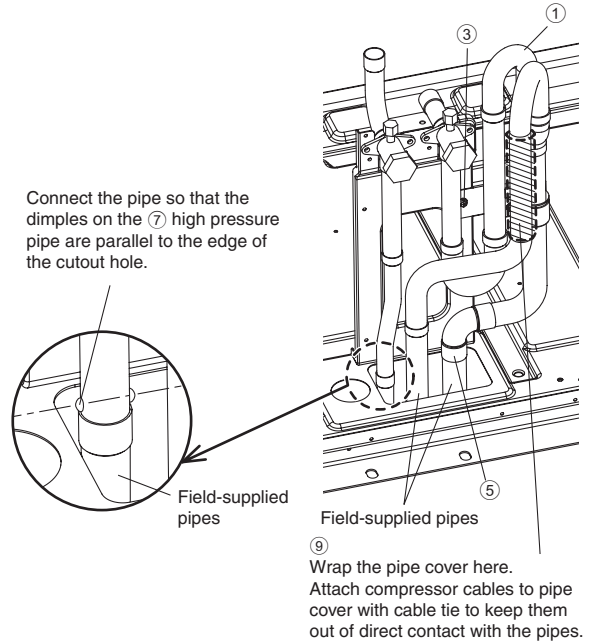
Use ⑬ in table "(1) Package Contents." Attach items ⑭, ⑮, and ⑯ to the stop valve sheet metal and then to the low-pressure twinning kit to hold it into place.

1. Attach item ⑯ to the stop valve sheet metal.
2. Attach the packing and saddle.
3. Secure the low pressure twinning kit.



(3) Routing the pipe through the bottom

- (1) Braze item ⑦ high-pressure pipe to the refrigerant service valve so that the dimples on the pipe are parallel to the edge of the cutout hole. Expand the end of the field-supplied pipes, and braze them to item ⑦ high-pressure pipe.
- (2) Attach item ① low-pressure twinning kit to the sheet metal of the refrigerant service valve with item ③ screw, and braze it to the refrigerant service valve.
- (3) Braze item ⑤ elbow pipe to the field-supplied pipe first, and then braze it to item ① low-pressure twinning kit.
- (4) Flare the field-supplied pipe end, and braze the pipe to the low-pressure pipe in the middle.
- (5) Wrap the pipe in front of item ① low-pressure twinning kit with item ⑨ pipe cover, and attach compressor cables to item ⑨ pipe cover with item ⑰ cable tie to keep them out of direct contact with the pipes.

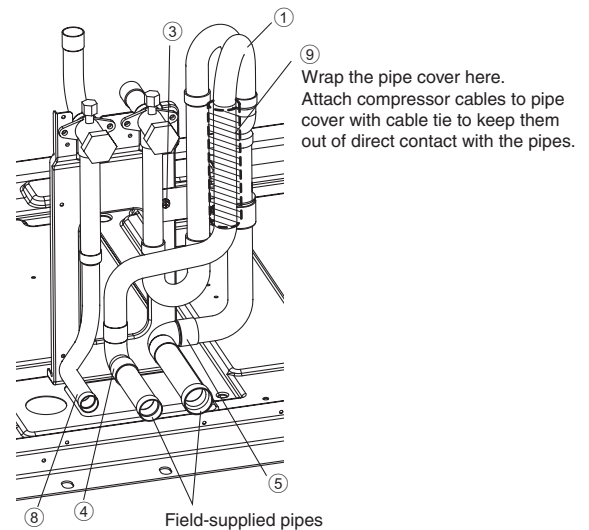


**CAUTION**

- Before heating the pipes, place a wet towel on the refrigerant service valve to keep its temperature below 120°C [248°F].
- Direct the flame away from the cables and sheet metals inside the unit so as not to burn them.

(4) Routing the pipe through the front

- (1) Braze item ⑧ high-pressure pipe to the refrigerant service valve.
- (2) Attach item ① low-pressure twinning kit to the sheet metal of the refrigerant service valve with item ③ screw, and braze it to the refrigerant service valve.
- (3) Braze item ⑤ elbow pipe to the field-supplied pipe first, and then braze it to item ① low-pressure twinning kit.
- (4) Braze item ④ elbow pipe to the low-pressure pipe in the middle.
- (5) Wrap the pipe in front of item ① low-pressure twinning kit with item ⑨ pipe cover, and attach compressor cables to item ⑨ pipe cover with item ⑰ cable tie to keep them out of direct contact with the pipes.



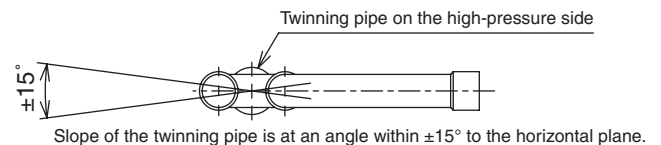
**CAUTION**

- Before heating the pipes, place a wet towel on the refrigerant service valve to keep its temperature below 120°C [248°F].
- Direct the flame away from the cables and sheet metals inside the unit so as not to burn them.

(5) Slope of twinning pipes (high-pressure side only)

Make sure the slope of the twinning pipes are at an angle within  $\pm 15^\circ$  to the horizontal plane. If the slope exceeds the specified angle, the unit may be damaged.

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

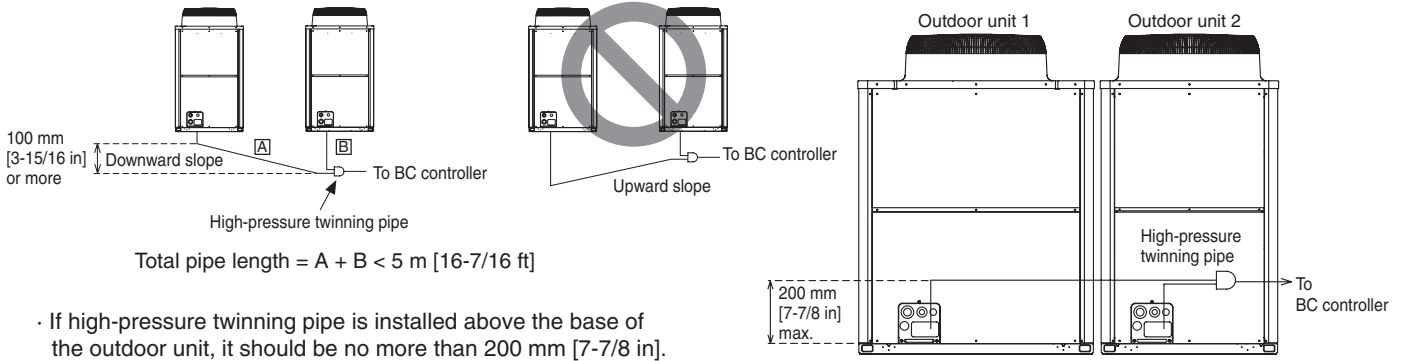


(6) The length of the straight pipe between indoor units and the twinning pipe (high-pressure pipe)

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.

(7) Pipe connection (high-pressure side)

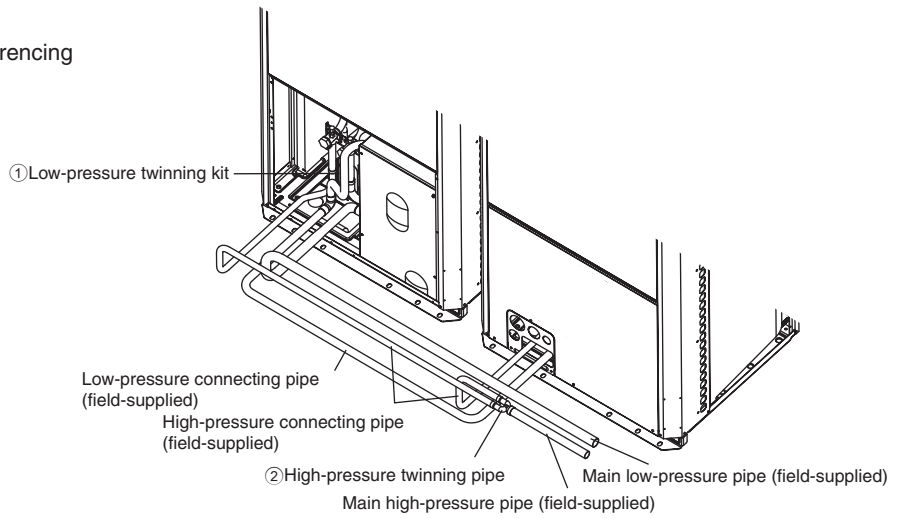
· Make sure the pipes from the twinning pipe to the outdoor unit are sloped downwards.



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

### 3. Pipe Connection Example

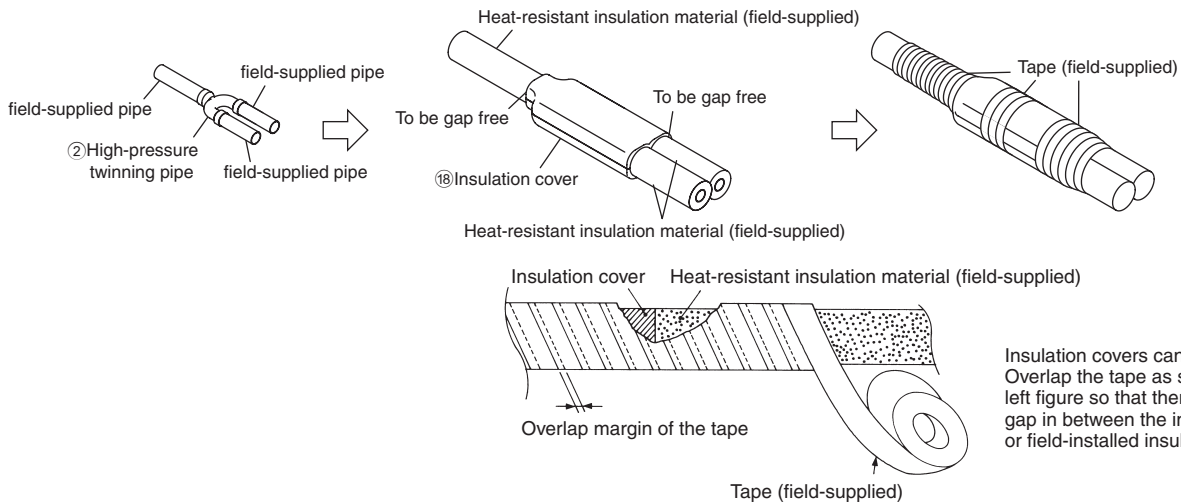
Connect the pipes between outdoor units, referencing the figure below.



### 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 [13/32 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).



Insulation covers can shrink. Overlap the tape as shown in the left figure so that there will be no gap in between the insulation cover or field-installed insulation material.

### 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.