

# TOSHIBA INSTALLATION MANUAL

## Carrier

### Super Heat Recovery Multi System Air Conditioner

#### Y-shape branching joints (Only for R410A)

#### Model: RBM-BY55FUL, BY105FUL, BY205FUL, BY305FUL

Thank you for purchasing the "Y-shape branching joints" for TOSHIBA Carrier Air Conditioner. Before starting the installation work, please read this manual carefully and install the product properly.

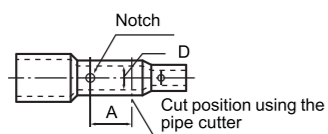
## PRECAUTIONS FOR SAFETY

- Please read "PRECAUTIONS FOR SAFETY" described in the Installation Manual of Super Heat Recovery Multi System outdoor unit.
- For piping material and size of the refrigerant pipes, refer to the Installation Manual of Super Heat Recovery Multi System outdoor unit.
- Installation work must be carried out by following this installation manual and using exclusive tools and pipes for the new refrigerant (R410A).
- Ask an authorized dealer or qualified installation professional to install this product.
- The parts shown in the right table are included in this package. Check those parts.

## 1. CONNECTING METHOD

- Select the socket (No. in ○) or plural socket (No. in □) fitting to the pipe diameter connected to the indoor unit. When using the plurals socket, cut with the pipe cutter as shown on the right.

<Example of plurals socket [91], [92], [93], [94]>



Insertion pipe diameter D	Ø3/8"	Ø1/2"	Ø3/4"
Dimensions A (rough standard)	0.39"	0.43"	0.67"

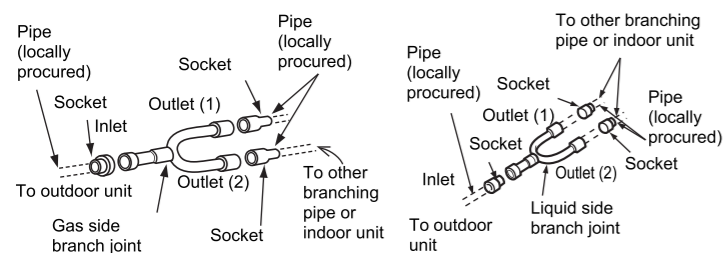
Unit: inch

- After cutting the pipe, be sure to remove the burrs and polish the end surface. When some squash or deformation, etc. occurs, improve the pipe insertion condition by using the flare tool.
- Confirm whether no dust, water, foreign matters, etc exists on the branching joint, the socket to be inserted, and inside the plurals socket.

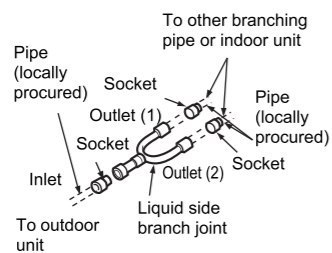
### CAUTION

- When brazing the refrigerant pipes, be sure to put the nitrogen first to prevent from oxidizing the inner pipe. If not, the oxidization scale brings the refrigerant cycle clogging and result in malfunction.
- Use the brand new pipe for the refrigerant pipe, and prevent from water and dust when installing.

#### <Gas side>

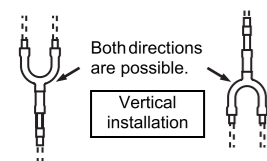


#### <Liquid side>



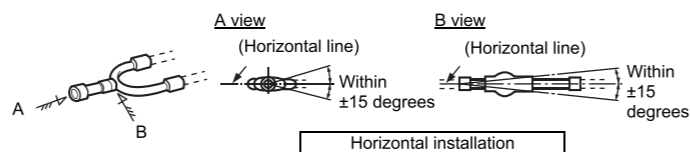
#### <Gas / Liquid side>

Install the branching pipes horizontally or vertically to make the flow split evenly.



### CAUTION

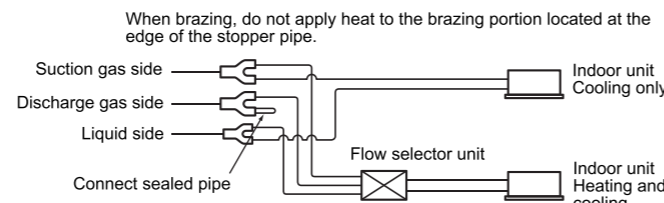
- When a branching pipe is installed horizontally, make its gradient within ± 15 degrees.



- After heat insulators are applied to the branching pipes, set some hanging metals (locally procured) as support.

### Example of connecting to heat pump model / cooling only model indoor units.

- When it is connected to a cooling only indoor unit, attach a sealed pipe to the discharge gas side unused connector of the branching pipe.



- When it is connected to a cooling only indoor unit as shown above, there is a way to do so without using a discharge gas side pipe of the branching joint. Refer to the installation manual of the air conditioner for the details.

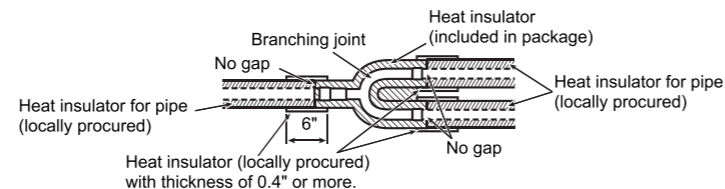
## 2. HEAT INSULATING METHOD

- In order to prevent dripping condensation, do not leave any gap between heat insulator for branching joint (included in package) and heat insulator for pipe (locally procured). And then, wrap the seam with heat insulators with thickness of 0.4" or more (locally procured).
- Use heat insulators with heat resistance of 248 °F or more for the gas side pipes.

### CAUTION

Condensation may occur on the heat insulator according to the atmosphere of the inside of the ceiling. If the inside of the ceiling is subject to be high temperature and high humidity, add glass wool (1.0 to 1.25 lbs/ft<sup>3</sup> (16 to 20 kg/m<sup>3</sup>), 0.4" thick or more) on the heat insulator described above for a sufficient heat insulation.

#### <Gas, liquid side>



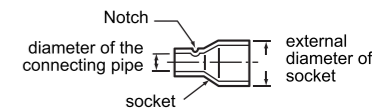
- Once heat insulators have been applied as shown above, tape up the heat insulator ends.



## PARTS LIST

### NOTE

- ( ) : indicates outer diameter.
- For the sockets, the side with a notch is the side to connect a pipe. (91, 98, 99, 91, 70) : without notch
- For RBM-BY55FUL and BY105FUL, the suction gas side and the discharge gas side of the branching pipes are the same. They are distinguished by model name labels. Confirm the labels at installation.



↔ shows the combination. [Unit: inch]

NAME	MODEL	RBM-BY55FUL	RBM-BY105FUL	RBM-BY205FUL	RBM-BY305FUL					
Suction gas side										
Discharge gas side										
Liquid side										
Heat insulator (suction gas side / discharge gas side / liquid side)										
Socket	Suction gas side	Inlet side	No.		No.		No.		No.	
		Outlet side	[91]	(Ø5/8") × Ø1/2" × Ø3/8" [(Ø15.9) × Ø12.7 × Ø9.5] .....2pcs	[70]	Ø1 1/8" × (Ø7/8") [(Ø28.6) × (Ø22.2)] ..... 1pc	[59]	Ø1 1/8" × (Ø1 1/4") [(Ø28.6) × (Ø31.8)] ..... 1pc Ø1 3/8" × (Ø1/4") [(Ø34.9) × (Ø31.8)] ..... 1pc	[61]	Ø1 3/8" × (Ø1 1/2") [(Ø34.9) × (Ø38.1)] ..... 1pc Ø1 5/8" × (Ø1 1/2") [(Ø41.3) × (Ø38.1)] ..... 1pc
	Discharge gas side	Inlet side	[99]	Ø1/2" × (Ø5/8") [(Ø12.7) × (Ø15.9)] ..... 1pc	[18]	Ø3/4" × (Ø7/8") [(Ø19.1) × (Ø22.2)] ..... 1pc	[18]	Ø3/4" × (Ø7/8") [(Ø19.1) × (Ø22.2)] ..... 1pc Ø1 1/8" × (Ø7/8") [(Ø28.6) × (Ø22.2)] ..... 1pc	[27]	Ø1 1/8" × (Ø1 1/4") [(Ø28.6) × (Ø31.8)] ..... 1pc Ø1 3/8" × (Ø1 1/4") [(Ø34.9) × (Ø31.8)] ..... 1pc
		Outlet side	[99]	(Ø5/8") × Ø1/2" [(Ø15.9) × Ø12.7] .....2pcs Sealed pipe (Ø1/2") [(Ø12.7)] ..... 1pc	[93]	(Ø7/8") × Ø3/4" × Ø1/2" [(Ø22.2) × Ø19.1 × Ø12.7] ..... 2pcs Sealed pipe (Ø1/2") [(Ø12.7)] ..... 1pc	[58]	(Ø1 1/8") × Ø1 1/8" [(Ø28.6) × Ø34.9] ..... 1pc (Ø7/8") × Ø7/8" [(Ø28.6) × Ø22.2] ..... 2pcs (Ø1 1/8") × Ø5/8" [(Ø28.6) × Ø15.9] ..... 1pc	[61]	(Ø1 1/2") × Ø1 5/8" [(Ø38.1) × Ø41.3] ..... 1pc (Ø1 1/2") × Ø1 3/8" [(Ø38.1) × Ø34.9] ..... 2pcs (Ø1 1/2") × Ø1 1/8" [(Ø38.1) × Ø28.6] ..... 2pcs (Ø1 1/8") × Ø7/8" [(Ø28.6) × Ø22.2] ..... 1pc (Ø1 1/2") × Ø5/8" [(Ø38.1) × Ø15.9] ..... 1pc
	Liquid side	Inlet side			[99]	Ø1/2" × (Ø5/8") [(Ø12.7) × (Ø15.9)] ..... 1pc	[51]	Ø3/4" × (Ø5/8") [(Ø19.1) × (Ø15.9)] ..... 1pc	[18]	(Ø3/4") × (Ø7/8") [(Ø19.1) × (Ø22.2)] ..... 1pc
		Outlet side	[91]	(Ø3/8") × Ø1/4" [(Ø9.5) × Ø6.4] ..... 2pcs	[91]	(Ø5/8") × Ø1/2" × Ø3/8" [(Ø15.9) × Ø12.7 × Ø9.5] ..... 1pc (Ø5/8") × Ø1/2" × Ø3/8" × Ø1/4" [(Ø15.9) × Ø12.7 × Ø9.5 × Ø6.4] ..... 1pc	[99]	(Ø5/8") × Ø1/2" [(Ø15.9) × Ø12.7] ..... 1pc (Ø5/8") × Ø1/2" × Ø3/8" × Ø1/4" [(Ø15.9) × Ø12.7 × Ø9.5 × Ø6.4] ..... 1pc	[94]	(Ø7/8") × Ø3/4" × Ø5/8" [(Ø22.2) × Ø19.1 × Ø15.9] ..... 1pc (Ø7/8") × Ø5/8" [(Ø22.2) × Ø15.9] ..... 1pc (Ø5/8") × Ø1/2" × Ø3/8" × Ø1/4" [(Ø15.9) × Ø12.7 × Ø9.5 × Ø6.4] ..... 1pc
Installation manual		This manual								