

## Package Air-conditioner Optional Parts

### Y-shape connection pipe (PAC-AK52YP-E)

**Always observe for safety**

- Carefully read this section "Always observe for safety", and securely install the optional parts.
- Be sure to observe the cautions described here: They include critical contents for safety.
- The following indications show the classifications for danger, and possible consequences following incorrect handling.

<b>WARNING</b>	Incorrect handling could lead to death or serious injury.
<b>CAUTION</b>	Incorrect handling could lead to injury or damage to house and household articles.

- After installation, perform a test run and make sure that there is no abnormality, and ask your customer to keep this installation sheet with the instruction manual at all times. Also ask the customer to transfer these manuals to a new user if the user changes.

### WARNING

Ask the dealer or specialist for information.

Carefully install the panel according to this installation sheet.

- If installed incorrectly by user, water leak, electric shock, fire, etc. could result.

- Incorrect installation could cause water leak, electric shock, fire, etc.

Before performing installation (moving) and electrical work.

### CAUTION

Do not place polyethylene bags in reach of young children.

If electrical work is necessary, use only specified electric wires adapted with current capacity

- Putting them over the head will block breathing passengers, which could result in suffocation.

- Use of unsuitable wire could cause electric leak, overheating or fire.

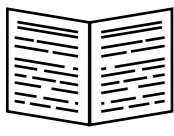
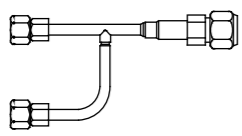
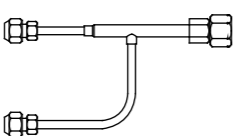
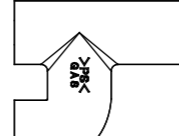
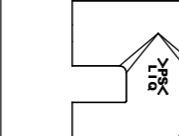
Securely apply heat-insulation to refrigerant pipe so that no condensation occurs

Securely perform drain piping work according to the installation manual so that no condensation occurs.

- If heat-insulation is inadequate, condensation could occur on the surface of pipes and dewdrops could accumulate on ceiling, floor or important goods.

- If piping work is incorrect, water leak may occur and ceiling, furniture, etc. may get wet.

### 1 The following items are included in the box. Check before starting installation.

① Installation sheet	② Y-shape connection pipe (gas)	③ Y-shape connection pipe (liquid)	④ Pipe cover (gas)	⑤ Pipe cover (liquid)
				
1 sheet (this paper)	1 piece	1 piece	1 set	1 set

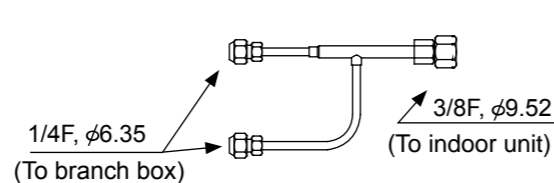
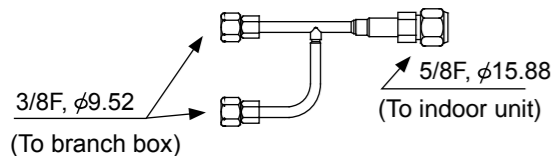
Note) Prepare the following items in the field.

- (1) Tape for heat insulator seal (2) Extended pipe for refrigerant pipe (3) Heat insulator for flare section

- Following is the specifications of gas pipe ②, liquid pipe ③.

#### ② Y-shape connection pipe (gas)

#### ③ Y-shape connection pipe (liquid)



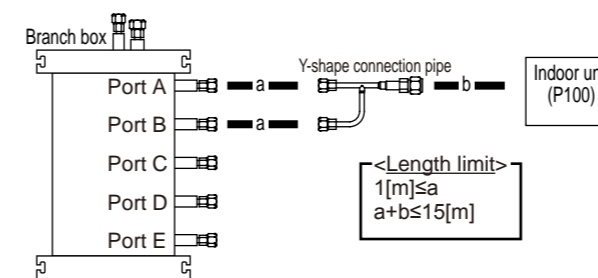
### 2 Be aware of the following at installation.

1. Observe the refrigerant pipe length specified in the appropriate installation manual of the outdoor unit.
2. Connect to P100 indoor units only. The other models are not available for the PAC-AK52YP-E pipe.
3. Connect to PAC-AK52BC branch box only. Do not connect to other branch boxes. (Table 1)
4. Connect to MXZ 8B-series outdoor units only. Do not connect to other outdoor units. (Table 1)
5. Take care that no foreign object, such as dust, enters during pipe connecting work.

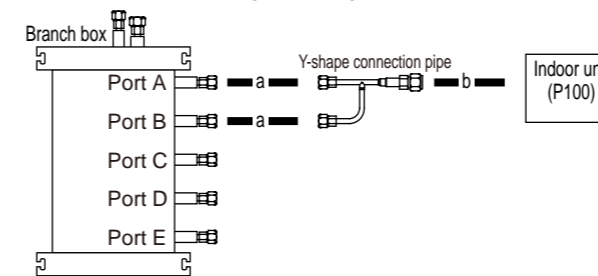
Table 1

Outdoor unit	Branch box		
	PAC-AK52BC	PAC-AK51BC	PAC-AK31BC
MXZ-8B series	Available	NG	NG
MXZ-8A series	NG	NG	NG

### 3 Outline of the system and pipe size



- In case of connecting to a single P100 indoor unit



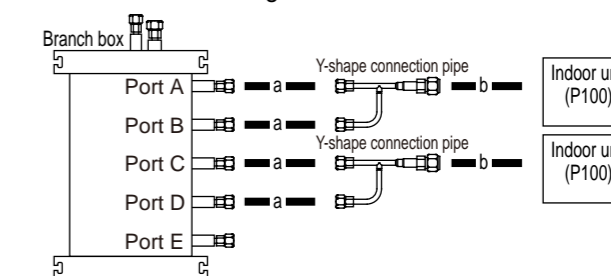
To connect a single P100 indoor unit, use port A and port B on the branch box.

Table 2

Distance between branch box and Y-shape connection pipe (=a)	Liquid		Gas	
	a	b	a	b
1 to 10 [m]	φ6.35	φ9.52	φ9.52	φ15.88
10 [m] or more	φ6.35	φ9.52	φ12.7 ※1	φ15.88

※1 To connect a φ12.7 gas pipe, use a joint pipe (MAC-A454JP)

- In case of connecting to two P100 indoor units



To connect two P100 indoor units, use port A and port B, and port C and port D on the branch box.

### 4 Connecting pipes

1. Apply thin layer of refrigerant oil to the pipe and joint seating surface before tightening the flare nut. <Fig1, Table3>
2. When usual pipe sealing is used, refer to Table4 for flaring of R410A refrigerant pipes. The size adjustment gauge can be used to confirm A measurements. <Fig2, Table4>
3. Apply refrigerating machine oil over the entire flare seat surface. <Fig3>
4. Use two wrenches to tighten piping connections. <Fig 4, Table5>  
Then beware that the piping of refrigerant pipes to a Y-shape connection pipe and to a box has no kinks.
5. Use a leak detector or soapy water to check for gas leaks after connections are completed.

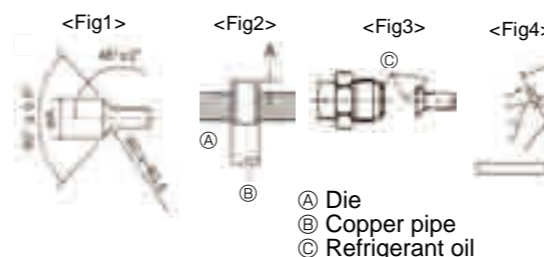


Table 3

Pipe diameter (mm (inch))	Flare dimensions φA dimensions (mm)
φ6.35 (1/4")	8.7 - 9.1
φ9.52 (3/8")	12.8 - 13.2
φ12.7 (1/2")	16.2 - 16.6
φ15.88 (5/8")	19.3 - 19.7

Table 4

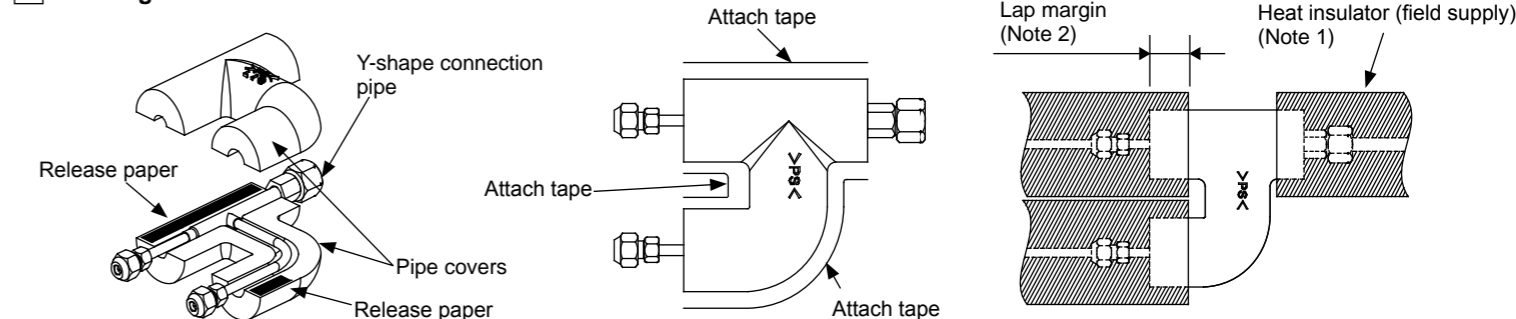
Pipe diameter (mm (inch))	A (mm)	
	Flare tool for R410A	Flare tool for R22•R407C
	Clutch type	
φ6.35 (1/4")	0 - 0.5	1.0 - 1.5
φ9.52 (3/8")	0 - 0.5	1.0 - 1.5
φ12.7 (1/2")	0 - 0.5	1.0 - 1.5
φ15.88 (5/8")	0 - 0.5	1.0 - 1.5

Table 5

Pipe diameter (mm (inch))	Flare nut O.D. (mm)	Tightening torque (N•m)
φ6.35 (1/4")	17	14 - 18
φ6.35 (1/4")	22	34 - 42
φ9.52 (3/8")	22	34 - 42
φ9.52 (3/8")	26	49 - 61
φ12.7 (1/2")	26	49 - 61
φ12.7 (1/2")	29	68 - 82
φ15.88 (5/8")	29	68 - 82
φ15.88 (5/8")	36	100 - 120

1(N•m)≈10 kgf•cm

### 5 Installing heat insulation cover and heat insulators



- (1) Fit the Y-shape connection pipe into the lower pipe cover and peel off release paper, and hold the Y-shape connection pipe between the pipe covers.
- (2) Attach tape (field supply) firmly so that the mating areas produce no gaps.
- (3) After connecting the Y-shape connection pipe to the refrigerant pipes, lap heat insulators covering the refrigerant pipes over the pipe covers by approx 10 to 15 mm.

Note 1) All the refrigerant pipes (field supply) must be insulated. Use heat insulators (field supply) with a thickness of 12 mm or more.  
Note 2) The pipe covers slightly shrink at high temperatures, so provide some lap margin when installing heat insulators.