

RAP Valve Kit (Refrigerant Accumulation
Protector Valve Kit) for R410A

TO THE PERSON IN CHARGE OF INSTALLATION

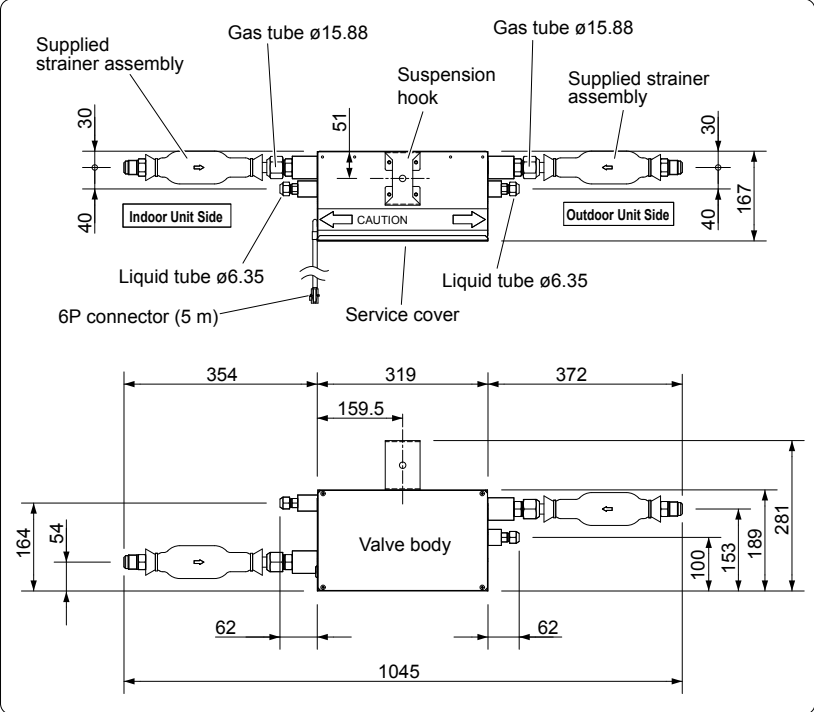
1. Accessories

Part name	Figure	Q'ty	Remarks
Strainer assembly for gas tube		2	For gas tube Note: Two pieces were joined at the time of shipment from the factory. Separate them for use.
Flare insulator		2	For gas tube
		2	For liquid tube
Insulating tape		4	For flare nut sections of gas and liquid tube
Vinyl clamp		14	For both ends of insulator
Washer		2	For suspension bolt
Suspension hook		1	Used to suspend RAP valve kit
M4 screw		4	Used to secure suspension hook
Connecting tube		2	For ø12.7 gas tube connection
		2	For ø9.52 liquid tube connection

2. Valve Kit Dimensions and Components

The maximum capacity of the indoor unit that can be connected is 14 kW (5 hp).
For 22.4 kW (8 hp) and 28 kW (10 hp) units, use 2 RAP valve kits connected in parallel.
(Refer to Fig. 6.)

Fig. 1 Dimensions and Components



Note: This figure shows the valve body with the suspension hook and strainer assemblies installed.

Fig. 2 Connecting Tube Shape
(For ø9.52 liquid tube connection)

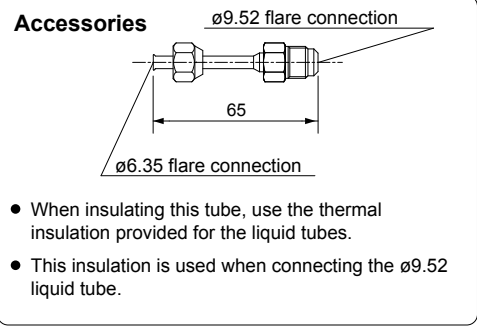
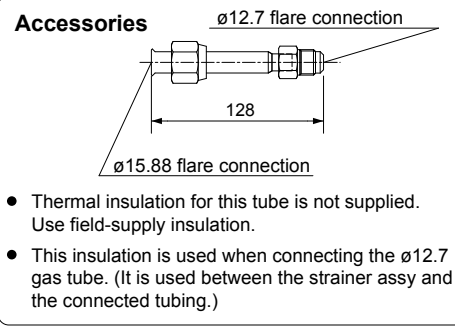


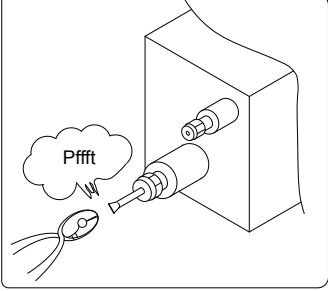
Fig. 3 Connecting Tube Shape
(For ø12.7 gas tube connection)



3. Airtightness Test

Nitrogen is sealed inside the main unit. Before loosening the flare section, perform the following airtightness check. Use pliers or a similar tool to bend the end of the indoor unit hermetically sealed tubing so that a crack is formed. Verify that a "pffft" sound occurs.

Fig. 4 Airtightness Test



4. Installation

1. Preparation

- Fit the supplied suspension hook to the valve body with 4 screws.
- Next, fit the strainer assemblies to the gas tube inlet and outlet and tighten the flare nut.
- In doing this, **be sure to use 2 spanners** together and tighten the flare nut with the tightening torque shown in Table 1.
- Since the RAP Valve Kit contains nitrogen, be careful when removing the flare nut.
- The diameter of the indoor unit tubing may be different from the diameter of the tubing for this unit. If this is the case, refer to Figs. 2 and 3 (for the liquid tube and gas tube, respectively) and follow the instructions there.
- For 22.4 kW (8hp) and 28 kW (10hp) indoor units, connect 2 RAP Valve Kits in parallel.

Fig. 5 Assembly Drawing

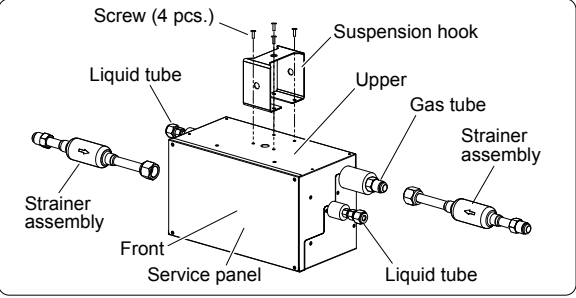


Fig. 6 Service Space

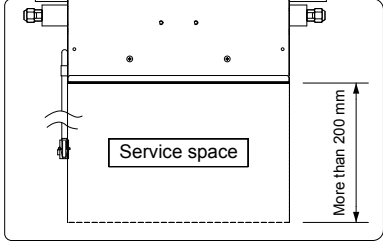
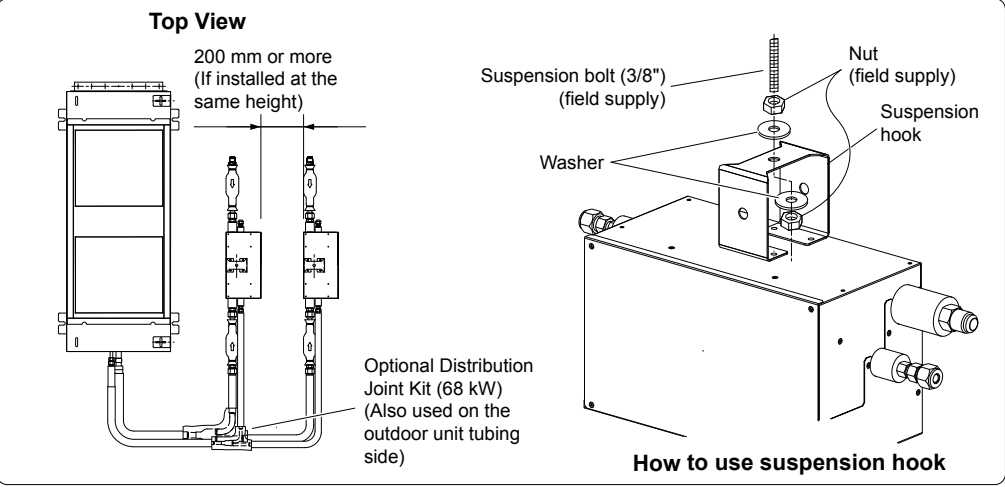


Fig. 7 Example of RAP Valve Kit Installation



2. Notes on Installation

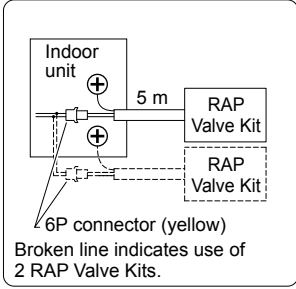
- For the direction for connecting the indoor and outdoor unit and RAP Valve Kit, be sure to follow the instructions on the label of the valve body.**
- Be sure to secure the valve body by using its structure with the suspension bolt, etc.
- Install the valve body within a **distance of 30 m from the indoor unit** as shown in Fig. 7.
- Be sure to install the valve body **with its upper surface facing upward**.
- When installing the valve, ensure a service space of 200 mm or more (Fig. 6).
- Secure the valve body by using the upper or side holes of the suspension hook.
- Do not place the valve body directly on the ceiling surface. Also, do not install near conference rooms or other rooms where extremely quiet operation is required.
- Never do drilling or welding** on the sheet metal of the valve body.
- Place the valve body so that it does not hinder draining.
- If using the optional tubing kit, refer to the installation manual for the kit.

5. Wiring, Tubing, and Insulation

1. Wiring

- Put the 6P connector from the RAP Valve Kit through the power inlet and connect it to the 6P connector (yellow). (See Fig. 8)
- Secure the supplied cable with the binding band inside the unit.
- Do not run the supplied cable through the same wiring conduit together with the remote-control line and inter-unit control line.

Fig. 8 Connection

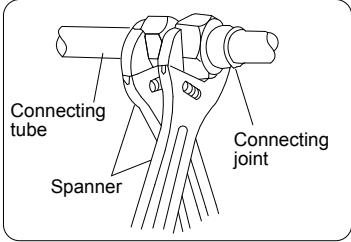


2. Refrigerant Tubing

- Be sure to use 2 spanners** together for removing the flare nut at the tubing connection or when tightening the flare nut during tubing connection.
- To prevent destruction in the flared portion due to over-tightening the flare nut, tighten using the below table as a standard.

Table 1. Tightening Torque

Tubing size	Tightening torque	
	(N·m)	(kgf·cm)
ø6.35 (1/4")	16±2	Approx. 140 – 180
ø9.52 (3/8")	38±4	Approx. 340 – 420
ø12.7 (1/2")	55±6	Approx. 490 – 610
ø15.88 (5/8")	75±7	Approx. 680 – 820
ø19.05 (3/4")	110±10	Approx. 1,000 – 1,200



3. Insulation

Be sure to provide insulation after finishing leak inspection.

- Be sure to provide insulation to the tubing.
- Use insulation with a thickness of 10 mm or more, with heat resistance of 120°C or more for gas tubes and 80°C or more for liquid tubes. If the ambient conditions exceed DB 30°C and RH 70%, increase the thickness of the thermal insulation by one step.
- Put the supplied insulating tape, 2 pieces of each, around the flare nut portion of the liquid tube.
- Next, put the supplied flare insulator around the flare nut portion and secure both ends with the vinyl clamps.
- Failure to provide insulation may cause water leakage due to condensation.
- Thermal insulation is not supplied with the connecting tube (for connecting to the ø12.7 gas tube). If this tube is used, obtain insulation separately from the field.

Fig. 9 Insulation

