

1 SELECT THE BEST LOCATION (Refer to "Select the best location" section)

2 HOW TO FIX INSTALLATION PLATE

The mounting wall shall be strong and solid enough to prevent it from vibration.

Model	Dimension							
	①	②	③	④	⑤	⑥	⑦	⑧
2.0HP, 2.5HP	587 mm	70 mm (-)	537 mm	503 mm	176 mm	228 mm	276 mm	210 mm

• The center of installation plate should be at more than ① at right and left of the wall.
 • The distance from installation plate edge to ceiling should more than ②.
 • From installation plate center to unit's left side is ③.
 • From installation plate center to unit's right side is ④.

① More than
 ② More than
 ③ 150 mm
 ④ 210 mm
 ⑤ 150 mm
 ⑥ 247 mm

For best strength of INDOOR unit installation, it is highly recommended to locate ⑤ at position as shown.

3 TO DRILL A HOLE IN THE WALL AND INSTALL A SLEEVE OF PIPING

- Insert the piping sleeve to the hole.
- Fix the bushing to the sleeve.
- Cut the sleeve until it extrudes about 15 mm from the wall.

CAUTION
 When the wall is hollow, please be sure to use the sleeve for tube assembly to prevent dangers caused by mice biting the connection cable.

4. Finish by sealing the sleeve with putty or caulking compound at the final stage.

4 INDOOR UNIT INSTALLATION

Do not turn over the unit without shock absorber during pull out the piping. It may cause intake grille damage.

Use shock absorber during pull out the piping to protect the intake grille from damage.

1. FOR THE RIGHT REAR PIPING

- Step-1 Pull out the Indoor piping
- Step-2 Install the Indoor Unit
- Step-3 Secure the Indoor Unit
- Step-4 Insert the connection cable

2. FOR THE RIGHT AND RIGHT BOTTOM PIPING

- Step-1 Pull out the Indoor piping
- Step-2 Install the Indoor Unit
- Step-3 Insert the connection cable
- Step-4 Secure the Indoor Unit

3. FOR THE EMBEDDED PIPING

- Step-1 Change the drain hose position
- Step-2 Bend the embedded piping
- Step-3 Pull the connection cable into Indoor Unit
- Step-4 Cut and flare the embedded piping
- Step-5 Install the Indoor Unit
- Step-6 Connect the piping
- Step-7 Insulate and finish the piping
- Step-8 Secure the Indoor Unit

5. CONNECT THE CABLE TO THE INDOOR UNIT

The indoor and outdoor unit connection cable can be connected without removing the front grille.

- Install the indoor unit on the installing holder that mounted on the wall.
- Open the front panel and grille door by loosening the screw.
- Connection cable between indoor unit and outdoor unit shall be approved polychloroprene sheathed, 3 x 1.5 mm² (2.0HP) or 3 x 2.5 mm² (2.5 HP), flexible cord, type designation 60245 IEC 57 or heavier cord. Do not use joint connection cable. Replace the wire if the existing wire (from concealed wiring, or otherwise) is too short.
- Bind all the indoor and outdoor Connection cable with tape and route the connection cable via the right side escapement.

1 SELECT THE BEST LOCATION (Refer to "Select the best location" section)

2 INSTALL THE OUTDOOR UNIT

After selecting the best location, start installation to Indoor/Outdoor Unit Installation Diagram.

- Fix the unit on concrete or rigid frame firmly and horizontally by bolt nut (10 mm). Make sure unit install in balance level to ensure that water flow out from unit drainage hole.
- When installing at roof, please consider strong wind and earthquake. Please fasten the installation stand firmly with bolt, screws or nails.

Model	A	B	C	D
2.0HP, 2.5HP	540 mm	160 mm	18.5 mm	330 mm

3 CONNECT THE PIPING

Connecting The Piping to Indoor

For connection joint of all models
 Please make flare after inserting (locate at joint portion of tube assembly) onto the copper pipe. (In case of using long piping)
 Connect the piping
 • Align the center of refrigerant and sufficiently tighten the flare nut with fingers.
 • Further tighten the flare nut with torque wrench in specified torque as stated in the table.

Additional Precautions For R32 Models when connecting by flaring at indoor side
 Ensure to do re-flaring of pipes before connecting to units to avoid leaking
 Seal sufficiently the flare nut (both gas and liquid sides) with neutral cure (Alkoxy type) & ammonia-free silicone sealant and insulation material to avoid the gas leak caused by freezing.
 Neutral cure (Alkoxy type) & ammonia-free silicone sealant is only to be applied after pressure testing and cleaning up by following instructions of sealant, only to the outside of the connection. The aim is to prevent moisture from entering the connection joint and possible occurrence of freezing. Curing sealant will take some time. Make sure sealant will not peel off when wrapping the insulation.

Connecting The Piping to Outdoor

Decide piping length and then cut by using pipe cutter. Remove burrs from cut edge. Make flare after inserting the flare nut (locate at valve) onto the copper pipe. Align center of piping to valve and then tighten with torque wrench to the specified torque as stated in the table.

Piping size	Torque
6.35 mm (1/4")	18 N·m (1.8 kgf·m)
9.52 mm (3/8")	42 N·m (4.3 kgf·m)
12.7 mm (1/2")	55 N·m (5.6 kgf·m)
15.88 mm (5/8")	65 N·m (6.6 kgf·m)
19.05 mm (3/4")	100 N·m (10.2 kgf·m)

5 CONNECT THE CABLE TO THE OUTDOOR UNIT

- Remove the control board cover from the unit by loosening the screw.
- Connection cable between indoor unit and outdoor unit shall be approved polychloroprene sheathed 3 x 1.5 mm² (2.0HP) or 3 x 2.5 mm² (2.5HP) flexible cord, type designation 60245 IEC 57 or heavier cord. Do not use joint connection cable. Replace the wire if the existing wire (from concealed wiring, or otherwise) is too short.
- Secure the cable onto the control board with the holder (clammer).
- Attach the control board cover back to the original position with screw.
- For wire stripping and connection requirement, refer to instruction ⑤ of indoor unit.

• Earth wire shall be Yellow/Green (Y/G) in colour and longer than other AC wires for safety reason.

6 PIPING INSULATION

- Please carry out insulation at pipe connection portion as mentioned in Indoor/Outdoor Unit Installation Diagram. Please wrap the insulated piping end to prevent water from going inside the piping.
- If drain hose or connecting piping is in the room (where dew may form), please increase the insulation by using POLY-E FOAM with thickness 6 mm or above.

AIR PURGING METHOD IS PROHIBITED FOR R32 SYSTEM

4 AIR TIGHTNESS TEST ON THE REFRIGERATING SYSTEM

Do not purge the air with refrigerants but use a vacuum pump to vacuum the installation.

There is no extra refrigerant in the outdoor unit for air purging.

- Before system is charged with refrigerant and before the refrigerating system is put into operation, below site test procedure and acceptance criteria shall be verified by the certified technicians, and/or the installer.
- Be sure to check whole system for gas leakage.

- Connect a charging hose with a push pin to the Low side of a charging set and the service port of the 3-way valve. During extremely cold winter, material contraction might happened, try to further tighten the 2-way, 3-way valve to ensure they are fully closed.
- Attach the gauge manifold set correctly and tightly. Make sure that both valves of the manifold gauge (low pressure and high pressure) is in close position.
- Connect the center hose of the manifold gauge to a vacuum pump.
- Turn on the power switch of the vacuum pump, then turn open the low side manifold gauge valve and make sure that the needle in the gauge moves from 0cmHg (0 MPa) to -76 cmHg (-0.1 MPa) or vacuum until 500 microns is achieved. This process continues for approximately ten minutes.
- Then close the low side manifold gauge valve.
- Remove the vacuum pump from the centre hose and connect the center hose to cylinder of any applicable inert gas as test gas.
- Charge test gas into the system and wait until the pressure within the system to reach min. 1.04MPa (10.4bar).
- Wait and monitor the pressure reading on the gauges. Check if there is any pressure drop. Waiting time depends on the size of the system.
- If there is any pressure drop, perform step 9-12. If there is no pressure drop, perform step 13.
- Use Gas Leak Detector to check for leaks. Must use the detection equipment with a sensitivity of 5 grams per year of test gas or better.
- Move the probe along the air conditioning system to check for leaks, and mark for repair.
- Any leak detected and marked shall be repaired.
- After repair, repeat evacuation steps 3-4 and tightness test steps 5-7. Check the pressure drop as in step 8.
- If no leak, Recover the test gas. Perform evacuation of steps 3-4. Then proceed to step 14.
- Disconnect the charging hose from the service port of the 3-way valve.
- Tighten the service port caps of the 3-way valve at a torque of 18 N·m with a torque wrench.
- Remove the valve caps of both of the 2-way valve and 3-way valve.
- Open both of the valves, using a hexagonal wrench (4 mm).
- It is recommended to allow refrigerant slowly flow into the refrigerant system to prevent refrigerant freezing. Slightly open 2-way valve for 5 seconds then close the valve. Repeat this action for 3 cycles then fully open the valve.
- Mount back the valve caps onto the 2-way valve and the 3-way valve to complete this process.

CUTTING AND FLARING THE PIPING

- Please cut using pipe cutter and then remove the burrs.
- Remove the burrs by using reamer. If burrs is not removed, gas leakage may be caused. Turn the piping and down to avoid the metal powder entering the pipe.
- Please make flare after inserting the flare nut onto the copper pipes.

HOW TO TAKE OUT FRONT GRILLE

Please follow the steps below to take out front grille if necessary such as when installing or servicing.

- Set the vertical vane airflow direction louvers to the horizontal position.
- Remove the 3 caps (2.0-2.5HP) on the front grille as shown in the illustration.
- Open front panel.
- Remove the 6 screws (2.0-2.5HP) on the front grille as shown in the illustration.
- Slide the 4 knobs (2.0-2.5HP) on the upside of front grille to unlock position.
- Pull the front grille towards you to remove the front grille.

When reinstalling the front grille, carry out above steps in the reverse order.

AUTO SWITCH OPERATION

The below operations will be performed by pressing the "AUTO" switch.

- AUTO OPERATION MODE**
 The Auto operation will be activated immediately once the Auto Switch is pressed and release within 5 sec..
- TEST RUN OPERATION (FOR PUMP DOWN/SERVICING PURPOSE)**
 The Test Run operation will be activated if the Auto Switch is pressed continuously for more than 5 sec. A "peep" sound will occur at the fifth sec., in order to identify the starting of Test Run operation.
- REMOTE CONTROLLER RECEIVING SOUND ON/OFF**
 The ON/OFF of Remote controller receiving sound can be change over by the following steps:
 a) Press "AUTO" switch continuously for 5 sec. until "peep" sound is heard during first 20 sec. from step 2.
 b) Press "AUTO" switch again. Everytime "AUTO" switch is pressed (within 20 sec. interval), Remote controller receiving sound status will be swapped between ON and OFF. Long "peep" sound indicates that Remote controller receiving sound is ON. Short "peep" sound indicates that Remote controller receiving sound is OFF.

DISPOSAL OF OUTDOOR UNIT DRAIN WATER

- If a drain elbow is used, the unit should be placed on a stand which is taller than 5 cm.
- If the unit is used in an area where temperature falls below 0°C for 2 or 3 days in succession, it is recommended not to use a drain elbow, for the drain water freezes and the fan will not rotate.

REMOVE THE TAPES AND CONNECT THE CONNECTION CABLE BETWEEN INDOOR UNIT AND OUTDOOR UNIT ACCORDING TO THE DIAGRAM BELOW.

Terminals on the indoor unit	1	2
Colour of wires (connection cable)	1	2
Terminals on the outdoor unit	1	2

④ Connection cable

Terminal Board

Earth Wire longer than others AC wires for safety reason

Control Board

Holder

Indoor & outdoor connection cable

Outdoor Unit

WARNING
 This equipment must be properly earthed.

6 Secure firmly the connecting cable onto the control board with the holder. Do not overtighten holder screw, as this may damage the holder.

7 Close grille door by tighten with screw and close the front panel.

Note:
 • Isolating Devices (Disconnecting means) should have minimum 3.0 mm contact gap.
 • Ensure the colour of wires of outdoor unit and the terminal Nos. are the same to the indoor's respectively.
 • Earth wire shall be Yellow/Green (Y/G) in colour and longer than other AC wires as shown in the figure for the electrical safety in case of the slipping out of the cord from the anchorage.

WIRE STRIPPING, CONNECTING REQUIREMENT

Wire stripping

No loose strand when inserted

Indoor/outdoor connection terminal board

5 mm or more (gap between wires)

Conductor fully inserted

Conductor over inserted

Conductor not fully inserted

ACCEPT

PROHIBITED

PROHIBITED

RISK OF FIRE

JOINING OF WIRES MAY CAUSE OVERHEATING AND FIRE.

Do not joint wires

Use complete wire without joining.

Wire connection in this area must follow to national wiring rules.

CHECK THE DRAINAGE

- Open front panel and remove air filters. (Drainage checking can be carried out without removing the front grille.)
- Pour a glass of water into the drain tray-styrofoam.
- Ensure that water flows out from drain hose of the indoor unit.

EVALUATION OF THE PERFORMANCE

- Operate the unit at cooling/heating operation mode for fifteen minutes or more.
- Measure the temperature of the intake and discharge air.
- Ensure the difference between the intake temperature and the discharge is more than 8 °C during Cooling operation or more than 14 °C during Heating operation.

Note:
 • During winter, turn on the power supply and standby the unit for at least 15 minutes before test run. Allow sufficient time to warm up refrigerant and prevent wrong error code judgement.

IN CASE OF REUSING EXISTING REFRIGERANT PIPING

Observe the followings to decide reusing the existing refrigerant piping.
 Poor refrigerant piping could result in product failure.

- In the circumstances listed below, do not reuse any refrigerant piping. Instead, make sure to install a new piping.
 - Heat insulation is not provided for either liquid-side or gas-side piping or both.
 - The existing refrigerant pipe has been left in an open condition.
 - The diameter and thickness of the existing refrigerant piping does not meet the requirement.
 - The piping length and elevation does not meet the requirement.
- Perform proper pump down before reuse piping.
- In the circumstances listed below, clean it thoroughly before reuse.
 - Pump down operation cannot be performed for the existing air-conditioner.
 - The compressor has a failure history.
 - Oil color is darkened. (ASTM 4.0 and above).
 - The existing air-conditioner is gas/oil heat pump type.
- Do not reuse the flare to prevent gas leak. Make sure to install a new flare.
- If there is a welded part on the existing refrigerant piping, conduct a gas leak check on the welded part. Heat insulating material is required for both liquid-side and gas-side piping.

Proper Pump Down Method

- Operate air conditioner at cooling mode for 10 - 15 minutes.
- Take out air conditioner unit.
- Install New Refrigerant air conditioner.

Most Important Process Purpose: To make the oil & refrigerant mix together. They are in separated condition when air conditioner is stopped.

Mixed refrigerant & oil will be collected into outdoor unit.

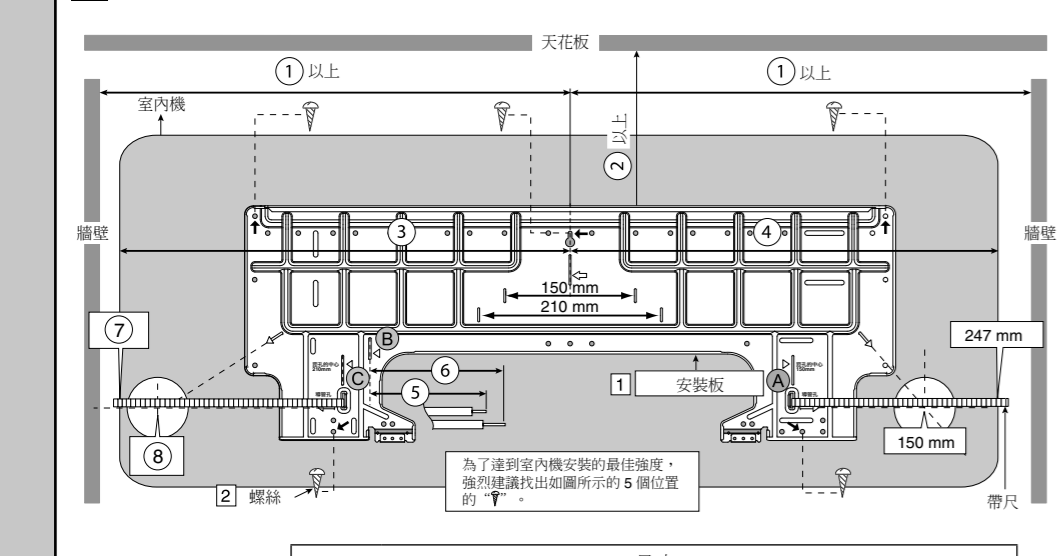
Only very small amount of oil remain inside piping, which is acceptable.

CHECK ITEMS

<input type="checkbox"/> Is there any gas leakage at flare nut connections?	<input type="checkbox"/> Is the indoor unit properly hooked to the installation plate?
<input type="checkbox"/> Has the heat insulation been carried out at flare nut connections?	<input type="checkbox"/> Is the power supply voltage complied with rated value?
<input type="checkbox"/> Is the connection cable being fixed to terminal board firmly?	<input type="checkbox"/> Is there any abnormal sound?
<input type="checkbox"/> Is the connection cable being clamped firmly?	<input type="checkbox"/> Is the cooling/heating operation normal?
<input type="checkbox"/> Is the drainage ok? (Refer to "Check the drainage" section)	<input type="checkbox"/> Is the thermostat operation normal?
<input type="checkbox"/> Is the earth wire connection properly done?	<input type="checkbox"/> Is the remote control's LCD operation normal?

1 選擇最佳位置 (參考“選擇最佳位置”之頁)

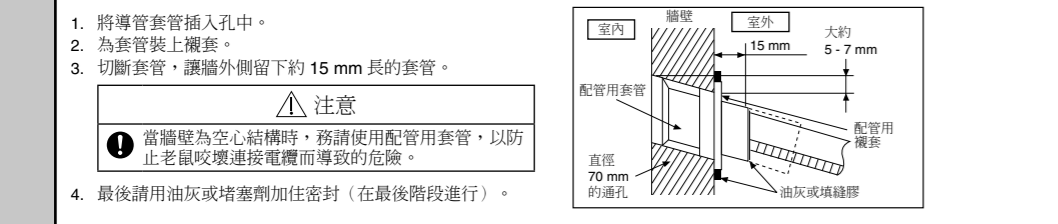
2 如何固定安裝板



型號	①	②	③	④	⑤	⑥	⑦	⑧
2.0HP, 2.5HP	587 mm	70 mm (-)	537 mm	503 mm	176 mm	228 mm	276 mm	210 mm

- 安裝板的中心點到左及右邊牆電的距離應大於 ①。
 - 從安裝板邊緣到天花板的距離應大於 ②。
 - 從安裝板中心到本機的左側為 ③。
 - 從安裝板中心到本機的右側為 ④。
 - 至於左邊導管，從這條線起至液體管連接的距離應為 ⑤。
 - 至於右邊導管，從這條線起至氣體管連接的距離應為 ⑥。
1. 用 5 枚或以上的螺絲 (至少 5 枚螺絲)，將安裝板安裝到牆上。
(如果將機組安裝到混凝土牆面上，可考慮使用錨定螺絲。)
• 務必使用水平儀及細線標記一道直線，並通過對準該道直線，以水平方向裝上安裝板。
2. 用 φ70 mm 的空心鑽鑽管通孔。
- 將安裝板的左側和右側形成一條線。延長線的交匯點是孔的中心。另一個方法是將卷尺放在上圖所示的位置。左側孔的左右兩側距離測量為 210 mm 時，右側孔的左右兩側距離測量為 150 mm (2.0-2.5HP) 時，即可取得洞孔的中心點。
 - 右側或左側鑽一個導管孔，該孔應稍微向室外側傾斜。

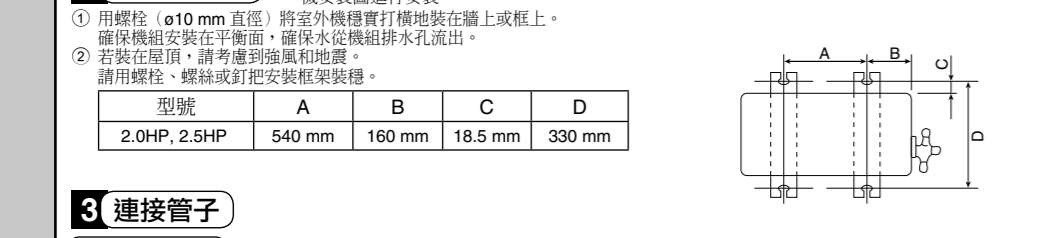
3 在牆上鑽孔及安裝導管套管



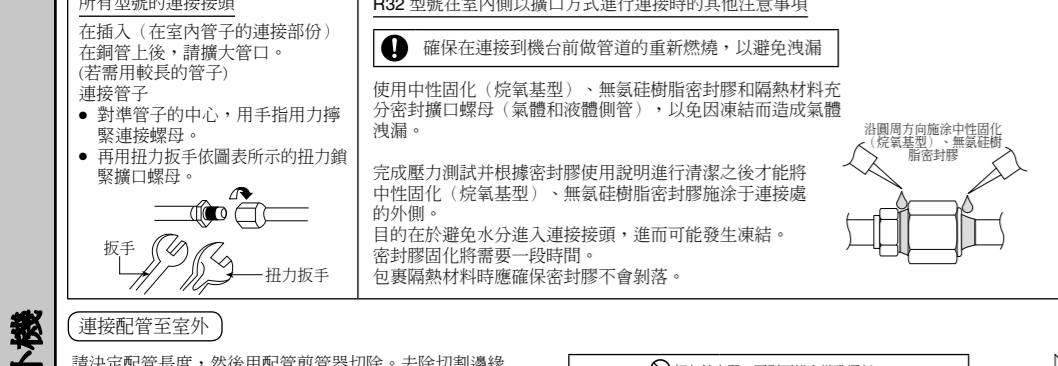
1. 將導管套管插入孔中。
2. 為套管裝上擋套。
3. 切斷套管，讓牆外側留下約 15 mm 長的套管。
- 注意
- 當牆壁為空心結構時，務請使用配管用套管，以防止老鼠氣味連接電纜而導致的危險。
4. 最後請用油灰或堵牆劑加密封 (在最後階段進行)。

1 選擇最佳位置 (參考“選擇最佳位置”之頁)

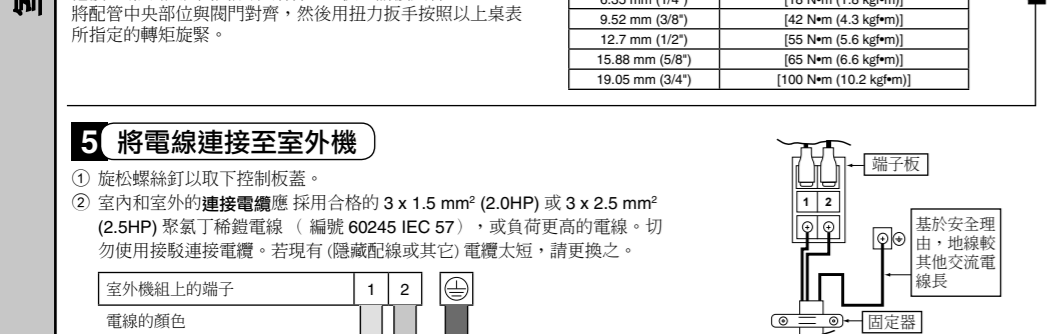
2 裝置室外機



3 連接管子



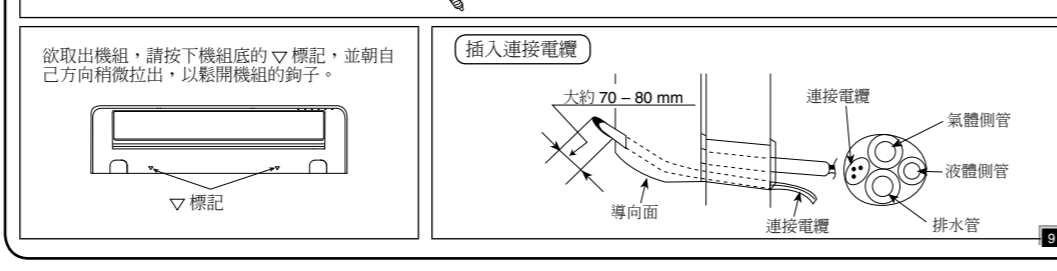
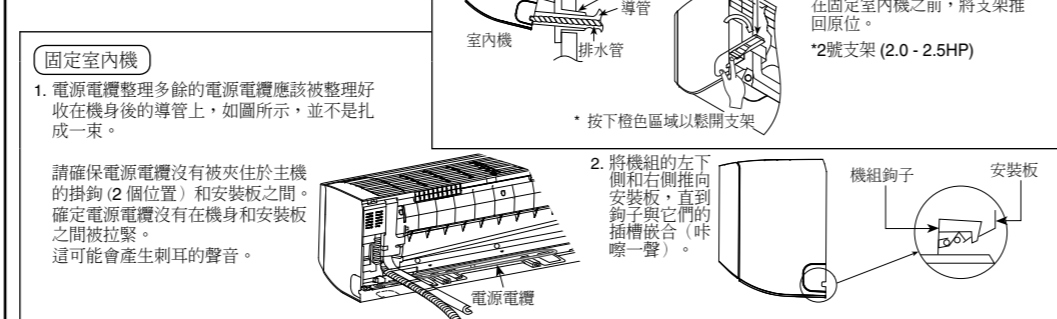
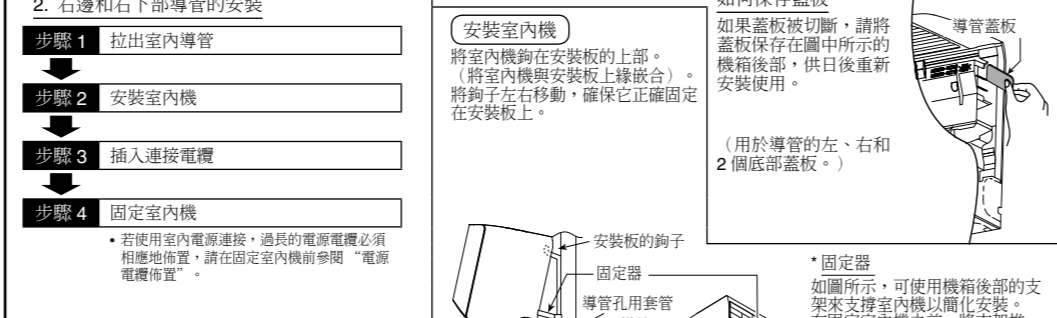
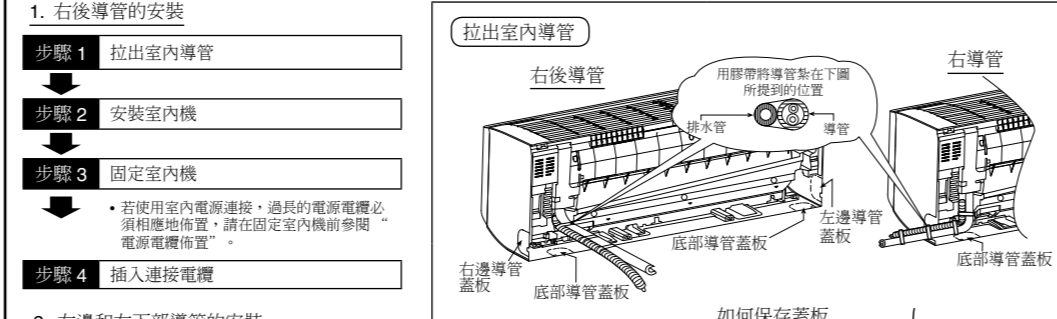
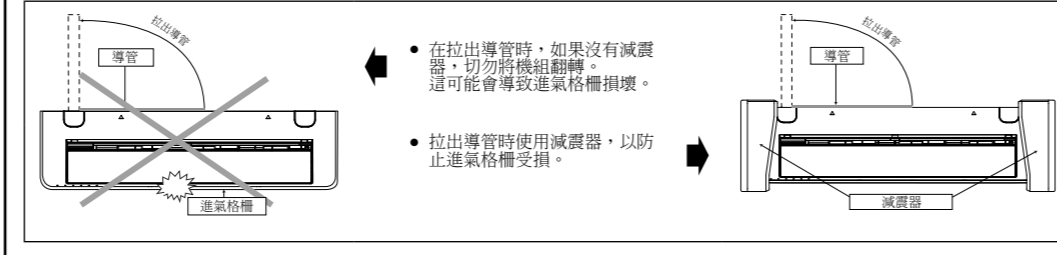
5 將電線連接至室外機



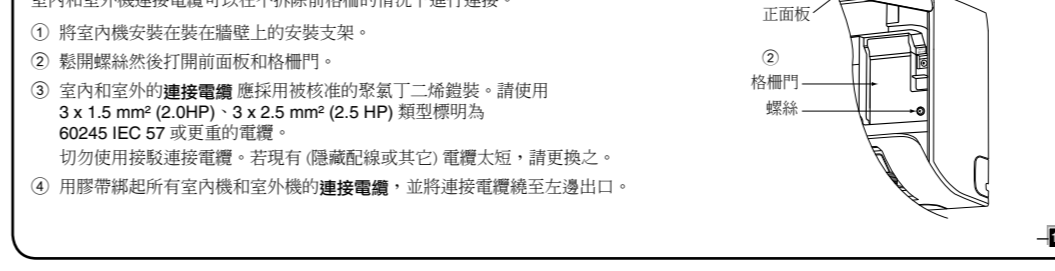
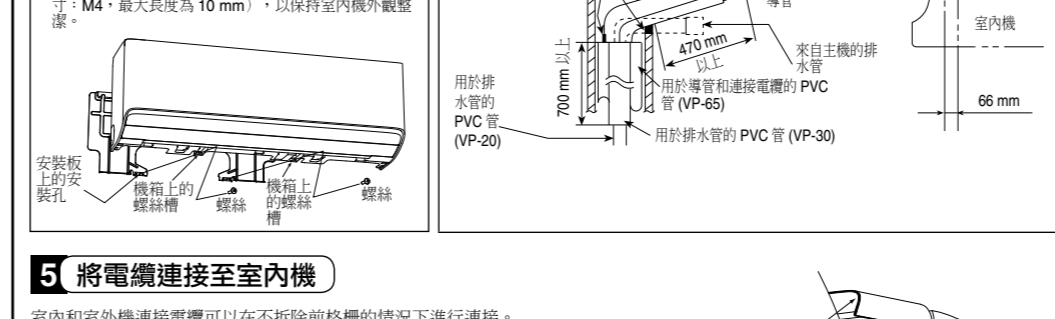
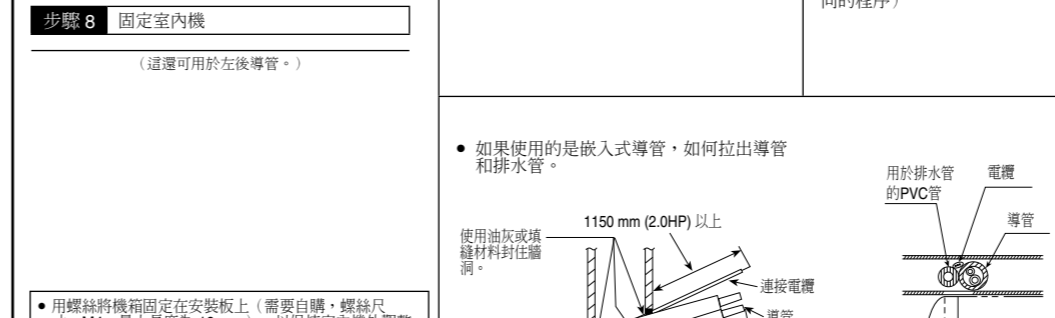
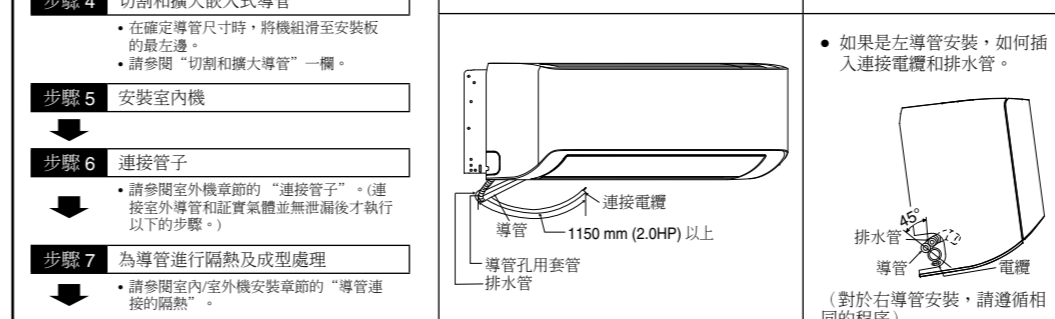
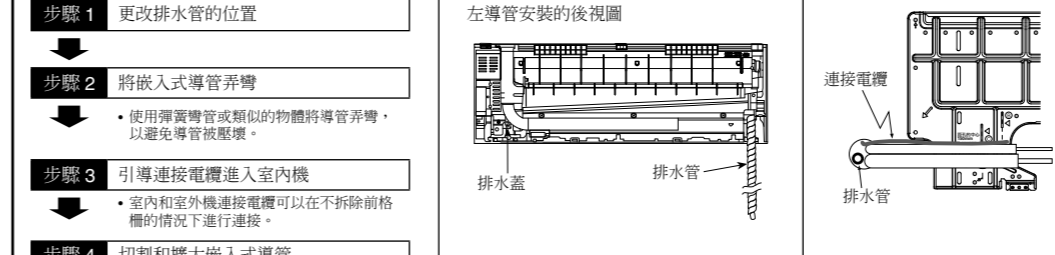
6 喉管絕緣

1. 請如室內/室外機安裝圖所示在配管連接部分進行絕緣。
2. 如果排水管或連接配管位於室內 (露滴將形成)，請使用厚度至少 6 mm 或以上的聚乙烯泡凍加絕緣。

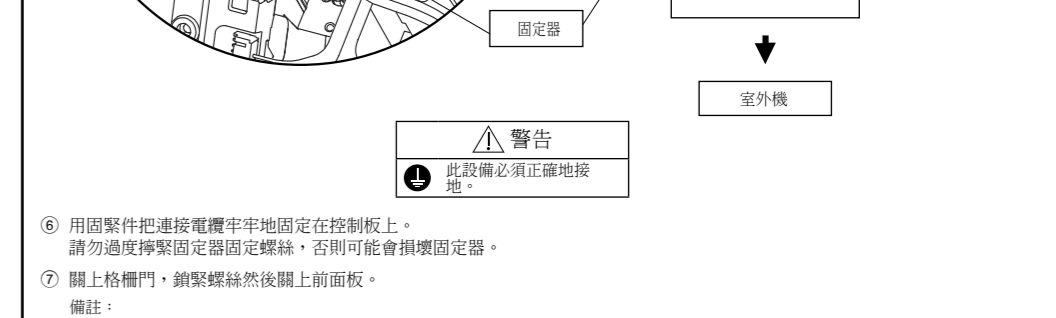
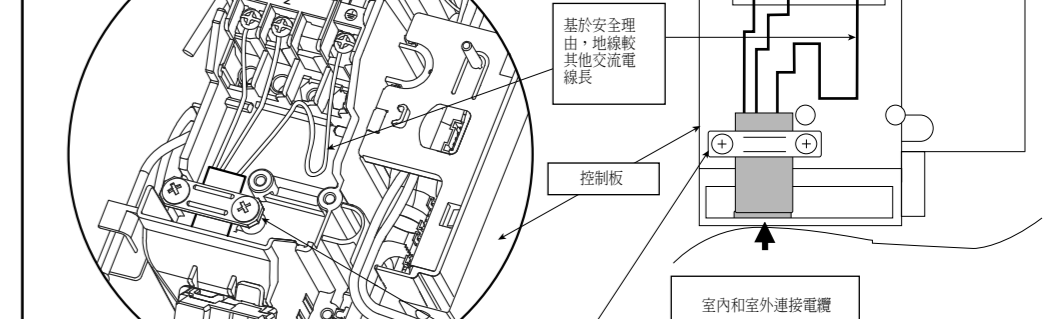
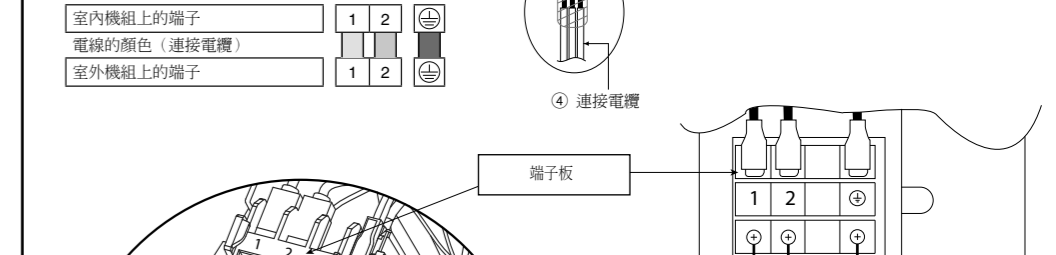
4 室內機的安裝



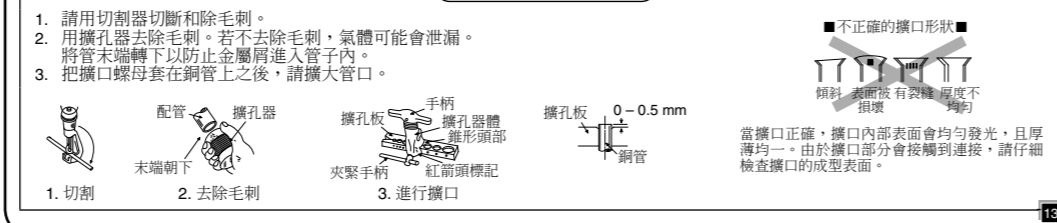
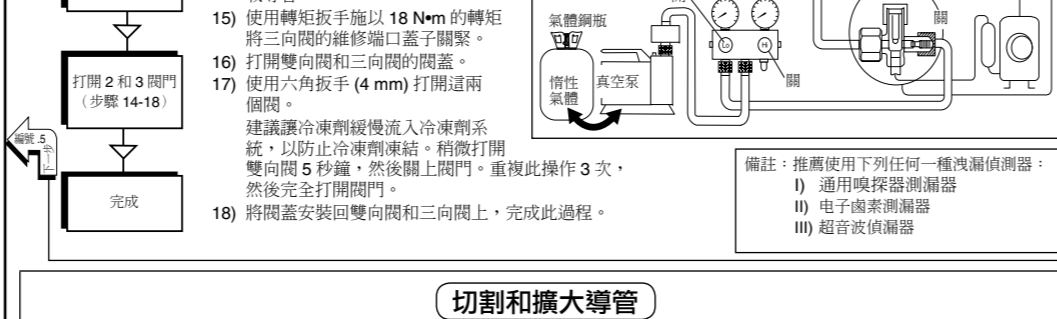
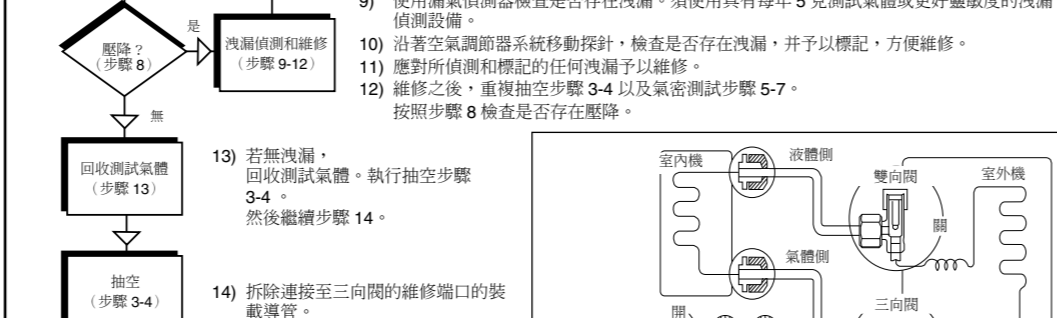
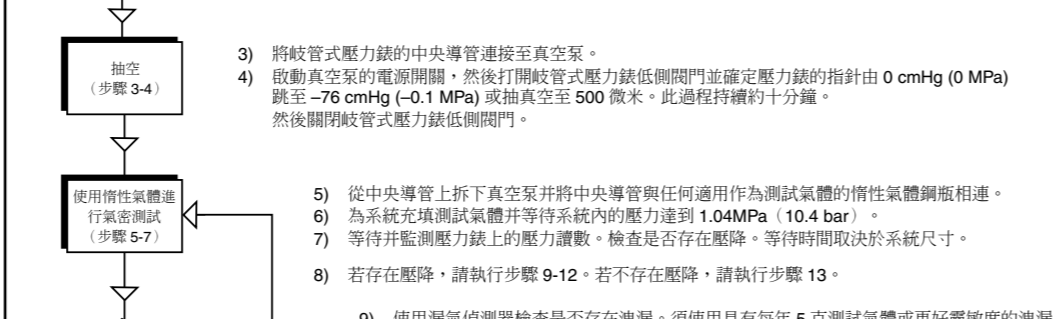
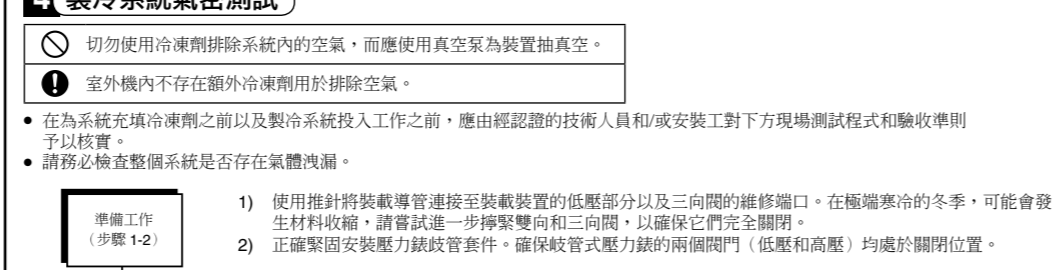
3. 嵌入式配管的處理



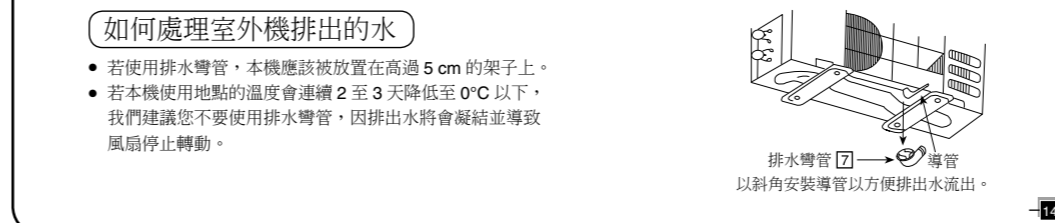
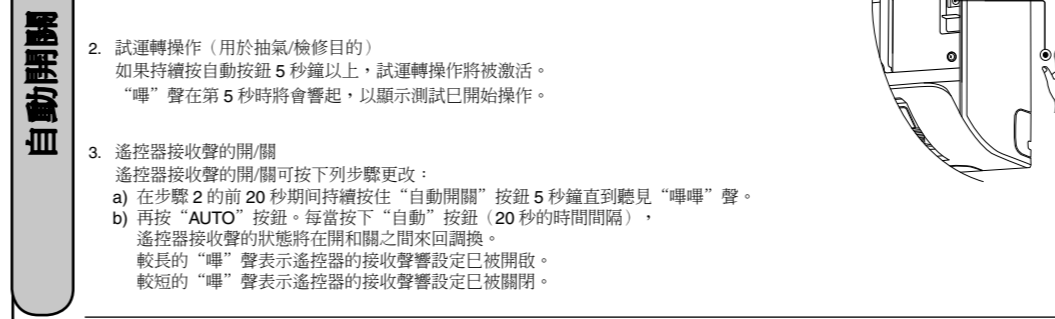
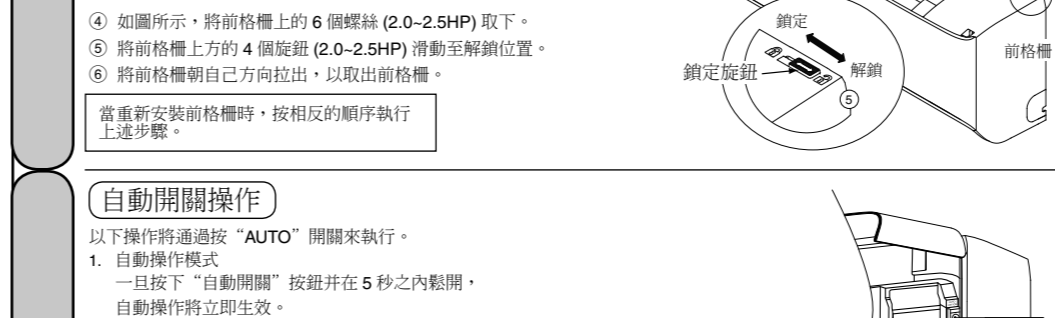
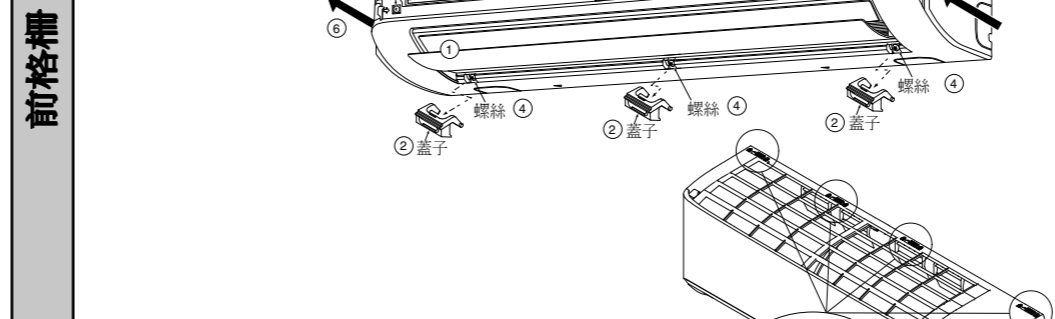
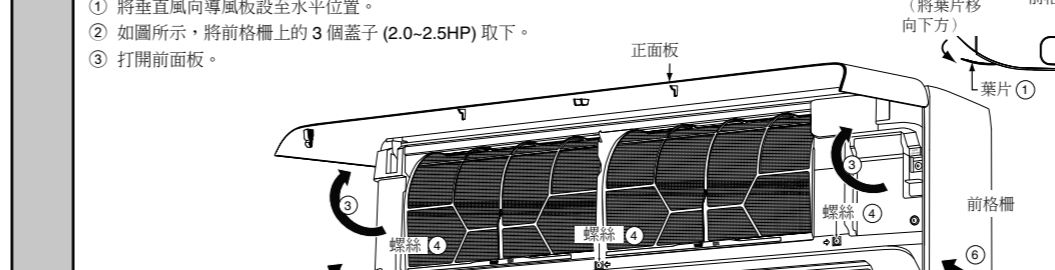
5 如下圖所示，移除膠帶及連接室內機和室外機之間的連接電纜



4 製冷系統氣密測試



如何取出前格柵



檢查排水

