

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.

Dimension					
①	②	③	④	⑤	⑥
600 mm	67 mm (-)	550 mm	511 mm	238 mm	288 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.
 • For left side piping, piping connection for liquid should be about ⑤ from this line.
 • For left side piping, piping connection for gas should be about ⑥ from this line.
 • Alternatively, liquid and gas piping connection location reference is marked on installation plate.

1. Mount the installation plate on the wall with 5 screws or more (at least 5 screws). (If mounting the unit on the concrete wall, consider using anchor bolts.)
 • Always mount the installation plate horizontally by aligning the marking-off line with the thread and using a level gauge.

2. Drill the piping plate hole with $\phi 70$ mm hole-core drill.
 • Line according to the left and right side of the installation plate. The meeting point of the extended line is the center of the hole. Another method is by putting measuring tape at position as shown in the diagram above. The hole center is obtained by measuring the distance namely 210 mm for left and 150 mm for right hole respectively.
 • Drill the piping hole at either the right or the left and the hole should be slightly slanting to the outdoor side.

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

1. Insert the piping sleeve to the hole.
 2. Fix the bushing to the sleeve.
 3. 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.

• If holder at the rear of chassis (Refer column "4 Indoor Unit Installation") need to be used to prop up the unit, this distance shall be 82 mm or more.

3. FOR THE EMBEDDED PIPING

Step-1 Change the drain hose position
Step-2 Bend the embedded piping
 • Use a spring bender or equivalent to bend the piping so that the piping is not crushed.
Step-3 Pull the connection cable into Indoor Unit
 • The indoor unit and outdoor unit connection cable can be connected without removing the front grille.
Step-4 Cut and flare the embedded piping
 • When determining the dimensions of the piping, slide the unit all the way to the left on the installation plate.
 • Refer to the column "Cutting and flaring the piping".
Step-5 Install the Indoor Unit
Step-6 Connect the piping
 • Please refer to "Connecting the piping" column in outdoor unit section. (Below steps are done after connecting the outdoor unit, e.g. gas-leakage confirmation.)
Step-7 Insulate and finish the piping
 • Please refer to "Insulation of piping connection" column as mentioned in indoor/outdoor unit installation.
Step-8 Secure the Indoor Unit
 (This can be used for left rear piping also.)

Change the drain hose position
 Rear view for left piping installation
 Drain cap, Drain hose

Adjust the piping slightly downwards.
 Connection cable, Drain hose

• In case of left piping how to insert the connection cable and drain hose.
 (For the right piping, follow the same procedure.)

How to pull the piping and drain hose out, in case of the embedded piping.
 Apply putty or caulking material to seal the wall opening.
 PVC tube for drain hose, Cable, Piping, PVC tube (VP-65) for piping and connection cable, PVC tube for drain hose (VP-30)

5 CONNECT THE CABLE TO THE INDOOR UNIT

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

1. Install the indoor unit on the installing holder that mounted on the wall.
 2. Open the front panel and grille door by loosening the screw.
 3. **Connection cable** between indoor unit and outdoor unit shall be approved polychloroprene sheathed, 4 x 1.5 mm² (2.0HP) or 4 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.
 Follow the national regulation and legislation for electrical work.
 4. Bind all the indoor and outdoor **Connection cable** with tape and route the connection cable via the right side escapement.
 5. 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	3
Colour of wires (connection cable)	White	Blue	Green
Terminals on the outdoor unit	1	2	3

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.

1. Fix the unit on concrete or rigid frame firmly and horizontally by bolt nut ($\phi 10$ mm).
 Make sure unit install in balance level to ensure that water flow out from unit drainage hole.
 2. 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	540 mm	160 mm	18.5 mm	330 mm
2.5HP	613 mm	130 mm	24 mm	360.5 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 piping 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.
 Apply neutral cure (Alkoxy type) and ammonia-free silicone sealant along the circumference.
 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 up 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)

Do not overtighten, overtightening may cause gas leakage.

5 CONNECT THE CABLE TO THE OUTDOOR UNIT

1. Remove the control board cover from the unit by loosening the screw.
 2. **Connection cable** between indoor unit and outdoor unit shall be approved polychloroprene sheathed 4 x 1.5 mm² (2.0HP) or 4 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.
 Follow the national regulation and legislation for electrical work.

Terminals on the outdoor unit	1	2	3
Colour of wires	White	Blue	Green
Terminals on the indoor unit	1	2	3

3. Secure the cable onto the control board with the holder (clammer).
 4. Attach the control board cover back to the original position with screw.
 5. 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.

WARNING
 This equipment must be properly earthed.

6 PIPING INSULATION

1. 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.
 2. If drain hose or connecting piping is in the room (where dew may form), please increase the insulation by using POLY-ET FOAM with thickness 6 mm or above.

HOW TO TAKE OUT FRONT GRILLE

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

1. Set the vertical airflow vane to slightly downward.

2. Slide 2 knobs on the upside of front grille (left and right) away from the center to release them.
 3. Slide 2 knobs on the upside of front grille to unlock position.
 4. Open front panel.
 5. Slide 2 knobs on the front grille to unlock position.
 6. Remove 2 screws on the front grille as shown in the illustration.
 7. Push 2 caps upward and remove 2 screws on the front grille as shown in the illustration.
 8. Pull the front grille towards you to remove the front grille.

When reinstalling the front grille, carry out above steps in the reverse order.
 After sliders are slide to lock position, please confirm front grille is securely fixed by pulling the front grille towards you.

SCREW CHASSIS TO INSTALLATION PLATE

Fasten the chassis to the installation plate with screws. (Self pull screw size: M4, max. length 10 mm) to provide a neat appearance of indoor unit.
 Please refer column "How to take out front grille" to remove the front grille.

AUTO SWITCH OPERATION

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

1. **AUTO OPERATION MODE**
 The Auto operation will be activated immediately once the Auto Switch is pressed and release within 5 sec.

2. **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. to below 3 sec. A "pep" sound will occur at the fifth sec., in order to identify the starting of Test Run operation.

3. **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 more than 16 sec. to below 21 sec. A "pep", "pep", "pep", "pep" sound will occur at the sixteenth sec.
 b) Press the "AC Reset" button once, "pep" sound will occur indicates that Remote controller receiving sound setting mode is activated.
 c) Press "AUTO" switch again. Everytime "AUTO" switch is pressed (within 60 sec. interval), Remote controller receiving sound status will be reversed between ON and OFF.
 Long "peep" sound indicates that Remote controller receiving sound is ON.
 Short "pep" sound indicates that Remote controller receiving sound is OFF.

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
 • If indoor power supply, excess length of power supply must arrange accordingly, please refer "Power supply cord arrangement" before 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
 • If indoor power supply, excess length of power supply must arrange accordingly, please refer "Power supply cord arrangement" before secure the indoor unit.

Secure the Indoor Unit
 1. Power supply cord arrangement
 Excess length of power supply cord should be arranged behind the chassis at piping keeping area as shown in the diagram without tying up in a bundle. Ensure that the power supply cord is not clamped in between unit's hook (2 position) and installation plate.
 2. Press the lower left and right side of the unit against the installation plate until hooks engages with their slot (sound click).
 To take out the unit, push the marking at the bottom unit, and pull it slightly towards you to disengage the hooks from the unit.

Insert the connection cable
 About 70-80 mm, Connection cable, Gas side piping, Liquid side piping, Drain hose

Terminal Board
Control Board
Indoor & outdoor connection cable
Holder
Outdoor Unit

WARNING
 This equipment must be properly earthed.

Secure firmly the connecting cable onto the control board with the holder. Do not overtighten holder screw, as this may damage the holder.
 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 wires.
 Individual/outdoor connection terminal board: 5 mm or more gap between wires.
 Conductor fully inserted, Conductor over inserted, Conductor not fully inserted.

RISK OF FIRE
 JOINING OF WIRES MAY CAUSE OVERHEATING AND FIRE.
 Do not joint wires.
 Use complete wire without joining.
 Use approved socket and plug with earth pin.
 Wire connection in this area must follow to national wiring rules.

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.

Preparation (Step 1-2)
Evacuation (Step 3-4)
Tightness Test with Inert Gas (Step 5-7)
Pressure Drop? (Step 8)
Recovery of Test Gas (Step 13)
Evacuation (Step 3-4)
Open 2 and 3 valves (Step 14-18)
Complete

1) 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.
 2) 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.
 3) Connect the center hose of the manifold gauge to a vacuum pump.
 4) 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.
 5) Remove the vacuum pump from the centre hose and connect the center hose to cylinder of any applicable inert gas as test gas.
 6) Charge test gas into the system and wait until the pressure within the system to reach the min. 1.04 MPa (10.4bar).
 7) 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.
 8) If there is any pressure drop, perform step 9-12. If there is no pressure drop, perform step 13.
 9) 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.
 10) Move the probe along the air conditioning system to check for leaks, and mark for repair.
 11) Any leak detected and marked shall be repaired.
 12) After repair, repeat evacuation steps 3-4 and tightness test steps 5-7. Check the pressure drop as in step 8.
 13) If no leak, Recover the test gas. Perform evacuation of steps 3-4. Then proceed to step 14.
 14) Disconnect the charging hose from the service port of the 3-way valve.
 15) Tighten the service port caps of the 3-way valve at a torque of 18 N·m with a torque wrench.
 16) Remove the valve caps of both of the 2-way valve and 3-way valve.
 17) 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.
 18) Mount back the valve caps onto the 2-way valve and the 3-way valve to complete this process.

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

Improper flaring: Improper flaring, Inclined Surface, Cracked, Uneven thickness.
 When properly flared, the internal surface of the flare will evenly shine and be of even thickness. Since the flare start comes into contact with the connections, carefully check the flare finish.

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.

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.

INSTALLATION OF FILTER

1. Open the front panel.
 2. Remove the air filters.
 3. Put the air purifier filter into place as shown in illustration at right.

IN CASE OF REUSING 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 darken. (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.
 • Replace deteriorated heat insulating material with a new one.
 Heat insulating material is required for both liquid-side and gas-side piping.

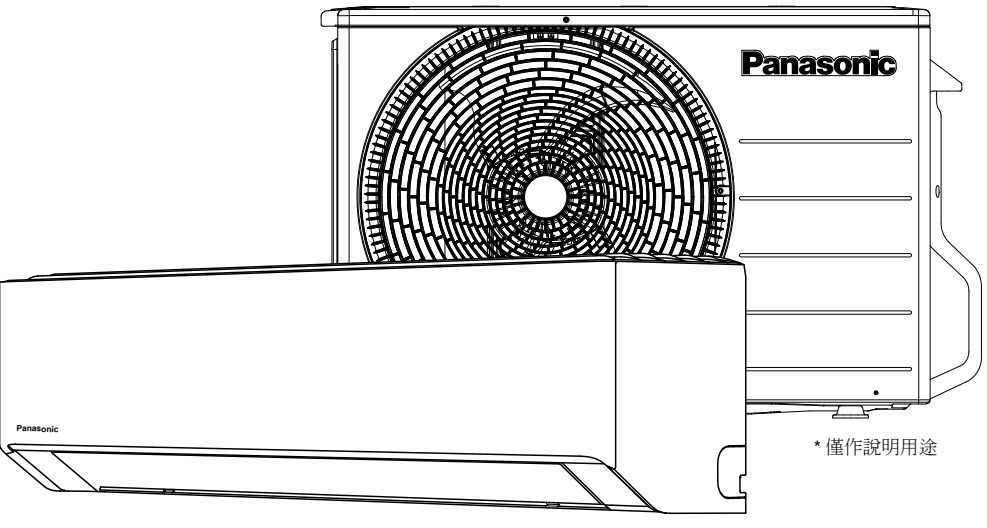
Refrigerant Pump Down Method

1. Operate air conditioner at cooling mode for 10-15 minutes.
 2. After 10-15 minutes of pre operation, closes 2-way valve.
 3. Take out air conditioner unit.
 4. Install New Refrigerant air conditioner.

CHECK ITEMS

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

安裝說明
空調器



型號： CS/CU-RU18*** (2.0HP)
CS/CU-RU24*** (2.5HP)

注意 R32 冷媒
此空氣調節機包含 R32 冷媒劑并採用 R32 冷媒劑進行操作。
須由具備資質的人員對此產品進行安裝或維修。

對於因詳細手冊中未描述的任何不當安裝而導致的任何事故或損壞，Panasonic 概不負責。

室內機或室外機顯示的符號說明。
警告：這行號顯示這個設備使用了一種極易燃的冷媒。
注意：這個符號表示應該仔細閱讀安裝手冊。

使用 R32 冷媒劑注意事項

- 請密切注意以下幾點和安裝工作程序。
本設備應儲存、安裝及工作於通風良好的空間內。
禁止在系統內混合不同的冷媒劑。
確保無異物（油、水等）進入專管。

2-10. 電氣設備檢查

- 電氣設備的儲存和保護應包括初始安全檢查和部件檢查程序。
檢查安全檢查應包括但不限於：
電氣設備已接地：應以安全方式完成放電。

3. 密封部件維修

- 維修密封部件期間，在拆下密封蓋之前，應作為作業的設備斷開所有電源。
如果在檢修期間必須為設備接通電源，則應在關鍵點進行持續的洩漏偵測。

4. 本質安全部件維修

- 切勿為電路施加任何固定電感負載或電容負載，除非可確保負載不會超過所用設備的容許電壓和電流。

5. 電纜

- 檢查以確保電纜不會受到磨損、腐蝕、超壓、振動、線絡或任何其他不良環境影響。

6. 可燃性冷媒劑的偵測

- 探測或偵測冷媒劑洩漏時，在任何情況下，均不得使用潛在的點火源。

7. 排放和抽真空

- 當介入冷劑迴路進行維修時或進行任何其他操作時，應遵循充規步驟。

安裝時所需的工具
1 菲力螺絲起子 6 剪管器 11 溫度計 16 扭力扳手

附送之配件
編號 數量 編號 數量
1 安裝板 1 6 遙控器支架固定螺絲 2

選擇最佳位置
室內機 室外機
切勿將機組安裝到油煙過多的區域，如：廚房、車間等。

表 A
型號 容 W (HP) 配管尺寸 標準長度 (m) 最大高度 (m)

單機：針對 RU18*** 機組的安裝距離是 15m，額外冷劑的數量應該是 >= 15m x (距離) - 10m (附加氣體的導管長度)

注意：由於溫差，底座外部會形成水滲。我們建議安裝人員在冷媒配管、二通閥及三通閥上施加絕緣層。

ACXF60-57240
在馬來西亞印刷

安全措施

- 安裝之前請仔細閱讀此“安全措施”。
電氣工作必須由授權工人安裝。
請務必使用有正確額定電壓的插頭與主電路。

警告
注意
此符號表示可能導致死亡或重傷。
此符號表示可能只導致受傷或機件損壞。

- 除非製造商推薦，否則切勿使用工具加速除霜過程或進行清理。
不要將室外機安裝在靠近陽臺的扶手。
切勿將您的手指或其他物體插入本機。

注意

- 必須確保管件的安裝應保持在最低限度。
必須確保管件免受實質損傷。
必須確保機械連接進行良好。

2. 檢修

- 2-1. 工作人員資格
參與冷劑迴路工作介入冷劑迴路的任何具備資質的人員均應持有由行業認可之評估機構頒發的當前有效證書。

2-2. 檢查該區域

- 開始在包含可燃性冷劑的系統上作業之前，必須進行安全檢查，以確保將引燃之風險降至最低。

2-3. 作業程序

- 應按照可控的程式進行作業，以便將工作期間存在可燃氣體或蒸汽的風險降至最低。

2-4. 一般作業區域

- 應將所有作業之性質告知在該區域內作業的所有護工人員和其他人員并由其予以監督。

2-5. 檢查是否存在冷劑

- 在作業之前及作業過程中，應使用適當的冷劑偵測器檢測該區域。

2-6. 維修火源

- 應確保冷劑迴路系統內所有可能之點火源均應足夠遠離安裝、維修、拆卸和處理區域。

2-8. 通風區域

- 介入系統或進行任何高溫作業時，應確保該區域電氣充分通風。

2-9. 製冷設備檢查

- 更換電氣部件時，該電氣部件應符合預期用途并具備正確的規格。

8. 充填步驟

- 除常規充填步驟外，應遵循以下要求。
使用充填設備時，確保不會出現不同冷劑的污染物。

9. 回收

- 執行此程式之前，技術人員須熟悉本設備及其全部詳情。

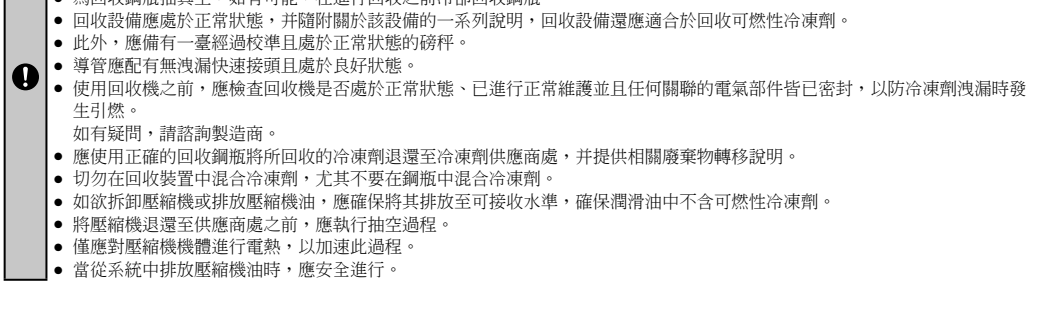
10. 添加標籤

- 應為設備添加標籤，說明設備已經停用並且冷劑已排空。

11. 回收

- 當出於檢修或停用設備之目的從系統排放冷劑時，建議遵循良好作業規範。

室內/室外裝機圖



- 導管連接的隔熱
在檢查是否有氣體洩露後，進行隔熱處理並使用纖維尼龍膠帶將其固定。

- 將遙控器支架固定到牆面上
遙控器支架固定螺絲

- 注意：
由於溫差，底座外部會形成水滲。我們建議安裝人員在冷媒配管、二通閥及三通閥上施加絕緣層。

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1 選擇最佳位置 (請參閱“選擇最佳位置”)

2 如何固定安裝板

安裝板應足夠堅硬和牢固，以防止機組震動。

1	2	3	4	5	6
600 mm	67 mm (+)	550 mm	511 mm	238 mm	288 mm

- 將導管穿入孔中。
- 為安裝板安裝螺絲。
- 切斷套管，讓導管外圍留下約 15 mm 長的套管。

注意
 若牆壁為空心結構時，務請使用配管套管，以防
 止老舊吸煙連接電纜導管導致的危險。

- 最後，用油灰或填縫膠封住套管。

3 嵌入式配管的處理

- 更改排水管的位
- 將嵌入式導管弄彎
- 引導連接電纜進入室內機
- 切割和擴大嵌入式導管
- 安裝室內機
- 連接管子
- 為導管進行隔熱及成型處理
- 固定室內機

室內和室外機連接電纜可以在不拆卸前格柵的情況下進行連接。

更改排水管的位
 左導管安裝的後視圖

稍向下調整導管。

連接管子
 請參閱室外機章的“連接管子”。

為導管進行隔熱及成型處理
 請參閱室內機安裝章的“導管連接的隔熱”。

固定室內機
 (這適用於左後導管)

5 將電纜連接到室內機

室內和室外機連接電纜可以在不拆卸前格柵的情況下進行連接。

- 將室內機安裝在牆壁上的安裝支。
- 鬆開螺絲然後打開前面板。
- 室內和室外的**連接電纜**應採用核實的整型丁二烯銅製。請使用 4 x 1.5 mm² (2.0HP) 或 4 x 2.5 mm² (2.5HP) 型號標明為 60245 IEC 57 或更重的電纜。切勿使用接駁連接電纜。若現有 (隱藏配線或其他) 電纜太短，請更換之。應遵循有關電氣工作的國家法規和法律。
- 用膠帶綁起所有室內機和室外機的**連接電纜**，並將連接電纜繞至左邊出口。
- 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。

室內機組上的端子

1	2	3	4
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電纜的顏色 (連接電纜)

1	2	3
---	---	---

室外機組上的端子

1 選擇最佳位置 (請參閱“選擇最佳位置”)

2 裝置室外機

● 選定最佳位置後，依照室內/室外機安裝圖進行安裝。

- 用螺絲 (ø10 mm 直徑) 將室外機穩妥地打地盤上或板上。
- 若裝在屋頂，請考慮到強風和地震。

型號	A	B	C	D
2.0HP	540 mm	160 mm	18.5 mm	330 mm
2.5HP	613 mm	130 mm	24 mm	360.5 mm

3 連接管子

連接配管至室內

所有型號的連接接頭

在插入 (在室內管子的連接部份) 在鋼管上後，請擴大管口。

R32 型號在室內側以擴口方式進行連接時的其他注意事項

● 確保在连接到機台前做管道的重新燃燒，以避免洩漏

使用中性固化 (烷氧基型)、無氣硅樹脂密封膠和隔熱材料充分密封擴口螺口 (氣體和液體側管)，以免因凍結而造成氣體洩漏。

完成壓力測試後根據密封膠使用說明進行清潔之液體才能將中性固化 (烷氧基型)、無氣硅樹脂密封膠塗於連接處的外側。

目的在於避免水分進入連接接頭，進而可能發生凍結。密封膠固化需要一段時間。包圍隔熱材料時應確保密封膠不會剝落。

連接配管至室外

請決定配管長度，然後用配管剪剪除。去除切割邊緣的毛刺。

把擴口螺母 (位於閘門) 套在鋼管上之後，請擴大管口。

將配管中央部位與閘門對齊，然後用力扳手按照以上列表所指定的轉矩旋緊。

配管尺寸	轉矩
6.35 mm (1/4")	[18 Nm (1.8 kgf·m)]
9.52 mm (3/8")	[42 Nm (4.3 kgf·m)]
12.7 mm (1/2")	[55 Nm (5.6 kgf·m)]
15.88 mm (5/8")	[65 Nm (6.6 kgf·m)]
19.05 mm (3/4")	[100 Nm (10.2 kgf·m)]

5 將電線連接到室外機

- 旋轉螺絲以取下控制板蓋。
- 室內和室外的**連接電纜**應採用合格的 4 x 1.5 mm² (2.0HP) 或 4 x 2.5 mm² (2.5HP) 聚氯丁稀電線 (編號 60245 IEC 57)，或負荷更高的電纜。切勿使用接駁連接電纜。若現有 (隱藏配線或其他) 電纜太短，請更換之。應遵循有關電氣工作的國家法規和法律。
- 用固零件 (夾扣) 把電纜牢地固定在控制板上。
- 以螺絲釘將控制板安裝回原來的位置。
- 欲瞭解線路和連接要求，請參閱室內機的說明。
- 基於安全理由，地線應該是黃色/綠色 (YG) 以及較其他交流電線長。

室內機組上的端子

1	2	3	4
---	---	---	---

電纜的顏色

1	2	3
---	---	---

室內機組上的端子

6 喉管絕緣

- 請如室內/室外機安裝圖所示在配管連接部分進行絕緣。請將已絕緣的管子末端包好，以防止水滲進管子內。
- 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 或以上的聚乙烯泡增加絕緣。

4 室內機的安裝

- 右後導管的安裝
- 右邊和右下部導管的安裝
- 固定室內機

在拉出導管時，如果沒有減震器，切勿將機組翻轉。這可能會導致進氣格柵損壞。

拉出室內導管

右後導管

右導管

左邊導管

右邊導管蓋板

底部導管蓋板

排水

如何保存蓋板

如果蓋板被拆下，請將蓋板保存在圖中所示的機箱後部，供日後重新安裝使用。

安裝室內機

將室內機鉤在安裝板的上部。(將室內機與安裝板上線嵌合)。將鉤子左右移動，確保它正確固定在安裝板上。

固定室內機

1. 電源電纜整理

多餘的電源電纜應該整理好在機箱後部的導管上，如圖所示，並不是扎成一束。請確保電源電纜沒有夾在

2. 將機組的左側和右側推向安裝板，直到鉤子與它們的插槽嵌合 (咔嚓一聲)。

欲取出機組，請按下列機箱的▽標記，並朝自己方向稍微拉出，以鬆開機組的鉤子。

插入連接電纜

大約 70-80 mm

連接電纜

氣體側管

液體側管

排水

3 嵌入式配管的處理

- 更改排水管的位
- 將嵌入式導管弄彎
- 引導連接電纜進入室內機
- 切割和擴大嵌入式導管
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室內和室外機連接電纜可以在不拆卸前格柵的情況下進行連接。

更改排水管的位
 左導管安裝的後視圖

稍向下調整導管。

連接管子
 請參閱室外機章的“連接管子”。

為導管進行隔熱及成型處理
 請參閱室內機安裝章的“導管連接的隔熱”。

固定室內機
 (這適用於左後導管)

4 製冷系統氣密測試

切勿使用冷劑清除系統內的空氣，而應使用真空為裝置抽真空。

- 室外機內不存在額外冷劑用於排除空氣。

在為系統充冷劑之前以及製冷系統投入工作之前，應由經認證的技術人員和/或安裝工對下方場測試程序和驗收原則予以核實。

請務必檢查整個系統是否存在氣體洩漏。

- 1) 使用推針將裝載導管連接至裝載裝置的低壓部分以及三向閘的維修端口。在極度寒冷的冬季，可能會發生材料收縮，請嘗試進一步擰緊雙向和三向閘，以確保它們完全關閉。
- 2) 正確安裝安裝壓力錶裝置套件。確保管式壓力錶的兩個閘門 (低壓和高壓) 均處於關閉位置。
- 3) 將管式壓力錶的中央導管連接至真空室。
- 4) 啟動真空室的電源開關，然後打開管式壓力錶低側閘門並確定壓力錶的指針由 0 cmHg (0 MPa) 跳至 -76 cmHg (-0.1 MPa) 或抽真空至 500 微米。此過程持續約十分鐘。然後關閉管式壓力錶低側閘門。
- 5) 從中央導管上拆下真空室並將中央導管與任何適用作為測試氣體的情性氣體鋼瓶相連。
- 6) 為系統充氣測試氣體並等待系統內的壓力達到 1.04 MPa (10.4 bar)。
- 7) 等待并監測壓力錶上的壓力讀數。檢查是否存在壓降。等待時間取決於系統尺寸。
- 8) 若存在壓降，請執行步驟 9-12。若不存在壓降，請執行步驟 13。
- 9) 使用漏氣偵測器檢查是否存在洩漏。須使用具有每每年 5 克測試氣體或更好靈敏度的洩漏偵測設備。
- 10) 沿著空氣調節系統移動推針，檢查是否存在洩漏，並予以標記，方便維修。
- 11) 應對所偵測和標記的任何洩漏予以維修。
- 12) 維修之後，重複抽真空步驟 3-4 以及氣密測試步驟 5-7。
- 13) 若無洩漏，回收測試氣體。執行抽真空步驟 3-4。然後繼續步驟 14。
- 14) 拆除連接至三向閘的維修端口的裝載導管。
- 15) 使用轉矩扳手施以 18 Nm 的轉矩將三向閘的維修端口蓋子擰緊。
- 16) 打開雙向閘和三向閘的閘蓋。
- 17) 使用六角扳手 (4mm) 打開這兩個閘蓋。建議讓冷劑緩慢流入冷劑側系統，以防止冷劑凍結。稍微打開雙向閘 5 秒鐘，然後關閉閘門。重複此操作 3 次，然後完全打開閘門。
- 18) 將閘蓋安裝回雙向閘和三向閘上，完成此過程。

切劃和擴大導管

1. 請用切割器切割和除毛刺。
2. 用擴孔器去除毛刺。若不除毛刺，氣體可能會滲漏。請將末端轉下以防止金屬屑進入管子內。
3. 把擴口螺母套在鋼管上之後，請擴大管口。

不正確的擴口形狀

正確的擴口形狀

當擴口正確，擴口內部表面均勻發光，且厚薄均一。由於擴口部分會接觸到連接，請仔細檢查擴口的成型圖。

如何取出前格柵

若有必要，如進行安裝或檢修服務，請跟從以下步驟取出前格柵。

- 將垂直葉片調至稍稍向下。

(將葉片稍稍移向下方)

- 將前格柵上方的 2 個旋鈕 (一左一右) 從中心向兩側滑動以解鎖。
- 將前格柵上方的 2 個旋鈕滑動至解鎖位置。
- 打開前面板。
- 將前格柵的 2 個旋鈕滑動至解鎖位置。
- 如圖所示，將前格柵上的 2 個螺絲取下。
- 如圖所示，將 2 個蓋子向上推，將前格柵上的 2 個螺絲取出。
- 將前格柵朝自己方向拉出，以取出前格柵。

當重新安裝前格柵時，按相反的順序執行上述步驟。

滑軌移動到鎖止位置後，請將前格柵向後輕輕拉回。確認前格柵已牢固鎖止。

用螺絲將機箱安裝在安裝板上

用螺絲將機箱固定在安裝板上 (需要自購，螺絲尺寸: M4，最大長度為 10 mm) 以保持室內機外觀整潔。

請參閱“如何取出前格柵”以取出前格柵。

自動開關操作

以下操作將通過按“**AUTO**”開關來執行。

- 自動操作模式
 - 一旦操作模式“自動開關”按鈕並在 5 秒之內鬆開，自動操作將立即生效。
- 試運轉操作 (用於抽氣檢修目的)
 - 如果持續按自動按鈕 5 至 8 秒鐘，試運轉操作將被激活。“嗚”聲在第 5 秒時將會響起，以顯示測試已開始操作。
- 遙控器接收的開關
 - a) 持續按“**AUTO**”按鈕 16 至 21 秒鐘。在第十六秒鐘時會發出“嗚”、“嗚”、“嗚”、“嗚”聲響。
 - b) 按下“**AC Reset**”鍵一次，您將會聽到“嗚”聲，表示遙控器接收設定模式已被開啟。
 - c) 再按“**AUTO**”按鈕 (在 60 秒的時間內) 按“**AUTO**”鍵，遙控器的接收聲響狀態將在開關之間轉換。
 - 較長的“嗚”聲表示遙控器的接收聲響設定已被關閉。較短的“嗚”聲表示遙控器的接收聲響設定已被關閉。

如何處理室外機排出的水

若使用排水管，本機應該被放置在高度 5 cm 的架子上。

若本機使用地點的溫度連續 2 至 3 天降低至 0°C 以下，我們建議您不要使用排水管，因排水水將會凝結並導致風扇停止轉動。

檢查排水

打開前面板，然後取下空氣過濾器。

排水檢查可在不拆卸前格柵的情況下進行。

往排水托盤將液體倒到一杯水。

確保水從室內機的排水管流出。

性能評估

在製冷/制暖操作模式下運轉機組十五分鐘或更長的時間。

● 測量進氣和排氣溫度。

● 確保進氣和排氣的溫差在制冷操作模式下超過 8°C，而在制暖操作模式下則是超過 14°C。

備註：
 ● 在冬季，請在測試運行前打開電源並至少等待 15 分鐘。
 ● 預留足夠的時間預熱冷劑並防止斷路器誤碼時出錯。

安裝過濾器

1. 打開前面板。
2. 取下空氣過濾器。
3. 將空氣淨化過濾器置入如右圖所示的位置。

在重新使用現有冷劑配管的情況下

當決定重新使用現有冷劑配管時，請遵從以下事項。

● 在下列情況下，請勿迴圈再用任何冷劑配管。反之請確保安裝新的配管。

- 沒有配備熱絕緣於液體側或氣體側配管或兩者。
- 現有冷劑配管處於關閉狀態。
- 現有冷劑配管的直徑和厚度不符合要求。
- 配管長度有較高不符合要求。

在重新使用配管之前，請進行正確的抽氣。

● 在以下情況下，請在重新使用前徹底清潔。

- 現有冷劑配管的抽氣操作無法進行。
- 配管有腐蝕現象。
- 配管顏色變深 (ASTM 4.0 及以上版本)。
- 現有機器油是變質/油熱劣型。

● 請勿迴圈再用擴口以避免漏氣。請確保安裝新的擴口。

● 如果現有冷劑配管有被焊接的部分，在被焊接後進行漏氣檢查。

● 更換充熱絕緣體。

● 熱絕緣必需用於液體側和氣體側配管。

正確的抽氣方法

1. 在製冷模式下運轉空氣調節器 10-15 分鐘。
2. 操作 10-15 分鐘後，關閉雙向閘。
3. 取出空氣調節器機組。
4. 安裝新的冷劑機組。

目的過程
 目的：使機油與冷劑混合在一定的冷劑配管可能導致洩漏。此過程時，它們將保持液體狀態。

檢查項目

- 擴口螺絲連接是否有任何氣體洩漏?
- 擴口螺絲連接是否已進行了熱絕緣處理?
- 連接電纜是否已穩固地接到端子板上?
- 連接電纜的尾端是否已適當封好?
- 排水是否良好? (請參閱“檢查排水”章節)
- 地線是否已正確地接到安裝板?
- 室內機是否正確地掛到安裝板?
- 電源電壓是否符合額定值?
- 是否有任何異響?

製冷/制暖操作是否正常?
 溫控器操作是否正常?
 遙控器的 LCD 操作是否正常?

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