SHARP

Split Type Air Conditioner
OPERATION MANUAL
分體式冷氣機
使用說明書

MODELS:	INDOOR UNIT	OUTDOOR UNIT
型　　號:	AH-X9CCA	AU-X9CCA
	AH-X12CCA	AU-X12CCA
	AH-X18CCA	AU-X18CCA
	AH-X24CCA	AU-X24CCA

香港電器安全規格
（國際電工委員會規格適合）

Thank you for choosing SHARP R32 Split type air conditioner. Please read this manual thoroughly before using your air conditioner and keep it carefully for future reference.

多謝您購買SHARP R32分體式冷氣機。安裝及操作之前，請仔細閱讀本說明書，以便正確使用冷氣機。閱讀後，請妥善保存此說明書，以便日後翻閱。

CONTENTS

Please read this operation manual carefully before operating the unit.

WARNING Appliance filled with mildly flammable refrigerant R32.If the refrigerant is leaked and exposed to external ignition source, there is a risk of fire.

CAUTION Before use the appliance, read the operation manual first.

CAUTION Before install the appliance, read the operation manual first.

CAUTION Before repair the appliance, read the operation manual first.

The figures in this manual may be different with the material objects, please refer to the material objects for reference.

Explanation of Symbols

⚠WARNING	This symbol indicates the possibility of death or serious injury.
⚠CAUTION	This symbol indicates the possibility of injury or damage to property.
NOTICE	Indicates important but not hazard-related information, used to indicate risk of property damage.

Exception Clauses

Manufacturer will bear no responsibilities when personal injury or property loss is caused by the following reasons.

1.Damage the product due to improper use or misuse of the product;
2.Alter, change, maintain or use the product with other equipment without abiding by the instruction manual of manufacturer;
3.After verification, the defect of product is directly caused by corrosive gas;
4.After verification, the defects are due to improper operation during transportation of product;
5.Operate, repair, maintain the unit without abiding by instruction manual or related regulations;
6.After verification, the problem or dispute is caused by the quality specification or performance of parts and components that produced by other manufacturers;
7.The damage is caused by natural calamities, bad using environment or force majeure.

- If it needs to install, move or maintain the air conditioner, please contact dealer or local service center to conduct it at first. Air conditioner must be installed, moved or maintained by appointed unit. Otherwise, it may cause serious damage or personal injury or death.
- When refrigerant leaks or requires discharge during installation, maintenance, or disassembly, it should be handled by certified professionals or otherwise in compliance with local laws and regulations.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
  Children should be supervised to ensure that they do not play with the appliance.
- This appliance incorporates an earth connection for functional purposes only.
  Note: Only for models with ground wire from PCB.

The refrigerant

Appliance filled with mildly flammable gas R32.	Before install the appliance, read the installation manual first.
Before use the appliance, read the owner's manual first.	Before repair the appliance, read the service manual first.

- To realize the function of the air conditioner unit, a special refrigerant circulates in the system. The used refrigerant is the R32, which is specially cleaned. The refrigerant is mildly flammable and inodorous. Furthermore, it can lead to explosion under certain conditions. But the flammability of the refrigerant is very low.It can be ignited only by fire.
- Compared to common refrigerants, R32 is a nonpolluting refrigerant with no harm to the ozonosphere. The influence upon the greenhouse effect is also lower. R32 has got very good thermodynamic features which lead to a really high energy efficiency. The units there fore need a less filling.

WARNING

Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacture. Should repair be necessary, contact your nea rest authorized Service Centre. Any repairs carried out by unqualified personnel may be dangerous. The appliance shall be stored in a room without continuously operating ignition sources. (for example: open flames, an operating gas appliance or an operating electric heater.) Do not pierce or burn.

The appliance is using mildly flammable refrigerant R32 and tested to comply with IEC 60335-2-40. For repairs, strictly follow manufacturer's instructions only. Be aware that refrigerants may not contain an odour. Read specialist's manual.

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
Children should be supervised to ensure that they do not play with the appliance.
Hereby, Our company, declares that this Air Conditioner is in compliance with the essential requirement and other relevant provisions of RE Directive 2014/53/EU. A copy of the full DoC is attached.
Wireless frequency range: 2412MHz - 2472MHz
Maximum Transmit Power: 18dBm

R32: 675
This marking indicates that this product should not be disposed with other house hold wastes. To prevent possible harm to the environment or human health from uncontrolled waste throughout the EU. To prevent possible harm to the environment or human health.
From uncontrolled waste disposal, recycle it responsibly to promote the sustainable reuse of material resources. To return your used device, please use the return and collection systems or contact the retailer where the product was purchased. They can take this product for environmental safe recycling.
If it needs to install, move or maintain the air conditioner, please contact dealer or local service center to conduct it at first. Air conditioner must be installed, moved or maintained by appointed unit. Otherwise, it may cause serious damage or personal injury or death.

Safety operation of mildly flammable refrigerant

Qualification requirement for installation and maintenance man

- All the work men who are engaging in the refrigeration system should bear the valid certification awarded by the authoritative organization and the qualification for dealing with the refrigeration system recognized by this industry. If it needs other technician to maintain and repair the appliance, they should be supervised by the person who bears the qualification for using the mildly flammable refrigerant.
- It can only be repaired by the method suggested by the equipment's manufacturer.

Safety operation of mildly flammable refrigerant

Installation notes

- The air conditioner must be installed in a room that is larger than the minimum room area. The minimum room area is shown on the nameplate or following table a.
- It is not allowed to drill hole or burn the connection pipe.
- Leak test is a must after installation.
- There is no minimum room area requirement for the appliance if no additional refrigerant is charged.

table a - Minimum room area (m^2)

Charge amount (kg)	floor location	window mounted	wall mounted	ceiling mounted
≤1.2	/	/	/	/
1.3	14.5	5.2	1.6	2.6
1.4	16.8	6.1	1.9	2.8
1.5	19.3	7	2.1	3
1.6	22	7.9	2.4	3.2
1.7	24.8	8.9	2.8	3.4
1.8	27.8	10	3.1	3.6
1.9	31	11.2	3.4	3.8
2.0	34.3	12.4	3.8	4
2.1	37.8	13.6	4.2	4.2
2.2	41.5	15	4.6	4.4
2.3	45.4	16.3	5	4.6
2.4	49.4	17.8	5.5	4.8
2.5	53.6	19.3	6	5
2.6	58.1	20.9	6.5	5.2
2.7	62.6	22.6	7	5.4
2.8	67.4	24.3	7.5	5.6
2.9	72.3	26	8.1	5.8
3.0	77.3	27.9	8.6	6
3.1	82.6	29.8	9.2	6.2
3.2	88	31.7	9.8	6.6
3.3	93.6	33.7	10.4	7
3.4	99.3	35.8	11.1	7.4
3.5	105.2	37.9	11.7	7.9
3.6	111.3	40.1	12.4	8.3
3.7	117.6	42.4	13.1	8.8
3.8	124	44.7	13.8	9.3
3.9	130.7	47.1	14.6	9.8
4.0	137.4	49.5	15.3	10.3

Maintenance notes

- Check whether the maintenance area or the room area meet the requirement of the nameplate.
  - It's only allowed to be operated in the rooms that meet the requirement of the nameplate.
- Check whether the maintenance area is well-ventilated.
  - The continuous ventilation status should be kept during the operation process.
- Check whether there is fire source or potential fire source in the maintenance area.
  - The naked flame is prohibited in the maintenance area; and the "no smoking" warning board should be hanged.
- Check whether the appliance mark is in good condition.
  - Replace the vague or damaged warning mark.

Welding

- If you should cut or weld the refrigerant system pipes in the process of maintaining, please follow the steps as below:
  a. Shut down the unit and cut power supply
  b. Eliminate the refrigerant
  c. Vacuuming
  d. Clean it with N_2 gas
  e. Cutting or welding
  f. Carry back to the service spot for welding
- The refrigerant should be recycled into the specialized storage tank.
- Make sure that there isn't any naked flame near the outlet of the vacuum pump and it's well-ventilated.

Filling the refrigerant

- Use the refrigerant filling appliances specialized for R32. Make sure that different kinds of refrigerant won't contaminate with each other.
- The refrigerant tank should be kept upright at the time of filling refrigerant.
- Stick the label on the system after filling is finished (or haven't finished).
- Don't overfilling.
- After filling is finished, please do the leakage detection before test running; another time of leak detection should be done when it's removed.

Safety instructions for transportation and storage

- Please use the mildly flammable gas detector to check before unload and open the container.
- No fire source and smoking.
- According to the local rules and laws.

Safety precautions

WARNING

Installation

- Installation or maintenance must be performed by qualified professionals.
- The appliance shall be installed in accordance with national wiring regulations.
- According to the local safety regulations, use qualified power supply circuit and circuit breaker.
- All wires of indoor unit and outdoor unit should be connected by a professional.
- Be sure to cut off the power supply before proceeding any work related to electricity and safety.
- Make sure the power supply matches with the requirement of air conditioner.
- Unstable power supply or incorrect wiring may result in electric shock, fire hazard or malfunction. Please install proper power supply cables before using the air conditioner.
- The grounding resistance should comply with national electric safety regulations.
- Air Conditioner should be properly grounded. Incorrect grounding may cause electric shock.
- Do not put through the power before finishing installation.
- Do install the circuit breaker. If not, it may cause malfunction.
- An all-pole disconnection switch having a contact separation of at least 3mm in all poles should be connected in fixed wiring.
- Circuit breaker should be included magnet buckle and heating buckle function. It can protect the overload and circuit-short.

CAUTION

Installation

- Instructions for installation and use of this product are provided by the manufacturer.
- Select a location which is out of reach for children and far away from animals or plants. If it is unavoidable, please add the fence for safety purpose.
- The indoor unit should be installed close to the wall.
- Don't use unqualified power cord.
- If the length of power connection wire is insufficient, please contact the supplier for a new one.
- The appliance must be positioned so that the plug is accessible.
- For the air conditioner with plug, the plug should be reachable after finishing installation.
- For the air conditioner without plug, a circuit breaker must be installed in the line.
- The yellow-green wire in air conditioner is grounding wire, which can't be used for other purposes.
- The air conditioner is the first class electric appliance. It must be properly grounder with specialized grounding device by a professional. Please make sure it is always grounded effectively, otherwise it may cause electric shock.
- The temperature of refrigerant circuit will be high, please keep the interconnection cable away from the copper tube.

WARNING

Operation and Maintenance

- This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.
- Children shall not play with the appliance.
- Cleaning and user maintenance shall not be made by children without supervision.
- If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
- Do not connect air conditioner to multi-purpose socket. Otherwise, it may cause fire hazard.
- Do disconnect power supply when cleaning air conditioner. Otherwise, it may cause electric shock.
- Do not wash the air conditioner with water to avoid electric shock.
- Do not spray water on indoor unit. It may cause electric shock or malfunction.
- Do not repair air conditioner by yourself. It may cause electric shock or damage. Please contact dealer when you need to repair air conditioner.
- After removing the filter, do not touch fins to avoid injury.
- Do not extend fingers or objects into air inlet or air outlet. It may cause personal injury or damage.

Safety precautions

CAUTION

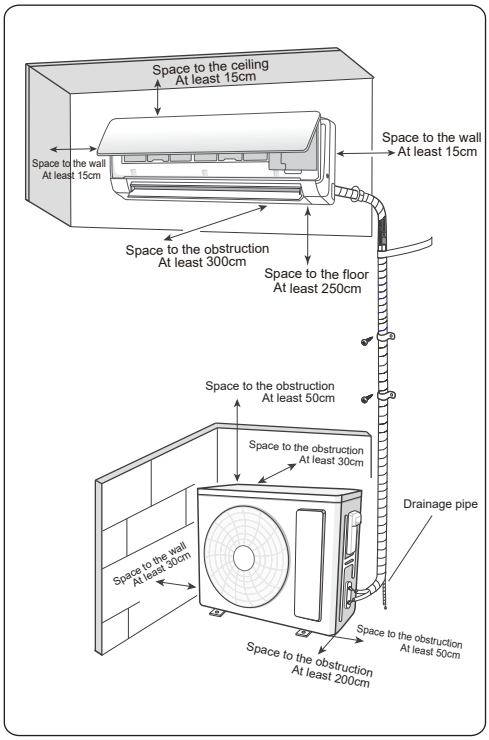
Operation and Maintenance

- Do not spill water on the remote controller, otherwise the remote controller may be broken.
- Do not use fire or hair dryer to dry the filter to avoid deformation or fire hazard.
- Do not block air outlet or air inlet. It may cause malfunction.
- Do not step on top panel of outdoor unit, or put heavy objects. It may cause damage or personal injury.
- When below phenomenon occurs, please turn off air conditioner and disconnect power immediately, and then contact the dealer or qualified professionals for service.
  - Power cord is overheating or damaged.
  - There's abnormal sound during operation.
  - Circuit breaker trips off frequently.
  - Air conditioner gives off burning smell.
  - Indoor unit is leaking.

Special functions and instructions

Sensor	Function
Temperature sensor	It's used for detecting ambient temperture and pipeline temperature.
Infrared receiver	Receive the infrared signal sent from the remote controller.

Installation notice



Safety precautions for installing and relocating the unit

To ensure safety, please be mindful of the following precautions.

⚠ WARNING

- **When installing or relocating the unit, be sure to keep the refrigerant circuit free from air or substances other than the specified refrigerant.**
  Any presence of air or other foreign substance in the refrigerant circuit will cause system pressure rise or compressor rupture, resulting in injury.
- **When installing or moving this unit, do not charge the refrigerant which is not comply with that on the nameplate or unqualified refrigerant.**
  Otherwise, it may cause abnormal operation, wrong action, mechanical malfunction or even serious safety accident.
- **When refrigerant needs to be recovered during relocating or repairing the unit, be sure that the unit is running in cooling mode. Then, fully close the valve at high pressure side (liquid valve). About 30-40 seconds later, fully close the valve at low pressure side (gas valve), immediately stop the unit and disconnect power. Please note that the time for refrigerant recovery should not exceed 1 minute.**
  If refrigerant recovery takes too much time, air may be sucked in and cause pressure rise or compressor rupture, resulting in injury.
- **During refrigerant recovery, make sure that liquid valve and gas valve are fully closed and power is disconnected before detaching the connection pipe.**
  If compressor starts running when stop valve is open and connection pipe is not yet connected, air will be sucked in and cause pressure rise or compressor rupture, resulting in injury.
- **When installing the unit, make sure that connection pipe is securely connected before the compressor starts running.**
  If compressor starts running when stop valve is open and connection pipe is not yet connected, air will be sucked in and cause pressure rise or compressor rupture, resulting in injury.
- **Prohibit installing the unit at the place where there may be leaked corrosive gas or mildly flammable gas.**
  If there is leaked gas around the unit, it may cause explosion and other accidents.
- **Do not use extension cords for electrical connections. If the electric wire is not long enough, please contact a local service center authorized and ask for a proper electric wire.**
  Poor connections may lead to electric shock or fire.
- **Use the specified types of wires for electrical connections between the indoor and outdoor units. Firmly clamp the wires so that their terminals receive no external stresses.**
  Electric wires with insufficient capacity, wrong wire connections and insecure wire terminals may cause electric shock or fire.

Tools for installation

1. Level meter
2. Screw driver
3. Impact drill
4. Drill head
5. Pipe expander
6. Torque wrench
7. Open-end wrench
8. Pipe cutter
9. Leakage detector
10. Vacuum pump
11. Pressure meter
12. Universal meter
13. Inner hexagon spanner
14. Measuring tape

NOTICE

- Please contact the local agent for installation.
- Don't use unqualified power cold.

Selection of installation location

Basic requirement

Installing the unit in the following places may cause malfunction. If it is unavoidable, please consult the local dealer:

1. The place with strong heat sources, vapors, flammable or explosive gas, or volatile objects spread in the air.
2. The place with high-frequency devices (such as welding machine, medical equipment).
3. The place near coast area.
4. The place with oil or fumes in the air.
5. The place with sulfureted gas.
6. Other places with special circumstances.
7. The appliance shall not be installed in the laundry.
8. It's not allowed to be installed on the unstable or motive base structure (such as truck) or in the corrosive environment (such as chemical factory).

Indoor unit

1. There should be no obstruction near air inlet and air outlet.
2. Select a location where the condensation water can be dispersed easily and won't affect other people.
3. Select a location which is convenient to connect the outdoor unit and near the power socket.
4. Select a location which is out of reach for children.
5. The location should be able to withstand the weight of indoor unit and won't increase noise and vibration.
6. The appliance must be installed 2.5m above floor.
7. Don't install the indoor unit right above the electric appliance.
8. Please try your best to keep way from fluorescent lamp.

Outdoor unit

1. Select a location where the noise and outflow air emitted by the outdoor unit will not affect neighborhood.
2. The location should be well ventilated and dry, in which the outdoor unit won't be exposed directly to sunlight or strong wind.
3. The location should be able to withstand the weight of outdoor unit.
4. Make sure that the installation follows the requirement of installation dimension diagram.
5. Select a location which is out of reach for children and far away from animals or plants. If it is unavoidable, please add the fence for safety purpose.

Safety precaution

1. Must follow the electric safety regulations when installing the unit.
2. According to the local safety regulations, use qualified power supply circuit and air switch.

Requirements for electric connection

3. Make sure the power supply matches with the requirement of air conditioner. Unstable power supply or incorrect wiring or malfunction. Please install proper power supply cables before using the air conditioner.
4. Properly connect the live wire, neutral wire and grounding wire of power socket.
5. Be sure to cut off the power supply before proceeding any work related to electricity and safety.
6. Do not put through the power before finishing installation.
7. If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
8. The temperature of refrigerant circuit will be high, please keep the interconnection cable away from the copper tube.
9. The appliance shall be installed in accordance with national wiring regulations.

Grounding requirement

1. The air conditioner is the first class electric appliance. It must be properly grounded with specialized grounding device by a professional. Please make sure it is always grounded effectively, otherwise it may cause electric shock.
2. The yellow-green wire in air conditioner is grounding wire, which can't be used for other purposes.
3. The grounding resistance should comply with national electric safety regulations.
4. The appliance must be positioned so that the plug is accessible.
5. An all-pole disconnection switch having a contact separation of at least 3mm in all poles should be connected in fixed wiring.

Air switch capacity

Including an air switch with suitable capacity, please note the following table. Air switch should be included magnet buckle and heating buckle function, it can protect the circuit-short and overload. (Caution: please do not use the fuse only for protecting the circuit)

Air-conditioner	Air switch capacity
09K、12K	10A
18K、24K	16A

Installation of indoor unit

Step 1:
Choose installation location

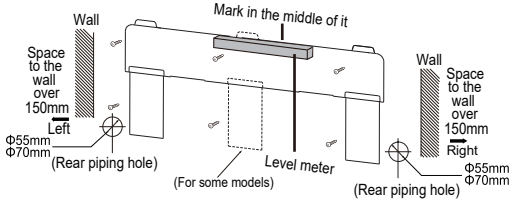
Recommend the installation location to the client and then confirm it with the client.

Step 2:
Install wall-mounting frame

1.Hang the wall-mounting frame on the wall; adjust it in horizontal position with the level meter and then point out the screw fixing holes on the wall.

2. Drill the screw fixing holes on the wall with impact drill(the specification of drill head should be the same as the plastic expansion particle) and then fill the plastic expansion particles in the holes.

3. Fix the wall-mounting frame on the wall with tapping screws and then check if the frame is firmly installed by pulling the frame. If the plastic expansion particle is loose, please drill another fixing hole nearby.



Step 3:
Open piping hole

1. Choose the position of piping hole according to the direction of outlet pipe. The position of piping hole should be a little lower than the wall-mounted frame, shown as below.

NOTE

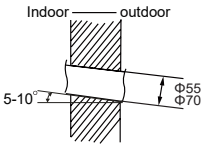
- The wall panel is for illustrative purposes only, please refer to the actual installation.
- Please refer to the actual circumstances for the number of screws and the position of screws.

2. When installation is finished, pull the mounting plate with hand to confirm whether it is fixed tightly. The force distribution for all screws should be uniform.

3. Open a piping hole with the diameter of Φ55 or Φ70 on the selected outlet pipe position. In order to drain smoothly, slant the piping hole on the wall slightly downward to the outdoor side with the gradient of 5-10°.

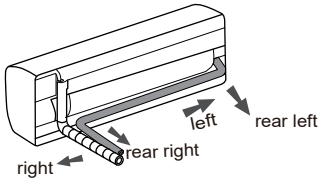
NOTE

- Pay attention to dust prevention and take relevant safety measures when opening the hole.

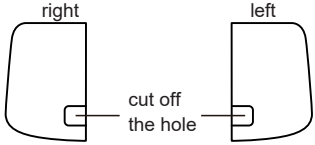


Step 4:
Outlet pipe

1. The pipe can be led out in the direction of right, rear right, left or rear left.

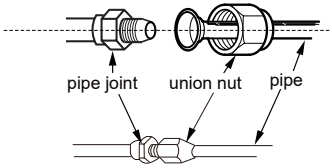


2. When select leading out the pipe from left or right, please cut off the corresponding hole on the bottom case.

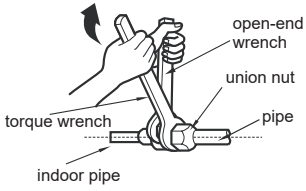


Step 5:
Connect the pipe of indoor unit

1. Aim the pipe joint at the corresponding bellmouth.
2. Pretighten the union nut with hand.

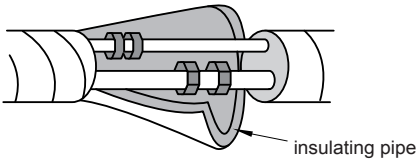


3. Adjust the torque force by referring to the following sheet. Place the open-end wrench on the pipe joint and place the torque wrench on the union nut. Tighten the union nut with torque wrench.



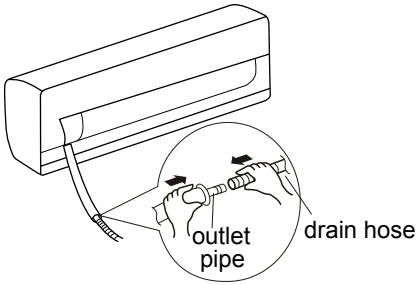
Hex nut diameter	Tightening torque (N·m)
1/4"	15~20
3/8"	30~40
1/2"	45~55
5/8"	60~65
3/4"	70~75

4. Wrap the indoor pipe and joint of connection pipe with insulating pipe, and then wrap it with tape.

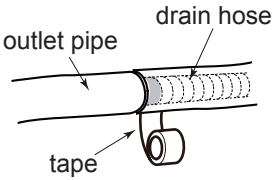


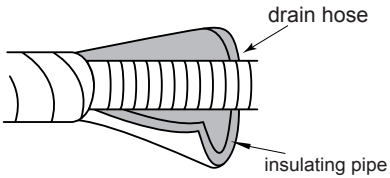
Step 6:
Install drain hose

1. Connect the drain hose to the outlet pipe of indoor unit.



2. Bind the joint with tape.





NOTE

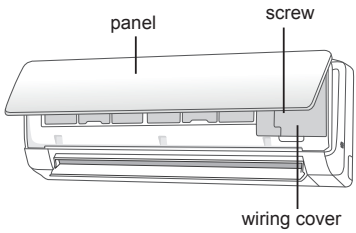
- Add insulating pipe in the indoor drain hose in order to prevent condensation.
- The plastic expansion particles are not provided.

Step 7:
Connect wire of indoor unit

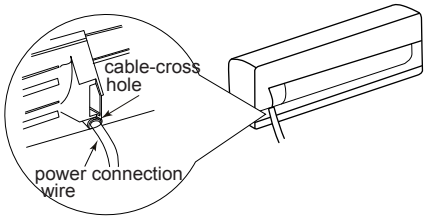
NOTICE

- All wires of indoor unit and outdoor unit should be connected by a professional.
- If the length of power connection wire is insufficient, please contact the supplier for a new one. Avoid extending the wire by yourself.
- For the air conditioner with plug, the plug should be reachable after finishing installation.
- For the air conditioner without plug, an air switch must be installed in the line. The air switch should be all-pole parting and the contact parting distance should be more than 3mm.

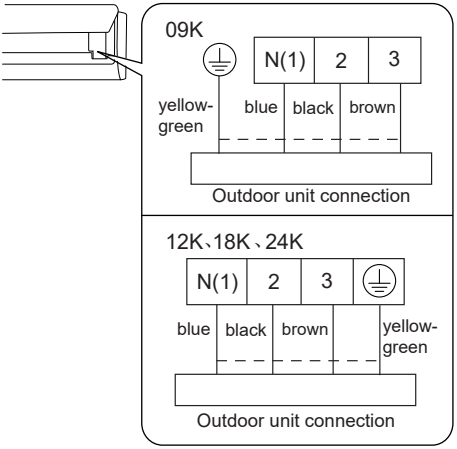
1. Open the panel, remove the screw on the wiring cover and then take down the cover.



2. Make the power connection wire go through the cable-cross hole at the back of indoor unit and then pull it out from the front side.



3. Remove the wire clip; connect the power connection wire to the wiring terminal according to the color; tighten the screw and then fix the power connection wire with wire clip.

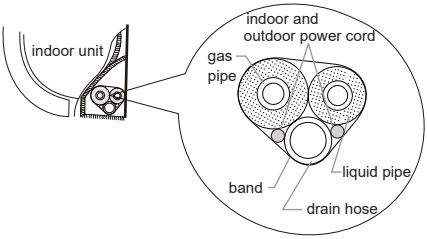


NOTICE
- The wiring board is for reference only, please refer to the actual one.

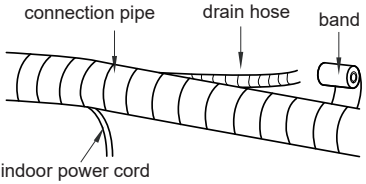
4. Put wiring cover back and then tighten the screw.
5. Close the panel.

Step 8:
Bind up pipe

1. Bind up the connection pipe, power cord and drain hose with the band.



2. Reserve a certain length of drain hose and power cord for installation when binding them. When binding to a certain degree, separate the indoor power and then separate the drain hose.

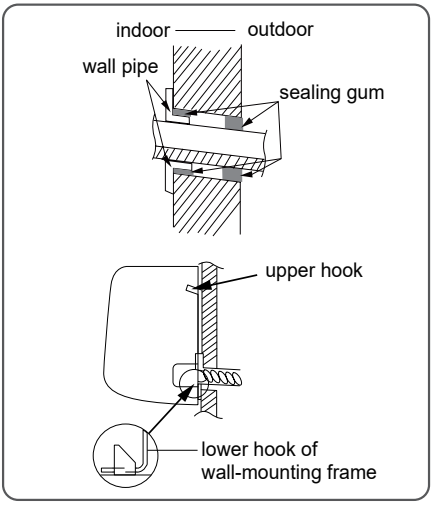


3. Bind them evenly.
4. The liquid pipe and gas pipe should be bound separately at the end.

NOTICE
- The power cord and control wire can't be crossed or winding.
- The drain hose should be bound at the bottom.

Step 9:
Hang the indoor unit

1. Put the bound pipes in the wall pipe and then make them pass through the wall hole.
2. Hang the indoor unit on the wall-mounting frame.
3. Stuff the gap between pipes and wall hole with sealing gum.
4. Fix the wall pipe.
5. Check if the indoor unit is installed firmly and closed to the wall.
6. When mechanical connectors are reused indoors, sealing parts shall be renewed. When flared joints are reused indoors, the flare part shall be re-fabricated.

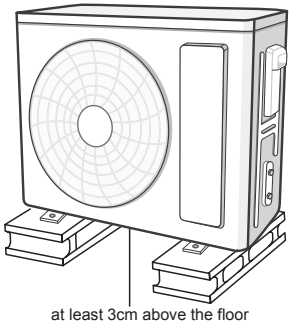


NOTICE
- Do not bend the drain hose too excessively in order to prevent blocking.

Installation of outdoor unit

Step 1:
Fix the support of outdoor unit (select it according to the actual installation situation)

1. Select installation location according to the house structure.
2. Fix the support of outdoor unit on the selected location with expansion screws.



NOTICE

- Take sufficient protective measures when installing the outdoor unit.
- Make sure the support can withstand at least four times of the unit weight.
- The outdoor unit should be installed at least 3cm above the floor in order to install drain joint. (for the model with heating tube, the installation height should be no less than 20cm.)
- For the unit with cooling capacity of 2300W~5000W, 6 expansion screws are needed; for the unit with cooling capacity of 6000W~8000W, 8 expansion screws are needed; for the unit with cooling capacity of 10000W~16000W, 10 expansion screws are needed.

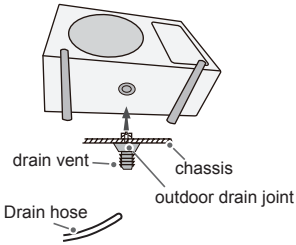
Step 2:
Install drain joint (only for some models)

1. Connect the outdoor drain joint into the hole on the chassis, as shown in the picture below.

2. Connect the drain hose into the drain vent.

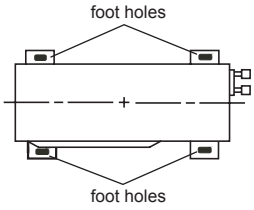
NOTICE

- As for the shape of drainage joint, please refer to the current product. Do not install the drainage joint in the severe cold area. Otherwise,it will be frosted and then cause malfunction.



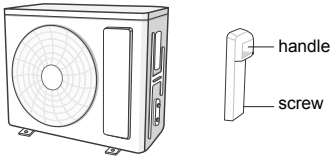
Step 3:
Fix outdoor unit

1. Place the outdoor unit on the support.
2. Fix the foot holes of outdoor unit with bolts.

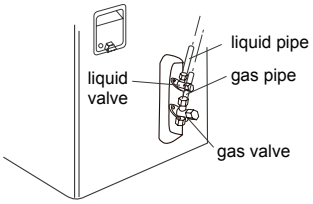


Step 4:
Connect indoor and outdoor pipes

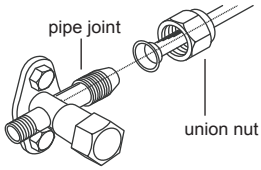
1. Remove the screw on the right handle of outdoor unit and then remove the handle.



2. Remove the screw cap of valve and aim the pipe joint at the bellmouth of pipe.



3. Pretighten the union nut with hand.



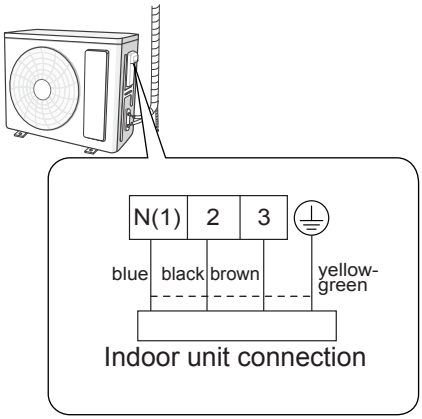
4. Tighten the union nut with torque wrench by referring to the sheet below.

Hex nut diameter	Tightening torque(N·m)
1/4"	15~20
3/8"	30~40
1/2"	45~55
5/8"	60~65
3/4"	70~75

Step 5:

Connect outdoor electric wire

1. Remove the wire clip; connect the power connection wire and signal control wire (only for cooling and heating unit) to the wiring terminal according to the color; fix them with screws.



NOTICE

- The wiring board is for reference only, please refer to the actual one.

2. Fix the power connection wire and signal control wire with wire clip (only for cooling and heating unit).

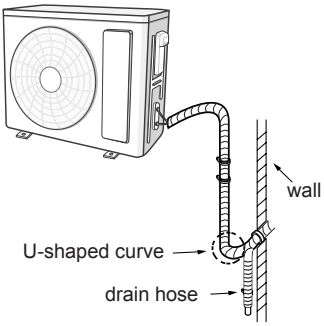
NOTICE

- After tighten the screw, pull the power cord slightly to check if it is firm.
- Never cut the power connection wire to prolong or shorten the distance.

Step 6:

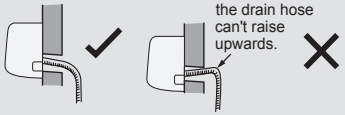
Neaten the pipes

1. The pipes should be placed along the wall, bent reasonably and hidden possibly. Min. semidiameter of bending the pipe is 10cm.
2. If the outdoor unit is higher than the wall hole, you must set a U-shaped curve in the pipe before pipe goes into the room, in order to prevent rain from getting into the room.

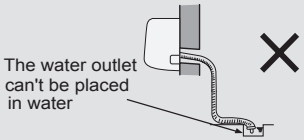


NOTICE

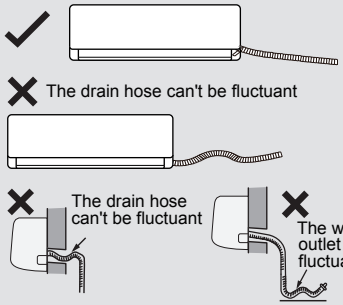
- The through-wall height of drain hose should not be higher than the outlet pipe hole of indoor unit.



- The water outlet can't be placed in water in order to drain smoothly.



- Slant the drain hose slightly downwards. The drain hose can't be curved, raised and fluctuant, etc.



Clean and maintenance

WARNING

- Turn off the air conditioner and disconnect the power before cleaning the air conditioner to avoid electric shock.
- Do not wash the air conditioner with water to avoid electric shock.
- Do not use volatile liquid to clean the air conditioner.
- Do not use liquid or corrosive detergent to clean the appliance and do not splash water or other liquid onto it, otherwise, it may damage the plastic components , even cause electric shock.

Clean surface of indoor unit

When the surface of indoor unit is dirty, it is recommended to use a soft dry cloth or wet cloth to wipe it.

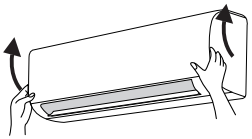
NOTICE

- Do not remove the panel when cleaning it.

Clean filter

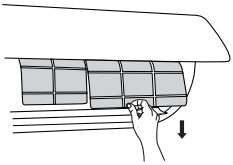
1. Open panel

Pull out the panel to a certain angle as shown in the fig.



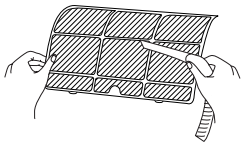
2. Remove filter

Remove the filter as indicated in the fig.



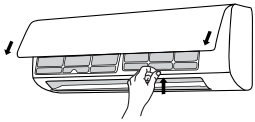
3. Clean filter

- Use dust catcher or water to clean the filter.
- When the filter is very dirty, use the water (below 45℃) to clean it , and then put it in a shady and cool place to dry.



4. Install filter

Install the filter and then close the panel cover tightly.



WARNING

- The filter should be cleaned every three months. If there is much dust in the operation environment, clean frequency can be increased.
- After removing the filter, do not touch fins to avoid injury.
- Do not use fire or hair dryer to dry the filter to avoid deformation or fire hazard.

***NOTICE:* Checking before use-season**

1. Check whether air inlets and air outlets are blocked.
2. Check whether air switch, plug and socket are in good condition.
3. Check whether filter is clean.
4. Check whether mounting bracket for outdoor unit is damaged or corroded. If yes, please contact dealer.
5. Check whether drainage pipe is damaged.

***NOTICE:* Checking after use-season**

1. Disconnect power supply.
2. Clean filter and indoor unit's panel.
3. Check whether mounting bracket for outdo or unit is damaged or corroded. If yes, please contact dealer.

Notice for recovery

1. Many packing materials are recyclable materials. Please dispose them in appropriate recycling unit.
2. If you want to dispose the air conditioner, please contact local dealer or consultant service center for the correct disposal method.

Error Code

When air conditioner status is abnormal, temperature indicator on indoor unit will blink to display corresponding error code. Please refer to below list for identification of error code.

Error code	Troubleshooting
U8, H6, H3, E1, E5, E6, E8	It can be eliminated after restarting the unit. If not, please contact qualified professionals for service.
C5, F0, F1, F2	Please contact qualified professionals for service.

NOTE

- If there're other error codes, please contact qualified professionals for service.

Checked items before maintenance

General phenomenon analysis

Please check below items before asking for maintenance. If the malfunction still can't be eliminated, please contact local dealer or qualified professionals.

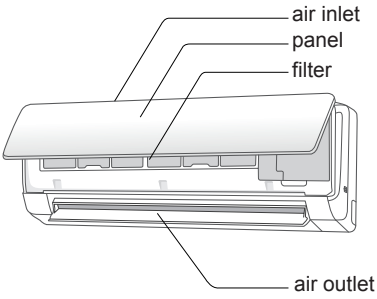
Phenomenon	Check items	Solution
Indoor unit can't receive remote controller's signal or remote controller has no action.	Whether it's interfered severely (such as static electricity, stable voltage?)	Pull out the plug. Reinsert the plug after about 3min, and then turn on the unit again.
	Whether remote controller is within the signal receiving range?	Signal receiving range is 8m.
	Whether there are obstacles?	Remove obstacles.
	Whether remote controller is pointing at the receiving window?	Select proper angle and point the remote controller at the receiving window on indoor unit.
	Is sensitivity of remote controller low; fuzzy display or no display?	Check the batteries. If the power of batteries is too low, please replace them.
	No display when operating remote controller?	Check whether remote controller appears to be damaged. If yes, replace it.
	Fluorescent lamp in room?	Take the remote controller close to indoor unit. Turn off the fluorescent lamp and then try it again.
No air emitted from indoor unit	Air inlet or air outlet of indoor unit is blocked?	Eliminate obstacles.
Air conditioner can't operate	Power failure?	Wait until power recovery.
	Is plug loose?	Reinsert the plug.
	Air switch trips off or fuse is burnt out?	Ask professional to replace air switch or fuse.
	Wiring has malfunction?	Ask professional to replace it.
	Unit has restarted immediately after stopping operation?	Wait for 3min, and then turn on the unit again.
	Whether the function setting for remote controller is correct?	Reset the function.
Mist is emitted from indoor unit's air outlet	Indoor temperature and humidity is high?	Because indoor air is cooled rapidly. After a while, indoor temperature and humidity will be decrease and mist will disappear.
Odours are emitted	Whether there's odour source, such as furniture and cigarette, etc.	Eliminate the odour source. Clean the filter.
Set temperature can't be adjusted	Unit is operating under auto mode?	Temperature can't be adjusted under auto mode. Please switch the operation mode if you need to adjust temperature.
	Your required temperature exceeds the set temperature range?	Set temperature range: 16℃~30℃.
Cooling effect is not good.	Voltage is too low?	Wait until the voltage resumes normal.
	Filter is dirty?	Clean the filter.
	Set temperature is in proper range?	Adjust temperature to proper range.
	Door and window are open?	Close door and window.
Air conditioner operates abnormally	Whether there's interference, such as thunder, wireless devices, etc.	Disconnect power, put back power, and then turn on the unit again.
"Water flowing" noise	Air conditioner is turned on or turned off just now?	The noise is the sound of refrigerant flowing inside the unit, which is a normal phenomenon.
Cracking noise	Air conditioner is turned on or turned off just now?	This is the sound of friction caused by expansion and or contraction of panel or other parts due to the change of temperature.

⚠ WARNING

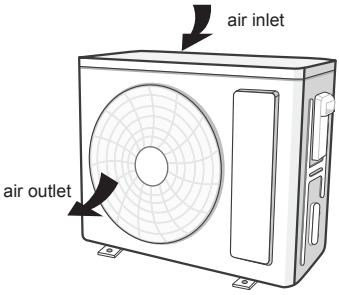
- When below phenomenon occurs,please turn off air conditioner and disconnect power immediately, and then contact the dealer or qualified professionals for service.
  - Power cord is overheating or damaged.
  - There's abnormal sound during operation.
  - Air switch trips off frequently.
  - Air conditioner gives off burning smell.
  - Indoor unit is leaking.
- Do not repair or refit the air conditioner by yourself.
- If the air conditioner operates under abnormal conditions, it may cause malfunction, electric shock or fire hazard.

Parts name

Indoor Unit



Outdoor Unit



NOTE

- Actual product may be different from above graphics, please refer to actual product.

Display

Temp. indicator	26
Power indicator	⏻

NOTE

- This is the general introduction and the color of indicator is only for reference. Please refer to the actual display.
- Display content may be different from the actual. Please refer to the actual display.

Operation and introduction of remote controller

Buttons on remote controller

Introduction for icons on display screen

		I feel
FAN AUTO		Set fan speed
		Turbo mode
		Send signal
Operation mode		Auto mode
		Cool mode
		Dry mode
		Fan mode
		Heat mode*
		Sleep mode
		8℃ heating function*
		Health mode*
		Scavenging function*
		Quiet
		X-FAN function
Temp. display type		Set temp.
		Indoor ambient temp.
		Outdoor ambient temp.
		Clock
		Set temperature
38:88		Set time
ONOFF		TIMER ON / TIMER OFF
		Light
		Left & right swing*
		Up & down swing
		Child lock

* Not applicable for this model.

Introduction for buttons on remote controller

NOTE

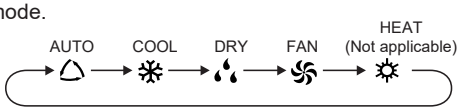
- This is a general use remote controller. It could be used for the air conditioner with multifunction. For the functions which the model doesn't have, if press the corresponding button on the remote controller, the unit will keep the original running status.
- After putting through the power, the air conditioner will give out a sound. Power indicator " ⏻ " is ON. After that, you can operate the air conditioner by using remote controller.
- Under on status, pressing the button on the remote controller, the signal icon " " on the display of remote controller will blink once and the air conditioner will give out a "di" sound, which means the signal has been sent to the air conditioner.

⏻ button

Press this button to turn on the unit. Press this button again to turn off the unit.

MODE button

Press this button to select your required operation mode.



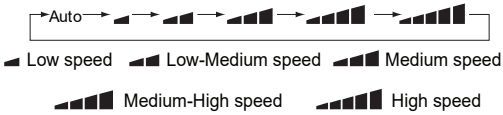
- When selecting auto mode, air conditioner will operate automatically according to the sensed temperature. Set temperature can't be adjusted and will not be displayed as well. Press "FAN" button can adjust fan speed. Press " " / " " button can adjust fan blowing angle.
- After selecting cool mode, air conditioner will operate under cool mode. Press "▲" or "▼" button to adjust set temperature. Press "FAN" button to adjust fan speed. Press " " / " " button to adjust fan blowing angle.
- When selecting dry mode, the air conditioner operates at low speed under dry mode. Under dry mode, fan speed can't be adjusted. Press " " / " " button to adjust fan blowing angle.
- When selecting fan mode, the air conditioner will only blow fan, no cooling. Press"FAN" button to adjust fan speed. Press " " / " " button to adjust fan blowing angle.
- When selecting heat mode, the air conditioner operates under heat mode. Press "▲" or "▼" button to adjust set temperature. Press "FAN" button to adjust fan speed. Press " " / " " button to adjust fan blowing angle.Heat mode is not applicable for this model.

NOTE

- For preventing cold air, after starting up heat mode, indoor unit will delay 1~5 minutes to blow air (Actual delay time depends on indoor ambient temperature).
- Set temperature range from remote controller: 16~30℃(61-86℉).
- Cooling only unit won't receive heat mode signal. If setting heat mode with remote controller, press " ⏻ " button can't start up the unit.

FAN button

This button is used for setting Fan Speed in the sequence that goes from AUTO, , , ,to , , then back to Auto.



TURBO button

Under cool mode, press th is button to turn to quick cool mode. " " icon is displayed on remote controller. Press this button again to exit turbo function and " " icon will disappear.

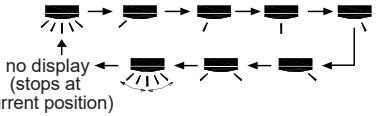
If start this function, the unit will run at super-high fan speed to cool quickly so that the ambient tem perature approaches the preset temperature as soon as possible.

▲ ▼ button

Press "▲" or "▼" button once to increase or decrease set temperature 1℃(℉). Holding "▲" or "▼" button, 2s later, set temperature on remote controller will change quickly. On releasing button after setting is finished, temperature indicator on indoor unit will change accordingly.
Note: Temperature can't be adjusted under auto mode.
When setting TIMER ON, TIMER OFF or CLOCK, press "▲" or "▼" button to adjust time. (Refer to CLOCK, TIMER ON, TIMER OFF buttons).

button(Not applicable)

Press this button can select left & right swing angle. Fan blow angle can be selected circularly as below:

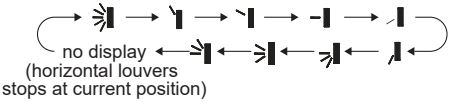


NOTE

- Press this button continuously for more than 2s, the main unit will swing back and forth from left to right, and then loosen the button, the unit will stop swinging and present position of guide louver will be kept immediately.
- Under left and right swing mode, when the status is switched from off to , if press this button again 2s later, status will switch to off status directly; if press this button again within 2s, the change of swing status will also depend on the circulation sequence stated above.
- The function is only available for some models.

button

Press this button can select up & down swing angle. Fan blow angle can be selected circularly as below:



- When selecting " ", air conditioner is blowing fan automatically. Horizontal louver will automatically swing up & down at maximum angle.
- When selecting " ", air conditioner is blowing fan at fixed position. Horizontal louver will stop at the fixed position.
- When selecting " ", air conditioner is blowing fan at fixed angle. Horizontal louver will send air at the fixed angle.
- Hold " "button above 2s to set your required swing angle. When reaching your required angle, release the button.

NOTE

- " " may not be available. When air conditioner receives this signal, the air conditioner will blow fan automatically.
- Press this button continuously for more than 2s, the main unit will swing back and forth from up to down, and then loosen the button, the unit present position of guide louver will be kept immediately.
- Under up and down swing mode, when the status is switched from off to , if press this button again 2s later, status will switch to off status directly; if press this button again within 2s, the change of swing status will also depend on the circulation sequence stated above.

SLEEP button

- Press this button, can select Sleep 1 ( ), Sleep 2 ( ), Sleep 3 ( ) and cancel the Sleep, circulate between these, after electrified, Sleep cancel is defaulted.
- Sleep 1 is sleep mode 1, in cool, dehumidify modes: sleep status after run for one hour, the main unit setting temperature will increase 1°C, 2 hours, setting temperature increased 2°C, the unit will run at this setting temperature;
- Sleep 2 is sleep mode 2, that is air conditioner will run according to the presetting a group of sleep temperature curve.
  In cool mode:
  (1) When setting the initial temperature 16°C -23°C, after turned on sleep function, the temperature will be increased 1°C in every hour, after 3°C the temperature will be maintained, after 7 hours, the temperature will be decreased 1°C, after that the unit will keep on running under this temperature;
  (2) When setting the initial temperature 24°C-27°C, after turned on sleep function, the temperature will be increased 1°C in every hour, after 2°C the temperature will be maintained, after 7 hours, the temperature will be decreased 1°C, after that the unit will keep on running under this temperature;
  (3) When setting the initial temperature 28°C-29°C, after turned on sleep function, the temperature will be increased 1°C in every hour, after 1°C the temperature will be maintained, after 7 hours, the temperature will be decreased 1°C, after that the unit will keep on running under this temperature;
  (4) When setting the initial temperature 30°C, under this temperature setting, after 7hours, the temperature will be decreased 1°C, after that the unit will keep on running under this temperature;

- Sleep 3 - the sleep curve setting under sleep mode by DIY:
  (1) Under Sleep 3 mode, press "TURBO" button for a long time, remote controller enters into user individuation sleep setting status, at this time, the time of remote controller will display "1 hour", the setting temperature "88" will display the corresponding temperature of last setting sleep curve and blink (The first entering will display according to the initial curve setting value of original factory);
  (2) Adjust "▲" and "▼" button, could change the corresponding setting temperature, after adjusted, press "TURBO" button for confirmation;
  (3) At this time, 1 hour will be automatically increased at the timer position on the remote controller, (that are "2 hours" or "3 hours" or "8 hours"), the place of setting temperature "88" will display the corresponding temperature of last setting sleep curve and blink;
  (4) Repeat the above step (2)~(3) operation, until 8hours temperature setting finished, sleep curve setting finished, at this time, the remote controller will resume the original timer display; temperature display will resume to original setting temperature.
- Sleep3 - the sleep curve setting under sleep mode by DIY could be inquired:
  The user could accord to sleep curve setting method to inquire the presetting sleep curve, enter into user individuation sleep setting status, but do not change the temperature, press "TURBO" button directly for confirmation.

NOTE

- In the above presetting or enquiry procedure, if continuously within 10s, there is no button pressed, the sleep curve setting status will be automatically quit and resume to display the original displaying. In the presetting or enquiry procedure, press " ⏻ " button, "MODE" button or "SLEEP" button, the sleep curve setting or enquiry status will quit similarly.

I FEEL button

Press this button to start I FEEL function and ".:" will be displayed on the remote controller. After this function is set, the remote controller will send the detected ambient temperature to the controller and the unit will automatically adjust the indoor temperature according to the detected temperature. Press this button again to close I FEEL function and " .: " will disappear.

Please put the remote controller near user when this function is set. Do not put the remote controller near the object of high temperature or low temperature in order to avoid detecting inaccurate ambient temperature. When I FEEL function is turned on, the remote controller should be put within the area where indoor unit can receive the signal sent by the remote controller.

TIMER ON / TIMER OFF button

- TIMER ON button
  "TIMER ON" button can set the time for timer on. After pressing this button, " 🕒 " icon disappears and the word "ON" on remote controller blinks. Press "▲" or "▼" button to adjust TIMER ON setting. After each pressing of "▲" or "▼" button, TIMER ON setting will increase or decrease 1min. Holding "▲" or "▼" button, 2s later, the time will change quickly until reaching your required time.
  Press "TIMER ON" to confirm it. The word "ON" will stop blinking. " 🕒 " icon resumes displaying.
  Cancel TIMER ON: Under the condition that TIMER ON is started up, press "TIMER ON" button to cancel it.
- TIMER OFF button
  "TIMER OFF" button can set the time for timer off. After pressing this button, " 🕒 "icon disappears and the word "OFF" on remote controller blinks. Press "▲" or "▼" button to adjust TIMER OFF setting. After each pressing of "▲" or "▼" button, TIMER OFF setting will increase or decrease 1min. Holding "▲" or "▼" button, 2s later, the time will change quickly until reaching your required time.
  Press "TIMER OFF" and the word "OFF" will stop blinking. " 🕒 " icon resumes displaying.
  Under the condition that TIMER OFF is started up, press "TIMER OFF" button to cancel it.

NOTE

- Under on and off status, you can set TIMER OFF or

TIMER ON simultaneously.

- Before setting TIMER ON or TIMER OFF, please adjust the clock time.
- After starting up TIMER ON or TIMER OFF, set the constant circulating valid. After that, air conditioner will be turned on or turned off according to setting time. " ⏻ " button has no effect on setting. If you don' t need this function, please use remote controller to cancel it.
- When the timer function is started up and the remote controller is not used for a long time, the air conditioner can be turned on or turned off by the timer function. You are suggested to put the remote controller at the position where the indoor unit can receive the remote signal, which can lead to more accurate timer.

CLOCK button

Press this button to set clock time. " 🕒 " icon on remote controller will blink. Press "▲" or "▼" button within 5s to set clock time. Each pressing of "▲" or "▼" button, clock time will increase or decrease 1 min. If hold "▲" or "▼" button, 2s later, time will change quickly. Release this button when reaching your required time. Press "CLOCK" button to confirm the time. " 🕒 " icon stops blinking.

NOTE

- Clock time adopts 24-hour mode.
- The interval between two operations can't exceed 5s. Otherwise, remote controller will quit setting status. Operation for TIMER ON/TIMER OFF is the same.

QUIET button

Press the QUIET button, it will under auto quiet mode (display " 🎧 " and "Auto").
Indoor fan speed will be adjusted according to environment temperature and setting temperature.
Press the button again, it will under forced quiet mode (display" 🎧 "only).
The indoor fan speed is reduced in order to quiet operation.
Press the button once again, the quited mode will be off (no display).

NOTE

- Cooling effect may be reduced.

X-FAN button

Pressing this button in COOL or DRY mode, the icon "✲" is displayed and the indoor fan will continue operation for a while in order to dry the indoor unit even though you have turned off the unit. After energization, X-FAN OFF is defaulted. X-FAN is not available in AUTO, FAN mode.
This function indicates that moisture on evaporator of indoor unit will be blowed after the unit is stopped to avoid mould.

- Having set X-FAN function on: After turning off the unit by pressing " ⏻ " button, indoor fan will continue running for a while at low speed. In this period, press X-FAN button to stop indoor fan directly.
- Having set X-FAN function off: After turning off the unit by pressing " ⏻ " button, the complete unit will be off directly.

LIGHT button

Press this button to turn off display light on indoor unit. " 💡 " icon on remote controller disappears. Press this button again to turn on display light. " 💡 " icon is displayed.

button(Not applicable)

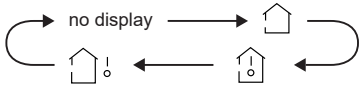
Press this button to turn on or turn off the health and scavenging functions in operation status. Press this button for the first time to start scavenging function; LCD displays " ⌂ ". Press the button for the second time to start health and scavenging functions simultaneously; LCD displays " ⌂ " and " ✲ ". Press this button for the third time to quit health and scavenging functions simultaneously. Press the button for the fourth time to start health function; LCD display " ✲ ". Press this button again to repeat the operation above.

NOTE

- This function is applicable to partial of models.

TEMP button

By pressing this button, you can see indoor set temperature, indoor ambient temperature or outdoor ambient temperature on indoor unit's display. The setting on remote controller is selected circularly as below:



- When selecting " ⌂ " or no display with remote controller, temperature indicator on indoor unit displays set temperature.
- When selecting " ⌂ " with remote controller, temperature indicator on indoor unit displays indoor ambient temperature.
- When selecting " ⌂ " with remote controller, temperature indicator on indoor unit displays outdoor ambient temperature.

NOTE

- Outdoor temperature display is not available for some models. At that time, indoor unit receives " " signal, while it displays indoor set temperature.
- It's defaulted to display set temperature when turning on the unit. There is no display in the remote controller.
- Only for the models whose indoor unit has dual-8 display.
- When selecting displaying of indoor or outdoor ambient temperature, indoor temperature indicator displays corresponding temperature and automatically turn to display set temperature after three or five seconds.

Function introduction for combination buttons

Energy-saving function

Under cooling mode, press "TEMP" and "CLOCK" buttons simultaneously to start up or turn off energy-saving function. When energy-saving function is started up, "SE" will be shown on remote controller, and air conditioner will adjust the set temperature automatically according to ex-factory setting to reach to the best energy-saving effect. Press "TEMP" and "CLOCK" buttons simultaneously again to exit energy-saving function.

NOTE

- Under energy-saving function, fan speed is defaulted at auto speed and it can't be adjusted.
- Under energy-saving function, set temperature can't be adjusted. Press "TURBO" button and the remote controller won't send signal.
- Sleep function and energy-saving function can't operate at the same time. If energy-saving function has been set under cool mode, press "SLEEP" button will cancel energy-saving function. If sleep function has been set under cool mode, start up the energy-saving function will cancel sleep function.

Child lock function

Press "▲" and "▼" simultaneously to turn on or turn off child lock function. When child lock function is on, " " icon is displayed on remote controller. If you operate the remote controller, the " " icon will blink three times without sending signal to the unit.

Temperature display switchover function

Under OFF status, press "▼" and "MODE" buttons simultaneously to switch temperature display between ℃ and ℉.

Auto clean function

Under unit off status, hold "MODE" and "FAN" buttons simultaneously for 5s to turn on or turn off the auto clean function. When the auto clean function is turned on, indoor unit displays "CL". During the auto clean process of evaporator, the unit will perform fast cooling. There may be some noise, which is the sound of flowing liquid or thermal expansion cold shrinkage. The air conditioner may blow cool , which is a normal phenomenon. During cleaning process,please make sure the room is well ventilated to avoid affecting the comfort.

NOTE

- The auto clean function can only work under normal ambient temperature. If the room is dusty, clean it once a month; if not, clean it once every three months. After the auto clean function is turned on, you can leave the room. When auto clean is finished, the air conditioner will enter standby status.
- This function is only available for some models.

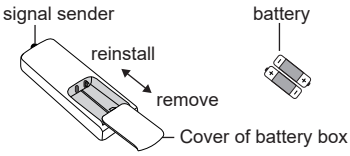
Night mode

Under cooling mode, when turning on sleep mode and turn to low speed or quiet notch,the outdoor unit would enter into night mode.

NOTE

- When you feel that the cooling effect is poor,please press "FAN" button to other fan speed or press "SLEEP" button to exit the night mode.
- The night mode can only work under normal ambient temperature.
- This function is only available for some models.

Replacement of batteries in remote controller



1. Press the back side of remote controller marked with "OPEN", as shown in the fig, and then push out the cover of battery box along the arrow direction.
2. Replace two 7# (AAA 1.5V) dry batteries, and make sure the position of "+" polar and "-" polar are correct.
3. Reinstall the cover of battery box.

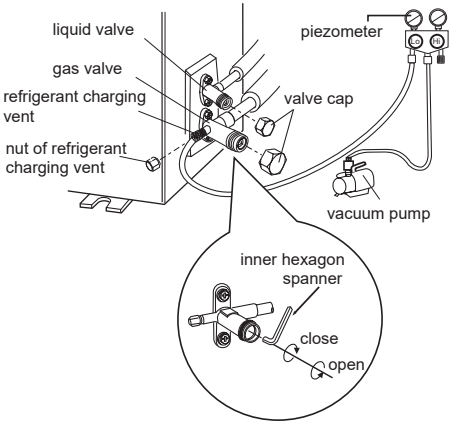
NOTICE

- During operation, point the remote control signal sender at the receiving window on indoor unit.
- The distance between signal sender and receiving window should be no more than 8m, and there should be no obstacles between them.
- Signal may be interfered easily in the room where there is fluorescent lamp or wireless telephone; remote controller should be close to indoor unit during operation.
- Replace new batteries of the same model when replacement is required.
- When you don't use remote controller for a long time, please take out the batteries.
- If the display on remote controller is fuzzy or there's no display, please replace batteries.

Test and operation

Use vacuum pump

1. Remove the valve caps on the liquid valve and gas valve and the nut of refrigerant charging vent.
2. Connect the charging hose of piezometer to the refrigerant charging vent of gas valve and then connect the other charging hose to the vacuum pump.
3. Open the piezometer completely and operate for 10-15min to check if the pressure of piezometer remains in -0.1MPa.
4. Close the vacuum pump and maintain this status for 1-2min to check if the pressure of piezometer remains in -0.1MPa. If the pressure decreases, there may be leakage.
5. Remove the piezometer, open the valve core of liquid valve and gas valve completely with inner hexagon spanner.
6. Tighten the screw caps of valves and refrigerant charging vent.
7. Reinstall the handle.



Leakage detection

1. With leakage detector:
   Check if there is leakage with leakage detector.
2. With soap water:
   If leakage detector is not available, please use soap water for leakage detection. Apply soap water at the suspected position and keep the soap water for more than 3min. If there are air bubbles coming out of this position, there's a leakage.

Check after installation

- Check according to the following requirement after finishing installation.

Items to be checked	Possible malfunction
Has the unit been installed firmly?	The unit may drop, shake or emit noise.
Have you done the refrigerant leakage test?	It may cause insufficient cooling capacity.
Is heat insulation of pipeline sufficient?	It may cause condensation and water dripping.
Is water drained well?	It may cause condensation and water dripping.
Is the voltage of power supply according to the voltage marked on the nameplate?	It may cause malfunction or damage the parts.
Is electric wiring and pipeline installed correctly?	It may cause malfunction or damage the parts.
Is the unit grounded securely?	It may cause electric leakage.
Does the power cord follow the specification?	It may cause malfunction or damage the parts.
Is there any obstruction in the air inlet and outlet?	It may cause insufficient cooling capacity.
The dust and sundries caused during installation are removed?	It may cause malfunction or damage the parts.
The gas valve and liquid valve of connection pipe are open completely?	It may cause insufficient cooling capacity.
Is the inlet and outlet of piping hole been covered?	It may cause insufficient cooling capacity or waste electricity.

Test operation

1. Preparation of test operation

- The client approves the air conditioner.
- Specify the important notes for air conditioner to the client.

2. Method of test operation

- Put through the power, press " ⏻ " button on the remote controller to start operation.
- Press MODE button to select AUTO, COOL, DRY, FAN to check whether the operation is normal or not.
- If the ambient temperature is lower than 16℃, the air conditioner can't start cooling.

Configuration of connection pipe

1. Standard length of connection pipe: 5m.
2. Min. length of connection pipe.
   For the unit with standard connection pipe of 5m, there is no limitation for the min length of connection pipe.
3. Max. length and height difference of connection pipe are shown as below.

Cooling capacity	Max. pipe length	Max. height difference
9K	15m	10m
12K	20m	10m
18K	25m	10m
24K	30m	25m

4. The calculation method of additional refrigerant oil and refrigerant charging amount after prolonging connection pipe.
   After the length of connection pipe is prolonged for 10m at the basis of standard length, you should add 5ml of refrigerant oil for each additional 5m of connection pipe.
   The calculation method of additional refrigerant charging amount (on the basis of liquid pipe):
   (1) Additional refrigerant charging amount= prolonged length of liquid pipe × additional refrigerant charging amount per meter
   (2) Basing on the length of standard pipe, add refrigerant according to the requirement as shown in the table. The additional refrigerant charging amount per meter is different according to the diameter of liquid pipe.
   See Sheet .

Additional refrigerant charging amount for R32

Cooling capacity	Liquid pipe size	Gas pipe size	Additional refrigerant
9K	1/4"	3/8"	12 g/m
12K	1/4"	3/8"	12 g/m
18K	1/4"	1/2"	12 g/m
24K	1/4"	1/2"	15 g/m

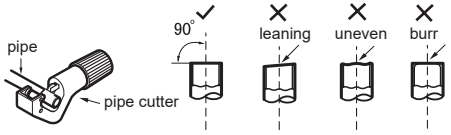
NOTICE
The additional refrigerant charging amount in Sheet is recommended value, not compulsory.

Pipe expanding method

NOTICE
Improper pipe expanding is the main cause of refrigerant leakage. Please expand the pipe according to the following steps:

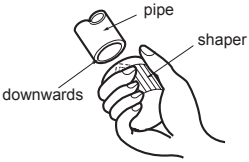
A: Cut the pipe

- Confirm the pipe length according to the distance of indoor unit and outdoor unit.
- Cut the required pipe with pipe cutter.



B: Remove the burrs

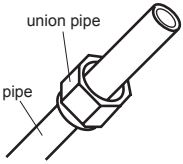
- Remove the burrs with shaper and prevent the burrs from getting into the pipe.



C: Put on suitable insulating pipe

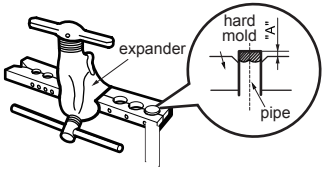
D: Put on the union nut

- Remove the union nut on the indoor connection pipe and outdoor valve; install the union nut on the pipe.



E: Expand the port

- Expand the port with expander.



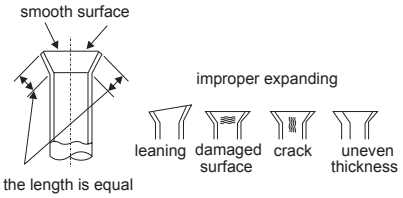
NOTICE

- "A" is different according to the diameter, please refer to the sheet below:

Outer diameter (mm)	A(mm)	
	Max	Min
Φ6 - 6.35(1/4")	1.3	0.7
Φ9 - 9.52(3/8")	1.6	1.0
Φ12-12.7(1/2")	1.8	1.0
Φ15.8-16(5/8")	2.4	2.2

F: Inspection

- Check the quality of expanding port. If there is any blemish, expand the port again according to the steps above.



Working temperature range

	Indoor side DB/WB(°C)	Outdoor side DB/WB(°C)
Maximum cooling	32/23	43/26

NOTE

- The operating temperature range (outdoor temperature) for cooling only unit is -7°C~43°C.

- The following checks shall be applied to installations using mildly flammable refrigerants:
  – the charge size is in accordance with the room size within which the refrigerant containing parts are installed;
  – the ventilation machinery and outlets are operating adequately and are not obstructed;
  – if an indirect refrigerating circuit is being used, the secondary circuit shall be checked for the presence of refrigerant;
  – marking to the equipment continues to be visible and legible. Markings and signs that are illegible shall be corrected;
  – refrigerating pipe or components are installed in a position where they are unlikely to be exposed to any substance which may corrode refrigerant containing components, unless the components are constructed of materials which are inherently resistant to being corroded or are suitably protected against being so corroded.
- Repair and maintenance to electrical components shall include initial safety checks and component inspection procedures. If a fault exists that could compromise safety, then no electrical supply shall be connected to the circuit until it is satisfactorily dealt with. If the fault cannot be corrected immediately but it is necessary to continue operation, an adequate temporary solution shall be used. This shall be reported to the owner of the equipment so all parties are advised.
- Initial safety checks shall include:
  – that capacitors are discharged: this shall be done in a safe manner to avoid possibility of sparking;
  – that no live electrical components and wiring are exposed while charging, recovering or purging the system;
  – that there is continuity of earth bonding.
- Checks to the area
  Prior to beginning work on systems containing mildly flammable refrigerants, safety checks are necessary to ensure that the risk of ignition is minimised. For repair to the refrigerating system, DD.4.3 to DD.4.7 shall be completed prior to conducting work on the system.
- Work procedure
  Work shall be undertaken under a controlled procedure so as to minimise the risk of a mildly flammable gas or vapour being present while the work is being performed.
- General work area
  All maintenance staff and others working in the local area shall be instructed on the nature of work being carried out. Work in confined spaces shall be avoided.
- Checking for presence of refrigerant
  The area shall be checked with an appropriate refrigerant detector prior to and during work, to ensure the technician is aware of potentially toxic or flammable atmospheres. Ensure that the leak detection equipment being used is suitable for use with all applicable refrigerants, i.e. non-sparking, adequately sealed or intrinsically safe.
- Presence of fire extinguisher
  If any hot work is to be conducted on the refrigerating equipment or any associated parts, appropriate fire extinguishing equipment shall be available to hand. Have a dry powder or CO_2 fire extinguisher adjacent to the charging area.
- Ventilated area
  Ensure that the area is in the open or that it is adequately ventilated before breaking into the system or conducting any hot work. A degree of ventilation shall continue during the period that the work is carried out. The ventilation should safely disperse any released refrigerant and preferably expel it externally into the atmosphere.
- Checks to the refrigerating equipment
  Where electrical components are being changed, they shall be fit for the purpose and to the correct specification. At all times the manufacturer's maintenance and service guidelines shall be followed. If in doubt,consult the manufacturer's technical department for assistance.
  The following checks shall be applied to installations using mildly flammable refrigerants:
  - the actual refrigerant charge is in accordance with the room size within which the refrigerant containing parts are installed;
  - the ventilation machinery and outlets are operating adequately and are not obstructed;
  - if an indirect refrigerating circuit is being used,the secondary circuit shall be checked for the presence of refrigerant;
  - marking to the equipment continues to be visible and legible. Markings and signs that are illegible shall be corrected;
  - refrigerating pipe or components are installed in a position where they are unlikely to be exposed to any substance which may corrode refrigerant containing components, unless the components

are constructed of materials which are inherently resistant to being corroded or are suitably protected against being so corroded.

- Checks to electrical devices

Repair and maintenance to electrical components shall include initial safety checks and component inspection procedures. If a fault exists that could compromise safety,then no electrical supply shall be connected to the circuit until it is satisfactorily dealt with. If the fault cannot be corrected immediately but it is necessary to continue operation, an adequate temporary solution shall be used. This shall be reported to the owner of the equipment so all parties are advised.

Initial safety checks shall include:
- that capacitors are discharged: this shall be done in a safe manner to avoid possibility of sparking;
- that no live electrical components and wiring are exposed while charging, recovering or purging the system;
- that there is continuity of earth bonding.

- No ignition sources

No person carrying out work in relation to a refrigerating system which involves exposing any pipe work shall use any sources of ignition in such a manner that it may lead to the risk of fire or explosion. All possible ignition sources, including cigarette smoking, should be kept sufficiently far away from the site of installation, repairing, removing and disposal, during which refrigerant can possibly be released to the surrounding space.

Prior to work taking place, the area around the equipment is to be surveyed to make sure that there are no flammable hazards or ignition risks. "No Smoking" signs shall be displayed.

- Repairs to sealed components

During repairs to sealed components, all electrical supplies shall be disconnected from the equipment being worked upon prior to any removal of sealed covers, etc. If it is absolutely necessary to have an electrical supply to equipment during servicing, then a permanently operating form of leak detection shall be located at the most critical point to warn of a potentially hazardous situation.

Particular attention shall be paid to the following to ensure that by working on electrical components, the casing is not altered in such a way that the level of protection is affected. This shall include damage to cables, excessive number of connections, terminals not made to original specification, damage to seals, incorrect fitting of glands, etc.
– Ensure that the apparatus is mounted securely.
– Ensure that seals or sealing materials have not degraded to the point that they no longer serve the purpose of preventing the ingress of flammable atmospheres. Replacement parts shall be in accordance with the manufacturer's specifications.
NOTE:The use of silicon sealant can inhibit the effectiveness of some types of leak detection equipment. Intrinsically safe components do not have to be isolated prior to working on them.

- Repair to intrinsically safe components

Do not apply any permanent inductive or capacitance loads to the circuit without ensuring that this will not exceed the permissible voltage and current permitted for the equipment in use.
Intrinsically safe components are the only types that can be worked on while live in the presence of a flammable atmosphere. The test apparatus shall be at the correct rating.
Replace components only with parts specified by the manufacturer. Other parts may result in the ignition of refrigerant in the atmosphere from a leak.

- Cabling

Check that cabling will not be subject to wear, corrosion, excessive pressure, vibration, sharp edges or any other adverse environmental effects. The check shall also take into account the effects of aging or continual vibration from sources such as compressors or fans.

- Leak detection methods

Leak detection fluids are suitable for use with most refrigerants but the use of detergents containing chlorine shall be avoided as the chlorine may react with the refrigerant and corrode the copper pipe-work.

- Detection of mildly flammable refrigerants

Under no circumstances shall potential sources of ignition be used in the searching for or detection of refrigerant leaks. A halide torch (or any other detector using a naked flame) shall not be used.
The following leak detection methods are deemed acceptable for all refrigerant systems.
Electronic leak detectors may be used to detect refrigerant leaks but, in the case of mildly flammable refrigerants, the sensitivity may not be adequate, or may need re-calibration. (Detection equipment shall be calibrated in a refrigerant-free area.) Ensure that the detector is not a potential source of ignition and is suitable for the refrigerant used. Leak detection equipment shall be set at a percentage of the ***LFL*** of the

refrigerant and shall be calibrated to the refrigerant employed, and the appropriate percentage of gas (25% maximum) is confirmed.

Leak detection fluids are also suitable for use with most refrigerants but the use of detergents containing chlorine shall be avoided as the chlorine may react with the refrigerant and corrode the copper pipe-work.

NOTE: Examples of leak detection fluids are
- bubble method,
- fluorescent method agents.

If a leak is suspected, all naked flames shall be removed/extinguished.

If a leakage of refrigerant is found which requires brazing, all of the refrigerant shall be recovered from the system, or isolated (by means of shut off valves) in a part of the system remote from the leak. Removal of refrigerant shall be according to clause DD.9.

- Removal and evacuation

When breaking into the refrigerant circuit to make repairs - or for any other purpose - conventional procedures shall be used. However, for mildly flammable refrigerants it is important that best practice is followed since flammability is a consideration. The following procedure shall be adhered to:

- remove refrigerant;
- purge the circuit with inert gas ;
- evacuate ;
- purge with inert gas ;
- open the circuit by cutting or brazing.

The refrigerant charge shall be recovered into the correct tecovery cylinders. For appliances containing flammable refrigerants, the system shall be purged with oxygen-free nitrogen to render the appliance safe for mildly flammable refrigerants. This process may need to be repeated several times.Compressed air or oxygen shall not be used for purging refrigerant systems.

For appliances containing mildly flammable refrigerants, refrigerants purging shall be achieved by breaking the vacuum in the system with oxygen-free nitrogen and continuing to fill until the working pressure is achieved, then venting to atmosphere, and finally pulling down to a vacuum.

This process shall be repeated until no refrigerant is within the system. When the final oxygen-free nitrogen charge is used, the system shall be vented down to atmospheric pressure to enable work to take place. This operation is absolutely vital if brazing operations on the pipe-work are to take place.

Ensure that the outlet for the vacuum pump is not close to any potential ignition sources and that ventilation is available.

- Charging procedures

In addition to conventional charging procedures, the following requirements shall be followed.

- Ensure that contamination of different refrigerants does not occur when using charging equipment. Hoses or lines shall be as short as possible to minimise the amount of refrigerant contained in them.
- Cylinders shall be kept in an appropriate position according to the instructions.
- Ensure that the refrigerating system is earthed prior to charging the system with refrigerant.
- Label the system when charging is complete (if not already).
- Extreme care shall be taken not to overfill the refrigerating system.

Prior to recharging the system, it shall be pressure-tested with the appropriate purging gas. The system shall be leak-tested on completion of charging but prior to commissioning. A follow up leak test shall be carried out prior to leaving the site.

- Decommissioning

Before carrying out this procedure, it is essential that the technician is completely familiar with the equipment and all its detail. It is recommended good practice that all refrigerants are recovered safely. Prior to the task being carried out, an oil and refrigerant sample shall be taken in case analysis is required prior to re-use of recovered refrigerant. It is essential that electrical power is available before the task is commenced.

a) Become familiar with the equipment and its operation.

b) Isolate system electrically.

c) Before attempting the procedure, ensure that:

– mechanical handling equipment is available, if required, for handling refrigerant cylinders;

– all personal protective equipment is available and being used correctly;

– the recovery process is supervised at all times by a competent person;

– recovery equipment and cylinders conform to the appropriate standards.

d) Pump down refrigerant system, if possible.

e) If a vacuum is not possible, make a manifold so that refrigerant can be removed from various parts of the system.

f) Make sure that cylinder is situated on the scales before recovery takes place.
g) Start the recovery machine and operate in accordance with manufacturer's instructions.
h) Do not overfill cylinders. (No more than 80% volume liquid charge).
i) Do not exceed the maximum working pressure of the cylinder, even temporarily.
j) When the cylinders have been filled correctly and the process completed, make sure that the cylinders and the equipment are removed from site promptly and all isolation valves on the equipment are closed off.
k) Recovered refrigerant shall not be charged into another refrigerating system unless it has been cleaned and checked.

- Labelling

Equipment shall be labelled stating that it has been de-commissioned and emptied of refrigerant. The label shall be dated and signed. For appliances containing mildly flammable refrigerants, ensure that there are labels on the equipment stating the equipment contains flammable refrigerant.

- Recovery

When removing refrigerant from a system, either for servicing or decommissioning, it is recommended good practice that all refrigerants are removed safely.
When transferring refrigerant into cylinders, ensure that only appropriate refrigerant recovery cylinders are employed. Ensure that the correct number of cylinders for holding the total system charge is available. All cylinders to be used are designated for the recovered refrigerant and labelled for that refrigerant (i.e. special cylinders for the recovery of refrigerant). Cylinders shall be complete with pressure-relief valve and associated shut-off valves in good working order. Empty recovery cylinders are evacuated and, if possible, cooled before recovery occurs.
The recovery equipment shall be in good working order with a set of instructions concerning the equipment that is at hand and shall be suitable for the recovery of all appropriate refrigerants including, when applicable, mildly flammable refrigerants. In addition, a set of calibrated weighing scales shall be available and in good working order. Hoses shall be complete with leak-free disconnect couplings and in good condition. Before using the recovery machine, check that it is in satisfactory working order, has been properly maintained and that any associated electrical components are sealed to prevent ignition in the event of a refrigerant release. Consult manufacturer if in doubt.
The recovered refrigerant shall be returned to the refrigerant supplier in the correct recovery cylinder, and the relevant waste transfer note arranged. Do not mix refrigerants in recovery units and especially not in cylinders.
If compressors or compressor oils are to be removed, ensure that they have been evacuated to an acceptable level to make certain that mildly flammable refri- gerant does not remain within the lubricant. The evacuation process shall be carried out prior to returning the compressor to the suppliers. Only electric heating to the compressor body shall be employed to accelerate this process. When oil is drained from a system, it shall be carried out safely.

- General

That the installation of pipe-work shall be kept to a minimum.
That compliance with national gas regulations shall be observed.
That mechanical connections made in accordance with 22.118 shall be accessible for maintenance purposes.

目錄

操作本機前請仔細閱讀本操作手冊。

警告　設備加注了輕度易燃製冷劑R32。如果製冷劑洩漏並暴露在外部點火源中，則存在火災危險。

小心　使用設備前，請先閱讀操作手冊。

小心　在安裝設備之前，請先閱讀操作手冊。

小心　在維修設備之前，請先閱讀操作手冊。

本手冊中的圖形可能與實物有所不同，請參考實物。

符號說明

⚠ 警告	此符號表示死亡或重傷的可能性。
⚠ 小心	此符號表示可能造成人身傷害或財產損失。
注意	表示重要但與危險無關的資訊，用於表示財產損失風險。

例外條款

當因以下原因造成人身傷害或財產損失時，製造商不承擔任何責任。

1.因產品使用不當或誤用而損壞產品;

2.不遵守製造商的使用說明書，變改、更改、維護或將產品與其他設備一起使用;

3.經驗證，產品的缺陷是腐蝕性氣體直接引起的;

4.經核實，缺陷是由於產品運輸過程中操作不當造成的;

5.在不遵守使用說明書或相關規定的情況下操作、修理、維護設備;

6.經核實，問題或爭議是由其他製造商生產的零部件的品質規格或性能引起的;

7.損壞是由於自然災害、惡劣的使用環境或不可抗力造成的。

- 如需安裝、移動或維護冷氣機，請先聯繫經銷商或當地服務中心進行。冷氣機必須由指定部門安裝、移動或維護。否則，可能會導致嚴重損壞或人身傷害或死亡。
- 當製冷劑在安裝、維護或拆卸過程中洩漏或需要排放時，應由經過認證的專業人員處理或遵守當地法律規例。
- 本設備不適合身體、感官或精神能力有缺陷或缺乏經驗和知識的人（包括兒童）使用，除非負責其安全的人員對他們使用本設備進行監督或指導。應監督兒童以確保他們不會玩耍本產品。
- 本設備包含僅用於功能目的的接地連接。
  提示：僅適用於PCB接地線的型號。

製冷劑

充滿輕度易燃氣體R32的設備。	在安裝設備之前，請先閱讀安裝手冊。
使用設備前，請先閱讀使用者手冊。	在維修設備之前，請先閱讀服務手冊。

- 為了實現冷氣機機組的功能，一種特殊的製冷劑在系統中循環。使用的製冷劑是經過專門清潔的R32。製冷劑輕度易燃且無臭。此外，在某些條件下還可能導致爆炸。但製冷劑的可燃性很低。它只能被火點燃。
- 與普通製冷劑相比，R32是一種無污染製冷劑，對臭氧層無害。對溫室效應的影響也較小。R32具有非常好的熱力學特性，可實現非常高的能源效率。機組只需要較少的充注。

警告

請勿使用製造商推薦以外的方法來加速除霜過程或清潔。如果需要維修，請聯繫離您最近的授權服務中心。由不合格的人員進行的任何維修都可能存在危險。設備應存放在沒有連續運行火源的空間內。（例如：明火、運行中的燃氣器具或運行中的電加熱器。請勿刺穿或灼傷。該設備使用輕度易燃製冷劑R32，並經過測試符合IEC 60335-2-40。該設備沒有最小空間面積要求。維修時，請嚴格遵循製造商的說明。請注意，製冷劑可能不含異味。閱讀專家手冊。

本設備不適合身體、感官或精神能力有缺陷或缺乏經驗和知識的人（包括兒童）使用，除非負責其安全的人員對他們使用本設備進行監督或指導。

應監督兒童以確保他們不會玩耍本產品。

弊公司特此聲明，本冷氣機符合 RE 指令 2014/53/EU 的基本要求和其他相關規定。附上完整文件的副本。

無線頻率範圍：2412MHz-2472MHz

最大發射功率：18dBm

R32: 675

此標記表明該產品不應與其他家庭垃圾一起處理。防止在歐盟不受控制的廢物對環境或人類健康可能造成的危害。防止對環境或人類健康可能造成的危害。

從不受控制的廢物處理中，負責任地回收利用，以促進材料資源的可持續再利用。要退回您用過的設備，請使用退貨和收集系統或聯繫購買該產品的零售商。他們可以將此產品用於環境安全的回收。

如需安裝、移動或維護冷氣機，請先聯繫經銷商或當地服務中心進行。冷氣機必須由指定部門安裝、移動或維護。否則，可能會導致嚴重損壞或人身傷害或死亡。

輕度易燃製冷劑的安全操作

安裝維修員資格要求

- 所有從事製冷系統的工人均應持有權威機構頒發的有效合格證和本行業認可的製冷系統經營資格。如果需要其他技術人員對設備進行維護和維修，應由具有輕度易燃製冷劑使用資格的人員監督。
- 只能透過設備製造商建議的方法進行維修。

輕度易燃製冷劑的安全操作

安裝說明

- 冷氣機必須安裝在大於最小空間面積的空間內。最小空間面積顯示在銘牌或下表 a 上。
- 不允許鑽孔或燃燒連接管。
- 安裝後必須進行洩漏測試。

表a - 最小空間面積（m^2）

灌注量（kg）	樓層位置	窗式	壁掛式	天花板式
≤1.2	/	/	/	/
1.3	14.5	5.2	1.6	2.6
1.4	16.8	6.1	1.9	2.8
1.5	19.3	7	2.1	3
1.6	22	7.9	2.4	3.2
1.7	24.8	8.9	2.8	3.4
1.8	27.8	10	3.1	3.6
1.9	31	11.2	3.4	3.8
2.0	34.3	12.4	3.8	4
2.1	37.8	13.6	4.2	4.2
2.2	41.5	15	4.6	4.4
2.3	45.4	16.3	5	4.6
2.4	49.4	17.8	5.5	4.8
2.5	53.6	19.3	6	5
2.6	58.1	20.9	6.5	5.2
2.7	62.6	22.6	7	5.4
2.8	67.4	24.3	7.5	5.6
2.9	72.3	26	8.1	5.8
3.0	77.3	27.9	8.6	6
3.1	82.6	29.8	9.2	6.2
3.2	88	31.7	9.8	6.6
3.3	93.6	33.7	10.4	7
3.4	99.3	35.8	11.1	7.4
3.5	105.2	37.9	11.7	7.9
3.6	111.3	40.1	12.4	8.3
3.7	117.6	42.4	13.1	8.8
3.8	124	44.7	13.8	9.3
3.9	130.7	47.1	14.6	9.8
4.0	137.4	49.5	15.3	10.3

維護說明

- 檢查維護區或空間區域是否符合銘牌的要求。
  - 它只允許在符合銘牌要求的空間內操作。
- 檢查維護區域是否通風良好。
  - 在操作過程中應保持持續通風狀態。
- 檢查維修區是否有火源或潛在的火源。
  - 維護區域禁止明火;並應懸掛禁止吸煙警告牌。
- 檢查器具標誌是否狀況良好。
  - 更換模糊或損壞的警告標記。

焊接

- 如果您在維護過程中需要切割或焊接製冷劑系統管道，請按照以下步驟操作：
  a.關閉設備並切斷電源
  b.清除製冷劑
  c.抽真空
  d.用 N_2 氣體清潔
  e.切割或焊接
  f.帶回維修地點進行焊接
- 製冷劑應回收到專用儲罐中。
- 確保真空泵出口附近沒有任何明火，並且通風良好。

加注製冷劑

- 使用專用於R32的製冷劑加註設備。確保不同種類的製冷劑不會相互污染。
- 加注製冷劑時，製冷劑罐應保持直立。
- 填充完成（或尚未完成）后將標籤貼在系統上。
- 不要裝得太滿。
- 加註完成後，請在試運行前進行洩漏檢測;移除後應進行另一次洩漏檢測。

運輸和儲存安全說明

- 請在卸貨和打開容器前使用輕度易燃氣體探測器進行檢查。
- 禁止火源和吸煙。
- 根據當地規例和法律。

安全措施

警告

安裝

- 安裝或維護必須由合格的專業人員進行。
- 設備應按照國家佈線規定進行安裝。
- 根據當地安全規例，使用合格的電源電路和斷路器。
- 室內機和室外機的所有電線均應由專業人員連接。
- 在進行任何與電力和安全相關的工作之前，請務必切斷電源。
- 確保電源與冷氣機的要求相匹配。
- 電源不穩定或接線錯誤可能會導致觸電、火災危險或故障。使用冷氣機前請安裝合適的電源線。
- 接地電阻應符合國家電氣安全規定。
- 冷氣機應正確接地。不正確的接地可能會導致觸電。
- 安裝完成前請勿通電。
- 安裝斷路器。否則，可能會導致故障。
- 全極斷開開關應採用固定佈線連接，所有極的觸點間隔至少爲3mm。
- 斷路器應包括磁脫扣和熱脫扣功能。它可以保護過載和電路短路。

安全措施

小心

安裝

- 本產品的安裝和使用說明由製造商提供。
- 選擇兒童接觸不到且遠離動物或植物的位置。如果不可避免，請為安全起見加設圍欄。
- 室內機應靠近牆壁安裝。
- 不要使用不合格的電纜。
- 如果電源連接線的長度不足，請聯繫供應商更換新的。
- 設備的位置必須使插頭易於觸及。
- 對於帶插頭的冷氣機，安裝完成後插頭應可觸及。
- 對於不帶插頭的冷氣機，必須在線路中安裝斷路器。
- 冷氣機中的黃綠線是接地線，不能用於其他用途。
- 冷氣機是第一類電器。它必須由專業人員使用專門的接地裝置正確接地。請確保始終有效接地，否則可能導致觸電。
- 製冷劑迴路溫度會很高，請使互連電纜遠離銅管。

警告

操作和維護

- 本設備可供8歲及以上的兒童以及身體、感官或精神能力有缺陷或缺乏經驗和知識的人使用，前提是他們已接受有關以安全方式使用本設備的監督或指導並瞭解所涉及的危險。
- 兒童不得玩耍本產品。
- 兒童不得在沒有監督的情況下進行清潔和用戶維護。
- 如果電源線損壞，必須由製造商、其服務代理或類似的合格人員更換，以避免發生危險。
- 切勿將冷氣機接駁至多用途插座。否則，可能會引起火災危險。
- 清潔冷氣機時，請斷開電源。否則可能會導致觸電。
- 請勿用水清洗冷氣機，以免觸電。
- 請勿在室內機上噴水。可能會導致觸電或故障。
- 請勿自行修理冷氣機。可能會導致觸電或損壞。當您需要修理冷氣機時，請聯繫經銷商。
- 取下過濾器后，請勿觸摸翅片，以免受傷。
- 請勿將手指或物體伸入進風口或出風口。可能會導致人身傷害或損害。

小心

操作和維護

- 請勿將水灑在遙控器上，否則可能會損壞遙控器。
- 請勿使用火或吹風機吹乾過濾器，以免變形或火災危險。
- 不要堵塞出風口或進風口。可能會導致故障。
- 請勿踩踏室外機的頂板或放置重物。可能會導致損壞或人身傷害。

- 當出現以下現象時，請立即關閉冷氣機並斷開電源，然後聯繫經銷商或合格的專業人員進行維修。

① 電纜過熱或損壞。

② 運轉過程中有異常聲音。

③ 斷路器經常跳閘。

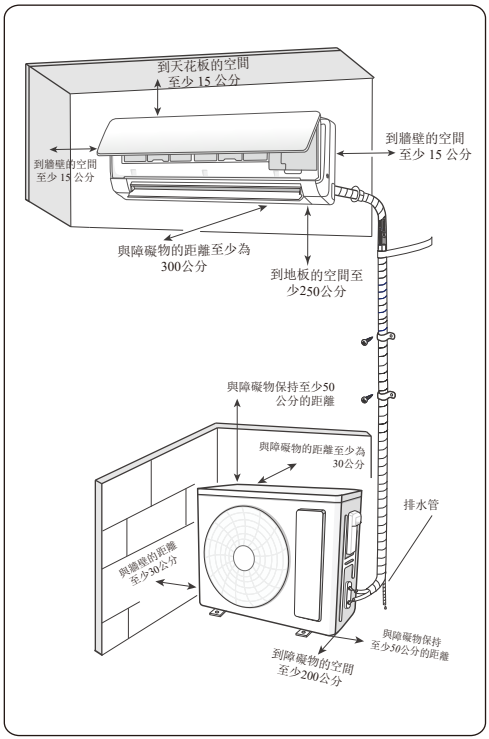
④ 冷氣機散發出燒焦的氣味。

⑤ 室內機漏水。

特殊功能和說明

感測器	功能
溫度感測器	用於檢測環境溫度和管道溫度。
紅外接收器	接收遙控器發送的紅外訊號。

安裝須知



安裝和搬遷設備的安全預防措施

為確保安全，請注意以下預防措施。

警告

- **安裝或搬遷設備時，請務必保持製冷劑迴路沒有空氣或指定製冷劑以外的物質。**
  製冷劑迴路中存在空氣或其他異物都會導致系統壓力升高或壓縮機破裂，從而導致受傷。
- **安裝或移動本機時，請勿充注不符合銘牌上的製冷劑或不合格的製冷劑。**
  否則，可能導致操作異常、動作失誤、機械故障甚至嚴重的安全事故。
- **當在搬遷或維修設備期間需要回收製冷劑時，請確保設備在製冷模式下運行。然後，完全關閉高壓側（液體閥）的閥門。大約30-40秒後，將低壓側的閥門（氣閥）完全關閉，立即停止機組並斷開電源。請注意，製冷劑回收的時間不應超過 1 分鐘。**
  如果製冷劑回收時間過長，空氣可能會被吸入並導致壓力升高或壓縮機破裂，從而導致受傷。
- **製冷劑回收時，在拆下連接管之前，請確保液體閥和氣閥完全關閉且電源已斷開。**
  如果壓縮機在截止閥打開且尚未連接連接管的情況下開始運轉，空氣將被吸入並導致壓力上升或壓縮機破裂，從而導致受傷。
- **安裝機組時，請確保在壓縮機開始運行之前連接管已牢固。**
  如果壓縮機在截止閥打開且尚未連接連接管的情況下開始運轉，空氣將被吸入並導致壓力上升或壓縮機破裂，從而導致受傷。
- **禁止將設備安裝在可能有腐蝕性氣體或輕度易燃氣體洩漏的場所。**
  如果機組周圍有洩漏的氣體，可能會導致爆炸和其他事故。
- **請勿使用延長線進行電氣連接。如果電線不夠長，請聯繫當地授權的服務中心並索取合適的電線。**
  連接不良可能會導致觸電或火災。
- **使用指定類型的電線進行室內機和室外機之間的電氣連接。牢牢地夾住電線，使其端子不受外部應力。**
  容量不足的電線、錯誤的電線連接和不安全的電線端子可能會導致觸電或火災。

警告

安裝工具

1. 液位計
2. 螺絲批
3. 衝擊鑽
4. 鑽頭
5. 脹管器
6. 扭力士巴拿
7. 開口士巴拿
8. 切管機
9. 檢漏儀
10. 真空泵
11. 壓力計
12. 萬能儀錶
13. 內六角士巴拿
14. 捲尺

注意

- 請聯繫當地代理進行安裝。
- 不要使用不合格的電纜。

選擇安裝位置

基本要求

將本機安裝在以下位置可能會導致故障。如不得已，請諮詢當地經銷商：

1. 強熱源、蒸氣、易燃易爆氣體或揮發性物體在空氣中蔓延的場所。
2. 有高頻設備（如焊機、醫療設備）的場所。
3. 靠近海岸地區的場所。
4. 空氣中有油或煙霧的場所。
5. 有硫化氣體的場所。
6. 其他有特殊情況的場所。
7. 該設備不得安裝在洗衣房中。
8. 不允許安裝在不穩定或動力結構（如卡車）或腐蝕性環境（如化工廠）中。

室內機

1. 進風口和出風口附近不應有障礙物。
2. 選擇冷凝水容易分散且不會影響其他人的位置。
3. 選擇一個方便連接室外機且靠近電源插座的位置。
4. 選擇兒童無法觸及的位置。
5. 該位置應能夠承受室內機的重量，並且不會增加噪音和振動。
6. 設備必須安裝在離地面2.5m的地方。
7. 請勿將室內機安裝在電器的正上方。
8. 請盡量遠離螢光燈。

室外機

1. 選擇室外機發出的噪音和流出空氣不會影響社區的位置。
2. 該位置應通風乾燥，室外機不會直接暴露在陽光或強風下。
3. 該位置應能夠承受室外機的重量。
4. 確保安裝符合安裝尺寸圖的要求。
5. 請選擇兒童接觸不到且遠離動物或植物的位置。如果不可避免，請為安全起見加設圍欄。

安全預防措施

1. 安裝本機時必須遵守電氣安全規定。
2. 根據當地安全規例，使用合格的電源電路和空氣開關。

電氣連接要求

3.確保電源與冷氣機的要求相匹配。電源不穩定或接線錯誤或故障。使用冷氣機前請安裝合適的電源線。
4.正確連接電源插座的火線、零線和接地線。
5.在進行任何與電力和安全相關的工作之前，請務必切斷電源。
6.安裝完成前請勿通電。
7.如果電源線損壞，必須由製造商、其服務代理或類似的合格人員更換，以避免發生危險。
8.製冷劑迴路溫度會很高，請將互連電纜遠離銅管。
9.設備應按照國家佈線規定進行安裝。

接地要求

1. 冷氣機是第一類電器。必須由專業人員使用專用接地裝置正確接地。請確保始終有效接地，否則可能導致觸電。
2. 冷氣機中的黃綠色電線是接地線，不能用於其他用途。
3. 接地電阻應符合國家電氣安全規定。
4. 設備的位置必須使插頭易於觸及。
5. 全極斷開開關應採用固定佈線連接，所有極的觸點間隔至少爲3mm。

空氣開關容量

包括具有合適容量的空氣開關，請注意下表。空氣開關應包括磁脫扣和熱脫扣功能，它可以保護電路短路和過載。（小心：請不要僅將保險絲用於保護電路）

冷氣機	空氣開關容量
09K、12K	10A
18K、24K	16A

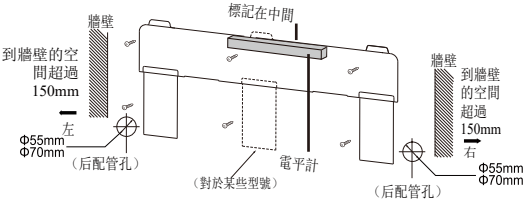
室內機的安裝

第 1 步：
選擇安裝位置

向客戶推薦安裝位置，然後與客戶確認。

第 2 步：
安裝壁掛架

1. 將壁掛架掛在牆上;用水平儀將其調整到水平位置，然後畫出牆上的螺絲固定孔。
2. 用衝擊鑽在牆壁上鑽螺絲固定孔（鑽頭的規格應與塑膠膨脹膠塞相同），然後將塑膠膨脹膠塞填充孔中。
3. 用自攻螺釘將壁掛架固定在牆上，然後拉動壁挂架檢查壁挂架是否安裝牢固。如果塑膠膨脹膠塞鬆動，請在附近再鑽一個固定孔。



第 3 步：
打開管道孔

1. 根據出口管的方向選擇配管孔的位置。配管孔的位置應比壁掛架低一點，如下圖所示。

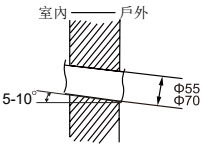
提示

- 牆板僅供說明之用，請以實際安裝為準。
- 螺絲數量和螺絲位置請以實際情況為準。

2. 安裝完成後，用手拉動安裝板，確認是否固定牢固。所有螺釘的力分佈應均勻。
3. 在選定的出口管位置開鑿直徑為Φ55或Φ70的配管孔。為了順利排水，請將牆上的管孔略微向下傾斜到室外一側，坡度為 5-10°。

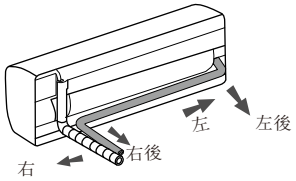
提示

- 開孔時注意防塵並採取相關安全措施。

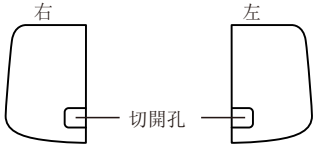


第 4 步：
出水管

1. 管道可沿右、右後、左或左後方向引出。

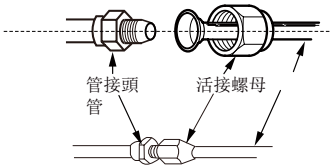


2. 當選擇從左側或右側引出管道時，請在底殼上切掉相應的孔。

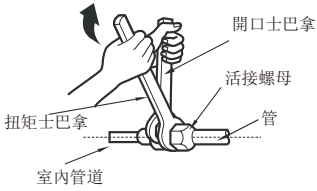


第 5 步：
連接室內機的管道

1.將管接頭對準相應的喇叭口。
2.用手預擰緊鎖緊螺母。

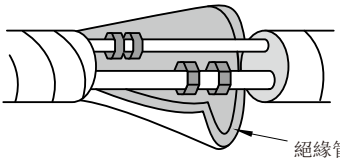


3.參考下表調整扭矩力。將開口士巴拿放在管接頭上，將扭矩士巴拿放在鎖緊螺母上。用扭矩士巴拿擰緊鎖緊螺母。



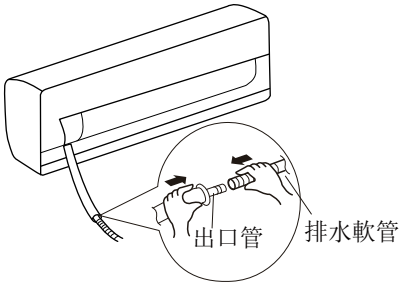
六角螺母直徑	緊固扭矩（N•m）
1/4"	15~20
3/8"	30~40
1/2"	45~55
5/8"	60~65
3/4"	70~75

4. 用絕緣管將室內管道和連接管的接頭包裹起來，然後用膠帶包裹起來。

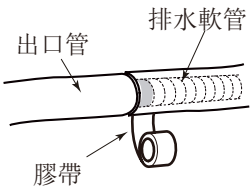


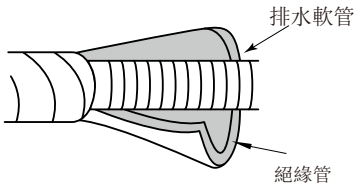
第 6 步：
安裝排水軟管

1. 將排水軟管連接到室內機的出水管。



2.用膠帶捆綁接頭。





注意

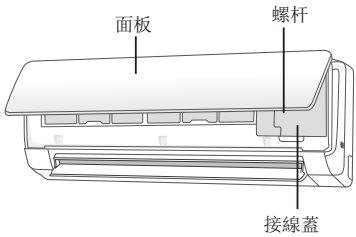
- 在室內排水軟管中添加絕緣管，以防止冷凝。
- 不提供塑膠膨脹膠塞。

第 7 步：
連接室內機電線

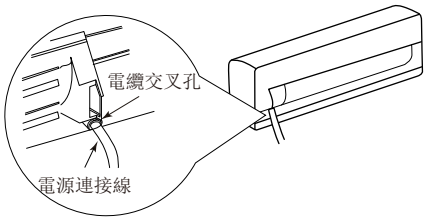
注意

- 室內機和室外機的所有電線均應由專業人員連接。
- 如果電源連接線長度不足，請聯繫供應商更換新線。避免自行延長電線。
- 對於帶插頭的冷氣機，安裝完成後插頭應可觸及。
- 對於無插頭的冷氣機，必須在線路中安裝空氣開關。空氣開關應為全極分型，觸點分型距離應大於3mm。

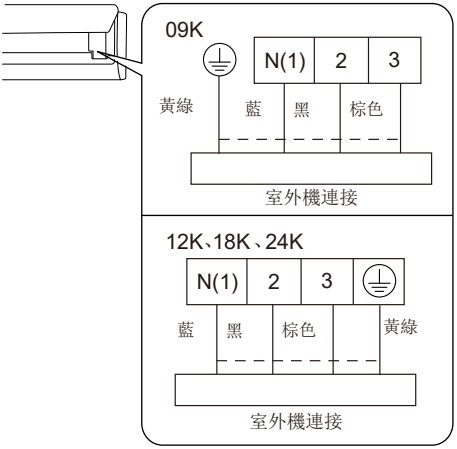
1. 打開面板，卸下接線蓋上的螺絲，然後取下接線蓋。



2. 使電源連接線穿過室內機背面的電纜交叉孔，然後從正面拉出。



3.取下線夾;將電源連接線按顏色連接到接線端子；擰緊螺絲，然後用線夾固定電源連接線。



注意

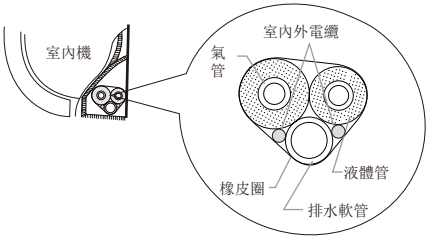
- 線路板僅供參考，請以實際為準。

4.將接線蓋放回原處，然後擰緊螺絲。

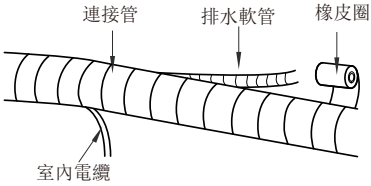
5.關閉面板。

第8步：
捆綁管道

1.將連接管、電纜和排水軟管與手環捆綁在一起。



2.捆綁時預留一定長度的排水軟管和電纜以供安裝。當捆綁到一定程度時，先分離室內電源，再分離排水軟管。



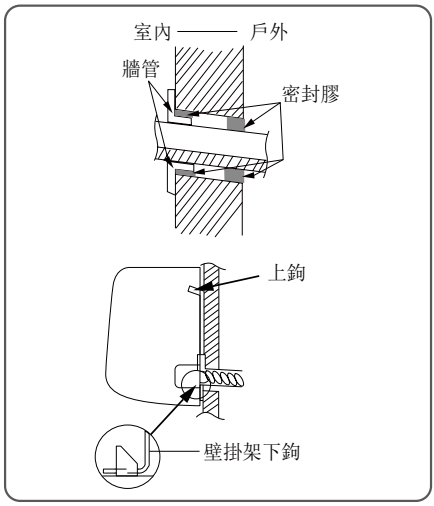
3. 將它們均勻地捆綁起來。
4. 液體管和氣管應在末端分別綁紮。

注意

- 電纜和控制線不能交叉或纏繞。
- 排水軟管應系在底部。

第 9 步：
懸挂室內機

1. 將綁紮好的管道放入牆管中，然後讓它們穿過牆孔。
2. 將室內機掛在壁掛架上。
3. 用密封膠填充管子和壁孔之間的縫隙。
4. 修理牆管。
5. 檢查室內機是否安裝牢固並緊貼牆壁。
6. 當機械連接器在室內重複使用時，應更新密封部件。當喇叭形接頭在室內重複使用時，應重新製作喇叭形部分。



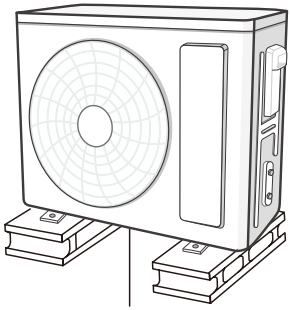
注意

- 請勿過度彎曲排水軟管，以防止堵塞。

室外機的安裝

第 1 步：
固定室外機的支撐
（根據實際安裝情況選擇）

1. 根據房屋結構選擇安裝位置。
2. 用膨脹螺釘將室外機的支架固定在選定位置。



注意

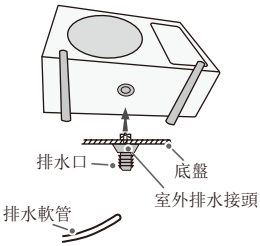
- 安裝室外機時採取足夠的保護措施。
- 確保支撐至少可以承受機組重量的四倍。
- 室外機應安裝在離地面至少3公分的位置，以便安裝排水接頭。（對於帶加熱管的型號，安裝高度應不小於20公分。
- 對於製冷量為2300W~5000W的機組，需要6個膨脹螺釘;對於製冷量為6000W~8000W 的機組，需要8個膨脹螺釘;對於製冷量為10000W~16000W的機組，需要10個膨脹螺釘。

第 2 步：
安裝排水接頭
（僅適用於某些型號）

1. 將室外排水接頭連接到機箱上的孔中，如下圖所示。
2. 將排水軟管連接到排水口。

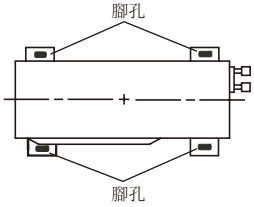
注意

- 排水縫的形狀請參考當前產品。不要在嚴寒地區安裝排水接頭。否則，它會結霜，然後導致故障。



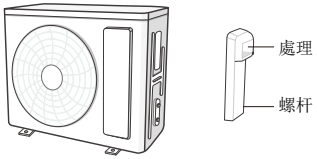
第3步：
固定室外機

1. 將室外機放在支架上。
2. 用螺栓固定室外機的腳孔。

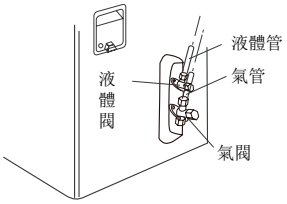


第 4 步：
連接室內和室外管道

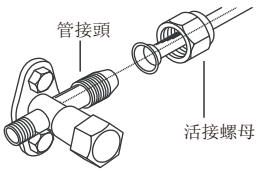
1. 拆下室外機右把手上的螺絲，然後取下把手。



2. 取下閥門的螺帽，將管接頭對準管道的喇叭口。



3. 用手預擰緊鎖緊螺母。

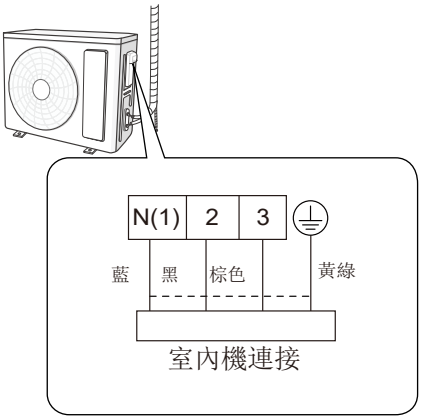


4. 參考下表，用扭矩士巴拿擰緊活接頭。

六角螺母直徑	緊固扭矩（N•m）
1/4"	15~20
3/8"	30~40
1/2"	45~55
5/8"	60~65
3/4"	70~75

第 5 步：
連接室外電線

1. 取下線夾;將電源連接線和訊號控制線（僅用於製冷和製熱機組）按顏色連接到接線端子;用螺絲固定它們。



注意

- 線路板僅供參考，請以實際為準。

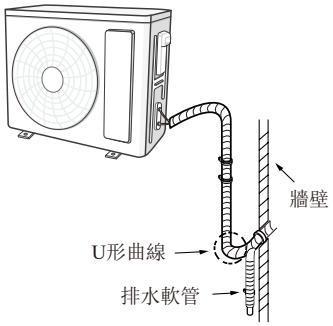
2.用線夾固定電源連接線和訊號控制線（僅用於製冷和製熱機組）。

注意

- 擰緊螺絲后，輕輕拉動電纜，檢查是否牢固。
- 切勿剪斷電源連接線以延長或縮短距離。

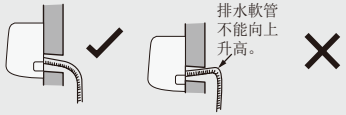
第 6 步：
整理管道

1. 管道應沿牆放置，合理彎曲並可隱藏。彎曲管道的最小半直徑為10公分。
2. 如果室外機高於牆孔，則必須在管道進入空間之前在管道中設置U形曲線，以防止雨水進入空間。

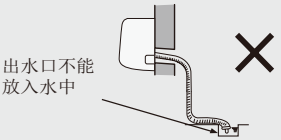


注意

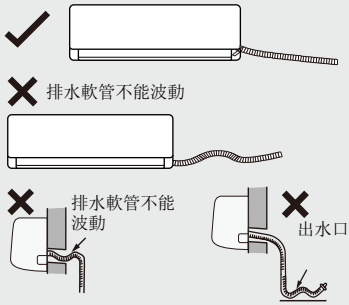
- 排水軟管的穿牆高度不應高於室內機的出水管孔。



- 出水口不能放入水中，以便順利排水。



- 將排水軟管略微向下傾斜。排水軟管不能彎曲、升高和波動等。



清潔與保養

警告

- 清潔冷氣機前請關閉冷氣機並斷開電源，以免觸電。
- 請勿用水清洗冷氣機，以免觸電。
- 請勿使用揮發性液體清潔冷氣機。
- 請勿使用液體或腐蝕性清潔劑清潔設備，也不要將水或其他液體濺到設備上，否則可能會損壞塑膠部件，甚至導致觸電。

清潔室內機表面

當室內機表面髒污時，建議使用柔軟的乾布或濕布擦拭。

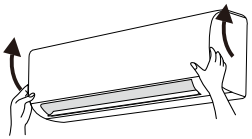
注意

- 清潔面板時，請勿將其移除。

清潔過濾器

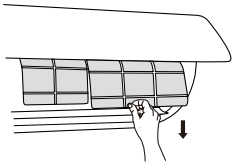
1. 打開面板

將面板拉出至一定角度，如圖所示。



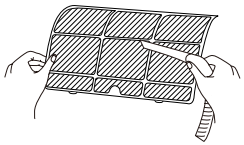
2.移除過濾器

如圖所示取下過濾器。



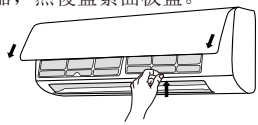
3.清潔過濾器

- 使用集塵器或水清潔過濾器。
- 當過濾器很髒時，用清水（低於45°C）清洗，然後放在陰涼處晾乾。



4.安裝過濾器

安裝過濾器，然後蓋緊面板蓋。



警告

- 過濾器應每三個月清潔一次。如果運轉環境中有大量灰塵，則可以增加清潔頻率。
- 取下過濾器后，請勿觸摸翅片，以免受傷。
- 請勿使用火或吹風機吹乾過濾器，以免變形或火災危險。

注意：使用季節前檢查

1. 檢查進風口和出風口是否堵塞。
2. 檢查空氣開關、插頭和插座是否完好。
3. 檢查過濾器是否乾淨。
4. 檢查室外機安裝支架是否損壞或腐蝕。如果是，請聯繫經銷商。
5. 檢查排水管是否損壞。

注意：使用季節後檢查

1. 斷開電源。
2. 清潔過濾器和室內機的面板。
3. 檢查外置或單元的安裝支架是否損壞或腐蝕。

回收通知

1. 許多包裝材料是可回收材料。請將它們丟棄在適當的回收裝置中。
2. 如果您想處理冷氣機，請聯繫當地經銷商或顧問服務中心瞭解正確的處理方法。

錯誤代碼

當冷氣機狀態異常時，室內機溫度指示燈會閃爍並顯示相應的錯誤代碼。請參考下面的清單來識別錯誤代碼。

錯誤代碼	故障排除
U8，H6，H3，E1，E5，E6，E8	重新啟動設備後可以清除它。如果沒有，請聯繫合格的專業人員進行服務。
C5，F0，F1，F2	請聯繫合格的專業人員進行服務。

提示

- 如果有其他錯誤代碼，請聯繫合格的專業人員進行維修。

維護前的檢查項目

一般現象分析

在要求維修之前，請檢查以下項目。如果仍然無法排除故障，請聯繫當地經銷商或合格的專業人員。

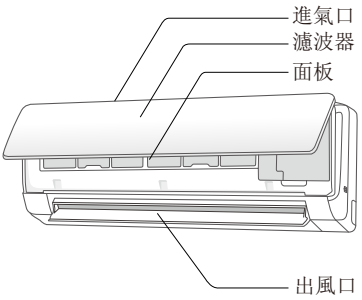
現象	檢查項	溶液
室內機無法接收遙控器的訊號或遙控器無動作。	是否受到嚴重干擾（如靜電、穩定電壓？）	拔出插頭。大約 3 分鐘後重新插入插頭，然後再次打開設備。
	遙控器是否在訊號接收範圍內？	訊號接收範圍為 8 米。
	是否有調整的障礙物？	移除障礙物。
	遙控器是否指向接收窗戶？	選擇合適的角度並將遙控器對準室內機的接收窗戶。
	遙控器靈敏度低;模糊顯示還是無顯示？	檢查電池。如果電池電量過低，請更換電池。
	操作遙控器時沒有顯示？	檢查遙控器是否損壞。如果是，請更換它。
	空間里有螢光燈？	將遙控器靠近室內機。關閉螢光燈，然後重試。
室內機無空氣排放	室內機進風口或出風口堵塞？	清除障礙。
冷氣機無法運行	停電？	等待電源恢復。
	插頭鬆動嗎？	重新插入插頭。
	空氣開關跳閘或保險絲燒壞？	請專業人員更換空氣開關或保險絲。
	接線出現故障？	請專業人士更換。
	設備在停止運行後立即重新啟動？	等待 3 分鐘，然後再次打開設備。
	遙控器的功能設定是否正確？	重置函數。
霧氣從室內機的出風口噴出	室內溫度和濕度高？	因為室內空氣被迅速製冷。一段時間后，室內溫度和濕度會降低，霧氣會消失。
散發出氣味	是否有氣味來源，例如傢俱和香煙等。	清除氣味源。清潔過濾器。
無法調整設定溫度	設備是否在自動模式下運行？	在自動模式下無法調節溫度。如需調節溫度，請切換運行模式。
	您所需的溫度是否超過設定的溫度範圍？	設定溫度範圍：16°C~30°C。
製冷效果不好。	電壓太低？	等待電壓恢復正常。
	過濾器臟了？	清潔過濾器。
	設定溫度是否在適當的範圍內？	將溫度調整到適當的範圍。
	門窗都開著？	關上門窗。
冷氣機運行異常	是否有干擾，例如雷聲、無線設備等。	斷開電源，重新接通電源，然後再次打開設備。
「水流」噪音	剛才冷氣機是開著還是關著？	噪音是製冷劑在機組內流動的聲音，屬於正常現象。
噼啪噪音	剛才冷氣機是開著還是關著？	這是由於溫度變化而使面板或其他部件膨脹和/或收縮而引起的摩擦聲。

警告

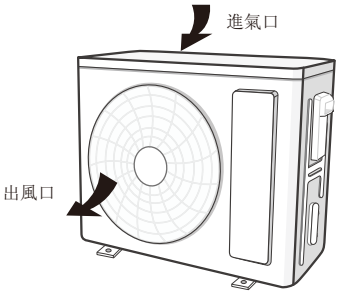
- 當出現以下現象時，請立即關閉冷氣機並斷開電源，然後聯繫經銷商或合格的專業人員進行維修。
  - 電纜過熱或損壞。
  - 運轉過程中有異常聲音。
  - 空氣開關經常跳閘。
  - 冷氣機散發出燒焦的氣味。
  - 室內機漏水。
- 請勿自行修理或改裝冷氣機。
- 如果冷氣機在異常情況下運行，可能會導致故障、觸電或火災危險。

零件名稱

室內機



室外機



提示

- 實際產品可能與上述圖形有所不同，請以實際產品為準。

顯示

溫度指示器	26
電源指示燈	⏻

提示

- 以上為一般介紹，指示燈顏色僅供參考。請以實際顯示為準。
- 顯示內容可能與實際內容不同。請以實際顯示為準

遙控器的操作和介紹

遙控器上的按鈕

顯示幕上的圖示介紹

		I feel
FAN AUTO		設定風扇速度
		Turbo 模式
		發送訊號
操作模式		自動模式
		製冷模式
		乾燥模式
		風扇模式
		製熱模式 *
		睡眠模式
		8°C 製熱功能*
		健康模式*
		清除功能*
		靜音
		X-FAN 功能
溫度顯示類型		設定溫度
		室內環境溫度
		室外環境溫度
		時鐘
88		設定溫度
38:88		設定時間
ONOFF		定時器開啟 / 定時器關閉
		灯光
		左右擺動*
		上下擺動
		兒童鎖

* 不適用於此型號。

遙控器按鍵介紹

提示

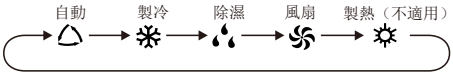
- 這是一個通用的遙控器。可用於多功能冷氣機。對於機型不具備的功能，如果按下遙控器上的相應按鈕，本機將保持原來的運行狀態。
- 通電后，冷氣機會發出聲音。電源指示燈「⏻」亮。之後，您可以使用遙控器操作冷氣機。
- 在開機狀態下，按下遙控器上的按鈕，遙控器顯示幕上的訊號圖示「📶」會閃爍一次，冷氣機會發出「嘀」的一聲，表示訊號已發送到冷氣機。

⏻ 按鈕

按此按鈕可打開設備。再次按下此按鈕可關閉設備。

MODE 按鈕

按此按鈕可選擇所需的操作模式。



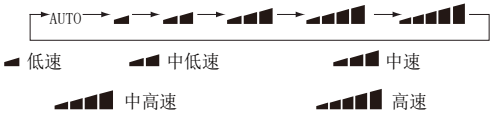
- 選擇自動模式時，冷氣機將根據感應到的溫度自動運行。設定溫度無法調整，也不會顯示。按「FAN」按鈕可以調整風扇速度。按「🌬」/「↕」鍵可以調整風扇吹風角度。
  選擇製冷模式后，冷氣機將在製冷模式下運行。
- 按「▲」或「▼」按鈕調整設定溫度。按「FAN」按鈕調整風扇速度。按「🌬」/「↕」按鈕調整風扇吹風角度。製熱模式不適用於此型號。
- 選擇乾燥模式時，冷氣機在乾燥模式下低速運行。在乾燥模式下，風扇速度無法調節。
  按「🌬」/「↕」按鈕調整風扇吹風角度。
- 選擇風扇模式時，冷氣機只會吹風扇，不會製冷。按「FAN」按鈕調整風扇速度。按「🌬」/「↕」按鈕調整風扇吹風角度。
- 當選擇製熱模式時，冷氣機在製熱模式下運行。按「▲」或「▼」按鈕調整設定溫度。按「FAN」按鈕調整風扇速度。按「↕」/「🌬」按鈕調整風扇吹風角度。製熱模式不適用於此型號。

提示

- 為阻止冷空氣，啟動製熱模式后，室內機將延遲 1~5 分鐘吹風（實際延遲時間取決於室內環境溫度）。
- 透過遙控器設定溫度範圍：16~30°C（61-86°F）。
- 僅製冷裝置不會接收製熱模式訊號。如果使用遙控器設定製熱模式，按「⏻」按鈕無法啟動設備。

FAN 按鈕

此按鈕用於按從AUTO、▂、▃、▄、▅、到▄、▅，然後返回 Auto 的順序設定風扇速度。



TURBO 按鈕

在製冷模式下，按此按鈕進入快速製冷模式。遙控器上顯示「🌀」圖示。再次按下此按鈕可退出Turbo功能，「🌀」圖示將消失。

如果啟動此功能，機組將以超高風扇速度運行以快速製冷，使環境溫度儘快接近預設溫度。

▲ ▼ 按鈕

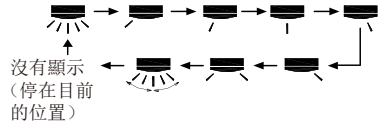
按一次「▲」或「▼」按鈕可增加或減少設定溫度 1°C（°F）。按住「▲」或「▼」按鈕，2 秒後，遙控器上的設定溫度會快速變化。設定完成後鬆開按鈕，室內機上的溫度指示器會相應變化。

提示：在自動模式下無法調節溫度。

設定 TIMER ON、TIMER OFF 或 CLOCK 時，按「▲」或「▼」按鈕調整時間。（請參閱 CLOCK、TIMER ON、TIMER OFF 按鈕）。

按鈕 （不適用）

按此按鈕可以選擇左右擺動角度。風扇吹風角度可循環選擇如下：

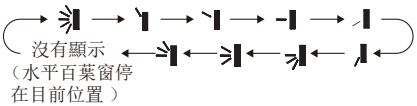


提示

- 連續按下此按鈕 2 秒以上，主機將從左到右來回擺動，然後鬆開按鈕，主機將停止擺動，導百葉窗的當前位置將立即保持。
- 在左右擺動模式下，當狀態從off切換到 時，如果2s后再次按下此按鈕， 狀態將直接切換到off狀態;如果在2秒內再次按下此按鈕，擺動狀態的變化也將取決於上述循環順序。
- 該功能僅適用於某些型號。

按鈕

按此按鈕可以選擇上下擺動角度。風扇吹風角度可循環選擇如下：



- 選擇「 」時，冷氣機會自動吹風扇。水準百葉窗會自動以最大角度上下擺動。
- 選擇「 , , , , 」時，冷氣機在固定位置吹風扇。水準百葉窗將停在固定位置。
- 選擇「 , , , 」時，冷氣機以固定角度吹風扇。水準百葉窗將以固定角度送風。
- 按住2秒以上的「 」按鈕設定所需的擺動角度。達到所需角度后，鬆開按鈕。

提示

- 「 , , , 」可能不可用。當冷氣機接收到這個訊號時，冷氣機會自動吹風扇。
- 連續按下此按鈕2秒以上，主機將上下來回擺動，然後鬆開按鈕，機組百葉窗的當前位置將立即保持。

- 在上下擺動模式下，當狀態從off切換到 時，如果2s後再次按下此按鈕， 狀態將直接切換到off狀態;如果在2秒內再次按下此按鈕，擺動狀態的變化也將取決於上述循環順序。

SLEEP 按鈕

- 按下此按鈕，可以選擇睡眠1（ ）、睡眠2（ ）、睡眠3（ ） 並取消睡眠，在這些之間循環，通電后，預設取消睡眠。
- 睡眠1為睡眠模式1，在製冷、除濕模式下：睡眠狀態運行一小時后，主機設定溫度升高1°C，2小時，設定溫度升高2°C，機組在此設定溫度下運行;
- 睡眠2為睡眠模式2，即冷氣機將根據預設的一組睡眠溫度曲線運行。

  在製冷模式下：

  （1）將初始溫度設定為16°C -23°C時，開啟睡眠功能后，每小時升高1°C，3°C後保持溫度，7小時後，溫度降低 1°C，之後機組在此溫度下繼續運行;

  （2）當設定初始溫度24°C-27°C時，開啟睡眠功能后，溫度每小時升高1°C，2°C後保持溫度，7小時後，溫度降低 1°C，之後機組在此溫度下繼續運行

  （3）將初始溫度設定為28°C-29°C時，開啟睡眠功能后，每小時溫度升高1°C，1°C後保持溫度，7小時後溫度降低1°C，之後機組在此溫度下繼續運行;

  （4）當設定初始溫度30°C時，在此溫度設定下，7小時後，溫度將降低1°C，之後機組將在此溫度下繼續運行;

- 睡眠3-睡眠模式下DIY設定睡眠曲線設定：
  （1）在睡眠3模式下，長按「TURBO」鍵，遙控器進入用戶個人化睡眠設定狀態，此時遙控器時間顯示「1小時」，設定溫度「88」顯示上次設定睡眠曲線對應的溫度並閃爍（第一次進入按原廠初始曲線設定值顯示）；
  （2）調整「▲」和「▼」按鈕，可以改變相應的設定溫度，調整后，按「TURBO」按鈕確認;
  （3）此時遙控器上的定時器位置會自動增加1小時（即「2小時」或「3小時」或「8小時」），設定溫度「88」的場所會顯示上次設定睡眠曲線的相應溫度並閃爍;
  （4）重複上述步驟（2）~（3）操作，直到8小時溫度設定完成，睡眠曲線設定完成，此時遙控器將恢復原來的定時器顯示;溫度顯示將恢復到原始設定溫度。
- 睡眠3-**查詢**睡眠模式下通过DIY設定睡眠曲线：
  用戶可以根據睡眠曲線設定方法查詢預設的睡眠曲線，進入用戶個人化睡眠設定狀態，但不改變溫度，直接按「TURBO」鍵確認。

提示

- 在上述預設或查詢程序中，如果連續 10 秒內沒有按下按鈕，睡眠曲線設定狀態將自動退出並恢復顯示原始顯示。在預設或查詢程序中，按「⏻」鍵、「MODE」鍵或「SLEEP」鍵，睡眠曲線設定或查詢狀態將類似退出。

I FEEL 按鈕

按此按鈕啟動I FEEL功能，遙控器上會顯示「」。設定此功能后，遙控器會將檢測到的環境溫度發送給控制器，機組將根據檢測到的溫度自動調節室內溫度。再次按下此按鈕可關閉 I FEEL 功能，「」將消失。

設定此功能時，請將遙控器放在使用者附近。請勿將遙控器靠近高溫或低溫物體，以免檢測到不準確的環境溫度。開啟 I FEEL 功能後，應將遙控器放在室內機可以接收遙控器發送的訊號的區域內。

TIMER ON / TIMER OFF 按鈕

- TIMER ON 按鈕
  「TIMER ON」按鈕可以設定定時器開啟的時間。按下此按鈕后，「🕒」圖示消失，遙控器上的「ON」字樣閃爍。按「▲」或「▼」按鈕調整 TIMER ON 設定。每按一次「▲」或「▼」按鈕後，TIMER ON 設定將增加或減少 1 分鐘。按住「▲」或「▼」按鈕，2 秒後，時間將快速變化，直到達到您需要的時間。
  按「TIMER ON」確認。「ON」 一詞將停止閃爍。「🕒」圖示繼續顯示。取消 TIMER ON：在 TIMER ON 啟動的情況下，按「TIMER ON」按鈕取消它。
- TIMER OFF 按鈕
  「TIMER OFF」按鈕可以設定定時器關閉的時間。按下此按鈕后，「🕒」圖示消失，遙控器上的「OFF」字樣閃爍。按「▲」或「▼」按鈕調整TIMER OFF設定。每按一次「▲」或「▼」按鈕後，TIMER OFF 設定將增加或減少1分鐘。按住「▲」或「▼」按鈕，2秒後，時間將快速變化，直到達到您需要的時間。
  按下「TIMER OFF」，「OFF」字樣將停止閃爍。「🕒」 圖示繼續顯示。在 TIMER OFF 啟動的情況下，按「TIMER OFF」按鈕取消它。

提示

- 在開啟和關閉狀態下，您可以同時設定TIMER OFF或TIMER ON。

- 在設定TIMER ON或TIMER OFF之前，請調整時鐘時間。
- 啟動TIMER ON或TIMER OFF後，設定常數循環有效。之後，冷氣機將根據設定的時間開啟或關閉。「⏻」按鈕對設定沒有影響。如果您不需要此功能，請使用遙控器取消它。
- 當定時器功能啟動且遙控器長時間不使用時，可透過定時器功能開啟或關閉冷氣機。建議您將遙控器放在室內機可以接收到遠端訊號的位置，這樣可以獲得更準確的計時器。

CLOCK 按鈕

按此按鈕可設定時鐘時間。遙控器上的「🕒」圖示會閃爍。在5秒內按「▲」或「▼」按鈕設定時鐘時間。每按一次「▲」或「▼」按鈕，時鐘時間將增加或減少1分鐘。如果按住「▲」或「▼」按鈕，2秒後，時間會迅速變化。到達所需時間時鬆開此按鈕。按「CLOCK」按鈕確認時間。「🕒」圖示停止閃爍。

提示

- 時鐘時間採用24小時模式。
- 兩個操作之間的間隔不能超過5秒。否則，遙控器將退出設定狀態。TIMER ON/TIMER OFF的操作相同。

QUIET 按鈕

按此鍵，靜音狀態為自動靜音模式（顯示「🎧」和「自動」訊號）和靜音模式（顯示「🎧」訊號）和靜音關閉（沒有顯示「🎧」訊號），開機後默認靜音關閉。

在靜音模式下（顯示「🎧」訊號）。

提示

- 製冷效果可能會減弱。

X-FAN 按鈕

在 製冷 或 除濕模式下按下此按鈕，會顯示圖示「✿」，即使您已關閉設備，室內風扇也會繼續運行一段時間，以便乾燥室內機。通電后，預設為X-FAN OFF。X-FAN 在 AUTO、FAN 模式下不可用。

此功能表示室內機停止后蒸發器上的水分將被吹走，以避免發黴。

- 開啟X-FAN功能：按「⏻」鍵關閉設備後，室內風扇會繼續低速運行一段時間。在此期間，按X-FAN按鈕直接停止室內風扇。

- 關閉X-FAN功能：按下「⏻」按鈕關閉設備後，整個設備將直接關閉。

LIGHT 按鈕

按此按鈕可關閉室內機上的顯示燈。遙控器上的「☼」圖示消失。再次按下此按鈕可打開顯示燈。顯示☼圖示。

🌲/⌂ 按鈕 （不適用）

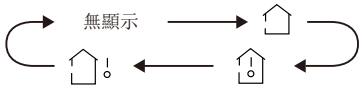
按此按鈕可打開或關閉運行狀態下的運行狀況和清除功能。首次按此按鈕可啟動清除功能；LCD顯示「⌂」。第二次按下按鈕可同時啟動健康和清除功能；LCD顯示「⌂」和「🌲」。第三次按下此按鈕可同時退出生命值和清除功能。第四次按下按鈕，啟動健康功能；LCD 顯示「🌲」。再次按下此按鈕可重複上述操作。

提示

- 此功能適用於部分模型。

TEMP 按鈕

按下此按鈕，您可以在室內機的顯示幕上看到室內設定溫度、室內環境溫度或室外環境溫度。遙控器上的設定循環選擇如下：



- 當使用遙控器選擇「⌂」或無顯示時，室內機上的溫度指示燈顯示設定溫度。
- 使用遙控器選擇「⌂」時，室內機上的溫度指示燈顯示室內環境溫度。
- 使用遙控器選擇「⌂」時，室內機上的溫度指示燈顯示室外環境溫度。

提示

- 室外溫度顯示不適用於某些型號。此時室內機接收到「 」訊號，同時顯示室內設定溫度。
- 預設情況下，在打開設備時顯示設定溫度。遙控器中沒有顯示。
- 僅適用於室內機具有雙8顯示幕的型號。
- 當選擇顯示室內或室外環境溫度時，室內溫度指示燈顯示相應的溫度，並在 3 或 5 秒後自動變為顯示設定溫度。

組合按鈕功能介紹

節能功能

在製冷模式下，同時按「TEMP」和「CLOCK」按鈕可啟動或關閉節能功能。當節能功能啟動時，遙控器上會顯示「SE」字樣，冷氣機會根據出廠設定自動調節設定溫度，以達到最佳節能效果。再次同時按下「TEMP」和「CLOCK」按鈕退出節能功能。

提示

- 節能功能下，風扇轉速預設為自動速度，且無法調節。
- 在節能功能下，無法調整設定溫度。按下「TURBO」按鈕，遙控器不會發送訊號。
- 睡眠功能和節能功能不能同時運行。如果在製冷模式下設定了節能功能，按「SLEEP」按鈕將取消節能功能。如果在製冷模式下設定了睡眠功能，啟動節能功能將取消睡眠功能。

童鎖功能

同時按「▲」和「▼」可開啟或關閉童鎖功能。當童鎖功能開啟時，遙控器上會顯示「 」圖示。如果您操作遙控器，「 」圖示將閃爍3次，而不會向本機發送訊號。

溫度顯示切換功能

在OFF狀態下，同時按下「▼」和「MODE」按鈕可在°C和°F之間切換溫度顯示。

自動清潔功能

在設備關閉狀態下，同時按住「MODE」和「FAN」按鈕5秒可開啟或關閉自動清潔功能。開啟自動清潔功能后，室內機顯示「CL」。在蒸發器的自動清潔過程中，該裝置將進行快速製冷。可能會有一些噪音，即液體流動的聲音或熱膨脹冷縮的聲音。冷氣機可能會吹涼，這是正常現象。

在清潔過程中，請確保空間通風良好，以免影響舒適度。

提示

- 自動清潔功能只能在正常環境溫度下工作。如果空間有灰塵，每月清潔一次;如果沒有，請每三個月清潔一次。開啟自動清潔功能后，您可以離開空間。自動清潔完成後，冷氣機將進入待機狀態。
- 此功能僅適用於某些型號。

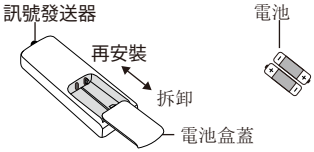
夜間模式

在製冷模式下，當開啟睡眠模式並切換到低速或靜音槽口時，室外機將進入夜間模式。

提示

- 當您覺得散熱效果不佳時，請按「FAN」按鈕以其他風扇速度或按「SLEEP」按鈕退出夜間模式。
- 夜間模式只能在正常環境溫度下工作。
- 此功能僅適用於某些型號。

更換遙控器中的電池



1. 如圖所示，按下標有「OPEN」的遙控器背面，然後按箭頭方向推出電池盒蓋。
2. 更換兩節7#（AAA 1.5V）乾電池，並確保「+」極和「-」極的位置正確。
3. 重新安裝電池盒蓋。

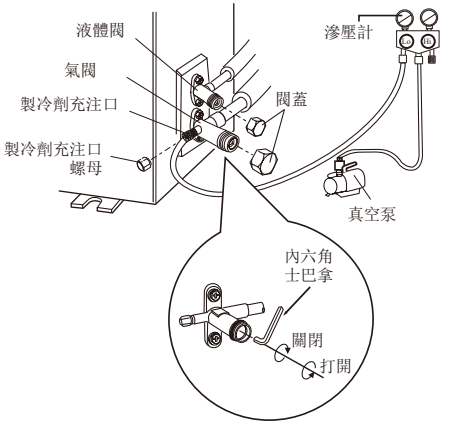
注意

- 在操作過程中，將遙控訊號發送器對準室內機的接收窗戶。
- 訊號發送方與接收窗戶之間的距離不應超過8m，且兩者之間不應有障礙物。
- 在有螢光燈或無線電話的空間內，訊號很容易受到干擾;遙控器在運行時應靠近室內機。
- 需要更換時更換相同型號的新電池。
- 長時間不使用遙控器時，請取出電池。
- 如果遙控器顯示模糊或沒有顯示，請更換電池。

測試與操作

使用真空泵

1. 拆下液體閥和氣閥上的閥蓋以及製冷劑充注口的螺母。
2. 將滲壓計的充注軟管連接到氣閥的製冷劑充注口，然後將另一根充注軟管連接到真空泵。
3. 將滲壓計完全打開並運行10-15分鐘，檢查滲壓計的壓力是否保持在-0.1MPa。
4. 關閉真空泵並保持此狀態1-2分鐘，檢查滲壓計的壓力是否保持在 -0.1MPa。如果壓力降低，則可能存在洩漏。
5. 拆下滲壓計，用內六角士巴拿將液體閥和氣閥的閥芯完全打開。
6. 擰緊閥門和製冷劑充注口的螺帽。
7. 重新安裝手柄。



洩漏檢測

1. 用檢漏儀：
   用檢漏儀檢查是否有洩漏。
2. 用肥皂水：
   如果沒有洩漏檢測器，請使用肥皂水進行洩漏檢測。在可疑位置塗抹肥皂水，並保持肥皂水3分鐘以上。如果有氣泡從這個位置流出，則說明存在洩漏。

安裝后檢查

- 安裝完成後按以下要求進行檢查。

檢查項目	可能的故障
設備是否已安裝牢固？	本機可能會掉落、晃動或發出噪音。
您做過製冷劑洩漏測試嗎？	這可能會導致製冷能力不足。
管道隔熱是否足夠？	可能會導致冷凝和水滴落。
排水好嗎？	可能會導致冷凝和水滴落。
電源的電壓是否符合銘牌上標明的電壓？	這可能會導致故障或損壞部件。
電線和管道是否安裝正確？	這可能會導致故障或損壞部件。
設備是否接地牢固？	可能會導致漏電。
電纜是否符合規格？	這可能會導致故障或損壞部件。
進風口和出風口是否有障礙物？	這可能會導致製冷能力不足。
安裝過程中產生的灰塵和雜物被清除了嗎？	這可能會導致故障或損壞部件。
連接管的氣閥和液體閥是否完全打開？	這可能會導致製冷能力不足。
配管孔的進出口是否被蓋住？	可能會導致製冷量不足或浪費電力。

試運行

1. 準備試運行

- 客戶認可冷氣機。
- 向客戶指定冷氣機的重要注意事項。

2. 試運行方法

- 接通電源，按遙控器上的「⏻」按鈕開始操作。
- 按MODE按鈕選擇AUTO、COOL、DRY、FAN以檢查作是否正常。
- 如果環境溫度低於16°C，冷氣機無法開始製冷。

連接管的組態

1. 連接管標準長度：5m。
2.連接管的最小長度。
對於標準連接管為5m的機組，連接管的最小長度沒有限制。
3.連接管的最大長度和高度差如下所示：

製冷能力	最大管道長度	最大高度差
9K	15m	10m
12K	20m	10m
18K	25m	10m
24K	30m	25m

4.加長連接管后加註製冷劑油和製冷劑充注量的計算方法。
在標準長度的基礎上延長連接管長度10m后，每增加5m連接管應加入5ml冷凍油。
加注製冷劑量的計算方法（以液管為準）：
（1） 額外製冷劑充注量 = 延長的液體管長度 × 每米的額外製冷劑充注量
（2） 根據標準管的長度，按表所示要求添加製冷劑。每米的額外製冷劑充注量根據液體管的直徑而有所不同。
請參閱圖紙 。

R32 的額外製冷劑充注量

製冷能力	液體管尺寸	氣體管尺寸	額外的製冷劑
9K	1/4"	3/8"	12 g/m
12K	1/4"	3/8"	12 g/m
18K	1/4"	1/2"	12 g/m
24K	1/4"	1/2"	15 g/m

注意

表中的額外製冷劑充注量是推薦值，不是強制性的。

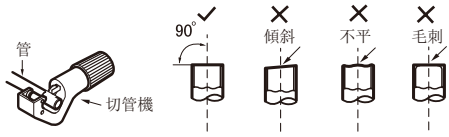
擴管方式

注意

管道膨脹不當是製冷劑洩漏的主要原因。請按照以下步驟擴管：

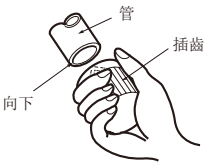
A：切割管道

- 根據室內機和室外機的距離確認管道長度。
- 用切管機切割所需的管道。



B：去除毛刺

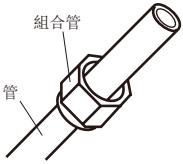
- 用整形器去除毛刺，防止毛刺進入管道。



C：穿上合適的絕緣管

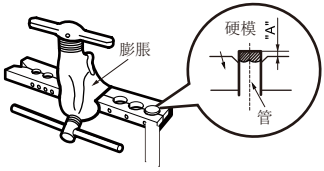
D：戴上鎖緊螺母

- 拆下室內連接管和室外閥門上的鎖緊螺母;將鎖緊螺母安裝在管道上。



E：擴展埠

- 使用擴充器擴充埠。



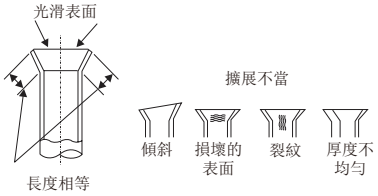
注意

- 「A」 根據直徑的不同而不同，請參考下表：

外徑（mm）	A(mm)	
	最大值	最小值
Φ6 - 6.35(1/4")	1.3	0.7
Φ9 - 9.52(3/8")	1.6	1.0
Φ12-12.7(1/2")	1.8	1.0
Φ15.8-16(5/8")	2.4	2.2

F：檢查

- 檢查擴展埠的品質。如果有任何瑕疵，請按照上述步驟再次擴展埠。



工作溫度範圍

	室內側 DB/WB（°C）	室外側 DB/WB（°C）
最大製冷效果	32/23	43/26

提示

- 僅製冷裝置的工作溫度範圍（室外溫度）為 -7°C~43°C。

- 以下檢查適用於使用輕度易燃製冷劑的裝置：
  - 充注量與安裝含製冷劑部件的空間大小一致；
  - 通風機械及出風口運作良好，沒有阻塞；
  - 如果使用間接製冷迴路，應檢查二次迴路中是否存在製冷劑；
  - 設備上的標記仍然清晰可見。難以辨認的標記和標誌應予以更正；
  - 製冷管或元件安裝在不太可能暴露於任何可能腐蝕含製冷劑元件的物質的位置，除非這些元件是由本身耐腐蝕或受到適當保護以防止腐蝕的材料製成的。
- 電氣元件的維修和保養應包括初始安全檢查和元件檢查程序。如果存在可能危及安全的故障，則在得到令人滿意的處理之前，不得將電源連接到電路。如果不能立即糾正故障但需要繼續運行，則應使用適當的臨時解決方案。這應報告給設備擁有者，以便通知各方。
- 初始安全檢查應包括：
  - 電容器已放電：應以安全的方式進行，以避免產生火花的可能性；
  - 在為系統充注、恢復或吹掃系統時，不會有帶電的電氣元件和電線暴露在外；
  - 接地是連續的。
- 檢查區域

  在開始對含有輕度易燃製冷劑的系統進行工作之前，有必要進行安全檢查，以確保將着火風險降至最低。對於製冷系統的維修，應在對系統進行工作之前完成DD.4.3至DD.4.7。
- 工作程序

  工作應在受控程序下進行，以盡量減少在進行工作時存在輕度易燃氣體或蒸氣的風險。
- 一般工作區

  所有維護人員和在當地工作的其他人員都應接受有關所執行工作性質的指導。應避免在密閉空間內工作。
- 檢查製冷劑的存在

  在工作之前和工作期間，應使用適當的製冷劑探測器檢查該區域，以確保技術人員了解潛在的有毒或易燃環境。確保所使用的洩漏檢測設備適合與所有適用的製冷劑一起使用，即無火花、充分密封或本質安全。
- 有滅火器

  如果要對製冷設備或任何相關部件進行任何動火作業，應準備好適當的滅火設備。在充注區域附近放置乾粉或CO_2滅火器。
- 通風區域

  在進入系統或進行任何動火作業之前，請確保該區域處於空曠狀態或通風良好。在工作進行期間，應持續一定程度的通風。通風應安全地分散任何釋放的製冷劑，最好將其從外部排放到大氣中。
- 檢查製冷設備

  在更換電氣元件時，它們應適合用途並符合正確的規格。應始終遵循製造商的維護和服務指南。如有疑問，請諮詢製造商的技術部門尋求說明。

  以下檢查適用於使用輕度易燃製冷劑的裝置：
  - 實際製冷劑充注量與安裝含製冷劑部件的空間大小一致；
  - 通風機械及出風口運作良好，沒有阻塞；
  - 如果使用間接製冷迴路，應檢查二次迴路中是否存在製冷劑；
  - 設備上的標記仍然清晰可見。難以辨認的標記和標誌應予以更正；
  - 製冷管或元件安裝在不太可能暴露於任何可能腐蝕

含製冷劑元件的物質的位置，除非這些元件是由本身耐腐蝕或受到適當保護以防止腐蝕的材料製成的。

- 檢查電氣設備

電氣元件的維修和保養應包括初始安全檢查和元件檢查程序。如果存在可能危及安全的故障，則在得到令人滿意的處理之前，不得將電源連接到電路。如果不能立即糾正故障但需要繼續運行，則應使用適當的臨時解決方案。這應報告給設備擁有者，以便通知各方。

初步安全檢查應包括：

- 電容器已放電：應以安全的方式進行，以避免產生火花的可能性;
- 在為系統充注、恢復或吹掃系統時，不會有帶電的電氣元件和電線暴露在外;
- 接地是連續的。

- 無火源

任何人在進行與製冷系統有關的工作時，如涉及暴露任何管道工程，則不得以可能導致火災或爆炸危險的方式使用任何火源。所有可能的火源，包括吸煙，都應遠離安裝、維修、拆除和處置的地點，在此期間製冷劑可能會釋放到周圍空間。

在開始工作之前，應調查設備周圍的區域，以確保沒有易燃危險或着火風險。應張貼禁止吸煙標誌。

- 修復密封部件

在維修密封元件期間，在拆除密封蓋等之前，應斷開所有電源與正在維修的設備的連接。如果在維修期間絕對需要為設備供電，則應在最關鍵的點放置永久運行的洩漏檢測裝置，以警告潛在的危險情況。

應特別注意以下事項，以確保在電氣元件上工作時，外殼不會發生變化，從而影響保護水準。這包括電纜損壞、連接數量過多、端子未按原始規格製造、密封件損壞、密封套安裝不正確等。

- 確保設備安裝牢固。
- 確保密封件或密封材料沒有降解到不再用於防止易燃環境進入的程度。更換零件應符合製造商的規格。

提示：使用矽密封膠會抑制某些類型的洩漏檢測設備的有效性。本質安全元件在處理之前不必隔離。

- 維修本質安全部件

不要在電路上施加任何永久性的電感或電容負載，除非確保這不會超過所用設備允許的允許電壓和電流。

本質安全元件是唯一可以在易燃環境中工作的類型。測試設備應處於正確的額定值。

僅將零部件更換為製造商指定的零件。其他部件可能會因洩漏而點燃大氣中的製冷劑。

- 布線

檢查布線不會受到磨損、腐蝕、過壓、振動、夏普邊緣或任何其他不利環境影響。檢查還應考慮壓縮機或風扇等來源的老化或持續振動的影響。

- 洩漏檢測方法

檢漏液適用於大多數製冷劑，但應避免使用含氯清潔劑，因為氯可能會與製冷劑發生反應並腐蝕銅管。

- 檢測輕度易燃製冷劑

在任何情況下，均不得使用潛在的點火源來搜索或檢測製冷劑洩漏。不得使用鹵化物焊炬（或任何其他使用明火的探測器）。

以下洩漏檢測方法適用於所有製冷劑系統。

電子檢漏儀可用於檢測製冷劑洩漏，但在輕度易燃製冷劑的情況下，靈敏度可能不夠，或者可能需要重新校準。（檢測設備應在無製冷劑區域校準。確保 檢測器不是潛在的點火源，並且適用於所使用的製冷劑。

洩漏檢測設備應設定為製冷劑***LFL***的百分比，並應根據所使用的製冷劑進行校準，並確認適當的氣體百分比（最大 25%）。

檢漏液也適用於大多數製冷劑，但應避免使用含氯的清潔劑，因為氯可能會與製冷劑發生反應並腐蝕銅管。

提示：檢漏液的示例包括

- 氣泡法，
- 螢光法試劑。

如果懷疑有洩漏，應清除/熄滅所有明火。

如果發現製冷劑洩漏需要釬焊，則應從系統中回收所有製冷劑，或（透過截止閥）隔離在系統遠離洩漏的部分。製冷劑的去除應根據第DD.9條進行。

- 移除和拆除

當進入製冷劑迴路進行維修或出於任何其他目的時，應使用常規程序。然而，對於輕度易燃的製冷劑，重要的是要遵循最佳實踐，因為可燃性是一個考慮因素。應遵守以下程序：

- 去除製冷劑；
- 用惰性氣體吹掃迴路；
- 拆除；
- 用惰性氣體吹掃；
- 透過切割或釬焊打開電路。

製冷劑充注量應回收到正確的回收鋼瓶中。對於含有易燃製冷劑的設備，應使用無氧氮氣吹掃系統，以使設備可以安全地使用輕度易燃製冷劑。

此過程可能需要重複多次。不得使用壓縮空氣或氧氣吹掃製冷劑系統。

對於含有輕度易燃製冷劑的器具，製冷劑的吹掃應透過用無氧氮氣打破系統中的真空並繼續填充直到達到工作壓力，然後排放到大氣中，最後拉至真空來實現。

應重複此過程，直到系統內沒有製冷劑。當使用最終的無氧氮氣充注時，系統應將排放至大氣壓，以便進行工作。如果要對管道進行釬焊操作，此操作絕對至關重要。

確保真空泵的出口不靠近任何潛在的點火源，並且通風良好。

- 充注程序

除常規充注程序外，還應遵循以下要求。

- 確保在使用充注設備時不會發生不同製冷劑的污染。軟管或管路應盡可能短，以盡量減少其中所含的製冷劑量。
- 氣瓶應根據說明保持在適當的位置。
- 確保在向系統充注製冷劑之前將製冷系統接地。
- 充注完成後（如果尚未）為系統貼上標籤。
- 應格外小心，不要使製冷系統裝得太滿。

在為系統加註之前，應使用適當的吹掃氣體對其進行壓力測試。系統應在充注完成時但在調試之前進行洩漏測試。在離開現場之前，應進行後續洩漏測試。

- 報廢處理

在執行此程序之前，技術人員必須完全熟悉設備及其所有細節。建議安全回收所有製冷劑的良好做法。在執行任務之前，應採集油和製冷劑樣本，以防在重新使用回收的製冷劑之前需要進行分析。在任務開始之前，必須有電力可用。

a） 熟悉設備及其操作。

b） 電氣隔離系統。

c） 在嘗試該程序之前，請確保：

- 如有需要，可提供機械處理設備，以處理製冷劑氣瓶;
- 所有個人防護設備均已準備就緒並得到正確使用;
- 恢復過程始終由合格人員監督;
- 回收設備和氣瓶符合適當的標準。

d） 如果可能，抽空製冷劑系統。

e） 如果無法實現真空，請製作一個歧管，以便可以從系統的各個部分去除製冷劑。

f） 在進行回收之前，確保氣瓶位於秤上。

g） 啟動恢復機並按照製造商的說明進行操作。

h） 不要將氣瓶裝得太滿。（不超過 80% 體積的液體電荷）。

i） 不要超過氣缸的最大工作壓力，即使是暫時的。

j） 當氣瓶正確填充並完成過程後，確保及時將氣瓶和設備從現場移走，並關閉設備上的所有隔離閥。

k） 回收的製冷劑不得充入另一個製冷系統，除非經過清潔和檢查。

- 標籤

設備應貼上標籤，說明其已停用並清空製冷劑。標籤應註明日期並簽名。對於含有輕度易燃製冷劑的設備，請確保設備上有標籤，說明設備含有易燃製冷劑。

- 回收

從系統中去除製冷劑時，無論是用於維修還是停用，建議安全去除所有製冷劑的良好做法。

將製冷劑輸送到鋼瓶中時，確保僅使用合適的製冷劑回收鋼瓶。確保有正確數量的氣瓶可用於容納系統總裝料。所有要使用的鋼瓶都指定用於回收的製冷劑，並貼有該製冷劑的標籤（即用於回收製冷劑的特殊鋼瓶）。氣瓶應配有泄壓閥和相關的截止閥，工作狀態良好。在回收之前，將空的回收鋼瓶抽空，並在可能的情況下進行製冷。

回收設備應處於良好的工作狀態，並附有一套關於手頭設備的說明，並應適用於回收所有適當的製冷劑，包括輕度易燃製冷劑（如適用）。

此外，應提供一套經過校準的秤，並處於良好的工作狀態。軟管應配有無洩漏的斷開接頭，並且狀況良好。在使用回收機之前，請檢查它是否處於令人滿意的工作狀態，是否得到適當的維護，以及任何相關的電氣元件是否密封，以防止在製冷劑釋放時着火。如有疑問，請諮詢製造商。

回收的製冷劑應裝在正確的回收鋼瓶中返回製冷劑供應商，並安排相關的廢物轉運單。不要在回收裝置中混合製冷劑，尤其是不要在鋼瓶中混合製冷劑。

如果要去除壓縮機或壓縮機油，請確保它們已排空到可接受的水準，以確保輕度易燃製冷劑不會殘留在潤滑劑中。在將壓縮機退還給供應商之前，應進行抽真空過程。只能對壓縮機本體進行電加熱，以加速這一過程。當油從系統中排出時，應安全地進行。

- 常規

管道的安裝應保持在最低限度。

應遵守國家燃氣規例。

根據22.118進行的機械連接應便於維護。

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