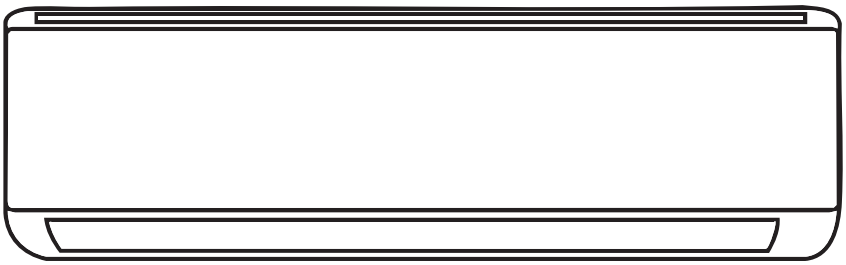
NIRVANA
CONFORT

SPLIT TYPE AIR CONDITIONER
INSTRUCTION MANUAL



Online Manuals / Manuels français en ligne

This instruction manual contains important information and recommendations that must be followed to ensure optimal performance of the air conditioner.

Thank you.

CONTENTS

* The design and specifications are subject to change without prior notice for product improvement. Consult the sales agency or manufacturer for details.
* The shape and position of buttons and indicators may vary according to the model, but their functions are the same.

SAFETY PRECAUTIONS

SAFETY RULES AND RECOMMENDATIONS FOR THE INSTALLER

1. **R**ead this guide before installing and using the appliance.
2. **D**uring installation of the indoor and outdoor units, access to the working area shall be prohibited to children to prevent accidents.
3. **E**nsure that the base of the outdoor unit is firmly secured.
4. **C**heck that no air can enter the refrigerant system and check for refrigerant leaks when moving the air conditioner.
5. **P**erform a test cycle after installation and record the operating data.
6. **P**rotect the indoor unit with a fuse of suitable capacity for the maximum input current, or with another overload protection device.
7. **E**nsure that the mains voltage corresponds to the rating plate. Keep the switch or power plug clean. Insert the power plug correctly and firmly into the socket to avoid the risk of electric shock or fire due to insufficient contact.
8. **C**heck that the socket is suitable for the plug; otherwise, have the socket replaced.
9. **T**he appliance must be equipped with means of disconnection from the supply mains with contact separation in all poles, providing full disconnection under “overvoltage category III” conditions. These means must be incorporated in the fixed wiring in accordance with applicable wiring rules.
10. **T**he air conditioner must be installed by professional or qualified personnel.
11. **D**o not install the appliance less than 50 cm from flammable substances (alcohol, etc.) or from pressurized containers (e.g., spray cans).
12. **I**f the appliance is used in areas without ventilation, precautions must be taken to prevent any refrigerant leaks from remaining in the environment and creating a fire hazard.
13. **P**ackaging materials are recyclable and shall be disposed of in appropriate separate waste bins. Dispose of the air conditioner at the end of its service life at a designated waste collection center.
14. **O**perate the air conditioner only as instructed in this manual. These instructions do not cover every possible condition or situation; therefore, common sense and caution are always required during installation, operation, and maintenance.
15. **T**he appliance must be installed in accordance with applicable national regulations.
16. **B**efore accessing the terminals, all power circuits must be disconnected from the power supply.
17. **T**he appliance shall be installed in accordance with national wiring regulations.
18. **T**his appliance may be used by children aged 8 years and above and by persons with reduced physical, sensory, or mental capabilities, or lack of experience and knowledge, if they have been given supervision or instruction regarding safe use and understand the associated hazards. Children shall not play with the appliance. Cleaning and user maintenance shall not be performed by children without supervision.

SAFETY PRECAUTIONS

SAFETY RULES AND RECOMMENDATIONS FOR THE INSTALLER

19. **D**o not attempt to install the air conditioner alone; always contact specialized technical personnel.

20. **C**leaning and maintenance must be performed by specialized technical personnel. Always disconnect the appliance from the mains supply before performing any cleaning or maintenance.

21. **E**nsure that the mains voltage corresponds to that indicated on the rating plate. Keep the switch or power plug clean. Insert the plug correctly and firmly into the socket to avoid the risk of electric shock or fire caused by insufficient contact.

22. **D**o not pull out the plug to turn off the appliance while it is operating, as this could create a spark and cause a fire.

23. **T**his appliance is designed for air conditioning domestic environments and must not be used for any other purpose, such as drying clothes or cooling food.

24. **A**lways operate the appliance with the air filter installed. Using the air conditioner without an air filter may cause excessive dust accumulation on internal components and may lead to malfunction.

25. **T**he user is responsible for having the appliance installed by a qualified technician, who must ensure that earthing/grounding is carried out in accordance with current legislation and must install a thermomagnetic circuit breaker.

26. **B**atteries in the remote controller must be recycled or disposed of properly. Dispose of spent batteries as sorted municipal waste at an appropriate collection point.

27. **A**void prolonged direct exposure to cold airflow. Extended exposure may be harmful, particularly for children, elderly persons, or individuals with health concerns.

28. **I**f the appliance emits smoke or a burning smell, immediately disconnect the power supply and contact the Service Center.

29. **C**ontinued operation under such abnormal conditions may cause fire or electric shock.

30. **H**ave repairs performed only by an authorized Service Center of the manufacturer. Incorrect repair may expose the user to the risk of electric shock.

31. **S**witch off the automatic circuit breaker if the appliance will not be used for an extended period. The airflow direction must be properly adjusted.

32. **D**irect the flaps downward in heating mode and upward in cooling mode.

33. **E**nsure that the appliance is disconnected from the power supply when it will remain unused for a long period and before performing any cleaning or maintenance.

34. Selecting an appropriate temperature setting can help prevent damage to the appliance.

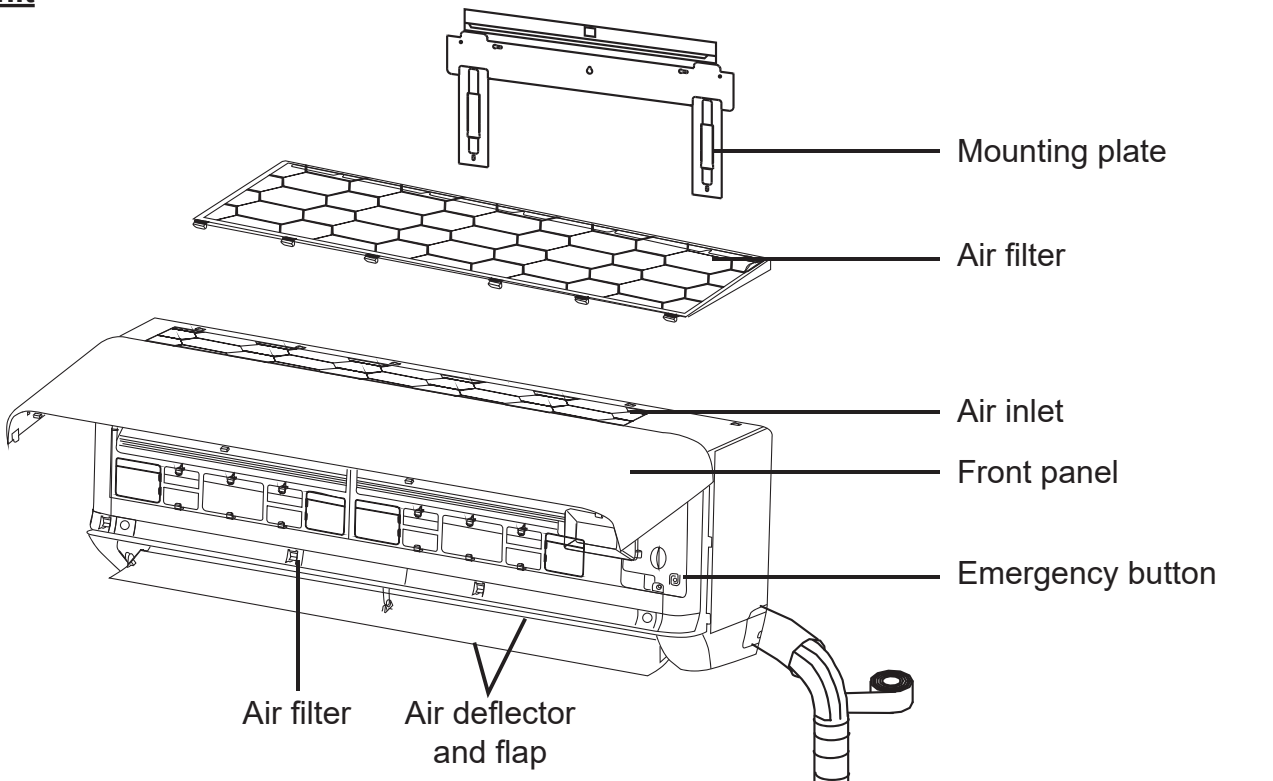
SAFETY PRECAUTIONS

SAFETY RULES AND PROHIBITIONS

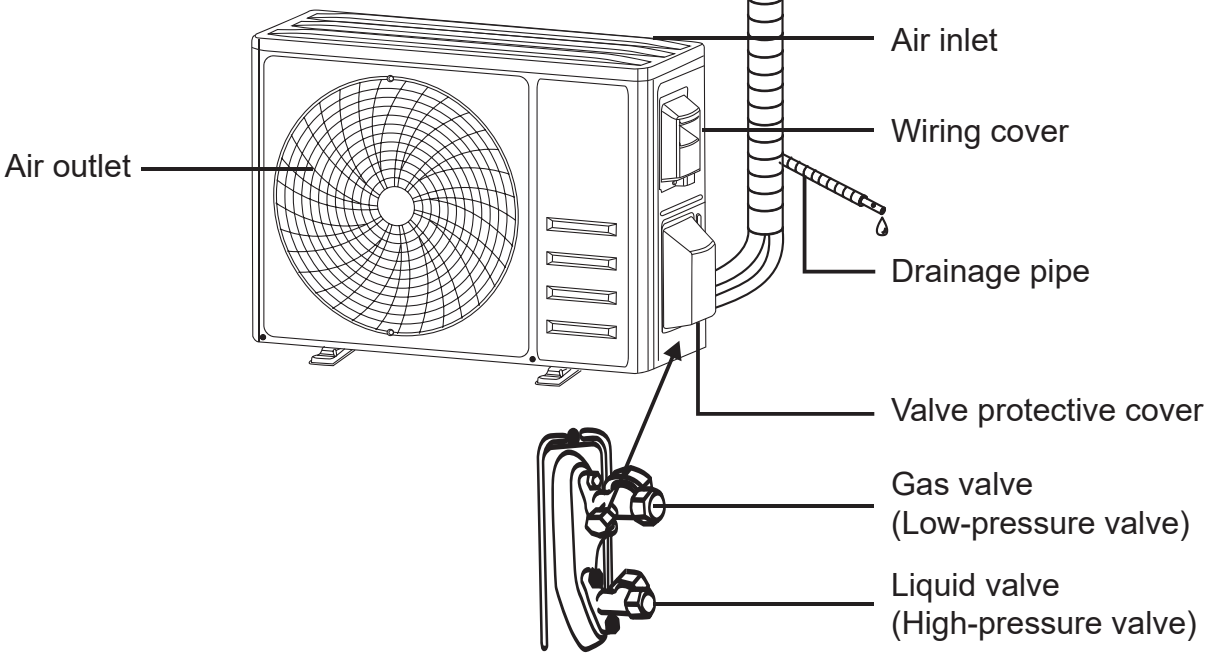
1. Do not bend, pull, or compress the power cord, as this may damage it. Electric shock or fire may result from a damaged power cord. Only specialized technical personnel shall replace a damaged power cord.
2. Do not use extension cords or multi-plug adapters.
3. Do not touch the appliance when barefoot or when parts of the body are wet or damp.
4. Do not obstruct the air inlet or outlet of the indoor or outdoor unit. Obstruction will reduce operating efficiency and may lead to malfunction or damage.
5. Do not alter the design or characteristics of the appliance in any way.
6. Do not install the appliance in environments where the air may contain gas, oil, or sulphur, or near heat sources.
7. 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 are supervised or instructed on safe use by a person responsible for their safety.
8. Do not climb onto the appliance or place heavy or hot objects on it.
9. Do not leave windows or doors open for extended periods while the air conditioner is operating.
10. Do not direct airflow toward plants or animals.
11. Prolonged direct exposure to cold airflow from the air conditioner may have negative effects on plants and animals.
12. Do not allow the air conditioner to come into contact with water. Damage to electrical insulation may occur, creating a risk of electric shock.
13. Do not climb onto or place any objects on the outdoor unit.
14. Never insert sticks or similar objects into the appliance; injury may result.
15. Children must be supervised to ensure they do not play with the appliance. If the supply cord is damaged, it must be replaced by the manufacturer, its service agent, or similarly qualified personnel to avoid a hazard.

NAME OF PARTS

Indoor Unit



Outdoor Unit

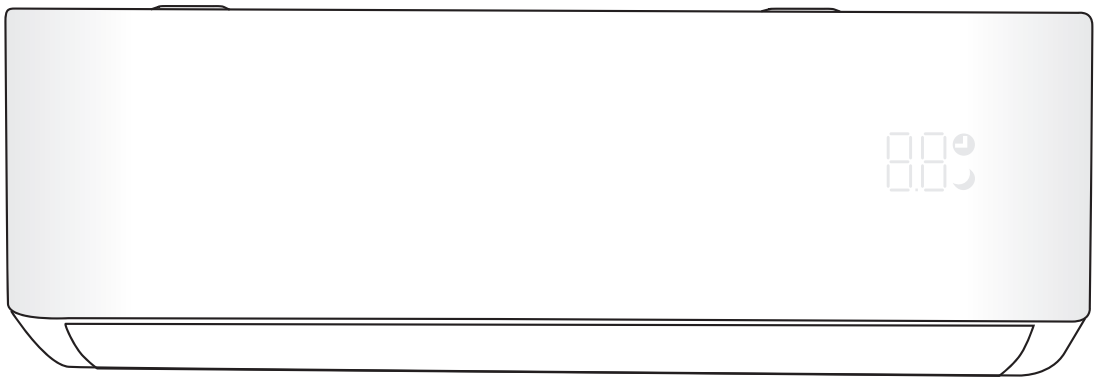


with the protective cover removed

Note: The figure shown may differ from the actual product. In all cases, the actual product shall be considered the standard.

NAME OF PARTS

Indoor Display



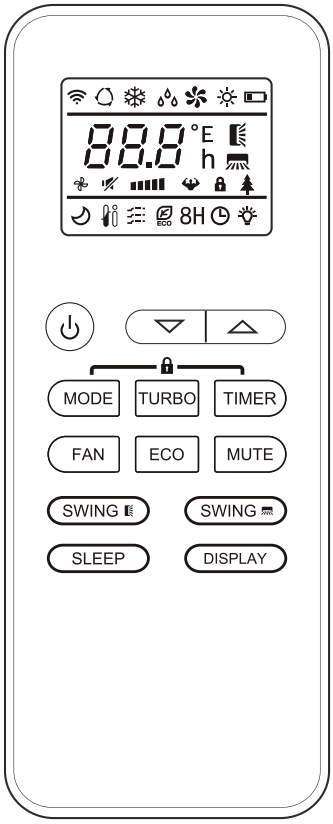
N°	LED	Function
1		Indicator for Timer, Temperature and Error codes.
2		Lights up during Timer operation.
3		SLEEP mode indicator

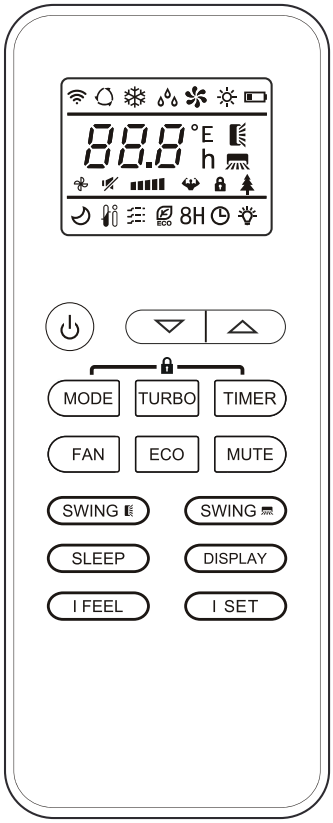
⚠ The shape and position of switches and indicators may vary depending on the model, but their functions are the same.

REMOTE CONTROL

Remote control DISPLAY

No.	Symbol	Meaning
1		Battery indicator
2		Auto mode
3		Cooling mode
4		Dry mode
5		Fan-only mode
6		Heating mode
7		ECO mode
8		Timer
9		Temperature indicator
10		Fan speed: Auto / Low / Low-Mid / Mid / Mid-High / High
11		MUTE function
12		TURBO function
13		Up-down auto swing
14		Left-right auto swing
15		SLEEP function
16		HEALTH function
17		I FEEL function
18	8H	8°C heating function
19		Signal indicator
20		GENTLE WIND function
21		CHILD-LOCK function
22		Display ON/OFF





⚠ The display and some functions of the remote control may vary depending on the model.

REMOTE CONTROL

No.	Button	Function
1	⏻	Turns the air conditioner ON/OFF
2	∧	Increases the temperature or timer setting hours
3	∨	Decreases the temperature or timer setting hours
4	MODE	Selects the operating mode (AUTO, COOL, DRY, FAN, HEAT)
5	ECO	Activates/deactivates the ECO function
		Long press activates/deactivates the 8°C heating function (model dependent)
6	TURBO	Activates/deactivates the TURBO function
7	FAN	Selects fan speed: Auto / Mute / Low / Low-Mid / Mid / Mid-High / High / Turbo
8	TIMER	Sets the ON/OFF timer
9	SLEEP	Activates/deactivates the SLEEP function
10	DISPLAY	Turns the indoor LED display ON/OFF
11	SWING	Starts/stops horizontal louver movement or sets the up/down air-flow direction
12	SWING	Starts/stops vertical louver movement or sets the left/right airflow direction
13	I FEEL	Activates/deactivates the I FEEL function
14	MUTE	Activates/deactivates the MUTE function
		Long press activates/deactivates the GEN function (model dependent)
15	MODE + TIMER	Activates/deactivates the CHILD-LOCK function
16	SWING + SWING	Activates/deactivates the SELF-CLEAN function (model dependent)
17	FAN + MUTE	Activates/deactivates the GENTLE WIND function (model dependent)
18	SLEEP + DISPLAY	Activates/deactivates the HEALTH function (model dependent)
19	I SET	Memorizes the set temperature, operating mode, and fan speed according to your preferences

⚠ The display and some functions of the remote control may vary depending on the model.

⚠ The shape and position of buttons and indicators may vary depending on the model, but their functions are the same.

⚠ The unit confirms correct button operation with an audible beep

REMOTE CONTROL

Battery Replacement

Remove the battery cover from the rear of the remote control by sliding it in the direction indicated by the arrow.

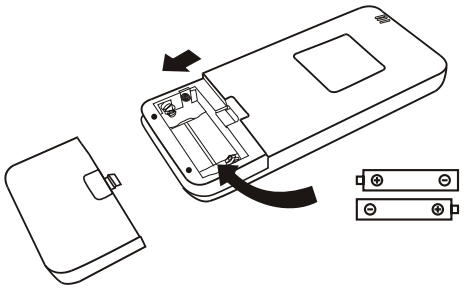
Install the batteries according to the polarity (+ / –) shown on the remote control.
Reinstall the battery cover by sliding it back into place.

⚠ Use two LR03 AAA (1.5 V) batteries.

Do not use rechargeable batteries.

Replace depleted batteries with new batteries of the same type when the display becomes unreadable.

Do not dispose of batteries as unsorted municipal waste. Batteries must be collected separately for proper treatment.



⚠ Cooling-Only / Heat Pump Selection (Model Dependent)

For some models, when batteries are inserted for the first time, the remote controller allows selection between cooling-only and heat pump control types. After inserting the batteries, turn off the remote controller and proceed as follows:

1. Press and hold the MODE button until the (❄) icon flashes to set cooling-only mode.
2. Press and hold the MODE button until the (☼) icon flashes to set heat pump mode.

Note: If the remote control is set to cooling-only mode, the heating function cannot be activated on heat pump units. To reset this selection, remove the batteries and reinstall them.

⚠ Temperature Unit Selection (°C / °F) (Model Dependent)

1. Press and hold the TURBO button for more than 5 seconds to enter temperature unit selection mode.
2. Continue holding the TURBO button until the display switches between °C and °F.
3. Release the button and wait 5 seconds to confirm the selection.

Operating Notes:

1. Point the remote control toward the air conditioner.
2. Ensure there are no objects between the remote control and the signal receiver on the indoor unit.
3. Do not expose the remote control to direct sunlight.
4. Keep the remote control at least 1 m away from televisions or other electrical appliances.

REMOTE CONTROL

COOLING MODE

COOL ❄ The cooling function allows the air conditioner to cool the room and reduce air humidity simultaneously.

To activate cooling mode (COOL), press the MODE button until the symbol ❄ appears on the display.

Use the ⌄ or ⌃ button to set a temperature lower than the room temperature.

FAN MODE (Not FAN button)

FAN Fan mode provides air ventilation only.

To activate FAN mode, press the MODE button until the symbol appears on the display.

DRY MODE

DRY This function reduces air humidity to improve comfort.

To activate DRY mode, press the MODE button until the symbol appears on the display. An automatic preset function will be activated.

AUTO MODE

AUTO Automatic operation mode.

To activate AUTO mode, press the MODE button until the symbol appears on the display.

In AUTO mode, the operating mode is automatically selected according to room temperature.

HEATING MODE

HEAT ☼ The heating function allows the air conditioner to heat the room.

To activate heating mode (HEAT), press the MODE button until the symbol ☼ appears on the display.

Use the ⌄ or ⌃ button to set a temperature higher than the room temperature.

⚠ During HEATING operation, the unit may automatically start a defrost cycle to remove frost from the condenser and restore heat exchange efficiency.

The defrost cycle typically lasts 2 to 10 minutes. During defrosting, the indoor fan will stop. After defrosting, HEATING operation resumes automatically.

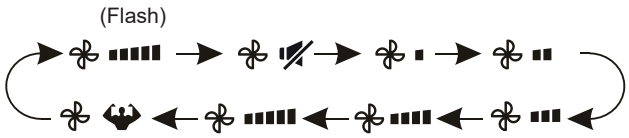
⚠ **(North American market only)**

Press the ECO button 10 times within 8 seconds during HEATING mode to initiate forced defrosting. It will defrost the outdoor ice much faster.

FAN SPEED FUNCTION (FAN BUTTON)

FAN Press the FAN button to change the fan speed cyclically:

AUTO / MUTE / LOW / LOW-MID / MID / MID-HIGH / HIGH / TURBO



CHILD-LOCK FUNCTION

1. Press and hold the MODE and TIMER buttons simultaneously to activate the child-lock function. Repeat the procedure to deactivate it.
2. When this function is enabled, no buttons will operate.

REMOTE CONTROL

TIMER FUNCTION — TIMER ON

TIMER Automatically switches on the appliance.

When the unit is switched off, TIMER ON can be set.

To set the automatic switch-on time:

1. Press the TIMER button once to set switch-on mode; and [60h] will appear on the remote display and flash.
2. Press ⌄ or ⌃ to set the desired timer-on time. Each press adjusts the time by 0.5 hour between 0 and 10 hours, and by 1 hour between 10 and 24 hours.
3. Press the TIMER button a second time to confirm.
4. After setting TIMER ON, set the desired mode (Cool / Heat / Auto / Fan / Dry) using the MODE button. Set the desired fan speed using the FAN button, and use ⌄ or ⌃ to set the operating temperature.

To CANCEL, press the TIMER button.

TIMER FUNCTION — TIMER OFF

TIMER Automatically switches off the appliance.

When the unit is switched on, TIMER OFF can be set.

To set the automatic switch-off time:

1. Confirm the appliance is ON.
2. Press the TIMER button once to set switch-off mode. Press ⌄ or ⌃ to set the required timer time.
3. Press the TIMER button a second time to confirm.

To CANCEL, press the TIMER button.

Note: All programming must be completed within 5 seconds, otherwise the setting will be cancelled.

SWING FUNCTION

1. Press the SWING button to activate the louver.

   1.1 Press SWING to activate the horizontal flaps to swing up and down; the symbol will appear on the remote display. Press the button again to stop the swing movement at the current angle.

   1.2 Press SWING to activate the vertical deflectors to swing left and right; the symbol will appear on the remote display. Press the button again to stop the swing movement at the current angle.

2. If the vertical deflectors located under the flaps are positioned manually, they allow airflow direction to the right or left.
3. On some inverter heating models, press the horizontal SWING and vertical SWING buttons simultaneously to activate the Self-Clean function.

⚠ This adjustment must be performed while the appliance is switched off.

⚠ Never position the flaps manually; the delicate mechanism may be seriously damaged.

⚠ Never insert fingers, sticks, or other objects into the air inlet or outlet vents. Accidental contact with live parts may cause injury or damage.

TURBO FUNCTION

TURBO

To activate the Turbo function, press the TURBO button; will appear on the display. Press again to cancel this function.

In COOL / HEAT mode, selecting TURBO causes the appliance to operate in quick COOL or quick HEAT mode, using the highest fan speed to deliver strong airflow.

REMOTE CONTROL

MUTE FUNCTION

1. Press the MUTE button to activate this function; will appear on the remote display. Press again to deactivate this function.
2. When the MUTE function is active, the remote controller will display automatic fan speed, and the indoor unit will operate at the lowest fan speed to reduce operating noise.
3. Pressing the FAN or TURBO button will cancel the MUTE function. The MUTE function cannot be activated in DRY mode.

SLEEP FUNCTION

Preset automatic operating program.

Press the SLEEP button to activate the SLEEP function; will appear on the display.
Press again to cancel this function.

After 10 hours of operation in sleep mode, the air conditioner will return to the previously set mode.

I FEEL FUNCTION (optional)

Press the I FEEL button to activate this function; will appear on the remote display.
Press again to deactivate this function.

This function allows the remote control to measure the temperature at its current location and transmit this information to the air conditioner to optimize surrounding temperature and enhance comfort.

The function will automatically deactivate after 8 hours (2 hours for some modes).

ECO FUNCTION

In this mode, the appliance automatically adjusts operation to save energy.

Press the ECO button; the symbol will appear on the display, and the appliance will operate in ECO mode.
Press again to cancel this function.

Note: The ECO function is available in both cooling and heating modes.

DISPLAY FUNCTION (INDOOR DISPLAY)

Press the DISPLAY button to switch the indoor LED display OFF.

Press again to switch the LED display ON.

GEN FUNCTION (optional)

1. Turn on the indoor unit, then press and hold the MUTE button for 3 seconds to activate the function. Press and hold it again for 3 seconds to deactivate it.
2. When this function is active, briefly press the MUTE button to select the GEN level in the following order: L3 → L2 → L1 → OF
3. Select OF and wait 2 seconds to exit.

* If the indoor unit displays “0A”, use the remote control to increase the GEN level. The compressor will restart after a 3-minute delay.

SELF-CLEAN FUNCTION (optional)

Optional for some heat pump inverter appliances.

To activate this function, first turn off the indoor unit, then press the SWING and SWING buttons simultaneously.

You will hear a beep; [AC] will appear on the indoor LED display, and will appear on the remote display.

1. This function helps remove accumulated dirt, bacteria, etc. from the indoor evaporator.
2. This function runs for approximately 30 minutes and then returns to the previously set mode. You may press the button to cancel this function during operation.

   Two (2) beeps will sound when the function is finished or cancelled.

⚠ Some operating noise during this process is normal, as plastic materials expand with heat and contract with cold.

⚠ To avoid triggering safety protection features, it is recommended to operate this function under the following ambient conditions:

Indoor unit	Temp < 86°F (30°C)
Outdoor unit	41°F (5°C) < Temp < 86°F (30°C)

⚠ It is recommended to use this function every 3 months.

8°C HEATING FUNCTION (optional)

1. Press and hold the ECO button for more than 3 seconds to activate this function; [8°C] ([46°F]) will appear on the remote display. Press again to deactivate this function.
2. This function automatically starts heating when the room temperature is below 8°C (46°F) and returns to standby when the temperature reaches 9°C (48°F).
3. If the room temperature exceeds 18°C (64°F), the appliance will cancel this function automatically.

GENTLE WIND FUNCTION (optional)

1. Turn on the indoor unit and set it to COOL mode. Then press and hold the FAN and MUTE buttons simultaneously for 3 seconds to activate this function. will appear on the display.
   Repeat the same operation to deactivate it.
2. When this function is activated, the vertical flaps close automatically to provide a soft, comfortable airflow.

HEALTH FUNCTION (optional)

1. Turn on the indoor unit, then press and hold the SLEEP and DISPLAY buttons simultaneously for 3 seconds to activate this function. will appear on the display.
   Repeat the same operation to deactivate it.
2. When the HEALTH function is activated, the Ionizer / Plasma / Bipolar Ionizer / UVC lights (model dependent) are energized and operate automatically.

I SET FUNCTION (optional)

Store and recall a preferred operating setting using one button.

To store a favorite setting:

1. In any mode (COOLING / HEATING / FAN / DRY), press and hold the I SET button for more than 3 seconds.
2. When “AU” flashes on the remote controller display, the setting has been stored.

Press any button to exit. The setting can be reset by repeating steps 1 and 2.

To recall a favorite setting:

1. In any mode (COOLING / HEATING / FAN / DRY), press the I SET button once.
2. The appliance will operate according to the stored setting, and [AU] will flash on the remote controller display.
3. Press the button again or any other button to cancel this function.

OPERATION INSTRUCTIONS

- Attempting to operate the air conditioner outside the specified temperature ranges may activate the protection device and prevent normal operation. Therefore, operate the air conditioner only within the following temperature conditions.

Inverter Air Conditioner

MODE / Temperature	Heating	Cooling	Dry
Room temperature	0°C ~ 27°C (32°F ~ 80°F)	17°C ~ 32°C (63°F ~ 90°F)	
Outdoor temperature	-30°C ~ 30°C (-22°F ~ 86°F) Low-temperature heating: -30°C ~ 30°C (-22°F ~ 86°F)	T1 climate: -15°C ~ 50°C (5°F ~ 122°F) Low-temperature cooling: -15°C ~ 50°C (5°F ~ 122°F)	
		T3 climate: -15°C ~ 55°C (5°F ~ 131°F)	

When the power supply is connected, restarting the air conditioner after shutdown or switching modes during operation may activate the protection device. The compressor will resume operation after approximately 3 minutes.

- **Characteristics of Heating Operation (Applicable to Heat Pump Models)**

Preheating

When the heating function is activated, the indoor unit will perform a preheating process for approximately 2–5 minutes. After preheating, the air conditioner will begin heating and blow warm air.

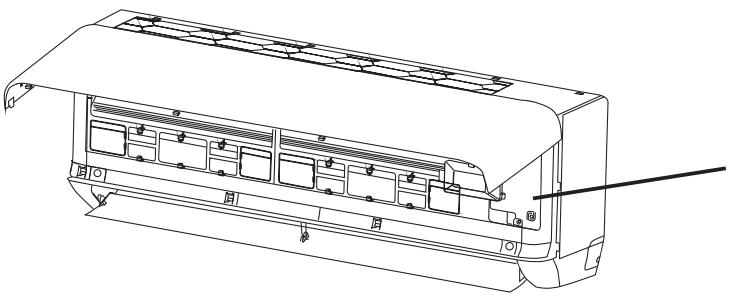
Defrosting

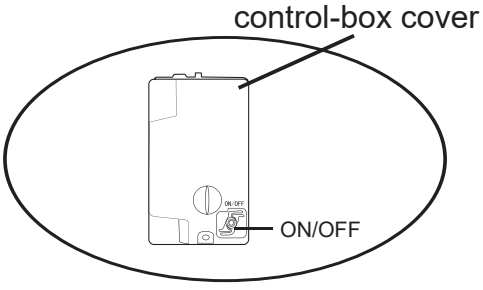
During heating operation, frost may form on the outdoor unit. The air conditioner will automatically initiate the defrosting function to improve heating efficiency. During defrosting, the indoor and outdoor fans stop operating. Heating operation resumes automatically after defrosting is completed.

- **Emergency Button**

If the remote controller fails, open the indoor unit panel and locate the emergency button on the electronic control box (Always press the emergency button using insulating material).

Current Status	Operation	Response	Entered Mode
Standby	Press the emergency button once	The unit beeps once briefly	Cooling mode
Standby	Press the emergency button twice within 3 seconds	The unit beeps twice briefly	Heating mode **(heat pump models only)**
Running	Press the emergency button once	The unit beeps continuously for a short time	Off mode





(open the panel of indoor unit)

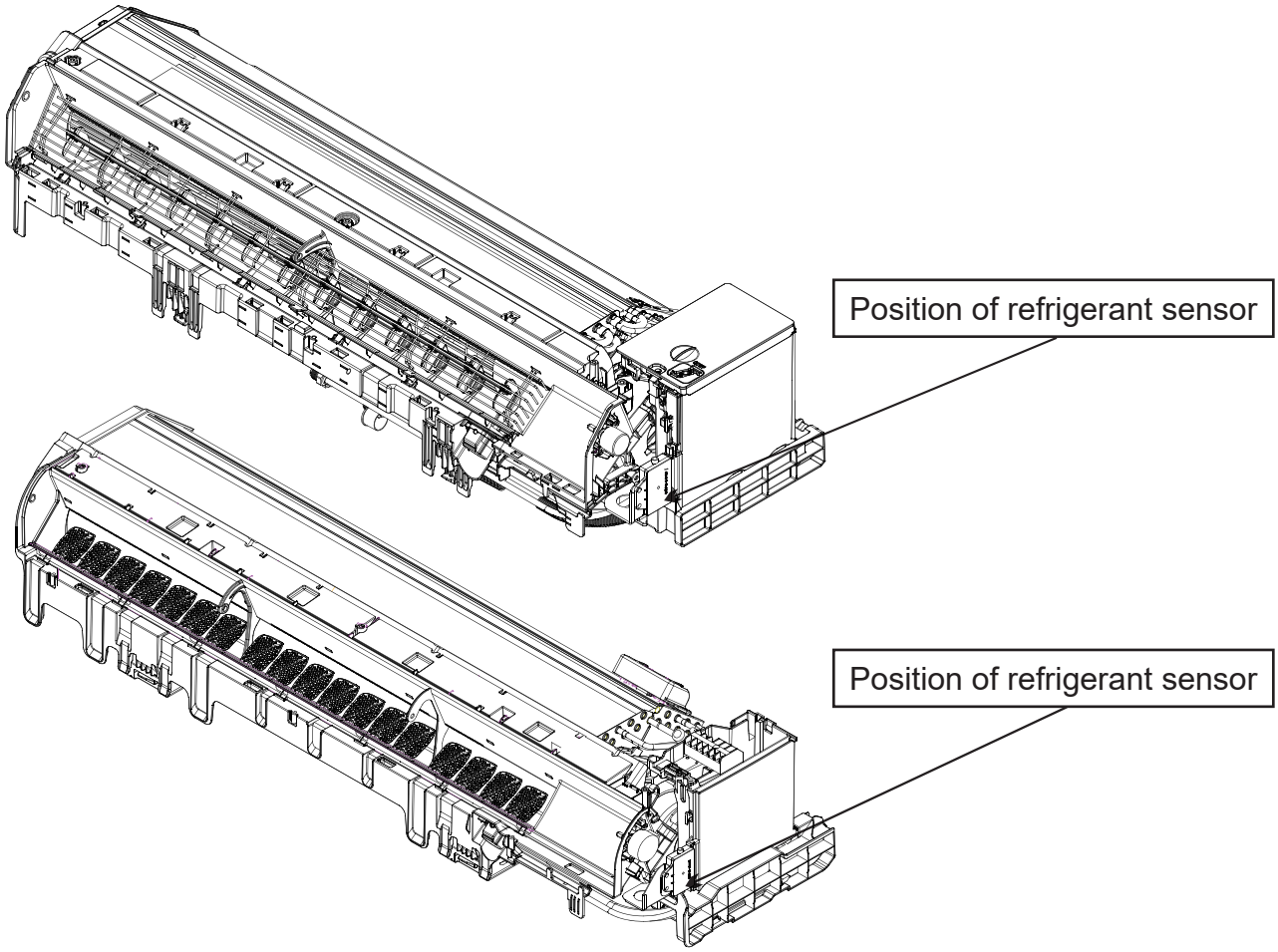
REFRIGERANT SENSOR (OPTIONAL)

Important Notes:

1. The refrigerant sensor must be serviced by qualified personnel. Only sensors specified by the manufacturer may be replaced.
2. The design life of the refrigerant sensor is 15 years. Replace the sensor within its specified service life.
3. The refrigerant sensor automatically monitors system conditions during operation. When the refrigerant concentration reaches the alarm range, the sensor will automatically start air circulation and stop the compressor.
4. Refrigerant sensor alarm indications are as follows:

Condition	Error Code
Refrigerant leak protection	Display “Hd”
Abnormal refrigerant sensor communication	Display “Fd”

5. The installation position of the refrigerant sensor is shown in the figure below. (Actual cabinet appearance may vary).

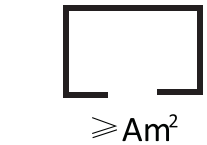


6. This unit is equipped with a refrigerant leak detection system for safety. To remain effective, the unit must remain electrically powered at all times after installation, except during servicing.
7. This refrigerant sensor shall be replaced only with a manufacturer-approved sensor.
8. LEAK DETECTION SYSTEM INSTALLED. The unit must be powered except during service.

INSTRUCTIONS FOR SERVICING (R454B)

1. Check the information in this manual to determine the space dimensions required for proper installation of the appliance, including the minimum clearances from adjacent structures.
2. The appliance shall be installed, operated, and stored in a room with a floor area greater than 4 m².
3. Pipework installation shall be kept to a minimum.
4. Pipework shall be protected from physical damage and shall not be installed in an unventilated space if the space is smaller than 4 m².
5. Compliance with national gas regulations shall be observed.
6. Mechanical connections shall be accessible for maintenance purposes.
7. Follow the instructions in this manual for handling, installing, cleaning, maintaining, and disposing of the refrigerant.
8. Ensure that ventilation openings are free of obstruction.
9. **Notice:** Servicing shall be performed only as recommended by the manufacturer.
10. **Warning:** The appliance shall be stored in a well-ventilated area where the room size meets the requirements specified for operation.
11. **Warning:** The appliance shall be stored in a room without continuously operating open flames (for example, an operating gas appliance) or ignition sources (for example, an operating electric heater).
12. The appliance shall be stored in a manner that prevents mechanical damage.
13. Personnel working on a refrigerant circuit shall hold a valid and current certificate issued by an industry-accredited assessment authority confirming competence in handling refrigerants, in accordance with recognized industry standards. Service operations shall be performed only in accordance with the equipment manufacturer's recommendations. Maintenance and repair operations requiring assistance from additional qualified personnel shall be conducted under the supervision of a person competent in handling flammable refrigerants.
14. All work procedures affecting safety shall be carried out only by competent personnel.
15. **Warning:**
    - Do not use any means to accelerate the defrosting process or to clean frost other than those recommended by the manufacturer.
    - 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.
    - Be aware that refrigerants may be odorless.

Caution: Risk of fire



Read operator's manual

Operating instructions

Read technical manual

INSTRUCTIONS FOR SERVICING (R454B)

16. Information on servicing

1) Checks to the area
   Prior to beginning work on systems containing flammable refrigerants, safety checks are required to ensure that the risk of ignition is minimized. For repairs to the refrigerating system, the following precautions shall be observed before conducting any work on the system.

2) Work procedure
   Work shall be carried out under controlled procedures to minimize the risk of flammable gas or vapor being present while work is being performed.

3) General work area
   All maintenance personnel and others working in the local area shall be instructed on the nature of the work being carried out. Work in confined spaces shall be avoided. The area around the workspace shall be cordoned off. Ensure that conditions within the area are made safe by controlling flammable materials.

4) Checking for presence of refrigerant
   The area shall be checked with an appropriate refrigerant detector prior to and during work to ensure that the technician is aware of potentially flammable atmospheres. Ensure that leak detection equipment used is suitable for flammable refrigerants, i.e., non-sparking, adequately sealed, or intrinsically safe.

5) Presence of fire extinguisher
   If any hot work is to be performed on refrigeration equipment or associated parts, appropriate fire extinguishing equipment shall be readily available. A dry powder or CO_2 fire extinguisher shall be located adjacent to the charging area.

6) No ignition sources
   No person carrying out work on a refrigeration system that involves exposing pipework shall use any ignition sources that may create a risk of fire or explosion. All possible ignition sources, including smoking, shall be kept sufficiently far from the site during installation, repair, removal, and disposal, when refrigerant release is possible. Before work begins, the surrounding area shall be inspected to confirm the absence of flammable hazards or ignition risks. “No Smoking” signs shall be displayed.

7) Ventilated area
   Ensure that the work area is open or adequately ventilated before opening the system or performing any work that generates heat. Adequate ventilation shall be maintained throughout the duration of the work. Ventilation should safely disperse any released refrigerant and preferably discharge it outdoors.

8) Checks to the refrigeration equipment
   When electrical components are replaced, they shall be suitable for the intended purpose and meet the correct specifications. The manufacturer’s maintenance and service guidelines shall be followed at all times. If there is any uncertainty, consult the manufacturer’s technical department for assistance.

The following checks shall be applied to installations using flammable refrigerants:

- The refrigerant charge size shall be appropriate for the room size in which refrigerant-containing parts are installed.
- Ventilation equipment and outlets shall be operating correctly and shall not be obstructed.
- If an indirect refrigerating circuit is used, the secondary circuit shall be checked for the presence of refrigerant.
- Equipment markings shall remain visible and legible. Any illegible markings or signs shall be corrected.
- Refrigeration pipes or components shall be installed in locations where they are unlikely to be exposed to substances that may corrode refrigerant-containing components, unless such components are made of corrosion-resistant materials or are adequately protected against corrosion.

9) Checks to Electrical Devices
Repair and maintenance of electrical components shall include initial safety checks and component inspections. If a fault exists that could compromise safety, no electrical supply shall be connected to the circuit until the fault has been satisfactorily resolved. If immediate correction is not possible and continued operation is required, an appropriate temporary solution shall be implemented and reported to the equipment owner so that all parties are informed.
Initial safety checks shall include:

- Verification that capacitors are discharged, performed in a safe manner to prevent sparking.
- Confirmation that no live electrical components or wiring are exposed during charging, recovery, or purging operations.
- Verification of continuity of earth bonding.

17. Repairs to Sealed Components

1) During repairs to sealed components, all electrical supplies shall be disconnected from the equipment before any sealed covers are removed. If it is absolutely necessary to supply power during servicing, a continuously operating leak detection device shall be installed at the most critical location to warn of a potentially hazardous situation.
2) Particular attention shall be given to ensure that work on electrical components does not alter the casing in a manner that reduces its level of protection. This includes damage to cables, excessive numbers of connections, terminals not meeting original specifications, damaged seals, or incorrect gland installation. Ensure that the apparatus is securely mounted. Ensure that seals or sealing materials have not deteriorated to the point where they no longer prevent the ingress of flammable atmospheres. Replacement parts shall comply with the manufacturer's specifications.
NOTE: The use of silicone sealant may reduce the effectiveness of certain types of leak detection equipment. Intrinsically safe components do not require isolation prior to work.

18. Repair to Intrinsically Safe Components

Do not apply permanent inductive or capacitive loads to the circuit unless it has been verified that the permissible voltage and current ratings of the equipment will not be exceeded. Intrinsically safe components are the only components permitted to be worked on while energized in the presence of a flammable atmosphere. Test equipment shall be correctly rated. Replace components only with parts specified by the manufacturer. The use of unauthorized parts may result in ignition of refrigerant in the event of a leak.

INSTRUCTIONS FOR SERVICING (R454B)

19. Cabling

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

20. Detection of flammable refrigerants

Under no circumstances shall potential sources of ignition be used for searching for or detecting refrigerant leaks. A halide torch (or any other detector using a naked flame) shall not be used.

21. Leak detection methods

The following leak detection methods are deemed acceptable for systems containing flammable refrigerants.

Electronic leak detectors shall be used to detect flammable refrigerants; however, their sensitivity may be insufficient or may require recalibration. Detection equipment shall be calibrated in a refrigerant-free area. Ensure that the detector does not constitute a potential source of ignition and is suitable for the refrigerant used. Leak detection equipment shall be set to a percentage of the LFL of the refrigerant and calibrated to the refrigerant employed, with the appropriate gas percentage confirmed (maximum 25%).

Leak detection fluids are suitable for use with most refrigerants; however, detergents containing chlorine shall be avoided, as chlorine may react with the refrigerant and corrode copper pipework. If a leak is suspected, all naked flames shall be removed or extinguished. If a refrigerant leak requiring brazing is found, all 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. Oxygen-free nitrogen (OFN) shall then be purged through the system both before and during the brazing process.

22. Removal and evacuation

When breaking into the refrigerant circuit to carry out repairs or for any other purpose, conventional procedures shall be used. However, best practice shall be followed, as flammability is a consideration. The following procedure shall be adhered to:

- Remove refrigerant;
- Purge the circuit with inert gas;
- Evacuate;
- Purge again with inert gas;
- Open the circuit by cutting or brazing.

The refrigerant charge shall be recovered into appropriate recovery cylinders. The system shall be flushed with OFN to render the unit safe. This process may need to be repeated several times. Compressed air or oxygen shall not be used for this task.

Flushing shall be achieved by breaking the vacuum with OFN and filling the system until working pressure is reached, then venting to atmosphere, and finally evacuating to a vacuum. This procedure shall be repeated until no refrigerant remains in the system. When the final OFN charge is used, the system shall be vented to atmospheric pressure to allow work to proceed. This operation is essential if brazing operations on the pipework are to be performed. Ensure that the vacuum pump outlet is not located near any ignition sources and that adequate ventilation is available.

23. Decommissioning

Before carrying out this procedure, the technician shall be fully familiar with the equipment and all its details. It is considered good practice to safely recover all refrigerants. Prior to commencing the task, oil and refrigerant samples shall be taken in case analysis is required before reuse of reclaimed refrigerant. Electrical power shall be available before the task is initiated.

INSTRUCTIONS FOR SERVICING (R454B)

1) Become familiar with the equipment and its operation.
2) Isolate the system electrically.
3) Before attempting the procedure, ensure that:
4) mechanical handling equipment is available, if required, for handling refrigerant cylinders;
   - all personal protective equipment is available and used correctly;
   - the recovery process is supervised at all times by a competent person;
   - recovery equipment and cylinders comply with the appropriate standards.
5) Pump down the refrigerant system, if possible.
6) If a vacuum is not possible, use a manifold so that refrigerant can be removed from various parts of the system.
7) Ensure that the cylinder is positioned on the scales before recovery begins.
8) Start the recovery machine and operate it in accordance with the manufacturer's instructions.
9) Do not overfill cylinders (maximum 80% liquid volume charge).
10) Do not exceed the maximum working pressure of the cylinder, even temporarily.
11) After the cylinders have been filled correctly and the process is complete, remove the cylinders and equipment promptly from the site and ensure that all isolation valves on the equipment are closed.
12) Recovered refrigerant shall not be charged into another refrigeration system unless it has been properly cleaned and verified.

24. Labeling

Equipment shall be labeled to indicate that it has been decommissioned and emptied of refrigerant. The label shall be dated and signed. Ensure that labels indicating the presence of flammable refrigerant remain affixed to the equipment.

25. Recovery

When removing refrigerant from a system, either for servicing or decommissioning, it is recommended practice to ensure that all refrigerants are recovered safely.

When transferring refrigerant into cylinders, use only approved refrigerant recovery cylinders. Ensure that a sufficient number of cylinders is available to contain the total system charge. All cylinders used shall be designated for the recovered refrigerant and labeled accordingly (i.e., special cylinders for refrigerant recovery). Cylinders shall be fitted with a pressure-relief valve and associated shut-off valves in proper working condition.

Empty recovery cylinders shall be evacuated and, if possible, cooled before recovery.

Recovery equipment shall be in good working order and supplied with operating instructions. It shall be suitable for the recovery of all applicable refrigerants, including flammable refrigerants where relevant. A set of calibrated weighing scales shall be available and in proper working condition. Hoses shall be complete, leak-free, and fitted with proper disconnect couplings.

Before operating the recovery machine, verify that it is in satisfactory condition, properly maintained, and that all associated electrical components are sealed to prevent ignition in the event of refrigerant release. Consult the manufacturer if there is any uncertainty.

Recovered refrigerant shall be returned to the refrigerant supplier in the correct recovery cylinder, and the appropriate waste transfer documentation shall be completed. Do not mix refrigerants in recovery units or cylinders.

If compressors or compressor oil are removed, ensure that they are evacuated to an acceptable level to prevent flammable refrigerant from remaining in the lubricant. Evacuation shall be completed before returning the compressor to the supplier. Only electric heating of the compressor body shall be used to accelerate this process. Draining oil from the system shall be performed safely.

INSTRUCTIONS FOR SERVICING (R454B)

26. WARNING

- Do not use any means to accelerate the defrosting process or for cleaning other than those recommended by the manufacturer.
- The appliance shall be stored in a room without continuously operating ignition sources (for example, open flames, operating gas appliances, or operating electric heaters).
- Do not pierce or burn. Be aware that refrigerants may not contain an odour.

27. Statement

1) Use a flammable gas detector to check the container before unloading and opening it.
2) No fire sources and no smoking are permitted.
3) Pipework shall be protected from physical damage and, in the case of flammable refrigerants, shall not be installed in an unventilated space if that space is smaller than Amin as specified in Annex GG, except for A2L refrigerants where installed pipes comply with clause 22.116. In the case of field charging, the effect on refrigerant charge caused by different pipe lengths shall be quantified.
4) Compliance with national gas regulations shall be observed.
5) Mechanical connections made in accordance with clause 22.118 shall be accessible for maintenance purposes.
6) Pipework, including piping materials, routing, and installation, shall be protected against physical damage during operation and service, and shall comply with national and local codes and standards, such as ASHRAE 15, ASHRAE 15.2, the IAPMO Uniform Mechanical Code, the ICC International Mechanical Code, or CSA B52. All field joints shall be accessible for inspection before being covered or enclosed.
7) After completion of field piping for split systems, the field pipework shall be pressure-tested with an inert gas and then vacuum-tested prior to refrigerant charging, in accordance with the specified requirements.
8) The appliance shall be stored in a manner that prevents mechanical damage.
9) Maintenance, service, and repair operations shall be performed only by competent personnel.

   Every working procedure that affects safety shall be carried out exclusively by qualified persons in accordance with Annex HH.

   Examples of such working procedures include:

   - breaking into the refrigerating circuit;
   - opening sealed components;
   - opening ventilated enclosures.

INSTRUCTIONS FOR SERVICING (R454B)

Installation Conditions

1. Minimum installation height and minimum room area (operating or storage) shall refer to the installation manual.
2. Risk of fire — Auxiliary devices that may be ignition sources shall not be installed in the ductwork, except for auxiliary devices listed for use with the specific appliance. Refer to the instructions.
3. The appliance shall be mounted with the lowest moving parts at least 2.5 m (8 ft) above floor or grade level.
4. Risk of electric shock. Electric shock may cause injury or death. Disconnect all remote electric power supplies before servicing.
5. Risk of fire. Flammable refrigerant is used. To be repaired only by trained service personnel. Do not puncture refrigerant tubing.
6. Risk of fire. Flammable refrigerant is used. Dispose of the appliance properly in accordance with federal or local regulations.
7. Risk of fire. Flammable refrigerant is used. Consult the repair manual or owner’s guide before attempting to service this product. All safety precautions shall be followed.
8. Risk of fire due to flammable refrigerant. Follow handling instructions carefully in compliance with national regulations.

INSTALLATION PRECAUTIONS (R454B)

Important Considerations

1. The air conditioner must be installed by professional personnel, and the installation manual is intended for professional installation personnel only. The installation specifications shall be subject to after-sales service regulations.
2. When filling flammable refrigerant, improper operations may cause serious injury to persons or damage to property.
3. A leak test must be carried out after the installation is completed.
4. A safety inspection shall be performed before maintaining or repairing an air conditioner using flammable refrigerant to ensure that the fire risk is reduced to a minimum.
5. It is necessary to operate the appliance under controlled procedures to ensure that any risk arising from flammable gas or vapor during operation is reduced to a minimum.
6. Requirements for the total weight of filled refrigerant and the area of a room to be equipped with an air conditioner are shown in the following Tables GG.1 and GG.2.

The maximum charge and the required minimum floor area

m_1 = (6 m³) × LFL, m_2 = (52 m³) × LFL, m_3 = (260 m³) × LFL

Where LFL is the lower flammable limit in kg/m³. For R454B, LFL = 0.296 kg/m³.

For the appliances with a charge amount $m_1 < M \leq m_2$:

The maximum charge in a room shall be in accordance with the following:

$M_{max} = 2.5 \times (LFL)^{(5/4)} \times h_0 \times (A)^{(1/2)}$, not to exceed $M_{max} = SF \times LFL \times h_0 \times A$

The required minimum floor area Amin to install an appliance with refrigerant charge M (kg) shall be in accordance with the following:

$A_{min} = (M / (2.5 \times (LFL)^{(5/4)} \times h_0))^2$, not less than $A_{min} = M / (SF \times LFL \times h_0)$

Refrigerant Charge and Room Area Limitations

In UL/CSA 60335-2-40, refrigerant R454B is classified as class A2L, which is mildly flammable. Therefore, R454B refrigerant is suitable for systems needing additional refrigerant charge and which will limit the area of the rooms being served by the system. Similarly, the total amount of refrigerant in the system shall be less than or equal to the allowable maximum refrigerant charge. The allowable maximum refrigerant charge depends on the area of the rooms being served by the system.

NOTE

The nouns in this section are explained as follows:

M_c: The actual refrigerant charge in the system

A: The actual room area where the appliance is installed

A_{min}: The required minimum room area

M_{max}: The allowable maximum refrigerant charge in a room

Q_{min}: The minimum circulation airflow

Anv_{min}: The minimum opening area for connected rooms

The room area calculation requirements

CAUTION

The space considered shall be any space that contains refrigerant-containing parts or into which refrigerant could be released.

The room area (A) of the smallest enclosed occupied space shall be used in the determination of refrigerant quantity limits.

For determination of room area (A) when used to calculate the refrigerant charge limit, the following shall apply:

The room area (A) shall be defined as the room area enclosed by the projection to the base of the walls, partitions, and doors of the space in which the appliance is installed.

Spaces connected only by drop ceilings, ductwork, or similar connections shall not be considered a single space.

INSTALLATION PRECAUTIONS (R454B)

Units mounted higher than 70-55/64 inches and spaces divided by partition walls not higher than 62-63/64 inches shall be considered a single space.
Rooms on the same floor and connected by an open passageway may be considered a single room when determining compliance with Amin, provided the passageway meets all of the following conditions:

1. It is a permanent opening.
2. It extends to the floor.
3. It is intended for pedestrian access.

The area of connected rooms on the same floor, connected by permanent openings in walls and/or doors between occupied spaces, including gaps between the wall and the floor, may be considered a single room when determining compliance with Amin, provided all of the following conditions are met, as shown in Fig. 2-1.

1) Low-level opening

- The opening shall not be less than Anvmin as specified in Table 2-1.
- The area of any openings above 11-13/16 inches from the floor shall not be considered when determining compliance with Anvmin.
- At least 50% of the opening area of Anvmin shall be below 7-7/8 inches from the floor.
- The bottom of the opening shall not be more than 3-15/16 inches from the floor.
- The opening shall be a permanent opening that cannot be closed.
- For openings extending to the floor, the height shall not be less than 25/32 inches above the surface of the floor covering.

2) High-level opening

- The opening shall not be less than 50% of Anvmin as specified in Table 2-1.
- The opening shall be a permanent opening that cannot be closed.
- The opening shall be at least 59 inches above the floor.
- The height of the opening shall not be less than 25/32 inches.

NOTE: The requirement for the second opening may be satisfied by drop ceilings, ventilation ducts, or similar arrangements that provide an airflow path between the connected rooms.

The minimum opening area for natural ventilation (Anvmin) in connected rooms is related to the room area (A), the actual refrigerant charge in the system (Mc), and the allowable maximum refrigerant charge in the system (Mmax). Anvmin shall be determined in accordance with Table 2-1.

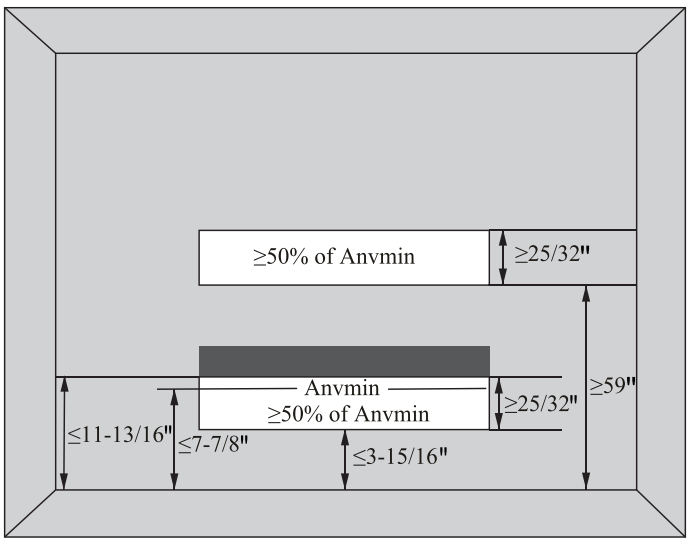


Fig. 2-1 — Opening Conditions for Connected Rooms

INSTALLATION PRECAUTIONS (R454B)

The minimum opening area for connected rooms.

Note: Take Mc = 1.73 kg as an example.

Table 2.1

A (m^2)	Mc (kg)	Mmax (kg)	Anvmin (m^2)
4	1.73	1.48	0.0058
7	1.73	2.59	0.0000
10	1.73	3.70	0.0000
15	1.73	5.55	0.0000
20	1.73	7.40	0.0000
30	1.73	11.10	0.0000

When the unit detects a refrigerant leak, the minimum airflow of the indoor unit is as follows:

Model	Minimum airflow (m^3/h)	Model	Minimum airflow (m^3/h)
9K	104	12K	109
18K	139	24K	168

Table GG.1 — Maximum charge (kg)

Category	LFL (kg/m^3)	h_0(m)	Floor area (m^2)						
			4	7	10	15	20	30	50
R454B	0.296	1.8	1.07	1.86	2.66	3.81	4.39	5.38	6.95
		2.5	1.48	2.59	3.70	5.28	6.10	7.47	9.65
		2.8	3.06	4.04	4.83	5.92	6.83	8.37	10.81

For R454B refrigerant charge amount and minimum room area:

The indoor and outdoor units are designed to be used together. The indoor unit shall be installed at least 8.2 ft (2.5 m) above the floor. The minimum room area for operation or storage shall comply with the table below.

Table GG.2 — Minimum room area (m^2)

Category	LFL (kg/m^3)	h_0(m)	Charge amount (M) (kg) Minimum room area (m^2)						
			0.8 kg	0.95 kg	1.0 kg	1.3 kg	1.58 kg	1.8 kg	2.0 kg
R454B	0.296	1.8	2.67	3.00	3.75	4.84	5.86	6.76	7.51
		2.5	1.92	2.16	2.70	3.49	4.22	4.86	5.41
		2.8	1.71	1.93	2.41	3.11	3.76	4.34	4.83

Model	09K	12K	18K	24K
R454B (g) Standard (7.5 m)	950	1000	1300	1580
R454B (g) Max (15 m)	1025	1075	1375	1655

INSTALLATION PRECAUTIONS (R454B)

Installation Safety Principles

1. Site Safety

Open flames are prohibited.

Adequate ventilation is required

2. Operation Safety

Beware of static electricity

Protective clothing and anti-static gloves must be worn.

Do not use mobile phones

3. Installation Safety

- Refrigerant leak detector required.
- Select an appropriate installation location.

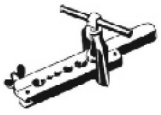
The image on the left illustrates a schematic diagram of a refrigerant leak detector.

INSTALLATION PRECAUTIONS (R454B)

Please note the following:

1. The installation site must be well ventilated.
2. Sites used for installing and maintaining an air conditioner with refrigerant R454B must be free from open flames, welding activities, smoking, drying ovens, or any other heat sources higher than 548 °C that may easily generate open flames.
3. During installation, appropriate anti-static measures must be taken, such as wearing anti-static clothing and/or gloves.
4. Select a site that is convenient for installation and maintenance, where the air inlets and outlets of the indoor and outdoor units are not obstructed and are not located near heat sources or combustible and/or explosive environments.
5. If a refrigerant leak occurs from the indoor unit during installation, immediately close the valve of the outdoor unit. All personnel must evacuate the area for at least 15 minutes until the refrigerant has completely dispersed. If the product is damaged, it must be returned to a maintenance station. Welding the refrigerant piping or performing other operations at the user's site is strictly prohibited.
6. Select a location where airflow at the inlet and outlet of the indoor unit is uniform.
7. Avoid locations where electrical appliances, power switches, plugs, sockets, kitchen cabinets, beds, sofas, or other valuables are positioned directly beneath the piping lines on either side of the indoor unit.

Suggested Tools

Tool	Picture	Tool	Picture	Tool	Picture
Standard Wrench		Pipe Cutter		Vacuum Pump	
Adjustable / Crescent Wrench		Screwdrivers (Phillips and Flat Blade)		Safety Glasses	
Torque Wrench		Manifold and Gauges		Work Gloves	
Hex Keys / Allen Wrenches		Level		Refrigerant Scale	
Drill and Drill Bits		Flaring Tool		Micron Gauge	
Hole Saw		Clamp-on Amp Meter			

INSTALLATION PRECAUTIONS (R454B)

Pipe Length and Additional Refrigerant

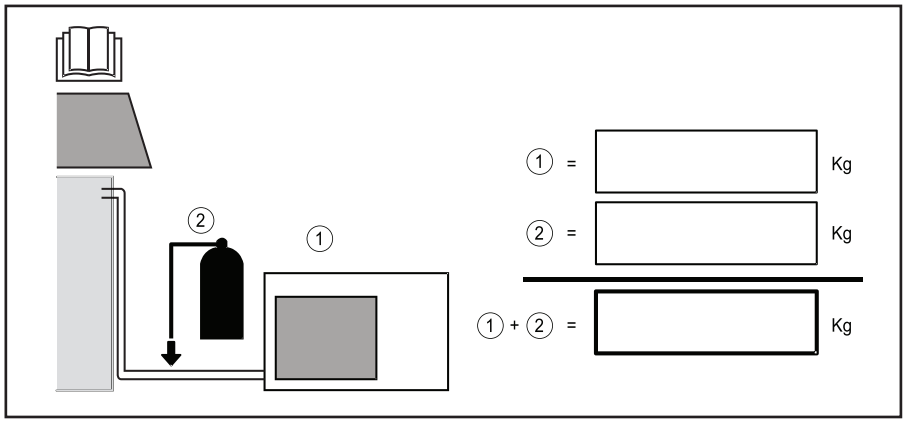
Inverter Models Capacity (BTU/h)	9K	12K	18K	24K
Length of piping with standard charge	7.5 m / 25 ft	7.5 m / 25 ft	7.5 m / 25 ft	7.5 m / 25 ft
Maximum distance between indoor and outdoor units	15 m / 49 ft	15 m / 49 ft	20 m / 65 ft	20 m / 65 ft
Additional refrigerant charge	10 g/m	10 g/m	10 g/m	10 g/m
Max. height difference between indoor and outdoor units	10 m / 33 ft	10 m / 33 ft	15 m / 49 ft	15 m / 49 ft
Refrigerant type	R454B			

Torque Parameters

Pipe Size (in / mm)	Torque (N·m)	Torque (lbf·ft)	Torque (kgf·m)
1/4 (Φ 6.35)	15–20	11.1–14.8	1.5–2.0
3/8 (Φ 9.52)	31–35	22.9–25.8	3.2–3.6
1/2 (Φ 12.00)	45–50	33.2–36.9	4.6–5.1
5/8 (Φ 15.88)	60–65	44.3–48.0	6.1–6.6

Dedicated Distribution Device and Wire for Air Conditioner

Wiring material ampacities	AWG
4	22
7	20
10	18
13	16
18	14
25	12
30	10
40	8
55	6
70	4



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Key

Example 1: REFRIGERANT CHARGE of the pre-charged part of the appliance

Example 2: REFRIGERANT CHARGE added during installation

⚠ **Note: This table is only for reference; the installation shall meet the requirements of local laws and regulations.**

INDOOR UNIT INSTALLATION

Step 1: Select Installation Location

1.1 Ensure the installation complies with the minimum installation dimensions (defined below) and meets the minimum and maximum connecting piping lengths and the maximum allowable elevation difference, as specified in the System Requirements section.

1.2 Ensure the air inlet and air outlet are free from obstructions to provide proper airflow throughout the room.

1.3 Ensure condensate can be drained easily and safely.

1.4 Ensure all connections to the outdoor unit can be made easily.

1.5 Install the indoor unit out of reach of children.

1.6 The mounting wall must be strong enough to withstand at least four times the full weight of the unit, including vibration.

1.7 Ensure the air filter can be easily accessed for cleaning.

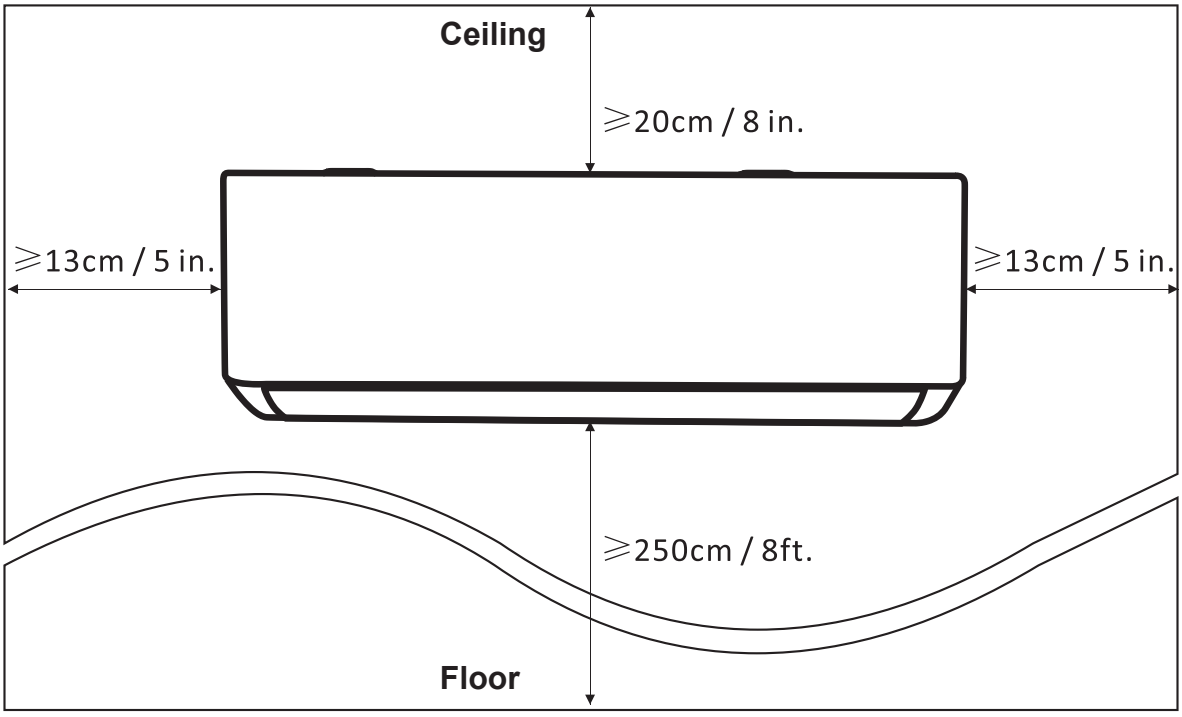
1.8 Leave sufficient clearance to allow access for routine maintenance.

1.9 Install the unit at least 10 ft (3 m) away from the antenna of a TV set or radio. Operation of the air conditioner may interfere with radio or TV reception in areas where reception is weak. An amplifier may be required for the affected device.

1.10 Do not install the unit in a laundry room or near a swimming pool because of the corrosive environment.

1.11 For ETL certification areas:
Caution: Mount the unit so that the lowest moving parts are at least 8 ft (2.4 m) above the floor or grade level.

Minimum Indoor Clearances



INDOOR UNIT INSTALLATION

Step 2: Install Mounting Plate

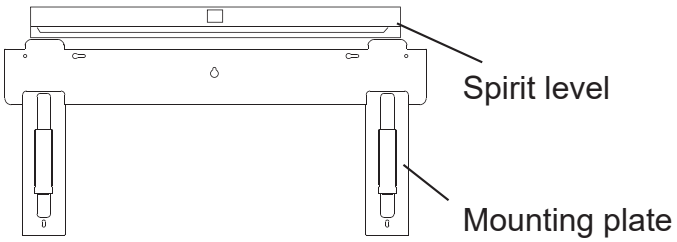
2.1 Remove the mounting plate from the rear of the indoor unit.

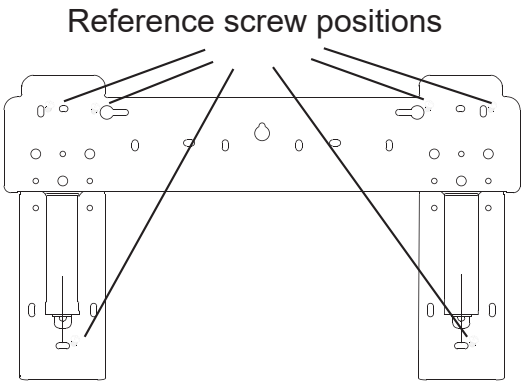
2.2 In accordance with the minimum installation dimension requirements specified in Step 1 and the size of the mounting plate, determine the installation position and place the mounting plate flush against the wall.

2.3 Use a spirit level to ensure the mounting plate is horizontal, then mark the screw hole positions on the wall.

2.4 Remove the mounting plate and drill holes at the marked positions.

2.5 Insert expansion plugs into the drilled holes, then position the mounting plate and secure it with screws.





Note:
(I) Ensure the mounting plate is firmly secured and sits flat against the wall after installation.
(II) The illustration shown may differ from the actual product; the actual product shall prevail.

Step 3: Drill Wall Hole

A wall hole must be drilled to route the refrigerant piping, drainage hose, and connecting cables.

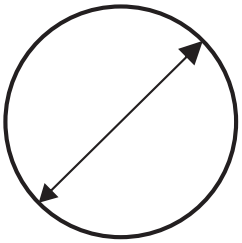
3.1 Determine the wall hole position based on the mounting plate location.

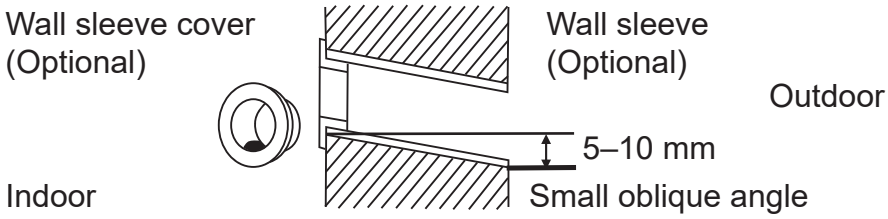
3.2 The wall hole must have a minimum diameter of 70 mm and be drilled with a slight downward inclination to facilitate drainage.

3.3 Drill the hole using a 70 mm core drill, with the outdoor side approximately 5–10 mm lower than the indoor side.

3.4 Install the wall sleeve and wall sleeve cover (optional accessories) to protect the connection components.

Caution:
When drilling the wall hole, ensure that electrical wiring, plumbing, and other concealed components are not damaged.



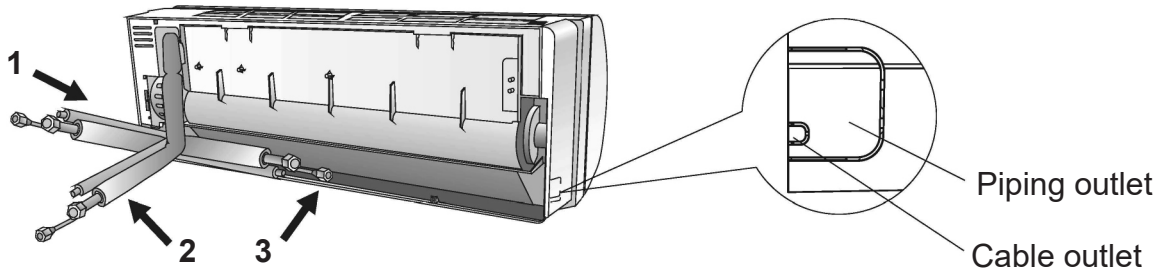


INDOOR UNIT INSTALLATION

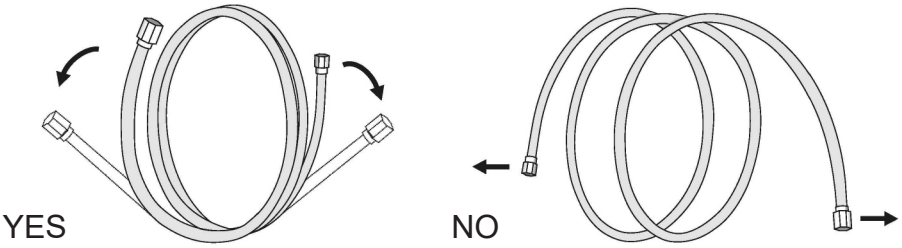
Step 4: Connecting Refrigerant Pipe

4.1 Select the appropriate piping mode according to the wall hole position.
Three piping modes are available for the indoor unit, as shown in the illustration.
For **Piping Mode 1** or **Piping Mode 3**, cut the plastic panel at the piping outlet and cable outlet on the corresponding side of the indoor unit using scissors.

Note: After removing the plastic panel, ensure the cut edges are smooth.



4.2 Bend the connecting pipes with the flare port facing upward, as shown in the illustration.



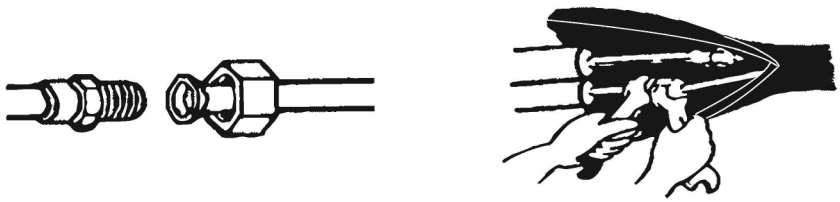
4.3 Remove the plastic caps from the pipe ports and remove the protective covers from the ends of the piping connectors.

4.4 Check the connecting pipe ports for debris and ensure that all ports are clean.

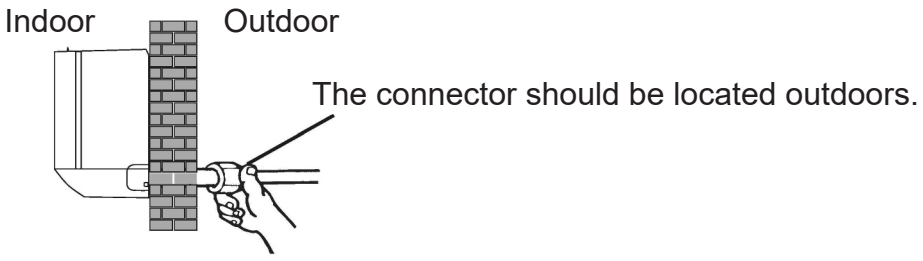
4.5 After aligning the pipe centers, tighten the flare nut by hand as much as possible.

4.6 Use a torque wrench to tighten the connection in accordance with the torque values specified in the torque requirements table (see I**NSTALLATION PRECAUTIONS** section).

4.7 Insulate the joint by wrapping it with insulation tubing.



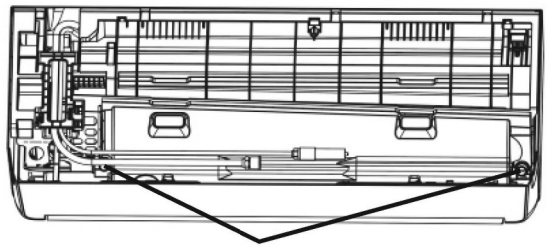
Note: If flared joints are reused indoors, the flare must be re-fabricated.



INDOOR UNIT INSTALLATION

Step 5: Connect Drainage Hose

5.1 Adjust the drainage hose (if applicable)
On some models, both sides of the indoor unit are provided with drainage ports. You may choose either port to attach the drainage hose, and plug the unused drain port with the rubber plug supplied with the unit.

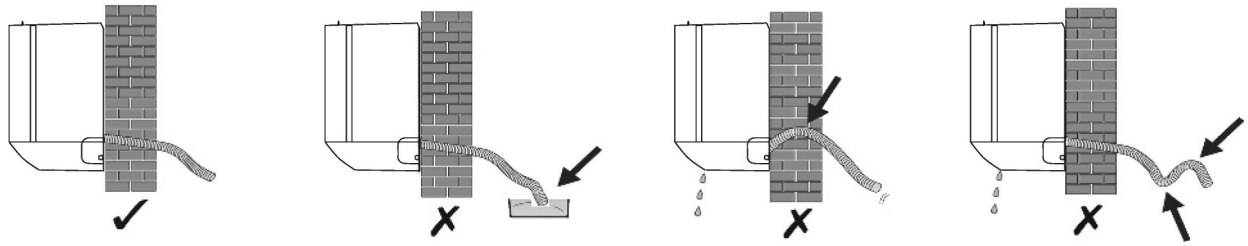


Drainage ports

5.2 Connect the drainage hose to the drainage port. Ensure the joint is secure and properly sealed.

5.3 Wrap the joint firmly with Teflon tape to ensure there are no leaks.

Note: Ensure there are no twists or dents, and that the hose is installed with a downward slope to prevent blockage and ensure proper drainage.



Step 6: Connect Wiring

6.1 Select the correct cable size according to the maximum operating current indicated on the nameplate. (Refer to the cable size requirements in the **INSTALLATION PRECAUTIONS** section.)

6.2 Open the front panel of the indoor unit.

6.3 Using a screwdriver, open the electrical control box cover to access the terminal block.

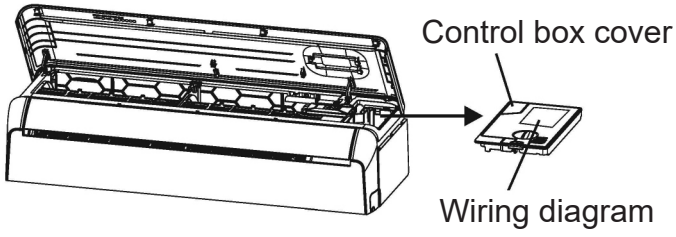
6.4 Loosen the cable clamp.

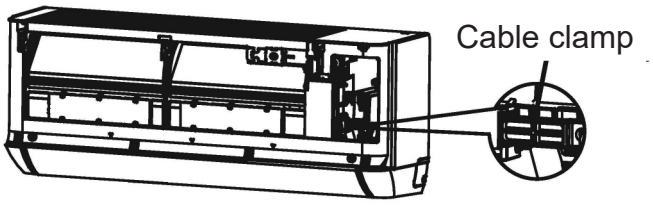
6.5 Insert one end of the cable into the control box opening from the rear right side of the indoor unit.

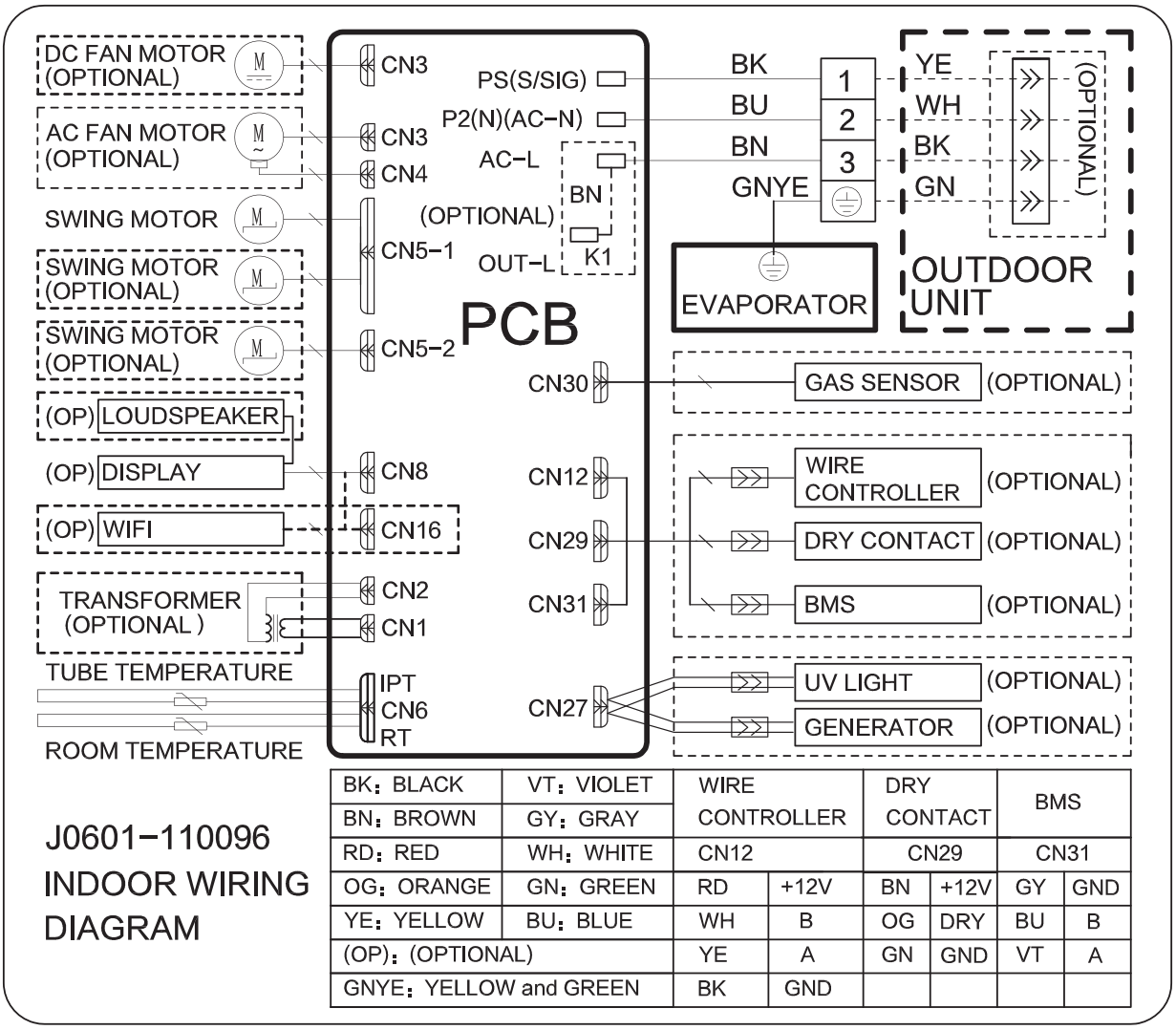
6.6 Connect the wires to the corresponding terminals according to the wiring diagram on the electrical control box cover. Ensure all connections are secure.

6.7 Tighten the cable clamp to secure the cables.

6.8 Reinstall the electrical control box cover and the front panel.







BK: BLACK	VT: VIOLET	WIRE CONTROLLER		DRY CONTACT		BMS	
BN: BROWN	GY: GRAY						
RD: RED	WH: WHITE	CN12		CN29		CN31	
OG: ORANGE	GN: GREEN	RD	+12V	BN	+12V	GY	GND
YE: YELLOW	BU: BLUE	WH	B	OG	DRY	BU	B
(OP): (OPTIONAL)		YE	A	GN	GND	VT	A
GNYE: YELLOW and GREEN		BK	GND				

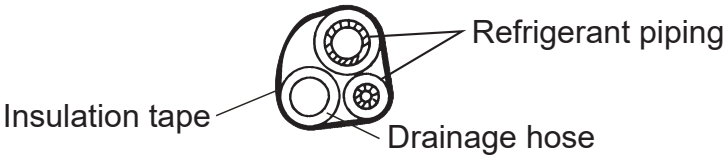
9K / 12K / 18K / 24K (Wiring diagram)

INDOOR UNIT INSTALLATION

Step 7: Wrap Piping and Cable

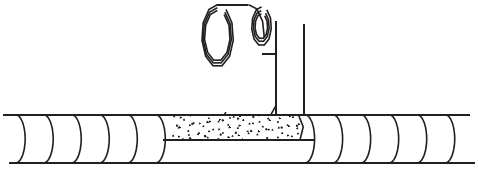
After the refrigerant pipes, connecting wires, and drainage hose are installed, in order to save space and to protect and insulate them, they must be bundled with insulating tape before passing them through the wall hole.

7.1 Arrange the pipes, cables, and drainage hose as shown in the following picture.



Note: (I) Ensure the drainage hose is positioned at the bottom.
(II) Avoid crossing and bending of components.

7.2 Use insulating tape to wrap the refrigerant pipes, connecting wires, and drainage hose tightly together.



Step 8: Mount Indoor Unit

8.1 Slowly pass the bundled refrigerant pipes, connecting wires, and drainage hose through the wall hole.

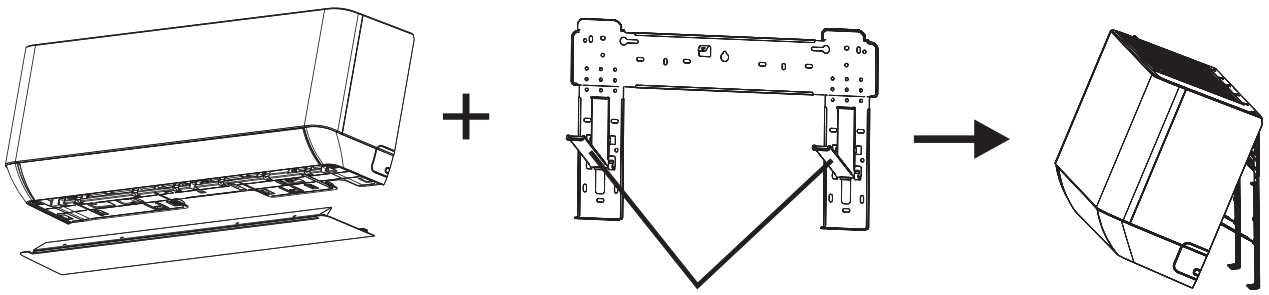
8.2 Hook the top of the indoor unit onto the mounting plate.

8.3 Apply slight pressure to the left and right sides of the indoor unit and ensure it is securely hooked.

8.4 Push down the bottom of the indoor unit so that it snaps onto the hooks of the mounting plate, and ensure it is securely fastened.

Sometimes, if the refrigerant pipes are already embedded in the wall, or if the pipes and wires need to be connected on the wall, proceed as follows:

(I) Grasp both ends of the bottom plate and apply slight outward force to remove the bottom plate.
(II) Hook the top of the indoor unit onto the mounting plate without piping and wiring.
(III) Lift the indoor unit away from the wall, unfold the bracket on the mounting plate, and use the bracket to support the indoor unit, providing sufficient space for operation.
(IV) Perform refrigerant piping, wiring, drainage hose connection, and wrapping according to Steps 4 to 7.
(V) Reinstall the mounting plate bracket.
(VI) Push down the bottom of the indoor unit so that it snaps onto the bottom hooks of the mounting plate, and ensure it is securely fastened.
(VII) Reinstall the bottom plate of the indoor unit



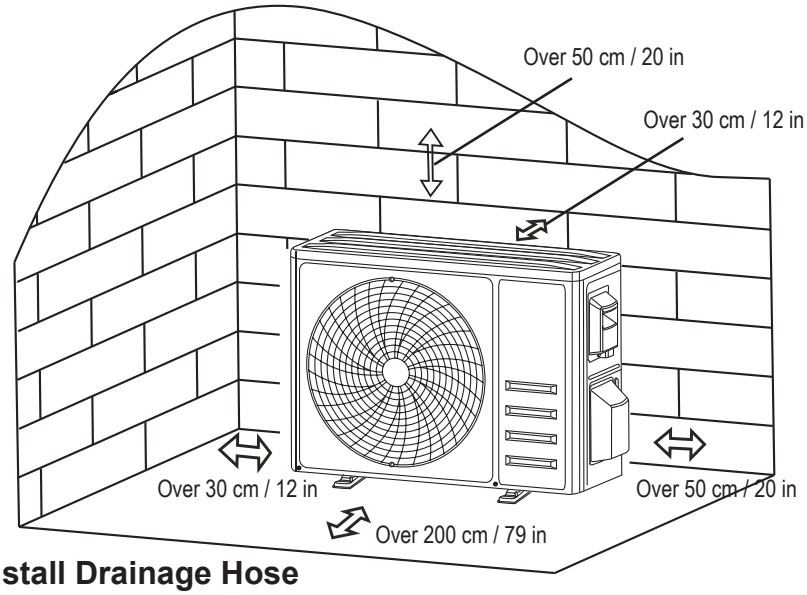
Take off the bottom plate Unfold the bracket on the mounting plate

OUTDOOR UNIT INSTALLATION

Step 1: Select Installation Location

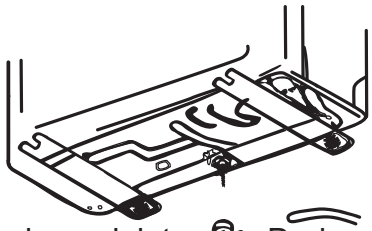
Select a site that meets the following requirements:

1.1 Do not install the outdoor unit near sources of heat, steam, or flammable gas.
1.2 Do not install the unit in excessively windy or dusty areas.
1.3 Do not install the unit in areas with frequent pedestrian traffic. Select a location where air discharge and operating noise will not disturb neighbors.
1.4 Avoid installing the unit where it will be exposed to direct sunlight (otherwise, use protection if necessary, provided it does not interfere with airflow).
1.5 Reserve the clearances shown in the illustration to allow free air circulation.
1.6 Install the outdoor unit on a safe and solid foundation.
1.7 If the outdoor unit is subject to vibration, place rubber pads under the unit feet.



Step 2: Install Drainage Hose

2.1 This step applies only to heat pump models or RCACs.
2.2 Insert the drainage joint into the hole at the bottom of the outdoor unit.
2.3 Connect the drainage hose to the joint and ensure a secure connection.

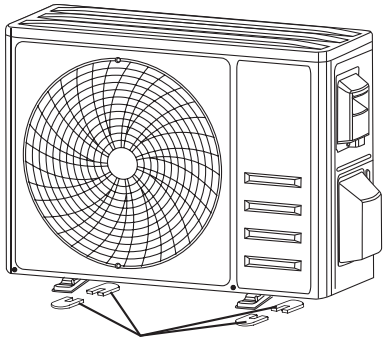


Step 3: Fix Outdoor Unit

3.1 Mark the installation positions for the expansion bolts according to the outdoor unit installation dimensions.
3.2 Drill the holes, clean out concrete dust, and install the bolts.
3.3 If applicable, install four rubber pads into the holes before placing the outdoor unit (optional). This helps reduce vibration and noise.
3.4 Place the outdoor unit base onto the bolts and pre-drilled holes.
3.5 Use a wrench to securely fasten the outdoor unit with bolts.

Note:

The outdoor unit may be mounted on a wall-mounting bracket. Follow the wall-mounting bracket instructions to install the bracket on the wall, then secure the outdoor unit to the bracket and keep it level.
The wall-mounting bracket must be capable of supporting at least four times the weight of the outdoor unit.



Install four rubber pads (optional)

OUTDOOR UNIT INSTALLATION

Step 4: Install Wiring

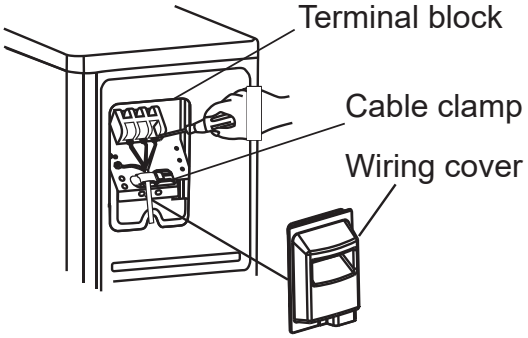
4.1 Use a Phillips screwdriver to loosen the wiring cover screws, then grasp and gently press the cover downward to remove it.

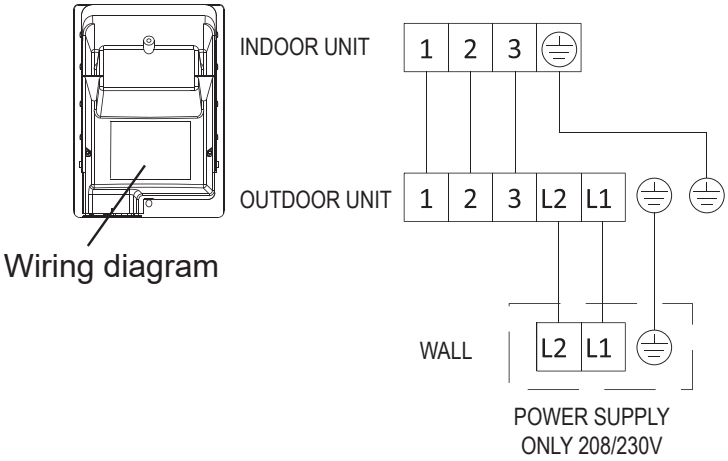
4.2 Loosen the cable clamp screws and remove the clamp.

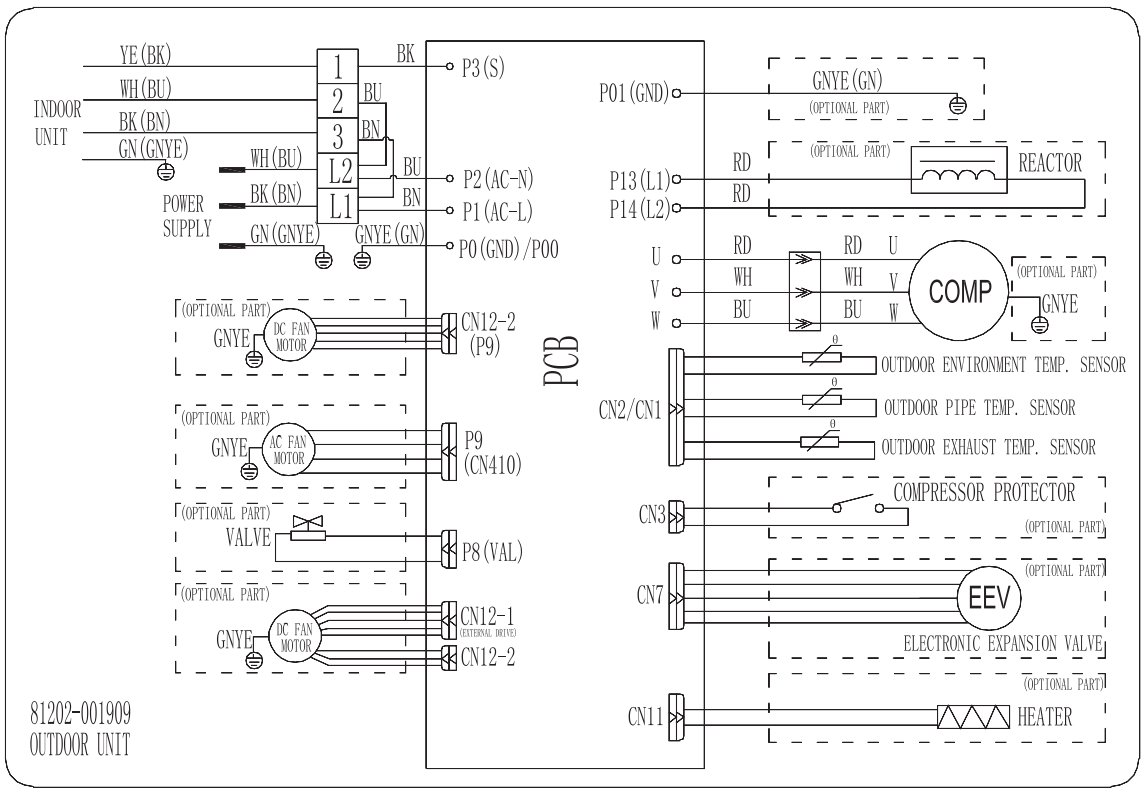
4.3 According to the wiring diagram attached to the inside of the wiring cover, connect the wires accordingly.

4.4 Secure the connecting wires firmly with the cable clamp, then reinstall the wiring cover.

Note: The wiring diagram shown may differ from the actual product. Always refer to the wiring diagram attached to the wiring cover.







9K–24K (230V) Wiring diagram

OUTDOOR UNIT INSTALLATION

Power Supply			
Model	Voltage	MAC	Breaker
9K	208–230V / 60Hz	9	15
12K	208–230V / 60Hz	12	20
18K	208–230V / 60Hz	20	30
24K	208–230V / 60Hz	21	30

Step 5: Connecting Refrigerant Pipe

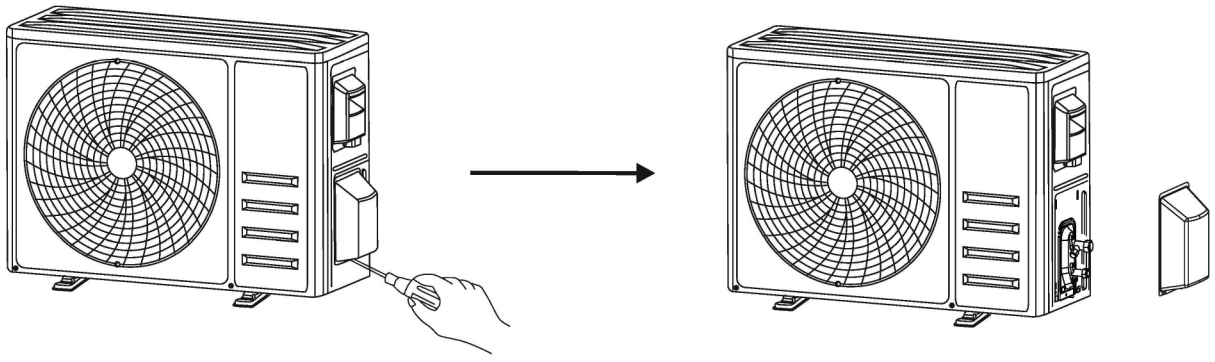
5.1 Unscrew the valve cover, grasp it, and gently press it downward to remove it (if the valve cover is applicable).

5.2 Remove the protective caps from the ends of the valves.

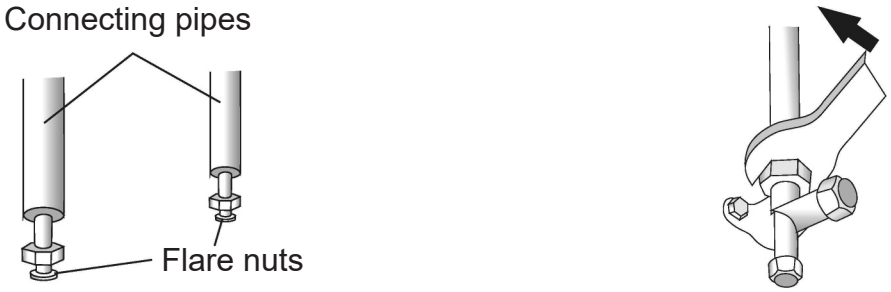
5.3 Remove the plastic cover from the pipe ports and check for any debris on the connecting pipe ports. Ensure the ports are clean.

5.4 After aligning the center, rotate the flare nut of the connecting pipe by hand and tighten it as much as possible.

5.5 Use a spanner to hold the valve body and use a torque wrench to tighten the flare nut according to the torque values specified in the torque requirements table.
(Refer to the torque requirements table in the **INSTALLATION PRECAUTIONS** section)



Remove the valve cover



OUTDOOR UNIT INSTALLATION

Step 6: Vacuum Pumping

6.1 Use a spanner to remove the protective caps from the service port, low-pressure valve, and high-pressure valve of the outdoor unit.

6.2 Connect the pressure hose of the manifold gauge to the service port on the outdoor unit low-pressure valve.

6.3 Connect the charging hose from the manifold gauge to the vacuum pump.

6.4 Open the low-pressure valve of the manifold gauge and close the high-pressure valve.

6.5 Turn on the vacuum pump to evacuate the system.

6.6 The evacuation time must be at least 15 minutes, or until the compound gauge indicates −0.1 MPa (−76 cmHg).

6.7 Close the low-pressure valve of the manifold gauge and turn off the vacuum pump.

6.8 Hold the pressure for 5 minutes and ensure that the rebound of the compound gauge pointer does not exceed 0.005 MPa.

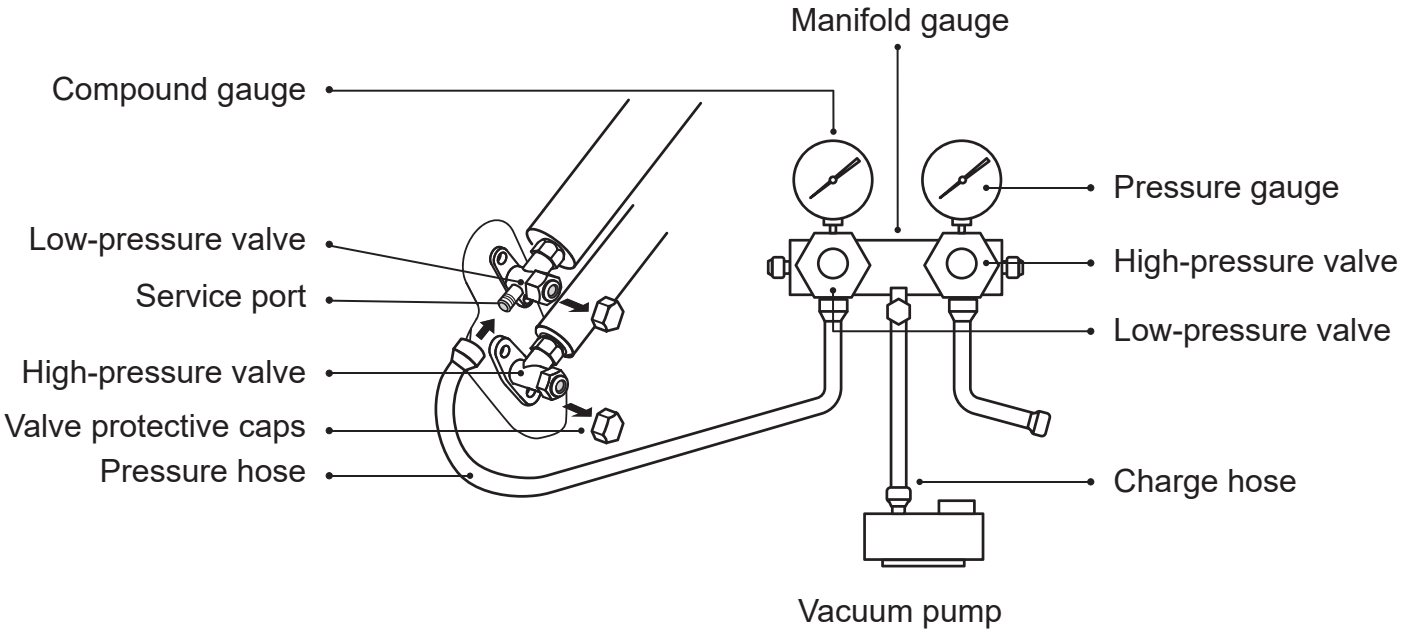
6.9 Open the low-pressure valve counterclockwise by 1/4 turn using a hexagonal wrench to allow a small amount of refrigerant into the system, then close the low-pressure valve after 5 seconds and quickly remove the pressure hose.

6.10 Check all indoor and outdoor joints for leaks using soapy water or a leak detector.

6.11 Fully open the low-pressure valve and high-pressure valve of the outdoor unit using a hexagonal wrench.

6.12 Reinstall the protective caps on the service port, low-pressure valve, and high-pressure valve of the outdoor unit.

6.13 Reinstall the valve cover.



TEST OPERATION

Inspections Before Test Run

Perform the following checks before the test run.

Description	Inspection method
Electrical safety inspection	• Verify that the power supply voltage complies with specifications. • Verify that there are no incorrect or missing connections between the power lines, signal line, and earth wires. • Verify that the earth resistance and insulation resistance comply with requirements.
Installation safety inspection	• Confirm the direction and smoothness of the drainage pipe. • Confirm that the refrigerant pipe joint is fully installed. • Confirm that the outdoor unit, mounting plate, and indoor unit installation are secure. • Confirm that the valves are fully open. • Confirm that no foreign objects or tools remain inside the unit. • Confirm complete installation of the indoor unit air inlet grille and panel.
Refrigerant leakage detection	• Inspect piping joints, connectors of the outdoor unit valves, valve spools, welding ports, and any locations where leakage may occur. • **Foam detection method:** Apply soapy water or foam evenly on potential leakage points and observe for bubble formation. Absence of bubbles indicates the leakage test is safe. • **Leak detector method:** Use a professional leak detector according to the operation instructions to inspect all potential leakage positions. • Leak detection duration for each position shall be at least 3 minutes. If leakage is detected, tighten the nut and retest until no leakage is present. After completion, wrap the exposed indoor unit pipe connector with thermal insulation material and insulation tape.

Test Run Instruction

1. Turn on the power supply.
2. Press the ON/OFF button on the remote controller to start the air conditioner.
3. Press the Mode button to select COOLING and HEATING modes.
   In each mode, set as follows:
   COOLING — Set the lowest temperature.
   HEATING — Set the highest temperature.
4. Operate each mode for approximately 8 minutes and verify proper operation and response to the remote controller. Recommended checks:
   4.1 Verify that the outlet air temperature responds correctly in cooling and heating modes.
   4.2 Verify that water drains properly from the drainage hose.
   4.3 Verify that the louver and deflectors (optional) rotate properly.

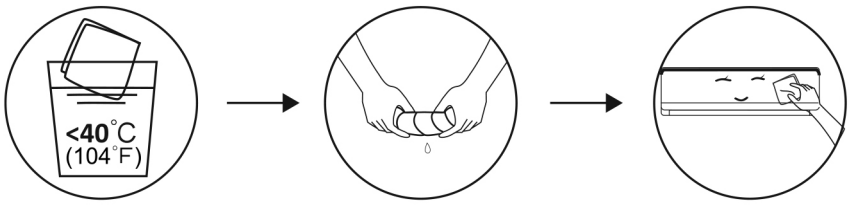
TEST OPERATION

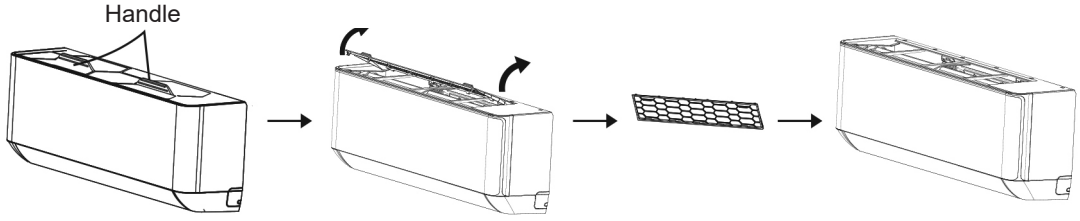
5. Observe the test run state of the air conditioner for at least 30 minutes.
6. After the successful test run, return to the normal settings and press the ON/OFF button on the remote controller to turn off the unit.
7. Instruct the user to read this manual carefully before use, and demonstrate how to operate the air conditioner, including the necessary knowledge for service and maintenance, and reminders for storage of accessories.

Note:

If the ambient temperature exceeds the range specified in the OPERATION INSTRUCTIONS section and the unit cannot operate in COOLING or HEATING mode, lift the front panel and refer to the emergency button operation to run COOLING or HEATING mode.

MAINTENANCE

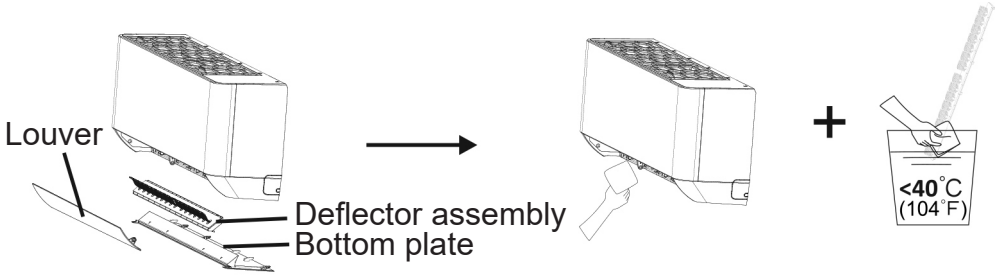
<table>
<tr><td>Warning</td><td>
• When cleaning, shut down the unit and cut off the power supply for more than 5 minutes.
• Under no circumstances should the air conditioner be flushed with water.
• Volatile liquids (e.g., thinner or gasoline) will damage the air conditioner; therefore, use only a soft, dry cloth or a soft cloth dampened with neutral detergent to clean the unit.
• Clean the filter regularly to prevent dust accumulation, which may affect filter performance. When the operating environment is dusty, increase the cleaning frequency accordingly.
• After removing the filter, do not touch the fins of the indoor unit to avoid scratching.
</td></tr>
<tr><td>Clean the unit</td><td>


Wring the cloth dry and gently wipe the surface of the unit.
Tip: Wipe frequently to keep the air conditioner clean and in good appearance.
</td></tr>
<tr><td>Disassembly and assembly of filter</td><td>
• Grasp the raised handle on the filter and pull it outward, away from the unit, so that the upper edge of the filter is separated from the unit. The filter can be removed by lifting it upward.
• When installing the filter, first insert the lower end of the filter into the corresponding position of the unit, then press the upper end of the filter into the corresponding locking position on the unit body.


</td></tr>
</table>

MAINTENANCE

<table>
<tr><td>Clean the filter</td><td>


Take out the filter from the unit
Clean the filter with soapy water and air dry it
Replace the filter
Tip: When you find accumulated dust in the filter, please clean the filter in time to ensure the clean, healthy and efficient operation inside the air conditioner.
</td></tr>
<tr><td>Cleaning of inner air duct</td><td>
• First, loosen the knob in the middle of the louver and bend the louver outward to remove it.
• Then, grasp both sides of the bottom plate and push downward to remove the bottom plate.
• Finally, loosen the buckle of the deflector assembly with your thumb and remove it.
• Wipe the air duct and fan assembly with a clean, wrung, wet rag.
• Clean the removed parts with soapy water and air dry them (<40°C / 104°F).
• After cleaning, restore the removed parts in turn.


</td></tr>
<tr><td>Service and maintenance</td><td>
• When the air conditioner is not in use for a long time:
1. Take out the batteries of the remote controller.
2. Disconnect the power supply of the air conditioner.
• When starting to use after long-term shutdown:
1. Clean the unit and filter screen;
2. Check whether there are obstacles at the air inlet and outlet of the indoor and outdoor units;
3. Check whether the drain pipe is unobstructed;
4. Install the batteries of the remote controller and check whether the power is on.
</td></tr>
</table>

TROUBLESHOOTING

MALFUNCTION	POSSIBLE CAUSES
The appliance does not operate	Power failure or plug pulled out.
	Damaged indoor or outdoor unit fan motor.
	Faulty compressor thermomagnetic circuit breaker.
	Faulty protective device or fuses.
	Loose connections or plug pulled out.
	Appliance stops intermittently to protect itself.
	Voltage higher or lower than the specified range.
	Active TIMER ON function.
	Damaged electronic control board.
Strange odor	Dirty air filter.
Noise of running water	Backflow of liquid in the refrigerant circulation.
A fine mist comes from the air outlet	This occurs when the air in the room becomes very cold, for example during COOLING or DEHUMIDIFYING/DRY modes.
A strange noise can be heard	Expansion or contraction of the front panel due to temperature variations; this does not indicate a malfunction.
Insufficient airflow, either hot or cold	Unsuitable temperature setting.
	Obstructed indoor or outdoor air inlets or outlets.
	Dirty air filter.
	Fan speed set to minimum.
	Other heat sources present in the room.
	No refrigerant.
The appliance does not respond to commands	Remote control is too far from the indoor unit.
	Remote control batteries need replacement.
	Obstacles between the remote control and the signal receiver in the indoor unit.
The display is off	Active DISPLAY function.
	Power failure.
Switch off the air conditioner immediately and cut off the power supply if the following occur	Strange noises during operation.
	Faulty electronic control board.
	Faulty fuses or switches.
	Water or foreign objects sprayed into the appliance.
	Overheated cables or plugs.
	Very strong odors coming from the appliance.

TROUBLESHOOTING

ERROR CODE ON THE DISPLAY

In case of error, the display on the indoor unit shows the following error codes:

Display	Description of the trouble
E1	Indoor room temperature sensor fault
E2	Indoor pipe temperature sensor fault
E3	Outdoor pipe temperature sensor fault
E4	Refrigerant system leakage or fault
E6	Malfunction of indoor fan motor
E7	Outdoor ambient temperature sensor fault
E0	Indoor and outdoor communication fault
E8	Outdoor discharge temperature sensor fault
E9	Outdoor IPM module fault
EA	Outdoor current detection fault
EE	Outdoor PCB EEPROM fault
EF	Outdoor fan motor fault
EH	Outdoor suction temperature sensor fault

DISPOSAL GUIDELINE

This appliance contains refrigerant and other potentially hazardous materials. When disposing of this appliance, the law requires special collection and treatment. **DO NOT** dispose of this product as household waste or unsorted municipal waste.

When disposing of this appliance, you have the following options:

- Dispose of the appliance at a designated municipal electronic waste collection facility.
- When buying a new appliance, the retailer will take back the old appliance free of charge.
- The manufacturer will also take back the old appliance free of charge.
- Sell the appliance to certified scrap metal dealers.
- Disposing of this appliance in forests or other natural surroundings endangers your health and is bad for the environment. Hazardous substances may leak into groundwater and enter the food chain.