

Exposed Fan Coil Unit

Installation and user manual

Please read this manual carefully before use.

Actual product color or pattern shall prevail.

Our company reserves the final right of interpretation for this manual.

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Safety Precautions

Dear User,

To ensure personal safety and normal operation of the equipment, please carefully read and strictly observe the following safety warnings before installation, commissioning, use, and maintenance of this product.

Danger

- Do not allow non-professional personnel to carry out water pipe connection, wiring connection, or other installation work without reading the installation manual. Failure to comply may result in system leakage, electrical faults, or fire.
- Installation and repair qualification requirements: Installation, commissioning, repair, and maintenance of this product must be performed by qualified professionals. Unauthorized operation by non-professionals may lead to serious safety accidents such as electric shock, fire, or mechanical injury.
- Do not open the service cover of the unit with connecting the main power supply. Failure to do so may result in serious safety accidents.
- Do not touch or modify the safety devices of the indoor or outdoor unit without authorization. Doing so may create a risk of serious accidents.
- During unit operation, do not insert hands, tools, or other objects into the fan, air outlet, or air inlet.
- The unit must be reliably grounded. The grounding resistance shall comply with relevant national standards. The power socket must have a reliable grounding protection. Do not use a socket without grounding protection.
- Do not touch any electrical components with your hands. Risk of electric shock may occur.
- In the event of a fire, cut off the power supply immediately.

Safety Precautions

⚠ Warning

- Do not use aerosols such as insecticides, paints, hair sprays, or other flammable gases within 1 meter of the unit.
- Do not install the unit in an environment containing flammable or explosive gases, steam, or dust.
- Maintain good ventilation around the unit. Do not stack debris that may affect heat dissipation or maintenance access.
- Ensure the grounding wire is firmly connected. Improper grounding of the unit may result in electrical faults.
- When routing piping or wiring through knock-out holes, take protective measures to prevent cuts or damage.
- Securely fasten all connecting wires. External force on terminal connections may cause loose terminals, leading to fire.
- Ensure the air conditioner is installed with sufficient structural strength. Otherwise, the unit may fall or tip over, causing equipment damage or personal injury.
- Perform electrical work in accordance with the installation instructions and all applicable regulations and standards. Failure to do so may cause electrical faults or fire due to insufficient capacity or improper specifications.
- Use the specified wiring and select the correct wire type. Otherwise, electrical faults or fire may occur.
- The pressure test pressure shall not exceed the maximum working pressure of the unit, which is 1.6 MPa.
- When the ambient temperature is below 0° C in winter, drain all water from the piping and coils to prevent freeze damage.
- Avoid installing the unit in damp locations, areas with corrosive gases, or places exposed to prolonged direct sunlight.
- Clean the air filter regularly.

Safety Precautions

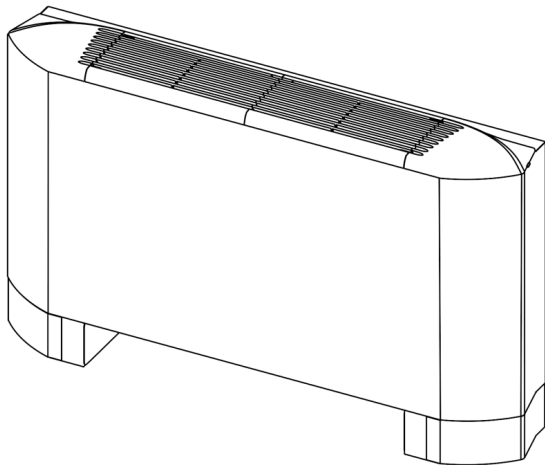
ⓘ Caution

- Do not step on the unit or place debris on it.
- Do not place any additional materials on or inside the unit.
- Keep a distance of more than 3 meters from strong electromagnetic radiation sources (e.g., medical equipment) to the indoor unit, outdoor unit, remote controller, and cables.
- The air inlet and outlet must not be obstructed. Obstruction may affect unit performance and cause unit overload.
- The drain pipe shall be installed correctly according to these instructions to ensure smooth drainage. Thermal insulation shall also be applied to prevent condensation. Improper pipe installation may cause water leakage and damage to indoor property.
- Electrical work must be performed by qualified electrical personnel in accordance with the installation instructions. Insufficient power supply capacity or improper installation may cause fire or other accidents.
- The power socket must be equipped with a ground wire to ensure effective grounding of the air conditioner via the socket. No grounding or incomplete grounding may result in risk of electric shock.
- If abnormal sounds, odors, or vibrations are detected during unit operation, stop the unit immediately and contact qualified personnel for inspection.
- After completing the installation work, perform a trial run to confirm normal operation, then explain the usage and maintenance methods to the customer in accordance with the user manual and these instructions. Additionally, provide the manual to the user for proper safekeeping.

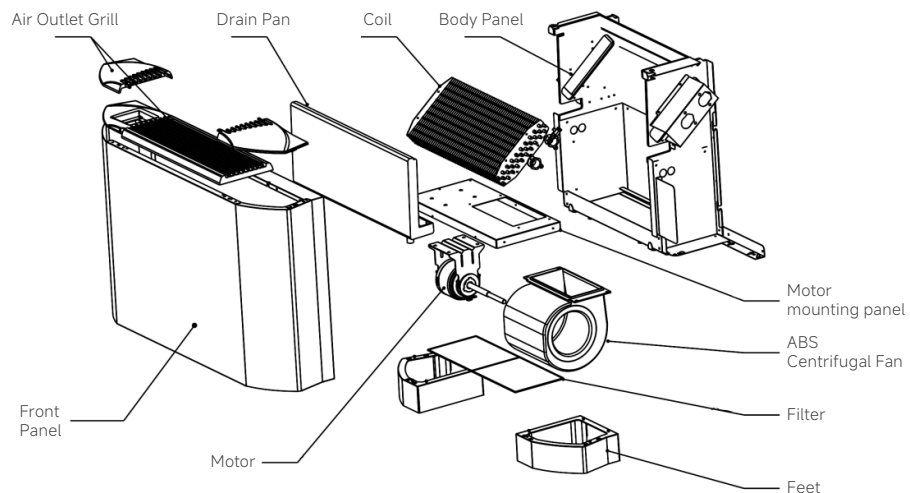
ⓘ Pre-delivery Inspection

- Upon receiving the unit, inspect it for shipping damage. If surface or internal damage is found, report it to the transportation company immediately.
- Check the product model, electrical parameters (power supply, voltage, frequency), and accessories to verify compliance with requirements. The standard application of the unit is described in this manual. In case of problems, contact your local dealer.
- The company assumes no responsibility for any changes made to the unit without written consent.

Product Outline Drawing (Line Art)



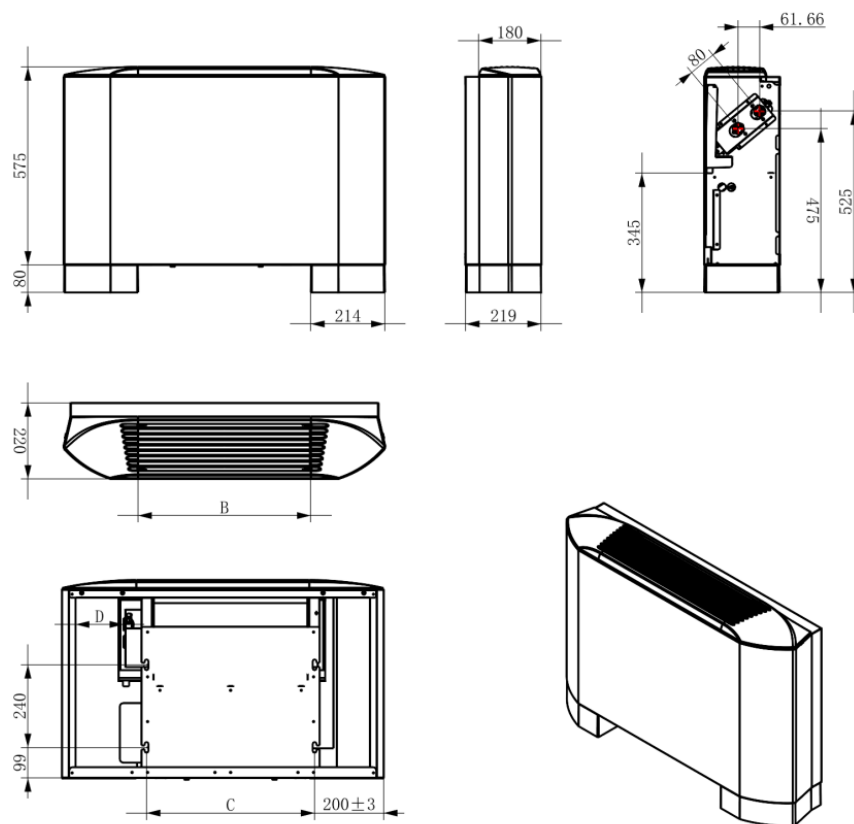
Exploded View Drawing and Part Name



Operating Conditions and Instructions

- ❗ This fan coil unit is designed for normal air conditioning use only. Do not use it for other purposes such as drying clothes, freezing food, cooling or heating other items. Do not install the unit in the following locations. Failure to comply may result in fire, deformation, or malfunction of the unit.
 - Locations with oil splashes (including engine oil)
 - Locations where flammable gases are present
 - Locations containing Sulfide gas or silicone substances (e.g., hot springs)
 - Coastal areas with high saline-alkali, strong acid, or strong alkali conditions, which may corrode the unit
- ❗ This fan coil unit is designed to operate within the following temperature ranges. Please use the unit within these ranges.
 - The chilled water inlet temperature should not be lower than 5° C, otherwise condensation on the unit may occur. The hot water inlet temperature should not exceed 80° C (55° C is typical), otherwise corrosion of the copper tubes in the heat exchanger may occur.
 - The recommended ambient operating temperatures for the unit are: cooling mode: 16~36° C; heating mode: 10~30° C; relative air humidity ≤ 90% RH. Operating outside these ranges will affect the performance of the unit.

Product Dimensional Drawing and Dimension Table



Exposed Fan Coil Unit dimension (mm)

Model	EV-51FP	EV-68FP	EV-85FP	EV-102FP	EV-119FP	EV-136FP
A Total length	1083	1133	1234	1384	1484	1585
B Air outlet length	652	702	803	953	1053	1154
C Mounting holes space	618	688	788	938	1039	1138

Product Installation Instructions

• Installation Precautions

- 1.Installation and service work must comply with local standards, laws, and regulations.
- 2.Installation of this fan coil unit must be carried out by a dealer or qualified professional. If the user installs the unit themselves, water leakage, electric shock, or fire may occur.
- 3.Do not carry out installation work such as water pipe connection, drain pipe connection, or electrical wiring without reading the installation manual.
- 4.Check that the ground wire is correctly and securely connected.
- 5.Before installation and commissioning, do not place any unrelated materials inside the indoor unit. Ensure the fan coil unit is free of debris. Failure to do so may result in fire or accident.
- 6.Do not install the fan coil unit in a flammable environment. Keep it away from fire sources and explosives.
- 7.Do not install the fan coil unit outdoors. Otherwise, electric shock or leakage may occur.

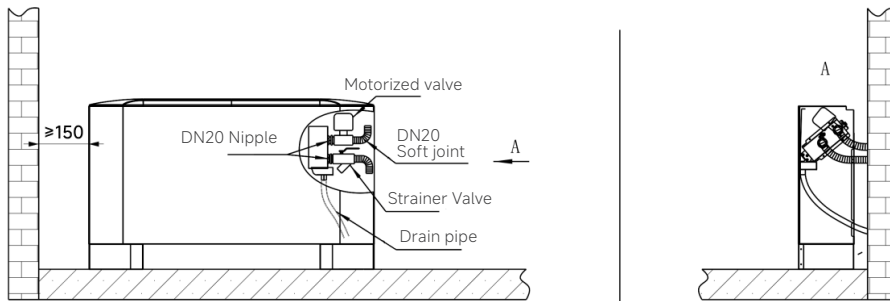
• Installation Environment Requirements

Installation Space

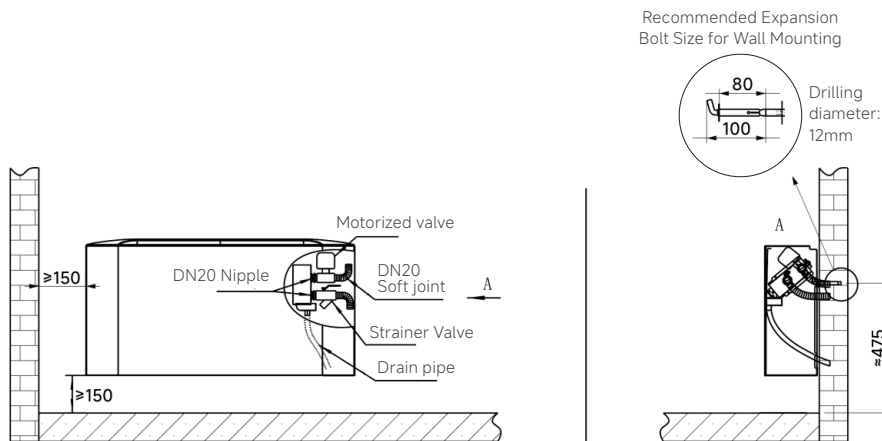
- 1.Install the fan coil unit in a location that allows easy access for operation and maintenance.
- 2.When connecting the water inlet and outlet pipes, to prevent vibration caused by unit operation, it is recommended to use flexible connections and seal the threads with PTFE tape (plumber's tape). When tightening the connections, hold a wrench firmly against the unit's water inlet/outlet port and tighten slowly and evenly. The torque should not exceed 70 N·m (7.1 kgf·m). When using tools with a long lever arm, exercise special care to avoid excessive torque, which may deform the copper pipe or cause twisting and leakage.

Product Installation Instructions

Vertical Installation detail drawing

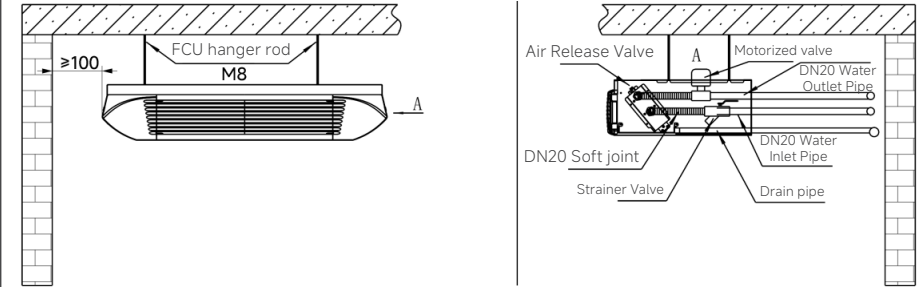


Wall mounted detail drawing



Product Installation Instructions

Horizontal installation detail drawing

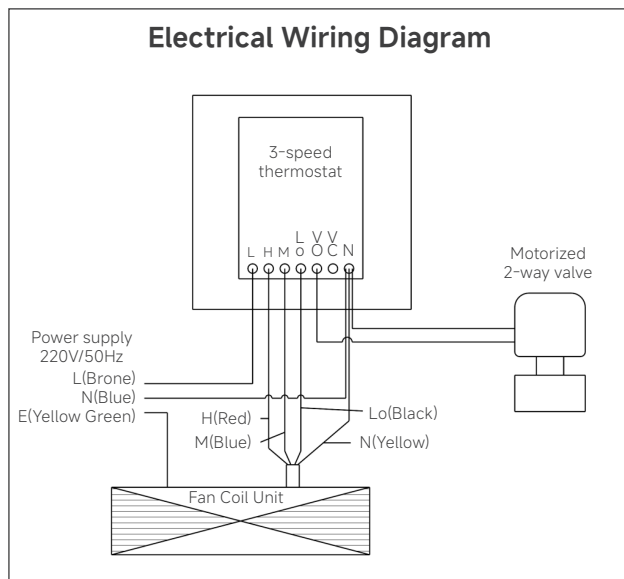


Notice

- The indoor unit must be installed in a suitable location to ensure even temperature distribution throughout the room.
- The air inlet and outlet of the indoor unit must not be obstructed by any objects that may block airflow.
- Do not install the indoor unit in equipment rooms or kitchens where oil vapor or cooking fumes may enter the unit.
- If oil accumulates on the heat exchanger, it will reduce the performance of the indoor unit and may damage its plastic components.
- When installing the fan coil unit in a hospital or near other medical equipment that generates electromagnetic waves, pay attention to the following:
 1. Install the fan coil unit as far away from the electromagnetic radiation source as possible, and no less than 3 meters.
 2. If the power supply contains electrical noise, install a filter to eliminate the noise.
- Acids and alkalis are corrosive to the heat exchanger. Do not install the fan coil unit in an environment containing acids or alkalis.

Wiring Precautions

- Before performing electrical wiring or periodic inspections, turn off the main power switches of the indoor and outdoor units and wait at least 10 minutes.
- Before performing electrical wiring work or periodic inspections, verify that the fan coil unit has stopped completely.
- Protect wires, drain pipes, electrical components, and other parts from rats and other small animals. Failure to do so may result in rodents damaging the components, which could cause a fire.
- Prevent wires from coming into contact with piping, sheet metal edges, or electrical components inside the unit. Otherwise, the wires may be damaged or may even cause a fire.
- Use an Earth Leakage Breaker (ELB) with a medium or higher speed response (operating time 0.1 seconds or less). Failure to do so may result in electric shock or fire. All wiring must be securely fastened. External force on the terminal connections may cause a fire.
- Do not use the fan coil unit's power terminal block to extend power wires. For expanding the power wiring at the fan coil unit side, a separate power distribution terminal box may be used. Ensure proper calculation of the wiring capacity; insufficient wiring capacity may cause a fire.
- Do not start the system until all inspection items have been checked.
- For detailed information, refer to the "Electrical Wiring Diagram" attached to the surface of the electrical box.



Operating Precautions

• Safety Instructions

1. Do not allow water to enter the fan coil unit. These units contain electrical components, and exposure to water may cause a short circuit.
2. Do not open the casing of the fan coil unit, or approach the fan coil unit enclosure, before turning off the main power supply.

• Preparation Before Operation

1. Before trial operation, carefully verify that all previous installation work (electrical connections, pipe connections, pipe insulation, etc.) has been fully completed and is secure.
2. Check the water system: ensure the supply and return water valves are fully open, there are no leaks in the piping, all air inside the coil has been purged, and the condensate drain is clear.
3. Check the air system: ensure the fan impeller moves freely without obstruction or foreign objects, the return air filter is clean, and the supply/return air openings are not blocked.

• Warning

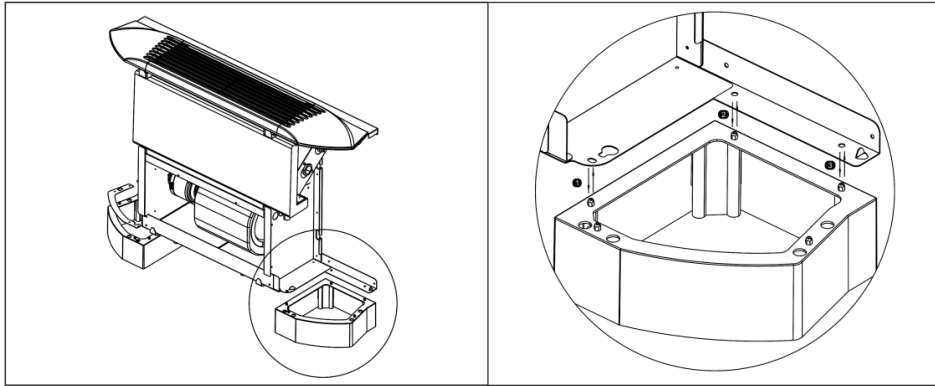
1. Do not use any flammable aerosol products such as insecticides, paints, or hair sprays within approximately 1 meter of the unit.
2. If the indoor distribution panel or fuse is frequently tripped or blown, stop using the air conditioning system and contact the company's authorized dealer.

Product Operating Instructions

Product Feature Description

- **Feet Mounting**

The vertical exposed model comes standard with one set of feet, which must be assembled by the user. To install, align the bracket holes with the fixing posts on the unit body, snap them into place, and the installation is complete.

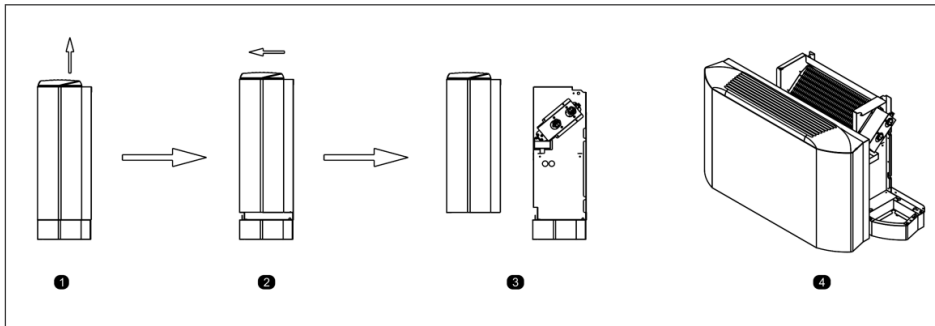


- **Removable Cover**

The removable cover design enables flexible operation during installation, making it easy to route and connect piping. Once the unit is in service, it also allows convenient access for internal inspection, dust removal, and other maintenance, improving ease of use.

- **Removal steps**

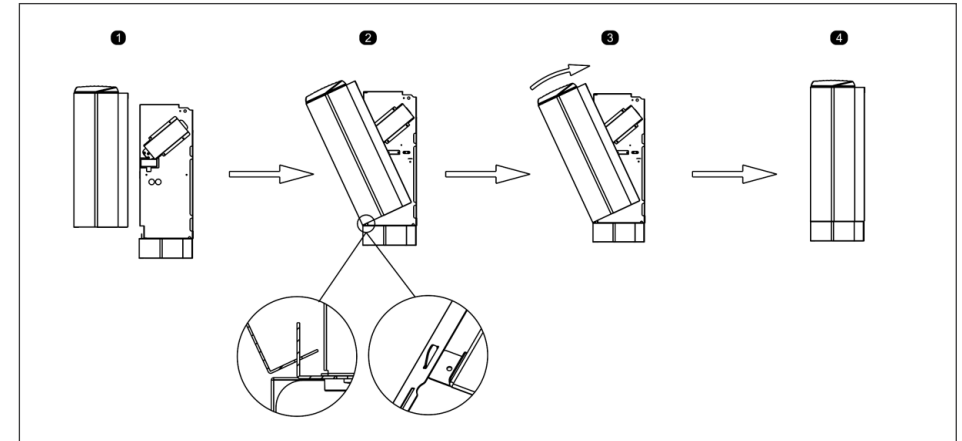
First, pull the cover upward firmly, then pull it forward to remove it.



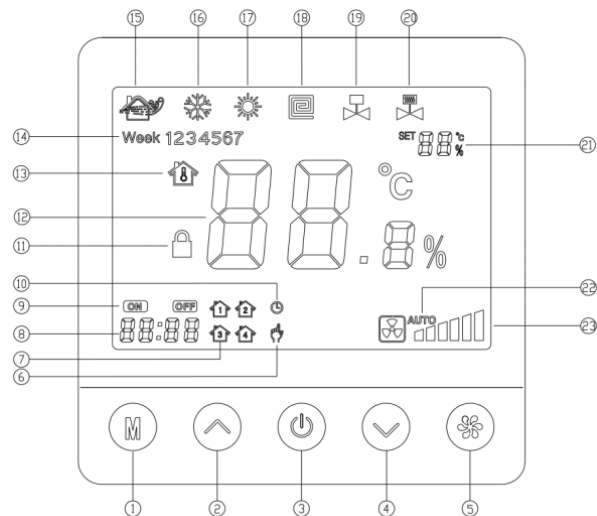
Product Operating Instructions

- **Installation steps**

Align the elongated holes at the bottom of the panel with the hooks on the lower front side of the unit and hook them into place. Ensure that the reserved elongated holes on the side face toward the water inlet/outlet side of the unit.



Product Operating Instructions



NO.	Description
1	M key (Mode)
2	Up
3	Power
4	Down
5	Fan speed
6	Manual mode icon
7	4 time period display icon
8	Time display zone
9	Timed power on/off icon
10	Timer function icon
11	Lock

NO.	Description
12	Temperature display zone
13	Room temperature icon
14	Week display zone
15	Fan mode icon
16	Cold mode icon
17	Heat mode icon
18	Underfloor heating icon
19	Air conditioner valve icon
20	Underfloor heating valve icon
21	Set temperature display zone
22	Auto fan speed mode icon
23	Fan speed display zone

Product Operating Instructions

● Button instructions:

- **Power button:** Short press to turn the instrument on/off while powered on; short press to exit current settings during setup.
- **Mode button:** Single air conditioning mode: Short press the M key while the unit is on to cycle through cooling, heating, and ventilation modes.
- **Down button:** Short press to decrease the set temperature while the unit is on.
- **Up button:** Short press to increase the set temperature while the unit is on.
- **Fan speed button:** Short press to adjust the fan speed and enables automatic fan speed control. Long press to activate lock; long press again to deactivate lock.

● Function Description:

- **Ventilation Mode:** The fan operates at the set speed, and the valve remains closed. Fan speed can be manually adjusted.
- **Cooling Mode:** (Air Conditioning Mode) --> Can be set to 4-pipe or 2-pipe mode. 2-pipe mode opens this valve for both cooling and heating modes. 4-pipe mode opens the cold water valve for cooling and the hot water valve for heating.
- **Heating Mode:** (Air Conditioning Mode) --> Can be set to 4-pipe or 2-pipe mode. 2-pipe mode opens this valve for both cooling and heating modes. 4-pipe mode opens the hot water valve for heating. In non-air conditioning modes, it cannot be set to 4-pipe mode; only a 2-pipe mode is available, and the hot water valve above becomes the underfloor heating valve.
- **Restore Factory Settings:** Simultaneously press and hold the power button + fan speed button to restore factory settings. A successful reset will display in full screen.
- **WiFi Configuration:** For new devices, after powering on, the WiFi icon will flash rapidly (about 2-3 times per second), allowing for direct configuration. If it flashes slowly (once per second), press and hold the power button and the up button simultaneously while the device is powered on to reset the WiFi status. Each reset requires waiting 20 seconds before configuring.

Once configuration is successful, the WiFi icon will remain lit.

Product Operating Instructions

- For models with a time display:

Setting Time: With the device powered on, press and hold the "M" key until the time flashes. Use the up and down keys to adjust the time. Press the "M" key again briefly to switch to minute adjustment, and press it again to switch to day of the week adjustment. Press the "M" key again briefly to exit, or exit automatically without operation, or press the power button briefly to exit the setting. All three exit methods save the settings.

Setting Timer On/Off: With the device powered on, press and hold the "M" key to enter the time and day of the week setting. After setting the day of the week, press the "M" key again briefly. The display will show "- - :- -" and "ON/OFF" icons, indicating whether the timer function is on or off. "- - :- -" indicates the timer function is off. Press the up and down keys to adjust the time display to enable the timer function. Press the "M" key again briefly to set the timer to turn off in hours, press it again to set the timer to turn off in minutes, press it again to set the timer to turn on in hours, press it again to set the timer to turn on in minutes, and press the "M" key again briefly to exit. Alternatively, press the power button briefly to exit, or exit automatically without operation. All methods save the data.

- Note:** If the timer function is not enabled, the system will automatically exit when you reach the timer selection screen and will not enter the timer setting screen. You can only set the timer time after selecting "Enable Timer".

Parameter Setting Item: Press and hold the "M" key while the device is off to start.

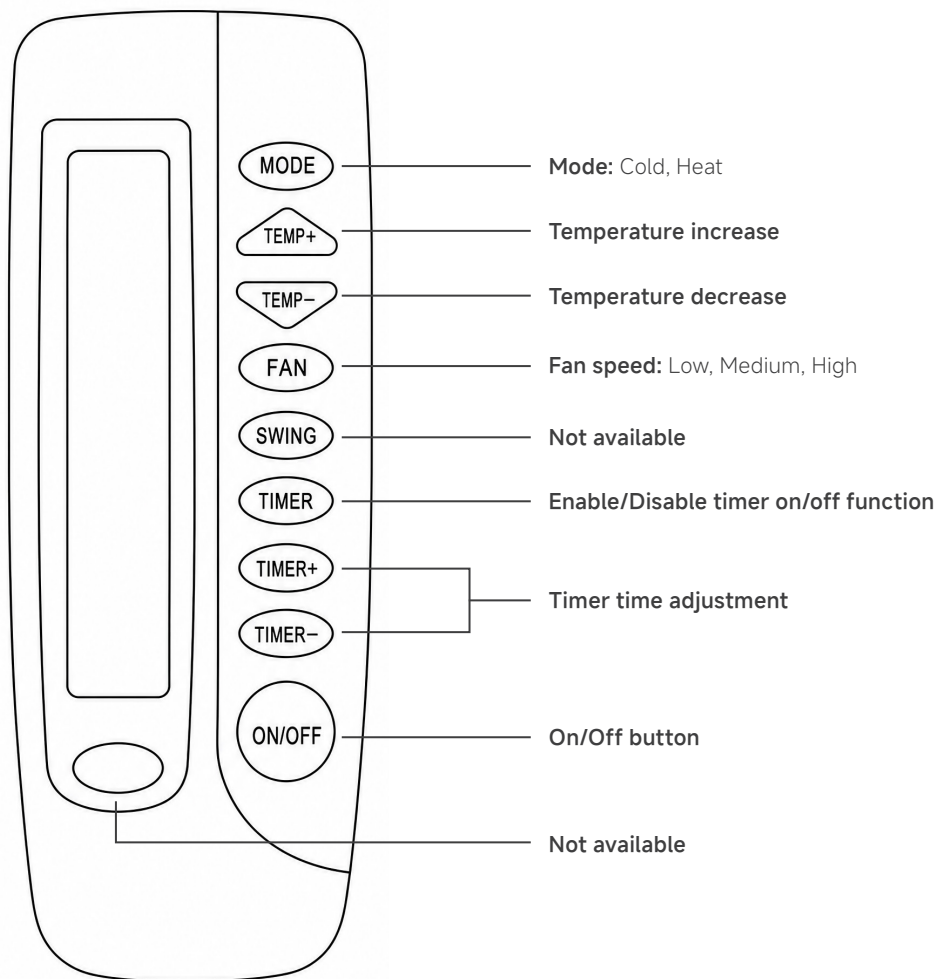
NO.	Function	Data	Function	Default	Note
F1	485 communication address	0-99		1	
F2	Temperature sensor location selection	0-1		0	Selection is not supported
F3	Set max temperature	Minimum value -55		35	
F4	Set min temperature	0-max value		15	
F5	Temperature correction	+/-9 degree	+for up -for down	0	
F6	Temperature control differential	1.0-5.0		1.0	
F7	anti-cold wind temperature	0-50		30	
F8	Anti-freeze	0-1	0 close 1 open	0	After turning on anti-freeze, when the unit turned off, the Temp. ≤ 4 °C it starts and stops when the Temp. ≥ 7°C
F9	Anti-heat air temperature	0-25		15	

Product Operating Instructions

Advanced options: After powering off, press and hold the power button + up button to start.

NO.	Function	Data	Function	Default	Note
P1	Show EE reminder				
P2	Time function selection	0-2	0 No time function 1 Timed on/off 2 Timed period function	1	
P3	Fan off selection	0-2	0 - Fan off when set temperature is reached 1 - Fan on when cooling temperature is reached, fan off when heating temperature is reached 2 - Fan on when set temperature is reached	0	
P4	Powered on, on/off selection	0-2	0. Remembers the power-on/off state before power failure 1. Power on 2. Power off	0	

Remote Controller Operating Instructions



Common Faults and Solutions

Symptom	Possible Cause	Solution
Abnormal noise or vibration from unit	Motor bearing damaged	Replace motor
	Fan motor fixing screw loose	Tighten screw
	Volute or fan damaged	Replace volute or fan
	Foreign object in air duct or outlet	Remove foreign object
	Air filter is clogged	Clean the filter
Poor air output or reduced airflow	Air inlet or air outlet of the unit is blocked by an obstruction	Remove the obstruction
	Air filter is clogged	Clean the filter
Insufficient cooling/heating	Unit electric valve not opened	Start unit electric valve
	Circulating pump not running, water not flowing	Start circulating pump
	Heat exchanger fins blocked or bent	Clean and straighten fins
	Unit chilled water set temperature too high / hot water set temperature too low	Adjust set temperature on outdoor unit/chiller/boiler
	Inappropriate mode or temperature setting on the thermostat	Readjust the mode or temperature setting on the thermostat
	Air filter is clogged	Clean the filter
Water leakage	Drain pan outlet blocked	Clear blockage
	Insulation on pipes/fittings insufficient	Insulate properly
	Unit not level	Level the unit
	Unit stopped while chilled water flowing	Turn off unit's electric valve or set unit to low speed
	High ambient humidity	Reduce humidity and prevent high humidity air entering room
	Air vent valve loose	Tighten valve
	Unit piping leaking	Repair or contact the dealer

Maintenance and Care

Regular maintenance and care can effectively extend the unit's service life and ensure air quality.

● Safety Requirements

1. Before performing maintenance or care, disconnect the unit's power supply and close the water circuit valves. Do not work on the unit while it is powered or pressurized.
2. Use a neutral detergent for cleaning. Do not use strong acids, strong alkalis, or corrosive solvents to avoid damaging the fins, plastic parts, and electrical components.
3. During cleaning, protect the motor and electrical control box from water ingress. Do not allow water to enter these components to prevent short circuits, electric shock, and equipment damage.
4. After completing maintenance, first check that there are no leaks, debris, or loose parts, then restore power and water supply for a trial run. Only put the unit into normal operation after confirming it is functioning properly.

● Maintenance and Care Methods

1. Air Filter Cleaning: It is recommended to clean the return air filter every 2–3 months of use. Excessive dust accumulation will seriously affect airflow and heat exchange performance. Clean the filter with clean water. After cleaning, leave it to dry in a cool, shaded place. Do not expose it to direct sunlight or dry it with an open flame.

2. Coil Fin Cleaning: It is recommended every 1–2 years to evenly spray a neutral coil cleaner onto the fins, allow it to sit to dissolve dirt, then rinse with low-pressure clean water or compressed air in the direction of the fins. Do not use high-pressure water or rinse in the reverse direction, as this may cause fin collapse or damage to the copper tubes.

3. Condensate Drain Pan Cleaning: Periodically check the drain pan for sludge or debris. Keep the drain clear to prevent bacterial growth and water overflow. Rinse with clean water. If necessary, use a diluted disinfectant solution to remove bacteria and odors.

4. Fan Maintenance: It is recommended every 1–2 years to use a soft brush and vacuum cleaner to remove dust and debris from the impeller and the inside of the scroll casing. Check the impeller for deformation. If abnormal noise or reduced airflow occurs, inspect and resolve the cause promptly.

5. Seasonal Maintenance:

Summer shutdown period: It is recommended to keep the coil filled with water to reduce internal corrosion of the pipes.

Winter shutdown period (especially in cold northern regions): All water inside the coil and piping must be completely drained and purged with compressed air, or reliable freeze protection measures must be taken. Do not allow water to freeze inside the unit, as this may crack the copper tubes.

Warranty Instructions

Warranty Service Details

Dear User

1. When requesting warranty service, please present the warranty card and the purchase invoice with all relevant information fully completed. The company provides a 36-month warranty from the date of product purchase. During the warranty period, for quality issues arising under normal use, the company will provide free repair or replacement services. For damage caused by human factors or for service beyond the warranty period, the company will charge a reasonable fee for repair or replacement services.

2. Damage caused by human factors includes, but is not limited to: damage resulting from improper use or operation; abnormal wear and tear, dropping, crushing, deformation, ingress of foreign objects, or exposure to moisture; alteration or tearing of the product's security seals; or any other visible damage caused by human factors.

Other excluded conditions include:

- Damage caused by unauthorized disassembly, modification, improper handling, incorrect operation, or water ingress by the user.
- Damage caused by force majeure, such as earthquake, flood, fire, typhoon, or war.
- Cases where the purchase invoice does not match the product model number, or where the warranty period has expired.

Disclaimer

The following cases are not covered under warranty. In these cases, the company will provide paid repair and maintenance services.

- Products not sold by the company or its authorized distributors.
 - Damage caused by poor user power supply, or by improper use, storage, transportation, or maintenance by the user.
 - Products beyond the warranty period, or where the warranty certificate model does not match the product being repaired, or the certificate has been altered.
 - Damage caused by installation or repair performed by service providers not authorized by the company.
 - Damage caused by disassembling or repairing the product without authorization.
 - Counterfeit products or non-genuine products.
 - Losses caused by force majeure.
 - Warranty services not specifically promised by the company.
 - For water-related products: when the ambient temperature is below freezing, ensure the unit remains powered on. If the unit will not be used for an extended period, completely drain all water from the water system to prevent freezing and damage to the unit.
- The company shall not be held responsible for any damage to the company's equipment or to other customer equipment resulting from failure to comply with the above requirements.