



Owner's Manual

Original Instructions

Commercial Air Conditioners

Floor and Ceiling FCU

Thank you for choosing commercial air conditioners. Please read this Owner's Manual carefully before operation and retain it for future reference.

If you have lost the Owner's Manual, please contact the local agent or visit www.gree.com or send an email to global@cn.gree.com for the electronic version.

GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI



To Users

Thank you for selecting Gree's product. Please read this instruction manual carefully before installing and using the product, so as to master and correctly use the product. In order to guide you to correctly install and use our product and achieve expected operating effect, we hereby instruct as below:

- (1) This equipment should be installed, operated or maintained by the qualified servicemen who have had specific training. During operation, all safety issues covered in the labels, User's Manual and other literature should be followed strictly. This equipment is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.
- (2) This product has gone through strict inspection and operational test before leaving the factory. In order to avoid damage due to improper disassembly and inspection, which may impact the normal operation of unit, please do not disassemble the unit by yourself. You can contact our designated dealer or local service center for professional support if necessary.
- (3) When the product is faulted and cannot be operated, please contact our designated dealer or local service center as soon as possible by providing the following information.
 - Contents of nameplate of product (model, cooling/heating capacity, product No., ex-factory date).
 - Malfunction status (specify the situations before and after the error occurs).
- (4) All the illustrations and information in the instruction manual are only for reference. In order to make the product better, we will continuously conduct improvement and innovation without further notice.

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Safety Notices (Please be sure to abide)



WARNING: If not abide strictly, it may cause severe damage to the unit or the people.



NOTE: If not abide strictly, it may cause slight or medium damage to the unit or the people.







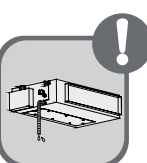





This sign indicates that the operation must be prohibited. Improper operation may cause severe damage or death to people.










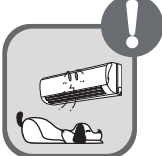
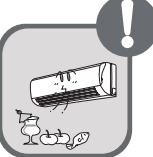

This sign indicates that the items must be observed. Improper operation may cause damage to people or property.

⚠ WARNING

	<p>Please perform installation in accordance with this manual and read it carefully prior to startup and service.</p>		<p>Installation should be done by sales agents or qualified servicemen. Do not do it personally, as incorrect installation would lead to water leakage, electrocution, fire hazards etc.</p>
	<p>Before installation, check for power supply and see if it complies with that on the nameplate. Besides, check for safety of the power supply.</p>		<p>This unit should be grounded and there should be grounding lines for the power socket so as to prevent electrocution. Do not connect the grounding lines to the gas lines, water lines, lightning rod or telephone lines.</p>
	<p>Specialized components and parts should be used for installation; otherwise it would lead to water leakage, electrocution, fire hazards etc.</p>		<p>Size of the power lines should be large enough. Power lines and other electric connection lines should be replaced by specialized cables.</p>
	<p>When wiring of power lines is finished, remember to install a electric box to prevent safety accidents.</p>		<p>When installation is finished, check for connection of drain lines, water lines and electric lines, as incorrect connection would lead to water leakage, electrocution, fire hazards etc.</p>
	<p>Do not start or stop the unit by drawing out or plugging in the power plug.</p>		<p>Do not let the children play with this unit.</p>
	<p>Do not operate this unit with wet hands.</p>		<p>Do not clean this unit until the unit is turn off and the power supply is cut off, otherwise it would lead to electrocution or personal injury.</p>

	<p>Do not spray or rinse this unit with water, as it would lead to malfunction or electrocution.</p>		<p>Do not let this unit exposed to moist, wet or corrosive environment.</p>
	<p>Volatile liquid like thinner or petroleum would damage appearance of this unit. (Only soft dry cloth and cloth with neutral detergent can be used to clean the outer casing of this unit.)</p>		<p>Do not make the set point too low under the cooling mode.</p>
	<p>Entering and leaving water lines, condensate lines and valves should be thermal insulated so as to prevent from dewing in summer.</p>		<p>Do not repair this unit by yourself, as incorrect repair would lead to electrocution or fire hazards. Please contact GREE after-sales center and repair should be done by the qualified servicemen.</p>
	<p>Never splice the power cord or use an extended cord. It can cause overheating or fire.</p>		<p>Don't insert your hands or stick into the air intake or outlet vents.</p>
	<p>Don't block the air intake of the FCU. It can decrease the FCU capacity or cause a malfunction.</p>		<p>Keep combustilble spray away from the units more than 1.5m. It can cause a fire or explosion.</p>

NOTE

	<p>During operation, do not insert fingers or other objects into the moving parts, which would lead to unnecessary injuries.</p>		<p>Please cut off the power supply when this unit is not used for long time in consideration of safety.</p>
	<p>When there is something unusual (like unusual smell, burning smell, smoke etc.), please turn off the unit and cut off the main power supply at once, and then contact GREE after-sales servicemen. If unusual conditions go on, this unit would burn out, or even it would lead to electrocution or fire hazards.</p>		<p>Wiring of power lines and electric connection lines should be secure enough. Terminals also should be tightly fastened. The connection line should not suffer external forces. For the unit equipped with the wired controller, the controller would be powered on firstly; otherwise it would be out of normal use.</p>
	<p>The filter should be cleaned periodically in case that heat exchanging effect would be affected.</p>		<p>Please do freeze protection in winter to prevent copper tubes from cracking.</p>
	<p>Don't leave windows and doors open for a long time while operating the FCU. It can decrease the FCU capacity.</p>		<p>Don't blow the wind to animals and plants directly. It can cause a bad influence to them.</p>
	<p>Don't use the FCU for other purposes, such as drying clothes, preserving foods, etc.</p>		<p>Don't place a space heater near the FCU.</p>

This appliance is intended to be used by expert or trained users in shops, in light industry and on farms, or for commercial or household use by lay persons.

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

- (1) The place with strong heat sources, vapors, flammable or explosive gas, or volatile objects spread in the air.
- (2) The place with high-frequency devices (such as welding machine, medical equipment).
- (3) The place near coast area.
- (4) The place with oil or fumes in the air.
- (5) The place with sulfureted gas.
- (6) Other places with special circumstances.
- (7) Do not use the unit in the immediate surroundings of a laundry, a bath, a shower or a swimming pool.

DISPOSAL: This marking indicates that this product should not be disposed with other household wastes throughout the EU. To prevent possible harm to the environment or human health from uncontrolled waste disposal, recycle it responsibly to promote the sustainable reuse of material resources. To return your used device, please use the return and collection systems or contact the retailer where the product was purchased. They can take this product for environmental safe recycling.



This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

1 Product Introduction

1.1 Working Principle

The cold (hot) water entering the heat exchanger will do heat exchanging with air passing through the surface of the heat exchanger to condition the air temperature and humidity. There is no (cold) hot source for this product itself. The running mode depends on the environment temperature and the running mode of the main unit.

Protection against hot air

Under the cooling mode, when the water temperature is too high, the fan will be stopped to avoid the unit from blowing out hot air.

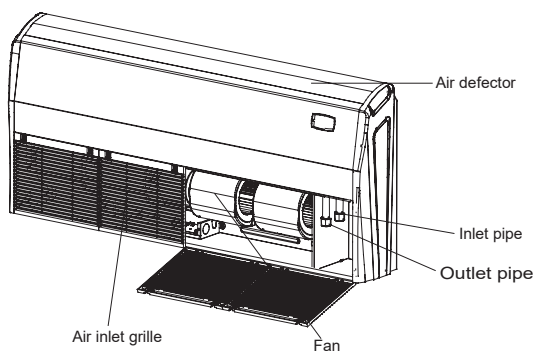
Protection against cold air

Under the heating mode, when the water temperature is too low, the fan will be stopped to avoid the unit from blowing out cold air.

Memory function

Upon power failure, some statuses can be memorized, including: mode setting, fan speed setting, fan swing setting, temperature setting etc.

1.2 Main Parts



1.3 Working Conditions

- (1) The entering water temperature for cooling is suggested to be no less than 5°C, otherwise it would lead to condensate; the entering water temperature for heating is suggested to be not higher than 80°C (normally 60°C), otherwise it would lead to corrosion of copper tubes or abnormal noise.
- (2) The suggested working environment temperature for cooling ranges 16 ~ 40°C and ranges 10 ~ 35°C for heating. Besides, the relative humidity is or less than 80%.
- (3) This product is a kind of comfort air conditioning, and is not allowed to be installed where there are corrosive, explosive and inflammable substances or smog; otherwise it would lead to operation failure, shortened service life, five hazard or even severe injuries. Special air conditions are required for where mentioned above.
- (4) The following conditions are applicable to products used in EU countries. For other areas, please refer to the local executive standards.
 - Rated cooling conditions: 27°C dry bulb temperature, 19.5°C wet bulb temperature, 7°C entering water temperature, 12°C leaving water temperature
 - Rated heating conditions: 20°C dry bulb temperature, 15°C wet bulb temperature, 60°C entering

water temperature, even cold water flow.

- Dewing condition: 27°C dry bulb temperature, 24°C wet bulb temperature, 6°C entering water temperature, and 9°C leaving water temperature

2 Unit Installation

2.1 Installation Environment

- (1) There should be no direct sunlight.
- (2) The hanger, ceiling and the building structure should be capable of supporting the weight of the unit.
- (3) The drain pipe can be easily led out.
- (4) The inlet and outlet air flow will not be blocked.
- (5) There should be no inflammable and explosive substances.
- (6) There should be no corrosive gas, heavy dust, salt fog, smog or moisture.

2.2 Precautions for Installation

Fix the hanger bolt to the hanger. Make sure that the hanger bolt is at the arrowed position. When it is outside the arrowed position, adjust the hanger.

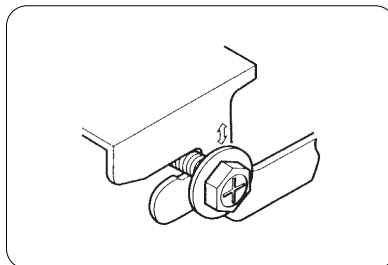
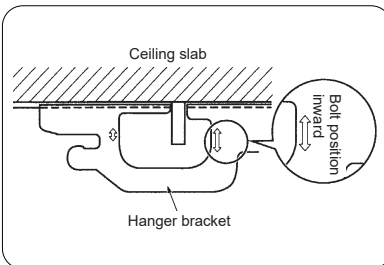
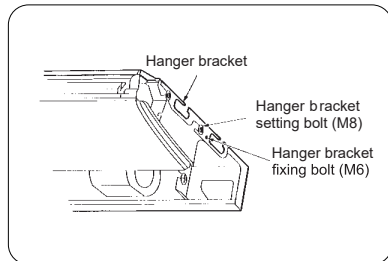
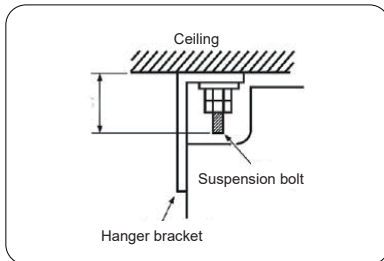
Lift the unit and push it forwards to the groove.

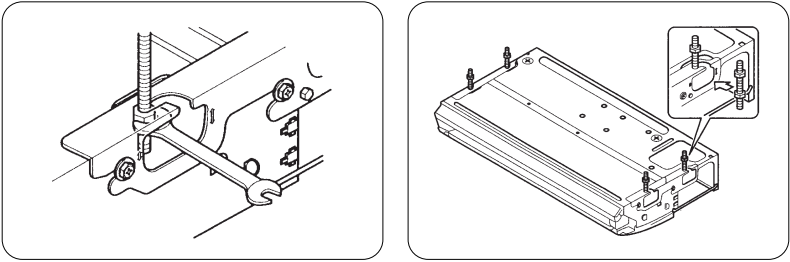
Screw tightly both hanger bolts (M8).

Screw tightly both hanger bracket fixing bolts (M6) to prevent the movement of the unit.

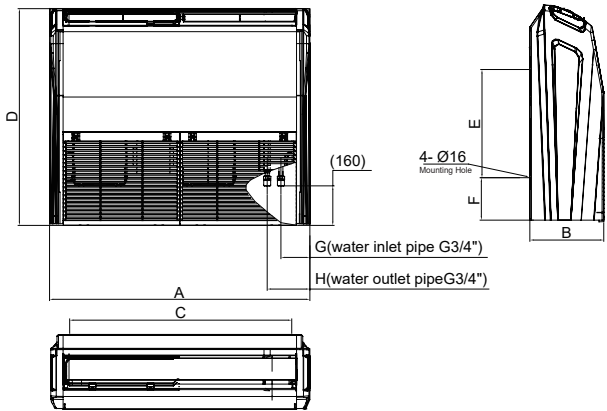
Adjust the unit height so that rear side of the drain pipe slightly inclines to improve drainage.

During installation, the unit should be calibrated by a water level; otherwise it would affect the normal operation. When installation has been finished, do not twist the unit.





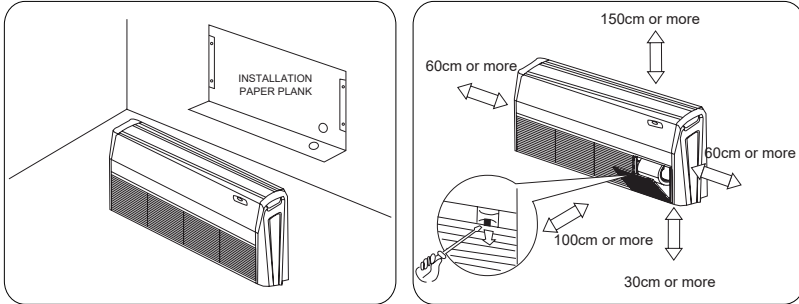
2.3 Outline Dimensions



Unit: mm.

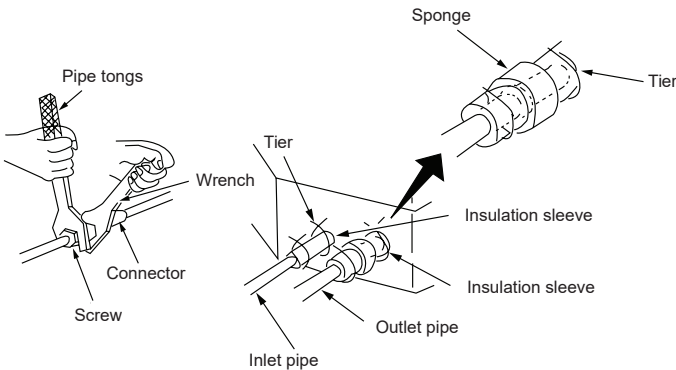
TYPE	TYPE	A	B	C	D	E	F	G	H
FP-34WM	FP-34ZD	840	238	740	695	260	203	(130)	(215)
FP-51WM	FP-51ZD	840	238	740	695	260	203	(130)	(215)
FP-68WM	FP-68ZD	840	238	740	695	260	203	(130)	(215)
FP-85WM	FP-85ZD	840	238	740	695	260	203	(130)	(215)
FP-102WM	FP-102ZD	1300	188	1202	600	260	160	(106)	(172)
FP-136WM	FP-136ZD	1300	188	1202	600	260	160	(106)	(172)
FP-170WM	FP-170ZD	1590	238	1491	695	260	203	(97.5)	(178.5)
FP-204WM	FP-204ZD	1590	238	1491	695	260	203	(97.5)	(178.5)

2.4 Installation and Maintenance Space



2.5 Installation of Inlet and Outlet Pipes

- (1) Both the torque wrench and ordinary wrench should be used for installing and uninstalling the water pipes, as shown in the figure below.
- (2) The inlet and outlet pipes both are G3/4 threaded. Before connection, wrap the thread for 2-3 cycles with the Teflon tape for better sealing.
- (3) After the inlet and outlet pipes have been connected, start the water pump to check if they leak or not. Then, expel air inside the pipe system through the exhaust valve and insulate it properly as shown in the figure below.
- (4) Wrap the connectors with sponge and do insulation to the exhaust valve.

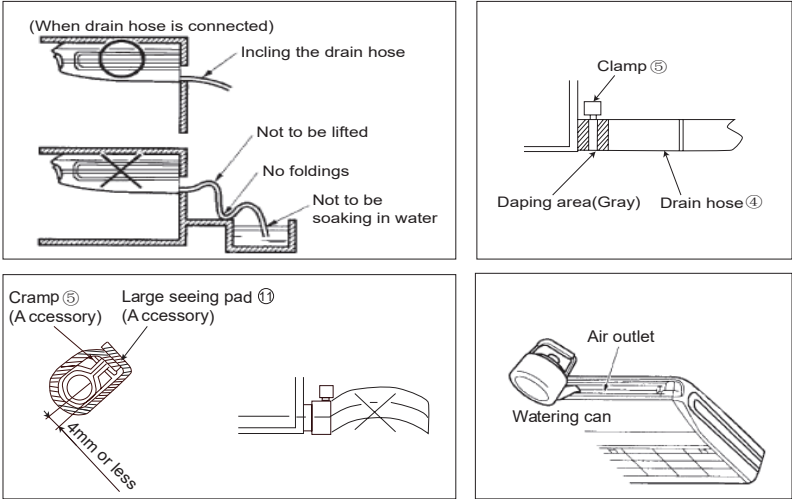


2.6 Installation of the Drain Pipe

2.6.1 Precautions for the Drain Pipe

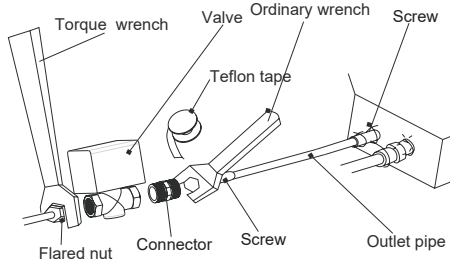
- (1) The drain pipe outlet direction can be at either the right rear or right side.
- (2) The diameter of the drain pipe should be equal to or greater than the diameter of the connecting pipe.
- (3) Keep at least 1/100 inclination for the drain pipe.
- (4) Connect the drain hose to the drain connector and tighten it with clamps at where there is gray adhesive tape.
- (5) Wrap the clamps and the drain hose with sealing pad.
- (6) Do not bend the drain hose.
- (7) Charge 600cc water from the air outlet to the drain pan to check the drainage effect.

2.6.2 Installation Steps of the Drain Pipe

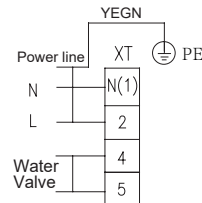
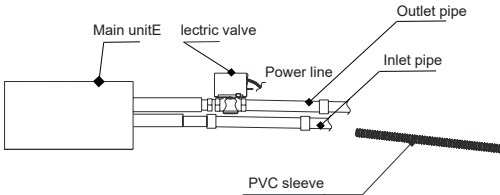


2.7 Installation of the Water Valve

2.7.1 Precautions



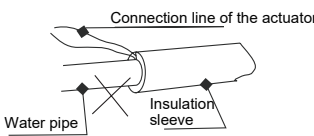
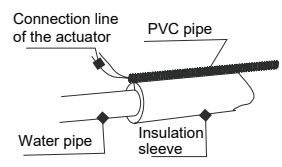
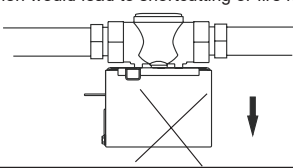
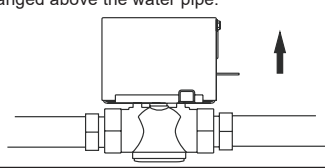
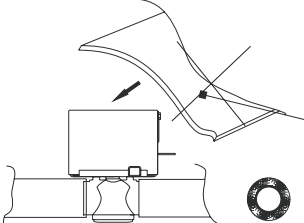
- (1) See the figure above for installation of the water valve. Firstly, connect one end of the water pipe to the water inlet of the unit, and then connect the other end to water valve. During installation, both the torque wrench and ordinary wrench should be used. For the former, the torque should be less than 90N.m.
- (2) The pipe connectors and the water valve are G3/4 threaded. In order for better sealing effect, before connection they should be wrapped with Teflon tape.
- (3) After the connector, the water valve and the water pipes have been finished, start the water pump and see if they leak or not.
- (4) Insulate the water valve and the pipe with sponge.



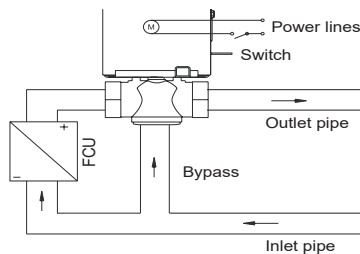
- (5) When the water pipe and water valve have been installed, connect the connection line of the valve to the wiring board of the unit.
- (6) Check the wiring carefully and then start the water pump and unit to see if they work normally.

2.7.2 Requirements on Installation

- (1) The water valve should be installed as the following statement; otherwise it would affect the normal operation.

<p>⊘ It is not allowed to directly insulate the connection line of the actuator and the water pipe together, otherwise it would lead to shortcutting of the water valve which would affect its service life.</p> 	<p>❗ Put the connection line through the PVC pipe and then bind them with the insulation sleeve.</p> 
<p>⊘ Never install the valve downwards, otherwise the condensate would flow into the valve and damage the valve or then would lead to shortcutting or fire hazards.</p> 	<p>❗ The main body of the valve should be installed upwards and the power lines should be arranged above the water pipe.</p> 
 <p>Insulation sponge</p> <p>Do not cover fully the valve with the insulation sponge; otherwise it would lead to poor heat radiation and even fire hazards.</p>	

- (2) There are direct pass and bypass for the water valve and they can be selected based on actual conditions. See the figure below for the working principle for the water valve.



2.8 Electric Wiring

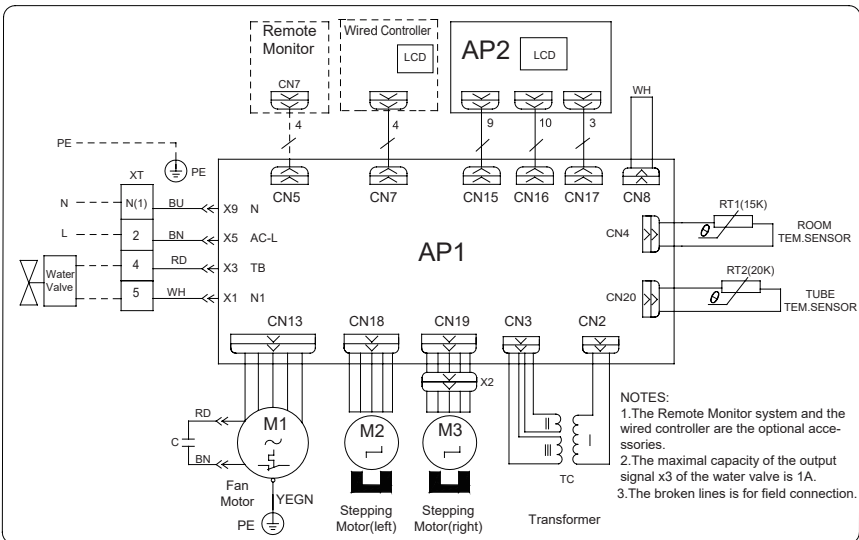
2.8.1 Precautions for Electric Wiring

- (1) All electric wiring should be performed by the qualified technical in accordance with local standards, regulations and this manual.
- (2) The specialized electric circuit with rated voltage should be used for the power supply.
- (3) Do not pull the power lines by force.
- (4) The power lines should be sized sufficiently. The damaged power lines and connection lines should be replaced by specialized lines.
- (5) The unit should be connected to the specialized grounding device by the qualified servicemen. For the fixed lines, there should be the breaker and air switch with sufficient capacity. The air switch should be of the magnetic or electric trip-off functions so as for shortcutting and overloading protection.
- (6) The unit should be grounded reliably. The yellow-green line is the grounding line. Do not put it into other use, or cut it. The grounding line cannot be fixed with self-tapping screws; otherwise it would lead to electric shock. The grounding line cannot be connected to the running water line, the gas line, the drain line and where it is not approved.

2.8.2 Steps for Electric Wiring

- (1) Open the electric box and pull the power lines and connection lines of the electric water valve through the rubber rings. Then, fix them with the wire clamps.
- (2) Perform wiring in accordance with the electric wiring diagram.
- (3) Fix the lines with the wire clamps.

2.8.3 External Wiring Diagram



3 Commissioning and Maintenance

3.1 Inspection after Installation

Item	Possible Consequence	Inspection
Is the main unit installed securely?	The unit may fall down, vibrate or generate noise.	
Is the leak test performed?	The unit fails to work normally.	
Is the unit insulated properly?	It may generate condensate and water drops.	
Does drainage go smoothly?	It may generate condensate and water drops.	
Does the power voltage comply with the nameplate?	Errors may rise or some component may be damaged.	
Are wiring and piping performed properly?	Errors may rise or some component may be damaged.	
Is the unit grounded reliably?	It would lead to electric leak.	
Are the electric lines sized properly?	Errors may rise or some component may be damaged.	
Is there foreign matter at the air inlet or outlet?	It would lead to poor cooling capacity.	

3.2 Trial Run

(1) Preparation before Trial Run

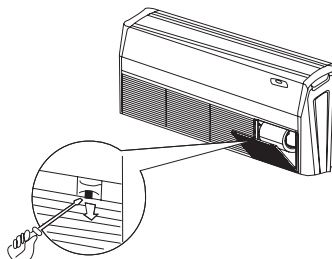
- Do not power the unit on until all installation has been finished.
- Control and power lines are connected correctly and tightly.
- All cut-off valves should be opened.
- All odds and ends should be removed .

(2) Trial Run Method

- Power on it and press the ON/OFF button.
- Press the "Mode" button to select the desired running mode, cooling, heating or supply. Then, observe it to see if it can work normally.

3.3 Maintenance Requirement

- (1) Unplug the unit before cleaning; otherwise it would lead to electric shock or injuries.
- (2) Do not rinse the unit with water; otherwise it would lead to electric shocks.
- (3) The volatile liquid, like thinner or petrol, would damage the outer casing of the unit, therefore the outer casing should be cleaned with the soft dry cloth or wet cloth with neutral detergent.
- (4) Do not open the air-inlet grille of the unit except the qualified servicemen.
- (5) Take out the filter screen as shown in the figure below.



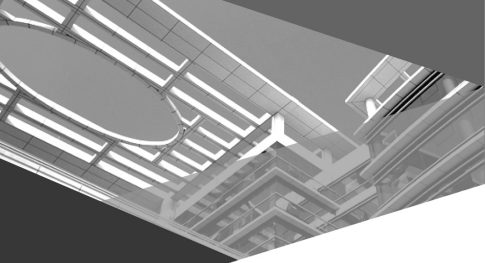
4 Troubleshooting

4.1 Troubleshooting Measures

No	Symptoms	Possible Causes	Corrective Measures
1	The unit does not run.	There is no power supply.	Repower the unit when power supply is available.
		The power plug is loosened.	Tighten the power plug.
		The motor is burnt out.	Replace the motor and check for the wiring
2	There is abnormal noise.	The volute or blade is deformed, or the volute contacts the blade.	Replace the volute or the blade.
		The air filter is clogged.	Clean the filter.
		There are foreign matters at the inlet/outlet or inside the duct.	Remove foreign matters.
		There is abnormal noise from the motor.	Replace the motor.
		The fastening screws are loosened.	Tighten them.
3	The airflow rate is too low.	The air filter is clogged.	Clean the air filter.
		There are foreign matters at the return inlet and air outlet.	Clear foreign matters.
		The duct resistance exceeds the design value.	Lower the duct resistance or reselect the unit.
4	The cooling or heating effect is poor.	The air filter is clogged.	Clean the air filter.
		The dampers are not opened.	Open the dampers.
		The fins are clogged or damaged.	Clean or repair fins.
		The entering water temperature cooling is too high and too low for cooling.	Adjust the entering water temperature.
5	Water leaks.	The condensate pipe is clogged.	Clean the drain pipe.
		The unit is not installed as required.	Adjust the unit and let the unit keep a certain inclination degree.
		The environmental air humidity is too high.	Do humidification and do not let the high-temperature and high-humidity air coming into the room.
		The fan stops but cold water is supplied continuously.	Close the water dampers or run the unit.
		The discharge valve is not tightened.	Tighten the discharge valve.

4.2 Error List

Error Code	Errors
E6	Communication error
F0	Environmental temperature sensor error at the indoor unit
F1	Cooler temperature sensor error
F5	Environmental temperature sensor error at the display
E0	Water pump error
E9	Flood protection



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