



Original Instructions

Commercial Air Conditioners

Cassette Type FCU

Applicable Models:

FP-51XD/A-K	FP-180XD/B-T
FP-68XD/A-K	FP-200XD/B-T
FP-85XD/B-T	FP-200XD/D-K
FP-102XD/B-T	FP-68XDT/B-K
FP-125XD/B-T	FP-85XDT/B-K
FP-140XD/B-T	FP-125XDT/B-K
FP-160XD/B-T	FP-180XDT/B-K

(E)Models applicable to EU

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)

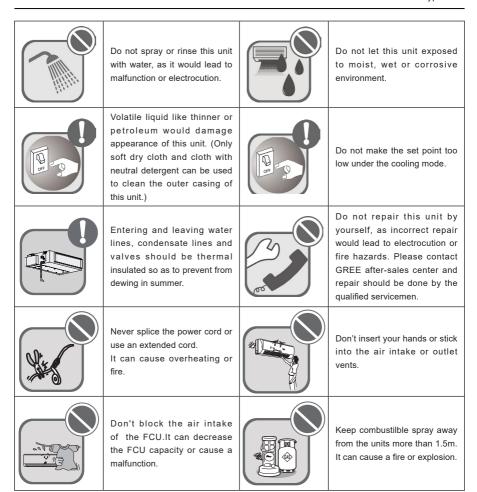
WARNING: If not abide strictly, it may cause severe damage to the unit or the people.

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



 MOTE					
During operation, do not insert fingers or other objects into the moving parts, which would lead to unnecessary injuries.		Please cut off the power supply when this unit is not used for long time in consideration of safety.			
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.		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.			
The filter should be cleaned periodically in case that heat exchanging effect would be affected.		Please do freeze protection in winter to prevent copper tubes from cracking.			
Don' t leave windows and doors open for a long time while operating the FCU. It can decrease the FCU capacity.		Don't blow the wind to animals and plants directly. It can cause a bad influence to them.			
Don't use the FCU for other purposes, such as drying clothes, preserving foods, etc.		Don't place a space heater near the FCU.			

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.

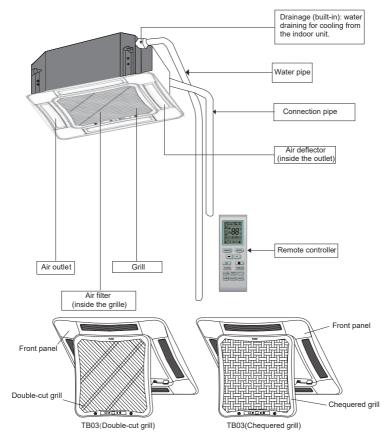
Protection against cold air

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℃, otherwise it would lead to condensate; the entering water temperature for heating is suggested to be not higher than 60℃, otherwise it would lead to corrosion of copper tubes or abnormal noise.
- (2) The suggested working environment temperature for cooling ranges 16 \sim 40 $^{\circ}$ C and ranges 10 \sim 35 $^{\circ}$ 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°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, 45°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.

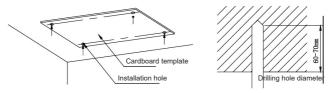
2 Unit Installation

2.1 Installation Environment

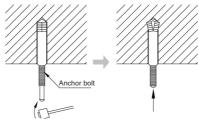
- (1) There should be no direct sunlight.
- (2) The hanger, ceiling and the building structure should be capable of supporting the weight of the unit.
- (3) The drain pipe can be easily led out.
- (4) The inlet and outlet air flow will not be blocked.
- (5) There should be no inflammable and explosive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

2.2 Precautions for Installation

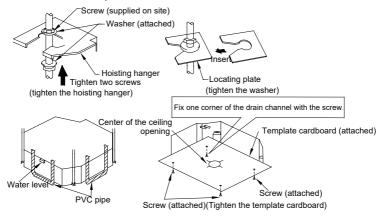
- (1) Hole Drilling and Bolt Installation
 - Firstly, place the cardboard template at the installation location and drill four holes as per the hole site at the cardboard template. The hole depth should be 60~70mm.



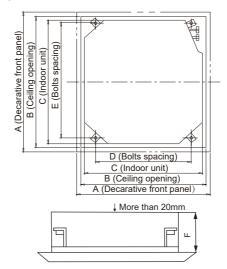
 Put the M10 anchor bolt into the hole and then hammer the iron nail into the bolt. Length of the anchor bolt depends on the height of the room. The anchor bolts should be prepared by the user themselves.



- (2) Put the hoisting stand to the hanger bolt. Nuts and washers should be used at both the lower and upper ends of the hoisting stand so as to secure the locating board and prevent the washers from falling out.
- (3) The sizing of the ceiling opening depends on the template cardboard. The center of the ceiling opening is labeled at the template cardboard. Use three screws to fix the template cardboard to the unit and also use other screws to fix the corners of the drain channel.
- (4) Adjust the unit rightly to the installation location.
- (5) See if the unit is horizontal or not by checking the four corners one by one with a water level. The drain pump and float valve are built inside the unit. When the unit is inclined towards the opposite direction of the condensate flow, the float switch may fail to work normally and even lead to water drops.
- (6) Remove the locating plate for the washer and tighten the screw above it.
- (7) Remove the cardboard template.



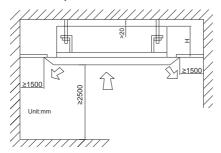
2.3 Outline Dimensions



Models	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	Size of Condensate Pipe (mm)	Size of Inlet/ Outlet Pipe (mm)
FP-51XD/A-K FP-68XD/A-K	670	596	592	570	570	240	Ф26х3	G3/4
FP-85XD/B-T FP-102XD/B-T	950	890	840	680	780	190	Ф26х3	G3/4
FP-125XD/B-T FP-140XD/B-T FP-160XD/B-T	950	890	840	680	780	240	Ф26х3	G3/4
FP-180XD/B-T FP-200XD/B-T FP-200XD/D-K	950	890	840	680	780	320	Ф26х3	G3/4
FP-68XDT/B-K FP-85XDT/B-K	950	890	840	680	780	190	Ф26х3	G3/4
FP-125XDT/ B-K	950	890	840	680	780	240	Ф26х3	G3/4
FP-180XDT/ B-K	950	890	840	680	780	320	Ф26х3	G3/4

Notes: (E)Models applicable to EU.

2.4 Installation and Maintenance Space



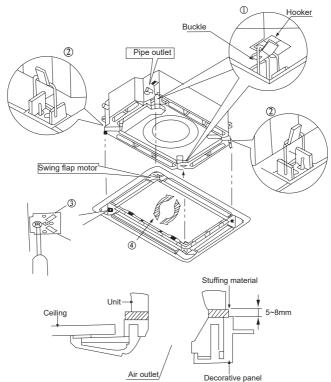
H indicates the depth of the unit.

2.5 Installation of the Front Panel

2.5.1 Instalaltion Steps

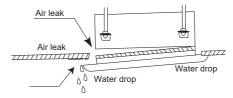
As shown in the figure below, align the pipe outlet direction at the front panel to the pipe connector of the unit. Then, do installation of the front panel as stated below.

- (1) Temporarily place the front panel to the unit. In this case, put two buckles to the hookers in the opposite direction of the air deflector motor at the front panel.
- (2) Temporarily place the other two buckles to the hookers at the main unit.
- (3) Tighten four screws under the buckles in about 15mm (the front panel will rise up.)
- (4) As shown in the figure below, adjust the front panel to make it meet the ceiling perfectly.
- (5) Tighten screws until thickness of stuffing material between the front panel and the unit goes within 5~8mm

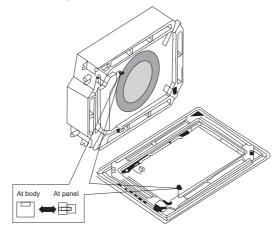


2.5.2 Precautions for Installation

(1) Incorrect tightness would lead to condition as shown in the figure below.

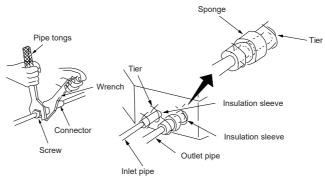


(2) Connection between the front panel and the main unit should be correct, as shown in the figure below.



2.6 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.

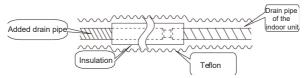


2.7 Installation of the Drain Pipe

2.7.1 Precautions for the Drain Pipe

- (1) The drain pipe should be as short as possible, with at least an inclination degree of 1%~2%, so that the condensate can be drained out smoothly. If the inclination degree fails to meet this requirement, a raising pipe is required.
- (2) The drain hose should be sized equal or larger than the drain pipe.
- (3) The drain pipe should be installed in accordance with the figure below and also insulated properly. Incorrect installation and insulation would lead to generation of condensate or water drop which would

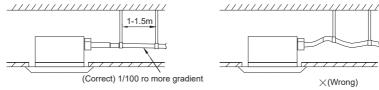
damage the ceiling and decoration.



- (4) Insert one end of the drain pipe to the drain hole and tighten it with the drain hose and tiers. The drain hose cannot be connected to the drain hole with adhesive.
- (5) When the drain pipe is used for multiple sets of equipment, it should be placed 10mm lower than the drain outlet of each equipment. For this special purpose, the pipe with quite thick pipe wall should be used.

2.7.2 Installation Steps of the Drain Pipe

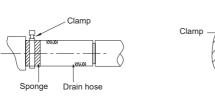
(1) The spacing should be kept between 1~1.5m.



Sponge

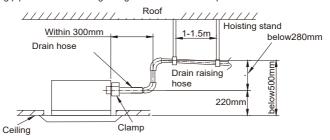
<4mm

- (2) Insert the drain hose to the water outlet and fix it with the clamp.
- (3) For better insulation, the sponge should be wrapped around the clamp.



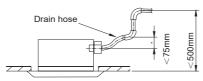
2.7.3 Precautions for the Raising Pipe

- (1) The height of the raising pipe should be less than 280mm.
- (2) The raising pipe should be at a right angle to the unit and keep a distance with the unit within 300mm.

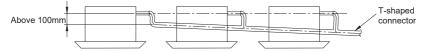


Notes:

- (a) The inclination degree of the attached drain hose should be kept within 75mm.
- (b) Do not apply outer force to the drain pipe.

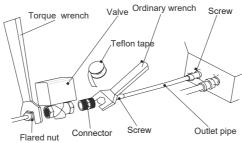


(c) When multiple drain pipes will join together, connect them as the figure below. The T-shaped joint should be sized properly.

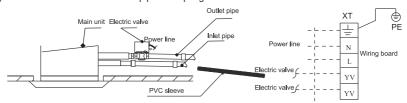


2.8 Installation of the Water Valve

2.8.1 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.

2.8.2 Requirements on Installation

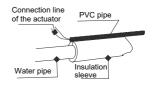
Water pipe

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

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.

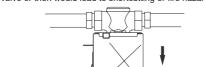
Connection line of the actuator

Put the connection line through the PVC pipe and then bind them with the insulation sleeve.

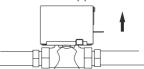


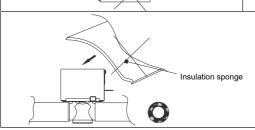
Never install the valve downwards, otherwise the condensate would flow into the valve and damage the valve or then would lead to shortcutting or fire hazards.

Insulation



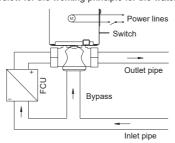
• The main body of the valve should be installed upwards and the power lines should be arranged above the water pipe.





Do not cover fully the valve with the insulation sponge; otherwise it would lead to poor heat radiation and even fire hazards.

(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.



2.9 Electric Wiring

2.9.1 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

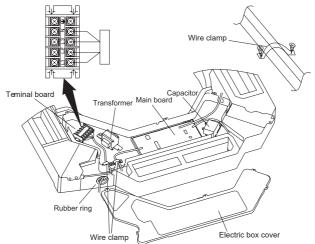
replaced by specialized lines.

- (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.

2.9.2 Steps for Electric Wiring

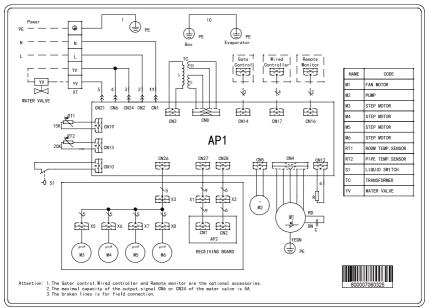
- (1) Open the electric box and pull the power lines and connection lines of the electric water valve through the rubber rings. Then, fix them with the wire clamps.
- (2) Perform wiring in accordance with the electric wiring diagram.
- (3) Fix the lines with the wire clamps.
- (4) Connect the control lines.
- (5) Pull the control lines through the rubber ring to the wiring terminals.
- (6) Wrap the lines with sponge in case of dewing.
- (7) Fix the lines and close the electric box cover.

Elements for different models vary, and the figure below is just for reference.

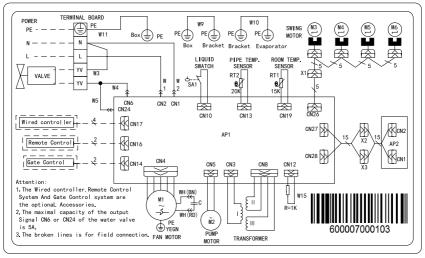


2.9.3 External Wiring Diagram

FP-51XD/A-K, FP-68XD/A-K

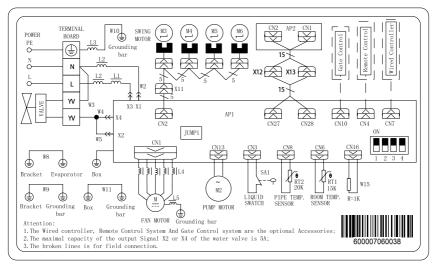


FP-85XD/B-T, FP-102XD/B-T, FP-125XD/B-T, FP-140XD/B-T, FP-160XD/B-T, FP-180XD/B-T, FP-200XD/B-T



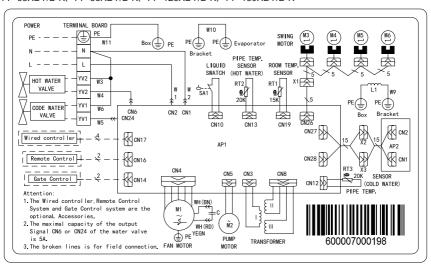
Note: this wiring diagram is also applicable to the model with "E".

FP-200XD/D-K



Note: this wiring diagram is also applicable to the model with "E".

FP-68XDT/B-K, FP-85XDT/B-K, FP-125XDT/B-K, FP-180XDT/B-K



Note: this wiring diagram is also applicable to the model with "E".

3 Commissioning and Maintenance

3.1 Inspection after Installation

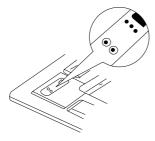
Item	Possible Consequence	Inspection
Is the main unit installed securely?	The unit may fall down, vibrate or generate noise.	
Is the leak test performed?	The unit fails to work normally.	
Is the unit insulted properly?	It may generate condensate and water drops.	
Does drainage go smoothly?	It may generate condensate and water drops.	
Does the power voltage comply with Sthe 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) Commissioning Method

When the wired controller is unavailable, the wireless controller can be put into use as stated below.

How the start the unit with the wireless controller: power on the FCU. Under the ON state of the controller, press the "Turbo" button within five seconds and the FUC will put into forced operation. At this time, the operation of the unit can be controlled by this wireless controller, with the corresponding icons displayed at the controller. Then, by pressing the ON/OFF button, commissioning will end. During commissioning, when there is no any operation in five minutes, commissioning also will end. After that, stop the FCU by pressing the ON/OFF button.



(4) Instructions for Emergency Operation

When the wired and wireless controllers are lost, the unit can be started through press-button operation stated as below.

- Press "AUTO" three seconds to start or stop the unit. The default operation condition is cooling, automatic fan speed, air swing and 24°C.
- Under ON status, the current mode will be changed by each press to "AUTO" in the sequence of cooling—dehumidification-air supply-heating-cooling.
- Under ON status, press "AUTO" for three seconds, the unit will be stopped.
- The anti-cold and anti-hot air protection are shielded.



How to Clean the Filter Screen When there is heavy dust in the operation environment of the unit, the cleaning frequency should be increased (about once every half year) Open the buckle slinghtly by hand Step 1: firstly loosen the screws and then open Loosen the screw under the buckle with the grille. a screw driver. Lift up the grill by clutching it through the holes with the finger (the left finger acts first) Step 2: pull the air screen downwards to make it away from the buckles and take out the filter screen.

Step 5: close the air inlet grille.

Step 3: Use the dust collector or water to clean the filter screen. When the filter screen is quite dirty, warm (less than 45°C) detergent solution can be used. Then, dry it in the shade. Notes: Do not use the hot water higher than 45°C, otherwise the filter screen would be de-colored or deformed. Do not bake it above the fire, otherwise the filter screen would catch fire or be deformed.	
Step 4: reinstall the air filter. Install the filter screen to the air inlet grille through four buckles and push it into the inner side to fix it.	

Refer to step 1.

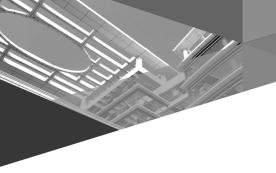
How to Clean the Air Inlet Grille		
Step 1: open the air inlet grille.	Refer to step 1 for cleaning the air filter.	
Step 2: remove the air filter.	Refer to step 2 for cleaning the air filter.	
Step 3: turn the air inlet grille to 45° and remove it.		
Step 4: rinse the air inlet grille. When it is quite dirty, use the neutral detergent and warm water. After that, dry it in the shade. Do not clean it with hot water.		
Step 5: reinstall the air inlet grille.	Refer to step 3	
Step 6: reinstall the air filter	Refer to step 3 for cleaning the air filter.	
Step 7: close the air inlet grille.	Refer to step 1	

Precautions before the Seasonal Use • Check if the air inlet and outlet are clogged or not? • Check if the unit is reliably grounded? • Check if the unit is reliably grounded? • When the unit is to be started after it has stopped for quite long time, power the unit on 6 hours ahead. Precautions after the Seasonal Use • Clean the air filter • Cut off the power supply for the unit.

4 Troubleshooting

No.	Symptoms	Possible Causes	Corrective Measures
		There is no power supply.	Repower the unit when power supply is available.
1	The unit does not run.	The power plug is loosened.	Tighten the power plug.
	Tun.	The motor is burnt out.	Replace the motor and check for the wiring
		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.
2	There is abnormal noise.	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.
		The air filter is clogged.	Clean the air filter.
3	The airflow rate is too low.	There are foreign matters at the return inlet and air outlet.	Clear foreign matters.
100 1011.	The duct resistance exceeds the design value.	Lower the duct resistance or reselect the unit.	
	The cooling or heating effect is poor.	The air filter is clogged.	Clean the air filter.
4		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.

		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.	
5	Water leaks.	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.





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