Horizontal FAN COIL
Installation & Instruction Manual

enertik

IMPORTANT NOTE:

Thank you very much for purchasing our product. Before using your unit, please read this manual carefully and keep it for future reference.

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Note: Installation and maintenance must be performed by qualified personnel who are familiar with local installation and maintenance codes and regulations and have experience with this model.

CAUTION: Sharp edges and coil surfaces are hazardous and should be avoided.

Warning: The running machine and power supply are dangerous enough to cause personal injury or death, and the power supply must be cut off before maintenance.
The air conditioner unit cannot be installed in flammable and explosive environments, as well as in laundry rooms and saunas.

1. Overview of the unit

Parameters:

Model		BC-FCH-68AWG
Air volume(m3/h)	High	680
	Middle	510
	Low	340
Cooling capacity	High	3600
	Middle	3290
	Low	2650
Heating capacity	High	5400
	Middle	4530
	Low	3130
Inlet water temp.(℃)		7~12
Outlet water temp.(℃)		60
Pressure water drop(kPa)		30
Power supply		220-240~/50Hz
Air volume(m3/h)	Type	Aluminum sheet in steel tube, pitch 2.2mm
	Water volume(kg/h)	655
	Water resistance(kPa)	30
	Operating pressure(Mpa)	1.6
Low static pressure unit	Input power(W)	62
	Fan motor power(W)	20
High static pressure unit	static pressue 30Pa	72
		25
	static pressue 50Pa	84
		30
Fan motor q'ty		2
Noise dB(A)	Low static pressure	≤41
	High pressure 30Pa	≤44
	High pressure 50Pa	≤46
Pipe connection	Water inlet/outlet pipe	ZG3/4"(female thread)
	Condesate water pipe	ZG3/4"(male thread)

1. Equipment acceptance and installing location

The products have been inspected and tested before leaving the factory, and are packed in corrugated boxes. The whole unit should be kept in good condition when it arrives at the construction site by proper transportation. If there is obvious damage to the carton, please check the condition of the unit itself; if any damage is found, please notify the carrier and the recipient for joint inspection.

The unit should be stored indoors, and should be carefully protected to prevent moisture, corrosion and dust; after the unit is unpacked, special attention must be paid to prevent wall dust or other debris from falling into the fan volute and the surface cooler, which may easily cause the unit to malfunction .

2. Inspection preparation

Before the unit is in place, it is necessary to check whether the following preparations are in place:

(1) Whether the position of the chilled water and condensate pipe and the wire interface are correct;

(2) Whether there is enough space for the unit to be in place and routine maintenance;

(3) Whether the hoisting structure has sufficient strength to bear the weight of the unit, and whether the hoisting bolts are located correctly;

(4) Whether the size of the return air duct or the air outlet duct installed for the unit with residual pressure is correct, and whether the resistance is within the allowable external residual pressure range.

3. Fixing

There is a hoisting waist hole on the top of the fan coil unit. It is recommended that the customer use a φ8 fully threaded screw with flat washers, spring washers and nuts (provided by the installation company) to fix the unit.

Notice:

(1) In addition to nuts, spring washers and flat washers on the lower side of the fixed unit, there should also be nuts and flat washers on the upper side of the unit to fix the unit together to make the unit more stable during operation.

(2) The water collecting pan has been designed to have a certain slope, and the unit only needs to install the air pan shell horizontally to ensure smooth drainage.

4. Unit installation

The installation part includes water pipes, electric control and connecting pipes, and the installation protection is applicable to all fan coil units. The installation of the fan coil series is basically the same except for some individual work in a special environment or the installation of the unit is slightly different according to the customer's requirements for valves, motors, surface coolers and some optional coil accessories.

(1) Waterway system

The water supply and return of all units are supplied from the bottom to the top, and all water pipes must be installed in strict accordance with the engineering drawings. It is recommended to use flexible pipes for the water pipes connected to the unit, and the main water pipes must be equipped with supporting devices at intervals to bear the weight of the water in the pipes and the water pipes themselves. In addition, the fixing of the pipe must have a certain gap to accommodate the thermal expansion and contraction of the pipe when running hot and cold water.

(2) Takeover direction

The way to judge the connection direction is to face the air outlet of the unit, and the water connection pipe is on the left, which is the left type, and vice versa, it is the right type. The user needs to indicate when selecting the unit, and the factory produces according to the requirements. In the event of an error, the TCR horizontal concealed model can change the connection direction on site. The method is as follows: the fan assembly (including fan, motor, and base plate, etc.) You can install it by swapping the position. (At this time, the cold/heat will have a 10% attenuation) Takeover operation

Sealing measures should be taken at the threaded joints (it is best to use polytetrafluoroethylene raw material tape), and insulation treatment should be done after the pipeline pressure test;
The valve parts on the pipeline should be within the range of the water pan of the unit, otherwise it should be kept warm or an additional water pan should be added to prevent the condensed water from damaging the decoration;
The condensate pipe should be kept warm and its slope should not be less than 1:75 to facilitate drainage.

Note: When taking over the pipe, the pipe wrench should be selected according to the diameter of the pipe, so as not to damage the machine parts due to excessive force of the pipe wrench.

(4) Electrical connection

Please ensure that the electrical connection is installed by a professional with electrical experience;
All electrical wiring shall comply with national and local standards;
Before wiring, please read the random electrical wiring diagram carefully.

Note: It is strictly forbidden to use one thermostat to control multiple fan coil units of different models to avoid motor burnout. The grounding bolt provided by the unit must be reliably connected to the grounding system of the building. The grounding wire must not be connected to gas pipes or water pipes. Poor grounding may lead to electric shock accidents.

(5) Duct connection

Air duct design and installation shall be carried out in accordance with relevant national standards;
The factory does not have a return air box unit. The internal size of the on-site air distribution pipe must match the fan fixing plate and be fixed firmly. It is not recommended to use internal insulation to avoid interference with the fan and cause abnormal noise;

The air outlet of the unit and the air outlet grille, and the return air outlet and the return air grille need to be connected by soft connections.

5. Water system pressure test

In order to ensure that the water system is well sealed, the water system should be pressure tested after the installation of the water system is completed. During the test, the manual exhaust valve on the coil can be used to discharge the air in the coil. (The residual air in the coil will concentrate on the top of the coil, making abnormal noise and affecting the heat transfer performance even more.) After the air valve discharges a stable water flow, close the exhaust valve tightly. The pressure test of the water system must follow the pre-established pressure test plan. The pressure should be raised slowly and evenly. After the pressure is stable, carefully check whether there is any leakage at the connection of each pipeline.

Notice:

The pressure test and commissioning of the system should be carried out under frost-free climate conditions (the minimum temperature is not lower than 0°C). Otherwise, the water in the coil (system) must be drained after the pressure test and commissioning, and the corresponding Antifreeze measures, otherwise the coil will be frozen and cracked. When running without heating in winter, the water in the coil (system) must also be drained, and antifreeze measures should be in place.

If there is leakage, it is not allowed to repair it under pressure, otherwise the coil will be damaged and irreparable damage will be caused.

6. Check before operation

The following inspection procedures must be completed before the unit is put into operation:

(1) The operator has carefully read this installation and operation manual;

(2) The unit is installed correctly and the condensed water drains smoothly;

(3) The sundries in the water tray, fan and machine body of the unit have been cleaned up;

(4) The power supply and control lines of the unit have been connected correctly; the grounding is good;

(5) The chilled water pipes are all connected and there is no leakage in the water pressure test;

(6) The wind wheel of the unit fan is not stuck and can be rotated easily; the coil filter is installed;

(7) The water inlet and outlet pipes and drain pipes of the unit are covered with insulation of appropriate thickness;

(8) The air duct system of the unit is smooth and free of leakage;

(9) The filter screen on the return air side is installed;

(10) The water supply and return valve has been opened, the air in the system has been emptied, and the exhaust valve has been tightened to prevent water leakage.

7. maintenance and maintenance

(1) If the unit is not equipped with solenoid valves and thermostats, when the unit stops running, the low-temperature chilled water in the water loop is still flowing, which will cause the temperature of the unit shell to be far lower than the ambient air dew point temperature, resulting in condensation . It may wet the floor or ceiling and damage the decoration. Therefore, it is recommended that each unit should be installed with solenoid valves and thermostats. If the solenoid valve is not installed, the hand valve must be closed when the unit is shut down to prevent condensation.

(2) The function of the air filter is to remove harmful substances in the air, such as dust, soot, pollen and other unclean substances. A filter that is too dirty not only cannot filter, but also reduces the air volume of the unit due to the high air resistance, which affects its cooling (heating) capacity. Therefore, it is necessary to check and clean the filter screen regularly. The cleaning cycle will be different in different usage occasions, generally one month is appropriate; when the system is operating at a high load or the environment is dirty, it should be maintained more frequently. The method of cleaning the filter screen is: use a vacuum cleaner to remove the dust on the filter screen that is not too dirty, and then install it back to the original place; for the dirty filter screen, rinse it with water, and install it back to the original place after the filter screen is dry. The filter

must also be disinfected and sterilized regularly, at least twice a year, to prevent the growth of colds and other germs.

(3) Dirty blockage of the surface cooler will seriously affect the cooling capacity. Use an elastic nylon brush to clean the dirt between the fins (please do not damage the fins), and then use a vacuum cleaner to suck off the dust on the surface cooler. Dirt can be blown off with compressed air. Because the fan coil unit is generally equipped with an air filter when it is installed, if the customer maintains it properly, the surface cooler generally does not need to be cleaned.

(4) Before the unit is in operation, it is necessary to check and remove the sundries in the water receiving tray to ensure the smooth discharge of the condensed water of the unit.

(5) When the unit is in cooling operation, the chilled water temperature shall not be lower than 3°C; when in heating operation, the hot water temperature shall not exceed 65°C (60°C is recommended). When the unit is out of service, the system should be filled with water to reduce corrosion, but in winter when it is not in use, the water in the system must be drained, and antifreeze measures should be taken to avoid freezing and cracking.

PS: Untreated chilling water or cooling water may cause scaling, corrosion and bacterial growth in the system; it is recommended to provide water treatment equipment.

8. Packing details

item	name	unit	quantity
1	Fan coil unit	set	1
2	User manual	piece	1