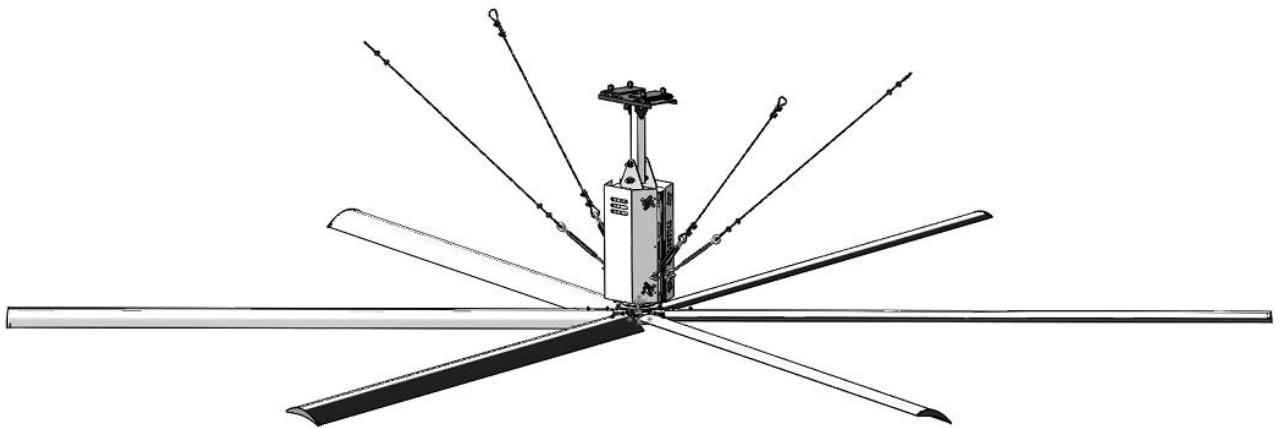


## Geared motor frequency conversion industrial ceiling fan

### Operation and maintenance manual



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# Foreword

First of all, thank you for purchasing the geared motor industrial ceiling fan developed by our company!

The frequency conversion geared motor industrial ceiling fan can produce the best three-dimensional natural wind effect for the human body, with a large coverage area and soft wind. After testing, in actual use, the maximum operating power of each fan is only 1.5KW, which can reduce energy consumption and save costs while creating a comfortable working environment for you.

## 1. Product introduction

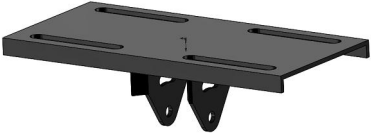


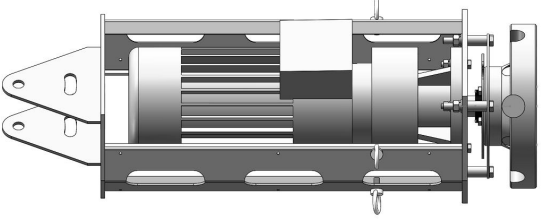



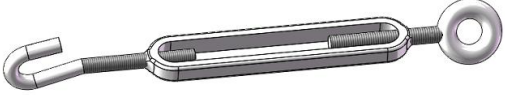
### Inverter geared motor industrial ceiling fan

Frequency conversion geared motor industrial ceiling fan, the maximum diameter can reach 7.3 meters. The new fan blades manufactured by applying aerodynamic principles and advanced technology can push a large amount of air with a power of 1.5KW or less, generate a large air volume, form a full range of ground coverage and air three-dimensional circulation, and solve the difficulty of cooling in tall and large spaces. The problem. Mainly used in factories, warehouses and other large spaces.

### 1.1 Product Specifications

Spec.	6.1m		7.3m	
Model	FQ-E61	FQ-G61	FQ-E73	FQ-G73
Air volume	12000m <sup>3</sup> /min	12000m <sup>3</sup> /min	13200m <sup>3</sup> /min	13200m <sup>3</sup> /min
Max speed	55r/min	55r/min	50r/min	50r/min
weight	115kg	115kg	130kg	130kg
Voltage/Power	380V 1.5KW	380V 1.5KW	380V 1.5KW	380V 1.5KW
Coverage	1100 m <sup>2</sup>	1100 m <sup>2</sup>	1300 m <sup>2</sup>	1300 m <sup>2</sup>

## 2. Fan Parts List

No.	Description	Sets	Picture
1.	Ceiling bracket	1	
2.	Pressing plate	2	
3.	extension rod	1	
4.	Ceiling Motor	1	
5.	Blades	6	
6.	fan blade connector	6	
7.	Steel wire rope	4	
8.	Steel wire tensioner	4	

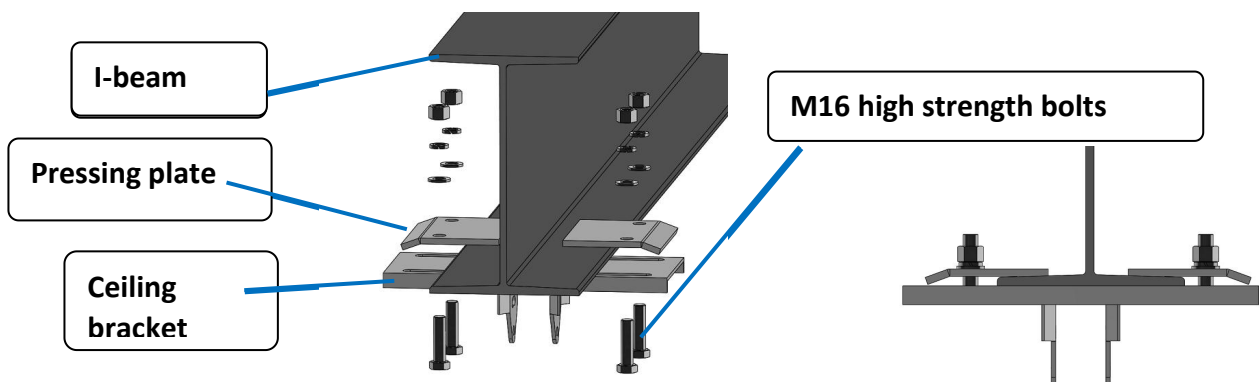
9.	Electric control box	1	
10.	Motor cover	2	
11.	Bottom plate	1	
12.	electric Cable、threading pipe	25m	
13.	screws	1	

**Before installation, check whether there are any missing accessories and quantities against the parts list.**

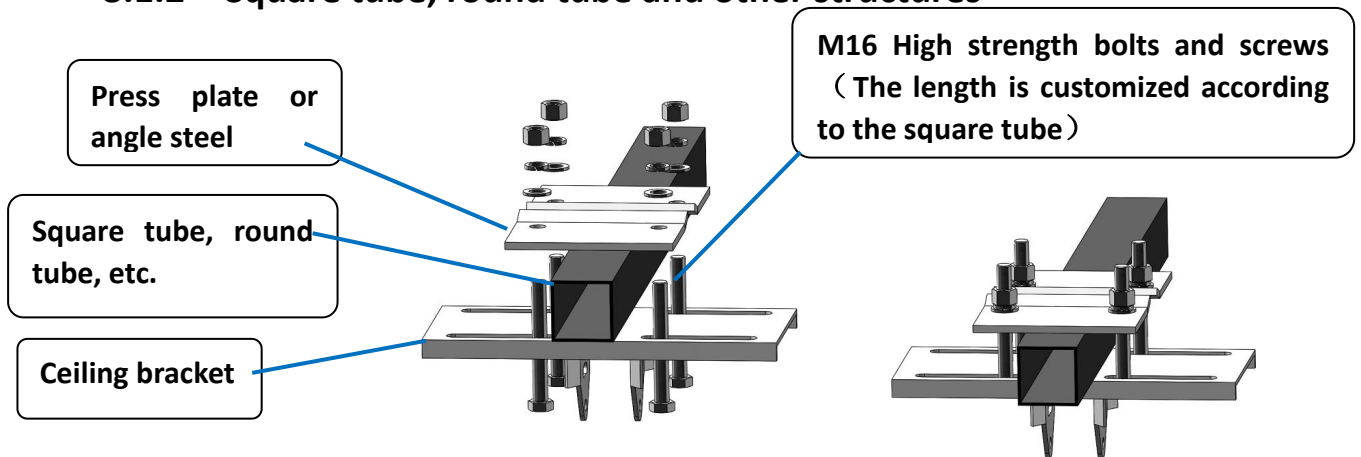
# 3.Fan installation

## 3.1 Three common types of installation

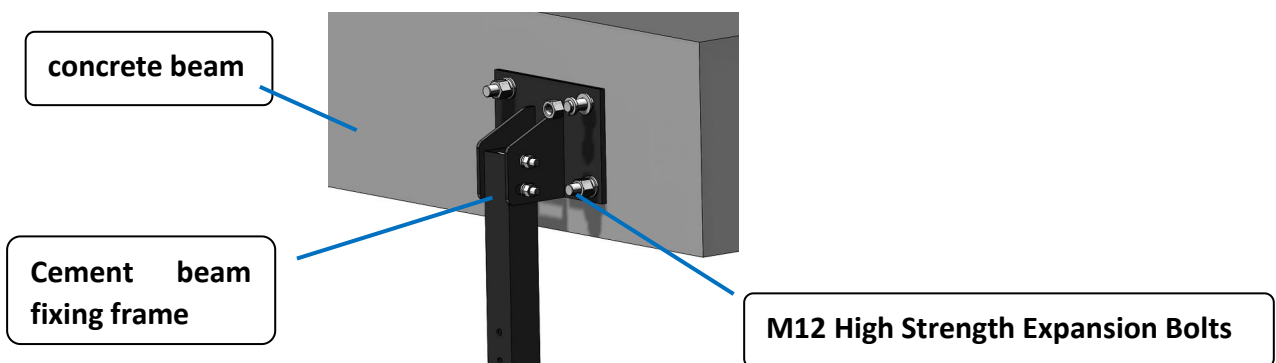
### 3.1.1 I-beam structure



### 3.1.2 Square tube, round tube and other structures

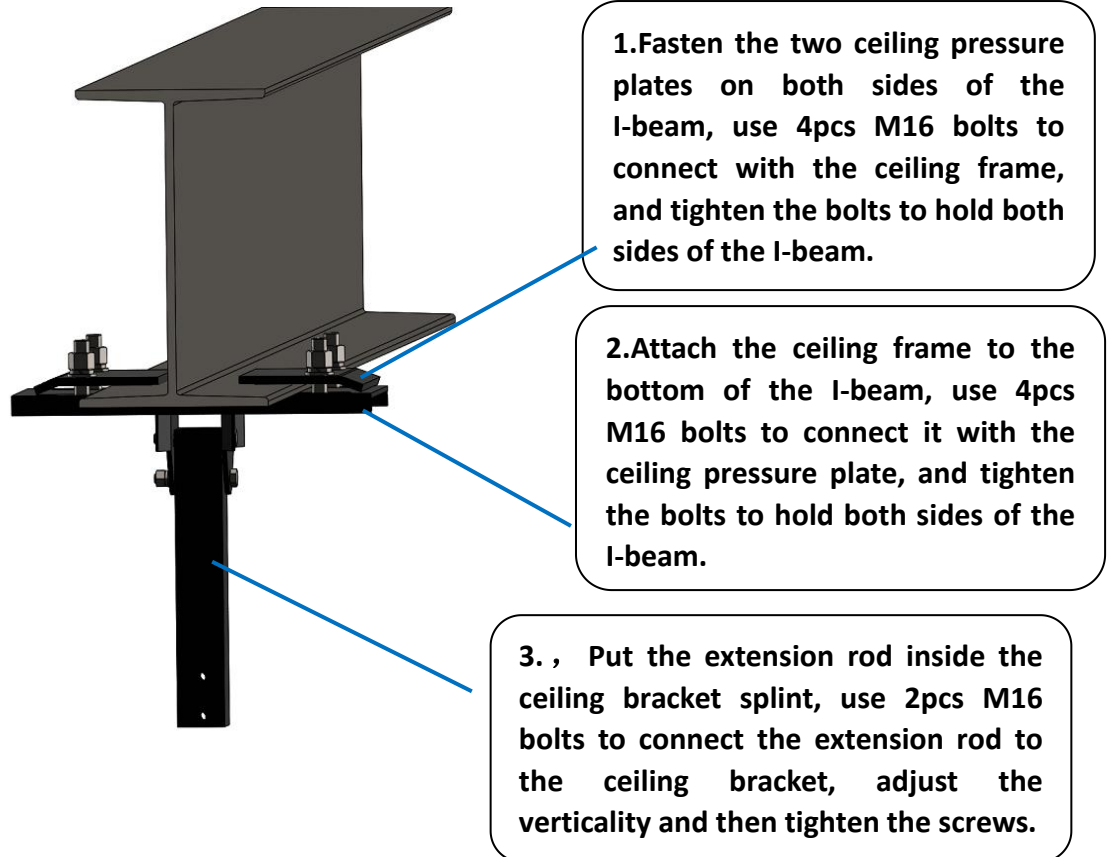


### 3.1.3 Concrete beam structure

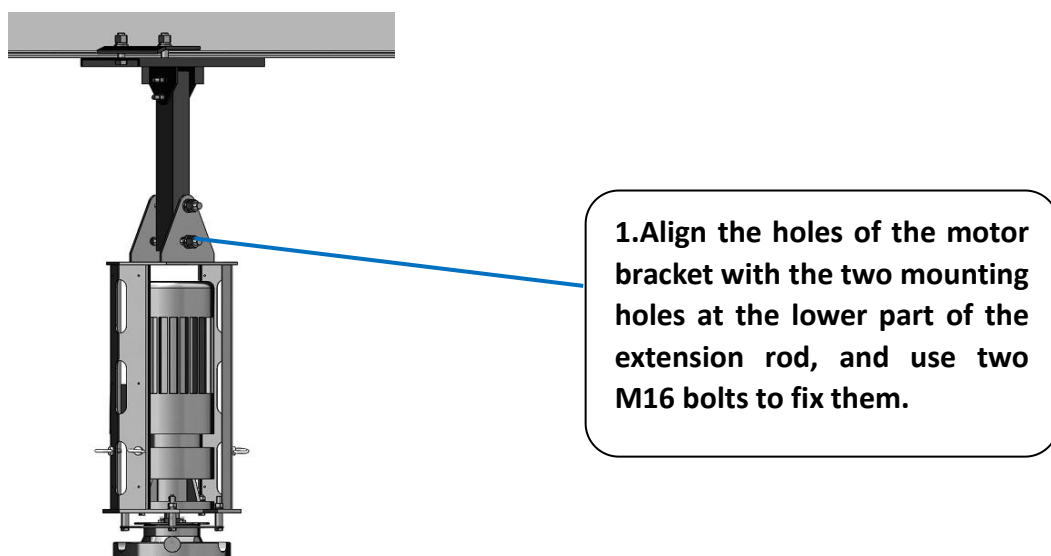


## 3.2 Fan installation steps

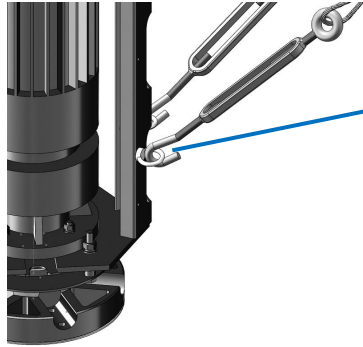
### 3.2.1 First step : Install the ceiling bracket and extension rod



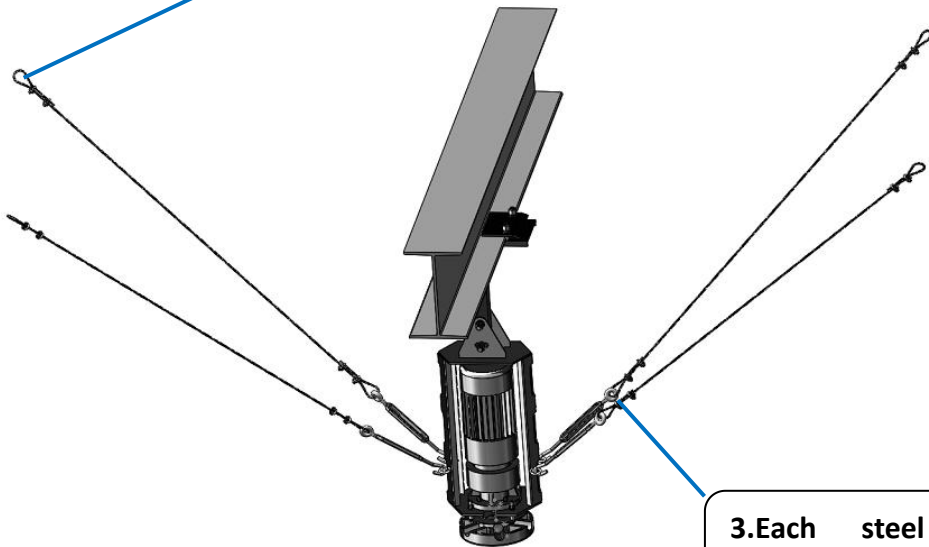
### 3.2.2 Step 2: Install the motor



### 3.2.3 Step 3: Install the steel wire rope



1. Hang the 4pcs steel wire tensioners into the 4 ring holes of the ceiling fan main unit.

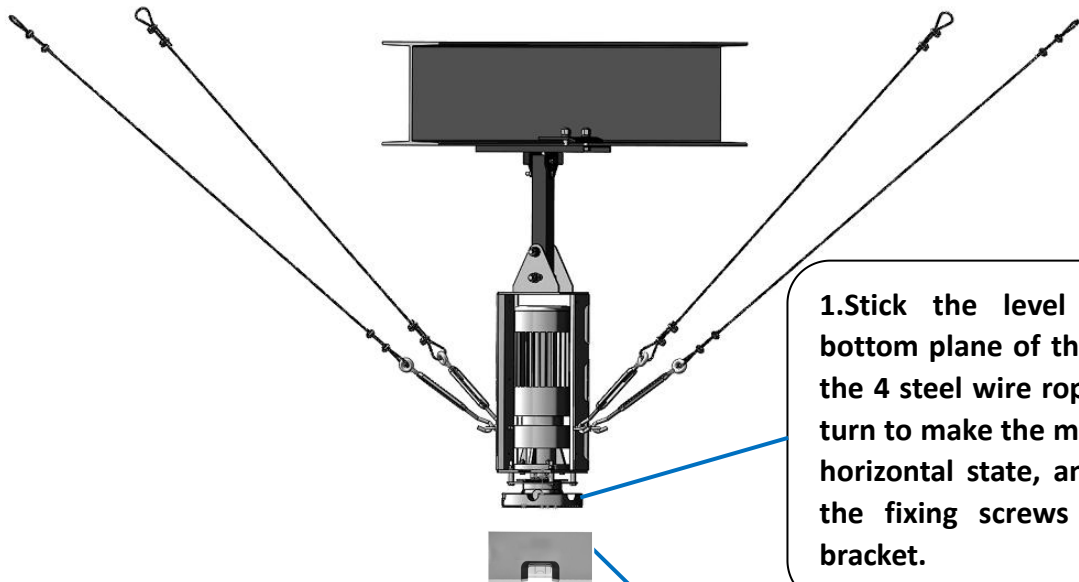


2. Connect the other ends of the 4 steel wire ropes to the top of the workshop (suitable fixing place), and the 4 steel wire ropes are evenly distributed in 4 directions.

3. Each steel wire rope connection must be locked by 2pcs wire buckles



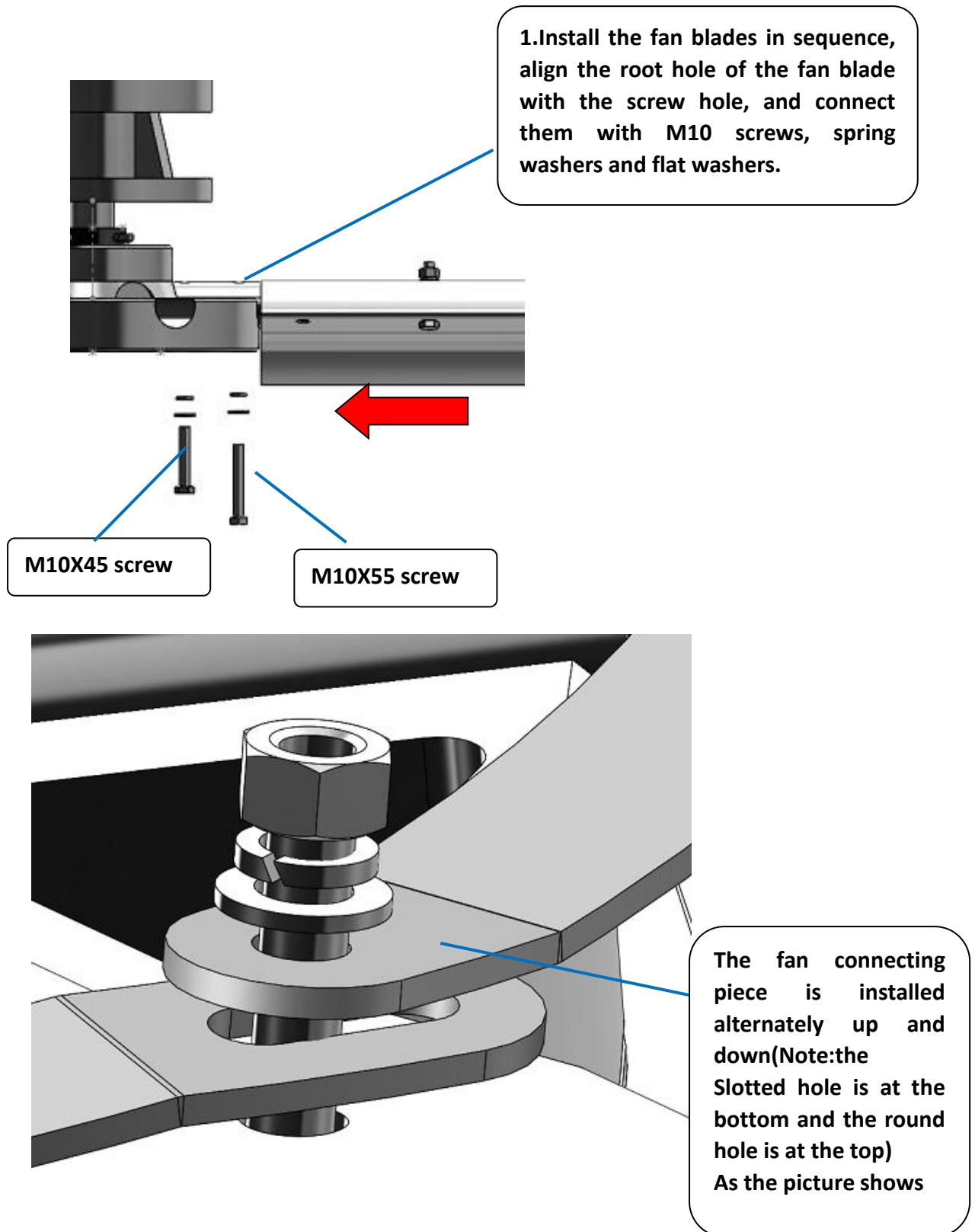
### 3.2.4 Step 4: Adjust the balance



1. Stick the level ruler on the bottom plane of the motor, adjust the 4 steel wire rope tensioners in turn to make the motor in the best horizontal state, and then tighten the fixing screws of the motor bracket.

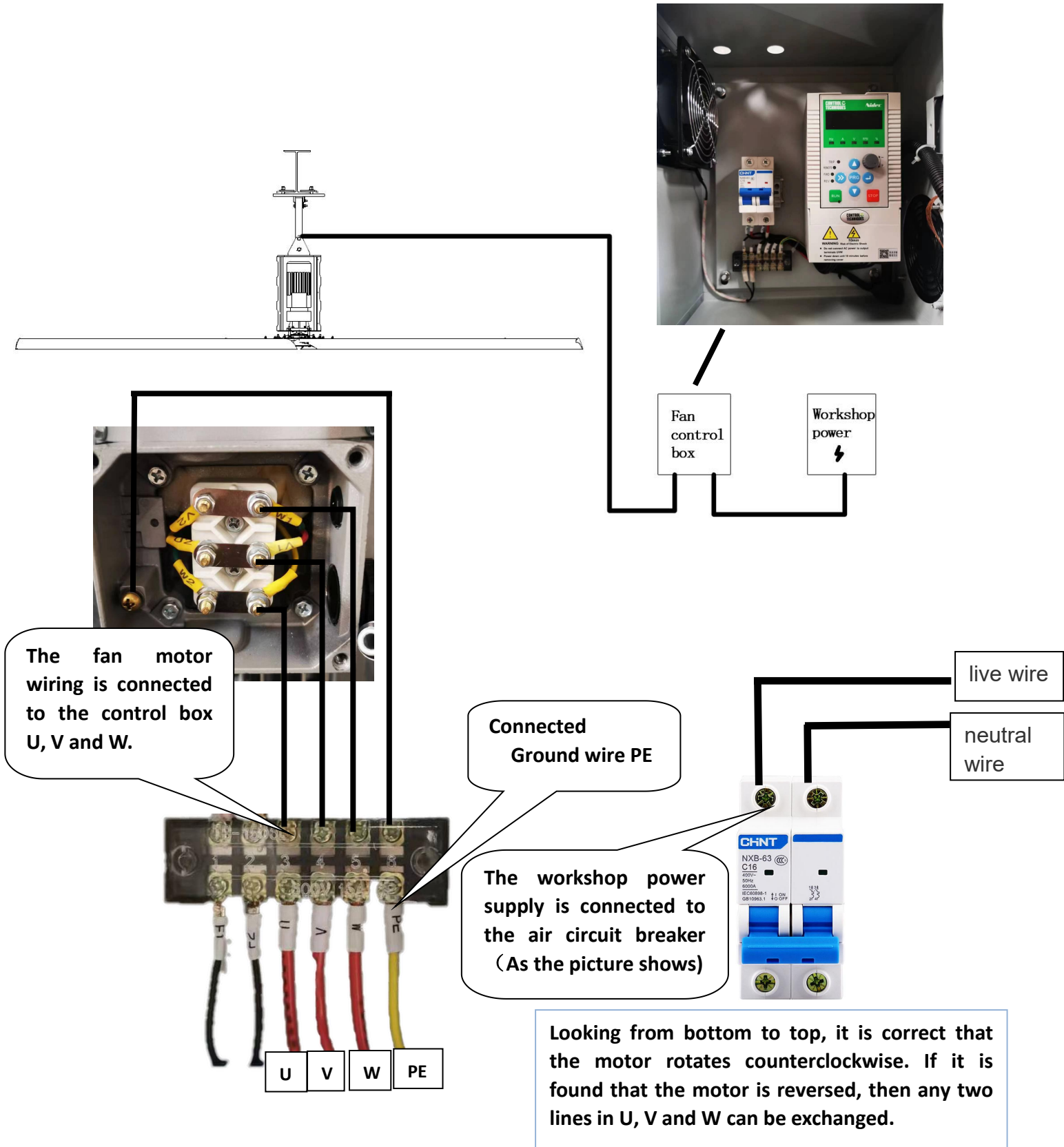
The level ruler crosses the two directions to measure the level

### 3.2.5 Step 5: Install the fan blades

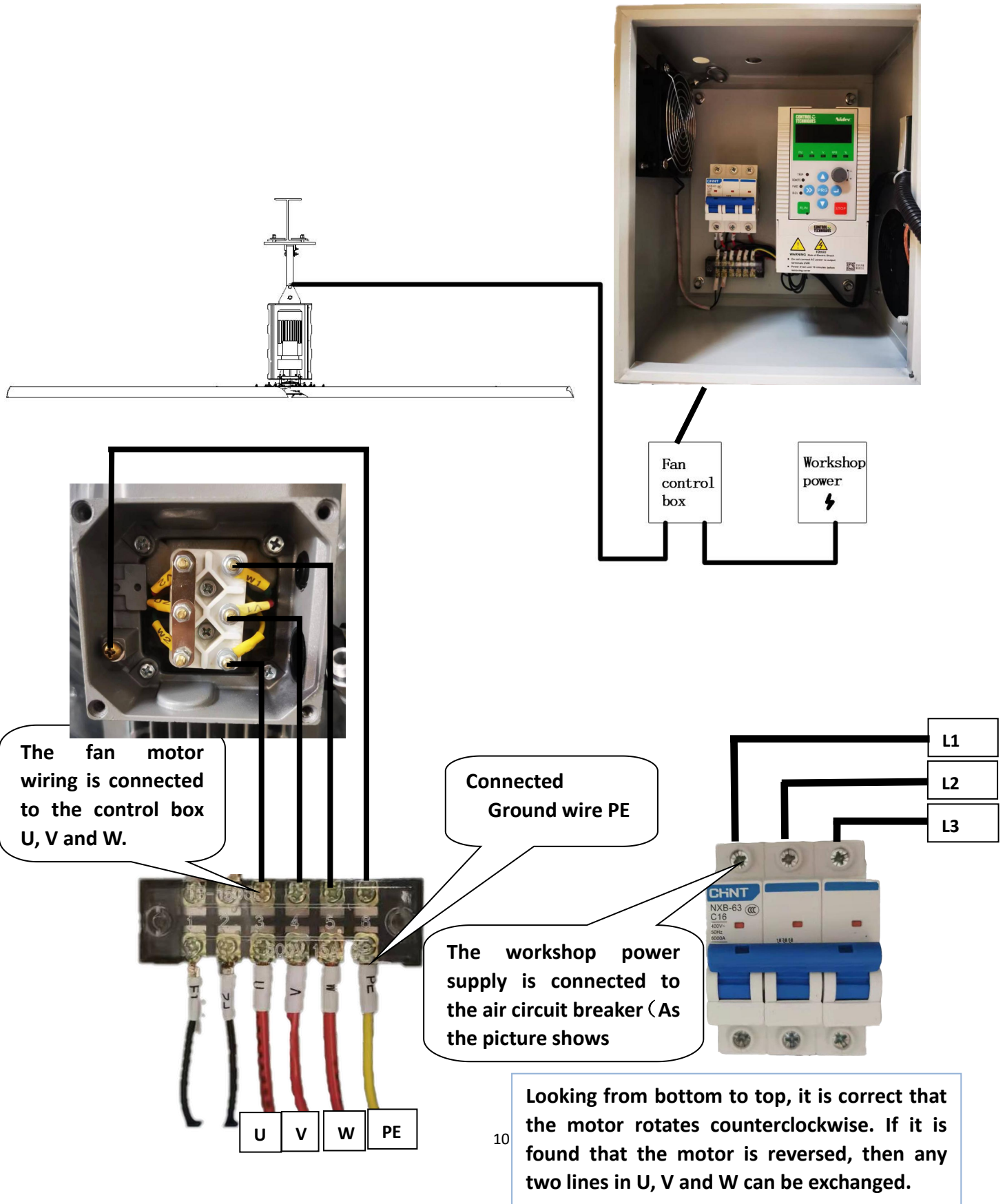


### 3.2.6 Step 6: Connect the power supply

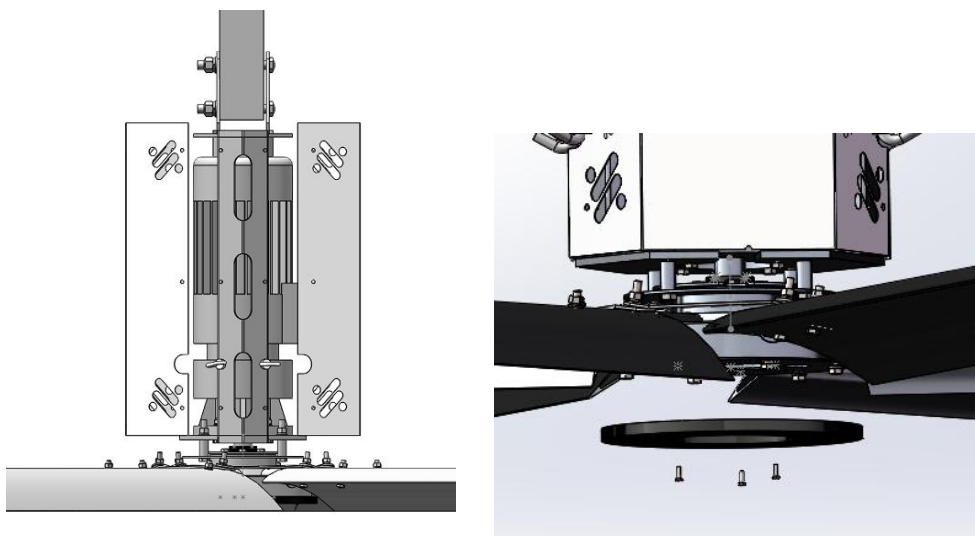
#### 3.2.6.1 Wire Connection method of 220V



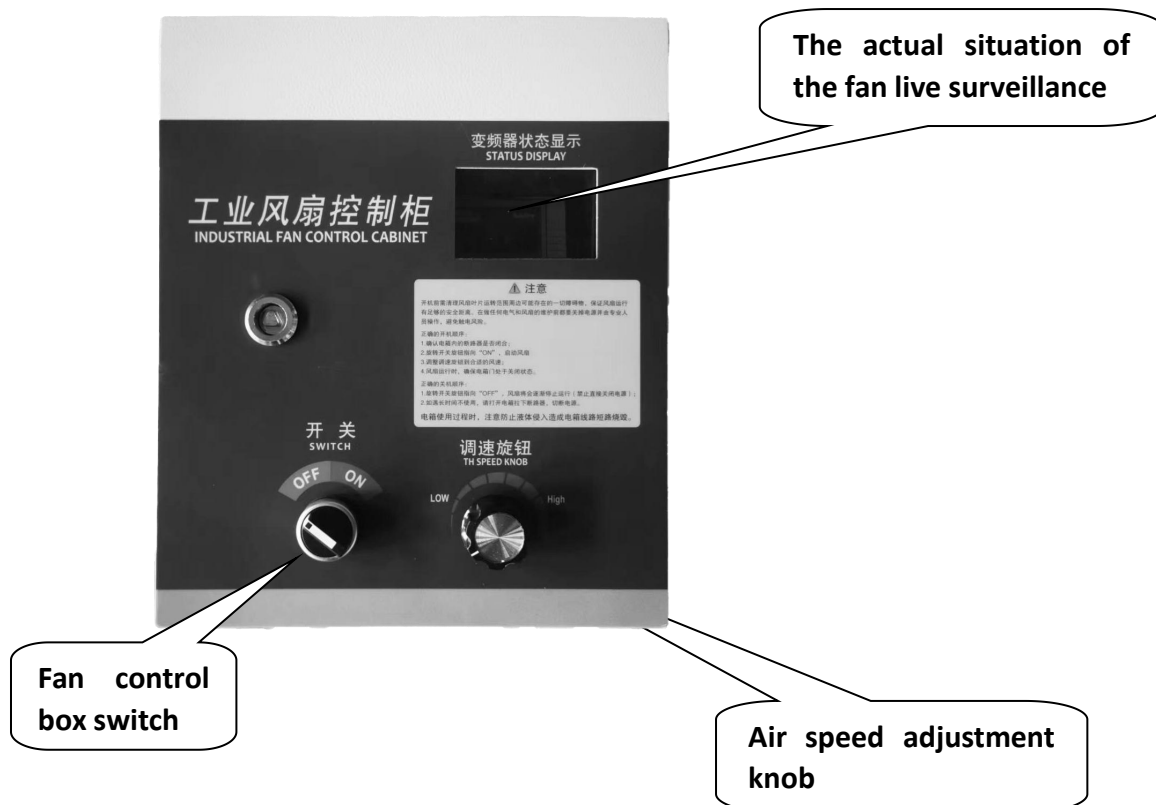
### 3.2.6.2 Wire Connection method of 380V



### 3.2.7 Step 7: Install the motor cover and bottom cover



## 4. Control panel



## 5. Safe Operating Instructions

Before operating the equipment, please read the product instructions carefully, and remove obstacles in the operating area to ensure that the fan runs at a safe distance.

**Warning: Before doing any electrical and fan maintenance, be sure to turn off the power and have it operated by a professional to avoid being injured by the power supply.**

### Start operation:

1. Confirm that the fan operation space is free from obstacles and potential dangers;
2. Confirm that the input power supply is correct and meets the product requirements;
3. Confirm that the speed knob is adjusted to the minimum position;
4. Start the fan, first turn the power switch
5. After the fan starts, adjust the speed knob to achieve the best use effect.

### Stop operation:

1. Stop the fan and adjust the speed knob to the minimum value;
2. Then turn off the rotary power switch;
3. During the normal operation of the fan, power-off operation is prohibited.

## 6. Safety Precautions

### Prohibit

Do not bend the fan blades when installing, adjusting or cleaning the fan, otherwise it will damage the fan or affect the use of the fan.

Before turning on the power, please confirm whether the input voltage of the fan is consistent with the power supply voltage.

Do not carry out maintenance work when the power is on to prevent electric shock.

Do not change the fan structure and installation position without permission.

Do not open the electrical control cabinet when the power is on, otherwise there is a danger of electric shock. Do not operate the damaged equipment, otherwise it will have unexpected serious consequences.

It is strictly forbidden to modify the structure or parameters of the controller, otherwise the equipment will be damaged due to improper settings, or accidents may occur.

The fan controller contains high voltage storage capacitors. When you work on the fan controller, please wait 3 minutes after the power is turned off for the voltage of the capacitor to release to the full voltage level (Note: the display turning black is not a sign that the voltage has reached a safe level). Otherwise there is a danger of electric shock.

It is strictly forbidden to operate the fan when the safe space is insufficient.

## **Warning**

When the fan is running, do not cut off the power supply, otherwise the gearbox of the reducer will be damaged, and the power supply should be cut off when the fan is completely stopped.

When the fan is running forward, please do not put the running switch directly to the reset position, otherwise it will cause mechanical failure.

## 7. Fault diagnosis and its solutions

<b>Trip code</b>	<b>Trip Type</b>	<b>Possible causes</b>	<b>Solutions</b>
Uu1	Bus Under voltage during running	1. Power grid low voltage	1. Check the input power source.
OC1	Over current in Acceleration	1. Acceleration time too short 2. Power grid low voltage 3. Drive power rating too small	1. Increase the acceleration time. 2. Check the input power source. 3. Choose drive with higher capacity.
OC2	Over current in Deceleration	1. Deceleration time too short 2. Large load inertia 3. Drive power rating too small	1. Increase the deceleration time. 2. Add suitable brake devices. 3. Choose higher capacity drive
OC3	Over current at constant-speed	1. Abnormal load mutation 2. Power grid low voltage 3. Drive power rating too small 4. Encoder sudden offline in closed-loop vector control	1. Check the load 2. Check the input power source. 3. Choose higher capacity drive 4. Check the encoder and its wiring.
Ou1	Over Voltage in Acceleration	1. Acceleration time too short 2. Power supply abnormal	1. Increase the acceleration time 2. Check the input power source
Ou2	Over voltage in deceleration	1. Deceleration time too short 2. Large load inertia	1. Increase the deceleration time 2. Add suitable brake devices.
Ou3	Over voltage in constant speed	1. Power supply abnormal 2. Large load inertia	1. Check the input power source.



			2. Add suitable braking devices.
SC	Load short-circuit	<ol style="list-style-type: none"> <li>1. Wiring of drive and motor get phase-to-phase short circuit</li> <li>2. Damage of the inverting module IGBT</li> </ol>	<ol style="list-style-type: none"> <li>1. Check whether the electric motor coil is short circuit.</li> <li>2. Ask for the services from manufactures.</li> </ol>
OL1	Motor overload	<ol style="list-style-type: none"> <li>1. Power supply abnormal</li> <li>2. Motor rated current set wrongly</li> <li>3. The Curve of V/F is not fit</li> <li>4. Motor always works with heavy load at low speed.</li> <li>5. Motor blocked to stall or sudden large load change</li> </ol>	<ol style="list-style-type: none"> <li>1. Check the input power source.</li> <li>2. Check whether the motor's rated current is correctly set up.</li> <li>3. Adjust the V/F curve and torque boosting performance.</li> <li>4. Use specialized electric motor.</li> <li>5. Check whether the motor or the load is blocked to stall or not.</li> </ol>
OL2	Drive overload	<ol style="list-style-type: none"> <li>1. Low voltage in power grid</li> <li>2. Load too heavy</li> <li>3. Acceleration too fast</li> <li>4. Restart the motor still in turning</li> </ol>	<ol style="list-style-type: none"> <li>1. Check the input power source.</li> <li>2. Select bigger capacity drive.</li> <li>3. Increase the acceleration time</li> <li>4. Avoid restarting when the motor is in rotation.</li> </ol>
SP1	Input phase loss	<ol style="list-style-type: none"> <li>1. Input RST have phase loss or imbalance</li> </ol>	<ol style="list-style-type: none"> <li>1. Check input voltage</li> </ol>
SPO	Output phase loss	<ol style="list-style-type: none"> <li>1. There is lack of UVW when output</li> <li>2. There is a serious unbalance in output</li> </ol>	<ol style="list-style-type: none"> <li>1. Check U-V-W motor wiring</li> <li>2. Check the load</li> </ol>

## 8.Repair and Maintenance

Our product design is maintenance-free, but in order to ensure the long life of the fan and the normal operation of the fan, the fan should also be maintained, especially for applications in harsh environments, for any maintenance of the fan or variable controller, always ensure that the fans are stopped and the controller is powered off to protect personnel.

<b>Time interval</b>	<b>Recommended maintenance contents</b>	
Trial run	Check the fan for abnormal operation sound or vibration	
Every 1200 hours of work	Inverter controller dust removal	
	Fan blade dust removal	
	Check all connections, such as ceiling mounts, to make sure that the fastening screws are not loose	
	Check the steel wire rope and stay in the tension state. If it is loose, re-adjust the ceiling frame and other connections to ensure that the fastening screws are not loose	
Change gear oil for reducer	1.NORD	Replace the gear oil after 36 months of use
	2.ABM	Free of replacement
	3.GUANGYAO	Free of replacement

If there is serious noise or vibration during the abnormal operation of the fan, it indicates that the motor wiring is loose or the power supply does not match. At this time, you should immediately stop and check each wiring point, and use a multimeter to measure the voltage of each power line to eliminate the fault.