

PMSM Industrial Ceiling Fan Operation and maintenance manual



Catalog

Foreword	1
1.Product introduction	1
1.1Product Specifications	1
2.Parts List	2
3.Fan installation	4
3.1 Installation forms	4
3.2Fan installation steps	5
3.2.1 Step 1: Install the motor bracket	8
3.2.2 Step 2:Install the ceiling bracket and extension rod .	8
3.2.3 Step 3:Install the motor	9
3.2.4 Step 4: Install the steel wire rope	9
3.2.5 Step 5: Adjust the balance	10
3.2.6 Step 6:Install the fan blades	11
3.2.7 Step 7: Connect the power supply	12
4.Control panel	10
5.Operating Instructions	11
6.Safety Precautions	11
7.Main fault information and troubleshooting methods	13
8.Maintenance and Repair	15

Foreword

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

Large permanent magnet silent industrial energy-saving 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

Large permanent magnet silent industrial energy-saving fan

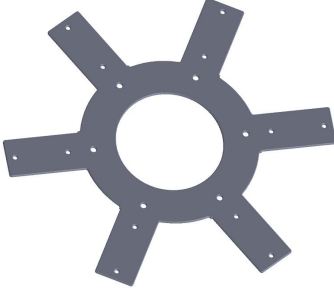

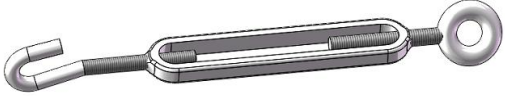



Large permanent magnet silent industrial energy-saving fan, the maximum diameter can reach 7.3 meters. The new fan blades manufactured by applying aerodynamic principles and advanced technology can push a large amount of air with a power of 1.5KW or less, generate a large air volume, form a full range 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.	3m	4m	5m	6.1m	7.3m
Model	YZ-30B-6	YZ-42B-6	YZ-50B-6	YD-61-6	YD-73B-6
Air volume	6500m ³ /min	9200m ³ /min	9900m ³ /min	11000m ³ /min	13000m ³ /min
Max speed	100r/min	85r/min	70r/min	60r/min	52r/min
weight	40kg	51kg	55kg	90kg	100kg
Voltage/Power	220V 0.4KW	220V 0.55KW	220V 0.75KW	220V 0.95KW	380V 1.5KW

2. Fan Parts List

No.	Description	Sets	Picture
1.	Ceiling bracket	1	
2.	Pressing plate	2	
3.	extension rod	1	
4.	Motor connection bracket	1	
5.	Ceiling Motor	1	
6.	Blades	6	
7.	fan blade connector	6	

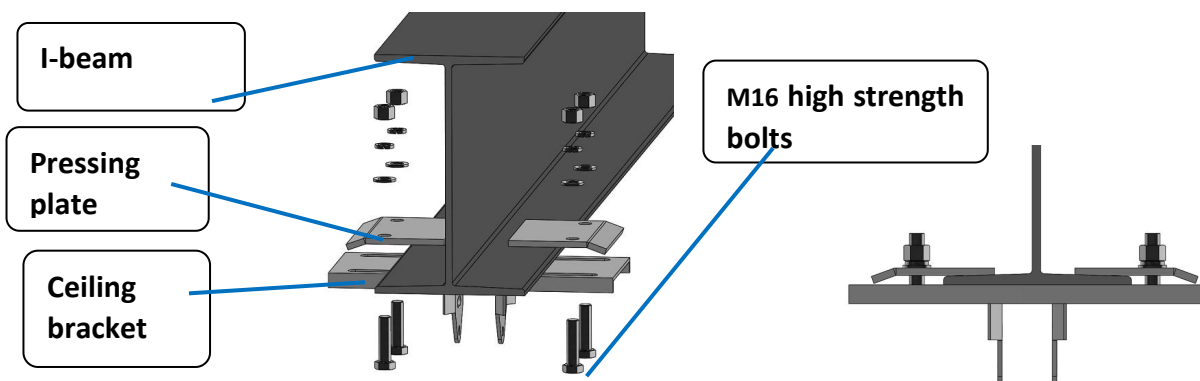
8.	Turntable	1	
9.	Steel wire rope	4	
10.	Steel wire tensioner	4	
11.	Electric control box	1	
12.	electric Cable、threading pipe	25m	
13.	screws	1	

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

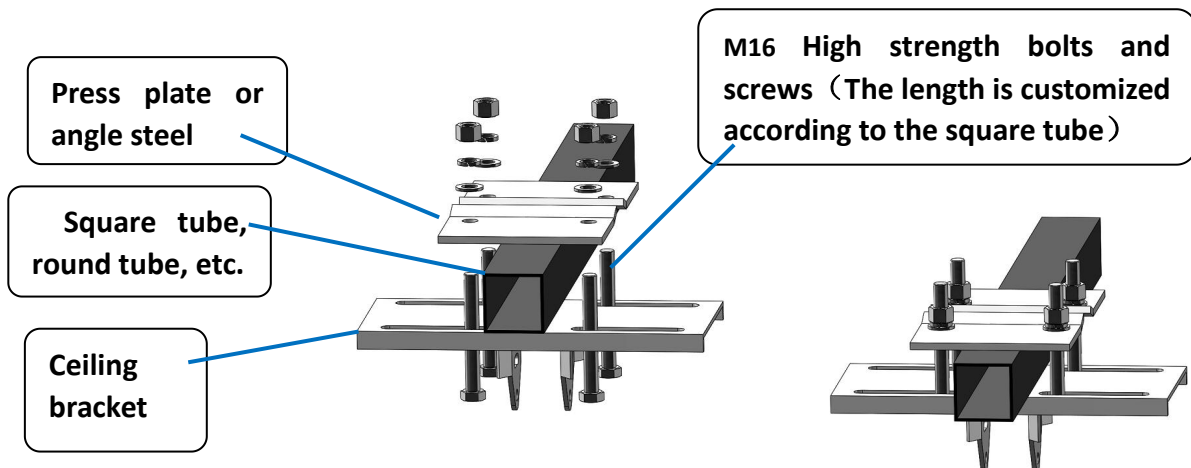
3.Fan installation

3.1 Three common types of installation

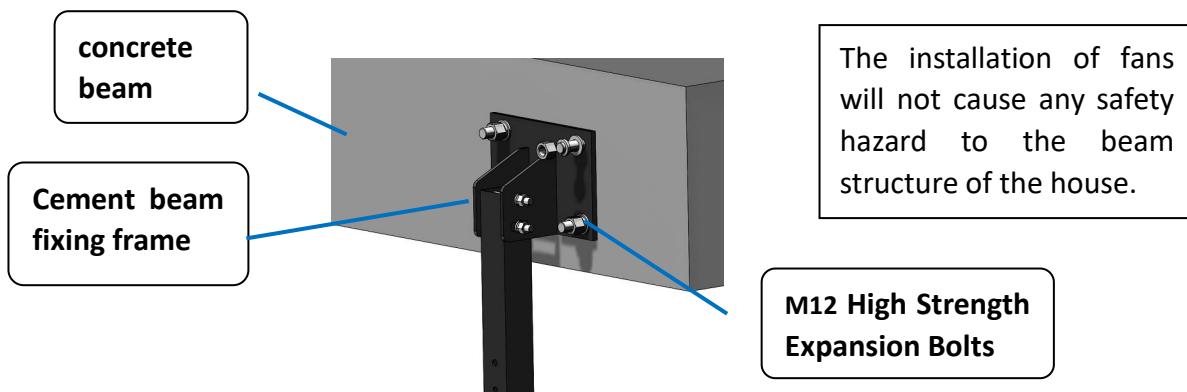
3.1.1 I-beam structure



3.1.2 Square tube, round tube and other structures

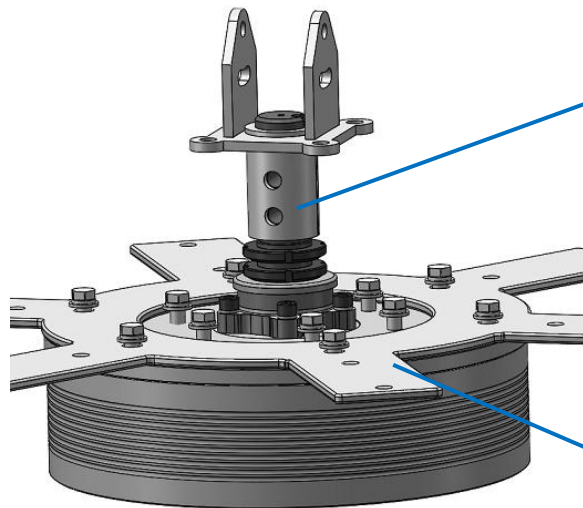


3.1.3 Concrete beam structure



3.2 Fan installation steps

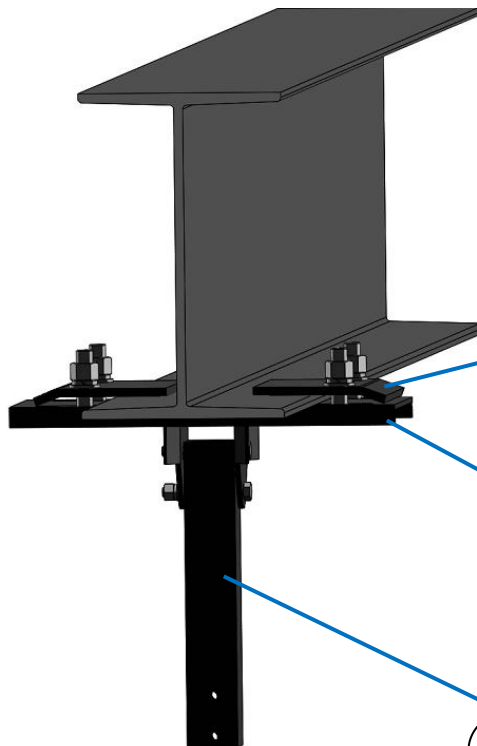
3.2.1 Step 1: Installing the Motor Bracket



1. Insert the motor connection bracket into the motor shaft to align the two screw holes, and then thread two M14 bolts. Be careful not to damage the electrical wires inside the motor shaft when threading the bolts

2. Install the turntable above the motor and tighten the screws.

3.2.2 Step 2: Install the ceiling bracket and extension rod

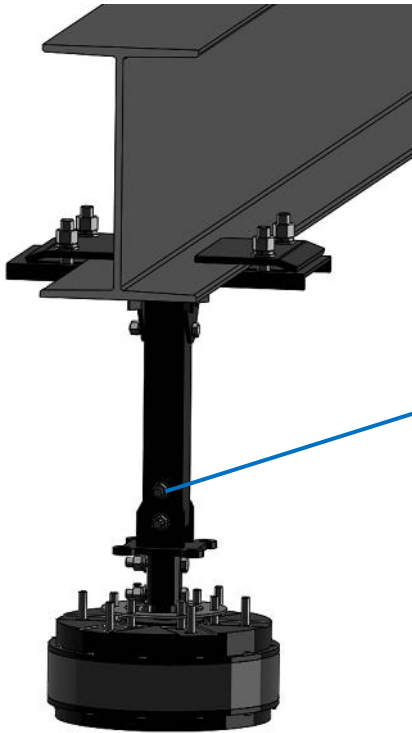


1. Fasten the two ceiling pressure plates on both sides of the I-beam, use 4pcs M16 bolts to connect with the ceiling frame, and tighten the bolts to hold both sides of the I-beam

2. Attach the ceiling frame to the bottom of the I-beam, use 4pcs M16 bolts to connect it with the ceiling pressure plate, and tighten the bolts to hold both sides of the I-beam.

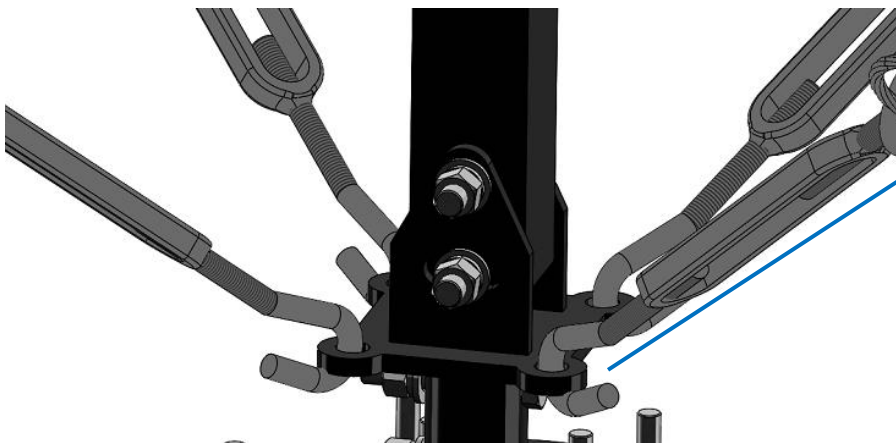
3. Put the extension rod inside the ceiling bracket splint, use 2pcs M12 bolts to connect the extension rod to the ceiling bracket, adjust the verticality and then tighten the screws.

3.2.3 Step 3: Install the motor

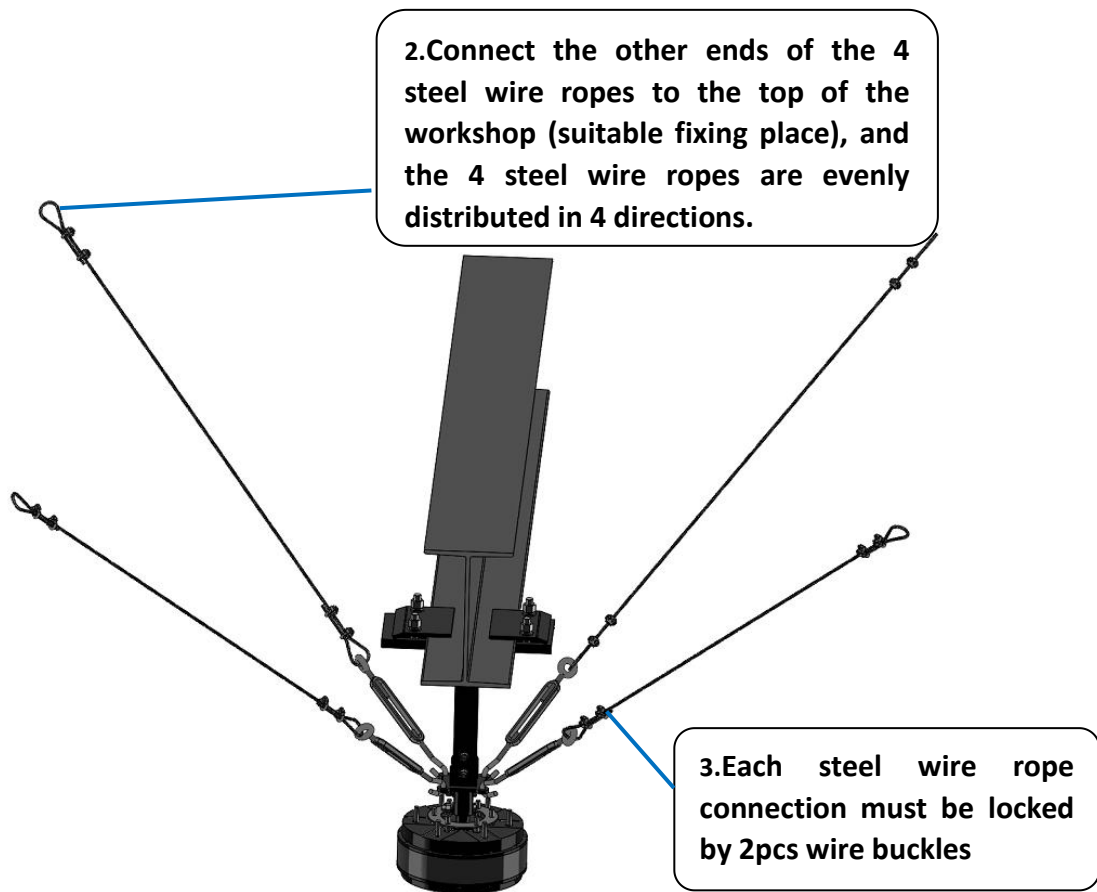


1.Align the holes of the motor bracket with the two mounting holes at the lower part of the extension rod, and use 2pcs M12 bolts to fix them.

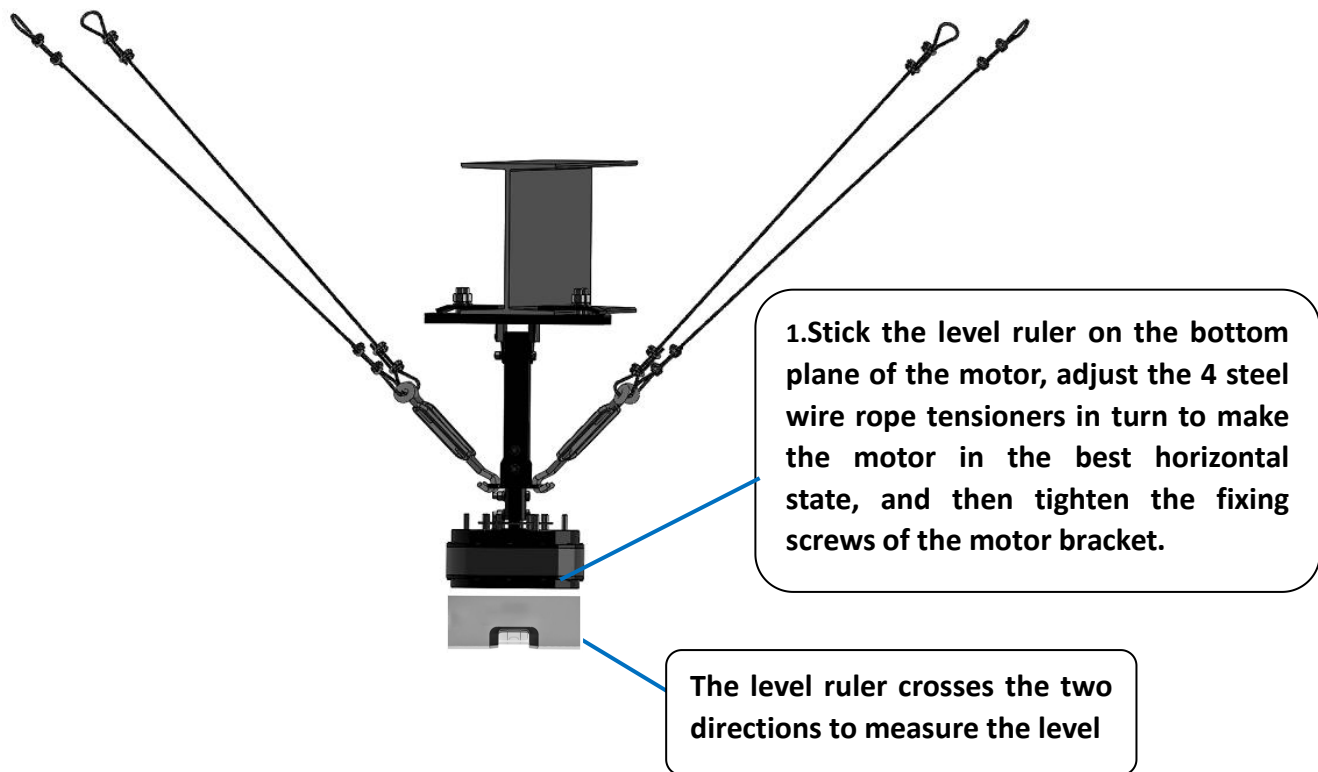
3.2.4 Step 4: Install the steel wire rope



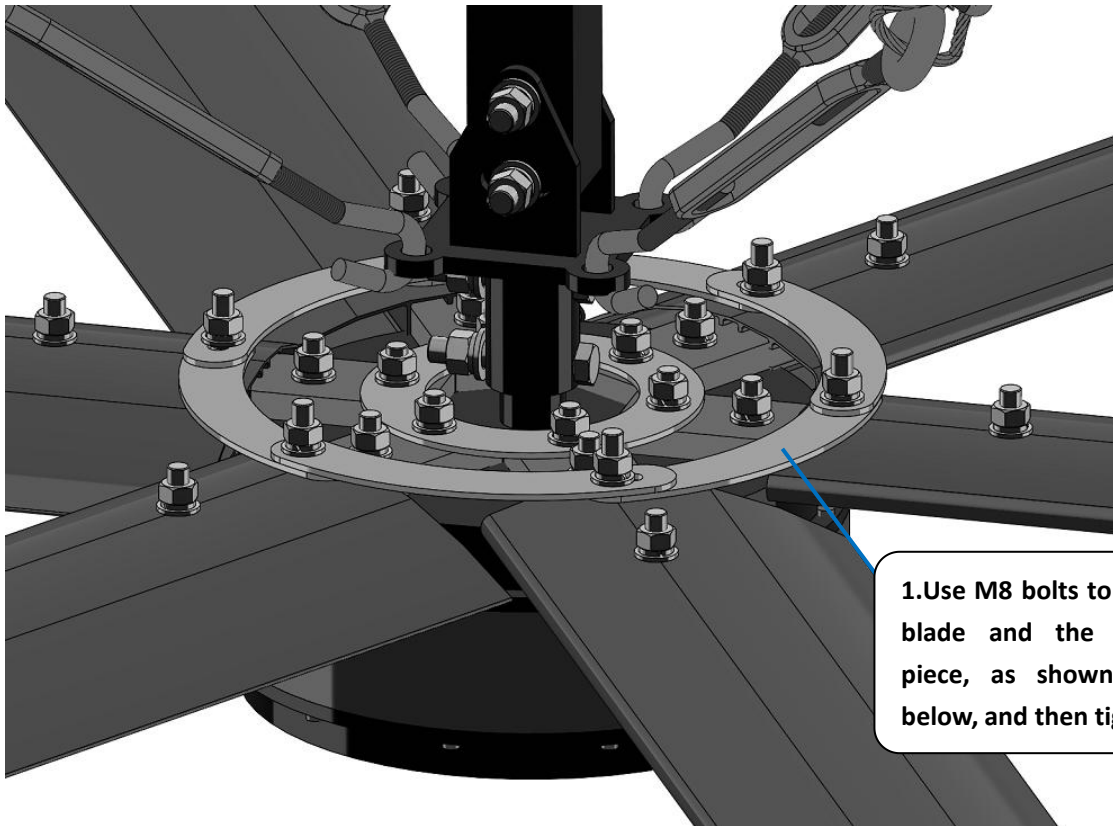
1.Hang the 4pcs steel wire tensioners into the 4 ring holes of the ceiling fan main unit.



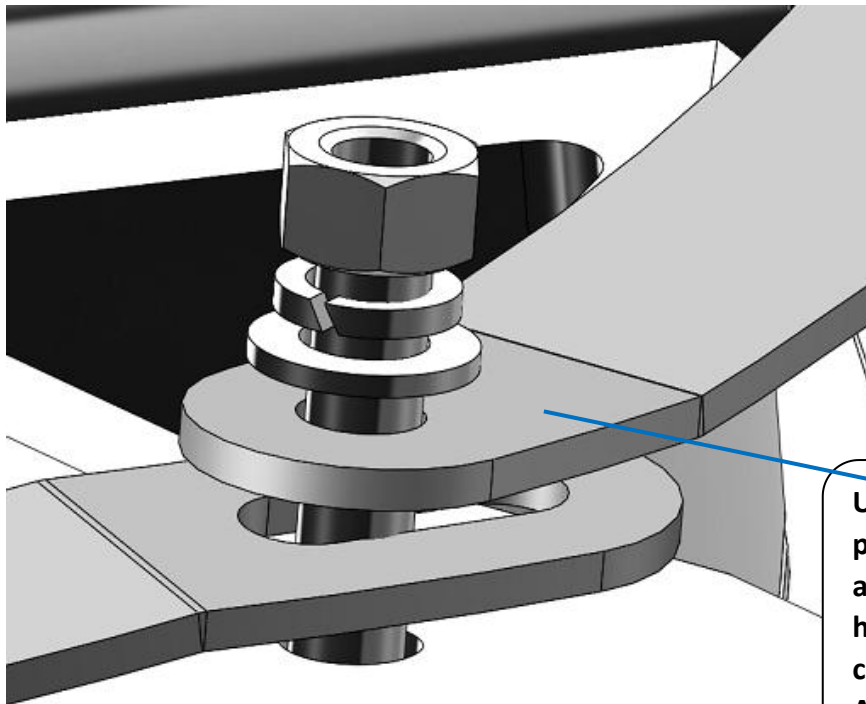
3.2.5 Step 5: Adjust the balance



3.2.6 Step 6: Install the fan blades

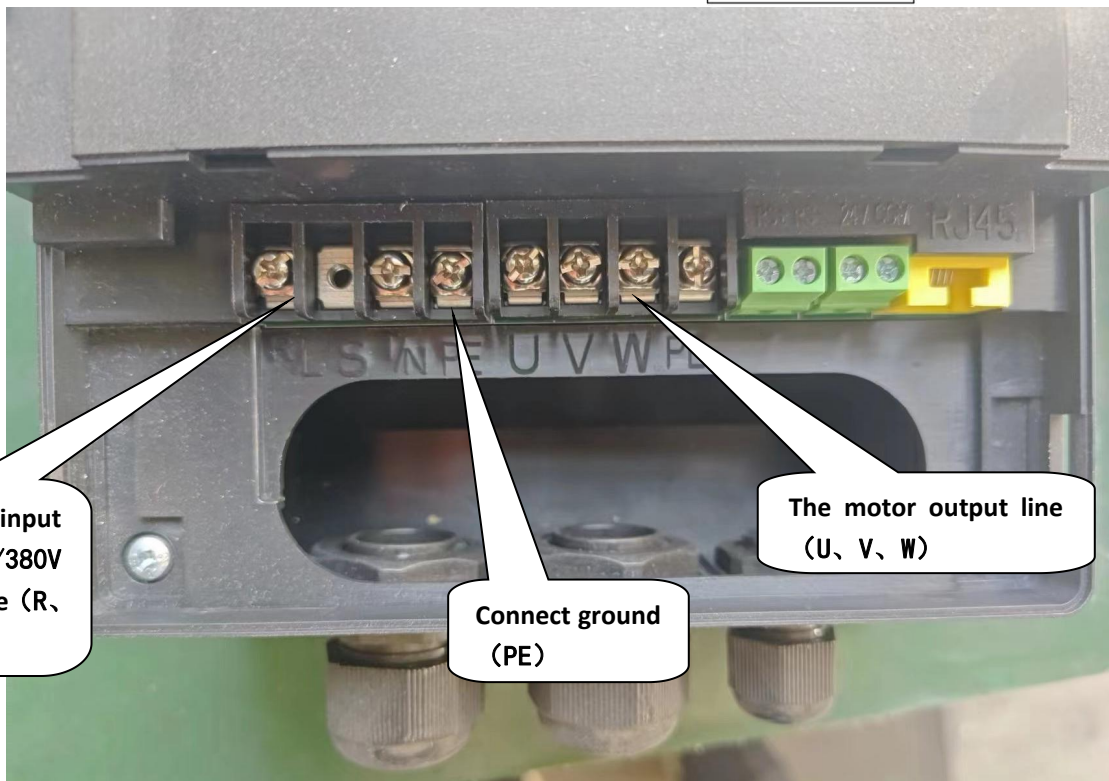
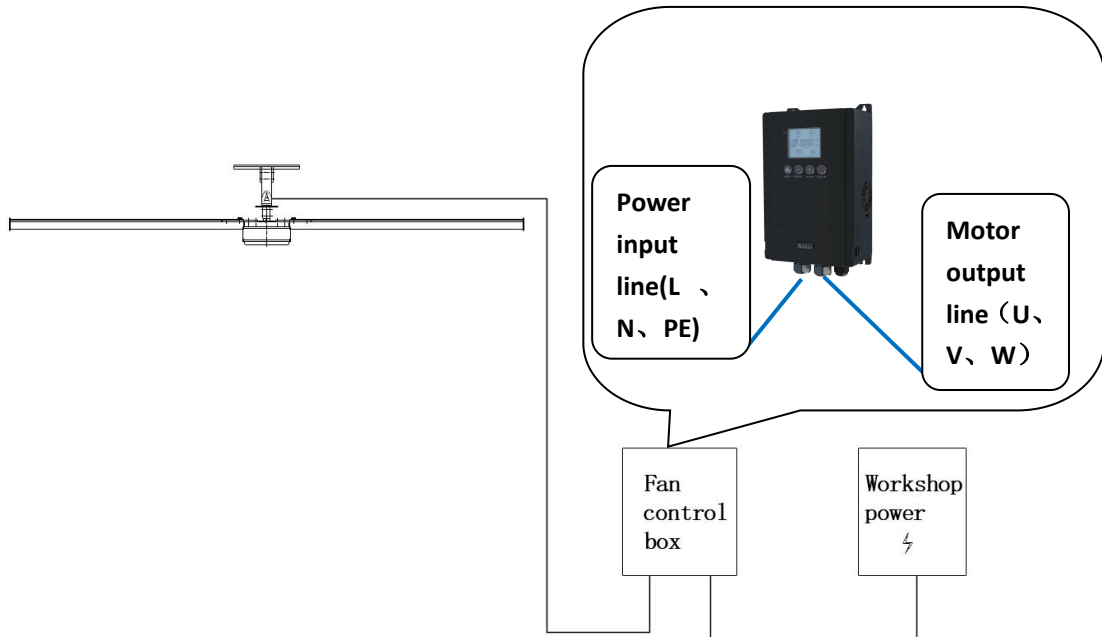


1. Use M8 bolts to connect the fan blade and the fan connecting piece, as shown in the figure below, and then tighten the bolts.



Using M8 screws. Fan connecting pieces installed alternately up and down (Note: The straight hole is at the bottom and the circular hole is at the top) As shown in the figure

3.2.7 Step 7: Connect the power supply



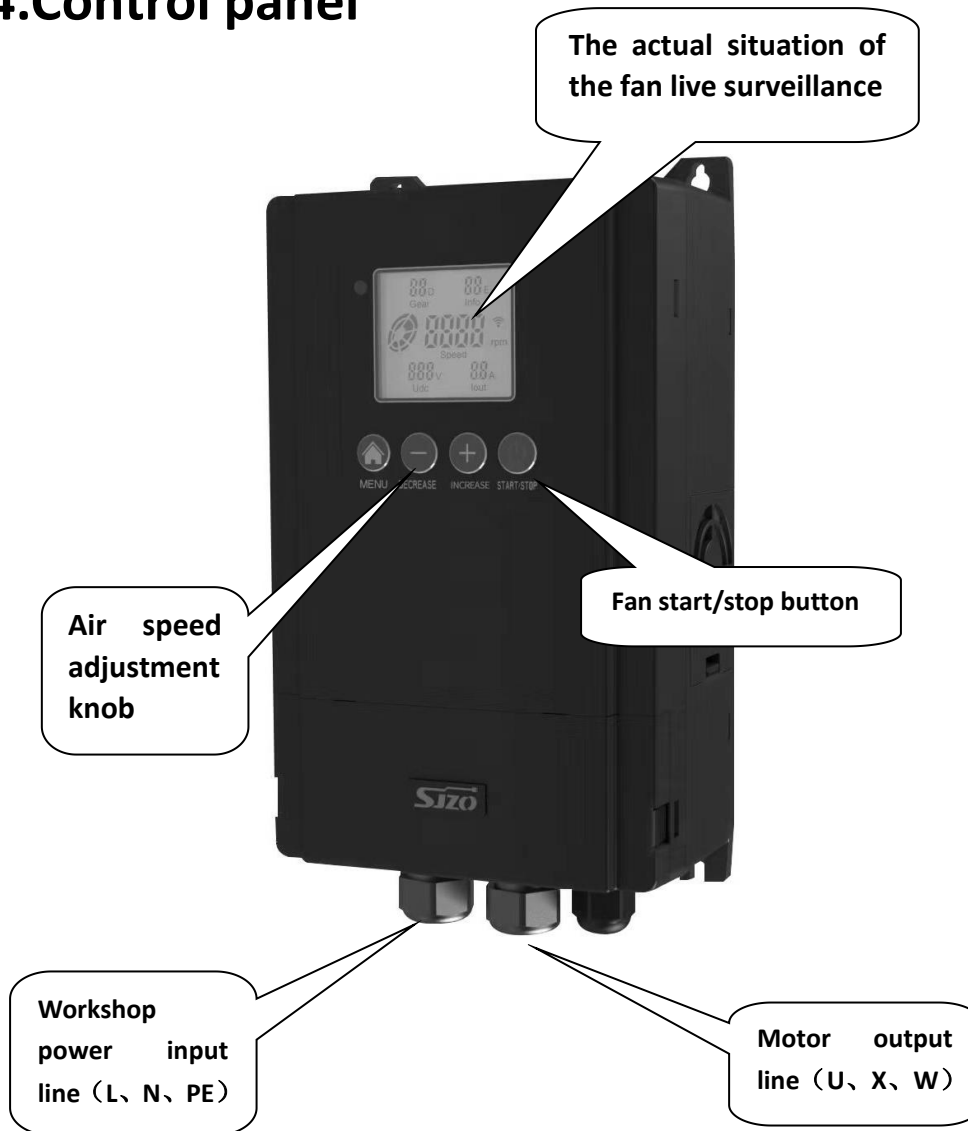
220V Power input line (L1, L2) /380V Power input line (R, S, T)

Connect ground (PE)

The motor output line (U, V, W)

Looking from bottom to top, it is correct that the motor rotates counterclockwise. If it is found that the motor is reversed, then any two lines in U, V and W can be exchanged.

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, and then press the ON button;
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. Press the OFF button, then press the 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

Fault display	Fault reason	Solutions
Under voltage	1. Power grid low voltage 2. power line phase loss	1. Check the input power source 2. Check the power line voltage
Over Voltage	1. Power supply abnormal	1. Check the input power source
Over current	1. abnormal load 2. Power grid low voltage	1. Check whether the motor is jammed 2. Check grid voltage
Motor blocked	1. Motor blocked	1. Check whether the motor is blocked, turn off the main power supply, and manually rotate the fan to see if it is smooth. 2. When the power is turned off, if the fan cannot be turned manually, check whether there is a short circuit in the power

		cables between phases.
short circuit	1.Short circuit between inverter and motor wiring	1.Check motor coil for short circuit 2.Check if the motor input power is shorted 3.Seek manufacturer service
Fan low speed jitter	1.The motor wire is not connected	1.Check that each connection point is securely connected

(Note: The permanent magnet motor has relatively high wiring requirements. When the motor connecting line and the input power line are not fully connected, it is easy to cause the fan to start shaking, abnormal noise, the speed cannot be adjusted quickly, and the current is abnormally amplified. Therefore, when installing the fan, make sure that each wiring point is fully connected and firmly connected.)

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.

Time interval	Recommended maintenance contents
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

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.