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Committed To Building A World-class Transmission Brand

异步电机使用说明书

Operating instructions for Induction Motor



WANSHSIN®
萬鑫精工

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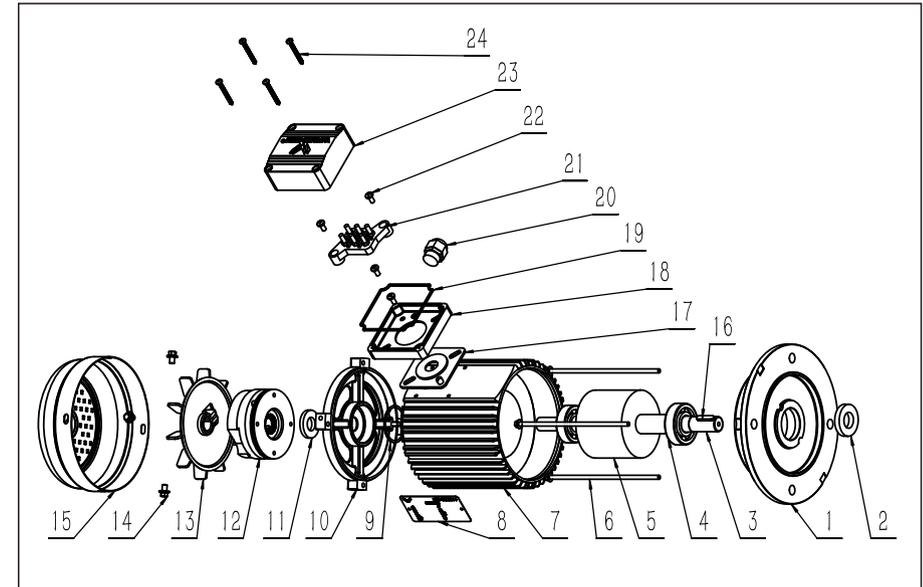




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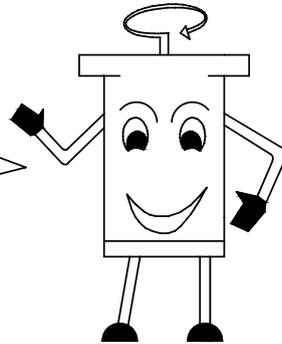
Component Breakdown Diagram



◆ Product Code

1	Motor flange	13	Blades
2	Oil seal (flange seal)	14	Fastening screw for Fan hood
3	Motor shaft	15	Fan cover
4	Bearing	16	Key
5	Rotor	17	Gasket of bottom cover on terminal box
6	Assembly screw	18	Bottom cover on terminal box
7	Stator coil	19	Top cover on terminal box
8	Nameplate	20	Cable lock head
9	Wave washer	21	Terminal plate
10	Rear end cover	22	Assembly screws of terminal plate
11	Oil seal (back cover seal)	23	Upper cover of terminal box
12	Brake (according to customer requirements)	24	Assembly screws of top cover on terminal boxCC

Thank you for purchasing WANSHSIN products. Before using the product, please read the instruction manual carefully and make sure fully understand; familiar with product knowledge, safety knowledge and precautions then you can use this product properly. Please keep this instruction manual for easy access at any time.



Product Overview

a. Safety Precautions

Thank you for purchasing Wanshsin products.

The dangers and damages may occur when this manual is used incorrectly, are basically divided into two categories: "dangerous" and "attention". Its definition are as follows.

DANGER: It may occur dangerous situations, death or serious injury if wrongly operated.

NOTE: It may occur dangerous conditions, moderate obstacles and minor injuries if wrong operated, and occasions where material damage is expected may occur.

In addition, please observe the safety instructions in the chapters of this manual; the items listed in the "Caution" may also have significant consequences depending on the situation.



DANGER

hazardous operation, appropriate protective measures are required to avoid possible hazards due to possible motor charging, exposure, movement or rotating parts and hot surfaces.

- Do not use in an explosive environment. Failure to do so may result in an explosion, fire, electric shock, injury, damage to the unit, etc. (If you really need it, please choose explosion-proof motor).
- For operations such as handling, installation, wiring, operation, maintenance, inspection, and fault diagnosis etc. should be operated by experienced expert otherwise it may result in an explosion, fire, electric shock, injury, damage etc.
- Do not move, install, connect and check in the powered state. Be sure to cut off the power before operating, otherwise you could get an electric shock.
- For personnel transportation or lifting device, please set safety protection device on both sides, otherwise, loss of control and fall may result in personal accidents and device damage.
- Do not adhere to water and oil on the brake, otherwise, it may cause accidents such as falling and losing control due to the reduction of braking torque.
- It needs especial skill to do repair for gear motor, make sure to return back to our factory if need.



NOTICE

- Follow the instructions in this manual to install, operate, and maintain the motor safely and correctly. The person who install, operate or maintain the motor or auxiliary equipment must be aware that failure to follow the instructions in this manual may result in product damage and personal safety incidents.
- Please make sure to wire according to the wiring diagram, otherwise it may cause fire or electric shock.
- Do not force bending, pulling or clamping the wire, or it may cause fire or electric shock.
- When the power is off, please turn off the power. Otherwise, the motor will start suddenly after the power is restored, which may cause injury or damage the equipment.
- Do not use the geared motor beyond the specifications on the nameplate or in the manufacturing specifications. Otherwise, it may lead to electric shock, injury, damage to the device, etc.
- Do not insert finger or object into the opening side of motor, otherwise, it may lead to electric shock, injury, fire, damage to the device, etc.
- Do not touch the rotating parts (output shaft, cooling fan) during operation, otherwise it may cause injury.
- Do not use damaged motor, or it may cause injury, fire and other conditions.
- Do not remove the nameplate.
- Do not disassemble or modify the motor, or it may cause electric shock or injury. The modification of products by customers does not belong to the scope of the company's guarantee, and the company will not assume the responsibility.

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b. Ordering method (motor model and naming)

Product Naming Rules:

①	②	③	④	⑤
WS	S	B	0.12KW	-4
1. Brand WS- Wanshsin Brand	2. Motor S- three-phase asynchronous motor SVP- three-phase frequency control asynchronous motor	3. Brakes No code - no brake B- power off brake AB- release brake manually (return to braking position automatically)	4. Rated output of motor 0.12kw - the rated output power of this motor is 0.12kw	5. Motor Pole 2-2-pole motor 4-4-pole motor 6-6-pole motor 8-8-pole motor

Executive standard: GB755-2008 GB12350-2009 GB14711-2013

Remarks: The company's product is designed according to the calculation of motor power and allowable carrying capacity; and is set up according to continuous working for eight hours per day, stable loading condition without changing. When in actual use, the site condition (such as: Whether there is repeated start and stop or frequent positive and negative rotation, whether the service time is less or more than eight hours, and the impact

load size and characteristics) may have difference with ideal conditions, need fully consideration when selection; If you have any other special requirements, please inform us and we will redesign to meet the requirements

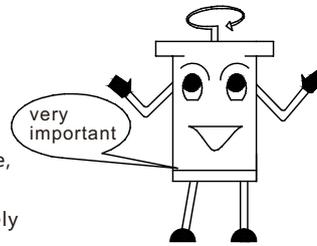
Before use (receipt confirmation)

After receiving the goods.

(1) Please check immediately if any transport damage.

If there is any damage, please notify the transportation company immediately. Do not run the equipment if necessary;

(2) Please check if the product type, power, rated voltage, installation method, or output shaft size meet your requirements; if not, please contact your dealer for timely processing.



Requirement on working environment.

Environmental Temperature -5~40°C.

Environmental Humidity 85%

Altitude Less than 1000m

Notice

- (1) Do not use the gear reducer motor in the environment with explosives, flammable gas, corrosion, or water leaks.
- (2) Do not force bend, pull or pinch the power supply, cables and motor wires;
- (3) When the motor is installed, it must be grounded properly with a ground wire, which is located on the junction box;
- (4) Installation, connection and inspection must be carried out by professional technicians;
- (5) The installation environment must be dry and well ventilated, the ambient temperature should be -5°C ~40°C, and please specify if the motor need to work in higher or lower temperature environment;
- (6) The gear reducer motor should be installed on a flat and solid base.

Remarks: The SPL for most of motor in 50Hz alternating current will not exceed 70dB(A)

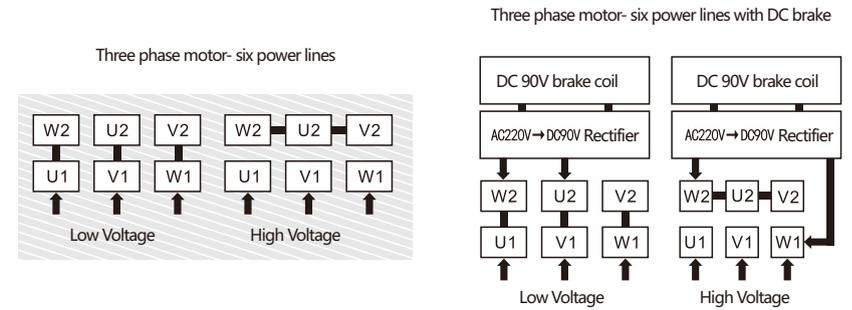
Electrical Connection

All works only be carried out by qualified personnel. During work, the low-voltage machine must be at standstill, de-energized, and safeguarded against accidental re-start. This is also applying to auxiliary circuits (e.g. anti-condensation heating or forced cooling fan.). Otherwise there may be risk of electric shock or personal injury.

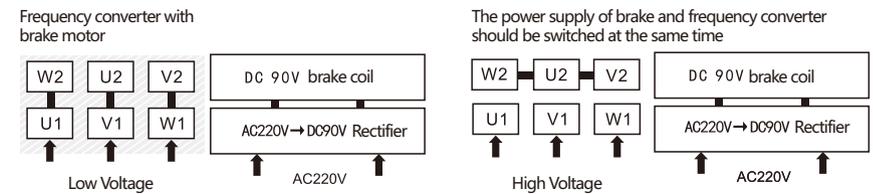
Note: Exceeding the stated tolerances in EN 60034-1 (VDE 0530, part 1)-voltage +5% frequency +2%, increases the heating and influences electromagnetic compatibility. Observe the wiring information and differing data on the nameplate as well as the provided wiring diagram.

The following is the electrical wiring diagram of each type of motor

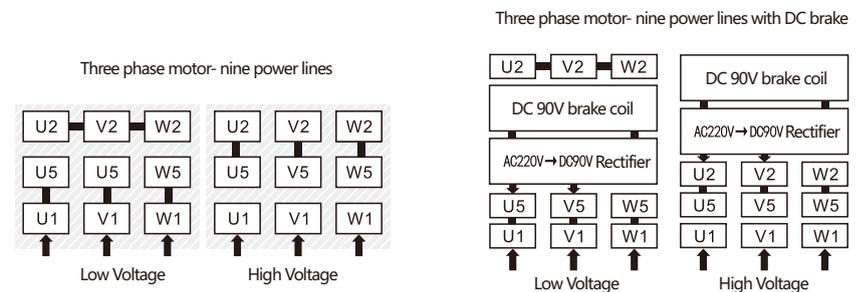
(1) 0.1KW~4.0KW Wiring of three-phase motor with six-lead and brake(without inverter)



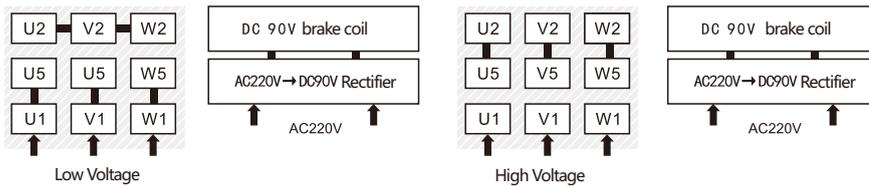
(2) 0.1KW~4.0KW Wiring of three-phase motor with six-lead and brake(with inverter)



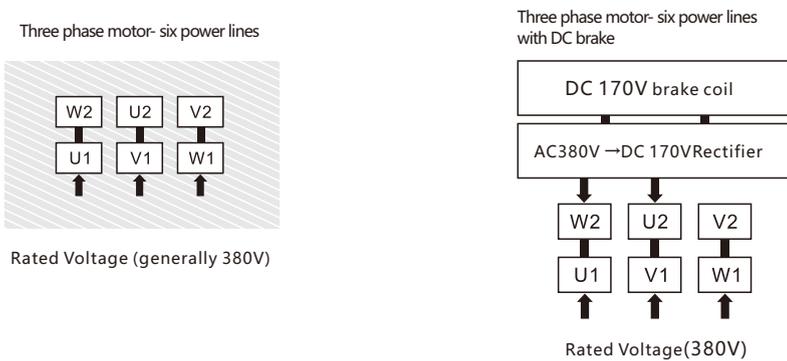
(3) 0.1KW~4.0KW Wiring of three-phase motor with nine-lead and brake(without inverter)



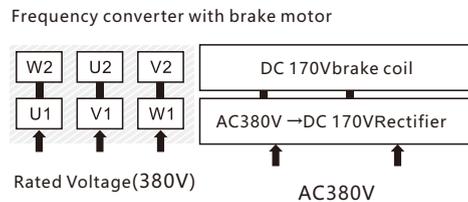
(4) 0.1KW~4.0KW Wiring of three-phase motor with nine-lead and brake(with inverter)



(5) Wiring of three-phase motor above 5.5KW with brake (without inverter)



(6) Wiring of three-phase motor above 5.5KW with brake (with inverter)



Note: Switching any two wires of the three power cables will change the rotating direction of the three-phase motor.

! DANGER

- Please connect to the power cable according to the wiring diagram in the junction box or the instruction manual. Improper operation may result in electric shock and fire.
- Do not force bend, pull, or clamp the power cable and motor leads excessively. Otherwise it may cause electric shock
- Ground the grounding terminal securely. Otherwise it may cause electric shock.
- Use the right power supply stated on the nameplate. Otherwise it may damage the motor and cause a fire.

! NOTICE

- When measuring the insulation resistance, do not touch the terminals. Failure to do so may result in electric shock.
- The motor body does not come with a protective device. In accordance with the electrical equipment technical standards, overload protection devices must be installed. At the same time, it is recommended to install other protection devices such as leakage circuit breakers. Failure to do so may result in damage, electric shock, fire, or burns.
- Please control the voltage drop during wiring to 2% or less. If the wiring distance is too long, the voltage drop will be too large and the motor may not start.
- When inverting, be sure to pause and then start reverse. Positive and negative operation caused by reverse braking may damage the unit.
- When the brake is attached, the brake coil should be turned on and off synchronously with the motor winding. If the winding does not pass the brake, the motor will be stuck in the burning machine; if the brake winding is not connected, it may cause the coil to burn and fire.

installation

Cautions of installation:

- ◊ The motor must be installed and used by professionals familiar with safety regulations and national regulations.
- ◊ In accordance with local regulations, the motor installation and operation site should be equipped with the necessary safety equipment to avoid accidents.
- ◊ Please select the place where the following conditions are preferred:
 - a. Easy to check, and as dry and ventilated as possible;
 - b. Less dust and farther away from heat sources such as furnaces.
- ◊ Grounding: In order to prevent accidents such as electric leakage, according to the electrical work regulations, the grounding screw in the junction box must be connected to the ground wire before use by the customer, as shown in Table 3 of the EN50014 standard.
- ◊ The motor is mounted vertically with a protective cover for falling objects and liquids when the shaft is facing down.
- ◊ Ensure that the motor protection level matches the environmental and climatic conditions, ensuring no water in the junction box.
- ◊ The cable connection between the grid and the motor terminals must be in accordance with the rated current on the nameplate and in accordance with the relevant national installation standards or the requirements of EN60204-1.
- ◊ The motor is only for fixed installation. The cable joint of the motor shall comply with GB3836.8/EN 60079-15. The degree of protection of the cable gland should be at least equal to the degree of protection of the motor.
- ◊ The cable shall be fastened to the junction box after mechanical protection and shall comply with the provisions of GB3836.1/EN60079-0 and local installation standards.
- ◊ When using the coupling to connect the output shaft, it is necessary to install and fix the two shafts in parallel. The base should be installed with the bolts with the mounting hole diameter to ensure that the gear reduction motor is tight and firm.
- ◊ All equipment mounted on the output shaft must be lightly mounted on the shaft. Do not use a hammer or other blunt device to strike the output shaft to avoid bearing damage caused by tight installation.
- ◊ Pulleys, sprockets or gears need to be placed close to the output bearing as much as possible so that to reduce bending stress. Use a sprocket, pulley, etc. that does not exceed 6 times the diameter of the output shaft to connect to the output shaft. To avoid abnormal noise and axial surface damage, please use H7 tolerance during the use.
- ◊ After the installation is completed, the surface of the output shaft can be coated with appropriate anti-rust oil or anti-rust paint to protect the output shaft from rust.
- ◊ According to the power supply voltage, choose the appropriate wiring method to connect the inner lead of the motor junction box. If the wrong line is connected, the motor might be burnt down. According to the rated current on the motor nameplate, please select a suitable cable size for supply power to the motor at a recommended standard: current density 5A/mm².

- ◊ When using the variable frequency drive (VFD) to supply power to the gear motor with brake, the brake line (yellow) should be provided with AC 220V power supply separately, which should be synchronized with the power supply of the gear motor.
- ◊ Be sure to place the equipment stably, secure the foot and flange are fixed well, and precisely calibrate the directly connected coupling. Prevent the resonance of rotating frequency and double power frequency caused by improper installation. Rotate the rotor by hand to check if any abnormal friction sounds. Check the steering without connecting external equipment.
- ◊ Attention: Under the place with much dust or water droplets, when there is a bad effect on this machine, please cover it. Do not seal the cover and must have a vent. (if the working environment is dusty or waterproof required, please specify when purchasing).
- ◊ It is strictly forbidden to place flammable materials around the gear motor. Otherwise it may cause a fire.
- ◊ It is strictly forbidden to place obstacles that obstruct ventilation around the gear motor. Otherwise, it may cause burns, fires, etc. due to poor cooling and abnormal overheating.
- ◊ Do not stand or hang on the gear motor. Otherwise it may cause injury.
- ◊ Do not touch the shaft and the key slot of inner diameter of the gear motor with bare hands. Otherwise it may cause injury.
- ◊ After installation, check that the motor is well ventilated. And make sure there is no adjacent equipment, surface or direct sunlight to radiate additional heat to the motor.

OPERATION

(1).Check before starting

After finished the installation and wire connecting, please check the following points before switching on.

- Check if the installed circuit breaker and current relay is suitable
- Whether the wire connecting is wrong
- Whether the grounding wire is actually grounded

In addition, in the situation where the operation of the gear motor is predicted to be dangerous and the function cannot be performed normally, in order to prevent the dangerous situations, please consider the precautions on the device.

Fluctuations of voltage and frequency: When the voltage and frequency applied to the motor are not specified, the motor characteristics will change. Please note this. The motor voltage varies within 10% of the rated voltage, the motor can be used normally. If it exceeds 10%, it may burn the motor. Accompanied by abnormal such as output torque reduction or large current.

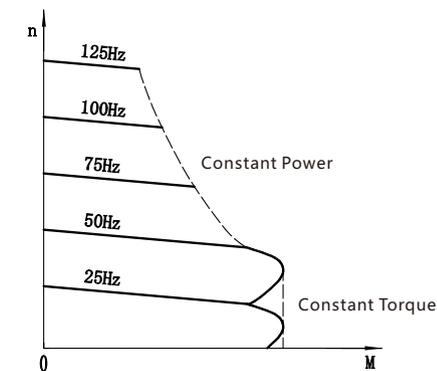
(2).Performance Validation after starting operation

- Whether the rotation direction is correct
- Whether the current value exceeds the standard
- Whether abnormal vibration or noise is generated
- Whether the start-up frequency is too high
- Whether there is an impact

If there is any abnormality, please follow the steps described in the section of "Motor Trouble-shooting"

(3). Motor Operation with frequency converter

- a. If the motor is equipped with a frequency converter and an electromagnetic brake at the same time, the power supply of the brake should be set separately and cannot be used in parallel with the motor power supply;
- b. When the motor is used with frequency converter, it is recommended to use the frequency at 30-80Hz, which will provide more practical performance and can be operated for a long time. If higher or lower speed is required, it can also be achieved by adjusting the reduction ratio;
- c. When the operating frequency of motor is below 30Hz or above 80Hz, compared with 30-80Hz, the motor temperature will rise and the running noise/vibration will become larger. At this time, the motor can only run for a short time, please use it carefully;



- d. The characteristic curve of the variable frequency motor is shown in the figure above. In the range of 6-50Hz, it is constant torque operation. The motor can maintain the same continuous running torque as the rated torque at 50Hz (However, the motor under 30Hz generates heat quickly and cannot operate for a long time);
- e. In the range of 50-120Hz, it's constant power operation, the motor can maintain the continuous operation output power is the same as that at 50Hz (the motor speed is high during operation with high-frequency, the torque is reduced at equal proportion, and above 80Hz the motor generates heat quickly and cannot operate for a long time);
- f. The variable frequency three-phase motor can configure the frequency converter to achieve the frequency conversion and speed regulation. When working in the low frequency area, the cooling of the original air-cooling system is reduced due to the decrease of the motor speed, and the motor temperature will rise. When working in the high frequency area, the excessive motor speed makes the original cooling fan consume more power, increases the wind loss, reduces the efficiency of the motor, and greatly increases the running noise of the motor. Therefore, we recommend that the motor should be equipped with a separate cooling fan for variable frequency operating.

(4).Other notice of the operating environment and operation



- Turn off the power and lock it before operating on the motor or driven equipment. Make sure that there is no explosive gas exists during working.
- Do not operate with when the junction box cover removed. After the wire connected, install the junction box cover in its original location. Otherwise it may cause electric shock. Please install it securely.
- During operating, make sure do not approach the rotating body (rotating shaft etc.) Otherwise, you may get involved in and get hurt.
- When no electricity, be sure to turn off the power. Otherwise, the electricity suddenly come may cause injury and damage to the device.



- During operation, please make sure do not touch by hand or body as high temperature of motor. Otherwise it may cause burns.
- When an abnormality occurs, stop the operating immediately. Otherwise it may cause electric shock, injury, or fire.
- Do not use beyond the rated load. Otherwise it may cause injury or damage to the device.
- When reversing the motor, must pause then start the reverse. Otherwise, the motor may lose control without changing the rotation direction.
- Even if the motor is in normal operation, the surface temperature may exceed 70 °C. When the motor is running, if there is a possibility of approaching to the motor, please make a "⚠ High Temperature Attention" icon and stick it to the conspicuous position of the motor.
- When the motor is reversed, the single-phase motor is adjusted according to the wiring diagram. The three-phase motor only needs to adjust any two lines

Maintenance and Repair

General Examination:

- ◇ Check the motor regularly. The frequency of inspections depends on the humidity of the surrounding air and local weather conditions. Can be determined in advance through the test, and strictly comply with;
- ◇ Keep the motor clean and naturally ventilated. The ventilation system must be regularly checked and cleaned when the motor is used in dusty environment.
- ◇ Check the condition of oil seal and replace it if necessary;
- ◇ Check the condition of wiring and mounting bolts.

Please pay attention to the following points when making regular general inspection:

The motor is F grade insulation and with full closure external fan structure, so it is normal that the motor surface temperature is about 50°C higher than the surrounding. If the temperature is higher than above, the machine must be stop for inspection; (factor: abnormal motor or load drive system)

- (2) If the brake motor is used for a long time, it will wear out. Please adjust it according to the brake clearance value (normal clearance value is 0.3 ~ 0.7mm);
- (3) Abnormal Vibration, Noise:
Under normal conditions, the machine has almost no vibration noise. Please pay special attention to the vibration and noise generated by abnormal installation;
It is allowable when the noise value is below 70dB(A)/1M at no-load condition.
- (4) If there is dust near the vent of motor it will prevent ventilation, so please clean the outside of the motor to ensure the normal operating temperature;
- (5) Checking regularly, in order to avoid the risk of electric leakage, please measure the insulation resistance of the motor winding with a 500V resistor to ensure its more than 1MΩ .



- Must follow the relevant standards for electrical equipment connection and usage in dangerous areas. Only those who are well-trained and familiar with the relevant standards are allowed to operate motor.
- According to the characteristics of the job, before operating the motor or the driven device, please cut off the power and lock it. Must make sure there is no explosive gas in the working process.
- When performing maintenance and inspection during operation, make sure do not touch rotating body (rotating shaft etc.), otherwise it may get involved and get hurt.
- When checking the gear condition pls. make sure the machines stop, otherwise you may get involved in and get hurt.
- Applying a over load above the specified value will reduce the life of the motor and gear, resulting in damage to the geared motor Inspection and Maintenance for brake.
- Do not operate with the manual release lever releasing the brake, otherwise it may cause falling or out-of-control.
- Before operation, turn the power on and off to check the brake, otherwise it may result in a fall or out-of-control.
- After checking and adjusting the clearance, please do not operate the motor with the fan cover removed, otherwise it may get involved or injured.
- When used for lifting or lowering, do not release the brake under the lifting load, otherwise it may cause a falling accident.



- When measuring the insulation resistance, do not touch terminals by hand, otherwise it may cause a electric shock.
- Do not touch it with bare hands when operation, otherwise it may get hurt.
- Do not use beyond the rated load, otherwise it may result in injury or damage.
- Do not touch the capacitor used for starting the single-phase motor until it is completely discharged, otherwise it may result in electric shock.
- When reversing the motor, please be sure to pause and start reverse. there is a possibility that the motor without rotation direction has not changed will be out of control.



Motor Troubleshooting

Motor maintenance and troubleshooting must be performed by well-trained personnel who will use appropriate tools and equipment.

Remarks:

1. When problem occurs, first check the troubleshooting table in the following directory. If cannot be handled by yourself, please contact your local dealer;
2. When problem occurs, pls. contact after make sure all the specifications on the nameplates, such as full model no., horsepower, manufacturing no., production serial no. and product code. etc information.

Malfunction	Possible Cause	Solutions
No Action of Brake	No power supply	Supply power
	Brake worn out	Use new brake
	Excessive gap	Adjust gap
	Low voltage	Use correct voltage
	Power supply damage	Use new power supply
	Dirty inside	Clean parts
	Wrong voltage	Correct voltage
	Wiring shedding	Re-connect wire
	Brake locked	Clean parts / Enlarge gap
	Brake coil burned	Replace brake coil
Brake remove	Brake worn out	Use new brake
	Excessive gap	Adjust gap
	Overload	Re-design brake
	Disc surface twist	Use new parts
	Huge Momentum	Re-design structure
	Select wrong model	Select correct model
abnormal noise	High temperature	Adjust temperature
	Fan blade brushes fan cover	Adjust fan blade and fan cover, or replace deformed parts
	Broken bearing	Replace bearing
	Base loose	Tighten the bolt
	Motor phase-missing operation; Poor power contact	Electrician repairs contacts and circuit
	Motor phase-missing operation; Coil break	Replace stator coil
	Uneven air gap	Check and correct bearing block
	Stator and rotor rub	Replace motor
	The rotor unbalanced disc is large.	recalibrate
	broken rotor bar	Replace rotor
Reverse wire in the coil	Replace stator coil	

Malfunction	Possible Cause	Solutions
High Temperature	Over load / Frequent start-stop	Select high capacity motor or reduce the load
	Ventilating obstruction	Clean grease dirt
	The ambient temperature rises, exposure to the sun, other high temperature heat sources nearby	Sunshade or cooling measures
	Motor phase-missing operation; Poor power contact	repairs contacts
	Motor phase-missing operation; Coil break	Replace stator coil
	Winding or interphase short circuit	Replace stator coil
	Power supply voltage fluctuation exceeds 10%; Excess current	adopts the voltage stabilizing measure, or selects the large capacity motor.
	Connection error, Y-connection and Δ -connection	Correct connection
	Rotor rub	Replace Motor
	Broken rotor bar	Replace rotor
Motor casing electrification	The power cord touches the motor shell, and the insulation is damaged Moist winding, insulation aging, grounding device broken	Troubleshooting Replace stator coil, Reinstall the grounding wire
3-phase current unbalance	3-phase voltage unbalance	maintains power supply voltage
	coil short circuit	Replace stator coil
	Reverse wire in the coil	Replace stator coil
Large current	Large deviation of power supply voltage	maintains power supply voltage
	Connection error, should be Y connection, but use Δ connection	Correct connection
	Stator and rotor rub	Replace motor
No running for motor	Overload	Choose large capacity motor or reduce load
	Power is not connected or poor contact or power supply voltage is too low	maintains
	Overload tripping	Choose large capacity motor or reduce load
	mechanical malfunction	Check whether the motor and drive device can rotate freely. Check bearings and grease.
	Motor stuck	Replace motor
	Power connection error	Check whether the wiring is consistent with the electrical wiring diagram
	Stator winding open circuit	Check with multimeter ohm file, if there is phase but no resistance, need to change the coil winding.
	Short circuit between turns of stator winding.	Check with multimeter ohm file, if the deviation between phase resistance and standard value is 10%, then change the coil winding.
	The stator winding is short-circuited to the ground	Check with multimeter ohm file, if the resistance between the coil and housing is less than 1000 ohms, then change the coil winding.
	Stator winding wiring error	Disassemble the motor and reconnect it
The 6 leads of the stator coil are connected incorrectly.	Replace stator coil	
The rotating speed is much lower than rated value	Low voltage	Use multimeter to measure motor input voltage, check and maintain
	Over load	If the current is more than 10% of the rated value, then select a large capacity motor
	broken rotor bar	Replace rotor

Malfunction	Possible Cause	Solutions
Vibrating	Motor misalignment	Realignment
	Weak support	Reinforce the base
	Motor assembly screw loose	Tighten screws
	Coupling imbalance	Correct coupling balance
	Driven device imbalance	Correct driven device balance
	Large rotor imbalance	Replace rotor
	Bearing damage	Replace bearing
	Motor phase-missing operation ; Poor power contact	repairs contacts and circuit
	Motor phase-missing operation;Coil break	Replace stator coil
	Large axial movement	Adjust bearings or add gaskets
Reverse wire in the coil	Replace stator coil	

Instructions:

1. When the power supply voltage changes over 10%, the motor may get burned, accompanied by decrease or abnormal output torque;
2. When the motor is overloaded running, it may get burned. Please check whether the motor current is within the rated value during the initial run.

Guarantee:

- (1). We agree that under normal use, if damage occurs due to defects or defective manufacture of parts, it can be repaired free of charge or replaced with new item during one year guarantee;
- (2). If damage and maintenance caused by improper use, unauthorized installation of accessories or change the frame, the user should bear the maintenance costs;
- (3). If the product exceeds the warranty period, we will charge for the repair;
- (4). During warranty period, if damage caused by natural disasters or poor operating environment, we will not accept claims;
- (5). If delivery date cannot be certified, the manufacture date on the nameplate shall prevail;
- (6). Product compensation cannot exceed the product original selling price.

Product Certification



Product Certificate

Shipment Inspection Item

1. Mechanical performance test
Vibration, noise, shaft runout, appearance quality
2. Electrical performance test

No	Inspection Item	Standardization	
1	Insulation test	>100MΩ/500V	√
2	Pressure Test	1800V/3sec	√
3	average Current	<10%	√
4	phase Resistance	<10%	√
5	Type Designation	Order Inspection	√
6	Rotation Direction	Forward / Reverse	√

Please note! Before using this product, be sure to do grounding operation first to ensure safe use.

3. Packing Inspection

1* flat key, 1* shaft sleeve, 1* Product Inspection Certificate

This product has passed the inspection and is approved for delivery.

