



YHDEJ 系列高转差多速电磁制动
三相异步电动机

YHDEJ SERIES HIGH-SLIP MULTI-SPEED
ELECTROMAGNETIC BRAKING THREE
PHASE ASYNCHRONOUS MOTOR

使用说明书

Operation Manual

安徽皖南电机股份有限公司
Anhui Wannan Electric Machine Co.,Ltd

衷心感谢您选购、使用皖南电机。

在使用电动机之前，请扫码仔细阅读本说明书，以便您正确的使用和维护。



警告！ 搬运电动机时，应小心谨慎，强烈的摔、碰、震会严重损坏轴承。吊运时一定要将电动机吊攀旋紧后方可吊运。

检 查

1. 仔细检查电动机外观是否损伤，核对电动机铭牌数据，如额定功率、电压、频率、励磁电压、制动力矩等与实际要求是否相符。
2. 电机接线按铭牌上的规定，分别接成高（中）低速（详见接线盒内的附图）。
3. 扳动手动释放装置，应轻快、灵活。
4. 在制动器释放状态下，轻轻转动电动机转轴，转动应轻快、灵活（注：装有骨架式橡胶油封的IP55电动机，转动时，相对较紧）。
5. 检查零部件的装配应良好，紧固件应无松动，半波整流元件焊接良好。
6. 打开接线盒，用500V兆欧表测量电动机绕组及励磁线圈的绝缘电阻，所测值应不低于5兆欧。
7. 电机空载试转时，若转动方向与要求不符，则将任意两根电源引接线对调即可，（注意：若所配套的主机不允许逆转时，则应将电机转轴与配套主机脱开，进行试转，以保安全）。
8. 电机必须定期（一般运行5000h左右）拆检，清除内部积尘污，清洗轴承，更换轴承中的润滑脂（3#锂基脂）。全封闭轴承在使用寿命期内可不必更换润滑脂。
9. 电机运行时，若发生异常情况，如怪声、焦味、冒烟等应立即停机检查，待故障清除后，方可使用，常见故障如下：
 - 1) 电机为缺相运转；
 - 2) 电机的电源电压过低或过高，即超出额定电压的95%-105%范围。
 - 3) 加在电机端子上的三相电源电压不平衡度超过5%。
 - 4) 电机在过载下运转。
 - 5) 电机连续起动超过3次。
 - 6) 电机通风及冷却效果不良。
 - 7) 电机轴承损坏等。

注意

1. 该系列电动机为失电制动。
2. 电磁制动器部分防护等级为IP23。

检查过程中，若有疑问，应向专业技术人员请教或与我们联系。

安 装

电动机的安装应由技术人员来完成，对带底脚的电动机，安装平面应坚固，并保证底脚在一个平面上。如果底脚要加垫片，应保证在电动机底脚安装紧固过程中不被挤出。电动机允许采用联轴器、正齿轮及皮带轮传动。

联接电动机的电源线不宜过细、过长（否则，电源线压降过大，使电动机起动困难）。按接线图，将电源线与电动机牢固联接，同时接好接地线，然后接通电源，制动器应迅速动作并脱开，检查电动机旋转转速，旋转方向是否正确。断开电源时，电动机应迅速制动。

警告！



1. 电源电压的波动不得超过额定电压的 95% ~ 105%。
2. 严格按图接线。
3. 在通电前应取下轴伸上的轴套和平键，保持身体、衣物远离电动机运动部分。
4. 空载运行足够长的时间（一般在 30 ~ 40 分钟），以确保不会产生异常情况。
5. 若通电后，制动器不动作，则应立即断电，以免烧毁电动机。

注意： 电磁制动器励磁电压应不低于额定电压的 85%。

运行与维护

1. 电动机使用的最高环境温度为 40℃，最低不低于 -15℃，海拔不超过 1000m。
2. 电动机允许满压或降压启动，但应注意，满压启动电流为额定电流的 3.3 ~ 7.5 倍。降压启动时，因转矩与电压的平方成正比，电压下降时启动转矩也随之降低。故当静负荷相当大时只能采用满压启动。
3. 电动机不得用于含有易燃性气体、化学腐蚀性气体或其它有害气体的环境中。（特殊环境用电动机除外）
4. 电动机必须经常保持清洁，进风口及风道必须畅通无阻。
5. 电动机在运行中若发现异常，如制动速度慢、怪声、过热、焦味或轴承发热等，应立即停机检查，待故障排除后方可使用。
6. 经过一段时期使用后，制动器中的制动盘将磨损，从而影响了制动时间，减小了制动力矩。故制动盘工作行程（ δ ）应定期调整，以 0.3 ~ 0.8mm 为宜。调整时应拧下螺钉，取下风罩，均匀地调节制动器紧固螺钉即可。当摩擦片单边磨损 2.5mm 以上时，须更换新制动盘。
7. 电动机在运行过程中应保证润滑良好，一般在电机运行 5000 小时左右，应补充或更换润滑脂（封闭轴承在使用寿命期内不必更换润滑脂）。另外，在运行中发现轴承过热或润滑脂变质时，应及时更换轴承或更换润滑脂。更换时应先清除陈脂，并将轴承、轴承盖、轴承室洗净，然后加入新润滑脂，以加到轴承容腔的 1/2 左右为宜。润滑脂推荐采用 ZL3 锂基润滑脂。
8. 为保证电动机的正常运行，应根据实际使用情况对电动机进行定期检查，并需每年检修一次。
9. 电动机在仓库中搁置不用时，应妥善包装、存放，并保持通风干燥，以免电机受潮，锈蚀。每

个月均需用手旋转电机转轴，且每年要对轴承加润滑脂。如果贮存的环境中有冷凝现象，应定期排水。

注意：不要在电动机运行时添加润滑脂。过多的润滑脂会溢出，并可能附着到定子绕组上，使其绝缘寿命降低。



警告！

1. 严禁缺相运行。
2. 反复多次起动会导致电机过热，甚至烧毁电机（特别是连续带负载直接起动）。
3. 防止过载，过载会导致过热，过热将缩短绝缘寿命，降低电动机的可靠性。

在用户按照本使用说明书的规定，正确地使用与存放电动机的情况下，本公司保证电动机在使用的一年内，或自本公司起运的日期不超过二年的时间内能良好运行。对于人为因素或偶然事故性的故障本公司不负责免费维修。

We are truly grateful for your purchasing of Wannan Motors. Before using the motor, please scan the QR code to read the manual so as to use and maintain the motor in a right way.



Warning!

Be careful when handling motor !
Strong falling, bumping or shaking will damage bearing and other components.
Be sure the eyebolt is tightened before lifting up the motor.

Inspection

1. Inspect the appearance of the motor carefully and ensure it is in good order. Check and ensure the model, voltage, power, frequency, field exciting voltage and brake torque on motor nameplate are consistent with actual requirement.

2. Connect the terminals as the regulation on nameplate regarding high/medium/low speed (Connection method refers to diagram in the terminal box).

3. Try the manual release device, it ought to be flexible and smooth.

4. Check the motor shaft as the braking device being released in free condition and rotate it gently with hands, the shaft ought to be flexible and smooth (Note: For the motor with lip seal on the shaft and IP55 protection class, the rotation may be relatively harder).

5. Check motor and ensure all parts are in good assembling, fasteners are not loose, and the half-wave rectifier is in good welding.

6. Open terminal box cover, measure the insulation resistance of motor winding and exciting coils with 500V meg-ohmmeter. The value should be no less than 5 MΩ.

7. Make trial-operation before use, if the rotating direction was not in accordance, interchange any two terminals of the three (Note:If the driven equipment not allows reversal, part the driven equipment from the motor shaft before test operation is conducted).

8. Motor need to be inspected regularly (usually every 5000h), clean out the dust and dirt, wash bearing, and replace lubricating grease (recommend 3# lithium base grease). Totally enclosed bearing grease need not to be changed in its life span.

9. If any abnormal problems like burning smell, smoking or strange noise occurred during no-load test running, stop the motor immediately to have inspection. Don't put the motor into operation until all the problems have been solved.

The common faults are as follows:

- 1) Operation in open phase.
- 2) Too high or too low supplied power voltage whose fluctuation exceed the range of 95%~105% the rated value.
- 3) Unbalance of three-phase power supply voltage is more than 5%.
- 4) Overload operation.

- 5) Continuously start more than three times.
- 6) Poor ventilation or cooling effect.
- 7) Bearing damage, etc.

Note

1. These series motor will be braked when power off.
2. Electromagnetic brake is of IP23.

Any question please contact us or consult technician.

Installation

Installation work should be done by technician. For the motor with feet, the foundation of installation must have enough strength and rigidity against motor. If gasket shall be added to the feet, ensure that the feet will be tightly fixed. Coupling, gear and belt pulley are allowed to be used for transmission.

Choose proper power (regarding wire diameter and length) line, otherwise the large voltage drop large will make it difficult to start the motor. Connect the motor as the connection diagram, wire grounding line, and then switch on, the brake will get free immediately and the motor will start to work, check the rotation direction; when power off, the motor will stop at once.

Warning!



1. Voltage fluctuation of the supplied power should not exceed 95%~105% of the rated voltage.
2. Connect the motor as connection diagram strictly.
3. Remove the sleeve and key on the shaft end before power up, keep person and clothes far away from the rotating parts of motor.
4. Conduct no-load test operation for sufficient time (normally 30~40 mins)
5. If the brake doesn't work when power on, switch off the power immediately.

Note: Field voltage of the brake should be no lower than 85% of the rated value.

Operation & Maintenance

1. Normal ambient temperature range is -15°C to 40°C . Altitude should be no higher than 1000m above sea level.

2. Motor can be started at full voltage or reduced voltage. Starting current is 3.3-7.5 times rated current if it starts with full voltage. As torque is proportional to voltage square, the torque will be reduced when the motor is started at reduced voltage. So if the static load is fairly large, the motor can be only started with full voltage.

3. The motor cannot to be used in the circumstance where contains inflammable gases, chemical corrosive gases or other damageable gases.

4. Clear the motor periodically, especially the air inlet and air flue, so as to keep the motor in good ventilation.

5. Any abnormal problems occurring during the operation, such as braking slowly, strange sounds, overheat, burning smell or bearing overheat, stop the motor and checked until all problems have been solved.

6. The braking disc will wear down in a period of operation, which will expand its braking time and lower its braking torque. So the operating gap of the brake (δ) should be adjusted periodically by regulating its fastening screw, keeping it at 0.3~0.8mm. If the friction plate losses is larger than 2.5mm in single way, it should be replaced immediately.

7. Check and ensure the good lubrication of the bearing during the operation. Normally bearing should be re-lubricated every 5000hours operation, (the sealed bearing may not be re-lubricated during its life time). If the bearing is found to be overheat or the grease is found to be spoiled, it is necessary to thoroughly clean off the grease, clear the bearing、 bearing cap and bearing chamber carefully, add fresh grease to 1/2 capacity of the bearing house (recommended ZL3 lithium-based grease)

8. To ensure the regular operation of the motor, check the motor periodically and overhaul the motor at least once per year.

9. When idling , the motor need to be properly packed and stored in ventilated dry palce in case the motor will get damped or rusted. Turn the shaft by 180° with hand every month, re-grease the bearing every 12 months. Drain off the water periodically if there was condensation phenomena.

Note: Don't add grease when motor is in operation, since exessive grease will spill over onto the rator winding and shorten its insulation life.



Warning!

1. Prohibit phase-loss operation
2. Repeated start will cause overheat or even burn the motor(Especially direct-start with load).
3. Avoid overload, since it will cause motor superheat, shorten its insulation life and reduce its reliability.

Under premise that the buyer use and store the motor correctly following the product instruction, our company promise that the motor can operate in good status within one year of using or two years since the departure date from our company. The warranty doesn't cover user damage or damage from accidents.

敬告用户：

请您按照本使用说明书的规定，正确地使用和储存电动机，我们将为您提供优质、快捷的服务。

在电动机使用过程中，您如有什么疑惑请与我们联系，我们将及时给予您满意的解答；您有什么良好的建议请向我们提出，以便我们改进，为您提供优质、快捷的服务。

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Dear user,

Please use and store the motor right following the instruction of the manual. We will make our effort to provide you with high-quality and prompt service. Contact us if you had any questions in application, and we will offer you timely and effective resolution; let us know if you had any advices or suggestions, with which we can improve ourselves and make service better. Anhui Wannan Motor Co., Ltd. reserves the right of final interpretation of the user manual. No copy, disclosing or using of the content of this user manual to third parties prior to written permission from Anhui Wannan Motor Co., Ltd.

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Content in the manual may be changed without prior notice.