



YXVF 系列高效率变频调速
三相异步电动机
(机座号 80~355)
(高环境温度)

YXVF SERIES HIGH EFFICIENCY FREQUENCY
VARIABLE SPEED THREE PHASE INDUCTION MOTOR
(FRAME SIZE 80~355)
(high-temperature environment)

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。

执行标准	Q/WN.275-2014
功率范围	0.18 ~ 375kW
防护等级	IP55
绝缘等级	F 级绝缘
工作制	连续运行 S1

一 . 产品概述

YXVF 系列高效率变频调速三相异步电动机为全封闭、外扇风冷、鼠笼型电动机。它是在 YVF2 系列基础上优化设计的新型高效节能变频调速电动机。适合 PWM 变频电源供电驱动；电机采用外风扇强迫式风冷，风扇电机单独接电源运转；电动机在变频器的驱动下能实现很平滑的无极调速，并且调速范围宽，可广泛应用于要求低频恒转矩、高频恒功率的各种传动机械。

二 . 注意事项

1. 严格按照电机接线图（详见接线盒内）接线。
2. 风扇电机需要单独接电源运转。
3. 风机应在主电机启动前（或同时）开机。
4. 停机时应先关掉主电机，再关风机。

三 . 电机接线盒内设有接地端子，应可靠接地。

四 . 电机安装使用前，用 500V 兆欧表测得变频电机和风扇电机对地绝缘电阻，在室温下应不低于 $5M\Omega$ ，否则需要在低于 $120^{\circ}C$ 的烘箱中烘干，方可使用。

五 . 用手拨动转轴，电机应能灵活转动，无异声。

六 . 电机在安装前，变频电机通以额定电压、频率的电源空载试转，应运转正常；给风扇电机通以额定电压试转，应运转正常，风扇转向应使风流吹向电机，否则对调任意两根电源线即可。

七 . 电机表面应保持清洁，进风口不应堵塞。

八 . 电机使用的环境最高温度为 $\underline{\quad}$ $^{\circ}C$ ，海拔高度不超过 1000m。防尘、防水要求必须与电机外壳防护等级一致。

九 . 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，即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，应及时更换润滑脂或更换轴承。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，以加到轴承内腔的 $2/3$ 为宜。润滑脂推荐采用 SKF LGHP2 油脂。

十 . 为保证变频电机的正常运行，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

十一 . 电动机存放过久，可能会导致油脂硬化，在刚启动时会有异响。需空载运行半小时以上，使油脂润滑。

十二 . 拆装

1. 电动机的拆卸方法如下：

- (1) 取下轴伸平键。
- (2) 拧下风罩的紧固螺钉，取下风罩。
- (3) 拆下外风扇。
- (4) 拧下前轴承盖上紧固螺栓（若无轴承盖，则此步骤省略）。
- (5) 拧下后端盖上的螺栓。
- (6) 用木榔头敲击轴伸，使前轴承从轴承室中滑出。从定子中抽出转子时，应防止磕碰定子绕组。

十三 . 电动机在运行中若发现异常，如怪声、过热、焦味

或轴承过热（环境温度不超过 40℃时，轴承温度超过 90℃）等，外风扇不转等，应立即停机检查，待故障排除后方可使用。

十四 . 电动机的贮存、运输

1. 电机贮存中应保持干燥，避免周围环境温度急剧变化，以免电动机受潮、锈蚀。
2. 电机贮存中不宜堆积太高，以免影响通风及损坏下层电动机的包装。
3. 贮存及运输中防止电机的倾倒、侧置和倒置。

十五 . 使用中常见的故障及其可能产生的原因

故障	可能的原因
电动机振动较大	<ol style="list-style-type: none">1. 安装不妥2. 轴弯曲
电动机不能起动	<ol style="list-style-type: none">1. 变频电源无输出2. 电动机绕组有断线3. 过载
电动机虽能起动 但不能带负载	<ol style="list-style-type: none">1. 过载保护的设定值过低2. 转子导条或绕组中脱焊或断裂3. △接法的绕组误接为 Y4. 变频器容量低
轴承过热	<ol style="list-style-type: none">1. 轴承磨损2. 润滑脂不够3. 润滑脂过多4. 轴线未校准5. 润滑脂硬化
电动机过热	<ol style="list-style-type: none">1. 过载2. 电压太低3. 电压太高4. △接法的绕组误接为 Y5. Y 接法的绕组误接为△6. 通风不良
轴流风机不转	<ol style="list-style-type: none">1. 风机的接线不对2. 断线3. 风机的电机损坏

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.

STANDARD	Q/WN. 275-2014
POWER RANGE	0.18 ~ 375kW
PROTECTION CLASS	IP55
INSULATION CLASS	F
DUTY	S1

1. Summary

YXVF series high efficiency frequency variable speed regulation motors are AC speed regulation motors. It is a new type of high efficiency energy conservation frequency variable speed motors based on YVF2 series. The motors are specially designed for feeding frequency converters to consist an electromechanical integrative system which can be operated in a wider range in constant torque and constant power.

2. Matters need attention

2.1 Connect the motor according to connection diagram strictly (see the diagram inside the terminal box).

2.2 Cooling blower of the motor should have an independent power supply.

2.3 Cooling blower should be started before (or at the same time at least) starting of the motor.

2.4 Switch off the motor's power supply before the cooling blower.

3. There is a grounding terminal inside the terminal box, check and make sure the motor is grounded safely.

4. Check the insulation resistance of the motor and fan motor with 500V megohm. Make sure the value not less than 5 MΩ. Otherwise the motor must be dried in the oven with the temperature higher than 120°C.

5. Rotate the shaft by hand and make sure it rotates smoothly and without abnormal noise.

6. Power on the motor with rated voltage and frequency for no load test run, check and make sure the proper operation of the motor at first, Power on the cooling blower with rated voltage and frequency for test run to make sure the proper work of the cooling blower. Check the direction of the cooling air and make sure it flows to the motor.

Otherwise, exchange the connection of any two power lines of the blower with each other

7. Check and make sure the clean good ventilation of the motor.

8. Environment temperature normally has to be less than _____ °C. The altitude is less than 1000m above sea level. Make sure the condition of dustproof and waterproof requirement meet the requirement of the motor's protection class.

9. Check and make sure the well lubrication of the bearing during the operation. Normally after 5000hours operation, bearings should be re-lubricated (the sealed bearing don't need re-lubrication during the life time). If you found the bearing overheated or the grease turned bad during the operation, the bearing should be re-lubricated or to be replaced. Thoroughly clean off the grease, clear the bearing, bearing cap and bearing house carefully, add fresh grease to 2/3 of the bearing house (recommended SKF LGHP2 grease)

10. Inspect the motor periodically according to the operation condition, once a year at least.

11. The motor is stored for a long time, May lead to grease hardening. It will have abnormal sound when started. Need to run more than half an hour, lubricate grease.

12. Disassembling

12.1 Remove the key on the shaft.

12.2 Take off the fastening bolts on the fan cover and take off the fan cover.

12.3 Take off the fan.

12.4 Take off the fastening bolts on the driving end bearing cover (if there is no bearing cover, this step is omitted).

12.5 Take off the bolts on the rear end bracket.

12.6 Press the shaft with a wood hammer to ensure the driving end bearing slide out of the bearing house. Pay attention to avoiding collision with the stator winding when get the rotor out.

13. If find abnormal condition, such as strange noise, overheat, burned smell or bearing overheat (Environment temperature less than 40 °C , bearing temperature higher than 90 °C), cooling blower didn't run, etc, should stop the motor immediately, and restart the motor after the problems being settled.

14. Storage and transportation

14.1 Motor shall be stored in dry place, and radical change of atmosphere temperature shall be avoided.

14.2 Motor shall be not stacked too high, otherwise the ventilation will be hindered and package of motors in lower position will be damaged.

14.3 Take necessary measurement to protect motor from declining down, side positioning or upside down positioning during the storage and transportation.

15. Failure trouble shooting during operating and the reason

Table 1

Failure	Cause
Obvious vibration of the motor	<ol style="list-style-type: none"> 1. Unbalanced installation of the motor 2. Distorted shaft
Motor can't start.	<ol style="list-style-type: none"> 1. Without power supply. 2. The coil of the motor was broken. 3. Over-load.
Motor can start but can't withstand load.	<ol style="list-style-type: none"> 1. Rated value of the overload protection is too low. 2. The rotor bar or coil welding broken. 3. Y-connection for Δ-connection. 4. The capacity of the inverter is too low.
Bearing being overheated.	<ol style="list-style-type: none"> 1. The bearing is damaged. 2. Insufficient grease 3. Too much grease 4. Axis centerline improper 5. harden grease
Motor being overheated.	<ol style="list-style-type: none"> 1. Over-load. 2. The voltage is too low. 3. The voltage is too high 4. Y-connection for Δ-connection. 5. Δ-connection for Y -connection. 6. Bad ventilation
Cooling blower don't work	<ol style="list-style-type: none"> 1. Wrong connection of the blower 2. Connection broken 3. Failure or broken of the blower motor

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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