



YVF2、YXVF、YE3VF、YE4VF 系列
变频调速三相异步电动机
(机座号 80~355)

YVF2、YXVF、YE3VF、YE4VF SERIES
VARIABLE FREQUENCY SPEED
REGULATION AC MOTOR
(FRAME SIZE 80~355)

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. 275-2020
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

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。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 Ω ，否则需要在低于 120 $^{\circ}\text{C}$ 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。

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 40 $^{\circ}\text{C}$ ，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，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。润滑脂推荐采用高温油脂。

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，无异响。

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（轴承温度超过 120℃）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. Δ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. Δ接法的绕组误接为 Y5. Y接法的绕组误接为Δ6. 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.275-2019
POWER RANGE	0.18 ~ 375kW
PROTECTION CLASS	IP55
INSULATION CLASS	F
DUTY	S1

1. Summary

Frequency variable speed regulation three phase asynchronous motors is of PWM frequency variable power supply. The motor cooled by forced cooling air from an external fan which powered by separated supply. This series motor can be applied in the transmission machine whose requirement is low frequency but constant torque or high frequency but constant torque as it has the advantages of step-less speed changing and wide range of variable frequency.

2. Operation

- 1) Wire as the connection diagram (see the terminal box cover).
- 2) The fan needs to be connected to a separated power supply.
- 3) The blower needs to switch on before (or simultaneously) the motor machine starts.
- 4) Stop the motor machine firstly and then the blower.

3. Ensure that all earth bolts have been grounded safely.

4. Before installation and operation, measure the insulation resistance of variable frequency motor and blower motor with 500V meg-ohm meter, the value should be no less than 5MΩ, otherwise the motor need to be dried in the oven with temperature no higher than 120°C .

5. Rotate the shaft with hands, and its rotation should be flexible and smooth.

6. The motor should be powered on with rated voltage and rated frequency for no-load operation test. Switch on the blower, fan should operate in good condition and its air flow should be in the direction towards motor. If not, interchange the connection of any two power line.

7. Keep the motor clean and in good ventilation.

8. The highest ambient temperature is 40°C , altitude should be no higher than 1000m above sea level. Its waterproof and dustproof requirement should be in consistent with the enclosure protection class.

9. Bearing should be inspected every 5000h operation, and need grease supplement or replacement. The bearing grease should be replaced immediately if the grease is found to be spoiled. It's proper to fill 2/3 capacity of the bearing chamber with lubrication grease. High temperature lubricating grease is recommended.

10. Regular inspections are needed for the motor. To ensure its normal operation, the motor ought to be checked periodically according to its actual condition, overhaul the motor at least once a year.

11. Grease may harden in long-time idling. When abnormal sounds occur at the beginning of

operation, the motor need to be operated without load for half an hour so as to soften grease and restore its function.

12. Dismantle in the following order:

- 1) Take down the flat key
- 2) Loose the bolts on fan cover and then take down fan cover
- 3) Dismantle external fan cover
- 4) Loose and take down the nut of front bearing cover(omit this step if there is no bearing cover)
- 5) Take down the nuts on end cap
- 6) Knock shaft end with wooden hammer to make bearing slip out from bearing chamber. Take out rotor gently so as to not damage the stator winding.

13. If the abnormal problems occur during operation, like strange noise, overheat, burning smell or bearing overheat (bearing temperature higher than 120°C), or the external fan operation failure etc, the motor and the blower should be stopped immediately. Restart it till all the problems have been solved.

14. Maintenance and transportation

- 1) Keep dry in storage and avoid sharp change in environment temperature. Prevent the motor from damp and rust.
- 2) The motor can not be stacked up; otherwise it will cause poor ventilation and damage its packing.
- 3) Avoid toppling, side placement and inversion during storage and transportation.

15. Below are the common problems and causes, for the further information, contact the technician or manufacture.

Problem	Causes
Strong Vibration	1. Improper installation 2. Shaft bending
Starting-up failure	1. Power supply output failure 2. Motor winding wire breaking 3. Overload
motor can be started but can't rotate with load	1. Overload protection load value is too low 2. Rotor bar or winding sealing off or breaking 3. Δ connection is mis-wired as Y type 4. The capacity of the inverter is too low.
Bearing overheat	1.Bearing damage 2.Insufficient grease 3.Excessive grease 4.Misalignment 5.Grease harden
Motor overheat	1.Overload 2.Too low voltage 3.Too high voltage 4. Δ connection is mis-wired as Y type 5. Y connection is mis-wired as Δ type 6.Poor ventilation
Cooling blower failure	1. Incorrect connection of the blower 2. Connection break 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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Content in the manual may be changed without prior notice.