

产 品 规 格 书

PRODUCT SPECIFICATION

产品系列 Product Series: EC 离心风机 EC centrifugal fan

产品型号 Model: SC225F2-055-000

配置代号 Configuration code: 101



泛仕达机电股份有限公司
FANS-TECH ELECTRIC CO.,LTD.

换版记录/Records of revision

版本号 Vision no.	换版原因 Reason for revision	修订内容 Revised Contents	姓名 Revised by	日期 Date
A/0	/	/	邓世俊	2021/08/02
A/1	CE 认证/ CE certification	铭牌增加 CE 认证标识/ CE certification mark is added to the nameplate	邓世俊	2021/10/15

编 制 (Compiled by) : 邓世俊 2021-10-15

校 对 (Proofreader): 潘伟 2021-10-15 李汉照 2021-10-18

审 核 (Reviewer): 鲁红苗 2021-10-18

批 准 (Approved By): 张小锋 2021-10-18



客户确认(Customer Confirmation):

日 期(Date):

产品设计标准和安规要求/ Engineering standard and safety regulations

- ◆ GB14711《中小型旋转电机安全通用要求》/GB14711 Safety requirements of small and medium size rotating electrical machines
- ◆ JB/T10563《一般用途离心通风机技术条件》/JB/T10563 Technical requirement for general purposes centrifugal fan.
- ◆ EN60335-1《家用和类似用途电器的安全》/EN60335-1 Safety of household and similar electrical appliances

◆ 本产品通过以下认证/ Certification

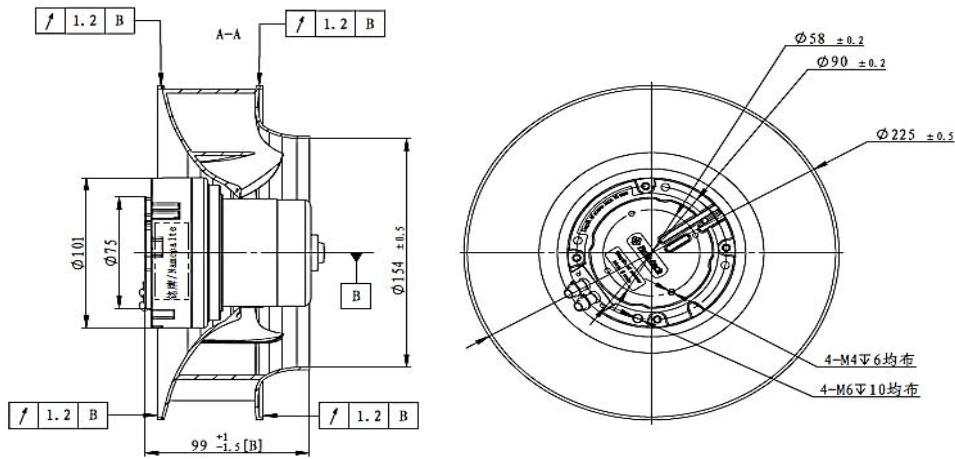
- | | | |
|------------------------------------|---------------------------------|--|
| ☐ UL+cUL | ☐ CE-LVD | ☒ CE-LVD+EMC |
| ☐ CE-EMC | ☐ TUV | ☒ CCC |
| ☐ 其他 Others | | |

- ◆ 本产品全部材料符合 RoHS 或 REACH 要求。/All materials accord with RoHS or REACH.

使用环境 / Operating environment requirements

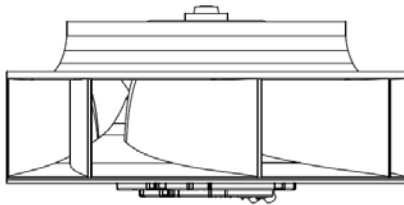
- ◆ 工作温度/Operating temperature: $-25^{\circ}\text{C} \sim +60^{\circ}\text{C}$
- ◆ 工作湿度/Operating humidity: 5%~95% RH
- ◆ 贮存温度/Storaging temperature : $-30^{\circ}\text{C} \sim +70^{\circ}\text{C}$
- ◆ 贮存湿度/Storaging humidity: 5%~95% RH

产品图 /Dimension drawing

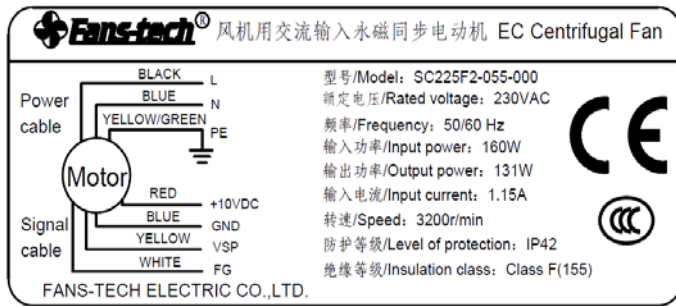


安装方向/ Installation direction description:

轴垂直且转子朝上/the shaft is vertical and the rotor is facing up.

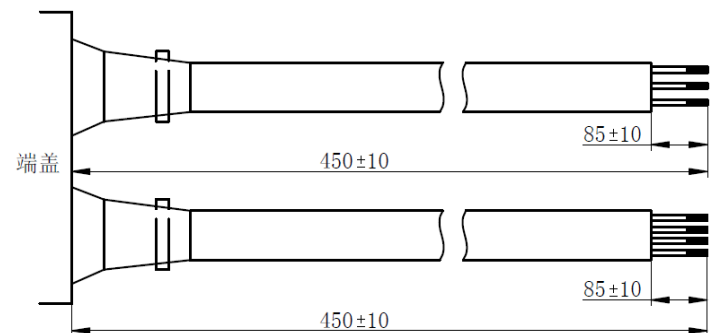


铭牌标识/Nameplate drawing



接线示意图/ View lead connection

Lead Wire 1		
Color	Sign	Performance
Brown	L	50/60Hz Live Line
Blue	N	50/60Hz Neutral Line
Yellow/Blue	PE	Ground Protection
Lead Wire 2		
Color	sign	Performance
Red	+10V	Output 10V ± 5%, Max. 1.1mA
Yellow	0~10VDC/PWM	Input Rated Change Speed
Blue	GND	Public Side (Ground)
White	FG	Speed Signal Feedback/ Fault Feedback

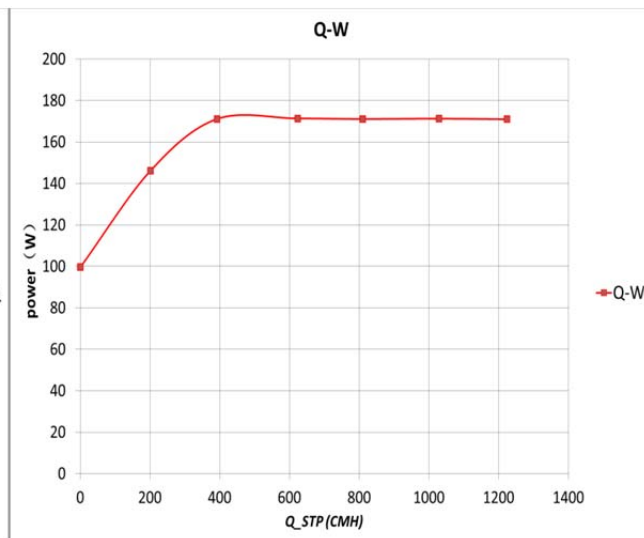
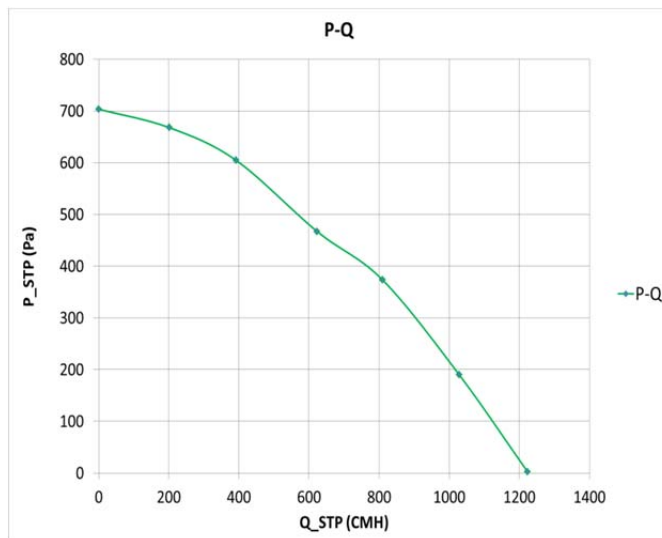


性能参数/Nominal data		机械参数/Mechanical data	
额定电压/Nominal voltage	230VAC	电机/Motor	DE055F2-00008-001
额定电压范围/Nominal voltage range	207~253VAC	叶轮/Impeller	叶轮由PA66+25%GF材料制成, 材料符合UL-V0/Impeller is made of PA66+25%GF, material accords with UL-V0
频率/Frequency	50/60Hz	重量/Weight	1.8Kg
电流/Current draw(±10%)	1.15A	电机防护等级/motor degree of protection	IP42
输入功率/Power input(±10%)	160W	轴承/Bearing	滚动轴承/Ball Bearing
转速/Speed(±10%)	3200r/min	振动/Vibration	≤1.8mm/s
风量/Air flow(±10%)	1200m ³ /h	平衡/Balancing	风机在额定转速运转 3200 r/min 时, 每个端面动平衡精度不低于 G6.3, 符合标准 JB/T9101。Running at rated speed 3200 r/min, residual unbalance of the fan shall be less than the limit dictated by G6.3 (balancing precision grade), according to JB/T9101.
噪音/Noise(-7/+3)	72dB(A)		
测试状态/ Method of obtaining data	放空状态/ Free air		
最高效率点参数/Parameters at maximum efficiency point		电气参数/Electrical description	
静压/Pst	373Pa	绝缘等级/Insulation class	F
输入功率/Power input	171W	器具等级/Protection class	I 类 / Protection class I
风量/Air flow	809m ³ /h	接触电流/ touch current	≤ <u>3.5</u> mA (标准 EN60335-1)
转速/Speed	3012 r/min		
效率等级/Efficiency grade N	47.9		
最大电流点参数 (供参考) Parameters at maximum current point (For reference)			
额定电压/Rated voltage	230VAC	最大电流/Current draw	1.37A
频率/Frequency	50/60Hz	输入功率/Power input	171.3W
静压/Pst	467Pa	转速/Speed	3028 r/min
		风量/Air flow	623 m ³ /h

特性曲线 /Performance curve

流量-压力/P-Q

流量-功率/Q-W



调速 VSP	电压 U VAC	频率 f Hz	输入电流 I A	输入功率 P W	转速 n r/min	静压 Pts Pa	流量 QV CMH	静压 Pts inH2O	流量 QV CFM
10VDC	230	50/60	0.84	99.56	3221	703.5	0.00	2.814	0
10VDC	230	50/60	1.19	146.13	3222	667.8	201.3	2.671	118.55
10VDC	230	50/60	1.37	171.1	3166	604.6	392.1	2.418	230.91
10VDC	230	50/60	1.37	171.33	3028	467.2	623.1	1.867	366.96
10VDC	230	50/60	1.37	171.08	3012	373.5	809.9	1.494	476.97
10VDC	230	50/60	1.37	171.24	3041	190.3	1028.3	0.761	605.59
10VDC	230	50/60	1.37	170.9	3205	0.36	1226.5	0.0014	722.32

寿命/Life expectance

在额定电压、环境温度 40 °C、风机全速连续运转时，预期寿命为 40,000 小时（根据应用产品实际工况，预期寿命会有不同。）/The life expectancy is 40,000 hours at rated voltage, ambient temperature of 40 °C, and continuous operation of the fan at full speed. (According to the actual working conditions of the product, the life expectancy will be different).保质期以双方约定的协议为准。/The warranty period is subject to the agreement agreed by both parties.

备注/Note:

测试环境: 在室温为 25°C，相对湿度为 85%RH 时测试/Tested at room temperature of 25 ° C and relative temperature of 85% RH. **风量:** 根据 ISO5801 安装类别 A 标准进行测试; /Air volume is tested according to ISO 5801 installation category A standard; **噪音:** 进行声压级测试，根据按 GB/T2888 《风机和罗茨鼓风机噪声测量方法》进行测试，轴水平放置风机，离风机进风口 1 米处测试。给定的值在上述条件下有效，并且可能根据实际安装情况而有所不同。/noise is tested for sound pressure level, according to GB/T 2888 Fan and Roots Blower Noise Measurement Method, the axis is placed horizontally and the fan is tested 1 meter away from the air inlet of the fan . The given value is valid under the above conditions and may vary according to the actual installation situation.Measurement Method, the axis is placed horizontally and the fan is tested 1 meter away from the air inlet of the fan . The given value is valid under the above conditions and may vary according to the actual installation situation.

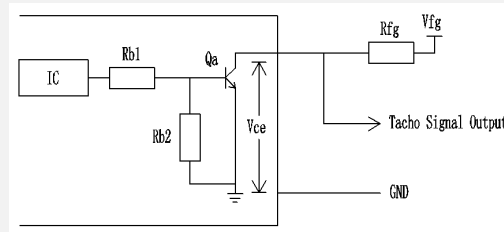
主要功能/Technical features

软启动/Soft start

电机以低转速启动, 大约 20 秒到达全速, 以减少对电源的电流冲击/The motor starts at low speed and reaches full speed after 20 seconds' running for reducing power supply current surge.

转速反馈/Feedback function of rotary speed

控制电路板上的用户接口端子 FG 端经外接 20K 电阻上拉到 $10V \pm 0.5V$ 后, 电机运转时, 此 FG 端输出占空比为 50% 方波信号, 电机每旋转一周, 输出 2 个完整周期的方波。接线图如下: /The FG terminal of the user interface terminal on the control circuit board is pulled up to $10V \pm 0.5V$ by the external 20K resistor. When the motor is running, the FG terminal outputs a duty cycle of 50% square wave signal. Each revolution of the motor outputs 2 complete outputs of the square wave of the cycle. The wiring diagram is as follows:



FG 信号电路的外接电源, 需要保证稳定性, 不允许输入超过规格的电源电压, 电源无明显的尖峰与浪涌冲击。外接电阻选型需要符合规格书要求。FG 端口需要注意防静电损伤。/The power supply of FG signal circuit needs to be stable, input power supply voltage is not allowed exceeding specification and surge pulse. External resistance needs to accord with specification. FG port needs to prevent electrostatic damage.

保护/Protection

电机保护功能有堵转保护、欠压与过电压停止运转保护、限功率保护、过流保护/This motor has locked-rotor protection, under-voltage , over-voltage lockout, peak-power limitation and over current protection.

速度控制/Speed control

可以用以下两种方法之一来进行速度控制: /Either of the two methods can be adopted to control speed:

线性电压: $0 \sim 10VDC$

Linear voltage: $0 \sim 10VDC$

PWM信号: 频率为 $1K \sim 10 KHz$, 幅值为 $10V$, 占空比为 $0\% \sim 100\%$

PWM signal: frequency $1K \sim 10KHz$, amplitude $10V$, duty cycle $0\% \sim 100\%$.

配附件/Other requirements on accessory

导风圈/Inlet cones

有/YES

其他/Other

警示语 /Warning:

在使用产品之前, 请仔细阅读以下说明, 遵守以下警告, 以防止发生故障或对人员造成危险。/ Read these instructions carefully before starting work on the device. Observe the following warnings to prevent malfunctions or danger to persons.

**危险/ DANGER:**

表示在紧急的情况下, 如不采用指定的措施, 会导致死亡和重伤, 必须遵守说明。/ Indicates an imminently hazardous situation which will result in death or serious injury if the specified actions are not taken. Compliance with the instructions is imperative.

1) 没有防护, 在操作过程中, 手、衣物、长头发可能会卡在设备中, 从而导致严重伤害。/ Without protection hands, clothing, and long hair may get stuck in the device, resulting in serious injury during operation.

2) 风机请安装在儿童不能接触到扇叶和带电部件的地方, 也不允许儿童单独使用本产品。/ The fan should keep away from the children especially the blade and electric parts. And the children are not allowed to operate the fan alone.

警告/ WARNING:

表示潜在的危险情况下, 可能导致死亡或严重伤害, 工作格外小心。/ Indicates a potentially hazardous situation which can result in death or serious injury if the specified actions are not taken. Exercise extreme caution while working.

1) 产品在安装、拆卸过程中可能打滑、掉落, 可能会导致致命或严重的伤害以及财产损失, 设备严重损坏。/ The product may slip and fall during installation and disassembly, which may result in fatal or serious injury, property damage, and serious damage to the equipment.

2) 噪音可能超过 $L_p: 70\text{dB(A)}$ 时, 有引起听力损失的风险。/ the sound pressure level may exceed 70dB(A) . Risk of noise-induced hearing loss.

警戒/ CAUTION:

表示潜在的危险情况下, 如果不采取指定的措施, 可能会导致轻度或中度伤害或财产损失。/ Indicates a potentially hazardous situation which can result in minor or moderate injury or damage to property if the specified actions are not taken.

1) 从包装中取出风扇时有割伤和压伤的危险。/ Cutting and crushing hazard when removing fan from packaging.

注意/ NOTE:

可能会发生潜在的有害情况, 如果不避免, 可能会导致财产损失。/ A potentially harmful situation can occur and, if not avoided, can lead to property damage.

1) 包装运输仅以原始包装运输。在原始包装中, 清洁的环境中保护其不受天气影响, 并且不受振影响。/ Transport the device in its original packaging only. protected against the weather and free from vibration, in the original packaging in a clean environment.

2) 在客户端进行安装时须满足可能出现的机械、温度及使用寿命相关的应力要求。/ When installing at the client, it must meet the mechanical, temperature and service life-related stress requirements that may occur

3) 在接入设备前, 请检查数据连接、输入的电压是否与铭牌相匹配。/ Before connecting to the device, check whether the information on the nameplate matches the connection data, and make sure the power supply matches the device voltage.

4) 在移动产品的时候, 不得以风机扇叶为受力点搬运产品, 否则会造成扇叶变形而使风机震动过大。/ Be careful when moving the fan and do not take the blades as a handle because it will cause the distortion and chatter.

5) 使用的安装螺丝不得超过要求长度, 否则会造成风机损坏。/ The length of the mounting screws shall not exceed the requirement, otherwise the fan will be damaged.

6) 请不要自主拆装风机, 否则将影响动扇叶平衡、防水等效果, 严重的将引起安全问题。/ Do not disassemble the fan arbitrarily. It may hurt the capacity of watertightness and dynamic balance or cause other serious problems.

7) 带导风圈的风机需按照推荐尺寸设计和安装, 否则将影响产品性能。/ The fan with inlet ring should be installed follow the requirements or it will affect the performance.

8) 对于未带电缆线之风机, 客户所接电缆线的外径需在要求的范围内, 否则将影响防水效果。/ Users should use the standard cable when install the fan otherwise it will affect the watertightness.

**危险/ DANGER:**

表示带电设备, 触电危险。/ Electrically charged device, Risk of electric shock

警告/ WARNIN: 设备关闭, 重新启动, 有触电的危险。/ Live terminals and connections even with device switched off, Electric shock

警戒/ CAUTION: 发生故障时, 给电机或风机通电或者在停电后, 如果设备设置有控制电压或者存储速度值, 电机将自动重启, 有受伤的风险。/ When a fault occurs, power on the motor or fan or after a power failure, if the device is set with a control voltage or stored speed value, the motor will automatically restart, there is a risk of injury.

**警戒/ CAUTION:**

表示外壳表面高温, 有烫伤危险和着火危险。/ High temperature on electronics housing Risk of burns

1) 电机接线必须按接线图的指示, 有接地线要求的产品请务必接上地线, 不建议客户使用延长线, 所有不按指示接线都可能造成电机烧坏。/ Wiring depends on the wiring diagram and please connect the earth ground if required. we don't suggest to use the extension cord. Any wrong connection may cause the damage of the fan.

2) 对于有接温控器要求的风机, 请务必接上带温控器的引线, 否则有可能造成电机内部温度过高而损坏。/ Connect the thermostat if required otherwise it would damage the motor because of the over temperature.

3) 风机的电气连接必须有合适的过流保护器以防止电流过大对产品造成损坏。/ The overcurrent protector is necessary in case the damage from the overcurrent.