

产 品 规 格 书

PRODUCT SPECIFICATION

名 称(NAME): 离心风机 centrifugal fan

型 号(MODEL): R50137E-38W-B8T

客户代码(CUSTOMER CODE): _____

版 本 号(VERSION NUMBER): A/1

编 制 (MAKE): 杨宇慧

校 对 (EDITE): 叶玉钦

审 核 (CHECKED): _____

批 准 (APPROVED): 叶国洲

客户确认 (CUSTOMER APPROVE): _____

日 期 (DATE): 2014. 12. 22

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Beijing sanding Zhongtian Technology Co., Ltd.

换版记录/Description for revise

版本号 Revision	换版原因 Reason for revise	修订内容 Description for revise	姓名 Make by	日期 Date
A/0				2013-05-24
A/1				2014-1-26

1.0 目的/ Purpose

本规格书规定了产品规格细节要求、技术标准或技术要求等。

This specification provides part specific requirements and the Engineering Standard and/or Engineering Specification.

2.0 产品标准和安规要求/ Engineering standard and safety regulations

2.1 本产品符合的标准 / Engineering standard

2.1.1 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》

2.1.2 GB / T13275 《一般用途离心通风机通用技术条件要求》

GB/T13275 《General technical requirement for general centrifugal fan》

2.2 本产品全部材料符合 RoHS 要求.

All material accord with RoHS.

3.0 使用环境/ Operating environment requirements

3.1 工作温度和湿度/ Operating temperature and humidity

工作温度范围: $-40^{\circ}\text{C} \sim +65^{\circ}\text{C}$, 最大工作湿度: 95% RH.

Operating temperatures range $-40^{\circ}\text{C} \sim +65^{\circ}\text{C}$, Operating relative humidity 95% max.

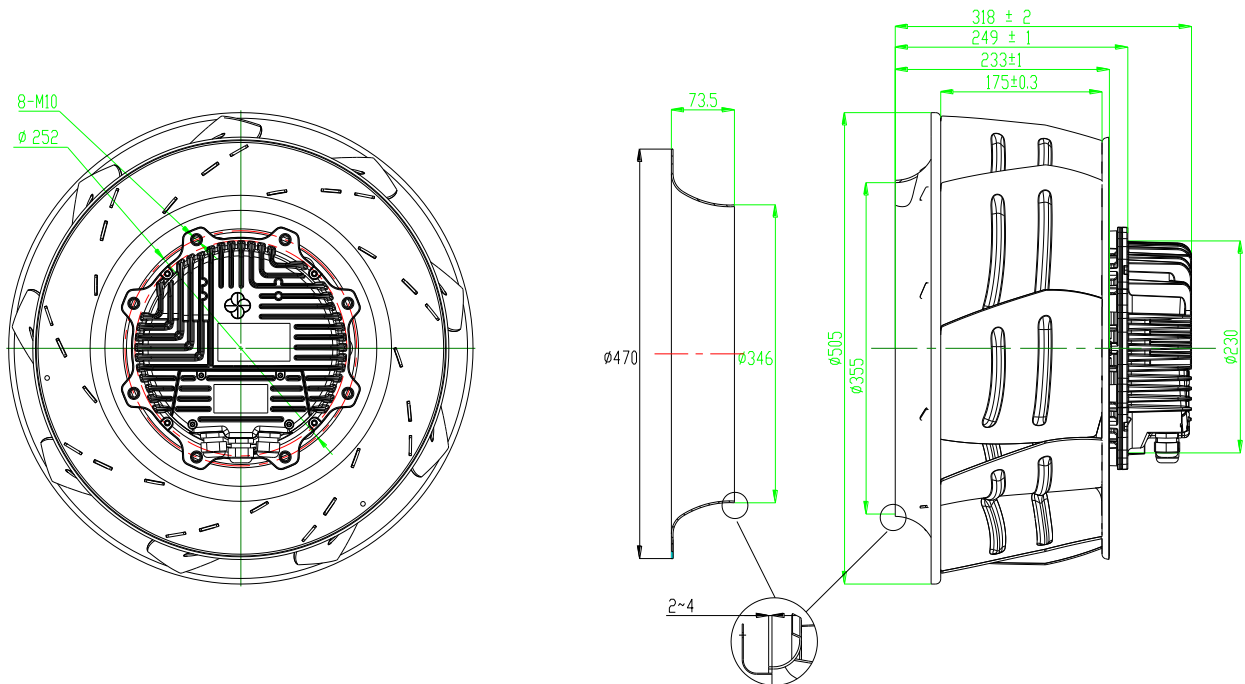
3.2 贮存温度和湿度/Storage temperature range and humidity

贮存温度范围: $-40^{\circ}\text{C} \sim +65^{\circ}\text{C}$, 最大贮存湿度: 85% RH.

Storage temperatures range $-40^{\circ}\text{C} \sim +65^{\circ}\text{C}$; Storage relative humidity 85% max.

4.0 机械要求/ Mechanical requirements

4.1 外形图/Dimension drawing



4.2 叶轮/Impeller

叶轮由铝合金材料制成.

Impeller made of sheet aluminum.

4.3 电机/Motor

外转子可调速永磁同步电动机 (DM150F5-AKT-01) .

External rotor , adjustable-speed permanent magnet synchronous motor (DM150F5-AKT-01) .

4.4 平衡/ Balancing

风机在 $1650 \pm 10\%$ r/min 运转时，每个端面动平衡精度不低于 G6.3，符合标准 JB/T9101.

At $1650 \pm 10\%$ r/min running speed, the residual unbalance of the fan not less than G6.3 (balancing precision grade) in each plane, according with JB/T9101.

4.5 振动/Vibration of the fan

风机振动速度有效值按照 JB/T 8689 标准规定.

Vibration speed virtual value of fan accord with JB/T 8689.

4.6 跳动/Runout of impeller

风轮轴向、径向跳动 $\leq 2\text{mm}$.

Runout of impeller in axial and radial direction $\leq 2\text{mm}$.

4.7 防护等级/Type of protection

风机的防护等级为 IP54.

Type of protection is IP54.

4.8 绝缘等级/Type of insulation

电机的绝缘等级为 CLASS F

Type of insulation is CLASS F

4.9 寿命/Life time

风机寿命估算值 40000 小时，（在额定电压、环境温度为 40°C 、风机全速运转时）.

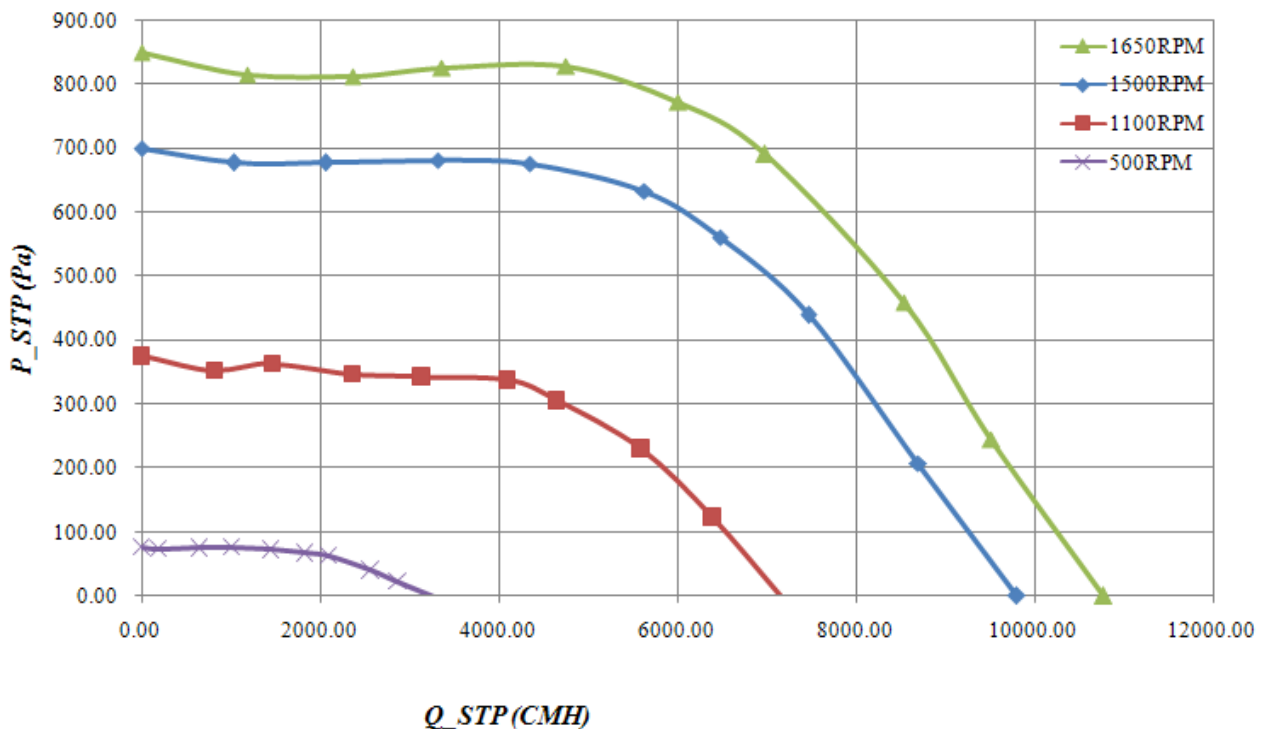
The fan life is expectant 40000 hours, at nominal voltage, running at full speed, and environment temperature at 40°C .

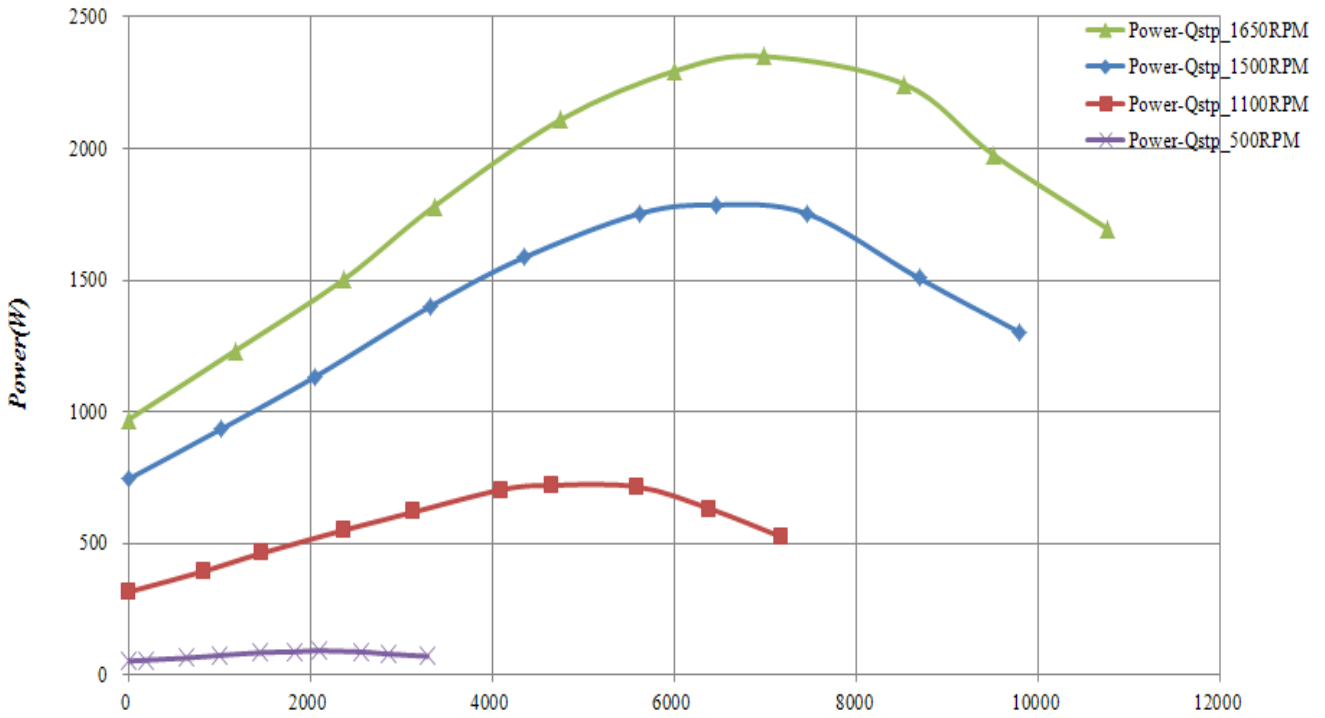
5.0 风机性能/Fan performance

5.1 放空参数/ data

输入电压 Input voltage[VAC]	频率 Frequency[Hz]	风量[0Pa] Air flow [m ³ /h] [$\pm 10\%$]	转速 Speed[r/min]	输入功率 Input Power[W] [$\pm 10\%$]	输入电流 Input current[A] [$\pm 10\%$]	噪音 Noise LpdB(A)
3~380	50/60	10500	1650	1.35	2.2	85

5.2 特性曲线/Performance curve

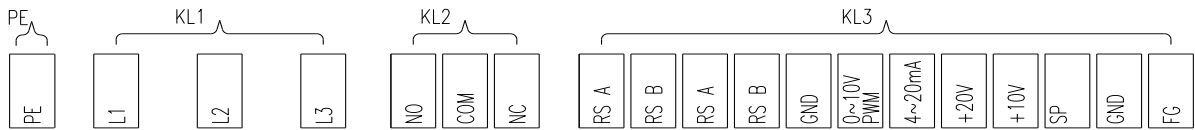




0 STP(CMH)

6.0 电气性能/Electrical performance

6.1 接线示意图/View lead connection



NO.	Pin	Signal	Assignment/Function	NO.	Pin	Signal	Assignment/Function
KL3	1/3	RSA	Bus connection RS485; RSA; MODBUS RTU	KL2	1	NO	Status relay, floating status contact; normally open; close with error
	2/4	RSB	Bus connection RS485; RSB; MODBUS RTU		2	COM	Status relay, common connection; contact rating 250VAC/2A(AC1)
	5/11	GND	Signal ground for control interface KL3		3	NC	Status relay, break with error
KL3	6	0~10V/PWM	Control input 0~10VDC/PWM; only usable as alternative to input 4~20mA	KL1	1	L1	Mains supply connection, supply voltage 3~380-480VAc;50/60Hz
	7	4~20mA	Analogue Control input 4~20mA; only usable as alternative to input 0~10V/PWM		2	L2	Mains supply connection, supply voltage 3~380-480VAc;50/60Hz
	8	+20V	Fixed voltage output 20VDC (+20% max. 50mA); power supply for ext. devices (e.g. potentiometer)		3	L3	Mains supply connection, supply voltage 3~380-480VAc;50/60Hz
	9	+10V	Fixed voltage output 10VDC (+10% max. 10mA); power supply for ext. devices (e.g. potentiometer)	PE	PE	Earth connection, PE connection	
	10	SP	Control input 0~10VDC/PWM; only usable as alternative to input 4~20mA				
	12	FG	Speed Signal Feedback/ Fault Feedback				

6.2速度控制/Speed control

6.2.1 控制方法/Control method

6.2.1.1 线性电压: 0~10VDC (电流<20mA)

Linear voltage:0~10VDC,current less than 20mA;

6.2.1.2 PWM信号: 占空比为0%~100% (频率为1K~10 KHz, 幅值为10~12V)

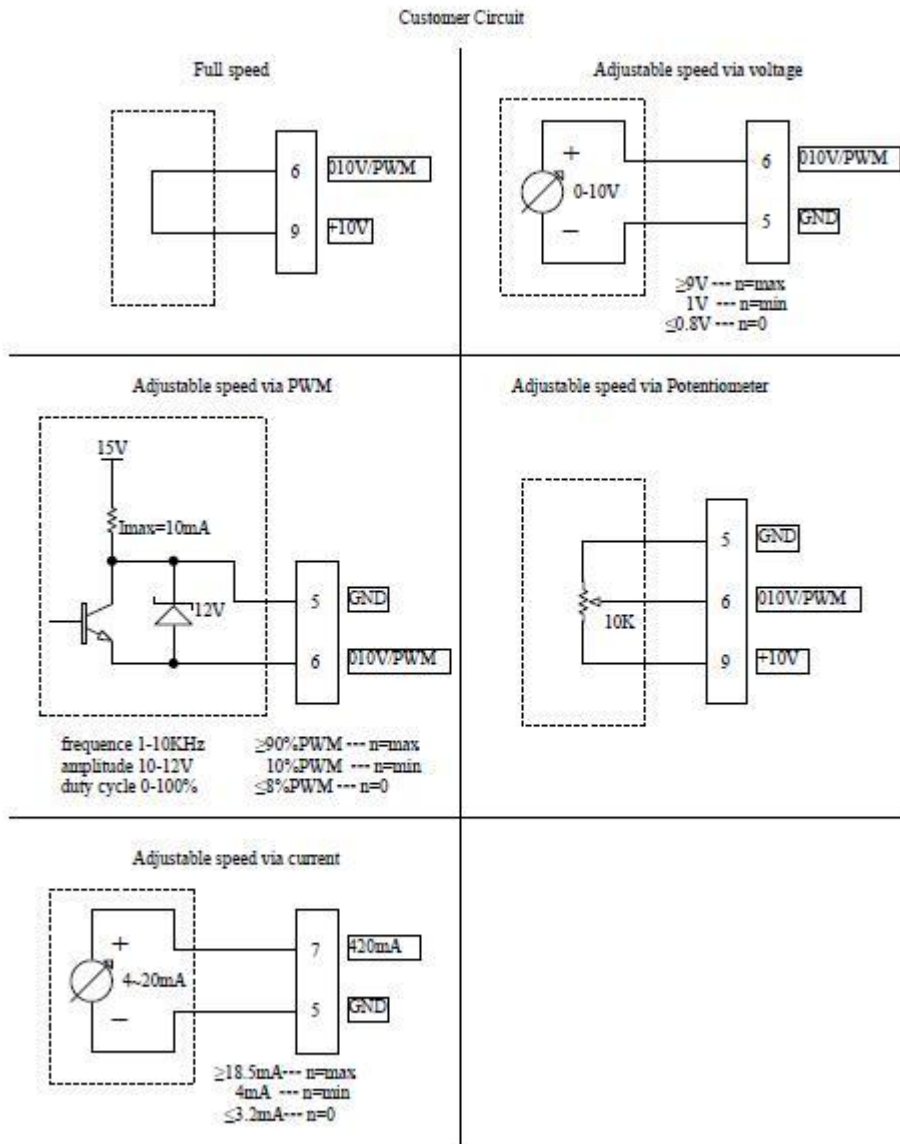
PWM signal: duty cycle 0%~100%,frequency 1K~10KHz, amplitude 10~12V ;

6.2.1.3 线性电流: 4~20mA

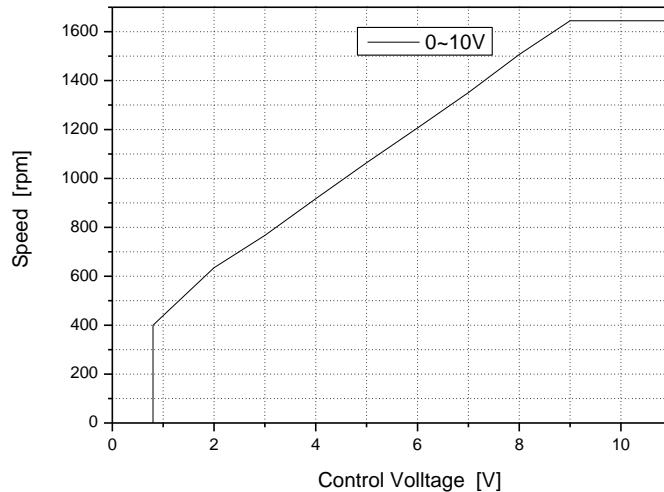
Linear current : 4~20mA;

当控制电压有效值大于 1.0V 时, 电机开始运转; 当控制电压有效值大于 9V 时, 电机全速运转; 当风机运转时, 控制电压有效值小于 0.8V 时, 电机停止。注: 以上控制电压为典型值

When the effective value of control voltage is greater than $1.0\pm 0.1V$,the motor starts up; when the effective value of control voltage is greater than $9\pm 0.1V$,the motor runs at the full speed; when the fan is running, if the effective value of control voltage is lower than $0.8\pm 0.1V$,the motor stops. Remarks: These effective values of control voltage are typical.



6.2.2 调速曲线(测试条件为: 线性电压: 0~10VDC)/ Regulate speed curve (Linear Voltage: 0~10VDC)



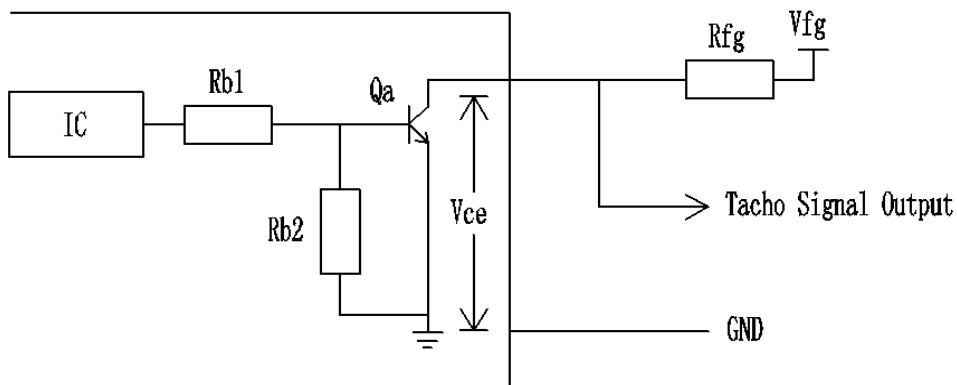
6.3 电压范围/Voltage range

风机设计的额定运行电压为 3~380-480VAC, 电压变化范围为 320~528VAC.

The fan is designed to operate at a nominal voltage of 3~380-480VAC , changing voltage from 320 VAC to 528VAC .

6.4 风机具有速度输出信号, 输出信号波形图见下图, Vfg和上拉电阻为客户外接部分, Vfg= (5~30) VDC, R≥1000* (Vfg) Ω。

The fan provides a speed output signal, output signal drawing see under annex. Vfg voltage and pulling up resistor are connected by customer at out. Vfg= (5-30) VDC, R≥1000* (Vfg) Ω.



当风机待机时, 速度反馈输出低电平; 当风机故障时, 速度反馈输出高电平; 当风机运转时, 速度反馈输出占空比为50% 的方波, 频率与电机输入电流的频率一致, 根据公式 $n= 60f/p$, 其中n为转速, f为电机输入电流的频率, p为极对数。本型号电机的极对数为5, 每转输出5个方波。

When the fan is in the standby mode, the signal of speed outputs low voltage; when the fan is in the error mode, the signal of speed outputs high voltage; when the fan is in normal operation, the signal of speed generates square waves of 50% duty cycle. The frequency of square waves is equal to the one of phase current. Base on the formula $n= 60f/p$, n is speed, f is frequency, p is polar couples number. The motor has 5 polar couples, the fan outputs 5 pulses per revolution.

6.5 软启动/Soft start

电机以低转速起动, 大约30秒到达全速, 以减少对电源的电流冲击。

The motor starts at low speed, after 30 Sec running to full speed, to reduce current surges being drawn to the power supply.

6.6 保护/Protection

电机保护功能有线电压欠压与缺相保护、限流和堵转保护、过温保护。

The motor has line under-voltage / phase failure detection; over-current and locked-rotor protection; and motor over-temperature protection.

6.7 继电器输出/Relay output

电机具有状态继电器输出功能，发生故障时，继电器常开、常闭触点动作。

The motor has status relay, when the motor occur error the NO floating status contact will be close and the NC floating status contact will be open.

6.8 电磁兼容性/ Electromagnetic compatibility

电磁辐射符合 GB9254 规定

Electromagnetic compatibility accord with GB9254

7.0 质量要求/Quality requests


质量要求符合企业标准 / Quality requests accord with FANS-TECH standard



8.0 产品标识/ Product marks

8.1 SAN-DING 标志/ Logo SAN-DING

■要/ Yes, □取消/ No

8.2 铭牌标识/Nameplate drawing

	R50137E-38W-B8T		
	3~380-480 VAC	50/60 Hz	1650 r/min
	1.35 kW	2.2 A	
	IP 54	CLASS F	
	DM150FS-AKT-01 Thermally Protected		
3~380-480 VAC 50/60 Hz max 2.4kW max 3.8A			

	WARNING!	
1. Dangerous voltages! Capacitor discharge time 5 minutes! 2. This product is solely intended as a built-in component Rotor and impeller are only basic-insulated. Please assure that it is not possible to get in direct contact with rotor and impeller when the unit is built-in.		

9.0 包装和标识/ Packaging and marks

9.1 包装/Packaging

包装必须有确定的尺寸和合适的结构确保风机在运输过程中不会损坏。

The packaging has to be well dimension and structure, so that the fans for on normal transport could not be damaged.

9.2 标识/Marks

制造商名称、产品型号、重量、尺寸等。

Markings: Mark of manufacturer, type of fan, date of manufacture, weight, Size etc.

10.0 附件/Other requirements on accessory

10.1 导风圈/ Inlet cones

□带/ Yes, □不带/ No, □■根据销售订单配备/ For Sales requirement.

10.2 蜗壳/ Scroll housing

(□有/YES、■没有/NO)

蜗壳材料为/ Scroll housing Material:

型号为/model: /