



规格承认书

SPECIFICATION FOR APPROVAL

客户名称 (CUSTOMER) : _____

产品名称 (PART NAME) : **DC BRUSHLESS FAN**

规格 (MODEL NO.) : **D1604N-04W-B05**

版本 (VER NO.) : **V00**

样品数量 (QUANTITY) : _____

送样日期 (DATE) : _____

客户料号 (CUSTOMER MATERIAL NUMBER) : **F700**

如能通过贵公司承认请将承认书签回一份给本公司存档, 多谢支持!

Please send one copy of this specification back after you signed approval for production pre-arrangement. Thanks you support.

客户承认章

SIGN FOR CUSTOMER APPROVED

承认章

APPROVED

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I、常规参数 Normal Parameters

序号 NO.	项目 Item	规格 Specification	单位 Unit
1	外观尺寸 (SHAPE DIMENSIONS)	40×40×10	MM
2	轴承类别 (BEARING TYPE)	Ball Bearing	Two Ball
3	额定电压 (Rated Voltage)	12.0	VDC
4	工作电压 (Operating Voltage)	9.0~16.0	VDC
5	启动电压 (Starting Voltage)	≤9.0 (25°C POWER ON/OFF)	VDC
6	额定电流 (Rated Current)	0.13(Max 0.15)	A
7	锁定电流(Lock Current)	≤0.05	A
8	输入功率(Input Power)	1.6(Max 1.8)	W
9	转速 (Speed)	6000±20%	RPM
10	最大风量 (零静压时) Max. Air Flow(At Zero Static Pressure)	8.1(Min 7.3)	CFM
11	最大风压 (零风量时) Max. Air Pressure(At Zero Air Flow)	3.2(Min 2.6)	mmH2O
12	噪音值 (Acoustical Noise)	29.4(Max 33.4)	dB(A)
13	运转温度 (Operating Temperature)	-25 ~ +70	℃
14	储存温度(Storage Temperature)	-40 ~ +75	℃
15	运转湿度 (Operating Humidity)	5 ~ +90%	RH
16	储存湿度 (Storage Humidity)	5 ~ +95%	RH

II、产品功能 (Product Function)

1、极性保护 (Polarity Protection)	(YES.)
2、马达锁定保护 (Locked Rotor Protection)	(YES.)
3、转速量测输出 (Tachometer Output)	(YES.)
4、运转侦测输出 (Lock Rotor Alarm)	(N.A.)
5、PWM 控制 (PWM Control)	(YES.)
6、温度控制功能 (Temperature TControl)	(N.A.)
7、过流保护 (Over-current Protection)	(N.A.)
8、缓启动功能 (Soft Start)	(N.A.)
9、环保要求 (RoHS Compliance)	(YES.)
10、防潮防尘等级 (Ingress Protection Rating)	(N.A.)

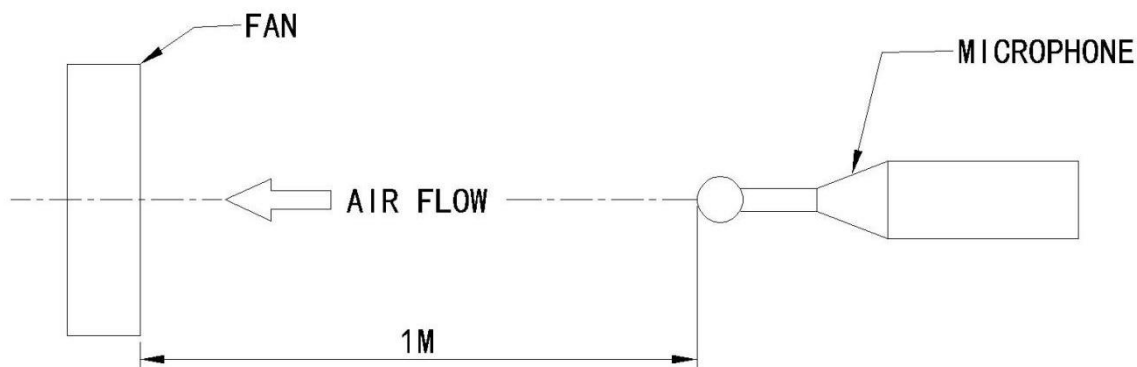
11、防火等级要求(Fire rating claim)	(94V-0.)
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备注: N.A.-----不适用。

Note: N.A.-----not applicable。

III、功能和环境说明(Function & Environment Explain)

- A. 预估寿命: 在额定电压, 室温 25°C, 相对湿度 15%~65%RH 环境中连续工作;
(Life Expectancy: While fan is operating at rated voltage in room temperature 25°C and relative Humidity 15%~65%RH environment)
 双滚珠轴承预期寿命(Two balls bearing life expectance): 75000 小时(75000 Hours)
- B. 额定转速: 风扇在额定电压, 室温 25°C, 相对湿度 15%~65%RH 环境中测试 3 分钟以上, 所对应的转速;
(Rated Speed : While fan is operating at rated voltage in room temperature 25°C and relative Humidity 15% ~ 65%RH environment test 3 minutes or more, It's Rated Speed)
- C. 转速公差: 在额定要求条件范围内, 4 公分以下风扇 (包括 4 公分) 转速公差一般为 ±20% 以内为合格, 5 公分以上风扇 (包括 5 公分) 转速公差一般为 ±10% 以内为合格;
(Speed's Tolerance: While fan is operating at rated environment, Within the 4CM fan's Tolerance ±20% it' Normal, Above the 5CM fan's Tolerance ±10% it' Normal)
- D. 极性保护: 如果电源线的正负极反接, 能够长时间承受;
(Polarity Protection: Be capable of withstanding if reverse connection for positive and negative leads.)
- E. 马达锁住保护: 在额定电压下锁住叶轮后, 线圈马达绕组能承受 96 小时.;
(Locked Rotor Protection: Impedance of motor winding protects motor from fire in 96 hours of locked motor condition at the rated voltage.)
- F. 缓启动功能: 通电后风扇转速慢慢上升, 1-3 秒后到达最大功率, 用于保护驱动线路以及电源;
(Soft start: When the fan is energized, the speed increases slowly and reaches the maximum power after 1-3 seconds to protect the drive line and power supply.)
- G. 绝缘耐压强度: 在 500V 50/60Hz 的交流电压下一分钟, 框和正极 (+) 的绝缘耐压小于 5 毫安;
(Dielectric strength: 5mA max. at 500VAC 50/60 Hz one minute between frame and (+) terminal)
- H. 绝缘阻抗强度: 在 500V 的直流电压下框和正极 (+) 的阻抗大于 10 兆欧姆;
(Insulation strength: 10Meg OHM min. At 500VDC between frame and (+) terminal);
- I. 寿命试验: 参考 IPC-9591;
(Life Test: Refer to IPC-9591) ;
- J. 声学噪音测试: 噪音的测试是在额定电压下, 麦克风在距离风扇入风口 1 米处, 声级计测量所得的平均值, 在半无响室内且风扇在自由空气场中测得。
(Acoustical noise test: Noise is measured at rated voltage in free air in Semi-anechoic chamber with sound level meter with microphone at a distance of one meter from the fan intake .)

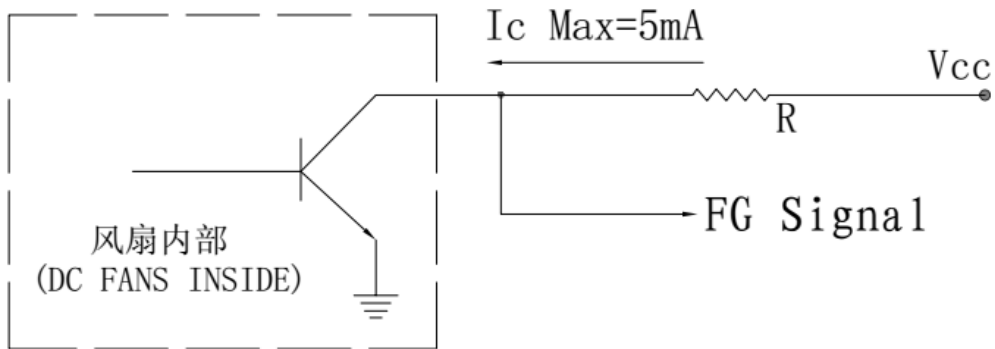


测试示意图 (Measuring condition)

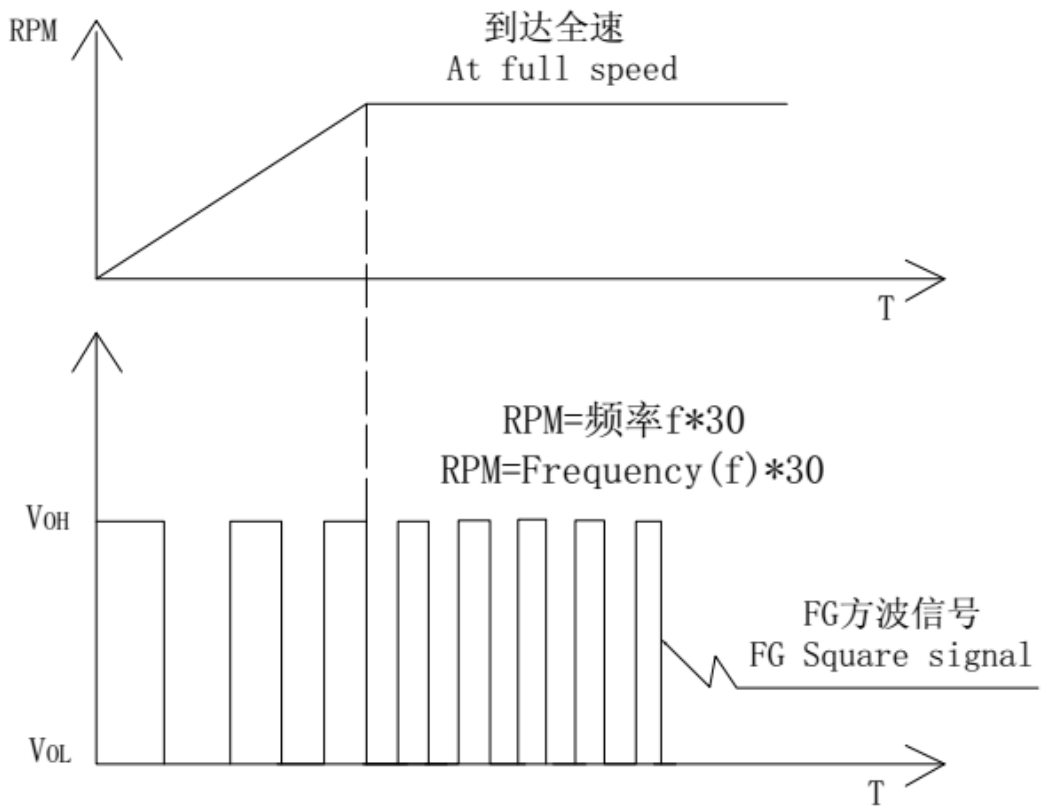


K、FG 信号输出 (FG Signal Output) :

1. 信号输出回路示意图 (Output Signal Circuit Diagram) :



2. 信号波形输出状态 (Output Signal and Waveform Status) :





L、PWM 信号控制 (PWM Control)

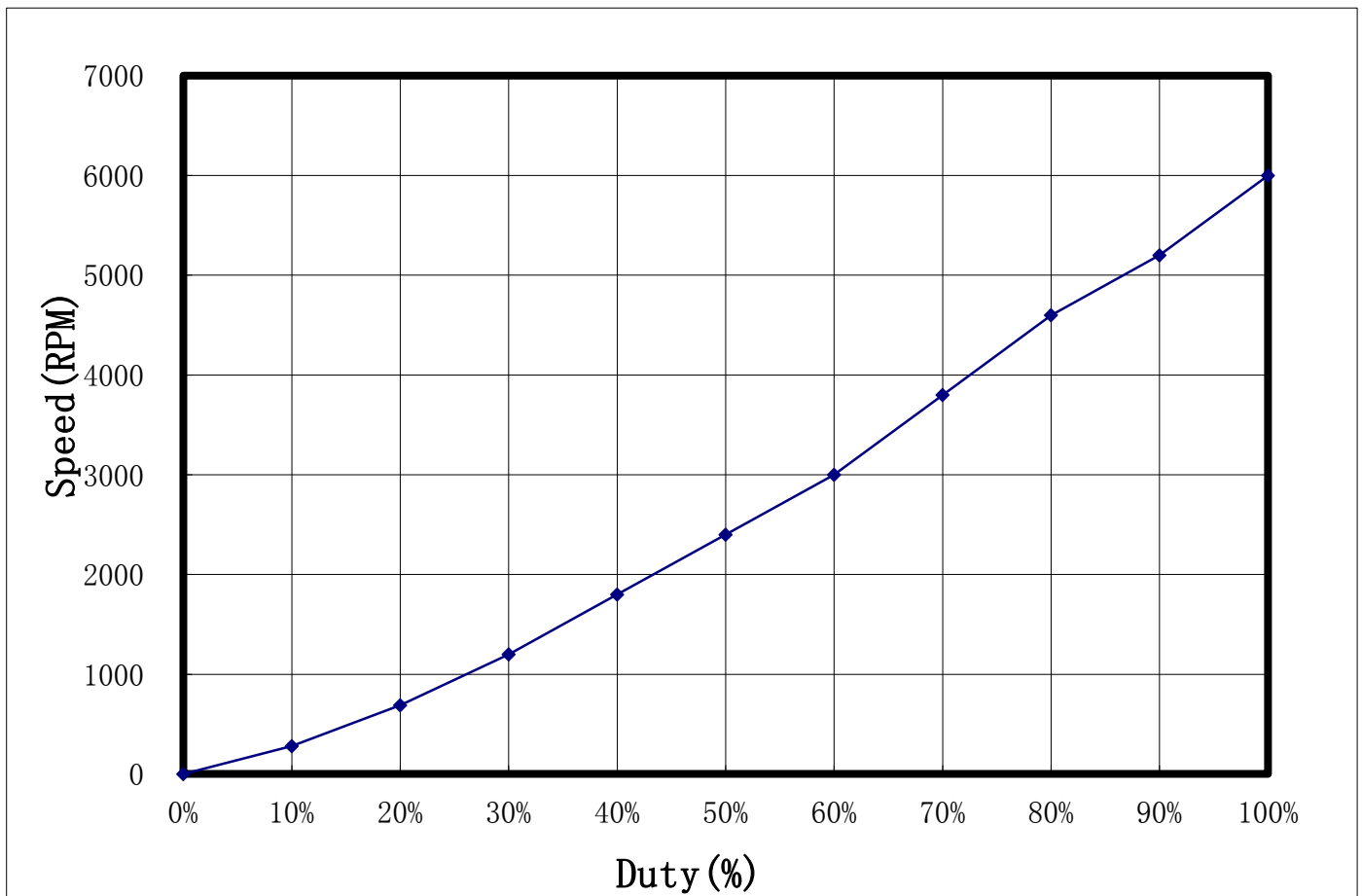
1. PWM 信号输入条件 (PWM Signal Input Conditions)

a> 高电平(HL):5.0V

b> 低电平(LL): $\leq 0.5V$

c> 频率(Freq.):10K~30K Hz

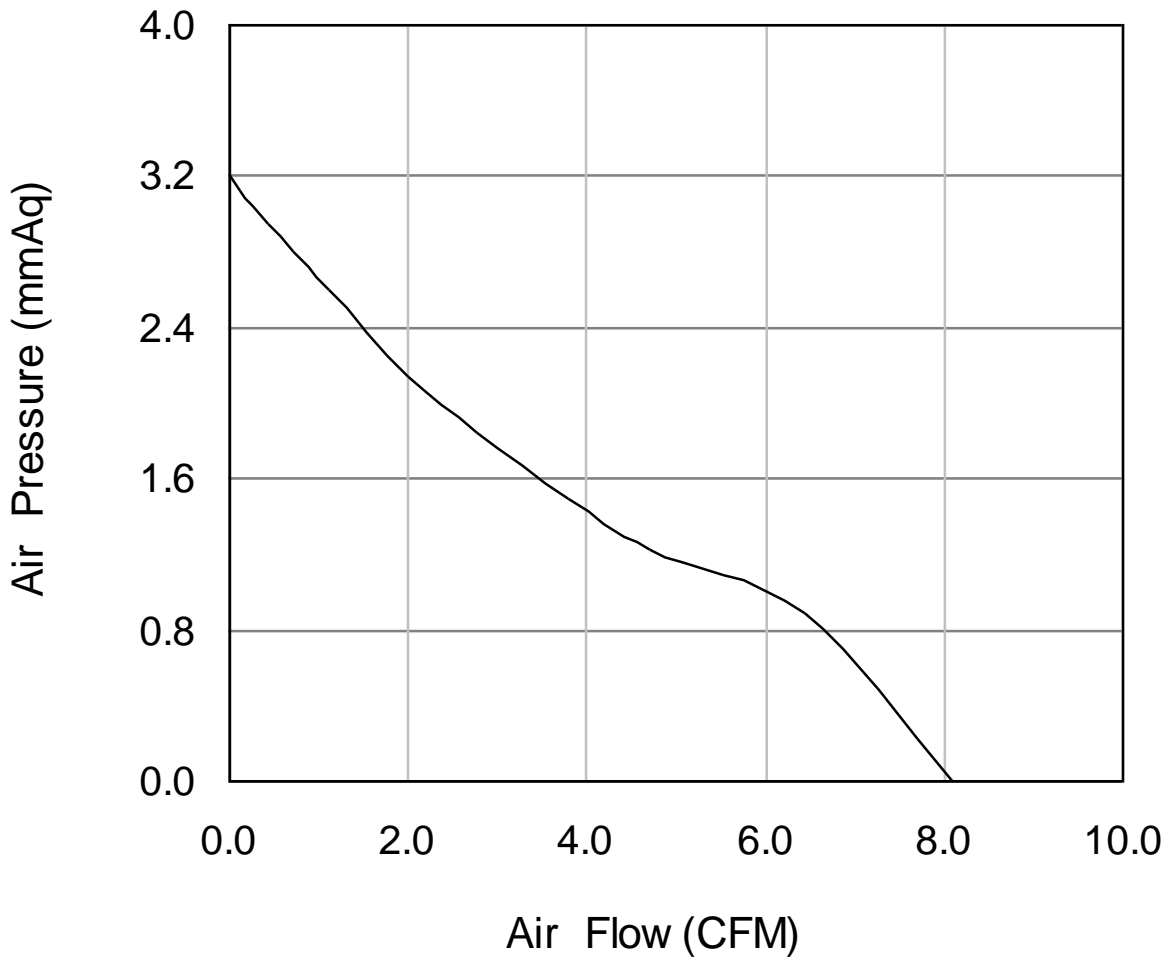
2. PWM 控制曲线示意图(PWM Testing Curve)





M、风量风压曲线图(The air flow rate and pressure curve):

PQ Curve Performance



Test Condition:

Input Voltage -----12.0 VDC

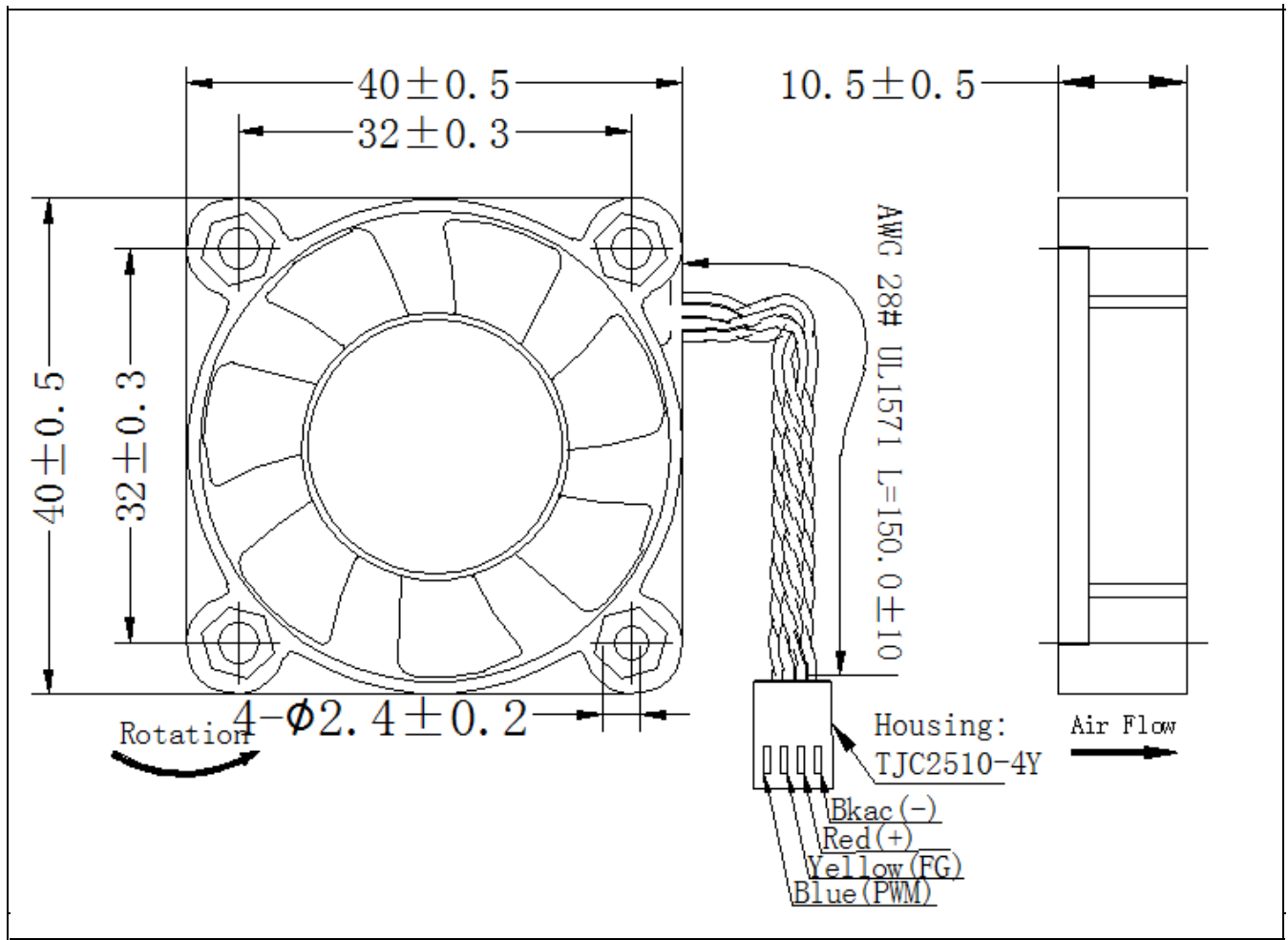
Temperature -----Room Temperature

Humidity -----65% RH



IV、机械特性 (Mechanical Characteristics)

1	外框材质 Frame	■ PBT of UL94V-0(Black).	□ Others.		
2	扇叶材质 Impeller	■ PBT of UL94V-0(Black).	□ Others.		
3	引线 Lead Wire	UL1571 AWG 28#		4 wires, 150±10mm(绞线).	
		■ Red(+)	■ Black(-)	■ Blue(PWM)	■ Yellow(FG) □ White(RD)
4	端子 Connector	CWB TJC2510-4Y.			
5	包装 Packing	Approx 16g/pcs , 1000pcs/CTN			
6	商标 Label	型号 Model No.	D1604N-04W-B05		
		额定电压 Rated Voltage	12.0 VDC		
		安规电流 Safety Current	0.13A		
		标签尺寸 Label Size	Φ 20.0mm		
		安规 Safety Approval	CE		
7	外形尺寸图 Outline Dimension (unit:mm)				



V、注意事项说明 (Notes)



1、使用时请勿超出以上规格书所规定之极限，否则我们不保证此产品。

We will not guarantee the products if the applications of our products are exceeded the limitation which is specified on this specification.

2、倘若要变更此份文件的任何规格，请勿必事先提出需求。

In case of changes of the specification specified on this document, a written notice is requested in advance.

3、请勿触压着叶片以及电源线绕着风扇或用力拉扯电源线，如此轴心与电源线将会被损坏。

Please do not touch the blade with the push and never bring the fan with lead wire, the bearing and lead wire may be damaged.

4、本产品不保证因粉尘、水滴、小虫进入，而影响寿命与不良品产生。

No guarantee on the products against the safety problem or failure covers by power dust drop of water or insect.

5、如有任何数据及文件与经份数据不同，将以此份数据为主要参考。

If there is any data or related documentation different from this data sheet, this data sheet is the principle reference.

6、请勿在可燃性气体与任何有害环境中使用。

Please do not use the fan in the environment of corrosive gas or liquid or any detrimental gas.

7、不是所有的风扇都带有锁定保护功能。当风扇在运转中，请勿企图将风扇死锁特别长的时间，如此，会因连续停止不转，产生高热而烧坏风扇。

Not all fans are provided with the Lock Motor Protection feature. While the fan is in operation please do not lock the fan intentionally for a long period of time, since the continuous stoppage will result in overheat and thus burnt out the fan.

8、组装风扇时，请特别注意，因共振或振动产生噪音。

During the installation of the fan please pay substantial attention to possible noise caused by resonance vibration and shock.

9、当搬运或作业中，风扇如从 50CM 的高度落下，将会对叶片的平衡和机芯产生若干影响，特别是滚珠轴承避免噪音。

It is very important to notify that avoid to drop from 50 cm height when in any movement or operation it will impact the balance of blade, especially ball bearing structure is avoided to noise down.

10、锁外壳之螺丝扭力不得超过 10kgf.

The torque if the screw which locked the frame should not exceed 10kgf.

备注：本公司保证销售之产品符合本承认书之规格，如有变更会先行送请承认后始得变更。

Notes: The Company ensures that the sale of the products meet the specifications of this acknowledgment, if requested changes are first sent to the recognition that before it may change.

VI、修正記錄(Modification Record)

版本号 Version No.	修正日期 Modify date	页面 Page No.	修正内容 Modify Content	确认 Approved

