

浙江伟成风机有限公司
ZHEJIANG WEICHENG BLOWER CO.,LTD

鼓风机规格书
The specification of the Radial blower

规格书编号: WM9290-24V-30CM-VH3.96-8P
Specification No.

发布日期: 2016/3/5
Date Issued



产品主型号Main model name:

WM9290-24V

匹配驱动器型号Matching drive model:

WM7652-24V-250W

说明书组成内容/Composition of the instruction manual

要求和变更/REQUESTS & REVISION RECORDS

√

电气规格/TECH SPECIFICATIONS

√

曲线图/CURVES AND CHARACTERISTICS

√

外形图/OUTLINE DRAWING

√

电控规格书/PCB control

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认证证书Certificates: CE, ROHS, ISO10993, ISO9001:2015

文档内所有数据均在额定电压下测量, 在25℃环境温度和1.2 kg/m³标准空气密度下有效。列出的值是标称值, 可能会根据安装条件和部件公差而变化。根据ISO5801标准, 采用标准化入口和出口室进行测试。公差基于ISO13348规定的速度数据, 等级4: 压力+/-10%, 功率+16%。基于恒定电压的公差: 速度+/-10%, 压力+/-21%, 功率+33%。关于鼓风机的连续运行, 请参阅规定的最大额定值。超出正常工作范围的性能数据仅供参考。

Stated all data are measured at nominal voltage and are valid at 25 °C ambient temperature and 1.2 kg/m³ standard air density. Values listed are nominal and can vary depending on the installation conditions and due to component tolerances. Test setup according to ISO 5801 with standardized inlet and outlet chambers. Tolerances based on specified speed data according to ISO 13348, grade 4: pressure +/-10 %, power +16 %. Tolerances based on constant voltage: speed +/-10 %, pressure +/-21 %, power +33 %. For continuous blower operation please refer to specified maximum ratings. Performance data outside normal operating range plotted for information only.

特殊要求+变更记录 Special requirements+Change records

特殊要求
special requirements

[illegible]

基础电气规格 (Basic Tech specification)		WM9290-24V	
最大持续运行状态	Maximum continuous operating state	单位 (Unit)	数据 (Data)
额定电压	Rate voltage	V	24
额定电流	Rate current	A	9.2
额定功耗	Power consumption	W	220
空载转速	Free blowing speed	rpm	24000
最大风压(流量=0)	Max air pressure (Flow=0)	kpa	13
最大风压时功率	Power @maximum pressure	W	98
最大风压时转速	Speed @maximum pressure	rpm	28591
最大流量(风压=0)	Max air Flow(Pressure=0)	L/min	680
最大流量时功率	Power @max flow	W	190
最大流量时转速	Speed @max flow	rpm	25200
最小流量	Min air flow	L/min	30
无刷直流电机参数	BLDC Motor parameters		
电阻值	Resistance	mΩ	239.2
电感值	Inductance value	mH	85.9
转子惯量	Rotor inertia	g/cm ²	28.37
霍尔信息	Hall information		120°
磁铁极数	Number of magnet poles		4
绕组绝缘等级	Winding insulation level		155°C-F
电机表面温升	Motor surface temperature rise	°C	55
IP等级	IP level		IP50
叶轮材质	Impeller material		PA66-V0
机壳材质	House casing material		PA66-V0+AL
氧气兼容	Oxygen compatible	%	21
是否符合生物兼容	Biocompatibility		Yes
风机整体性能	Performance of blower		
NTC情况	NTC situation		N/A
整机重量	Weight	g	520
使用寿命 ¹	Operation Life	Hours	25000
噪音等级 ²	Noise	dB(A)	45
泄压情况	Pressure relief situation	kpa	> 15
叶轮旋转方向(进风口看叶轮)	Impeller rotation (see from air inlet)		逆时针 CCW
使用环境温度范围	Operating ambient temperature range		{-10, 40}
使用环境湿度范围	Operating environment humidity range		{10, 60}
建议储存温度范围	Recommended storage temperature range		{-10, 40}
注意事项 Notice:			
1, 进风口或者出风口负载的管路管径不得小于6mm			
The pipeline diameter of the air inlet or outlet load shall not be less than 6mm			
2, 禁止进风口或者出风口全堵超过3分钟			
Do not block the air inlet or outlet completely for more than 3 minutes			

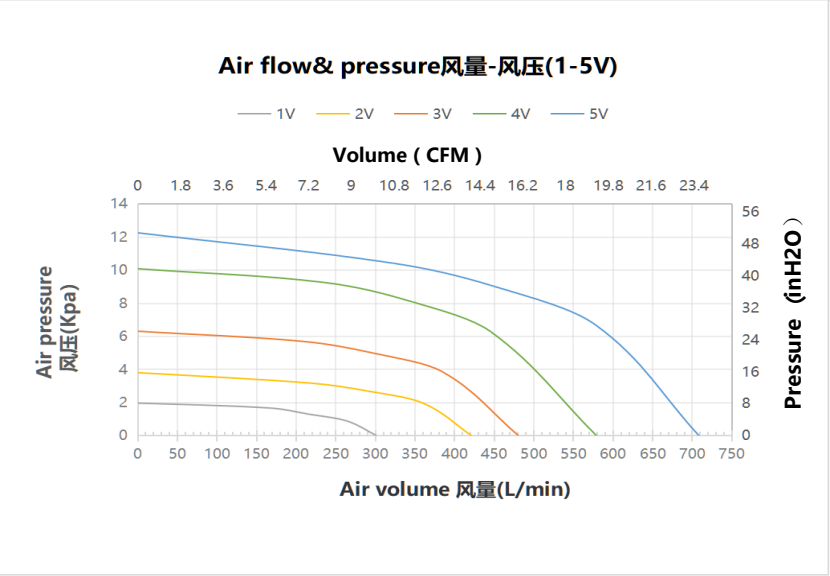
1, Accelerated aging test at 45 °C ambient temperature, continuous operation, flow control with 4.5 mm diameter orifice plate at outlet

在45°C环境温度下进行加速老化试验，连续运行，出口采用直径为6 mm的孔板进行流量控制。

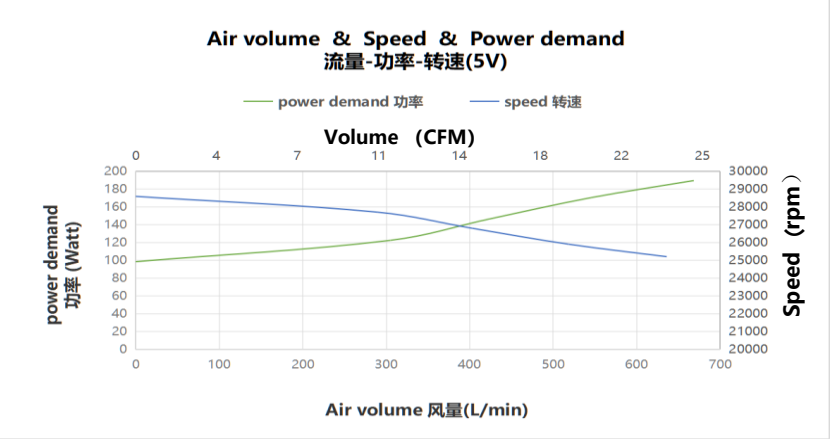
2, Measured at distance of 1 meter from inlet,inle open, outlet connected to breathing tube and 4 mm orifice in sound cancellation box at 1 kPa.

在距离入口1米处测量，进风口全开。出风口连接软管，软管尾端带4 mm孔板，此时风机运行1 kPa。

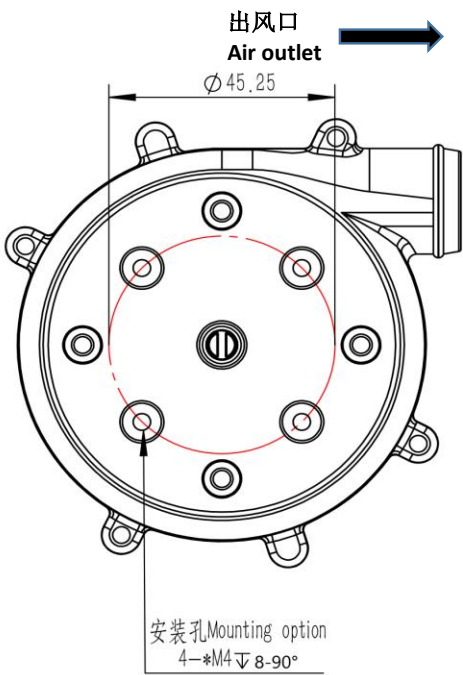
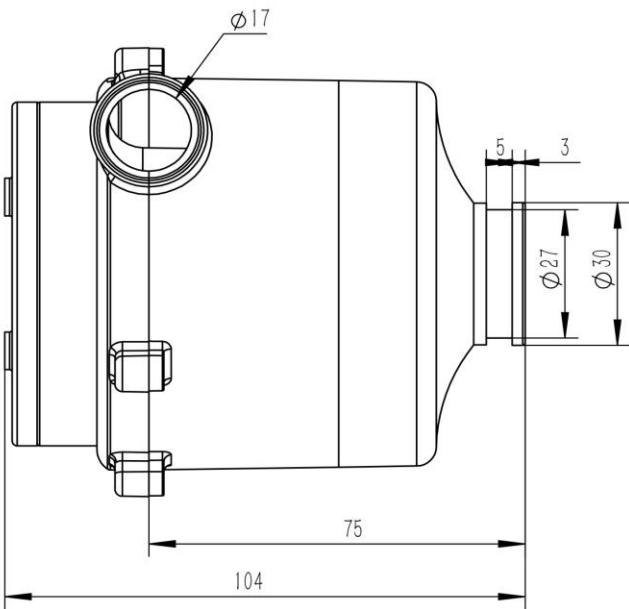
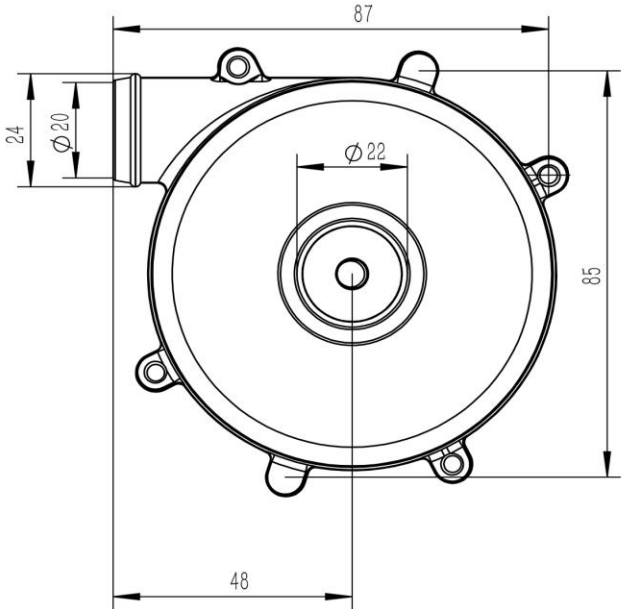
风压风量曲线图 (Pressure&Flow CURVES AND CHARACTERISTICS)



转速，功率VS流量图曲线图 (Speed and Power vs. Flow Characteristics)



尺寸图 (OUTLINE DRAWING)



端子照片	线序说明	颜色		引线说明	线材规格	胶壳型号	端子型号	出线长度 (不含端子)	备注
Connector Picture	Line sequence	Color		Wire Description	Wire specification	Rubber shell model	Terminal model	Wire length (Excluding terminals)	Remark
	1	白	white	W	UL3239 -24AWG	VH3.96-8P	VH3.96-T	30cm	φ9mm Heat Shrink Tube L: 10cm
	2	蓝	blue	V					
	3	黄	yellow	U					
	4	黑	black	GND	UL3239 -24AWG				
	5	灰	grey	Hall W					
	6	绿	green	Hall V					
	7	橙	orange	Hall U					
	8	红	red	+5V					

浙江伟成风机有限公司

ZHEJIANG WEICHENG BLOWER CO.,LTD

驱动器规格书

The specification of the CONTROLLER

规格书编号: Specification No.	WM-C-76-52-24V-250W
发布日期: Date Issued	2015/12/5



产品主型号Main model name:	WM-C-76-52-24V-250W
细分驱动器型号Subdivision of Drive Models:	24V-250W

说明书组成内容/Composition of the instruction manual

要求和变更/REQUESTS & REVISION RECORDS	√
电气规格/TECH SPECIFICATIONS	√
PCB安装尺寸/PCB DRAWING	√
散热片尺寸/HEAT SINK SIZE	√
端子说明/PIN INSTRUCTION	√
控制方法/ CONTROL INSTRUCTION	√
故障表达和定义/FAULT EXPRESSION AND DEFINITION	√
共计 (TOTAL without Cover) _____ 页	

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认证证书Certificates:	CE, ROHS, ISO10993, ISO9001:2015

文档内所有数据均在额定电压下测量，在25℃环境温度和1.2 kg/m3标准空气密度下有效。列出的值是标称值，可能会根据安装条件和部件公差而变化。参阅规定的最大额定值。超出正常工作范围的性能数据仅供参考。

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基础电气规格	Basic Tech specification	WM-C-76-52-24V-250W	
		单位 (Unit)	数据 (Data)
额定电压	Rate voltage	V	24
额定电流	Rate current	A	10
额定功率	Power consumption	W	250
转速范围	Speed range	rpm	1000-60000
建议电压范围	Operate voltage range	V	10.8-30
极限电压	Limited voltage	V	30
最大可持续电流	Max current	A	11.5
响应时间 (0-全速)	Response time (0-Max speed)	ms	2000
霍尔信息	Hall information		120°
适配磁铁极数	Adaptive magnet poles		4
冷却方式	Cooling method		Nature
绝缘等级	Insulation level		/
PCB重量	PCB Weight	g	40
使用环境温度范围	Operating ambient temperature range	°C	{-20, 55}
使用环境湿度范围	Operating environment humidity range	°C	{30, 90}
建议储存温度范围	Recommended storage temperature range	°C	{-10, 40}
驱动方式	Driving method		方波 Square
调速方式	Speed control mode		0-5V PWM

注意事项 Notice

*接入电线前请仔细阅读规格书，查看端子说明，不能接错线。

*Before connecting the wires, please carefully read the specifications and check the terminal instructions, and do not connect the wrong wires.

* 运行期间严禁打开外壳测量或触摸底板上任何器件和接插件。

*During operation, it is strictly prohibited to open the casing for measurement or touching any electronic elements on the bottom PCB

* 断电后1分钟后才能进行底板检查或更换保险管。

*Pls 1 minute after the power outage can the bottom plate be inspected or the safety tube be replaced.

* 运行期间尽量使用驱动器金属外壳帮助驱动器散热。

*During operation, try to use the metal casing of the drive to help dissipate heat.

* 110V-220V刷电机驱动器和310V无刷电机需良好可靠接地,否则有可能无刷电机转速不平稳。

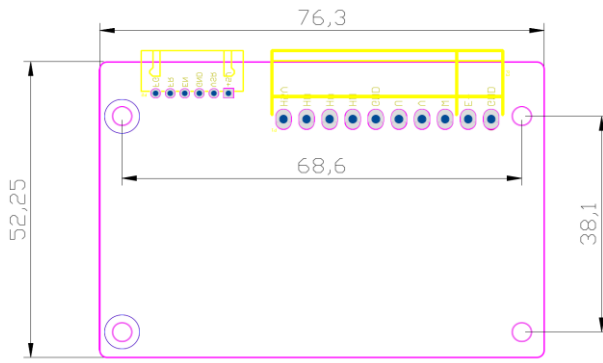
*The 110V-220V brush motor driver and the 310V brushless motor need to be well and reliably grounded, otherwise there is a possibility of unstable speed of the BLDC MOTOR

* 如果驱动器在运行期间意外损坏，本公司只负责承担驱动器在保修范围内的维修和更换。
本公司不承担由于驱动器意外损坏导致的电机失控或人员伤亡以及财产损失等的赔偿。

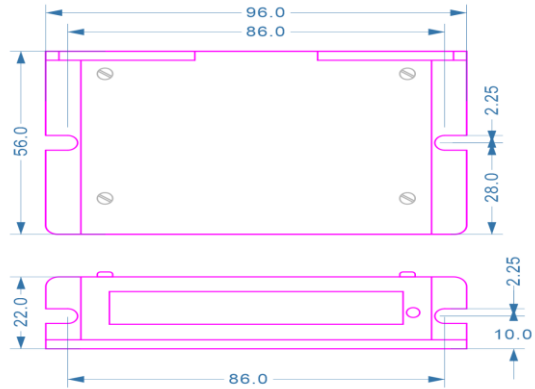
*If the drive is accidentally damaged during operation, our company is only responsible for repairing and replacing the drive within the warranty scope.

Our company shall not be liable for compensation for motor loss of control, personal injury, or property damage caused by accidental damage to the drive.

PCB尺寸图 (PCB DRAWING)



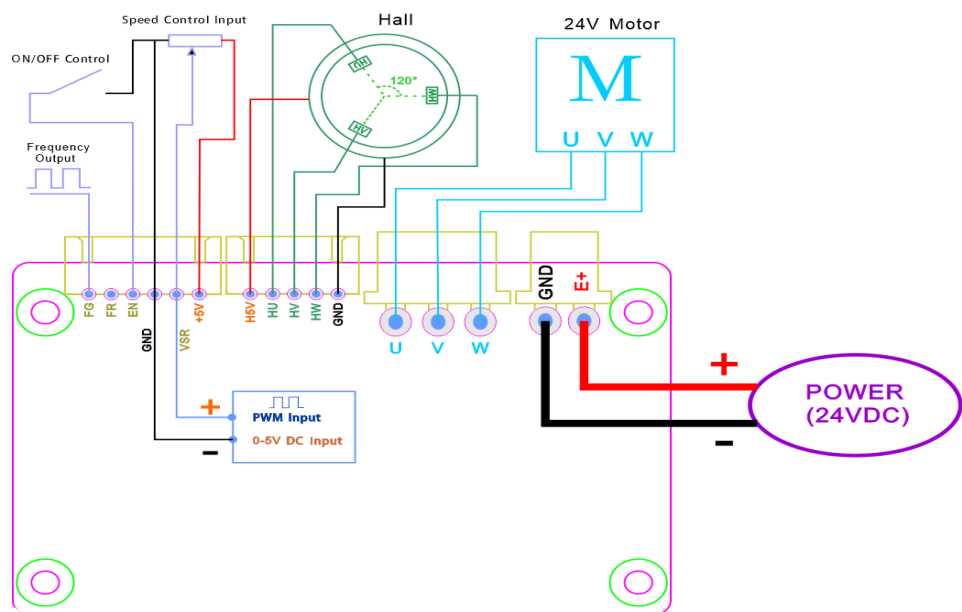
散热片尺寸图 (Casing DRAWING)



接口定义 (CONNECTOR IDENTIFICATION)

接口说明	端子型号	PIN序号	PIN定义		使用说明
Connector instruction	Connector model	P/N	Pin Definition		Use instructions
电源接口 Power connector	VH3.96-2P	GND	电源负极		
		E+	电源正极		
电机接口 Motor connector	VH3.96-8P	5V	霍尔供电5V		
		HU	霍尔U相		
		HV	霍尔V相		
		HW	霍尔W相		
		GND	霍尔负极		
		U	电机U相		
		V	电机V相		
		W	电机W相		
控制信号接口 Control connector	XHB2.54-6P	+5V	+5V控制电源正极	+5V	配合B10K电位器使用+5V,VSR和GND。也可直接配合VSR实现开机全速。 Use+5V, VSR, and GND in conjunction with B10K Potentiometer, Or directly cooperate with VSR to achieve full startup speed.
		VSR	调速信号输入	Input speed control signal	接受调速电压0-5V (0.244V启动) PWM脉冲调速 (频率: 10KHz, 电压: +5V, 占空比: 0-100%) Accepting speed regulation voltage 0-5V (starting at 0.244V) PWM pulse speed regulation (Frequency: 10KHz, voltage:+5V, duty cycle: 0-100%)
		GND	控制信号电源负极	Negative of signal control	控制信号负极, 可配合VSR ,EN使用 Negative of signal control can be used in conjunction with VSR and EN
		EN	启动和停止	Start and stop control	EN引脚配合GND在驱动器持续接受调速信号时, 可控制启动和停止。 连接GND时, 停止。 断开GND时, 运行。 The EN pin, in conjunction with GND, can control start and stop when the driver continuously receives a speed control signal. Connecting to GND-----Stop. Disconnecting GND-----Run.
		悬空	引脚为空	/	暂无功能,可定制成正反转功能 No function so far, Customizable with forward and reverse functions
		FG	速度信号输出	Output frequency	电机速度脉冲输出, 用于转速计算 当极对数为P时, 每转一圈输出P个脉冲。 电机转速 (rpm)=输出脉冲频率(Hz)*60/极对数 Motor speed pulse output for speed calculation When the number of poles is P, P pulses are output per revolution. Motor speed=output pulse frequency * 60/number of pole pairs

控制接线图示 (CONTROL DRAWING)



故障定义 (FAULT DEFINITION)

闪灯次数 Number of flashes	闪灯意义	Meaning of flashing lights
2	堵转保护 (转速低于400rpm 持续1s以上)	Locked rotor protection (Speed below 400rpm ----> 1 s)
3	过压保护 (输入电压大于 $30 \pm 0.5V$ 持续1s以上)	Overvoltage protection (Input voltage greater than $30 \pm 0.5V$ ----> 1 s)
4	软件过流保护 (软件电流检测高于 $12 \pm 0.5A$ 持续1s以上)	Software overcurrent protection (Software current detection above $12 \pm 0.5A$ ----> 1 s)
5	输出短路保护 (输出短路)	Output short circuit protection (Output short circuit)
6	过温保护 (温度高于 $85^{\circ}C$ 持续1s以上)	Over temperature protection (Temperature above $85^{\circ}C$ for more than 1 second)

注：驱动器检测到异常状态触发保护时，需断电重启。（以上程序可更改细节）

Note: When the driver detects an abnormal state and triggers the protection, it needs to be powered off and restarted.