

The logo for Krube, featuring the word "Krube" in a bold, black, sans-serif font with a stylized orange and black graphic element above the 'r'. It is enclosed in a white circle with a blue border, which is part of a larger blue and white abstract graphic design on the left side of the page.

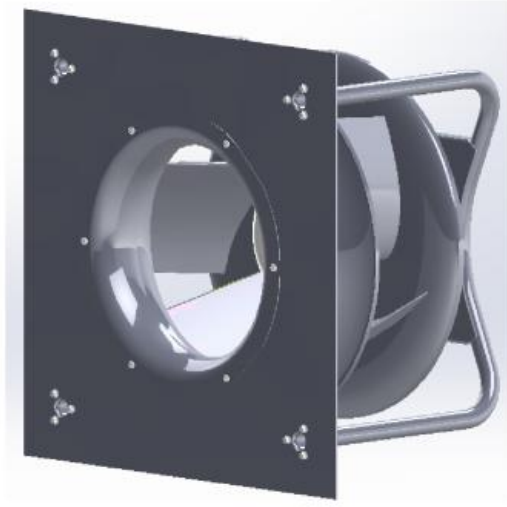
Krube

规格书

SPECIFICATION

MODEL

K-EC450-K380-28



产品简介 Product introduction

本产品由外转子(EC)电机、后倾式离心风轮以及托架面板组件构成，具有结构紧凑，风量大，静压高，振动小，噪音低，安装方便、节能高效等特点。托架面板组件使得风机具有即插即用的特点，安装维护更加便捷。This product is composed of external rotor (EC) motor, backward inclined centrifugal fan and bracket panel assembly. It has the characteristics of compact structure, large air volume, high static pressure, low vibration, low noise, convenient installation, energy saving and high efficiency. The bracket panel assembly enables the fan to be plug-and-play, making installation and maintenance more convenient.

适用范围 Scope of application

一般用途通风机，可广泛适用于净化空调系统、通风管道除尘、环保、制冷设备配套等领域。

General purpose ventilator can be widely used in purification of air conditioning system, ventilation duct dust removal, environmental protection, refrigeration equipment matching and other fields.

环境要求 Environmental requirements

- 工作环境温度范围 Working temperature range: $-25^{\circ}\text{C}\sim+50^{\circ}\text{C}$
- 工作环境湿度范围 Humidity range of working environment: $<90\%$
- 运输、贮存环境温度范围 Ambient temperature range for transportation and storage: $-40^{\circ}\text{C}\sim+80^{\circ}\text{C}$
- 运输、贮存环境湿度范围 Humidity range for transportation and storage: $<80\%$
- 贮存场所通风良好，空气中不得含有腐蚀性气体。The storage place is well ventilated, and the air must not contain corrosive gases.

设计、制造、测试标准及认证 Design, manufacture, test standards and certification

- JB-T 10563-2006 《一般用途离心通风机技术条件》 JB-T 10563-2006 "Technical Conditions for General Purpose Centrifugal Fans"
- GB/T 14711-2013《中小旋转电机通用安全要求》GB/T 14711-2013 "General Safety Requirements for Small and Medium Rotating Electric Machines"
- GB755-2008/IEC60034-1:2004 《旋转电机定额和性能》 GB755-2008/IEC60034-1:2004 "Rating and Performance of Rotating Electric Machines"
- 动平衡精度等级按照 ISO 1940, G6.3 级标准执行。The dynamic balancing accuracy class is implemented in accordance with ISO 1940, G6.3 standards.
- 振动测试以及振动速度有效值按照 JB/T8689 标准执行 Vibration test and effective value of vibration speed are performed according to JB/T8689 standard

技术特征 Technical characteristics

净重 Weight	51kg
特征尺寸 Feature size	Φ450mm
叶轮材料 Impeller material	铝板 Aluminum plate
风轮旋向 Rotation direction	逆时针（从端盖出线端看过去） Counterclockwise (viewed from the outlet end of the end cover)
防护等级 Degree of protection	IP54
绝缘等级 Insulation class	F
安装方式 Installation method	水平安装或者垂直安装 Horizontal installation or vertical installation
电机工作制 Motor duty	（连续工作制） S1 (continuous duty)
轴承 Bearings	免维护深沟球轴承 Maintenance-free deep groove ball bearings
控制器特征 Controller Features	控制盒与电机端盖一体, 0~10V 或 PWM 控制。The control box is integrated with the motor cover, 0~10V or PWM control.

结构组件特征 Structural Component Characteristics

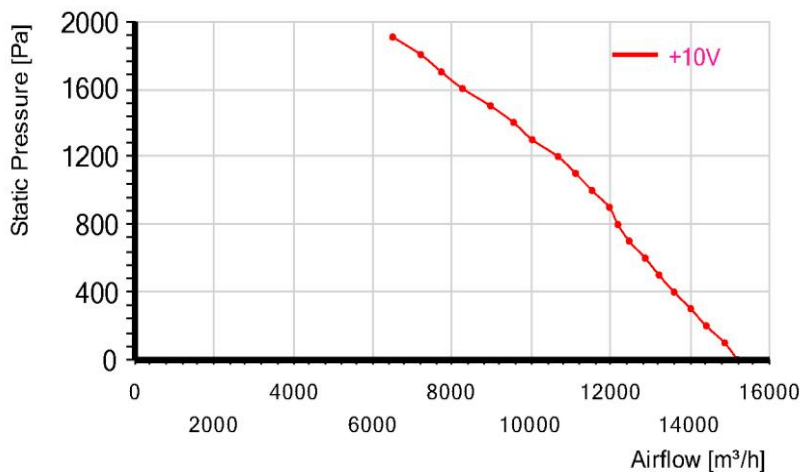
进风形式 Air intake mode	单进风 Single air inlet
风轮类型 Wind wheel type	后倾风轮 Backward inclined wind wheel
外壳附件 Enclosure Accessories	无外壳组件 带集流器 带托架 带面板 Without Enclosure Assembly With Current Collector With Bracket With Panel

技术参数 Nominal Data

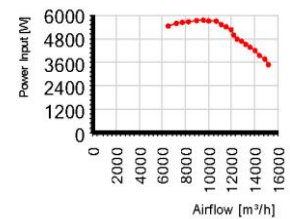
工作电压 Voltage	3 相 Three-phase, 380~480V
频率 Frequency	50/60 Hz
额定电压 Rated voltage	400 VAC
输入功率 Input power	5700 W
额定电流 Rated current	9.8 A
额定转速 Rated speed	2600 RPM
最大风量 Max. air volume	15200 m ³ /h (静压=0Pa static pressure=0Pa)
噪声 Noise	82 dB (A)距离进风口 1.0 米处实测 Measured at 1.0 meters from the air inlet
ErP 能效等级标准 ErP energy efficiency class standard	2020

性能曲线 Curves

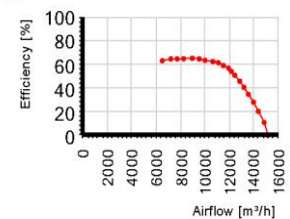
风量特性曲线



输入功率曲线



静压效率曲线



性能试验参照 GB/T 1236-2017 《工业通风机用标准化风道进行性能试验》，等同 ISO 5801
The performance test refers to GB/T 1236-2017 "Performance Test of Standardized Air Ducts for Industrial Ventilators", which is equivalent to ISO 5801.

控制电压 Control voltage: 10VDC

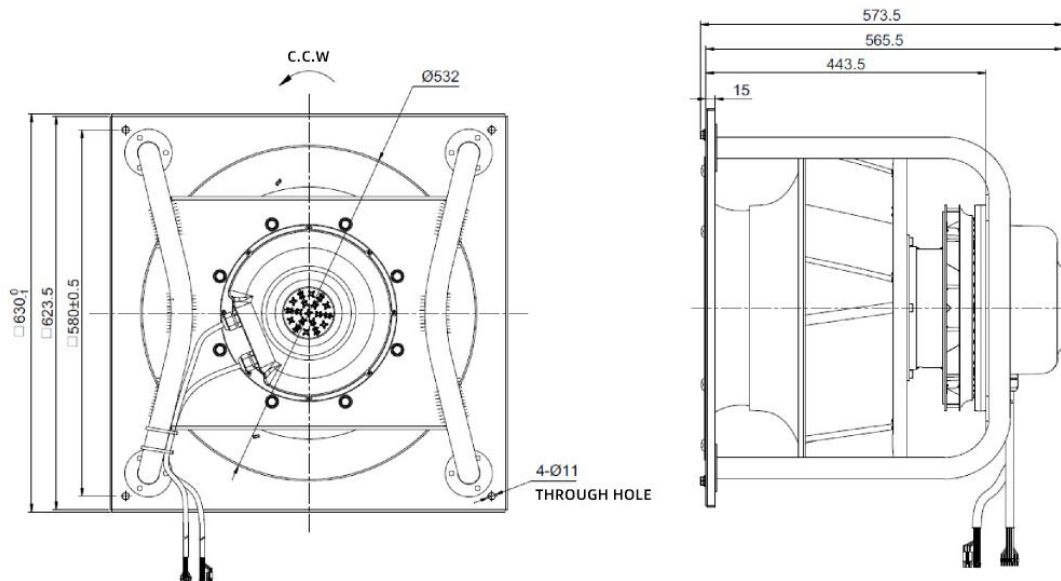
试验环境 Test environment

出口尺寸 Outlet size	出口面积 Air outlet area	进口温度 Inlet air temperature	相对湿度 Relative humidity	大气压力 Atmospheric pressure	空气密度 Air density
531.6mm	0.222m ²	16 °C	77%	101.9kPa	1.2kg/m ³

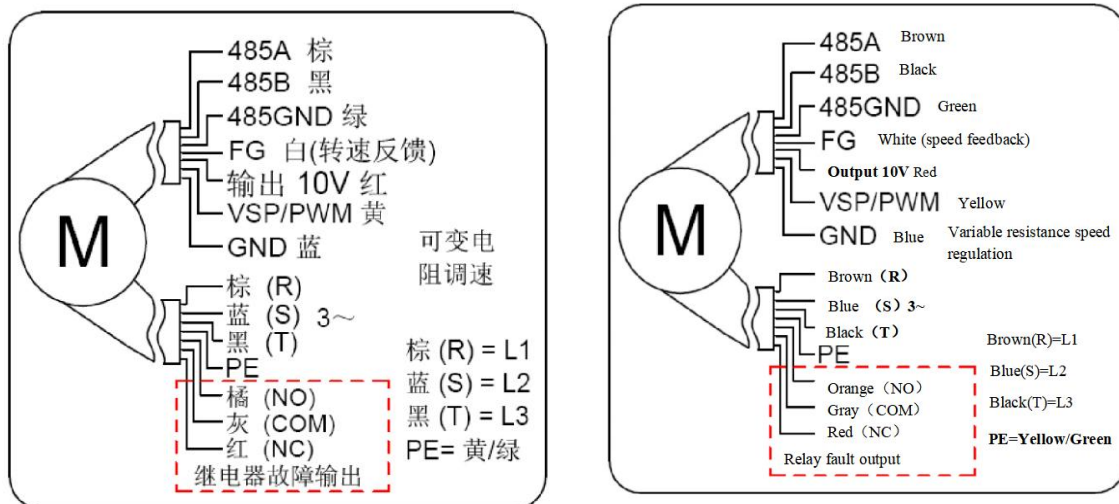
试验数据 Test Data

电压 Voltage (V)	频率 Frequency (Hz)	转速 Speed (RPM)	功率 Power (W)	电流 Current (A)	风量 Airflow (m3/h)	静压 Static pressure (Pa)	动压 Dynamic Pressure (Pa)	全压 Full pressure (Pa)	喷嘴压差 Nozzle differential pressure (Pa)	喷嘴组合 Nozzle combination (mm)
401	50	2609	5450	8.7	6500	1906	40	1946	351	150+189*2
399.6	50	2609	5592	8.93	7209	1802	50	1852	255	150+189*3
401	50	2609	5636	8.95	7726	1700	57	1758	274	150+189*3
399.9	50	2609	5667	8.95	8258	1602	65	1667	317	150+189*3
401.7	50	2609	5734	9.07	8967	1499	77	1576	229	150+189*4
402.1	50	2609	5753	9.1	9546	1401	88	1489	261	150+189*4
399.9	50	2609	5708	9.05	10015	1300	96	1397	290	150+189*4
399.4	50	2609	5703	9.04	10665	1200	109	1309	329	150+189*4
399.9	50	2609	5519	8.74	11109	1101	118	1219	357	150+189*4
401.5	50	2609	5411	8.57	11519	1000	127	1127	260	150+189*5
400.1	50	2609	5267	8.33	11958	901	137	1039	280	150+189*5
400.7	50	2609	4995	8.01	12174	799	142	941	290	150+189*5
399.4	50	2609	4781	7.67	12460	701	149	850	304	150+189*5
400.3	50	2609	4674	7.58	12863	600	159	758	324	150+189*5
401.4	50	2609	4523	7.36	13211	500	168	668	341	150+189*5
400.6	50	2609	4372	7.11	13587	400	177	577	361	150+189*5
400.5	50	2609	4205	6.82	14007	302	188	490	383	150+189*5
402.2	50	2609	3958	6.44	14399	200	199	400	405	150+189*5
399.4	50	2609	3771	6.23	14864	100	212	312	431	150+189*5
400.8	50	2609	3490	5.8	15183	0	221	222	450	150+189*5

外形尺寸 Product drawing



接线图 Connection screen



接线标识说明 Wiring identification instructions

名称 Name	功能描述 Function description
LI、 L2、 L3	三相电源接线端, 电压范围 380-480VAC 频率 50/60Hz Three-phase power terminal, voltage range 380-480VAC frequency 50/60Hz
PE	接地端 Earth terminal
485A	RS485 总线接口, MODBUS-RTU RS485 bus interface, MODBUS-RTU
485B	RS485 总线接口, MODBUS-RTU RS485 bus interface, MODBUS-RTU
485GND	RS485 总线接口接地参考端 RS485 bus interface earth reference terminal
NC	状态继电器, 模式 2—正常时闭合, 故障时断开 Status Relay, Mode 2—Close on Normal, Open on Fault
COM	状态继电器公共端, 触点最大载荷 250VAC/3A Common terminal of status relay, maximum contact load 250VAC/3A
NO	状态继电器, 模式 2—正常时断开, 故障时闭合 Status Relay, Mode 2—Open on Normal, Close on Fault
FG	速度反馈输出, 默认 2 脉冲/转, 可定制 Speed feedback output, default 2 pulses/rev, can be customized
+10V	10V 直流电压输出, 最大输出电流 10mA 10V DC voltage output, maximum output current 10mA
VSP/PWM	调速信号输入端, 0T0V 电压或 PWM 信号 (幅值 10-12V, 频率 1-10kHz) Speed control signal input terminal, 0T0V voltage or PWM signal (amplitude 10-12V, frequency 1-10kHz)
GND	控制信号接地参考端 Control signal earth reference

注意事项 Precautions

- 安装、使用前请检查外观以及附件有无损伤缺失，核对型号是否一致； Before installation and use, please check the appearance and whether the accessories are damaged or missing, and check whether the model is consistent;
- 按接线图接线并可靠接地，无松动现象，否则会引起电机烧毁和人身事故； Wiring according to the wiring diagram and grounding reliably, without looseness, otherwise it will cause motor burnout and personal accident;
- 接通电源前，检查电机是否可靠安装，否则会引起电机损伤和人身伤害； Before turning on the power, check whether the motor is installed reliably, otherwise it will cause motor damage and personal injury;
- 禁止用力拉扯电源线，如电源线损坏，应维修后使用，避免引起触电事故； It is forbidden to pull the power cord forcibly. If the power cord is damaged, it should be used after repairing to avoid electric shock accidents;
- 禁止跌落或碰撞电机； It is forbidden to drop or hit the motor;
- 严禁冲洗电机，以防降低电机绝缘性能造成漏电事故，危及人身安全； It is strictly forbidden to wash the motor, to prevent the leakage of electricity from reducing the insulation performance of the motor and endanger personal safety;
- 特殊定制的产品，如需作为约定工况之外的其它用途使用，使用前请先咨询本公司技术人员，确认后方可使用； If the specially customized products need to be used for other purposes than the agreed working conditions, please consult the company's technical staff before use, and then use them after confirmation;
- 风机运行后停转，短时间内电机外壳温度可能较高，请避免直接接触。如有必要，请采取保护措施，防止烫伤； The fan stops after running, the temperature of the motor casing may be high in a short time, please avoid direct contact. If necessary, take protective measures to prevent burns;
- 设备运转时请勿接触叶轮，需等待所有部件静止后方可进行操作； Do not touch the impeller when the equipment is running, and wait for all parts to be stationary before operating;
- 设备安装时注意检查机壳及其它壳体内，不准有掉入的杂物，必须时要将内部清理干净； When installing the equipment, pay attention to check the inside of the casing and other

casings, and do not allow any falling debris, and clean the inside when necessary;

- 设备安装后运转之前应先用手拨动转子，确认无碰撞、干涉或者卡住之后方可通电运行； Before running the equipment after installation, the rotor should be moved by hand to confirm that there is no collision, interference or jamming before it can be powered on and run.

寿命以及保养、保修 Life and maintenance, warranty

- 本产品设计寿命为 40000 小时，此项数据来源于一般滚珠轴承在 40°C 时的 L10 预期寿命值为 40000 小时。产品实际使用寿命受使用环境的影响（温度、湿度、安装方式、轴承载荷等）而有不同。 The design life of this product is 40,000 hours. This data is derived from the L10 life expectancy value of 40,000 hours for a typical ball bearing at 40°C. The actual service life of the product is affected by the use environment (temperature, humidity, installation method, bearing load etc.) are different.

- 根据使用环境情况，建议每 3~6 个月对风机进行一次清洁保养； According to the usage environment, it is recommended to clean and maintain the fan every 3 to 6 months;

- 自购买之日起（以订单交货日期为准），整机质保期限为一年，在此期限内，对于因产品本身质量问题而产生的故障、损坏，本公司免费提供更换或者维修。如因不当拆卸、搬运、人为损坏或者自然灾害等不可抗拒因素造成的损坏，不在本质保范围； From the date of purchase (subject to the date of delivery of the order), the warranty period of the whole machine is one year. During this period, the company will provide free replacement or repair for the failure and damage caused by the quality of the product itself. Damage caused by irresistible factors such as improper disassembly, handling, man-made damage or natural disasters is not covered by this warranty.