



浙江科贸实业有限公司
Zhejiang County KEMAO Industrial Co., Ltd.

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暖通行业轴流风机行业

领跑者

智能绿色驱动，让风机运行的更安静

The PIONEER in HVAC Axial Fan Industry
Smart-GreenTech Makes
The Fans Running Quieter

诚信务实：赢得客户信赖满意
科技先导：引领行业发展潮流
追求卓越：铸就科贸品质核心
至诚服务：打造一流标杆企业

Integrity and pragmatism: To win customers' trust and satisfaction
Technology oriented: To lead the development trend of industry
Strive for excellence: To cast the KEMAO quality core
Sincere service: To build a first-class benchmarking enterprise

BRIEF INTRODUCTION

/企业简介

浙江科贸实业有限公司，创建于1994年，占地8万余平方米，位于历史悠久、风光秀丽的浙东旅游新城——新昌。浙江科贸实业有限公司是国内最大的暖通空调轴流风机研发生产企业，集中供暖低温热泵轴流风机首选供应商。科贸为国家级高新技术企业，中国制冷空调工业协会会员单位，《暖通空调用轴流通风机》国家标准主起草单位，浙江制造《商用空调用轴流通风机》团标主起草单位。科贸拥有多项发明专利，与多所高校开展产学研合作，被认定为“浙江省科技创新技术研发中心”、“绍兴市隐形冠军企业”。

科贸2002年通过ISO9001质量体系认证，2005年率先通过中国制冷空调工业协会CRAA认证，并获得暖通空调用轴流通风机生产许可证。科贸拥有实力雄厚的研发团队和国家认可的高精度风机综合性能试验室，自主研发首创的“高效节能低噪声轴流风机”性能达到国际领先水平。

展望未来，科贸秉承“诚信务实、科技先导、追求卓越、至诚服务”的企业理念，致力于产品研发创新，推出更多高效、智能、静音、绿色的风机产品，为客户提供更具价值的产品和服务，为社会创造更大的贡献。

Zhejiang KEMAO Industrial Co., Ltd. was established in 1994, which covers an area of more than 80,000 square meters and is located in Xinchang, historic and beautiful county, eastern of Zhejiang province. Zhejiang KEMAO Industrial Co., Ltd. is a leading R&D and production enterprise specialized in HVAC axial fan in China, and the preferred supplier of axial fan for central heating and low temperature heat pump. KEMAO is a national Hi-tech enterprise, a member of China Refrigeration and Air-Conditioning Industry Association, the main drafter of the National Standard for HVAC Axial Fan and the main drafter of Zhejiang Made group standard "Axial Fan for Commercial Air Conditioner". KEMAO owns a number of inventive patents and cooperates with several universities to conduct Industry-University-Institute cooperation. KEMAO is recognized as "Zhejiang Technology Innovation R&D Center" and "Shaoxing Invisible Champion Enterprise". KEMAO passed the ISO9001 quality system certification in 2002. In 2005, we took the lead in passing the China Refrigeration and Air Conditioning Industry Association CRAA certification and obtained HVAC Axial fan Manufacture License. KEMAO has a strong R&D team and a nationally recognized high-precision fan comprehensive performance laboratory. "High Efficiency, Energy-saving and Low Noise Axial Fan" by our independent research and development has reached international leading level. Looking forward to the future, Kemao is adhering to the enterprise philosophy of "Integrity and Pragmatism, Technology oriented, Strive for Excellence, Sincere Service", committed to innovation in the product research and development and make more high efficiency, intelligent, low noise, green fan products, in order to provide customers with more valuable products and service and make more contribution to society.



TALENTS

/企业人才

科贸拥有实力雄厚的技术研发团队，致力于智能制造和绿色环保的完美结合，瞄准市场动脉，坚持技术创新，开发引领市场潮流的产品。科贸技术研发团队在暖通轴流风机设计方面拥有丰富的经验，为客户提供优质的产品和满意的服务。

国以才立，业以才兴，科贸一直把人才作为第一资源，通过各种措施调动人才的积极性，造就了一大批管理及技术型人才，为企业未来的发展，打下了坚实的人才基础。

KEMAO owns a strong technical R&D team and is committed to perfect combination of intelligent manufacture and green & environmental protection. We are aiming at the market trend, insisting on technology innovation, developing products which lead the market trend. KEMAO technical R&D team has rich experience in design of HVAC axial fan and can offer high-quality products and excellent service to our customers. Talent is the foundation of a nation and the base of industry prosperity. Talent is always regarded as the first resource in KEMAO. We have endeavored to mobilize the enthusiasm of the talents through various measures. We have brought up a large number of managerial and technical talents, have laid a solid talent foundation for future development.



EQUIPMENTS

/ 制造设备

拥有日产1200套以上风机装配检测线
拥有日产1500只以上风叶的生产线
拥有日产1500台以上电机的生产线
拥有日产1500套以上轴流风机钣金生产线
拥有日检测1500只以上风叶的高精度动平衡检测线

Assembly and inspection line, which assembles more than 1200 sets fans daily.
Fan blade production line, which produces more than 1500 pcs fan blades daily.
Motor production line, which produces more than 1500 pcs motors daily. Sheet metal production line, which produces more than 1500 sets sheet metal for axial fan daily.
Fan blade high precision dynamic balance workshop, which tests more than 1500 pcs fan blades daily.



AMADA数控钣金生产线
AMADA CNC Metal Plate Production Line



风机装配流水线
Fan Assembly Line



德国TOX铆接生产线
Germany TOX riveting line



高精度动平衡检测线
High Precision Dynamic Balance Detection Line



钣金液压成型生产线
Metal Plate Hydroform Production Line



电机生产流水线
The motor stator production line



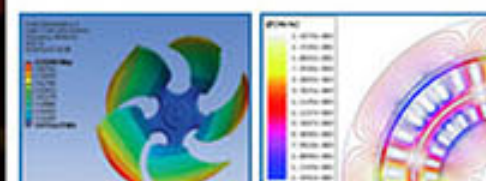
线定子真空浸漆流水线
Linear stator vacuum immersion painting line



数控加工中心
CNC Machining Center

TESTING

/科研与检测



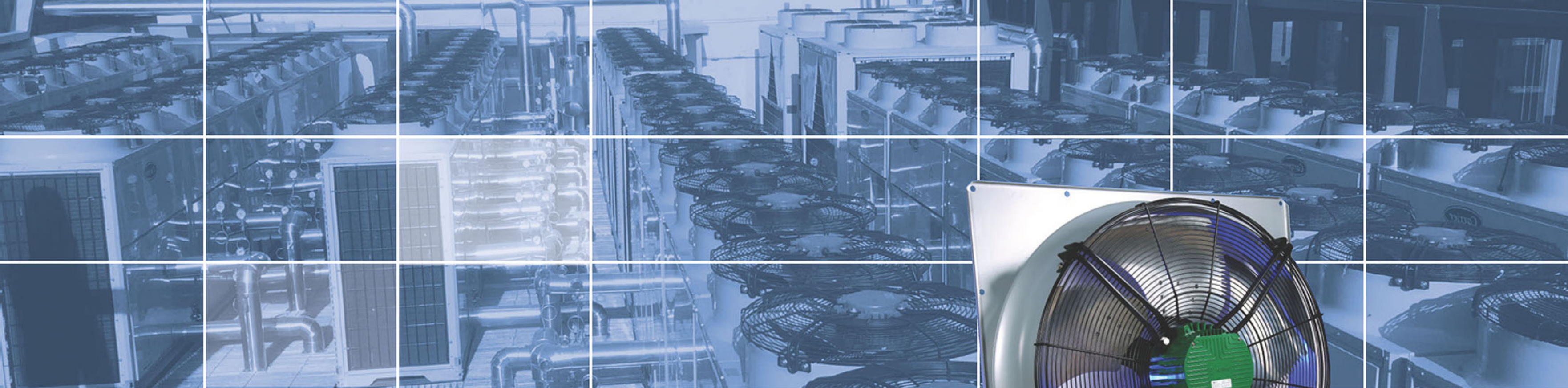
科贸一直致力于风机技术的不断发展和创新，经过十多年的持续投资，建立了按国际标准设计并通过GMPI认证的风机综合性能试验室、半消音试验室、西门子LMS振动噪音分析系统、高低温试验室、风机寿命试验装置、材料性能分析试验装置、材料老化试验装置、交变盐雾试验装置等，拥有风机性能、噪音振动、风机可靠性等测试能力。



KEMAO has been committed to the continuous development and innovation of axial fan technology. After more than ten years of continuous investment, we established a fan comprehensive performance laboratory which was designed according to the international standard and recognized by GMPI certification. Semi-anechoic laboratory, Siemens LMS vibration and noise analysis system, high and low temperature laboratory, fan life testing equipment, material property analysis test device, material aging test device, alternating salt spray test equipment, etc. We have test capabilities for fan performance, noise vibration, fan reliability and etc.

MARKETING NETWORK / 销售网络





智能无刷直流风机

EC Axial Fans

规格 Specifications

- 1~200-260V 50/60HZ: Max 1.1kW Max Φ 760mm
- 3~380-480V 50/60HZ: Max 2.5kW Max Φ 950mm



产品特点

- 高效仿生静音风叶与无刷永磁电机的组合，实现最高效的空气动力学性能。
- 电机效率最高达90%以上，低速轻载的效率在65%以上，风机整体效率提高20%以上。
- 电机无位置传感技术设计，直插式永磁转子结构，实现长期可靠运行。
- 驱动器采用SVPWM纯正弦波矢量控制技术，可实现智能的调速和起停。
- 采用模拟量（电压0-10V）、（电流4-20mA）、PWM或RS485通讯控制方式。
- 拥有线电压过欠压、限流、堵转、过温、防雷击保护及软启动功能
- 拥有EMC抗干扰功能，PFC功率因素校正功能。
- 逆风启动性能，能在420rpm逆风情况下，顺利启动。

Product Features

- ◇ The combination of high efficiency bionic mute blade and brushless PMSM realizes the most efficient aerodynamic performance.
- ◇ The max. motor efficiency can reach over 90%, the efficiency in low velocity and light load is over 65%, fan overall efficiency can be improved over 20%.
- ◇ Motor with sensorless technology design, in-line permanent magnet rotor structure, long-term reliable operation.
- ◇ The driver is equipped with SVPWM pure sinusoidal vector control technology, which can realize fan's intelligent speed regulation and start-stop.
- ◇ Analog (voltage 0-10V), (current 4-20mA), PWM or RS485 communication control mode.
- ◇ It has the protection of over-voltage and under-voltage, current limiting, stall, over-temperature, lightning resist and soft start-up function.
- ◇ Including EMC anti-jamming function and PFC power factor correction function.
- ◇ Upwind start-up performance, fans can be started smoothly under 420 RPM upwind conditions.



高效静音轴流风机

High Efficiency Mute Axial Fan

规格 Specifications

- 尺寸 Diameter: $\Phi 400\sim\Phi 990\text{mm}$
- 风量范围 Air volume: 最大Max. $35000\text{m}^3/\text{h}$

产品特点 Product characteristics

- 风叶采用仿生尾翼技术，有效地对出口气流进行切割梳理，形成理想气流，实现静音效果。
 - 配套首创紧凑型高效内转子电机，风机结构效率高，实现完美的空气动力学性能。
 - 电机效率高，温升低，防护等级最高可达IP66，实现长期可靠运行。
 - 低能耗运行，实现低运行成本和减少CO2排放。
 - 风机外形美观，尺寸紧凑，安装维护方便。
- ◇ The fan blade is adopted with bionic tail-wing technology to cut and comb the outlet airflow effectively to form ideal airflow and achieve mute effect.
- ◇ With innovative compact and efficient inner rotor motor, the fan has high structural efficiency, realizing the perfect aerodynamics performance.
- ◇ High motor efficiency, low temperature rise, protection level up to IP66, realize long-term reliable operation.
- ◇ Low Energy Consumption, realizing low cost and less CO2 emission.
- ◇ The fan has the advantages of beautiful appearance, compact structure, convenient installation and maintenance.

应用 Application

- 空调领域：风冷螺杆式机组、风冷模块式机组、风冷管道式空调机组，屋顶式风冷空调机组等
 - 其它领域：工程散热器，冷却塔，变压器，工程通风，农业通风，建筑通风等
- ◇ HVAC area: air-cooled screw chiller, air-cooled modular chiller, air-cooled duct type air conditioning units, roof top air-cooled air conditioning units, etc.
- ◇ Other area: engineering radiators, cooling towers, transformers, engineering ventilation, agricultural ventilation, building ventilation, etc.



空 调 领 域 应 用

【高效静音轴流风机】 低温空气源热泵风机

Axial Fan For Low Temperature Heat Pump

规格 Specifications

- 主要规格 Diameter: $\Phi 560\sim\Phi 950\text{mm}$
- 风量范围 Air Volume: $5000\sim 28000\text{m}^3/\text{h}$

特点 Product Features

- 风机结构效率高，性能曲线优，能有效提高热泵在低温状态下的做功能力。
 - 电机效率高，负载能力强，最低可在 -40°C 环境下可靠运行。
 - 有静音和超静音风机选项，满足不同环境客户的需求。
 - 风机可扩展交流变频和直流变频
- ◇ The fan has high structural efficiency and excellent performance curve, which can effectively improve the performance of heat pump at low temperature.
- ◇ High motor efficiency, strong load capacity, can run reliably at -40°C at the lowest.
- ◇ Mute and ultra-quiet fans are optional, to meet the demands of customers in different environments.
- ◇ The fan can be AC frequency conversion or DC frequency conversion.

典型项目 Typical Projects:

- 北京海淀无煤化集中供暖项目 Beijing haician coal-free central heating project
- 保定东城时代集中供暖项目 East city times central heating project in Baoding
- 济钢能源站集中供暖项目 Central heating project in Shan Steel energy station
- 甘肃酒钢集中供暖项 Central heating project in JISCO Gansu
- 超过30万台风机在热泵机组上可靠运行 Over 300,000 fans running reliably on heat pump units



【高效静音轴流风机】 自然冷却风冷螺杆冷水机组风机

Axial Fan For Free Cooling Air-Cooled Screw Water Chiller

规格 Specifications

- 主要规格 Main specification: $\Phi 710 \sim \Phi 900$ mm
- 风量 Air Volume: Max. 28000 m³/h
- 静压 Static Pressure: Max. 200Pa

产品特点 Product Features

- 风机结构效率高，性能曲线稳定，满足在长期高静压状态可靠运行。
 - 电机效率高，负载能力强，最低可在-40℃环境下可靠运行。
 - 风机可扩展交流变频和直流变频，满足不同环境客户的需求。
- ◇ The fan has high structural efficiency and excellent performance curve, which can effectively improve the performance under the long-term high static pressure.
- ◇ High motor efficiency, strong load capacity, can run reliably at -40℃ at the lowest.
- ◇ The fan can be AC frequency conversion or DC frequency conversion to meet the demands of customers in different environments.

典型项目 Typical projects:

- 阿里张北某数据中心 One data center of Ali Zhangbei
- 农业银行北京数据中心 Agricultural Bank of China Beijing data center
- 中国电信（贵阳）数据中心 China telecom (Guiyang) data center
- 中国联通（贵阳）数据中心 China Unicom (Guiyang) data center
- 新疆电信云基地数据中心 Xinjiang telecom cloud base data center



【高效静音轴流风机】 冷冻冷链风机

Axial Fan For Freezing Cold & Chain

规格 Specifications

- 主要规格 Diameter: $\Phi 300 \sim \Phi 800$ mm
- 风量 Air volume: Max, 22000 m³/h

产品特点 Product Features

- 风机外形美观，结构紧凑，满足冷冻冷链领域不同的需求。
 - 电机防护等级IP55，最高可达IP66，最低可在-40℃环境下可靠运行。
 - 有静音和超静音风机选项，满足不同环境客户的需求。
 - 风机可扩展交流变频和直流变频。
- ◇ The fan has beautiful appearance, compact structure, can meet the different demands in the freezing cold chain field.
- ◇ Motor protection class IP55, up to IP66, can operate reliably at -40℃ at the lowest.
- ◇ Mute and ultra-quiet fans are optional, to meet the demands of customers in different environments.
- ◇ The fan can be AC frequency conversion or DC frequency conversion.



【高效静音轴流风机】 机场廊桥空调轴流风机

Axial Fan For Airport Corridor Air Conditioning

规格 Specifications

- 尺寸 Diameter: $\Phi 800 \sim \Phi 1000 \text{mm}$
- 风量 Air volume: 最大Max. $55000 \text{m}^3/\text{h}$

产品特点 Product Features

- 风叶采用弯掠空间扭曲变环量设计。
- 风机结构效率高，流场损失小，风量大，静压高。
- 电机效率高，负载能力强，温升低，实现长期可靠运行
- ◇ Fan blade with forward skewed-swept distorted circulation design.
- ◇ The fan has high structural efficiency, low loss of flow field, large air volume, high static pressure.
- ◇ High motor efficiency, strong load ability, low temperature rise, realize long-term reliable operation.

典型项目 Typical projects:

- 北京首都国际机场 Beijing Capital International Airport
- 上海浦东国际机场 Shanghai Pudong International Airport
- 广州白云国际机场 Guangzhou Baiyun International Airport
- 杭州萧山国际机场 Hangzhou Xiaoshan International Airport
- 南京禄口国际机场 Nanjing Lukou International Airport
- 重庆江北国际机场 Chongqing Jiangbei International Airport



【高效静音轴流风机】 远置式散热器机组风机

Axial Fan For Radiator Unit

规格 Specifications

- 尺寸 Diameter: $\Phi 500 \sim \Phi 990 \text{mm}$
- 风量 Air volume: 最大Max. $35000 \text{m}^3/\text{h}$

产品特点 Product Features

- 风机结构效率高，性能稳定，温升低，可长期在高温状态下可靠运行。
- 有静音和超静音风机选项，满足不同环境的需求。
- 电机防护等级最高可至IP66。
- 电机绝缘等级最高至H级。
- 电机可选辅配防潮加热带。
- ◇ The fan in a compact structure, stable performance and low temperature rise, can operate reliably under high temperature for a long time.
- ◇ Mute and ultra-quiet fans are optional, to meet the demands of different environments.
- ◇ The motor protection level is up to IP66.
- ◇ The max. insulation class of the motor is H level.
- ◇ The motor can be optional with moisture proof heat belt.

典型项目 Typical projects:

- 中石油中亚天然气管道乌兹别克哈萨克斯坦中转站 PetroChina Central Asia Gas Pipeline in Uzbek/Kazakhstan Transfer Station
- 澳大利亚Moranbah发电站项目 Moranbah Power Station Project in Australia
- 印尼Navigat Batu发电站项目 Navigat Batu Power Station Project in Indonesia



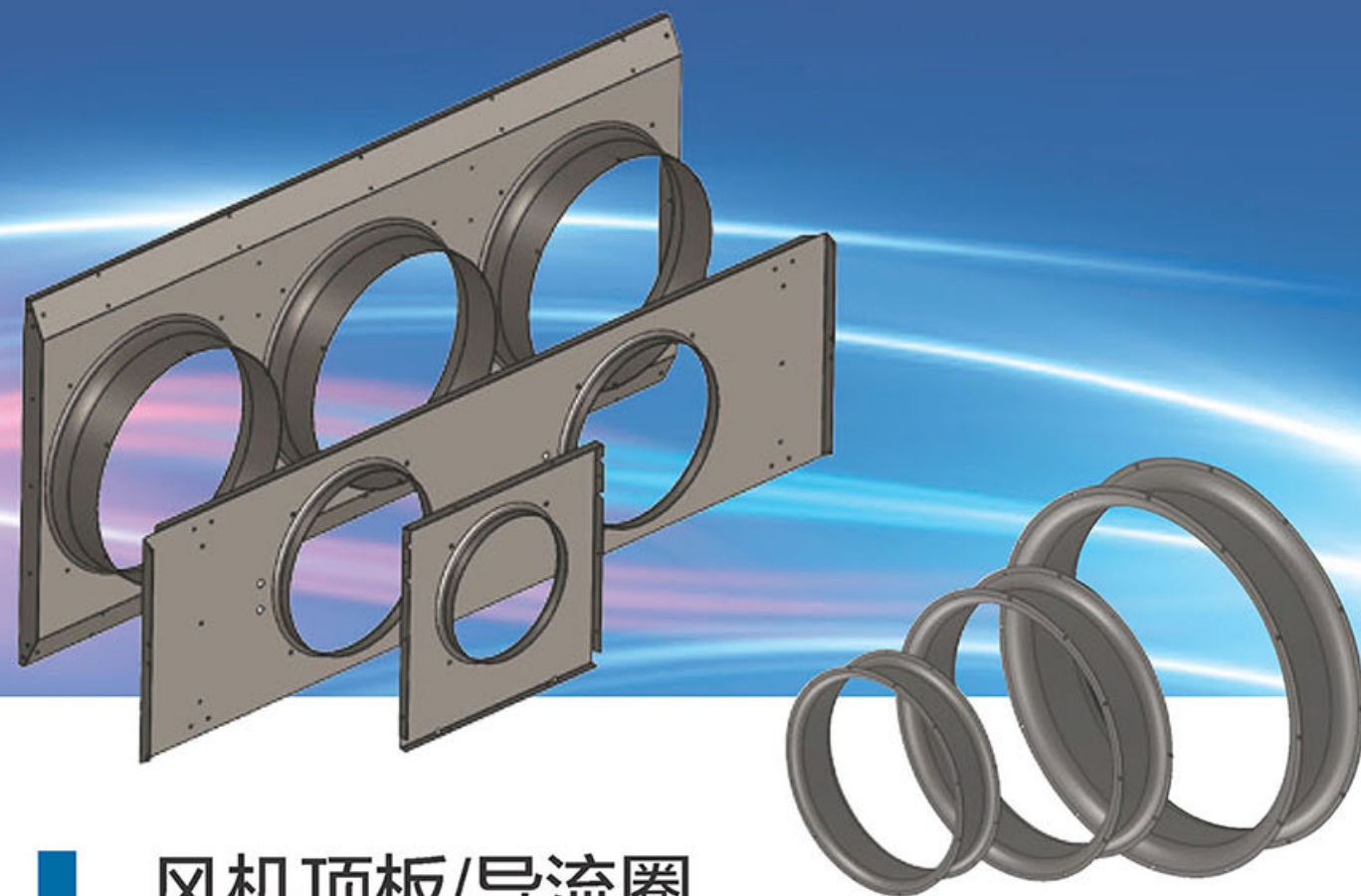


高效轴流风叶

High Efficiency Axial Fan Blade

规格 Specifications

- 尺寸 Diameter: $\Phi 222 \sim \Phi 1000\text{mm}$
- 材质 Material: 铝镁合金 Aluminium magnesium alloy
- 平板型: 尺寸紧凑, 有正反转两种选择。
- 镰刀型: 前向弯掠叶片, 风量大, 效率高。
- 仿生翼型: 大弦长后缘仿生齿形叶片, 噪音低, 效率高。
- ◇ Flat shape: compact structure, CW and CCW are optional.
- ◇ Scythe shape: forward curved blade, large air volume and high efficiency.
- ◇ Bionic airfoil shape: long large chord trailing edge bionic toothed blade, low noise and high efficiency.



风机顶板/导流圈

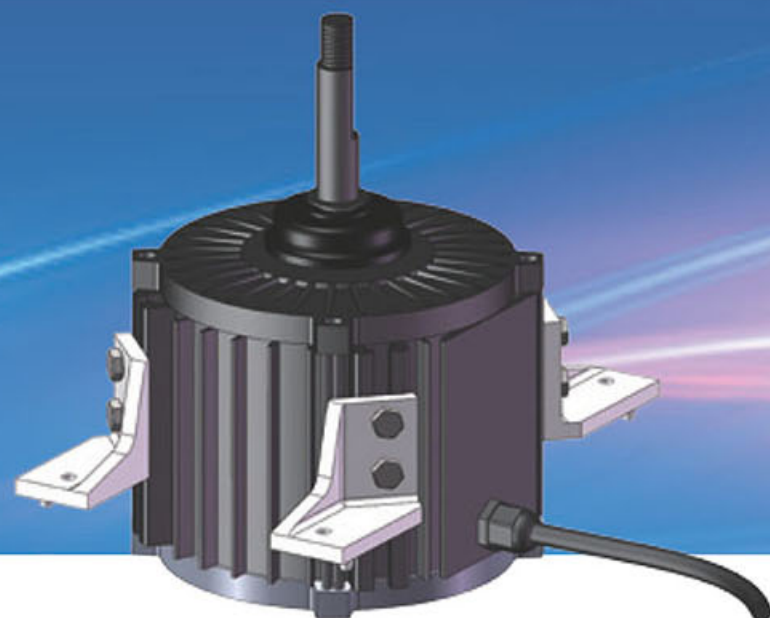
Fan deck/Ventury

规格 Specifications

- 尺寸 Diameter: $\Phi 400 \sim \Phi 1020\text{mm}$
- 材料 Material: 镀锌钢板 Galvanized Steel Sheet
- 可根据要求定制 Can be customized according to requirements

特点 Product Features

- 进风口大圆弧, 模压成型, 减小进口流场损失。
- 降低风机噪音, 提高风机结构效率
- ◇ The large arc on the air intake is molded to reduce the loss of the intake flow.
- ◇ Reduce fan noise and improve fan structure efficiency.



无刷永磁同步电机

Brushless PMSM

规格 Specifications

- 单相驱动 Single-phase driver 1~200-260V 50/60HZ: 0.55kW~1.1kW
- 三相驱动 Three-phase driver 3~380-480V 50/60HZ: 0.55kW~2.2kW

产品特点 Product Features

- 电机无位置传感技术设计，直插式永磁转子结构，运行可靠。
- 电机效率高达90%以上，低速轻载的效率在65%以上。
- 驱动器采用SVPWM纯正弦波矢量控制技术，可实现智能的调速和起停。
- 采用模拟量（电压0~10V）、（电流4~20mA）或RS485通讯控制方式。
- 拥有线电压过欠压、限流、堵转、过温、防雷击保护及软启动功能
- 逆风启动性能，能在420rpm逆风情况下，顺利启动。
- 电机标准防护等级：IP55~IP66
- 运行温度范围：-40 ~ +70 °C
- ◇ Motor with sensorless technical design, in-line permanent magnet rotor structure, reliable operation.
- ◇ The max. motor efficiency can reach over 90%, the efficiency in low velocity and light load is over 65%.
- ◇ The driver is equipped with SVPWM pure sinusoidal vector control technology, which can realize fan's intelligent speed regulation and start-stop.
- ◇ Analog (voltage 0-10V), (current 4-20mA) or RS485 communication control mode.
- ◇ It has the protection of over-voltage and under-voltage, current limiting, stall, over-temperature, lightning resist and soft start-up function.
- ◇ Upwind start-up performance, fans can be started smoothly under 420 RPM upwind conditions.
- ◇ Motor standard protection level: IP55~IP66
- ◇ Operating temperature range: -40~+70 °C



风机用铝壳交流异步电机

Aluminum Shell Ac Asynchronous Motor For Fan

规格 Specifications

- 功率 Power: 最大Max. 5.5KW
- 电压 Voltage: 1Φ 200-240V, 3Φ-208-575V
- 频率 Frequency: 50 / 60HZ
- 防护等级 Protection class: IP55~IP66
- 绝缘等级 Insulation class: F,H
- 运行温度范围 Operating temperature range: -40 ~ +65 °C
- 认证 Certificate: CCC,CE,UL

产品特点 Product Features

- 采用真空浸漆，绝缘强度高
- 采用独特的多重防水结构，防护等级高
- 采用优质冷轧硅钢板，电机铁损低，磁感高
- ◇ Vacuum immersion painting to strengthen insulation.
- ◇ Unique multi-waterproof structure to make sure the high protection grade.
- ◇ High-quality cold-rolled silicon steel plate to guarantee low iron loss and high magnetic induction.

TYPICAL PROJECTS

/工程案例



- ① 三亚 亚特兰蒂斯超五星级酒店
- ② 上海世博会博览馆
- ③ 迪拜帆船超五星级酒店
- ④ 广州白云国际机场
- ⑤ 阿里张北某数据中心
- ⑥ 大亚湾核电站
- ⑦ 保定东城时代集中供暖项目
- ⑧ 济钢能源站集中供暖项目
- ⑨ 北京城市副中心行政办公区
- ⑩ 甘肃酒钢镜铁山矿集中供暖项目

- ① Atlantis Sanya hotel
- ② World Expo Shanghai
- ③ Burj Al Arab (Arab Tower) Hotel, Dubai
- ④ Guangzhou Baiyun International Airport
- ⑤ One data center in Zhangbei
- ⑥ Daya Bay Nuclear Power Plant
- ⑦ East city times central heating project in Baoding
- ⑧ Central heating project in Shan Steel energy station
- ⑨ Beijing City Sub-center Administrative Office area
- ⑩ JISCO Jingtieshan Mine Central Heating Project in Gansu

