



# THE PERMANENT MAGNET FREQUENCY CONVERSION LARGE CEILING FAN

永磁变频大吊扇



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变频调速  
Variable speed



立体自然风  
Natural wind



智能控制  
Intelligent control



高效节能舒适  
Energy saving comfort



福建華  
FUJIAN HU



# THE PERMANENT MAGNET FREQUENCY CONVERSION LARGE CEILING FAN

永磁变频大吊扇

38dB

ULTRA SILENT  
ENERGY SAVING  
COMFORT

超静音节能舒适



立体自然风  
Natural  
wind



变频调速  
Variable  
speed



高效节能  
Energy  
efficient



智能控制  
Intelligent  
control



定时开关机  
Time switch  
machine



超级静音  
Super  
mute



五重安防  
Five  
security

华大 HDS 系列永磁变频大吊扇是专门为改善工作环境舒适度而研发的新产品。采用自主设计的变频调速、高效节能永磁外转子电机驱动。具有噪音低、体积小、重量轻、结构紧凑、外形美观等优点。广泛应用于工业厂房、物流仓储、候车室、展览馆、

Huada HDS series smart permanent magnet large ceiling fan is a new product specially developed for improving the comfort of working environment. Self-designed variable frequency speed control, high efficiency and energy saving permanent magnet external rotor motor drive. It has the advantages of low noise, small volume, light weight, compact structure and beautiful appearance.

体育馆、商超等高大空间场所，作为空间通风，人员降温的一种新型吊扇。它可以推射大量气流到地面，形成一定高度的运动气流层，从而促成了整体空气循环；酷似大自然的微风系统，享受自然风的亲切体验。

Widely used in industrial plants, logistics warehousing, waiting room, exhibition hall, physical education hall, super tall space places, as a new type of ceiling fan space ventilation, personnel cooling. It can push a large amount of airflow to the ground, forming a certain height of the moving airflow layer, thus contributing to the overall air circulation; Like the natural breeze system, enjoy the intimate experience of natural wind.



## HDS Series

THE PERMANENT MAGNET FREQUENCY CONVERSION  
LARGE CEILING FAN

永磁变频大吊扇

# NATURAL THREE-DIMENSIONAL AIR SUPPLY ENHANCE HUMAN COMFORT

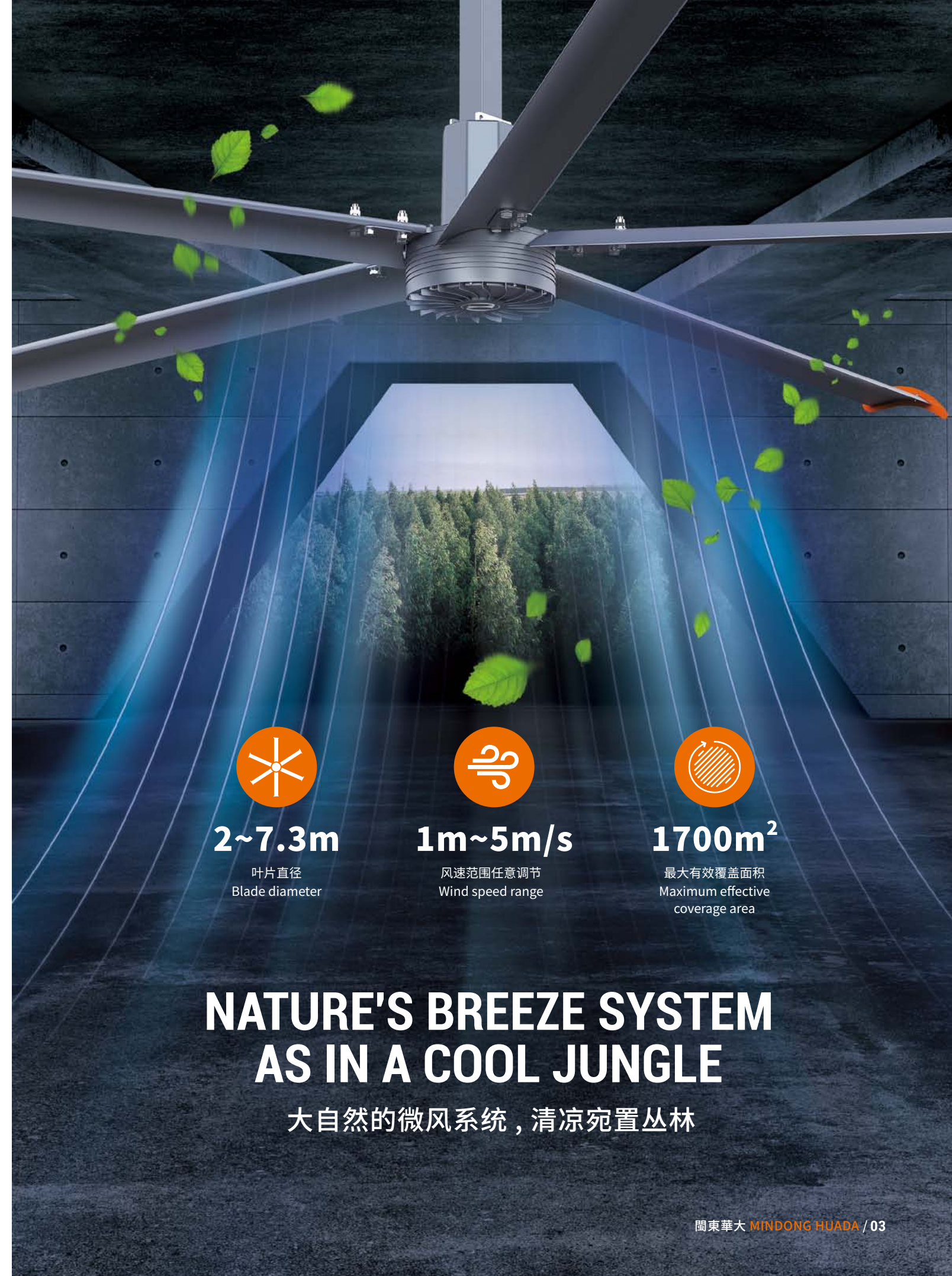
## 自然立体送风，提升人体舒适度

HDS 系列永磁变频大吊扇独特的机翼型设计，叶片直径 2~7.3m，采用空气动力学原理和先进工艺制造的机翼型扇叶，通过强大的空气搅动力形成的循环气流场，产生酷似大自然的微风系统，人体将会感受到来自四面八方的立体风，增大汗液蒸发面积，提升舒适度。同时

避免使用传统高速风扇常年在定向风下，造成人体的各种健康问题，极大改善环境舒适度。HDS 系列风扇可结合不同场合实际需求调节风量，风速在 1m—5m/s 范围内可任意调节。在开阔的空间，一台工业节能风扇有效覆盖面积最大可达 1700m<sup>2</sup>。

HDS series of permanent magnet type variable frequency big ceiling fans unique wing design, straight blade diameter from 2 ~ 7.3 m, adopting the principle of aerodynamics and advanced technology manufacturing blades wing, formed by strong air agitation ability of circulation flow field, produce like the breeze system of nature, the body will feel three-dimensional wind from all directions, increased sweat evaporation area, increase your comfort level.

At the same time avoid the use of traditional high-speed fan in the direction of the wind all year round, causing a variety of human health problems, greatly improve the comfort of the environment. HDS series fans can be combined with the actual needs of different occasions to adjust the wind volume, the wind speed in the range of 1m-5m /s can be arbitrarily adjusted. In the open space, an industrial energy-saving fan can cover a maximum area of 1700m<sup>2</sup>.



2~7.3m

叶片直径  
Blade diameter



1m~5m/s

风速范围任意调节  
Wind speed range



1700m<sup>2</sup>

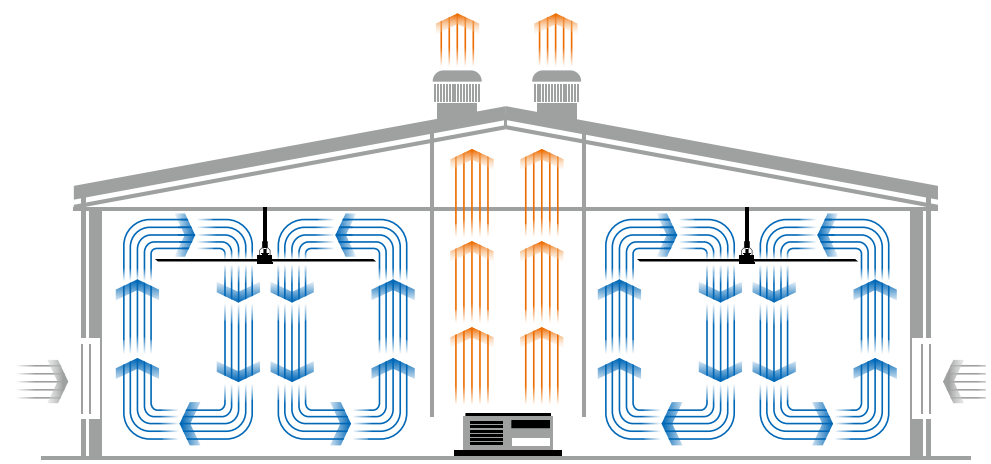
最大有效覆盖面积  
Maximum effective  
coverage area

## NATURE'S BREEZE SYSTEM AS IN A COOL JUNGLE

大自然的微风系统，清凉宛置丛林



工作原理  
WORKING PRINCIPLE



无论是使用自然通风还是机械加热或冷却，我们都可以提供帮助。全球众多公司已将我们的产品集成到其设施中，以提高舒适度、安全性和生产效率，同时降低成本。

Whether using natural ventilation or mechanical heating or cooling, we can help. Companies around the world have integrated our products into their facilities to improve comfort, safety and productivity while reducing costs.

永磁变频大吊扇的使用效益 / 功能和应用条件  
BENEFITS/FUNCTIONS & APPLICATION CONDITION

对比内容 Comparison Contents	超大吊扇 (7300mm) D24 HVLS fan	牛角扇 Industrlal floor fan
单台风扇功率 Unit fan power	1.1kW	0.3kW
单台风扇覆盖面积 Area covered / unit fan (m²)	≥ 1500m²	≤ 30m²
覆盖 1400m² 需要的风扇数量 Cover 1400m² required fan quantity	1	≥ 45
覆盖 1400m² 需要的风扇功率 Cover 1400m² required fan power	1.1kW	13.5kW
年总耗电量（每天 10 小时，每年 150 天） Total power consumption per year(150days/per year, 10 hr./per day)	1650kW	20250kW
单台风扇使用寿命 Service life / unit fan	≥ 20 年 / Years	≤ 2 年 / Years
车间人员安全生产，物流通畅程度 Safety production of workshop Smooth logistics	高 Excellent	低 Poor

叶数和规格  
NUMBER OF LEAVES SPECIFICATION

根据不同的环境要求，我们可以提供五片扇叶和六片扇叶两种不同叶数和规格的风扇产品，能够根据用户实际应用环境的需求定制最适合的解决方案。

According to different environmental requirements, we can provide fan products with five fan blades and six fan blades with two different specifications, which can customize the most suitable solutions according to the actual application environment requirements of users.



# ONE PIECE INNOVATIVE DESIGN EASIER INSTALLATION

一体式创新设计，安装更简单



直驱式电机系统  
Direct drive  
motor system



智能电器控制  
Intelligent  
control



机翼型扇叶  
Airfoil blade



节能尾翼  
Energy  
saving tail

## 直驱式电机系统 DIRECT DRIVE MOTOR SYSTEM

全新自主研发的大扭矩、永磁同步外转子电机，取代了传统的电机+齿轮箱减速一体机，实现了高度集成，提高了可靠性和传动效率。同时，采用永磁同步外转子电机，自带配置 IMU，实现 ESC 主动控制策略+协调再生制动策略，由电机直接驱动；能够满足峰值扭矩内的任意扭矩回收或辅助制动。多处部件采用铝合金材料，实现轻量化设计。

The new self-developed external rotor motor with large torque and permanent magnet synchronization replaces the traditional motor + gearbox reducer, achieving a high degree of integration and improving reliability and transmission efficiency.

At the same time, the permanent magnet synchronous external rotor motor is adopted, with its own IMU configuration, to achieve the ESC active control strategy + coordinated regenerative braking strategy, driven by the motor directly; Any torque recovery or auxiliary braking within the peak torque can be satisfied. Aluminum alloy material is adopted in many parts to realize lightweight design.



## 智能控制系统 SMART CONTROL SYSTEM

- 控制系统采用 IP66 封闭设计，防尘、防水、防潮、耐高温室内外恶劣环境中使用。
- 系统为无位置正旋波矢量控制，防电磁干扰、防辐射、体积小、重量轻、外观精美。
- 系统功能简单，4 键操作易懂（开机、停机、加速、减速）。
- 系统自带过压、欠压、失压调节，电流、缺相、过载、碰撞、过热、雷击、异常等保护。
- 可定制智能控制方式：WLAN、蓝牙、4G、时间、PID、集中控制。

- The control system adopts the closed design of IP66, which is dustproof, waterproof, moisture-proof and can withstand high temperature indoor and outdoor harsh environment.
- The system is no position vector control, anti - electromagnetic interference, anti - radiation, small size, light weight, beautiful appearance.
- System function is simple, 4 buttons easy to operation (start, stop, speed up, slow down).
- System with overvoltage, undervoltage, voltage loss regulation, current, lack of phase, overload, collision, overheating, lightning, abnormal protection.
- Can be customized intelligent control mode: WLAN, Bluetooth, 4G, time, PID, centralized control.



IP54



IP66  
(UL 认证 / UL Certification)



支持手机智能控制  
Support mobile phone  
intelligent control

## 机翼型扇叶+节能尾翼 STREAMLINED FAN BLADE + ENERGY SAVING TAIL

扇叶：

采用铝镁合金挤压拉伸成型，机翼型内加筋结构，具有强度高、韧性好、重量轻、寿命长、使用安全等优点。扇叶表面则经过 T5+ 表面光亮氧化处理，增强了扇叶的抗腐蚀抗氧化性，能够应对特殊环境作业。

尾翼：

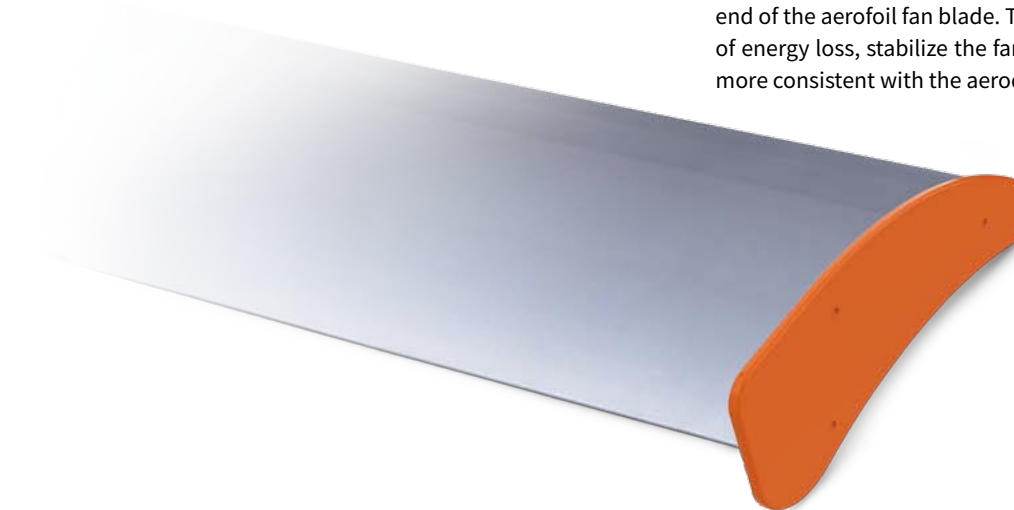
采用耐高温材质成型，使得产品结构更加美观，当扇叶运转时，空气会在机翼型扇叶末端产生涡流，尾翼可以消除这部分能量损失，稳定风扇运转，使空气的流动更加符合空气动力学原理。

Fan blade:

It is made of aluminum and magnesium alloy extruded and stretched, and has the advantages of high strength, good toughness, light weight, long life and safe operation. The fan blade surface is treated with T5+ bright surface oxidation treatment, which enhances the corrosion and oxidation resistance of the fan blade and can cope with special environmental operations.

Tail:

When the fan blade is running, the air will generate vortex at the end of the aerofoil fan blade. The tail wing can eliminate this part of energy loss, stabilize the fan operation, and make the air flow more consistent with the aerodynamic principle.





# FIVE LEVELS OF SECURITY LONG WARRANTY RUNNING SMOOTHLY

五级安全保障，超长质保，运行无忧

- 3

Years

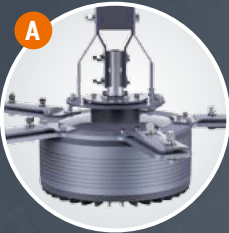
永磁电机质保期 3 年  
Permanent magnet motor warranty period of 3 Years
- 18

Month

控制器质保期 18 个月  
Controller warranty period of 18 Month

5

五级安全保障  
FIVE LEVELS OF SECURITY GUARENTEE



电机支架一体化，杜绝任意部件脱落，确保整机结构安全。

Motor bracket is integrated to prevent any parts from falling off and ensure the safety of the whole structure.



防脱板断轴保护结构设计，确保吊扇安全。

Anti-off-plate break-off protection structure design ensures the safety of the ceiling fan.



铝镁合金拉伸叶片，内加强筋结构，强度、韧性好，确保叶片安全。

Aluminum magnesium alloy tensile blade, internal reinforcement structure, strength, toughness, to ensure the safety of the blade.



钢丝绳牵引装置，确保电机稳定性、不晃动；又可防止整机意外掉落。

Wire rope traction device ensures motor stability and does not shake; it also prevents the whole machine from accidentally falling.



自动断电保护，确保风叶意外触碰时，及时安全停机。

Automatic power off protection, to ensure that the blade accidental touch, timely safety shutdown.

关键部位强度表

STRENGTH TABLE OF KEY PARTS

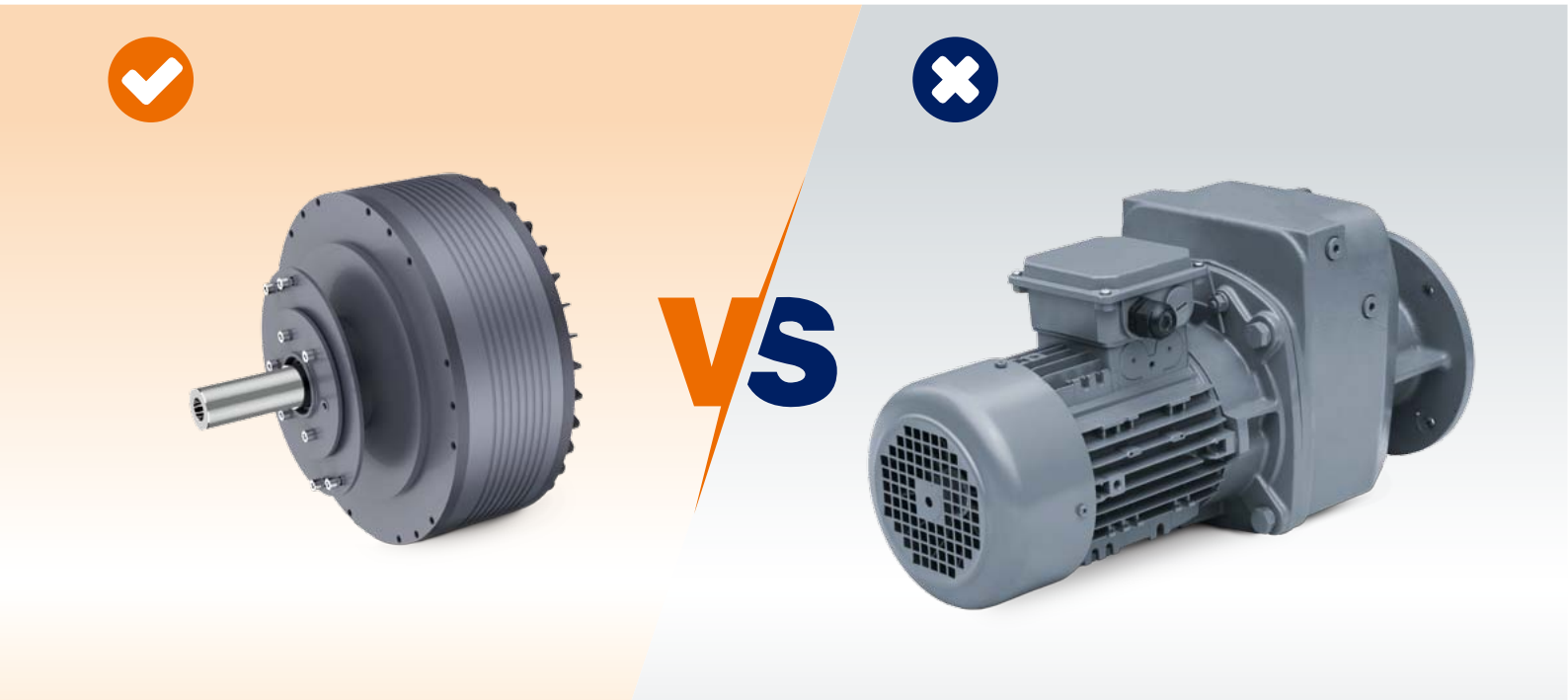
电机扭矩 Motor Torque			轴 Axis			连接板 Connection board		
	最大扭矩 Max. torque (N·m)	转速 Speed (r/min)		抗拉强度 Tensile strength (kg)	最大扭矩 Max. torque (N·m)		抗拉强度 Tensile strength (kg)	最大扭矩 Max. torque (N·m)
0.37	< 40	100	固定轴 Fixed shaft	> 5000( > 100 倍 Times)	2400( > 60 倍 Times)	3m	1700( > 150 倍 Times)	850( > 20 倍 Times)
0.75	< 100	80	固定轴 Fixed shaft	> 5000( > 100 倍 Times)	2300( > 23 倍 Times)	5m	1700( > 60 倍 Times)	850( > 8 倍 Times)
1.1	< 260	55	固定轴 Fixed shaft	> 5000( > 100 倍 Times)	2750( > 10 倍 Times)	7.3m	4000( > 80 倍 Times)	1400( > 4.6 倍 Times)
1.5	< 300	60	固定轴 Fixed shaft	> 5000( > 100 倍 Times)	2650( > 8 倍 Times)	7.3m	4000( > 80 倍 Times)	1400( > 4 倍 Times)

连杆 Connecting rod			叶片支架 Blade holder		
	抗拉强度 Tensile strength (kg)	最大扭矩 Max. torque (N·m)		支架最大压力 Bracket max. pressure (kg)	叶片重量 Blade weight (N·m)
60 连杆 Connecting rod	4000( > 100 倍 Times)	1100( > 25 倍 Times)	3m/0.37	330kg×5	5.5kg×5( > 125 倍 Times)
60 连杆 Connecting rod	4000( > 100 倍 Times)	1100( > 10 倍 Times)	5m/0.75	330kg×5	5.5kg×5( > 50 倍 Times)
80 连杆 Connecting rod	4500( > 80 倍 Times)	1200( > 4.6 倍 Times)	7m/1.1	360kg×6	7.9kg×6( > 46 倍 Times)
80 连杆 Connecting rod	4500( > 80 倍 Times)	1200( > 4 倍 Times)	7m/1.5	360kg×6	7.9kg×6( > 40 倍 Times)

膨胀螺栓强度 Expansion bolt strength			安装螺栓 Mounting bolts		
	抗拉强度 Tensile strength (kg)	抗剪强度 Shear strength (kg)		抗拉强度 Tensile strength (kg)	抗剪强度 Shear strength (kg)
P-M10	2350×4	588×4( > 75 倍 Times)	M10(8.8)	4500×2	2000×2( > 125 倍 Times)
P-M10	2350×4	588×4( > 30 倍 Times)	M10(8.8)	4500×2	2000×2( > 50 倍 Times)
P-M12	2650×6	863×6( > 40 倍 Times)	M12(8.8)	6500×2	3000×2( > 57 倍 Times)
P-M12	2650×6	863×6( > 40 倍 Times)	M12(8.8)	6500×2	3000×2( > 50 倍 Times)

PERMANENT MAGNET MOTOR  
CEILING FAN VS GEAR BOX VARIABLE  
SPEED CEILING FAN

永磁变频大吊扇 VS 齿轮箱变速吊扇



- A** 采用永磁同步耐高温外转子电机超节能高效

**B** 体积小、重量轻、结构简单

**C** 噪音小

**D** 电机内置过热保护功能

**E** 调频宽（0~50HZ）

**F** 直驱电机免维护

**G** 无运行隐患

**A** Permanent magnet synchronous high temper-ature resistant outer rotor motor, super energy efficient.

**B** Small size, light weight and simple structure

**C** Low noise

**D** Motor built-in overheat protection

**E** Frequency modulation width (0~50HZ)

**F** Direct drive motor maintenance free

**G** No running hazard
- A** 采用异步普通电机+齿轮箱能耗高。

**B** 体积大、重量重

**C** 噪音大

**D** 结构复杂

**E** 调频窄（25~50HZ）

**F** 需日常频繁维护（换密封件、加齿轮箱油）

**G** 有变速箱漏油等隐患

**A** The use of asynchronous ordinary motor + gear box consumes a lot of energy.

**B** Large and heavy

**C** Loud noise

**D** Complex structure

**E** FM narrow (25~50HZ)

**F** Need frequent daily maintenance (change seals, add gearbox oil)

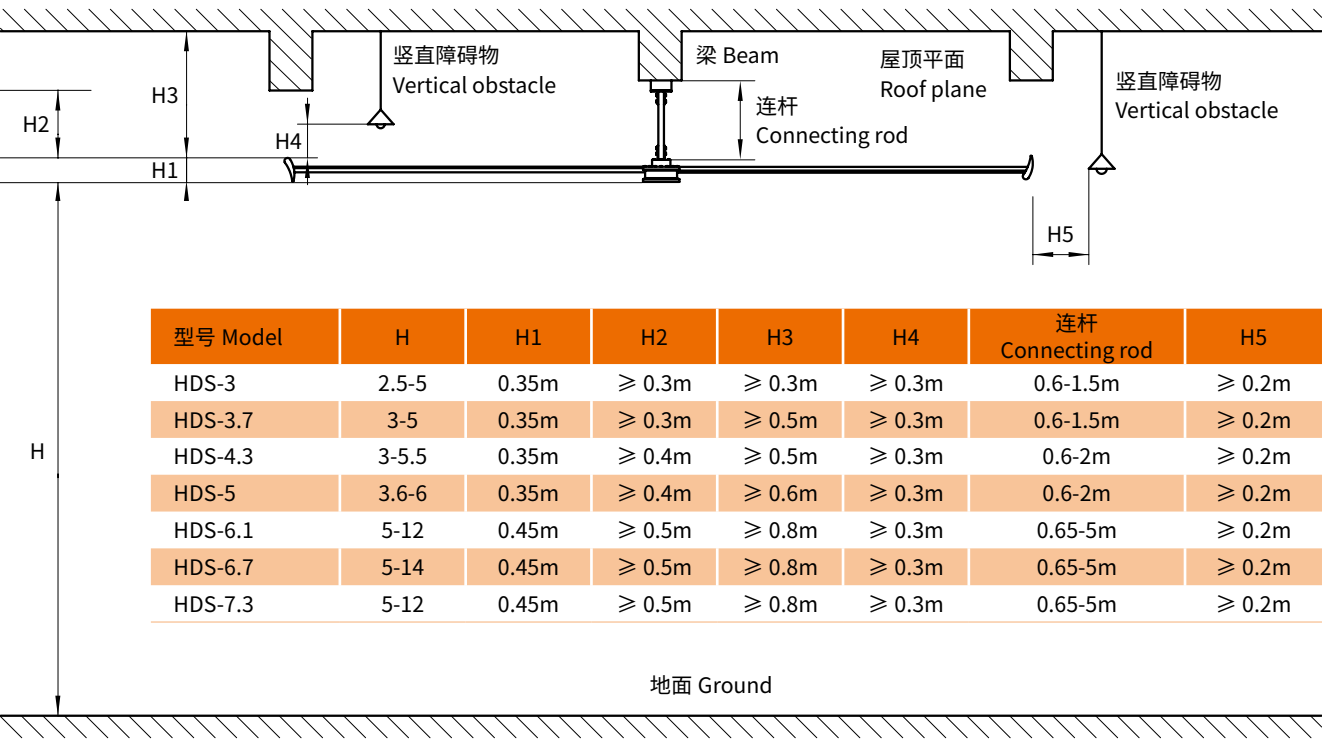
**G** There are hidden dangers such as gearbox leakage

技术参数  
TECHNICAL DATA

型号 Model	HDS-3	HDS-3.7	HDS-4.3	HDS-5	HDS-6.1	HDS-6.7	HDS-7.3	HDS-6.7	HDS-7.3
直径 Diameter(m)	3	3.7	4.3	5	6.1	6.7	7.3	6.7	7.3
英尺 Diameter (ft)	10	12	14	16	20	22	24	22	24
功率 Power (kW)	0.37		0.75		1.1		1.5		
马力 Horsepower (HP)	0.5		1		1.5			2	
电压 Voltage (V)	220-240/380-460								
频率 Frequency (Hz)	50/60								
风量 Air volume (m³/min)	4000	5000	7000	10000	11500	12000	13000	14000	15500
转速 Rotating speed (rpm)	120	100	90	80	65	60	55	65	60
叶数 Number of leaves (Pcs)	5				6				
噪音 Noise (dB)	38								
电机重量 Motor weight (kg)	16	16	22	22	36	36	36	42	42
吊扇重量 Ceiling fan weight (kg)	45	49	58	62	99	103	107	109	113
有效面积 Effective area (m²)	150	230	256	300	600	650	700	750	850
覆盖面积 Coverage area (m²)	250	380	450	500	1000	1300	1500	1600	1700

它规格型号可根据客户需求定制 Other specifications and models can be customized according to customer needs

安装数据  
INSTALLATION DATA





# HANGING APPLICATION CASE

## 挂式应用案例

### 大型物流仓库及配送中心 LARGE LOGISTICS WAREHOUSE AND DISTRIBUTION CENTER

改善空气质量，除湿降温，可防止储物锈蚀、腐烂，同时改善工作环境。  
Improve air quality, dehumidification and cooling, prevent storage from corrosion and decay, and improve working environment.



### 超大型厂房 SUPER-LARGE PLANT

永磁变频大吊扇用在机械加工、汽车修理、飞机组装、造船等行业的厂房车间中，可创造大空间的流动风，改善环境舒适度，提高员工劳动效率。

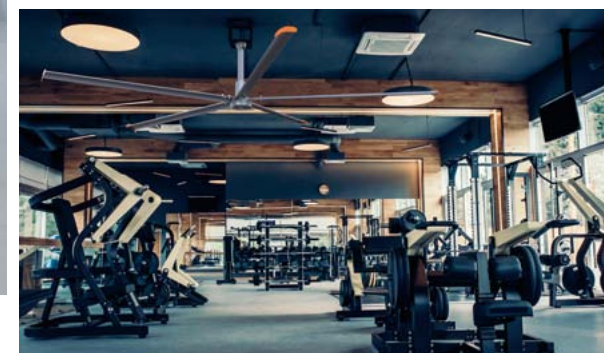
Permanent magnet large ceiling fan is used in the workshop of machining, automobile repair, aircraft assembly, shipbuilding and other industries, which can create flow wind in large space, improve environmental comfort, and improve labor efficiency of employees.



### 大型公共建筑 LARGE-SCALE PUBLIC PLACES

永磁变频大吊扇用在体育场、火车站、机场等人流量较大的场所，可促进空气流动、驱散气味、创造舒适的公共环境。

Permanent magnet large ceiling fan is used in stadium, railway station, airport and other places with large flow of people, which can promote air flow, dispel odor and create comfortable public environment.



### 商业场所 COMMERCIAL AREA

永磁变频大吊扇用在健身房、游乐场、超市、大排档等营业性场所。徐缓稳定的微风可使人心情愉悦，创造舒适的休闲、选购环境，激发潜在的购买力和消费。

Permanent magnet large ceiling fan is used in fitness hall, playground, food stall and other business places. Slow and steady breeze can make people happy, creating a comfortable environment for leisure and shopping, stimulating potential purchasing power and consumption.



### 畜牧场 ANIMAL HUSBANDRY

永磁变频大吊扇用在奶牛养殖场、饲养场、孵化场等。可创造良好的通风环境，改善空气质量、去潮去湿、驱散异味，降低牲畜发病率，提高禽、蛋、奶、肉的产量、质量。

Permanent magnet large ceiling fan is used in dairy farms, feedlots, hatcheries, etc. Can create a good ventilation environment, improve air quality, damp and damp, dispel odor, reduce the incidence of disease of livestock, improve poultry, eggs, milk, meat production, quality.



# VERTICAL APPLICATION CASE

立式应用案例



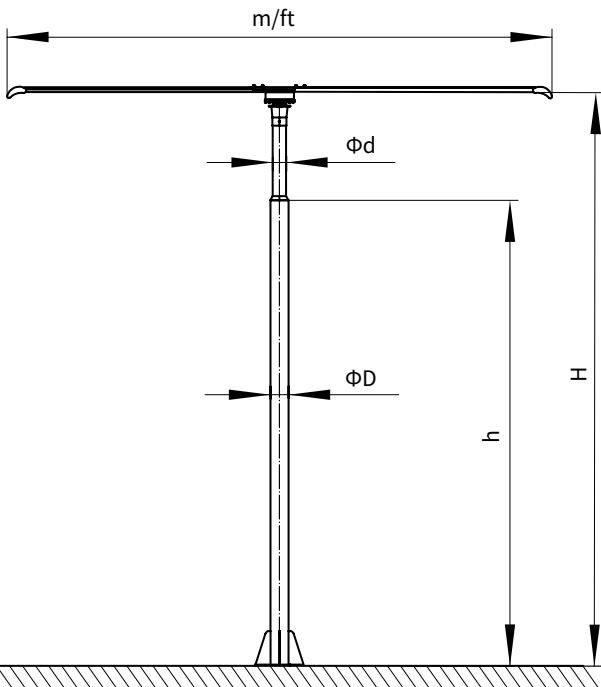
## 户外人员密集地 OUTDOOR PERSONNEL INTENSIVELY

如公园、城市广场、户外餐饮、城建施工地等场所，可给户外人群提供较凉爽的自然通风降温感受及更为舒适的休闲和用餐体验，节能效果显著。

For example, parks, city squares, outdoor dining, urban construction sites, etc., can provide outdoor people with a cool natural ventilation and cooling experience and a more comfortable leisure and dining experience, energy saving effect is remarkable.

## 立式安装数据 VERTICAL INSTALLATION DATA

型号 Model	规格 Specification (m/ft)	Φd (mm)	ΦD (mm)	h (m)	H (m)
	3-3.7m 10-12ft	80	114	3	3.5
HDS/L	4.3-5m 14-16ft	114	140	3	4
	6.1-7.3m 20-24ft	160	220	6	7





# BRIEF INTRODUCTION

## 企业介绍

福建华大电机有限公司创建于 2007 年，是集科研、生产、销售、服务于一体的工贸企业。公司位于“中国中小电机之都”——福建省福安市；占地面积 5 万平方米，建筑面积 5 万平方米。拥有装备精良的电机、风机生产线和检测设备，具有先进的生产制造技术与现代化管理水平。

二十多年来，公司专注于高温电机、高温风机、永磁变频大吊扇、伺服电机的研发与生产；严格控制生产工艺技术，用心打造精品。公司通过了安全标准化达标验收；ISO9001:2015 质量管理体系认证，ISO14001:2015 环境质量体系认证。取得了《全国工业产品生产许可证》和《福建省排污证》。产品通过了 cCSAus 认证、欧盟 CE 认证、CCC 认证；畅销全国

Fujian Huada Electric Co., Ltd. was founded in 2007, and is an industrial and trading enterprise integrating scientific research, production, sales and service. The company is located in the "Capital of Small and Medium-sized Motors in China"-Fu'an City, Fujian Province; it covers an area of 50,000 square meters and a construction area of 50,000 square meters. It has well-equipped motor and fan production lines and testing equipment, advanced production technology and modern management level.

For more than 20 years, the company has focused on the R & D and production of high-temperature motors, high-temperature fans, permanent magnet variable frequency ceiling fans, and servo motors; strictly controlling the production process technology and carefully creating quality products. The company has passed the safety standard acceptance inspection; ISO9001: 2015 quality management system certification, ISO14001: 2015 environmental quality system certification. Obtained "National Industrial Product Production License" and "Fujian Pollution Discharge Certificate". Products have passed cCSAus certification, EU CE certification, CCC certification; sell well in the national and

国际市场。CRF 谷物烘干风机荣获“2017 中国农业行业年度零部件优质奖”，“2018、2019 连续获得节能协会零部件优质奖”。2019 年永磁变频大吊扇新产品安全性获中国人民保险公司承保。

公司已拥有实用新型专利、外观专利 19 项；先后荣获“福建省科技型企业”“福建省科技小巨人领军企业”“福建省专精特新中小企业”“福建省著名商标”“福建省守合同重信用企业”荣誉。

福建华大电机有限公司秉承“团结协作、精益求精、开拓创新、合作共赢”的企业精神，竭诚欢迎各界朋友莅临公司参观指导、洽谈业务。

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international markets. CRF grain drying fan won the "2017 China Agricultural Machinery Industry Annual Parts Quality Award" and "2018 and 2019 consecutively won the China Energy Conservation Association Parts Quality Award". In 2019, the safety of the new permanent magnet inverter large ceiling fan products was underwritten by the People's Insurance Company of China.

The company has 19 utility model patents and appearance patents; it has successively been awarded as "Fujian Science and Technology Enterprise", "Fujian Science and Technology Giant Leading Enterprise", "Fujian Specialized Special New Enterprise", "Fujian Famous Trademark", "Fujian Province" "Keep the contract and trustworthy enterprise" honor.

Fujian Huada Electric Co., Ltd. adhering to the corporate spirit of "unity and cooperation, excellence, pioneering and innovative, and win-win cooperation", sincerely welcome friends from all walks of life to visit the company to guide and negotiate business.

Fujian Huada Electric Co., Ltd. is your best partner.

