



**3**  
THIRD  
GENERATION

# THE PERMANENT MAGNET FREQUENCY CONVERSION LARGE CEILING FAN



PT. MAKSVEL MEGAH PERKASA



Variable speed



Natural wind



Intelligent control



Energy saving comfort

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# THE PERMANENT MAGNET FREQUENCY CONVERSION LARGE CEILING FAN

**38dB**

ULTRA SILENT  
ENERGY SAVING  
COMFORT



Natural  
wind



Variable  
speed



Energy  
efficient



Intelligent  
control



Time switch  
machine



Super  
mute



Five  
security

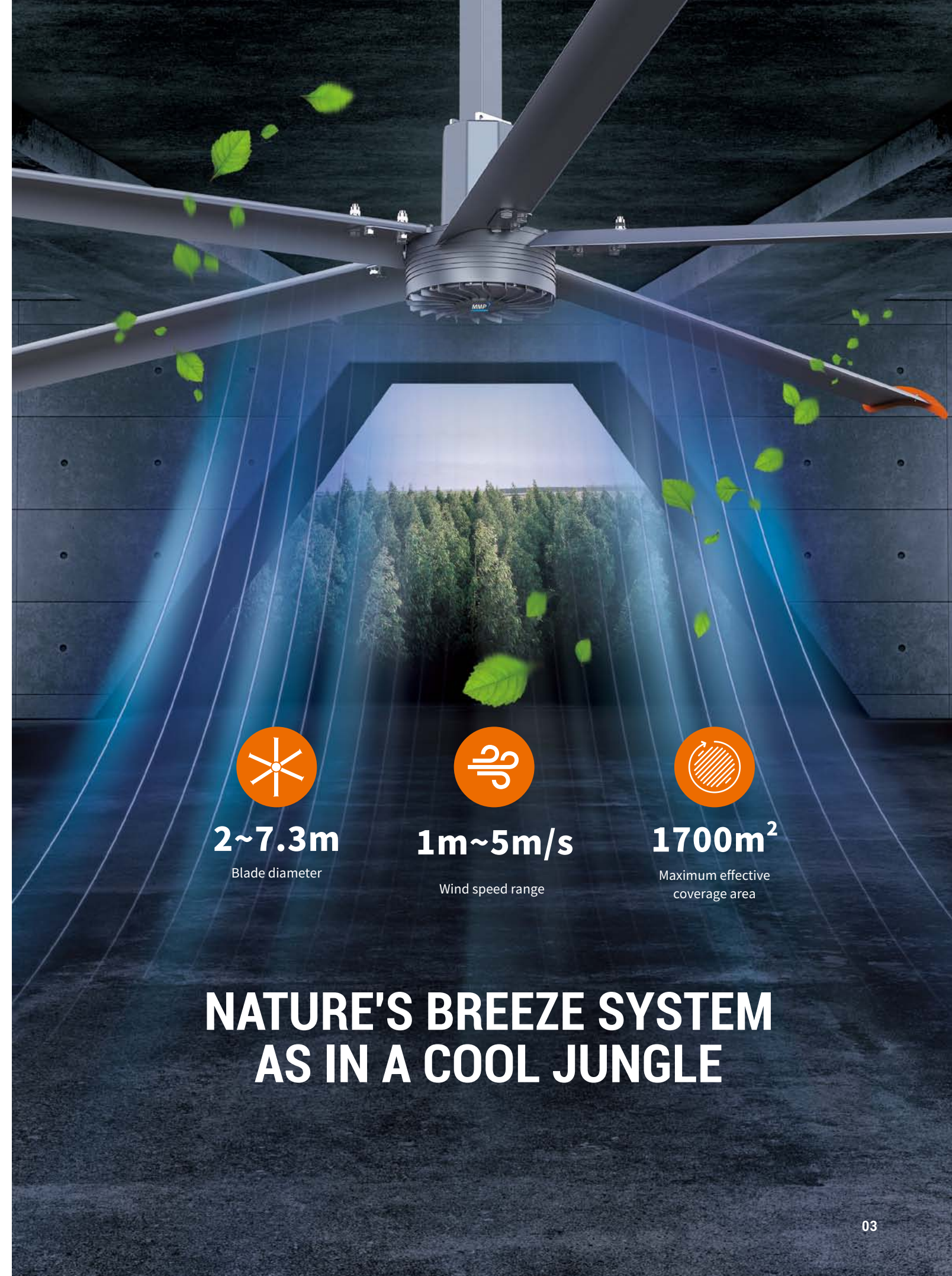
Huada HDS series smart permanent magnet large ceiling fan is a new product specially developed for improving the comfort of working environment. Self-designed variable frequency speed control, high efficiency and energy saving permanent magnet external rotor motor drive. It has the advantages of low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

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.



# NATURAL THREE-DIMENSIONAL AIR SUPPLY ENHANCE HUMAN COMFORT

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**

Blade diameter



**1m~5m/s**

Wind speed range



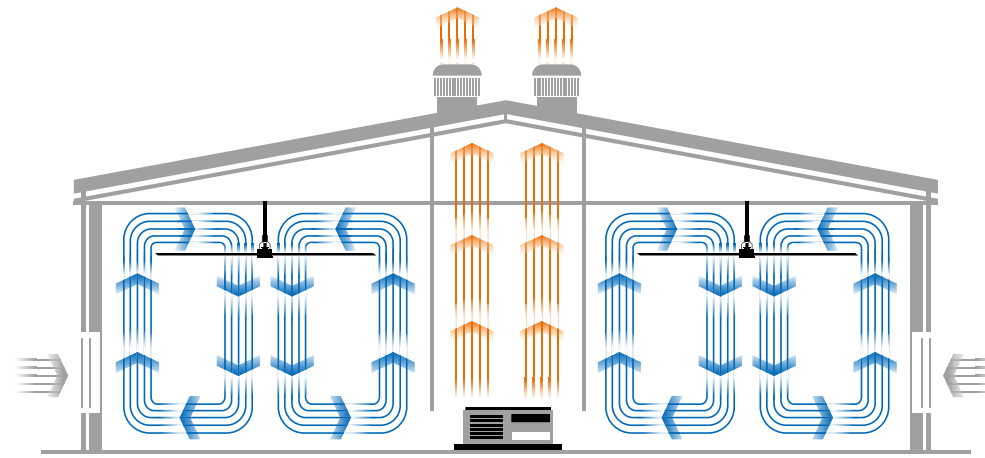
**1700m<sup>2</sup>**

Maximum effective coverage area

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



## WORKING PRINCIPLE



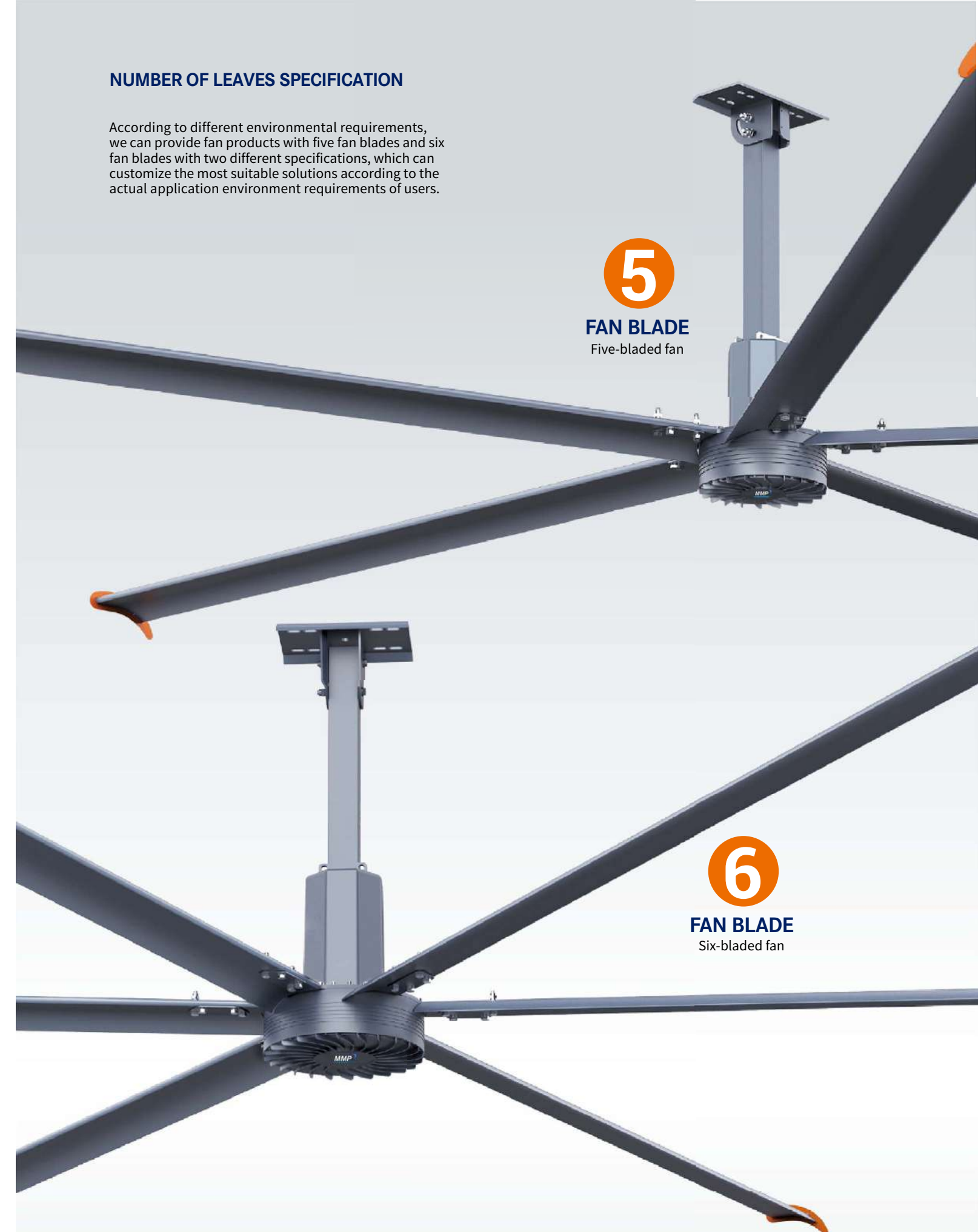
Whether using natural ventilation or mechanical heating or cooling, we can help. Companies around the world have integrated our products into their facilities to improve comfort, safety and productivity while reducing costs.

## BENEFITS/FUNCTIONS & APPLICATION CONDITION

Comparison Contents	(7300mm) D24 HVLS fan	Industrial floor fan
Unit fan power	1.1kW	0.3kW
Area covered / unit fan (m <sup>2</sup> )	≥ 1500m <sup>2</sup>	≈ 30m <sup>2</sup>
Cover 1400m <sup>2</sup> required fan quantity	1	≥ 45
Cover 1400m <sup>2</sup> required fan power	1.1kW	13.5kW
Total power consumption per year(150days/per year, 10 hr./per day)	1650kW	20250kW
Service life / unit fan	≥ 20 Years	≤ 2 Years
Safety production of workshop Smooth logistics	Excellent	Poor

## NUMBER OF LEAVES SPECIFICATION

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



Direct drive motor system



Intelligent control



Airfoil blade



Energy saving tail



## DIRECT DRIVE MOTOR SYSTEM

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.

## SMART CONTROL SYSTEM

- A control system: IP54 protection grade, no fear of external oil, dust, moisture interference, VVC control technology is simple to debug, high adaptability.
- B control system: fully enclosed design, IP66 protection grade, dustproof, waterproof, moisture-proof, high temperature resistant indoor and outdoor use in harsh environments.
- The system is positionless positive spin wave vector control, anti-electromagnetic interference, anti-radiation, small size, light weight and exquisite appearance.
- System function is simple, 4 keys operation is easy to understand (start, stop, acceleration, deceleration).
- The system comes with over-voltage, under-voltage, loss of voltage regulation, current, phase loss, overload, collision, overheating, lightning strike, abnormal and other protection.
- Customizable intelligent control methods: WLAN, Bluetooth, 4G, time, PID, centralized control.



A IP54

B IP66

(UL Certification)



Support mobile phone intelligent control

## STREAMLINED FAN BLADE + ENERGY SAVING TAIL

Fan blade:

It is made of high-strength aluminum-magnesium alloy for aviation by extrusion and stretching, and the wing is internally stiffened, which has the advantages of high strength, good toughness, light weight, long service life and safe use. The surface of the fan leaf is treated with T5+surface bright oxidation, which enhances the corrosion resistance and oxidation resistance of the fan leaf 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



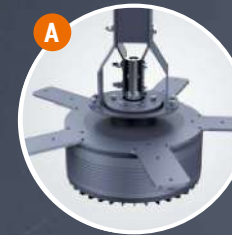
Permanent magnet motor warranty period of 3 Years



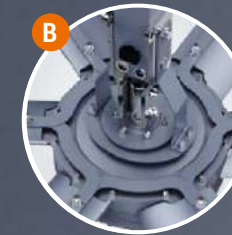
Controller warranty period of 18 Month



## FIVE LEVELS OF SECURITY GUARENTEE



Fan blade bracket integration, to eliminate any accidental falling off and breaking of parts, to ensure the safety and reliability of the entire structure of the machine.



Anti-disengagement plate broken shaft protection structure and anti-bracket breakage protection design to ensure the long-term use of ceiling fans safety.



Aviation with high-strength aluminum-magnesium alloy tensile blade, internal reinforcement structure, high strength, good toughness, light weight, long life, to ensure blade safety.



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



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

## STRENGTH TABLE OF KEY PARTS

Motor Torque			Axis			Connection board		
	Max. torque (N·m)	Speed (r/min)		Tensile strength (kg)	Max. torque (N·m)		Tensile strength (kg)	Max. torque (N·m)
0.37	< 40	100	Fixed shaft	> 5000( > 100 Times)	2400( > 60 Times)	3m	1700( > 150 Times)	850( > 20 Times)
0.75	< 100	80	Fixed shaft	> 5000( > 100 Times)	2300( > 23 Times)	5m	1700( > 60 Times)	850( > 8 Times)
1.1	< 260	55	Fixed shaft	> 5000( > 100 Times)	2750( > 10 Times)	7.3m	4000( > 80 Times)	1400( > 4.6 Times)
1.5	< 300	60	Fixed shaft	> 5000( > 100 Times)	2650( > 8 Times)	7.3m	4000( > 80 Times)	1400( > 4 Times)

Connecting rod			Blade holder		
	Tensile strength (kg)	Max. torque (N·m)		Bracket max. pressure (kg)	Blade weight (N·m)
60 Connecting rod	4000( > 100 Times)	1100( > 25 Times)	3m/0.37	330kg×5	5.5kg×5( > 125 Times)
60 Connecting rod	4000( > 100 Times)	1100( > 10 Times)	5m/0.75	330kg×5	5.5kg×5( > 50 Times)
80 Connecting rod	4500( > 80 Times)	1200( > 4.6 Times)	7m/1.1	360kg×6	7.9kg×6( > 46 Times)
80 Connecting rod	4500( > 80 Times)	1200( > 4 Times)	7m/1.5	360kg×6	7.9kg×6( > 40 Times)

Expansion bolt strength			Mounting bolts		
	Tensile strength (kg)	Shear strength (kg)		Tensile strength (kg)	Shear strength (kg)
P-M10	2350×4	588×4( > 75 Times)	M10(8.8)	4500×2	2000×2( > 125 Times)
P-M10	2350×4	588×4( > 30 Times)	M10(8.8)	4500×2	2000×2( > 50 Times)
P-M12	2650×6	863×6( > 40 Times)	M12(8.8)	6500×2	3000×2( > 57 Times)
P-M12	2650×6	863×6( > 40 Times)	M12(8.8)	6500×2	3000×2( > 50 Times)

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



VS



- A** Permanent magnet synchronous high temperature 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

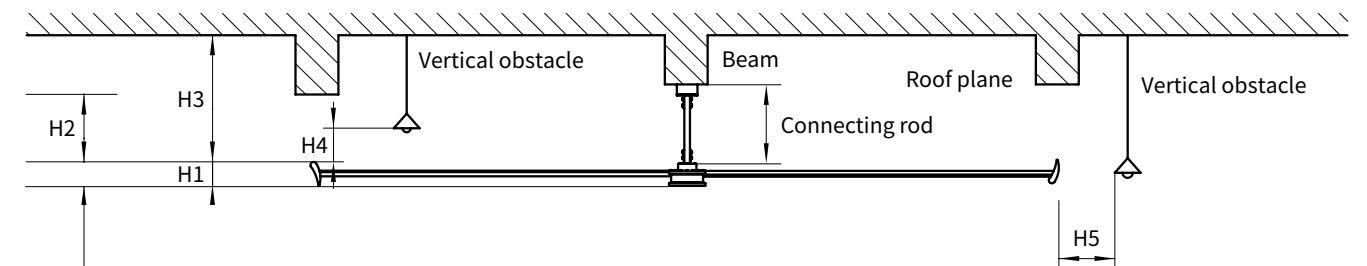
- A** The use of asynchronous ordinary motor + gear box consumes a lot of energy.
- B** Large and heavy
- C** Loud noise
- D** Complex structure
- E** FM narrow (25~50HZ)
- F** Need frequent daily maintenance (change seals, add gearbox oil)
- G** There are hidden dangers such as gearbox leakage

## TECHNICAL DATA

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
Diameter(m)	3	3.7	4.3	5	6.1	6.7	7.3	6.7	7.3
Diameter (ft)	10	12	14	16	20	22	24	22	24
Power (kW)	0.37		0.75		1.1		1.5		
Horsepower (HP)	0.5		1		1.5		2		
Voltage (V)	220-240/380-460								
Frequency (Hz)	50/60								
Air volume (m <sup>3</sup> /min)	4000	5000	7000	10000	11500	12000	13000	14000	15500
Rotating speed (rpm)	120	100	90	80	65	60	55	65	60
Number of leaves (Pcs)	5					6			
Noise (dB)	38								
Motor weight (kg)	16	16	22	22	36	36	36	42	42
Ceiling fan weight (kg)	45	49	58	62	99	103	107	109	113
Effective area (m <sup>2</sup> )	150	230	256	300	600	650	700	750	850
Coverage area (m <sup>2</sup> )	250	380	450	500	1000	1300	1500	1600	1700

Other specifications and models can be customized according to customer needs

## INSTALLATION DATA



Model	H	H1	H2	H3	H4	Connecting rod	H5
HDS-3	2.5-5	0.35m	≥ 0.3m	≥ 0.3m	≥ 0.3m	0.6-1.5m	≥ 0.2m
HDS-3.7	3-5	0.35m	≥ 0.3m	≥ 0.5m	≥ 0.3m	0.6-1.5m	≥ 0.2m
HDS-4.3	3-5.5	0.35m	≥ 0.4m	≥ 0.5m	≥ 0.3m	0.6-2m	≥ 0.2m
HDS-5	3.6-6	0.35m	≥ 0.4m	≥ 0.6m	≥ 0.3m	0.6-2m	≥ 0.2m
HDS-6.1	5-12	0.45m	≥ 0.5m	≥ 0.8m	≥ 0.3m	0.65-5m	≥ 0.2m
HDS-6.7	5-14	0.45m	≥ 0.5m	≥ 0.8m	≥ 0.3m	0.65-5m	≥ 0.2m
HDS-7.3	5-12	0.45m	≥ 0.5m	≥ 0.8m	≥ 0.3m	0.65-5m	≥ 0.2m



# HANGING APPLICATION CASE

## LARGE LOGISTICS WAREHOUSE AND DISTRIBUTION CENTER

Improve air quality, dehumidification and cooling, prevent storage from corrosion and decay, and improve working environment.



### SUPER-LARGE PLANT

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.

### LARGE-SCALE PUBLIC PLACES

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.

### COMMERCIAL AREA

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.

### ANIMAL HUSBANDRY

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

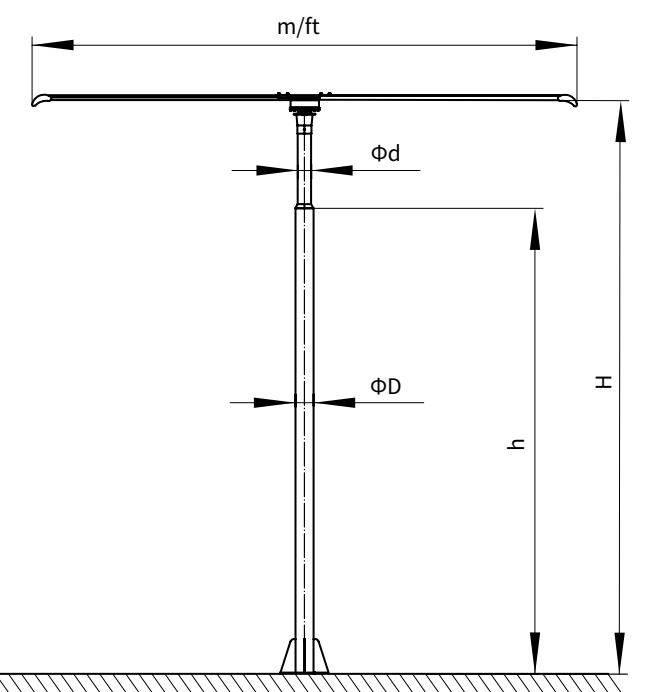


## OUTDOOR PERSONNEL INTENSIVELY

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.

## VERTICAL INSTALLATION DATA

Model	Specification (m/ft)	$\Phi d$ (mm)	$\Phi D$ (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

PT. Makswel Megah Perkasa was established in 2014. We specialize providing solutions in the construction materials industry with a wide range of products. We are the authorized agent for Systemair Fan, Regent Pump, Genius Cooling Tower and Realflex.

Our products have been installed in various industries such as hotels, apartments, factory and other various commercial infrastructures in major cities.

PT. Makswel Megah Perkasa continues to innovate, improve and providing quality to meet customers need. Our concern is to give an integrated solution to customers, not only selling the products. We strives to provide the best services for satisfied result to the customers. Cooperation with leading principal from overseas. We have maintained the highest level of knowledge for all of our products.



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