

## HARNESS THE POWER OF THE WIND WITH HOIN, FOR A GREENER TOMORROW



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### HORECONSWEERSVCOLLT

**CATALOG** 

## **ABOUT HOIN 01**

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RELIABLE © DURABLE

EFFICIENT

Hoin eco new energy co., ltd is a high-quality small and medium-sized wind turbine manufacturer that embodies the Japanese craftsmanship spirit. "HOIN" is the Japanese pronunciation of the Chinese word "bùyìn", which means "to take steady and continuous steps towards achieving a goal". Our high-quality turbine designs are reliable, durable, and efficient. We take pride in our commitment to sustainable development and ethical business practices. We do not manufacture toys, nor do we exaggerate our power generation capacities. Our focus is on producing guaranteed quality turbines to contribute to a greener future. Join us in our mission to create a sustainable, low-carbon world.



### MODEL HX 02



#### High-strength FRP blades:

fiberglass in wind turbines offers numerous advantages, such as high strength and corrosion resistance. Additionally, the material is durable and provides an elegant and streamlined aesthetic, which adds to the visual appeal of the wind turbine. Overall, the use of high-strength fiberglass provides both functional and decorative benefits to wind turbines.

#### Auto braking system Electromagnetic/ Mechanical :

The automatic brake is designed to protect wind turbines from the risk of overload or damage, and to ensure user safety. When wind speed and rotation speed exceed the design range, the automatic brake can slow down or stop the rotation of the wind turbine, preventing damage or fore-seeable danger. The brakes are hydraulic brakes.

#### Magnetic Levitation Generators:

Magnetic levitation generators have many advantages, such as high efficiency, reliability, strong environmental adaptability, low noise, strong controllability, light weight and compactness. They can effectively convert wind energy into electrical energy and provide reliable power generation capacity for vertical-axis wind turbines.

#### High-strength steel pole:

In vertical-axis wind turbines provides a durable and stable foundation for the turbine blades to rotate, even in challenging environments. Made from high-quality steel with a corrosion-resistant coating, the pole's strength and stability ensure consistent power generation and long-term performance of the wind turbine.

Model	HX-1K	HX-2K	HX-3K	HX-5K	HX-10K	HX-20K			
Rated power	1kw	2kw	3kw	5kw	10kw	20kw			
Theoretical maximum annual power generation/kwh	8760	17520	26280	43800	87600	175200			
Actual annual power generation (min)/kwh	2628	5256	7884	13140	26280	52560			
Actual annual power generation (max)/kwh	6132	12264	18396	30660	61320	122640			
nominal voltage	48V customized	48V96v/120vac customized	120v/220v/380vac customized	220v/380vac customized	220v/380vac customized	220v/380vac customized			
blade quantity	3 piece	3 piece	3 piece	3 piece	3 piece	3 piece			
Diameter of wind wheel	1.6m	1.8m	2m	2.4m	3m	3.6m			
Impeller height	2m	2.8 m	3m	3.6m	4m	4.4m			
Electronic unloading	Brake resistance box	Brake resistance box	Brake resistance box	Brake resistance box	Brake resistance box	Brake resistance box			
Rated speed	220 RPM	220 RPM	220 RPM	200RPM	150RPM	150RPM			
Package size (mm)	main body+blade: 2180*580*410mm	main body: 500*465*435mm,95 kg blade:3 220*530*410mm,130kg	main body: 550°480°450mm,130kg blade: 3520°530°410mm,150kg	main body: 1030*1030*425 80kg blade: 4150*740*540 300KG	main body: 1030*1030*425mm 85KG blade: 4550*740*540mm 350KG	main body: 1030*1030*425mm 85KG blade: 5150*740*540mm 350KG			
start-up wind speed	2~3m/s								
rated wind speed	9m~12m/s								
Extreme wind	45m/s								
Wind turbine type	Vertical axis wind turbine								
braking system	Electromagnetic brake / mechanical brake (customized)								
Hydraulic brake	Active brake, electric brake								
Controller unit			PL	C					
interface			HN	/I					
Generator type		Three	phase Coreless Permanent	Magnet Synchronous Gene	rator				
Insulation class			H						
Blade material			FR	P					
Design level			IEC Cla	ass III					
Towertype			Independ	lent pole					
authentication			CE;I	OS					
Noise level			<350	JBA					
temperature	- 20°C~50°C								
Degree of protection	IP67								
Design life	20 /year								

Optional components: Wind Drum, Enhance the efficiency of

wind reception.



## **MODEL HX APPLICATION SCENARIO 03**

HX Vertical Axis Wind Turbine series have a streamlined, elegant appearance that exudes their technological sophistication.



## 1KW~5KW

Recommended for general household users and small public parks. These turbines have adequate power output and are compact in size.



# 10KW~20KW

Suitable for medium to large public parks, commercial streets, medium-sized factories, and technology companies. These turbines have the power output to meet the energy requirements of these applications.

Investing in HX Vertical Axis Wind Turbine series is a step toward an eco-friendly, sustainable energy future. With reduced carbon footprints, these turbines provide an environmentally responsible solution for energy generation.

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## MODEL HT 04



**Optional component:** 

Wind drum, can increase the wind power

reception efficiency by approximately 20%.

#### High-strength Aluminum Alloy Blades:

ensure the balance between weight and cost while ensuring wind resistance.

#### Auto braking system Electromagnetic/Mechanical:

The automatic brake is designed to protect wind turbines from the risk of overload or damage, and to ensure user safety. When wind speed and rotation speed exceed the design range, the automatic brake can slow down or stop the rotation of the wind turbine, preventing damage or fore-seeable danger. The brakes are hydraulic brakes.

#### Magnetic Levitation Generators:

Magnetic levitation generators have many advantages, such as high efficiency, reliability, strong environmental adaptability, low noise, strong controllability, light weight and compactness. They can effectively convert wind energy into electrical energy and provide reliable power generation capacity for vertical-axis wind turbines.

#### High-strength steel pole:

In vertical-axis wind turbines provides a durable and stable foundation for the turbine blades to rotate, even in challenging environments. Made from high-quality steel with a corrosion-resistant coating, the pole's strength and stability ensure consistent power generation and long-term performance of the wind turbine.

Model	HT-1K	HT-2K	HT-3K	HT-5K	HT-10K	HT-20K	HT-30K	HT-50K	HT-80K	HT-100K	HT-200K
rated power	1kw	2kw	3kw	5kw	10kw	20kw	30kw	50kw	80kw	100kw	200kw
Theoretical maximum annual power generation/kwh	8760	17520	26280	43800	87600	175200	262800	438000	700800	876000	1752000
Actual annual power generation (min)/kwh	2628	5256	7884	13140	26280	52560	78840	131400	210240	262800	525600
Actual annual power generation (max)/kwh	6132	12264	18396	30660	61320	122640	183960	306600	490560	613200	1226400
blade quantity	3/piece	3/piece	3/piece	3/piece	5/piece	5/piece	5/piece	5/piece	5/piece	5/piece	5/piece
Impeller height	2m	2.8m	3.6m	4 m	5m	6m	9m	12m	15m	18m	21m
Diameter of wind wheel	1.6m	2m	2m	2.4m	3.5m	4m	7.6m	9m	10m	12m	14m
Weight	92KG	160KG	180KG	230KG	520KG	890KG	1500KG	6500KG	8000KG	9500KG	11000KG
Package Weight	110KG	180KG	200KG	250KG	570KG	980KG	customized	customized	customized	customized	customized
Package size (mm)	main body: 1080*400*520;72kg blade: 2060*260*530;39kg	main body: 1550*440*530;126kg blade: 2860*230*510;54kg	main body: 1550*440*530;135kg blade: 3650*240*490;65kg	main body: 1550*440*530;150kg blade: 4050*240*490;100kg	main bodyr: 750*750*800;300kg generator: 5060*480*400;120kg blade: 1100*1100*500;100kg	main body: 750*750*800;650kg generator: 6060*480*400;180kg blade: 1100*1100*500;150kg	customized	customized	customized	customized	customized
nominal voltage	48v/96v/120vac/customized 96v/120v/380v/440vac/customized										
start-up wind speed					2~3m/s						
rated wind speed		9m~12m/s									
Extreme wind					45m/s						
braking system		Electromagnetic brake / mechanical brake (customized)									
Hydraulic brake		Active brake, electric brake									
Controller unit					PLC						
interface					HMI						
alternator type			Three p	hase Coreless P	ermanent Mag	net Synchronou	s Generator				
Insulation class					Н						
Blade material					aluminum all	оу					
Design level					IEC Class III						
Tower type					Independent p	ole					
authentication					CE;IOS						
Noise level					<35dBA						
temperature		- 20°C~50°C									
Degree of protection		IP67									
Design life	15~20/year										



## **MODEL HT APPLICATION SCENARIOS 05**

Our wind turbine range HT meets the differing power needs of users. We recommend the following models for specific usage:





## 1KW~10KW

Ideal for powering homes; cost-effective and reliable green energy source.

## 20KW~50KW

Powers offices/small factories; reduces energy bills and carbon footprint for small businesses.

## 80KW~200KW

Meets high energy demands of medium to large factories/farms; reliable, cost-effective, and sustainable energy source.

All models offer benefits of reduced energy costs, lower carbon footprint, and improved energy security. Choose the right model for your needs for the benefits of green energy.

### **MODEL HS 06**

#### High-strength FRP blades:

The use of high-strength fiberglass in wind turbines offers numerous advantages, such as high strength and corrosion resistance. Additionally, the material is durable and provides an elegant and streamlined aesthetic, which adds to the visual appeal of the wind turbine. Overall, the use of high-strength fiberglass provides both functional and decorative benefits to wind turbines.

#### Multiple types of generators are available for selection:

Rotor, permanent magnet, and electronic control, among others. The generator technology for horizontal-axis wind turbines is mature, making it relatively inexpensive and ideal for cost-conscious users looking for good value.

#### High-strength steel pole:

The high-strength steel pole in vertical-axis wind turbines provides a durable and stable foundation for the turbine blades to rotate, even in challenging environments. Made from high-quality steel with a corrosion-resistant coating, the pole's strength and stability ensure consistent power generation and long-term performance of the wind turbine.

Model	HS-1K	HS-2K	HS-3K	HS-5K	HS-10K	HS-15K	HS-20K	HS-30K~500K		
Rated power	1kw	2kw	3kw	5kw	10kw	15kw	20kw			
Theoretical maximum annual power generation/kwh	8760	17520	26280	43800	87600	131400	175200			
Actual annual power generation (min)/kwh	1752	3504	5256	8760	17520	26280	35040			
Actual annual power generation (max)/kwh	5256	10512	15768	26280	52560	78840	105120	customized		
nominal voltage	48V/96V/120V	48V/96V/120V	48V/96V/120V	96V/120V/220V/380V	120V/220V/380V	220V/380V	220V/380V			
rotor diameter	2.8m	3.2m	4m	5m	5.8m	6.5m	8m	custornized		
start-up wind speed	3m/s	3m/s	3m/s	3m/s	3m/s	3m/s	3m/s			
Weight	56kg	75kg	140kg	185kg	280kg	340kg	430kg			
Package Weight	65kg	85kg	150kg	200kg	300kg	370kg	480KG			
Package size (mm) wooden box	main body+blade: 1630*380*420	main body+blade: 1660*420*450	main body+blade: 2030*380*480	main body+blade: 2500*450*570	main body: 1300*660*780 230kg blade: 2840*200*440 70kg	main body: 1430*630*850mm;260kg blade: 3200*370*350mm;110kg	main body: 1530*660*800mm;300kg blade: 4100*370*450mm;150kg generator: 1290*860*110mm;30kg			
start-up wind speed 3~4m/s										
rated wind speed				10~14m/s						
survival wind speed 45m/s										
blade quantity				3/piece						
Blade material				FRP						
Generator housing qualitative carbon steel										
Packing wooden box										
Generator type Three phase AC permanent magnet generator										
alnico magnet	alnico magnet NdFeB									
Degree of protection	Degree of protection IP67									
brake mode electromagnetism										
The wind adjustment Automatically adjust to windward										
Working temperature -40°C~80°C										





## **MODEL HS APPLICATION SCENARIOS 07**

HS series of horizontal axis wind turbines. They're known for mature technology and competitive pricing.



## 1KW~10KW

Compact, cost-effective and reliable turbines for household, small public parks, and similar settings.





## 20KW~50KW

Ideal for medium-sized public parks, commercial streets, small factories, and technology companies, producing enough wind energy at an accessible cost.

## 50KW~500KW

Highly recommended for larger industrial applications, capable of producing substantial amounts of electricity to meet the energy demands.

HS wind turbines are suitable for different energy needs, with a range of perfect solutions available for home use, small or industrial applications.

### 

### **PRINCIPLE** 08



### How our wind turbines work?

#### Off grid system:

The wind turbine collects wind energy and converts it into electricity, which is sent to the controller. The controller converts the electricity into DC and stores it in the battery. The battery then outputs the current to the inverter, which converts it into AC and allows it to be connected to a load such as household appliances, streetlights, and other electrical devices. This is also the most common connection mode used for households or commercial facilities.

#### Wind-solar complementary system:

Wind-solar complementary system is a combination of wind energy and solar energy conversion technology. It utilizes wind turbines and solar panels to generate electricity, which can be used for different purposes such as lighting, heating, or powering various electronic devices. This complementary system provides a stable and reliable power supply by integrating two sources of green energy and optimizing the utilization of natural resources. The idea behind this system is to harness the power of wind and solar energy to minimize the reliance on non-renewable sources of energy and reduce the carbon footprint.





#### On grid system:

An on-grid wind power system is a type of wind power generation system that is connected to the main electricity grid. The system uses a wind turbine to generate electricity from the wind, which is then converted to AC by the generator and fed into the grid. The system is designed to match the power output of the turbine to the power needs of the grid, ensuring that the power supply is stable and reliable. On-grid systems are typically used in urban areas where there is a demand for electricity and a reliable grid infrastructure is in place.

## **HOUSE OR COTTAGE**



## PARKS, SHOPPING MALLS, SMALL FACTORIES



## **COLD OR HOT AREA**







## FACTORY & CERTIFICATES 10

### **FACTORY SHOW**

### 🕺 District 3, Xishan Industrial Park, Wuxi City, Jiangsu Province



















## CERTIFICATES

























Output power(W)

120

100

0.0

60

40

600

500 400

300

100

14 15 16 17

10 11 12 13 14 15

13

14 12

Wind speed(m/s)

**10KW POWER CURVE** 

Wind speed(m/s)

**50KW POWER CURVE** 



**50KW POWER CURVE** 

















#### **3KW POWER CURVE**









## HT&HX

Output power(W)

700

600

500 400 300

200

H@iN

## **POWER CURVE** 11