

Model: H2.7-500W / H3.1-1000W / H3.8-2000W

Hummer 500W wind turbine is designed for the off-grid system which uses a battery bank to store the electricity. It can drive a load equal to or less than 500W or a pump equal to or less than 370W.

Hummer 1000W wind turbine can be applied in both the on-grid system and the off-grid system which uses a battery bank to store the electricity. It can drive a load equal to or less than 1000W.

Hummer 2000W wind turbine can be applied in both the on-grid system and the off-grid system which uses a battery bank to store the electricity. It can drive a load equal to or less than 2000W.



I. Features:

1. Supercritical generator



Hummer's wind generator adopts the supercritical technology which won a gold award in the 37th Salon Eureka in Brussels and an U.S. patent. This technology significantly reduces generator's weight and size down to 20% to 30% of the traditional one, and the production efficiency is 10% to 30% higher. This ensures that the generator functions perfectly in small wind condition.

2. SKF bearings



Hummer wind turbine adopts two SKF (Svenska Kullager Fabriken) bearings which are produced by the largest bearing manufacturer in the world, with the perfect internal geometric structure, known for its life-time endurance and reliable quality. Ordinary bearings need to be changed every two or three years, while SKF bearings can greatly reduce the maintenance costs on this matter.

3. Apt speed control



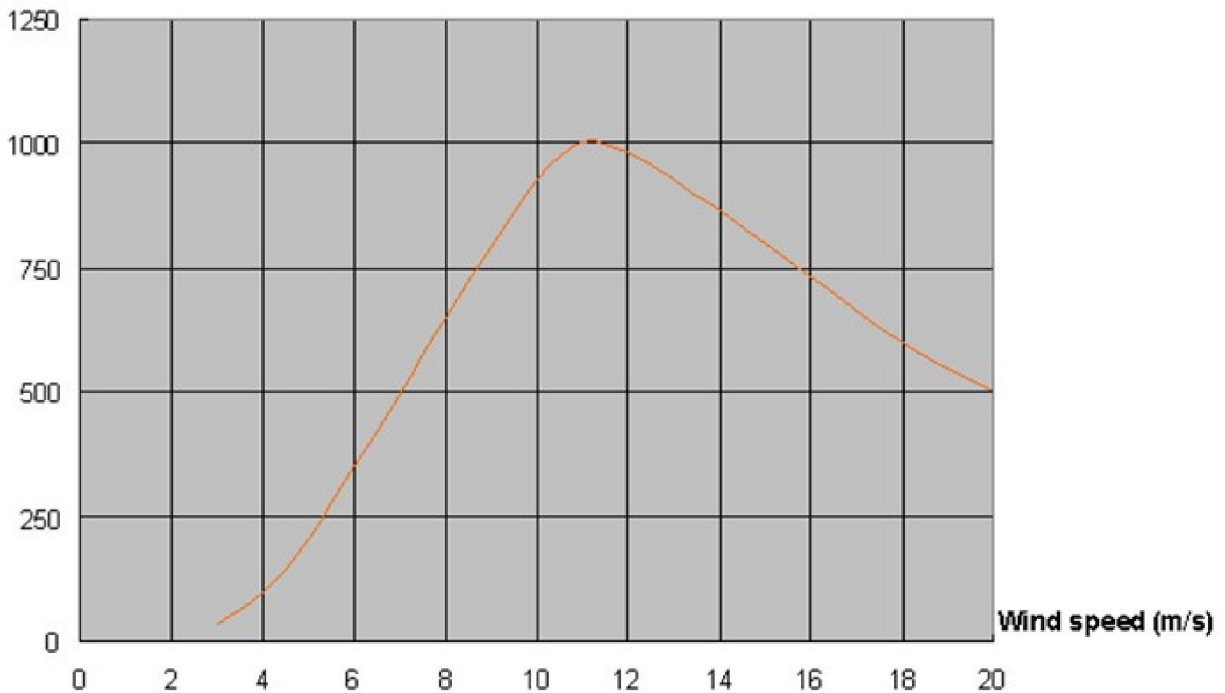
Hummer small wind turbine adopts the electromagnetic brake and the yawing mechanism. The electromagnetic brake is used to shut down the wind turbine manually while the yawing mechanism makes the wind turbine automatically yaw from the wind direction in order to control the rotation speed of the rotor.

II. Specifications and power curve :

1. 500W

Rated power (W)	500
Maximum output power (W)	1000
Battery bank voltage (VDC)	24
Cut-in wind speed (m/s)	3
Rated wind speed (m/s)	7
Working wind speed (m/s)	3-25
Survival wind speed (m/s)	50
Generator efficiency	>0.78
Wind energy utilizing ratio (Cp)	0.48
Generator type	Permanent Magnet Alternator
Generator weight (kg)	6.5
Blade material/quantity	GRP/3
Blade diameter (m)	2.5
Mast height (m)	6
Over speed control	Yawing mechanism + Electromagnetic brake
Shutting down method	Manual + Automatic

Power (W)

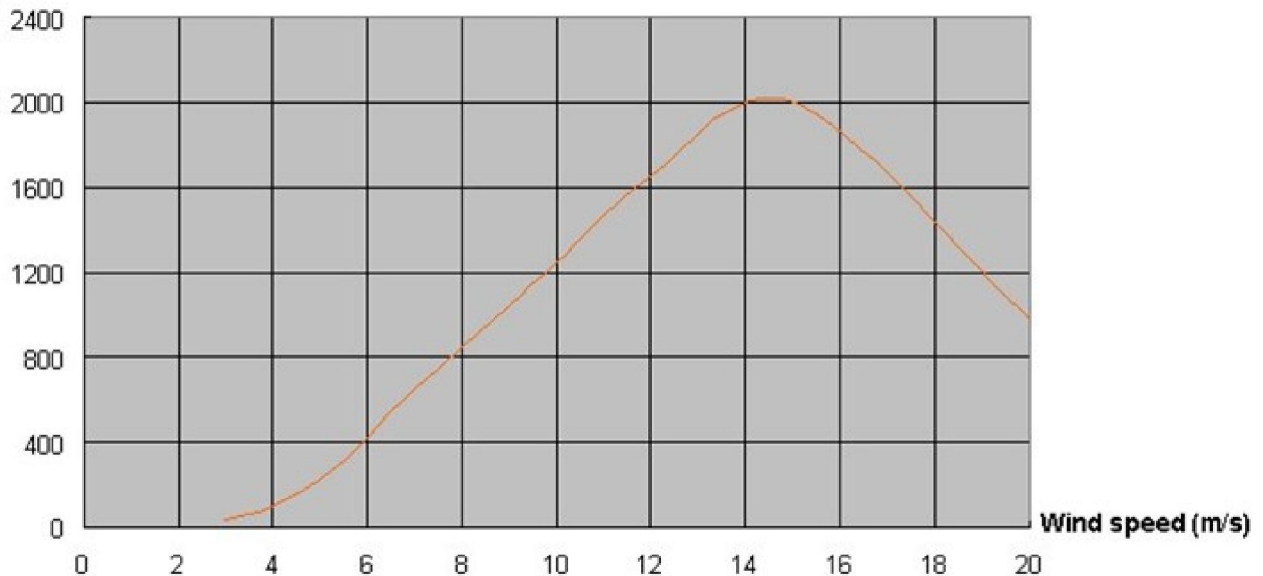


HUMMER-500W Wind Generator

2. 1000W

Rated power (W)	1000
Maximum output power (W)	2000
Battery bank voltage (VDC)	60
Cut-in wind speed (m/s)	3
Rated wind speed (m/s)	9
Working wind speed (m/s)	3-25
Survival wind speed (m/s)	50
Generator efficiency	>0.8
Wind energy utilizing ratio (Cp)	0.45
Generator type	Permanent Magnet Alternator
Generator weight (kg)	15
Blade material/quantity	GRP/3
Blade diameter (m)	3.1
Mast height (m)	8
Over speed control	Yawing mechanism + Electromagnetic brake
Shutting down method	Manual + Automatic

Power (W)

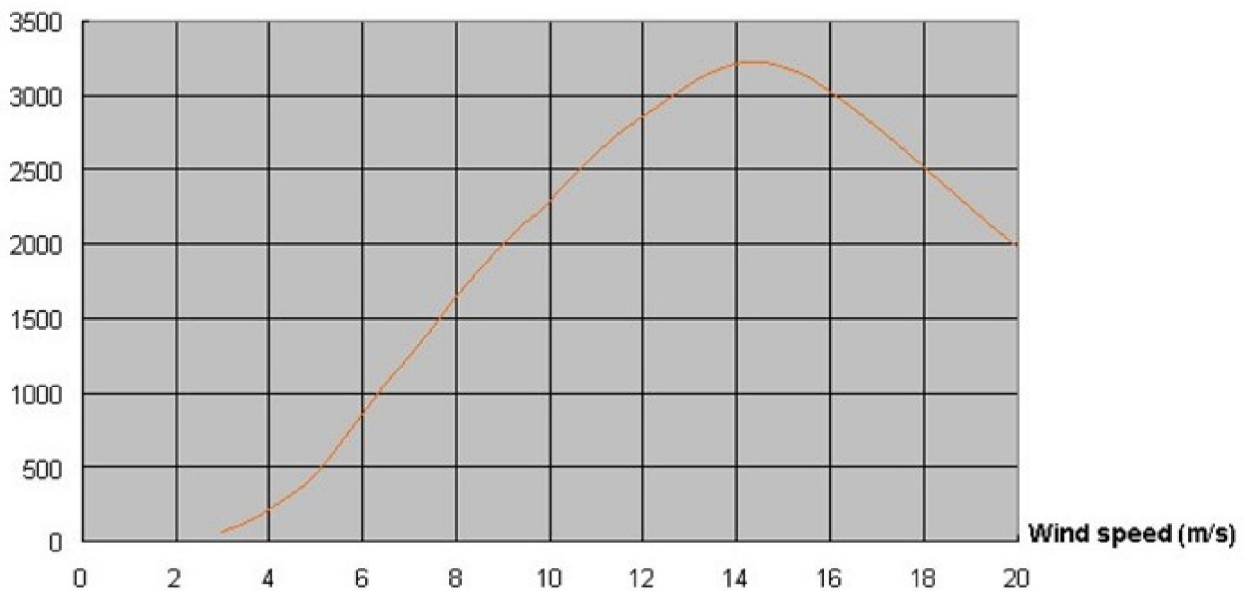


HUMMER-1KW Wind Generator

3. 2000W

Rated power (W)	2000
Maximum output power (W)	3200
Battery bank voltage (VDC)	120
Cut-in wind speed (m/s)	3
Rated wind speed (m/s)	9
Working wind speed (m/s)	3-25
Survival wind speed (m/s)	50
Generator efficiency	>0.8
Wind energy utilizing ratio (Cp)	0.45
Generator type	Permanent Magnet Alternator
Generator weight (kg)	25
Blade material/quantity	GRP/3
Blade diameter (m)	3.8
Mast height (m)	10
Over speed control	Yawing mechanism + Electromagnetic brake
Shutting down method	Manual + Automatic

Power (W)



HUMMER-2KW Wind Generator

III. Structure and component parts:

1. Generator Part

The generator part consists of the state-of-the-art supercritical generator, the nose cone and the protection cover. Due to its small size and low weight the generator is able to be installed inside the nose cone and before the rotor. This design significantly helps the heat radiation, thus improves the efficiency of the generator and reduces the energy loss.



2. Nose Cone & Protection Cover

Both are made of the reinforced aluminum alloy. Nose cone is fixed in front of the rotor blades to reduce the wind resistance and radiate the heat produced by the generator. While the protection cover wraps the joint part of the rotor and the nose cone and provides extra protection to the generator.



3. SKF Bearings

Two SKF bearings ensure the reliability and the longevity of our generator. They guarantee the operation in high temperature (150-350°C) and a long life span reaching up to 60000-100000 hours. User may not change the bearings during the wind turbine using, thus the maintenance costs will be reduced.



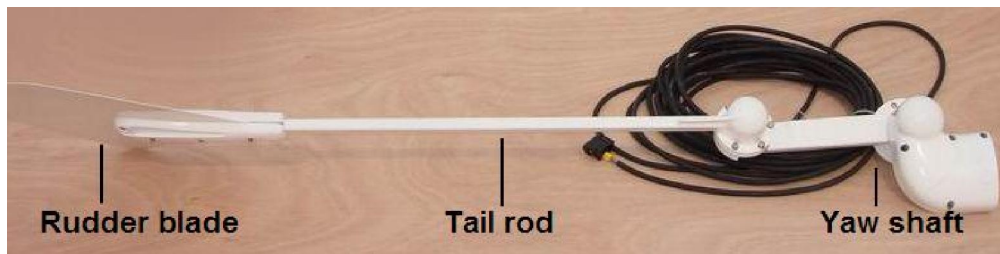
4. Flange & Blades

The flange is made of fine steel, used to fix the blades to the rotor. The blades are made of glass reinforced plastic (GRP) and have passed the strict dynamic balance test before shipping, which promise the efficiency of transforming the wind energy into the mechanical energy.



5. Yawing Mechanism

The mechanism is composed of the 360° rotation yaw shaft, the tail rod and the rudder blade, which are made of the manganese steel and aluminum alloy. It combines the high strength and the lightness and is able to react to the gusts rapidly.



6. Multi-function “3 in 1” Inverter Controller

Hummer “3 in 1” inverter as a multi-function controller is made especially for 500W and 1000W systems. It combines the functions such as rectifying AC into DC, charging the batteries, inverting DC to AC to power the electrical instruments, and dumping the extra energy which may overload and burn the system, thus protecting the whole system.



7. Rectifier/Dump Load Controller & Dump Load Box

The controller controls the process of which the AC produced by wind turbine being rectified into DC and eventually charges the battery bank when applied in the off-grid power system. It also controls the switching on and off of the dump load which protects the system against the risk of being overloaded with too much power.

Metal box design of the dump load helps quickly radiate the heat generated inside the box through the air convection. So there is no need for an extra fan.



Rectifier/Dump load controller



Dump load box

8. Off-grid Inverter and On-grid Inverter

Hummer off-grid inverter inverts DC into AC with stable frequency and voltage, and it filters the noise of the electrical current as well. It is used in the off-grid power system.

Hummer on-grid inverter adopts MPPT (Maximum Power Point Tracking) technology and IGBT (Insulated Gate Bipolar Transistor), is able to invert DC with a high power producing capacity and a wider AC voltage output range. It connects to the public grid and there is no need for any power storage device.



Off-grid inverter



On-grid inverter

9. Guyed Mast

Guyed mast is composed of several segments of steel tubes which are galvanized and spray painted. It is easy to be transported and assembled, especially suitable for the remote area where a crane is not available.



10. Self-supporting Tower

Self-supporting tower is made of fine steel and it is strong enough to resist heavy wind. The surface of the tower is processed with the hot galvanization and spray paint, thus is able to protect the tower against corrosion and rust.



IV. Contact Us



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