



# ***Aeolos-H 30kW***



***Aeolos wind turbine  
SINCE 1986***



## Aeolos-H 30kW

windturbinestar.com



### Turbine

Rated Power	30 kW
Max Power	35 kW
Cut-in Wind Speed	3 m/s (6.7 mph)
Rated Wind Speed	9 m/s (20.1 mph)
Survival Wind Speed	52.5 m/s (117.4 mph)
Design Lifetime	20 years
Overall Weight	2750 kg (6062.7 lbs)

### Rotor

Rotor Diameter	15.6 m (51.2 ft)
Swept Area	191 m <sup>2</sup> (2055.9 ft <sup>2</sup> )
Rated Rotation Speed	65 rpm
Blade Material	Fiber Glass

### Generator

Drive Type	Direct Drive
Generator Type	Permanent Magnet
Generator Voltage	0-370Vac
Efficiency	95%

### Controller

Control System	PLC with Touch Screen
Remote Monitoring	Optional

### Safety

Main Brake System	Pitch Control
	Active Yaw Control
Secondary Brake System	Hydraulic Brake

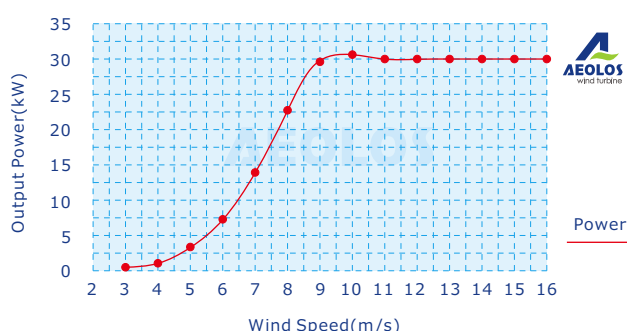
### Tower

Monopole Tower	12m, 18m, 24m, 30m
Hydraulic Tower	18m, 24m

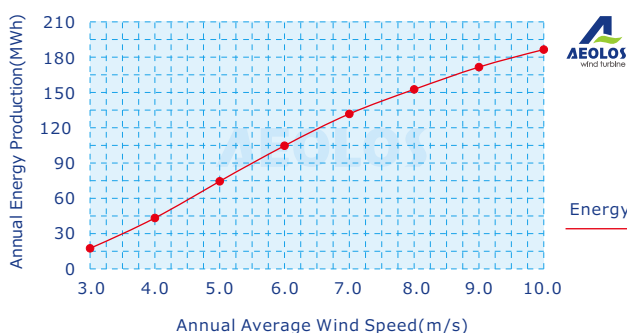
### Warranty

Standard Warranty	5 Years
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Wind Speed/Power Curve



Annual Average Wind Speed/Energy Production Curve



Aeolos-H 30kW Wind Turbine Annual Energy Production

Wind Speed(m/s)	3	4	5	6	7	8	9	10
Output Power(W)	316	899	2927	7080	14054	22578	29017	30500
Energy Production (MWh/yr)	15.95	42.30	74.81	105.5	132.5	153.9	171.6	184.5

\* Standard Air Density, Rayleigh Wind Speed Distribution

5 YEAR WARRANTY





## Why Choose AEOLUS-H 30kW Wind Turbine?

### Multiple Safety & Brake Protections

#### Mechanical Pitch Control:

Aeolos intelligent pitch control could change blades angle to ensure more power output at low wind speed and the stable power output in high wind speed. It will protect the wind turbine in over wind speed, over rpm and other faults. Aeolos all pitch control parts in the hub are mechanical parts without electronic parts. It is more reliable than the traditional electronic pitch control system.

#### Active Yaw Control:

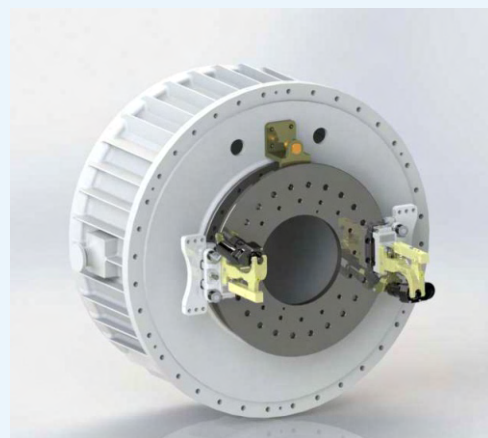
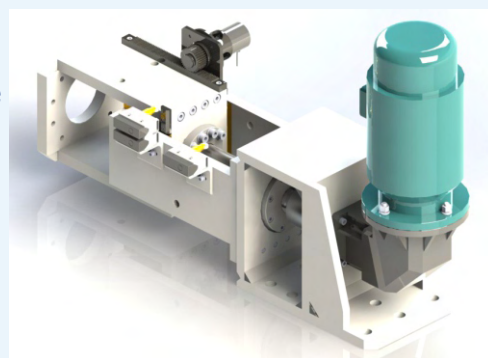
The active yaw control system will make the wind turbine auto trace the wind direction and auto yaw off the wind direction when there is over wind speed or other faults need to protect wind turbine. It could protect wind turbine even the pitch control system failed.

#### Two Spindle Hydraulic Brakes:

There are two spindle hydraulic brakes for Aeolos-H 30kw wind turbine. They were driven by high quality hydraulic station. They can stop the wind turbine in any emergency situation even without the pitch control protection and yaw control protection.

#### 45kW Dump Load Box:

Aeolos-H 30kw has the PWM dump loading protection for the over voltage fault. A 45kw dump load box will control the peak voltage together with the pitch control system. It will make the power output more stable in gust and high wind speed.



5 YEAR WARRANTY



## Grid Failure & Power Lose Protection

When there is grid failure or other reasons leading to the power lose, such as the cable broken, PLC damaged. Our wind turbine can still auto pitch control stop and start the hydraulic brake system. It is the physical self protection in the nacelle.

## Double Safety Design:

Aeolos use double safety design for main functions of wind turbine. There is one pitch control motor, one yaw motor and gear box, two spindle hydraulic brakes and two different UPS system in the nacelle. If there is on hydraulic brake or UPS damaged, another one could still work well to control the wind turbine.

## High Efficiency & Reliable Design

## Low RPM & Direct Drive Generator:

Aeolos 30kW is a directly drive permanent magnet generator with no gearbox. It is more reliable and less maintenance than the induction generator. We use the low rpm and larger generator diameter design. It means the higher costs, but better performance on power production, reliability and over heating problem.

## Direct Connection Design:

The hub directly connected with generator shaft. Generator directly connected with nacelle. Generator shaft directly connected with brake disc. Aeolos optimized design removed the traditional adapter flanges and welding parts. This makes the wind turbine more reliable and more safety.

## Larger Rotor & More Power Output:

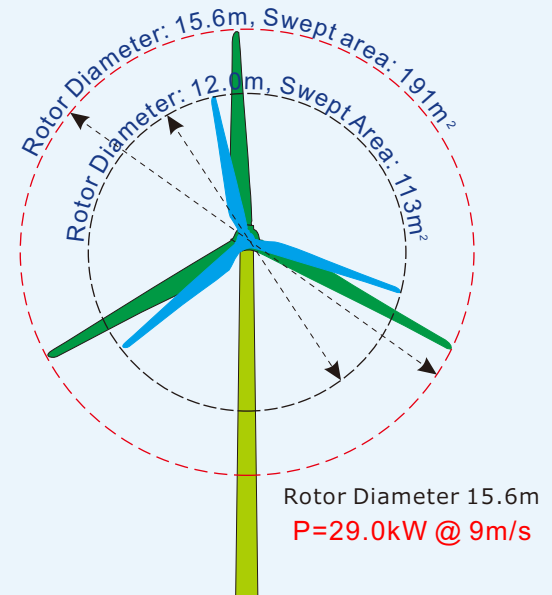
Aeolos H 30kW has the 15.6 m rotor diameter which is the same or even larger than some 50kw wind turbines. It will reach the 30kW output at 9m/s wind speed and there is more power output in low wind speed area. The annual power output is about 105,461 kWh at 6 m/s wind speed.

## IEC 61400-2 Casting Parts:

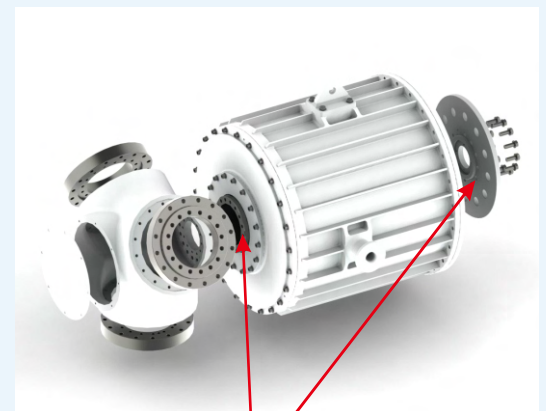
Aeolos-H 30kw hub and nacelle are all casting parts followed by IEC 61400-2 standard. The nacelle and hub were made by EN-GJS-400-LT which is the same material and technology as MW wind turbines. The lifetime design is more than 20 years and could work from -20°C to 50°C. It is more reliable than the welding hub and nacelle.

## Low Maintenance Cost:

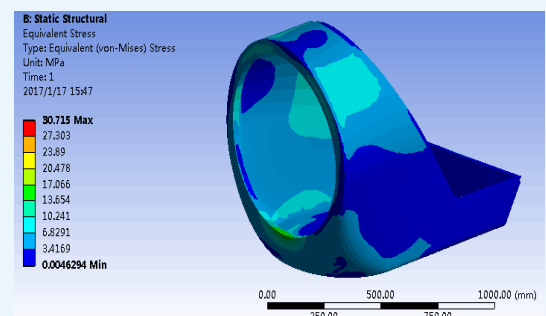
There is auto grease lubricator in the nacelle that will automatically lubricate the yaw bearing, pitch control bearing and other bearings. People could access the nacelle from the tower inside.



Annual Energy Production @ 6m/s  
105,461 (kWh)



Direct Connection Without Flange



5 YEAR WARRANTY

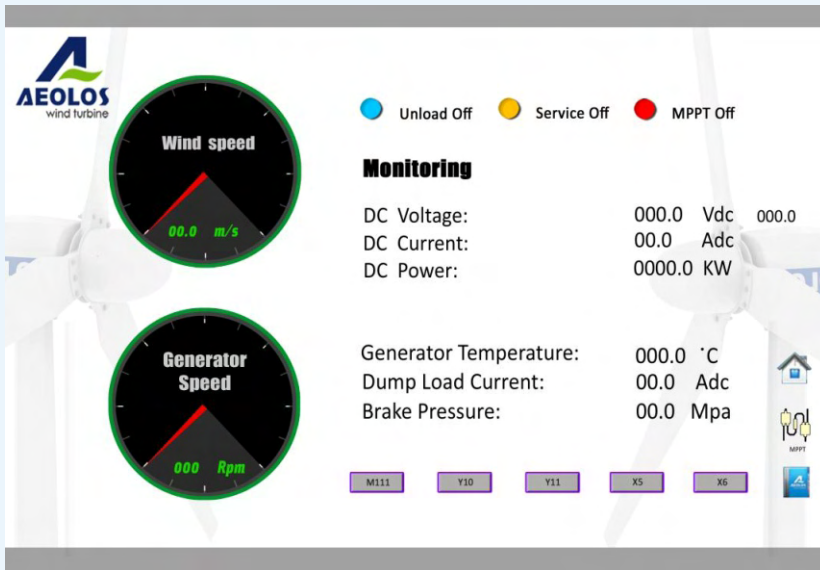




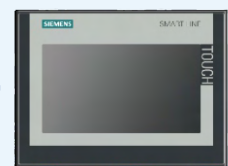


## Intelligent Control & Remote Monitoring

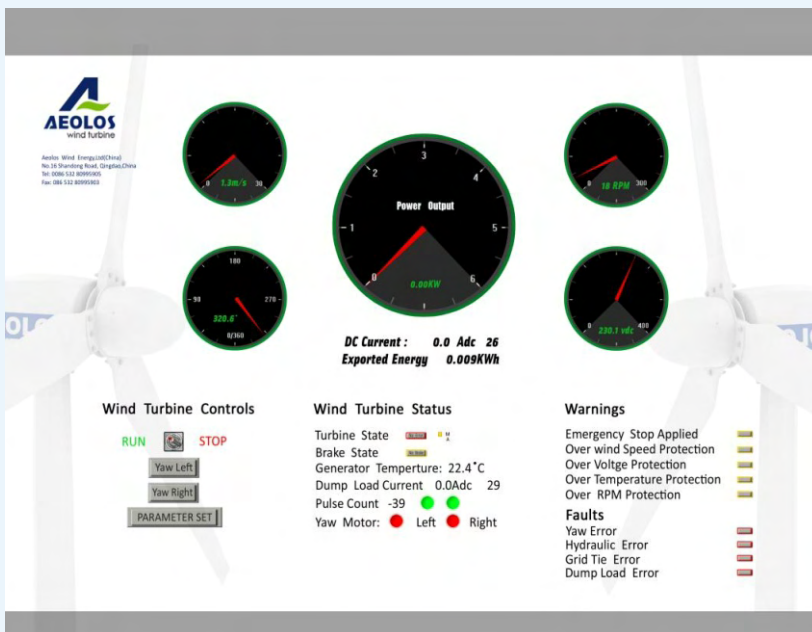
Aeolos employs Programmable logic controller (PLC) and touch screen as the control system. All the operation data like wind speed and power output can be recorded and customer can easily adjust the protection data of wind speed, voltage current and rpm through controller.



Touch Screen



Aeolos provides remote monitoring function to the customers. You can remotely monitor and control the wind turbine operation through wireless or wire internet in home, office, airport and anywhere.



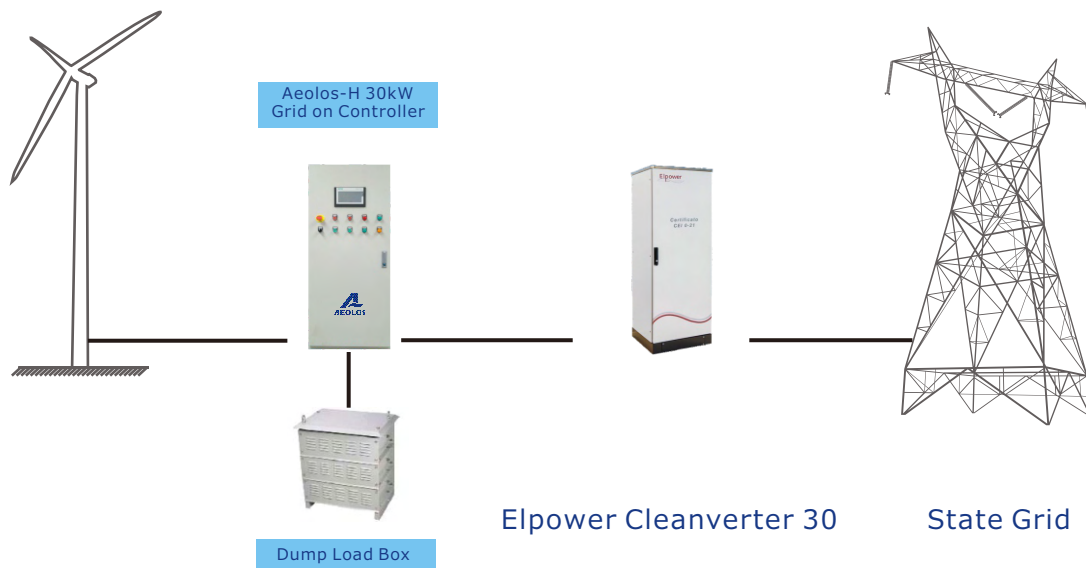
Remote Monitoring Software



## 30kW Grid On System Wiring Diagram

### Solution I

Aeolos H-30kW wind turbine could work with ELPOWER Cleanverter 30kW grid on inverter which has the CEI 0-21 certificate to connect ENEL grid.



### Solution II

Aeolos-H 30kW wind turbine could match with ABB 1xTROI-27.6-TL-OUT-W inverter. Aeolos and ABB engineers did many works in house and onsite to ensure the system matching perfectly.

