

E200 WIND TURBINE

DATA SHEET

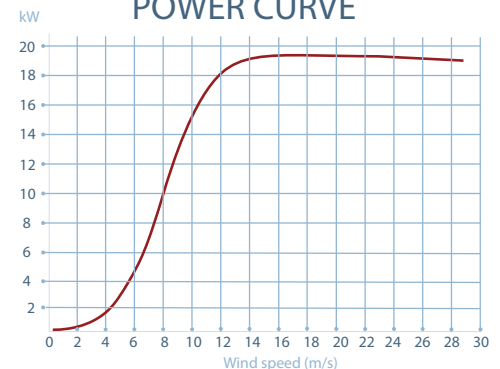
THE LARGE WIND TECHNOLOGY IN SMALL

Our patented technology is an intelligent adaptation of the main systems which big turbines have to small turbines from 10 to 60 kW.

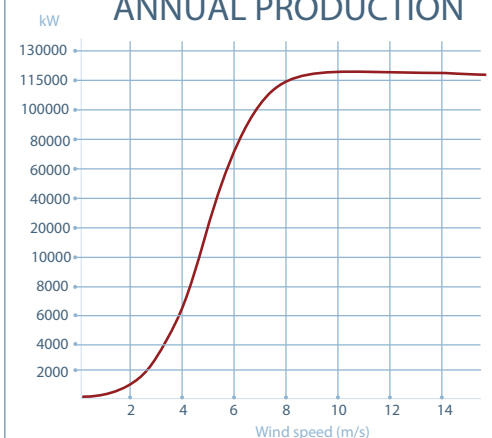
High security, maximum control and the best efficiency on the market in power generation.

GENERATOR	Max. power	25 kW
	Configuration	3 phases - 500v - Direct drive
TURBINE	Configuration	3 blades, horizontal axis, Upwind
	Rated power	18 kW
	Applications	Direct grid tied - Micro grids
	Rotor speed	120 - rpm
	Start rotation	1,85 m/s
	Cut production	30 m/s
	Protection	Ip - 65 - Sand and high protection
	Weight	1200 kg.
ROTOR	Yaw	Passive control, Aerodynamic downwind orientation
	Diameter	9,8 m
	Swept Area	71 m ²
	Blade length	4,2 m
	Blade material	Fibreglass, epoxi resins and polyurethane
BRAKE SAFETY SYSTEM	Regulation speed	Active pitch, electronical regulation and brake
	Pitch	Transductive pitch regulation
		Passive coil spring from auto stall position
	Brake	Security mechanical brake
		Auto induction brake
TURBINE CONTROL	Electronic control of	High wind speed •Temperature •Frequency •Voltage •Grid failure •Sensor failure
	Electronic system	Programmable system to adapt the turbine Register alarms
INVERTER	Software	Customizable software. General screen of key parameters
	Solar inverter	Fully compatible with solar inverters of more than 27 kW, enables 500V of fix voltage.

POWER CURVE



ANNUAL PRODUCTION



E200 WIND TURBINE TECHNICAL PROFILE

PITCH CONTROL

Patented technology. Characteristics:

- Sturdiness
- High endurance
- Full angle pitch control
- Spring passive security, if any fault
- Hydraulic control

Scalable technology from 5 to 100 kW of power:

- Simple
- Very secure
- Fully controlled

ELECTRONIC CONTROL

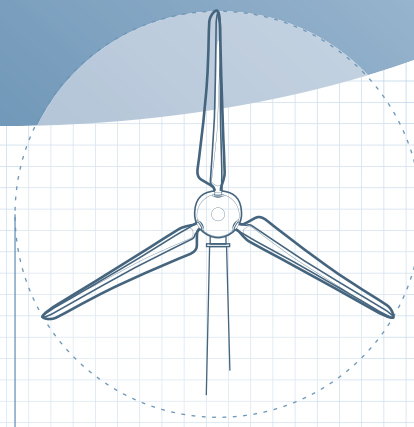
Multi-program functions:

Full control of:

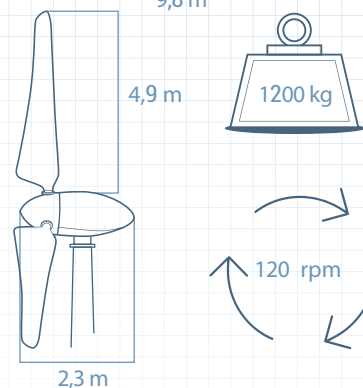
rpm, Hz, m/s, torque, AC/DC voltage

Reads all the turbine parameters, which let you decide the best actions in external controls to optimize your production and security.

The software enables different types of behaviours depending on the wind conditions to increase the efficiency.



9,8 m



4,9 m

1200 kg

120 rpm

2,3 m

THE HIGHEST TECHNOLOGY IN SMALL WIND TURBINES

The transducer technology gives a total control of each parameter through a magnetic induction to get a total control of the turbine, with total fiability. The information received is processed by software to choose the best behaviour

ACTIVE PITCH AND PASSIVE PROTECTION

The active pitch control enables the position of the blade for production to vary for each engine rotation speed and wind speed from the beginning up to high wind speed.

The benefits of mechanical simplicity and advanced electronics are combined to make a perfect tandem and maximize energy production.

THE CFD AND AERODYNAMIC DESIGNS

For the full wind turbine design it has been done a complex aerodynamic study based on the most modern techniques of computational fluid dynamics.

In this case, the studies required a very high computing capacity and expert knowledge because the conditions are complex due to the wind turbines operation conditions.

MONITORING SYSTEM

To say that our product is the best, it is necessary to prove it, so we have chosen to provide a complete monitoring system of various parameters of the wind turbine to left the user to check the production and it condition, even from the Internet, without being on site.



Silent

The airfoil is a combination between NACA and FX designed to maximize the production and minimize noise generation.



Efficiency

Our system enables the generator to produce the maximum power from the start of rotation.



Greater safety than ever

4 safety systems, active and passive. Active mechanical brake, aerodynamic stall, passive spring and magnetic brake



Waterproof

The external design and the internal materials are made with tropicalization treatment to install on islands, deserts or very aggressive environments.



High endurance

According to the IEC 61400-2 the security factor has to be $F_s=6$ in our design we have a lot components with $F_s=9$ or 10, that can withstand much higher loads.



PREMIO A LA
INNOVACIÓN EMPRESARIAL
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IN PROCESS OF CERTIFICATION:



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