

70

Wind Turbine

TECHNICAL PROFILE

With a mean wind speed situated in a rated of 10 - 12 m/s. The model is capable of generate more than 70 kwh/dia.

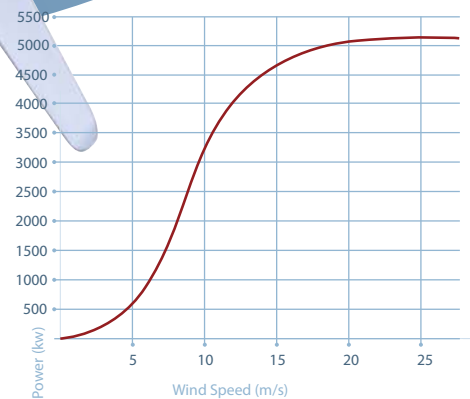


TECHNICAL FEATURES, ELECTRICAL AND OPERATIONAL

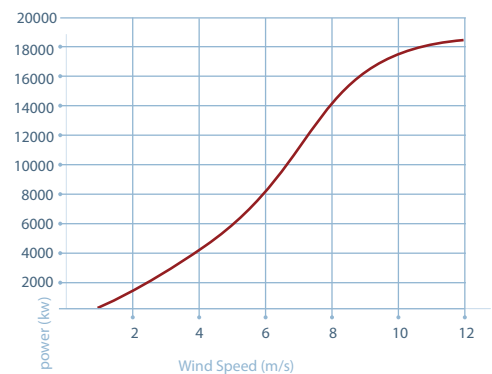
Number of Blades	3
Propellers Material	Fiberglass epoxy resins and polyurethane core
Generator	250 RPM 24 poles neodymium magnets
Power	5500 W
Rated power curve	4000 W
Voltage	24 / 48 / 220
Wind class	IEC / NVN I - A
Diameter	4,3 m
Turning sense	Clockwise
Swept area	14,5 m ²
Weight	165Kg
Applications	Isolated connections Batteries, electric grid connection
Wind to start	1,8 m/s
Rated speed	12 m/s
Speed regulation of pitch	13 m/s
Speed suported	More of 60 m/s
Efficient generation range	2 to more than 60 m/s
Type	Upwind Horizontal Rotor
Orientation	Rudder passive guidance system
Power control	Passive system variable pitch, centrifugal
Transmission	Direct
Brake	Electrical
Controller	Optional grid connection and battery charging
Inverter	Efficiency 95%; MPPT algorithm
Noise	Minimized: due to the design of the blades and low revolutions. DB 1% more that the ambient noise of the wind.
Anti corrosive protection	Fully sealed design, with elements of metal cataphoresis, epoxy paint for saline envoirements of high humidity.
Tower	12, 15 y 18 m, folding, guyed or lattice

OPTIMAL PRODUCTION
EVEN MORE THAN 165km/h

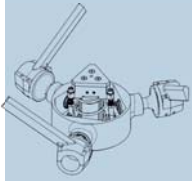
POWER CURVE



ANNUAL PRODUCTION



PASSIVE VARIABLE PITCH



Patented technology to maximize the energy
It's a mechanical system that thanks to the generation of an inertia wheel, it modified the aerodynamic vector of the blades to obtain in each case the maximum energy of the same and never exceeds its rotor RPM.

Thanks to this we got:

- Less noise
- More ability to absorb high winds
- More consistency in the generation
- More energy with less wind

ELECTRONIC CONTROL



System of intelligent energy management

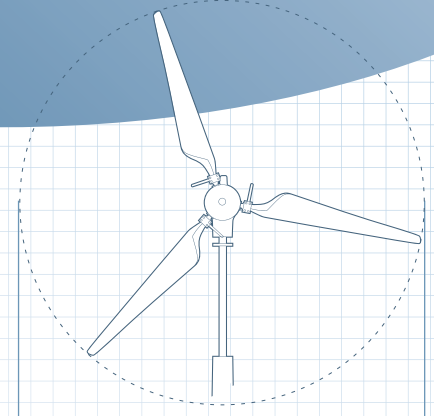
Batteries Connection:

7 types of programmable batteries (Lithium, Lead, gel, etc.)
Charging shunt resistor pulses if overload. Only derives the excess can't charge, for protect the batteries.

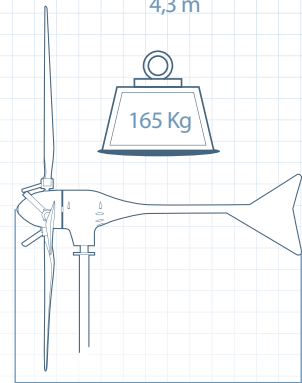
On Grid Connection:

Through the MPPT invertors, which are programmed with wind power curve that maximizes energy all times.
Compatible with triphasic grids, monophasic and European and American systems.

70 Wind Turbine TECHNICAL PROFILE



4,3 m



3,4 m



A NEW DESIGN, A NEW ENERGY

When you apply the latest technology in design, the latest simulation technology, the best materials in the market and combine it with more than 40 years of experience, the result is:

the best Wind Turbine of the market



MORE EFFICIENCY

A PMG with more powerful magnets and a rotor fully integrated in the magnetic sheet, with improved profiles of the blades make that less wind, be more efficient.



MORE ROBUST

The whole design has been developed, based a center of gravity positioned in the center of mass for balance the tension and improve the loads.



MORE SECURITY

By incorporating new materials like carbon and integration of the epoxy resins with steel, the safety factors increase reaching $F_s=9$.



MORE ENERGY

Joining all the improvements and applying the computational fluid dynamics do we improve a 15% the energy production.



Minimum Noise

The noise is around 1% above ambient noise, being practically invaluable to our ears.



Maximum Efficiency

It works with a simple breeze of 2m/s and continue running at more than 40m/s without losing efficiency in productivity.



Anticorrosive

It treated with cataphoresis, becomes a overall, anticorrosive and perfect for saline in islands and coasts.



Hermetic

Hermetically sealed in all its together, to avoid leaks microparticles humidity and dragging in air. Prevents damage to coast areas or there is a lot of desert zones when have more sand.



Robust

To withstand strong winds and offer a long operating life all equipment parts, are oversized.

IN CERTIFICATION PROCESS...

