

E30 PRO

Wind Turbine

With average wind speed of 11m/s the model Enair 30PRO is capable of generating more than 30kWh/day



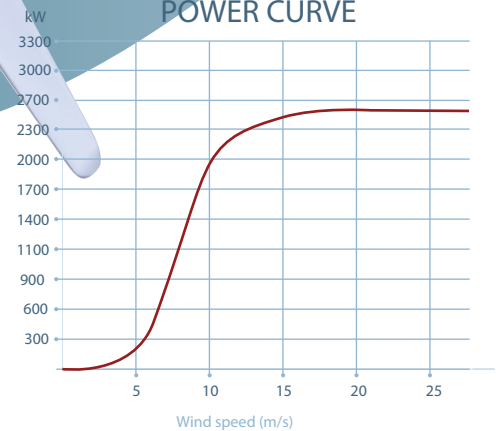
TECHNICAL, ELECTRICAL AND OPERATIONAL FEATURES

Number of Blades	3
Blades material	Fibreglass resins and polyurethane core.
Generator	250 rated rpm neodymium magnets
Power	3000W
Rated power curve	1900W (According to IEC 61400-2)
Voltage	24 / 48 / 220V
Wind class	CLASS I - IEC 61400-2/NVN I - A
Diameter	3,8m
Turning sense	Clockwise
Swept area	11,34m ²
Weight	125kg
Applications	Charging 24 or 48V batteries and grid connection
Wind to start	1,8m/s
Rated speed	11m/s
Speed regulation of pitch	12m/s
Survival speed	60m/s.
Efficient generation range	From 2 to 60m/s.
Type	Upwind horizontal rotor.
Orientation	Rudder passive yaw system.
Power control	Variable passive centrifugal pitch system with 2 actuation speeds
Transmission	Direct
Brake	Electric by short and aerodynamic by variable pitch
Controller	Grid connection and battery charging.
Inverter	Efficiency 97%; MPPT algorithm.
Noise	48dB Reduction to a minimum: due to the design of the blades and the low revolutions. 1% more than ambient wind noise
Anti corrosive protection	Airtight, high-temperature bake-drying epoxy painting, generating a plastic coating
Tower	Lattice, clip, tubular. Variable height axles can be folded according to conditions

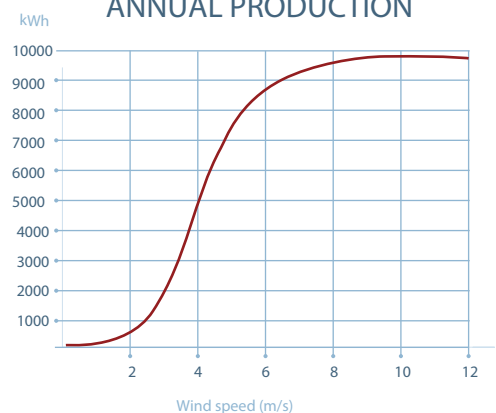
CLASS I Wind Turbine

IEC 61400-2/NVN I - A

POWER CURVE

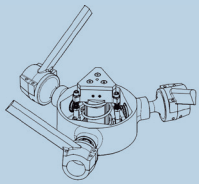


ANNUAL PRODUCTION



E30PRO Wind Turbine TECHNICAL PROFILE

PASSIVE VARIABLE PITCH

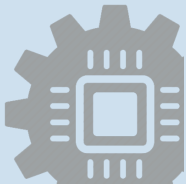


Patented technology to maximize energy production
It is a mechanical system due to what the blades angle of attack of the blades is modified to obtain the maximum energy in each case and never exceeds its rotor rpms

It achieves:

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

ELECTRONIC CONTROL



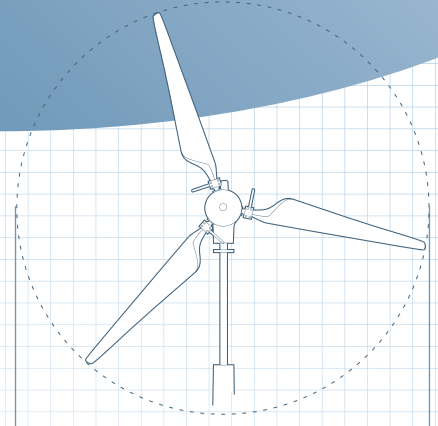
System of intelligent energy management

Batteries connection:

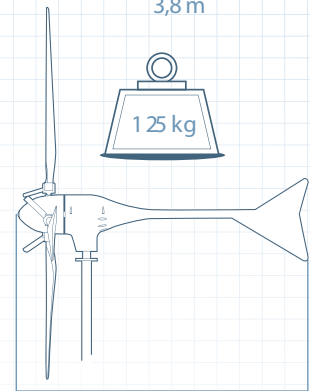
7 types of programmable batteries (lithium, lead, gel, etc.)
Charging shunt resistor pulses if overload. The excess which can't be charged is derived to protect the batteries

Grid connection:

Through the MPPT inverters, which are programmed by the wind power curve that maximises energy production.
Compatible with triphasic grids, monophasic and European and American systems



3,8 m



3,4 m



Minimum noise

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



Maximum efficiency

It works with a simple breeze of 2m/s and continues running at more than 40m/s



Anticorrosive

Epoxy painting, which becomes an covering anticorrosive and perfect for salt on islands and coasts



Hermetic

Hermetically sealed altogether, to avoid microparticles, humidity air entering and prevents damage to coastal or desert areas which have a lot of sand



Sturdiness

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

IN CERTIFICATION PROCESS...



A NEW DESIGN, A NEW ENERGY

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



MORE EFFICIENCY

A PMG with more powerful magnets and a rotor fully integrated in the magnetic sheet, with improved airfiles of the blades makes us with less wind to be more efficient



MORE SECURITY

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



MORE STURDINESS

The whole design has been developed based on a centre of gravity positioned in the yaw axis for balance tension and improve the loads



MORE ENERGY

Making all these improvements and applying the computational fluid dynamics we improve up to 15% at the energy production



PREMIO A LA INNOVACIÓN EMPRESARIAL 2014

