

# Vertical Axis Wind Turbine Kliux Zebra

## Product Specifications Sheet

Reviewed: 22/10/2013



### UNIQUE DESIGN

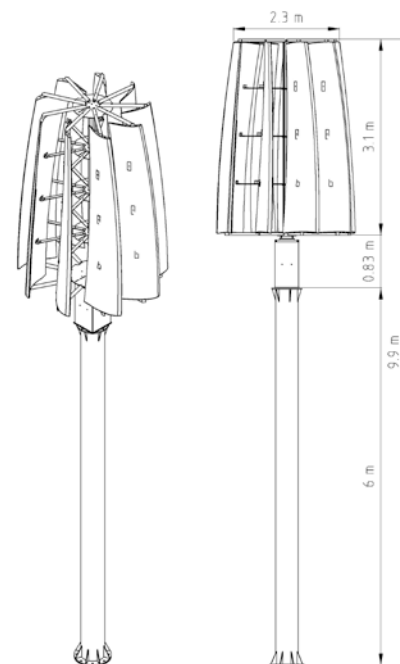
- Designed to maximize energy output in urban, inhabited areas.
- First vertical-axis wind turbine with a 9 alfa ( $\alpha$ ) blade in a Savonius type rotor (drag) made of expanded polyurethane supplied by Bayer MaterialScience.
- Designed and made in Spain.

### PRODUCT ADVANTAGES

- No startup system needed.
- Minimal maintenance.
- Noiseless.
- Aesthetic visual Integration in urban and rural locations.
- Bird friendly.

### APPLICATIONS

- Power generation system best suited for private residences, public areas, rural tourism, sports venues, schools, universities, public parks, industrial areas, farms, water pumping stations and roads.
- Blades provide an excellent platform for branding and advertising.



### WIND TURBINE ASSEMBLY COMPONENTS

Vertical axis wind turbine (VAWT) Kliux Zebra.  
 Gear box. Three-phase Permanent Magnet Generator.  
 Steel mast with anti-corrosion painting protection.  
 Wind inverter Etesian Mini 2600, 2kW, 230 Vac, 50 Hz (Santerno). Grid Connection.  
 GSM/Ethernet Communications module (optional).  
 Weather station (optional).  
 Voltage dischargers.

### WIND TURBINE DIMENSIONS AND WEIGHTS

Rotor + Generator and transmission's weight: 375,00 kg.  
 Mast Weight: starting at 351 kg.  
 Rotor's diameter: 2,36 m.  
 Rotor's / Transmission's height: 3,1 m / 0,83 m.  
 Mast height: starting at 6 m.

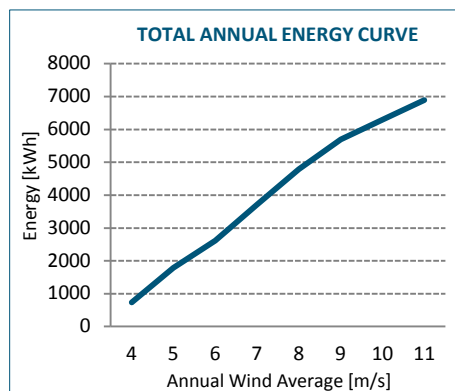
### WIND TURBINE YIELDS

Nominal power: 1.800 W.  
 Start up speed: 3 m/s.  
 Maximum rotation speed: 70 RPM.  
 RPM limited by inverter power curve and generator resistance.  
 Noise at 10 m distance: 32'6 dBA.  
 Durability: 25 años.

### ADDITIONAL INFORMATION

Blades' material: Expanded polyurethane from Bayer MaterialScience.  
 Rated output voltage: 230 Vac. ( $\pm 15\%$ ).  
 Certifications: ISO: 9001, 14001 y CE.  
 Certifications in progress: IEC 61400 -2/ -11/ -12, AWEA 9.1, BWEA 2009 Standard.

WIND AVERAGE (m/s)	ANNUAL ENERGY GENERATED (kWh)
4	736
5	1.789
6	2.616
7	3.717
8	4.793
9	5.693
10	6.296
11	6.892



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