Solar Photovoltaic Wind Hybrid System

Product Specifications Sheet

Reviewed: 22/10/2013

UNIQUE DESING

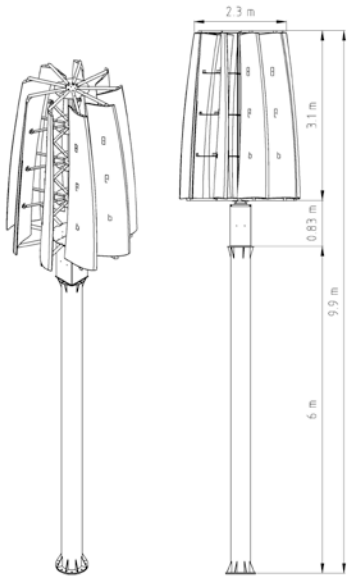
- Designed to maximize energy output in urban, inhabited areas.
- First vertical-axis wind turbine with a 9 alfa (α) blade in a Savonius type rotor (drag) made of expanded polyurethane supplied by Bayer MaterialScience.
- Designed and made in Spain.

PRODUCT ADVANTAGES

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

APPLICATIONS

- Ideal for supplying 100% of the electricity consumption of an average household.
- 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).
GSM/Ethernet Communications module (optional).
Weather station (optional).
Voltage dischargers.

SOLAR PHOTOVOLTAIC ASSEMBLY

15 Photovoltaic panels (monocrystalline) at 265 W each (3.975 W total).
Solar Inverter Sunny Boy SB4000 TL-20, 4200 W, 230 Vac, 50 Hz (SMA).
Aluminum structure to host the photovoltaic panels.

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

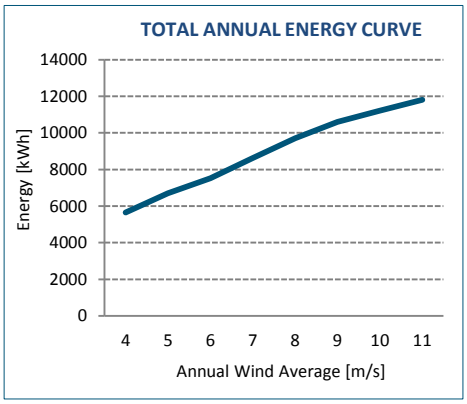
Nominal power: 1.800 W.
Start up speed: 3 m/s.
Maximum rotation speed: 70 RPM.
RPM limited by invertor power curve and generator resistance.
Noise at 10 m distance: 32'6 dBA.
Durability: 25 años.

ADDITIONAL INFORMATION

Blades' material: Expanded polyurethane.
Rated output voltage: 230 Vac. (± 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	5.649
5	6.702
6	7.529
7	8.630
8	9.706
9	10.606
10	11.209
11	11.805

* PV production considering a location with 4.5 HSP



Note: The data reflected here may differ without notice.

Kliux Energies · C/ Los Almendros 14. Polígono Industrial Cantabria II, 26009 Logroño, La Rioja, España | Telf.: +34 941 102 410 | Email: info@kliux.com

Web: www.kliux.com www.facebook.com/KliuxEnergies @KliuxEnergies www.youtube.com/KliuxGeolica