



Segen is meeting the need for affordable clean energy.

Segen is committed to the production of clean and affordable energy through the development of sustainable energy generation projects.

Segen is an authorised distributor and installer for the Kestrel 1000 turbine which is a very efficient and cost effective small wind turbine. The Kestrel small wind turbine generates exceptional levels of power for its size, but is remarkably quiet.

Segen can supply, install and support the Kestrel 1000 turbine to help power semi-rural domestic properties and many more applications.

Segen works in a partnership with site owners, financiers, suppliers and other stakeholders to guide projects through the process until the energy starts to flow and beyond.

Segen also sells the Iskra AT5-1 5kW wind turbine, for larger, more power hungry applications.



1kW Wind Turbine



HIGHLIGHTS

Overview

A 1kW small wind turbine suitable for making a contribution to the power needs of semi-rural domestic properties and many more applications, available in on or off grid configurations.

Ⓐ

The Kestrel 1000 uses a polyphase brushless permanent magnet generator for high efficiency..

The Kestrel 1000 is for serious small wind energy generation

Performance

The energy capture of the Kestrel turbine is unusually high at low wind speeds due to its low start-up wind speed, thus making wind energy generation feasible at locations where the average wind speed is low.

Reliability

The Kestrel turbine is intended for a range of conditions from remote rural locations to turbulent conditions around buildings. The design life of the machine is 20 years.

Cost

The Kestrel 1000 is very competitively priced and has been designed for ease of installation to minimise costs.



1000 Technical Specification



EFFICIENCY AND RELIABILITY FOR MAXIMUM LIFETIME POWER GENERATION

Efficiency

The efficient three blade configuration drives the axial flux permanent magnet rotor.

The alternator output is matched to the blade characteristic by using new step generation principles. The Kestrel 1000 produces full power in any excess wind speed by simply spilling the wind by automatically pitching the blades.



Reliability

Kestrel have been developing and selling small wind turbines for many years to operate in the harsh South African climate.

The Kestrel 1000 is a new model from a well proven range and has been developed in line with the demanding IEC-61400-2 international standard and comes with a full two year warranty.

Characteristics

Generator rating	1kW at 9.5 m/s
Rotor speed	750 rpm nominal (variable)
Cut-in wind speed	3 m/s
Survival wind speed	60 m/s (134 mph)
Rotor diameter	3 m
Rotor orientation	Upwind
Number of blades	3
Blade material	Moulded glass fibre
Control system	Self stalling blade
Gearbox	None
Brakes	Electro-dynamic
Generator	Permanent magnet alternator
Yaw control	Tail vane
Tower height	9 or 12 m, depending on site
Tower	Free-standing or guyed.

Performance

At a particular location, the wind speed will vary about an annual mean value. The expected energy yields for the Kestrel 1000 at various annual mean wind speeds (AMWS) is shown below.

AMWS m/s	Annual MWh	Daily kWh
4	1.2	3.2
5	2.2	6.0
6	3.2	8.8
7	4.2	11.5
8	5.0	13.7
9	5.6	15.3

Note: The annual electricity consumption of a medium size home is in the region of 4 to 6 MWh. This is equivalent to a daily consumption of 11 to 16 kWh. At a 6m/s AMWS site, the Kestrel 1000 should therefore generate approximately 60% of the annual energy needs.



Phone: 0845 094 2445
Fax: 01252 336934
E-mail: info@segen.co.uk
www.segen.co.uk/wind

Wesley Hall,
Barrack Road
Aldershot
Hants, GU11 3NP.