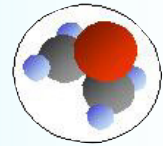


CARBON CONCEPTS LIMITED

WIND TURBINE BROCHURE

March 2006

www.carbonconcepts.co.uk



The Wind Turbine

Carbon Concepts is now close to completing the development of a 2.5 kW (at 12 m/s) vertical axis wind turbine. The turbine has been on test for almost a year, driving our own generator, and has survived the winter with no ill effects. During our testing, we have learned important lessons that will benefit our future customers. The development has confirmed that the vertical configuration, combined with our advanced blade and tip aerodynamics, result in a machine that is effectively silent, even at high load and speed.

We expect to be in a position to offer the wind turbine for sale by mid 2006. Following the 2.5 kW turbine, we are building a 1.5 kW machine, and have also started the manufacture of a 5 kW generator.

We offer our design and manufacture experience to other makers of wind and water turbines.

Technical Specification

Provisional specification

- Vertical axis wind turbine
- 3 blades
- Carbon Concepts "scimitar" tips
- Rating - 2.5 kW at 12 m/s
- Speed at rated power 250 RPM
- Diameter 3.25 m
- Over-speed protection - Electrical braking; separate circuit on each of the three phases.
- Parking brake
 - Mechanical disc brake
 - Electrical brake
- Tower - options for either a three legged portable, or conventional un-stayed .



Applications

Conventionally modern wind turbines are used to generate electricity. However, our vertical axis turbine can also be used to pump water, drive hydraulics, power heat pumps etc.

The prototype machine powers our own matching three phase generator. Depending on the customers' application, this may be matched to;

- Mains integration
- Direct water heating
- Battery charging

In urban and built environment applications, the silence of the vertical turbine makes it

suitable for roof and building mounting.



Many inland areas will not have many days in the year when the wind blows at 12 m/s or above. In these cases, the turbine can be matched to a smaller generator, which provides a better power capture on average days.

Ratings

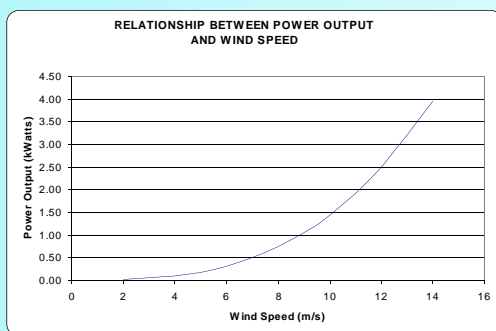
The Carbon Concepts wind turbine is rated at 2.5 kW at a wind speed of 12 m/s.

The turbine over-speed protection will cut in beyond 14 m/s

The power output is strongly dependent on wind speed. The characteristic is shown in the graph.

Other products

We can also produce blades for horizontal and axial turbines. The illustration shows both straight and helically twisted blades for a 5 kW turbine. We offer this service to clients requiring high quality blades of advanced aerodynamic and structural design.



Download more information

[Generator brochure](#)
[Latest Newsletter](#)

Contact Carbon Concepts;
[Click here to e-mail us](#)