

TECHNICAL DATA

CARTER WIND TURBINE MODEL 500

Rotor

Type	Horizontal Axis / Downward
Number of Blades	2
Area	7854 ft ²
Diameter	100 ft
Speed	10 - 58 rpm
Type of Hub	Teetering Hub
Tilt Angle	2°
Pre-cone	8°

Blades

Material	Fiberglass Composite
Blade Design	Non-linear Twist & Taper, Custom Airfoils
Blade Pitch	Fixed – Except Shutdown

Transmission

Type	Two Stage Planetary
Ratio (at 60 Hz)	1 : 36

Generator

Type	Induction – AC
Rated Power	500 kW
Voltage	480 V, 60 Hz
Speed	2088 rpm, 60 Hz

Tower

Type	Tubular / Tilt-up
Number of Guy Wires	4
Height	149 - 250 ft
Foundation	40 - 50 yd ³ concrete

Performance

Max Power	500 kw
at Windspeed	34 mph
Cut-in Windspeed	4.0 mph
Cut-out Windspeed (adjustable)	60 mph
Design Max Windspeed	160 mph

Control System

Type	Aerodynamic Stall Controlled
Overspeed	Deep Stall, by Twisting the Spar & Increasing Blade Pitch. Brake Backup

Yaw Drive

Type	Active Outside ±15° Window, Inside Window Free Yaw with Dampening
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Shell

Material	Fiberglass Composite
Size (LxWxH)	16 x 4 x 4.5 ft

Weights

Blades/Hub Assembly	4,400 lbs
Tower/Gin Pole	17,800 lbs
Nacelle	8,800 lbs
Miscellaneous (control box, guy wires, etc.)	3,900 lbs
Total Weight	<u>34,900 lbs</u>

Safety Devices

- Manual Shut-Off
- Electronic and Mechanical Overspeed Shutdown
- Deep Stall Braking Independent of Power Supply
- Emergency Braking and Parking by Means of an Integrated Spring-Loaded Disk Brake