The ORENDA SKYE™ Wind Turbine Solution

General Configuration

Annual Energy Production (AEP):
104,000 kWh (at 5m/s; hub height)
Rated Power: 49kW (at 10 m/s)
Total Turbine/Nacelle Weight:
3304 kg
Operating Temp: -10°C to +40°C
Type: 3 Blade; Upwind
Pitch System: Fixed Pitch
Drive System: Direct Drive
Design Class: IEC 61400 Class II
Cut-in Speed: 3.5 m/s
Cut-out Speed: 25 m/s
Survival Speed: 59.5 m/s
Integrated Lightning Protection

Rotor

Blade Length: 9.2m
Weight: 660kg
Diameter: 18.9m
Swept Area: 286.5m^2
Material: Fiberglass
Maximum RPM: 54 RPM

Yaw System

Type: Active (Computer Controlled)
Drive: Digitally Controlled Hydraulic Motor

Control System

Electrical (Grid) Load Presentation via the Regenerative Drive System (RDS)
Dynamic Hydrostatic Brake - Rotor speed control
Hydraulic Parking Brake - Fail-safe hydraulic brake module to maintain turbine in parked position
Resistive Load - Supplemental resistive load in the case of grid failure, or loss of power to the turbine tower

Controller

Processor: Advanced embedded DSP system running Orenda OS 4
User Interface: 10” HMI with Orenda Iris™ access
Remote Communications: Internet enabled via Ethernet
Monitoring System: Orenda Iris™ Internet-based
Internal Communications: Modbus TCP via shielded Ethernet

Alternator

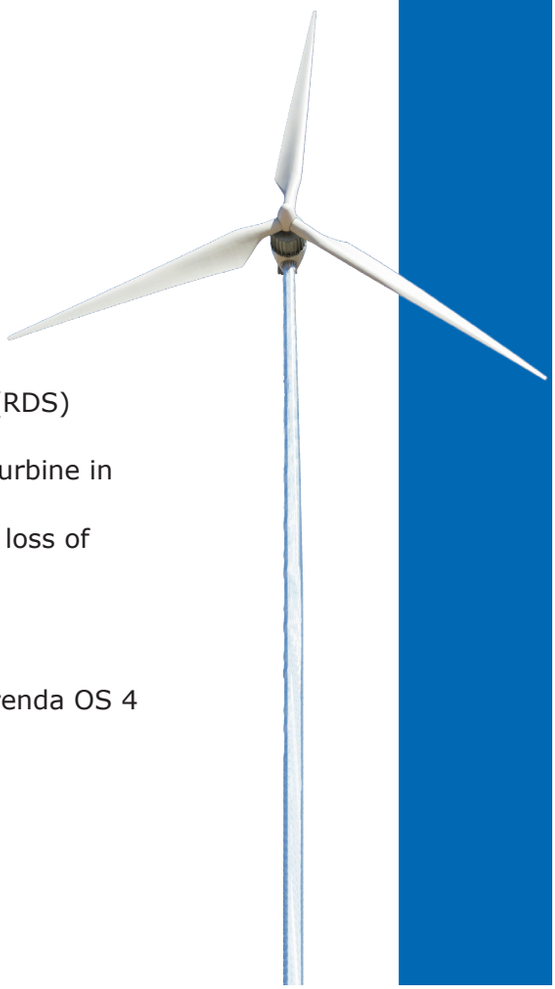
Type: Permanent Magnet
Voltage: 480VAC
Cooling: Air Cooled

Regenerative Drive System

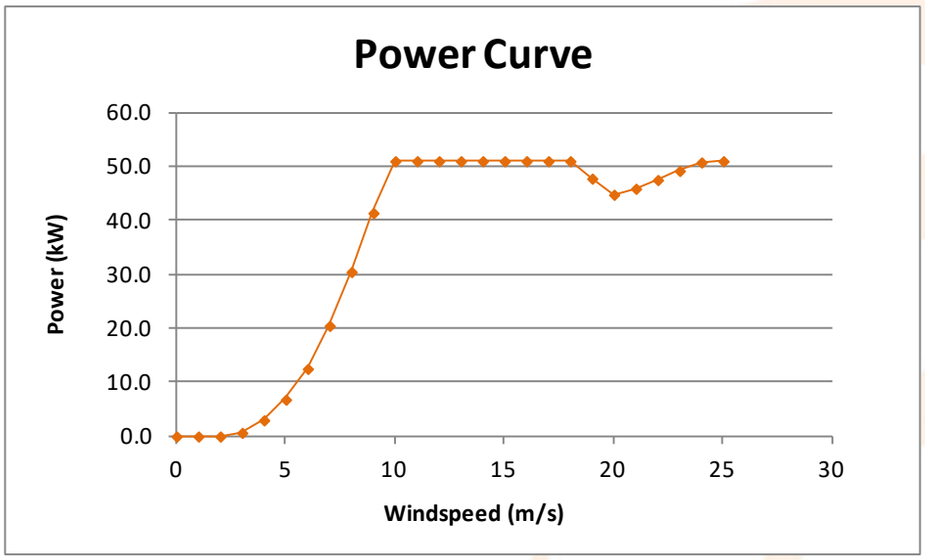
Inverter Type: AC/DC - Variable, Frequency Drive
Converter Type: AC/DC - Pulse width modulated IGBT frequency converter
Voltage: 400VAC, 3 phase
Frequency/Phase: 60Hz or 50Hz

Hydraulic Tower Options

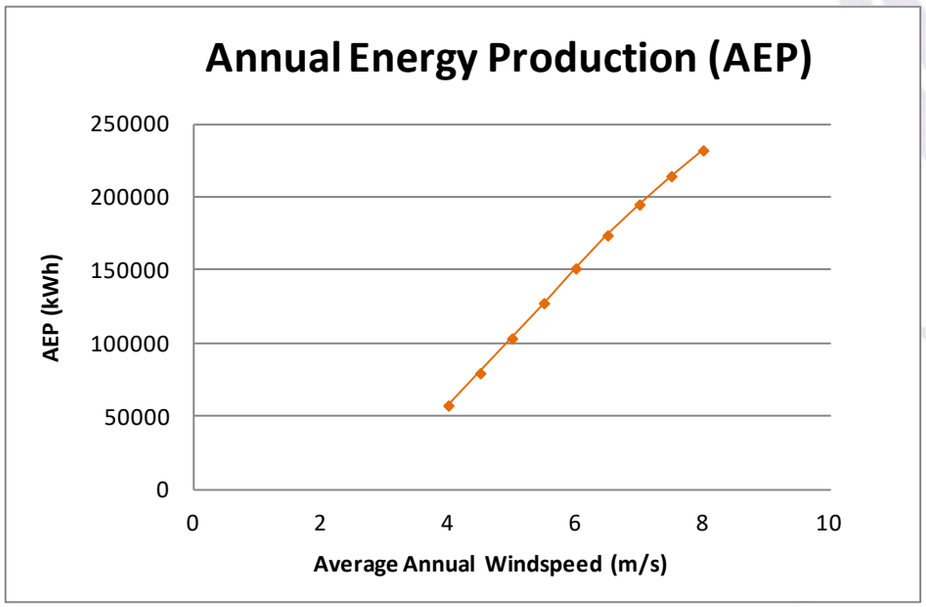
Design: Patented; self-contained, fully integrated, hydraulically operated tower (U.S. Pat: 8,371,074)
Lowers to the ground in approximately 20 mins with only 1 operator
Tower Heights: 18.5m, 23.4m, 31.7m



All specifications subject to change without notice



Rated Power at 10 m/s: 51kW



Annual Energy Production (AEP) at 5 m/s; hub height: 104,000 kWh

Graphs based on manufacturer's data
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