Società Elettrica Italiana

Rivenditore Ufficiale

THE ORENDA SKYE™ WIND TURBINE SOLUTION

General Configuration

Annual Energy Production (AEP): 104,000 kWh (at 5m/s; hub height)
Rated Power: 51kW (at 10 m/s)
Total Turbine/Nacelle Weight: 3304 kg
Operating Temp: -20°C to +45°C
Type: 3 Blade; Upwind
Pitch System: Fixed Pitch
Drive System: Direct Drive
Design Class: IEC 61400 Class II
Cut-in Speed: 3.0 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: 19.1m
Swept Area: 286.5m²
Material: Fiberglass
Maximum RPM: 55 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 hydrostatic disc brake 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 via RS485

Generator

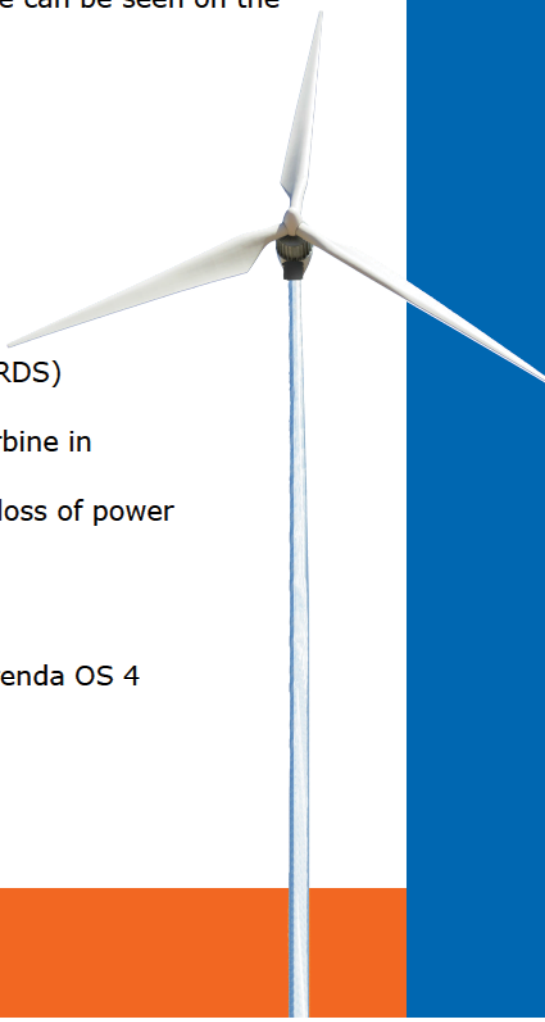
Type: Permanent Magnet
Rated Power: 51kW, 3 Phase
Voltage: 480VAC
Cooling: Air Cooled

Regenerative Drive System

Inverter Type: AC/DC - Variable, Frequency Drive
Converter Type: AC/DC - Pulse width modulated IGBT frequency converter
Voltage: 480VAC, 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, 24.5m, 30.5m, 36.6m
(An illustration of the tower base can be seen on the reverse)



** All specifications subject to change without notice*

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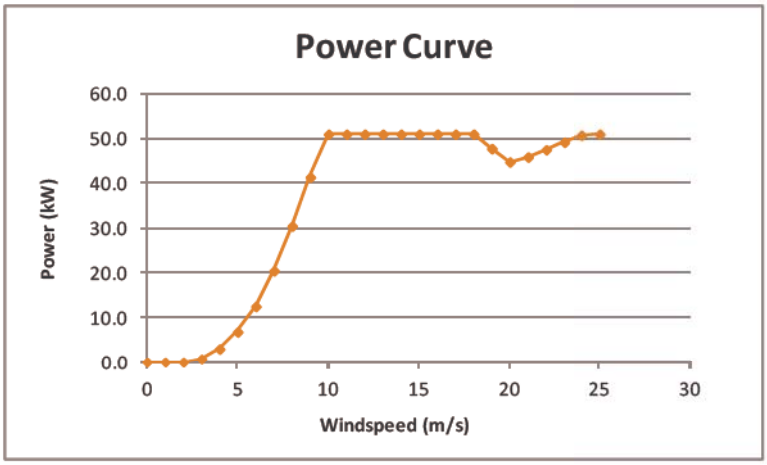
ORENDA IRIS™

Every Orenda wind turbine is set up for real-time monitoring through remote access using Iris™ (proprietary software). This software connects securely over the internet providing real-time:

- **Remote configuration & operation of system online**
- **Performance data, including wind speed and power production**
- **Remote shut down and restart of the turbine, invaluable in areas where the weather changes quickly and severely**
- **Collection of data, including RPM, voltage levels, average wind speed, export power and state of wind turbine**



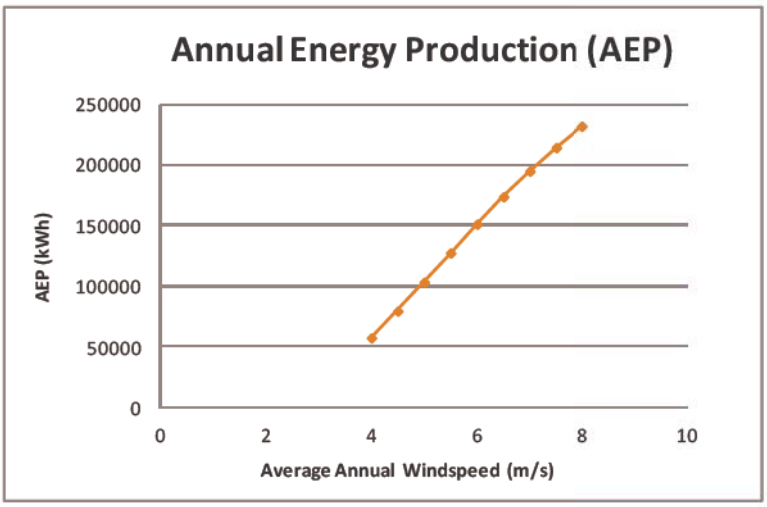


Illustration:
Orenda's proprietary multi-pivot point hydraulic tower base

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Graphs based on manufacturer's data

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