

Global Water & Energy Ltd.
Global Energy Technologies, Inc.
PO Box 90756, Long Beach, CA 90809-0756, USA
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750 kW Horizontal Axis Wind Turbine - Specifications



Performance

Rated Power: 750kW

Cut-in Speed: 3 m/s

Rated Speed: 12 m/s

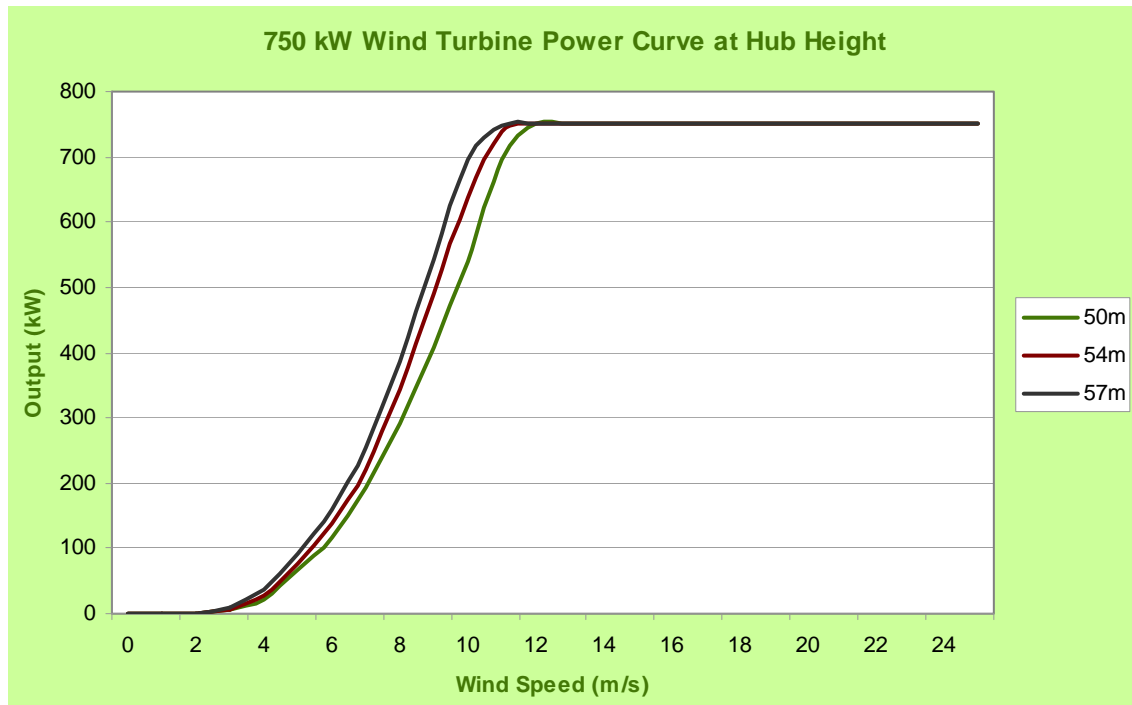
Top Speed: 25 m/s

Primary Brake: Blade pitch (aerodynamic, battery back-up)

Secondary Brake: Mechanical brake (4 Discs, Active hydraulic)

Tip brake control: Hydraulic control

Direct drive concept without gearbox



Measurements

Rotor Diameter: 50 meters

Number of Blades: 3

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Hub Height: 50 meters (54 and 57 meters hub heights also available)



Generator

Generator: Permanent Magnet, Synchronous
Cooling: Liquid cooling
Rated Power: 807 kW
Rated Voltage: 780V
Grading Protection: IP54
Insulation Levels: F

Power Converter

Type: AC/DC/AC Inverter
Voltage: 690
Frequency: 60Hz

Grid Compatibility

Frequency: 60 Hz +/- 1 Hz during 0.1 sec
Over voltage: 690 VACx110% during 0.1 sec
Under voltage: 690 VACx90% during 0.1 sec
Phase unbalance: 120+/- 6 degrees

Noise Performance

SPL@8m/s: 100dB(A)

Control System

Processor: Programmable Logic Controller, PMU interface
Communication: Profibus – DP, CAN BUS
Pitch Control: RMP Regulation
SCADA: Web based (ISDN possible)
Grid monitoring: Digital Power Meter

Yaw System

Type: Active control of wind
Drive: 3 x Asynchronous motor
Yaw Braking: Active hydraulic disc brakes
Yaw Bearing: Ball bearing

Condition-based Monitoring

Power converter cooling
Generator cooling
Bearing temperatures

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Vibration monitoring
Hydraulic system pressures
Rotor brake wear detect

Environmental

Temperature range: -15 to 40°C in operation, -20 to 55°C stand still
Lightning protection: Blade receptors, internal ground conductor, Nacelle lightning brush, IEC61400-24

