



MODEL: P17-50 (I) WIND TURBINE TECHNICAL SPECIFICATIONS

GENERAL

Type	Horizontal Axis, Upwind
Rated power	53kW
Model	P17-50 (I)
Design Class	IEC SWT CLASS II
Design Standard	IEC 61400-1
Cut-in Speed	2.7m/s (6.0 mph)
Rated Speed	11.0m/s (24.60 mph)
Cut-out Speed	25m/s (55.9 mph)

DESIGN CLASS

IEC CLASS II STANDARD	Air density 1.225kg/m ³ average annual wind below 8.5m/s, 50 yr peak gust below 59.5 m/s
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PITCH SYSTEM

Type	Fixed Pitch
Drive	Not Applicable

HUB

Type	Cast Hub
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MACHINE FRAME

Type	Steel
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GENERATOR

Type	Permanent Magnet
Rated Power	53kW, 3 Phase
Voltage	460VAC
Cooling	Air Cooled

POWER INVERTER

Type	Variable Frequency Drive AC/DC
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POWER CONVERTER

Type	DC/AC Pulse-width modulated IGBT frequency converter
Voltage	240VAC - (1) or 240/460VAC - (3)
Frequency/Phase	60Hz or 50Hz/ (1) or (3)

ENVIRONMENTAL LIMITS

Survival Wind Speed	59 m/s (132 mph)
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LIGHTNING PROTECTION

Standard	Surge Suppression on Generator Lightning Rod Lightning Wires in Blades
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ROTOR

Diameter	16.5m (54.1ft)
Material	Fiberglass/Resin
Operation RPM	68 RPM

DRIVE TRAIN

Type	Direct Drive
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SPEED REGULATION

Generator	Torque Control from Drive
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BRAKING SYSTEMS

Emergency Back Up Speed Reg	Regenerative Brake
Loss-Grid Power/DC Buss overvol	Dynamic Resistive Brake
Emergency Shutdown/ Parking	Dual Caliper Disc Brake

CONTROLLER

Processor	PLC
User Interface	HMI
Communications	Ethernet
Monitoring System	Web Based

TOWER

Type	Tubular
Hub Height	24m 30m 36.6m (78.7ft) (100ft) (120ft)
Number of Sections	2 3 4

TEMPERATURE CONDITIONS

Standard Operation	-10°C to 40°C (14°F to 104°F)
Extreme Temperature Range	-25°C to 50°C (-13°F to 122°F)

WEIGHT

Nacelle	6,443kg (14,200lbs)
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NOISE PERFORMANCE

Apparent Noise Level	50-55 db at 30m (100ft)
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YAW SYSTEM

Type	Active
Drive	AC
Brake	Electric
Yaw Bearing	Ball Bearing

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