



3.5 kW Wind Turbine System Specification Sheet

Wind is a naturally occurring and abundant resource and is one of the cleanest ways to produce electricity. Very little processing needs to be done to convert it into clean, free energy. Operation of our wind turbines produces no pollution with no emissions, excessive noise or waste heat by-products. Wind can be harvested with minimal impact on the environment, a very important factor in meeting our increasing energy needs.

Synergy

- Solar
- Biomass
- Diesel Generator
- Hydroelectric
- Geothermal

Applications

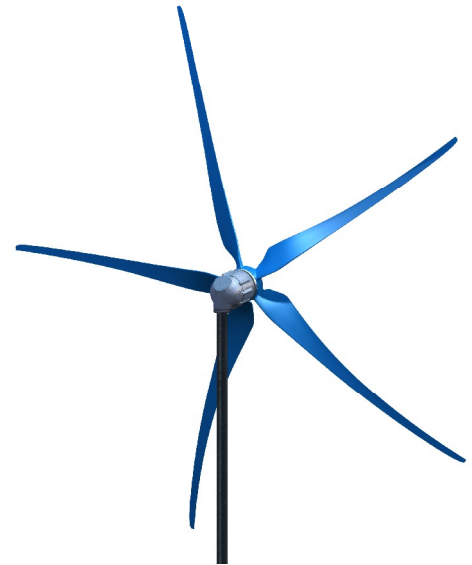
- Commercial and Industrial
- Residential and Resort
- Agricultural
- Remote Communities
- Off-Grid Power
- Institutional and Public

Key Benefits

- Energy cost savings from wind generated power
- No scheduled maintenance
- Designed to reliably operate in harsh cold & hot climates
- Operation creates virtually no environmental impact
- Cost-effective and financially viable
- 5-Year Warranty

Turbine

Rated Power Output	3.5 kW
Energy Production*	500 kWh/month
Type	5 blades, downwind
Generator	Gearless, brushless, permanent magnet
Swept Area	12.6 m ² (135 ft ²)
Blade Length	2 m (77 5/8")
Blade Material	Fibreglass reinforced plastic
Total Turbine Mass	68 kg (149 lb)
Voltage/Phase @ Rated Power	120 Vac peak
Current/Phase @ Rated Power	12 Aac peak
Generator NEMA Rating	Class F, 5 HP
Life Expectancy	> 20 years
*5.0 m/s (18 km/h) average wind speed, Rayleigh Distribution, Sea Level elevation	



Operational Data

Rated Wind Speed	11 m/s (40 km/h or 24.4 mph)
Start-up Wind Speed	3.2 m/s (12 km/h or 7.5 mph)
Braking Wind Speed	15 m/s (54 km/h or 34mph)
Furling Method	Active Braking System (ABS)
RPM at Rated Power	350 RPM
Survival Wind Speed	50 m/s (180 km/h or 112 mph)
Survival RPM	1,000 RPM

A Revolution in Wind Energy

Inverter

Type	Raum4000i Grid-tie
Input Power Rating	4kW
Electrical Input	Three-phase
Max Input Voltage	190 Vrms/phase
Max Input Current	20 Arms/phase
Output Voltage	240 Vrms True Sine Wave
Max Output Current	15 Arms True Sine Wave
Power Factor at Output	>0.99
Certifications	CSA 22.2 #107.1 and UL 1741
Enclosure Weight	19.4 kg (43 lb) per unit
Size	510 mm x 300 mm x 150 mm

System Power Curve

Wind Speed (m/s) [mph]	Power Out (W): Grid-tie
3 [6.7]	51
4 [8.9]	134
5 [11.2]	297
6 [13.4]	563
7 [15.7]	1000
8 [17.9]	1569
9 [20.1]	2233
10 [22.4]	3064
11 [24.6]	3500
12 [26.8]	3500
13 [29.0]	3500
14 [31.3]	3500
15 [33.5]	3500
16 [35.7]	0

Tower

Tower Type	Engineered free-standing steel monopole
Installation Method	Gin pole; no crane required
Foundation	3 m ³ (4 cu yd) concrete (varies by region)
Number of Sections	4 x 3.7 m (12') sections
Tower Height to Nacelle	14.6 m (48')
Tower Mass	410 kg (900 lbs)
Max Lateral Load at Mast	5000 N (1120 lbs)
Max Vertical Load at Mast	880 N (200 lbs)
Survival Wind Speed*	180 km/h (112 mph)

*With 1850 N (416 lbs) loading at mast tip

Annual Energy Production

Ave Wind Speed (m/s) [mph]	kWh/year: Grid-tie
4 [8.9]	2992
4.5 [10.1]	4390
5 [11.2]	6220
5.5 [12.3]	7498
6 [13.4]	9467
6.5 [14.5]	10,994
7 [15.7]	12,292
7.5 [16.8]	13,837

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