

**1.3 kW Wind Turbine System
Specification Booklet**



Let's start a Revolution

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.

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
- Warranty

Applications

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

Synergy

- Solar
- Biomass
- Diesel Generator
- Hydroelectric
- Geothermal

Raum Energy 1.3 kW Wind Turbine System

Turbine

Rated Power Output	1.3 kW
Energy Production*	260 kWh/month
Type	3 blades, horizontal axis
Generator	Gearless, brushless, permanent magnet
Swept Area	6.8m ²
Blade Diameter	2.9 m
Blade Material	Fibreglass reinforced plastic
Total Turbine Mass	39kg
Voltage/Phase @ Rated Power	125Vac peak
Current/Phase @ Rated Power	3.6Aac peak
Generator NEMA Rating	Class B, 2 HP
Life Expectancy	> 25 years

* 5.4 m/s average wind speed, Rayleigh Distribution, Sea Level elevation



Operational Data

Rated Wind Speed	11 m/s (39 km/h)
Start-up Wind Speed	3 m/s (11 km/h)
Furling Start-up Wind Speed	10m/s (36 km/h)
Furling Method	Spring/hinge-based tilt-up
RPM at Rated Power	800 RPM
Survival Wind Speed	45 m/s (162 km/h)
Survival RPM	1,400 RPM

Conversion Table

m/s	km/h	mph
4	14	9
6	22	13
8	29	18
10	36	22
12	43	27
18	65	40
25	90	56
45	162	101

Inverter

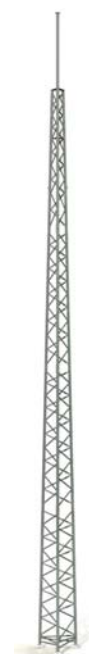
Type	Grid-tie
Input Power Rating	1350 W
Electrical Input	Three-phase
Rated Input Voltage	125 Vac peak/phase
Rated Input Current	3.6 Aac peak/phase
Output Voltage	120 Vrms True Sine Wave
Max Output Current	10 Arms True Sine Wave
Power Factor at Output	>0.99
Certifications	CSA22.2 #107.1 and UL 1741
Enclosure Weight	8 kg
Size	300 mm x 300 mm x 100 mm



Tower

Tower Type	Engineered free-standing steel truss tower
Installation Method	Tilt up with gin pole; no crane required
Foundation	3 m ³ reinforced concrete block
Number of Sections	Four 3 m (10') sections plus 2 m mast
Tower Height to Nacelle	14.5 m (48')
Tower Mass	165kg
Max Lateral Load at Mast	2200 N (500 lbs)
Max Vertical Load at Mast	440 N (100 lbs)
Survival Wind Speed*	45 m/s (162 km/h)

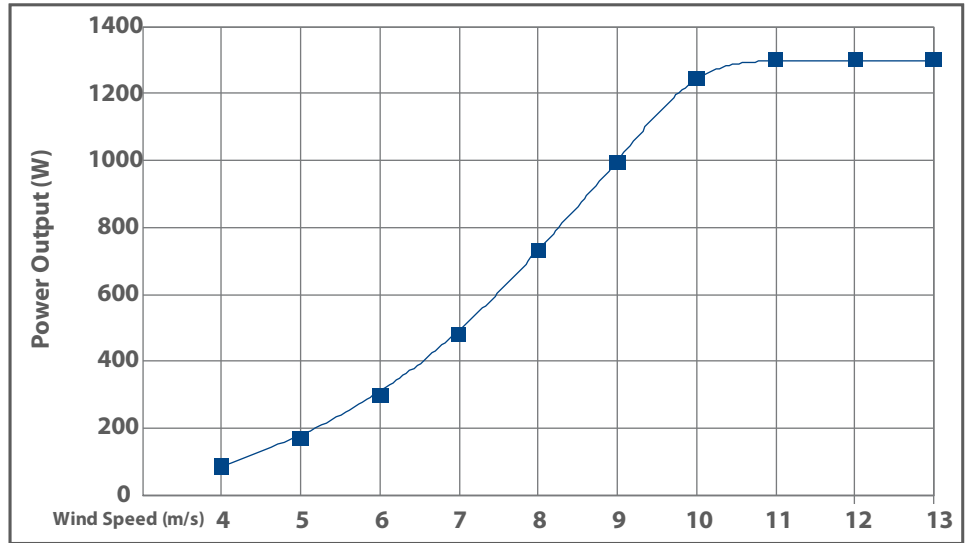
* With 2200 N (500 lbs) loading at mast tip



A Revolution in Wind Energy

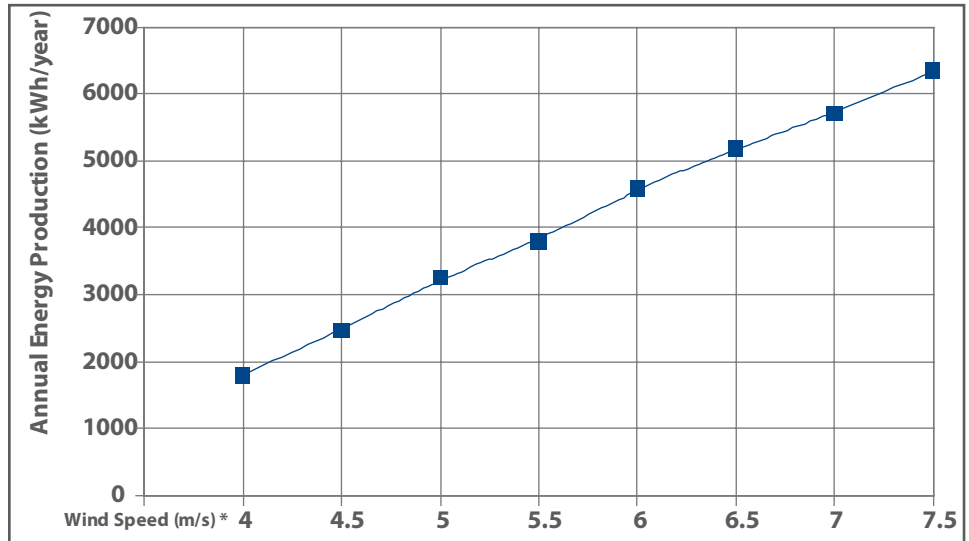
Turbine Power Curve

Wind Speed (m/s)	Power Out (W)
4	85
5	170
6	300
7	480
8	730
9	995
10	1,290
11	1,300
12	1,300
13	1,300



Annual Turbine Energy Production

Wind Speed (m/s)*	AEP(kWh/year)
4	1,800
4.5	2,465
5	3,260
5.5	3,795
6	4,590
6.5	5,185
7	5,710
7.5	6,340



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