

Vertical Axis Wind Turbine Renewable Energy System

ADVANTAGES:

1. VAWT start moving in extremely low cut in speed.
2. Very efficient : Start generator renewable energy at low wind speed.
3. Maintenance free using direct drive generator system.
4. Three blades system to generate high torque and high rotor tip speed.
5. Easy installation.
6. Complete standalone renewable energy system.
7. Build in safety system to avoid overspeed and overcharge.
8. Low cost due to less mechanical system.
9. Option to choose on mounting system on concrete roof, concrete wall or floor.
10. Wind Turbines operate day and night whenever it is windy.



Visit our Showroom to see our
installed Wind Turbine in Operation.

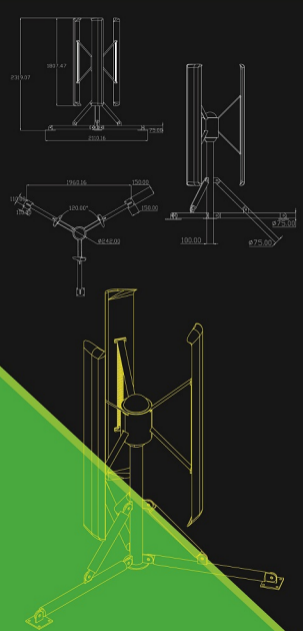
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WINDENERGY AUSTRALIA **Cleanwatt**
Powering Our Green Future

Product made in Malaysia



Off-Grid 1500W VAWT System Technical Data:

Grid-Tie 1500W VAWT System Technical Data:

Wind Speed (m/s)	Rotor Speed (rpm)	Output Power (W)	Wind Power coefficient (Cp)
2	32	13.1	0.173
4	143	46.57	0.221
6	201	209.1	0.253
8	337	555.7	0.263
10	434	1103.2	0.279
12	538	1400.6	0.282
14	589	1581.6	0.299
16	625	1993.5	0.305

ROTOR		ENERGON 1500W	
Rotor type	Vertical Axis rotor		
Rated power	1500W		
Rated wind speed	20 m/s		
Rated output	1500W		
Start up wind speed	1.8 m/s		
Switch off wind speed	26m/s		
Yaw direction	All direction		
Speed control	Electronic		
Max wind speed	50 m/s		
Rotor diameter	1.4 m		
Blade height	1.8 m		
Sweep area	2.8 m ²		
Gear type	No gearbox (maintenance free)		
Break system	Eddy current break with auto relay generator short circuit		
Safety system	Self monitoring Overspeed and Overcharge Protection		

GENERATOR	
Generator type	3 phase synchronous generator, permanently active (Maintenance Free)
Voltage	0 to 230 Vdc, 0 to 240 Vac
Electronic	Overspeed and overcharge safety control
Charge control	12/24/48 V Max charge 20A

MATERIAL	
Rotor blade arms	6061 T5 Aluminium
Generator housing	6061 T5 Aluminium
Rotor blade	Fiber glass reinforce aluminium mesh
Support frame	Metal epoxy powder coating

KEY FIGURES	
Rotor weight	18kg
Rated speed	350rpm
Rated rotor moment	420Nm
Max. brake moment	294Nm
Max. generator output	2300W
Wind load rotor at 20 m/s	760Nm
Noise emission	25 dB (6m/s at 2m distance)
Max. shear force	2.98 kN
Max. bending moment	2.66 kN
Max. torsion moment	2.02 kN

Wind Speed (m/s)	Rotor Speed (rpm)	Output Power (W)	Wind Power coefficient (Cp)
2	21	9.2	0.173
4	102	25.6	0.221
6	148	135.2	0.253
8	247	258.0	0.263
10	301	384.2	0.279
12	439	600.3	0.282
14	518	821.6	0.299
16	594	1119.5	0.305
18	704	1350.1	0.339
20	851	1521.6	0.370

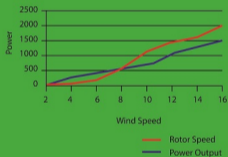
ROTOR		ENERGON 1500W	
Rotor type	Vertical Axis rotor		
Rated power	1500W		
Rated wind speed	20 m/s		
Rated output	1500W		
Start up wind speed	2.3 m/s		
Switch off wind speed	22 m/s		
Yaw direction	All direction		
Speed control	Electronic		
Max wind speed	50 m/s		
Rotor diameter	1.4 m		
Blade height	1.8 m		
Sweep area	2.8 m ²		
Gear type	No gearbox (maintenance free)		
Break system	Eddy current break with auto relay generator short circuit		
Safety system	Self monitoring Overspeed and Overcharge Protection		

GENERATOR	
Generator type	3 phase synchronous generator, permanently active (Maintenance Free)
Electronic	Overspeed and overcharge safety control

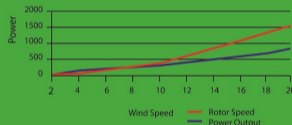
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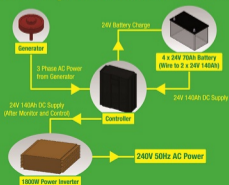
Power Output Chart



Power Output Chart



Schematic Diagram of Off Grid Renewable Energy



Schematic Diagram of Grid-Tie Renewable Energy

