

Vertical-Axis Wind Turbine

SE1500DS – 1500W VAWT

The modern aerodynamics of BREATHE Systems® vertical-axis wind turbines provide efficient power generation, low noise and an aesthetically viable design.



- Low construction cost as compared to horizontal-axis wind turbines (HAWT's)
- Vertical blades eliminate the necessity for a yaw drive
- High airfoil pitch angle, giving improved aerodynamics while decreasing drag at low and high pressures
- Can produce up to 50% more energy than counterpart HAWT's
- Lower wind startup speeds compared to HAWT's
- Less likely to break in high winds as it has a lower tip speed ratio
- Does not need to turn to face the wind if the wind direction changes making them ideal in turbulent wind conditions
- Geo-strategic and safer for wildlife
- Uses both Darrieus and Savonius blades



1-Year Warranty

"bringing renewable
& efficient alternatives
to home environments"

BREATHE
S Y S T E M S®

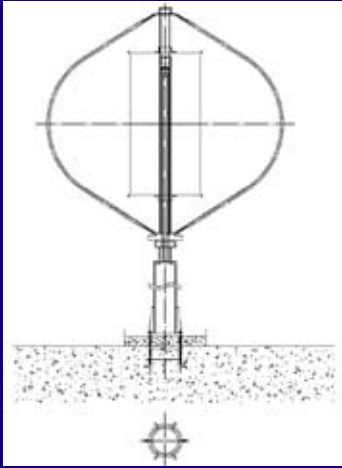
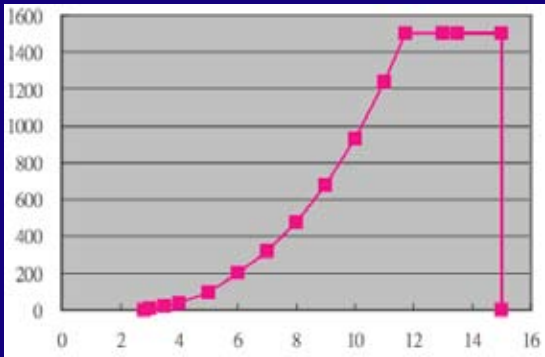
www.breathesystems.com

Switzerland +41 44 586 77 00 | UK +44 121 288 8383 | USA +1 646 217 0888 | Hong Kong +852 8197 2777 | Australia +61 7 3103 3357

specifications are subject to change without notice

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General Specifications				
Rated Power	1.5kW	Rated Wind Speed	12 m/s	
Rated Speed	250rpm	Cut-in Wind Speed	<3 m/s	
Cut-out Wind Speed	15 m/s	Survival Wind Speed	60 m/s	
Dimensions/Weight				
Rotor Diameter (A)	2.8m			
Rotor Height (B)	2.9m			
Tower Height	2.0m			
Total Height	4.9m			
Turbine Weight	300kg (without tower)			
Rotor Specifications				
External Darrieus	3 Blades			
Internal Savonius	2 Layers			
Blades Material	Anodized Aluminum			
Surface Treatment	Powder Coating			
Axis Material	Galvanized Steel SS400			
Generator Specifications		<p>Generator Type</p>		AC; 3 Phase Synchronism PMG
Rated Output	1.5kW			
Braking System				
Automatic	Over speed short circuit braking system			
Manuel	Mechanical Drum Brake			
Operation Conditions				
Ambient Temperature	-10 - 40°C			
Ambient Humidity	95% Max.			
Wind Power Control System Specifications				
Output	100V (±2%); AV; Single Phase; 50/60Hz; Pure Sine Wave			
Functions	MPPT; Over Speed Braking Control; Battery Charge Control; ATS (2 ms switch control between grid & battery)			
Battery	48V DC (12V 100Ah x 4); Deep Cycle Lead Acid Battery; Gel Type			
Charge Control	42V – 54V DC			
LCD Display	Input Voltage & Current; Load Voltage & Current			
LED Display	ON/OFF Wind Charging/ PV Charging/ Battery On/ Battery Low/ Load Output			
THD	<3%			

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The SE1500DS utilizes the Savonius Blade and the Coreless PM Generator (no clogging torque against starting-up) in order to achieve a smooth start and does not require a motor start-up as do other VAWT's and HAWT's. Because it uses a Coreless PM Generator, the cost of lubrication is almost eliminated.

Traditional wind turbines have a dB reading anywhere between 40dB and 70dB whereas the SE1500DS is rated at <30dB.

The SE1500DS has almost no power drop in the case of a wind direction change. In addition to this the VAWT can start with wind from any direction as opposed to HAWT's which generally need to face the wind direction in order to start.

With low cost, low noise and high efficiency, the SE1500DS is the prime option for residential wind energy applications.

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