

# Vertical-Axis Wind Turbine

SE3000DB – 3000W 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"

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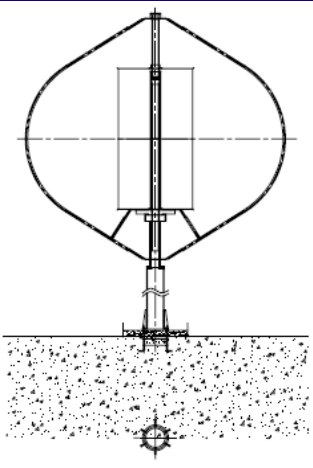
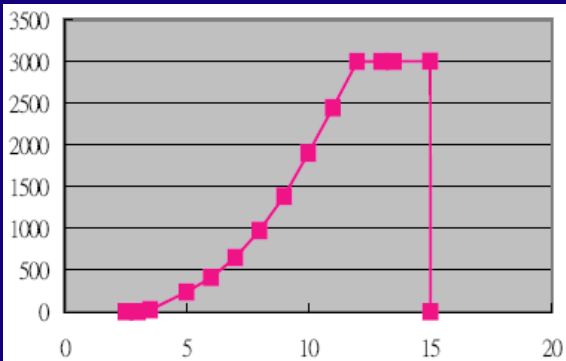
[www.breathesystems.com](http://www.breathesystems.com)

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	3kW	Rated Wind Speed	12 m/s
Rated Speed	180rpm	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)	4.0m		
Rotor Height (B)	4.0m		
Tower Height	3.0m		
Total Height	7.0m		
Turbine Weight	610kg (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		Power Curve (SE3000DB) (W – m/s)	
Generator Type	AC; 3 Phase Synchronism PMG		
Rated Output	3kW		
Braking System			
Automatic	Over speed short circuit braking system		
Manual	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; 50Hz; Pure Sine Wave
Functions	MPPT; Over Speed Braking Control; Battery Charge Control; ATS (2 ms switch control between grid & battery)
Battery	96V DC (12V 100Ah x 8); 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%

The SE3000DB 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 SE3000DB is rated at <30dB.

The SE3000DB 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 SE3000DB is the prime option for residential wind energy applications.

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