

nheolis

3D wind turbines



Enjoy nature power forever

2KW, 4.5KW, 8KW small wind turbines



Member of
EWEA
THE EUROPEAN WIND ENERGY ASSOCIATION



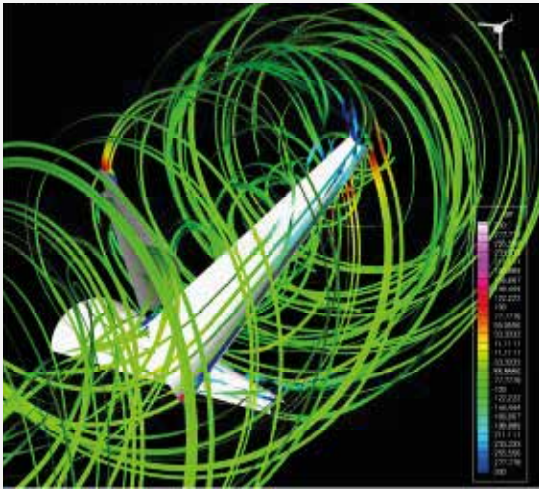
CELCO

Energía 100% confiable

DESDE
1978

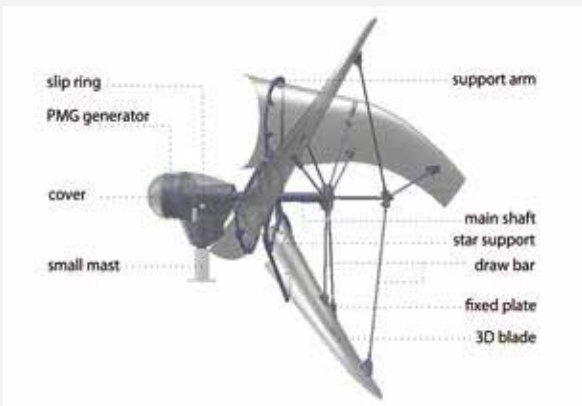


> INNOVATION



NHEOLIS patented 3D blade technology is essentially capitalizing on the Bernoulli's Principle which governs the conservation of energy in fluid dynamics. The well known effect of pinching a hose-pipe leading to a fluid speed acceleration, is fully exploited and applied for the first time on a wind turbine structure. Semi conical shaped blades, properly designed and mounted with optimized deflection angles, lead to a much more efficient use of the air flow kinetic energy.

> DESCRIPTION & FEATURES



-SILENCE:

The 3D blades (without wind shear) and low-RPM generator produce only 35dB at 12m/s wind speed.

-PERFORMANCE:

Cut-in at low wind speed (2.5m/s), and cut-out at high wind speed (35m/s); working with MPPT electrical control to generate more electricity than conventional SWT.

-ROBUSTNESS:

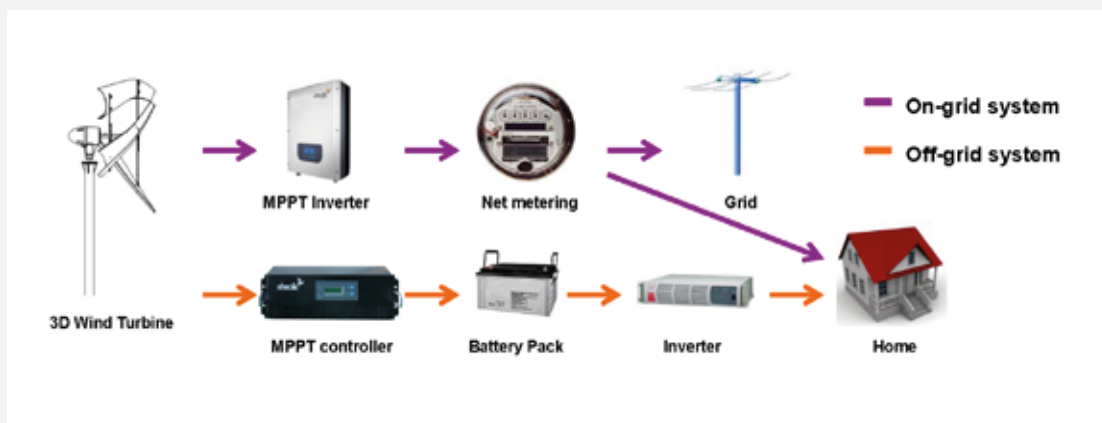
The reinforced mechanism structure was designed and tested to withstand powerful gusts and turbulences through the rigging of its 3D blades; Marine grade components enable 3D turbines to be installed in the harshest environment and over 30 years durable life span.

-Artistry:

The unique design of the 3D blades allows better landscape integration and greater visual acceptance; Available for rooftop mounted.

- ★ low rpm direct drive PMG, high sealing, low noise, zero maintenance.
- ★ 316L stainless steel, high quality aluminium alloy, UV resistant e-coating enable the turbine body withstand in the harshest environment.

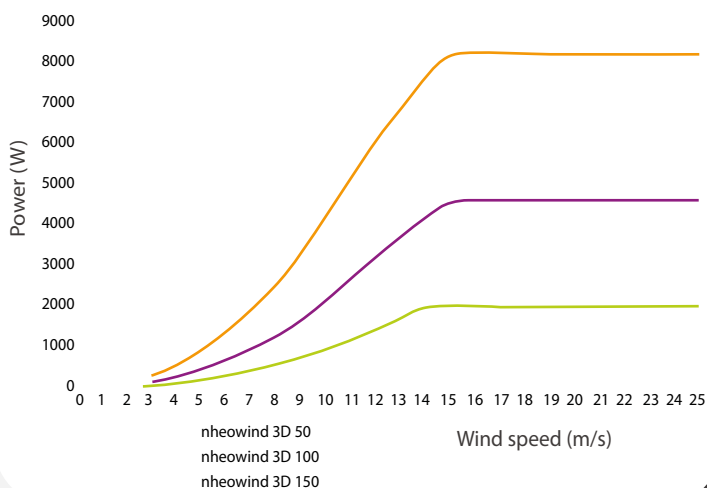
> SYSTEM OVERVIEW



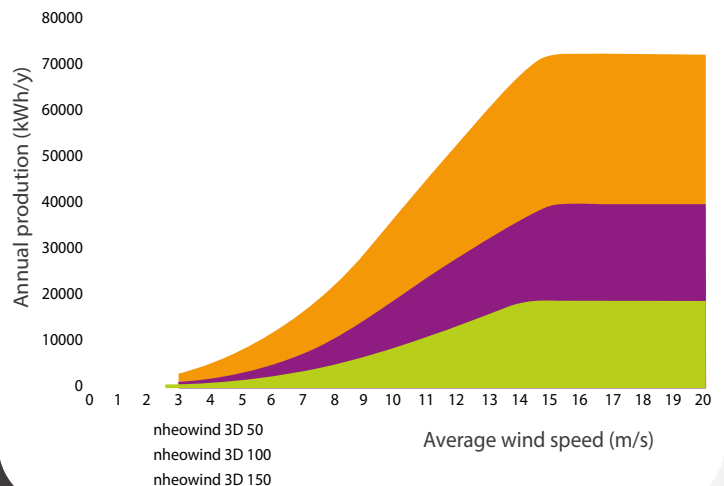
SPECIFICATION

	nheowind 3D 50	nheowind 3D 100	nheowind 3D 150
General			
Type:	Horizontal axis, downwind, 3 blades		
Rated power:	2KW @ 14m/s	4.5KW @ 15m/s	8KW @ 15m/s
Rated speed:	175 rpm	150 rpm	125 rpm
Weight:	185 kg	400 kg	700 kg
Orientation:	Self oriented / no rudder		
Cut-in wind speed:	2.5m/s	3m/s	3m/s
Cut-out wind speed:	30m/s	35m/s	35m/s
Survival wind speed:	50m/s		
Noise level:	<35dB @ 12m/s (at tower bottom)		
Operating conditions:	-40~60		
Brake:	mechanical and electric		
Warranty:	5 years(warranty extension possible)		
Design life:	30 years		
Rotor			
Rotor diameter:	2.8m	4m	6m
Swept area:	6.2m ²	12.6m ²	28.3m ²
Blade length:	1.8m	2.7m	4m
Blade material:	Composite fiberglass (15 layers+ stuffed)		
Generator			
Type:	Permanent magnet, direct drive (no gearbox)		
Phase:	3 phase		
Voltage:	180V		200V
Electrical control			
Grid-tied inverter:	MPPT, pure sine wave output, efficiency 96%		
Battery charger:	MPPT, for 48VDC battery pack		
Tower			
Type:	conical monopole, galvanized steel		
Height:	standard 11m (other height available), 4.5m for rooftop mounted		
Installation:	hydraulic tilt or crane lifting		

Power curve



Potential production





> COMPANY



NHEOLIS focus on designing and manufacturing innovative small wind turbines. After several years R&D in partnership with ONERA (the French Aerospace Lab), including tests in CNRS (French National Center for Scientific Research) wind tunnels, NHEOLIS revolutionized the energy world with its innovative, world-first 3D blade "Chistera" design. Applying fluid dynamics to small wind turbine, NHEOLIS realized the small wind energy more efficient and reliable than ever before. In 2009, NHEOLIS has received the Gold EEP Award of the European Environmental Press for its excellence in environmental innovation.

In 2010, NHEOLIS set up one joint-venture manufacture plant of SWT in China with Xiamen Kehua Hengsheng Co.,Ltd (the leading UPS power supply manufacture in China, public stock code: 002335). Benefit from the strong co-operation between NHEOLIS 3D turbine technology and KEHUA advanced power supply solution, NHEOLIS is committed to become one of the most powerful and influential renewable energy suppliers in the global market.



Residential



Commercial



Agricultural



Remote



Public Works



Telecommunication



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