

WindRotor – Technical Details



WindRotor – WRE.030 “Single Vertical”

General

The Ropatec WindRotor is a vertically driven wind rotor which demonstrates special product characteristics through its unique construction. The system could be described as a hybrid solution, building upon the Savonius and Darrieus principles. The WindRotor Single Vertical can be delivered with the Aurora on-grid Inverter or with the MSP-Controller, an innovative CPU controlled charge regulator (48V) with incorporated SMD DC/AC inverter with 4500VA continuous output.



- Independence:** from the direction of the wind.
- High wind forces:** robust construction for extreme wind speeds.
- Automatic start-up:** Even at a wind speed of only 2 m/s.
- Noise-free:** The WindRotor is not audible!
- Multifunctional:** charging batteries, heating water or air, grid connection

Turbine

Rated output 10 m/s	app. 1000VA
Rated output 14 m/s	app. 2500VA
Cut-in wind speed	2 m/s
Over speed control	Not required
Cut-off wind speed	none
Rotor weight	~430 kg
Rotor blade type	Vertical Axis Wind Turbine
Rotor diameter	3,3 m
Swept area	7,26 m ² (3,3 m x 2,2 m)
Gear box type	No gear box – direct driven
Brake system	Not required

Alternator

Type	3KVA -permanent / multi-pole
Energy transmission	Brush less
Voltage*	~180VAC* (at 14 m/s)
Poles	32

*) depending on RPM / on sea level / without load

The usable energy production depends on the configuration of the system. A typical situation is the WindRotor with a battery charger and batteries. Due to losses in wiring, battery charger and batteries the efficiency can differ from 65% to 80%.

