

## WINDROTORS FOR ADVERTISING AND ENERGY PRODUCTION



The Ropatec vertical axes wind turbines are a quality made in Italy product. All the parts are made in Italy and tested by Ropatec before it will leave our warehouse.

The main characteristics are:

- Noisless (43dB 10m distance)
- Robust ( up to 41m/s)
- Automatic start up at 3m/s
- Design (eye catcher also for advertising purposes)
- Independent from the wind direction
- Multifunctional, as you will see below:

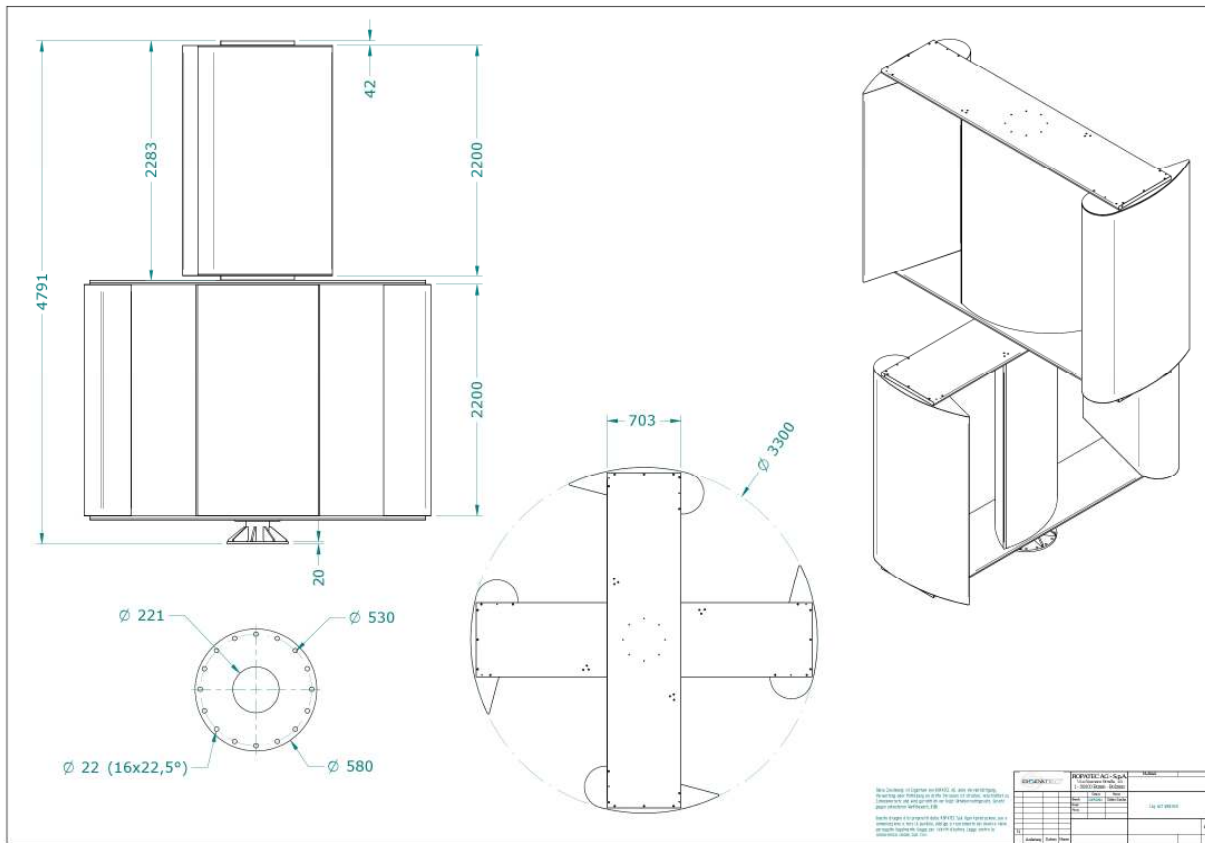
The windturbines Single Vertical and Double Vertical can be ordered with the MSP-Controller for off-grid installations, or with the on-grid inverter "Aurora" or with the heating system HotMax.

The MSP-Controller has been developed to operate a complete hybrid off-grid system. It is in fact a 48V battery charger for the WindRotor with integrated solar charger and 4500W off-grid inverter. It offers also the possibility to connect a back-up Genset system. Please note that, when the MSP-Controller is used, the polarity of the batteries cannot be inversed.

The inverter are certified by Power-One Company, and are used for feeding into the national grid in mono phase.

This heating system consists of the turbine, the heating controller "HotMax" and an electrical resistance. The heating controller, based on a system of pulse wide modulation, gives the resistance exactly the amount of energy the turbine can deliver in the given wind situation. The resistance, installed into the hot water tank, is heating the water and saving combustibile.

DOUBLE VERTICAL



**WindRotor – WRE.060  
“Double Vertical”**

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

- 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**

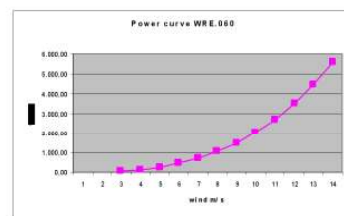
Rated output 14m/s	app. 5000 VA
Cut-in wind speed	2 m/s
Rated wind speed	14 m/s
Brake system	Brake system IEC61400-2
Cut-off wind speed	18m/s
Rotor weight	750 kg
Rotor blade type	Vertical Axis Wind Turbine
Rotor diameter	3,3 m
Swept area	14,52 m <sup>2</sup> (3,3 m x 4,4 m)
Gear box type	No gear box – direct driven

**Alternator**

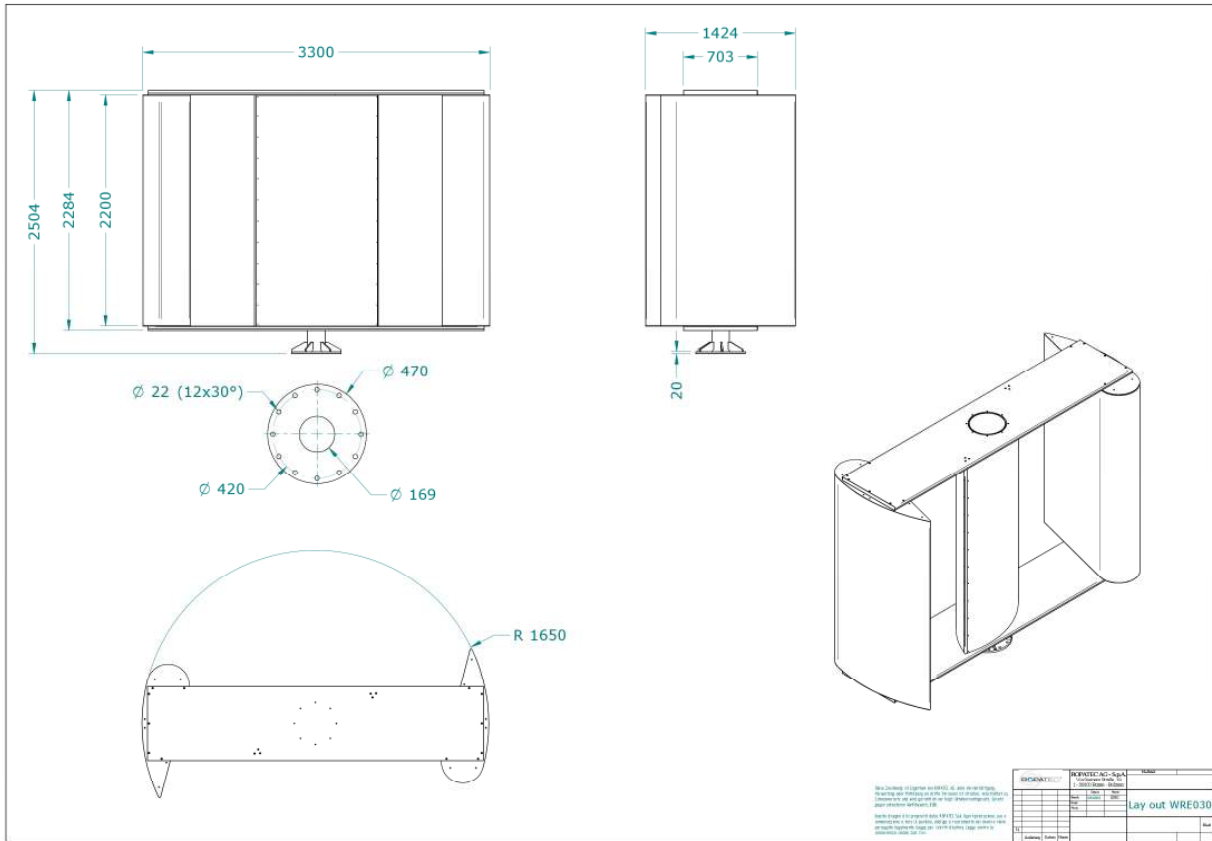
Type	6KVA -permanent / multi-pole
Energy transmission	Brush less
Voltage*	~220VAC* (at 14 m/s)
Poles	32

\*) depending on RPM / on sea level

The usable energy production depends on the configuration or 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%.



SINGLE VERTICAL



**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 14 m/s	app. 2500VA
Cut-in wind speed	2 m/s
Rated wind speed	14 m/s
Brake system	Brake system IEC61400-2
Cut-off wind speed	18m/s
Rotor weight	~430 kg
Rotor blade type	Vertical Axis Wind Turbine
Rotor diameter	3,3 m
Swept area	7,26 m <sup>2</sup> (3,3 m x 2,2 m)
Gear box type	No gear box – direct driven

**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%.

