



# WES100

*'Bringing renewable energy everywhere'*

The WES100 is a two bladed, high performance, reliable 100 kW midsize wind turbine with a rotor diameter of 18 meters. The mechanical part of the WES100 is based on the original proven design from 1983. For the electrical part, power conversion and control, the latest technology is used.

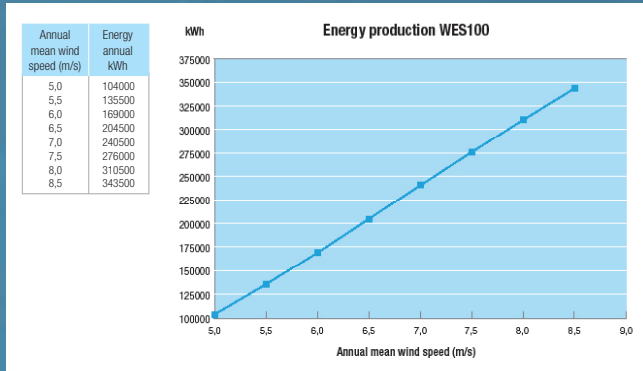
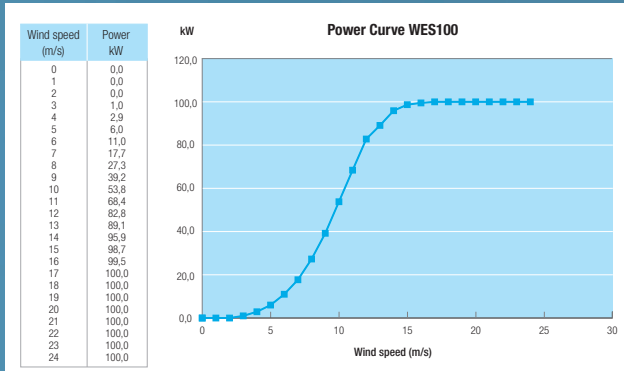
The WES100 is also available as Hybrid Wind/diesel system.



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# TECHNICAL SPECIFICATIONS



## GENERAL

Life expectancy: Minimum 20 years  
 Rated power: 100 kW  
 Cut in Wind speed: < 3 m/s (6.7mph)  
 Cut out Wind speed: 25 m/s (56mph)  
 Rated wind speed: 13 m/s (28mph)  
 Survival wind speed: 60 m/s (134mph)  
 Wind class: II  
 Yawing: Active  
 Passive power regulation: Blade-angle adjustment  
 Active power regulation: Fully variable back-to-back IGBT system  
 Towers heights: 18 m, 24 m, 30 m (31 m lattice)  
 Number of blades: 2  
 Rotor diameter: 18 m  
 Noise emission at 8 m/s: 45 dB(a) at 100 m  
 Operating temperatures: from -20°C up to + 40°C

## ELECTRICAL

Power: 100 kW  
 Voltage: 400V/50Hz 3 phase + neutral or  
 400V/60Hz 3 phase + neutral  
 Connection: grid connected / Hybrid  
 Converter: back-to-back inverter (IGBT)

## MATERIAL SPECIFICATIONS

Blades: carbon and glass fibre reinforced epoxy  
 Nacelle: steel  
 Cover: polyester  
 Tower: steel (hot dip galvanized)  
 Foundation: concrete block with anchor

## WEIGHTS

Blade assembly: 110 kg per blade  
 Rotor: 900 kg  
 Nacelle incl. Rotor and blades: 3.300 kg

## KEY COMPONENTS

Generator: ABB  
 Gearbox: Siemens  
 Converter: Control Techniques (Emerson)

## APPLIED STANDARDS

Degree of protection: IP55  
 Complies with standards: NEN1010 (electrical), EN50308 (safety), EN6096 (wind turbines)  
 UI1741, G59/2 (anti Islanding), IEC61346-2000 (Cabinet)  
 CE-mark: yes

