

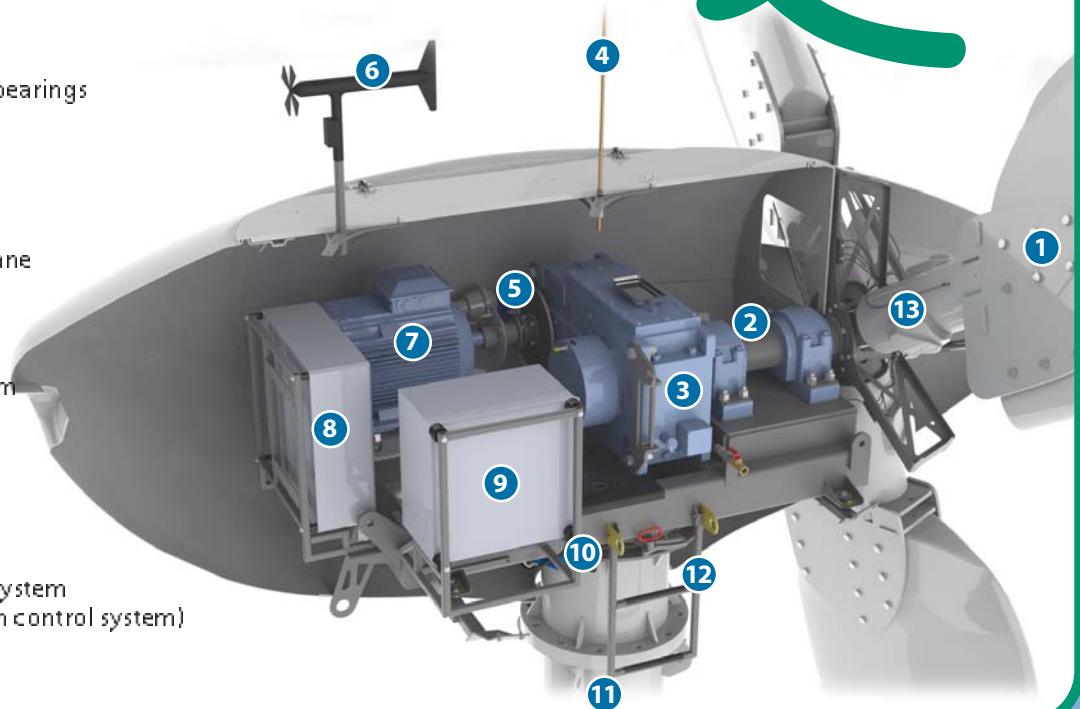
CLEAN ENERGY... JUST PLUG IT IN

Endurance<sup>®</sup>  
wind power

E-3120

## E-3120 50 kW model

- 1 9 m blade
- 2 Main shaft with two bearings
- 3 Gearbox
- 4 Lightning protection
- 5 Disk brake
- 6 Anemometer wind vane
- 7 Generator
- 8 Control panel
- 9 Braking control system
- 10 Passive yaw control with brake
- 11 Tower
- 12 Access ladder
- 13 Aerodynamic safety system (patent pending pitch control system)



ENDURANCE WIND TURBINES GREEN ENERGY THAT WORKS

## TURBINE

Configuration	3 blades, horizontal axis, downwind
Rated power @ 11 m/s	55 kW
Applications	Direct grid-tied
Rotor speed	41 rpm
Cut-in wind speed	3.5 m/s (7.8 mph)
Cut-out wind speed	25 m/s (56 mph)
Survival wind speed	52 m/s (116 mph)
Design lifetime	30 years *
Overall weight	3,990 kg (8,800 lbs)

## ROTOR

Rotor diameter	19.2 m (63 ft)
Swept area	290 m <sup>2</sup> (3120 ft <sup>2</sup> )
Blade length	9 m (29.5 ft)
Blade material	Fiberglass / Epoxy
Power regulation	Stall control (constant speed)

## GENERATOR

Frequency	60 Hz
Voltage	480 V
Phase	Three phase
Type	Induction generator

## BRAKE & SAFETY SYSTEMS

Main brake system	Rapid fail-safe brake on high speed shaft
Secondary safety system	Pitch control system (for over speed regulation) using passive spring loaded mechanism (patent pending)
Automatic shut down triggered by:	<ul style="list-style-type: none"> <li>- Over speed</li> <li>- High wind speed</li> <li>- Grid failure</li> <li>- All other fault conditions</li> </ul>

## CONTROLS

PLC based	Includes remote monitoring software
-----------	-------------------------------------

## WARRANTY

Turbine, controls	5 years
-------------------	---------

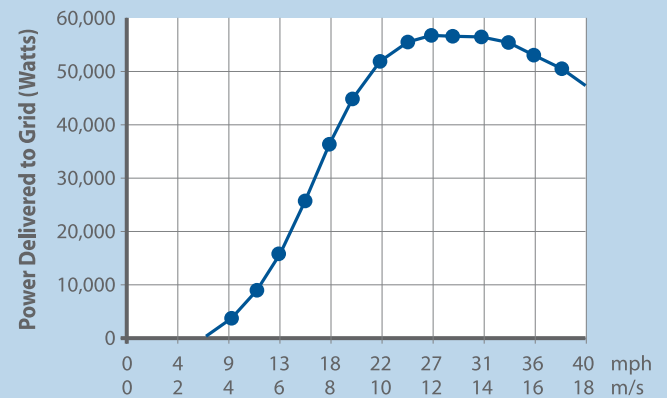
## TOWERS

Types and heights	Standard Monopole 30.5 m (100 ft) Standard Lattice 42.7 m (140 ft) Custom heights available
Maintenance Access	Working space inside the nacelle Top work platform and safety cable climbing system

\*Provided service and maintenance schedules are strictly followed

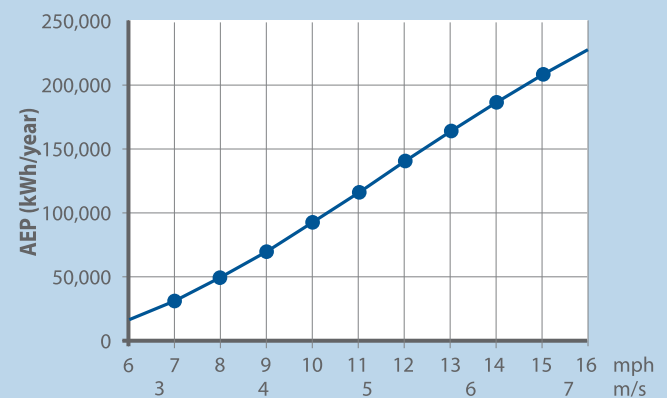


## POWER CURVE



IEC 61400-12 standard

## ANNUAL ENERGY PRODUCTION (AEP)



\*AEP based on 10m height wind measurements, 25m hub height (100% availability) and 0.2 wind shear. For production estimates only.

## WIND SPEED CONVERSION TABLE

m/s	4	5	6	7	8	9	10	12	14	25	32	45
km/h	14	18	22	25	29	32	36	43	50	90	125	160
mph	9	11	13	16	18	20	22	27	31	56	80	100



Toll Free 1-888-440-4451  
 info@endurancewindpower.com  
 www.endurancewindpower.com