



Powerful  
Robust  
Quiet

## LE-450

Delivers **real power** in  
everyday winds



Designed &  
manufactured  
in the UK

# LE-450 Features



## LE-450

The **most powerful turbine** on the market today for its size

### High outputs

105W at 8m/s (17.8mph), 450W max

### Power in everyday winds

In the cruising winds of 8 - 15 knots, 4 - 8m/s on land

### Excellent value for money

Delivers the highest output for the lowest cost

### Easy to install

Perfect where space is at a premium - yachts, telecoms towers and CCTV stations.

### Robust

Designed for marine environments

### Quiet

Quieter than the competition

## Appreciated for being quiet thanks to our Whispower™ blade design

**The LE-450 is the most powerful turbine of its size, able to provide meaningful power at everyday wind speeds, whilst being tough and robust enough to withstand storm force winds.**

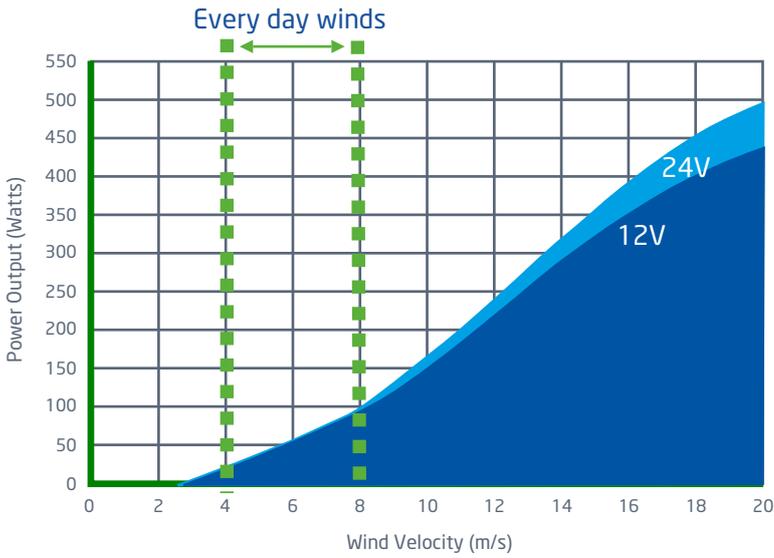
The LE-450's excellent power production stems from an exceptionally low start-up wind speed and superior transfer of power from the wind in everyday winds of 5-8m/s (11-18mph).

By fine tuning the characteristics of the alternator to work in perfect harmony with the operating parameters of the five rotor blades, the turbine can extract the right amount of torque, at the right RPM

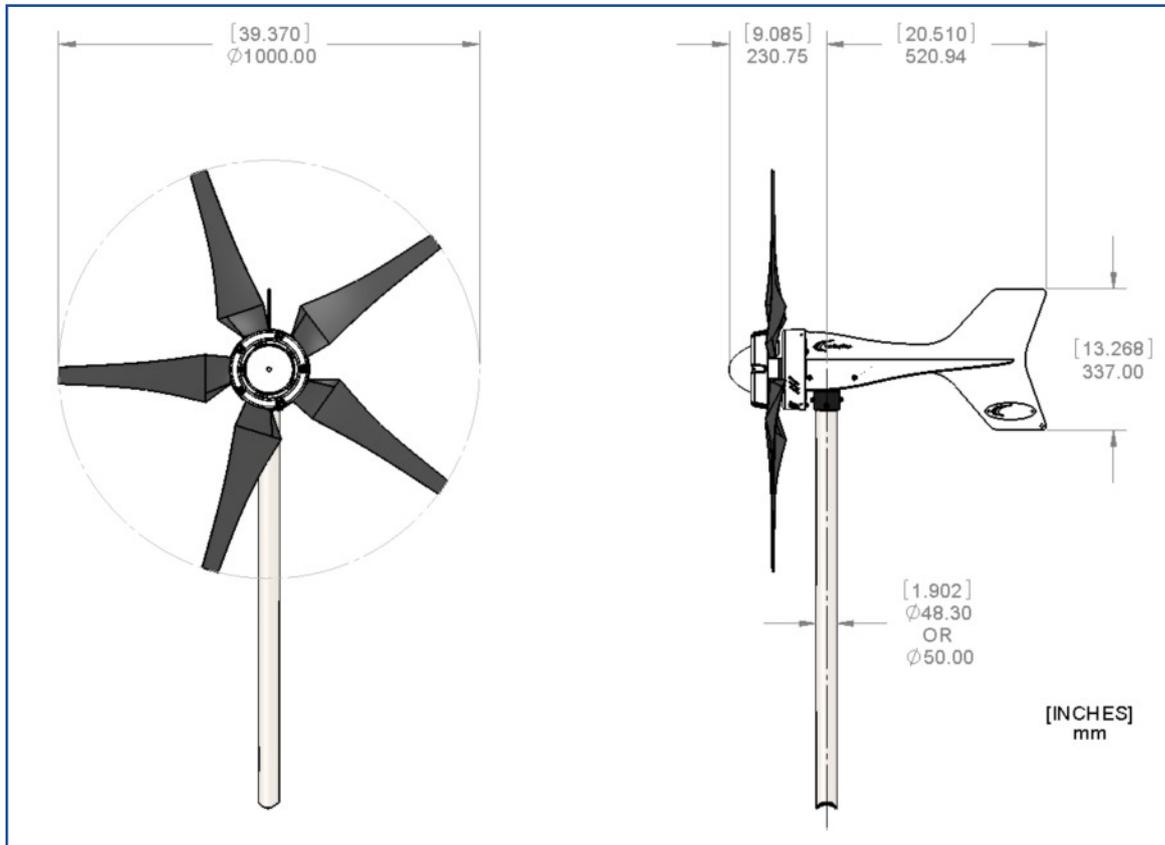
at a given wind speed, delivering a highly efficient transfer of power from the wind.

The LE-450 is precision engineered in the UK with only two moving parts so little maintenance is required during the turbine's long operating life. It is marine quality finished - the aluminium alloy chassis and stainless steel components are protected from the elements with aerospace grade coatings and anodising.

# LE-450 Technical Overview



- Rotor diameter** - 1 metre
- Rotor Type** - 5-Blade upwind
- Blade Material** - Glass Reinforced, UV resistant Nylon
- Rated output** - 105W at 8m/s (18mph, 15.5knots )
- Peak output** - 450W
- Cut-in speed** - 3m/s (6.7mph, 6knots)
- Cut-out speed** - None
- Weight** - 8Kg
- Voltages** - 12V, 24V, 48V DC, Grid-tie
- Warranty** - 2 years



- Rotational speed** - 0-2000 rpm
- Swept area** - 0.785m<sup>2</sup>
- Tip speed ratio** - 6
- Typical noise level** - 6dB(A) above background
- Alternator type** - Direct drive, axial flux, 8 pole permanent magnet generator
- Design** - 3-phase AC with rectification
- Mounting** - 48.3mm/50mm outer diameter pole

- Materials** - Aluminium alloy chassis, aerospace grade surface finish, epoxy coated stator coils, sealed bearings
- Control system** - Stall regulation
- Brake system** - Electromagnetic braking switch
- Yaw system** - Heavy duty slip ring assembly, 1043mm turning circle
- Max survival speed** - 18m/s (40mph)

# LE-450 Applications



- Marine
- Security
- Telecommunications
- LED Lighting systems
- Road signage
- Telemetry

Our LE-450 horizontal axis turbine addresses the increasing demand for power on small scale off-grid renewable energy systems and grid connected applications. It is as much at home on land as on the water in a variety of applications.

Wind turbine performance is subject to many factors. All output data contained in this document is indicative and actual turbine outputs will depend on the prevailing site and installation conditions.

Your local distributor



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