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AEOLUS
POWER



blade design

blade technology

The Proven flexible blade technology captures all the available power in light winds, but spills the destructive amounts of force of high wind speeds.

Flexible

Near the base of the blades, there is a flexible hinge which flexes in response to rotor speed. The blades are thrown outwards by centrifugal force as the rotor speed increases. The flexible hinge changes the aerodynamic pitch of the blade towards stall.

Pitching to stall reduces the lift from the blade airfoils, and reduces the driving force.

As speed reduces, the opposite happens. In high winds there is a dynamic balance between the pitch of the airfoil and the rotor rpm. In high winds the Proven rotor will run up to a certain speed and then no faster. The Proven Wind turbine from Aeolus Power can perform close to rated output even in storm force winds up to 150mph.

Proven Zebedee Cone

In severe or storm force winds the flexible rotor reacts and the blades 'cone' down wind away from the tower. In light winds the cone angle is around 5 degrees, changing to 45 degrees in hurricane forces. The swept area of the rotor is halved at 45 degrees, which is an important self-protection mechanism and dissipates the large mechanical loads experienced in extreme gusts.

- Robust
- Works well even in turbulent air
- Automatic power limiter in high winds
- Turbine runs without damage if disconnected
- Close to rated output even in storm force winds

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