

Overview

The Polar Wind-12 is a Polarimetric Vertical Axis Wind Turbine (VAWT) that converts wind energy to electrical power. The Polar Wind-12 is an omni-directional, multi-axis, low wind-speed generator that may be easily installed practically anywhere with good wind exposure. This silent turbine may be painted to aesthetically blend into its surrounding environment. The VAWT is seen as a solid object as the rotational speed increases, making it visible to birds. Polar Wind-12 runs quietly and is vibration free and wildlife friendly. The Polar Wind-12 has a 3-phase A.C. electrical power connection and is supplied with a 3-phase rectifier and 240V, 60 Hz A.C. grid-tie inverter.

Features:

- Low Wind Speed Operation
- Direct Drive Generator
- Silent Operation
- Operation and Maintenance Free



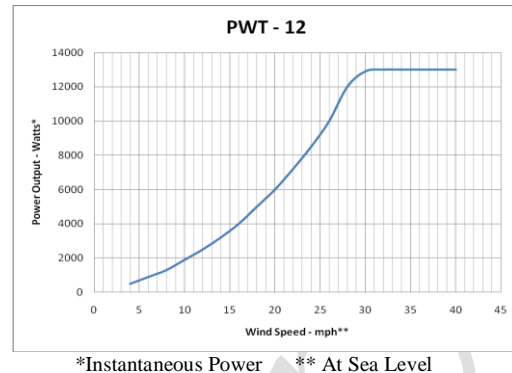
Polar Wind-12

Power Generator Description

The Polar Wind-12 proprietary Axial Flux Permanent Magnet Generator converts wind energy to electrical energy. The wind pressure (associated with wind speed) on the cage blades cause the cage structure to rotate. The magnetic field movement across wire-coils produces current flow and an associated voltage.

The typical wind-speed to power conversion is shown in the subsequent graph. Note: wind pressure varies with atmospheric pressure, altitude, and air particulate composition. All

VAWT Systems' products are covered by U.S. Patents or Patents Pending.



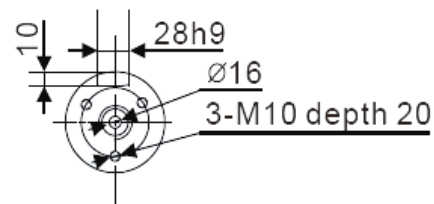
Electrical Specifications

Power Interface:

D.C. Voltage output – H.V.	0-650 V Peak
D.C. Current output – H.V.	0-25 A Peak
Wire Type	6 AWG
Electromagnetic Containment	FCC Class B

Physical Specifications

Cage Height	144 inches
Cage Diameter	96 inches
Cage Weight	180 pounds
Cage Rotation Speed	0 to 160 RPM
Sound (Noise) Pressure Level	6 dB (at 5ft) Above Ambient
Vibration	Vibration Free
Generator Height	20.35 inches
Generator Diameter	25.62 inches
Generator Weight	772 pounds
Hazardous Materials	RoHS Compliant



Polar Wind - 12 Mounting Pattern

Environment:

• Operating Temperature	-40 to 120° F
• Storage Temperature	-50 to 140° F
• Relative Humidity	0 to 95% NC

Note: Specifications subject to change without notice