Overview

The Polar Wind-1 is a Polarimetric Vertical Axis Wind Turbine (VAWT) that converts wind energy to electrical power. The Polar Wind-1 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-1 runs quietly and is vibration free and wildlife friendly. The Polar Wind-1 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:

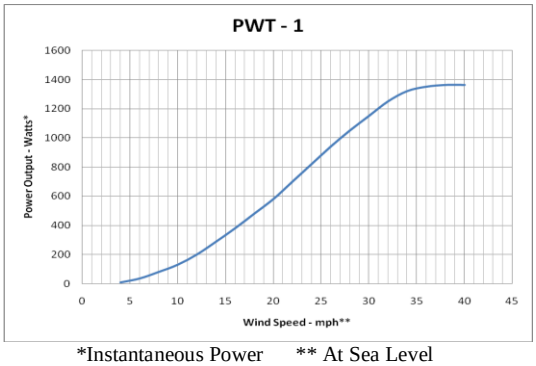
- Low Wind Speed Operation
- Direct Drive Generator
- Silent Operation
- Operation and Maintenance Free

Polar Wind-1

Power Generator Description

The Polar Wind-1 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.



*Instantaneous Power ** At Sea Level

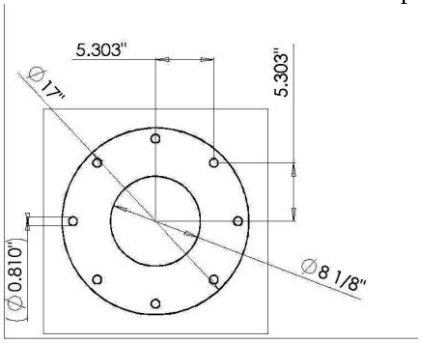
Electrical Specifications

Power Interface:

D.C. Voltage output – H.V.	0-300 V Peak
D.C. Voltage output – L.V.	0-150 V Peak
D.C. Current output – H.V.	0-10 A Peak
D.C. Current output - L.V.	0-20 A Peak
Wire Type	10 AWG
Electromagnetic Containment	FCC Class B

Physical Specifications

Cage Height	72 inches
Cage Diameter	48 inches
Cage Weight	120 pounds
Cage Rotation Speed	0 to 500 RPM
Sound (Noise) Pressure Level	6 dB (at 5ft) Above Ambient
Vibration	Vibration Free
Generator Height	6 inches
Generator Diameter	16 inches
Generator Weight	103 pounds
Hazardous Materials	RoHS Compliant



Polar - 1 Mounting Pattern

Environment:

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

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