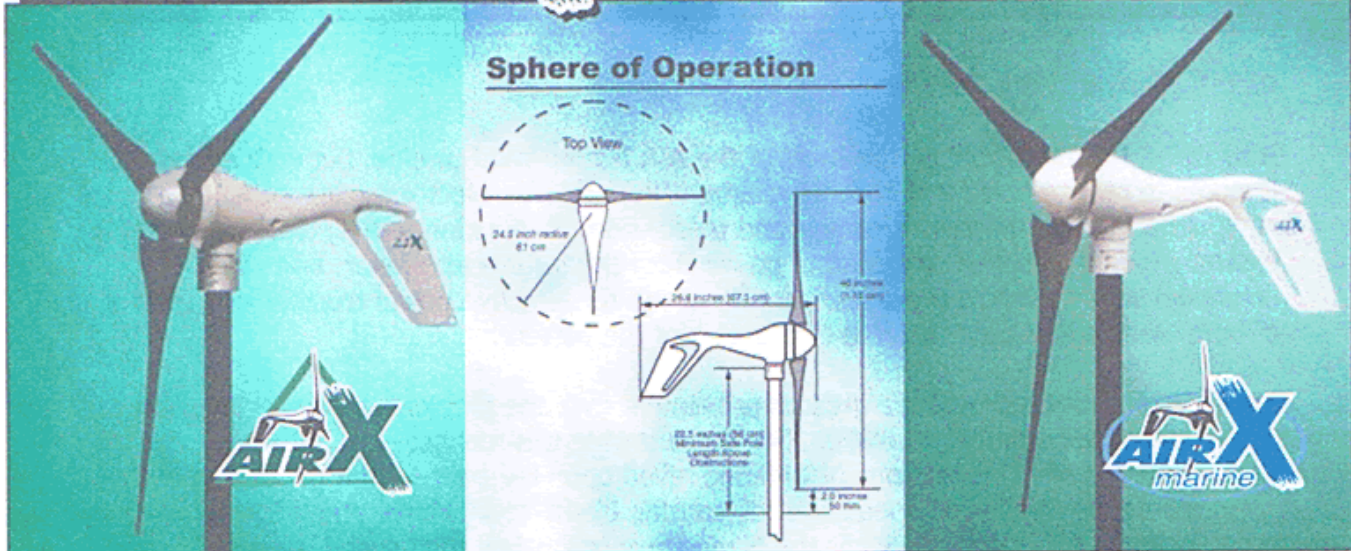


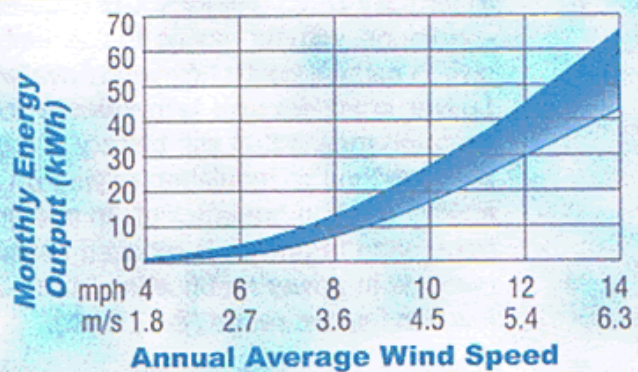
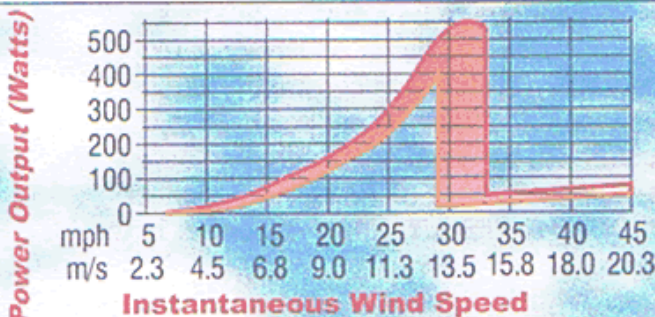
AIRX SPECIFICATIONS

Patent Pending



Rotor Diameter:	46 inches (1.15m)
Weight:	13 lbs (5.85kg) (Shipping: 27"x15"x9" (686x38x228mm) / 17 lbs (7.7kg))
Mount:	1.5" schedule 40 pipe (1.9" OD, 48 mm)
Start-up wind speed:	7 mph (3.13 m/s)
Voltage:	12 and 24 VDC (36 and 48 VDC available soon)
Rated Power:	400 watts at 28mph (12.5m/s)
Turbine Controller:	Microprocessor-based smart internal regulator with Peak Power Tracking
Blades (three):	Carbon Fiber Composite
Body:	Cast aluminum (Air-X Marine is powder coated for corrosion protection)
Kilowatt hours per month:	38 kWh/mo @12mph (5.4m/s)
Warranty:	3 Year Limited Warranty
Survival Wind speed:	110 mph (49.2 m/s)
Over-speed Protection:	Electronic torque control

Performance Curves (preliminary*)



— Top Line - Non-Turbulent Site
— Bottom Line - Turbulent Site

Rayleigh Distribution Curve k=2

*derived from field and wind tunnel testing

AIR-X Marine Wind Turbine:

New AIR-X Marine is built on the basis of the AIR Marine wind turbine, but with added features to reduce noise and improve charge efficiency. The electronics are completely new, utilizing micro-processor control and pulse-width modulation (PWM) charging. PWM is basically very high speed switching of power from the turbine alternator, and when combined with the micro-processor control, allows for effective power transfer and control of both blade speed, and the rate of charging of the battery.

The new electronics provides a great improvement over the previous, diode-rectification and simple voltage on/off regulation. For the customer this means:

- 1) **Low noise:** The previous AIR Marine relied upon the built-in "flutter" design of the blades for high wind speed control, causing blade "roar" above about 35mph wind speeds. AIR-X actually loads the blades proportional to wind speed, thus the flutter blade rpm is never reached. **THE RESULT:** Quiet, smooth turbine operation.
- 2) **Ideal battery charge:** Batteries require several different modes of battery charge to optimize life. The electronics can be programmed for different battery charging rates, from "bulk" charging (high amps), "taper" charging (moderate amps, high voltage) to "float" charge (low amps, moderate voltage). Many boat power systems now use more advanced batteries such as gel or adsorbed glass-matt designs, improving safety and reliability, but requiring more sensitive charge management. AIR-X manages this through it's programmed charge control system. **THE RESULT:** Better battery life.
- 3) **Lower stress design:** AIR-X limits power on the input side to the electronics by torque control of the blades. This means that power no longer having to be dissipated in the electronics. This results in lower stress on electronic components, and lower temperature operation. In addition, the high speed operation at high winds is limited through the "safe mode" operation. When the turbine reaches about 500 Watt output, the unit switches to "safe mode" operation once battery charge is complete. This means that the blades are loaded to a complete stall, limiting speed to virtually zero. **THE RESULT:** Greater confidence in turbine operation in high wind conditions, without having to manually operate the stop switch. **NOTE:** The stop switch manual control currently available will continue to be a feature in AIR-X.
- 4) **Lower start-up and improved energy capture:** The better efficiency of PWM charging means that the battery charge algorithm is changing constantly, versus older method of regulation relying on a voltage on/voltage off set point. Thus, energy use is more efficient. In addition, start-up, the wind speed required before generation of power, is reduced because diode resistance (0.7V +/-) is no longer involved in power rectification from AC to DC. **THE RESULT:** Improved power in the low wind speed range (8-12 mph).