

# RUN IT BACKWARDS

with our new 10 KW Wind Turbine



## SPECIFICATIONS

### WIND TURBINE - Model VT10-240

PATENT NUMBER: US 7,186,083  
 RATED POWER TO GRID: 10kw at 29mph-13m/s  
 RATED ENERGY: 2000kwh/mo, 14.5mph-6.5m/s at hub  
 CUT-IN WIND SPEED: 6mph-2.7m/s, propeller running  
 SURVIVAL WIND: 130mph-55m/s  
 MOVING PARTS: 5 - rotor, yaw, outer blade governors  
 MAINFRAME & HUB: cast 356-T6 recycled aluminum  
 WEIGHT: 500pounds - 230kg tower top  
 SLIP RING ASSEMBLY: 4 ring, dual brush & connection

### ROTOR

3 BLADE, downwind, fx63-137 airfoil, 7:1 tip speed ratio  
 DIAMETER: 22 feet-6.7m, optimum twist & taper  
 RPM: 270 peak, 250-270 governor active

### GENERATOR

RATING: 15kva 240vac at 250rpm, 3 phase  
 TYPE: rare earth PM alternator, 32 pole, brushless

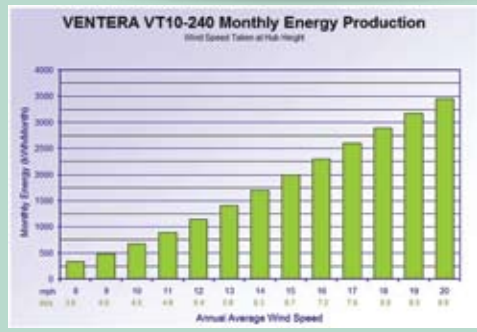
### SYNCHRONOUS INVERTER - Model VI12-60

INPUTS: 10kw wind, 2kw solar, dual peak power tracking  
 RATING: 12kw cont. to grid, 12.5kw peak, idle < 12w  
 EFFICIENCY: 94% at full output  
 OUTPUT: 240vac, 60hz, 1 phase to 60amp breaker  
 SAFETY SHUT OFF: meets UL and utility requirements

**TOWER:** hinged fold-over, 3 leg lattice with top adaptor  
 Heights 70, 90 and 110 feet; 21, 27, 36 meters

**GUYED TOWER:** 4 guy, fold-over, 5" pipe, plans and kits

**WARRANTY:** Limited 5 years on VT10-240 and VI12-60.



Graph illustrates wind energy only. Solar energy can add up to 300kwh per month.

**VENTERA ENERGY**  
 6100 Wasca St.  
 Duluth, MN 55807

Printed on recycled paper.

George Dege  
 Lake Elmo, Minnesota  
 "I bought an earlier turbine from the folks now running Ventera. They are honest Minnesotans and build a great product. I'm sold on combining wind and solar in one system."

Jim Hagen  
 Elbow Lake, Minnesota

"I replaced another brand's wind turbine with the Ventera. I believe it will last a long time. There is no gear box, no transmission, no breaking system to fail, no tail and very little maintenance required. In May and June, I got a credit where my normal bill is \$125-\$175 a month."

Clint Poluny  
 Fordham, North Dakota

"It is not uncommon for us to have winds over 50 mph. I give the automatic pitch system the highest marks. I've seen the power output touch 11kw! Competing turbines shut down in high winds - not the Ventera."



# NEW TECHNOLOGY

Affordable wind power for the farm



**VENTERA ENERGY**

# Plant the all new Ventera Wind Turbine and you'll immediately harvest savings!

Capturing wind energy for individual properties is not a dream anymore. The state-of-the-art Ventera VT-10 wind generator makes it affordable for every Midwest farmer. Creating your own renewable energy with the quiet Ventera makes the wind a welcome friend.



- Generating up to 2,000 kwh/month, payback happens fast
- Manufactured in Duluth, MN
- Requires no batteries
- Designed for 30 years of operation
- Easy owner install and service
- USDA grants, federal 30% tax credits and state incentives available



**VENTERA**  
ENERGY

6100 Waseca St., Duluth, MN 55807 • 218.624.4040  
www.venteraenergy.com • info@venteraenergy.com

Ventera proudly presents our all-new 10 kilowatt VT10 wind turbine and dual input synchronous (grid connect) inverter designed specifically for farmers and rural residents. New technology includes:

- The largest injection molded blades ever
- A centrifugal blade pitching governor to hold rpm and power constant in high winds
- Cast aluminum mainframe and hub assemblies with recycled aluminum
- Tailless downwind configuration

## RUN YOUR ELECTRIC METER BACKWARDS!

It doesn't get any simpler than this. This new concept in generating your own renewable energy performs much like any large electrical appliance such as a clothes dryer or air conditioner, but instead of taking electrical power FROM an outlet, you put electricity INTO the outlet! If at any time your wind and solar system is producing more energy than you are using, your electric meter will run backwards, reducing your electric bill. If your electrical loads are larger than the wind generator and solar production, your meter will slow down, reflecting your reduced need to buy electricity at retail from the utility.

## DESIGNED TO PAY FOR ITSELF QUICKLY

The Ventera wind turbine on a 70-foot tower can produce \$2,000 or more worth of electricity per year if your wind regime is 12.5mph-5.5m/s (Class III) or better and you pay 8 cents or more for electricity. In around 10 years you'll have earned back your original investment, and in 30 years you could earn 3 times or more the original investment! If you can depreciate the wind turbine cost as a farm or business expense and you apply for 30% federal tax credits and available USDA grants for renewable energy on the farm, your payback will be even sooner. If your average wind speed is greater than 12.5 mph-5.5m/s, which is true for many sites in the U.S. Midwest, your payback is even faster.

Careful design of every component and advanced manufacturing processes bring the cost of the Ventera turbine, synchronous inverter and self-supporting tower to historic lows. The frame is an aluminum casting, not an expensive weldment. The downwind orientation eliminates the need for a costly and cumbersome tail. The blades are injection molded for low cost and absolute uniformity. The brushless, one-moving-part, large diameter alternator minimizes the use of copper, steel and rare earth magnet material. Our unique synchronous inverter utilizes a common power handling stage with separate wind and solar peak power tracking input stages to bring you hybrid grid connection at an unheard of low price. The result: We make wind power affordable! The fastest payback of any wind turbine you can buy!

- Our exclusive 12 kilowatt dual wind and solar input synchronous inverter for grid connection with no batteries

Our self-supporting towers eliminate guy wires and go to 110 feet to clear the tallest trees. And, with our exclusive, slender top tube turbine adaptor this turbine-tower combination makes a handsome addition to any farmstead that will catch the neighbor's eye. You can do most or all of the installation yourself for significant savings. Or for total ease and peace of mind, you can have up to a turnkey installation done by an Authorized Ventera Dealer.

## HOW THE VENTERA VT10 WIND GENERATOR WORKS

The new Ventera 10 kilowatt turbine is specifically designed to be the most efficient wind turbine available to convert wind energy into electricity. The three blades of the propeller have an optimum shape which has been developed from more than 30 years experience in wind turbine design to provide the highest output (coefficient of performance) at the lowest noise level at all wind speeds for a propeller of this diameter.

Our exclusive, patented governor automatically pitches the outer portion of each blade in response to a combination of wind force and propeller rpm (centrifugal force). This governor effectively limits propeller rpm to avoid damage to the propeller, generator, tower and electronics. This centrifugal-force-activated blade pitching governor results in maximum power output in winds above governing speed.

Our custom designed ultra high efficiency permanent magnet generator is mounted to an aluminum mainframe, has no transmission to rob power and requires no lubrication or maintenance.

Another function of the aerodynamic mainframe casting is to orient the wind turbine blades to the wind direction. In this modern, tailless, downwind design the wind first passes the tower and then flows over the propeller blades.

Electricity is generated by the Ventera generator in a high voltage, three phase form that minimizes the wire size and cost necessary to carry the electricity from the turbine to the inverter and your electric meter. There are no electronic components on top of the tower to require inspection or repair, or to be prone to damage from lightning or static electricity.

The advanced generator features oversize rare earth super strength magnets rotated by the propeller inside an extra large, stationary copper winding assembly. By over-sizing these components and choosing the highest grade steel for the winding laminations, Ventera achieves a superior generator efficiency averaging over 90%, resulting in more kilowatt hours of electrical energy per month for this size propeller.

