



**Dakota  
Turbines**

## **DT • 25**

- Clean, Quiet, Inexhaustible
- Proven Design that will Stand the Test of Time
- Environmentally Sound Technology
- Outstanding Return on Investment
- Wind Power: It Just Makes Sense
- Wind Energy: An Intelligent Approach Towards Meeting Our Energy Needs

**One of the World's Most Advanced and Rugged  
Small Wind Turbine Systems**

**COMPANY**

**DT-25 by Dakota Turbines:**

A compact, efficient small wind turbine system created and manufactured in Cooperstown, ND

## Developing the Next Generation of Small Wind

Dakota Turbines is a business based in Cooperstown, North Dakota, that builds compact, efficient and rugged small wind turbines made almost entirely of parts manufactured in the Upper Midwest. Concepts for its turbines were developed beginning in 2006 and the first commercial installations were completed in 2011. Dakota Turbines is one of a trio of companies privately-owned and locally-operated by the Somerville family.

The company has worked to develop innovative technologies to enhance production from wind turbines. Its unique direct-drive alternator with an ironless stator eliminates magnetic cogging and enables the generation of electricity at very low wind speeds. The turbine design also includes an active full-span blade pitching system with a passive, fail-safe shut-down mechanism that ensures safe and reliable operation. Dakota Turbines manufactures its own power inverters that perform energy conversion and grid interconnection. The turbine blades are also manufactured by Dakota Turbines. The company has acquired 2 patents and has an additional 2 patents pending for its innovative technologies.



Direct drive permanent magnet alternator eliminates the need for a gearbox and requires no maintenance.

Ultrasonic Anemometer, with no moving parts, monitors wind speed and direction.

Fiberglass nacelle provides weather protection year-round for the structural mainframe, yaw assembly and control electronics.

42' diameter rotor offers nearly 1,400 sq. ft. of swept area to maximize energy capture. Patented failsafe governor allows for variable pitch performance and safely controls the rotor speed, even during high-wind events.

## ADVANTAGES

The **DT•25** offers the perfect size for a wide variety of applications. With its 42' diameter rotor it has the potential to save \$1,000 a month or more off of your electric bill. Its maintenance-free design will deliver these savings for decades to come.

The **DT•25** incorporates the latest developments in power technology with a high efficiency synchronous inverter available in 240 or 277 single phase voltage.

Fiberglass nose cone provides weather protection year-round for the patented speed-control system.

- **The Most Cost-Effective, Reliable, Maintenance-Free System Available Today!**
- **No Scheduled Maintenance**  
Only Annual Inspections
- **Direct Drive Permanent Magnet Alternator**  
No Gearbox and No Failure/Maintenance
- **Variable Speed / Variable Pitch Rotor**  
Maximum Airfoil Efficiency
- **Advanced Power Electronics**  
No Induction Generator Excitation Losses
- **Outstanding Power Curve and Load Control**



*Multiple tower options are available including a 100 ft tubular tilt-up that can be raised and lowered hydraulically so that all inspections may be performed on the ground without ever requiring the use of an expensive crane.*

# DT • 25 INSTALLATION

## Installation

Dakota Turbines handles the entire installation process from permitting to final inspections and commissioning. And our commitment doesn't stop there... our machine is ready for decades of service, and so are we.



*Concrete footing supports tower base and hydraulic cylinder for tipping the tower up and down.*



*Hydraulic system safely raises and lowers the tower system providing easy installation and inspections.*



## Inverter

With its innovative water-cooled design, our grid-interactive inverter converts the raw turbine power to grid-quality, and safely exports clean, renewable electricity.



*Large bolts safely secure the tower upright.*

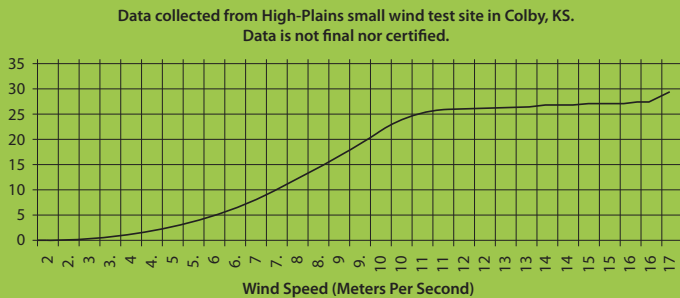


*Let it fly!*

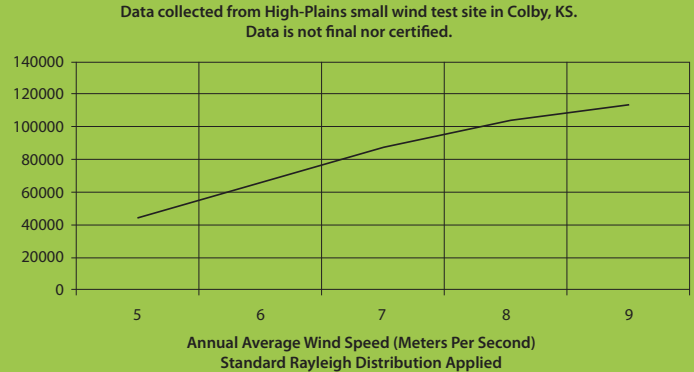


## DT-25 Power Curve and Annual Energy Production

### DT • 25 POWER (KW)



### DT • 25 ANNUAL ENERGY PRODUCTION (KWH)



| GENERATOR  | SYSTEM  |
|--|---|
| <p>Type: Permanent Magnet Variable Speed</p> <p>Core: Patent-Pending Windings Iron-Less Air Core</p> <p>Rated Output: 25 KW Continuous</p> <p>RPM: 0-180</p> | <p>Type: Utility Interactive</p> <p>Operating Temps: -40° - 120° F</p> <p>Yaw System: Active</p> <p>Tower: 80 - 165 ft. Available</p> <p>Turbine Weight: 3,500 lbs.</p> <p>Listings: UL1741</p> |
| ROTOR  | PROTECTION  |
| <p>Configuration: Up-Wind Horizontal Axis</p> <p>Rotor Diameter: 42 ft.</p> <p>Swept Area: 1,385 sq. ft.</p>   | <p>Stage 1: Active Blade Pitch</p> <p>Stage 2: Patented, Passive Fail-Safe Blade Park System</p> <p>Stage 3: Generator Dump Load</p> <p>Stage 4: Active Yaw</p>                                 |
| BLADES   | INVERTER  |
| <p>Length: 18.5 ft.</p> <p>Material: Composite</p> <p>Airfoil: Proprietary</p>   | <p>Voltage: 240, 277 Single Phase</p> <p>Frequency: 60 Hz</p> <p>Technology: High Speed IGBT</p> <p>Cooling: Patent Pending Geo-Thermal Water Cooling System</p>                                |

## CUSTOMER RESPONSE

### Ed Arndorfer – Willmar, MN

Dakota Turbines is always fast to respond to my questions and issues – even when I can hardly feel a breeze the turbine spins. I highly recommend Dakota Turbines.



### Jim Sukalski – Blue Earth, MN

My turbine is quiet, and Dakota Turbines is so responsive when I contact them – highly recommend Dakota Turbines.



## DT • FINANCING PROGRAM

Dakota Turbines announces a new and revolutionary financing strategy for our proven DT-25 wind turbine system. This investment model makes our turbine system more affordable, even when customers may not be able to take full advantage of tax credits, depreciation and other incentives. With low monthly payments and high energy savings, this program provides an easier path to owning a wind turbine system than ever before.



[www.dakotaturbines.com](http://www.dakotaturbines.com)  
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