



**Vestas**<sup>®</sup>

## V39 Wind Turbine – Technical Specification

### OVERVIEW

A 500kW medium sized wind turbine suitable for powering larger farms, community projects and commercial properties.

### PERFORMANCE

The energy capture of the Vestas V39 turbine is exceptionally good across a wide range of wind speeds and comes installed on a 40m free-standing tower for maximum energy capture.

### RELIABILITY

The Vestas V39 turbine is intended for a range of harsh conditions, especially exposed locations. The remaining design life of these machines is in excess of 20 years.



## TECHNICAL SPECIFICATION

<b>Generator Rating</b>	500kW @ 16 m/s
<b>Rotor Speed</b>	30 rpm nominal
<b>Cut-in Wind Speed</b>	4.5 m/s
<b>Survival wind speed</b>	50 m/s
<b>Rotor diameter</b>	39m
<b>Rotor orientation</b>	Upwind
<b>Number of blades</b>	3
<b>Blade material</b>	Fibreglass/polyester
<b>Control system</b>	Pitch controlled
<b>Gearbox</b>	Planetary/helical
<b>Brakes</b>	Disc
<b>Generator</b>	Asynchronous
<b>Yaw control</b>	Powered
<b>Tower height</b>	40m
<b>Tower</b>	Free standing

## PERFORMANCE

At a particular location, the wind speed will vary about an annual mean value. The expected energy yields for the Vestas V39 at various annual wind speeds (AMWS) is shown below:

AMWS m/s	Annual MWh	Daily kWh
4	255	699
5	552	1512
6	785	2151
7	1114	3052
8	1672	4581
9	1999	5477

Note: The annual electricity consumption of a medium size home is in the region of 4-6MWh or 11-16 kWh per day. At 6 m/s wind speed the Vestas V39 can provide the annual energy needs for 190 homes.

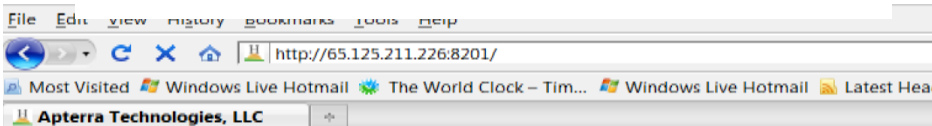
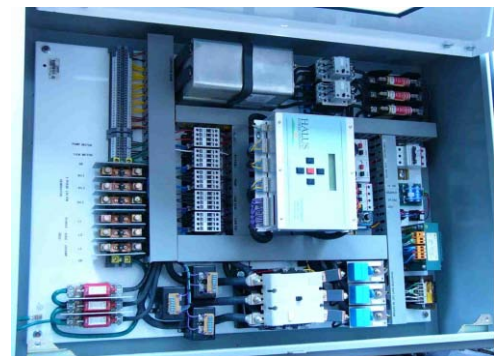
### WIND PIONEER LTD

BATCHWORTH HOUSE, BATCHWORTH PLACE, CHURCH STREET RICKMANSWORTH  
HERTS WD3 1JE TEL: 0800 955 3838 COMPANY NO. 07148454  
TEL: 0800 9655 3838 [info@windpioneer.co.uk](mailto:info@windpioneer.co.uk) [www.windpioneer.co.uk](http://www.windpioneer.co.uk)

**Halus Power Systems** are the USA's leading supplier of remanufactured wind turbines, specialising in turbines originally produced by Vestas. They have been manufacturing turbines for 10 years at their 5 acre facility in San Leandro, California. All turbines come with a standard 5 year parts warranty and an expected life of 20yrs+

**Wind Turbine Controller** – All turbines come with a new advanced controller. Some of the features of our controllers are:

- Advanced soft-start motor control with user definable thyristor trigger angle and cut in slope
- Automatic motor start
- Power factor control including user definable delay for capacitor connection and capacitor discharging time
- Web-based TCP/IP control and monitoring system which can also be used on site
- Top box for ease of maintenance and service



**HALUS**  
POWER SYSTEMS

**System Status**

Turbine: winterhof1  
 System Time: 2010-01-13 03:48:10  
 Status: Production  
 Mode: Automatic  
 Last Error: Motorstart timeout [0102]  
 Controller Version: Vestas V17 ver 3.01  
 Software Version: 4.24

**Commands**

Stop	Set	Reset start	Set
Reset alarms	Set	Toggle mode	Set
Motor start	Set	Yaw left	Set
Yaw right	Set	Reset errorlist	Set
Reset counter	Set	Reset peak	Set
Capture Data	Set		

Field	Code	Value	Units
Voltage R		277.80	V
Voltage S		276.80	V
Voltage T		274.90	V
Current R		48.10	A
Current S		46.70	A
Current T		43.90	A
Power R		14.10	kW
Power S		14.80	kW
Power T		14.80	kW
Total Power		43.50	kW
Total Power (10 Min. Avg.)		40.20	kW
Total Peak Power		63.80	kW
Grid Frequency		60.22	Hz
Wind Speed		8.80	m/s
Wind Speed (10 Min. Avg.)		8.80	m/s
Peak Wind Speed		11.60	m/s
Generator 1		1487.10	RPM
Generator 2		1209.10	RPM
Rotor		47.60	RPM

## Experts in Wind Power & Planning

**Wind Pioneer** is committed to the production of clean affordable energy with these remanufactured and upgraded wind turbines.

**Wind Pioneer** is the exclusive distributor and installer for the Vestas V39 turbine, remanufactured by Halus Power Systems, which is the most efficient and cost effective in its class. The Vestas V39 wind turbine generates exceptional levels of power for its size, but is remarkably quiet.

**Wind Pioneer** can supply, install and support the Vestas V39 turbine to help power semi-rural domestic properties and many more applications.

**Wind Pioneer** works in partnership with site owners, financiers, suppliers and other stakeholders to guide projects through the process and beyond.

**Wind Pioneer** also sells a range of larger turbines for less power hungry applications.

### WIND PIONEER LTD

BATCHWORTH HOUSE, BATCHWORTH PLACE, CHURCH STREET RICKMANSWORTH  
 HERTS WD3 1JE TEL: 0800 955 3838 COMPANY NO. 07148454  
 TEL: 0800 9655 3838 [info@windpioneer.co.uk](mailto:info@windpioneer.co.uk) [www.windpioneer.co.uk](http://www.windpioneer.co.uk)