



V29 refurbished machine installed



Refinished Blades



Vestas V29 Nacelle refinished



Rebuilding of V29

Turbine Complete: Nacelle, Blades, Controllers & Tower

Delivery: From Green Energy Wind to Client site

System Specification:

Tower

- Height: 30m or 40m
- Hub Height: 33m or 43m
- Material: Hot dip-galvanized steel, painted.
- Safety: Nacelle reached by inside tower ladder; lockable door

Component Weight

- Nacelle: 8,000 kg
- Blades: 2,900 kg
- Tower: 11,000 kg

Rotor

- 3 Variable pitch blades
- 29m diameter
- Upwind Orientation, Clockwise

Miscellaneous

- Control panel mounted safely inside tower.
- Remote system monitoring and controls via internet connection. (Available)

Generator

- Rate generator power; 225 kW at 14 m/s
- RPM's: 760 to 1008
- Type: Double wound Asynchronous 415V; 3-phase; 50Hz

Operational Data

- Cut-in wind speed: 3.6 m/s
- Cut-off wind speed: 25 m/s, variable pitch, disc brake back up
- Max operating Wind Speed: 54 m/s

Blades

- Fiberglass reinforced polyester
- 661 m² swept area

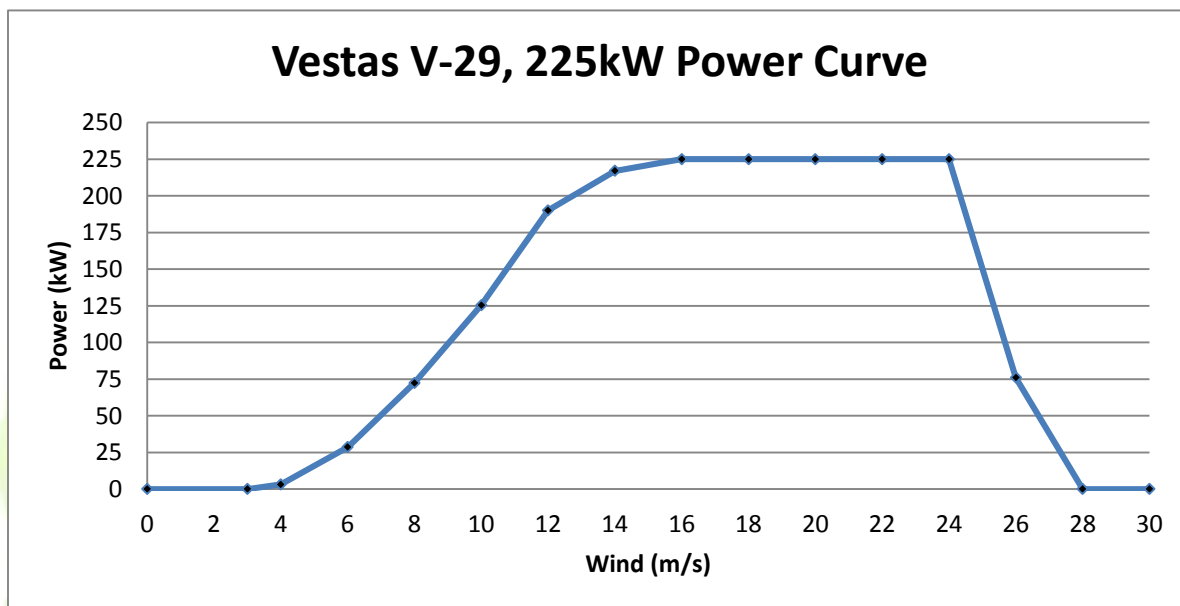
- For more information on this turbine, contact us. E: info@greenenergywind.co.uk

Safety

- All turbines purchased include the following approved safety equipment, which is packed within the turbine load at the time of shipment.
 - Safety climbing harness with shock absorber strap
 - Climbing lanyards
 - Slip grips
 - Safety instructions manual

NOTE: All personnel working in, on or around a turbine installation should wear a hard hat at all times.

Output and Production



Wind Speed (m/s)	Power Output (kW)
0	0
3	0
4	3.2
6	28.6
8	72.4
10	125.4
12	190.1
14	217.0
16	225.0
18	225.0
20	225.0
22	225.0
24	225.0
26	76.0
28	0.0
30	0.0



Estimated annual production, based on hub height of 43m and wind speed averages:

6 m/s = 463,000 kWh, 7 m/s = 572,000 kWh, 8 m/s = 630,000 kWh

Estimated Return on Investment over a 1 year period

High Estimate

Turbine	7.0m/s	NIROC Income	100 % Export	Total
Vestas V29 225kW	591,300	£106,434	£32,521.50	£138,955.50

Expected

Turbine	6.5m/s	NIROC Income	100 % Export	Total
Vestas V29 225kW	569,400	£102,492	£31,317	£133,809

Low Estimate

Turbine	6.0m/s	NIROC Income	100 % Export	Total
Vestas V29 225kW	443,475	£79,825.50	£22,173.75	£101,999.25

Reconditioning Process

- **Turbine Nacelle:** stripped down to main chassis
- **Gearbox:** Inspect gearbox, check endplay, replace all seals, Bearings & gear oil. Refurbishment carried out by Pregear 50 Creagh Road, Toomebridge, Derry. BT41 3SE
- **Brake unit:** Test magnetic brake unit & Meg electric motor.
- **Yaw System:** Meg yaw motor. Inspect yaw bearing & adjust yaw pinion gear to yaw ring.
- **Generator:** Meg Large generator. Replace bearings and seals. Refurbishment carried out by SC Rewinds Unit G Carryduff Business Park, Comber Road, Belfast, BT8 8AN
- **Main Shaft:** Replace main shaft bearing & seals
- **Anemometer:** Test RPM sensor, anemometer & wind vane.
- **Controller:** Check & test controller & set parameters by manufacturers guidelines.
- **Blades:** Refinish blades, balance & match set.

Cost

Dependent on availability, order date location and purchase price of second hand machine

Shipping

- All our prices include shipping from Europe and delivery Green Energy Wind Workshop. Delivery to client site and all lifting and handling

Warranty

- Turbines are warranted for a period of two years.
- Extended warranty available
- Replacement parts are available. Most components in stock

Installation

- Manuals provided.
- Foundation drawings provided.
- Full Health & Safety file to customer on completion
- 2 yr. dial up tech support included.

Design Advantages

- Low visual impact tubular towers.
- Easy access to controller and nacelle via internal tower ladder with dual lockable doors.
- Ease of service and maintenance during inclement conditions.

Tower Heights

- 40m & 50m Available
- Towers extension sections designed and certified by independent engineering group RPS

