



Technical Data Series:

Nordtank 150 – 150kW



Turbine Complete: Nacelle, Blades, Controllers & Tower

Delivery:

System Specification:

Tower

- Hub Height: 30m
- Material: Hot dip-galvanized steel Painted White RAL 9010
- Safety: Nacelle reached by inside tower ladder, climbing cable, non-slip; lockable door

Generator

- Rate generator power; 165kw, 1830RPM, 415v, 50Hz
- Type: Asynchronus 4 Pole, IP-54
- Generator: ABB, 3 phase
- Certification: ISO 9002

Component Weight

- Nacelle: 3,900 kg
- Blades: 5,100 kg
- Tower: 11,000 kg

Rotor

- 3 fixed blades Dia 24m
- Upwind
- Stall Regulated
- Swept Area: 467 m²

Drive Train

- Gearbox: Flender, planetary three stage
- Power, Nominal: 175 kW
- Oil volume: 60 litres
- Speed: LS-38 to HS-1800 rpm

Operational Data

- Cut-in wind speed: 4 mph
- Cut-off wind speed: 25 m/s
- Rated Wind Speed: 12 m/s

Blades

- Fiberglass reinforced polyester
- Rotor Speed, Nominal: 38.1 RPM
- Tip Speed, Nominal: 49 m/s

Controller & Yaw System

- Type: KK Controller, Microprocessor
- Cut-in system: Soft by Thyristors w/PLC
- Yaw: Slide Bearing/Active Yaw brakes
- Drive: Yaw gears w/ dual electric drives
- Control: Active yaw/wind vane, speed

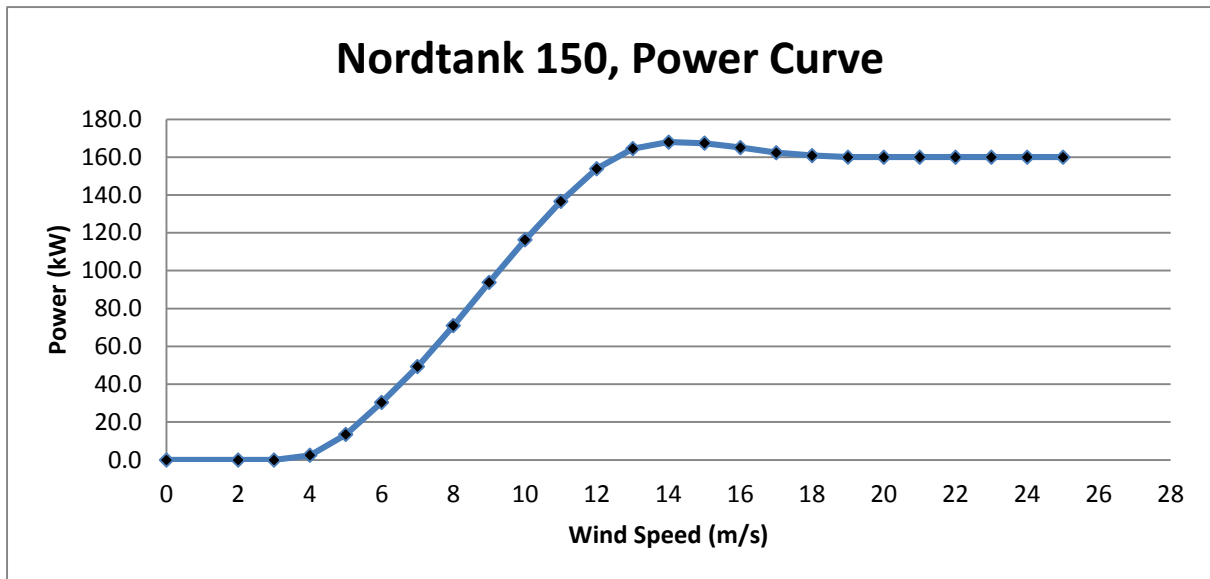
Miscellaneous

- Control panel mounted safely inside tower.
- Design: Din-Norms, Riso and German Loydds Certification, Harmonics-IEEE 519
- For more information on this turbine, contact us at; email: info@greenenergywind.co.uk

Safety

- All turbines purchased include the following OSHA 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.



Wind Speed (m/s)	Power Output (kW)
0	0.0
2	0.0
3	0.0
4	2.4
5	13.4
6	30.4
7	49.3
8	70.9
9	93.9
10	116.3
11	136.7
12	153.9
13	164.5
14	168.0
15	167.4
16	165.1
17	162.4
18	160.9
19	160.0
20	160.0
21	160.0
22	160.0
23	160.0
24	160.0
25	160.0



Estimated Return on Investment over a 1 year period

Turbine	7.0m/s	NIROC Income	100 % Export	Total
Nordtank 150 150kW	39,4200	£70,956	£21,681	£92,637

Expected

Turbine	6.5m/s	NIROC Income	100 % Export	Total
Nordtank 150 150kW	34,1640	£61,492.20	£18,790.20	£80,282.40

Low Estimate

Turbine	6.0m/s	NIROC Income	100 % Export	Total
Nordtank 150 150kW	29,5650	£53,217	£16,260.75	£69,477.75

Reconditioning Process

- **All parts:** Inspect/replace as needed.
- **Gearbox:** Inspect gearbox, check endplay, replace seals & Bearings and fill with new gear oil.
- **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 refurbish as required after testing.
- **Main Shaft:** Replace main shaft bearing.
- **Anemometer:** Test RPM sensor, anemometer & wind vane.
- **Controller:** Check & test controller & set parameters.
- **Blades:** refinish blades, balance & match set.

Shipping

- All our prices are inclusive of shipping to site.

Warranty

- Turbines are warranted for a period of two years on drive train and blades.
- One year on major components.
- Replacement parts are available.

Installation

- Manuals and blueprints provided at time of sale.
- Foundation drawings available.
- Technical support included. Service and Maintenance package available on request
- Full installation. Mechanical and electrical inclusive of all testing and certification

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.

Notes

1. Prices and delivery dates are subject to availability and change. We do offer price discounts for multiple system purchases. Contact us for additional information and a price quote.
2. Please confirm with us: email: info@greenenergywind.co.uk
3. Annual electrical production in kilowatt-hours will vary dependent upon your wind speed averages. We would be glad to assist you in calculating your annual production upon request.

