



INDUSTRIAL WIND TURBINE

**NORDTANK**

**NTK 130**

Product overview

Technical data

**NORDTANK NTK 130**

Industrial wind turbine Made in Denmark.

**Rated power:** 145 kW maximum power output  
(130kW nominal)

**Rotor diameter:** 21 m

**Height:** 27 m, on tubular steel tower

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**Wind class (IEC): IEC Class III / Low wind speed turbines****Rotor**

Type: Upwind

Rotational direction: Clockwise

No. of blades: 3

Blade material: Fiberglass reinforced polyester

Lightning protection: yes/ Built-in

Power control: Active stall / CT (coefficient of thrust) curve type: standard stall

Tie angle:  $-1.4^{\circ}$

Cut IN Wind speed: 3.5 m/s

Cut OUT/ Safety stop wind speed: 30 m/s

Blades manufacturer: LM / Stork , Denmark

Survival wind speed: 55.5 m/s

**Tower:**

Height: 27 m

Material: Double Galvanized steel (3 sections);  
lower section with access door on bottom.

Safety: Nacelle access: by inside tower ladder,  
climbing cable, non slip, lockable doors.

**Generator:**

Asynchronous generator 400V

**Controller & Yaw System:**

Manufacturer: Nordtank, Denmark

Multiprocessor system based upon  
microprocessor.

YAW GEAR

Type: Bonfiglioli 303 M2C/MAS 25F-037-4 0.37  
kW

**NORDTANK NTK 130  
SPECIFICATIONS**

|                                 |                        |
|---------------------------------|------------------------|
| Number of blades                | 3                      |
| Rotor diameter                  | 21 m                   |
| Rotor RPM                       | 44.5                   |
| CUT-IN Wind speed               | 3.5 m/s                |
| CUT-OUT Wind speed              | 30 m/s                 |
| Survival wind speed             | 53 m/s                 |
| Height                          | 27 m                   |
| Maximum continuous power output | 145 kW (130kW nominal) |

Note: above values are measured are obtained in the following environmental conditions:

Temperature: 15° C

Atmospheric pressure: 760 mmHg

Humidity:60 %

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**BLADES**

|              |   |
|--------------|---|
| Manufacturer | LM/Stork, Denmark   |
| Material     | Fiberglass reinforced polyester   |
| Design       | Self-supporting construction with bushings root   |
| Tip brakes   | Hydraulically activated tip brakes. The tips are kept in working position by hydraulic pressure. If the hydraulic pressure is cut off (after wind speed sensor command), the tips automatically rotate to a 90° brake position. |
| Airfoil type | NACA 63-200   |

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**HUB**

|              |   |
|--------------|---|
| Manufacturer | Sabroe, Denmark   |
| Type         | Nordtank NTK  |
| Material     | Heat treated MEEHANITE SF 400.2.  |
| Design       | NTK-designed cast iron, construction, which allows for adjustment of blade pitch angle. |

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**MAINSHAFT**

|              |                                |
|--------------|--------------------------------|
| Manufacturer | Nordtank NTK/DMP               |
| Material     | DIN 34 Cr. Ni Mo.6 SIS 2541-03 |

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**MAINBEARINGS**

|              |  |
|--------------|--|
| Manufacturer | SKF Sweden   |
| Type         | 1 piece, spherical roller bearing 23138 CC/W33<br>1 piece, spherical roller bearing 23036 CC/W33 |
| Design       | Heavy bearings in Nordtank NTK designed casing.  |

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**CLUTCH**

|              |                               |
|--------------|-------------------------------|
| Manufacturer | Lohr & Bromkamp GmbH, Germany |
| Type         | Universal Joint               |

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**GEAR**

|                    |                                |
|--------------------|--------------------------------|
| Manufacturer       | Lohmann & Stolterfoht, Germany |
| Design             | Two step planetary gear        |
| <b>AGMA Rating</b> | 302 kW                         |

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**BRAKE SYSTEM**

|              |   |
|--------------|---|
| Manufacturer | Nordtank, Denmark   |
| Design       | Hydraulically/mechanically activated brake. The force necessary for activating the brake is provided by springs. The springs are hydraulically held back to release the brake. Therefore the brake is designed fail safe. |

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|                             |  |
|-----------------------------|--|
| <b>GENERATOR</b>            | Asynchronous generator 400V  |
| <b>YAW SYSTEM - Var. II</b> | YAW GEAR   |
| Manufacturer                | Bonfiglioli, Riduttori SPA, Italy  |
| Type                        | Bonfiglioli 303 M2C/MAS 25F-037-4 0.37 kW.   |
| Design                      | Planetary reduction gear. Ratio 1:916  |
| <b>CONTROL UNIT</b>         |  |
| Manufacturer                | Nordtank, Denmark  |
| Type                        | Multiprocessor system based upon microprocessor.   |
| Design                      | The control unit is housed in a dust-proof control box made of steel. The control box with display and keyboard is placed inside the tower at a convenient position.<br>The electrical equipment is arranged in three galvanic separated levels to obtain extremely fine noise immunity. |
| Program storage             | 24k EPROM  |
| Memory                      | 2 x 2 k RAM (1 k with battery back-up).  |
| Accuracy                    | 2,0% f.s. (current, voltage, power).   |
| Temperature range           | -20°C to +60°C   |
| Programming                 | Programmable in more levels.<br>To obtain optimal function according to the location, access is given to all levels directly from the keyboard. Optimizing is only carried out by specialized engineers.   |

NORDTANK A/S reserves the right to use wind turbine components from alternate manufacturers, provided that the component quality is the same or better than the quality of listed components.

