[NM 52/900]

N·E·G MICON®

– for a powerful future

[S e t t i n g N e w S t a n d a r d s]

With the NM52/900, NEG Micon has again set new standards for the relation between price, quality and performance on the market for highly efficient wind turbines. NM52/900 can be installed as single units, in small groups or in full-scale wind farms.

The NM52/900 is a further development of the well-known and highly flexible wind turbine NM 750, which are suitable for most site conditions and climates. Having supplied more than a thousand of these models for installation, NEG Micon is currently one of the world's leading suppliers of wind turbines of this size.
That is why the NEG Micon NM52/900 is built according to the same fundamental design philosophy and on the same solid base of experience, documentation and know-how as the other NEG Micon wind turbines in this category. We call it proven technology!
By optimising a number of aspects concerning the yaw system and the rotor, and by introducing a more rigid and stronger cast machine frame, the NEG Micon R&D department has succeeded in creating a wind turbine with an exceptional high level of performance.

Reliable principles

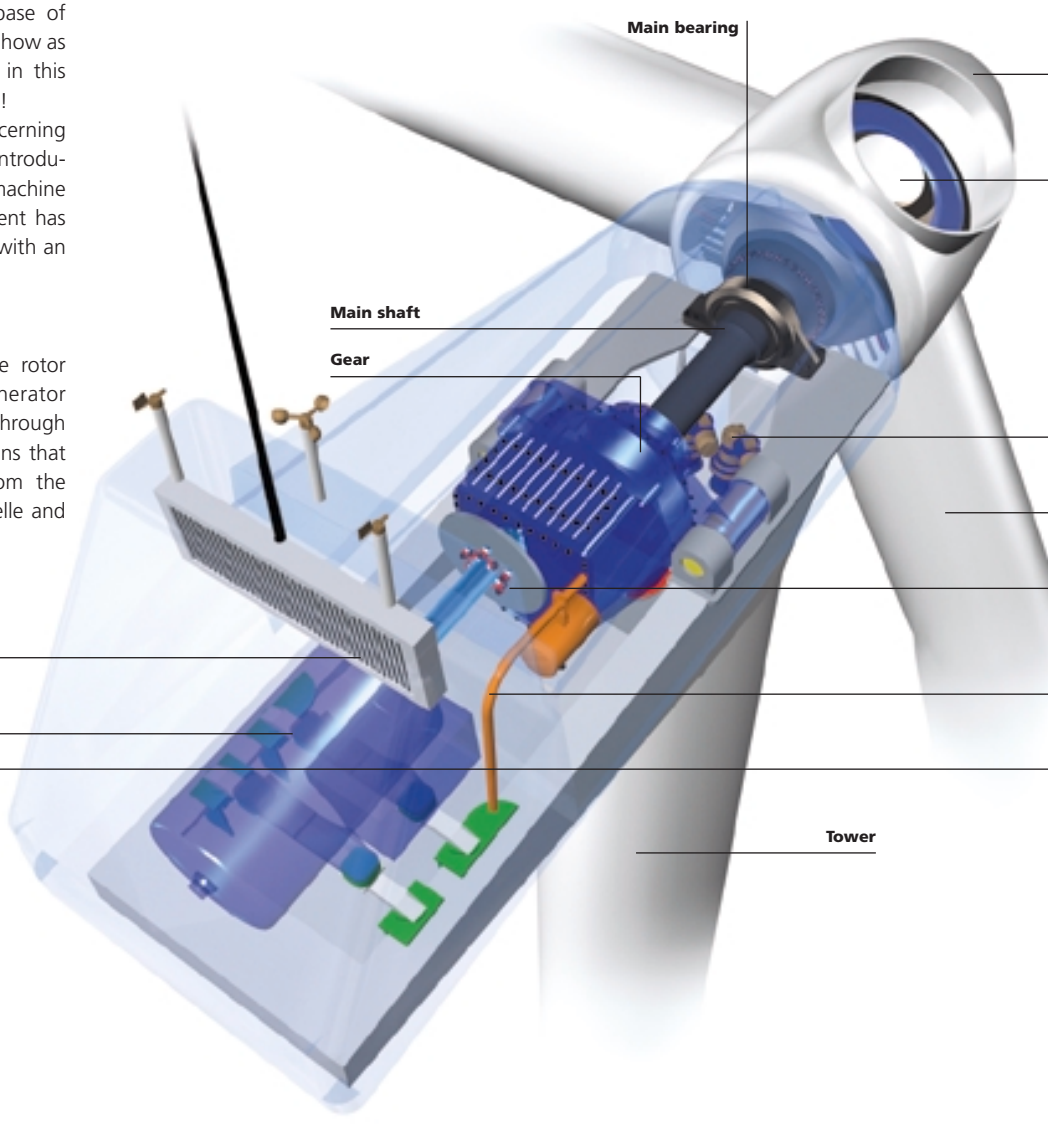
In the NM52/900 wind turbines, the rotor shaft, the gears and the generator are positioned in a straight line through the nacelle. This design principle means that operational loads are transferred from the bearings and the gearbox to the nacelle and the tower.
This ensures not only optimal exploitation of the wind, but also the best possible power transfer and minimal wear and tear.
By maintaining these tried and tested design principles, gleaned from the other NEG Micon wind turbines, we guarantee that the NM52/900 will be yet another turbine that lives up to our philosophy "- for a powerful future".

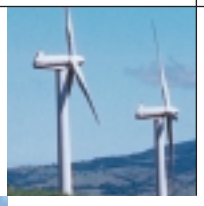
The gear technology

When designing the NM52/900, NEG Micon worked closely with the world's leading gearbox manufacturers. Together, we developed a new and improved three-stage gearbox that easily can handle all loads it will experience.
In addition, the NM52/900 is equipped with two separate hydraulic braking systems. The aerodynamic tip brake and the mechanical disc brake work in tandem to ensure a form of braking that is gentle on the bearings and the gears. Furthermore, the two-torque action of the disk brake system makes braking even more soft.

Lower costs – higher profits

When developing the NM52/900, the objective was to use the experience from the existing models to create an improved and an even more competitive wind turbine.
This has resulted in a very attractive relation between initial investment and installation, operation and maintenance costs on one hand, and calculated annual output on the other hand - your guarantee for lower kWh-production prices and a higher return on the capital invested.





Spinner

Hub

Yaw-gear

Rotorblade

Disc brake

Servicecrane

Technical data

Operational parameters

Nominal output	900 kW
Power regulation	Stall
Cut-in	3.5 m/s
Cut-out	25 m/s

Rotor

Rotor diameter	52.2 m
Rotor swept area	2140 m^2
Number of blades	3
Rotor revolutions	22.4/14.9 rpm
Rotor placing	Upwind rotor

Brake system

Blade tip air brake	Hydraulic, fail-safe
Disc brake	1 pcs. hydraulic, fail-safe

Drive train

Gear type	Planetary - parallel axle
Ratio	1:67.5 (1:81.0 - USA)
Main shaft	Forged shaft and flange
Main bearing	Spherical roller bearing
Cooling	Heat exchanger with pump

Generator

Type	Asynchronous, 4-6 pole
Nominal voltage	690 V (600 V - USA)
Nominal frequence	50 Hz (60 Hz - USA)
Name plate rating	900/200 kW
Cooling	Liquid-cooled with pump

Yaw system

Type	Sliding bearing
Drive mechanism	3 electrical planetary gears

Tower

Type	Conical, steel, painted
Hub height	In accordance with approvals

Controller

Type	Computer controlling
Cut-in system	Soft by thyristors
Phase compensation	Generator no load
Remote control	By modem

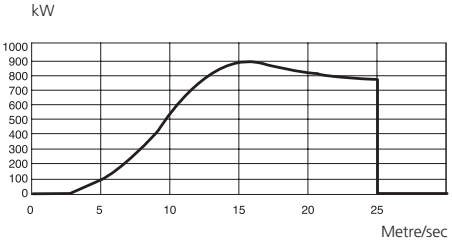
Sensors

RPM sensors	Rotor, generator, yaw system
Temperature sensors	Gear, generator, controller, ambient
Vibration sensor	Nacelle, rotor
Meteorology	Anemometer, wind vanes
Hydraulic systems	Pressure transducers

Lightning protection

According to standard	IEC 1024 class 1
Blades	Receptor in the blade tips
Nacelle	Air rod

Power curve



Please note that the power curve has been noted at standard atmospheric density according to DIN ISO 2533.
Please note that the rotor and the hub heights have been approved for specific markets and wind classes – please call for further information.
NEG Micon A/S reserves the right to change specifications and to use components of alternative manufacture without prior notice.
Alternative components will be of the same high quality and standard as in this survey

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Certified firm according to DS/EN ISO 9001 by Det Norske Veritas, Danmark A/S
DNV

[Knowledge]

[Reliability]

[Vision]

[Value creation]

There is a growing need for energy in the world, and it is critical that this need is met with as little negative environmental impact as possible.

NEG Micon's mission is to contribute to the continued development of renewable energy systems based on wind turbine technologies that are fully competitive with conventional energy technologies.

Our aim is to become the preferred professional partner when it comes to investments in the reliable and efficient production of wind energy.

At NEG Micon we have always built *Value creation* on the basis of *Knowledge*, *Reliability* and *Vision*. In our daily work we transform these values into a close professional partnership with our customers.

Over the years this has helped us to focus on our major objectives to improve the customer dialogue, optimise turbine technology, and increase the return on investment from wind energy projects.

We believe that our products and our way of doing business are the best possible guarantees we can give customers for a powerful future.

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