



In touch with the wind



m**ventas**

Reliability in all conditions

Know-how based on decades of tradition and experience.

Moventas' wind turbine know-how is based on decades of tradition and experience. Our products are built with high standards of workmanship and continuous innovation. At Moventas, we believe in developing drive solutions for wind turbines that provide our customers with reliable wind turbine gears for all conditions.

Moventas is a global manufacturer of a multi-megawatt class of intelligent wind turbine gears. Global, but local, Moventas develops and supplies drive solutions for major wind turbine manufacturers.

We began to develop wind turbine gear technology in early 1980's. Today Moventas' gear units are in use all over the world, wherever wind is farmed. Our comprehensive know-how is based on decades of experience as a gear manufacturer.

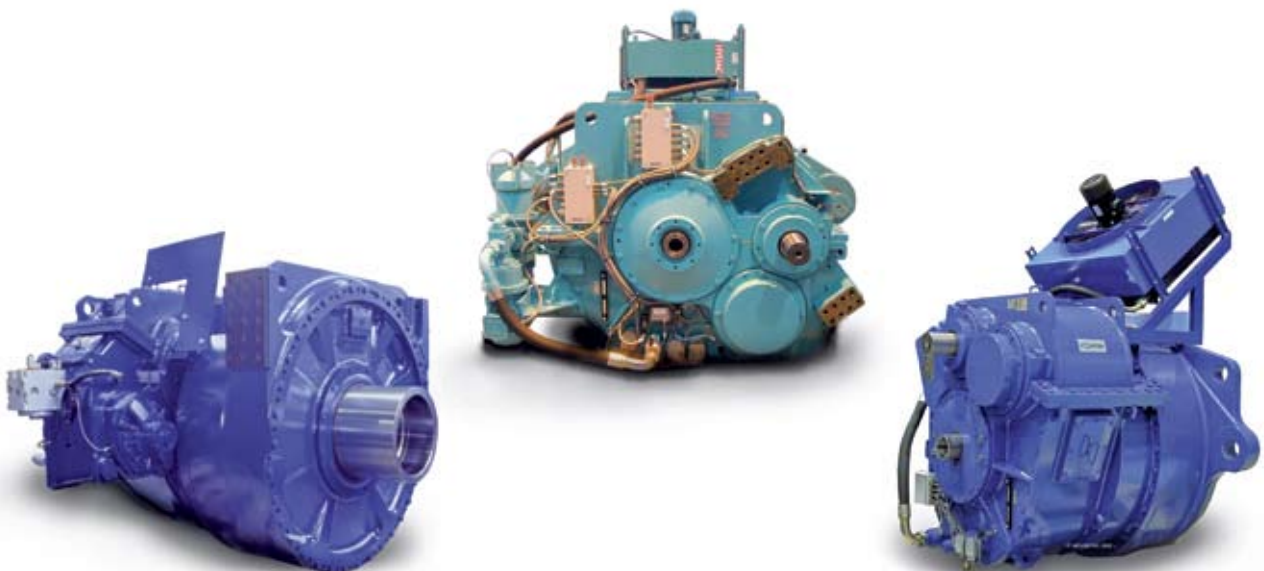
Solutions for the future

As a know-how driven company, our expertise is based on experience and productive cooperation with our customers. Our strength lies in the ability to use our thorough understanding of our customers' needs to develop innovative solutions that improve performance. Moventas' gear units are also specifically designed to withstand extreme conditions in various locations, from the arctic tundra to deserts and offshore installations.

We strive to be the leader when developing new products and technologies for environmentally friendly energy production. Environmental concerns are carefully considered during product design. In our own environmental performance, we follow the ISO 14001 standard.

Moventas' gear units offer space savings and flexible layout options for wind turbine manufacturers. Unique reliability and low noise are some of the reasons why our gears are chosen by the most demanding wind turbine manufacturers around the world.

Moventas tests the wind turbine gears in-house during the production process.





Riding the wind with R&D

Innovative technology for wind turbines

Moventas' innovative technology for wind turbine gears is continuously developed to meet the increasing demands for reliability and low noise. Our in-house design and production combined with our in-depth product competence have led to a track record of proven technology and an installed base of thousands of units.

Moventas' Gear Technology Center researches the dynamic behavior of gear unit components and enables testing of a wind turbine gear up to six megawatts.

At the center, prototype gear units can be tested at all loading steps and under all load conditions. The facilities are also dedicated to the study of accelerated testing, dynamic behavior and the verification of calculated simulations. The center is equipped to test optimization of power-weight ratio as well as sound and vibration behavior.

New technology through innovation

Wind turbine gears in the multimegawatt class must meet strict power-weight ratio requirements. Due to intensive R&D work, Moventas has been able to continuously increase the power-weight ratio of its gearboxes.

At Moventas, wind turbine gears are thoroughly tested in-house during the production process. We conduct a complete running-in procedure before delivery. Running-in under controlled load conditions reduces surface roughness of the teeth as well as the risk of micropitting and scuffing.

We use only selected high-grade steel in the gear unit wheels. To guarantee optimum gear wheel quality, we keep

the critical heat treatment processes inhouse. The gear unit is of cast or of weld. The housings ensure the rigidity of the gearboxes and allow flexible modifications to suit customer requirements.

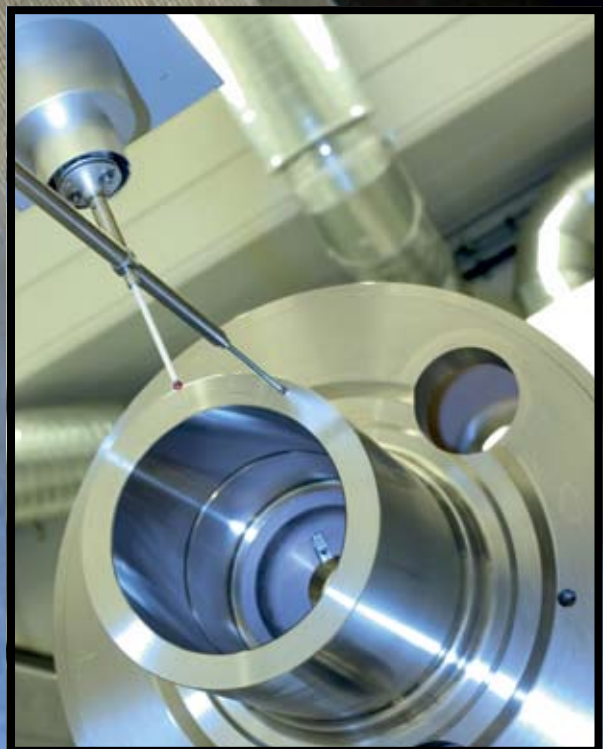
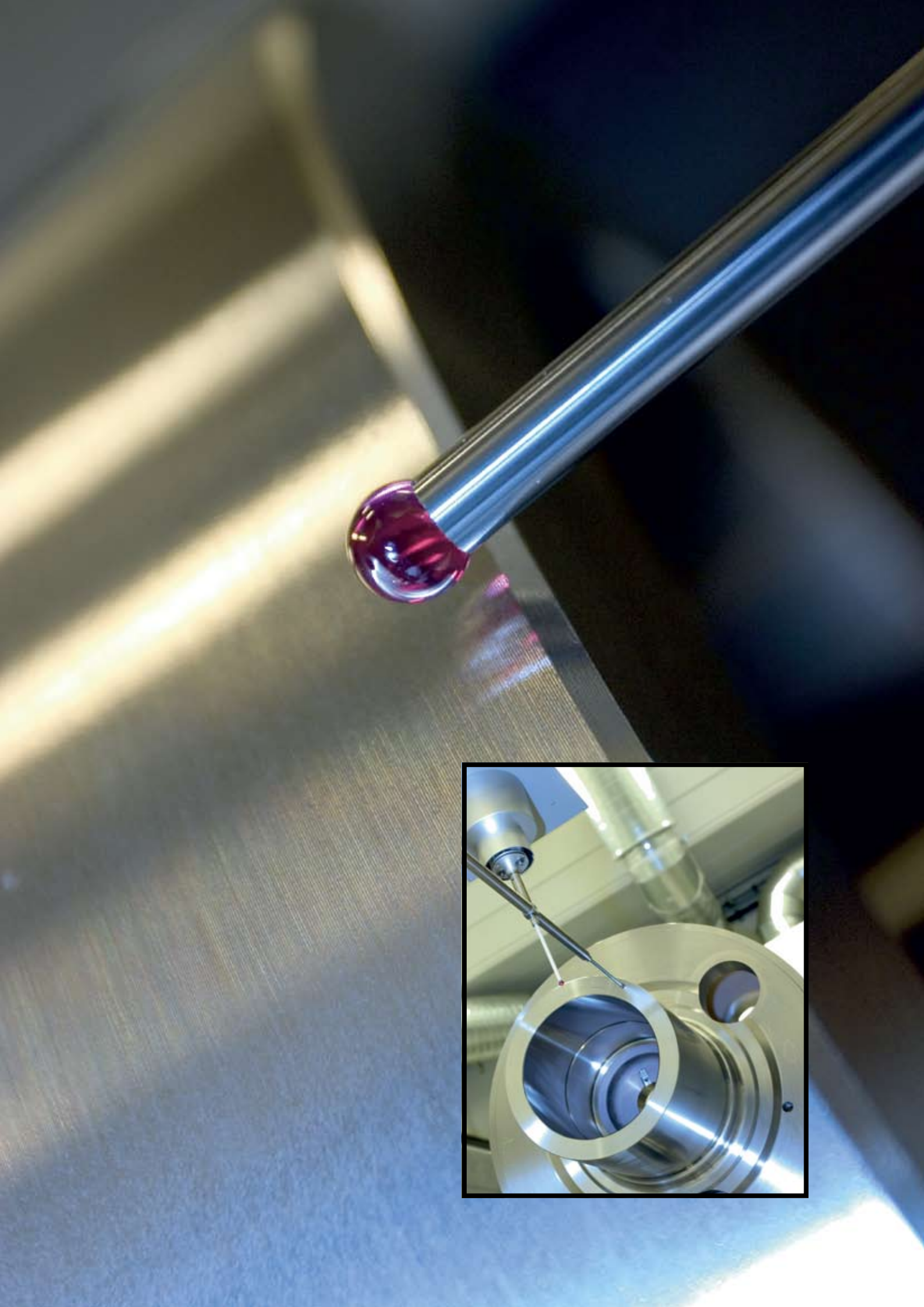
Sensitivity to noise pollution

Moventas has successfully reduced the noise level of its gearboxes by improving tooth accuracy and choosing the optimal geometry and profile. The FEM analysis and on-site testing are used to eliminate any harmful resonance sounds of the gear housing.

To be noiseless, the gear unit has to be vibration-free. Our gear units are designed to prevent vibrations from passing through the gearbox fixing points to the foundation of the wind power plant.

Our commitment to customer satisfaction and continuous improvements are ways that we meet the requirements of the ISO 9001:2000 standard.





Comprehensive gear service support

Services built on a proactive approach

Moventas offers versatile solutions for improving performance throughout the entire life cycle of a wind turbine gear. Strong proactive service capability means that we are always close to our customers through our local presence and advanced remote diagnostics.

All Moventas services are built on a proactive approach. They include condition measurement analysis, follow-up and monitoring. All services are aimed at increasing operational reliability and reducing unscheduled shutdowns.

Our service solutions include turnkey modernization services that work to increase reliability in wind turbine gears. When an older generation wind turbine is properly modernized, it can meet the present performance requirements.

Repair and maintenance services can be carried out on site or in our modern service technology centers. Our 24 hour service provides quick online support.

Wind turbine condition management

Condition management is becoming even more important in the near future, as the number of offshore installations of wind turbines increases and the size of wind turbines grows.

A wind turbine condition management system detects component failures at an early stage, making it possible to decrease the risk of damage and to increase operational reliability. The condition management system monitors the mechanical condition of wind turbine key components, such as oil, vibration and temperature.

Now wind turbine operators can directly monitor the wind turbine load and gearbox operating conditions.

Moventas' service support and know-how offer our customers new opportunities.





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Moventas is one of the leading experts in mechanical power transmission. The company develops, manufactures and sells mechanical drive solutions and life-cycle services for the wind and process industries globally. Moventas supplies reliable wind turbine gears and life cycle maintenance services for the major turbine manufacturers. All our products and services are built on decades of experience and cutting-edge technology developed by Metso Drives, Santasalo and Valmet. Moventas is the original equipment manufacturer for all these quality brand names. www.moventas.com
