

# THE TIMKEN EXPERIENCE

# TIMKEN

Where You Turn®

## QUALITY AND PERFORMANCE COME STANDARD

The Timken name stands for high quality and outstanding performance. Using our capabilities in bearing technology, manufacturing, application knowledge and engineering, we provide our customers with smart, cost-effective friction management and power transmission solutions that improve total system performance and help outperform the competition.

### ADVANCED SOLUTIONS THAT WORK

The wind energy industry faces some of the most challenging technical problems. As wind turbines continue to grow in size to increase energy output, systems are subject to greater loads and challenges than ever before.

As a result, we collaborate with turbine and gear drive designers to explore the wide range of operating parameters commonly experienced by wind turbines. Using our proprietary engineering system – Timken Syber Wind Bearing System Analysis – we can identify enhanced friction-management solutions for each application. Syber Analysis improves gearbox design, predicts potential damage and reduces product development time and costs.

### TOTAL SYSTEM APPROACH

We work with customers to apply the right product for the right application. Our solutions are designed to improve reliability and performance of main shaft and gear

drive applications while helping to increase productivity and reduce cost of ownership.

To optimize performance, we address the complete wind turbine powertrain system, not just individual turbine components – and can support a variety of turbine configurations including modular, direct drive and hybrid designs.

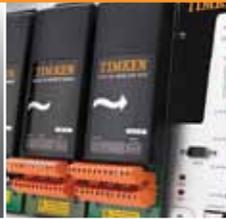
### UNPARALLELED ENGINEERING EXPERTISE

We're passionate about developing technical solutions and services that enable our customers' equipment to run harder, faster and longer with enhanced durability and superior performance. We have nearly



# TIMKEN SOLUTIONS FOR SUSTAINABLE WIND POWER

For Modular Wind Turbines, Direct Drive Wind Turbines And Hybrid Wind Turbines



**Timken® Middle Frequency Induction Heaters** help you efficiently install bearings and gears, while protecting the work piece from damage.

**Timken® Wind Energy Seals** offer a variety of sealing options to meet the demanding requirements of the main shaft bearing. They are available in elastomeric, PTFE and EcoTurn labyrinth styles.

**Timken® Wind Energy Lubrication System** is an engineered system that meters the flow of grease in and out of the main shaft bearings, optimizing bearing and seal performance. It ensures that fresh grease is provided over the lifecycle of the bearing, and that old grease is purged.

**Timken® Online Intelligence System** provides advanced condition monitoring of key turbine components. Utilizing shock pulse HD, this unit – combined with Timken® services – provides unmatched data collection and analysis.

**Timken® UltraWind Bearings** are single- or double-row tapered roller bearings specifically designed to fit your main shaft application. Utilizing world-class engineering and made from super clean steel, these bearings deliver the ultimate in performance and reliability.

**Timken® Wear-Resistant Bearings** use our advanced tribological and metallurgical knowledge to solve the wear issues that cause you downtime. Timken wear-resistant bearings are available as tapered, cylindrical or spherical roller bearings.

**Timken is the only premium bearing manufacturer** in the world that manufactures super-clean, high alloy bearing steel. We apply this knowledge of superior quality materials to every bearing we make.

a century of unmatched expertise in mechanical power transmission, anti-friction bearing design, tribology, metallurgy, clean steel making, precision manufacturing, metrology and engineered surfaces.

Additionally, our eight global technology and engineering centers located around the world – including China, India, U.S.A. and France – further expand our ability to deliver on-site value to our global customers.

Through customer collaboration and technical innovations, Timken is advancing tomorrow's wind turbine designs today.

## UNIQUE GLOBAL NETWORK

Supply chain constraints can impact bearing availability. That's why our global manufacturing footprint allows us to supply most products locally, simplifying logistics.

In fact, Timken has nearly 150 technology, manufacturing, sales and distribution facilities in 26 countries and territories. We are committed to meeting customer needs anywhere, any time.

Recent multi-million dollar capacity expansions in large-bore bearings include state-of-the-art manufacturing facilities in Wuxi and Xiangtan, China; Chennai, India; Ploiesti, Romania; and, Tyger River and Asheboro, U.S.A. We can meet your supply chain needs in any region of the world.

## VALUABLE LIFECYCLE PERSPECTIVE

Throughout the entire bearing lifecycle, Timken is there to help maximize equipment performance. For turbine operators, Timken provides a full range of support to maximize equipment performance and reduce the total cost of ownership, from replacement bearings and upgraded solutions to remanufacturing services, condition monitoring and lubrication systems.

Our total lifecycle approach supports customer needs for the duration of a bearing's useful life. For example, Timken's global service engineering network can provide on-site troubleshooting, technical assistance and training.

## THE TIMKEN COMPANY

The Timken Company helps keep the world turning with innovative friction management and power transmission products and related products and services, enabling our customers' machinery to perform longer and more efficiently. Timken is Where You Turn® for better performance.

## FOR MORE INFORMATION

To learn more about our expanded series of wind energy products and services, contact your local Timken representative or visit [www.timken.com](http://www.timken.com).

# TIMKEN

Where You Turn®

Bearings • Steel • Precision Components • Systems • Lubrication • Seals • Remanufacture and Repair • Industrial Services

[www.timken.com](http://www.timken.com)

Timken® and Where You Turn® are registered trademarks of The Timken Company.

© 2010 The Timken Company  
Printed in U.S.A.  
10M 05-10-29 Order No. 10362