

Press release

## **Bearings from NKE for wind turbine gearboxes and generators**

*Steyr, Austria, March 2022.* NKE Austria GmbH designs and manufactures bearings for wind turbine gearboxes and generators. The bearing solutions will be presented at the WindEurope Annual Event in Bilbao, Spain, in April 2022.

### **Built to last: highest-quality bearings for wind turbines**

Wind turbines cannot be serviced easily. This is why the components of the gearbox, especially the bearings, must be exceptionally reliable. The most common bearings used in a wind gearbox are full complement cylindrical roller bearings, single and multi-row cylindrical roller bearings, tapered roller bearings, spherical roller bearings, deep groove ball bearings and angular contact ball bearings. "NKE can manufacture all of those bearing types for wind gearboxes to high quality standards," says Michael Rössl, Application Engineering at NKE in Steyr, Austria. "NKE bearings are installed inside wind turbines for power ratings from several hundred kilowatts up to multi-megawatts. NKE has more than 20 years of experience in the wind business and has equipped a great number and variety of wind turbines in the past – so we know about the design and specifications which need to be fulfilled for service demands. As we are building up a stock of frequently used wind bearings and complete gearbox sets, we can guarantee high availability."

### **Optimized performance: innovative product functionalities and features**

Bearings used in wind turbine gearboxes are commonly coated with black oxide. This special treatment provides a protective layer on the functional surfaces of a bearing. Among other advantages, black oxide finished bearings offer improved run-in and wear and enhanced adhesive wear characteristics. For very demanding applications, NKE can choose from a wide variety of different materials and heat treatments, e.g. bainitic hardening, case-carburized bearing steel etc. for optimized bearing performance.

### **Best-in-class: insulated and hybrid bearings for extended service life**

Besides the gearboxes, wind turbine generators are also essential to the overall functionality of wind turbines. Generator bearings have to operate under challenging conditions. In modern applications, the bearings must frequently withstand issues caused by stray

electrical currents or electric discharge. Depending on the expected operating conditions and demands of customers, NKE offers insulated generator bearings and hybrid generator bearings with ceramic rolling elements. Both solutions provide perfect protection against all kind of issues related to electric current passing through a bearing. Moreover, hybrids reduce friction and operating temperature, improving the overall operating conditions and thus extending lubricant and bearing service life. “In a nutshell, NKE’s generator bearings lower the risk of a premature bearing failure and increase the reliability and efficiency of the turbine as a whole,” Rössl says.

NKE offers a wide variety of insulating bearings, which are suitable for all common multi-megawatt generators, and offers customized insulated bearing solutions upon request. For applications that have to function under especially harsh operating conditions, NKE offers premium hybrid bearings that maximize the generator’s reliability and performance. Hybrid bearings consist of bearing rings made of bearing steel, and ceramic rolling elements. Large-sized wind generator hybrid bearings are available with rolling element guided steel sheet cages or massive brass cages. “NKE premium hybrid bearings as well as electrically insulated bearings have proven successful in leading wind generator brands,” Rössl says. “NKE collaborates with wind turbine manufacturers, generator manufacturers and service providers worldwide.”

### **State-of-the-art manufacturing: Austrian expertise in the historic town of Steyr**

At its headquarters in Steyr, Austria, NKE has launched a competence centre for large-sized bearings, including state of the art manufacturing capabilities and a logistics centre. All NKE bearings undergo stringent, documented quality inspections. In addition to comprehensive engineering support tailored to the needs of the wind industry, NKE’s Application Engineering department offers certification support in accordance with wind standards such as GL2010, IEC61400 or customized specifications.

Apart from serving the wind power sector, NKE produces standard and custom bearings for all industrial applications. Engineering, product development, production and final processing of components, assembly, quality assurance, logistics, and sales and marketing are centralized at its Steyr headquarters. A comprehensive range of standard bearings is available from stock or can be produced with short lead times. Solutions are developed and manufactured for special requirements as well. In addition to product development and

application engineering, NKE provides a full range of technical services, consulting, documentation and training.

**NKE at WindEurope 2022:**

WindEurope Annual Event 2022, 5 to 7 April 2022, Bilbao, Spain: Stand 3-D59

**Photos:**

Pic 1: NKE custom bearing inside planetary gears for a 1.5 MW wind turbine gearbox (model)

Pic 2: Modular NKE bearing set consisting of up to four base bearings plus accessory parts for planetary gear applications

Pic 3: NKE premium hybrid deep groove ball bearing 6330-C3-HYB for wind generator applications

**Company information:**

NKE Austria GmbH is a bearing manufacturer with headquarters in Steyr, Austria. The company was founded in 1996 by a group of senior staff members of former company Steyr Wälzlager. Spanish bearing manufacturer Fersa Bearings, which is specialised in the automotive sector, acquired 49 percent in NKE in 2016 and completed the acquisition with 100 percent at the end of 2018. NKE offers both standard and special bearings for all industrial applications. Engineering, product development, production and final processing of components, assembly, quality assurance, logistics, and sales and marketing are centralised at its Steyr headquarters. The factory in Steyr is certified to ISO 9001:2015, ISO 14001:2015 and ISO 45001:2018. A wide range of standard bearings is available from stock or at short production lead-times. NKE also provides customized products and solutions. In addition to product development and application engineering NKE provides a full range of technical services, consulting, documentation and training. NKE's products are distributed through 12 international offices and more than 240 distribution outlets in 80 countries.

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