



NTN-SNR PRESENTS ITS LATEST INNOVATIONS FOR THE MACHINE TOOL AND FOR THE AUTOMATION AT THE EMO FAIR

Right on time for the EMO in Hannover, which takes place from 16–21 September, NTN-SNR is presenting its latest innovations for the European machine tool market. As automation and robotics technology become ever more prominent in this age of Industry 4.0, NTN-SNR is boosting its efforts in predictive maintenance and is presenting a solution that aims to reduce maintenance costs and prolong maintenance intervals. It is in this context that the sensor integrated bearing unit for machine tools from NTN is being introduced for the first time at a European trade fair.

The high-performance capacity of NTN-SNR's high-precision bearings for machine tooling purposes is based on five main premises: optimized construction design, premium steel quality, quality of heat treatment, strict monitoring of suppliers and modern production facilities.

As a leading manufacturer of super precision bearings, NTN-SNR works closely with internationally known companies within the industry.

• Machine Tools solutions

Sensor integrated bearing unit for machine tools

When using machine tools, reducing Total Cost of Ownership (TCO) is a critical factor for businesses. NTN has developed a sensor unit which is mounted near the high precision bearings to monitor the bearings in the main spindle. How does this work? The developed bearing unit consists of two high-speed bearings (HSE series) and two spacer sleeves, which are located between the two bearings. Within the outer spacer sleeve three different types of sensors are installed. These sensors measure vibrations that occur, heat flow and the temperature of the two bearings with very high precision. Thus, with the help of defined limits, a critical condition can be detected much earlier and unnecessary damages can be avoided.

Machine Tool Main Spindle Bearings with Air Cooling Spacer

With the air-cooling spacer technology, NTN has also developed a solution that makes it possible to further increase the limits of the standard preloaded bearings or even to challenge the usual spring preload.

The system consists of at least two bearings that can be mounted with a specified preload in an O-Arrangement or Tandem O-Tandem Arrangement. In doing so, normal compressed air flows on the inner spacer, which is located between the bearings, whereby the temperature delta between the inner ring and the outer ring is reduced. Depending on the respective volume, the temperature delta can thus be reduced by more than 10 degrees. This makes it possible for the designer to increase the initially selected preload or to increase the speed. The fixed-preloaded bearing unit makes it possible to achieve speed characteristics dmxn up to 2.1 million and at the same time to increase the preload (greater than 1.000N for a 7014 bearing).

• Linear technology

As a specialist in high-precision rotary and linear technology, NTN-SNR presents solutions for the automation and integration of production processes. Linear technology plays a key role in modern production. This is especially true for linear axes, which allow a precise and fast transport of heavy loads. The NTN-SNR linear axes are used in modular systems that load and unload a machine tool with workpieces. For example a portal loader can consist of NTN-SNR linear axes of the series AXS and AXC.

• Services

In production environments which are increasingly dominated by robot technology and automation, human know-how is becoming more important than ever. That is why NTN-SNR offers tailor-made training seminars which train theoretical and practical know-how on everything involving technology used in roller bearing machinery and linear technology. This kind of training is imperative in order to work with these components and using the appropriate tools with proper skill and expertise. This is the only way to fully exploit the potential of the technology in place. Training sessions can be provided at the company locations in Bielefeld (Germany) and Annecy (France) or upon request on site at the customer.



NTN-SNR BEARINGS is an NTN Corporation entity. Generating revenue in excess of €5.7 billion, NTN Corporation is one of the world-leading designers, developers and manufacturers of bearings (world No. 3) and transmission seals (world No. 2). NTN Corporation is present in all industry, automotive and aerospace markets. The takeover of SNR ROULEMENTS in 2007 by the NTN Corporation group enabled the latter to consolidate its presence in Europe and its position as world leader. NTN employs nearly 7,000 people in Europe and has 15 production sites, 7 of which in France.

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