



NTN-SNR INNOVATION

KIZEI® : THE NEW EXCLUSIVE RANGE OF SPHERICAL ROLLER BEARINGS

NTN-SNR's exclusive, revolutionary offer - a new range of spherical roller bearings protected by metal shields - boasts improved production efficiency, lower maintenance costs, ISO standard dimensions, guaranteed interchangeability, innovative design, and more. Halfway between the sealed and open models, KIZEI® is today's innovation and tomorrow's standard.

Staying true to the company's top priority - customer satisfaction - the NTN-SNR engineering team based in Anney, France, observed that 21% of damage to open spherical bearings is due to solid contamination and 13% to lubrication problems. This results in premature wear to the bearing, high maintenance costs and significant production losses. The problem is daunting: how to limit these two factors that cause premature end-of-life?

After more than four years of research, development, industrialisation and real-world tests, here is the solution brought to the market by NTN-SNR: KIZEI®. The Japanese name represents not only a specific product but also a full range of new spherical roller bearings developed to meet current market requirements.

- **A patented innovative concept**

A spherical roller bearing protected by metal shields attached directly to the cage. The idea may seem simple, but it presented a significant challenge in terms of design and manufacturing.

Provide protection against solid particles (dust, pebbles, etc.), **improve grease retention, respect ISO dimensions** – and all of this without reducing the load capacity and rotation speed or minimising the possibility of misalignment. These were the main considerations when the KIZEI® range was being designed in Anney, France, then manufactured in Italy by NTN-SNR.

- **Completely interchangeable, zero disturbance**

With a minimum **lifespan twice** that of an open spherical roller bearing, and a need for **relubrication** that is **three times less**, the KIZEI® guarantees the customer both optimised performance and reduced maintenance costs.

Its ease of use and standard dimensions ensure **complete interchangeability**, and hence no interruption to the customer's working practices. Unlike the larger sealed model that requires special accessories, the KIZEI® fully adapts to the mechanisms already used with standard open bearings: same housing, same accessories, same mounting, same grease. All that is needed is to change the part. The KIZEI®'s commitments thus boil down to this: more options and opportunities and less constraints and loss.

- **An international calling**

In adding this innovation to its catalogue, NTN-SNR now offers **the most complete range of spherical roller bearings on the market**. The aim is clear: to strengthen its position in the market and to be seen as a major innovator.

The KIZEI® range will be available for purchase starting on 11 June 2019 in Europe. It has ambitions that extend beyond the continent, as evidenced by interest already coming from the North American market...



IN FIGURES: 30%

This is the short-term sales share that NTN-SNR envisions for its KIZEI® range. Open models currently account for 90% of the company's spherical roller bearings sales, with the remaining 10% being sealed models. NTN-SNR aims for the KIZEI® to reach 30% of total sales by 2022 (60% open models, 10% sealed).

4 QUESTIONS FOR... EMILIE BERNARD – NTN-SNR PRODUCT MANAGER



Who is the KIZEI® for?

Mines, quarries, industrial ventilation, cement works, the iron and steel industries, sectors that make use of conveyors and overhead cranes, and more. We do not aim for any specific applications. KIZEI® (44 references as of now) is marketed via industrial distribution and aims to become the standard rather than an open bearing. And that's why we want to develop the most complete range possible.

Can you tell us about tests that were carried out before the bearing reached the market?

The KIZEI® was rigorously tested and shown to make a difference! After 2,200 hours of service on a quarry conveyor, it was found that the KIZEI® bearing, having worked for twice as long as the original open bearing, displayed far fewer impact marks. This proved that the metal shield was really doing its job.

The second highly revealing test took place in the abrasive, dusty environment of a cement works. The company had recorded a €770,000 loss due to downtime caused by near-monthly replacement of the open bearing. When the KIZEI® was used, there were three times fewer shutdowns, and the cement works saved €515,000 over the year.

These tests prove that the KIZEI® is as important for maintenance as it is to production. And meeting the needs of both of these is one of NTN-SNR's stated aims.

And in terms of cost?

Like every single innovation that enters a market, KIZEI® has a higher purchase price than existing models. The cost is justified because its exclusive features guarantee a lifespan that is at least twice as long, with one third of the maintenance costs. As for its ISO dimensions, they are completely interchangeable and do not entail any additional costs.

Why the name "KIZEI"®?

"Kisei" with an "s", means "regulation" in Japanese. This signifies the regulation brought about by the new product: less contamination going in, less grease going out. "Kisei" is also one of the major title names in the game Go. We wrote it with a "Z" because in bearing terminology, we symbolise the name of a product by a number and letters in suffix to represent the different options. The metal shield used in this new bearing is symbolised by a «Z» - hence the name KIZEI®.

NTN-SNR'S DEDICATED RANGE OF SPHERICAL ROLLER BEARINGS

	 Open bearing	 KIZEI®	 Sealed bearing
Dimensions	ISO	ISO	Special
Protection	0	+	++
Grease retention	0	+	++
Temperature range	-40°C to -200°C	-40°C to +200°C	-10°C to +120°C
Speed	++	++	+
Nominal load	ULTAGE	ULTAGE	ULTAGE
Internal clearance control	Yes	Yes	No
Internal control	Yes	Yes	No
Sleeve & nut	Standard	Standard	Special
Delivered with grease	No	No	Yes

*Suitable for sealing against solid dust particles, but not liquids.

EXCLUSIVE FEATURES

- ULTAGE label
- Load capacities and rotation speed identical to an ULTAGE open bearing
- ISO standard dimensions
- Nitrided shield and cage for greater impact resistance
- Temperature range from -40°C to +200°C
- Initial lubrication identical to an open bearing
- Optimal misalignment
- Simple mounting on cylindrical or conical to tapered

ULTAGE quality label

The ULTAGE label is the product of two combined concepts: "Ultimate" and "Stage". It offers longer service life, higher rotation speeds, lower maintenance costs and enhanced environmental protection. NTN-SNR offers the widest range of ULTAGE-label spherical roller bearings on the market, from 25 mm bore diameter to 2,180 mm outside diameter.

NTN-SNR BEARINGS is an entity of the NTN Corporation. With a turnover of more than 5.7 billion euros, NTN Corporation is one of the world's leading designers, developers and manufacturers of bearings (the third largest in the world) and transmission seals (the second largest in the world). NTN Corporation is present in all industry, automotive and aerospace markets. The acquisition of SNR ROULEMENTS in 2007 allowed the NTN Corporation group to strengthen both its presence in Europe and its positioning as a world leader. NTN employs nearly 7,000 people in Europe, with 15 production sites, including seven in France.

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