

Press Release

High dynamic load capacity and double the operating life

New cylindrical roller bearings for heavy-duty industrial gearboxes and construction machinery

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- Dynamic load rating increased by 24 percent compared to the NJ23 basic type
- Compact design and interchangeable with DIN 5412-1
- New series caters to increased requirements in industrial and offroad segment

With the new cylindrical roller bearings of series NJ23-ILR, Schaeffler is introducing a series of rolling bearings for heavy-duty industrial gearboxes and construction machinery. The bearings feature a compact design, are equipped with the high-performance MPAX cage, and have a very high dynamic load capacity. The load rating has been increased by an average of 24 percent, thus doubling the operating life compared to the NJ23 basic type. The new NJ23-ILR bearings therefore take a top spot among the cylindrical roller bearings for heavy-duty applications that are available on the market. They perform better than commonly available bearings of the same basic type even under mixed friction conditions due to insufficient lubrication. The replacement of NJ23-ILR bearings at the end of the lifecycle is carried out in accordance with DIN 5412-1. Users from the industrial and offroad segments now have a sustainable, reliable, and convenient to use rolling bearing solution for highly loaded shafts. This solution impresses thanks to its durability and makes a valuable contribution to reducing CO₂ emissions.

Increasing requirements for rolling bearing technology

With the aid of Schaeffler NJ23-ILR cylindrical roller bearings, almost all the current challenges for rolling bearing technology in the heavy-duty segment can be overcome. Traditionally, rolling bearings for heavy-duty industrial gearboxes and construction machinery have to withstand very high radial loads and also be capable of supporting axial forces on one side, but recent times have seen a further significant increase in requirements. The highly loaded bearing positions on high-speed shafts and intermediate shafts in gearboxes now also require ever-increasing basic dynamic load ratings, as do the high acceleration forces in vibratory machinery and the heavy vibrations in soil compactors. The expectations regarding the strength characteristics of the cage guidance system are also constantly increasing, while less and less space is available due to the general trend towards downsizing and a greater performance density. In the interests

of sustainability and reducing CO2 emissions, the bearings should also make a convincing case through their high level of durability and combine economic efficiency with environmental and climate protection. What is required are compact and extremely robust rolling bearings, which excel thanks to an above-average operating life and ease of implementation and replacement in a restricted space.

New series specifically tailored for increased performance requirements

"Our new cylindrical roller bearing series was specifically adapted to match these increased performance requirements through optimizations in the selection of materials, design, surface quality, and heat treatment," says Sebastian Pfeuffer, Product Manager Cylindrical Roller Bearings at Schaeffler. "The high-performance MPAX cage with its proven strength characteristics also stands for far above-average load carrying capacity and has proved to be extremely robust in high-vibration applications, for example. The rings and rollers can also be supplied with a Durotect-B coating to provide increased anti-wear protection."

The cylindrical roller bearings of the new NJ23-ILR series are available from the first quarter of 2024 with bore codes 16 to 44 and from Q4/2024 with bore codes 48 to 60. The bearings in the size range up to bore code 36 already have the X-life quality seal for a longer operating life, higher load carrying capacity, and a compact design.

Schaeffler Group – We pioneer motion The Schaeffler Group has been driving forward groundbreaking inventions and developments in the field of motion technology for over 75 years. With innovative technologies, products, and services for electric mobility, CO₂-efficient drives, chassis solutions, Industry 4.0, digitalization, and renewable energies, the company is a reliable partner for making motion more efficient, intelligent, and sustainable – over the entire life cycle. The Motion Technology Company manufactures high-precision components and systems for drive train and chassis applications as well as rolling and plain bearing solutions for a large number of industrial applications. The Schaeffler Group generated sales of EUR 16.3 billion in 2023. With around 83,400 employees, Schaeffler is one of the world's largest family-owned companies and one of Germany's most innovative companies.

The new cylindrical roller bearings of series NJ23-ILR have a very high dynamic load carrying capacity. They therefore take a top spot among the cylindrical roller bearings for heavy-duty applications that are available on the market. Photo: Schaeffler

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With the new cylindrical roller bearings, users from the industrial and offroad segment now have a reliable rolling bearing solution for highly loaded shafts, which makes a convincing case through its high level of durability and, not least, makes a valuable contribution to reducing CO₂ emissions. Photo: Schaeffler

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