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Press Release

TORB toroidal roller bearings improve efficiency and reliability in paper machines

SCHWEINFURT, *2026-05-06*.

- Thanks to FAG TORB toroidal roller bearings, Schaeffler can now cover all bearing support functions in paper machines
- Extensive product range for flexible fields of application
- Bearing raceway profile ensures low-friction, stable operation

Roller bearings in paper machines need to cope with challenging conditions like moisture, excessive heat, shaft deflection, high speeds, and long operating periods. With its FAG TORB toroidal roller bearings, Schaeffler is now offering an innovative solution specifically designed to meet the exacting requirements of the paper industry. As a result, the Motion Technology Company Schaeffler is helping customers in this sector to become leaders in their markets with top-class products.

TORB bearings are ideal for use in drying and Yankee cylinders, press rolls, and thermo rolls. They combine the benefits of spherical and cylindrical roller bearings in an intelligent 2-in-1 design and offer customers greater machine availability, longer component service life, and improved paper quality even at high production speeds – while reducing total cost of ownership (TCO).

Accordingly, Schaeffler now covers the entire range of roller bearings needed for paper machines. As well as spherical roller bearings and split spherical roller bearings, it also supplies self-aligning cylindrical roller bearings, hybrid deep groove ball bearings, and triple-ring bearings.

TORB – the ideal non-locating bearing

When it comes to the shaft bearing support, precision and flexibility are crucial. Temperature-induced elongation and misalignment can pose major challenges in operation, especially for non-locating bearings. In such cases, TORB toroidal roller bearings have proven extremely effective, especially when combined with spherical roller bearings as locating bearings. The combination of a TORB toroidal roller bearing as a non-locating bearing and a spherical roller bearing as a locating bearing enables users to extend system life and reduce the total cost of ownership (TCO).

Optimized bearing design reduces friction

The TORB raceway profile ensure optimum stress distribution and smooth running. The automatic positioning of the rolling elements distributes the load evenly at every operating point over the entire length of the roll, ensuring top performance and stability. In addition, the bearing design allows almost smooth compensation of axial length displacements of up to +/-10% of the bearing width, providing maximum flexibility. Tilting of up to 0.5° is compensated without impairing the load rating or service life of the bearing. As a result, misalignment and shaft displacements are effectively compensated. Moreover, TORB bearings effectively dampen axial vibrations in the entire bearing system and ensure smooth and efficient operation with low vibration and noise. TORB toroidal roller bearings also feature a special internal geometry that offers exceptionally high radial load-bearing capacity. The X-life premium quality also increases machine availability and reduces lubricant and energy consumption due to lower friction.

Product portfolio comprises several series

The portfolio comprises a wide range of sizes. As they are produced as a catalog product in the same ISO dimensional series and sizes, the bearings are interchangeable with all standard products on the market. The main dimensions correspond to DIN 616:2000 and ISO 15:2017. The range includes series for shaft diameters of 75 mm to 850 mm. Other sizes are available on request with corresponding spherical roller bearings. The bearings are available with a tapered or cylindrical bore and case-hardened inner ring and in internal clearance classes CN, C3, and C4. TORB toroidal roller bearings are designed for operating temperatures of up to +200 °C.

With its comprehensive expertise, high product quality, and top-rate service, Schaeffler is helping paper manufacturers to operate their facilities reliably and efficiently, minimize downtimes, and make lasting improvements to product quality.

Further information can be found here: FAG Toroidal Roller Bearings TORB: The smart choice for the paper industry

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Schaeffler Group – We pioneer motion: The Schaeffler Group has been driving forward groundbreaking inventions and developments in the field of motion technology for 80 years. With innovative technologies, products, and services for electric mobility, chassis solutions, and renewable energies, the company is a reliable partner for making motion more efficient, intelligent, and sustainable – over the entire life cycle. Schaeffler describes its comprehensive range of products and services by means of eight product families: from bearing solutions and all types of linear guidance systems through to repair and monitoring services. With around 110,000 employees and more than 250 locations in 55 countries, Schaeffler is one of the world's largest family-owned companies and ranks among Germany's most innovative organizations.

With its FAG TORB toroidal roller bearings, Schaeffler offers an innovative solution to specifically meet the requirements of the paper industry. (Image: Schaeffler)

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