

Press Release

Schaeffler starts production of successful ball screw drive for Chinese EV manufacturer

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- Worldwide, more than 140 million ball screw drives (KGTs) have been produced for various automotive applications since 2007
- Global footprint in development and production: Successful product launch of KGT production in Xiangtan, China, with other launches planned for 2025 and 2026
- Use in hybrid and electric vehicles offers high efficiency with minimal friction and compact, customized design

For almost two decades, Schaeffler has been offering its automotive customers a highly sophisticated component that is indispensable in modern vehicles and will play an important role in autonomous driving in the future: the ball screw drive (KGT). Schaeffler's ball screw drives are used predominantly in braking systems such as brake boosters in electric vehicles, electric parking brakes and electromechanical brakes, or in steering systems, where they ensure maneuverability, safety and comfort. Since 2007, the company has produced more than 140 million ball screw drives for a wide range of automotive applications. This year will see manufacturing begin for the production vehicles of leading Chinese automakers.

"Schaeffler has almost 20 years of experience in the volume production and ongoing development of ball screw drives. In this context, it benefits from its manufacturing excellence and worldwide customer proximity, especially in China," says Matthias Zink, CEO Powertrain & Chassis at Schaeffler AG. "The sustained success of our reliable ball screw drive is clear proof that customers are won over by the quality of our precise mechanical components. We are also proud, as a leading Motion Technology Company, to be a reliable partner for our Chinese customers in the growing market for braking and steering systems."

High level of efficiency with optimized installation footprint

All KGT variants turn the rotational motion of a spindle or nut into a linear motion. Because of the integrated balls used as rolling elements, the conversion of the rotational movement is slippage-free and almost frictionless. Schaeffler produces automotive KGTs not just for steering systems but also for brakes and drive and power transmission systems. Since the start of volume production

in 2007, Schaeffler has constantly expanded its production capacities and now manufactures KGTs in all regions worldwide – in line with the company's 'local-for-local' approach. In February 2025, Schaeffler celebrated its latest production launch for ball screw drives for steering systems in Xiangtan, to provide optimum support to the local Chinese market. Other plants in China as well as in France, South Korea, Mexico and Slovakia are also manufacturing these precise components. At Schaeffler, the operating principle of the KGT is also used in linear actuators from the Bearings & Industrial Solutions division.

High-precision products offer high efficiency and reliability

As key mechanical components of electromechanical power steering systems, KGTs play a crucial role in lane keeping and park assist systems. A high level of efficiency, low energy requirements and outstanding noise and vibration behavior of the actuator component reduce vehicle energy consumption and make it smoother and quieter, which is especially important in low-noise electric vehicles. The very high load carrying capacity of Schaeffler's KGTs also allows them to be used in light commercial vehicles like small trucks, vans and pick-ups, and means that drivers can steer the vehicles with much less effort.

KGT development for hybrid and electric vehicles and autonomous driving

Ball screw drives will play an important role in the chassis systems of future vehicles, especially for use in hybrid and electric models and in conjunction with autonomous driving technologies. Accordingly, Schaeffler is continuing to refine the product. "When developing the KGT for the steering systems of premium vehicles and SUVs, Schaeffler is taking account of the more stringent requirements in respect of smooth and quiet running and the larger vehicle weight," says Timo Schmidt, Head of the Chassis Solutions Business Unit at the Schaeffler Group. In the case of braking systems, for which Schaeffler is producing a key component in the shape of the KGT, the market is on the brink of radical change: "The next generation of vehicles will be fitted with electromechanical service brakes that brake each individual wheel intelligently and quietly and will thus make a further contribution to brake-by-wire technology. We have received our first nomination from a customer for KGTs for electromechanical brake systems and are already preparing for the start of production," says Timo Schmidt.

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, CO₂-efficient drives, 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. Schaeffler is with around 110,000 employees and more than 250 locations in 55 countries, one of the world's largest family-owned companies and one of Germany's most innovative companies.

Global production network: In February, Schaeffler started production of ball screw drives for steering systems at its plant in Xiangtan, China. Photo: Schaeffler

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Key component: Schaeffler's ball screw drive is a key mechanical component in electromechanical power steering systems. Photo: Schaeffler

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Ready for hybrid and electric vehicles: With its ball screw drive for braking systems, Schaeffler is already offering a key component for the electromechanical steering systems that manufacturers will install in the future. Photo: Schaeffler

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