

Press Release

Schaeffler at automatica 2022

For payloads of up to 100 kilograms: Schaeffler presents precision planetary gear units for industrial robots

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- Schaeffler expands its robotics portfolio to include precision planetary gear units for industrial robots and industrial automation
- Series PSC combines planetary gears with helical input stage and integrated main bearing arrangement
- Series PSC sets the benchmark in the areas of torsional backlash and operating life

With the new PSC-series precision planetary gear units, Schaeffler is not only expanding its portfolio of robotics gears, but is also setting the benchmark in the field of ultra-precision gear units for widespread use in robotics. PSC stands for "precise", meaning the highest precision available on the market, "silent" is for the lowest noise level, and "constant" for a constant level of precision during the application period. The series consists of precision planetary gear units with an additional helical input stage. Nine sizes from 030 to 500 with planetary stage transmission ratios between 9 and 20, input stage transmission ratios from 3.4 to 15.7, and outside diameters from 155 to 405 mm are available as standard. The continuous torques demonstrated by the PSC series range from 300 to 7000 Nm. A particularly high level of torsional rigidity is achieved, among other means, by the four or five planets mounted on both sides.

The PSC gear units have a unique and patented tooth system, which permits a torsional backlash of less than 0.1 angular minutes. This extremely small torsional backlash also remains constant throughout the entire operating life of 20,000 hours. The patented tooth system and the helical input stage also ensure exceptionally smooth running.

The PSC gear units are available as mounting kits with a solid or hollow shaft, and as closed units with or without a right angle pre-stage, and can be easily integrated into the customer design. They are used very successfully in robots with payloads of up to around 100 kg. With the PSC precision planetary gear units as an extension to the RT1 and RT2 series of precision strain wave gears, Schaeffler can offer an ultra-precision range for robots with payloads ranging from just a few kilograms to in excess of 100 kg.

Schaeffler Special Machinery will also be presenting its customizable production concepts for the first time at automatica, where solutions for future production will be on display at Booth 307 in Hall A5.

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 15.8 billion in 2022. With around 84,000 employees, the Schaeffler Group is one of the world's largest family-owned companies. With more than 1,250 patent applications in 2022, Schaeffler is Germany's fourth most innovative company according to the DPMA (German Patent and Trademark Office).

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