

## Press Release

Schaeffler at Hannover Messe 2022, hall 6, booth C48

### **Highly Dynamic Motors for Lightweight Robots and Cobots**

SCHWEINFURT, 2022-04-06.

- High power density enables higher robot velocities and payloads
- Almost zero cogging torque achieved as a result of design measures
- Reduced weight and increased energy efficiency thanks to innovative materials

The motors in Schaeffler's UPRS series offer a smaller design envelope, reduced weight, a higher torque density, and speeds that are, on average, 80 percent higher than conventional drives available on the market. The newly developed motors are designed as axial flux machines, with coils designed in a PCB (printed circuit board) configuration. The special circuit board design permits a high copper content by volume, good heat dissipation, and improved energy efficiency. The high copper content and design as a permanently excited axial flux motor also has a positive effect on the torque, while minimizing the stoppage losses encountered with these motors. By optimizing the motor design, Schaeffler engineers have succeeded in reducing the cogging torque to almost zero ("zero cogging"), with noticeably positive effects in areas including teaching mode. The systematic use of innovative materials in the active components of the motor reduces the weight of the motors and increases their energy efficiency. Schaeffler's UPRS series of PCB motors is currently available in the four sizes of 14, 17, 25, and 32, with outside diameters from 53 to 115 mm, and axial lengths from just 21 to 33 mm. As is standard with frameless motors, the bearing supports of the adjacent construction are also used, thus reducing both the design envelope and weight.

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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 over 75 years. With innovative technologies, products, and services for electric mobility, CO<sub>2</sub>-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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