

## Press release

### Higher performance and more modularity for precision gears

Sumitomo Drive Technologies presents new generation of its ECY shaft gear series

*Markt Indersdorf (Germany), September 28, 2023*

Sumitomo Drive Technologies is expanding its range of precision gear products and upgrading its ECY series with higher torque and a plug & play drive for motor connection. The ECY series comprises high-precision shaft gears, used for example for surface machining in dental technology or in collaborative robots (cobots). Thanks to their internal cylindrical roller bearings, the gear units provide both high rigidity and higher performance in a smaller design envelope.

With this new generation, Sumitomo Drive Technologies has once again significantly increased the torque density of the gears, enhancing the internal structure while maintaining the same gear principle and external dimensions. The new ECY 203 and ECY 205 units deliver a more than 30% improvement in performance levels, in terms of nominal (rated) torque, acceleration torque, and emergency stop torque, compared with previous models. The maximum drive speed is up to 8,500 revolutions per minute, depending on the size.

#### Plug & play attachment to any motor

The ECY gears have also been upgraded in terms of flexibility. Thanks to a modular connection system, they can now be fitted to any motor directly at the factory. The modular gear input system enables short delivery times. The main body of the unit comes ex stock, with the flange assembly being based on the customer's requested input. Overall, the units' modularity helps boost the efficiency, flexibility, and cost-effectiveness of machinery and equipment.

"Our performance-enhanced generation of precision gears is based on a plug & play approach. The user benefits from a highly compact performance package that is ready for use. ECY shaft gears can be used in a wide range of demanding applications where exact positioning and high torsional stiffness are required. One standout feature is their ability to prevent ratcheting effects (i.e., unwanted teeth slippage). This is achieved by a significantly higher tooth contact area than cup-type gears," says Michael Berger, Product Manager Motion Control Drives at Sumitomo Drive Technologies.

## **Bearings ensure high performance**

The torsional stiffness of ECY gear units is around double that of an ordinary shaft gear of the same size.

The drive shaft transmits the elliptical shape to two cylindrical roller bearings. Cylindrical roller bearings can transmit the radial force better than the ball bearings that are normally used. A cycloid spline is deformed by the bearing movement and transmits the torques at two symmetrically opposed tooth engagement areas through two further gears with internal toothing. This means that around 30% of all teeth are permanently engaged. The difference of two teeth in these gears produces the transmission and a relative motion.

The main bearing consists of a cross roller bearing capable of absorbing the highest radial and axial loads.

## **Precision and versatility in high-performance applications**

The ECY gear unit is ideal for high-precision applications and movements with maximum repeat accuracy. It offers further advantages for applications with a very small installation space as well as weight requirements or the need for a hollow shaft.

Its high rigidity ensures clean surfaces when drilling and milling, for example in medical technology. Other areas of application include semiconductor manufacturing, to enable precise movement and positioning of wafers and other components. In measuring technology, the units ensure precise alignment of optical components and high image quality. They also deliver optimal results when used in diamond grinders.

In addition, ECY precision gears demonstrate their full potential in cobot applications such as Sumitomo Drive Technologies' Tuaka precision hollow-shaft actuator (gear, motor, encoder, and safety driver), a completely integrated drive that won the prestigious Hermes Award last year.

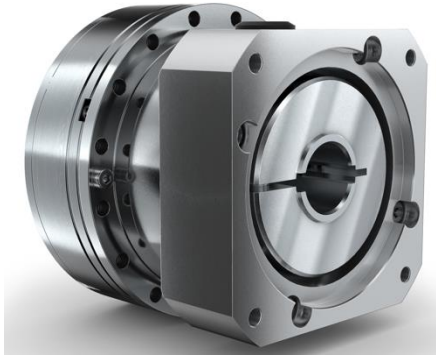
ECY units are fully sealed and have a hollow shaft with an inside diameter of up to 25.5 millimetres for passing cables or media. The new generation of gears is available in two versions with acceleration torques of up to 107 newton-metres with compact outer diameters of 84 millimetres.

***Sumitomo Drive Technologies will showcase the ECY series at SPS 2023 from November 14-16 in Nuremberg, Germany, in Hall 3, Booth 364.***

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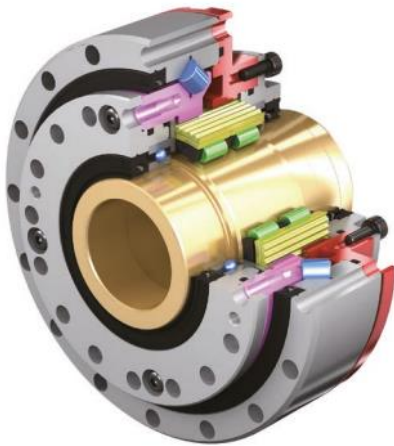
### Available images

Images can be downloaded from: <https://emeia.sumitomodrive.com/en-gb/press-material>



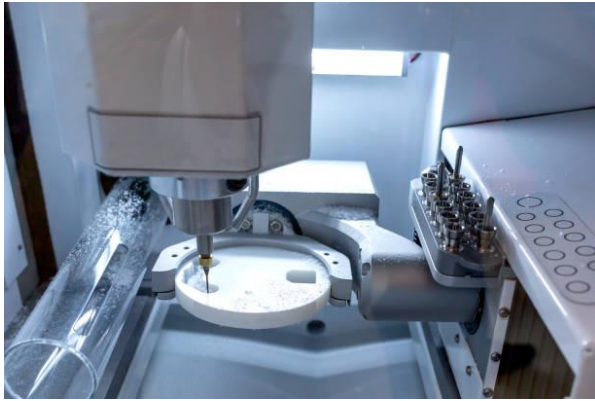
Source: Sumitomo Drive Technologies

**New generation of ECY gears for maximum precision with more modularity.**



Source: Sumitomo Drive Technologies

**Cutaway view of ECY gearbox: Technology beyond conventional shaft gearboxes.**



Source: istockphoto / Andriy Bocko

**In medical technology, ECY gearboxes ensure precise contours and clean surfaces thanks to their high rigidity.**



Source: istockphoto / kynny

**The world of robotics relies on the versatility of ECY gearboxes and the wide hollow shaft for optimal cable management in cobots.**



Source: Synapticon

**ECY gearbox in the precision hollow shaft actuator in a lightweight robot.**

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## About Sumitomo Drive Technologies

Sumitomo Drive Technologies' products and solutions power and support processes, systems, and machinery across a wide range of industries. With its global product and service portfolio, the company has been combining tradition and innovation for over 140 years, ensuring that drives do their job accurately and reliably. Its offering encompasses precision drives, standard drives, industrial gearboxes, and centrifuges, as well as complete modular drive matrices and connected solutions for the automation of Industry 4.0, ranging from standard products to highly specialized developments and customized adaptations.

## Drive technology that is close to customers worldwide

Sumitomo Drive Technologies' extensive network of 10 production sites, over 30 assembly plants, 250 sales offices, and around 7,000 employees spread across five continents ensures that it is closely aligned with local customer requirements around the globe.

Sumitomo Drive Technologies is part of Sumitomo Heavy Industries Ltd., one of the largest corporate groups in Japan and worldwide, with annual sales of over €7 billion in 2022.

**For more information, visit [www.sumitomodrive.com](http://www.sumitomodrive.com).**

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