



New accuracy line series of Galaxie® gearboxes

WITTENSTEIN galaxie GmbH has just launched a new series of Galaxie® gearboxes – the Galaxie® accuracy line. Its kinematics, bearing, ratios and size were specifically designed to meet the requirements of high-precision applications. The Galaxie® accuracy line comprises several product variants: flange gearboxes, hollow shaft gearboxes and customized servo actuators. The new series – including two miniaturized variants – is available in five different sizes and rated for maximum torques of 150 to 6000 Nm.

The DNA of the proven Galaxie® gearboxes, which now form the Galaxie® robustness line series and feature a higher overload capacity as well as a more robust output bearing, is unchanged. With their zero backlash, maximum torsional rigidity, high torque density, extremely smooth running and large hollow shaft, the two series set the standard in the market for precision gearboxes.

Galaxie® accuracy line series: Precision first

The precision-oriented design of the new accuracy line is the outcome of various measures. The number of teeth in the gearbox has been altered, for instance – and with it the gear ratio and the direction of rotation. This results in larger ratios coupled with improved positioning in very small angle ranges. Among other things, precision machine tools or robots can now execute even the tiniest movements without stick-slip. That increases the accuracy of the components and enables even better surface quality. Not only this but movements become more controllable and smaller motors and controllers can be employed. A super-precision bearing ensures high tilting rigidity, optimized axial and radial runout and improved synchronous running.

In addition, the modified design of the Galaxie GS in size 190 (outer diameter 193 mm) permits a large 75 mm hollow shaft, for example for feeding through cables, hoses or other types of connection. The sum of these and further design measures simultaneously results in higher power density, and the gearboxes and motor / gearbox combinations are very lightweight and compact for their torque. Water cooling, which is likewise available as a standard option, allows the nominal speed of the gearbox to be increased by 120 percent in a thermally stable way.

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WITTENSTEIN SE develops customized products, systems and solutions for highly dynamic motion, maximum-precise positioning and smart networking for mechatronic drive technology.



The new Galaxie® accuracy line series of gearboxes

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Miniaturized variants available

The Galaxie® accuracy line series also includes two miniaturized product variants that are installation-compatible with strain wave gearboxes in terms of size. These miniaturized Galaxie® variants offer the highest rigidity, torque density and overload capacity as well as true zero backlash over the entire lifetime. Their hollow shaft is moreover significantly larger than with identically sized strain wave gearboxes. Miniaturized Galaxie® accuracy line gearboxes are targeted at applications in medical and precision robotics, semiconductor and wafer handling systems and high-end machine tools.

Galaxie® GS 190 gearbox in INDEX ABC turning machines – successful market launch

The compact Galaxie® GS 190 gearbox in the newly developed Galaxie® accuracy line series was successfully integrated into the INDEX ABC turning machine's turret axis in preparation for a strong market launch. "True freedom from backlash, the highest rigidity, excellent synchronization properties and the large hollow shaft for feeding through the tool drive add up to an extremely torsionally rigid, high-precision gearbox solution in the upper turret", Jakob Friedrich, a development engineer at INDEX-Werke GmbH & Co. KG Hahn & Tessky in Esslingen, confirms. "We're now able to position the upper turret steplessly and very precisely, and we can machine workpieces interpolating in multiple axes. That wasn't the case with Hirth couplings and hydraulic clamping. Those have both been completely dispensed with in the new turning machine – the present solution with Galaxie® means an even wider range of components can be machined with the new INDEX ABC."

Pictures (source: WITTENSTEIN SE)



01- wittenstein-galaxie-product-family-accuracy-line

The new Galaxie® gearbox series with 4 product variants: the Galaxie® accuracy line

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02- wittenstein-galaxie-gs

The Galaxie accuracy line GS hollow-shaft gearbox in size 190 (outer diameter 193 mm) features a large 75 mm hollow shaft, for example for feeding through cables, hoses or other types of connection.

Texts and photographs in printable quality can be downloaded from presse.wittenstein.de

WITTENSTEIN – one with the future

With around 2900 employees worldwide and sales of €519 million in 2022/23, WITTENSTEIN SE enjoys an impeccable reputation for innovation, precision and excellence in the field of cybertronic motion – not just in Germany but internationally. The group possesses exceptional expertise for the mastery and further development of all technologies relevant to mechatronic drives and comprises six innovative Strategic Business Divisions. We develop, produce and sell products such as high-precision servo drives and linear systems, servo systems and motors as well as cybertronic drive systems for many areas of application including machine and plant construction, aerospace or oil and gas exploration. Nanotechnology and software components round off the portfolio. With 25 sites in more than 45 countries, the WITTENSTEIN group (www.wittenstein.de) is represented in all major technology and sales markets.

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