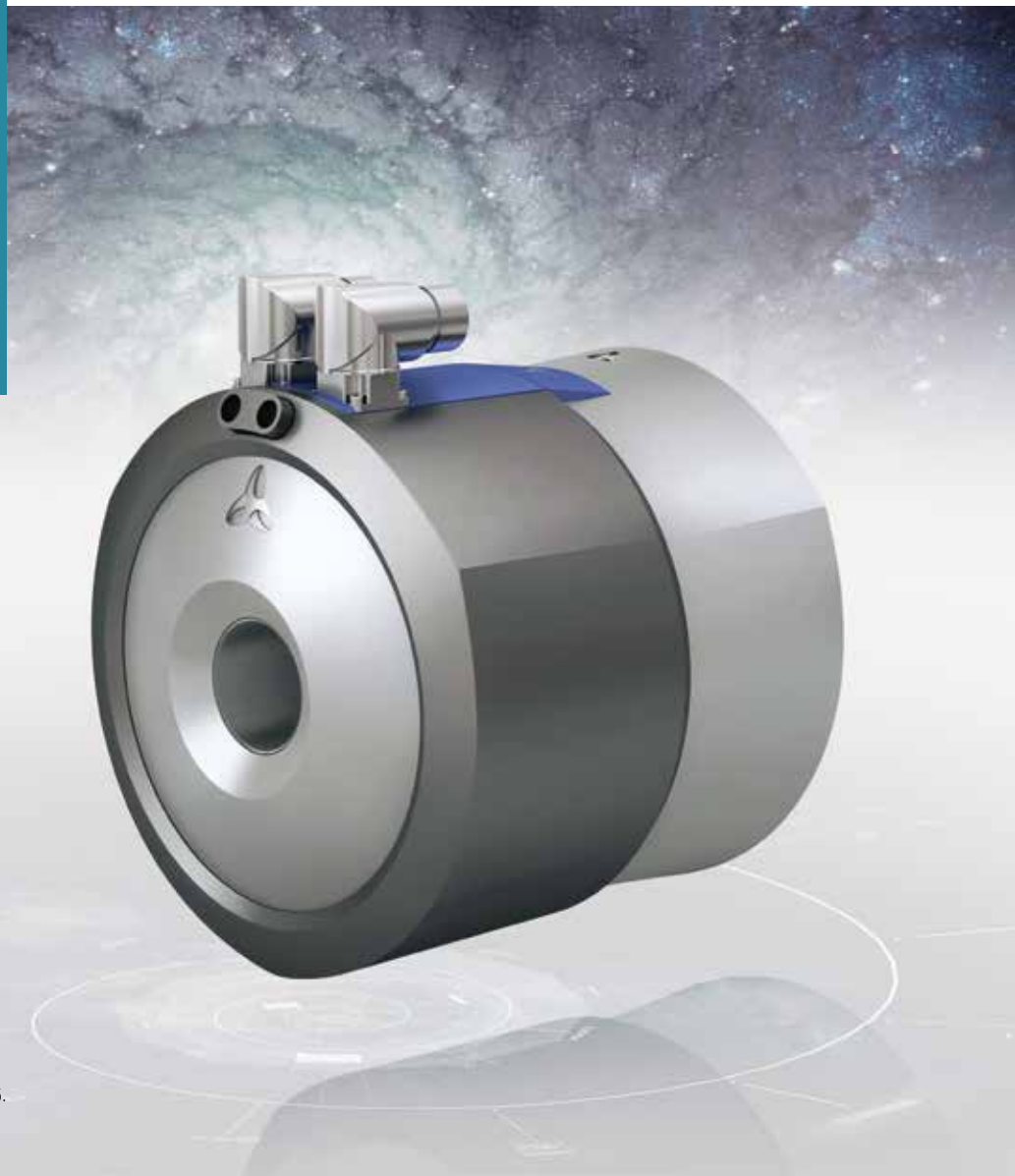




**WITTENSTEIN**

## WORLD FIRST **GALAXIE® DRIVE SYSTEM**

Very high torque  
Very high torsional rigidity  
Large hollow shaft  
Zero backlash



Our Galaxie® Drive System has been  
honoured with the Hermes Award 2015.



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DISCOVER  
INFINITE  
POSSIBILITIES





# FUNDAMENTALLY NEW OVERALL CONCEPT

Technology pioneers at WITTENSTEIN have subjected drive concepts to a fundamental reassessment. The outcome is a brand new gearhead generation which is fused with an innovative high speed motor and optional Industry 4.0 connectivity. The revolutionary Galaxie® Drive System reaches performance levels which, up to now, seemed utterly impossible.

## **From line to surface contact**

The innovative core of the new Galaxie® Drive System is the almost full surface contact during power transmission. This gives a tooth contact surface which is six-and-a-half times larger compared to conventional involute teeth with typical linear contact. The kinematics are fundamentally new: the gearhead is the only one of its kind in the world to guide a large number of individual teeth along an internal ring gear. The tooth geometry corresponds to a logarithmic spiral which allows power to be transmitted by the multiple teeth in surface contact.

## **Next Technology Drive**

The Galaxie® Drive System leads to a combination of specifications that were hitherto unattainable: the gearhead boasts zero backlash – even at the zero crossing – while retaining full stiffness. Since the teeth follow a logarithmic spiral, optimal synchronization accuracy is ensured. The system's performance features are all significantly better than those of traditional hollow-shaft drives with the same outer diameter.





# TOTALLY NEW OPPORTUNITIES FOR HIGH PERFORMANCE ENGINEERING

Several WITTENSTEIN customers have been using the Galaxie® Drive System since 2012. They have all reported a dramatic increase in productivity thanks to its outstanding characteristics:

The system significantly extends the life of machine tools because it unites permanent freedom from backlash with extreme stiffness and precision.

Higher cutting speeds and feed rates are possible as a result. There is also a clear improvement in manufacturing quality.

The moving cutting heads required for machining are only half the normal size, and more compact and power dense machines are no longer a problem.

The new Galaxie® Drive System excites considerable enthusiasm among the developers and engineers responsible for the A, B and C axes of precision machines or for wafer handling axes; it is ideal whenever precise rotational movements and very high forces are essential but space is limited.



Discover how our customer PROFIROLL uses the Galaxie® Drive System.



If you'd like to learn more about the revolutionary Galaxie® Drive System, we will be happy to help.

Phone:  
**+49 7931 493-0**

More information:  
[www.wittenstein-galaxie.com](http://www.wittenstein-galaxie.com)

# A NEW DIMENSION IN POWER

The Galaxie® Drive System sets a new benchmark for extreme compactness and very high dynamic precision with alternating loads. It creates totally new productivity opportunities for high performance engineering. It is now up to engineers and designers to make real developmental leaps.

Maximum torque\*:  
+70 to +170%

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Any other type of gearhead would have to be built two, if not three, sizes bigger to get the same torques as with the Galaxie® Drive System.

Torsional rigidity\*:  
+340 to +580%

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Almost all of the Galaxie® Drive System's teeth participate in the torque transmission process, contributing to the stiffness. Enormous torsional rigidity results.

Emergency stop torque\*:  
+150 to +300%

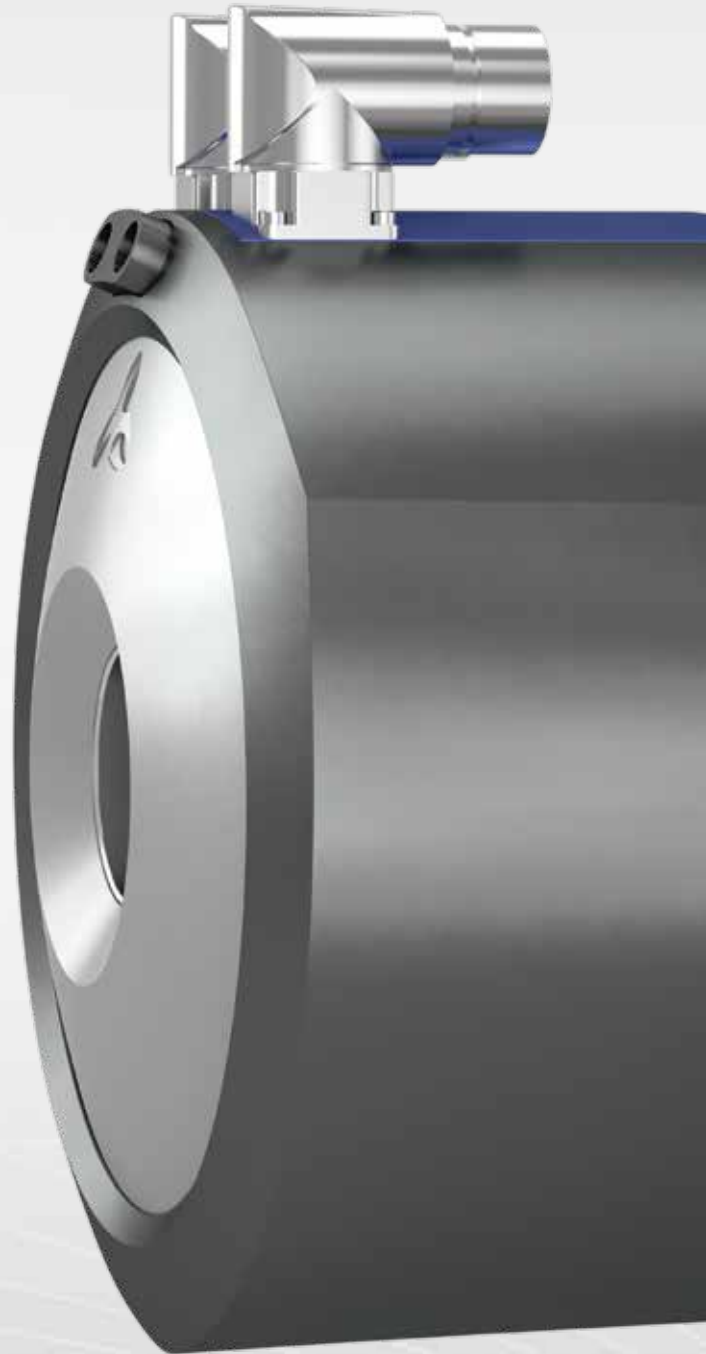
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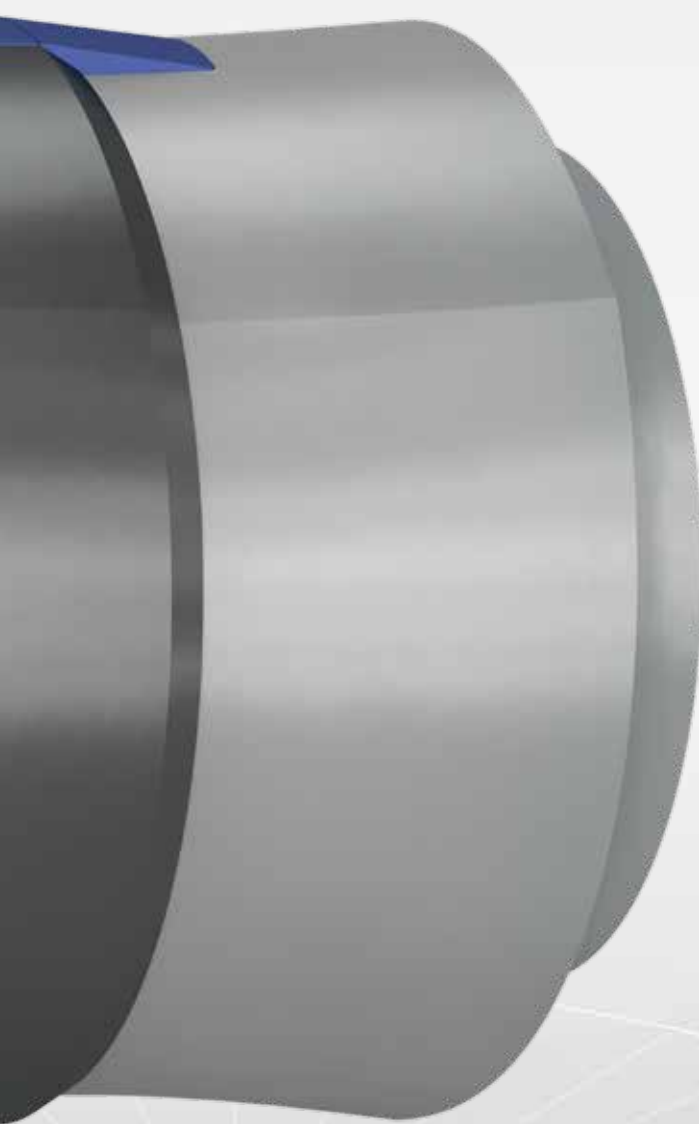
The high overload capability is the outcome of the Galaxie® Drive System's kinematics, with many individual teeth in contact and an area six-and-a-half times as large for transmitting the torques.

Efficiency\*:  
+18 to +29%

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Up to 91% efficiency has been measured for the Galaxie® Drive System – far better than for any comparable system.





## Hollow shaft / outer diameter\*: +3 to +70%

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The design principle on which the Galaxie® Drive System is based allows a very large hollow shaft diameter in relation to the outer diameter.



## Zero backlash

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The Galaxie® Drive System can even be realized with zero backlash by selecting the parts accordingly.

## Ready for Industry 4.0

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Optional sensors enable the Galaxie® Drive System to be designed with Industry 4.0 connectivity.





**WITTENSTEIN**

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**WITTENSTEIN – one with the future**

**[www.wittenstein-galaxie.com](http://www.wittenstein-galaxie.com)**