



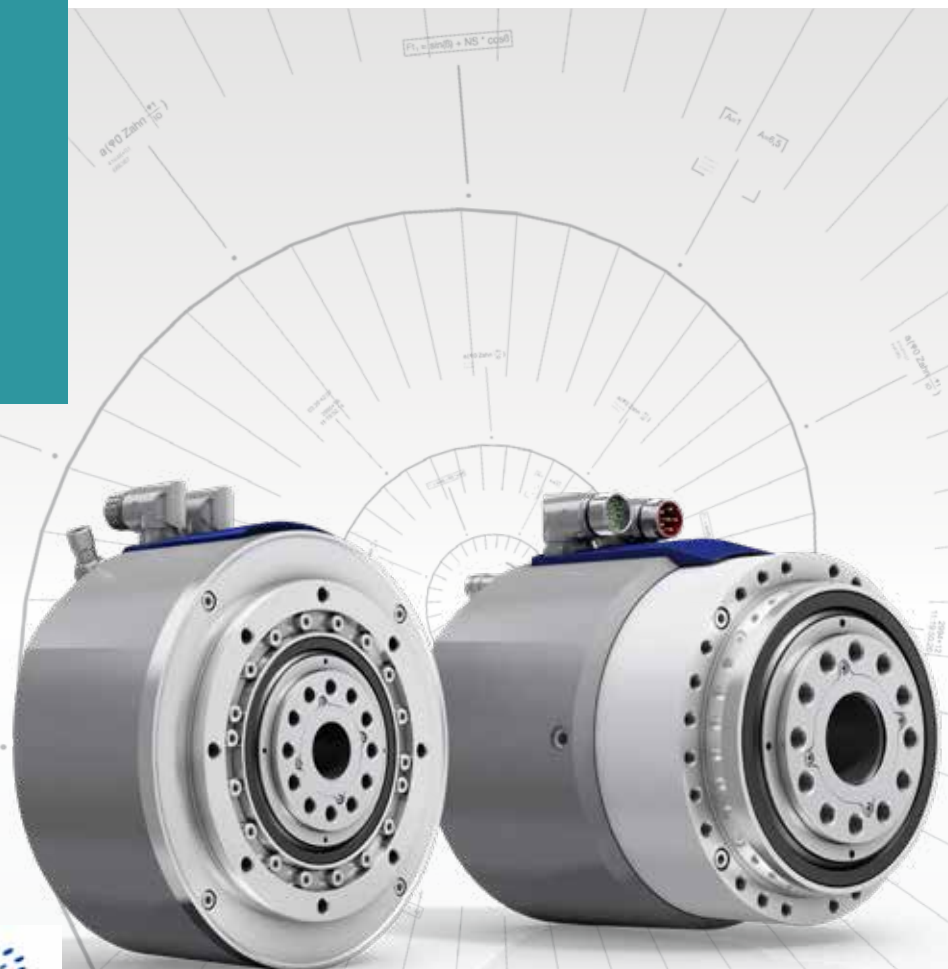
WITTENSTEIN

galaxie

Galaxie®

Superior on principle

Hollow shaft
Very high torque
Very high torsional rigidity
Absolute zero backlash
Industry 4.0 connectivity



Fundamentally new overall concept

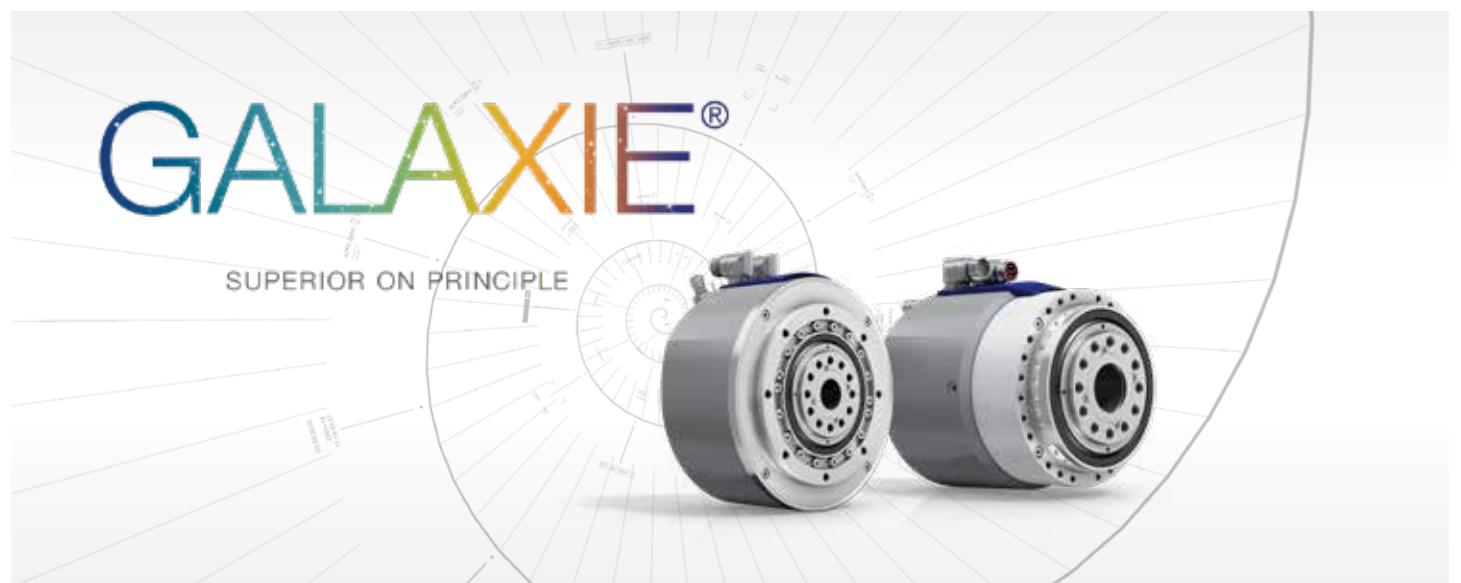
When we developed the Galaxie®, we took it upon ourselves to subject drive concepts to a fundamental reassessment. The result: a brand new type of gearbox. Its unique kinematics enable virtually full surface contact during power transmission. This means that the compact Galaxie® Drive Systems and gearboxes with hollow shaft achieve previously inconceivable performance. These include extremely high torque density, torsional rigidity, smooth running, positioning accuracy and completely backlash-free operation.

From Linear to Surface Contact

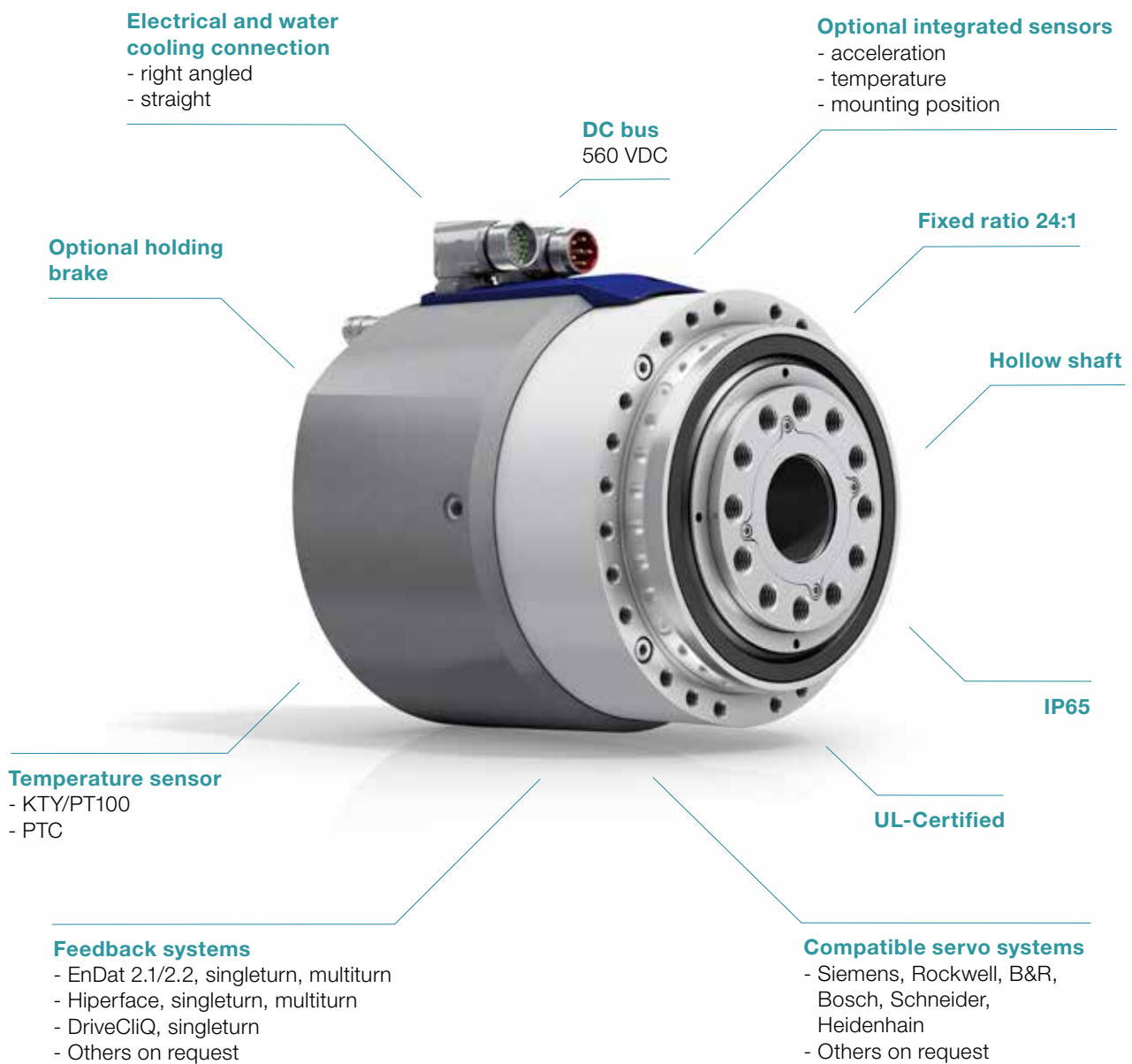
The innovative core of the new Galaxie® Drive System is the virtually full surface contact during power transmission. This achieves a tooth contact surface that is six and a half times larger compared to conventional involute teeth with typical linear contact. The resulting kinematics are fundamentally new: the gearbox is the only one of its kind in the world to guide a large number of individual teeth along an internal ring gear. The toothing is shaped as a logarithmic spiral, which allows the teeth to grip into the internal ring gear over a large surface.

Next Technology Drive

The Galaxie® Drive System achieves a previously unattainable performance level: the gearbox boasts zero backlash – even at the zero crossing – while retaining full stiffness. The teeth follow a logarithmic spiral which ensures optimal synchronization accuracy. The system's performance features are all significantly better than those of traditional hollow-shaft drives with the same outer diameter.



Product features



An ingenious concept in four variants and five sizes

Gearbox + motor = ultra-compact actuator

Gearbox + adapter plate = maximum flexibility



Galaxie® D

Hollow-shaft compact drive, axially integrated permanently excited synchronous motor with standard sensor systems.

Galaxie® DF

Ultra-flat hollow-shaft compact drive, radially integrated permanently excited synchronous motor with standard sensor systems.

Galaxie® G

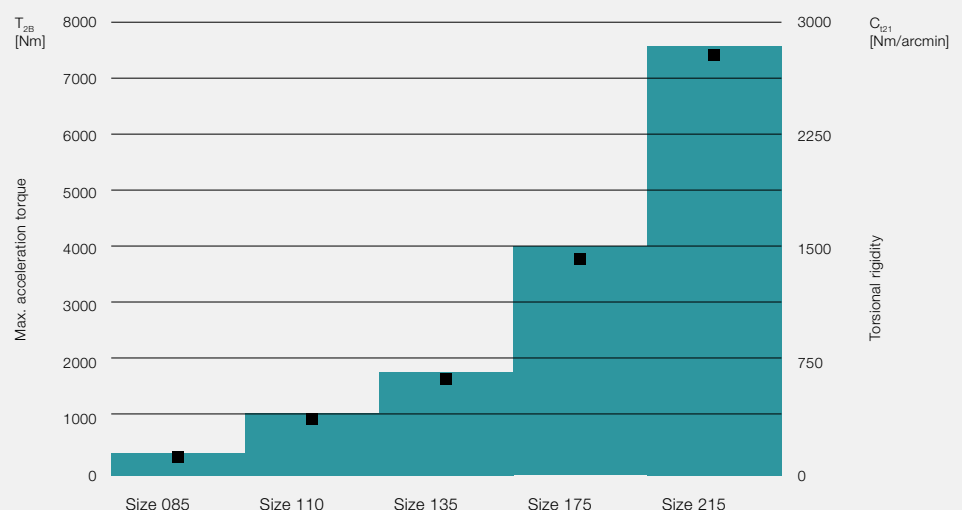
Backlash-free gearbox with optional coaxial planetary input stage and adapter plate for mounting on standard industrial servo motors.

Galaxie® GH

Galaxie® right-angle gearbox with hypoid input stage and adapter plate for mounting on standard industrial servo motors.

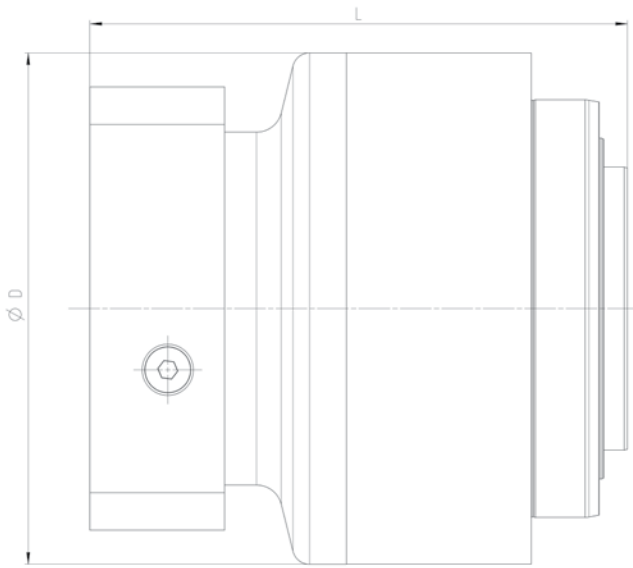
Comparison of the five sizes

Maximum acceleration torque and torsional rigidity of different Galaxie® sizes

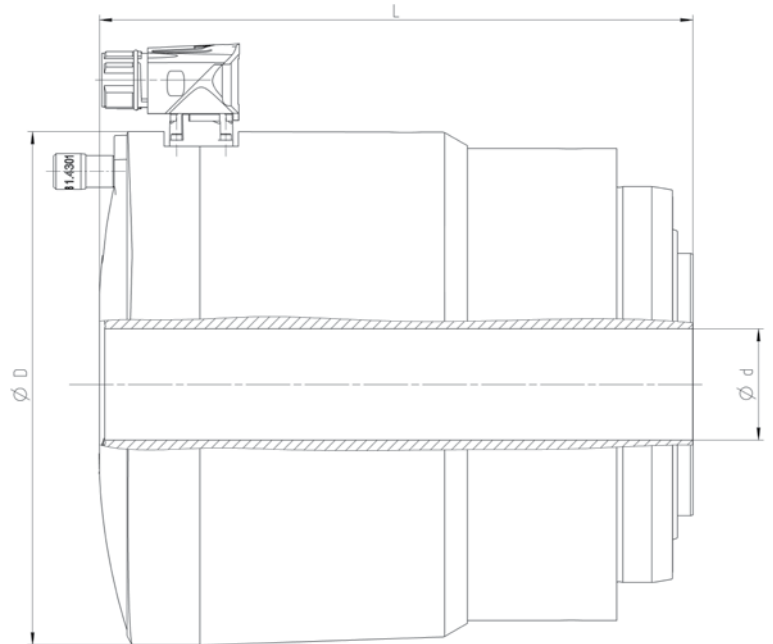


Technical data

Galaxie G



Galaxie D



Frame size	Unit	85		110			135			175		215
Galaxie type		G	D	G/GH	D	DF	G/GH	D	DF	G/GH	D	G/GH
Outer diameter ¹	D [mm]	115	144	160	187	253	191	211	309	241	263	300
Hollow shaft diameter ²	d [mm]	-	26	-	33		-	45		-	57	-
Length ³	l [mm]	167	197	177	232	159	226	240	177	267	325	305
max. acceleration torque ⁴	T _{2B} [Nm]	450		1080			1800			4050		7500
max. output speed ⁴	n _{2max} [rpm]	125		95			80			61		50
Nominal torque ⁴	T _{2N} [Nm]	190		450			750			1685		3130
Nominal output speed ⁴	n _{2N} [rpm]	30		23			20			15		12
Emergency stop torque ⁴	T _{2Not} [Nm]	1350		3000			5400			12150		22500
Torsional rigidity ⁴	C _{t21} [Nm/arcmin]	160		370			650			1460		2700

¹ Values can be reduced due to thermal restrictions for the Galaxie D / DF and limitations of the pre-stages for Galaxie G / GH

² Applies to D/DF, GH with hollow shaft on request

³ Without water connections/deviations depending on preliminary stages and motor dependent adapter plates

⁴ Values are subject to fluctuations of ± 10% due to factors beyond our control

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. Engineers and designers now have the opportunity to make real developmental leaps.

“Highest manufacturing quality with 10% more dynamics”

Elektroimpact

“40% increase in productivity due to low vibration”

Profiroll Technology

“Hysteresis measurements during operation thanks to extensive sensor technology”

STAMA Maschinenfabrik

“50% shorter cycle time due to higher rigidity”

Dreiling Maschinenbau



Ready for industry 4.0

Transmission of operating data throughout the drive life cycle – regardless of the control system





Superior
on principle





galaxie

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