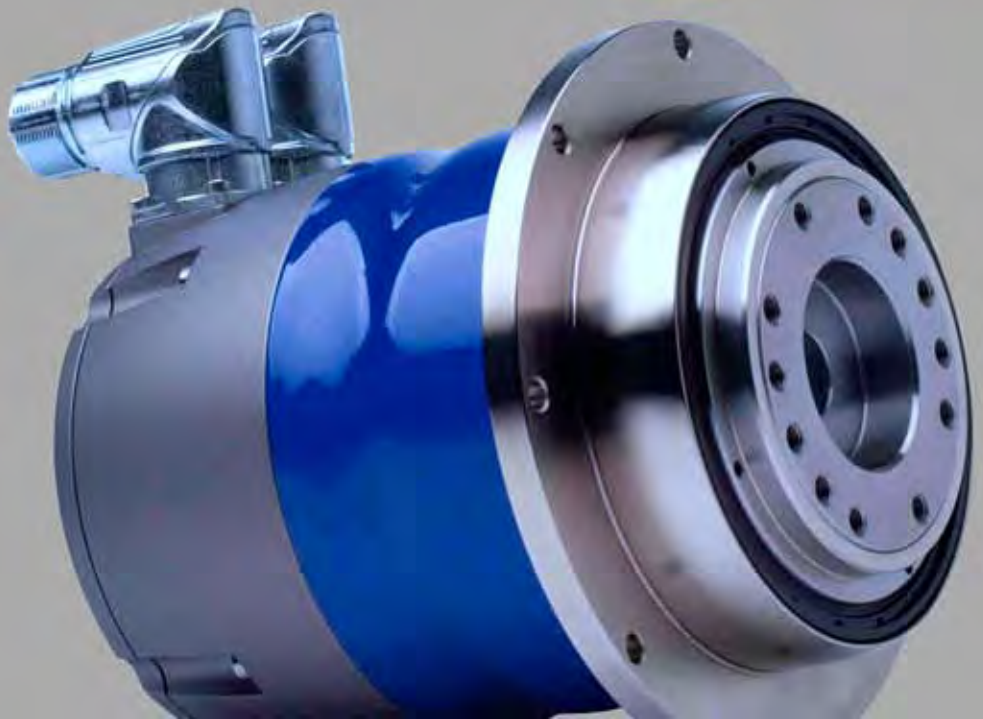


alpha Gearboxes  
Inline  
Right-angle

Actuators  
Linear actuators  
Rotary actuators

System Accessories  
Servo couplings  
Rack & pinion systems  
Sensor technology

## Products and Components





**WITTENSTEIN**

Want to know more about how Wittenstein is moving your world with its servo products and engineering services?

Visit us online to find out more at [www.wittenstein-us.com](http://www.wittenstein-us.com).

## Being **one** with the future

The first to design and market servo planetary gearboxes, Wittenstein has proudly taken the place as the market's leader in gearboxes and continues to hold the position as the best. As we celebrate the 25th anniversary of the alpha range of gearboxes, we strive to capitalize on the decades of research and development which have gone into creating products that fit the ever-changing needs of the motion world.

With our global sales and support network and our **dedication** to driving engineering expertise, we continue to **move** the industry in creating products to fit the **needs** of our **partners**.



## Standard products from Wittenstein

Wittenstein **designs, manufactures** and **markets** the alpha line of servo drive components as well as complete electromechanical systems. Our solutions are used in applications for robotics, packaging, life sciences and aerospace.

Wittenstein products are everywhere - from **satellites** miles above the earth to **crude oil extraction** miles below.

Providing you **what** you need, **when** you need it.

Our sales **network** is working **globally** to ensure that you receive timely responses to your requests.

# alpha Gearboxes

## Inline



**alphira® (alpha CP)**  
The Basic Inline

Lightweight and economic  
Ideal for basic servo applications

**alpha LP+ / alpha LPB+**  
The Economic Inline

Low duty and no maintenance  
With optional belt pulley

**SP+ / SP+ HIGH SPEED**  
The New Generation

Smooth running and ultra quiet  
SP+ HIGH SPEED® for high speed and continuous duty

**TP+ / TP+ HIGH TORQUE**  
The Compact Inline

Ultimate precision and power  
For high duty applications

**alpheno®**  
custom applied solution

	alphira	alpha LP+	alpha LPB+	alpha SP+	alpha SP+ HIGH SPEED	alpha TP+	alpha TP+ HIGH TORQUE
Torsional Backlash (arcmin)	≤ 20 - 25	≤ 8 - 15	≤ 8 - 15	≤ 1 - 6	≤ 2 - 8	≤ 1 - 4	≤ 1 - 3
Ratio (i)	5 - 100	3 - 100	3 - 10	3 - 100	3 - 100	4 - 100	22 - 220
Max. Acceleration Torque (Nm)	200	450	220	4500	1430	6,000	10,000

## Linear and Rotary Actuators

### ternary® Slider and Ballscrew Versions

Ternary is the all-in-one linear and rotary actuator system that merges mechanics with intelligence, integrating several separate components: electronics, motor, precision mechanics, feedback, control and software.

Available in IP40 and IP65 versions.



## Right-angle



### alpha LK+ / alpha LPK+ The Efficient Right Angle

Flexible all-rounder with excellent price-performance ratio for mid range precision

### alpha HG+ The Hollow Shaft

Smooth running, torsionally rigid and innovative application technology

### alpha SK+ / alpha SPK+ Classic Right Angle

Unique performance characteristics that create crucial design freedoms

### alpha TK+ / alpha TPK+ The Hollow Shaft / Flange

Hollow shaft with flange offers unparalleled design possibilities

### V-Drive® The Worm Gear

For general automation available in various output configurations

	LK+	LPK+	HG+	SK+	SPK+	TK+	TPK+	V-Drive
Torsional Backlash (arcmin)	≤ 15	≤ 11-13	≤ 4 - 5	≤ 4 - 5	≤ 2 - 6	≤ 4 - 5	≤ 2 - 6	≤ 3
Ratio (i)	1	3 - 100	3 - 100	3 - 100	12 - 100	3 - 100	12 - 100	4 - 40
Max. Acceleration Torque (Nm)	93	450	640	640	1100	640	1600	718

### TPM+ dynamic

The industry's most compact servo rotary actuator brings unprecedented design freedom to your motion systems.

- Large selection of ratios
- Smaller and quieter than traditional solutions
- Improved dynamic performance
- Up to 50% length savings compared to a gearbox / motor combination



### TPM+ power

Sets the tone in highly dynamic, linear applications using rack & pinion or ball screws, as well as in rotary applications with high masses and disturbance forces.

- Dynamic, high-torque synchronous servo motors
- Space-optimized design of motor/gearhead
- Quiet helical-toothed gearbox



## System Accessories



### Servo Couplings

Patented and backlash free

**Bellows Couplings** - High torsional stiffness

**Torque Limiters** - Reliable overload protection

**Elastomers** - Zero backlash and compact jaw-style

**Shaft Couplings** - Wear and maintenance-free



### Rack & Pinion Systems

Partnering gearbox, motor, pinion and rack to form a complete solution.

**Economy System** - Standard linear applications

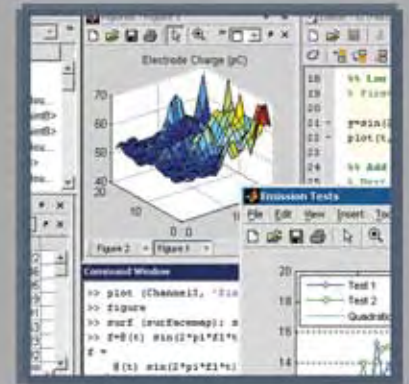
**Smart System** - Positioning options with more design freedom in flexible applications

**Precision System** - Demanding requirements with regard to dynamics and accuracy



### alphaQ® Sensor Technology

Torque and force sensors integrated directly into the housing of servo gear reducers and actuators, allowing for the most accurate measurement of torque, axial loading and radial loading.

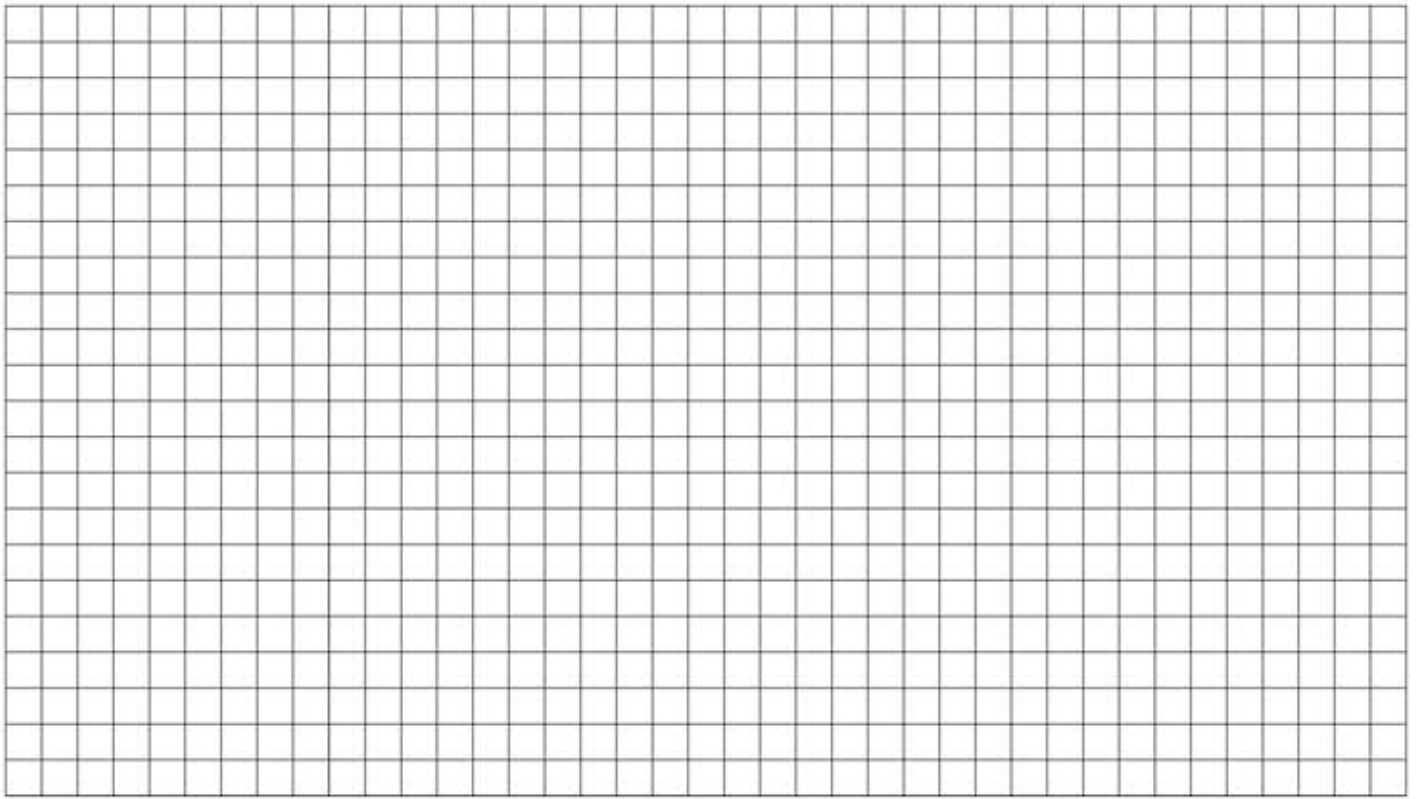


Our **commitment** is through our **products** and **services**

Wittenstein also offers:

- Immediate delivery from stock on all LP+ series of gearboxes and the alpha Standards series of SP+.
- Full training on our products and services, offered either at our North American headquarters in Bartlett, IL or on-site at your location.
- Engineering consultation services to assist you in designing your servo system with the component which is best suited for your requirements.
- cymex® servo design software - our own developed software which assists you in designing the mechanical components into your servo drive system.







**WITTENSTEIN**

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