

alpha Value Line Individual Talents

Efficient
Flexible
Reliable



WITTENSTEIN alpha adapted for any axis

The perfect drive solution for every requirement

WITTENSTEIN alpha develops complete, single-supplier solutions for driving any axis.

They can be used in virtually any application – from high-precision axes in machine tools and manufacturing systems to packaging machinery where maximum productivity is a must.

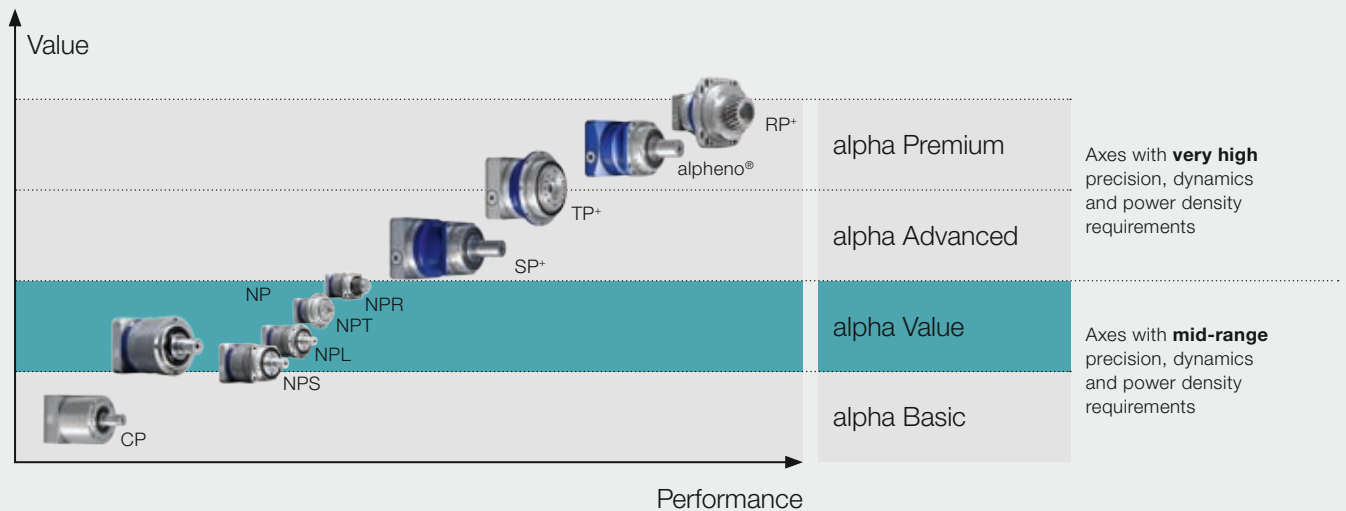
The name WITTENSTEIN alpha is synonymous with premium quality and optimal reliability, high precision and synchronization accuracy, maximum power density, a long lifetime and very simple motor mounting.

The alpha Value Line is a new product family that unites these characteristics – which are specially adapted for applications in the value segment or high-end secondary axes – in a class-appropriate way.

Benefits of the alpha Value Line:

- Rapid availability regardless of the batch size
- Optimal flexibility
- Ability to react promptly to changing customer requirements
- Assembly to order

Low-backlash planetary gearheads for all classes





alpha

WITTENSTEIN alpha sets benchmarks worldwide in mechanical engineering and drive technology

Listening, understanding, calculating, optimizing and designing tailored solutions for our customers – for WITTENSTEIN alpha, engineering begins at an early stage and continues far beyond successful implementation.

As one of the few manufacturers of mechanical drive systems worldwide, we combine multiple core competencies as a prerequisite for stringent and integrated engineering, all under one roof.

Research & development, production and sales – from a single source!



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alpha Value Line – Every detail counts

Maximum economy

alpha Value Line gearheads are extremely economical to purchase, unbeatably efficient in operation and maintenance-free throughout their entire lifetime.

High flexibility

Modular configuration of the interfaces to the motor and the application. You can choose between gearheads with several different clamping hub diameters, input stages and design and mounting variants.

Simple motor mounting

Safe and secure motor mounting is possible in a single step.

Class-appropriate precision

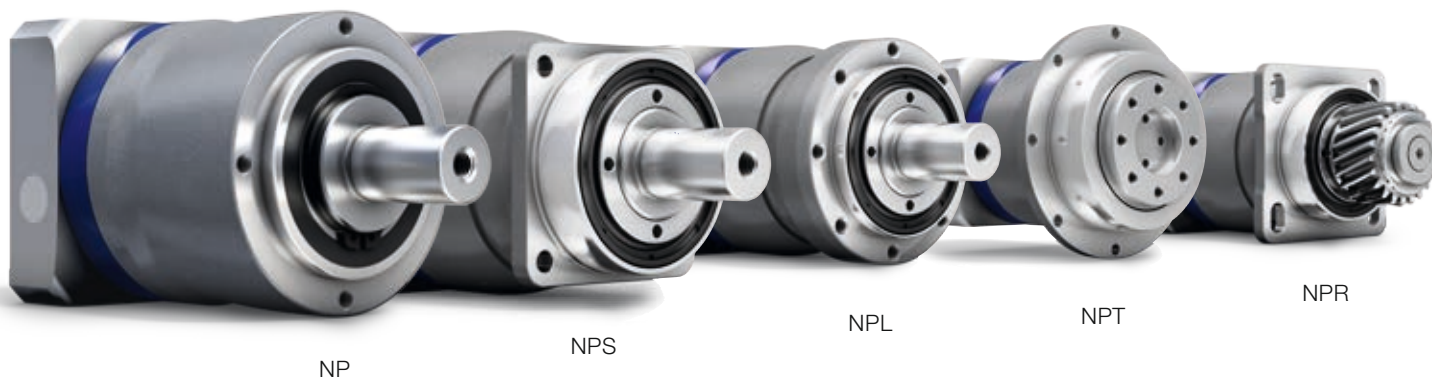
Torsional backlash in the region of ≤ 8 arcmin.

Quiet running

Our gearheads are distinguished by extremely quiet running and synchronization accuracy.

Optimal reliability

The gearheads are suitable for both cyclic and continuous operation.



Rapid availability

Our alpha Value Line sets new standards with regard to delivery times and delivery reliability, even with very high volumes.

New design freedom

The alpha Value Line lets you select the mechanical interface flexibly according to your individual requirements.

New design options

For example, in linear applications with a rack and pinion or a timing belt pulley. The NPR variant is equipped with an integrated slotted flange which makes it easier to position the pinion and clamp the belt.

Versatile installation

Thanks to the special lubrication concept, you can install the gearheads in any position. It makes no difference whether you mount them vertically, horizontally or with the output facing upwards or downwards.

High efficiency

More than 95% efficiency at full load.

Highest power density

The HIGH TORQUE version realizes gearheads with highest power density.

Gearhead overview



alpha



| alpha Value Line | NP | NPS | NPL | NPT | NPR |
|-------------------------------------|---------------------------------|-------|-------|-------|-------|
| Ratios | 3-100 | | | | |
| Torsional backlash [arcmin] | ≤ 8 | | | | |
| Output type | | | | | |
| Smooth output shaft | • | • | • | – | • |
| Grooved output shaft | • | • | • | – | • |
| Output shaft with involute toothing | – | • | • | – | • |
| Output flange | – | – | – | • | – |
| Input type | Motor attachment version | | | | |
| Application | | | | | |
| For high axial and radial forces | – | • | • | – | • |
| In continuous operation | • | • | • | • | – |
| In cyclic operation | • | • | • | • | • |
| Options | | | | | |
| HIGH TORQUE version | • | • | • | • | • |
| Foodgrade lubrication | • | • | • | • | • |
| With coupling at output | • | • | • | • | • |
| As linear system | • | • | • | – | • |
| With mounted pinion at output | • | • | • | – | • |
| With screwed on B5 flange | • | – | – | – | – |
| Further technical data | | | | | |
| Max. torque T_{2a} | Nm | 800 | 800 | 800 | 800 |
| | in.lb | 7100 | 7100 | 7100 | 7100 |
| Max. input speed | rpm | 10000 | 8000 | 8000 | 10000 |
| Efficiency | % | 97% | 97% | 97% | 97% |
| Max. radial force F_{2R} | N | 8000 | 10000 | 10000 | 4800 |

alpha Value Line

Individual talents for driving any axis

Five different product variants with five different output interfaces – individually adapted to each customer's specific requirements.



NP



NPS



NPL

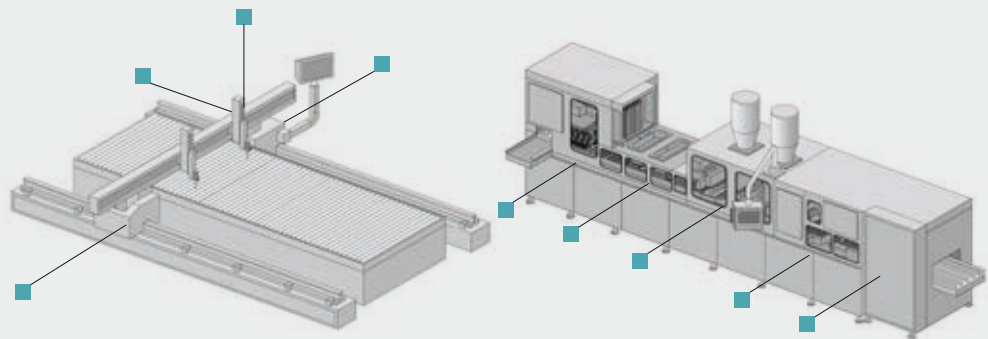


NPT



NPR

alpha Value Line – Efficiency in any axis



The alpha Value Line is universally suitable: it represents the most economical solution whatever the requirements for driving any axis in virtually any industry.

Each input or output interface for the alpha Value Line was developed as a compatible add-on for WITTENSTEIN alpha's existing high-end portfolio. You profit from maximum design, mounting and operating flexibility.

Machine tools & manufacturing systems

- Linear feed axes in combination with the alpha Value Linear System
- Secondary axes, e.g. door operators with a belt or rack
- Drives for processing equipment
- Linear or rotary drives in tool changers
- Ball screw drives in combination with a coupling
- etc.

Food processing & packaging machinery

- Dosing, forming and portioning drives
- Star drives
- Product feeding
- Top loaders
- Carton feeding and erecting
- Transport axes
- etc.



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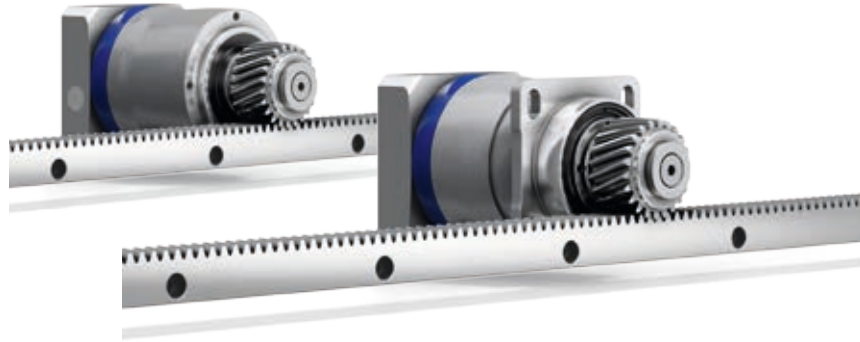
NPS with metal bellows coupling



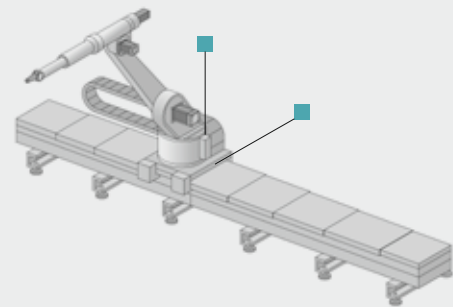
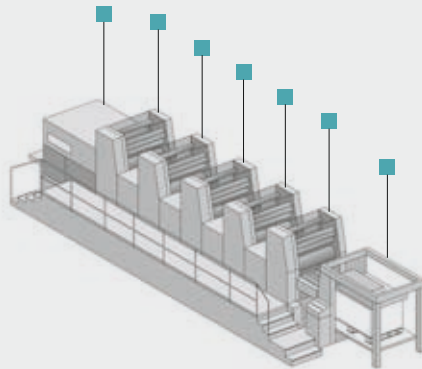
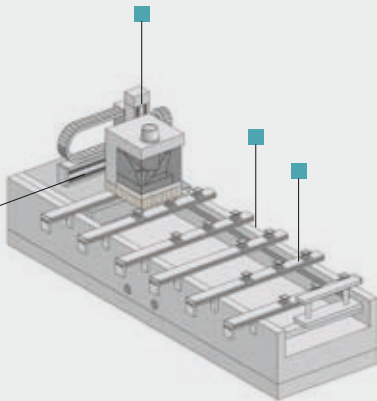
NP with elastomer coupling



NPR with belt pulley



alpha Value Linear System



Woodworking machinery

- Linear feed axes in combination with the alpha Value Linear System
- Clamped drives
- Format changing
- Belt drives
- Ball screw drives
- Tool changers
- Machining heads
- etc.

Printing & paper technology

- Rotary drives for:
- Unwinders and rewinders
 - Punches
 - Print modules
 - Coating and laminating modules
 - etc.

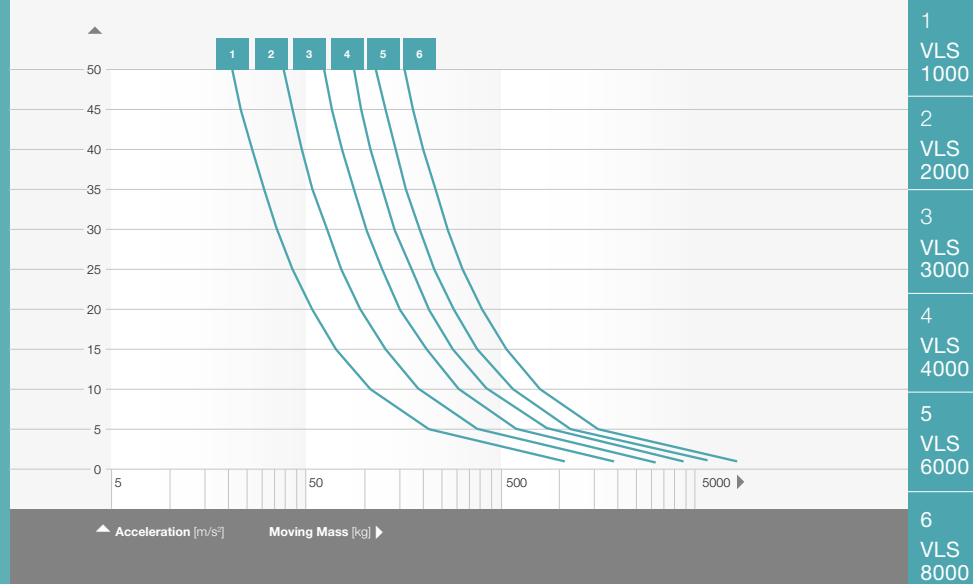
Robotics, automation & handling solutions

- Linear feed axes in combination with the alpha Value Linear System
- Linear feed axes with a belt
- Rotary and swivel axes
- Ball screw drives
- etc.

alpha Value Line Linear System

Same technology as their big brothers

Thanks to the slots integrated in the gearhead flange, the gearhead and mounted pinion can be easily positioned to the rack. The cumbersome, complex solutions and intermediate plates that used to be unavoidable can now be dispensed with.



Benefits of the R flange

The NPR was specially developed for applications subjected to high tilting moment loads, for example in combination with a rack and pinion or a belt. It provides several important benefits compared to conventional NP gearheads:

- Higher tilting rigidity => even more accurate results
- Better control characteristics
- Easy mounting and positioning
- Reduced design requirements
- More design freedom due to higher compactness
- Potential saving because no additional design elements are needed, e.g. intermediate plates



NPS with metal bellows coupling



NP with elastomer coupling

Metal bellows couplings – Perfectionists you can count on

Metal bellows couplings are designed for the highest requirements in servo drive technology. The compact design ensures that installation space is kept to a minimum. High torsional rigidity enables precise results and dynamics.

- Compensation of shaft misalignment
- Completely backlash-free
- Compact and easy to mount
- Maintenance-free and fatigue durable
- Corrosion resistant versions available as an option (BC2, BC3, BCT)

Elastomer couplings – Harmonious endurance runners

Elastomer couplings ensure precisely manufactured hubs and attachable intermediate elements for maximum true-running accuracy in the drive train. In addition, torque peaks and vibrations are damped to ensure superior smooth running.

- Compensation of shaft misalignment
- Completely backlash-free
- Choice of torsional rigidity / damping
- Compact design
- Extremely simple mounting (plug-in)
- Maintenance-free and fatigue durable
- Ideal for connection to spindle drives, toothed belt drives or linear modules

Additionally we offer a complete portfolio of torque limiters. Please have a look at our Product Catalog to get more information.

alpha Value Line

More than just gearheads

- Ability to react promptly to changing customer requirements
- Very short delivery times regardless of the batch size
- Pre- and after-sales services

Technical data / product selection

Online product configurators –

Your application is configured according to your specific requirements.

Are you searching for the right drive solution for your application? With our product configurators, we will help you at every step of the way.

Your benefits

- Optimized for a quick and efficient selection
- Intuitive user guidance
- Online comparison of the motor and gearhead geometry
- All application information at a glance

Three different ways to the desired application:

- With the gearhead + motor configurator you first select a gearhead and then a suitable motor.



- With the motor + gearhead configurator you first select a motor and then a suitable gearhead.



- With the rack & pinion configurator you select the right components for your rack and pinion system.



Info & CAD Finder –

The required information – simply and quickly.

With our Info & CAD Finder, you can find the product you are looking for in just a few clicks.

You will also find performance data, CAD data, operating instructions and motor mounting instructions for your product here. Using the intuitive menu, it is easy to configure your product and request the necessary data.

Your benefits

- Online comparison with motor geometry
- Transparent and simple selection
- Generation of an ordering code
- Documentation of your selection
- 3D file of the selected solution



The online product configurators are available free of charge at: www.wittenstein-alpha.com/product-configurator

The Info & CAD Finder is available free of charge at: www.wittenstein-alpha.com/info-and-cad-finder

Sizing & consultation

Customized logistics solutions

After-sales services

cymex® (cyber motion explorer) –
Sizing of the entire drive train

We offer our customers regular cymex® training courses. We would welcome the opportunity to share our application calculation and drive design expertise with you.

Your benefits

- Simple and reliable design thanks to pre-defined standard applications
- All customer-specific application parameters taken into account
- cymex® Motion Profiler creates simple or complex motion and load profiles
- Functions for importing motion profiles from SAM, Excel, ASCII
- 11,000 motors from all current manufacturers
- Visualization of loads in relation to all important component parameters in the drive train
- Offline CAD generator: 3D gearhead files including all attached components
- Technical calculation documentation

We handle the complete shipment for you

In time-critical situations, we ensure immediate and professional pick-up as well as the fastest possible delivery of drives in need of repair. Profit from our return service, which is also available for speedline® orders.

Your benefits

- Cost savings because downtime is minimized
- Professional logistics organization
- Reduced transport risks through customized, direct delivery

speedline® –
Speedy deliveries

We offer you delivery of the standard SP+, TP+ and LP+ Generation 3 series within 24 or 48 hours ex works at attractive conditions.* Benefit now from the short-term availability of our V-Drive+ servo worm gearhead and the alpha Value Line.

Your benefits

- Minimum re-stocking times and very fast response time in case of unplanned requirements
- Maximum reliability through transparent information flows and dependable processing



If you are interested in either cymex® or product training courses, please contact your responsible sales engineer or send an email to: info@wittenstein-alpha.com

Our speedline® team can be contacted on:
Phone +49 7931 493-10333 (International)
*Non-binding delivery time depending upon part availability



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WITTENSTEIN alpha – intelligent drive systems

www.wittenstein-alpha.com/alpha-value-line

