



WITTENSTEIN

alpha

High Performance Linear Systems The Revolution in Linear Technology

highest power density
maximum moving force
highest system rigidity



efficiency
engineering

High Performance Linear Systems



Doubled performance in less space!

The performance capability of the rack and pinion system achieves a new dimension with the [High Performance Linear System](#). While others are still engaged in adapting existing solutions, WITTENSTEIN alpha is once again several steps ahead with its advanced linear system. The innovative [High Performance Linear System](#) is employed in applications where individual requirements go significantly beyond previous possibilities. Compared to industrial standards, the values can be improved upon up to 150% on average.

Your advantages compared to the industrial standard

- 150% more moving force
- 100% higher power density
- 50% higher system rigidity
- 50% less labor required for installation
- 15% more accurate positioning

- more confidence in the configuration
- maximum output efficiency
- potential use of smaller gearheads and therefore cost reduction
- maximum degrees of freedom in the design

The revolutionary [High Performance Linear System](#)

Gearheads, rack and pinion from a single source!

- 3 components – one unsurpassed peak performance
- 3 components – one perfectly designed system
- 3 components – one contact person

Quick system selection



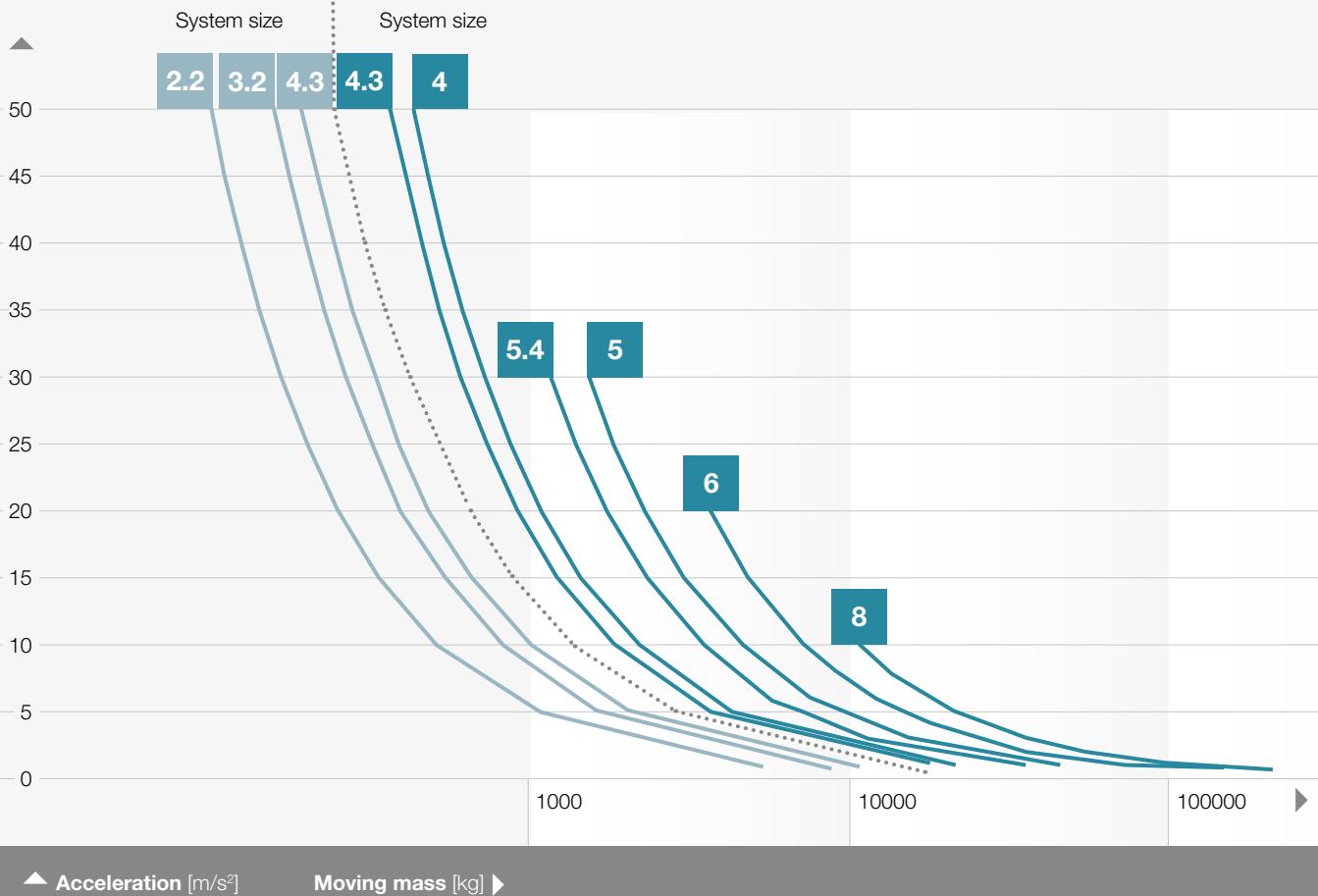
Performance Linear System
with planetary gearhead alphenor®



High Performance Linear System
with planetary gearhead RP+

Performance Linear System (PLS) ◀

▶ High Performance Linear System (HPLS)



▲ Acceleration [m/s²]

▶ Moving mass [kg]

Performance at a glance

Efficiency begins with ideas



With the elongated holes integrated in the gearhead flange, it is now possible to easily position the gearhead with a mounted pinion on the rack. Cumbersome and expensive solutions such as intermediate plates or excenter solutions are a thing of the past. The gearhead is guided for positioning with the ground stop edges of the gearhead flange. A milled lay-on edge on the machinery sled completely suffices.

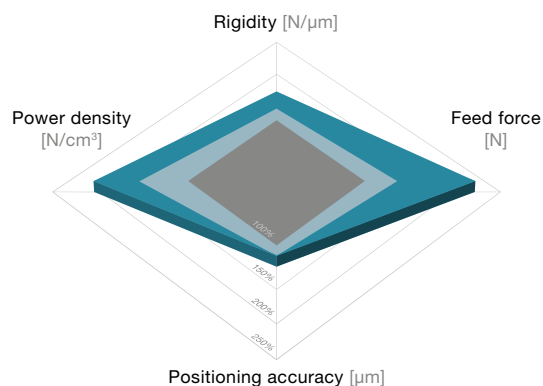
The overhung mounting of the output pinion leaves no design wishes unfulfilled. Large disrupting contours which occur in end support solutions that are frequently seen in rack and pinion drives have now turned out to be completely obsolete.

Your options:

The following gearhead series can realize the easy positioning of the gearhead with a mounted pinion on the rack.

- the low-backlash and powerful planetaries RP+ and alpheno®
- the high performance right-angle gearhead RPK+
- the servo-actuator version RPM+

Comparison of Performance in %
Industry standard vs. PLS and HPLS



Technical data:

Rack and pinion system	PLS	HPLS
Positioning accuracy [μm] ^{a)}	< 5	< 5
Ratios [-]	3 - 100	4 - 220
Max. feed force per drive [N]	12000	112000
Feed speed [m/min]	500	400
Efficiency [%]	≤ 97	≤ 97
System rigidity [%] ^{b)}	20	+ 50

^{a)} direct measurement system needed
^{b)} compared to the industry standard

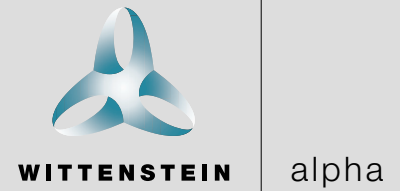


The RPK+ high performance right-angle gearhead is optimized for Rack-and-Pinion applications.



Performance Linear System with planetary gearhead alpheno® in an optimized version which is perfectly matched for Rack-and-Pinion applications.

30 years of experience



Expert consultation

From the initial idea through implementation to product phase-out, you receive comprehensive, all-round advice, support and services.



- Consultation, production, sales and service from a single source
- A lasting, beneficial partnership

We will be pleased to advise you about our High Performance Linear Systems:
Tel. +49 7931 493-0

efficiency engineering

Our guiding principle for best possible customer solutions at highest quality

WITTENSTEIN alpha has now bundled many of its distinctive attributes, already widely established in the market, in a strong corporate principle and a recognizable characteristic – „efficiency engineering“. All effectiveness and efficiency aspects of WITTENSTEIN alpha products, systems and solutions which are based on efficient engineering services and efficient processes – both in production and in partnerships with customers – are now combined under the „efficiency engineering“ umbrella.

efficiency engineering =
efficient processes and
efficient products





WITTENSTEIN alpha GmbH · Walter-Wittenstein-Straße 1 · 97999 Igersheim · Germany · Tel. +49 7931 493-0 · info-alpha@wittenstein.de

WITTENSTEIN alpha – intelligent drive systems

www.wittenstein-alpha.com · www.rack-pinion.com

