

LINEAR MOTION

Bearing of the piston rod in pneumatic cylinders | Conveyor Technology, Automation Technology, Drive Engineering, Engineering

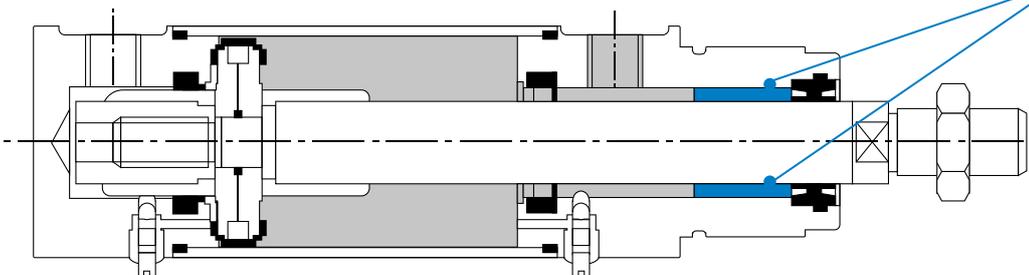
PRODUCT USED

KS Permaglide®
cylindrical plain bearing bushing design PAP ... P20
Material: Permaglide® KS P20

acting or double-acting. The force of the piston rod thus acts in one or in both directions on the axle. This means that the cylinder can be used to generate a pushing force or a pulling force. The use of compressed air can lead to jerky movements and vibrations.

FUNCTION

A pneumatic cylinder comprises a cylindrical tube housing and a moving piston rod. Pneumatic cylinders are used for the drive of linear movements, e.g. in conveyor technology and in engineering. Pneumatic cylinders are either single-



DEMANDS

The bearing of the piston rod in pneumatic cylinders is exposed to an extreme load potential. High transverse forces, strong vibrations and sometimes high speeds act on the bearing point. The bearing must provide high guidance accuracy even under changing operating conditions.

BEARING WITH KS PERMAGLIDE® P20 PLAIN BEARINGS

In pneumatic cylinders, KS Permaglide® P20 plain bearing bushings are used as spigot bearings for the piston rod. The plain bearings are sealed and initially lubricated with grease. The plain bearings are designed with oil distributing pockets in the sliding surface. This guarantees the appropriate distribution of lubricant over the entire service life. Lubrication ensures a low and constant friction coefficient and enables smooth linear movement.

ADVANTAGES OF KS PERMAGLIDE® P20 PLAIN BEARINGS

- Low-maintenance operation with lubrication
- High wear resistance
- Constant and low friction coefficient
- Good damping characteristics
- Insensitivity to shocks and impacts

DESCRIPTION OF MATERIAL

KS Permaglide® P20 is a low-maintenance, leaded bearing material with a high performance. It is designed for grease-lubricated or liquid-lubricated applications. This composite, multi-layered material excels through its high rigidity, durability and resistance to oscillation and vibration. These characteristics are largely achieved by a sliding layer system made of polyvinylidenfluoride (PVDF), polytetrafluoroethylene (PTFE) and lead. The wear-resistant material has already proven itself many times in industry.

The standard KS Permaglide® P20 version features oil distributing pockets as per DIN ISO 3547. The bearings are provided ready to install for recommended connection-design installation dimensions. Also available are versions with a different wall thickness, suitable for rework when installed, or with a smooth sliding surface for hydrodynamic applications.

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