



FL 1707

For technical personnel only!

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PRODUCT APPLICATION

PISTON PIN BED IN TOGGLE LEVER CLAMPS

SECTOR: ENGINEERING, PLANT ENGINEERING

PRODUCT USED

Permaglide® plain bearing bush, type PAP ... P180

FUNCTION

Toggle lever clamps are used, for example, in machines tools, welding machines or special systems for fixing workpieces. Some high pressures act on the joint of the toggle lever clamp during movement. The toggle lever clamp absorbs the high tension forces directly, meaning that they do not stress the machine bench. Toggle lever clamps are also known as pneumatic clamps.

ADVANTAGES OF THE PERMAGLIDE® P180 PLAIN BEARING BUSHES FOR USE IN TOGGLE LEVER CLAMPS

- maintenance-free material
- pressure resistance
- only minimal wear even after 10,000,000 work cycles
- this results in a long service life and reliable function of the toggle lever clamp
- Advantage compared with plastic plain bearings: Permaglide® P180 plain bearing bushes can withstand high pressure. Plastic plain bearings, on the other hand, would tend towards cold flow on the axes, resulting in a larger bearing clearance.
- Advantages compared with bronze bushes: Permaglide® P180 plain bearing bushes require no lubrication with grease or oil and have thinner walls than bronze bushes.

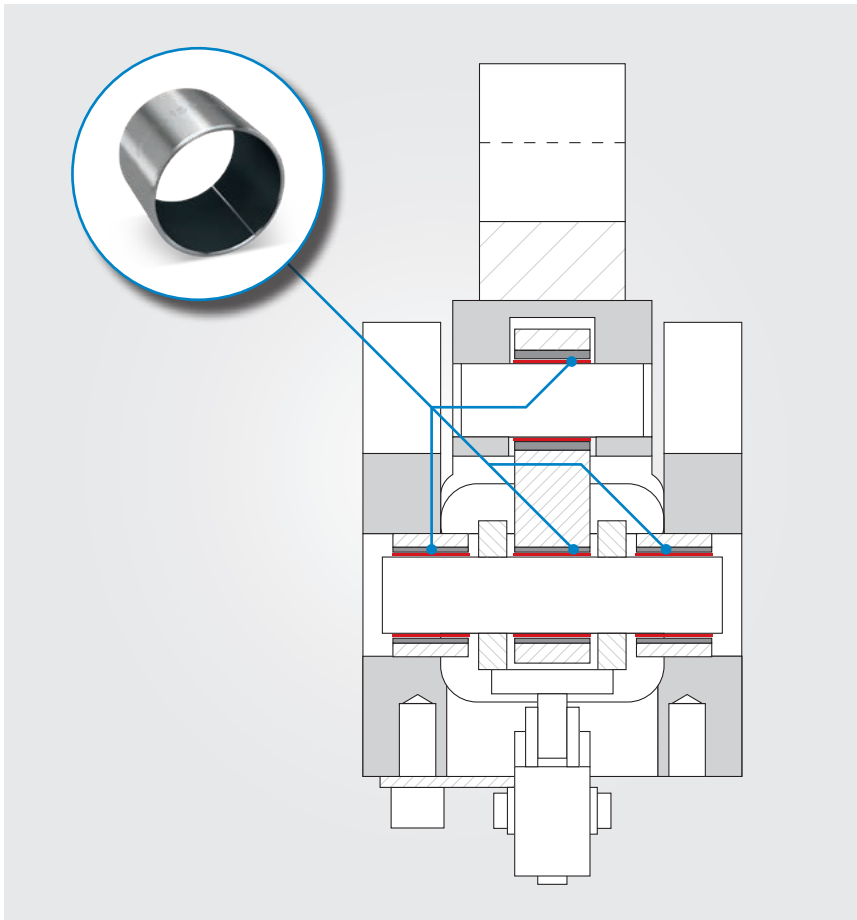
REQUIREMENTS FOR THE PISTON PIN BED

- reliable function of the clamping unit
- maintenance-free
- low wear
- long service life
- no impairment due to high pressure
- low operating bearing clearance
- low installation dimensions

BEARING WITH PERMAGLIDE® P180 PLAIN BEARING BUSHES

The piston pin bed for the application was manufactured with maintenance-free plain bearing bushes made from Permaglide® P180.





Piston pin bed in toggle lever clamps with Permaglide® plain bearing bushes, type PAP ... P180

FURTHER ADVANTAGES OF THE MATERIAL PERMAGLIDE® P180

- very low stick-slip tendency
- good chemical resistance
- no tendency to fuse with metal
- largely resistant to swelling
- does not absorb water

DESCRIPTION OF MATERIAL

Permaglide® P180 is a robust bearing material that has the highest levels of tribological performance. It is designed for maintenance-free, dry-running applications, but can also be employed in systems with liquid lubrication.

PREFERRED AREAS OF APPLICATION

- maintenance-free operation under dry-running conditions
- rotating or oscillating movements up to a speed of 2 m/s
- linear movements
- temperature range -200 °C to 280 °C



Further information on Permaglide® plain bearings

Permaglide® catalogue, item no.
50003863-02