



FL 1702

For technical personnel only!

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# PRODUCT APPLICATION

## PERMAGLIDE® PLAIN BEARINGS: PROPORTIONAL SOLENOID

SECTOR: DRIVE ENGINEERING

### PRODUCTS USED

Permaglide® plain bearing bush design PAP ... P180

### Function

Proportional solenoids are electromagnetic actuators for small strokes. They convert electrical energy into proportional mechanical energy.

### Bearing with Permaglide® P180 plain bearing bushes

In the process, Permaglide® P180 plain bearings guide the rotor at a very low bearing clearance. The plain bearing must possess a low and, above all, consistent friction coefficient over the course of the entire operating life in order to minimise energy loss and keep the hysteresis low. The ferromagnetic characteristic of the steel back is also significant. Due to the antistatic characteristic of the Permaglide® P180, there is no electrical charging through which dust could be drawn in.

### Advantages of Permaglide® P180 plain bearing bushes

- Unleaded
- Compliant with Directive 2011/65/EU (RoHS II)
- Low and constant friction value
- Low bearing clearance
- Compact size
- Maintenance-free operation under dry-running conditions
- Low wear
- Very low stick-slip tendency
- Rotating or oscillating movements up to a speed of 2 m/s
- Temperature range –200 °C to 280 °C

### Description of material

Permaglide® P180 is a lead-free, high-performance material with outstanding tribological performance. It is designed for maintenance-free applications under dry-running conditions. In addition, it can be used in both grease- and liquid-lubricated

systems. P180 is a further development of the tried and tested P14 material with improved resilience and wear resistance whether in dry or lubricated applications. The material can also be used in tribological systems that were previously only operated with materials containing lead, such as P10.

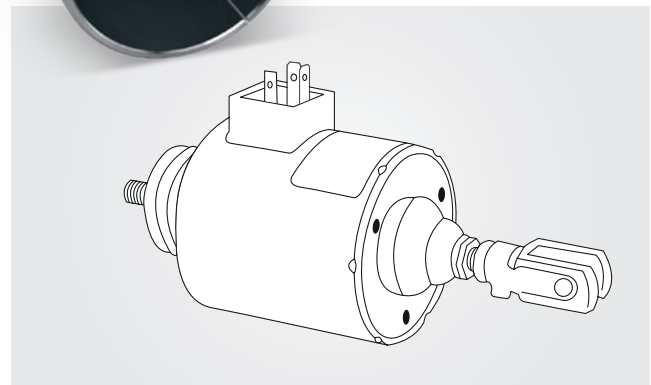


### Further information on Permaglide® plain bearings

- Permaglide® catalogue, item no. 50003863-02
- Permaglide® online catalogue  
[shop.permaglide.com](http://shop.permaglide.com)



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Proportional solenoid application