

KS PERMAGLIDE® plain bearings: Bearing of the shaft journal in maintenance-free isolating valves

**Sector: Chemical industry, building technology,
industrial and process technology**

Product used

KS PERMAGLIDE® cylindrical plain bearing bushing, type **PAP ... P10/P11**.
The KS PERMAGLIDE® materials P10 (with steel back) or P11 (with bronze back) are used, depending on the aggressiveness of the gas or liquid.

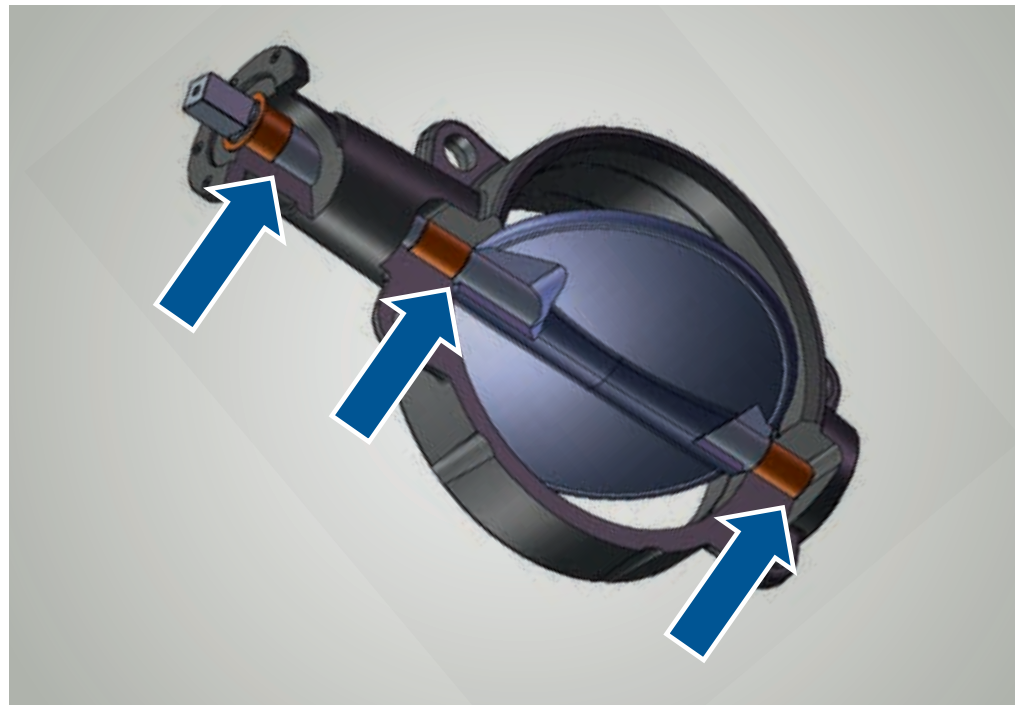
Function

Isolating valves regulate by increasing and decreasing the flow of liquids and gases in pipelines. The installed plain bearings are constantly exposed to the influence of chemicals and high or extremely low temperatures. Liquids cause constant vibrations on the valve, amongst other things. The bearing must not become stuck due to corrosion or the influence of certain temperatures. If used frequently – or indeed rarely – the function of the isolating valve must not be impeded. The bearings are no longer accessible once installed, and so maintenance-free bearings are required.

Isolating valves act as safety switches: if the pressure is too high, the isolating valve opens. If a section of the pipeline is leaking, the isolating valve closes.

Bearing with KS PERMAGLIDE® P10/P11 plain bearing bushes

The shaft journal and the valve disc are mounted with KS PERMAGLIDE® P10 or P11 plain bearing bushes.
The P10 and P11 plain bearings do not become electrostatically charged, as they act as electrical conductors after running-in. The isolating valves can also be used in environments where there are explosive gases.

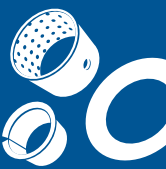


Isolating valve, bearing by means of KS PERMAGLIDE® P10 or P11 plain bearing bushes (arrows)

Advantage: Reliable function of the bearing thanks to KS PERMAGLIDE® P10/P11 plain bearings

- Suitable for use with liquids and gases
- High chemical resistance
- Corrosion-resistant
- Minimal swelling tendency
- Temperature-resistant
- Dry running: No lubrication is necessary. The plain bearings are also used with aggressive media.
- Maintenance-free
- No static charging, also suitable for explosive media

The maintenance-free KS PERMAGLIDE® P10 plain bearings guarantee permanent bearing, even in extreme operating conditions.



Description of material

KS PERMAGLIDE® P10 – robust and reliable

- Universally usable plain bearing material for dry and lubricated applications
- High rigidity
- Durability
- High chemical resistance
- Good emergency running properties
- Material: Lead bronze sintered onto a steel base, friction-minimising additives PTFE and lead.

KS PERMAGLIDE® P10 offers the following advantages over comparable lead-free plain bearing products:

- Higher thermal conductivity
- Good chemical resistance
- Good transfer of lubricant onto the interacting sliding partner
- Good passivation of the interacting sliding partner
- Impervious to high edge loading

In damp environments, in particular, this sliding layer system provides outstanding protection against corrosion. Moreover, lead and PTFE are extremely non-absorbent. Absorption of the surrounding fluids with consequent swelling of the materials is prevented, as is chemical damage to interacting sliding partners. The result is dimensional stability and optimum corrosion protection during use.

Application description

Use of various media in pipelines:

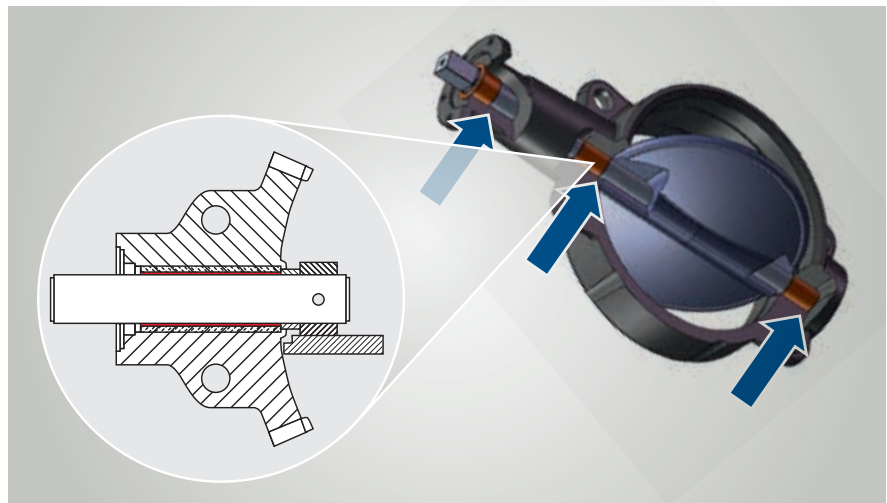
- Gases
- Liquids
- Vapours
- Acids
- Bases

Examples of isolating valve applications:

- Plants in the chemical industry
- Plants in the pharmaceutical industry
- Gas plants
- Landfill gas plants
- Sewage plants
- Drinking water plants
- Service water plants
- Sea water desalination plants
- Cooling water plants
- Heating systems



KS PERMAGLIDE® P10 and P11 plain bearing bush



Bearing of the shaft journal using KS PERMAGLIDE® P10/P11 plain bearings

- Swimming pool technical systems
- Industrial fittings
- Pump systems
- Shipbuilding

Other designations for isolating valves:

- Butterfly valves
- Shut-off valves
- Throttle valves
- Regulating throttles
- Check valves
- Versions: Poppet valves, annular valves

Further information on KS PERMAGLIDE® P10 plain bearing bushes

- **KS PERMAGLIDE® catalogue**, item no. 50003863-02
- **KS PERMAGLIDE® P10 folder**, item no. 50003845-02
- **KS PERMAGLIDE® P10 folder**, item no. 50003846-02
- **KS PERMAGLIDE® PI 1090**
- **KS PERMAGLIDE® online catalogue** www.permaglide.com/onlineshop