

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

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

Product used

PERMAGLIDE® cylindrical plain bearing
bushing, type **PAP ... P10/P11**.

The PERMAGLIDE® materials P10 (with
steel back) or P11 (with bronze back) are
used, depending on the aggressiveness of
the gas or liquid.

Function

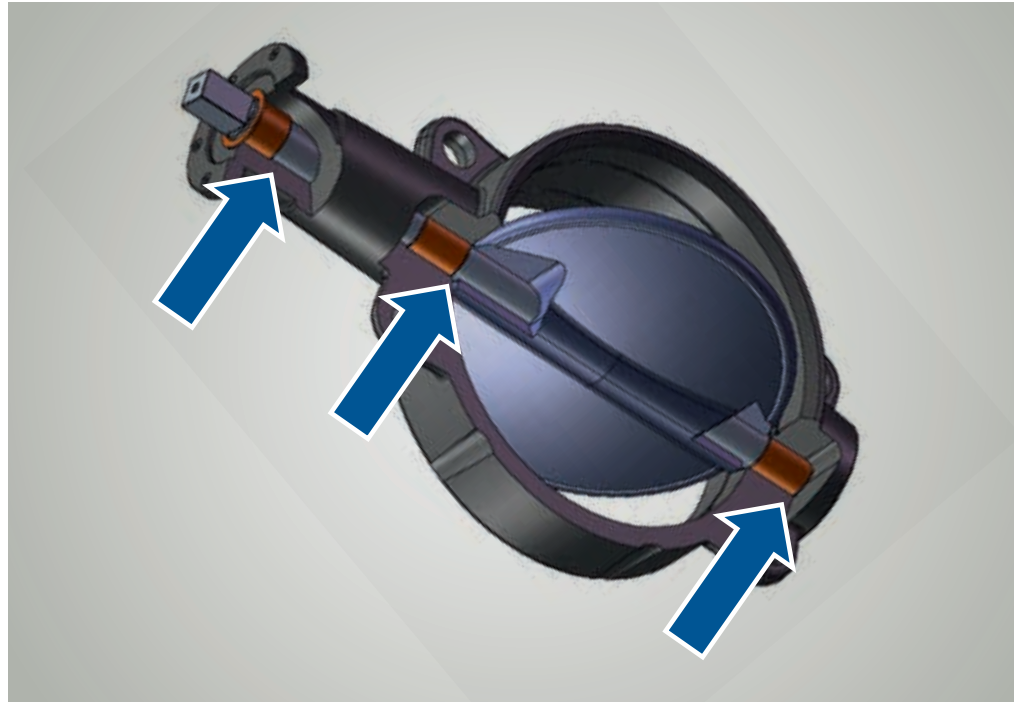
Isolating valves regulate by increasing and
decreasing the flow of liquids and gases in
pipelines. The installed plain bearings are
constantly exposed to the influence of
chemicals and high or extremely low
temperatures. Liquids cause constant
vibrations on the valve, amongst other
things. The bearing 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 PERMAGLIDE® P10/ P11 plain bearing bushes

The shaft journal and the valve disc are
mounted with 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.

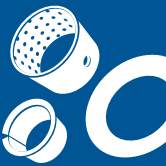


*Isolating valve, bearing by means of PERMAGLIDE® P10 or P11 plain bearing bushes
(arrows)*

Advantage: Reliable function of the bearing thanks to 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 PERMAGLIDE®
P10 plain bearings guarantee
permanent bearing, even in extreme
operating conditions.



Description of material

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.

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:

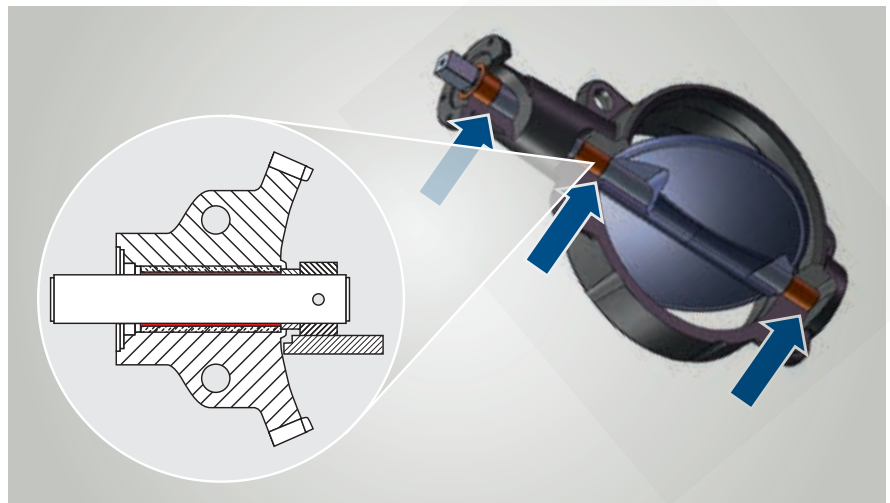
- Gases
- Liquids
- Vapours
- Acids
- Bases

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



PERMAGLIDE® P10 and P11 plain bearing bush



Bearing of the shaft journal using 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 PERMAGLIDE® P10 plain bearing bushes

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