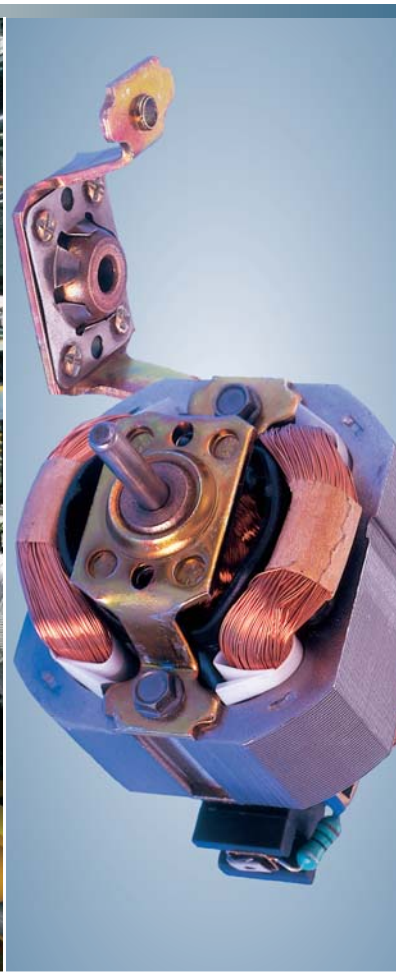
GKN SINTER METALS

THINK > Filter Technology



BEARINGS

ENGINEERING > THAT MOVES THE WORLD

Since 1759

250 years of exceptional engineering

GKN Sinter Metals Filters, the leading manufacturer of porous sinter metal products, offers a variety of solutions to fulfil customer requirements.
We are familiar with various applications in almost every industrial branch.
Our products are applied in gas- and liquid filtration, dampening, sparging, sensor protection, bulk handling and many more. We offer solutions for high temperature and corrosive environments.

Sintered filter elements made of stainless steels, bronze, nickel based alloys, titanium and several special alloys can be manufactured seamless up to 1,600 mm length and 320 mm OD. Larger elements will be assembled in our certified in-house welding shop.
Our most innovative product for the chemical industry is the patented metallic membrane SIKA-R...*AS*.

The filter cartridges equipped with this state-of-the-art technology offer a flow rate up to 4 times higher compared to conventional sinter metal filter cartridges. Furthermore an excellent back flush performance is guaranteed. The filter active membrane layer with filter grades down to 0.1 µm absolute has a thickness of only 200 µm and is made of the same alloy as the coarse support material. The membrane is sinter bonded to the support and therefore cannot peel off.

Another innovation introduced by GKN is the sinter bonded joint of porous parts with solid fittings in order to avoid welding seams – the weak spot of all sintered cartridges of our competitors.

All sintered materials of GKN offer a self-supporting structure with high mechanical strength.

We manufacture various filter grades with specified pore sizes and flow rates in order to have the appropriate solution for your requirements.

Properties of self-lubricating sintered bearings

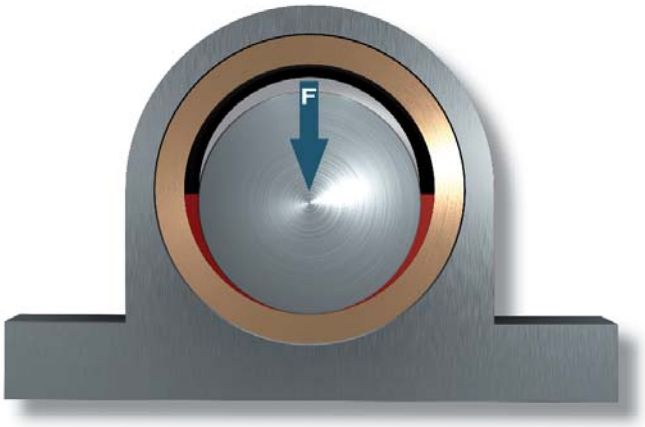
The properties of self lubricating bearings are determined by the defined density of the bearing material.

The resulting number of pores acts as a reservoir for the lubricant.

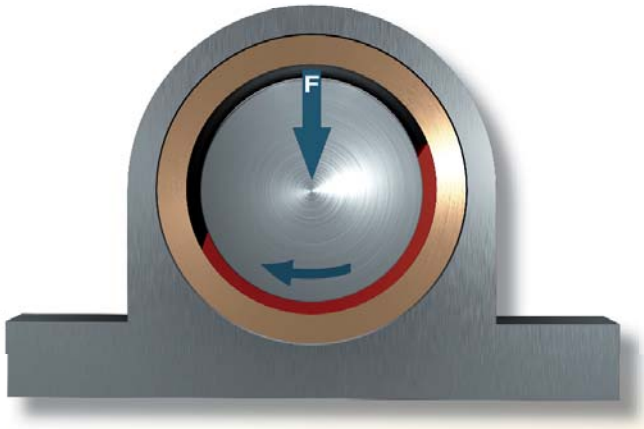
Through linking of the pores, a canal system is produced which forms a lubricating film on thecontact surface and helps to circulate the lubricant.

In running condition, within a short time an equilibrium is established in the circulation of the lubricant.

Function schematic



Inactive condition

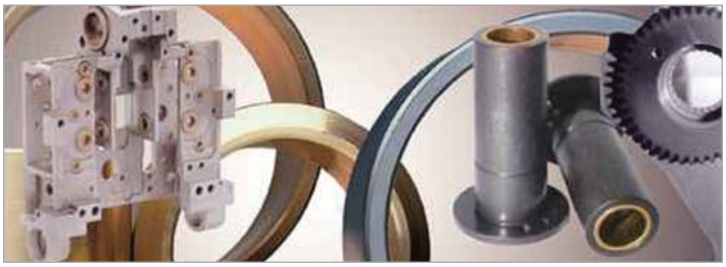


Running condition

Applications

Various domestic appliances and hand workshop tools...

... as well as usage in bigger machine elements

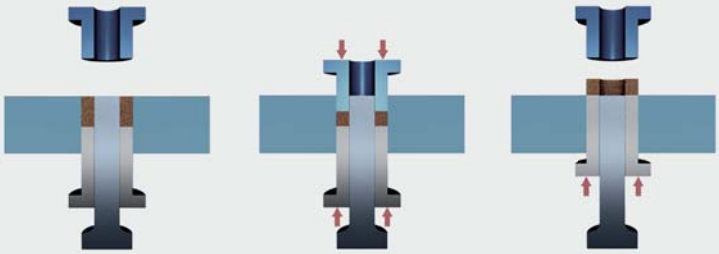


Sintered self-lubricating sliding bearings are the ideal solution for applications where lubrication is problematic or even impossible. The pores in the surface layer of a sintered self-lubricating bearing are filled with lubricating oil making any further lubrication unnecessary.

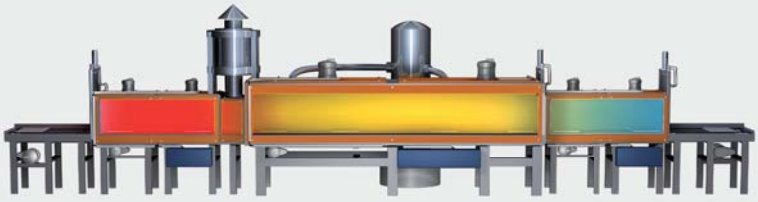
The pore structure forms a labyrinth of interconnected pores of controlled size and volume, thus allowing uniform lubrication over the entire bearing surface. The oil volume dispensed increases automatically with the service temperature rising as a result of the increasing rotational speed.

Manufacturing of self-lubricating sintered bearings

Blending



Compaction



Sintering

Sizing

Impregnation with lubricants

Standard materials

GKN Sinter Metals Filters manufacture bearings from the following materials:

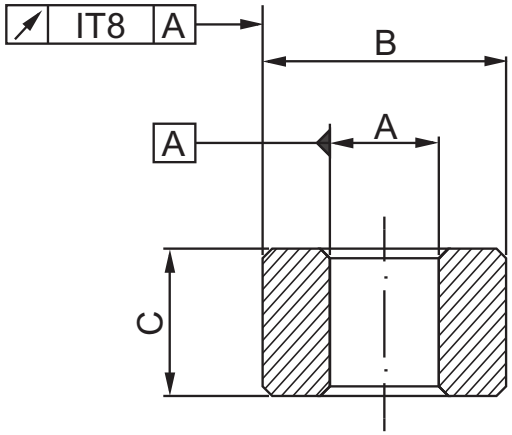
- Bronze
- Bronze / MoS2
- Iron

Special materials on request.
Our technicians will be pleased to help you choosing the best suitable material for your application.

Standard geometries of self-lubricating sintered bearings

Cylindrical bearing

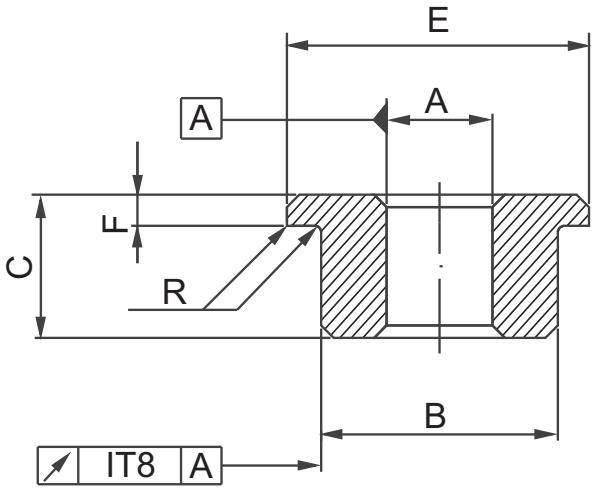
Having the most economical bearing shape, cylindrical bearings, for the most part, are press-fitted into a premachined housing with the help of a fitting pin.



Flange bearing

Flange bearings differ from cylindrical bearings due to the flange at one end.

The flange serves as a stop gauge in assembly and, in certain cases, as an enlarged shoulder for axial load. This shape of bearing also requires the help of a fitting pin when press-fitted.



Additional Applications of GKN Filters...

Catalyst recovery

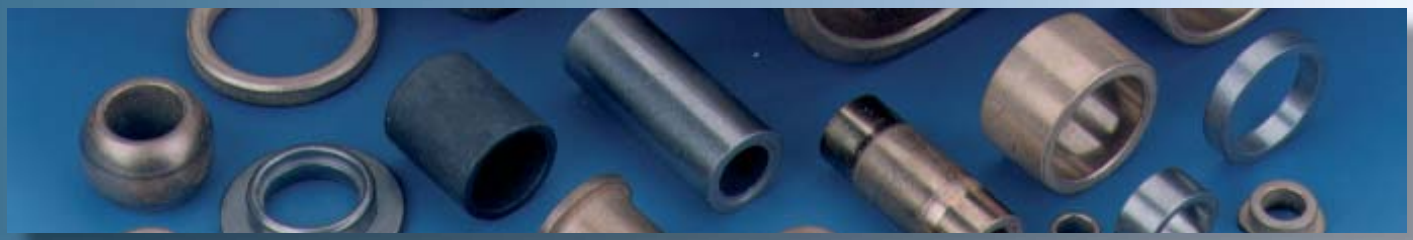
Refinery

Water treatment

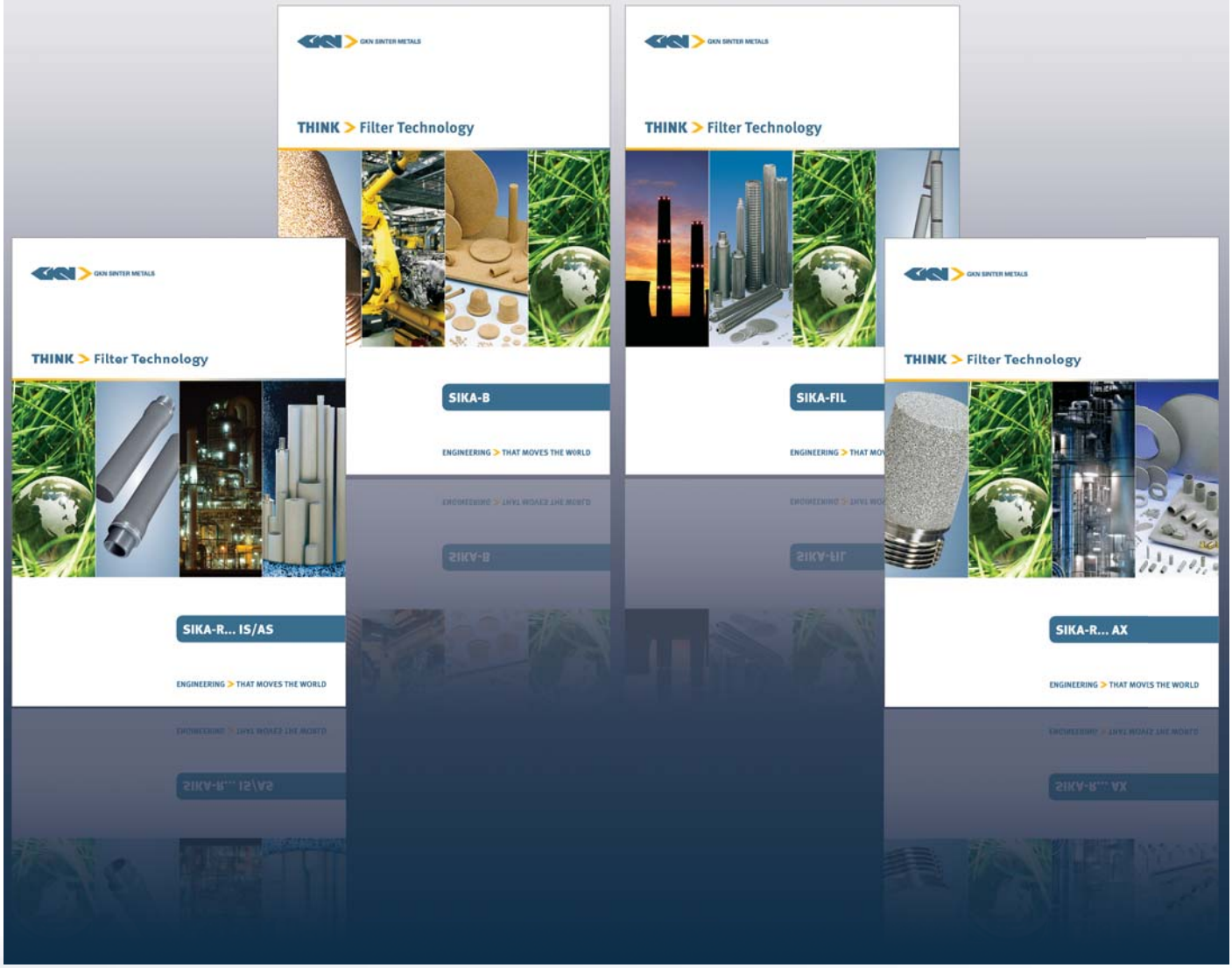
Pneumatic valves

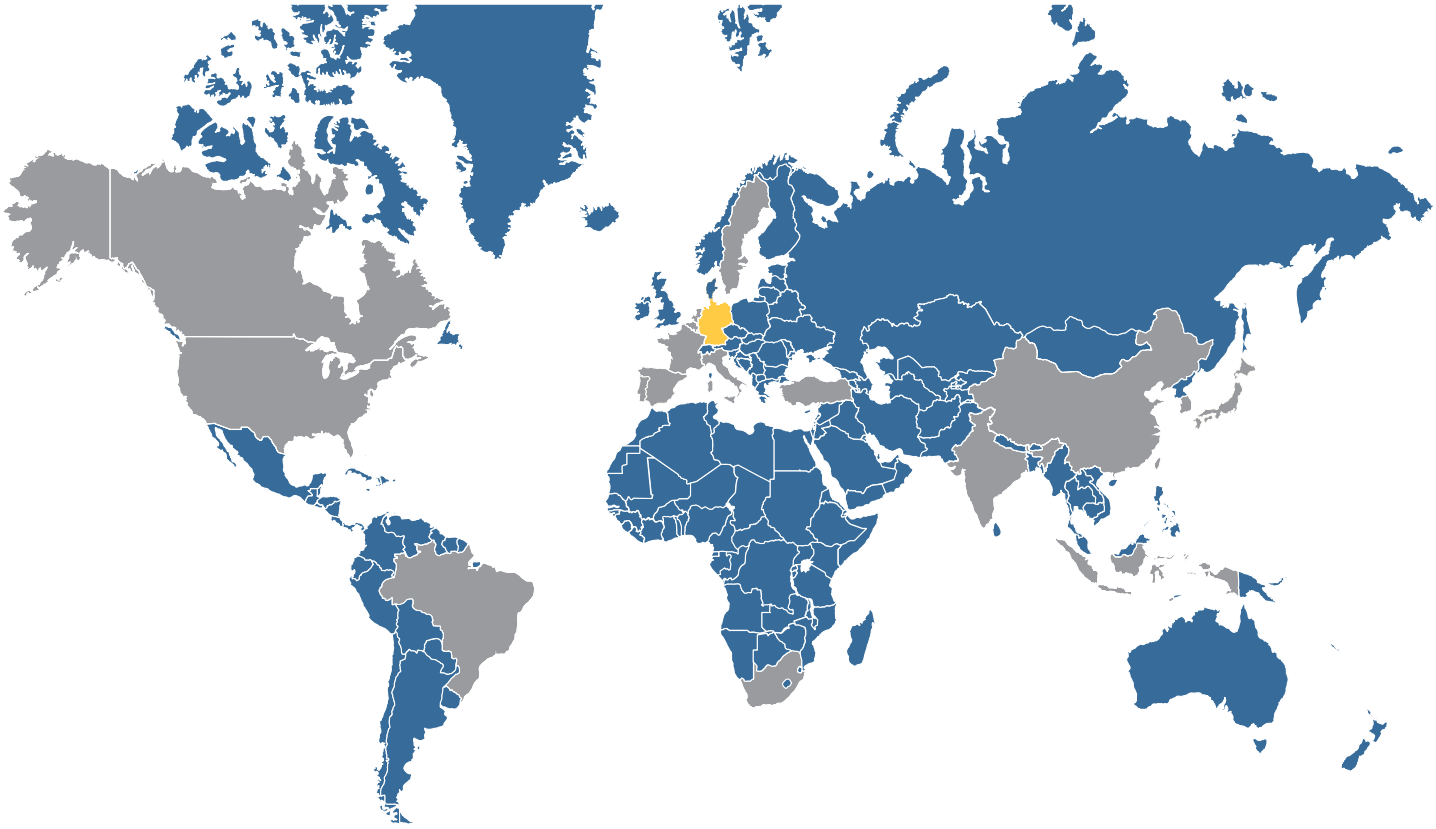
Ex-protection

Food shaping



Further brochures available:





Our Locations

Head Quarter and Manufacturing

Local Sales Partners

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