Design and layout of bearing assembly: housing

Bushes

KS PERMAGLIDE® bushes are pressed into the housing and fixed radially and axially. No further measures are required.

For the housing bore, we recommend:

- Roughness depth R_z 10
- Chamfer f_G 20° ±5°
  This chamfer facilitates force-fitting.

Bore diameter d_G	Chamfer width f_G
$d_G \leq 30$	0.8 ± 0.3
$30 < d_G \leq 80$	1.2 ± 0.4
$80 < d_G \leq 180$	1.8 ± 0.8
$180 < d_G$	2.5 ± 1.0

Tab. 1: Chamfer width fG in the housing bore for bushes (Fig. 1)

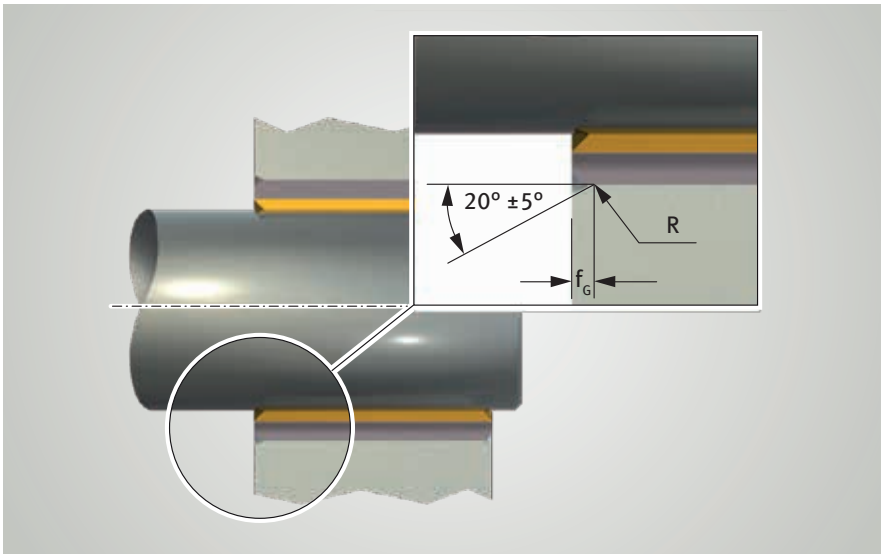

Fig. 1: Chamfer in housing for PAP bush

Flange bushes

In the case of flange bushes, the radius on the transition from the radial to the axial part must be borne in mind.

- Flange bushes must not be in contact in the radius area.
- The flange must have sufficient support when under axial loads.

Bore diameter d_G	Chamfer width f_G
$d_G \leq 10$	1.2 ± 0.2
$10 < d_G$	1.7 ± 0.2

Tab. 2: Chamfer width fG in the housing bore for flange bushes (Fig. 2)

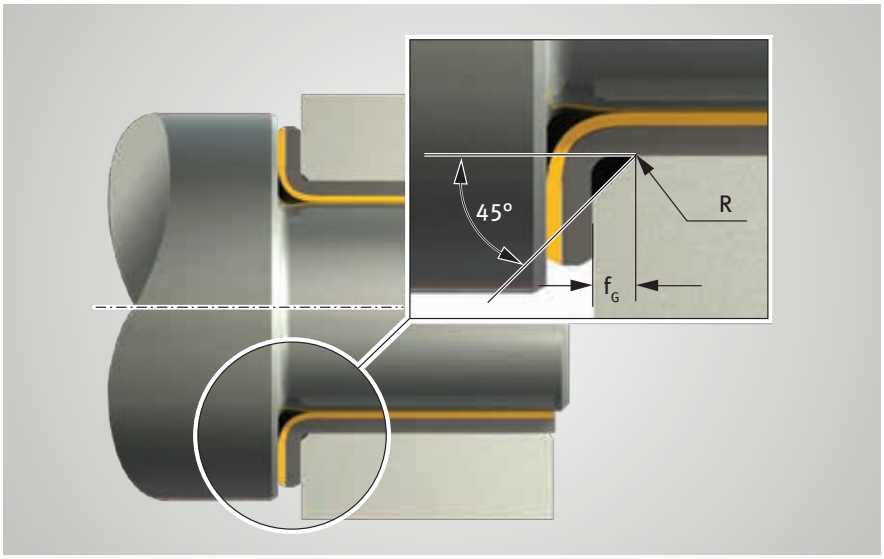

Fig. 2: Chamfer in housing for PAF bush

Attaching the thrust washers
Recommendation:
- A concentric fit is ensured by the recess in the housing (Fig. 3)
  - See dimension tables for the diameter and depth of free cuts
- Unwanted rotation with the shaft is prevented by means of a register pin or countersunk screw (Figs. 3 and 4)
  - The screw head or register pin must be recessed by min. 0.25 mm from the sliding surface (Figs. 3 and 4)
  - See dimension tables for size and position of bores.
- If no recess can be made in the housing:
  - Secure with several register pins or screws (Fig. 4)
  - Use other methods for fastening.

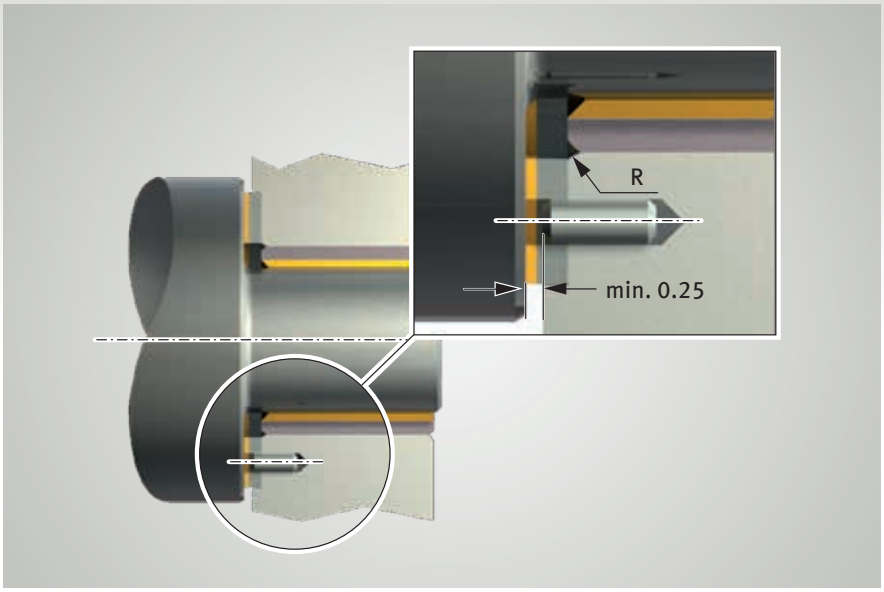

Fig. 3: Attaching a PAW thrust washer in a recess in the housing

Rotation prevention is not always required. In various cases, the static friction between the back of the washer and the housing is sufficient.

Other fastening methods
If the press fit of the bush is insufficient or pinning or screwing is uneconomical, low-cost fastening methods can be used as an alternative:
- Laser welding
- Soft-soldering
- Gluing; please see the note below

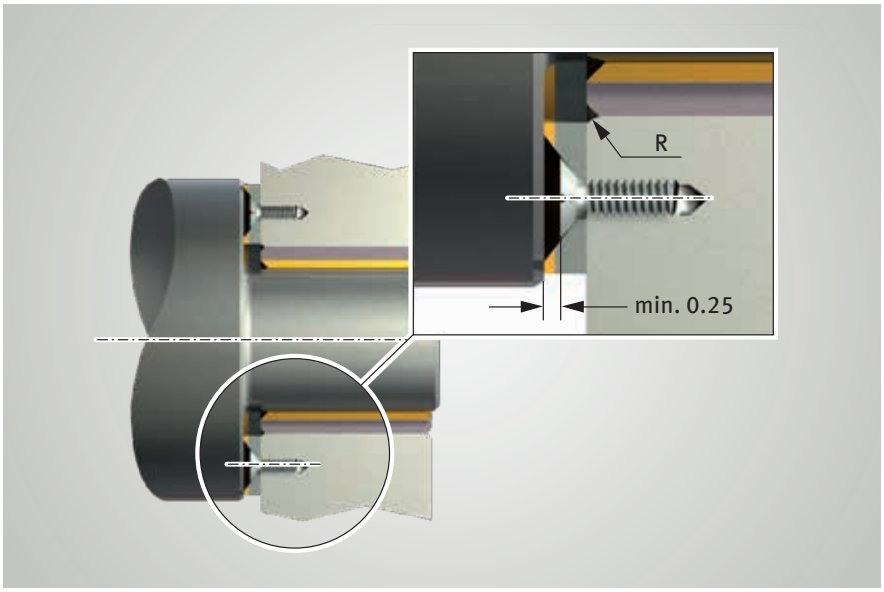

Fig. 4: Attaching a PAW thrust washer without a recess in the housing

Attention:
The temperature of the running-in or sliding layer must not exceed +280°C for the KS PERMAGLIDE® P1 and +140°C for the KS PERMAGLIDE® P2. Adhesive must not reach the running-in or sliding layer. Recommendation: Obtain information on gluing from adhesive manufacturers, particularly concerning the choice of adhesive, preparing the surface, setting, strength, temperature range and strain characteristics.

* On request