

## Ball Pillow Block Bearings and Ball Flange Bearings - Technical Explanations

**Bearings:** The nominal inside diameters correspond with the standard dimensions of the 6200 series bearings. The outer ring is spherical and allows an angular misalignment of  $\pm 2^\circ$ .

**Housings:** The one-part housings are made from plastic, massive grey cast iron, stainless steel or zinc. The two-part ones are drawn from steel sheet or stainless steel sheet. The grey cast iron housings are that rigidly built, that the full load capacity of the bearing can be used.

**Materials:** Only high-quality materials are used for housing bearing, housing and all other components.

**Bearing:** Bearing steel 100Cr6

**Grey cast housing:** GGL20 DIN 1691

**Sheet-metal housing:** St10-03 DIN 1623 or stainless steel.

**Seal:** synth. nitrile rubber (NBR)

**Sealing:** All housing bearings are supplied with an efficient, heat and oil resistant rubber seal. The constructive design of the seal varies with the different bearing types.

**Maintenance:** Due to the perfect sealing, all bearing types are usually maintenance free. In special application they can, however be re-lubricated. See lubrication.

**Temperatures:** Bearings and housings made from cast or steel sheet can be used in continuous operation from  $-30^\circ\text{C}$  to  $+100^\circ\text{C}$ . Plastic housings:  $-20^\circ\text{C}$  to  $+90^\circ\text{C}$ . Bearings for higher temperatures on request.

**Mounting on the shaft:** The housing bearings are supplied with longer inner ring and adjusting screw. The fixation on the shaft depends on the effective axial shifting force of the inner ring. The stability mainly depends on the quality and the tolerance zone of the shaft. To facilitate the assembly, the inner rings are - other than the norm - produced with a plus tolerance.

### Tolerances of inner ring from roller bearing:

Nominal $\varnothing$ of Bore $d^{H7}$ mm	Tol. of Bore $d^{H7}$ $\mu\text{m}$	Tol. Inner Ring Width $B_i$ $\mu\text{m}$
> 10 - 18	+18 0	0 -120
> 18 - 30	+21 0	0 -120
> 30 - 50	+25 0	0 -120
> 50 - 80	+30 0	0 -120

### Tolerances of outer ring from roller bearing:

Nominal $\varnothing$ of Outer Ring $D$ mm	Tol. of Outer Ring $D$ mm
> 30 - 50	0 -11
> 50 - 80	0 -13
> 80 - 120	0 -15
> 120 - 150	0 -18

### Tolerances of Cast Housings according to ISO 8062:

Nominal $\varnothing$ of Bore $d$ mm	Tolerances of the connecting dimensions		
	UCP $h$ mm	UCF $i$ mm	UCFL, UCFA $e$ mm
12 - 50	$\pm 0,15$	$\pm 0,5$	$\pm 0,7$

**Lubrication:** The ball bearing inserts of the housing bearings are filled with a high-grade lithium-soap grease. Stainless steel bearing inserts are filled with grease FM 222 for food processing machinery, with registration FDA, CIFA, KPF2K-20, NSF H1. In most mounting situations this lubricant-filling guarantees maintenance-free operation. In especially robust operating conditions with higher loads, speeds, temperatures, dirt etc. relubricating at shorter intervals may be required, depending on the application. For relubrication we recommend using lithium-based grease (Stainless bearings: Food-grade grease FM 222). Under no circumstances use soda saponification.

**Load bearing rating:** The radial static and dynamic load bearing ratings are stated at the individual bearings (axial = 20% of radial).

**Speed and load:** The theoretical maximum speeds of the ball bearing inserts are pretty high. But the permissible speed of a bearing housing is directly connected to the load and the play at bearing bore and shaft diameter.