

End Bearings

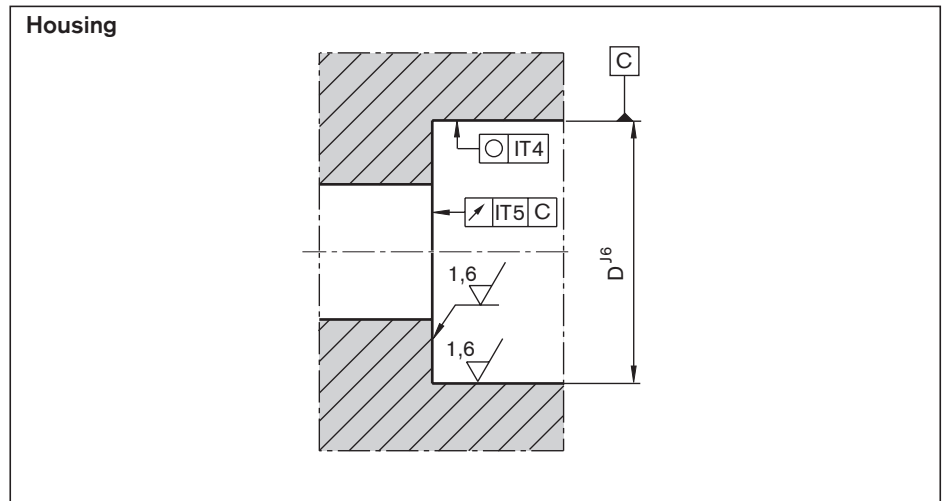
Design notes, installation

Bearing design

For customer-machined screw ends, please consider the design notes given for screw ends and housings.

For Rexroth screw end designs, see "End Machining Details."

Rexroth delivers complete drive systems, including the end bearings. Calculations are performed with the formulas used in the antifriction bearing industry.



Mounting

Angular-contact thrust ball bearings and deep-groove ball bearings

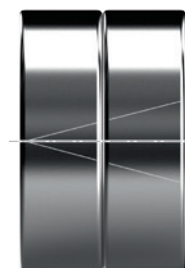
When mounting the angular-contact thrust ball bearings LGF and LGN, ensure that the mounting forces are exerted only on the bearing rings. Never apply mounting forces via the anti-friction bearing elements or the seal rings! The two sections of the inner raceway may not be separated during assembly or disassembly for any reason!

Tighten the mounting screws for screw-down or flange-mounted bearings in cross-wise sequence. The mounting screws may

be subjected only to tension amounting to a maximum of 70% of their yielding point.

The screw-down (LGF) bearings have a groove on the cylindrical surface of the outer raceway for disassembly. The individual bearings of the bearing pair series LGF-C... and LGN-C... are marked on the cylindrical surfaces of the outer raceways (see Figure). The markings reveal the bearing sequence. The sealing rings should face outwards after proper mounting.

Outer raceway markings for paired bearings



Slotted nut

The bearings are preloaded by tightening the nuts.

In order to prevent settling phenomena, we recommend first tightening the slotted nut by twice the value of the tightening torque M_A and then easing the load. Only then should the slotted nut be retightened to the specified tightening torque M_A .

The two set screws are then alternately tightened using a hexagon socket wrench. The components are disassembled in the reverse order, i.e. the set screws have to be removed before the slotted nut.

The slotted nuts can be used several times when properly assembled and disassembled by competent personnel. The inner

raceways of the bearings are dimensioned in such a way as to achieve a defined bearing preload sufficient for most applications when the slotted nut is tightened (M_A in accordance with Dimension Table).

Lubrication of the end bearings

Bearings for Planetary Screw Assemblies are lubricated with grease for a lifetime of reliable service. It should be noted, however, that grease lubrication does not facilitate the dissipation of heat in the bearings. The bearing temperature should therefore not exceed 50 °C, particularly in machine tool applications. At higher temperatures circulating oil lubrication must be set up. Angular-contact thrust ball bearings of series LGF, LGN are lifetime-lubricated with KE2P-35 grease as per DIN 51825. For regreasing, the quantities stated in the table below can be applied via the lube ports provided on the bearings. Where there are pairs of bearings, please note that each bearing must be individually lubricated via the lube port. Each bearing must be lubricated with half the value shown in the table. The maximum interval can be assumed to be 350 million revolutions, in which case the larger of the two quantities should be used. As a rule, the initial grease quantity will therefore last for the entire service life of a Planetary Screw Assembly.

Relubrication quantities for angular-contact thrust ball bearings							
Abbreviation		Quantity (cm ³)		Abbreviation		Quantity (cm ³)	
			¹⁾		²⁾		¹⁾
LGN-B-1545	LGF-B-1560	0.49	0.38				
				LGN-C-2052	LGF-C-2068	1.74	1.09
				LGN-C-3062	LGF-C-3080	2.17	1.30
				LGN-C-3572	LGF-C-3590	3.48	1.96

1) Shortened lubricating interval max. 10 M revolutions

2) Where there are pairs of bearings, lubricate each bearing via the lube port. Lubricate each bearing with half the value shown in the table.