

Shaft Considerations

It is essential that the shaft on to which the bearing is to be mounted has been produced to the correct size and tolerance for the operating conditions. If replacing a bearing in an existing system, the shaft must be checked to establish if any wear or damage has taken place. The table below may be followed for both the manufacture of new shafts and the inspection of existing shafts.

Tolerance units are 0.001 mm / 0.001 inches. All tolerances are +0.000					
Shaft Dia.	dn<50000 & C/P>10	50000<dn<150000 & C/P>10	50000<dn<150000 & C/P<10	dn>150000	Cylindricity of Shaft
	h9	h8	h7	h6	IT6
0 - 50 mm 0 - 2"	-62 -2.5	-39 -1.5	-25 -1	-16 -0.6	-16 -0.6
50 - 80 mm 2 - 3"	-74 -3	-46 -1.8	-30 -1.2	-19 -0.7	-19 -0.7
80 - 120 mm 3 - 5"	-87 -3.5	-54 -2.1	-35 -1.4	-22 -0.9	-22 -0.9
120 - 180 mm 5 - 7"	-100 -3.9	-63 -2.5	-40 -1.6	-25 -1	-25 -1
180 - 250 mm 7 - 10"	-115 -4.5	-72 -2.8	-46 -1.8	-29 -1.2	-29 -1.2
250 - 315 mm 10 - 12½"	-130 -5.1	-81 -3.2	-52 -2	-32 -1.3	-32 -1.3
315 - 400 mm 12½ - 15½"	-140 -5.5	-89 -3.5	-57 -2.2	-36 -1.4	-36 -1.4
400 - 500 mm 15½ - 19½"	-155 -6.1	-97 -3.8	-63 -2.5	-40 -1.6	-40 -1.6
500 - 600 mm 19½ - 24"	-175 -6.9	-110 -4.3	-70 -2.8	-44 -1.7	-44 -1.7

Recess Mounting

In applications where the resultant axial load exceeds 50% of the Ca rating for the bearing, the shaft design should include either a recess for bearing seating or grooves to accommodate retaining rings. Such an arrangement should also be considered if the unit is subjected to shock loads, fluctuations in temperature over 100°C or the shaft is vertical.

The dimensions for producing an appropriate recess or for governing the position and size of the retaining rings if used are derived from the following table.

Journal Diameter d	Shoulder Diameter 'D' mm	Fillet Radii	Shoulder Height B	Recess Width R	Squareness of Abutment Faces
40 - 90mm 1.5" - 3.5"	d + 5mm	1.2mm	2.5mm	C + 0.1mm C + 0.3mm	0.1mm
Over 90 - 150mm Over 3.5" - 6"	d + 10mm	2.0mm	5.0mm	C + 0.15mm C + 0.40mm	0.1mm
Over 155mm Over 6"	d + 10mm	2.3mm	5.0mm	C + 0.2mm C + 0.5mm	0.1mm

N.B. Width of recesses for standard bearings may be different from that used for existing products. Please consult SRB Technical Services department for bearings suitable for other recess sizes.

