


# SPYRAFLO BALL BEARING SHAFT FITTING GUIDE



## RECOMMENDED FITS

The following table shows generally recommended shaft sizes and tolerances for common applications. This guide assumes that the bearings are ABEC 3. If the application is a low or high operating temperature then materials and thermal expansion may need additional consideration. Each application is unique and many variables are beyond the scope of this guide.

		Size	ID Tolerance	Size	ID Tolerance
All SBS, PBS, FM & PF self aligning ball bearings		3/16, 1/4, 5/16, 3/8"	+0 / -.0002 in.	4,5,6,8 and 10mm	+0 / -.007 mm
ROTATING INNER RING		INNER RING		INNER RING	
APPLICATION	DESIRED FIT TYPE	DESIRED FIT (inches)	USE SHAFT DIAMETER	DESIRED FIT (millimeters)	USE SHAFT DIAMETER
Preloaded assemblies	Bonding (Loctite w/ smooth surfaces, not roughened surfaces for adhesive)	.0004L to .0008L	d - .0006 d - .0008	.010L to .020L	d - .015 d - .020
Low speed, or spring preload.	Loose	.0001L to .0005L	d - .0003 d - .0005	.003L to .013L	d - .007 d - .012
Medium speed	Transition	.0002L to .0002T	d - .0000 d - .0002	.005L to .005T	d - .000 d - .005
High speed	Light press*	.0000 to .0004T	d +.0002 d - .0000	.000 to .010T	d +.005 d - .000
High speed, high load	Tight press*	.0002T to .0006T	d - .0002 d - .0004	.005T to .015T	d - .005 d - .010
STATIONARY INNER RING		INNER RING		INNER RING	
Most applications	Line - line to loose	.0000 to .0004L	d - .0002 d - .0004	.0000 to .010L	d - .005 d - .010

L = Loose fit  T = Tight fit  d = Bearing bore from table	*Notes for press fits:			SBS, FM & PF Series Bearings    Copyright © 2013, Spyraflo All Rights Reserved
	1. Interference factor may affect final radial play	2. Allow for relative thermal expansion	3. MC5 radial play bearing (.0005 to .0008 in) recommended for tight press	
	NOTE: Always support the inner race when using any degree of press fit! Permanent damage will result if the press load is transferred through the balls.			