

2306

Self-aligning ball bearing

Self-aligning ball bearings have two rows of balls, a common sphered raceway in the outer ring and two deep uninterrupted raceway grooves in the inner ring. They are insensitive to angular misalignment of the shaft relative to the housing, which can be caused, for example, by shaft deflection.

- Accommodate static and dynamic misalignment
- Excellent high-speed performance
- Excellent light load performance
- Low friction



Overview

Dimensions

Bore diameter	1.181 in
Outside diameter	2.835 in
Width	1.063 in

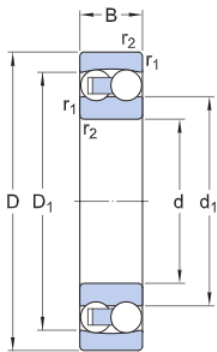
Properties

Bore type	Cylindrical
Cage	Sheet metal
Coating	Without
Locating feature, bearing outer ring	None
Lubricant	None
Material, bearing	Bearing steel
Radial internal clearance	CN
Relubrication feature	Without
Retaining feature, inner ring	None
Sealing	Without
Tolerance class	Normal

Technical Specification

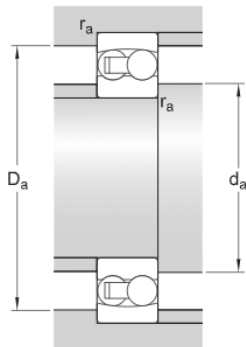
Bore type

Cylindrical



Dimensions

d	1.181 in	Bore diameter
D	2.835 in	Outside diameter
B	1.063 in	Width
d_1	≈ 1.65 in	Shoulder diameter inner ring
D_1	≈ 2.354 in	Shoulder diameter outer ring
$r_{1,2}$	min. 0.043 in	Chamfer dimension



Abutment dimensions

d_a	min. 1.457 in	Abutment diameter shaft
D_a	max. 2.559 in	Abutment diameter housing
r_a	max. 0.043 in	Fillet radius

Calculation data

Basic dynamic load rating	C	7 014 lbf
Basic static load rating	C_0	1 978 lbf
Fatigue load limit	P_u	101 lbf
Reference speed		18 000 r/min

Limiting speed		13 000 r/min
Permissible angular misalignment	α	3 °
Calculation factor	k_r	0.05
Limiting value	e	0.44
Calculation factor	Y_0	1.4
Calculation factor	Y_1	1.4
Calculation factor	Y_2	2.2

Mass

Mass bearing		1.102 lb
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