



# 7214 BEGAF

## Single row angular contact ball bearing

These single row angular contact ball bearings can accommodate radial and axial loads acting simultaneously, where the axial load acts in one direction only. They can operate at high speeds and, depending on the variant, even very high speeds. They are more suitable than deep groove ball bearings for supporting large axial forces acting in one direction.

- High-speed capability
- Accommodate relatively high radial loads and large unilateral axial loads

## Overview

### Dimensions

Bore diameter	2.756 in
Outside diameter	4.921 in
Width	0.945 in

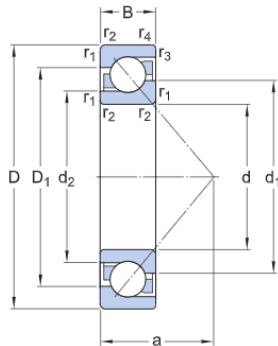
### Performance

Basic dynamic load rating	15 197 lbf
Basic static load rating	12 589 lbf
Limiting speed	6 000 r/min
Reference speed	6 300 r/min

### Properties

Axial internal clearance	Not applicable
Coating	Without
Contact type	Normal contact (two-point contact)
Locating feature, bearing outer ring	None
Lubricant	None
Matched arrangement	No
Material, bearing	Bearing steel
Number of rows	1
Relubrication feature	Without
Ring type	One-piece inner and outer rings
Sealing	Without
Universal matching bearing	Yes

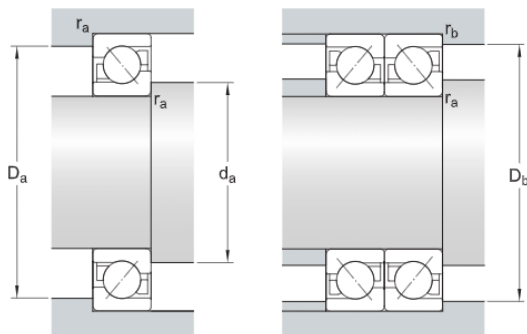
# Technical Specification



## Dimensions

d	2.756 in	Bore diameter
D	4.921 in	Outside diameter
B	0.945 in	Width
d <sub>1</sub>	≈ 3.602 in	Shoulder diameter of inner ring (large side face)
d <sub>2</sub>	≈ 3.159 in	Shoulder diameter of inner ring (small side face)
D <sub>1</sub>	≈ 4.124 in	Shoulder diameter of outer ring (large side face)
a	2.087 in	Distance side face to pressure point
r <sub>1,2</sub>	min. 0.059 in	Chamfer dimension
r <sub>3,4</sub>	min. 0.039 in	Chamfer dimension

## Abutment dimensions



d <sub>a</sub>	min. 3.11 in	Diameter of shaft abutment
D <sub>a</sub>	max. 4.567 in	Abutment diameter housing
D <sub>b</sub>	max. 4.685 in	Diameter of housing abutment
r <sub>a</sub>	max. 0.059 in	Radius of fillet
r <sub>b</sub>	max. 0.039 in	Radius of fillet

## Calculation data

Basic dynamic load rating	C	15 197 lbf
Basic static load rating	C <sub>0</sub>	12 589 lbf
Fatigue load limit	P <sub>u</sub>	531 lbf
Reference speed		6 300 r/min

Limiting speed		6 000 r/min
Minimum axial load factor	A	0.0529
Minimum radial load factor	$k_r$	0.095
Limiting value	e	1.14

#### Single bearing or bearing pair arranged in tandem

Calculation factor (single, tandem)	X	0.35
Calculation factor (single, tandem)	$Y_0$	0.26
Calculation factor (single, tandem)	$Y_2$	0.57

#### Bearing pair arranged back-to-back or face-to-face

Calculation factor (back-to-back, face-to-face)	X	0.57
Calculation factor (back-to-back, face-to-face)	$Y_0$	0.52
Calculation factor (back-to-back, face-to-face)	$Y_1$	0.55
Calculation factor (back-to-back, face-to-face)	$Y_2$	0.93

#### Mass

Mass	2.425 lb
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