

# 7228 BMSingle row angular contact ball bearing



## 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	140 mm
Outside diameter	250 mm
Width	42 mm
Contact angle	40 °

## Performance

Basic dynamic load rating	199 kN
Basic static load rating	212 kN
Reference speed	3 000 r/min
Limiting speed	3 600 r/min

## Properties

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

Relubrication  
feature

Without

# Technical Specification

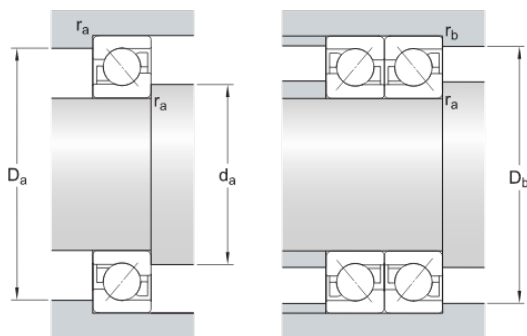


## Dimensions

d	140 mm	Bore diameter
D	250 mm	Outside diameter
B	42 mm	Width
$d_1$	$\approx 183.3$ mm	Shoulder diameter of inner ring (large side face)
$d_2$	$\approx 163.6$ mm	Shoulder diameter of inner ring (small side face)
$D_1$	$\approx 209.55$ mm	Shoulder diameter of outer ring (large side face)
a	103 mm	Distance side face to pressure point
$r_{1,2}$	min. 3 mm	Chamfer dimension
$r_{3,4}$	min. 1.1 mm	Chamfer dimension

## Abutment dimensions

$d_a$	min. 154 mm	Diameter of shaft abutment
$D_a$	max. 236 mm	Abutment diameter housing
$D_b$	max. 243 mm	Diameter of housing abutment
$r_a$	max. 2.5 mm	Radius of fillet
$r_b$	max. 1 mm	Radius of fillet



## Calculation data

Basic dynamic load rating	C	199 kN
Basic static load rating	$C_0$	212 kN
Fatigue load limit	$P_u$	6.4 kN
Reference speed		3 000 r/min

Limiting speed		3 600 r/min
Minimum axial load factor	A	0.763
Minimum radial load factor	$k_r$	0.08
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	8.85 kg
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