

30230

Single row tapered roller bearing

Single row tapered roller bearings are designed to accommodate combined radial and axial loads and provide low friction during operation. The inner ring, with rollers and cage, can be mounted separately from the outer ring. These separable and interchangeable components facilitate mounting, dismounting and maintenance. By mounting one single row tapered roller bearing against another and applying a preload, a rigid bearing application can be achieved.

- High radial and axial load carrying capacity
- Accommodate axial loads in one direction
- Low friction and long service life
- Separable and interchangeable components



Overview

Dimensions

Bore diameter	150 mm
Outside diameter	270 mm
Width, total	49 mm
Width, inner ring	45 mm
Width, outer ring	38 mm
Contact angle	16.172 °

Performance

Basic dynamic load rating	455 kN
Basic static load rating	560 kN
Reference speed	1 800 r/min
Limiting speed	2 400 r/min

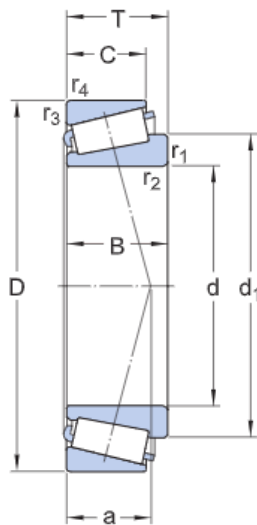
Properties

Bearing part	Complete bearing
Number of rows	1
Locating feature, bearing outer ring	None
Bore type	Cylindrical
Cage	Sheet metal
Arrangement of contact angle (double-row bearing)	Not applicable
Matched arrangement	No
Coating	Without
Sealing	Without
Lubricant	None
Relubrication feature	Without

Technical Specification

Dimension series

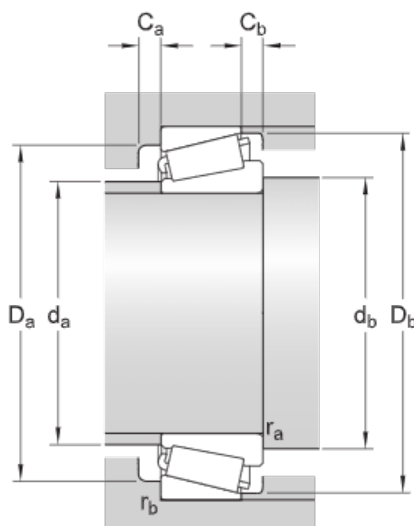
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Dimensions

d	150 mm	Bore diameter
D	270 mm	Outside diameter
T	49 mm	Total width
d ₁	≈ 200.13 mm	Shoulder diameter of inner ring
B	45 mm	Width of inner ring
C	38 mm	Width of outer ring
r _{1,2}	min. 4 mm	Chamfer dimension of inner ring
r _{3,4}	min. 3 mm	Chamfer dimension of outer ring
a	50.383 mm	Distance side face to pressure point

Abutment dimensions



d _a	max. 176 mm	Diameter of shaft abutment
d _b	min. 167 mm	Diameter of shaft abutment
D _e	min. 234 mm	Diameter of housing abutment
D _i	max. 256 mm	Diameter of housing abutment
D _t	min. 250 mm	Diameter of housing abutment
C _e	min. 9 mm	Minimum width of space required in housing on large side face
C _t	min. 11 mm	Minimum width of space required in housing on small side face
r _a	max. 4 mm	Radius of shaft fillet
r _b	max. 3 mm	Radius of housing fillet

mm

Calculation data

Basic dynamic load rating	C	455 kN
Basic static load rating	C_0	560 kN
Fatigue load limit	P_u	57 kN
Reference speed		1 800 r/min
Limiting speed		2 400 r/min
Limiting value	e	0.43
Calculation factor	Y	1.4
Calculation factor	Y_0	0.8

Mass

Mass	10.6 kg
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