



Image may differ from product. See technical specification for details.

309-ZNR

Deep groove ball bearing with filling slots and integral sealing

Single row deep groove ball bearings with filling slots, a snap ring, and shields on one or both sides, accommodate more balls than standard deep groove ball bearings. They are of a simple, yet versatile, design and are robust in operation, requiring little maintenance. They can accommodate radial and axial loads in both directions. They have a higher radial load carrying capacity than the corresponding bearings without filling slots but have a limited axial load carrying capacity due to the filling slots. The snap ring, fitted in an annular groove in the outer ring, facilitates axial location of the bearings within their housings. The integral sealing can significantly prolong bearing service life because it keeps lubricant in the bearings and contaminants out.

- Snap ring facilitates axial location within housing
- Integral sealing prolongs bearing service life
- Simple, versatile and robust design
- Accommodate higher radial loads than corresponding bearings without filling slots, with limited axial loads in both directions
- Require little maintenance

Overview

Dimensions

Bore diameter	45 mm
Outside diameter	100 mm
Width	25 mm

Performance

Basic dynamic load rating	55 kN
Basic static load rating	44 kN
Reference speed	13 000 r/min
Limiting speed	7 500 r/min

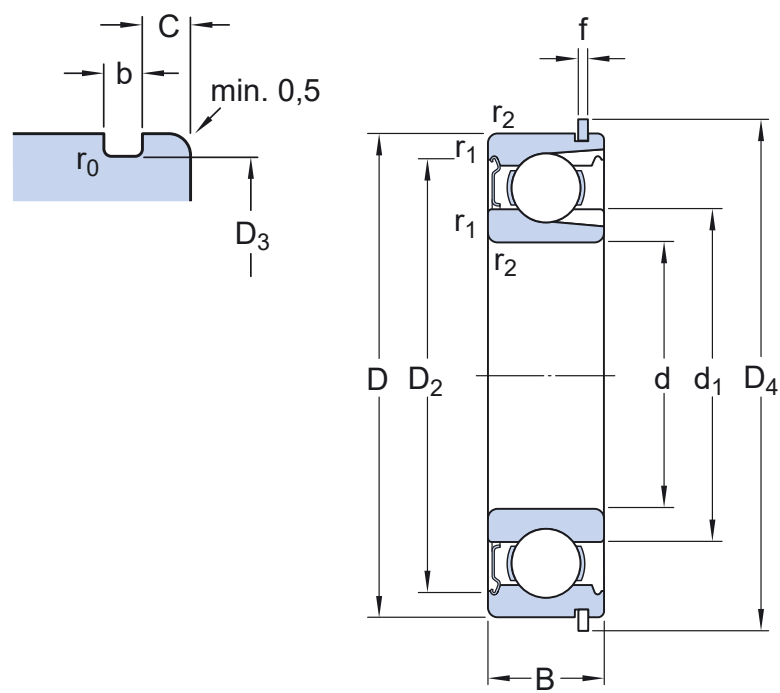
Properties

Filling slots	With
Number of rows	1
Locating feature, bearing outer ring	Snap ring (fitted)
Bore type	Cylindrical
Cage	Sheet metal
Matched arrangement	No
Radial internal clearance	CN
Material, bearing	Bearing steel
Coating	Without
Sealing	Shield on one side
Sealing type	Non-contact
Lubricant	None
Relubrication feature	Without

Logistics

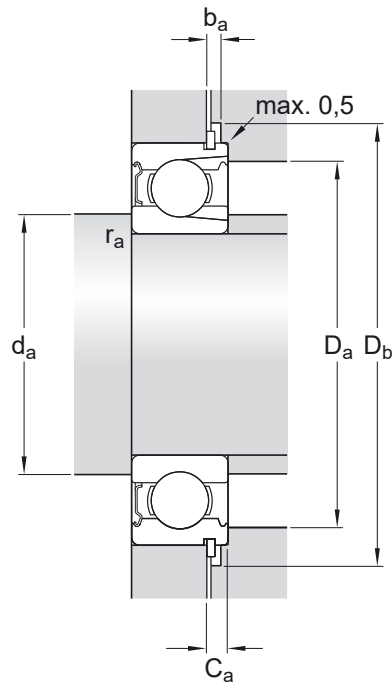
Product net weight	0.915 kg
eClass code	23-05-08-01
UNSPSC code	31171504

Technical specification



Dimensions

d	45 mm	Bore diameter
D	100 mm	Outside diameter
B	25 mm	Width
d ₁	≈ 62.18 mm	Shoulder diameter
D ₂	≈ 86.7 mm	Recess diameter
D ₃	96.8 mm	Diameter of snap ring groove
D ₄	106.5 mm	Outside diameter of snap ring
b	2.7 mm	Width of snap ring groove
C	3.28 mm	Distance from outer ring side face to snap ring groove
f	2.46 mm	Width of snap ring
r ₀	max. 0.6 mm	Bottom radius of snap ring groove
r _{1,2}	min. 1.5 mm	Chamfer dimension



Abutment dimensions

d_a	min. 54 mm	Diameter of shaft abutment
d_a	max. 62 mm	Diameter of shaft abutment
D_a	max. 91 mm	Diameter of housing abutment
D_b	min. 108 mm	Diameter of snap ring recess in the housing
b_a	min. 3 mm	Width of snap ring recess in the housing
C_a	max. 5.74 mm	Distance from outer ring side face to snap ring back face
r_a	max. 1.5 mm	Radius of shaft or housing fillet

Calculation data

Basic dynamic load rating	C	55 kN
Basic static load rating	C_0	44 kN
Fatigue load limit	P_u	1.86 kN
Reference speed		13 000 r/min
Limiting speed		7 500 r/min
Minimum load factor	k_r	0.05

Included products

Snap ring	SP 100
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Tolerances and clearances

GENERAL BEARING SPECIFICATIONS

- Tolerances: Normal (metric), P6, P5, Normal (inch)
- Radial internal clearance: Classes C2 to C5

BEARING INTERFACES

- Seat tolerances for standard conditions
- Tolerances and resultant fits

More Information

 Product details	 Engineering information	 Tools
Single row deep groove ball bearings	Principles of rolling bearing selection	SKF Product select
Stainless steel deep groove ball bearings	General bearing knowledge	SimPro Quick
Single row deep groove ball bearings with filling slots	Bearing selection process	Bearing Frequency Calculator
Double row deep groove ball bearings	Bearing interfaces	LubeSelect for SKF greases
General bearing specifications	Seat tolerances for standard conditions	Heater selection tool
Loads	Selecting internal clearance	
Temperature limits	Lubrication	
Permissible speed	Sealing, mounting and dismounting	
Designation system	Bearing failure and how to prevent it	

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