



309 NR Deep groove ball bearing

with filling slots and snap ring

Deep groove ball bearing with filling slots and snap ring

Single row deep groove ball bearings with filling slots and a snap ring 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.

- Snap ring facilitates axial location within housing
- 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) mm
Bore type	Cylindrical
Cage	Sheet metal
Matched arrangement	No
Radial internal clearance	CN
Tolerance class	Normal
Material, bearing	Bearing steel
Coating	Without

Sealing	Without
Lubricant	None
Relubrication feature	Without

Technical Specification

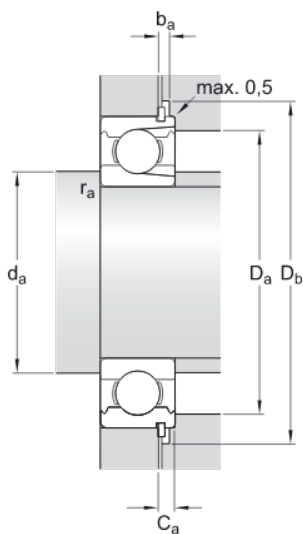


Dimensions

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. 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

Mass

Mass bearing	0.88 kg
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Included products

Snap ring	SP 100
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Tolerance class

Dimensional tolerances	Normal
Radial run-out	Normal

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