

# 638/4-2Z Deep groove ball bearing with seals or shields



## Deep groove ball bearing with seals or shields

Single row deep groove ball bearings with seals or shields are particularly versatile, have low friction and are optimized for low noise and low vibration, which enables high rotational speeds. They accommodate radial and axial loads in both directions, are easy to mount, and require less maintenance than many other bearing types. The integral sealing can significantly prolong bearing service life because it keeps lubricant in the bearings and contaminants out.

- Integral sealing prolongs bearing service life
- Simple, versatile and robust design
- Low friction and high-speed capability
- Accommodate radial and axial loads in both directions
- Require little maintenance

## Overview

### Dimensions

Bore diameter	4 mm
Outside diameter	9 mm
Width	4 mm

## Performance

Basic dynamic load rating	0.423 kN
Basic static load rating	0.116 kN
Reference speed	140 000 r/min
Limiting speed	70 000 r/min

## Properties

Filling slots	Without
Number of rows	1
Locating feature, bearing outer ring	None
Bore type	Cylindrical
Matched arrangement	No
Radial internal clearance	CN
Tolerance class	Normal
Material, bearing	Bearing steel
Coating	Without
Sealing	Shield on both sides
Sealing type	Non-contact

Lubricant

Grease

Relubrication feature

Without

# Technical Specification



## Dimensions

d	4 mm	Bore diameter
D	9 mm	Outside diameter
B	4 mm	Width
d <sub>1</sub>	≈ 5.2 mm	Shoulder diameter
D <sub>2</sub>	≈ 8.1 mm	Recess diameter
r <sub>1,2</sub>	min. 0.1 mm	Chamfer dimension

## Abutment dimensions

d <sub>a</sub>	min. 4.6 mm	Diameter of shaft abutment
d <sub>a</sub>	max. 5.1 mm	Diameter of shaft abutment
D <sub>a</sub>	max. 8.4 mm	Diameter of housing abutment
r <sub>a</sub>	max. 0.1 mm	Radius of shaft or housing fillet



## Calculation data

Basic dynamic load rating	C	0.423 kN
Basic static load rating	C <sub>0</sub>	0.116 kN
Fatigue load limit	P <sub>u</sub>	0.005 kN
Reference speed		140 000 r/min
Limiting speed		70 000 r/min
Minimum load factor	k <sub>r</sub>	0.015
Calculation factor	f <sub>0</sub>	6.5

## Mass

Mass bearing	0.00098 kg
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## Tolerance class

Dimensional tolerances	Normal
Radial run-out	Normal

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