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

609-Z

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	9 mm
Outside diameter	24 mm
Width	7 mm

Performance

Basic dynamic load rating	3.9 kN
Basic static load rating	1.66 kN
Reference speed	70 000 r/min
Limiting speed	43 000 r/min
SKF performance class	SKF Explorer

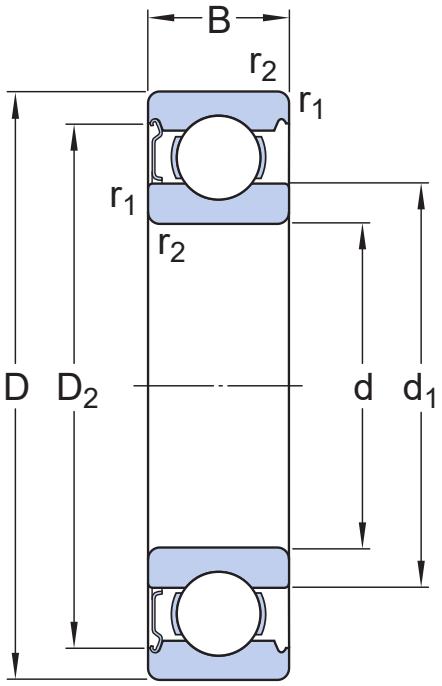
Properties

Filling slots	Without
Number of rows	1
Locating feature, bearing outer ring	None
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

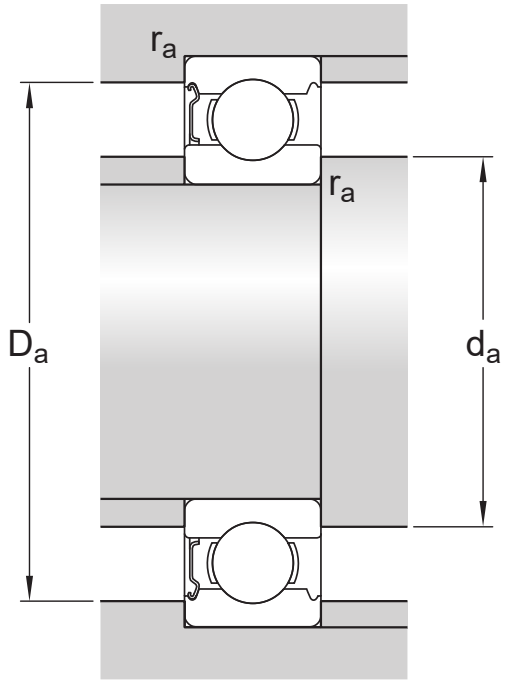
Product net weight	0.0139 kg
eClass code	23-05-08-01
UNSPSC code	31171504

Technical specification



Dimensions

d	9 mm	Bore diameter
$t_{\Delta dmp}$	-0.007 – 0 mm	Deviation limits of mid-range bore diameter
D	24 mm	Outside diameter
$t_{\Delta Dmp}$	-0.008 – 0 mm	Deviation limits of mid-range outside diameter
B	7 mm	Width
$t_{\Delta Bs}$	-0.06 – 0 mm	Deviation limits of ring width
d_1	≈ 14.45 mm	Shoulder diameter
D_2	≈ 21.2 mm	Recess diameter
$r_{1,2}$	min. 0.3 mm	Chamfer dimension
	P6 and tighter width tolerance	ISO tolerance class for dimensions



Abutment dimensions

d_a	min. 11 mm	Diameter of shaft abutment
d_a	max. 14.3 mm	Diameter of shaft abutment
D_a	max. 22 mm	Diameter of housing abutment
r_a	max. 0.3 mm	Radius of shaft or housing fillet

Calculation data

SKF performance class		SKF Explorer
Basic dynamic load rating	C	3.9 kN
Basic static load rating	C_0	1.66 kN
Fatigue load limit	P_u	0.071 kN
Reference speed		70 000 r/min
Limiting speed		43 000 r/min
Minimum load factor	k_r	0.025
Calculation factor	f_0	13

Tolerances of run-out

Range of section height at inner ring of assembled bearing	t_{Kia}	4 µm
Maximum run-out of inner ring side face to the bore	t_{Sd}	7 µm

Maximum axial run-out of inner ring of assembled bearing	t_{Sia}	7 µm
Range of section height at outer ring of assembled bearing	t_{Kea}	6 µm
Perpendicularity of outer ring outside surface	t_{SD}	4 µm
Maximum axial run-out of outer ring of assembled bearing	t_{Sea}	8 µm
ISO tolerance class for geometrical tolerances		P5

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

- Single row deep groove ball bearings
- Stainless steel deep groove ball bearings
- Single row deep groove ball bearings with filling slots
- Double row deep groove ball bearings
- General bearing specifications
- Loads
- Temperature limits
- Permissible speed
- Designation system

Engineering information

- Principles of rolling bearing selection
- General bearing knowledge
- Bearing selection process
- Bearing interfaces
- Seat tolerances for standard conditions
- Selecting internal clearance
- Lubrication
- Sealing, mounting and dismounting
- Bearing failure and how to prevent it

Tools

- SKF Product select
- SimPro Quick
- Bearing Frequency Calculator
- LubeSelect for SKF greases
- Heater selection tool

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