



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

6301-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	12 mm
Outside diameter	37 mm
Width	12 mm

Performance

Basic dynamic load rating	10.1 kN
Basic static load rating	4.15 kN
Reference speed	45 000 r/min
Limiting speed	22 000 r/min
SKF performance class	SKF Explorer

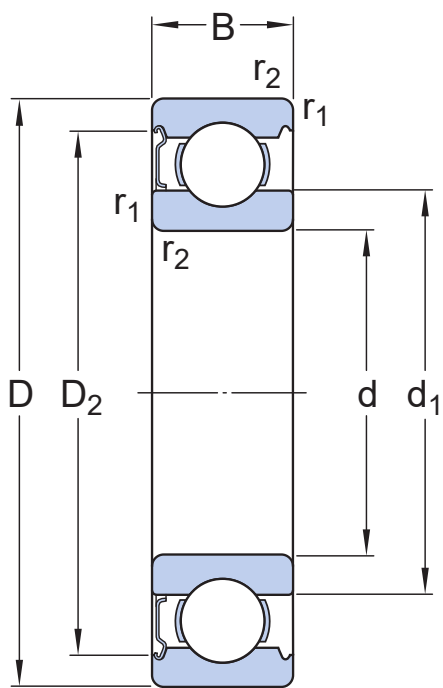
Properties

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

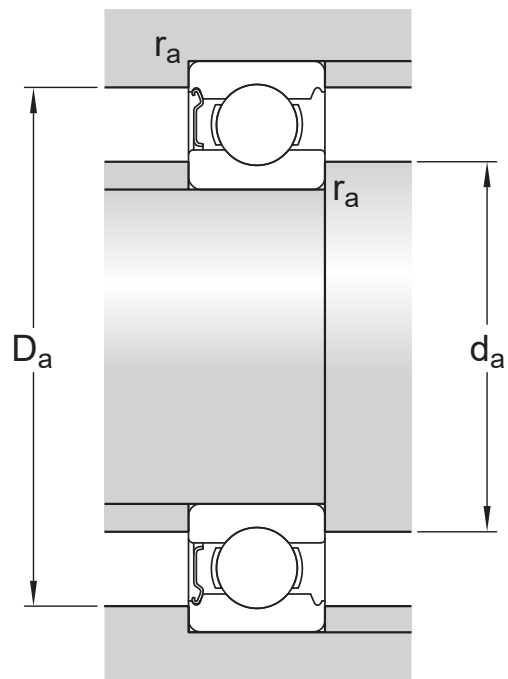
Product net weight	0.0586 kg
eClass code	23-05-08-01
UNSPSC code	31171504

Technical specification



Dimensions

d	12 mm	Bore diameter
t _{Δdmp}	-0.007 – 0 mm	Deviation limits of mid-range bore diameter
D	37 mm	Outside diameter
t _{ΔDmp}	-0.009 – 0 mm	Deviation limits of mid-range outside diameter
B	12 mm	Width
t _{ΔBs}	-0.06 – 0 mm	Deviation limits of ring width
d ₁	≈ 19.51 mm	Shoulder diameter
D ₂	≈ 31.48 mm	Recess diameter
r _{1,2}	min. 1 mm	Chamfer dimension
	P6 and tighter width tolerance	ISO tolerance class for dimensions



Abutment dimensions

d_a	min. 17.6 mm	Diameter of shaft abutment
d_a	max. 19.4 mm	Diameter of shaft abutment
D_a	max. 31.4 mm	Diameter of housing abutment
r_a	max. 1 mm	Radius of shaft or housing fillet

Calculation data

SKF performance class		SKF Explorer
Basic dynamic load rating	C	10.1 kN
Basic static load rating	C_0	4.15 kN
Fatigue load limit	P_u	0.176 kN
Reference speed		45 000 r/min
Limiting speed		22 000 r/min
Minimum load factor	k_r	0.03
Calculation factor	f_0	11

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}	7 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	 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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