



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

## 6204-2ZNR

### Deep groove ball bearing with snap ring and integral sealing

Single row deep groove ball bearing, with snap ring groove and seals or shields on one or both sides, 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 other bearing types. 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
- Typical benefits of single row deep groove ball bearings

# Overview

## Dimensions

|                  |       |
|------------------|-------|
| Bore diameter    | 20 mm |
| Outside diameter | 47 mm |
| Width            | 14 mm |

## Performance

|                           |              |
|---------------------------|--------------|
| Basic dynamic load rating | 13.5 kN      |
| Basic static load rating  | 6.55 kN      |
| Reference speed           | 32 000 r/min |
| Limiting speed            | 17 000 r/min |
| SKF performance class     | SKF Explorer |

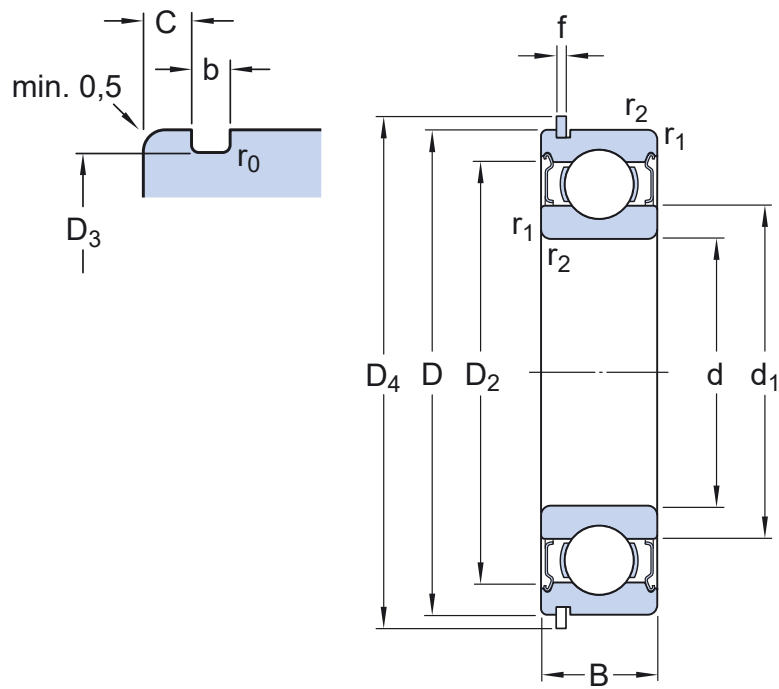
## Properties

|                                      |                      |
|--------------------------------------|----------------------|
| Filling slots                        | Without              |
| 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 both sides |
| Sealing type                         | Non-contact          |
| Lubricant                            | Grease               |
| Relubrication feature                | Without              |

## Logistics

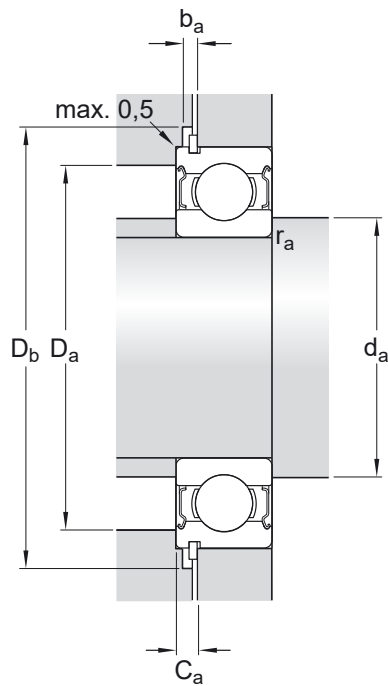
|                    |             |
|--------------------|-------------|
| Product net weight | 0.111 kg    |
| eClass code        | 23-05-08-01 |
| UNSPSC code        | 31171504    |

## Technical specification



## Dimensions

|                                |                    |  |
|--------------------------------|--------------------|--|
| $d$                            | 20 mm              | Bore diameter  |
| $t_{\Delta dmp}$               | -0.008 – 0 mm      | Deviation limits of mid-range bore diameter            |
| $D$                            | 47 mm              | Outside diameter                                       |
| $t_{\Delta Dmp}$               | -0.009 – 0 mm      | Deviation limits of mid-range outside diameter         |
| $B$                            | 14 mm              | Width  |
| $t_{\Delta Bs}$                | -0.06 – 0 mm       | Deviation limits of ring width                         |
| $d_1$                          | $\approx 28.8$ mm  | Shoulder diameter                                      |
| $D_2$                          | $\approx 40.59$ mm | Recess diameter  |
| $D_3$                          | 44.6 mm            | Diameter of snap ring groove                           |
| $D_4$                          | 52.7 mm            | Outside diameter of snap ring                          |
| $b$                            | 1.35 mm            | Width of snap ring groove                              |
| $C$                            | 2.46 mm            | Distance from outer ring side face to snap ring groove |
| $f$                            | 1.12 mm            | Width of snap ring                                     |
| $r_0$                          | max. 0.4 mm        | Bottom radius of snap ring groove                      |
| $r_{1,2}$                      | min. 1 mm          | Chamfer dimension                                      |
| P6 and tighter width tolerance |                    | ISO tolerance class for dimensions                     |



## Abutment dimensions

|       |              |   |
|-------|--------------|---|
| $d_a$ | min. 25.6 mm | Diameter of shaft abutment                                |
| $d_a$ | max. 28.7 mm | Diameter of shaft abutment                                |
| $D_a$ | max. 41.4 mm | Diameter of housing abutment                              |
| $D_b$ | min. 54 mm   | Diameter of snap ring recess in the housing               |
| $b_a$ | min. 1.5 mm  | Width of snap ring recess in the housing                  |
| $C_a$ | max. 3.58 mm | Distance from outer ring side face to snap ring back face |
| $r_a$ | max. 1 mm    | Radius of shaft or housing fillet                         |

## Calculation data

|                           |       |              |
|---------------------------|-------|--------------|
| SKF performance class     |       | SKF Explorer |
| Basic dynamic load rating | C     | 13.5 kN      |
| Basic static load rating  | $C_0$ | 6.55 kN      |
| Fatigue load limit        | $P_u$ | 0.28 kN      |
| Reference speed           |       | 32 000 r/min |
| Limiting speed            |       | 17 000 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 <sub>Kia</sub> | 4 μm |
| Maximum run-out of inner ring side face to the bore        | t <sub>Sd</sub>  | 8 μm |
| Maximum axial run-out of inner ring of assembled bearing   | t <sub>Sia</sub> | 8 μm |
| Range of section height at outer ring of assembled bearing | t <sub>Kea</sub> | 7 μm |
| Perpendicularity of outer ring outside surface             | t <sub>SD</sub>  | 4 μm |
| Maximum axial run-out of outer ring of assembled bearing   | t <sub>Sea</sub> | 8 μm |
| ISO tolerance class for geometrical tolerances             |                  | P5   |

## Included products

|           |       |
|-----------|-------|
| Snap ring | SP 47 |
|-----------|-------|

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

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