

# 609

## Deep groove ball bearing

Single row deep groove ball bearings 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.

- Simple, versatile and robust design
- Low friction
- 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

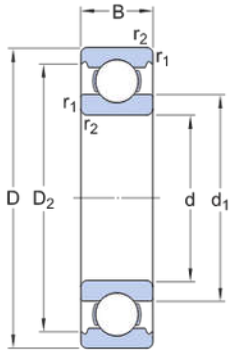
| | |
|---|---|
| Basic dynamic load rating | 3.9 kN |
| Basic static load rating | 1.66 kN |
| Reference speed | 70 000 r/min |
| Limiting speed | 43 000 r/min |
| SKF performance class | SKF Explorer |

### 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 | Without |
| Lubricant | None |
| Relubrication feature | Without |

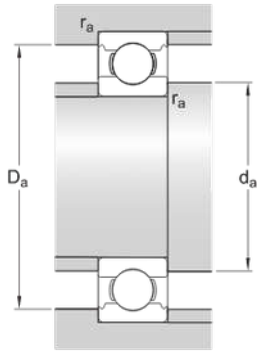
# Technical Specification

| | |
|---|---|
| SKF performance class | SKF Explorer |




## Dimensions

| | | |
|---|---|---|
| d | 9 mm | Bore diameter |
| D | 24 mm | Outside diameter |
| B | 7 mm | Width |
| $d_1$ | ≈ 14.45 mm | Shoulder diameter |
| $D_2$ | ≈ 21.2 mm | Recess diameter |
| $r_{1,2}$ | min. 0.3 mm | Chamfer dimension |




## Abutment dimensions

| | | |
|---|---|---|
| $d_a$ | min. 11 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

| | | |
|---|---|---|
| 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 |

## Mass

| | |
|---|---|
| Mass bearing | 0.014 kg |

## Tolerance class

| | |
|---|---|
| Dimensional tolerances | P6 |
| Radial run-out | P5 |

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