

Image may differ from product. See specification for details.

# 24168 ECCJ/W33

Spherical roller bearing with relubrication features

Spherical roller bearings can accommodate heavy loads in both directions. They are self-aligning and accommodate misalignment and shaft deflections, with virtually no increase in friction or temperature. The design includes features to facilitate relubrication. The bearings can be used in a modular system, including housings, sleeves and nuts.

- Accommodate misalignment
- High load carrying capacity
- Relubrication features
- Low friction and long service life
- Increased wear resistance

# Overview

## Dimensions

| | |
|---|---|
| Bore diameter | 13.3858 in |
| Outside diameter | 22.8346 in |
| Width | 9.5669 in |

## Performance

| | |
|---|---|
| Basic dynamic load rating | 1 233 527 lbf |
| Basic static load rating | 1 944 597 lbf |
| Reference speed | 430 r/min |
| Limiting speed | 630 r/min |
| SKF performance class | SKF Explorer |

## Properties

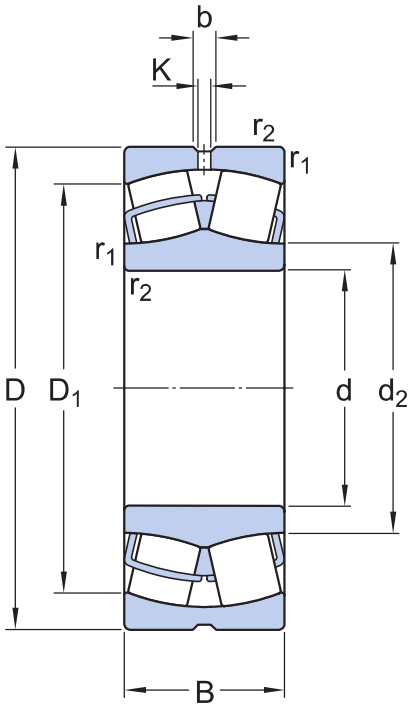
| | |
|---|---|
| Number of rows | 2 |
| Locating feature, bearing outer ring | Without |
| Bore type | Cylindrical |
| Cage | Sheet metal |
| Radial internal clearance | CN |
| Tolerance class for dimensions | Normal |
| Tolerance class for run-out | Normal |
| Sealing | Without |
| Lubricant | None |
| Relubrication feature | With |
| Candidate for remanufacturing | Yes |
| Indicative carbon footprint for new product | 2 051 lb $CO_2e$ |
| Indicative carbon footprint for remanufactured product | 718 lb $CO_2e$ |

## Logistics

| | |
|---|---|
| Product net weight | 570 lb |
| eClass code | 23-05-09-11 |
| UNSPSC code | 31171510 |

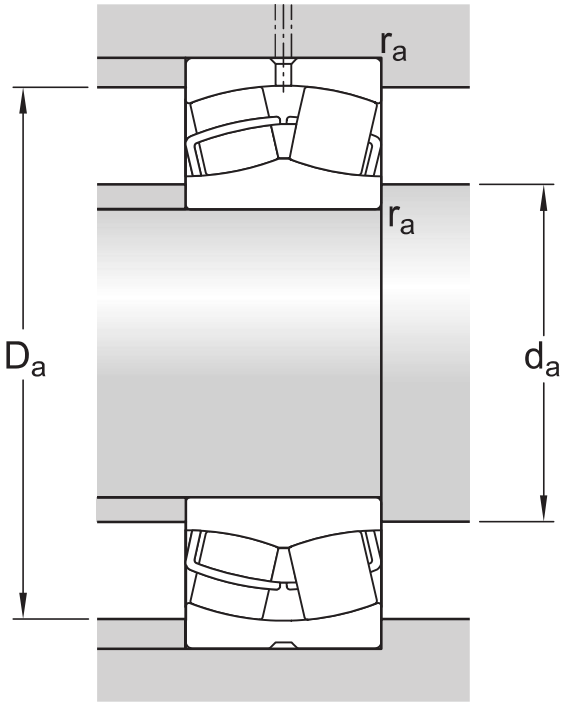
# Technical specification

| | |
|---|---|
| Bore type | Cylindrical |




## Dimensions

| | | |
|---|---|---|
| d | 13.3858 in | Bore diameter |
| $t_{\Delta dmp}$ | -40 – 0 µm | Deviation limits of mid-range bore diameter |
| D | 22.8346 in | Outside diameter |
| $t_{\Delta Dmp}$ | -50 – 0 µm | Deviation limits of mid-range outside diameter |
| B | 9.5669 in | Width |
| $t_{\Delta Bs}$ | -400 – 0 µm | Deviation limits of ring width |
| $d_2$ | ≈ 15.0787 in | Shoulder diameter of inner ring |
| $D_1$ | ≈ 19.3307 in | Shoulder/recess diameter of outer ring |
| b | 0.6575 in | Width of lubrication groove |
| K | 0.3543 in | Diameter of lubrication hole |
| $r_{1,2}$ | min. 0.1969 in | Chamfer dimension |
| | Normal | ISO tolerance class for dimensions |




## Abutment dimensions

| | | |
|---|---|---|
| $d_a$ | min. 14.1732 in | Diameter of shaft abutment |
| $D_a$ | max. 22.0472 in | Diameter of housing abutment |
| $r_a$ | max. 0.1575 in | Radius of fillet |

## Calculation data

| | | |
|---|---|---|
| SKF performance class | | SKF Explorer |
| Basic dynamic load rating | C | 1 233 527 lbf |
| Basic static load rating | $C_0$ | 1 944 597 lbf |
| Fatigue load limit | $P_u$ | 141 630 lbf |
| Reference speed | | 430 r/min |
| Limiting speed | | 630 r/min |
| Limiting value | e | 0.4 |
| Calculation factor | $Y_1$ | 1.7 |
| Calculation factor | $Y_2$ | 2.5 |
| Calculation factor | $Y_0$ | 1.6 |

## Tolerances of run-out

| | | |
|---|---|---|
| Range of section height at inner ring of assembled bearing | $t_{Kia}$ | 60 µm |
| Range of section height at outer ring of assembled bearing | $t_{Kea}$ | 100 µm |
| ISO tolerance class for geometrical tolerances | | Normal |

## Radial internal clearance

| | |
|---|---|
| Minimum initial clearance | 0.0079 in |
| Maximum initial clearance | 0.0122 in |

## Tolerances and clearances

### GENERAL BEARING SPECIFICATIONS

- Tolerances: Normal, P6, P5, tapered bore 1:12, tapered bore 1:30
- Radial internal clearance: cylindrical bore, tapered bore

### BEARING INTERFACES

- Seat tolerances for standard conditions
- Tolerances and resultant fit

## More Information

### Product details

- Designs and variants
- General bearing specifications
- Loads
- Temperature limits
- Permissible speed
- Design considerations
- Mounting
- Designation system

### Engineering information

- Principles of rolling bearing selection
- General bearing knowledge
- Bearing selection process
- Bearing failure and how to prevent it

### Tools

- SimPro Quick
- SKF Product select - Select and evaluate bearing
- SKF Product select - Combine housing with bearing
- LubeSelect for SKF greases
- Drive-up Method Program
- Heater selection tool
- Oil Injection Method Program
- Tool and Accessory Selector for sleeves and shafts

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