



Image may differ from product. See specification for details.

## 23988 CC/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    | 17.3228 in |
| Outside diameter | 23.622 in  |
| Width            | 4.6457 in  |

Performance

|                           |               |
|---------------------------|---------------|
| Basic dynamic load rating | 563 371 lbf   |
| Basic static load rating  | 1 101 564 lbf |
| Reference speed           | 950 r/min     |
| Limiting speed            | 1 000 r/min   |
| SKF performance class     | SKF Explorer  |

Properties

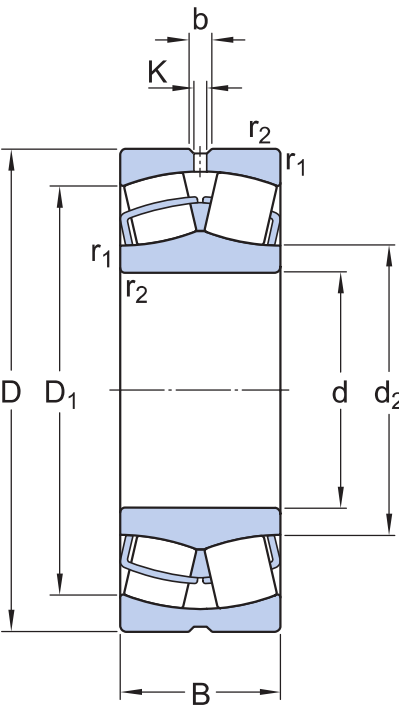
|                                                        |                          |
|--------------------------------------------------------|--------------------------|
| Number of rows                                         | 2                        |
| Locating feature, bearing outer ring                   | 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            | 771 lb CO <sub>2</sub> e |
| Indicative carbon footprint for remanufactured product | 270 lb CO <sub>2</sub> e |

Logistics

|                    |             |
|--------------------|-------------|
| Product net weight | 214 lb      |
| eClass code        | 23-05-09-11 |
| UNSPSC code        | 31171510    |

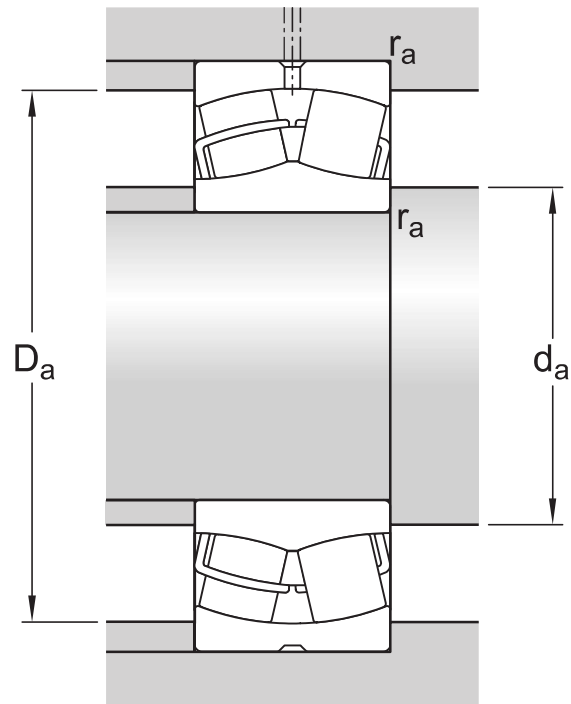
Technical specification

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



Dimensions

|                   |                |                                                |
|-------------------|----------------|------------------------------------------------|
| d                 | 17.3228 in     | Bore diameter                                  |
| t <sub>Δdmp</sub> | -45 – 0 μm     | Deviation limits of mid-range bore diameter    |
| D                 | 23.622 in      | Outside diameter                               |
| t <sub>ΔDmp</sub> | -50 – 0 μm     | Deviation limits of mid-range outside diameter |
| B                 | 4.6457 in      | Width                                          |
| t <sub>ΔBs</sub>  | -450 – 0 μm    | Deviation limits of ring width                 |
| d <sub>2</sub>    | ≈ 19.0551 in   | Shoulder diameter of inner ring                |
| D <sub>1</sub>    | ≈ 21.7717 in   | Shoulder/recess diameter of outer ring         |
| b                 | 0.6575 in      | Width of lubrication groove                    |
| K                 | 0.3543 in      | Diameter of lubrication hole                   |
| r <sub>1,2</sub>  | min. 0.1575 in | Chamfer dimension                              |
|                   | Normal         | ISO tolerance class for dimensions             |



Abutment dimensions

|       |                 |                              |
|-------|-----------------|------------------------------|
| $d_a$ | min. 17.9134 in | Diameter of shaft abutment   |
| $D_a$ | max. 23.0315 in | Diameter of housing abutment |
| $r_a$ | max. 0.1181 in  | Radius of fillet             |

Calculation data

|                           |       |               |
|---------------------------|-------|---------------|
| SKF performance class     |       | SKF Explorer  |
| Basic dynamic load rating | C     | 563 371 lbf   |
| Basic static load rating  | $C_0$ | 1 101 564 lbf |
| Fatigue load limit        | $P_u$ | 79 807 lbf    |
| Reference speed           |       | 950 r/min     |
| Limiting speed            |       | 1 000 r/min   |
| Limiting value            | e     | 0.16          |
| Calculation factor        | $Y_1$ | 4.2           |
| Calculation factor        | $Y_2$ | 6.3           |
| Calculation factor        | $Y_0$ | 4             |

Tolerances of run-out

|                                                            |           |                   |
|------------------------------------------------------------|-----------|-------------------|
| Range of section height at inner ring of assembled bearing | $t_{Kia}$ | 65 $\mu\text{m}$  |
| Range of section height at outer ring of assembled bearing | $t_{Kea}$ | 100 $\mu\text{m}$ |
| ISO tolerance class for geometrical tolerances             |           | Normal            |

Radial internal clearance

|                           |           |
|---------------------------|-----------|
| Minimum initial clearance | 0.0094 in |
| Maximum initial clearance | 0.0146 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

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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| <div> <b>Product details</b></div> <div><div><a href="#">Designs and variants</a></div><div><a href="#">General bearing specifications</a></div><div><a href="#">Loads</a></div><div><a href="#">Temperature limits</a></div><div><a href="#">Permissible speed</a></div><div><a href="#">Design considerations</a></div><div><a href="#">Mounting</a></div><div><a href="#">Designation system</a></div></div> | <div> <b>Engineering information</b></div> <div><div><a href="#">Principles of rolling bearing selection</a></div><div><a href="#">General bearing knowledge</a></div><div><a href="#">Bearing selection process</a></div><div><a href="#">Bearing failure and how to prevent it</a></div></div> | <div> <b>Tools</b></div> <div><div><a href="#">SimPro Quick</a></div><div><a href="#">SKF Product select - Select and evaluate bearing</a></div><div><a href="#">SKF Product select - Combine housing with bearing</a></div><div><a href="#">LubeSelect for SKF greases</a></div><div><a href="#">Drive-up Method Program</a></div><div><a href="#">Heater selection tool</a></div><div><a href="#">Oil Injection Method Program</a></div><div><a href="#">Tool and Accessory Selector for sleeves and shafts</a></div></div> |
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