



Image may differ from product. See specification for details.

## 23220 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    | 3.937 in  |
| Outside diameter | 7.0866 in |
| Width            | 2.374 in  |

Performance

|                           |              |
|---------------------------|--------------|
| Basic dynamic load rating | 111 955 lbf  |
| Basic static load rating  | 134 885 lbf  |
| Reference speed           | 2 400 r/min  |
| Limiting speed            | 3 400 r/min  |
| SKF performance class     | SKF Explorer |

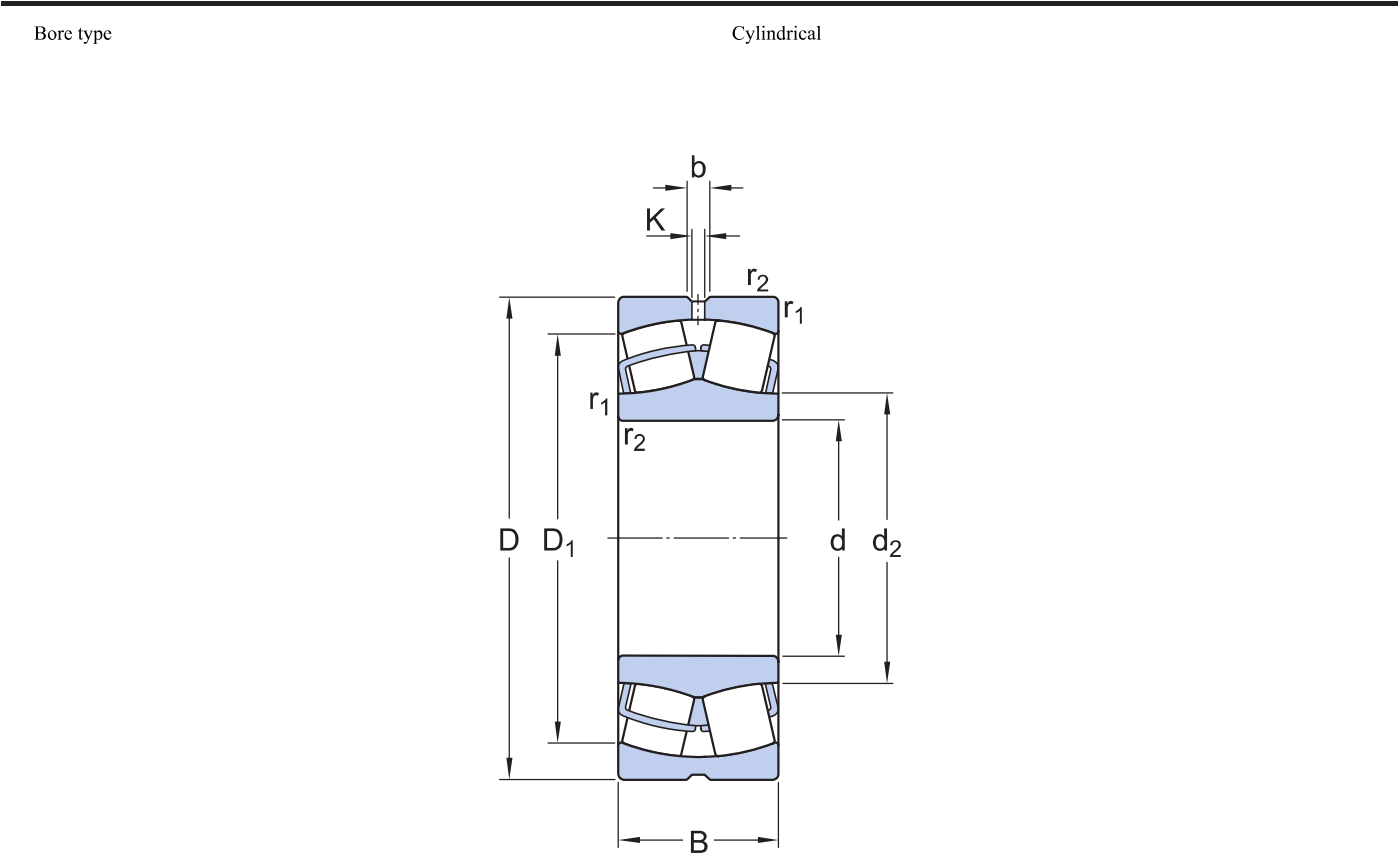
Properties

|                                                        |                           |
|--------------------------------------------------------|---------------------------|
| 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                            | P5                        |
| Sealing                                                | Without                   |
| Lubricant                                              | None                      |
| Relubrication feature                                  | With                      |
| Candidate for remanufacturing                          | Yes                       |
| Indicative carbon footprint for new product            | 52 lb CO <sub>2</sub> e   |
| Indicative carbon footprint for remanufactured product | 18.2 lb CO <sub>2</sub> e |

Logistics

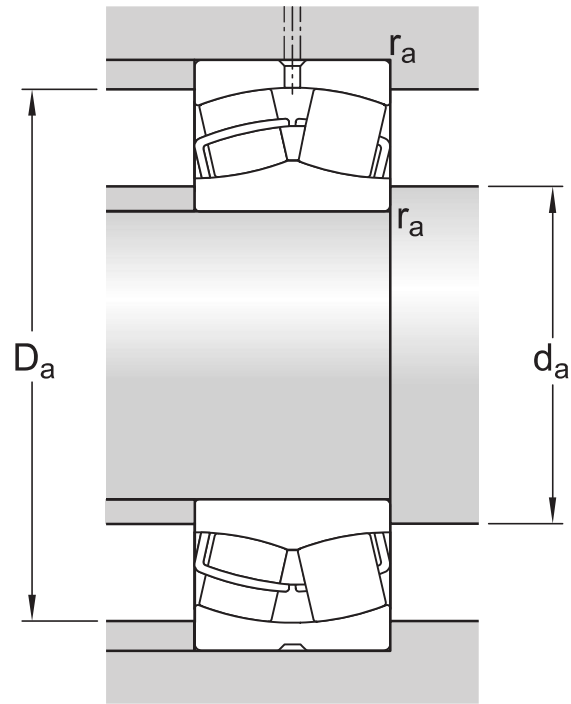
|                    |             |
|--------------------|-------------|
| Product net weight | 14.4 lb     |
| eClass code        | 23-05-09-11 |
| UNSPSC code        | 31171510    |

Technical specification



Dimensions

|                   |                |                                                |
|-------------------|----------------|------------------------------------------------|
| d                 | 3.937 in       | Bore diameter                                  |
| t <sub>Δdmp</sub> | -20 – 0 μm     | Deviation limits of mid-range bore diameter    |
| D                 | 7.0866 in      | Outside diameter                               |
| t <sub>ΔDmp</sub> | -25 – 0 μm     | Deviation limits of mid-range outside diameter |
| B                 | 2.374 in       | Width                                          |
| t <sub>ΔBs</sub>  | -80 – 0 μm     | Deviation limits of ring width                 |
| d <sub>2</sub>    | ≈ 4.6063 in    | Shoulder diameter of inner ring                |
| D <sub>1</sub>    | ≈ 6.0236 in    | Shoulder/recess diameter of outer ring         |
| b                 | 0.3268 in      | Width of lubrication groove                    |
| K                 | 0.1772 in      | Diameter of lubrication hole                   |
| r <sub>1,2</sub>  | min. 0.0827 in | Chamfer dimension                              |
|                   | Normal         | ISO tolerance class for dimensions             |



Abutment dimensions

|       |                |                              |
|-------|----------------|------------------------------|
| $d_a$ | min. 4.4094 in | Diameter of shaft abutment   |
| $D_a$ | max. 6.6142 in | Diameter of housing abutment |
| $r_a$ | max. 0.0787 in | Radius of fillet             |

Calculation data

|                           |       |              |
|---------------------------|-------|--------------|
| SKF performance class     |       | SKF Explorer |
| Basic dynamic load rating | C     | 111 955 lbf  |
| Basic static load rating  | $C_0$ | 134 885 lbf  |
| Fatigue load limit        | $P_u$ | 14 163 lbf   |
| Reference speed           |       | 2 400 r/min  |
| Limiting speed            |       | 3 400 r/min  |
| Limiting value            | e     | 0.33         |
| Calculation factor        | $Y_1$ | 2            |
| Calculation factor        | $Y_2$ | 3            |
| Calculation factor        | $Y_0$ | 2            |

Tolerances of run-out

|                                                            |                  |       |
|------------------------------------------------------------|------------------|-------|
| Range of section height at inner ring of assembled bearing | t <sub>Kia</sub> | 6 μm  |
| Maximum run-out of inner ring side face to the bore        | t <sub>Sd</sub>  | 9 μm  |
| Range of section height at outer ring of assembled bearing | t <sub>Kea</sub> | 13 μm |
| Perpendicularity of outer ring outside surface             | t <sub>SD</sub>  | 5 μm  |
| ISO tolerance class for geometrical tolerances             |                  | P5    |

Radial internal clearance

|                           |           |
|---------------------------|-----------|
| Minimum initial clearance | 0.0024 in |
| Maximum initial clearance | 0.0039 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                                | Engineering information                                 | Tools                                                              |
|------------------------------------------------|---------------------------------------------------------|--------------------------------------------------------------------|
| <a href="#">Designs and variants</a>           | <a href="#">Principles of rolling bearing selection</a> | <a href="#">SimPro Quick</a>                                       |
| <a href="#">General bearing specifications</a> | <a href="#">General bearing knowledge</a>               | <a href="#">SKF Product select - Select and evaluate bearing</a>   |
| <a href="#">Loads</a>                          | <a href="#">Bearing selection process</a>               | <a href="#">SKF Product select - Combine housing with bearing</a>  |
| <a href="#">Temperature limits</a>             | <a href="#">Bearing failure and how to prevent it</a>   | <a href="#">LubeSelect for SKF greases</a>                         |
| <a href="#">Permissible speed</a>              |                                                         | <a href="#">Drive-up Method Program</a>                            |
| <a href="#">Design considerations</a>          |                                                         | <a href="#">Heater selection tool</a>                              |
| <a href="#">Mounting</a>                       |                                                         | <a href="#">Oil Injection Method Program</a>                       |
| <a href="#">Designation system</a>             |                                                         | <a href="#">Tool and Accessory Selector for sleeves and shafts</a> |
|                                                |                                                         |                                                                    |



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