



Image may differ from product. See specification for details.

## 21319 E

### 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    | 3.7402 in |
| Outside diameter | 7.874 in  |
| Width            | 1.7717 in |

Performance

|                           |              |
|---------------------------|--------------|
| Basic dynamic load rating | 97 342 lbf   |
| Basic static load rating  | 110 156 lbf  |
| Reference speed           | 3 400 r/min  |
| Limiting speed            | 4 500 r/min  |
| SKF performance class     | SKF Explorer |

Properties

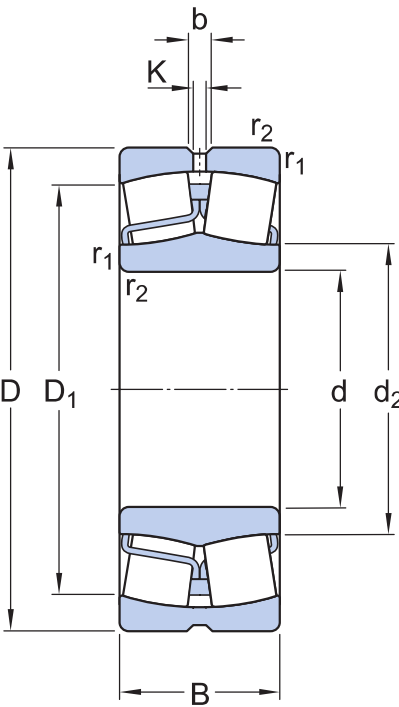
|                                             |                         |
|---------------------------------------------|-------------------------|
| Number of rows                              | 2                       |
| Locating feature, bearing outer ring        | Without                 |
| Bore 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                    |
| Indicative carbon footprint for new product | 57 lb CO <sub>2</sub> e |

Logistics

|                    |             |
|--------------------|-------------|
| Product net weight | 15.8 lb     |
| eClass code        | 23-05-09-11 |
| UNSPSC code        | 31171510    |

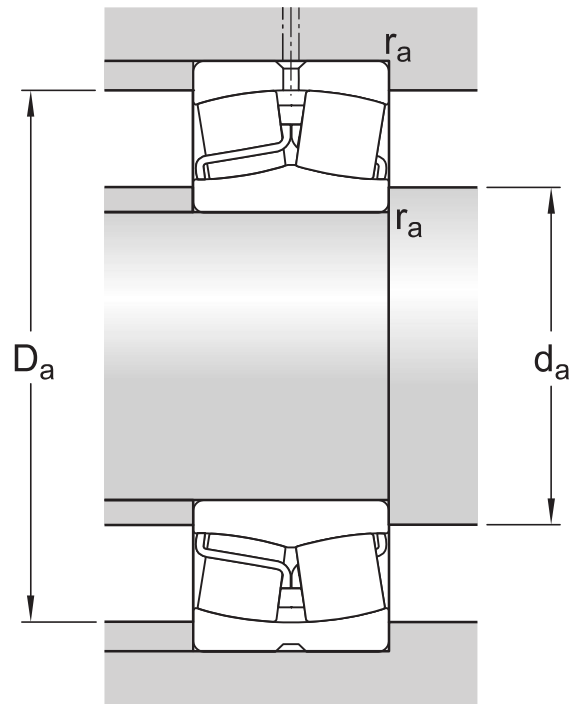
Technical specification

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



Dimensions

|                   |                |                                                |
|-------------------|----------------|------------------------------------------------|
| d                 | 3.7402 in      | Bore diameter                                  |
| t <sub>Δdmp</sub> | -20 – 0 μm     | Deviation limits of mid-range bore diameter    |
| D                 | 7.874 in       | Outside diameter                               |
| t <sub>ΔDmp</sub> | -30 – 0 μm     | Deviation limits of mid-range outside diameter |
| B                 | 1.7717 in      | Width                                          |
| t <sub>ΔBs</sub>  | -80 – 0 μm     | Deviation limits of ring width                 |
| d <sub>2</sub>    | ≈ 4.6457 in    | Shoulder diameter of inner ring                |
| D <sub>1</sub>    | ≈ 6.2598 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. 0.1181 in | Chamfer dimension                              |
|                   | Normal         | ISO tolerance class for dimensions             |



Abutment dimensions

|                |                |                              |
|----------------|----------------|------------------------------|
| d <sub>a</sub> | min. 4.2913 in | Diameter of shaft abutment   |
| D <sub>a</sub> | max. 7.3228 in | Diameter of housing abutment |
| r <sub>a</sub> | max. 0.0984 in | Radius of fillet             |

Calculation data

|                           |                |              |
|---------------------------|----------------|--------------|
| SKF performance class     |                | SKF Explorer |
| Basic dynamic load rating | C              | 97 342 lbf   |
| Basic static load rating  | C <sub>0</sub> | 110 156 lbf  |
| Fatigue load limit        | P <sub>u</sub> | 11 016 lbf   |
| Reference speed           |                | 3 400 r/min  |
| Limiting speed            |                | 4 500 r/min  |
| Limiting value            | e              | 0.24         |
| Calculation factor        | Y <sub>1</sub> | 2.8          |
| Calculation factor        | Y <sub>2</sub> | 4.2          |
| Calculation factor        | Y <sub>0</sub> | 2.8          |

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> | 15 μm  |
| Perpendicularity of outer ring outside surface             | t <sub>SD</sub>  | 5.5 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

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div> Product details</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> Engineering information</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> Tools</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> |
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