

Image may differ from product. See technical specification for details.

# 31315/DF

## Matched tapered roller bearings arranged face-to-face

Matched tapered roller bearings arranged face-to-face (X-arrangement, load lines diverge towards the bearing axis) accommodate high radial loads and axial loads in both directions. The precision manufactured intermediate ring between the outer rings enables a defined internal clearance or preload to be achieved when mounted. Matched tapered roller bearings are typically used in gearboxes, hoisting equipment, rolling mills, and machines in the mining industry.

- High radial load carrying capacity
- Designed for axial loads in both directions
- Relatively high stiffness
- Surface finish on the contact surfaces of the rollers and raceways that enhances operational reliability

# Overview

## Dimensions

| | |
|---|---|
| Bore diameter | 75 mm |
| Outside diameter | 160 mm |
| Width, total | 80 mm |
| Width, inner ring | 74 mm |
| Width, outer ring | 80 mm |
| Contact angle | 28.8 ° |

## Performance

| | |
|---|---|
| Basic dynamic load rating | 438 kN |
| Basic static load rating | 490 kN |
| Reference speed | 2 400 r/min |
| Limiting speed | 4 300 r/min |
| SKF performance class | SKF Explorer |

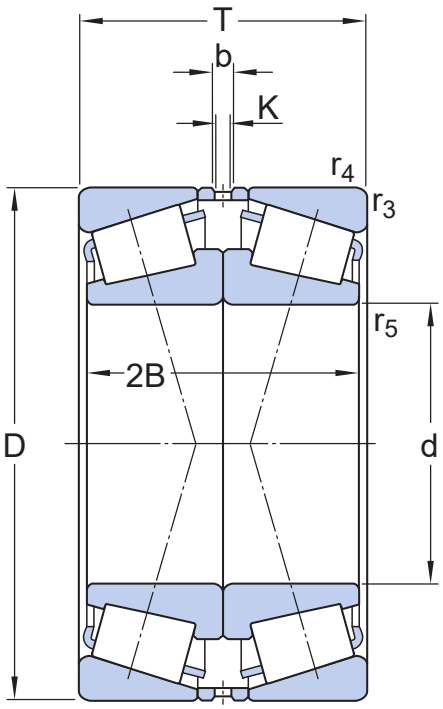
## Properties

| | |
|---|---|
| Bearing part | Complete bearing |
| Number of rows | 2 |
| Locating feature, bearing outer ring | Without |
| Bore type | Cylindrical |
| Cage | Sheet metal |
| Matched arrangement | Face-to-face (X) |
| Number of bearings in matched set | 2 |
| Coating | Without |
| Sealing | Without |
| Lubricant | None |
| Relubrication feature | With |
| Indicative carbon footprint for new product | 26.5 kg $CO_2e$ |

## Logistics

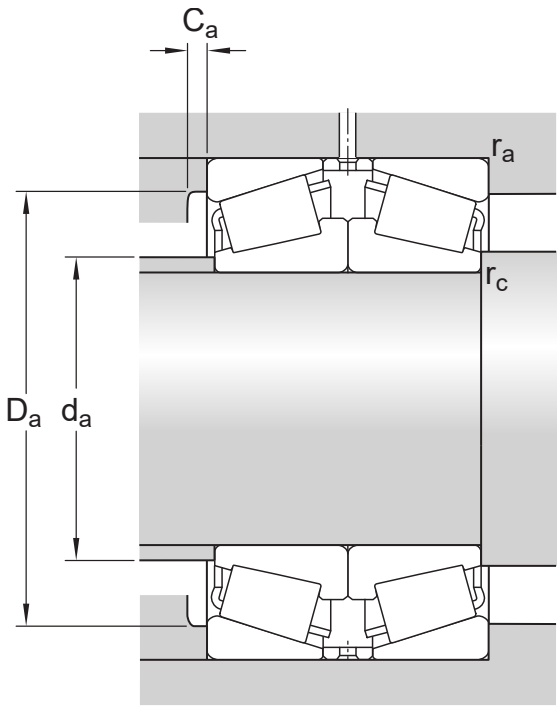
| | |
|---|---|
| Product net weight | 7.17 kg |
| eClass code | 23-05-09-10 |

# Technical specification




## Dimensions

| | | |
|---|---|---|
| d | 75 mm | Bore diameter |
| D | 160 mm | Outside diameter |
| T | 80 mm | Total width |
| 2B | 74 mm | Width of inner rings |
| b | 15 mm | Width of lubrication groove |
| K | 10 mm | Diameter of lubrication hole |
| $r_{3,4}$ | min. 2.5 mm | Chamfer dimension |
| $r_5$ | min. 1 mm | Chamfer dimension |




## Abutment dimensions

| | | |
|---|---|---|
| $d_a$ | max. 91 mm | Diameter of shaft abutment |
| $D_a$ | min. 127 mm | Diameter of housing abutment |
| $D_a$ | max. 149 mm | Diameter of housing abutment |
| $C_a$ | min. 5 mm | Minimum width of space required in housing on large side face |
| $r_a$ | max. 3 mm | Radius of fillet |
| $r_c$ | max. 1 mm | Radius of fillet |

## Calculation data

| | | |
|---|---|---|
| SKF performance class | | SKF Explorer |
| Basic dynamic load rating | C | 438 kN |
| Basic static load rating | $C_0$ | 490 kN |
| Fatigue load limit | $P_u$ | 58.5 kN |
| Reference speed | | 2 400 r/min |
| Limiting speed | | 4 300 r/min |
| Limiting value | e | 0.83 |
| Calculation factor | $Y_1$ | 0.81 |
| Calculation factor | $Y_2$ | 1.2 |
| Calculation factor | $Y_0$ | 0.8 |

## Tolerances and clearances

### GENERAL BEARING SPECIFICATIONS

- Tolerances: Normal + CL7C, P5, total width
- Internal clearance: values

## BEARING INTERFACES

- Seat tolerances for standard conditions
- Tolerances and resultant fit

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