



Image may differ from product. See specification for details.

## 22224 EK/C4

### Spherical roller bearing with tapered bore and 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	4.7244 in
Outside diameter	8.4646 in
Width	2.2835 in

### Performance

Basic dynamic load rating	146 575 lbf
Basic static load rating	175 351 lbf
Reference speed	2 800 r/min
Limiting speed	3 800 r/min
SKF performance class	SKF Explorer

### Properties

Number of rows	2
Locating feature, bearing outer ring	Without
Bore type	Tapered 1:12
Cage	Sheet metal
Radial internal clearance	C4
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	68.7 lb CO <sub>2</sub> e
Indicative carbon footprint for remanufactured product	24 lb CO <sub>2</sub> e

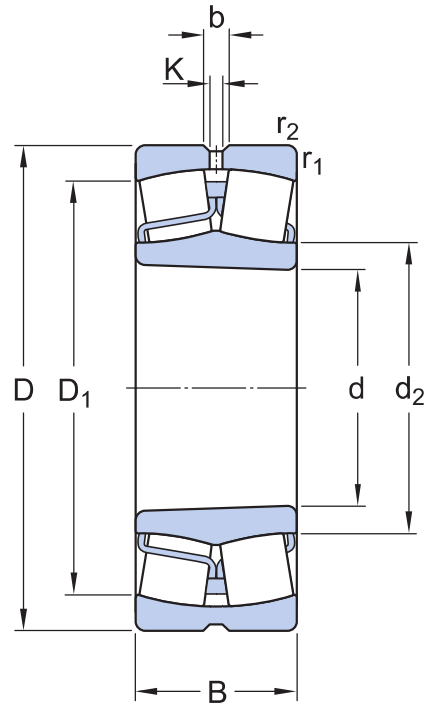
### Logistics

Product net weight	19.1 lb
eClass code	23-05-09-11
UNSPSC code	31171510

## Technical specification

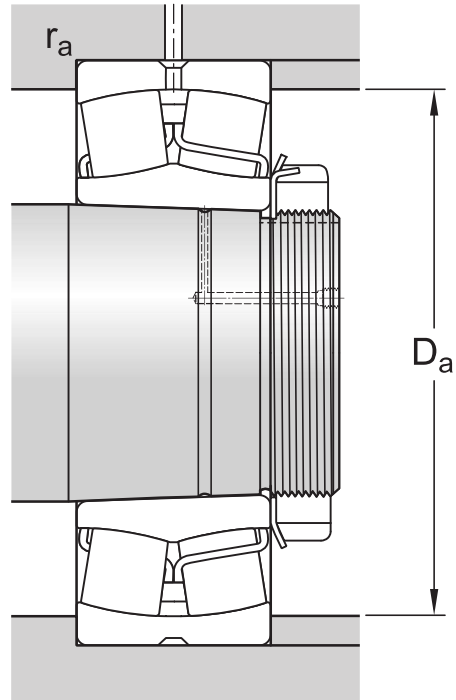
Bore type

Tapered 1:12



## Dimensions

d	4.7244 in	Bore diameter
$t_{\Delta dmp}$	0 – 35 $\mu\text{m}$	Deviation limits of mid-range bore diameter
$t_{\Delta SL}$	0 – 35 $\mu\text{m}$	Deviation limits of tapered slope
D	8.4646 in	Outside diameter
$t_{\Delta Dmp}$	-30 – 0 $\mu\text{m}$	Deviation limits of mid-range outside diameter
B	2.2835 in	Width
$t_{\Delta Bs}$	-80 – 0 $\mu\text{m}$	Deviation limits of ring width
$d_2$	$\approx$ 5.5512 in	Shoulder diameter of inner ring
$D_1$	$\approx$ 7.4409 in	Shoulder/recess diameter of outer ring
b	0.437 in	Width of lubrication groove
K	0.2362 in	Diameter of lubrication hole
$r_{1,2}$	min. 0.0827 in	Chamfer dimension
	Normal	ISO tolerance class for dimensions



## Abutment dimensions

$D_a$	max. 7.9921 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	146 575 lbf
Basic static load rating	$C_0$	175 351 lbf
Fatigue load limit	$P_u$	16 523 lbf
Reference speed		2 800 r/min
Limiting speed		3 800 r/min
Limiting value	e	0.26
Calculation factor	$Y_1$	2.6
Calculation factor	$Y_2$	3.9
Calculation factor	$Y_0$	2.5

## Tolerances of run-out

Range of section height at inner ring of assembled bearing	$t_{Kia}$	6 $\mu\text{m}$
Maximum run-out of inner ring side face to the bore	$t_{Sd}$	9 $\mu\text{m}$
Range of section height at outer ring of assembled bearing	$t_{Kea}$	15 $\mu\text{m}$
Perpendicularity of outer ring outside surface	$t_{SD}$	5.5 $\mu\text{m}$
ISO tolerance class for geometrical tolerances		P5

## Radial internal clearance

Minimum initial clearance	0.0067 in
Maximum initial clearance	0.0087 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




## Compatible products

### Recommended product

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Withdrawal sleeve, basic design, ISO standards	<a href="#">AHX 3124</a>
Adapter sleeve with KM lock nut and MB lock washer, metric dimensions	<a href="#">H 3124</a>
Adapter sleeve with KM lock nut and MB lock washer, metric dimensions with inch bore	<a href="#">HA 3124</a>
Adapter sleeve with KM lock nut and MB lock washer, metric dimensions with inch bore	<a href="#">HE 3124</a>
Adapter sleeve with AN or N lock nut and W lock washer, inch dimensions	<a href="#">SNW 24X4.3/16</a>

## More Information

 Product details	 Engineering information	 Tools
<a href="#">Designs and variants</a>		<a href="#">SimPro Quick</a>
<a href="#">General bearing specifications</a>	<a href="#">Principles of rolling bearing selection</a>	<a href="#">SKF Product select - Select and evaluate bearing</a>
<a href="#">Loads</a>	<a href="#">General bearing knowledge</a>	<a href="#">SKF Product select - Combine housing with bearing</a>
<a href="#">Temperature limits</a>	<a href="#">Bearing selection process</a>	<a href="#">LubeSelect for SKF greases</a>
<a href="#">Permissible speed</a>	<a href="#">Bearing failure and how to prevent it</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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