

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

BSA 202 CGA

Super-precision single direction angular contact thrust ball bearing

These super-precision ball bearings offer very high running accuracy and are well suited for screw drive applications. They are also beneficial in other applications, where safe radial and axial support is required, together with extremely precise axial guidance of the shaft.

They provide a high degree of axial stiffness and can accommodate heavy axial loads in one direction, high speeds and rapid accelerations.

- Very high running accuracy
- High axial stiffness
- High axial load carrying capacity in one direction
- Universally matchable
- Well suited for screw drive applications

Overview

Dimensions

Bore diameter	15 mm
Outside diameter	35 mm
Height	11 mm
Contact angle	62 °

Performance

Basic dynamic load rating	12.7 kN
Basic static load rating	25.5 kN
Attainable speed for grease lubrication	12 000 r/min
Attainable speed for oil-air lubrication	15 000 r/min

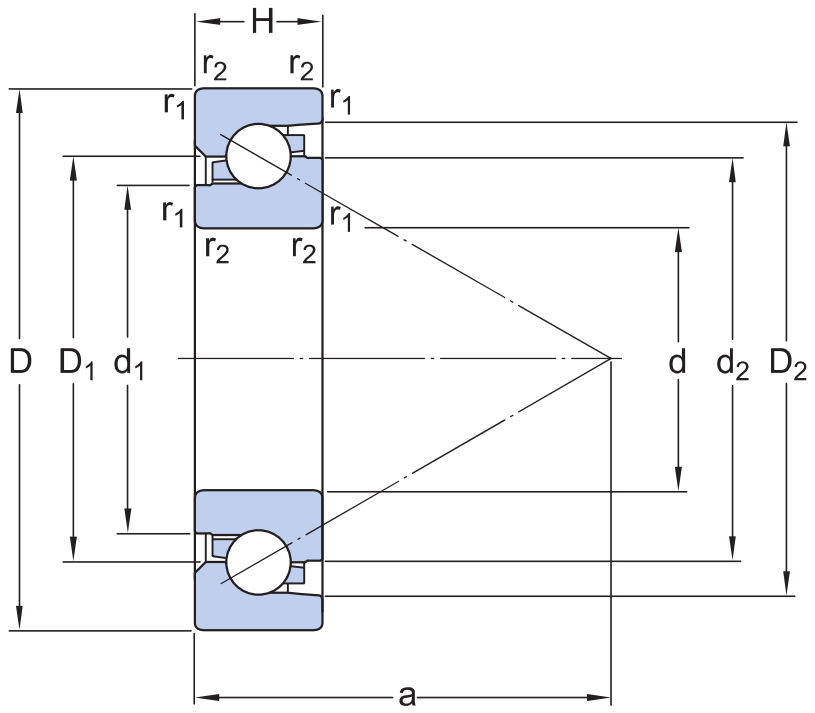
Properties

Axial load capability	Single-direction
Number of rows	1
Locating feature, bearing outer ring	None
Cage	Non-metallic
Tolerance class	Special
Material, bearing	Bearing steel
Coating	Without
Sealing	Without
Relubrication feature	Without

Logistics

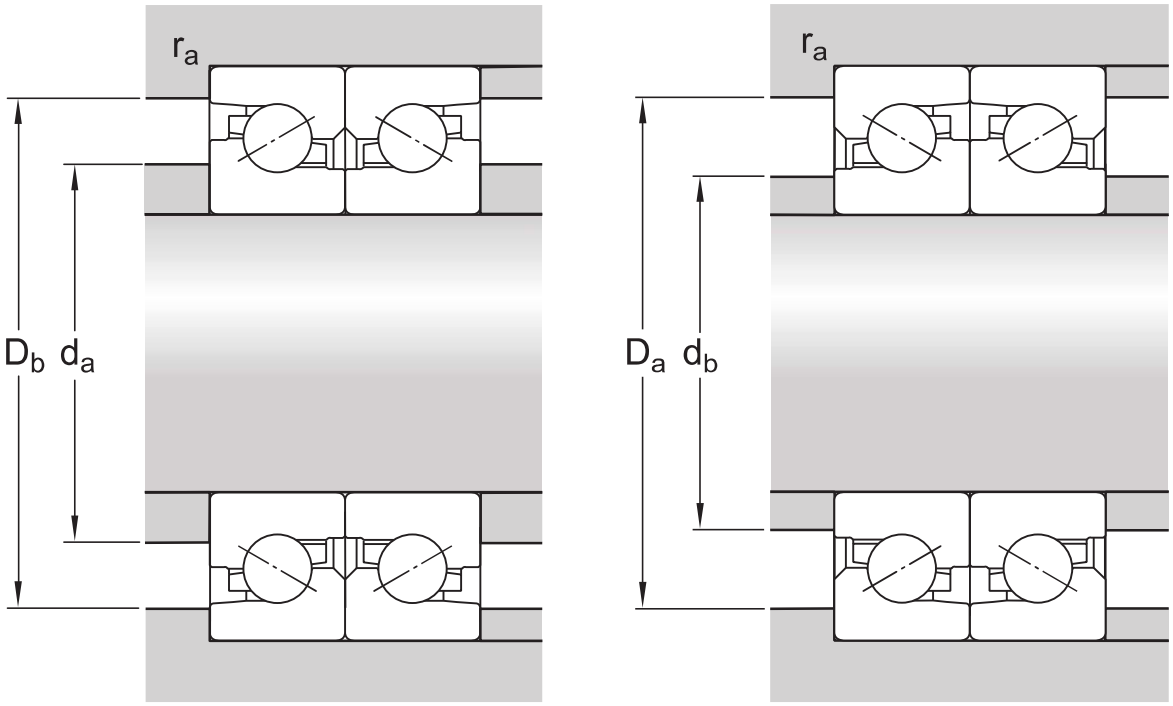
Product net weight	0.0484 kg
eClass code	23-05-08-03
UNSPSC code	31171507

Technical specification



Dimensions

d	15 mm	Bore diameter
D	35 mm	Outside diameter
H	11 mm	Height
d_1	20.88 mm	Shoulder diameter
d_2	25 mm	Shoulder diameter
D_1	25.1 mm	Shoulder/recess diameter
D_2	29.6 mm	Shoulder/recess diameter
$r_{1,2}$	min. 0.6 mm	Chamfer dimension
a	29 mm	Distance to pressure point



Abutment dimensions

d_a	min. 20 mm	Diameter of shaft abutment
d_b	min. 20 mm	Diameter of shaft abutment
D_a	max. 32 mm	Diameter of housing abutment
D_b	max. 32 mm	Diameter of housing abutment
r_a	max. 0.6 mm	Radius of housing fillet

Calculation data

Basic dynamic load rating	C	12.7 kN
Basic static load rating	C_0	25.5 kN
Fatigue load limit	P_u	0.95 kN
Attainable speed for grease lubrication		12 000 r/min
Attainable speed for oil-air lubrication		15 000 r/min
Contact angle	α	62 °
Preload		770 N
Frictional moment		0.022 N·m
Axial stiffness for preload A (sets of two brgs back-to-back or face-to-face)		460 N/µm
Maximum axial load carrying capacity	F_a	max. 8.5 kN

Reference grease quantity	G_{ref}	0.5 cm^3

Tolerances and clearances

PRODUCT DETAILS

- Tolerances: table
- Bearing preload
- Design considerations: shafts, housings

PRINCIPLES OF BEARING SELECTION AND APPLICATION

- Chamfer dimensions
- Speed dependent initial grease fill → Initial grease fill

More Information

Product details

- Designs and variants
- Markings on bearings
- General bearing specifications
- Preload, clearance, and stiffness
- Frictional moment
- Loads
- Attainable speeds
- Design considerations
- Mounting
- Designation system

Engineering information

- Principles of bearing selection and application
- General bearing knowledge
- Bearing selection process
- Bearing failure and how to prevent it

Tools

- SimPro Quick
- SimPro Spindle
- Bearing Frequency Calculator
- LubeSelect for SKF greases
- Heater selection tool

Terms of use

By accessing and using this website / app owned and published by AB SKF (publ.) (556007-3495 · Gothenburg) (“SKF”), you agree to the following terms and conditions:

Warranty Disclaimer and Limitation of Liability
Although every care has been taken to assure the accuracy of the information on this website / app, SKF provides this information "AS IS" and DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. You acknowledge that your use of this website / app is at your sole risk, that you assume full responsibility for all costs associated with use of this website / app, and that SKF shall not be liable for any direct, incidental, consequential, or indirect damages of any kind arising out of your access to, or use of the information or software made available on this website / app.

Any warranties and representations in this website / app for SKF products or services that you purchase or use will be subject to the agreed upon terms and conditions in the contract for such product or service.

Further, for non-SKF websites / apps that are referenced in our website / app or where a hyperlink appears, SKF makes no warranties concerning the accuracy or reliability of the information in these websites / apps and assumes no responsibility for material created or published by third parties contained therein. In addition, SKF does not warrant that this website / app or these other linked websites / apps are free from viruses or other harmful elements.

Third Party Services
When viewing YouTube content via the SKF website(s) (i.e. using YouTube API Services), you agree to be bound by the YouTube Terms of Service.

Copyright
Copyright in this website / app copyright of the information and software made available on this website / app rest with SKF or its licensors. All rights are reserved. All licensed material will reference the licensor that has granted SKF the right to use the material. The information and software made available on this website / app may not be reproduced, duplicated, copied, transferred, distributed, stored, modified, downloaded or otherwise exploited for any commercial use without the prior written approval of SKF. However, it may be reproduced, stored and downloaded for use by individuals without prior written approval of SKF. Under no circumstances may this information or software be supplied to third parties.

This website /app includes certain images used under license from Shutterstock, Inc.

Trademarks and Patents
All trademarks, brand names, and corporate logos displayed on the website / app are the property of SKF or its licensors, and may not be used in any way without prior written approval by SKF. All licensed trademarks published on this website / app reference the licensor that has granted SKF the right to use the trademark. Access to this website / app does not grant to the user any license under any patents owned by or licensed to SKF.

Changes
SKF reserves the right to make changes or additions to this website / app at any time.