

# 71903 ACDGA/P4A



## Super-precision, high-capacity, universally matchable single row angular contact ball bearing

These super-precision, high-capacity, single row angular contact ball bearings accommodate radial and axial loads acting simultaneously, where the axial load acts in one direction only. They are designed to accommodate heavy loads at relatively high speeds under low to moderate operating temperatures. Being universally matchable, they can be used together in arrangement to provide effective load sharing, within a predetermined preload range, without the use of shims or similar devices.

- 15° or 25° contact angle
- Very high running accuracy
- Very high load carrying capacity
- Relatively high speed and stiffness
- Universally matchable

## Overview

### Dimensions

Bore diameter	0.669 in
Outside diameter	1.181 in
Width	0.276 in

### Performance

Basic dynamic load rating	892 lbf
Basic static load rating	450 lbf

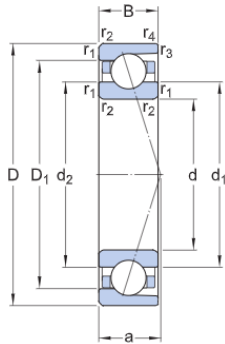
### Properties

Coating	Without
Contact type	Normal contact (two-point contact)
Design	High-capacity D
Lubricant	None
Matched arrangement	No
Matched condition (axial clearance/ preload)	Measuring load, class A
Material, bearing	Bearing steel
Number of rows	1
Ring type	One-piece inner and outer rings
Sealing	Without
Tolerance class	P4A

Universal matching  
bearing

Yes

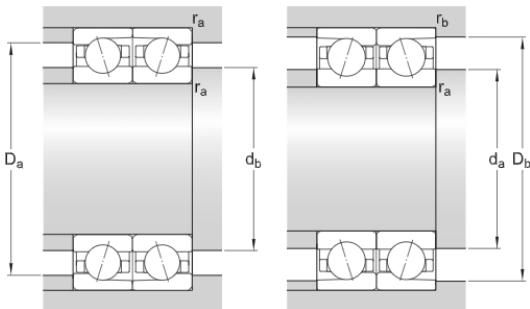
# Technical Specification



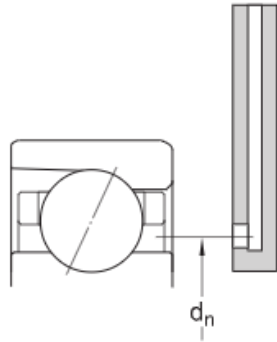
## Dimensions

d	0.669 in	Bore diameter
D	1.181 in	Outside diameter
B	0.276 in	Width
d <sub>1</sub>	0.823 in	Shoulder diameter of inner ring (large side face)
d <sub>2</sub>	0.823 in	Shoulder diameter of inner ring (small side face)
D <sub>1</sub>	1.012 in	Shoulder diameter of outer ring (large side face)
r <sub>1,2</sub>	min. 0.012 in	Chamfer dimension (large side face)
r <sub>3,4</sub>	min. 0.008 in	Chamfer dimension (small side face)
a	0.354 in	Distance from side face to pressure point

## Abutment dimensions



d <sub>a</sub>	min. 0.748 in	Diameter of shaft abutment
d <sub>b</sub>	min. 0.748 in	Diameter of shaft abutment
D <sub>a</sub>	max. 1.102 in	Diameter of housing abutment
D <sub>b</sub>	max. 1.126 in	Diameter of housing abutment
r <sub>a</sub>	max. 0.012 in	Radius of fillet
r <sub>b</sub>	max. 0.008 in	Radius of fillet
d <sub>n</sub>	0.87 in	Position of oil nozzle



### Calculation data

Basic dynamic load rating	$C$	892 lbf
Basic static load rating	$C_0$	450 lbf
Fatigue load limit	$P_u$	19 lbf
Contact angle	$\alpha$	25 °
Ball diameter	$D_w$	0.156 in
Number of balls	$z$	14
Reference grease quantity	$G_{ref}$	0.01465 in

### Preload and stiffness (back-to-back, face-to-face)

Preload class A	$G_A$	5.6 lbf
Axial stiffness for preload A (sets of two brgs back-to-back or face-to-face)		239 826.18 lbf/in

### Calculation factors

Correction factor dependent on bearing series and size	$f$	1.05
Correction factor dependent on contact angle	$f_1$	0.98
Correction factor, preload class A	$f_{2A}$	1
Correction factor for hybrid bearings	$f_{HC}$	1
Limiting value	$e$	0.68
Axial load factor (single, tandem)	$Y_1$	0
Axial load factor (single, tandem)	$Y_2$	0.87
Axial load factor (single, tandem)	$Y_0$	0.38

Radial load factor (single, tandem)	$X_1$	1
Radial load factor (single, tandem)	$X_2$	0.41
Radial load factor (single, tandem)	$X_0$	0.5
Axial load factor (back-to-back, face-to-face)	$Y_1$	0.92
Axial load factor (back-to-back, face-to-face)	$Y_2$	1.41
Axial load factor (back-to-back, face-to-face)	$Y_0$	0.76
Radial load factor (back-to-back, face-to-face)	$X_1$	1
Radial load factor (back-to-back, face-to-face)	$X_2$	0.67
Radial load factor (back-to-back, face-to-face)	$X_0$	1

## Mass

Mass	0.037 lb
------	----------

# Terms and conditions

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.

## 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.