

# 71905 CEGA/P4A



## Super-precision, high-speed, E design, universally matchable single row angular contact ball bearing

These super-precision, high-speed, E design, 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 for high-speed operation and, compared to SKF B design high-speed bearings, have a slightly higher speed capability and can accommodate heavier loads. Being universally matchable, they can be used together in arrangements 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
- Accommodate very high speeds
- Universally matchable

## Overview

### Dimensions

Bore diameter	0.984 in
Outside diameter	1.654 in
Width	0.354 in

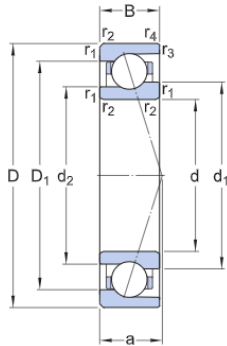
### Performance

Basic dynamic load rating	1 185 lbf
Basic static load rating	629 lbf

### Properties

Coating	Without
Contact type	Normal contact (two-point contact)
Design	High-speed E
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

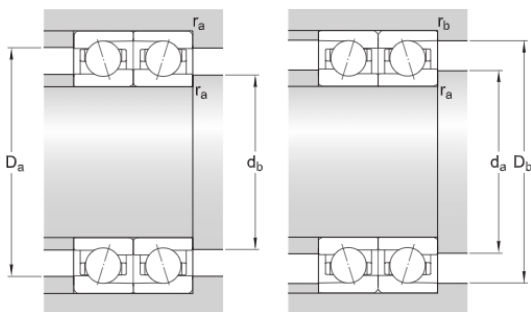
# Technical Specification



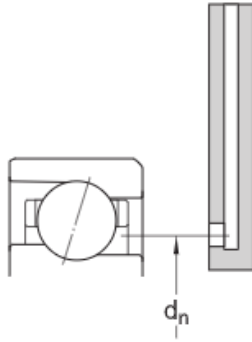
## Dimensions

d	0.984 in	Bore diameter
D	1.654 in	Outside diameter
B	0.354 in	Width
d <sub>1</sub>	1.209 in	Shoulder diameter of inner ring (large side face)
d <sub>2</sub>	1.157 in	Shoulder diameter of inner ring (small side face)
D <sub>1</sub>	1.433 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. 0.006 in	Chamfer dimension (small side face)
a	0.354 in	Distance from side face to pressure point

## Abutment dimensions



d <sub>a</sub>	min. 1.063 in	Diameter of shaft abutment
d <sub>b</sub>	min. 1.063 in	Diameter of shaft abutment
D <sub>a</sub>	max. 1.575 in	Diameter of housing abutment
D <sub>b</sub>	max. 1.622 in	Diameter of housing abutment
r <sub>a</sub>	max. 0.012 in	Radius of fillet
r <sub>b</sub>	max. 0.006 in	Radius of fillet
d <sub>n</sub>	1.252 in	Position of oil nozzle



### Calculation data

Basic dynamic load rating	$C$	1 185 lbf
Basic static load rating	$C_0$	629 lbf
Fatigue load limit	$P_u$	27 lbf
Contact angle	$\alpha$	15 °
Ball diameter	$D_w$	0.187 in
Number of balls	$z$	16
Reference grease quantity	$G_{ref}$	0.03661 in

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

Preload class A	$G_A$	6.3 lbf
Axial stiffness for preload A (sets of two brgs back-to-back or face-to-face)		114 202.943 lbf/in

### Calculation factors

Correction factor dependent on bearing series and size	$f$	1.06
Correction factor dependent on contact angle	$f_1$	1
Correction factor, preload class A	$f_{2A}$	1
Correction factor for hybrid bearings	$f_{HC}$	1
Calculation factor	$f_0$	8
Axial load factor (single, tandem)	$Y_1$	0
Axial load factor (single, tandem)	$Y_0$	0.46
Radial load factor (single, tandem)	$X_1$	1

Radial load factor (single, tandem)	$X_2$	0.44
Radial load factor (single, tandem)	$X_0$	0.5
Axial load factor (back-to-back, face-to-face)	$Y_0$	0.92
Radial load factor (back-to-back, face-to-face)	$X_1$	1
Radial load factor (back-to-back, face-to-face)	$X_2$	0.72
Radial load factor (back-to-back, face-to-face)	$X_0$	1

### Mass

Mass	0.088 lb
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