



7009 ACD/P4ADGAMatched set of two super-precision, high-capacity, D design, single row angular contact ball bearings

Matched set of two super-precision, high-capacity, D design, single row angular contact ball bearings

These matched sets of two super-precision, high-capacity, D design, single row angular contact ball bearings are available in a variety of arrangements. They are designed for high-load capacity and relatively high speed operation and, compared to the equivalent SKF B and E design high-speed bearings, are best suited for heavier loads.

- Very high running accuracy
- Very high load carrying capacity

Overview

Dimensions

Bore diameter	45 mm
Outside diameter	75 mm
Width	32 mm
Contact angle	25 °

Performance

Basic dynamic load rating	44.2 kN
Basic static load rating	43 kN
Note	Contact SKF for the attainable speeds

Properties

Contact type	Normal contact (two-point contact)
Number of rows	2
Ring type	One-piece inner and outer rings
Design	High-capacity D
Universal matching bearing	Yes, back-to-back (<>), face-to-face (><) or tandem (>>)
Matched arrangement	Universal matching
Number of bearings in matched set	2
Matched condition (axial)	Extra light preload

clearance/
preload)

Tolerance class	P4A
Material, bearing	Bearing steel
Coating	Without
Sealing	Without
Lubricant	None

Technical Specification

Universal matching bearing(s)

Yes, back-to-back (<>), face-to-face (><) or tandem (>>)

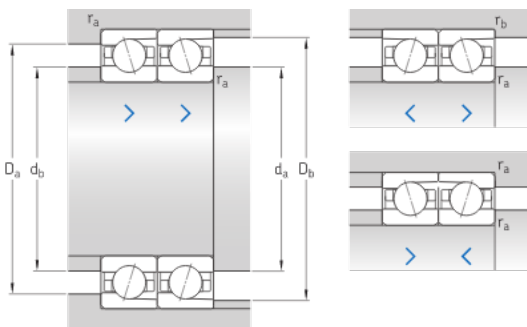


Dimensions

d	45 mm	Bore diameter
D	75 mm	Outside diameter
B	32 mm	Width
d ₁	54.2 mm	Shoulder diameter of inner ring (large side face)
d ₂	54.2 mm	Shoulder diameter of inner ring (small side face)
D ₁	65.8 mm	Shoulder diameter of outer ring (large side face)
r _{1,2}	min. 1 mm	Chamfer dimension
r _{3,4}	min. 0.3 mm	Chamfer dimension

Abutment dimensions

d _a	min. 49.6 mm	Diameter of shaft abutment
d _b	min. 49.6 mm	Diameter of shaft abutment
D _a	max. 70.4 mm	Diameter of housing abutment
D _b	max. 73 mm	Diameter of housing abutment
r _a	max. 1 mm	Radius of fillet
r _b	max. 0.3 mm	Radius of fillet
d _n	56.2 mm	Position of oil nozzle





Calculation data

Basic dynamic load rating	C	44 200 N
Basic static load rating	C ₀	43 000 N
Fatigue load limit	P _u	1 800 N
Attainable speeds	Contact SKF for the attainable speeds	
Contact angle	α	25 °
Ball diameter	D _w	9.525 mm
Number of rows	i	2
Number of balls (per bearing)	z	17
Reference grease quantity (per bearing)	G _{ref}	3.3 cm ³

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

Preload class		A
Preload	G	170 N
Axial stiffness		132 N/μm

Correction factors for preload calculation

Correction factor dependent on bearing series and size	f	1.09
Correction factor dependent on contact angle	f ₁	0.99
Correction factor, preload class A	f _{2A}	1
Correction factor for hybrid bearings	f _{HC}	1

Factors for equivalent bearing load calculation

Calculation factor	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	0.47 kg
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