



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

N 1016 KPHA/SP

Super-precision single row cylindrical roller bearing

These super-precision single row cylindrical roller bearings have a tapered bore and can accommodate axial displacement of the shaft relative to the housing in both directions. They are available in basic design and high-speed design.

- Accommodate high speeds
- Low friction
- Separable

Overview

Dimensions

Bore diameter	80 mm
Outside diameter	125 mm
Width	22 mm

Properties

Bearing part	Complete bearing
Number of rows	1
Bore type	Tapered 1:12
Cage	Non-metallic
Number of flanges, outer ring	0
Number of flanges, inner ring	2
Loose flange	None
Radial internal clearance	C1
Tolerance class	Class SP (SP)
Material, bearing	Bearing steel
Coating	Without
Sealing	Without
Lubricant	None
Relubrication feature	Without
Indicative carbon footprint for new product	3.3 kg CO ₂ e

Performance

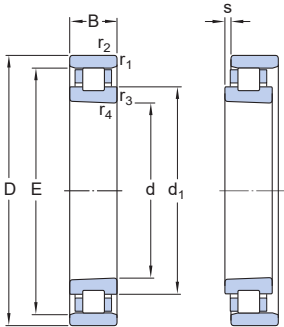
Basic dynamic load rating	66 kN
Basic static load rating	86.5 kN
Attainable speed for grease lubrication	16 000 r/min
Attainable speed for oil-air lubrication	19 000 r/min

Logistics

Product net weight	0.88 kg
eClass code	23-05-09-01
UNSPSC code	31171505

Technical specification

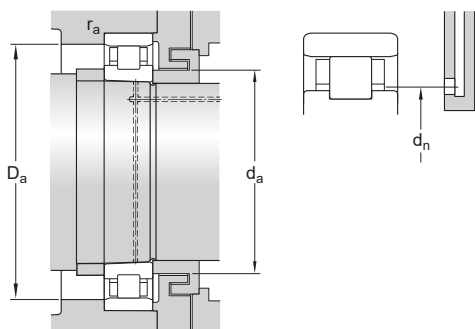
Bore type	Tapered 1:12
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Dimensions

d	80 mm	Bore diameter
D	125 mm	Outside diameter
B	22 mm	Width
d ₁	97 mm	Shoulder diameter inner ring

E	113 mm	Raceway diameter outer ring
$r_{1,2}$	min. 1.1 mm	Chamfer dimension
$r_{3,4}$	min. 0.6 mm	Chamfer dimension
s	max. 3 mm	Permissible axial displacement from the normal position of one bearing ring relative to the other (all)



Abutment dimensions

d_a	min. 86.5 mm	Abutment diameter shaft
D_a	min. 114 mm	Abutment diameter housing
D_a	max. 118.5 mm	Abutment diameter housing
r_a	max. 1 mm	Radius of fillet
d_n	99.3 mm	Oil nozzle position (not for variants with TNHA cage)

Calculation data

Basic dynamic load rating	C	66 kN
Basic static load rating	C_0	86.5 kN
Fatigue load limit	P_u	10.2 kN
Attainable speed for grease lubrication		16 000 r/min
Attainable speed for oil-air lubrication		19 000 r/min
Reference grease quantity	G_{ref}	12.5 cm ³
Static radial stiffness (guideline value)		810 N/ μ m

Tolerances and clearances

PRODUCT DETAILS

- Tolerances: SP, UP, SP and UP for 1:12 tapered bore
- Radial internal clearance: table

PRINCIPLES OF BEARING SELECTION AND APPLICATION

- [Chamfer dimensions](#)
- [Seat tolerances for standard conditions: shafts, housings](#)
- Values for ISO tolerance classes: [shafts](#), [housings](#)
- Speed dependent initial grease fill → [Initial grease fill](#)

Compatible products

Recommended tool

GB 10 internal clearance
gauge

[GB 1016](#)

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