

NN 3010 KTN/SP

Super-precision double row cylindrical roller bearing with tapered bore



Super-precision double row cylindrical roller bearings in the NN 30 series provide a unique balance between load carrying capacity, rigidity and speed. Having three flanges on the inner ring and no flanges on the outer ring, the bearings can accommodate axial displacement in both directions. The separable design simplifies mounting and dismounting, particularly when load conditions require both rings to have an interference fit. The tapered bore enables accurate adjustment of clearance or preload during mounting.

- Very high radial load carrying capacity
- High rigidity and high running accuracy
- Minimize noise, vibration and heat generation
- Accommodate axial displacement in both directions

Overview

Dimensions

Bore diameter	1.969 in
Outside diameter	3.15 in
Width	0.906 in

Performance

Attainable speed for grease lubrication	11 000 r/min
Attainable speed for oil-air lubrication	13 000 r/min
Basic dynamic load rating	11 870 lbf
Basic static load rating	16 523 lbf

Properties

Bearing part	Complete bearing
Bore type	Tapered 1:12
Cage	Non-metallic
Coating	Without
Design	NN
Loose flange	None
Lubricant	None
Material, bearing	Bearing steel
Number of flanges, inner ring	3
Number of flanges, outer ring	0
Number of rows	2
Radial internal clearance	C1
Relubrication feature	Without

Sealing

Without

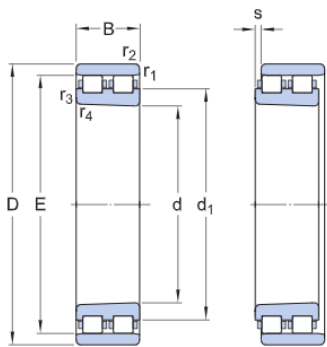
Tolerance class

Class SP (SP)

Technical Specification

Bore type

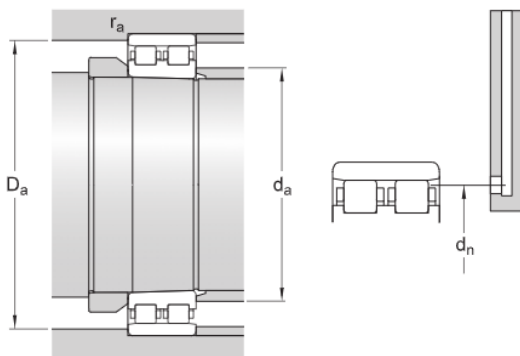
Tapered 1:12



Dimensions

d	1.969 in	Bore diameter
D	3.15 in	Outside diameter
B	0.906 in	Width
d ₁	2.413 in	Shoulder diameter inner ring (NN design)
E	2.854 in	Raceway diameter outer ring (NN design)
r _{1,2}	min. 0.039 in	Chamfer dimension outer ring
r _{3,4}	min. 0.024 in	Chamfer dimension inner ring (bearing with tapered bore)
s	max. 0.0591 in	Permissible axial displacement from the normal position of one bearing ring relative to the other (all)

Abutment dimensions



d _a	min. 2.165 in	Abutment diameter shaft
D _ç	min. 2.913 in	Abutment diameter housing
D _ç	max. 2.953 in	Abutment diameter housing
r _a	max. 0.039 in	Fillet radius
d _r	2.811 in	Oil nozzle position (not for variants with TNHA cage)

Calculation data

Basic dynamic load rating	C	11 870 lbf
Basic static load rating	C ₀	16 523 lbf
Fatigue load limit	P _u	1 911 lbf
Attainable speed for grease lubrication		11 000 r/min
Attainable speed for oil-air lubrication		13 000 r/min
Reference grease quantity	G _{ref}	0.1648 in
Axial stiffness for preload B (sets of two brgs back-to-back or face-to-face)		5 938,553.036 lbf/in

Mass

Mass bearing		0.882 lb
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