

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

NN 3014 TN/SPW33

Super-precision double row cylindrical roller bearing with lubrication feature

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.

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

Overview

Dimensions

Bore diameter	70 mm
Outside diameter	110 mm
Width	30 mm

Performance

Basic dynamic load rating	96.8 kN
Basic static load rating	150 kN
Attainable speed for grease lubrication	8 000 r/min
Attainable speed for oil-air lubrication	9 000 r/min

Properties

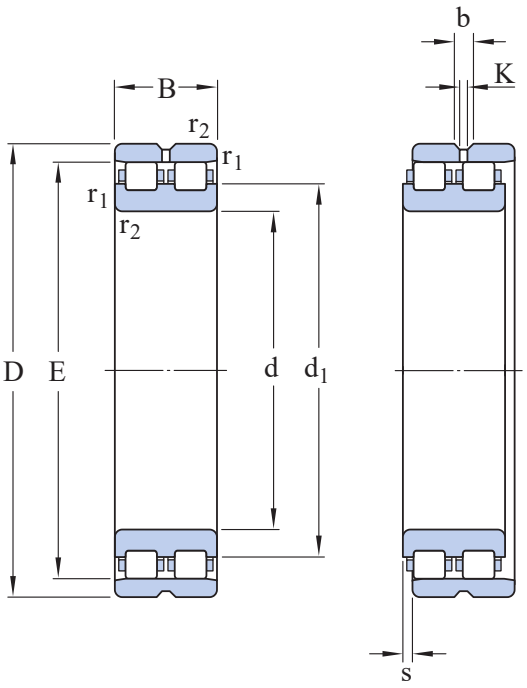
Bearing part	Complete bearing
Number of rows	2
Bore type	Cylindrical
Cage	Non-metallic
Design	NN
Number of flanges, outer ring	0
Number of flanges, inner ring	3
Loose flange	None
Radial internal clearance	C1
Tolerance class	Class SP (SP)
Material, bearing	Bearing steel
Coating	Without
Sealing	Without
Lubricant	None
Relubrication feature	Annular groove and lubrication holes
Indicative carbon footprint for new product	3.7 kg CO_2e

Logistics

Product net weight	0.986 kg
eClass code	23-05-09-01
UNSPSC code	31171505

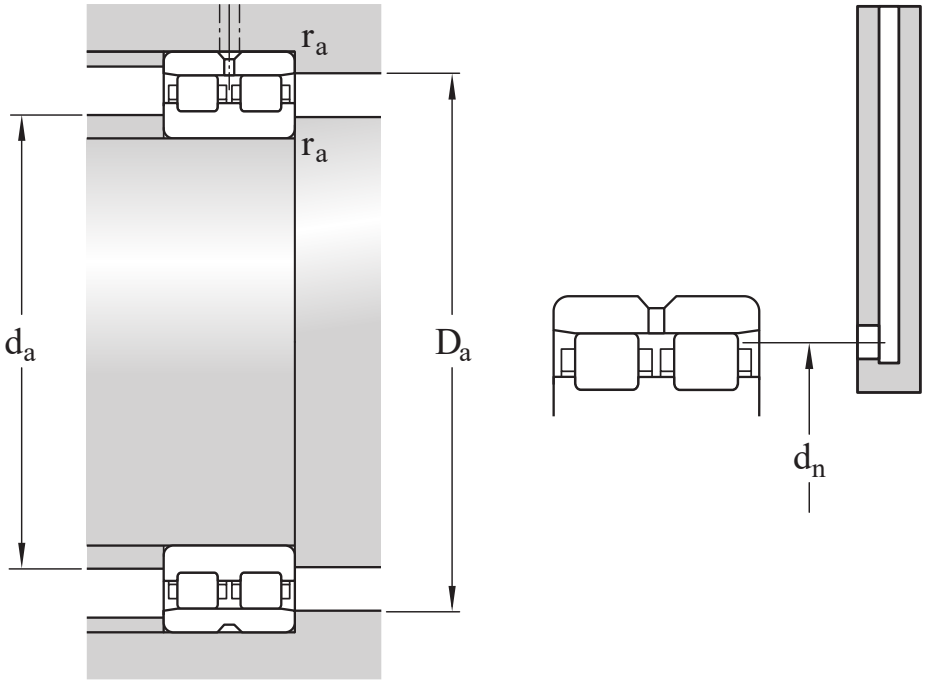
Technical specification

Bore type	Cylindrical



Dimensions

d	70 mm	Bore diameter
D	110 mm	Outside diameter
B	30 mm	Width
d_1	85.6 mm	Shoulder diameter inner ring (NN design)
E	100 mm	Raceway diameter outer ring (NN design)
b	5.5 mm	Width annular lubrication groove at outer ring
K	3 mm	Diameter lubrication hole (outer ring)
$r_{1,2}$	min. 1.1 mm	Chamfer dimension outer ring
s	max. 2 mm	Permissible axial displacement from the normal position of one bearing ring relative to the other (all)



Abutment dimensions

d_a	min. 76.5 mm	Abutment diameter shaft
D_a	min. 101 mm	Abutment diameter housing
D_a	max. 103.5 mm	Abutment diameter housing
r_a	max. 1 mm	Fillet radius
d_n	98.4 mm	Oil nozzle position (not for variants with TNHA cage)

Calculation data

Basic dynamic load rating	C	96.8 kN
Basic static load rating	C_0	150 kN
Fatigue load limit	P_u	17.3 kN
Attainable speed for grease lubrication		8 000 r/min
Attainable speed for oil-air lubrication		9 000 r/min
Reference grease quantity	G_{ref}	5.9 cm^3
Static radial stiffness (guideline value)		1 610 N/µm

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

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