

# NN 3040 K/SPW33



## Super-precision double row cylindrical roller bearing with tapered bore and 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. 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
- Lubrication feature

## Overview

### Dimensions

Bore diameter	200 mm
Outside diameter	310 mm
Width	82 mm

## Performance

Basic dynamic load rating	644 kN
Basic static load rating	1 140 kN
Attainable speed for grease lubrication	2 600 r/min
Attainable speed for oil-air lubrication	3 000 r/min

## Properties

Bearing part	Complete bearing
Number of rows	2
Bore type	Tapered 1:12
Cage	Machined metal
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

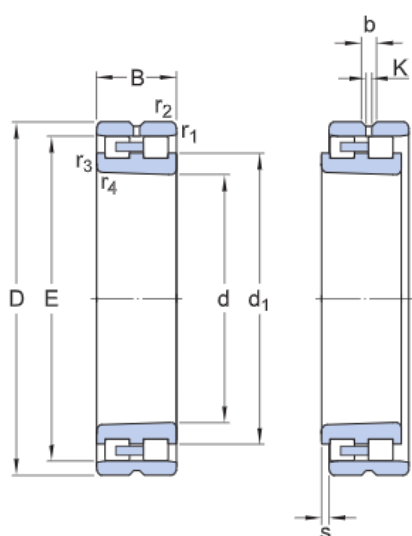
Coating	Without
Sealing	Without
Lubricant	None
Relubrication feature	Annular groove and lubrication holes

# Technical Specification

Bore type

Tapered 1:12

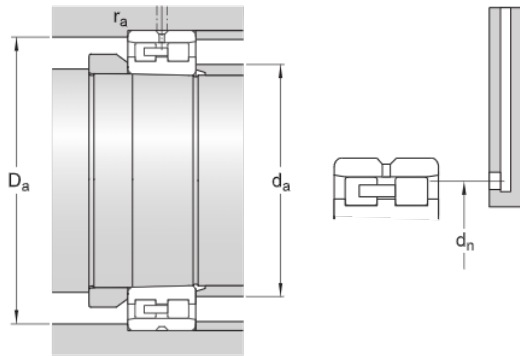
## Dimensions



d	200 mm	Bore diameter
D	310 mm	Outside diameter
B	82 mm	Width
d <sub>1</sub>	242 mm	Shoulder diameter inner ring (NN design)
E	282 mm	Raceway diameter outer ring (NN design)
b	12.2 mm	Width annular lubrication groove at outer ring
K	6 mm	Diameter lubrication hole (outer ring)
r <sub>1,2</sub>	min. 2.1 mm	Chamfer dimension outer ring
r <sub>3,4</sub>	min. 1.1 mm	Chamfer dimension inner ring (bearing with tapered bore)
s	max. 3 mm	Permissible axial displacement from the normal position of one bearing ring relative to the other (all)

## Abutment dimensions

d <sub>a</sub>	min. 211 mm	Abutment diameter shaft
D <sub>i</sub>	min. 285 mm	Abutment diameter housing
D <sub>i</sub>	max. 299 mm	Abutment diameter housing



$r_a$  max. 2 mm

Fillet radius

$d_r$  275.3 mm

Oil nozzle position (not for variants with TNH A cage)

## Calculation data

Basic dynamic load rating	C	644 kN
Basic static load rating	$C_0$	1 140 kN
Fatigue load limit	$P_u$	118 kN
Attainable speed for grease lubrication		2 600 r/min
Attainable speed for oil-air lubrication		3 000 r/min
Reference grease quantity	$G_{ref}$	191 cm
Static radial stiffness (guideline value)		4 380 N/ $\mu$ m

## Mass

Mass bearing	21.6 kg
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