



# NNU 4920

## BK/SPW33 Super-precision double row cylindrical roller bearing with tapered bore and lubrication feature

Super-precision double row cylindrical roller bearing with tapered bore and lubrication feature

Super-precision double row cylindrical roller bearings in the NNU 49 series are designed to accommodate heavy radial loads and high speeds, while providing a high degree of stiffness. Having three flanges on the outer ring and no flanges on the inner 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.

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

### Overview

### Dimensions

Bore diameter	100 mm
Outside diameter	140 mm
Width	40 mm

### Performance

Basic dynamic load rating	128 kN
Basic static load rating	255 kN
Attainable speed for grease lubrication	5 600 r/min
Attainable speed for oil-air lubrication	6 300 r/min

### Properties

Bearing part	Complete bearing
Number of rows	2
Bore type	Tapered 1:12
Cage	Machined metal
Design	NNU
Number of flanges, outer ring	3
Number of flanges, inner ring	0

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	100 mm	Bore diameter
D	140 mm	Outside diameter
B	40 mm	Width
D <sub>1</sub>	125.8 mm	Shoulder diameter outer ring (NNU design)
F	113 mm	Raceway diameter inner ring (NNU design)
b	5.5 mm	Width annular lubrication groove at outer ring
K	3 mm	Diameter lubrication hole (outer ring)
r <sub>1,2</sub>	min. 1.1 mm	Chamfer dimension outer ring
r <sub>3,4</sub>	min. 0.6 mm	Chamfer dimension inner ring (bearing with tapered bore)
s	max. 1.1 mm	Permissible axial displacement from the normal position of one bearing ring relative to the other (all)

## Abutment dimensions

d <sub>a</sub>	min. 106 mm	Abutment diameter shaft
d <sub>a</sub>	max. 111 mm	Abutment diameter shaft (NNU design)
D <sub>a</sub>	max. 133.5 mm	Abutment diameter housing



$r_a$	max. 1 mm	Fillet radius
$d_n$	113.8 mm	Oil nozzle position (not for variants with TNHA cage)

## Calculation data

Basic dynamic load rating	C	128 kN
Basic static load rating	$C_0$	255 kN
Fatigue load limit	$P_u$	29 kN
Attainable speed for grease lubrication		5 600 r/min
Attainable speed for oil-air lubrication		6 300 r/min
Reference grease quantity	$G_{ref}$	13 cm <sup>3</sup>
Static radial stiffness (guideline value)		2 950 N/ $\mu$ m

## Mass

Mass bearing		1.9 kg
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