



# NNU 4934

## BK/SPW33 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	170 mm
Outside diameter	230 mm
Width	60 mm

### Performance

Basic dynamic load rating	336 kN
Basic static load rating	695 kN
Attainable speed for grease lubrication	3 400 r/min
Attainable speed for oil-air lubrication	3 800 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	170 mm	Bore diameter
D	230 mm	Outside diameter
B	60 mm	Width
D <sub>1</sub>	210.9 mm	Shoulder diameter outer ring (NNU design)
F	188.5 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. 2 mm	Chamfer dimension outer ring
r <sub>3,4</sub>	min. 2 mm	Chamfer dimension inner ring (bearing with tapered bore)
s	max. 2 mm	Permissible axial displacement from the normal position of one bearing ring relative to the other (all)

## Abutment dimensions

d <sub>a</sub>	min. 180 mm	Abutment diameter shaft
d <sub>a</sub>	max. 186 mm	Abutment diameter shaft (NNU design)
D <sub>a</sub>	max. 220	Abutment diameter housing



	mm	
$r_a$	max. 2 mm	Fillet radius
$d_n$	189.8 mm	Oil nozzle position (not for variants with TNHA cage)

## Calculation data

Basic dynamic load rating	C	336 kN
Basic static load rating	$C_0$	695 kN
Fatigue load limit	$P_u$	73.5 kN
Attainable speed for grease lubrication		3 400 r/min
Attainable speed for oil-air lubrication		3 800 r/min
Reference grease quantity	$G_{ref}$	72 cm <sup>3</sup>
Static radial stiffness (guideline value)		4 460 N/ $\mu$ m

## Mass

Mass bearing		6.95 kg
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