



NNU 4924

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	120 mm
Outside diameter	165 mm
Width	45 mm

Performance

Basic dynamic load rating	176 kN
Basic static load rating	340 kN
Attainable speed for grease lubrication	4 800 r/min
Attainable speed for oil-air lubrication	5 300 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	120 mm	Bore diameter
D	165 mm	Outside diameter
B	45 mm	Width
D ₁	150.5 mm	Shoulder diameter outer ring (NNU design)
F	134.5 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 _{1,2}	min. 1.1 mm	Chamfer dimension outer ring
r _{3,4}	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 _a	min. 126 mm	Abutment diameter shaft
d _a	max. 133 mm	Abutment diameter shaft (NNU design)
D _a	max. 158.5	Abutment diameter housing



mm	
r_a	max. 1 mm Fillet radius
d_n	135.8 mm Oil nozzle position (not for variants with TNHA cage)

Calculation data

Basic dynamic load rating	C	176 kN
Basic static load rating	C_0	340 kN
Fatigue load limit	P_u	37.5 kN
Attainable speed for grease lubrication		4 800 r/min
Attainable speed for oil-air lubrication		5 300 r/min
Reference grease quantity	G_{ref}	27 cm ³
Static radial stiffness (guideline value)		3 140 N/ μ m

Mass

Mass bearing	2.8 kg
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