

NNU 4944 B/SPW33

Super-precision double row cylindrical roller bearing with 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.

- 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 | 220 mm |
| Outside diameter | 300 mm |
| Width | 80 mm |

Performance

| | |
|--|-------------|
| Basic dynamic load rating | 512 kN |
| Basic static load rating | 1 140 kN |
| Attainable speed for grease lubrication | 2 400 r/min |
| Attainable speed for oil-air lubrication | 2 800 r/min |

Properties

| | |
|-------------------------------|------------------|
| Bearing part | Complete bearing |
| Number of rows | 2 |
| Bore type | Cylindrical |
| 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 |

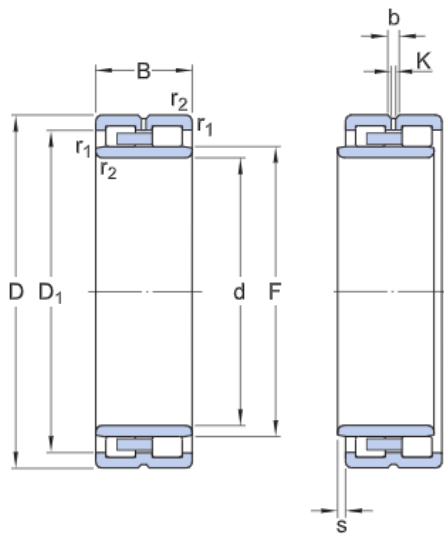
| | |
|-----------------------|--------------------------------------|
| Coating | Without |
| Sealing | Without |
| Lubricant | None |
| Relubrication feature | Annular groove and lubrication holes |

Technical Specification

Bore type

Cylindrical

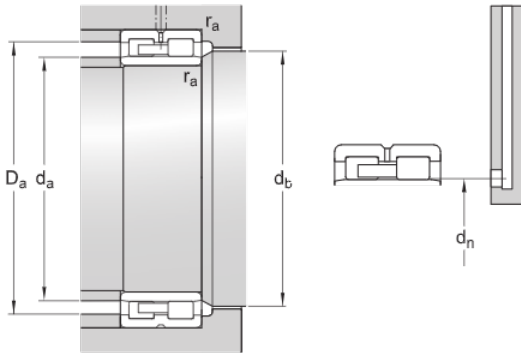
Dimensions



| | | |
|------------------|-------------|---|
| d | 220 mm | Bore diameter |
| D | 300 mm | Outside diameter |
| B | 80 mm | Width |
| D ₁ | 272.2 mm | Shoulder diameter outer ring (NNU design) |
| F | 245 mm | Raceway diameter inner ring (NNU design) |
| b | 11.1 mm | Width annular lubrication groove at outer ring |
| K | 3 mm | Diameter lubrication hole (outer ring) |
| r _{1,2} | min. 2.1 mm | Chamfer dimension outer ring |
| r _{3,4} | min. 2.1 mm | Chamfer dimension inner ring (bearing with tapered bore) |
| s | max. 3.7 mm | Permissible axial displacement from the normal position of one bearing ring relative to the other (all) |

Abutment dimensions

| | | |
|----------------|-------------|--|
| d _a | min. 231 mm | Abutment diameter shaft |
| d _a | max. 242 mm | Abutment diameter shaft (NNU design) |
| d _t | min. 249 mm | Abutment diameter shaft (NNU design; not for tapered bore) |



| | |
|-------------------|---|
| D_i max. 289 mm | Abutment diameter housing |
| r_a max. 2 mm | Fillet radius |
| d_r 247 mm | Oil nozzle position (not for variants with TNHA cage) |

Calculation data

| | | |
|---|-----------|------------------|
| Basic dynamic load rating | C | 512 kN |
| Basic static load rating | C_0 | 1 140 kN |
| Fatigue load limit | P_u | 114 kN |
| Attainable speed for grease lubrication | | 2 400 r/min |
| Attainable speed for oil-air lubrication | | 2 800 r/min |
| Reference grease quantity | G_{ref} | 150 cm |
| Static radial stiffness (guideline value) | | 5 990 N/ μ m |

Mass

| | |
|--------------|---------|
| Mass bearing | 16.5 kg |
|--------------|---------|

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