



Image may differ from product. See technical specification for details.

NN 3038 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 | 190 mm |
| Outside diameter | 290 mm |
| Width | 75 mm |

Performance

| | |
|--|-------------|
| Basic dynamic load rating | 594 kN |
| Basic static load rating | 1 080 kN |
| Attainable speed for grease lubrication | 2 800 r/min |
| Attainable speed for oil-air lubrication | 3 200 r/min |

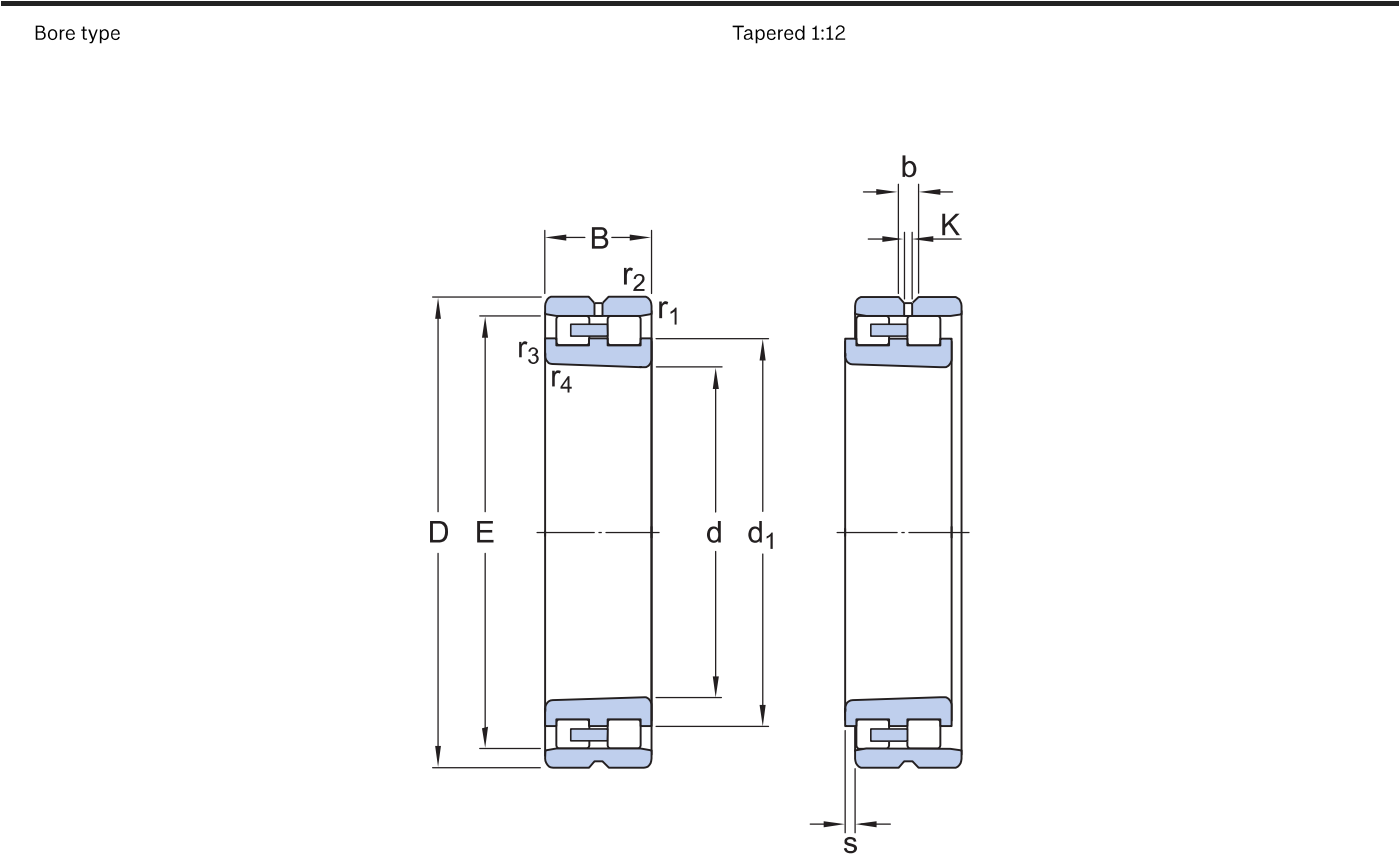
Properties

| | |
|-------------------------------|--------------------------------------|
| 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 |

Logistics

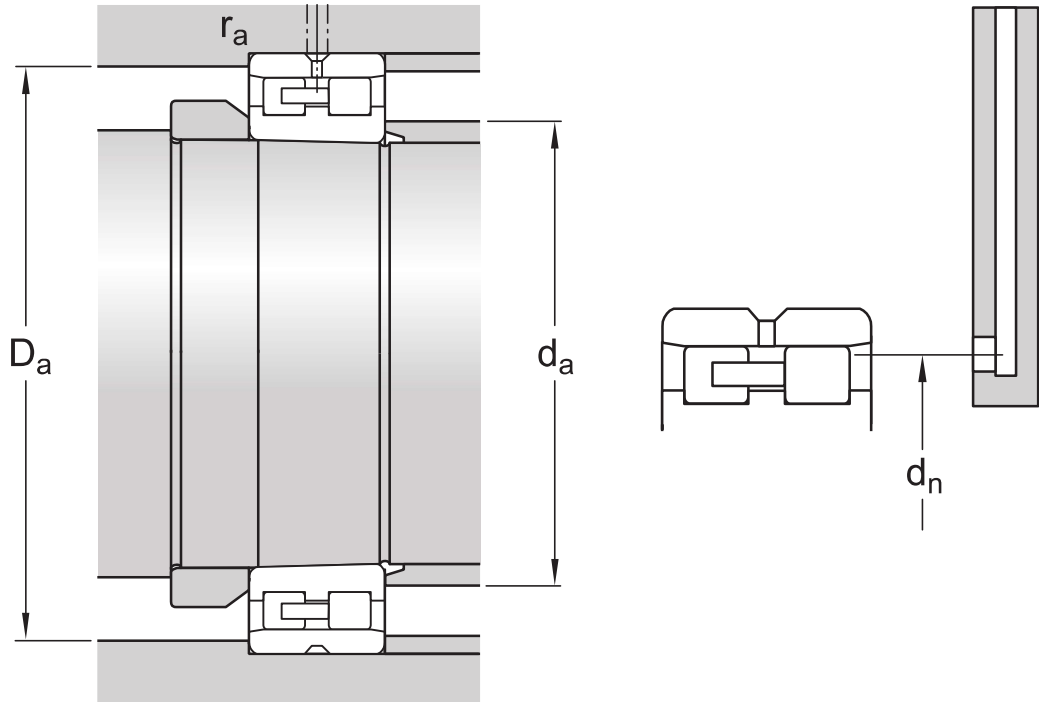
| | |
|--------------------|-------------|
| Product net weight | 17.1 kg |
| eClass code | 23-05-09-01 |
| UNSPSC code | 31171505 |

Technical specification



Dimensions

| | | |
|------------------|-------------|---|
| d | 190 mm | Bore diameter |
| D | 290 mm | Outside diameter |
| B | 75 mm | Width |
| d ₁ | 228.2 mm | Shoulder diameter inner ring (NN design) |
| E | 265 mm | Raceway diameter outer ring (NN design) |
| b | 11.35 mm | Width annular lubrication groove at outer ring |
| K | 6 mm | Diameter lubrication hole (outer ring) |
| r _{1,2} | min. 2.1 mm | Chamfer dimension outer ring |
| r _{3,4} | 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_a | min. 201 mm | Abutment diameter shaft |
| D_a | min. 267 mm | Abutment diameter housing |
| D_a | max. 279 mm | Abutment diameter housing |
| r_a | max. 2 mm | Fillet radius |
| d_n | 258.9 mm | Oil nozzle position (not for variants with TNHA cage) |

Calculation data

| | | |
|---|-----------|---------------------|
| Basic dynamic load rating | C | 594 kN |
| Basic static load rating | C_0 | 1 080 kN |
| Fatigue load limit | P_u | 108 kN |
| Attainable speed for grease lubrication | | 2 800 r/min |
| Attainable speed for oil-air lubrication | | 3 200 r/min |
| Reference grease quantity | G_{ref} | 144 cm ³ |
| Static radial stiffness (guideline value) | | 4 280 N/μm |

Tolerances and clearances




PRODUCT DETAILS

- [Tolerances: SP, UP, SP and UP for 1:12 tapered bore](#)
- [Radial internal clearance: table](#)

PRINCIPLES OF BEARING SELECTION AND APPLICATION

- [Chamfer dimensions](#)
- [Seat tolerances for standard conditions: shafts, housings](#)
- Values for ISO tolerance classes: [shafts, housings](#)
- Speed dependent initial grease fill → [Initial grease fill](#)

More Information

| | | |
|---|---|--|
| <div> Product details</div> <div>Designs and variants</div> <div>General bearing specifications</div> <div>Preload, clearance, and stiffness</div> <div>Loads</div> <div>Attainable speeds</div> <div>Design considerations</div> <div>Mounting</div> <div>Designation system</div> | <div> Engineering information</div> <div>Principles of bearing selection and application</div> <div>General bearing knowledge</div> <div>Bearing selection process</div> <div>Bearing failure and how to prevent it</div> | <div> Tools</div> <div>SimPro Quick</div> <div>SimPro Spindle</div> <div>Bearing Frequency Calculator</div> <div>LubeSelect for SKF greases</div> <div>Heater selection tool</div> |
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