# 12.4 CYLINDRICAL ROLLER BEARINGS

Cylindrical roller bearings are manufactured in many designs, dimensions and sizes. The most common designs are single row cylindrical roller bearings with cage. Single row cylindrical roller bearings are capable of transferring big radial loads and, in some design cases, they are capable of capturing even axial load. Cylindrical roller bearings can operate at high revolutions. The full complement design is capable of transfe-rring big radial loads but at lower rpm.

Majority of design versions is separable which allows easier assembly and disassembly in location. In majority of cases the mutual axial displacement of the outer and inner ring is used when the axial shift of the shaft against the body is aligned inside the bearing without reducing the service life of the bearing. Axial displacement is mostly caused by thermal expansion of the shaft.

Use of cylindrical roller bearings requires good alignment of both rings. Modification of raceways of rings and cylindrical rollers allow only small tilting in case of misalignment without reducing the service life of the bearing. Multirow cylindrical roller bearings have to comply with even more stringent alignment requirements.

Dunlop manufactures the following types of cylindrical roller bearings:

- single row cylindrical roller bearings
- double row cylindrical roller bearings
- single row full complement cylindrical roller bearings
- double row full complement cylindrical roller bearings
- multi row cylindrical roller bearings

BTL further offers special cylindrical roller bearings that are described in more details in chapter Special cylindrical roller bearings:

- single row cylindrical roller bearings and bearing units for railway applications
- electrically insulated cylindrical roller bearings
- single row and multirow bearings for heavy industry
- split cylindrical roller bearings.

Where the space for bearing is limited significantly, cylindrical roller bearing can be used without the inner or outer ring. Rolling elements are guided directly on the shaft or in the body. This location requires that the contact shaft or body surfaces correspond with the structural design of the bearing ring.

# SINGLE ROW CYLINDRICAL ROLLER BEARINGS

## Design

Single row cylindrical roller bearings with cage are among the mostly used cylindrical roller bearings. These bearings are made in several design versions that are either axially free (do not transfer axial load), or able to capture axial loads in one or both directions.

Single row cylindrical roller bearings are made in dimensional rows same as those of ball bearings, transfer significantly higher radial load than cylindrical roller bearings and are able to work even at extremely high revolution frequencies. Out of the line contact bearings they achieve the highest limit revolution frequencies which are given by minimum slippage of rolling elements.

Ring with guide flanges along with cage and cylindrical rollers can be separated from the other ring which simplifies the assembly and disassembly of the bearing mostly in locations where the inner and outer ring of the bearing has to be pressed at loading conditions.

Bearings in E version have basic dynamic load rating 30% higher in average than bearings in basic version. This is allowed due to the optimised inner design of the bearing.

## Basic version

Single row cylindrical roller bearings are made in several design versions that differ in the number and loca-tion of guide flanges.

## NU design

Inner bearing ring has guide flanges on both sides; the inner ring is without flanges (fig. 12.4.1). NU version bearing is axially free; it allows axial displacement of shaft against body in both directions.

## N design

Inner bearing ring has guide flanges on both sides; the outer ring is without flanges (fig. 12.4.2). N version bearing is axially free; it allows axial displacement of shaft against body in both directions.

## NJ design

Outer bearing ring has guide flanges on both sides; the inner ring has one guide flange (fig. 12.4.3). NJ design bearing is axially guiding in one direction; in one direction the bearing captures axial load whilst in the other direction it allows axial displacement of shaft against body.

## NUP design

Outer bearing ring has guide flanges on both sides; the inner ring has one fixed guide flange and one free flange which consists of free angle ring (fig. 12.4.4). NUP bearing is axially guiding in both directions, it captures axial load in both directions.

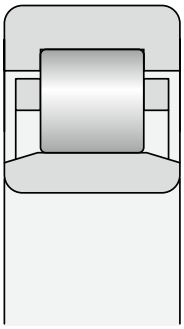


*Fig. 12.4.1*

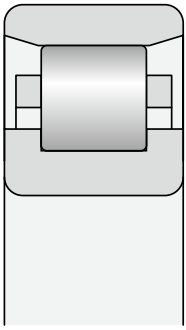


*Fig. 12.4.2*

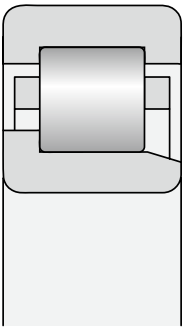


*Fig. 12.4.3*

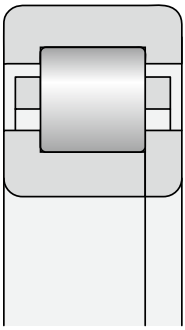


*Fig. 12.4.4*

## Angle rings

NJ and NU version bearings can be used in combinations with HJ angle rings. This enables transfer of double direction axial load in NJ bearings and single direction axial load in NU bearings.

NUP version bearing with shortened inner ring bearing surface should be in case of big radial load inter-changed with NJ + HJ bearing. This arrangement has standard width of inner ring that ensures more stable support. Angle rings are made of the same steel as the bearing rings.

The designation and dimensions of angle rings are stated in the table section of the catalogue.
Designation of Dunlop bearing assembly pair consists of the designation of the bearing and the angle ring as follows:
+ HJ214. NJ214

Also associated designation of assemblies that consist of the below examples can be encountered:

NJ214 + HJ214 = NH214

NU208 + HJ208 = NUJ208

## Bearing NJ + HJ (NH)

It is a bearing in NJ version along with angle ring HJ (fig. 12.4.5). NH bearing is axially guiding in both direc-tions; the bearing captures axial load in both directions.

## NU + HJ (NUJ) design

It is a bearing in NU version along with angle ring HJ (fig. 12.4.6). NUJ bearing is axially guiding in one direc-tion; in one direction the bearing captures axial load whilst in the other direction is allows axial displacement of shaft against body.

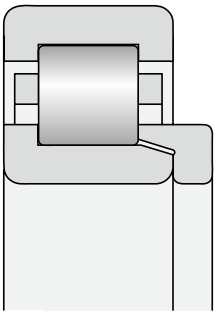


*Fig. 12.4.5*

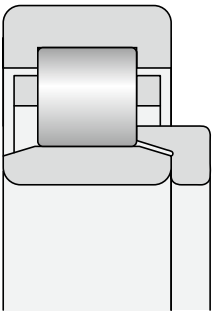


*Fig. 12.4.6*

## Special design

Availability of special design bearings shall be consulted with Dunlop BTL.

## Bearings without inner or outer ring

Where the space for bearing location is limited, Dunlop supplies NU single row cylindrical roller bearings without inner ring marked R NU (fig. 12.4.7), or N single row cylindrical roller bearings without outer ring marked R N (fig. 12.4.8). The raceway is formed directly with hardened and ground surface of shaft or body; these surfaces must comply with stringent requirements, similarly as the raceways of bearing rings. Therefore use of through-hardening steels, cementation steels or steels for high-frequency hardening is recommended in these cases, accordingly with ISO 683-17.

Tolerance of journal dimension is usually „g6" for normal radial clearance, „f6" for increased radial clea-rance and „h5" for reduced radial clearance. Journal raceway roundness and cylindricality deviations in this case must not exceed those of deviations applicable to the IT3 accuracy level. Maximum surface roughness for this surface should be Ra = 0.2 µm and Ra = 0.4 µm for less exacting locations. Similar tolerances apply to raceway that forms a part of the body.

Basic bearing capacity values $C_r$ a $C_{or}$ stated in the table section apply to the R NU and R N bearings provi-ded that the hardness on the raceway surface will range within 58 to 64 HRC. With reducing hardness values also the load bearing capacity values $C_r$ drop. For instance, bearings with 48 HRC ring hardness have half the

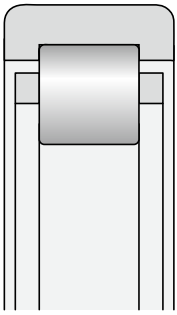


*Fig. 12.4.7*

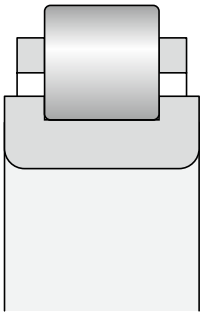


*Fig. 12.4.8*

value of dynamic load bearing rating. The minimum depth of through hardening of the raceway after abrasion depends on the diameter of rollers and load size, and should be 1 to 3 mm. In big static loading, through hardening to the depth of 0.1 of the roller diameter is recommended. The above stated requirements apply to recommended bearing materials. If other materials are used, the resistance to fatigue damage will reduce.

## Bearings with snap ring groove

To ensure simple protection against axial displacement in the location element single row cylindrical roller bearings with a groove for snap ring on outer ring are made. Bearings with snap ring groove have additional designation N (fig. 12.4.9)

Dimensions of the groove for snap ring comply with the standard ISO 464. The standard also states dimensions of relevant snap rings.

## Bearings with snap ring grooves

If assembly of outer ring with clearance is required and spinning of outer ring in body has to be prevented, bearing with snap ring grooves on one face of outer ring can be supplies. Bearing provided with one snap ring groove is identified with additional designation N1; bearing with two grooves by 180° is identified with additional designation N2. fig. 12.4.10)

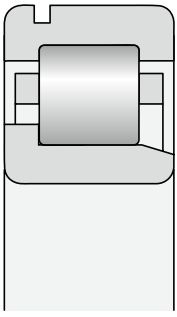


*Fig. 12.4.9*

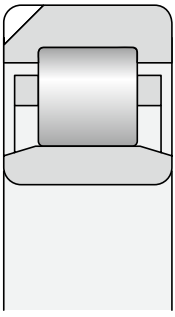


*Fig. 12.4.10*

## General information

### Main dimensions

Main dimensions comply with the standard ISO 15 and are stated for individual bearings in the table section of the publication. Main dimensions of angle rings HJ comply with the standard ISO 246 and are also stated in the table section of the catalogue.

### Tolerances

Bearings are usually made in normal accuracy level P0 which is not presented. Also bearings in higher accu-racy level P6, P5 and P4 are supplied. The limit values of bearing dimension and run accuracy are stated in tables 7.2 to 7.8, and comply with the standard ISO 492. Tolerances of higher accuracy bearings SP and UP are stated in tables 7.9 to 7.11.

### Radial clearance

Commonly produced single row cylindrical roller bearings feature normal axial clearance that is not identified. Special locations require bearings with reduced C2 radial clearance, or with increased radial clearance C3, C4 and C5. Values of radial clearances comply with the standard ISO 5753 and are stated in chart 7.19. The values in the table apply to bearing in non-assembled state and without load.

In some cases bearings with non-standard radial clearance range can be supplied. We recommend that these supplies are discussed with the technical and consultancy services of Dunlop.

### Misalignment

Mutual misalignment of rings of single row roller bearings is very small. Admissible values of misalignment are stated in table 12.4.1.

*Table 12.4.1*

| Bearing type | Load | |
|---|---|---|
| | small ($F_r < 0{,}1\ C_{or}$) | big ($F_r \geq 0{,}1\ C_{or}$) |
| NU10, NU2, NU3, NU4 | 2´ to 3´ | 5´ to 7´ |
| NU29, NU22, NU23 | 1´ to 3´ | 3´ to 4´ |
| Version NJ, NUP, N [1)] | 1´ to 2´ | 3´ to 4´ |

[1)] lower values of pair of digits apply for bearings of width series 2 and higher

The stated values apply to axially free bearings. At the same time it has to apply that the shaft axis and body axis position do not change. Bigger misalignment than is that stated in the table leads to significant reduction of service life and increased noise level of the bearing. The misalignment values recommended for axially guiding bearings are even lower to avoid unequal loading of guiding flanges which would lead to more significant wear or damage to the flange. Also bearings axialy guiding in both direction are very inclinable to

misalignment. In case of bigger misalignment axial clearance in bearing can get defined and rollers gripped by flanges which may cause occurrence of axial stress.

If there is a risk of bigger misalignment angles in roller bearing locations, we recommend that the Dunlop tech-nical and consultancy services are contacted.

### Sliding axial movement

Axially free (NU, N) and single direction axially guiding (NJ) roller bearings are to certain extent capable of alignment of the shaft axial displacement against the body without reducing the service life of the bearing, Axial displacement is mostly caused by thermal expansion of the shaft. The values of maximum axial shift „s" of one ring towards the other as shown in the figure 12.4.11 are stated in the table section hereof.

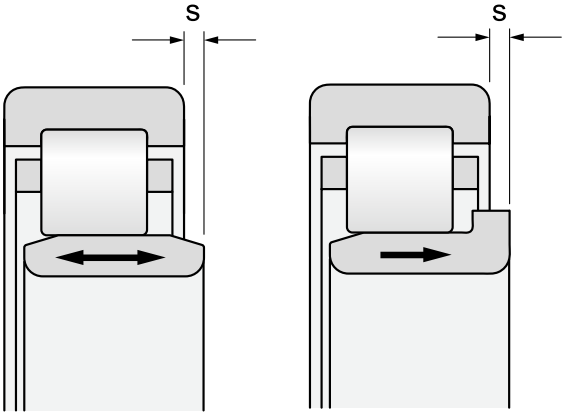



*Fig. 12.4.11*

### Running temperatures

As standard, roller bearings rings are made for use in environment with temperature up to 120°C. Upon request, cylindrical roller bearings with dimension stabilisation for operation at higher temperatures can be supplied.

### Cages

Design of cylindrical roller bearing cages:

- Cage pressed from steel plate, guided on rolling elements, additional designation J (is not presented)
- Two-piece massive steel cage guided on rolling elements, additional designation F
- Two-piece massive brass cage on rolling elements, additional designation M, guided on outer ring has additional designation MA, and the one guided on inner ring has additional designation MB
- Massive cage of polyamide or similar plastic, stiffened by glass fibres, guided on rolling elements, additional designation TNG

Special locations require bearings with cages provided with surface treatment, delivery of which must be discussed in advance with the supplier.

## Minimum load

Cyllindrical roller bearings must be exposed to certain minimum load, especially when operated at high revo-lutions and rapid load changes. In these cases, inertial effects of cage with rolling elements become mostly apparent which are indicated mainly by slippage or the rolling elements in the bearing.

Minimum radial load recommended for Dunlop cylindrical roller bearings is such that equals to 2% of the dynamic load bearing capacity of the bearing.

## Axial dynamic load rating

Bearings with flanges on both sides can, besides radial load, transfer also limited axial load. Considering the fact that the allowed load of bearings in axial direction depends on a number of factors that cannot be captured in a single calculation, the following relations have indicative character only.

In this case, axial load bearing capacity is not limited by material fatigue but by the load bearing capacity of the grease film in the contact surface between the roller face and guide flange, lubrication conditions, service temperature and possibilities of cooling of the bearing. In usual service conditions when the tempe-rature difference between the bearing and ambient area does not exceed 60 °C at specific heat passage of 0.5 $mWmm^{-2}\ °C^{-1}$, at minimum value of viscosity rate 2, the maximum admissible axial load can be calculated with sufficient accuracy from the below equation:

### for lubrication with oil

$$F_{a\,max} = \frac{0.5\ C_{or} \cdot 10^4}{n\ (d + D)} - 0.05\ F_r \qquad [kN]$$

### for lubrication with greace

$$F_{a\,max} = \frac{0.35\ C_{or} \cdot 10^4}{n\ (d + D)} - 0.03\ F_r \qquad [kN]$$

$F_{a\,max}$ . . . . maximum admissible axial load [kN]

$C_{or}$ . . . . . basic radial static load rating [kN]

$F_r$ . . . . . radial load of bearings [kN]

n . . . . . rotational frequency [$min^{-1}$]

d . . . . . bearing bore diameter [mm]

D . . . . . outer diameter of bearing [mm]

The $F_{a\ max}$ values calculated according to the above stated equations apply on condition of acting of constant axial force. In case of interrupted load or impact load the admissible axial load can grow by two or three times towards the calculated value.

At acting axial load cylindrical roller bearings operate reliably only if the bearings are loaded radially at the same time. The relation $F_a/F_r \leq 0.5$ has to be maintained.

## Equivalent dynamic load of bearing

Axially free N and NU type bearings are capable of transferring radial load only; the following applies to these bearings:

$$P = F_r$$

Axially guiding NJ, NUP, NH and NUJ type bearings are capable of transferring both radial and axial load; the following applies to these bearings:

$$P = F_r \qquad \text{pro } F_a/F_r \leq e$$

$$P = 0.92\ F_r + Y\ F_a \qquad \text{pro } F_a/F_r > e$$

the arithmetic coefficient e . . . . . = 0.2 for bearings of series 10, 18, 19, 2, 3 and 4 . . . . . = 0.3 for bearings of other series

and axial load coefficient Y . . . . . = 0.6 for bearings of series 10, 18, 19, 2, 3 and 4 . . . . . = 0.4 for bearings of other series

## Equivalent static load of bearing

$$P_0 = F_r$$

## Additional designations

Supplementary characters before basic designation

**L** . . . . . separate detachable ring of bearing

**R** . . . . . Separable bearing without detachable ring

**K** . . . . . Cage with rolling elements

**T** . . . . . Case hardening steel

**X** . . . . . Stainless steel

Supplementary characters behind the basic designation:

**Radial clearance:** Normal radial clearance is usually not presented in the bearing's designation.

**C2** Radial clearance smaller than normal

**C3** Radial clearance bigger than normal

**C4** Radial clearance bigger than C3

**C5** Radial clearance bigger than C4

**R** Radial clearance in non-standardised range (range in µm)

**Construction design:**

**E** Optimised inner design with higher load rating

**N** Snap ring groove on the outer ring

**NR** Snap ring groove on the outer ring and inserted snap ring

**N1** One snap ring groove on the outer ring face

**N2** Two snap ring grooves by 180° on one outer ring face

**Material of the cage:**

**J** Cage pressed from steel plate, guided on rolling elements

**F** Massive steel cage guided on rolling elements

**M** Massive brass cage guided on rolling elements

**L** Massive light metal cage guided on rolling elements

**TN** Massive cage of polyamide or similar plastic guided on rolling elements

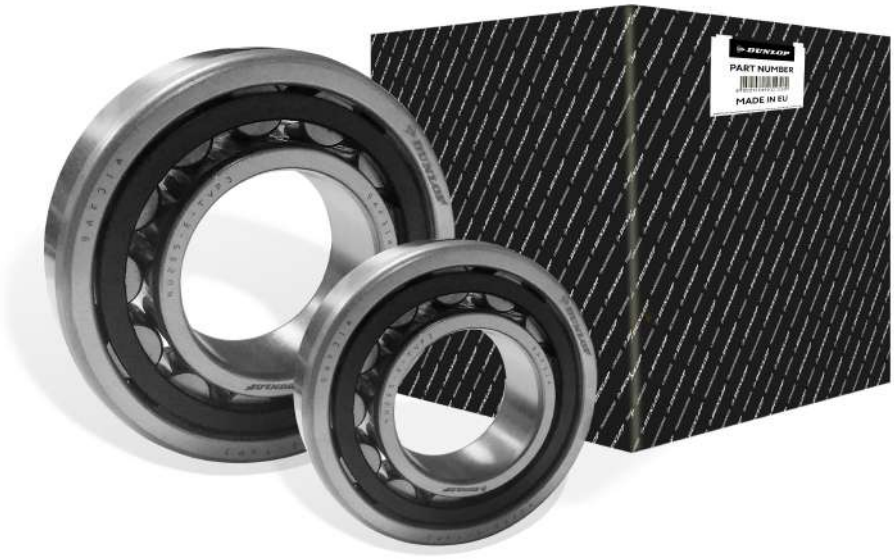
**TNG** Massive cage of polyamide or similar plastic, reinforced by glass fibres, guided on rolling elements

**Cage design (stated characters are always used in combination with cage material characters).**

| | |
|---|---|
| A | Cage guided on outer ring |
| B | Cage guided on inner ring |
| P | Compact window cage Cage |
| S | with lubrication slots Silver- |
| R | plated cage |

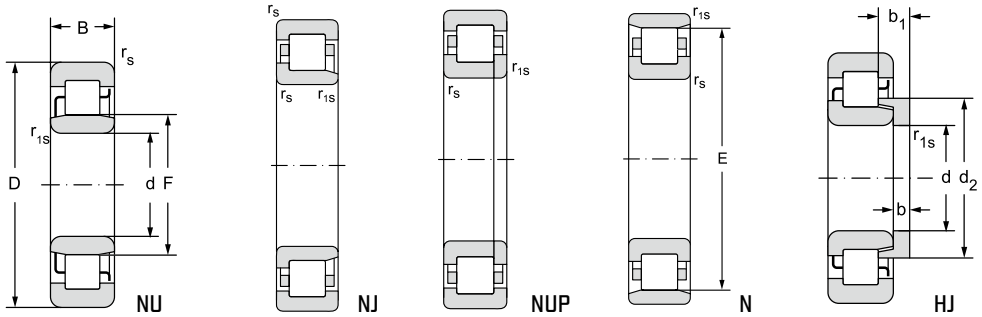
**Dimension stabilisation:**

| | |
|---|---|
| S0 | For service temperature to 150 °C |
| S1 | For service temperature to 200 °C |
| S2 | For service temperature to 250 °C |



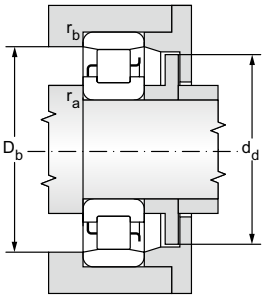
# Single row cylindrical roller bearings d = 20 to 1180 mm

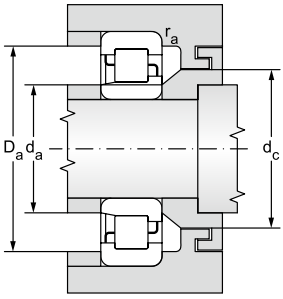
## d = 20 to 25 mm

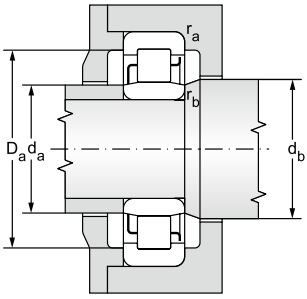



12.4.1

| Main dimensions | | | | | | | | | | | Bearing designation | Other cages | Angle ring designation | Basic load rating | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | dynamic | static |
| d | D | B | $r_s$ | $r_{1s}$ | F | E | $d_2$ | b | $b_1$ | $s_{1)}$ | | | | $C_r$ | $C_{or}$ |
| | | | min | min | | | max | | | | | | | | |
| | | | | | mm | | | | | | | | | kN | |
| 20 | 47 | 14,00 | 1,0 | 0,6 | 27 | | 30,0 | 3,0 | 6,75 | 1,4 | **NU204** | | HJ204 | 13,9 | 10,2 |
| | 47 | 14,00 | 1,0 | 0,6 | 27 | | 30,0 | 3,0 | 6,75 | 1,4 | **NJ204** | | HJ204 | 13,9 | 10,2 |
| | 47 | 14,00 | 1,0 | 0,6 | 27 | | | | | 1,4 | **NUP204** | | | 13,9 | 10,2 |
| | 47 | 14,00 | 1,0 | 0,6 | | 40,0 | | | | 1,4 | **N204** | | | 13,9 | 10,2 |
| | | | | | | | | | | | | | | | |
| 25 | 52 | 15,00 | 1,0 | 0,6 | 32 | | 35,0 | 3,0 | 7,25 | 1,5 | **NU205** | | HJ205 | 15,8 | 12,6 |
| | 52 | 15,00 | 1,0 | 0,6 | 32 | | 35,0 | 3,0 | 7,25 | 1,5 | **NJ205** | | HJ205 | 15,8 | 12,6 |
| | 52 | 15,00 | 1,0 | 0,6 | 32 | | | | | 1,5 | **NUP205** | | | 15,8 | 12,6 |
| | 52 | 15,00 | 1,0 | 0,6 | | 45,0 | | | | 1,5 | **N205** | | | 15,8 | 12,6 |
| | 52 | 15,00 | 1,0 | 0,6 | 31,5 | | 34,9 | 3,0 | 6,00 | 1,4 | **NU205E** | TNG | HJ205E | 29,3 | 25,6 |
| | 52 | 15,00 | 1,0 | 0,6 | 31,5 | | 34,9 | 3,0 | 6,00 | 1,4 | **NJ205E** | TNG | HJ205E | 29,3 | 25,6 |
| | 52 | 15,00 | 1,0 | 0,6 | 31,5 | | | | | 1,4 | **NUP205E** | TNG | | 29,3 | 25,6 |
| | 52 | 15,00 | 1,0 | 0,6 | | 46,5 | | | | 1,4 | **N205ETNG** | | | 29,3 | 25,6 |
| | 52 | 18,00 | 1,0 | 0,6 | 32 | | | | | 1,6 | **NU2205** | | | 22,4 | 19,6 |
| | 52 | 18,00 | 1,0 | 0,6 | 32 | | | | | 1,6 | **NJ2205** | | | 22,4 | 19,6 |
| | 52 | 18,00 | 1,0 | 0,6 | 32 | | | | | 1,6 | **NUP2205** | | | 22,4 | 19,6 |
| | 62 | 17,00 | 1,1 | 1,1 | 35 | | 39,3 | 4,0 | 8,00 | 1,4 | **NU305** | | HJ305 | 27,6 | 21,5 |
| | 62 | 17,00 | 1,1 | 1,1 | 35 | | 39,3 | 4,0 | 8,00 | 1,4 | **NJ305** | | HJ305 | 27,6 | 21,5 |
| | 62 | 17,00 | 1,1 | 1,1 | 35 | | | | | 1,4 | **NUP305** | | | 27,6 | 21,5 |
| | 62 | 17,00 | 1,1 | 1,1 | | 53,0 | | | | 1,4 | **N305** | | | 27,6 | 21,5 |
| | 62 | 17,00 | 1,1 | 1,1 | 34 | | 38,3 | 4,0 | 7,00 | 1,4 | **NU305EMAS** | TNG | HJ305E | 43,0 | 36,2 |
| | 62 | 17,00 | 1,1 | 1,1 | 34 | | 38,3 | 4,0 | 7,00 | 1,4 | **NJ305EMAS** | TNG | HJ305E | 43,0 | 36,2 |
| | 62 | 17,00 | 1,1 | 1,1 | 34 | | | | | 1,4 | **NUP305EMAS** | TNG | | 43,0 | 36,2 |
| | 62 | 17,00 | 1,1 | 1,1 | 34 | 54,0 | | | | 1,4 | **N305ETNG** | | | 43,0 | 36,2 |
| | 80 | 21,00 | 1,5 | 1,5 | 38,8 | | | | | 1,4 | **NU405** | | | 43,8 | 34,1 |
| | 80 | 21,00 | 1,5 | 1,5 | 38,8 | | | | | 1,4 | **NJ405** | | | 43,8 | 34,1 |



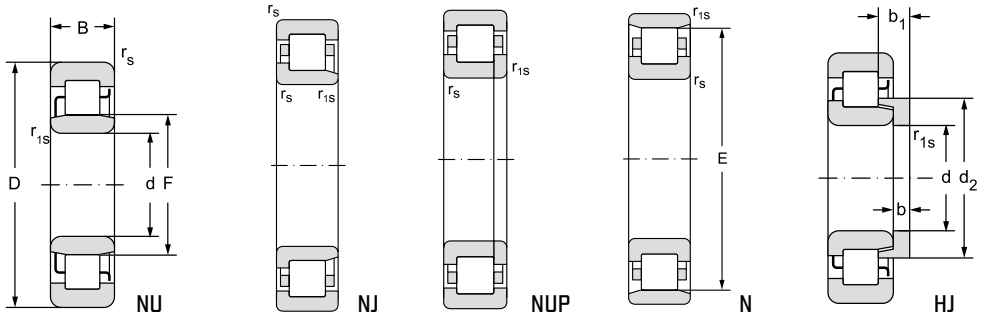




[1] Admissible axial movement

| Fatique load limit | Limiting speed for lubrication with | | Abutment and fillet dimensions | | | | | | | | | | Weight | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | |
| $P_u$ | grease | oil | d | $d_a$ | $d_a$ | $d_b$ | $d_c$ | $d_d$ | $D_a$ | $D_b$ | $r_a$ | $r_b$ | ~ | |
| | | | | min | max | min | min | max | max | min | max | max | of bearing | Ang.r. |
| kN | $min^{-1}$ | | mm | | | | | | | | | | kg | |
| 1,24 | 14000 | 17000 | 20 | 25 | 25,5 | 29,0 | 32 | - | 42 | - | 1,0 | 0,6 | 0,11 | 0,0100 |
| 1,24 | 14000 | 17000 | | 25 | 25,5 | 29,0 | 32 | - | 42 | - | 1,0 | 0,6 | 0,11 | 0,0100 |
| 1,24 | 14000 | 17000 | | 25 | 25,5 | 29,0 | 32 | - | 42 | - | 1,0 | 0,6 | 0,11 | |
| 1,24 | 14000 | 17000 | | 25 | 25,5 | 29,0 | 32 | 39 | 42 | 42 | 1,0 | 0,6 | 0,11 | |
| | | | | | | | | | | | | | | |
| 1,54 | 12600 | 15000 | 25 | 30 | 30,5 | 34,0 | 37 | - | 47 | - | 1,0 | 0,6 | 0,13 | 0,020 |
| 1,54 | 12600 | 15000 | | 30 | 30,5 | 34,0 | 37 | - | 47 | - | 1,0 | 0,6 | 0,13 | 0,020 |
| 1,54 | 12600 | 15000 | | 30 | 30,5 | 34,0 | 37 | - | 47 | - | 1,0 | 0,6 | 0,13 | |
| 1,54 | 12600 | 15000 | | 30 | 30,5 | 34,0 | 37 | 43 | 47 | 47 | 1,0 | 0,6 | 0,13 | |
| 3,12 | 12600 | 15000 | | 30 | 30,0 | 34,0 | 37 | - | 47 | - | 1,0 | 0,6 | 0,13 | 0,020 |
| 3,12 | 12600 | 15000 | | 30 | 30,0 | 34,0 | 37 | - | 47 | - | 1,0 | 0,6 | 0,13 | 0,020 |
| 3,12 | 12600 | 15000 | | 30 | 30,0 | 34,0 | 37 | - | 47 | - | 1,0 | 0,6 | 0,13 | |
| 3,12 | 12600 | 15000 | | 30 | 30,0 | 34,0 | 37 | 44 | 47 | 47 | 1,0 | 0,6 | 0,13 | |
| 2,39 | 12600 | 15000 | | 30 | 30,5 | 34,0 | 37 | - | 47 | - | 1,0 | 0,6 | 0,16 | |
| 2,39 | 12600 | 15000 | | 30 | 30,5 | 34,0 | 37 | - | 47 | - | 1,0 | 0,6 | 0,16 | |
| 2,39 | 12600 | 15000 | | 30 | 30,5 | 34,0 | 37 | - | 47 | - | 1,0 | 0,6 | 0,16 | |
| 2,62 | 10000 | 12000 | | 31 | 33,0 | 37,0 | 40 | - | 55 | - | 1,0 | 1,0 | 0,24 | 0,030 |
| 2,62 | 10000 | 12000 | | 31 | 33,0 | 37,0 | 40 | - | 55 | - | 1,0 | 1,0 | 0,24 | 0,030 |
| 2,62 | 10000 | 12000 | | 31 | 33,0 | 37,0 | 40 | - | 55 | - | 1,0 | 1,0 | 0,24 | |
| 2,62 | 10000 | 12000 | | 31 | 33,0 | 37,0 | 40 | 51 | 55 | 55 | 1,0 | 1,0 | 0,24 | |
| 4,41 | 10000 | 12000 | | 31 | 32,0 | 37,0 | 40 | - | 55 | - | 1,0 | 1,0 | 0,26 | 0,030 |
| 4,41 | 10000 | 12000 | | 31 | 32,0 | 37,0 | 40 | - | 55 | - | 1,0 | 1,0 | 0,26 | 0,030 |
| 4,41 | 10000 | 12000 | | 31 | 32,0 | 37,0 | 40 | - | 55 | - | 1,0 | 1,0 | 0,26 | |
| 4,41 | 10000 | 12000 | | 31 | 32,0 | 36,0 | 39 | 52 | 55 | 55 | 1,0 | 1,0 | 0,24 | |
| 4,16 | 8400 | 10000 | | 32 | 38,0 | 39,0 | 40 | - | 73 | - | 1,0 | 1,0 | 0,57 | |
| 4,16 | 8400 | 10000 | | 32 | 38,0 | 39,0 | 40 | - | 73 | - | 1,0 | 1,0 | 0,57 | |

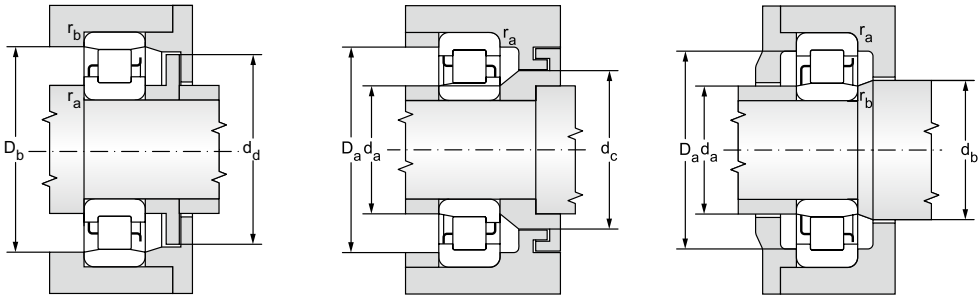
## Single row cylindrical roller bearings

d = 30 to 32 mm




12.4.1

| Main dimensions | | | | | | | | | | | Bearing designation | Other cages | Angle ring designation | Basic load rating | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | dynamic | static |
| d | D | B | $r_s$ | $r_{1s}$ | F | E | $d_2$ | b | $b_1$ | $s_{1)}$ | | | | $C_r$ | $C_{or}$ |
| | | | min | min | | | max | | | | | | | | |
| mm | | | | | | | | | | | | | | kN | |
| 30 | 62 | 16,00 | 1,0 | 0,6 | 38,5 | | 42,2 | 4,0 | 8,25 | 1,5 | **NU206** | | HJ206 | 21,5 | 17,8 |
| | 62 | 16,00 | 1,0 | 0,6 | 38,5 | | 42,2 | 4,0 | 8,25 | 1,5 | **NJ206** | | HJ206 | 21,5 | 17,8 |
| | 62 | 16,00 | 1,0 | 0,6 | 38,5 | | | | | 1,5 | **NUP206** | | | 21,5 | 17,8 |
| | 62 | 16,00 | 1,0 | 0,6 | | 53,5 | | | | 1,5 | **N206** | | | 21,5 | 17,8 |
| | 62 | 16,00 | 1,0 | 0,6 | 37,5 | | 41,4 | 4,0 | 7,00 | 1,4 | **NU206ETNG** | | HJ206E | 39,1 | 35,5 |
| | 62 | 16,00 | 1,0 | 0,6 | 37,5 | | 41,4 | 4,0 | 7,00 | 1,4 | **NJ206ETNG** | | HJ206E | 39,1 | 35,5 |
| | 62 | 16,00 | 1,0 | 0,6 | 37,5 | | | | | 1,4 | **NUP206ETNG** | | | 39,1 | 35,5 |
| | 62 | 16,00 | 1,0 | 0,6 | | 55,5 | | | | 1,4 | **N206ETNG** | | | 39,1 | 35,5 |
| | 62 | 20,00 | 1,0 | 0,6 | 38,5 | | | | | 1,6 | **NU2206** | | | 31,6 | 29,3 |
| | 62 | 20,00 | 1,0 | 0,6 | 38,5 | | | | | 1,6 | **NJ2206** | | | 31,6 | 29,3 |
| | 62 | 20,00 | 1,0 | 0,6 | 38,5 | | | | | 1,6 | **NUP2206** | | | 31,6 | 29,3 |
| | 72 | 19,00 | 1,1 | 1,1 | 42 | | 46,6 | 5,0 | 9,50 | 1,4 | **NU306** | | HJ306 | 36,2 | 31,0 |
| | 72 | 19,00 | 1,1 | 1,1 | 42 | | 46,6 | 5,0 | 9,50 | 1,4 | **NJ306** | | HJ306 | 36,2 | 31,0 |
| | 72 | 19,00 | 1,1 | 1,1 | 42 | | | | | 1,4 | **NUP306** | | | 36,2 | 31,0 |
| | 72 | 19,00 | 1,1 | 1,1 | | 62,0 | | | | 1,4 | **N306** | | | 36,2 | 31,0 |
| | 72 | 19,00 | 1,1 | 1,1 | 40,5 | | 45,1 | 5,0 | 8,50 | 1,4 | **NU306E** | TNG | HJ306E | 53,1 | 46,4 |
| | 72 | 19,00 | 1,1 | 1,1 | 40,5 | | 45,1 | 5,0 | 8,50 | 1,4 | **NJ306E** | TNG | HJ306E | 53,1 | 46,4 |
| | 72 | 19,00 | 1,1 | 1,1 | 40,5 | | | | | 1,4 | **NUP306E** | TNG | | 53,1 | 46,4 |
| | 72 | 19,00 | 1,1 | 1,1 | | 62,5 | | | | 1,4 | **N306ETNG** | | | 53,1 | 46,4 |
| | 90 | 23,00 | 1,5 | 1,5 | 45 | | 51,4 | 7,0 | 11,50 | 1,5 | **NU406** | | HJ406 | 59,6 | 48,2 |
| | 90 | 23,00 | 1,5 | 1,5 | 45 | | 51,4 | 7,0 | 11,50 | 1,5 | **NJ406** | | HJ406 | 59,6 | 48,2 |
| | 90 | 23,00 | 1,5 | 1,5 | 45 | | | | | 1,5 | **NUP406** | | | 59,6 | 48,2 |
| 32 | 65 | 21,00 | 1,0 | 0,6 | 38,5 | | | | | 1,6 | **NU22/32ETNG** | | | 51,1 | 50,1 |

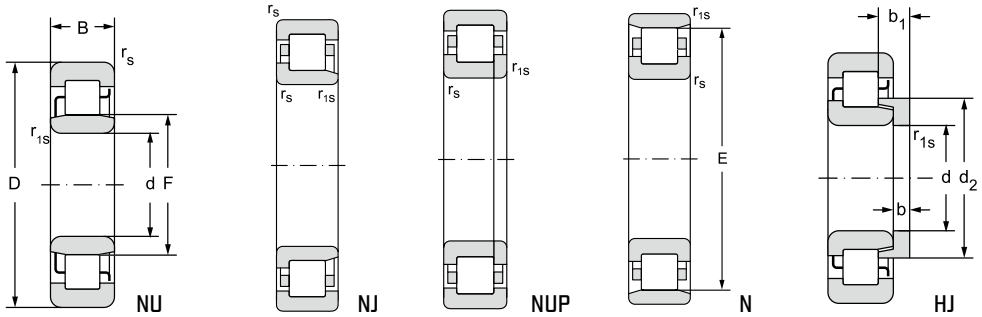



[1] Admissible axial movement

| Fatique load limit | Limiting speed for lubrication with | | Abutment and fillet dimensions | | | | | | | | | | Weight | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | |
| $P_u$ | grease | oil | d | $d_a$ | $d_a$ | $d_b$ | $d_c$ | $d_d$ | $D_a$ | $D_b$ | $r_a$ | $r_b$ | ~ | |
| | | | | min | max | min | min | max | max | min | max | max | of bearing | Ang.r. |
| kN | $min^{-1}$ | | mm | | | | | | | | | | kg | |
| 2,17 | 10600 | 12600 | 30 | 35 | 37,0 | 40,0 | 44 | - | 57 | - | 1,0 | 0,6 | 0,20 | 0,030 |
| 2,17 | 10600 | 12600 | | 35 | 37,0 | 40,0 | 44 | - | 57 | - | 1,0 | 0,6 | 0,20 | 0,030 |
| 2,17 | 10600 | 12600 | | 35 | 37,0 | 40,0 | 44 | - | 57 | - | 1,0 | 0,6 | 0,20 | |
| 2,17 | 10600 | 12600 | | 35 | 37,0 | 40,0 | 44 | 52 | 57 | 56 | 1,0 | 0,6 | 0,20 | |
| 4,33 | 10600 | 12600 | | 35 | 37,0 | 40,0 | 43 | - | 57 | - | 1,0 | 0,6 | 0,20 | 0,030 |
| 4,33 | 10600 | 12600 | | 35 | 37,0 | 40,0 | 43 | - | 57 | - | 1,0 | 0,6 | 0,20 | 0,030 |
| 4,33 | 10600 | 12600 | | 35 | 37,0 | 40,0 | 43 | - | 57 | - | 1,0 | 0,6 | 0,20 | |
| 4,33 | 10600 | 12600 | | 35 | 37,0 | 40,0 | 43 | 54 | 57 | 57 | 1,0 | 0,6 | 0,20 | |
| 3,57 | 10600 | 12600 | | 35 | 37,0 | 40,0 | 44 | - | 57 | - | 1,0 | 0,6 | 0,26 | |
| 3,57 | 10600 | 12600 | | 35 | 37,0 | 40,0 | 44 | - | 57 | - | 1,0 | 0,6 | 0,26 | |
| 3,57 | 10600 | 12600 | | 35 | 37,0 | 40,0 | 44 | - | 57 | - | 1,0 | 0,6 | 0,26 | |
| 3,78 | 8900 | 10600 | | 36 | 39,0 | 44,0 | 48 | - | 65 | - | 1,0 | 1,0 | 0,36 | 0,040 |
| 3,78 | 8900 | 10600 | | 36 | 39,0 | 44,0 | 48 | - | 65 | - | 1,0 | 1,0 | 0,36 | 0,040 |
| 3,78 | 8900 | 10600 | | 36 | 39,0 | 44,0 | 48 | - | 65 | - | 1,0 | 1,0 | 0,36 | |
| 3,78 | 8900 | 10600 | | 36 | 39,0 | 44,0 | 48 | 60 | 65 | 64 | 1,0 | 1,0 | 0,36 | |
| 5,66 | 8400 | 10000 | | 36 | 37,5 | 43,0 | 47 | - | 65 | - | 1,0 | 1,0 | 0,36 | 0,040 |
| 5,66 | 8400 | 10000 | | 36 | 37,5 | 43,0 | 47 | - | 65 | - | 1,0 | 1,0 | 0,36 | 0,040 |
| 5,66 | 8400 | 10000 | | 36 | 37,5 | 43,0 | 47 | - | 65 | - | 1,0 | 1,0 | 0,36 | |
| 5,66 | 8400 | 10000 | | 36 | 37,5 | 43,0 | 47 | 60 | 65 | 64 | 1,0 | 1,0 | 0,36 | |
| 5,88 | 7100 | 8400 | | 39 | 41,0 | 47,0 | 53 | - | 80 | - | 1,5 | 1,5 | 0,75 | 0,080 |
| 5,88 | 7100 | 8400 | | 39 | 41,0 | 47,0 | 53 | - | 80 | - | 1,5 | 1,5 | 0,75 | 0,080 |
| 5,88 | 7100 | 8400 | | 39 | 41,0 | 47,0 | 53 | - | 80 | - | 1,5 | 1,5 | 0,75 | |
| | | | | | | | | | | | | | | |
| 6,11 | 10000 | 12000 | 32 | 35 | 37,0 | 39,0 | 43 | - | 60 | - | 1,0 | 1,0 | 0,31 | |

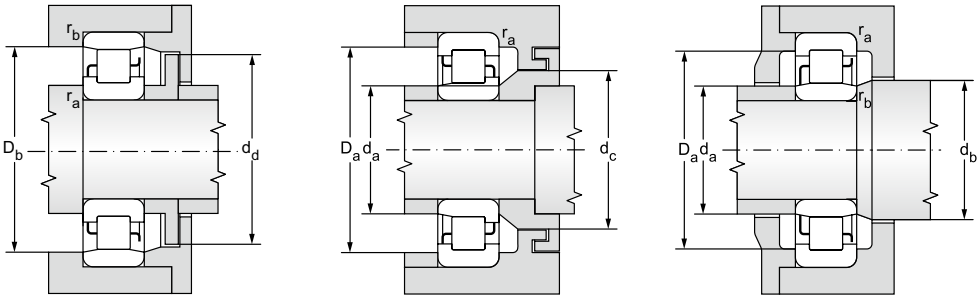
## Single row cylindrical roller bearings

d = 35 mm




12.4.1

| Main dimensions | | | | | | | | | | | Bearing designation | Other cages | Angle ring designation | Basic load rating | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | dynamic | static |
| d | D | B | $r_s$ | $r_{1s}$ | F | E | $d_2$ | b | $b_1$ | $s_{1)}$ | | | | $C_r$ | $C_{or}$ |
| | | | min | min | | | max | | | | | | | | |
| | | | | | mm | | | | | | | | | kN | |
| 35 | 72 | 17,00 | 1,1 | 0,6 | 43,8 | | 48,1 | 4,0 | 8,00 | 1,5 | **NU207** | | HJ207 | 31,6 | 27,1 |
| | 72 | 17,00 | 1,1 | 0,6 | 43,8 | | 48,1 | 4,0 | 8,00 | 1,5 | **NJ207** | | HJ207 | 31,6 | 27,1 |
| | 72 | 17,00 | 1,1 | 0,6 | 43,8 | | | | | 1,5 | **NUP207** | | | 31,6 | 27,1 |
| | 72 | 17,00 | 1,1 | 0,6 | | 61,8 | | | | 1,5 | **N207** | | | 31,6 | 27,1 |
| | 72 | 17,00 | 1,1 | 0,6 | 44 | | 48,3 | 4,0 | 7,00 | 1,4 | **NU207E** | TNG | HJ207E | 51,1 | 48,2 |
| | 72 | 17,00 | 1,1 | 0,6 | 44 | | 48,3 | 4,0 | 7,00 | 1,4 | **NJ207E** | TNG | HJ207E | 51,1 | 48,2 |
| | 72 | 17,00 | 1,1 | 0,6 | 44 | | | | | 1,4 | **NUP207E** | TNG | | 51,1 | 48,2 |
| | 72 | 17,00 | 1,1 | 0,6 | | 64,0 | | | | 1,4 | **N207ETNG** | | | 51,1 | 48,2 |
| | 72 | 23,00 | 1,1 | 0,6 | 43,8 | | | | | 1,6 | **NU2207** | | | 48,2 | 47,3 |
| | 72 | 23,00 | 1,1 | 0,6 | 43,8 | | | | | 1,6 | **NJ2207** | | | 48,2 | 47,3 |
| | 72 | 23,00 | 1,1 | 0,6 | 43,8 | | | | | 1,6 | **NUP2207** | | | 48,2 | 47,3 |
| | 72 | 23,00 | 1,1 | 0,6 | 44 | | | | | 1,6 | **NU2207ETNG** | | | 64,3 | 64,3 |
| | 72 | 23,00 | 1,1 | 0,6 | 44 | | | | | 1,6 | **NJ2207ETNG** | | | 64,3 | 64,3 |
| | 72 | 23,00 | 1,1 | 0,6 | 44 | | | | | 1,6 | **NUP2207ETNG** | | | 64,3 | 64,3 |
| | 80 | 21,00 | 1,5 | 1,1 | 46,2 | | 51,2 | 6,0 | 11,00 | 1,4 | **NU307** | | HJ307 | 43,0 | 36,2 |
| | 80 | 21,00 | 1,5 | 1,1 | 46,2 | | 51,2 | 6,0 | 11,00 | 1,4 | **NJ307** | | HJ307 | 43,0 | 36,2 |
| | 80 | 21,00 | 1,5 | 1,1 | 46,2 | | | | | 1,4 | **NUP307** | | | 43,0 | 36,2 |
| | 80 | 21,00 | 1,5 | 1,1 | | 68,2 | | | | 1,4 | **N307** | | | 43,0 | 36,2 |
| | 80 | 21,00 | 1,5 | 1,1 | 46,2 | | 51,2 | 6,0 | 9,50 | 1,4 | **NU307E** | | HJ307E | 66,8 | 61,9 |
| | 80 | 21,00 | 1,5 | 1,1 | 46,2 | | 51,2 | 6,0 | 9,50 | 1,4 | **NJ307E** | | HJ307E | 66,8 | 61,9 |
| | 80 | 21,00 | 1,5 | 1,1 | 46,2 | | | | | 1,4 | **NUP307E** | | | 66,8 | 61,9 |
| | 80 | 31,00 | 1,5 | 1,1 | 46,2 | | | | | 2,7 | **NU2307EMAS** | | | 92,6 | 92,6 |
| | 80 | 31,00 | 1,5 | 1,1 | 46,2 | | | | | 2,7 | **NJ2307EMAS** | | | 92,6 | 92,6 |
| | 80 | 31,00 | 1,5 | 1,1 | 46,2 | | | | | 2,7 | **NUP2307EMAS** | | | 92,6 | 92,6 |
| | 100 | 25,00 | 1,5 | 1,5 | 53 | | 59,9 | 8,0 | 13,00 | 1,5 | **NU407** | | HJ407 | 75,0 | 64,3 |
| | 100 | 25,00 | 1,5 | 1,5 | 53 | | 59,9 | 8,0 | 13,00 | 1,5 | **NJ407** | | HJ407 | 75,0 | 64,3 |
| | 100 | 25,00 | 1,5 | 1,5 | 53 | | | | | 1,5 | **NUP407** | | | 75,0 | 64,3 |
| | 100 | 25,00 | 1,5 | 1,5 | | 83,0 | | | | 1,5 | **N407** | | | 75,0 | 64,3 |

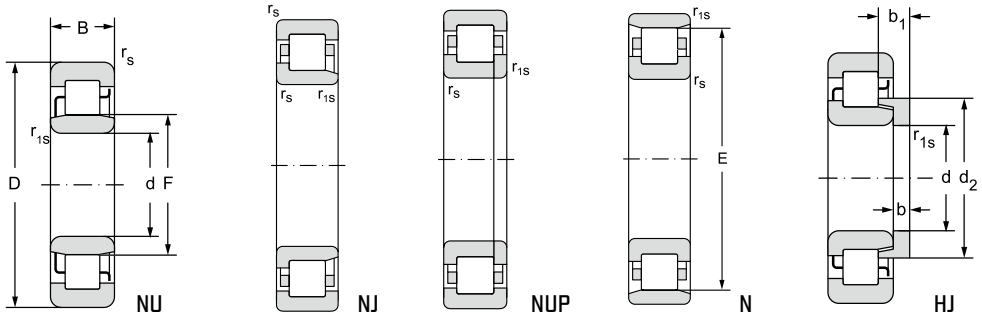



[1] Admissible axial movement

| Fatique load limit | Limiting speed for lubrication with | | Abutment and fillet dimensions | | | | | | | | | | Weight | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $P_u$ | grease | oil | d | $d_a$ | $d_a$ | $d_b$ | $d_c$ | $d_d$ | $D_a$ | $D_b$ | $r_a$ | $r_b$ | ~ | |
| | | | | min | max | min | min | max | max | min | max | max | of bearing | Ang.r. |
| kN | $min^{-1}$ | | mm | | | | | | | | | | kg | |
| 3,30 | 9400 | 11000 | 35 | 42 | 42,0 | 46,0 | 50 | - | 65 | - | 1,0 | 0,6 | 0,29 | 0,040 |
| 3,30 | 9400 | 11000 | | 42 | 42,0 | 46,0 | 50 | - | 65 | - | 1,0 | 0,6 | 0,29 | 0,040 |
| 3,30 | 9400 | 11000 | | 42 | 42,0 | 46,0 | 50 | - | 65 | - | 1,0 | 0,6 | 0,29 | |
| 3,30 | 9400 | 11000 | | 42 | 42,0 | 46,0 | 50 | 60 | 65 | 64 | 1,0 | 0,6 | 0,29 | |
| 5,88 | 8900 | 10600 | | 42 | 42,0 | 46,0 | 50 | - | 65 | - | 1,0 | 0,6 | 0,29 | 0,040 |
| 5,88 | 8900 | 10600 | | 42 | 42,0 | 46,0 | 50 | - | 65 | - | 1,0 | 0,6 | 0,29 | 0,040 |
| 5,88 | 8900 | 10600 | | 42 | 42,0 | 46,0 | 50 | - | 65 | - | 1,0 | 0,6 | 0,29 | |
| 5,88 | 8900 | 10600 | | 42 | 42,0 | 46,0 | 50 | 62 | 65 | 65 | 1,0 | 0,6 | 0,29 | |
| 5,77 | 9400 | 11000 | | 42 | 42,0 | 46,0 | 50 | - | 65 | - | 1,0 | 0,6 | 0,40 | |
| 5,77 | 9400 | 11000 | | 42 | 42,0 | 46,0 | 50 | - | 65 | - | 1,0 | 0,6 | 0,40 | |
| 5,77 | 9400 | 11000 | | 42 | 42,0 | 46,0 | 50 | - | 65 | - | 1,0 | 0,6 | 0,40 | |
| 7,84 | 8900 | 10600 | | 42 | 42,0 | 46,0 | 50 | - | 65 | - | 1,0 | 0,6 | 0,39 | |
| 7,84 | 8900 | 10600 | | 42 | 42,0 | 46,0 | 50 | - | 65 | - | 1,0 | 0,6 | 0,39 | |
| 7,84 | 8900 | 10600 | | 42 | 42,0 | 46,0 | 50 | - | 65 | - | 1,0 | 0,6 | 0,39 | |
| 4,41 | 7900 | 9400 | | 42 | 44,0 | 48,0 | 53 | - | 71 | - | 1,5 | 1,0 | 0,48 | 0,060 |
| 4,41 | 7900 | 9400 | | 42 | 44,0 | 48,0 | 53 | - | 71 | - | 1,5 | 1,0 | 0,48 | 0,060 |
| 4,41 | 7900 | 9400 | | 42 | 44,0 | 48,0 | 53 | - | 71 | - | 1,5 | 1,0 | 0,48 | |
| 4,41 | 7900 | 9400 | | 42 | 44,0 | 48,0 | 53 | 66 | 71 | 71 | 1,5 | 1,0 | 0,48 | |
| 7,55 | 7500 | 8900 | | 42 | 44,0 | 48,0 | 53 | - | 71 | - | 1,5 | 1,0 | 0,47 | 0,060 |
| 7,55 | 7500 | 8900 | | 42 | 44,0 | 48,0 | 53 | - | 71 | - | 1,5 | 1,0 | 0,47 | 0,060 |
| 7,55 | 7500 | 8900 | | 42 | 44,0 | 48,0 | 53 | - | 71 | - | 1,5 | 1,0 | 0,47 | |
| 11,29 | 7100 | 8400 | | 42 | 44,0 | 48,0 | 53 | - | 71 | - | 1,5 | 1,0 | 0,75 | |
| 11,29 | 7100 | 8400 | | 42 | 44,0 | 48,0 | 53 | - | 71 | - | 1,5 | 1,0 | 0,75 | |
| 11,29 | 7100 | 8400 | | 42 | 44,0 | 48,0 | 53 | - | 71 | - | 1,5 | 1,0 | 0,75 | |
| 7,84 | 6300 | 7500 | | 44 | 52,0 | 55,0 | 62 | - | 90 | - | 1,5 | 1,5 | 1,00 | 0,13 |
| 7,84 | 6300 | 7500 | | 44 | 52,0 | 55,0 | 62 | - | 90 | - | 1,5 | 1,5 | 1,00 | 0,13 |
| 7,84 | 6300 | 7500 | | 44 | 52,0 | 55,0 | 62 | - | 90 | - | 1,5 | 1,5 | 1,00 | |
| 7,84 | 6300 | 7500 | | 44 | 52,0 | 55,0 | 62 | 81 | 90 | 86 | 1,5 | 1,5 | 1,00 | |

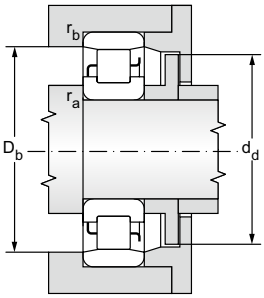
## Single row cylindrical roller bearings

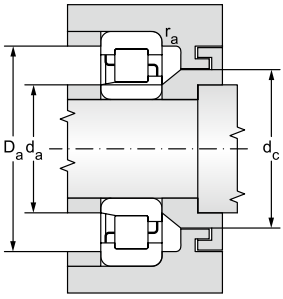
d = 40 mm

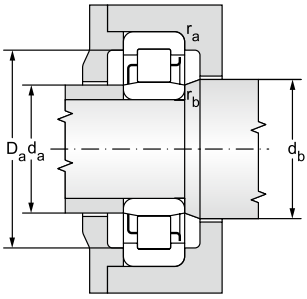



12.4.1

| Main dimensions | | | | | | | | | | | Bearing designation | Other cages | Angle ring designation | Basic load rating | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | dynamic | static |
| d | D | B | $r_s$ | $r_{1s}$ | F | E | $d_2$ | b | $b_1$ | $s_{1)}$ | | | | $C_r$ | $C_{or}$ |
| | | | min | min | | | max | | | | | | | | |
| mm | | | | | | | | | | | | | | kN | |
| 40 | 80 | 18,00 | 1,1 | 1,1 | 50 | | 54,6 | 5,0 | 9,00 | 1,5 | **NU208** | | HJ208 | 42,2 | 37,6 |
| | 80 | 18,00 | 1,1 | 1,1 | 50 | | 54,6 | 5,0 | 9,00 | 1,5 | **NJ208** | | HJ208 | 42,2 | 37,6 |
| | 80 | 18,00 | 1,1 | 1,1 | 50 | | | | | 1,5 | **NUP208** | | | 42,2 | 37,6 |
| | 80 | 18,00 | 1,1 | 1,1 | | 70,0 | | | | 1,5 | **N208** | | | 42,2 | 37,6 |
| | 80 | 18,00 | 1,1 | 1,1 | 49,5 | | 54,1 | 5,0 | 8,50 | 1,4 | **NU208E** | | HJ208E | 54,1 | 50,1 |
| | 80 | 18,00 | 1,1 | 1,1 | 49,5 | | 54,1 | 5,0 | 8,50 | 1,4 | **NJ208E** | | HJ208E | 54,1 | 50,1 |
| | 80 | 18,00 | 1,1 | 1,1 | 49,5 | | | | | 1,4 | **NUP208E** | | | 54,1 | 50,1 |
| | 80 | 23,00 | 1,1 | 1,1 | 50 | | | | | 1,6 | **NU2208** | | | 57,3 | 56,2 |
| | 80 | 23,00 | 1,1 | 1,1 | 50 | | | | | 1,6 | **NJ2208** | | | 57,3 | 56,2 |
| | 80 | 23,00 | 1,1 | 1,1 | 50 | | | | | 1,6 | **NUP2208** | | | 57,3 | 56,2 |
| | 80 | 30,16 | 1,0 | 1,5 | 49,3 | | | | | 3,0 | **NU5208M** | | | 57,0 | 98,1 |
| | 90 | 23,00 | 1,5 | 1,5 | 53,5 | | 59,0 | 7,0 | 12,50 | 1,4 | **NU308** | | HJ308 | 55,2 | 48,2 |
| | 90 | 23,00 | 1,5 | 1,5 | 53,5 | | 59,0 | 7,0 | 12,50 | 1,4 | **NJ308** | | HJ308 | 55,2 | 48,2 |
| | 90 | 23,00 | 1,5 | 1,5 | 53,5 | | | | | 1,4 | **NUP308** | | | 55,2 | 48,2 |
| | 90 | 23,00 | 1,5 | 1,5 | | 77,5 | | | | 1,4 | **N308** | | | 55,2 | 48,2 |
| | 90 | 23,00 | 1,5 | 1,5 | 52 | | 57,7 | 7,0 | 11,00 | 1,4 | **NU308E** | TNG | HJ308E | 84,1 | 77,9 |
| | 90 | 23,00 | 1,5 | 1,5 | 52 | | 57,7 | 7,0 | 11,00 | 1,4 | **NJ308E** | TNG | HJ308E | 84,1 | 77,9 |
| | 90 | 23,00 | 1,5 | 1,5 | 52 | | | | | 1,4 | **NUP308E** | TNG | | 84,1 | 77,9 |
| | 90 | 23,00 | 1,5 | 1,5 | | 80,0 | | | | 1,4 | **N308ETNG** | | | 84,1 | 77,9 |
| | 90 | 33,00 | 1,5 | 1,5 | 52 | | | | | 2,9 | **NU2308EMAS** | | | 119,0 | 123,0 |
| | 90 | 33,00 | 1,5 | 1,5 | 52 | | | | | 2,9 | **NJ2308EMAS** | | | 119,0 | 123,0 |
| | 90 | 33,00 | 1,5 | 1,5 | 52 | | | | | 2,9 | **NUP2308EMAS** | | | 119,0 | 123,0 |
| | 110 | 27,00 | 2,0 | 2,0 | 58 | | 65,8 | 8,0 | 13,00 | 1,5 | **NU408** | | HJ408 | 92,6 | 79,4 |
| | 110 | 27,00 | 2,0 | 2,0 | 58 | | 65,8 | 8,0 | 13,00 | 1,5 | **NJ408** | | HJ408 | 92,6 | 79,4 |
| | 110 | 27,00 | 2,0 | 2,0 | 58 | | | | | 1,5 | **NUP408** | | | 92,6 | 79,4 |
| | 110 | 27,00 | 2,0 | 2,0 | | 92,0 | | | | 1,5 | **N408** | | | 92,6 | 79,4 |



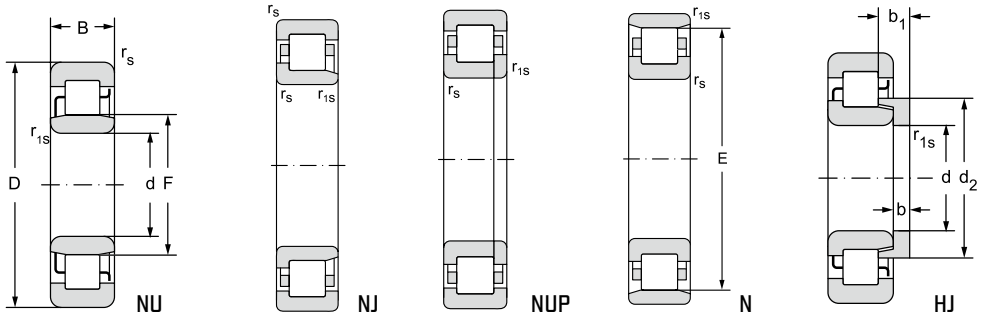




[1] Admissible axial movement

| Fatique load limit | Limiting speed for lubrication with | | Abutment and fillet dimensions | | | | | | | | | | Weight | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $P_u$ | grease | oil | d | $d_a$ | $d_a$ | $d_b$ | $d_c$ | $d_d$ | $D_a$ | $D_b$ | $r_a$ | $r_b$ | ~ | |
| | | | | min | max | min | min | max | max | min | max | max | of bearing | Ang.r. |
| kN | $min^{-1}$ | | mm | | | | | | | | | | kg | |
| 4,59 | 7900 | 9400 | 40 | 47 | 48,0 | 52,0 | 56 | - | 73 | - | 1,0 | 1,0 | 0,37 | 0,050 |
| 4,59 | 7900 | 9400 | | 47 | 48,0 | 52,0 | 56 | - | 73 | - | 1,0 | 1,0 | 0,37 | 0,050 |
| 4,59 | 7900 | 9400 | | 47 | 48,0 | 52,0 | 56 | - | 73 | - | 1,0 | 1,0 | 0,0000 | |
| 4,59 | 7900 | 9400 | | 47 | 48,0 | 52,0 | 56 | 68 | 73 | 72 | 1,0 | 1,0 | 0,0000 | |
| 6,11 | 7900 | 9400 | | 47 | 47,0 | 51,0 | 56 | - | 73 | - | 1,0 | 1,0 | 0,38 | 0,050 |
| 6,11 | 7900 | 9400 | | 47 | 47,0 | 51,0 | 56 | - | 73 | - | 1,0 | 1,0 | 0,38 | 0,050 |
| 6,11 | 7900 | 9400 | | 47 | 47,0 | 51,0 | 56 | - | 73 | - | 1,0 | 1,0 | 0,38 | |
| 6,85 | 7900 | 9400 | | 47 | 48,0 | 52,0 | 56 | - | 73 | - | 1,0 | 1,0 | 0,74 | |
| 6,85 | 7900 | 9400 | | 47 | 48,0 | 52,0 | 56 | - | 73 | - | 1,0 | 1,0 | 0,74 | |
| 6,85 | 7900 | 9400 | | 47 | 48,0 | 52,0 | 56 | - | 73 | - | 1,0 | 1,0 | 0,74 | |
| 11,96 | 7500 | 8900 | | 48 | – | 51,5 | | - | 72 | - | 1,5 | 1,5 | 0,74 | |
| 5,88 | 7100 | 8400 | | 47 | 51,0 | 55,0 | 61 | - | 81 | - | 1,5 | 1,5 | 0,66 | 0,090 |
| 5,88 | 7100 | 8400 | | 47 | 51,0 | 55,0 | 61 | - | 81 | - | 1,5 | 1,5 | 0,66 | 0,090 |
| 5,88 | 7100 | 8400 | | 47 | 51,0 | 55,0 | 61 | - | 81 | - | 1,5 | 1,5 | 0,66 | |
| 5,88 | 7100 | 8400 | | 47 | 51,0 | 55,0 | 61 | 75 | 81 | 81 | 1,5 | 1,5 | 0,66 | |
| 9,50 | 6700 | 7900 | | 47 | 50,0 | 54,0 | 60 | - | 81 | - | 1,5 | 1,5 | 0,67 | 0,080 |
| 9,50 | 6700 | 7900 | | 47 | 50,0 | 54,0 | 60 | - | 81 | - | 1,5 | 1,5 | 0,67 | 0,080 |
| 9,50 | 6700 | 7900 | | 47 | 50,0 | 54,0 | 60 | - | 81 | - | 1,5 | 1,5 | 0,67 | |
| 9,50 | 6700 | 7900 | | 47 | 50,0 | 54,0 | 60 | 77 | 81 | 81 | 1,5 | 1,5 | 0,83 | |
| 15,00 | 6300 | 7500 | | 47 | 50,0 | 54,0 | 60 | - | 81 | - | 1,5 | 1,5 | 1,00 | |
| 15,00 | 6300 | 7500 | | 47 | 50,0 | 54,0 | 60 | - | 81 | - | 1,5 | 1,5 | 1,00 | |
| 15,00 | 6300 | 7500 | | 47 | 50,0 | 54,0 | 60 | - | 81 | - | 1,5 | 1,5 | 1,00 | |
| 9,68 | 5600 | 6700 | | 50 | 55,0 | 60,0 | 68 | - | 97 | - | 2,0 | 2,0 | 1,30 | 0,14 |
| 9,68 | 5600 | 6700 | | 50 | 55,0 | 60,0 | 68 | - | 97 | - | 2,0 | 2,0 | 1,30 | 0,14 |
| 9,68 | 5600 | 6700 | | 50 | 55,0 | 60,0 | 68 | - | 97 | - | 2,0 | 2,0 | 1,30 | |
| 9,68 | 5600 | 6700 | | 50 | 55,0 | 60,0 | 68 | 90 | 97 | 95 | 2,0 | 2,0 | 1,30 | |

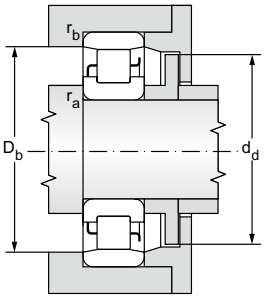
## Single row cylindrical roller bearings

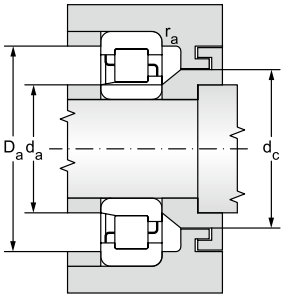
d = 45 mm

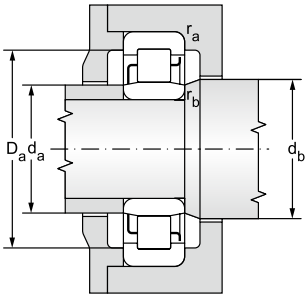



12.4.1

| Main dimensions | | | | | | | | | | | Bearing designation | Other cages | Angle ring designation | Basic load rating | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | dynamic | static |
| d | D | B | $r_s$ | $r_{1s}$ | F | E | $d_2$ | b | $b_1$ | $s_{1)}$ | | | | $C_r$ | $C_{or}$ |
| | | | min | min | | | max | | | | | | | | |
| mm | | | | | | | | | | | | | | kN | |
| 45 | 85 | 19,00 | 1,1 | 1,1 | 55 | | 59,6 | 5,0 | 9,50 | 1,5 | **NU209** | | HJ209 | 43,8 | 41,1 |
| | 85 | 19,00 | 1,1 | 1,1 | 55 | | 59,6 | 5,0 | 9,50 | 1,5 | **NJ209** | | HJ209 | 43,8 | 41,1 |
| | 85 | 19,00 | 1,1 | 1,1 | 55 | | | | | 1,5 | **NUP209** | | | 43,8 | 41,1 |
| | 85 | 19,00 | 1,1 | 1,1 | | 75,0 | | | | 1,5 | **N209** | | | 43,8 | 41,1 |
| | 85 | 19,00 | 1,1 | 1,1 | 54,5 | | 59,1 | 5,0 | 8,50 | 1,4 | **NU209E** | TNG | HJ209E | 61,9 | 60,7 |
| | 85 | 19,00 | 1,1 | 1,1 | 54,5 | | 59,1 | 5,0 | 8,50 | 1,4 | **NJ209E** | TNG | HJ209E | 61,9 | 60,7 |
| | 85 | 19,00 | 1,1 | 1,1 | 54,5 | | | | | 1,4 | **NUP209E** | TNG | | 61,9 | 60,7 |
| | 85 | 19,00 | 1,1 | 1,1 | | 76,5 | | | | 1,4 | **N209ETNG** | | | 61,9 | 60,7 |
| | 85 | 23,00 | 1,1 | 1,1 | 54,5 | | | | | 1,6 | **NU2209E** | TNG | | 76,4 | 79,4 |
| | 85 | 23,00 | 1,1 | 1,1 | 54,5 | | | | | 1,6 | **NJ2209E** | TNG | | 76,4 | 79,4 |
| | 85 | 23,00 | 1,1 | 1,1 | 54,5 | | | | | 1,6 | **NUP2209E** | TNG | | 76,4 | 79,4 |
| | 85 | 30,16 | 1,0 | 1,5 | 55,52 | | | | | 4,0 | **NU5209M** | | | 89,1 | 117,7 |
| | 100 | 25,00 | 1,5 | 1,5 | 58,5 | | 65,0 | 7,0 | 12,50 | 1,4 | **NU309** | | HJ309 | 70,8 | 61,9 |
| | 100 | 25,00 | 1,5 | 1,5 | 58,5 | | 65,0 | 7,0 | 12,50 | 1,4 | **NJ309** | | HJ309 | 70,8 | 61,9 |
| | 100 | 25,00 | 1,5 | 1,5 | 58,5 | | | | | 1,4 | **NUP309** | | | 70,8 | 61,9 |
| | 100 | 25,00 | 1,5 | 1,5 | | 86,5 | | | | 1,4 | **N309** | | | 70,8 | 61,9 |
| | 100 | 25,00 | 1,5 | 1,5 | 58,5 | | 64,6 | 7,0 | 11,50 | 1,4 | **NU309E** | | HJ309E | 102,0 | 98,0 |
| | 100 | 25,00 | 1,5 | 1,5 | 58,5 | | 64,6 | 7,0 | 11,50 | 1,4 | **NJ309E** | | HJ309E | 102,0 | 98,0 |
| | 100 | 25,00 | 1,5 | 1,5 | 58,5 | | | | | 1,4 | **NUP309E** | | | 102,0 | 98,0 |
| | 100 | 36,00 | 1,5 | 1,5 | 58,5 | | | | | 2,9 | **NU2309E** | | | 139,0 | 147,0 |
| | 100 | 36,00 | 1,5 | 1,5 | 58,5 | | | | | 2,9 | **NJ2309E** | | | 139,0 | 147,0 |
| | 100 | 36,00 | 1,5 | 1,5 | 58,5 | | | | | 2,9 | **NUP2309E** | | | 139,0 | 147,0 |
| | 120 | 29,00 | 2,0 | 2,0 | 64,5 | | 72,8 | 8,0 | 13,50 | 1,5 | **NU409** | | HJ409 | 104,0 | 90,9 |
| | 120 | 29,00 | 2,0 | 2,0 | 64,5 | | 72,8 | 8,0 | 13,50 | 1,5 | **NJ409** | | HJ409 | 104,0 | 90,9 |
| | 120 | 29,00 | 2,0 | 2,0 | 64,5 | | | | | 1,5 | **NUP409** | | | 104,0 | 90,9 |
| | 120 | 29,00 | 2,0 | 2,0 | | 100,5 | | | | 1,5 | **N409** | | | 104,0 | 90,9 |



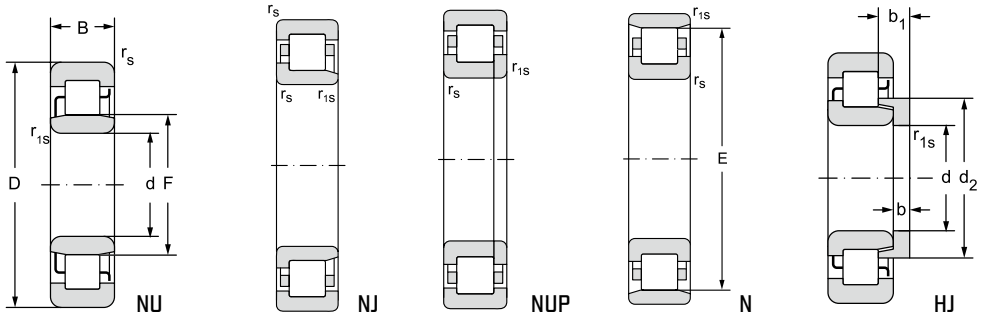




[1] Admissible axial movement

| Fatique load limit | Limiting speed for lubrication with | | Abutment and fillet dimensions | | | | | | | | | | Weight | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $P_u$ | grease | oil | d | $d_a$ | $d_a$ | $d_b$ | $d_c$ | $d_d$ | $D_a$ | $D_b$ | $r_a$ | $r_b$ | ~ | |
| | | | | min | max | min | min | max | max | min | max | max | of bearing | Ang.r. |
| kN | $min^{-1}$ | | mm | | | | | | | | | | kg | |
| 5,01 | 7500 | 8900 | 45 | 52 | 53,0 | 57,0 | 61 | - | 78 | - | 1,0 | 1,0 | 0,43 | 0,050 |
| 5,01 | 7500 | 8900 | | 52 | 53,0 | 57,0 | 61 | - | 78 | - | 1,0 | 1,0 | 0,43 | 0,050 |
| 5,01 | 7500 | 8900 | | 52 | 53,0 | 57,0 | 61 | - | 78 | - | 1,0 | 1,0 | 0,43 | |
| 5,01 | 7500 | 8900 | | 52 | 53,0 | 57,0 | 61 | 74 | 78 | 78 | 1,0 | 1,0 | 0,43 | |
| 7,40 | 7500 | 8900 | | 52 | 53,0 | 57,0 | 61 | - | 78 | - | 1,0 | 1,0 | 0,45 | 0,050 |
| 7,40 | 7500 | 8900 | | 52 | 53,0 | 57,0 | 61 | - | 78 | - | 1,0 | 1,0 | 0,45 | 0,050 |
| 7,40 | 7500 | 8900 | | 52 | 53,0 | 57,0 | 61 | - | 78 | - | 1,0 | 1,0 | 0,45 | |
| 7,40 | 7500 | 8900 | | 52 | 53,0 | 57,0 | 61 | 74 | 78 | 78 | 1,0 | 1,0 | 0,43 | |
| 9,68 | 7100 | 8400 | | 52 | 53,0 | 57,0 | 61 | - | 78 | - | 1,0 | 1,0 | 0,55 | |
| 9,68 | 7100 | 8400 | | 52 | 53,0 | 57,0 | 61 | - | 78 | - | 1,0 | 1,0 | 0,55 | |
| 9,68 | 7100 | 8400 | | 53 | 53,0 | 57,0 | 61 | - | 76 | - | 1,5 | 1,0 | 0,55 | |
| 14,35 | 6700 | 7900 | | 53 | - | 57,0 | - | - | 76 | - | 1,5 | 1,0 | 0,80 | |
| 7,55 | 6300 | 7500 | | 52 | 56,0 | 60,0 | 66 | - | 91 | - | 1,5 | 1,5 | 0,87 | 0,100 |
| 7,55 | 6300 | 7500 | | 52 | 56,0 | 60,0 | 66 | - | 91 | - | 1,5 | 1,5 | 0,87 | 0,100 |
| 7,55 | 6300 | 7500 | | 52 | 56,0 | 60,0 | 66 | - | 91 | - | 1,5 | 1,5 | 0,87 | |
| 7,55 | 6300 | 7500 | | 52 | 56,0 | 60,0 | 66 | 84 | 91 | 90 | 1,5 | 1,5 | 0,87 | |
| 11,95 | 6000 | 7100 | | 52 | 56,0 | 60,0 | 66 | - | 91 | - | 1,5 | 1,5 | 0,89 | 0,100 |
| 11,95 | 6000 | 7100 | | 52 | 56,0 | 60,0 | 66 | - | 91 | - | 1,5 | 1,5 | 0,89 | 0,100 |
| 11,95 | 6000 | 7100 | | 52 | 56,0 | 60,0 | 66 | - | 91 | - | 1,5 | 1,5 | 0,89 | |
| 17,93 | 5600 | 6700 | | 52 | 56,0 | 60,0 | 66 | - | 91 | - | 1,5 | 1,5 | 1,36 | |
| 17,93 | 5600 | 6700 | | 52 | 56,0 | 60,0 | 66 | - | 91 | - | 1,5 | 1,5 | 1,36 | |
| 17,93 | 5600 | 6700 | | 52 | 56,0 | 60,0 | 66 | - | 91 | - | 1,5 | 1,5 | 1,36 | |
| 11,09 | 5300 | 6300 | | 55 | 62,7 | 66,0 | 75 | - | 107 | - | 2,0 | 2,0 | 1,65 | 0,18 |
| 11,09 | 5300 | 6300 | | 55 | 62,7 | 66,0 | 75 | - | 107 | - | 2,0 | 2,0 | 1,65 | 0,18 |
| 11,09 | 5300 | 6300 | | 55 | 62,7 | 66,0 | 75 | - | 107 | - | 2,0 | 2,0 | 1,65 | |
| 11,09 | 5300 | 6300 | | 55 | 62,7 | 66,0 | 75 | 99 | 107 | 103 | 2,0 | 2,0 | 1,65 | |

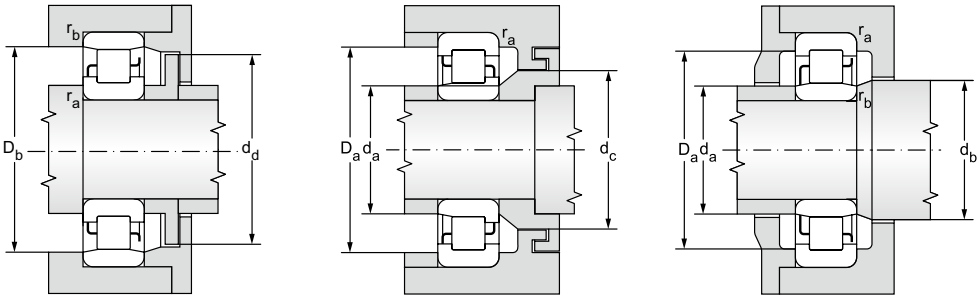
## Single row cylindrical roller bearings

d = 50 mm




12.4.1

| Main dimensions | | | | | | | | | | | Bearing designation | Other cages | Angle ring designation | Basic load rating | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | dynamic | static |
| d | D | B | $r_s$ | $r_{1s}$ | F | E | $d_2$ | b | $b_1$ | $s_{1)}$ | | | | $C_r$ | $C_{or}$ |
| | | | min | min | | | max | | | | | | | | |
| mm | | | | | | | | | | | | | | kN | |
| 50 | 90 | 20,00 | 1,1 | 1,1 | 59,5 | | 64,6 | 5,0 | 9,00 | 1,6 | **NU210E** | | HJ210E | 64,3 | 65,6 |
| | 90 | 20,00 | 1,1 | 1,1 | 59,5 | | 64,6 | 5,0 | 9,00 | 1,6 | **NJ210E** | | HJ210E | 64,3 | 65,6 |
| | 90 | 20,00 | 1,1 | 1,1 | 59,5 | | | | | 1,6 | **NUP210E** | | | 64,3 | 65,6 |
| | 90 | 23,00 | 1,1 | 1,1 | 60,4 | | | | | 1,6 | **NU2210** | | | 63,1 | 66,8 |
| | 90 | 23,00 | 1,1 | 1,1 | 60,4 | | | | | 1,6 | **NJ2210** | | | 63,1 | 66,8 |
| | 90 | 23,00 | 1,1 | 1,1 | 60,4 | | | | | 1,6 | **NUP2210** | | | 63,1 | 66,8 |
| | 90 | 23,00 | 1,1 | 1,1 | 59,5 | | | | | 1,6 | **NU2210E** | | | 84,1 | 90,9 |
| | 90 | 23,00 | 1,1 | 1,1 | 59,5 | | | | | 1,6 | **NJ2210E** | | | 84,1 | 90,9 |
| | 90 | 23,00 | 1,1 | 1,1 | 59,5 | | | | | 1,6 | **NUP2210E** | | | 84,1 | 90,9 |
| | 90 | 30,16 | 1,0 | 1,5 | 60,46 | | | | | 4,5 | **NU5210M** | | | 92,6 | 128,0 |
| | 110 | 27,00 | 2,0 | 2,0 | 65 | | 71,9 | 8,0 | 14,00 | 1,5 | **NU310** | | HJ310 | 87,4 | 79,4 |
| | 110 | 27,00 | 2,0 | 2,0 | 65 | | 71,9 | 8,0 | 14,00 | 1,5 | **NJ310** | | HJ310 | 87,4 | 79,4 |
| | 110 | 27,00 | 2,0 | 2,0 | 65 | | | | | 1,5 | **NUP310** | | | 87,4 | 79,4 |
| | 110 | 27,00 | 2,0 | 2,0 | | 95,0 | | | | 1,5 | **N310** | | | 87,4 | 79,4 |
| | 110 | 27,00 | 2,0 | 2,0 | 65 | | 71,4 | 8,0 | 13,00 | 1,5 | **NU310ETNG** | | HJ310E | 117,0 | 114,0 |
| | 110 | 27,00 | 2,0 | 2,0 | 65 | | 71,4 | 8,0 | 13,00 | 1,5 | **NJ310ETNG** | | HJ310E | 117,0 | 114,0 |
| | 110 | 27,00 | 2,0 | 2,0 | 65 | | | | | 1,5 | **NUP310ETNG** | | | 117,0 | 114,0 |
| | 110 | 27,00 | 2,0 | 2,0 | | 97,0 | | | | 1,5 | **N310ETNG** | | | 117,0 | 114,0 |
| | 110 | 40,00 | 2,0 | 2,0 | 65 | | | | | 3,0 | **NU2310** | | | 123,0 | 126,0 |
| | 110 | 40,00 | 2,0 | 2,0 | 65 | | | | | 3,0 | **NJ2310** | | | 123,0 | 126,0 |
| | 110 | 40,00 | 2,0 | 2,0 | 65 | | | | | 3,0 | **NUP2310** | | | 123,0 | 126,0 |
| | 110 | 40,00 | 2,0 | 2,0 | 65 | | | | | 3,0 | **NU2310EMAS** | | | 168,0 | 178,0 |
| | 110 | 40,00 | 2,0 | 2,0 | 65 | | | | | 3,0 | **NJ2310EMAS** | | | 168,0 | 178,0 |
| | 110 | 40,00 | 2,0 | 2,0 | 65 | | | | | 3,0 | **NUP2310EMAS** | | | 168,0 | 178,0 |
| | 130 | 31,00 | 2,1 | 2,1 | 70,8 | | 80,0 | 9,0 | 14,50 | 2,0 | **NU410** | | HJ410 | 139,0 | 114,0 |
| | 130 | 31,00 | 2,1 | 2,1 | 70,8 | | 80,0 | 9,0 | 14,50 | 2,0 | **NJ410** | | HJ410 | 139,0 | 114,0 |
| | 130 | 31,00 | 2,1 | 2,1 | 70,8 | | | | | 2,0 | **NUP410** | | | 139,0 | 114,0 |
| | 130 | 31,00 | 2,1 | 2,1 | | 110,8 | | | | 2,0 | **N410** | | | 139,0 | 114,0 |

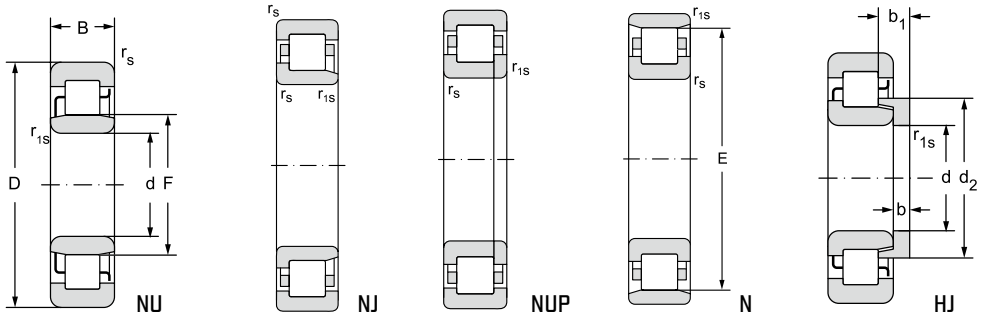



[1] Admissible axial movement

| Fatique load limit | Limiting speed for lubrication with | | Abutment and fillet dimensions | | | | | | | | | | Weight | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | |
| $P_u$ | grease | oil | d | $d_a$ | $d_a$ | $d_b$ | $d_c$ | $d_d$ | $D_a$ | $D_b$ | $r_a$ | $r_b$ | ~ | |
| | | | | min | max | min | min | max | max | min | max | max | of bearing | Ang.r. |
| kN | $min^{-1}$ | | mm | | | | | | | | | | kg | |
| 8,00 | 6700 | 7900 | 50 | 57 | 57,0 | 61,0 | 66 | - | 83 | - | 1,0 | 1,0 | 0,49 | 0,060 |
| 8,00 | 6700 | 7900 | | 57 | 57,0 | 61,0 | 66 | - | 83 | - | 1,0 | 1,0 | 0,49 | 0,060 |
| 8,00 | 6700 | 7900 | | 57 | 57,0 | 61,0 | 66 | - | 83 | - | 1,0 | 1,0 | 0,49 | |
| 8,15 | 7100 | 8400 | | 57 | 58,0 | 62,0 | 66 | - | 83 | - | 1,0 | 1,0 | 0,58 | |
| 8,15 | 7100 | 8400 | | 57 | 58,0 | 62,0 | 66 | - | 83 | - | 1,0 | 1,0 | 0,58 | |
| 8,15 | 7100 | 8400 | | 57 | 58,0 | 62,0 | 66 | - | 83 | - | 1,0 | 1,0 | 0,58 | |
| 11,09 | 6700 | 7900 | | 57 | 57,0 | 61,0 | 66 | - | 83 | - | 1,0 | 1,0 | 0,59 | |
| 11,09 | 6700 | 7900 | | 57 | 57,0 | 61,0 | 66 | - | 83 | - | 1,0 | 1,0 | 0,59 | |
| 11,09 | 6700 | 7900 | | 57 | 57,0 | 61,0 | 66 | - | 83 | - | 1,0 | 1,0 | 0,59 | |
| 15,61 | 6300 | 7500 | | 58 | - | 62,0 | - | - | 81 | - | 1,5 | 1,0 | 0,88 | |
| 9,68 | 5600 | 6700 | | 60 | 63,0 | 67,0 | 74 | - | 100 | - | 2,0 | 2,0 | 1,15 | 0,15 |
| 9,68 | 5600 | 6700 | | 60 | 63,0 | 67,0 | 74 | - | 100 | - | 2,0 | 2,0 | 1,15 | 0,15 |
| 9,68 | 5600 | 6700 | | 60 | 63,0 | 67,0 | 74 | - | 100 | - | 2,0 | 2,0 | 1,15 | |
| 9,68 | 5600 | 6700 | | 60 | 63,0 | 67,0 | 74 | 93 | 100 | 99 | 2,0 | 2,0 | 1,15 | |
| 13,90 | 5300 | 6300 | | 60 | 63,0 | 67,0 | 74 | - | 100 | - | 2,0 | 2,0 | 1,13 | 0,14 |
| 13,90 | 5300 | 6300 | | 60 | 63,0 | 67,0 | 74 | - | 100 | - | 2,0 | 2,0 | 1,13 | 0,14 |
| 13,90 | 5300 | 6300 | | 60 | 63,0 | 67,0 | 74 | - | 100 | - | 2,0 | 2,0 | 1,13 | |
| 13,90 | 5300 | 6300 | | 60 | 63,0 | 67,0 | 74 | 95 | 100 | 100 | 2,0 | 2,0 | 1,13 | |
| 15,37 | 5600 | 6700 | | 60 | 63,0 | 67,0 | 74 | - | 100 | - | 2,0 | 2,0 | 0,17 | |
| 15,37 | 5600 | 6700 | | 60 | 63,0 | 67,0 | 74 | - | 100 | - | 2,0 | 2,0 | 0,17 | |
| 15,37 | 5600 | 6700 | | 60 | 63,0 | 67,0 | 74 | - | 100 | - | 2,0 | 2,0 | 0,17 | |
| 21,71 | 5000 | 6000 | | 60 | 63,0 | 67,0 | 74 | - | 100 | - | 2,0 | 2,0 | 1,83 | |
| 21,71 | 5000 | 6000 | | 60 | 63,0 | 67,0 | 74 | - | 100 | - | 2,0 | 2,0 | 1,83 | |
| 21,71 | 5000 | 6000 | | 60 | 63,0 | 67,0 | 74 | - | 100 | - | 2,0 | 2,0 | 1,83 | |
| 13,90 | 4700 | 5600 | | 63 | 68,0 | 73,0 | 82 | - | 116 | - | 2,0 | 2,0 | 2,00 | 0,23 |
| 13,90 | 4700 | 5600 | | 63 | 68,0 | 73,0 | 82 | - | 116 | - | 2,0 | 2,0 | 2,00 | 0,23 |
| 13,90 | 4700 | 5600 | | 63 | 68,0 | 73,0 | 82 | - | 116 | - | 2,0 | 2,0 | 2,00 | |
| 13,90 | 4700 | 5600 | | 63 | 68,0 | 73,0 | 82 | 109 | 116 | 114 | 2,0 | 2,0 | 2,00 | |

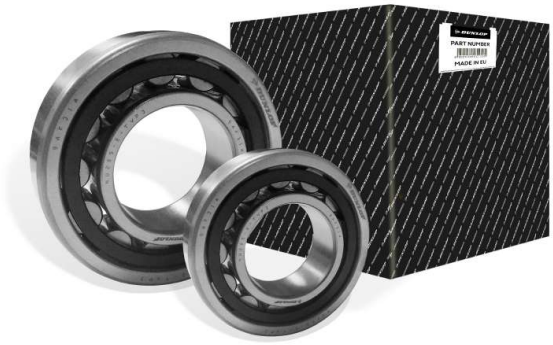
## Single row cylindrical roller bearings

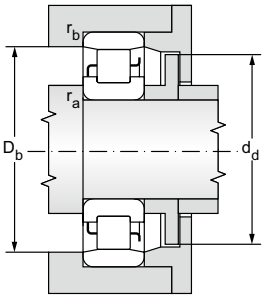
d = 55 mm

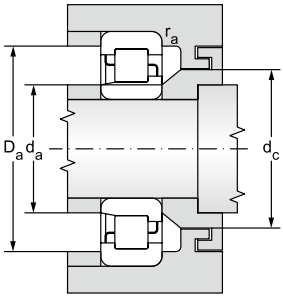


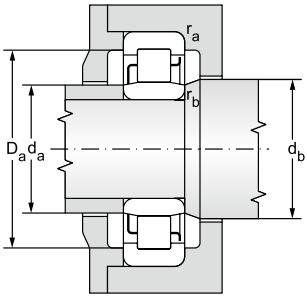

| Main dimensions | | | | | | | | | | | Bearing designation | Other cages | Angle ring designation | Basic load rating | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | dynamic | static |
| d | D | B | $r_s$ | $r_{1s}$ | F | E | $d_2$ | b | $b_1$ | $s_{1)}$ | | | | $C_r$ | $C_{or}$ |
| | | | min | min | | | max | | | | | | | | |
| | | | | | mm | | | | | | | | | kN | |
| 55 | 100 | 21,00 | 1,5 | 1,1 | 66,5 | | 71,5 | 6,0 | 11,00 | 1,6 | **NU211** | | HJ211 | 56,2 | 56,2 |
| | 100 | 21,00 | 1,5 | 1,1 | 66,5 | | 71,5 | 6,0 | 11,00 | 1,6 | **NJ211** | | HJ211 | 56,2 | 56,2 |
| | 100 | 21,00 | 1,5 | 1,1 | 66,5 | | | | | 1,6 | **NUP211** | | | 56,2 | 56,2 |
| | 100 | 21,00 | 1,5 | 1,1 | | 88,5 | | | | 1,6 | **N211** | | | 56,2 | 56,2 |
| | 100 | 21,00 | 1,5 | 1,1 | 66 | | 71,0 | 6,0 | 9,50 | 1,6 | **NU211E** | | HJ211E | 85,8 | 90,9 |
| | 100 | 21,00 | 1,5 | 1,1 | 66 | | 71,0 | 6,0 | 9,50 | 1,6 | **NJ211E** | | HJ211E | 85,8 | 90,9 |
| | 100 | 21,00 | 1,5 | 1,1 | 66 | | | | | 1,6 | **NUP211E** | | | 85,8 | 90,9 |
| | 100 | 25,00 | 1,5 | 1,1 | 66,5 | | | | | 1,6 | **NU2211** | | | 76,4 | 82,5 |
| | 100 | 25,00 | 1,5 | 1,1 | 66,5 | | | | | 1,6 | **NJ2211** | | | 76,4 | 82,5 |
| | 100 | 25,00 | 1,5 | 1,1 | 66,5 | | | | | 1,6 | **NUP2211** | | | 76,4 | 82,5 |
| | 100 | 33,34 | 1,5 | 2,1 | 66,9 | | | | | 4,5 | **NU5211M** | | | 119,0 | 171,0 |
| | 120 | 29,00 | 2,0 | 2,0 | 70,5 | | 78,4 | 9,0 | 15,00 | 1,5 | **NU311** | | HJ311 | 108,0 | 100,0 |
| | 120 | 29,00 | 2,0 | 2,0 | 70,5 | | 78,4 | 9,0 | 15,00 | 1,5 | **NJ311** | | HJ311 | 108,0 | 100,0 |
| | 120 | 29,00 | 2,0 | 2,0 | 70,5 | | | | | 1,5 | **NUP311** | | | 108,0 | 100,0 |
| | 120 | 29,00 | 2,0 | 2,0 | | 104,5 | | | | 1,5 | **N311** | | | 108,0 | 100,0 |
| | 120 | 29,00 | 2,0 | 2,0 | 70,5 | | 77,7 | 9,0 | 14,00 | 1,5 | **NU311E** | | HJ311E | 136,0 | 128,0 |
| | 120 | 29,00 | 2,0 | 2,0 | 70,5 | | 77,7 | 9,0 | 14,00 | 1,5 | **NJ311E** | | HJ311E | 136,0 | 128,0 |
| | 120 | 29,00 | 2,0 | 2,0 | 70,5 | | | | | 1,5 | **NUP311E** | | | 136,0 | 128,0 |
| | 140 | 33,00 | 2,1 | 2,1 | 77,2 | | 86,4 | 10,0 | 16,60 | 3,0 | **NU411** | | HJ411 | 139,0 | 128,0 |
| | 140 | 33,00 | 2,1 | 2,1 | 77,2 | | 86,4 | 10,0 | 16,60 | 3,0 | **NJ411** | | HJ411 | 139,0 | 128,0 |
| | 140 | 33,00 | 2,1 | 2,1 | 77,2 | | | | | 3,0 | **NUP411** | | | 139,0 | 128,0 |
| | 140 | 33,00 | 2,1 | 2,1 | | 117,2 | | | | 3,0 | **N411** | | | 139,0 | 128,0 |

12.4.1



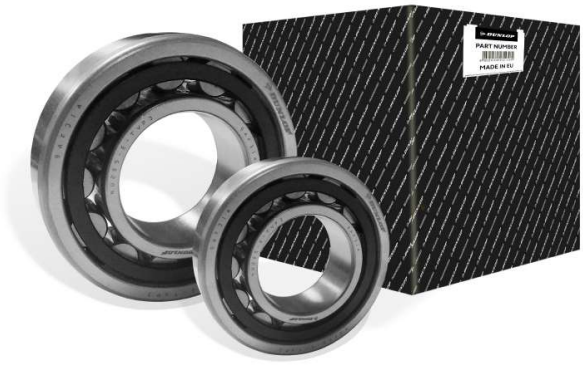


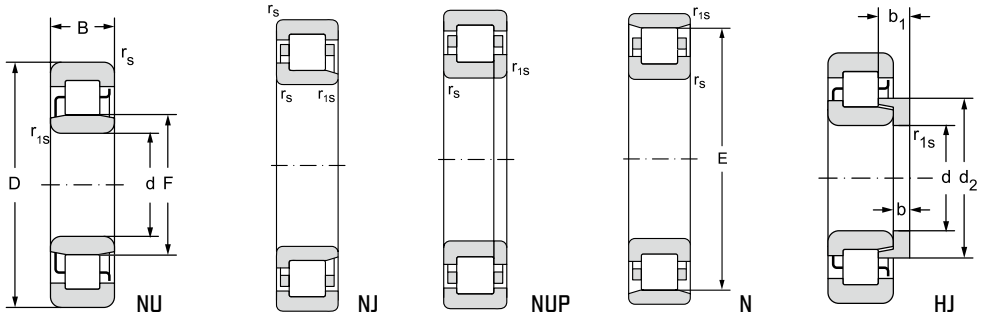

[1] Admissible axial movement

| Fatique load limit | Limiting speed for lubrication with | | Abutment and fillet dimensions | | | | | | | | | | Weight | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $P_u$ | grease | oil | d | $d_a$ | $d_a$ | $d_b$ | $d_c$ | $d_d$ | $D_a$ | $D_b$ | $r_a$ | $r_b$ | ~ | |
| | | | | min | max | min | min | max | max | min | max | max | of bearing | Ang.r. |
| kN | $min^{-1}$ | | mm | | | | | | | | | | kg | |
| 6,85 | 6300 | 7500 | 55 | 62 | 65,0 | 68,0 | 73 | - | 91 | - | 1,5 | 1,0 | 0,64 | 0,080 |
| 6,85 | 6300 | 7500 | | 62 | 65,0 | 68,0 | 73 | - | 91 | - | 1,5 | 1,0 | 0,64 | 0,080 |
| 6,85 | 6300 | 7500 | | 62 | 65,0 | 68,0 | 73 | - | 91 | - | 1,5 | 1,0 | 0,64 | |
| 6,85 | 6300 | 7500 | | 62 | 65,0 | 68,0 | 73 | 86 | 91 | 91 | 1,5 | 1,0 | 0,64 | |
| 11,09 | 6300 | 7500 | | 62 | 64,5 | 68,0 | 73 | - | 91 | - | 1,5 | 1,0 | 0,66 | 0,080 |
| 11,09 | 6300 | 7500 | | 62 | 64,5 | 68,0 | 73 | - | 91 | - | 1,5 | 1,0 | 0,66 | 0,080 |
| 11,09 | 6300 | 7500 | | 62 | 64,5 | 68,0 | 73 | - | 91 | - | 1,5 | 1,0 | 0,66 | |
| 10,06 | 6300 | 7500 | | 62 | 65,0 | 68,0 | 73 | - | 91 | - | 1,5 | 1,0 | 0,78 | |
| 10,06 | 6300 | 7500 | | 62 | 65,0 | 68,0 | 73 | - | 91 | - | 1,5 | 1,0 | 0,78 | |
| 10,06 | 6300 | 7500 | | 62 | 65,0 | 68,0 | 73 | - | 91 | - | 1,5 | 1,0 | 0,78 | |
| 20,85 | 5600 | 6700 | | 64 | - | 69,0 | - | - | 90 | - | 2,0 | 1,5 | 1,20 | |
| 12,20 | 5300 | 6300 | | 65 | 67,0 | 72,0 | 80 | - | 110 | - | 2,0 | 2,0 | 1,45 | 0,19 |
| 12,20 | 5300 | 6300 | | 65 | 67,0 | 72,0 | 80 | - | 110 | - | 2,0 | 2,0 | 1,45 | 0,19 |
| 12,20 | 5300 | 6300 | | 65 | 67,0 | 72,0 | 80 | - | 110 | - | 2,0 | 2,0 | 1,45 | |
| 12,20 | 5300 | 6300 | | 65 | 67,0 | 72,0 | 80 | 102 | 110 | 108 | 2,0 | 2,0 | 1,45 | |
| 15,61 | 4700 | 5600 | | 65 | 67,0 | 72,0 | 80 | - | 110 | - | 2,0 | 2,0 | 1,38 | 0,18 |
| 15,61 | 4700 | 5600 | | 65 | 67,0 | 72,0 | 80 | - | 110 | - | 2,0 | 2,0 | 1,38 | 0,18 |
| 15,61 | 4700 | 5600 | | 65 | 67,0 | 72,0 | 80 | - | 110 | - | 2,0 | 2,0 | 1,38 | |
| 15,61 | 4500 | 5300 | | 68 | 71,0 | 79,0 | 88 | - | 126 | - | 2,0 | 2,0 | 2,50 | 0,30 |
| 15,61 | 4500 | 5300 | | 68 | 71,0 | 79,0 | 88 | - | 126 | - | 2,0 | 2,0 | 2,50 | 0,30 |
| 15,61 | 4500 | 5300 | | 68 | 71,0 | 79,0 | 88 | - | 126 | - | 2,0 | 2,0 | 2,50 | |
| 15,61 | 4500 | 5300 | | 68 | 71,0 | 79,0 | 88 | 115 | 126 | 120 | 2,0 | 2,0 | 2,50 | |



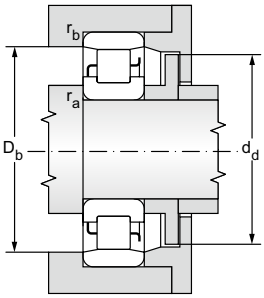
## Single row cylindrical roller bearings

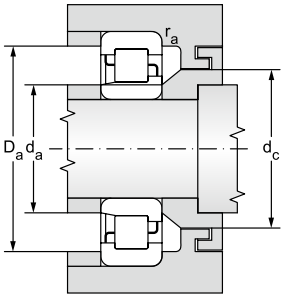
d = 60 to 65 mm

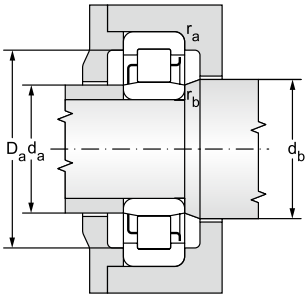



12.4.1

| Main dimensions | | | | | | | | | | | Bearing designation | Other cages | Angle ring designation | Basic load rating | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | dynamic | static |
| d | D | B | $r_s$ | $r_{1s}$ | F | E | $d_2$ | b | $b_1$ | $s_{1)}$ | | | | $C_r$ | $C_{or}$ |
| | | | min | min | | | max | | | | | | | | |
| | | | | | mm | | | | | | | | | kN | |
| 60 | 110 | 22,00 | 1,5 | 1,5 | 73,5 | | 79,0 | 6,0 | 11,00 | 1,6 | **NU212** | | HJ212 | 66,8 | 68,1 |
| | 110 | 22,00 | 1,5 | 1,5 | 73,5 | | 79,0 | 6,0 | 11,00 | 1,6 | **NJ212** | | HJ212 | 66,8 | 68,1 |
| | 110 | 22,00 | 1,5 | 1,5 | 73,5 | | | | | 1,6 | **NUP212** | | | 66,8 | 68,1 |
| | 110 | 22,00 | 1,5 | 1,5 | | 97,5 | | | | 1,6 | **N212** | | | 66,8 | 68,1 |
| | 110 | 28,00 | 1,5 | 1,5 | 73,5 | | | | | 1,6 | **NU2212** | | | 98,1 | 112,0 |
| | 110 | 28,00 | 1,5 | 1,5 | 73,5 | | | | | 1,6 | **NJ2212** | | | 98,1 | 112,0 |
| | 110 | 28,00 | 1,5 | 1,5 | 73,5 | | | | | 1,6 | **NUP2212** | | | 98,1 | 112,0 |
| | 110 | 36,50 | 1,5 | 2,0 | 72,38 | | | | | 4,5 | **NU5212M** | | | 150,0 | 211,0 |
| | 130 | 31,00 | 2,1 | 2,1 | 77 | | 85,3 | 9,0 | 15,50 | 1,5 | **NU312** | | HJ312 | 121,0 | 114,0 |
| | 130 | 31,00 | 2,1 | 2,1 | 77 | | 85,3 | 9,0 | 15,50 | 1,5 | **NJ312** | | HJ312 | 121,0 | 114,0 |
| | 130 | 31,00 | 2,1 | 2,1 | 77 | | | | | 1,5 | **NUP312** | | | 121,0 | 114,0 |
| | 130 | 31,00 | 2,1 | 2,1 | | 113,0 | | | | 1,5 | **N312** | | | 121,0 | 114,0 |
| | 130 | 46,00 | 2,1 | 2,1 | 77 | | | | | 4,5 | **NU2312** | | | 168,0 | 174,0 |
| | 130 | 46,00 | 2,1 | 2,1 | 77 | | | | | 4,5 | **NJ2312** | | | 168,0 | 174,0 |
| | 130 | 46,00 | 2,1 | 2,1 | 77 | | | | | 4,5 | **NUP2312** | | | 168,0 | 174,0 |
| | 150 | 35,00 | 2,1 | 2,1 | 83 | | 93,1 | 10,0 | 16,50 | 2,0 | **NU412** | | HJ412 | 168,0 | 158,0 |
| | 150 | 35,00 | 2,1 | 2,1 | 83 | | 93,1 | 10,0 | 16,50 | 2,0 | **NJ412** | | HJ412 | 168,0 | 158,0 |
| | 150 | 35,00 | 2,1 | 2,1 | 83 | | | | | 2,0 | **NUP412** | | | 168,0 | 158,0 |
| | 150 | 35,00 | 2,1 | 2,1 | | 127,0 | | | | 2,0 | **N412** | | | 168,0 | 158,0 |
| | | | | | | | | | | | | | | | |
| 65 | 120 | 23,00 | 1,5 | 1,5 | 79,6 | | 85,6 | 6,0 | 11,00 | 1,6 | **NU213** | | HJ213 | 79,4 | 82,5 |
| | 120 | 23,00 | 1,5 | 1,5 | 79,6 | | 85,6 | 6,0 | 11,00 | 1,6 | **NJ213** | | HJ213 | 79,4 | 82,5 |
| | 120 | 23,00 | 1,5 | 1,5 | 79,6 | | | | | 1,6 | **NUP213** | | | 79,4 | 82,5 |
| | 120 | 23,00 | 1,5 | 1,5 | | 105,6 | | | | 1,6 | **N213** | | | 79,4 | 82,5 |
| | 120 | 31,00 | 1,5 | 1,5 | 79,6 | | | | | 1,6 | **NU2213** | | | 117,0 | 136,0 |
| | 120 | 31,00 | 1,5 | 1,5 | 79,6 | | | | | 1,6 | **NJ2213** | | | 117,0 | 136,0 |
| | 120 | 31,00 | 1,5 | 1,5 | 79,6 | | | | | 1,6 | **NUP2213** | | | 117,0 | 136,0 |
| | 120 | 38,10 | 1,7 | 1,7 | 80,42 | | | | | 4,5 | **NU5213M** | | | 139,0 | 196,0 |
| | 140 | 33,00 | 2,1 | 2,1 | 83,5 | | 92,2 | 10,0 | 17,00 | 1,5 | **NU313** | | HJ313 | 131,0 | 128,0 |
| | 140 | 33,00 | 2,1 | 2,1 | 83,5 | | 92,2 | 10,0 | 17,00 | 1,5 | **NJ313** | | HJ313 | 131,0 | 128,0 |
| | 140 | 33,00 | 2,1 | 2,1 | 83,5 | | | | | 1,5 | **NUP313** | | | 131,0 | 128,0 |
| | 140 | 33,00 | 2,1 | 2,1 | | 121,5 | | | | 1,5 | **N313** | | | 131,0 | 128,0 |
| | 140 | 33,00 | 2,1 | 2,1 | 82,5 | | 90,7 | 10,0 | 15,50 | 1,5 | **NU313E** | | HJ313E | 181,0 | 178,0 |
| | 140 | 33,00 | 2,1 | 2,1 | 82,5 | | 90,7 | 10,0 | 15,50 | 1,5 | **NJ313E** | | HJ313E | 181,0 | 178,0 |
| | 140 | 33,00 | 2,1 | 2,1 | 82,5 | | | | | 1,5 | **NUP313E** | | | 181,0 | 178,0 |
| | 140 | 48,00 | 2,1 | 2,1 | 83,5 | | | | | 4,5 | **NU2313** | | | 192,0 | 203,0 |
| | 140 | 48,00 | 2,1 | 2,1 | 83,5 | | | | | 4,5 | **NJ2313** | | | 192,0 | 203,0 |
| | 140 | 48,00 | 2,1 | 2,1 | 83,5 | | | | | 4,5 | **NUP2313** | | | 192,0 | 203,0 |
| | 160 | 37,00 | 2,1 | 2,1 | 89,3 | | 99,9 | 11,0 | 18,00 | 2,0 | **NU413MAS** | M | HJ413 | 181,0 | 174,0 |
| | 160 | 37,00 | 2,1 | 2,1 | 89,3 | | 99,9 | 11,0 | 18,00 | 2,0 | **NJ413MAS** | M | HJ413 | 181,0 | 174,0 |
| | 160 | 37,00 | 2,1 | 2,1 | 89,3 | | | | | 2,0 | **NUP413MAS** | M | | 181,0 | 174,0 |



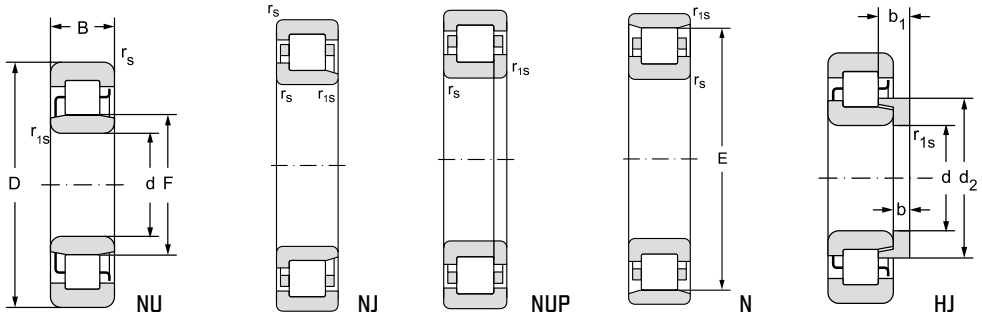




[1] Admissible axial movement

| Fatique load limit | Limiting speed for lubrication with | | Abutment and fillet dimensions | | | | | | | | | | Weight | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $P_u$ | grease | oil | d | $d_a$ | $d_a$ | $d_b$ | $d_c$ | $d_d$ | $D_a$ | $D_b$ | $r_a$ | $r_b$ | ~ | |
| | | | | min | max | min | min | max | max | min | max | max | of bearing | Ang.r. |
| kN | $min^{-1}$ | | mm | | | | | | | | | | kg | |
| 8,30 | 5600 | 6700 | 60 | 67 | 71,0 | 75,0 | 80 | - | 101 | - | 1,5 | 1,5 | 0,82 | 0,11 |
| 8,30 | 5600 | 6700 | | 67 | 71,0 | 75,0 | 80 | - | 101 | - | 1,5 | 1,5 | 0,82 | 0,11 |
| 8,30 | 5600 | 6700 | | 67 | 71,0 | 75,0 | 80 | - | 101 | - | 1,5 | 1,5 | 0,82 | |
| 8,30 | 5600 | 6700 | | 67 | 71,0 | 75,0 | 80 | 95 | 101 | 101 | 1,5 | 1,5 | 0,82 | |
| 13,66 | 5600 | 6700 | | 69 | 69,5 | 74,0 | 79 | - | 101 | - | 1,5 | 1,5 | 1,05 | |
| 13,66 | 5600 | 6700 | | 69 | 69,5 | 74,0 | 79 | - | 101 | - | 1,5 | 1,5 | 1,05 | |
| 13,66 | 5600 | 6700 | | 69 | 69,5 | 74,0 | 79 | - | 101 | - | 1,5 | 1,5 | 1,05 | |
| 25,73 | 5300 | 6300 | | 69 | - | 74,0 | - | - | 99 | - | 2,0 | 1,5 | 1,59 | |
| 13,90 | 4700 | 5600 | | 72 | 75,0 | 79,0 | 87 | - | 118 | - | 2,0 | 2,0 | 1,85 | 0,22 |
| 13,90 | 4700 | 5600 | | 72 | 75,0 | 79,0 | 87 | - | 118 | - | 2,0 | 2,0 | 1,85 | 0,22 |
| 13,90 | 4700 | 5600 | | 72 | 75,0 | 79,0 | 87 | - | 118 | - | 2,0 | 2,0 | 1,85 | |
| 13,90 | 4700 | 5600 | | 72 | 75,0 | 79,0 | 87 | 110 | 118 | 117 | 2,0 | 2,0 | 1,85 | |
| 21,22 | 4700 | 5600 | | 72 | 75,0 | 79,0 | 87 | - | 118 | - | 2,0 | 2,0 | 2,70 | |
| 21,22 | 4700 | 5600 | | 72 | 75,0 | 79,0 | 87 | - | 118 | - | 2,0 | 2,0 | 2,70 | |
| 21,22 | 4700 | 5600 | | 72 | 75,0 | 79,0 | 87 | - | 118 | - | 2,0 | 2,0 | 2,70 | |
| 18,99 | 4200 | 5000 | | 73 | 77,0 | 85,0 | 95 | - | 136 | - | 2,0 | 2,0 | 3,00 | 0,34 |
| 18,99 | 4200 | 5000 | | 73 | 77,0 | 85,0 | 95 | - | 136 | - | 2,0 | 2,0 | 3,00 | 0,34 |
| 18,99 | 4200 | 5000 | | 73 | 77,0 | 85,0 | 95 | - | 136 | - | 2,0 | 2,0 | 3,00 | |
| 18,99 | 4200 | 5000 | | 73 | 77,0 | 85,0 | 95 | 124 | 136 | 130 | 2,0 | 2,0 | 3,00 | |
| | | | | | | | | | | | | | | |
| 10,06 | 5300 | 6300 | 65 | 72 | 77,0 | 81,0 | 87 | - | 111 | - | 1,5 | 1,5 | 1,05 | 0,13 |
| 10,06 | 5300 | 6300 | | 72 | 77,0 | 81,0 | 87 | - | 111 | - | 1,5 | 1,5 | 1,05 | 0,13 |
| 10,06 | 5300 | 6300 | | 72 | 77,0 | 81,0 | 87 | - | 111 | - | 1,5 | 1,5 | 1,05 | |
| 10,06 | 5300 | 6300 | | 72 | 77,0 | 81,0 | 87 | 103 | 111 | 110 | 1,5 | 1,5 | 1,05 | |
| 16,59 | 5300 | 6300 | | 72 | 77,0 | 81,0 | 87 | - | 111 | - | 1,5 | 1,5 | 1,45 | |
| 16,59 | 5300 | 6300 | | 72 | 77,0 | 81,0 | 87 | - | 111 | - | 1,5 | 1,5 | 1,45 | |
| 16,59 | 5300 | 6300 | | 72 | 77,0 | 81,0 | 87 | - | 111 | - | 1,5 | 1,5 | 1,45 | |
| 23,90 | 4700 | 5600 | | 77 | - | 83,0 | - | - | 108 | - | 1,5 | 1,5 | 1,88 | |
| 15,49 | 4500 | 5300 | | 76 | 78,0 | 85,0 | 94 | - | 128 | - | 2,0 | 2,0 | 2,25 | 0,29 |
| 15,49 | 4500 | 5300 | | 76 | 78,0 | 85,0 | 94 | - | 128 | - | 2,0 | 2,0 | 2,25 | 0,29 |
| 15,49 | 4500 | 5300 | | 76 | 78,0 | 85,0 | 94 | - | 128 | - | 2,0 | 2,0 | 2,25 | |
| 15,49 | 4500 | 5300 | | 76 | 78,0 | 85,0 | 94 | 119 | 128 | 126 | 2,0 | 2,0 | 2,25 | |
| 21,55 | 4200 | 5000 | | 76 | 77,0 | 84,0 | 93 | - | 128 | - | 2,0 | 2,0 | 2,35 | 0,27 |
| 21,55 | 4200 | 5000 | | 76 | 77,0 | 84,0 | 93 | - | 128 | - | 2,0 | 2,0 | 2,35 | 0,27 |
| 21,55 | 4200 | 5000 | | 76 | 77,0 | 84,0 | 93 | - | 128 | - | 2,0 | 2,0 | 2,35 | |
| 24,57 | 4500 | 5300 | | 76 | 78,0 | 85,0 | 94 | - | 128 | - | 2,0 | 2,0 | 3,25 | |
| 24,57 | 4500 | 5300 | | 76 | 78,0 | 85,0 | 94 | - | 128 | - | 2,0 | 2,0 | 3,25 | |
| 24,57 | 4500 | 5300 | | 76 | 78,0 | 85,0 | 94 | - | 128 | - | 2,0 | 2,0 | 3,25 | |
| 20,48 | 3800 | 4500 | | 78 | 83,0 | 91,0 | 101 | - | 146 | - | 2,0 | 2,0 | 3,60 | 0,43 |
| 20,48 | 3800 | 4500 | | 78 | 83,0 | 91,0 | 101 | - | 146 | - | 2,0 | 2,0 | 3,60 | 0,43 |
| 20,48 | 3800 | 4500 | | 78 | 83,0 | 91,0 | 101 | - | 146 | - | 2,0 | 2,0 | 3,60 | |

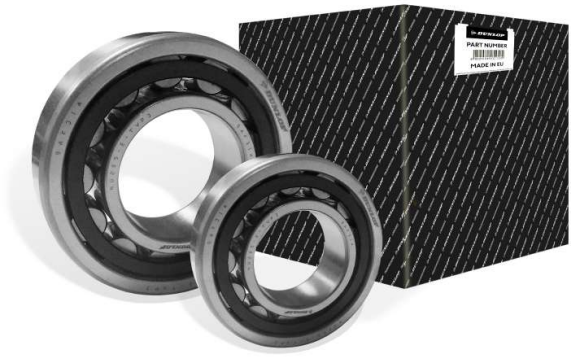
## Single row cylindrical roller bearings

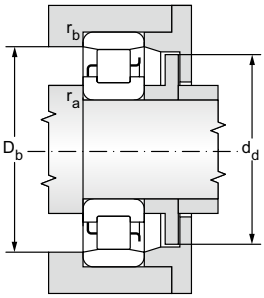
**d = 70 mm**

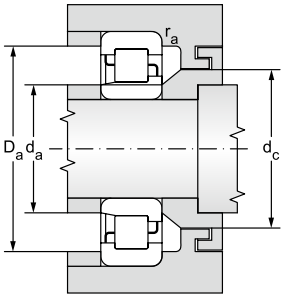


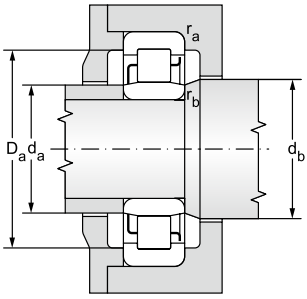

| Main dimensions | | | | | | | | | | | Bearing designation | Other cages | Angle ring designation | Basic load rating | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | dynamic | static |
| d | D | B | $r_s$ | $r_{1s}$ | F | E | $d_2$ | b | $b_1$ | $s_{1)}$ | | | | $C_r$ | $C_{or}$ |
| | | | min | min | | | max | | | | | | | | |
| | | | | | mm | | | | | | | | | kN | |
| 70 | 125 | 24,00 | 1,5 | 1,5 | 84,5 | | 90,5 | 7,0 | 12,50 | 1,6 | **NU214** | | HJ214 | 79,4 | 82,5 |
| | 125 | 24,00 | 1,5 | 1,5 | 84,5 | | 90,5 | 7,0 | 12,50 | 1,6 | **NJ214** | | HJ214 | 79,4 | 82,5 |
| | 125 | 24,00 | 1,5 | 1,5 | 84,5 | | | | | 1,6 | **NUP214** | | | 79,4 | 82,5 |
| | 125 | 24,00 | 1,5 | 1,5 | | 110,5 | | | | 1,6 | **N214** | | | 79,4 | 82,5 |
| | 125 | 31,00 | 1,5 | 1,5 | 84,5 | | | | | 1,6 | **NU2214** | | | 117,0 | 139,0 |
| | 125 | 31,00 | 1,5 | 1,5 | 84,5 | | | | | 1,6 | **NJ2214** | | | 117,0 | 139,0 |
| | 125 | 31,00 | 1,5 | 1,5 | 84,5 | | | | | 1,6 | **NUP2214** | | | 117,0 | 139,0 |
| | 125 | 39,69 | 1,5 | 2,2 | 84,84 | | | | | 4,5 | **NU5214M** | | | 178,0 | 261,0 |
| | 150 | 35,00 | 2,1 | 2,1 | 90 | | 99,2 | 10,0 | 17,50 | 1,5 | **NU314** | | HJ314 | 147,0 | 144,0 |
| | 150 | 35,00 | 2,1 | 2,1 | 90 | | 99,2 | 10,0 | 17,50 | 1,5 | **NJ314** | | HJ314 | 147,0 | 144,0 |
| | 150 | 35,00 | 2,1 | 2,1 | 90 | | | | | 1,5 | **NUP314** | | | 147,0 | 144,0 |
| | 150 | 35,00 | 2,1 | 2,1 | | 130,0 | | | | 1,5 | **N314** | | | 147,0 | 144,0 |
| | 150 | 51,00 | 2,1 | 2,1 | 90 | | | | | 4,1 | **NU2314** | | | 215,0 | 233,0 |
| | 150 | 51,00 | 2,1 | 2,1 | 90 | | | | | 4,1 | **NJ2314** | | | 215,0 | 233,0 |
| | 150 | 51,00 | 2,1 | 2,1 | 90 | | | | | 4,1 | **NUP2314** | | | 215,0 | 233,0 |
| | 150 | 51,00 | 2,1 | 2,1 | 89 | | | | | 4,1 | **NU2314EMAS** | | | 282,0 | 310,0 |
| | 150 | 51,00 | 2,1 | 2,1 | 89 | | | | | 4,1 | **NJ2314EMAS** | | | 282,0 | 310,0 |
| | 150 | 51,00 | 2,1 | 2,1 | 89 | | | | | 4,1 | **NUP2314EMAS** | | | 282,0 | 310,0 |
| | 180 | 42,00 | 3,0 | 3,0 | 100 | | 112,0 | 12,0 | 20,00 | 2,0 | **NU414** | | HJ414 | 224,0 | 215,0 |
| | 180 | 42,00 | 3,0 | 3,0 | 100 | | 112,0 | 12,0 | 20,00 | 2,0 | **NJ414** | | HJ414 | 224,0 | 215,0 |
| | 180 | 42,00 | 3,0 | 3,0 | 100 | | | | | 2,0 | **NUP414** | | | 224,0 | 215,0 |
| | 180 | 42,00 | 3,0 | 3,0 | | 152,0 | | | | 2,0 | **N414** | | | 224,0 | 215,0 |

12.4.1



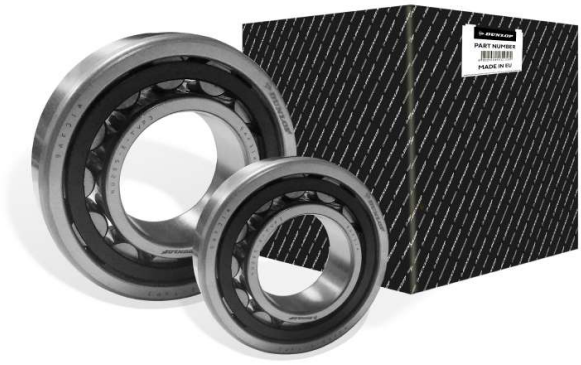


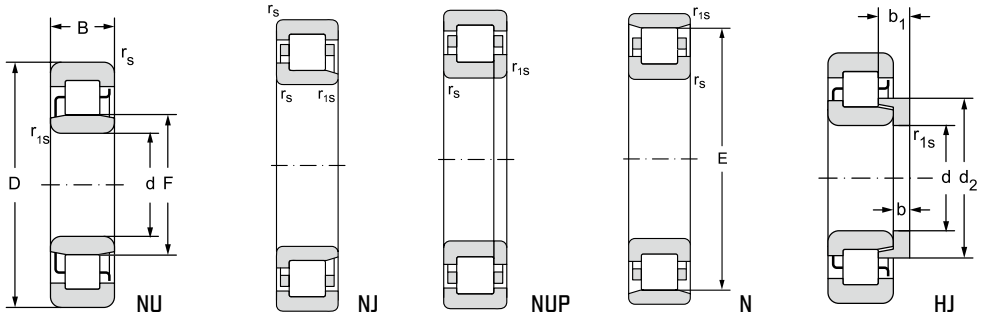

[1] Admissible axial movement

| Fatique load limit | Limiting speed for lubrication with | | Abutment and fillet dimensions | | | | | | | | | | Weight | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $P_u$ | grease | oil | d | $d_a$ | $d_a$ | $d_b$ | $d_c$ | $d_d$ | $D_a$ | $D_b$ | $r_a$ | $r_b$ | ~ | |
| | | | | min | max | min | min | max | max | min | max | max | of bearing | Ang.r. |
| kN | $min^{-1}$ | | mm | | | | | | | | | | kg | |
| 10,06 | 5600 | 6700 | 70 | 77 | 82,0 | 86,0 | 92 | - | 116 | - | 1,5 | 1,5 | 1,15 | 0,16 |
| 10,06 | 5600 | 6700 | | 77 | 82,0 | 86,0 | 92 | - | 116 | - | 1,5 | 1,5 | 1,15 | 0,16 |
| 10,06 | 5600 | 6700 | | 77 | 82,0 | 86,0 | 92 | - | 116 | - | 1,5 | 1,5 | 1,15 | |
| 10,06 | 5600 | 6700 | | 77 | 82,0 | 86,0 | 92 | 108 | 116 | 115 | 1,5 | 1,5 | 1,15 | |
| 16,95 | 5000 | 6000 | | 77 | 82,0 | 86,0 | 92 | - | 116 | - | 1,5 | 1,5 | 1,50 | |
| 16,95 | 5000 | 6000 | | 77 | 82,0 | 86,0 | 92 | - | 116 | - | 1,5 | 1,5 | 1,50 | |
| 16,95 | 5000 | 6000 | | 77 | 82,0 | 86,0 | 92 | - | 116 | - | 1,5 | 1,5 | 1,50 | |
| 31,83 | 4700 | 5600 | | 81,5 | - | 87,0 | - | - | 112 | - | 2,0 | 1,5 | 2,22 | |
| 17,07 | 4200 | 5000 | | 81 | 85,0 | 92,0 | 101 | - | 138 | - | 2,0 | 2,0 | 2,75 | 0,34 |
| 19,14 | 4200 | 5000 | | 81 | 85,0 | 92,0 | 101 | - | 138 | - | 2,0 | 2,0 | 2,75 | 0,34 |
| 19,14 | 4200 | 5000 | | 81 | 85,0 | 92,0 | 101 | - | 138 | - | 2,0 | 2,0 | 2,75 | |
| 19,14 | 4200 | 5000 | | 81 | 85,0 | 92,0 | 101 | 127 | 138 | 135 | 2,0 | 2,0 | 2,75 | |
| 27,61 | 4200 | 5000 | | 81 | 85,0 | 92,0 | 101 | - | 138 | - | 2,0 | 2,0 | 5,25 | |
| 27,61 | 4200 | 5000 | | 81 | 85,0 | 92,0 | 101 | - | 138 | - | 2,0 | 2,0 | 5,25 | |
| 27,61 | 4200 | 5000 | | 81 | 85,0 | 92,0 | 101 | - | 138 | - | 2,0 | 2,0 | 5,25 | |
| 36,74 | 3800 | 4500 | | 81 | 84,0 | 91,0 | 100 | - | 138 | - | 2,0 | 2,0 | 4,21 | |
| 36,74 | 3800 | 4500 | | 81 | 84,0 | 91,0 | 100 | - | 138 | - | 2,0 | 2,0 | 4,21 | |
| 36,74 | 3800 | 4500 | | 81 | 84,0 | 91,0 | 100 | - | 138 | - | 2,0 | 2,0 | 4,21 | |
| 24,52 | 3300 | 4000 | | 85 | 93,0 | 102,0 | 114 | - | 164 | - | 2,5 | 2,5 | 5,25 | 0,61 |
| 24,52 | 3300 | 4000 | | 85 | 93,0 | 102,0 | 114 | - | 164 | - | 2,5 | 2,5 | 5,25 | 0,61 |
| 24,52 | 3300 | 4000 | | 85 | 93,0 | 102,0 | 114 | - | 164 | - | 2,5 | 2,5 | 5,25 | |
| 24,52 | 3300 | 4000 | | 85 | 93,0 | 102,0 | 114 | 149 | 164 | 156 | 2,5 | 2,5 | 5,25 | |



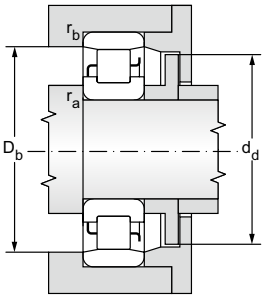
## Single row cylindrical roller bearings

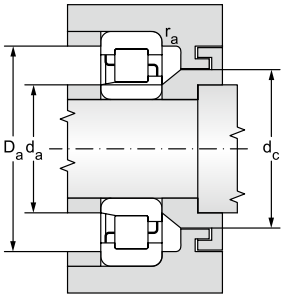
d = 75 mm

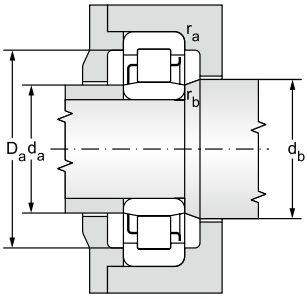



12.4.1

| Main dimensions | | | | | | | | | | | Bearing designation | Other cages | Angle ring designation | Basic load rating | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | dynamic | static |
| d | D | B | $r_s$ | $r_{1s}$ | F | E | $d_2$ | b | $b_1$ | $s_{1)}$ | | | | $C_r$ | $C_{or}$ |
| | | | min | min | | | max | | | | | | | | |
| mm | | | | | | | | | | | | | | kN | |
| 75 | 130 | 25,00 | 1,5 | 1,5 | 88,5 | | 94,9 | 7,0 | 12,50 | 1,6 | **NU215** | | HJ215 | 96,2 | 96,2 |
| | 130 | 25,00 | 1,5 | 1,5 | 88,5 | | 94,9 | 7,0 | 12,50 | 1,6 | **NJ215** | | HJ215 | 96,2 | 96,2 |
| | 130 | 25,00 | 1,5 | 1,5 | 88,5 | | | | | 1,6 | **NUP215** | | | 96,2 | 96,2 |
| | 130 | 25,00 | 1,5 | 1,5 | | 116,5 | | | | 1,6 | **N215** | | | 96,2 | 96,2 |
| | 130 | 25,00 | 1,5 | 1,5 | 88,5 | | 94,6 | 7,0 | 11,00 | 1,6 | **NU215E** | | HJ215E | 131,0 | 147,0 |
| | 130 | 25,00 | 1,5 | 1,5 | 88,5 | | 94,6 | 7,0 | 11,00 | 1,6 | **NJ215E** | | HJ215E | 131,0 | 147,0 |
| | 130 | 25,00 | 1,5 | 1,5 | 88,5 | | | | | 1,6 | **NUP215E** | | | 131,0 | 147,0 |
| | 130 | 31,00 | 1,5 | 1,5 | 88,5 | | | | | 2,1 | **NU2215E** | | | 162,0 | 196,0 |
| | 130 | 31,00 | 1,5 | 1,5 | 88,5 | | | | | 2,1 | **NJ2215E** | | | 162,0 | 196,0 |
| | 130 | 31,00 | 1,5 | 1,5 | 88,5 | | | | | 2,1 | **NUP2215E** | | | 162,0 | 196,0 |
| | 130 | 41,28 | 1,5 | 1,5 | 89,014 | | | | | 4,5 | **NU5215M** | | | 196,0 | 299,0 |
| | 160 | 37,00 | 2,1 | 2,1 | 95,5 | | 105,6 | 11,0 | 18,50 | 1,5 | **NU315** | | HJ315 | 178,0 | 178,0 |
| | 160 | 37,00 | 2,1 | 2,1 | 95,5 | | 105,6 | 11,0 | 18,50 | 1,5 | **NJ315** | | HJ315 | 178,0 | 178,0 |
| | 160 | 37,00 | 2,1 | 2,1 | 95,5 | | | | | 1,5 | **NUP315** | | | 178,0 | 178,0 |
| | 160 | 37,00 | 2,1 | 2,1 | | 139,5 | | | | 1,5 | **N315** | | | 178,0 | 178,0 |
| | 160 | 55,00 | 2,1 | 2,1 | 95,5 | | | | | 4,5 | **NU2315** | | | 266,0 | 287,0 |
| | 160 | 55,00 | 2,1 | 2,1 | 95,5 | | | | | 4,5 | **NJ2315** | | | 266,0 | 287,0 |
| | 160 | 55,00 | 2,1 | 2,1 | 95,5 | | | | | 4,5 | **NUP2315** | | | 266,0 | 287,0 |
| | 190 | 45,00 | 3,0 | 2,0 | 104,5 | | 117,0 | 13,0 | 21,50 | 2,0 | **NU415** | | HJ415 | 261,0 | 251,0 |
| | 190 | 45,00 | 3,0 | 2,0 | 104,5 | | 117,0 | 13,0 | 21,50 | 2,0 | **NJ415** | | HJ415 | 261,0 | 251,0 |
| | 190 | 45,00 | 3,0 | 2,0 | 104,5 | | | | | 2,0 | **NUP415** | | | 261,0 | 251,0 |
| | 190 | 45,00 | 3,0 | 2,0 | | 160,5 | | | | 2,0 | **N415** | | | 261,0 | 251,0 |

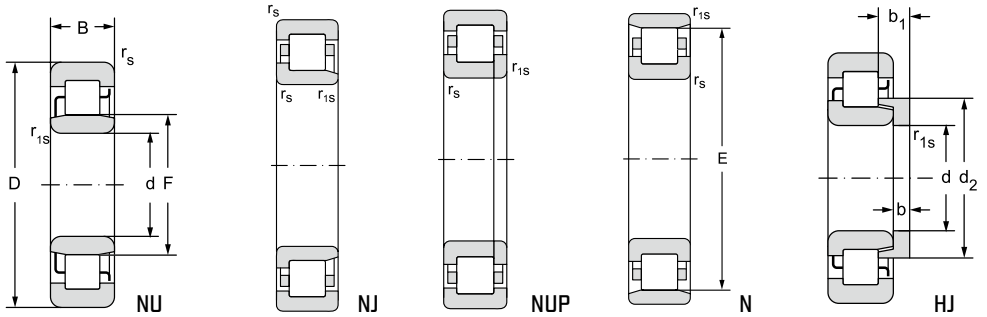


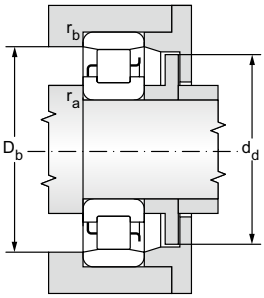

[1] Admissible axial movement

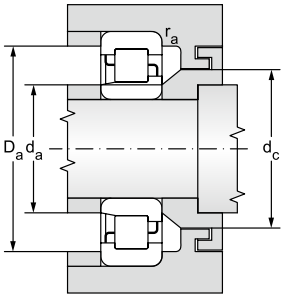
| Fatique load limit | Limiting speed for lubrication with | | Abutment and fillet dimensions | | | | | | | | | | Weight | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $P_u$ | grease | oil | d | $d_a$ | $d_a$ | $d_b$ | $d_c$ | $d_d$ | $D_a$ | $D_b$ | $r_a$ | $r_b$ | ~ | |
| | | | | min | max | min | min | max | max | min | max | max | of bearing | Ang.r. |
| kN | $min^{-1}$ | | mm | | | | | | | | | | kg | |
| 11,65 | 4700 | 5600 | 75 | 82 | 85,0 | 90,0 | 96 | - | 121 | - | 1,5 | 1,5 | 1,25 | 0,17 |
| 11,65 | 4700 | 5600 | | 82 | 85,0 | 90,0 | 96 | - | 121 | - | 1,5 | 1,5 | 1,25 | 0,17 |
| 11,65 | 4700 | 5600 | | 82 | 85,0 | 90,0 | 96 | - | 121 | - | 1,5 | 1,5 | 1,25 | |
| 11,65 | 4700 | 5600 | | 82 | 85,0 | 90,0 | 96 | 114 | 121 | 120 | 1,5 | 1,5 | 1,25 | |
| 17,79 | 4500 | 5300 | | 82 | 85,0 | 90,0 | 96 | - | 121 | - | 1,5 | 1,5 | 1,30 | 0,16 |
| 17,79 | 4500 | 5300 | | 82 | 85,0 | 90,0 | 96 | - | 121 | - | 1,5 | 1,5 | 1,30 | 0,16 |
| 17,79 | 4500 | 5300 | | 82 | 85,0 | 90,0 | 96 | - | 121 | - | 1,5 | 1,5 | 1,30 | |
| 23,73 | 4500 | 5300 | | 82 | 85,0 | 90,0 | 96 | - | 121 | - | 1,5 | 1,5 | 1,65 | |
| 23,73 | 4500 | 5300 | | 82 | 85,0 | 90,0 | 96 | - | 121 | - | 1,5 | 1,5 | 1,65 | |
| 23,73 | 4500 | 5300 | | 82 | 85,0 | 90,0 | 96 | - | 121 | - | 1,5 | 1,5 | 1,65 | |
| 36,19 | 4500 | 5300 | | 85,5 | - | 91,0 | - | - | 117 | - | 2,0 | 1,5 | 2,41 | |
| 20,68 | 3800 | 4500 | | 86 | 93,0 | 97,0 | 107 | - | 148 | - | 2,0 | 2,0 | 3,25 | 0,40 |
| 20,68 | 3800 | 4500 | | 86 | 93,0 | 97,0 | 107 | - | 148 | - | 2,0 | 2,0 | 3,25 | 0,40 |
| 20,68 | 3800 | 4500 | | 86 | 93,0 | 97,0 | 107 | - | 148 | - | 2,0 | 2,0 | 3,25 | |
| 20,68 | 3800 | 4500 | | 86 | 93,0 | 97,0 | 107 | 137 | 148 | 145 | 2,0 | 2,0 | 3,25 | |
| 33,35 | 3800 | 4500 | | 86 | 93,0 | 97,0 | 107 | - | 148 | - | 2,0 | 2,0 | 4,85 | |
| 33,35 | 3800 | 4500 | | 86 | 93,0 | 97,0 | 107 | - | 148 | - | 2,0 | 2,0 | 4,85 | |
| 33,35 | 3800 | 4500 | | 86 | 93,0 | 97,0 | 107 | - | 148 | - | 2,0 | 2,0 | 4,85 | |
| 28,13 | 3200 | 3800 | | 90 | 98,0 | 107,0 | 119 | - | 174 | - | 2,5 | 2,5 | 6,25 | 0,80 |
| 28,13 | 3200 | 3800 | | 90 | 98,0 | 107,0 | 119 | - | 174 | - | 2,5 | 2,5 | 6,25 | 0,80 |
| 28,13 | 3200 | 3800 | | 90 | 98,0 | 107,0 | 119 | - | 174 | - | 2,5 | 2,5 | 6,25 | |
| 28,13 | 3200 | 3800 | | 90 | 98,0 | 107,0 | 119 | 158 | 174 | 164 | 2,5 | 2,5 | 6,25 | |

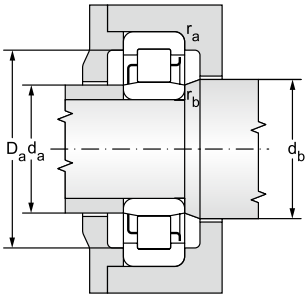



12.4.1

| Main dimensions | | | | | | | | | | | Bearing designation | Other cages | Angle ring designation | Basic load rating | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | dynamic | static |
| d | D | B | $r_s$ | $r_{1s}$ | F | E | $d_2$ | b | $b_1$ | $s_{1)}$ | | | | $C_r$ | $C_{or}$ |
| | | | min | min | | | max | | | | | | | | |
| | | | | | mm | | | | | | | | | kN | |
| 80 | 125 | 22,00 | 1,1 | 1,0 | 91,5 | | | | | 1,2 | **NU1016** | | | 66,8 | 76,4 |
| | 140 | 26,00 | 2,0 | 2,0 | 95,3 | | 102,2 | 8,0 | 13,50 | 2,0 | **NU216** | | HJ216 | 106,0 | 114,0 |
| | 140 | 26,00 | 2,0 | 2,0 | 95,3 | | 102,2 | 8,0 | 13,50 | 2,0 | **NJ216** | | HJ216 | 106,0 | 114,0 |
| | 140 | 26,00 | 2,0 | 2,0 | 95,3 | | | | | 2,0 | **NUP216** | | | 106,0 | 114,0 |
| | 140 | 26,00 | 2,0 | 2,0 | | 125,3 | | | | 2,0 | **N216** | | | 106,0 | 114,0 |
| | 140 | 33,00 | 2,0 | 2,0 | 95,3 | | | | | 2,5 | **NU2216** | | | 147,0 | 178,0 |
| | 140 | 33,00 | 2,0 | 2,0 | 95,3 | | | | | 2,5 | **NJ2216** | | | 147,0 | 178,0 |
| | 140 | 33,00 | 2,0 | 2,0 | 95,3 | | | | | 2,5 | **NUP2216** | | | 147,0 | 178,0 |
| | 140 | 33,00 | 2,0 | 2,0 | 95,3 | | | | | 2,5 | **NU2216E** | | | 196,0 | 246,0 |
| | 140 | 33,00 | 2,0 | 2,0 | 95,3 | | | | | 2,5 | **NJ2216E** | | | 196,0 | 246,0 |
| | 140 | 33,00 | 2,0 | 2,0 | 95,3 | | | | | 2,5 | **NUP2216E** | | | 196,0 | 246,0 |
| | 140 | 44,45 | 2,1 | 2,1 | 95,28 | | | | | 5,0 | **NU5216M** | | | 185,0 | 282,0 |
| | 170 | 39,00 | 2,1 | 2,1 | 103 | | 113,1 | 11,0 | 19,50 | 1,5 | **NU316** | | HJ316 | 192,0 | 192,0 |
| | 170 | 39,00 | 2,1 | 2,1 | 103 | | 113,1 | 11,0 | 19,50 | 1,5 | **NJ316** | | HJ316 | 192,0 | 192,0 |
| | 170 | 39,00 | 2,1 | 2,1 | 103 | | | | | 1,5 | **NUP316** | | | 192,0 | 192,0 |
| | 170 | 39,00 | 2,1 | 2,1 | | 147,0 | | | | 1,5 | **N316** | | | 192,0 | 192,0 |
| | 200 | 48,00 | 3,0 | 3,0 | 110 | | 123,8 | 13,0 | 22,00 | 2,0 | **NU416M** | | HJ416 | 299,0 | 293,0 |
| | 200 | 48,00 | 3,0 | 3,0 | 110 | | 123,8 | 13,0 | 22,00 | 2,0 | **NJ416M** | | HJ416 | 299,0 | 293,0 |
| | 200 | 48,00 | 3,0 | 3,0 | 110 | | | | | 2,0 | **NUP416M** | | | 299,0 | 293,0 |
| | 200 | 48,00 | 3,0 | 3,0 | | 170,0 | | | | 2,0 | **N416M** | | | 299,0 | 293,0 |
| 85 | 150 | 28,00 | 2,0 | 2,0 | 101,8 | | 109,2 | 8,0 | 14,00 | 2,0 | **NU217** | | HJ217 | 121,0 | 131,0 |
| | 150 | 28,00 | 2,0 | 2,0 | 101,8 | | 109,2 | 8,0 | 14,00 | 2,0 | **NJ217** | | HJ217 | 121,0 | 131,0 |
| | 150 | 28,00 | 2,0 | 2,0 | 101,8 | | | | | 2,0 | **NUP217** | | | 121,0 | 131,0 |
| | 150 | 28,00 | 2,0 | 2,0 | | 133,8 | | | | 2,0 | **N217** | | | 121,0 | 131,0 |
| | 150 | 36,00 | 2,0 | 2,0 | 100,5 | | | | | 2,0 | **NU2217E** | | | 220,0 | 261,0 |
| | 150 | 36,00 | 2,0 | 2,0 | 100,5 | | | | | 2,0 | **NJ2217E** | | | 220,0 | 261,0 |
| | 150 | 36,00 | 2,0 | 2,0 | 100,5 | | | | | 2,0 | **NUP2217E** | | | 220,0 | 261,0 |
| | 150 | 49,21 | 2,1 | 2,1 | 102 | | | | | 5,5 | **NU5217M** | | | 211,0 | 316,0 |
| | 180 | 41,00 | 3,0 | 3,0 | 108 | | 119,0 | 12,0 | 20,50 | 2,0 | **NU317** | | HJ317 | 215,0 | 215,0 |
| | 180 | 41,00 | 3,0 | 3,0 | 108 | | 119,0 | 12,0 | 20,50 | 2,0 | **NJ317** | | HJ317 | 215,0 | 215,0 |
| | 180 | 41,00 | 3,0 | 3,0 | 108 | | | | | 2,0 | **NUP317** | | | 215,0 | 215,0 |
| | 180 | 41,00 | 3,0 | 3,0 | | 156,0 | | | | 2,0 | **N317** | | | 215,0 | 215,0 |
| | 210 | 52,00 | 4,0 | 4,0 | 113 | | 127,7 | 14,0 | 24,00 | 2,5 | **NU417M** | MAS | HJ417 | 362,0 | 362,0 |
| | 210 | 52,00 | 4,0 | 4,0 | 113 | | 127,7 | 14,0 | 24,00 | 2,5 | **NJ417M** | MAS | HJ417 | 362,0 | 362,0 |
| | 210 | 52,00 | 4,0 | 4,0 | 113 | | | | | 2,5 | **NU P417** | | | 362,0 | 362,0 |



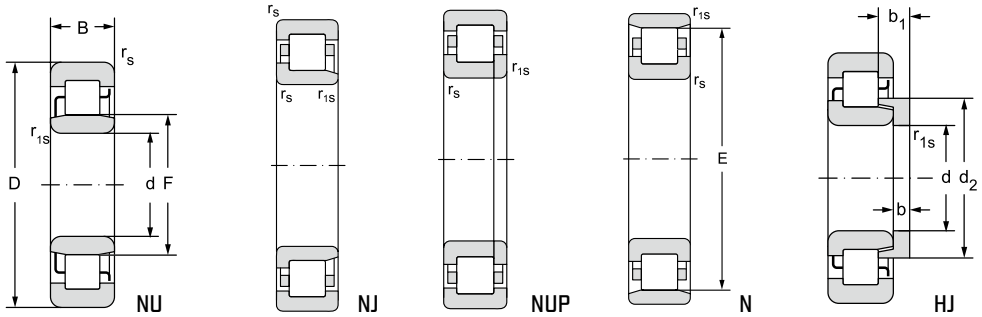




[1] Admissible axial movement

| Fatique load limit | Limiting speed for lubrication with | | Abutment and fillet dimensions | | | | | | | | | | Weight | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $P_u$ | grease | oil | d | $d_a$ | $d_a$ | $d_b$ | $d_c$ | $d_d$ | $D_a$ | $D_b$ | $r_a$ | $r_b$ | ~ | |
| | | | | min | max | min | min | max | max | min | max | max | of bearing | Ang.r. |
| kN | $min^{-1}$ | | mm | | | | | | | | | | kg | |
| 9,25 | 5000 | 6000 | 80 | 85 | 90,0 | 94,0 | - | - | 118 | - | 1,0 | 1,0 | 0,99 | |
| 13,51 | 4500 | 5300 | | 90 | 92,0 | 97,0 | 104 | - | 130 | - | 2,0 | 2,0 | 1,50 | 0,21 |
| 13,51 | 4500 | 5300 | | 90 | 92,0 | 97,0 | 104 | - | 130 | - | 2,0 | 2,0 | 1,50 | 0,21 |
| 13,51 | 4500 | 5300 | | 90 | 92,0 | 97,0 | 104 | - | 130 | - | 2,0 | 2,0 | 1,50 | |
| 13,51 | 4500 | 5300 | | 90 | 92,0 | 97,0 | 104 | 125 | 130 | 130 | 2,0 | 2,0 | 1,50 | |
| 21,10 | 4500 | 5300 | | 90 | 92,0 | 97,0 | 104 | - | 130 | - | 2,0 | 2,0 | 1,95 | |
| 21,10 | 4500 | 5300 | | 90 | 92,0 | 97,0 | 104 | - | 130 | - | 2,0 | 2,0 | 1,95 | |
| 21,10 | 4500 | 5300 | | 90 | 92,0 | 97,0 | 104 | - | 130 | - | 2,0 | 2,0 | 1,95 | |
| 29,15 | 4200 | 5000 | | 90 | 92,0 | 97,0 | 104 | - | 130 | - | 2,0 | 2,0 | 2,05 | |
| 29,15 | 4200 | 5000 | | 90 | 92,0 | 97,0 | 104 | - | 130 | - | 2,0 | 2,0 | 2,05 | |
| 29,15 | 4200 | 5000 | | 90 | 92,0 | 97,0 | 104 | - | 130 | - | 2,0 | 2,0 | 2,05 | |
| 33,42 | 4200 | 5000 | | 91,5 | - | 98,0 | - | - | 126 | - | 2,0 | 2,0 | 2,91 | |
| 21,90 | 3500 | 4200 | | 99 | 97,0 | 105,0 | 116 | - | 158 | - | 2,0 | 2,0 | 3,90 | 0,49 |
| 21,90 | 3500 | 4200 | | 99 | 97,0 | 105,0 | 116 | - | 158 | - | 2,0 | 2,0 | 3,90 | 0,49 |
| 21,90 | 3500 | 4200 | | 99 | 97,0 | 105,0 | 116 | - | 158 | - | 2,0 | 2,0 | 3,90 | |
| 21,90 | 3500 | 4200 | | 99 | 97,0 | 105,0 | 116 | 144 | 158 | 153 | 2,0 | 2,0 | 3,90 | |
| 32,30 | 3000 | 3500 | | 95 | 105,0 | 112,0 | 125 | - | 184 | - | 2,5 | 2,5 | 7,30 | 0,80 |
| 32,30 | 3000 | 3500 | | 95 | 105,0 | 112,0 | 125 | - | 184 | - | 2,5 | 2,5 | 7,30 | 0,80 |
| 32,30 | 3000 | 3500 | | 95 | 105,0 | 112,0 | 125 | - | 184 | - | 2,5 | 2,5 | 7,30 | |
| 32,30 | 3000 | 3500 | | 95 | 105,0 | 112,0 | 125 | 167 | 184 | 174 | 2,5 | 2,5 | 7,30 | |
| | | | | | | | | | | | | | | |
| 15,22 | 4200 | 5000 | 85 | 95 | 99,0 | 104,0 | 111 | - | 140 | - | 2,0 | 2,0 | 1,90 | 0,25 |
| 15,22 | 4200 | 5000 | | 95 | 99,0 | 104,0 | 111 | - | 140 | - | 2,0 | 2,0 | 1,90 | 0,25 |
| 15,22 | 4200 | 5000 | | 95 | 99,0 | 104,0 | 111 | - | 140 | - | 2,0 | 2,0 | 1,90 | 0,25 |
| 15,22 | 4200 | 5000 | | 95 | 99,0 | 104,0 | 111 | 131 | 140 | 138 | 2,0 | 2,0 | 1,90 | 0,25 |
| 30,33 | 3800 | 4500 | | 95 | 98,0 | 103,0 | 110 | - | 140 | – | 2,0 | 2,0 | 2,52 | |
| 30,33 | 3800 | 4500 | | 95 | 98,0 | 103,0 | 110 | - | 140 | – | 2,0 | 2,0 | 2,52 | |
| 30,33 | 3800 | 4500 | | 95 | 98,0 | 103,0 | 110 | - | 140 | – | 2,0 | 2,0 | 2,52 | |
| 36,72 | 3800 | 4500 | | 98 | - | 105,0 | - | - | 135 | - | 2,0 | 2,0 | 3,69 | |
| 24,10 | 3300 | 4000 | | 98 | 103,0 | 110,0 | 121 | 174 | 166 | 162 | 2,5 | 2,5 | 4,50 | 0,57 |
| 24,10 | 3300 | 4000 | | 98 | 103,0 | 110,0 | 121 | 174 | 166 | 162 | 2,5 | 2,5 | 4,50 | 0,57 |
| 24,10 | 3300 | 4000 | | 98 | 103,0 | 110,0 | 121 | 174 | 166 | 162 | 2,5 | 2,5 | 4,50 | |
| 24,10 | 3300 | 4000 | | 98 | 103,0 | 110,0 | 121 | 174 | 166 | 162 | 2,5 | 2,5 | 4,50 | |
| 39,29 | 3000 | 3500 | | 105 | 108,0 | 115,0 | 129 | - | 190 | - | 3,0 | 3,0 | 8,70 | 0,89 |
| 39,29 | 3000 | 3500 | | 105 | 108,0 | 115,0 | 129 | - | 190 | - | 3,0 | 3,0 | 8,70 | 0,89 |
| 39,29 | 3000 | 3500 | | 105 | 108,0 | 115,0 | 129 | - | 190 | - | 3,0 | 3,0 | 8,70 | |

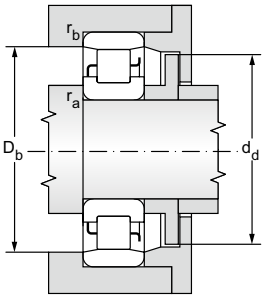
## Single row cylindrical roller bearings

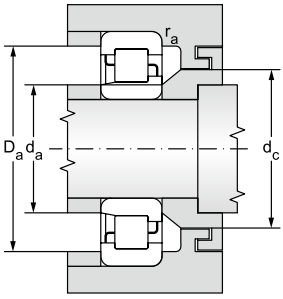
d = 90 to 95 mm

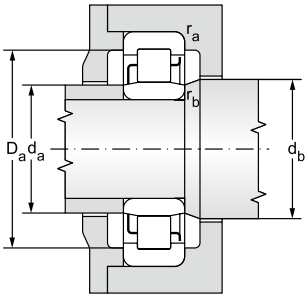



12.4.1

| Main dimensions | | | | | | | | | | | Bearing designation | Other cages | Angle ring designation | Basic load rating | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | dynamic | static |
| d | D | B | $r_s$ | $r_{1s}$ | F | E | $d_2$ | b | $b_1$ | $s_{1)}$ | | | | $C_r$ | $C_{or}$ |
| | | | min | min | | | max | | | | | | | | |
| | | | | | mm | | | | | | | | | kN | |
| 90 | 160 | 30,00 | 2,0 | 2,0 | 107 | | 115,3 | 9,0 | 15,00 | 2,0 | **NU218** | | HJ218 | 147,0 | 158,0 |
| | 160 | 30,00 | 2,0 | 2,0 | 107 | | 115,3 | 9,0 | 15,00 | 2,0 | **NJ218** | | HJ218 | 147,0 | 158,0 |
| | 160 | 30,00 | 2,0 | 2,0 | 107 | | | | | 2,0 | **NUP218** | | | 147,0 | 158,0 |
| | 160 | 30,00 | 2,0 | 2,0 | | 143,0 | | | | 2,0 | **N218** | | | 147,0 | 158,0 |
| | 160 | 40,00 | 2,0 | 2,0 | 107 | | | | | 2,0 | **NJ2218EM** | F | | 241,0 | 313,0 |
| | 160 | 52,40 | 2,1 | 3,0 | 107,218 | | | | | 6,0 | **NU5218M** | | | 237,0 | 355,0 |
| | 190 | 43,00 | 3,0 | 3,0 | 115 | | 126,5 | 12,0 | 21,00 | 2,0 | **NU318** | | HJ318 | 233,0 | 242,0 |
| | 190 | 43,00 | 3,0 | 3,0 | 115 | | 126,5 | 12,0 | 21,00 | 2,0 | **NJ318** | | HJ318 | 233,0 | 242,0 |
| | 190 | 43,00 | 3,0 | 3,0 | 115 | | | | | 2,0 | **NUP318** | | | 233,0 | 242,0 |
| | 190 | 43,00 | 3,0 | 3,0 | | 165,0 | | | | 2,0 | **N318** | | | 233,0 | 242,0 |
| | 190 | 43,00 | 3,0 | 3,0 | 113,5 | | 124,2 | 12,0 | 18,50 | 2,0 | **NU318EM** | | HJ318E | 316,0 | 329,0 |
| | 190 | 43,00 | 3,0 | 3,0 | 113,5 | | 124,2 | 12,0 | 18,50 | 2,0 | **NJ318EM** | | HJ318E | 316,0 | 329,0 |
| | 190 | 43,00 | 3,0 | 3,0 | 113,5 | | | | | 2,0 | **NUP318EM** | | | 316,0 | 329,0 |
| | 225 | 54,00 | 4,0 | 4,0 | 123,5 | | 139,1 | 14,0 | 24,00 | 2,5 | **NU418M** | MAS | HJ418 | 391,0 | 406,0 |
| | 225 | 54,00 | 4,0 | 4,0 | 123,5 | | 139,1 | 14,0 | 24,00 | 2,5 | **NJ418M** | MAS | HJ418 | 391,0 | 406,0 |
| | 225 | 54,00 | 4,0 | 4,0 | 123,5 | | | | | 2,5 | **NUP418M** | MAS | | 391,0 | 406,0 |
| | | | | | | | | | | | | | | | |
| 95 | 170 | 32,00 | 2,1 | 2,1 | 113,5 | | 122,2 | 9,0 | 15,50 | 2,0 | **NU219** | | HJ219 | 162,0 | 181,0 |
| | 170 | 32,00 | 2,1 | 2,1 | 113,5 | | 122,2 | 9,0 | 15,50 | 2,0 | **NJ219** | | HJ219 | 162,0 | 181,0 |
| | 170 | 32,00 | 2,1 | 2,1 | 113,5 | | | | | 2,0 | **NUP219** | | | 162,0 | 181,0 |
| | 170 | 32,00 | 2,1 | 2,1 | | 151,5 | | | | 2,0 | **N219** | | | 162,0 | 181,0 |
| | 170 | 43,00 | 2,1 | 2,1 | 113,5 | | | | | 3,0 | **NU2219** | | | 233,0 | 282,0 |
| | 170 | 43,00 | 2,1 | 2,1 | 113,5 | | | | | 3,0 | **NJ2219** | | | 233,0 | 282,0 |
| | 170 | 43,00 | 2,1 | 2,1 | 113,5 | | | | | 3,0 | **NUP2219** | | | 233,0 | 282,0 |
| | 170 | 55,56 | 2,5 | 3,0 | 113,52 | | | | | 6,0 | **NU5219M** | | | 335,0 | 511,0 |
| | 200 | 45,00 | 3,0 | 3,0 | 121,5 | | | | | 2,0 | **NU319** | | | 256,0 | 266,0 |
| | 200 | 45,00 | 3,0 | 3,0 | 121,5 | | | | | 2,0 | **NJ319** | | | 256,0 | 266,0 |
| | 200 | 45,00 | 3,0 | 3,0 | 121,5 | | | | | 2,0 | **NUP319** | | | 256,0 | 266,0 |
| | 200 | 45,00 | 3,0 | 3,0 | | 173,5 | | | | 2,0 | **N319** | | | 256,0 | 266,0 |
| | 200 | 45,00 | 3,0 | 3,0 | 121,5 | | | | | 1,9 | **NU319EM** | | | 329,0 | 362,0 |
| | 200 | 45,00 | 3,0 | 3,0 | 121,5 | | | | | 1,9 | **NJ319EM** | | | 329,0 | 362,0 |
| | 200 | 45,00 | 3,0 | 3,0 | 121,5 | | | | | 1,9 | **NUP319EM** | | | 329,0 | 362,0 |
| | 240 | 55,00 | 4,0 | 4,0 | 133,5 | | | | | 2,5 | **NU419M** | | | 430,0 | 447,0 |
| | 240 | 55,00 | 4,0 | 4,0 | 133,5 | | | | | 2,5 | **NJ419M** | | | 430,0 | 447,0 |
| | 240 | 55,00 | 4,0 | 4,0 | 133,5 | | | | | 2,5 | **NUP419M** | | | 430,0 | 447,0 |

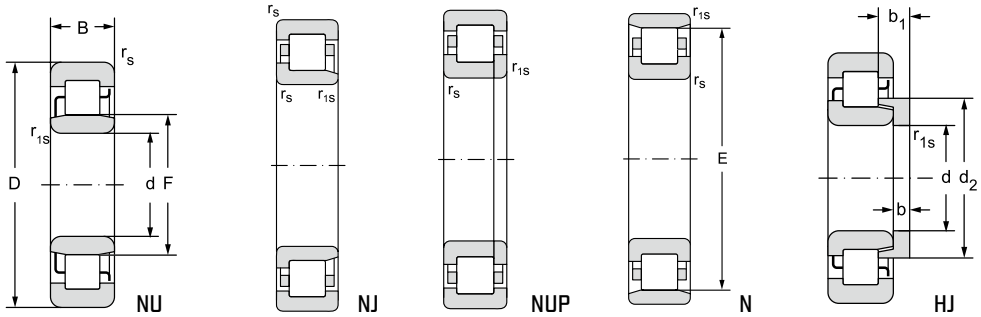


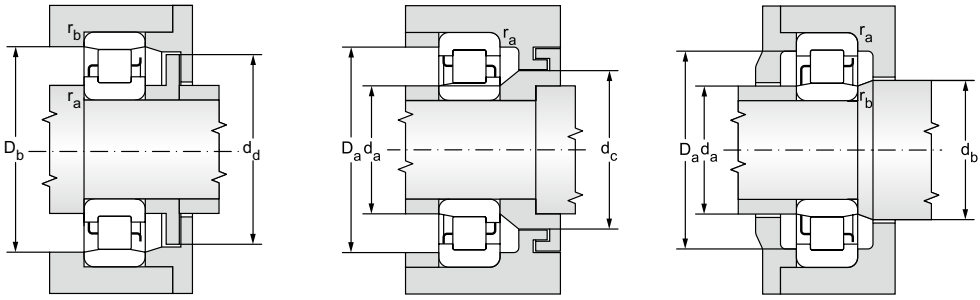

[1] Admissible axial movement

| Fatique load limit | Limiting speed for lubrication with | | Abutment and fillet dimensions | | | | | | | | | | Weight | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $P_u$ | grease | oil | d | $d_a$ | $d_a$ | $d_b$ | $d_c$ | $d_d$ | $D_a$ | $D_b$ | $r_a$ | $r_b$ | ~ | |
| | | | | min | max | min | min | max | max | min | max | max | of bearing | Ang.r. |
| kN | $min^{-1}$ | | mm | | | | | | | | | | kg | |
| 18,02 | 4000 | 4700 | 90 | 100 | 105,0 | 109,0 | 117 | - | 150 | - | 2,0 | 2,0 | 2,30 | 0,31 |
| 18,02 | 4000 | 4700 | | 100 | 105,0 | 109,0 | 117 | - | 150 | - | 2,0 | 2,0 | 2,30 | 0,31 |
| 18,02 | 4000 | 4700 | | 100 | 105,0 | 109,0 | 117 | - | 150 | - | 2,0 | 2,0 | 2,30 | |
| 18,02 | 4000 | 4700 | | 100 | 105,0 | 109,0 | 117 | 140 | 150 | 147 | 2,0 | 2,0 | 2,30 | |
| 35,70 | 3800 | 4500 | | 100 | 105,0 | 109,0 | - | - | 150 | - | 2,0 | 2,0 | 3,60 | |
| 40,49 | 3500 | 4200 | | 103 | - | 110,0 | - | - | 144 | - | 2,5 | 2,0 | 4,48 | |
| 26,68 | 3200 | 3800 | | 103 | 111,0 | 117,0 | 128 | - | 176 | - | 2,5 | 2,5 | 5,40 | 0,65 |
| 26,68 | 3200 | 3800 | | 103 | 111,0 | 117,0 | 128 | - | 176 | - | 2,5 | 2,5 | 5,40 | 0,65 |
| 26,68 | 3200 | 3800 | | 103 | 111,0 | 117,0 | 128 | - | 176 | - | 2,5 | 2,5 | 5,40 | |
| 26,68 | 3200 | 3800 | | 103 | 111,0 | 117,0 | 128 | 162 | 176 | 172 | 2,5 | 2,5 | 5,40 | |
| 36,27 | 3000 | 3500 | | 103 | 110,0 | 116,0 | 127 | - | 176 | - | 2,5 | 2,5 | 5,50 | 0,60 |
| 36,27 | 3000 | 3500 | | 103 | 110,0 | 116,0 | 127 | - | 176 | - | 2,5 | 2,5 | 5,50 | 0,60 |
| 36,27 | 3000 | 3500 | | 103 | 110,0 | 116,0 | 127 | - | 176 | - | 2,5 | 2,5 | 5,50 | |
| 43,20 | 2700 | 3200 | | 110 | 117,0 | 125,0 | 140 | - | 205 | - | 3,0 | 3,0 | 11,7 | 1,05 |
| 43,20 | 2700 | 3200 | | 110 | 117,0 | 125,0 | 140 | - | 205 | - | 3,0 | 3,0 | 11,7 | 1,05 |
| 43,20 | 2700 | 3200 | | 110 | 117,0 | 125,0 | 140 | - | 205 | - | 3,0 | 3,0 | 11,7 | |
| | | | | | | | | | | | | | | |
| 20,29 | 3800 | 4500 | 95 | 107 | 111,0 | 116,0 | 124 | - | 158 | - | 2,0 | 2,0 | 2,80 | 0,35 |
| 20,29 | 3800 | 4500 | | 107 | 111,0 | 116,0 | 124 | - | 158 | - | 2,0 | 2,0 | 2,80 | 0,35 |
| 20,29 | 3800 | 4500 | | 107 | 111,0 | 116,0 | 124 | - | 158 | - | 2,0 | 2,0 | 2,80 | |
| 20,29 | 3800 | 4500 | | 107 | 111,0 | 116,0 | 124 | 149 | 158 | 155 | 2,0 | 2,0 | 2,80 | |
| 31,61 | 3800 | 4500 | | 107 | 111,0 | 116,0 | 124 | - | 158 | - | 2,0 | 2,0 | 3,85 | |
| 31,61 | 3800 | 4500 | | 107 | 111,0 | 116,0 | 124 | - | 158 | - | 2,0 | 2,0 | 3,85 | |
| 31,61 | 3800 | 4500 | | 107 | 111,0 | 116,0 | 124 | - | 158 | - | 2,0 | 2,0 | 3,85 | |
| 57,27 | 3300 | 4000 | | 110 | - | 117,0 | - | - | 153 | - | 2,5 | 2,0 | 5,65 | |
| 28,87 | 3200 | 3800 | | 109 | 119,0 | 124,0 | 135 | - | 186 | - | 2,5 | 2,5 | 6,20 | |
| 28,87 | 3200 | 3800 | | 109 | 119,0 | 124,0 | 135 | - | 186 | - | 2,5 | 2,5 | 6,20 | |
| 28,87 | 3200 | 3800 | | 109 | 119,0 | 124,0 | 135 | - | 186 | - | 2,5 | 2,5 | 6,20 | |
| 28,87 | 3200 | 3800 | | 109 | 119,0 | 124,0 | 135 | 170 | 186 | 178 | 2,5 | 2,5 | 6,20 | |
| 39,29 | 2800 | 3300 | | 109 | 119,0 | 124,0 | 135 | - | 186 | - | 2,5 | 2,5 | 6,50 | |
| 39,29 | 2800 | 3300 | | 109 | 119,0 | 124,0 | 135 | - | 186 | - | 2,5 | 2,5 | 6,50 | |
| 39,29 | 2800 | 3300 | | 109 | 119,0 | 124,0 | 135 | - | 186 | - | 2,5 | 2,5 | 6,50 | |
| 46,70 | 2500 | 3000 | | 115 | 125,0 | 136,0 | 151 | - | 220 | - | 3,0 | 3,0 | 13,5 | |
| 46,70 | 2500 | 3000 | | 115 | 125,0 | 136,0 | 151 | - | 220 | - | 3,0 | 3,0 | 13,5 | |
| 46,70 | 2500 | 3000 | | 115 | 125,0 | 136,0 | 151 | - | 220 | - | 3,0 | 3,0 | 13,5 | |




12.4.1

| Main dimensions | | | | | | | | | | | Bearing designation | Other cages | Angle ring designation | Basic load rating | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | dynamic | static |
| d | D | B | $r_s$ | $r_{1s}$ | F | E | $d_2$ | b | $b_1$ | $s_{1)}$ | | | | $C_r$ | $C_{or}$ |
| | | | min | min | | | max | | | | | | | | |
| | | | | | mm | | | | | | | | | kN | |
| 100 | 180 | 34,00 | 2,1 | 2,1 | 120 | | 129,2 | 10,0 | 17,00 | 2,0 | **NU220** | | HJ220 | 178,0 | 203,0 |
| | 180 | 34,00 | 2,1 | 2,1 | 120 | | 129,2 | 10,0 | 17,00 | 2,0 | **NJ220** | | HJ220 | 178,0 | 203,0 |
| | 180 | 34,00 | 2,1 | 2,1 | 120 | | | | | 2,0 | **NUP220** | | | 178,0 | 203,0 |
| | 180 | 34,00 | 2,1 | 2,1 | | 160,0 | | | | 2,0 | **N220** | | | 178,0 | 203,0 |
| | 180 | 46,00 | 2,1 | 2,1 | 120 | | | | | 3,0 | **NU2220M** | | | 261,0 | 322,0 |
| | 180 | 46,00 | 2,1 | 2,1 | 120 | | | | | 3,0 | **NJ2220M** | | | 261,0 | 322,0 |
| | 180 | 46,00 | 2,1 | 2,1 | 120 | | | | | 3,0 | **NUP2220M** | | | 261,0 | 322,0 |
| | 180 | 60,32 | 2,1 | 2,1 | 121,005 | | | | | 7,0 | **NU5220M** | | | 304,0 | 473,0 |
| | 215 | 47,00 | 3,0 | 3,0 | 129,5 | | 142,4 | 13,0 | 22,50 | 2,0 | **NU320** | | HJ320 | 299,0 | 310,0 |
| | 215 | 47,00 | 3,0 | 3,0 | 129,5 | | 142,4 | 13,0 | 22,50 | 2,0 | **NJ320** | | HJ320 | 299,0 | 310,0 |
| | 215 | 47,00 | 3,0 | 3,0 | 129,5 | | | | | 2,0 | **NUP320** | | | 299,0 | 310,0 |
| | 215 | 47,00 | 3,0 | 3,0 | | 185,5 | | | | 2,0 | **N320** | | | 299,0 | 310,0 |
| | 215 | 73,00 | 3,0 | 3,0 | 127,5 | | | | | 4,9 | **NU2320EMAS** | M | | 596,0 | 694,0 |
| | 215 | 73,00 | 3,0 | 3,0 | 127,5 | | | | | 4,9 | **NJ2320EMAS** | M | | 596,0 | 694,0 |
| | 215 | 73,00 | 3,0 | 3,0 | 127,5 | | | | | 4,9 | **NUP2320EMAS** | M | | 596,0 | 694,0 |
| | 250 | 58,00 | 4,0 | 4,0 | 139 | | 155,9 | 16,0 | 27,00 | 2,5 | **NU420M** | | HJ420 | 473,0 | 501,0 |
| | 250 | 58,00 | 4,0 | 4,0 | 139 | | 155,9 | 16,0 | 27,00 | 2,5 | **NJ420M** | | HJ420 | 473,0 | 501,0 |
| | 250 | 58,00 | 4,0 | 4,0 | 139 | | | | | 2,5 | **NUP420M** | | | 473,0 | 501,0 |
| | | | | | | | | | | | | | | | |
| 105 | 190 | 36,00 | 2,1 | 2,1 | 126,8 | | 136,5 | 10,0 | 17,50 | 2,0 | **NU221** | | HJ221 | 200,0 | 224,0 |
| | 190 | 36,00 | 2,1 | 2,1 | 126,8 | | 136,5 | 10,0 | 17,50 | 2,0 | **NJ221** | | HJ221 | 200,0 | 224,0 |
| | 190 | 36,00 | 2,1 | 2,1 | 126,8 | | | | | 2,0 | **NUP221** | | | 200,0 | 224,0 |
| | 190 | 36,00 | 2,1 | 2,1 | | 168,8 | | | | 2,0 | **N221** | | | 200,0 | 224,0 |
| | 190 | 65,10 | 2,1 | 2,1 | 126,52 | | | | | 7,0 | **NU5221M** | | | 362,0 | 573,0 |
| | 225 | 49,00 | 3,0 | 3,0 | 135 | | 148,8 | 13,0 | 22,50 | 4,5 | **NU321** | | HJ321 | 341,0 | 362,0 |
| | 225 | 49,00 | 3,0 | 3,0 | 135 | | 148,8 | 13,0 | 22,50 | 4,5 | **NJ321** | | HJ321 | 341,0 | 362,0 |
| | 225 | 49,00 | 3,0 | 3,0 | 135 | | | | | 4,5 | **NUP321** | | | 341,0 | 362,0 |
| | 225 | 49,00 | 3,0 | 3,0 | | 195,0 | | | | 4,5 | **N321** | | | 341,0 | 362,0 |
| | 260 | 60,00 | 4,0 | 4,0 | 144,5 | | 162,0 | 16,0 | 27,00 | 2,5 | **NU421M** | | HJ421 | 531,0 | 562,0 |
| | 260 | 60,00 | 4,0 | 4,0 | 144,5 | | 162,0 | 16,0 | 27,00 | 2,5 | **NJ421M** | | HJ421 | 531,0 | 562,0 |
| | 260 | 60,00 | 4,0 | 4,0 | 144,5 | | | | | 2,5 | **NUP421M** | | | 531,0 | 562,0 |

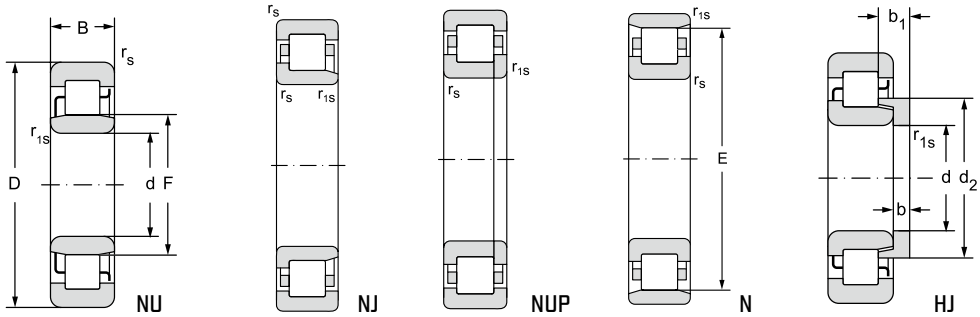



[1] Admissible axial movement

| Fatique load limit | Limiting speed for lubrication with | | Abutment and fillet dimensions | | | | | | | | | | Weight | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | |
| $P_u$ | grease | oil | d | $d_a$ | $d_a$ | $d_b$ | $d_c$ | $d_d$ | $D_a$ | $D_b$ | $r_a$ | $r_b$ | ~ | |
| | | | | min | max | min | min | max | max | min | max | max | of bearing | Ang.r. |
| kN | $min^{-1}$ | | mm | | | | | | | | | | kg | |
| 22,38 | 3500 | 4200 | 100 | 112 | 117,0 | 122,0 | 131 | - | 168 | - | 2,0 | 2,0 | 3,40 | 0,45 |
| 22,38 | 3500 | 4200 | | 112 | 117,0 | 122,0 | 131 | - | 168 | - | 2,0 | 2,0 | 3,40 | 0,45 |
| 22,38 | 3500 | 4200 | | 112 | 117,0 | 122,0 | - | - | 168 | - | 2,0 | 2,0 | 3,40 | |
| 22,38 | 3500 | 4200 | | 112 | 117,0 | 122,0 | - | 157 | 168 | 165 | 2,0 | 2,0 | 3,40 | |
| 35,50 | 3500 | 4200 | | 112 | 117,0 | 122,0 | - | - | 168 | - | 2,0 | 2,0 | 4,65 | |
| 35,50 | 3500 | 4200 | | 112 | 117,0 | 122,0 | - | - | 168 | - | 2,0 | 2,0 | 4,65 | |
| 35,50 | 3500 | 4200 | | 112 | 117,0 | 122,0 | - | - | 168 | - | 2,0 | 2,0 | 4,65 | |
| 52,14 | 3200 | 3800 | | 116,5 | - | 124,0 | - | - | 162 | - | 2,0 | 2,0 | 6,49 | |
| 32,99 | 2800 | 3300 | | 113 | 125,0 | 132,0 | 145 | - | 201 | - | 2,0 | 2,0 | 7,70 | 0,91 |
| 32,99 | 2800 | 3300 | | 113 | 125,0 | 132,0 | 145 | - | 201 | - | 2,0 | 2,0 | 7,70 | 0,91 |
| 32,99 | 2800 | 3300 | | 113 | 125,0 | 132,0 | - | - | 201 | - | 2,0 | 2,0 | 7,70 | |
| 32,99 | 2800 | 3300 | | 113 | 125,0 | 132,0 | - | 182 | 201 | 190 | 2,0 | 2,0 | 7,70 | |
| 73,85 | 2500 | 3000 | | 113 | 123,0 | 130,0 | - | - | 201 | - | 2,5 | 2,5 | 12,5 | |
| 73,85 | 2500 | 3000 | | 113 | 123,0 | 130,0 | - | - | 201 | - | 2,5 | 2,5 | 12,5 | |
| 73,85 | 2500 | 3000 | | 113 | 123,0 | 130,0 | - | - | 201 | - | 2,5 | 2,5 | 12,5 | |
| 51,66 | 2400 | 2800 | | 120 | 130,0 | 141,0 | 158 | - | 230 | - | 3,0 | 3,0 | 14,0 | 1,55 |
| 51,66 | 2400 | 2800 | | 120 | 130,0 | 141,0 | 158 | - | 230 | - | 3,0 | 3,0 | 14,0 | 1,55 |
| 51,66 | 2400 | 2800 | | 120 | 130,0 | 141,0 | - | - | 230 | - | 3,0 | 3,0 | 14,0 | |
| | | | | | | | | | | | | | | |
| 24,31 | 3300 | 4000 | 105 | 117 | 122,0 | 129,0 | 138 | - | 178 | - | 2,0 | 2,0 | 4,00 | 0,51 |
| 24,31 | 3300 | 4000 | | 117 | 122,0 | 129,0 | 138 | - | 178 | - | 2,0 | 2,0 | 4,00 | 0,51 |
| 24,31 | 3300 | 4000 | | 117 | 122,0 | 129,0 | - | - | 178 | - | 2,0 | 2,0 | 4,00 | |
| 24,31 | 3300 | 4000 | | 117 | 122,0 | 129,0 | - | 166 | 178 | 175 | 2,0 | 2,0 | 4,00 | |
| 62,19 | 3000 | 3500 | | 121,5 | - | 130,0 | - | - | 171 | - | 2,0 | 2,0 | 7,94 | |
| 37,99 | 2700 | 3200 | | 119 | 132,0 | 137,0 | 150 | - | 211 | - | 2,5 | 2,5 | 8,75 | 1,00 |
| 37,99 | 2700 | 3200 | | 119 | 132,0 | 137,0 | 150 | - | 211 | - | 2,5 | 2,5 | 8,75 | 1,00 |
| 37,99 | 2700 | 3200 | | 119 | 132,0 | 137,0 | - | - | 211 | - | 2,5 | 2,5 | 8,75 | |
| 37,99 | 2700 | 3200 | | 119 | 132,0 | 137,0 | - | 192 | 211 | 199 | 2,5 | 2,5 | 8,75 | |
| 57,22 | 2200 | 2700 | | 125 | 135,0 | 147,0 | 164 | - | 240 | - | 3,0 | 3,0 | 19,0 | 1,65 |
| 57,22 | 2200 | 2700 | | 125 | 135,0 | 147,0 | 164 | - | 240 | - | 3,0 | 3,0 | 19,0 | 1,65 |
| 57,22 | 2200 | 2700 | | 125 | 135,0 | 147,0 | - | - | 240 | - | 3,0 | 3,0 | 19,0 | |

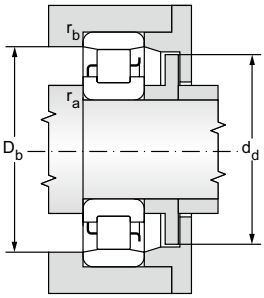
## Single row cylindrical roller bearings

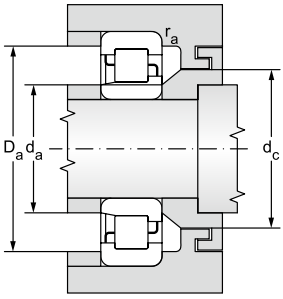
d = 110 to 120 mm

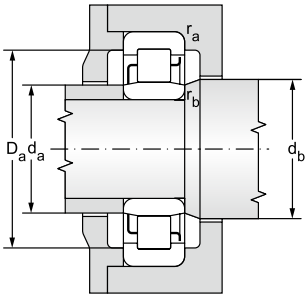



12.4.1

| Main dimensions | | | | | | | | | | | Bearing designation | Other cages | Angle ring designation | Basic load rating | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | dynamic | static |
| d | D | B | $r_s$ | $r_{1s}$ | F | E | $d_2$ | b | $b_1$ | $s_{1)}$ | | | | $C_r$ | $C_{or}$ |
| | | | min | min | | | max | | | | | | | | |
| | | | | | mm | | | | | | | | | kN | |
| 110 | 200 | 38,00 | 2,1 | 2,1 | 132,5 | | 143,1 | 11,0 | 18,50 | 2,5 | **NU222** | | HJ222 | 237,0 | 271,0 |
| | 200 | 38,00 | 2,1 | 2,1 | 132,5 | | 143,1 | 11,0 | 18,50 | 2,5 | **NJ222** | | HJ222 | 237,0 | 271,0 |
| | 200 | 38,00 | 2,1 | 2,1 | 132,5 | | | | | 2,5 | **NUP222** | | | 237,0 | 271,0 |
| | 200 | 38,00 | 2,1 | 2,1 | | 178,5 | | | | 2,5 | **N222** | | | 237,0 | 271,0 |
| | 200 | 53,00 | 2,1 | 2,1 | 132,5 | | | | | 5,0 | **NU2222M** | | | 341,0 | 422,0 |
| | 200 | 53,00 | 2,1 | 2,1 | 132,5 | | | | | 5,0 | **NJ2222M** | | | 341,0 | 422,0 |
| | 200 | 53,00 | 2,1 | 2,1 | 132,5 | | | | | 5,0 | **NUP2222M** | | | 341,0 | 422,0 |
| | 200 | 69,85 | 2,1 | 4,0 | 132,951 | | | | | 7,0 | **NU5222M** | | | 464,0 | 736,0 |
| | 240 | 50,00 | 3,0 | 3,0 | 143 | | 157,5 | 14,0 | 23,00 | 2,7 | **NU322** | | HJ322 | 391,0 | 414,0 |
| | 240 | 50,00 | 3,0 | 3,0 | 143 | | 157,5 | 14,0 | 23,00 | 2,7 | **NJ322** | | HJ322 | 391,0 | 414,0 |
| | 240 | 50,00 | 3,0 | 3,0 | 143 | | | | | 2,7 | **NUP322** | | | 391,0 | 414,0 |
| | 240 | 50,00 | 3,0 | 3,0 | | 207,0 | | | | 2,7 | **N322** | | | 391,0 | 414,0 |
| | 240 | 50,00 | 3,0 | 3,0 | 143 | | | | | 2,9 | **NU322EM** | | | 447,0 | 492,0 |
| | 240 | 50,00 | 3,0 | 3,0 | 143 | | | | | 2,9 | **NJ322EM** | | | 447,0 | 492,0 |
| | 240 | 50,00 | 3,0 | 3,0 | 143 | | | | | 2,9 | **NUP322EM** | | | 447,0 | 492,0 |
| | 280 | 65,00 | 4,0 | 4,0 | 155 | | 173,4 | 17,0 | 29,50 | 2,7 | **NU422M** | | HJ422 | 584,0 | 631,0 |
| | 280 | 65,00 | 4,0 | 4,0 | 155 | | 173,4 | 17,0 | 29,50 | 2,7 | **NJ422M** | | HJ422 | 584,0 | 631,0 |
| | 280 | 65,00 | 4,0 | 4,0 | 155 | | | | | 2,7 | **NUP422M** | | | 584,0 | 631,0 |
| | | | | | | | | | | | | | | | |
| 120 | 180 | 28,00 | 2,0 | 1,1 | 135 | | | | | 2,0 | **NU1024** | | | 131,0 | 168,0 |
| | 215 | 40,00 | 2,1 | 2,1 | 143,5 | | 154,5 | 11,0 | 19,00 | 2,5 | **NU224** | | HJ224 | 261,0 | 299,0 |
| | 215 | 40,00 | 2,1 | 2,1 | 143,5 | | 154,5 | 11,0 | 19,00 | 2,5 | **NJ224** | | HJ224 | 261,0 | 299,0 |
| | 215 | 40,00 | 2,1 | 2,1 | 143,5 | | | | | 2,5 | **NUP224** | | | 261,0 | 299,0 |
| | 215 | 40,00 | 2,1 | 2,1 | | 191,5 | | | | 2,5 | **N224** | | | 261,0 | 299,0 |
| | 215 | 58,00 | 2,1 | 2,1 | 143,5 | | | | | 5,4 | **NU2224M** | | | 369,0 | 473,0 |
| | 215 | 58,00 | 2,1 | 2,1 | 143,5 | | | | | 5,4 | **NJ2224M** | | | 369,0 | 473,0 |
| | 215 | 58,00 | 2,1 | 2,1 | 143,5 | | | | | 5,4 | **NUP2224M** | | | 369,0 | 473,0 |
| | 215 | 76,20 | 2,1 | 2,1 | 145,14 | | | | | 7,0 | **NU5224M** | | | 482,0 | 794,0 |
| | 260 | 55,00 | 3,0 | 3,0 | 154 | | 170,5 | 14,0 | 23,50 | 2,7 | **NU324** | | HJ324 | 447,0 | 473,0 |
| | 260 | 55,00 | 3,0 | 3,0 | 154 | | 170,5 | 14,0 | 23,50 | 2,7 | **NJ324** | | HJ324 | 447,0 | 473,0 |
| | 260 | 55,00 | 3,0 | 3,0 | 154 | | | | | 2,7 | **NUP324** | | | 447,0 | 473,0 |
| | 260 | 86,00 | 3,0 | 3,0 | 154 | | | | | 6,4 | **NU2324EMAS** | M | | 810,0 | 981,0 |
| | 260 | 86,00 | 3,0 | 3,0 | 154 | | | | | 6,4 | **NJ2324EMAS** | M | | 810,0 | 981,0 |
| | 260 | 86,00 | 3,0 | 3,0 | 154 | | | | | 6,4 | **NUP2324EMAS** | M | | 810,0 | 981,0 |
| | 310 | 72,00 | 5,0 | 6,0 | 170 | | 188,0 | 17,0 | 30,50 | 2,7 | **NU424M** | | HJ424 | 736,0 | 810,0 |
| | 310 | 72,00 | 5,0 | 6,0 | 170 | | 188,0 | 17,0 | 30,50 | 2,7 | **NJ424M** | | HJ424 | 736,0 | 810,0 |
| | 310 | 72,00 | 5,0 | 6,0 | 170 | | | | | 2,7 | **NUP424M** | | | 736,0 | 810,0 |



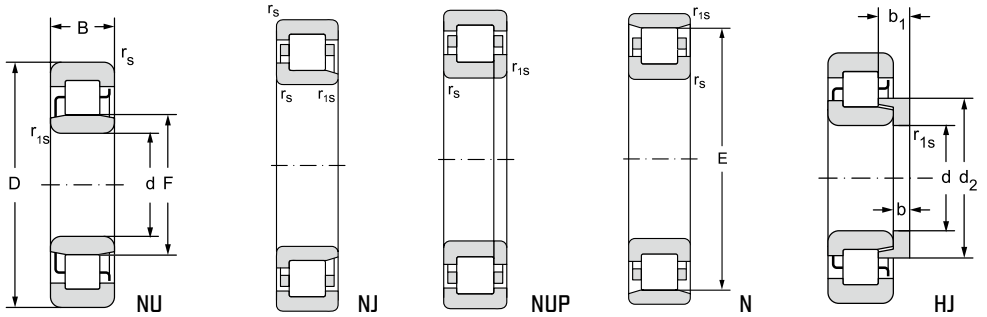




[1] Admissible axial movement

| Fatique load limit | Limiting speed for lubrication with | | Abutment and fillet dimensions | | | | | | | | | | Weight | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $P_u$ | grease | oil | d | $d_a$ | $d_a$ | $d_b$ | $d_c$ | $d_d$ | $D_a$ | $D_b$ | $r_a$ | $r_b$ | ~ | |
| | | | | min | max | min | min | max | max | min | max | max | of bearing | Ang.r. |
| kN | $min^{-1}$ | | mm | | | | | | | | | | kg | |
| 28,98 | 3200 | 3800 | 110 | 122 | 125,0 | 135,0 | 145 | - | 188 | - | 2,0 | 2,0 | 4,65 | 0,62 |
| 28,98 | 3200 | 3800 | | 122 | 125,0 | 135,0 | 145 | - | 188 | - | 2,0 | 2,0 | 4,65 | 0,62 |
| 28,98 | 3200 | 3800 | | 122 | 125,0 | 135,0 | - | - | 188 | - | 2,0 | 2,0 | 4,65 | |
| 28,98 | 3200 | 3800 | | 122 | 125,0 | 135,0 | - | 175 | 188 | 182 | 2,0 | 2,0 | 4,65 | |
| 45,12 | 3200 | 3800 | | 122 | 125,0 | 135,0 | - | - | 188 | - | 2,0 | 2,0 | 6,95 | |
| 45,12 | 3200 | 3800 | | 122 | 125,0 | 135,0 | - | - | 188 | - | 2,0 | 2,0 | 6,95 | |
| 45,12 | 3200 | 3800 | | 122 | 125,0 | 135,0 | - | - | 188 | - | 2,0 | 2,0 | 6,95 | |
| 78,70 | 3000 | 3500 | | 128 | - | 137,0 | - | - | 180 | - | 3,0 | 2,0 | 10,00 | |
| 42,68 | 2500 | 3000 | | 124 | 135,0 | 145,0 | 160 | - | 226 | - | 2,5 | 2,5 | 10,5 | 1,17 |
| 42,68 | 2500 | 3000 | | 124 | 135,0 | 145,0 | 160 | - | 226 | - | 2,5 | 2,5 | 10,5 | 1,17 |
| 42,68 | 2500 | 3000 | | 124 | 135,0 | 145,0 | - | - | 226 | - | 2,5 | 2,5 | 10,5 | |
| 42,68 | 2500 | 3000 | | 124 | 135,0 | 145,0 | - | 204 | 226 | 211 | 2,5 | 2,5 | 10,5 | |
| 50,73 | 2400 | 2800 | | 124 | 135,0 | 145,0 | - | - | 226 | - | 2,5 | 2,5 | 11,0 | |
| 50,73 | 2400 | 2800 | | 124 | 135,0 | 145,0 | - | - | 226 | - | 2,5 | 2,5 | 11,0 | |
| 50,73 | 2400 | 2800 | | 124 | 135,0 | 145,0 | - | - | 226 | - | 2,5 | 2,5 | 11,0 | |
| 62,98 | 2100 | 2500 | | 130 | 140,0 | 157,0 | 175 | - | 260 | - | 3,0 | 3,0 | 20,0 | 2,16 |
| 62,98 | 2100 | 2500 | | 130 | 140,0 | 157,0 | 175 | - | 260 | - | 3,0 | 3,0 | 20,0 | 2,16 |
| 62,98 | 2100 | 2500 | | 130 | 140,0 | 157,0 | - | - | 260 | - | 3,0 | 3,0 | 20,0 | |
| | | | | | | | | | | | | | | |
| 18,14 | 3300 | 4000 | 120 | 128 | 131,0 | 138,0 | - | - | 171 | - | 2,0 | 1,0 | 2,45 | |
| 31,24 | 3000 | 3500 | | 132 | 138,0 | 146,0 | 157 | - | 203 | - | 2,0 | 2,0 | 5,65 | 0,72 |
| 31,24 | 3000 | 3500 | | 132 | 138,0 | 146,0 | 157 | - | 203 | - | 2,0 | 2,0 | 5,65 | 0,72 |
| 31,24 | 3000 | 3500 | | 132 | 138,0 | 146,0 | - | - | 203 | - | 2,0 | 2,0 | 5,65 | |
| 31,24 | 3000 | 3500 | | 132 | 138,0 | 146,0 | - | 188 | 203 | 196 | 2,0 | 2,0 | 5,65 | |
| 49,41 | 3000 | 3500 | | 132 | 138,0 | 146,0 | - | - | 203 | - | 2,0 | 2,0 | 8,55 | |
| 49,41 | 3000 | 3500 | | 132 | 138,0 | 146,0 | - | - | 203 | - | 2,0 | 2,0 | 8,55 | |
| 49,41 | 3000 | 3500 | | 132 | 138,0 | 146,0 | - | - | 203 | - | 2,0 | 2,0 | 8,55 | |
| 82,95 | 2700 | 3200 | | 140 | - | 149,0 | - | - | 194 | - | 2,0 | 2,0 | 11,8 | |
| 47,58 | 2400 | 2800 | | 134 | 145,0 | 156,0 | 172 | - | 246 | - | 2,5 | 2,5 | 13,0 | 1,40 |
| 47,58 | 2400 | 2800 | | 134 | 145,0 | 156,0 | 172 | - | 246 | - | 2,5 | 2,5 | 13,0 | 1,40 |
| 47,58 | 2400 | 2800 | | 134 | 145,0 | 156,0 | - | - | 246 | - | 2,5 | 2,5 | 13,0 | |
| 98,68 | 2100 | 2500 | | 134 | 145,0 | 156,0 | - | - | 246 | - | 2,5 | 2,5 | 24,5 | |
| 98,68 | 2100 | 2500 | | 134 | 145,0 | 156,0 | - | - | 246 | - | 2,5 | 2,5 | 24,5 | |
| 98,68 | 2100 | 2500 | | 134 | 145,0 | 156,0 | - | - | 246 | - | 2,5 | 2,5 | 24,5 | |
| 78,51 | 1900 | 2200 | | 144 | 155,0 | 172,0 | 192 | - | 286 | - | 4,0 | 4,0 | 28,0 | 2,60 |
| 78,51 | 1900 | 2200 | | 144 | 155,0 | 172,0 | 192 | - | 286 | - | 4,0 | 4,0 | 28,0 | 2,60 |
| 78,51 | 1900 | 2200 | | 144 | 155,0 | 172,0 | - | - | 286 | - | 4,0 | 4,0 | 28,0 | |

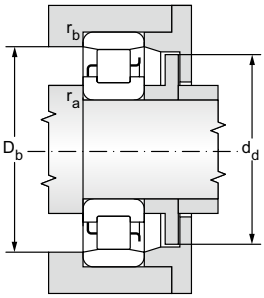
## Single row cylindrical roller bearings

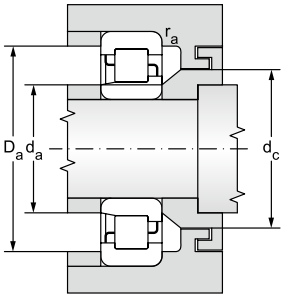
d = 130 to 160 mm

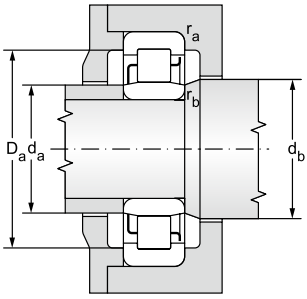



12.4.1

| Main dimensions | | | | | | | | | | | Bearing designation | Other cages | Angle ring designation | Basic load rating | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | dynamic | static |
| d | D | B | $r_s$ | $r_{1s}$ | F | E | $d_2$ | b | $b_1$ | $s_{1)}$ | | | | $C_r$ | $C_{or}$ |
| | | | min | min | | | max | | | | | | | | |
| | | | | | mm | | | | | | | | | kN | |
| 130 | 200 | 33,00 | 2,0 | 1,1 | 148 | | | | | 2,0 | **NU1026** | | | 162,0 | 203,0 |
| | 230 | 40,00 | 3,0 | 3,0 | 156 | | 167,0 | 11,0 | 19,00 | 2,5 | **NU226** | | HJ226 | 271,0 | 322,0 |
| | 230 | 40,00 | 3,0 | 3,0 | 156 | | 167,0 | 11,0 | 19,00 | 2,5 | **NJ226** | | HJ226 | 271,0 | 322,0 |
| | 230 | 40,00 | 3,0 | 3,0 | 156 | | | | | 2,5 | **NUP226** | | | 271,0 | 322,0 |
| | 230 | 40,00 | 3,0 | 3,0 | | 204,0 | | | | 2,5 | **N226** | | | 271,0 | 322,0 |
| | 230 | 79,38 | 4,0 | 4,0 | 155 | | | | | 8,0 | **NU5226M** | | | 511,0 | 841,0 |
| | 280 | 58,00 | 4,0 | 4,0 | 167 | | 182,3 | 14,0 | 23,00 | 2,9 | **NU326EM** | | HJ326E | 619,0 | 694,0 |
| | 280 | 58,00 | 4,0 | 4,0 | 167 | | 182,3 | 14,0 | 23,00 | 2,9 | **NJ326EM** | | HJ326E | 619,0 | 694,0 |
| | 280 | 58,00 | 4,0 | 4,0 | 167 | | | | | 2,9 | **NUP326EM** | | | 619,0 | 694,0 |
| 140 | 250 | 42,00 | 3,0 | 3,0 | 169 | | 181,0 | 11,0 | 19,00 | 2,5 | **NU228** | | HJ228 | 310,0 | 369,0 |
| | 250 | 42,00 | 3,0 | 3,0 | 169 | | 181,0 | 11,0 | 19,00 | 2,5 | **NJ228** | | HJ228 | 310,0 | 369,0 |
| | 250 | 42,00 | 3,0 | 3,0 | 169 | | | | | 2,5 | **NUP228** | | | 310,0 | 369,0 |
| | 250 | 42,00 | 3,0 | 3,0 | | 221,0 | | | | 2,5 | **N228** | | | 310,0 | 369,0 |
| | 250 | 82,55 | 4,0 | 4,0 | 168,46 | | | | | 10,0 | **NU5228M** | | | 596,0 | 981,0 |
| | 300 | 62,00 | 4,0 | 4,0 | 180 | | 198,4 | 15,0 | 26,00 | 2,7 | **NU328M** | | HJ328 | 619,0 | 708,0 |
| | 300 | 62,00 | 4,0 | 4,0 | 180 | | 198,4 | 15,0 | 26,00 | 2,7 | **NJ328M** | | HJ328 | 619,0 | 708,0 |
| | 300 | 62,00 | 4,0 | 4,0 | 180 | | | | | 2,7 | **NUP328M** | | | 619,0 | 708,0 |
| 150 | 225 | 35,00 | 2,1 | 1,5 | 169,5 | | | | | 2,0 | **NU1030M** | | | 192,0 | 251,0 |
| | 270 | 45,00 | 3,0 | 3,0 | 182 | | 194,7 | 12,0 | 20,50 | 2,4 | **NU230M** | | HJ230 | 369,0 | 455,0 |
| | 270 | 45,00 | 3,0 | 3,0 | 182 | | 194,7 | 12,0 | 20,50 | 2,4 | **NJ230M** | | HJ230 | 369,0 | 455,0 |
| | 270 | 45,00 | 3,0 | 3,0 | 182 | | | | | 2,4 | **NUP230M** | | | 369,0 | 455,0 |
| | 270 | 45,00 | 3,0 | 3,0 | 182 | | 193,7 | 12,0 | 19,50 | 2,4 | **NU230EM** | | HJ230E | 447,0 | 552,0 |
| | 270 | 45,00 | 3,0 | 3,0 | 182 | | 193,7 | 12,0 | 19,50 | 2,4 | **NJ230EM** | | HJ230E | 447,0 | 552,0 |
| | 270 | 45,00 | 3,0 | 3,0 | 182 | | | | | 2,4 | **NUP230EM** | | | 447,0 | 552,0 |
| | 270 | 88,90 | 2,3 | 2,3 | 181,544 | | | | | 10,0 | **NU5230M** | | | 736,0 | 1260,0 |
| | 320 | 65,00 | 4,0 | 4,0 | 193 | | 212,3 | 15,0 | 26,50 | 2,7 | **NU330M** | | HJ330 | 681,0 | 779,0 |
| | 320 | 65,00 | 4,0 | 4,0 | 193 | | 212,3 | 15,0 | 26,50 | 2,7 | **NJ330M** | | HJ330 | 681,0 | 779,0 |
| | 320 | 65,00 | 4,0 | 4,0 | 193 | | | | | 2,7 | **NUP330M** | | | 681,0 | 779,0 |
| 160 | 240 | 38,00 | 2,1 | 2,1 | 180 | | 188,0 | 10,0 | 19,00 | 5,2 | **NU1032M** | | HJ1032 | 229,0 | 325,0 |
| | 240 | 38,00 | 2,1 | 2,1 | 180 | | 188,0 | 10,0 | 19,00 | 5,2 | **NJ1032M** | | HJ1032 | 229,0 | 325,0 |
| | 290 | 48,00 | 3,0 | 3,0 | 195 | | 207,4 | 12,0 | 20,00 | 2,5 | **NU232M** | | HJ232 | 511,0 | 631,0 |
| | 290 | 48,00 | 3,0 | 3,0 | 195 | | 207,4 | 12,0 | 20,00 | 2,5 | **NJ232M** | | HJ232 | 511,0 | 631,0 |
| | 290 | 48,00 | 3,0 | 3,0 | 195 | | | | | 2,5 | **NUP232M** | | | 511,0 | 631,0 |
| | 290 | 98,42 | 2,5 | 6,3 | 193,634 | | | | | 10,0 | **NU5232M** | | | 764,0 | 1310,0 |
| | 340 | 68,00 | 4,0 | 4,0 | 204 | | 221,0 | 15,0 | 25,00 | 4,0 | **NU332EM** | MA | HJ332E | 900,0 | 1080,0 |
| | 340 | 68,00 | 4,0 | 4,0 | 204 | | 221,0 | 15,0 | 25,00 | 4,0 | **NJ332EM** | MA | HJ332E | 900,0 | 1080,0 |



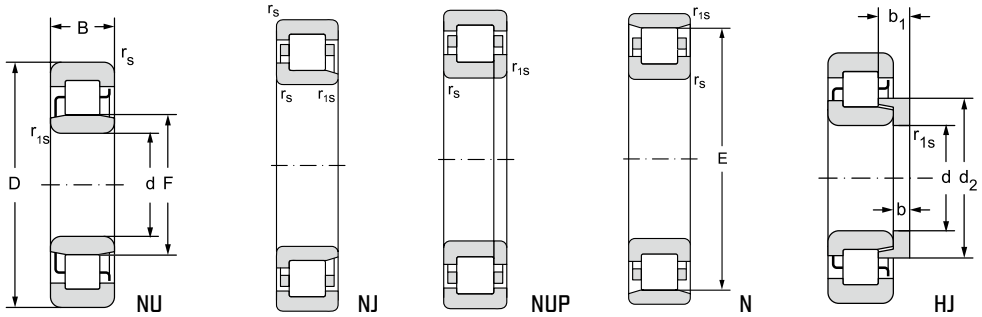




[1] Admissible axial movement

| Fatique load limit | Limiting speed for lubrication with | | Abutment and fillet dimensions | | | | | | | | | | Weight | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $P_u$ | grease | oil | d | $d_a$ | $d_a$ | $d_b$ | $d_c$ | $d_d$ | $D_a$ | $D_b$ | $r_a$ | $r_b$ | ~ | |
| | | | | min | max | min | min | max | max | min | max | max | of bearing | Ang.r. |
| kN | $min^{-1}$ | | mm | | | | | | | | | | kg | |
| 21,30 | 3200 | 3800 | 130 | 138 | 143,0 | 151,0 | - | - | 191 | - | 2,0 | 1,0 | 3,75 | |
| 32,92 | 2700 | 3200 | | 144 | 150,0 | 158,0 | 169 | - | 216 | - | 2,5 | 2,5 | 6,50 | 0,84 |
| 32,92 | 2700 | 3200 | | 144 | 150,0 | 158,0 | 169 | - | 216 | - | 2,5 | 2,5 | 6,50 | 0,84 |
| 32,92 | 2700 | 3200 | | 144 | 150,0 | 158,0 | - | - | 216 | - | 2,5 | 2,5 | 6,50 | |
| 32,92 | 2700 | 3200 | | 144 | 150,0 | 158,0 | - | 201 | 216 | 208 | 2,5 | 2,5 | 6,50 | |
| 85,98 | 2500 | 3000 | | 149 | - | 159,0 | - | - | 207 | - | 3,0 | 2,0 | 13,8 | |
| 68,24 | 2000 | 2400 | | 148 | 155,0 | 169,0 | 186 | - | 262 | - | 3,0 | 3,0 | 17,0 | 1,65 |
| 68,24 | 2000 | 2400 | | 148 | 155,0 | 169,0 | 186 | - | 262 | - | 3,0 | 3,0 | 17,0 | 1,65 |
| 68,24 | 2000 | 2400 | | 148 | 155,0 | 169,0 | - | - | 262 | - | 3,0 | 3,0 | 17,0 | |
| | | | | | | | | | | | | | | |
| 36,83 | 2500 | 3000 | 140 | 154 | 160,0 | 171,0 | 182 | - | 236 | - | 2,5 | 2,5 | 8,25 | 1,00 |
| 36,83 | 2500 | 3000 | | 154 | 160,0 | 171,0 | 182 | - | 236 | - | 2,5 | 2,5 | 8,25 | 1,00 |
| 36,83 | 2500 | 3000 | | 154 | 160,0 | 171,0 | - | - | 236 | - | 2,5 | 2,5 | 8,25 | |
| 36,83 | 2500 | 3000 | | 154 | 160,0 | 171,0 | - | 218 | 236 | 255 | 2,5 | 2,5 | 8,25 | |
| 97,91 | 2200 | 2700 | | 162 | - | 173,0 | - | - | 225 | - | 3,0 | 3,0 | 17,1 | |
| 68,15 | 2000 | 2400 | | 158 | 166,0 | 182,0 | 198 | - | 282 | - | 3,0 | 3,0 | 20,0 | 2,05 |
| 68,15 | 2000 | 2400 | | 158 | 166,0 | 182,0 | 198 | - | 282 | - | 3,0 | 3,0 | 20,0 | 2,05 |
| 68,15 | 2000 | 2400 | | 158 | 166,0 | 182,0 | - | - | 282 | - | 3,0 | 3,0 | 20,0 | |
| | | | | | | | | | | | | | | |
| 25,35 | 2700 | 3200 | 150 | 159 | 165,0 | 173,0 | - | - | 213 | - | 2,0 | 1,5 | 4,85 | |
| 44,42 | 2200 | 2700 | | 164 | 170,0 | 184,0 | 196 | - | 256 | - | 2,5 | 2,5 | 10,5 | 1,35 |
| 44,42 | 2200 | 2700 | | 164 | 170,0 | 184,0 | 196 | - | 256 | - | 2,5 | 2,5 | 10,5 | 1,35 |
| 44,42 | 2200 | 2700 | | 164 | 170,0 | 184,0 | - | - | 256 | - | 2,5 | 2,5 | 10,5 | |
| 53,88 | 2200 | 2700 | | 164 | 170,0 | 184,0 | 196 | - | 256 | - | 2,5 | 2,5 | 11,0 | 1,30 |
| 53,88 | 2200 | 2700 | | 164 | 170,0 | 184,0 | 196 | - | 256 | - | 2,5 | 2,5 | 11,0 | 1,30 |
| 53,88 | 2200 | 2700 | | 164 | 170,0 | 184,0 | - | - | 256 | - | 2,5 | 2,5 | 11,0 | |
| 123,00 | 2000 | 2400 | | 174 | - | 187,0 | - | - | 243 | - | 5,0 | 2,0 | 22,9 | |
| 73,52 | 1900 | 2200 | | 168 | 185,0 | 195,0 | 213 | - | 302 | - | 3,0 | 3,0 | 27,0 | 2,37 |
| 73,52 | 1900 | 2200 | | 168 | 185,0 | 195,0 | 213 | - | 302 | - | 3,0 | 3,0 | 27,0 | 2,37 |
| 73,52 | 1900 | 2200 | | 168 | 185,0 | 195,0 | - | - | 302 | - | 3,0 | 3,0 | 27,0 | |
| | | | | | | | | | | | | | | |
| 32,19 | 2500 | 3000 | 160 | 167 | 177,0 | 191,0 | - | - | 230 | - | 2,0 | 2,0 | 6,10 | 0,65 |
| 32,19 | 2500 | 3000 | | 167 | 177,0 | 191,0 | - | - | 230 | - | 2,0 | 2,0 | 6,10 | 0,65 |
| 60,33 | 2000 | 2400 | | 174 | 180,0 | 197,0 | 210 | - | 276 | - | 2,5 | 2,5 | 14,7 | 1,50 |
| 60,33 | 2000 | 2400 | | 174 | 180,0 | 197,0 | 210 | - | 276 | - | 2,5 | 2,5 | 14,7 | 1,50 |
| 60,33 | 2000 | 2400 | | 174 | 180,0 | 197,0 | - | - | 276 | - | 2,5 | 2,5 | 14,7 | |
| 125,26 | 1900 | 2200 | | 186 | - | 199,0 | - | - | 261 | - | 5,0 | 2,0 | 28,9 | |
| 100,05 | 1700 | 2000 | | 177 | 200,0 | 225,0 | - | - | 323 | - | 3,0 | 3,0 | 32,2 | 2,55 |
| 100,05 | 1700 | 2000 | | 177 | 200,0 | 225,0 | - | - | 323 | - | 3,0 | 3,0 | 32,2 | 2,55 |

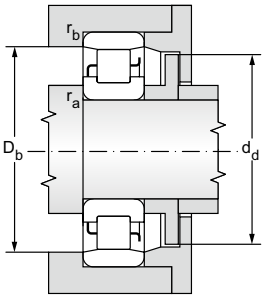
## Single row cylindrical roller bearings

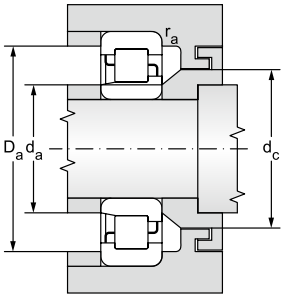
d = 170 to 200 mm

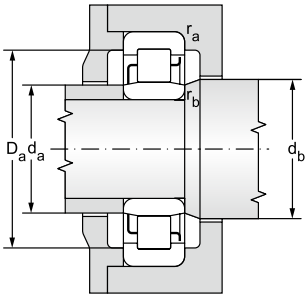



12.4.1

| Main dimensions | | | | | | | | | | | Bearing designation | Other cages | Angle ring designation | Basic load rating | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | dynamic | static |
| d | D | B | $r_s$ | $r_{1s}$ | F | E | $d_2$ | b | $b_1$ | $s_{1)}$ | | | | $C_r$ | $C_{or}$ |
| | | | min | min | | | max | | | | | | | | |
| | | | | | mm | | | | | | | | | kN | |
| 170 | 260 | 42,00 | 2,1 | 2,1 | 193 | | | | | 3,0 | **NU1034M** | | | 276,0 | 376,0 |
| | 310 | 52,00 | 4,0 | 4,0 | 207 | | 228,8 | 12,0 | 20,00 | 2,9 | **NU234M** | | HJ234 | 607,0 | 750,0 |
| | 310 | 52,00 | 4,0 | 4,0 | 207 | | 228,8 | 12,0 | 20,00 | 2,9 | **NJ234M** | | HJ234 | 607,0 | 750,0 |
| | 310 | 52,00 | 4,0 | 4,0 | 207 | | | | | 2,9 | **NUP234M** | | | 607,0 | 750,0 |
| | 310 | 104,77 | 3,2 | 6,3 | 205,483 | | | | | 10,0 | **NU5234M** | | | 891,0 | 1470,0 |
| | 360 | 72,00 | 4,0 | 4,0 | 218 | | | | | 4,6 | **NU334EM** | MA | | 950,0 | 1180,0 |
| | 360 | 72,00 | 4,0 | 4,0 | 218 | | | | | 4,6 | **NJ334EM** | MA | | 950,0 | 1180,0 |
| 180 | 280 | 46,00 | 2,1 | 2,1 | 205 | | | | | 3,6 | **NU1036M** | | | 329,0 | 447,0 |
| | 280 | 46,00 | 2,1 | 2,1 | 205 | | | | | 3,6 | **NJ1036M** | | | 329,0 | 447,0 |
| | 320 | 52,00 | 4,0 | 4,0 | 217 | | 230,8 | 12,0 | 20,00 | 2,9 | **NU236M** | | HJ236 | 631,0 | 794,0 |
| | 320 | 52,00 | 4,0 | 4,0 | 217 | | 230,8 | 12,0 | 20,00 | 2,9 | **NJ236M** | | HJ236 | 631,0 | 794,0 |
| | 320 | 52,00 | 4,0 | 4,0 | 217 | | | | | 2,9 | **NUP236M** | | | 631,0 | 794,0 |
| | 320 | 86,00 | 4,0 | 4,0 | 218 | | 230,5 | 12,0 | 29,00 | 6,9 | **NU2236M** | | HJ2236 | 736,0 | 1060,0 |
| | 320 | 86,00 | 4,0 | 4,0 | 218 | | 230,5 | 12,0 | 29,00 | 6,9 | **NJ2236M** | | HJ2236 | 736,0 | 1060,0 |
| | 320 | 86,00 | 4,0 | 4,0 | 218 | | | | | 6,9 | **NUP2236M** | | | 736,0 | 1060,0 |
| | 380 | 75,00 | 4,0 | 4,0 | 231 | | | | | 4,6 | **NU336EM** | MA | | 1020,0 | 1290,0 |
| | 380 | 75,00 | 4,0 | 4,0 | 231 | | | | | 4,6 | **NJ336EM** | MA | | 1020,0 | 1290,0 |
| 190 | 290 | 46,00 | 2,1 | 2,1 | 215 | | 225,0 | 12,0 | 22,50 | 6,1 | **NU1038M** | | HJ1038 | 350,0 | 500,0 |
| | 290 | 46,00 | 2,1 | 2,1 | 215 | | 225,0 | 12,0 | 22,50 | 6,1 | **NJ1038M** | | HJ1038 | 350,0 | 500,0 |
| | 340 | 55,00 | 4,0 | 4,0 | 230 | | 244,0 | 13,0 | 21,50 | 3,0 | **NU238EM** | MA | HJ238E | 770,0 | 965,0 |
| | 340 | 55,00 | 4,0 | 4,0 | 230 | | 244,0 | 13,0 | 21,50 | 3,0 | **NJ238EM** | MA | HJ238E | 770,0 | 965,0 |
| | 340 | 92,00 | 4,0 | 4,0 | 228 | | | | | 5,0 | **NU2238EM** | | | 1220,0 | 1600,0 |
| | 400 | 78,00 | 5,0 | 5,0 | 245 | | 264,0 | 18,0 | 29,00 | 4,3 | **NU338EM** | MA | HJ338E | 1140,0 | 1500,0 |
| | 400 | 78,00 | 5,0 | 5,0 | 245 | | 264,0 | 18,0 | 29,00 | 4,3 | **NJ338EM** | MA | HJ338E | 1140,0 | 1500,0 |
| 200 | 310 | 51,00 | 2,1 | 2,1 | 229 | | | | | 4,2 | **NU1040M** | MA | | 383,0 | 531,0 |
| | 360 | 58,00 | 4,0 | 4,0 | 243 | | 258,2 | 14,0 | 23,00 | 2,9 | **NU240EM** | MA | HJ240E | 779,0 | 1000,0 |
| | 360 | 58,00 | 4,0 | 4,0 | 243 | | 258,2 | 14,0 | 23,00 | 2,9 | **NJ240EM** | MA | HJ240E | 779,0 | 1000,0 |
| | 360 | 58,00 | 4,0 | 4,0 | 243 | | | | | 2,9 | **NUP240EM** | MA | | 779,0 | 1000,0 |
| | 360 | 98,00 | 4,0 | 4,0 | 241 | | | | | 5,1 | **NU2240EM** | MA | | 1360,0 | 1800,0 |
| | 360 | 98,00 | 4,0 | 4,0 | 241 | | | | | 5,1 | **NJ2240EM** | MA | | 1360,0 | 1800,0 |
| | 420 | 80,00 | 5,0 | 5,0 | 258 | | | | | 6,0 | **NU340EM** | MA | | 1230,0 | 1630,0 |
| | 420 | 138,00 | 5,0 | 5,0 | 253 | | | | | 9,4 | **NU2340EMA** | | | 1980,0 | 2800,0 |
| | 420 | 138,00 | 5,0 | 5,0 | 253 | | | | | 9,4 | **NJ2340EMA** | | | 1980,0 | 2800,0 |



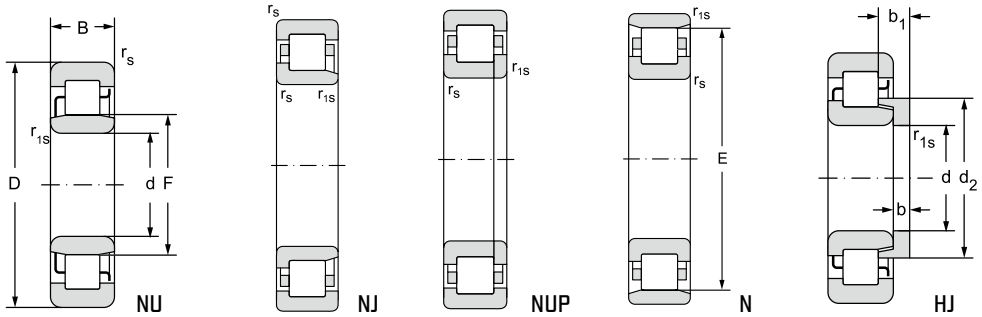




[1] Admissible axial movement

| Fatique load limit | Limiting speed for lubrication with | | Abutment and fillet dimensions | | | | | | | | | | Weight | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $P_u$ | grease | oil | d | $d_a$ | $d_a$ | $d_b$ | $d_c$ | $d_d$ | $D_a$ | $D_b$ | $r_a$ | $r_b$ | ~ | |
| | | | | min | max | min | min | max | max | min | max | max | of bearing | Ang.r. |
| kN | $min^{-1}$ | | mm | | | | | | | | | | kg | |
| 36,45 | 2200 | 2700 | 170 | 179 | 190,0 | 197,0 | - | - | 248 | - | 2,0 | 2,0 | 7,90 | |
| 70,34 | 1900 | 2200 | | 188 | 195,0 | 211,0 | 223 | - | 293 | - | 3,0 | 3,0 | 16,6 | 1,70 |
| 70,34 | 1900 | 2200 | | 188 | 195,0 | 211,0 | 223 | - | 293 | - | 3,0 | 3,0 | 16,6 | 1,70 |
| 70,34 | 1900 | 2200 | | 188 | 195,0 | 211,0 | - | - | 293 | - | 3,0 | 3,0 | 16,6 | |
| 137,86 | 1800 | 2100 | | 197 | - | 211,0 | - | - | 279 | - | 5,0 | 3,0 | 35,5 | |
| 107,42 | 1460 | 1700 | | 187 | 214,0 | 221,0 | - | - | 343 | - | 3,0 | 3,0 | 37,5 | |
| 107,42 | 1460 | 1700 | | 187 | 214,0 | 221,0 | - | - | 343 | - | 3,0 | 3,0 | 37,5 | |
| | | | | | | | | | | | | | | |
| 42,46 | 2100 | 2500 | 180 | 189 | 196,0 | 209,0 | - | - | 268 | - | 2,0 | 2,0 | 10,5 | |
| 42,46 | 2100 | 2500 | | 189 | 196,0 | 209,0 | - | - | 268 | - | 2,0 | 2,0 | 10,5 | |
| 73,56 | 1800 | 2100 | | 198 | 207,0 | 220,0 | 233 | - | 302 | - | 3,0 | 3,0 | 19,5 | 1,80 |
| 73,56 | 1800 | 2100 | | 198 | 207,0 | 220,0 | 233 | - | 302 | - | 3,0 | 3,0 | 19,5 | 1,80 |
| 73,56 | 1800 | 2100 | | 198 | 207,0 | 220,0 | - | - | 302 | - | 3,0 | 3,0 | 19,5 | |
| 98,20 | 1800 | 2100 | | 198 | 208,0 | 221,0 | 233 | - | 302 | - | 3,0 | 3,0 | 31,2 | 1,90 |
| 98,20 | 1800 | 2100 | | 198 | 208,0 | 221,0 | 233 | - | 302 | - | 3,0 | 3,0 | 31,2 | 1,90 |
| 98,20 | 1800 | 2100 | | 198 | 208,0 | 221,0 | - | - | 302 | - | 3,0 | 3,0 | 31,2 | |
| 115,51 | 1370 | 1600 | | 197 | 225,0 | 235,0 | - | - | 363 | - | 3,0 | 3,0 | 45,0 | |
| 115,51 | 1370 | 1600 | | 197 | 225,0 | 235,0 | - | - | 363 | - | 3,0 | 3,0 | 45,0 | |
| | | | | | | | | | | | | | | |
| 46,89 | 2180 | 2600 | 190 | 200 | 212,0 | 228,0 | - | - | 280 | - | 2,0 | 2,0 | 11,0 | 1,35 |
| 46,89 | 2180 | 2600 | | 200 | 212,0 | 228,0 | - | - | 280 | - | 2,0 | 2,0 | 11,0 | 1,35 |
| 87,85 | 1700 | 2000 | | 207 | 226,0 | 248,0 | - | - | 323 | - | 3,0 | 3,0 | 24,5 | 2,10 |
| 87,85 | 1700 | 2000 | | 207 | 226,0 | 248,0 | - | - | 323 | - | 3,0 | 3,0 | 24,5 | 2,10 |
| 145,66 | 1700 | 2000 | | 207 | 222,0 | 232,0 | - | - | 323 | - | 3,0 | 3,0 | 39,0 | |
| 132,23 | 1290 | 1500 | | 210 | 240,0 | 249,0 | - | - | 380 | - | 4,0 | 4,0 | 50,0 | 4,30 |
| 132,23 | 1290 | 1500 | | 210 | 240,0 | 249,0 | - | - | 380 | - | 4,0 | 4,0 | 50,0 | 4,30 |
| | | | | | | | | | | | | | | |
| 48,90 | 1900 | 2200 | 200 | 212 | 220,0 | 233,0 | - | - | 298 | - | 2,0 | 2,0 | 14,0 | |
| 89,54 | 1500 | 1800 | | 218 | 227,0 | 246,0 | 261 | - | 342 | - | 3,0 | 3,0 | 28,4 | 2,70 |
| 89,54 | 1500 | 1800 | | 218 | 227,0 | 246,0 | 261 | - | 342 | - | 3,0 | 3,0 | 28,4 | 2,70 |
| 89,54 | 1500 | 1800 | | 218 | 227,0 | 246,0 | - | - | 342 | - | 3,0 | 3,0 | 28,4 | |
| 161,18 | 1610 | 1900 | | 217 | 235,0 | 245,0 | - | - | 343 | - | 3,0 | 3,0 | 46,0 | |
| 161,18 | 1610 | 1900 | | 217 | 235,0 | 245,0 | - | - | 343 | - | 3,0 | 3,0 | 46,0 | |
| 141,57 | 1200 | 1400 | | 220 | 254,0 | 262,0 | - | - | 400 | - | 4,0 | 4,0 | 57,5 | |
| 243,18 | 1200 | 1400 | | 220 | 249,0 | 280,0 | - | - | 400 | - | 4,0 | 4,0 | 97,0 | |
| 243,18 | 1200 | 1400 | | 220 | 249,0 | 280,0 | - | - | 400 | - | 4,0 | 4,0 | 97,0 | |

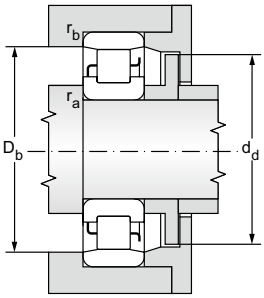
## Single row cylindrical roller bearings

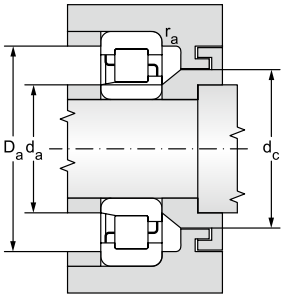
d = 220 to 300 mm

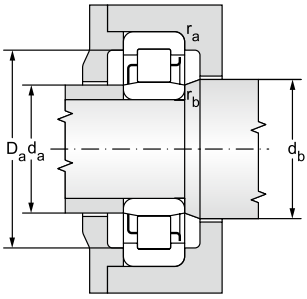



12.4.1

| Main dimensions | | | | | | | | | | | Bearing designation | Other cages | Angle ring designation | Basic load rating | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | dynamic | static |
| d | D | B | $r_s$ | $r_{1s}$ | F | E | $d_2$ | b | $b_1$ | $s_{1)}$ | | | | $C_r$ | $C_{or}$ |
| | | | min | min | | | max | | | | | | | | |
| mm | | | | | | | | | | | | | | kN | |
| 220 | 300 | 48,00 | 2,1 | 2,1 | 242 | | | | | 3,0 | **NU2944M** | MA | | 460,0 | 830,0 |
| | 340 | 56,00 | 3,0 | 3,0 | 250 | | | | | 4,1 | **NU1044M** | MA | | 514,0 | 775,0 |
| | 340 | 56,00 | 3,0 | 3,0 | 250 | | | | | 4,1 | **NJ1044M** | | | 514,0 | 775,0 |
| | 400 | 65,00 | 4,0 | 4,0 | 268 | | 284,0 | 15,0 | 25,00 | 4,0 | **NU244EM** | MA | HJ244E | 1050,0 | 1290,0 |
| | 400 | 65,00 | 4,0 | 4,0 | 268 | | 284,0 | 15,0 | 25,00 | 4,0 | **NJ244EM** | MA | HJ244E | 1050,0 | 1290,0 |
| | 400 | 108,00 | 4,0 | 4,0 | 259 | | | | | 7,9 | **NU2244EMA** | | | 1630,0 | 2350,0 |
| | 460 | 88,00 | 5,0 | 5,0 | 284 | | | | | 5,2 | **NU344M** | | | 1240,0 | 1650,0 |
| | 460 | 88,00 | 5,0 | 5,0 | 284 | | | | | 5,2 | **NJ344M** | | | 1240,0 | 1650,0 |
| | 460 | 145,00 | 5,0 | 5,0 | 275 | | | | | 10,4 | **NU2344EM** | MA | | 2350,0 | 3420,0 |
| 240 | 360 | 56,00 | 3,0 | 3,0 | 270 | | | | | 4,1 | **NU1048MA** | | | 531,0 | 764,0 |
| | 440 | 72,00 | 4,0 | 4,0 | 295 | | 315,0 | 16,0 | 25,90 | 4,0 | **NU248MA** | | HJ248 | 944,0 | 1280,0 |
| | 440 | 72,00 | 4,0 | 4,0 | 295 | | 315,0 | 16,0 | 25,90 | 4,0 | **NJ248MA** | | HJ248 | 944,0 | 1280,0 |
| | 440 | 120,00 | 4,0 | 4,0 | 295 | | | | | 4,3 | **NU2248MA** | | | 1460,0 | 2360,0 |
| | 440 | 120,00 | 4,0 | 4,0 | 295 | | | | | 4,3 | **NJ2248MA** | | | 1460,0 | 2360,0 |
| | 500 | 95,00 | 5,0 | 5,0 | 310 | | 335,0 | 22,0 | 39,50 | 5,6 | **NU348M** | MA | HJ348 | 1450,0 | 2000,0 |
| | 500 | 95,00 | 5,0 | 5,0 | 310 | | 335,0 | 22,0 | 39,50 | 5,6 | **NJ348M** | MA | HJ348 | 1450,0 | 2000,0 |
| | 500 | 155,00 | 5,0 | 5,0 | 299 | | | | | 6,4 | **NU2348EMA** | | | 2600,0 | 3600,0 |
| 260 | 400 | 65,00 | 4,0 | 4,0 | 296 | | | | | 2,0 | **NU1052M** | MA, F | | 642,0 | 996,0 |
| | 400 | 65,00 | 4,0 | 4,0 | 296 | | | | | 2,0 | **NJ1052M** | MA, F | | 642,0 | 996,0 |
| | 400 | 65,00 | 4,0 | 4,0 | 296 | | | | | 2,0 | **NUP1052M** | MA, F | | 642,0 | 996,0 |
| | 480 | 80,00 | 5,0 | 5,0 | 320 | | 340,0 | 18,0 | 33,00 | 3,4 | **NU252MA** | | HJ252 | 1160,0 | 1700,0 |
| | 480 | 80,00 | 5,0 | 5,0 | 320 | | 340,0 | 18,0 | 33,00 | 3,4 | **NJ252MA** | | HJ252 | 1160,0 | 1700,0 |
| | 480 | 130,00 | 5,0 | 5,0 | 320 | | | | | 4,3 | **NU2252MA** | | | 1760,0 | 2900,0 |
| | 480 | 130,00 | 5,0 | 5,0 | 320 | | | | | 4,3 | **NJ2252MA** | | | 1760,0 | 2900,0 |
| | 540 | 102,00 | 6,0 | 6,0 | 337 | | | | | 4,2 | **NU352EMA** | | | 1900,0 | 2680,0 |
| | 540 | 165,00 | 6,0 | 6,0 | 319 | | | | | 1,8 | **NU2352EMA** | | | 3100,0 | 4400,0 |
| 280 | 420 | 65,00 | 4,0 | 4,0 | 316 | | | | | 5,0 | **NU1056MA** | | | 681,0 | 1020,0 |
| | 500 | 80,00 | 5,0 | 5,0 | 340 | | | | | 3,8 | **NU256MA** | | | 1120,0 | 1670,0 |
| | 500 | 80,00 | 5,0 | 5,0 | 340 | | | | | 3,8 | **NJ256MA** | | | 1120,0 | 1670,0 |
| | 500 | 130,00 | 5,0 | 5,0 | 330 | | | | | 10,0 | **NU2256EMA** | | | 2190,0 | 3410,0 |
| | 580 | 175,00 | 6,0 | 6,0 | 362 | | | | | 6,6 | **NU2356MA** | | | 2700,0 | 4300,0 |
| 300 | 460 | 74,00 | 5,0 | 5,0 | 340 | | | | | 4,5 | **NU1060MA** | M, F | | 885,0 | 1400,0 |
| | 460 | 74,00 | 5,0 | 5,0 | 340 | | | | | 4,5 | **NJ1060MA** | M, F | | 885,0 | 1400,0 |
| | 540 | 85,00 | 5,0 | 5,0 | 364 | | | | | 4,8 | **NU260M** | MA | | 1430,0 | 2150,0 |
| | 540 | 140,00 | 5,0 | 5,0 | 364 | | | | | 5,6 | **NU2260MA** | | | 2100,0 | 3470,0 |
| | 620 | 185,00 | 7,5 | 7,5 | 371 | | | | | 11,0 | **NU2360EMA** | | | 4000,0 | 5800,0 |



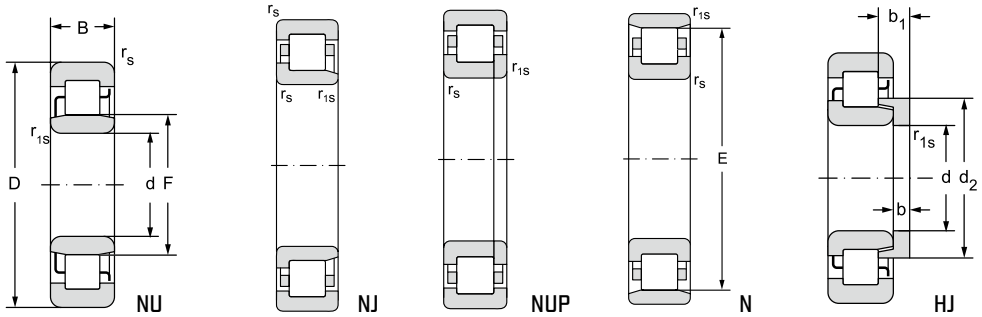




[1] Admissible axial movement

| Fatique load limit | Limiting speed for lubrication with | | Abutment and fillet dimensions | | | | | | | | | | Weight | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | |
| $P_u$ | grease | oil | d | $d_a$ | $d_a$ | $d_b$ | $d_c$ | $d_d$ | $D_a$ | $D_b$ | $r_a$ | $r_b$ | ~ | |
| | | | | min | max | min | min | max | max | min | max | max | of bearing | Ang.r. |
| kN | $min^{-1}$ | | mm | | | | | | | | | | kg | |
| 75,99 | 2040 | 2400 | 220 | 231 | 236,0 | 242,0 | - | - | 289 | - | 2,0 | 2,0 | 10,00 | |
| 69,40 | 1700 | 2000 | | 234 | 240,0 | 254,0 | - | - | 326 | - | 2,5 | 2,5 | 18,5 | |
| 69,40 | 1700 | 2000 | | 234 | 240,0 | 254,0 | - | - | 326 | - | 2,5 | 2,5 | 18,5 | |
| 112,04 | 1360 | 1600 | | 237 | 264,0 | 288,0 | - | - | 383 | - | 3,0 | 3,0 | 38,2 | 3,25 |
| 112,04 | 1360 | 1600 | | 237 | 264,0 | 288,0 | - | - | 383 | - | 3,0 | 3,0 | 38,2 | 3,25 |
| 204,10 | 1360 | 1600 | | 237 | 255,0 | 264,0 | - | - | 383 | - | 3,0 | 3,0 | 62,5 | |
| 139,39 | 1290 | 1500 | | 240 | 277,0 | 311,0 | - | - | 440 | - | 4,0 | 4,0 | 74,0 | |
| 139,39 | 1290 | 1500 | | 240 | 277,0 | 311,0 | - | - | 440 | - | 4,0 | 4,0 | 74,0 | |
| 288,91 | 1100 | 1300 | | 240 | 268,0 | 280,0 | - | - | 440 | - | 4,0 | 4,0 | 120 | |
| | | | | | | | | | | | | | | |
| 67,01 | 1600 | 1900 | 240 | 254 | 260,0 | 275,0 | - | - | 346 | - | 2,5 | 2,5 | 20,0 | |
| 108,13 | 1300 | 1600 | | 258 | 293,0 | 298,0 | 316 | - | 422 | - | 3,0 | 3,0 | 50,5 | 4,68 |
| 108,13 | 1300 | 1600 | | 258 | 293,0 | 298,0 | 316 | - | 422 | - | 3,0 | 3,0 | 50,5 | 4,68 |
| 199,37 | 1270 | 1500 | | 257 | 284,0 | 299,0 | - | - | 423 | - | 3,0 | 3,0 | 84,0 | |
| 199,37 | 1270 | 1500 | | 257 | 284,0 | 299,0 | - | - | 423 | - | 3,0 | 3,0 | 84,0 | |
| 164,72 | 1120 | 1300 | | 260 | 302,0 | 339,0 | 337 | - | 480 | - | 4,0 | 4,0 | 99,0 | 8,90 |
| 164,72 | 1120 | 1300 | | 260 | 302,0 | 339,0 | 337 | - | 480 | - | 4,0 | 4,0 | 99,0 | 8,90 |
| 296,50 | 1010 | 1200 | | 260 | 293,0 | 305,0 | - | - | 480 | - | 4,0 | 4,0 | 155 | |
| | | | | | | | | | | | | | | |
| 84,90 | 1400 | 1700 | 260 | 278 | 280,0 | 300,0 | - | - | 382 | - | 3,0 | 3,0 | 29,0 | |
| 84,90 | 1400 | 1700 | | 278 | 280,0 | 300,0 | - | - | 382 | - | 3,0 | 3,0 | 29,0 | |
| 84,90 | 1400 | 1700 | | 278 | 280,0 | 300,0 | - | - | 382 | - | 3,0 | 3,0 | 29,0 | |
| 140,01 | 1190 | 1400 | | 280 | 313,0 | 344,0 | - | - | 460 | - | 4,0 | 4,0 | 70,0 | 6,20 |
| 140,01 | 1190 | 1400 | | 280 | 313,0 | 344,0 | - | - | 460 | - | 4,0 | 4,0 | 70,0 | 6,20 |
| 238,85 | 1100 | 1400 | | 280 | 309,0 | 324,0 | - | - | 460 | - | 4,0 | 4,0 | 90,0 | |
| 238,85 | 1100 | 1400 | | 280 | 309,0 | 324,0 | - | - | 460 | - | 4,0 | 4,0 | 90,0 | |
| 215,63 | 920 | 1100 | | 286 | 330,0 | 341,0 | - | - | 514 | - | 5,0 | 5,0 | 125 | |
| 354,01 | 920 | 1100 | | 286 | 310,0 | 323,0 | - | - | 514 | - | 5,0 | 5,0 | 190 | |
| | | | | | | | | | | | | | | |
| 85,42 | 1300 | 1600 | 280 | 296 | 311,0 | 320,0 | - | - | 404 | - | 3,0 | 3,0 | 32,5 | |
| 135,39 | 1190 | 1400 | | 300 | 333,0 | 364,0 | - | - | 480 | - | 4,0 | 4,0 | 73,0 | |
| 135,39 | 1190 | 1400 | | 300 | 333,0 | 364,0 | - | - | 480 | - | 4,0 | 4,0 | 73,0 | |
| 276,45 | 950 | 1200 | | 300 | 322,0 | 334,0 | - | - | 480 | - | 4,0 | 4,0 | 120 | |
| 338,54 | 850 | 1000 | | 306 | 347,0 | 366,0 | - | - | 554 | - | 5,0 | 5,0 | 230 | |
| | | | | | | | | | | | | | | |
| 114,39 | 1200 | 1400 | 300 | 318 | 325,0 | 344,0 | 360 | - | 442 | - | 3,0 | 3,0 | 43,6 | |
| 114,39 | 1200 | 1400 | | 318 | 325,0 | 344,0 | 360 | - | 442 | - | 3,0 | 3,0 | 43,6 | |
| 170,47 | 1100 | 1300 | | 320 | 358,0 | 368,0 | - | - | 520 | - | 4,0 | 4,0 | 90,0 | |
| 275,13 | 1020 | 1200 | | 320 | 352,0 | 368,0 | - | - | 520 | - | 4,0 | 4,0 | 147 | |
| 447,49 | 800 | 950 | | 332 | 365,0 | 375,0 | - | - | 588 | - | 6,0 | 6,0 | 270 | |

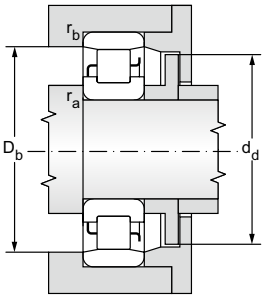
## Single row cylindrical roller bearings

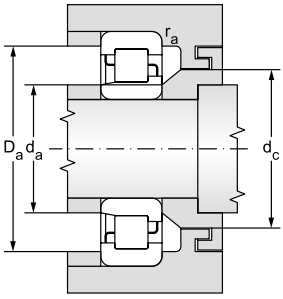
d = 320 to 460 mm

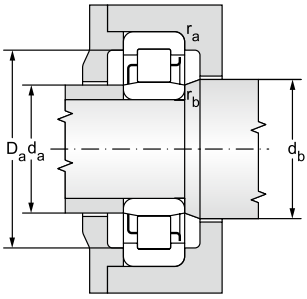



12.4.1

| Main dimensions | | | | | | | | | | | Bearing designation | Other cages | Angle ring designation | Basic load rating | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | dynamic | static |
| d | D | B | $r_s$ | $r_{1s}$ | F | E | $d_2$ | b | $b_1$ | $s_{1)}$ | | | | $C_r$ | $C_{or}$ |
| | | | min | min | | | max | | | | | | | | |
| | | | | | mm | | | | | | | | | kN | |
| 320 | 480 | 74,00 | 4,0 | 4,0 | 360 | | 376,0 | 19,0 | 36,00 | 5,0 | **NU1064MA** | | HJ1064 | 909,0 | 1390,0 |
| | 480 | 74,00 | 4,0 | 4,0 | 360 | | 376,0 | 19,0 | 36,00 | 5,0 | **NJ1064MA** | | HJ1064 | 909,0 | 1390,0 |
| | 580 | 92,00 | 5,0 | 5,0 | 390 | | | | | 5,3 | **NU264MA** | | | 1600,0 | 2450,0 |
| | 580 | 150,00 | 5,0 | 5,0 | 380 | | | | | 5,9 | **NU2264EMA** | | | 3200,0 | 5000,0 |
| | 580 | 150,00 | 5,0 | 5,0 | 380 | | | | | 5,9 | **NJ2264EMA** | | | 3200,0 | 5000,0 |
| 340 | 460 | 72,00 | 3,0 | 3,0 | 373 | | | | | 8,5 | **NU2968M** | | | 820,0 | 1700,0 |
| | 460 | 72,00 | 3,0 | 3,0 | 367 | | | | | 3,8 | **NJ2968EMA** | | | 1020,0 | 2020,0 |
| | 520 | 82,00 | 5,0 | 5,0 | 385 | | 403,0 | 21,0 | 39,50 | 6,5 | **NU1068MA** | | HJ1068 | 1100,0 | 1780,0 |
| | 520 | 82,00 | 5,0 | 5,0 | 385 | | 403,0 | 21,0 | 39,50 | 6,5 | **NJ1068MA** | | HJ1068 | 1100,0 | 1780,0 |
| | 620 | 165,00 | 6,0 | 6,0 | 416 | | | | | 8,0 | **NU2268MA** | | | 2600,0 | 4500,0 |
| 360 | 540 | 82,00 | 6,0 | 6,0 | 480 | | 423,0 | 21,0 | 39,50 | 5,0 | **NU1072MA** | | HJ1072 | 1076,0 | 1753,0 |
| | 540 | 82,00 | 6,0 | 6,0 | 480 | | 423,0 | 21,0 | 39,50 | 5,0 | **NJ1072MA** | | HJ1072 | 1076,0 | 1753,0 |
| | 650 | 170,00 | 6,0 | 6,0 | 437 | | | | | 16,7 | **NU2272MA** | | | 2920,0 | 4900,0 |
| | 750 | 224,00 | 7,5 | 7,5 | 465 | | | | | 10,0 | **NU2372EMA** | | | 5000,0 | 8100,0 |
| 380 | 560 | 82,00 | 5,0 | 5,0 | 425 | | | | | 6,0 | **NU1076MA** | | | 1166,0 | 1982,0 |
| | 560 | 82,00 | 5,0 | 5,0 | 425 | | | | | 6,0 | **NJ1076MA** | | | 1166,0 | 1982,0 |
| | 680 | 175,00 | 6,0 | 6,0 | 451 | | | | | 8,3 | **NU2276EMA** | | | 3900,0 | 6400,0 |
| 400 | 540 | 82,00 | 4,0 | 4,0 | 438 | | | | | 7,6 | **NU2980MA**** | | | 1150,0 | 2450,0 |
| | 600 | 90,00 | 5,0 | 5,0 | 450 | | 470,0 | 19,6 | 42,60 | 5,0 | **NU1080MA**** | | HJ1080 | 1470,0 | 2330,0 |
| | 600 | 90,00 | 5,0 | 5,0 | 450 | | 470,0 | 19,6 | 42,60 | 5,0 | **NJ1080MA**** | | HJ1080 | 1470,0 | 2330,0 |
| | 600 | 148,00 | 5,0 | 5,0 | 450 | | | | | 5,0 | **NU3080MA**** | | | 2255,0 | 4900,0 |
| | 720 | 185,00 | 6,0 | 6,0 | 480 | | | | | 16,0 | **NU2280MA**** | | | 3410,0 | 5960,0 |
| 420 | 560 | 82,00 | 4,0 | 4,0 | 458 | | | | | 2,4 | **NU2984MA**** | | | 1200,0 | 2550,0 |
| | 620 | 90,00 | 5,0 | 5,0 | 470 | | 490,0 | 23,0 | 43,00 | 14,0 | **NU1084MA**** | | HJ1084 | 1420,0 | 2450,0 |
| | 620 | 150,00 | 5,0 | 5,0 | 458,2 | | | | | 13,0 | **NU3084EMA**** | | | 2900,0 | 5400,0 |
| 440 | 600 | 95,00 | 4,0 | 4,0 | 481,5 | | | | | 3,5 | **NU2988EM**** | | | 1720,0 | 3600,0 |
| | 650 | 94,00 | 6,0 | 6,0 | 493 | | 512,0 | 24,0 | 45,00 | 14,7 | **NU1088MA**** | | HJ1088 | 1500,0 | 2600,0 |
| 460 | 620 | 95,00 | 4,0 | 4,0 | 495 | | | | | 4,0 | **NU2992EMA**** | | | 1700,0 | 3600,0 |
| | 680 | 100,00 | 6,0 | 6,0 | 516 | | 537,0 | 25,0 | 48,00 | 15,9 | **NU1092MA**** | | HJ1092 | 1650,0 | 2850,0 |
| | 680 | 163,00 | 6,0 | 6,0 | 499 | | | | | 7,2 | **NU3092EMA**** | | | 3400,0 | 6300,0 |
| | 830 | 212,00 | 7,5 | 7,5 | 554 | | | | | 16,5 | **NU2292MA**** | | | 5100,0 | 8600,0 |



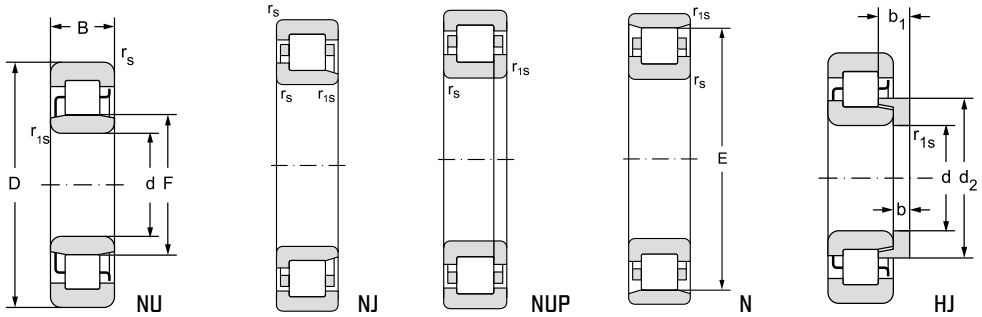




[1] Admissible axial movement

| Fatique load limit | Limiting speed for lubrication with | | Abutment and fillet dimensions | | | | | | | | | | Weight | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $P_u$ | grease | oil | d | $d_a$ | $d_a$ | $d_b$ | $d_c$ | $d_d$ | $D_a$ | $D_b$ | $r_a$ | $r_b$ | ~ | |
| | | | | min | max | min | min | max | max | min | max | max | of bearing | Ang.r. |
| kN | $min^{-1}$ | | mm | | | | | | | | | | kg | |
| 111,84 | 1100 | 1300 | 320 | 336 | 355,0 | 364,0 | - | - | 464 | - | 3,0 | 3,0 | 48,5 | 5,65 |
| 111,84 | 1100 | 1300 | | 336 | 355,0 | 364,0 | - | - | 464 | - | 3,0 | 3,0 | 48,5 | 5,65 |
| 190,28 | 1020 | 1200 | | 340 | 383,0 | 394,0 | - | - | 560 | - | 4,0 | 4,0 | 115 | |
| 388,32 | 850 | 1000 | | 340 | 377,0 | 410,0 | - | - | 560 | - | 4,0 | 4,0 | 190 | |
| 388,32 | 850 | 1000 | | 340 | 377,0 | 410,0 | - | - | 560 | - | 4,0 | 4,0 | 190 | |
| | | | | | | | | | | | | | | |
| 136,78 | 1190 | 1400 | 340 | 353 | 369,0 | 377,0 | - | - | 447 | - | 2,5 | 2,5 | 36,0 | |
| 162,52 | 1190 | 1400 | | 353 | 363,0 | 381,0 | - | - | 447 | - | 2,5 | 2,5 | 37,0 | |
| 140,14 | 1090 | 1300 | | 358 | 380,0 | 408,0 | - | - | 502 | - | 4,0 | 4,0 | 68,0 | 7,40 |
| 140,14 | 1090 | 1300 | | 358 | 380,0 | 408,0 | - | - | 502 | - | 4,0 | 4,0 | 68,0 | 7,40 |
| 342,79 | 850 | 1000 | | 366 | 401,0 | 421,0 | - | - | 594 | - | 5,0 | 5,0 | 220 | |
| | | | | | | | | | | | | | | |
| 136,15 | 950 | 1100 | 360 | 382 | 390,0 | 410,0 | 427 | - | 518 | - | 4,0 | 4,0 | 67,5 | 10,00 |
| 136,15 | 950 | 1100 | | 382 | 390,0 | 410,0 | 427 | - | 518 | - | 4,0 | 4,0 | 67,5 | 10,00 |
| 367,62 | 800 | 950 | | 386 | 428,0 | 442,0 | - | - | 624 | - | 5,0 | 5,0 | 250 | |
| 590,72 | 720 | 850 | | 392 | 453,0 | 470,0 | - | - | 718 | - | 6,0 | 6,0 | 510 | |
| | | | | | | | | | | | | | | |
| 151,94 | 850 | 1000 | 380 | 400 | 420,0 | 430,0 | - | - | 540 | - | 4,0 | 4,0 | 71,0 | |
| 151,94 | 850 | 1000 | | 400 | 420,0 | 430,0 | - | - | 540 | - | 4,0 | 4,0 | 71,0 | |
| 473,24 | 720 | 850 | | 406 | 445,0 | 457,0 | - | - | 654 | - | 5,0 | 5,0 | 275 | |
| | | | | | | | | | | | | | | |
| 187,81 | 1020 | 1200 | 400 | 415 | 434,0 | 442,0 | - | - | 525 | - | 3,0 | 3,0 | 54,5 | |
| 175,33 | 840 | 1000 | | 422 | 435,0 | 455,0 | - | - | 578 | - | 4,0 | 4,0 | 89,0 | 10,5 |
| 175,33 | 840 | 1000 | | 422 | 435,0 | 455,0 | - | - | 578 | - | 4,0 | 4,0 | 89,0 | 10,5 |
| 368,72 | 760 | 910 | | 422 | 435,0 | 455,0 | - | - | 578 | - | 4,0 | 4,0 | 151 | |
| 433,49 | 710 | 840 | | 426 | 460,0 | 485,0 | - | - | 694 | - | 5,0 | 5,0 | 350 | |
| | | | | | | | | | | | | | | |
| 193,05 | 930 | 1100 | 420 | 435 | 452,0 | 463,0 | - | - | 545 | - | 3,0 | 3,0 | 59,0 | |
| 182,20 | 930 | 1100 | | 438 | 466,0 | 475,0 | - | - | 602 | - | 4,0 | 4,0 | 96,0 | 10,00 |
| 401,59 | 760 | 900 | | 438 | 450,0 | 478,0 | - | - | 602 | - | 4,0 | 4,0 | 160 | |
| | | | | | | | | | | | | | | |
| 267,72 | 930 | 1100 | 440 | 455 | 477,0 | 500,0 | - | - | 585 | - | 3,0 | 3,0 | 84,0 | |
| 190,65 | 840 | 1000 | | 463 | 488,0 | 498,0 | - | - | 627 | - | 5,0 | 5,0 | 105 | 11,5 |
| | | | | | | | | | | | | | | |
| 264,71 | 850 | 1000 | 460 | 475 | 490,0 | 515,0 | - | - | 605 | - | 3,0 | 3,0 | 89,0 | |
| 206,19 | 800 | 950 | | 483 | 511,0 | 521,0 | - | - | 657 | - | 5,0 | 5,0 | 115 | 14,0 |
| 455,79 | 680 | 800 | | 483 | 491,0 | 504,0 | - | - | 657 | - | 5,0 | 5,0 | 210 | |
| 599,54 | 600 | 700 | | 492 | 542,0 | 559,0 | - | - | 798 | - | 6,0 | 6,0 | 530 | |

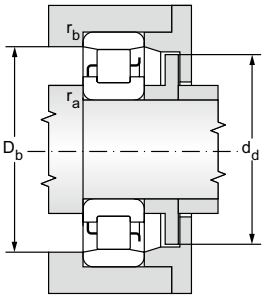
## Single row cylindrical roller bearings

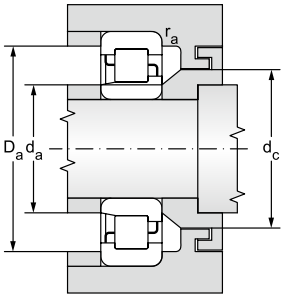
d = 480 to 750 mm

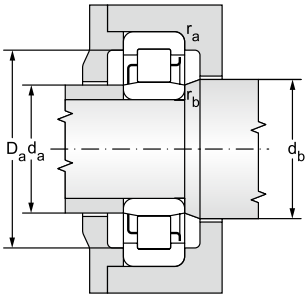



12.4.1

| Main dimensions | | | | | | | | | | | Bearing designation | Other cages | Angle ring designation | Basic load rating | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | dynamic | static |
| d | D | B | $r_s$ | $r_{1s}$ | F | E | $d_2$ | b | $b_1$ | $s_{1)}$ | | | | $C_r$ | $C_{or}$ |
| | | | min | min | | | max | | | | | | | | |
| | | | | | mm | | | | | | | | | kN | |
| 480 | 700 | 100,00 | 6,0 | 6,0 | 536 | | 557,0 | 25,0 | 48,00 | 15,9 | **NU1096MA**** | | HJ1096 | 1680,0 | 3000,0 |
| 500 | 720 | 100,00 | 6,0 | 6,0 | 556 | | 577,0 | 25,0 | 48,00 | 11,2 | **NU10/500MA**** | | HJ10/500 | 1720,0 | 3100,0 |
| | 720 | 167,00 | 6,0 | 6,0 | 540,8 | | | | | 8,6 | **NU30/500EMA**** | FA | | 4000,0 | 8000,0 |
| | 920 | 185,00 | 7,5 | 7,5 | 603,1 | | | | | 13,9 | **NU12/500MA**** | | | 5300,0 | 8500,0 |
| 530 | 710 | 106,00 | 5,0 | 5,0 | 573 | | | | | 3,3 | **NU29/530EMA**** | | | 2380,0 | 5000,0 |
| | 780 | 112,00 | 6,0 | 6,0 | 593 | | | | | 10,4 | **NU10/530MA**** | | | 2290,0 | 4050,0 |
| 560 | 750 | 112,00 | 5,0 | 5,0 | 608 | | | | | 4,5 | **NU29/560EMA**** | | | 2460,0 | 5400,0 |
| | 820 | 115,00 | 6,0 | 6,0 | 625 | | 648,0 | 27,5 | 53,00 | 12,3 | **NU10/560MA**** | | HJ10/560 | 2300,0 | 4200,0 |
| | 820 | 115,00 | 6,0 | 6,0 | 625 | | 648,0 | 27,5 | 53,00 | 12,3 | **NJ10/560MA**** | | HJ10/560 | 2300,0 | 4200,0 |
| | 1030 | 206,00 | 9,5 | 9,5 | 668 | | | | | 10,3 | **NU12/560MA**** | | | 7200,0 | 11200,0 |
| 600 | 800 | 118,00 | 5,0 | 5,0 | 650 | | | | | 12,0 | **NU29/600MA**** | | | 2230,0 | 4853,0 |
| | 800 | 118,00 | 5,0 | 5,0 | 650 | | | | | 12,0 | **NUP29/600MA**** | | | 2230,0 | 4853,0 |
| | 830 | 150,00 | 4,7 | 4,7 | 659 | | | | | 7,0 | **NU39/600MA**** | | | 2860,0 | 6200,0 |
| | 870 | 118,00 | 6,0 | 6,0 | 667 | | 695,0 | 31,0 | 55,00 | 14,0 | **NU10/600MA**** | | HJ10/600 | 2750,0 | 5100,0 |
| | 1090 | 155,00 | 9,5 | 9,5 | 749 | | | | | 3,0 | **NU2/600EMA**** | | | 5600,0 | 9800,0 |
| 630 | 850 | 128,00 | 6,0 | 6,0 | 683 | | | | | 7,1 | **NU29/630EMA**** | | | 3300,0 | 7200,0 |
| | 850 | 128,00 | 6,0 | 6,0 | 683 | | | | | 7,1 | **NJ29/630EMA**** | | | 3300,0 | 7200,0 |
| | 850 | 128,00 | 6,0 | 6,0 | 683 | | | | | 7,1 | **NUP29/630EMA**** | | | 3300,0 | 7200,0 |
| | 920 | 128,00 | 7,5 | 7,5 | 702 | | | | | 6,2 | **NU10/630MA**** | | | 3400,0 | 6200,0 |
| | 920 | 128,00 | 7,5 | 7,5 | 702 | | | | | 6,2 | **NUP10/630MA**** | | | 3400,0 | 6200,0 |
| | 1150 | 230,00 | 12,0 | 12,0 | 751 | | | | | 13,5 | **NU12/630EMA**** | | | 8500,0 | 13600,0 |
| 670 | 980 | 136,00 | 7,5 | 7,5 | 747 | | | | | 7,9 | **NU10/670EMA**** | | | 3700,0 | 6800,0 |
| 710 | 950 | 140,00 | 6,0 | 6,0 | 766 | | | | | 10,0 | **NU29/710EMA**** | | | 3740,0 | 8250,0 |
| | 950 | 140,00 | 6,0 | 6,0 | 766 | | | | | 10,0 | **NUP29/710EMA**** | | | 3740,0 | 8250,0 |
| | 1030 | 140,00 | 7,5 | 7,5 | 778 | | | | | 17,0 | **NU10/710EMA**** | | | 4600,0 | 8500,0 |
| 750 | 1090 | 150,00 | 7,5 | 7,5 | 830 | | | | | 12,8 | **NU10/750EMA**** | | | 4700,0 | 8800,0 |
| | 1090 | 195,00 | 7,5 | 7,5 | 832 | | | | | 12,8 | **NU20/750EMA**** | | | 7000,0 | 14500,0 |



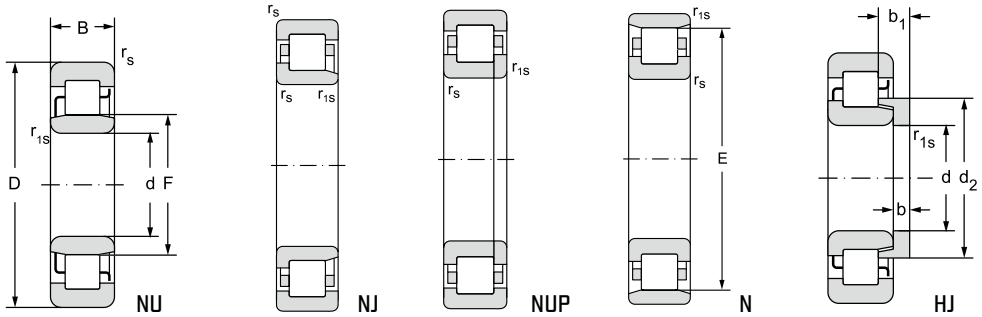




[1] Admissible axial movement

| Fatique load limit | Limiting speed for lubrication with | | Abutment and fillet dimensions | | | | | | | | | | Weight | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $P_u$ | grease | oil | d | $d_a$ | $d_a$ | $d_b$ | $d_c$ | $d_d$ | $D_a$ | $D_b$ | $r_a$ | $r_b$ | ~ | |
| | | | | min | max | min | min | max | max | min | max | max | of bearing | Ang.r. |
| kN | $min^{-1}$ | | mm | | | | | | | | | | kg | |
| 214,81 | 750 | 900 | 480 | 503 | 531,0 | 541,0 | - | - | 677 | - | 5,0 | 5,0 | 130 | 14,5 |
| | | | | | | | | | | | | | | |
| 219,76 | 750 | 900 | 500 | 523 | 550,0 | 561,0 | - | - | 697 | - | 5,0 | 5,0 | 135 | 15,0 |
| 567,12 | 640 | 750 | | 523 | 532,0 | 546,0 | - | - | 697 | - | 5,0 | 5,0 | 225 | |
| 575,74 | 570 | 670 | | 532 | 593,0 | 610,0 | - | - | 888 | - | 6,0 | 6,0 | 585 | |
| | | | | | | | | | | | | | | |
| 352,73 | 720 | 850 | 530 | 548 | 566,0 | 578,0 | - | - | 692 | - | 4,0 | 4,0 | 120 | |
| 281,04 | 670 | 800 | | 553 | 585,0 | 598,0 | - | - | 757 | - | 5,0 | 5,0 | 190 | |
| | | | | | | | | | | | | | | |
| 374,72 | 680 | 800 | 560 | 578 | 600,0 | 613,0 | - | - | 732 | - | 4,0 | 4,0 | 145 | |
| 286,93 | 630 | 750 | | 583 | 617,0 | 655,0 | - | - | 797 | - | 5,0 | 5,0 | 210 | 21,0 |
| 286,93 | 630 | 750 | | 583 | 617,0 | 655,0 | - | - | 797 | - | 5,0 | 5,0 | 210 | 21,0 |
| 733,32 | 470 | 560 | | 600 | 657,0 | 674,0 | - | - | 990 | - | 8,0 | 8,0 | 805 | |
| | | | | | | | | | | | | | | |
| 330,12 | 560 | 700 | 600 | 614 | 644,0 | 654,0 | 675 | - | 750 | - | 4,0 | 4,0 | 173 | |
| 330,12 | 560 | 700 | | 614 | 644,0 | 654,0 | 675 | - | 750 | - | 4,0 | 4,0 | 173 | |
| 419,07 | 500 | 600 | | 614 | 645,0 | 660,0 | 680 | - | 790 | - | 4,7 | 4,7 | 262 | |
| 341,88 | 590 | 700 | | 623 | 658,0 | 672,0 | - | - | 847 | - | 5,0 | 5,0 | 245 | 27,5 |
| 630,02 | 410 | 480 | | 640 | 743,0 | 755,0 | - | - | 1050 | - | 8,0 | 8,0 | 710 | |
| | | | | | | | | | | | | | | |
| 481,67 | 590 | 700 | 630 | 653 | 678,0 | 709,0 | - | - | 827 | - | 5,0 | 5,0 | 230 | |
| 481,67 | 590 | 700 | | 653 | 678,0 | 709,0 | - | - | 827 | - | 5,0 | 5,0 | 230 | |
| 481,67 | 590 | 700 | | 653 | 678,0 | 709,0 | - | - | 827 | - | 5,0 | 5,0 | 230 | |
| 409,06 | 530 | 630 | | 658 | 691,0 | 707,0 | - | - | 892 | - | 6,0 | 6,0 | 285 | |
| 409,06 | 530 | 630 | | 658 | 691,0 | 707,0 | - | - | 892 | - | 6,0 | 6,0 | 285 | |
| 860,81 | 380 | 450 | | 678 | 735,0 | 757,0 | - | - | 1102 | - | 10,0 | 10,0 | 1100 | |
| | | | | | | | | | | | | | | |
| 440,31 | 500 | 600 | 670 | 698 | 737,0 | 753,0 | - | - | 952 | - | 6,0 | 6,0 | 350 | |
| | | | | | | | | | | | | | | |
| 533,23 | 510 | 600 | 710 | 733 | 760,0 | 796,0 | - | - | 927 | - | 5,0 | 5,0 | 300 | |
| 533,23 | 510 | 600 | | 733 | 760,0 | 796,0 | - | - | 927 | - | 5,0 | 5,0 | 300 | |
| 541,69 | 470 | 560 | | 738 | 769,0 | 788,0 | - | - | 1002 | - | 6,0 | 6,0 | 415 | |
| | | | | | | | | | | | | | | |
| 551,48 | 360 | 430 | 750 | 778 | 823,0 | 840,0 | - | - | 1062 | - | 6,0 | 6,0 | 490 | |
| 908,69 | 360 | 430 | | 778 | 823,0 | 838,0 | - | - | 1062 | - | 6,0 | 6,0 | 635 | |
| | | | | | | | | | | | | | | |

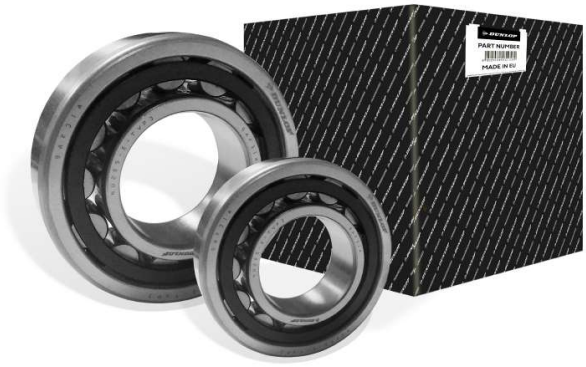
## Single row cylindrical roller bearings

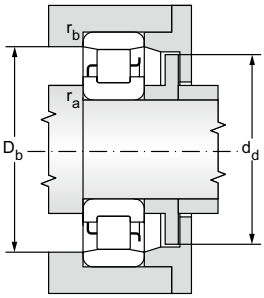
d = 800 to 1180 mm

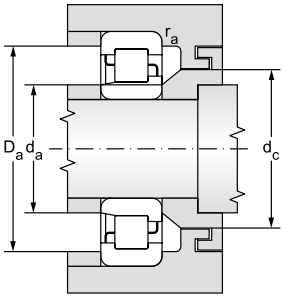


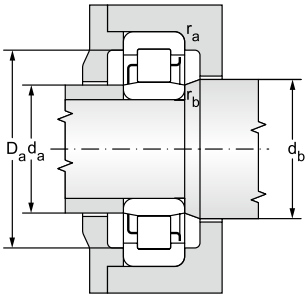

12.4.1

| Main dimensions | | | | | | | | | | | Bearing designation | Other cages | Angle ring designation | Basic load rating | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | dynamic | static |
| d | D | B | $r_s$ | $r_{1s}$ | F | E | $d_2$ | b | $b_1$ | $s_{1)}$ | | | | $C_r$ | $C_{or}$ |
| | | | min | min | | | max | | | | | | | | |
| | | | | | mm | | | | | | | | | kN | |
| 800 | 1150 | 155,00 | 7,5 | 7,5 | 883 | | | | | 13,0 | **NU10/800EMA**** | | | 5500,0 | 10500,0 |
| | 1150 | 200,00 | 7,5 | 7,5 | 882 | | | | | 12,0 | **NU20/800EMA**** | | | 7000,0 | 14500,0 |
| 850 | 1120 | 155,00 | 8,0 | 8,0 | 925 | | | | | 15,0 | **NU29/850MA**** | | | 3760,0 | 8740,0 |
| | 1120 | 155,00 | 8,0 | 8,0 | 925 | | | | | 15,0 | **NUP29/850MA**** | | | 3760,0 | 8740,0 |
| 900 | 1180 | 165,00 | 8,0 | 8,0 | 982 | | | | | 17,0 | **NU29/900MA**** | | | 4220,0 | 9810,0 |
| | 1180 | 165,00 | 8,0 | 8,0 | 982 | | | | | 17,0 | **NUP29/900MA**** | | | 4220,0 | 9810,0 |
| 950 | 1250 | 175,00 | 10,0 | 10,0 | 1032 | | | | | 17,0 | **NU29/950MA**** | | | 4577,0 | 11452,0 |
| | 1250 | 175,00 | 10,0 | 10,0 | 1032 | | | | | 17,0 | **NUP29/950MA**** | | | 4577,0 | 11452,0 |
| 1000 | 1320 | 185,00 | 10,0 | 10,0 | 1090 | | | | | 17,0 | **NU29/1000MA**** | | | 4920,0 | 11600,0 |
| | 1320 | 185,00 | 10,0 | 10,0 | 1090 | | | | | 17,0 | **NUP29/1000MA**** | | | 4920,0 | 11600,0 |
| 1060 | 1400 | 195,00 | 10,0 | 10,0 | 1155 | | | | | 20,0 | **NU29/1060MA**** | | | 5410,0 | 12800,0 |
| | 1400 | 195,00 | 10,0 | 10,0 | 1155 | | | | | 20,0 | **NUP29/1060MA**** | | | 5410,0 | 12800,0 |
| | 1400 | 250,00 | 7,5 | 7,5 | 1146 | | | | | 17,5 | **NU39/1060EMA**** | | | 9100,0 | 23900,0 |
| 1180 | 1540 | 206,00 | 10,0 | 10,0 | 1280 | | | | | 21,0 | **NU29/1180MA**** | | | 6310,0 | 15300,0 |
| | 1540 | 206,00 | 10,0 | 10,0 | 1280 | | | | | 21,0 | **NUP29/1180MA**** | | | 6310,0 | 15300,0 |






[1] Admissible axial movement

| Fatique load limit | Limiting speed for lubrication with | | Abutment and fillet dimensions | | | | | | | | | | Weight | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $P_u$ | grease | oil | d | $d_a$ | $d_a$ | $d_b$ | $d_c$ | $d_d$ | $D_a$ | $D_b$ | $r_a$ | $r_b$ | ~ | |
| | | | | min | max | min | min | max | max | min | max | max | of bearing | Ang.r. |
| kN | $min^{-1}$ | | mm | | | | | | | | | | kg | |
| 646,66 | 400 | 480 | 800 | 828 | 869,0 | 889,0 | - | - | 1122 | - | 6,0 | 6,0 | 560 | |
| 893,00 | 340 | 400 | | 828 | 868,0 | 888,0 | - | - | 1122 | - | 6,0 | 6,0 | 715 | |
| | | | | | | | | | | | | | | |
| 536,62 | 380 | 450 | 850 | 878 | 920,0 | 930,0 | 952 | - | 1092 | - | 5,0 | 5,0 | 430 | |
| 536,62 | 380 | 450 | | 878 | 920,0 | 930,0 | 952 | - | 1092 | - | 5,0 | 5,0 | 430 | |
| | | | | | | | | | | | | | | |
| 592,58 | 300 | 400 | 900 | 928 | 977,0 | 987,0 | 1011 | - | 1152 | - | 5,0 | 5,0 | 500 | |
| 592,58 | 300 | 400 | | 928 | 977,0 | 987,0 | 1011 | - | 1152 | - | 5,0 | 5,0 | 500 | |
| | | | | | | | | | | | | | | |
| 680,22 | 300 | 370 | 950 | 978 | 1027,0 | 1041,0 | 1066 | - | 1220 | - | 5,0 | 5,0 | 597 | |
| 680,22 | 300 | 370 | | 978 | 1027,0 | 1041,0 | 1066 | - | 1220 | - | 5,0 | 5,0 | 597 | |
| | | | | | | | | | | | | | | |
| 678,12 | 300 | 350 | 1000 | 1036 | 1085,0 | 1095,0 | 1122 | - | 1284 | - | 6,0 | 6,0 | 720 | |
| 678,12 | 300 | 350 | | 1036 | 1085,0 | 1095,0 | 1122 | - | 1284 | - | 6,0 | 6,0 | 720 | |
| | | | | | | | | | | | | | | |
| 735,23 | 280 | 330 | 1060 | 1096 | 1150,0 | 1160,0 | 1189 | - | 1364 | - | 6,0 | 6,0 | 850 | |
| 735,23 | 280 | 330 | | 1096 | 1150,0 | 1160,0 | 1189 | - | 1364 | - | 6,0 | 6,0 | 850 | |
| 1 372,82 | 220 | 260 | | 1098 | 1140,0 | 1150,0 | - | - | 1372 | - | 6,0 | 6,0 | 1080 | |
| | | | | | | | | | | | | | | |
| 852,74 | 250 | 300 | 1180 | 1216 | 1275,0 | 1285,0 | 1316 | - | 1504 | - | 6,0 | 6,0 | 1050 | |
| 852,74 | 250 | 300 | | 1216 | 1275,0 | 1285,0 | 1316 | - | 1504 | - | 6,0 | 6,0 | 1050 | |

# DOUBLE ROW ROLLER BEARINGS

## Design

Double row cylindrical roller bearings are suitable for applications with very high radial load and high revoluti-on frequencies. As standard, double row cylindrical roller bearings are made in two versions (NN, NNU). These bearings are separable and are manufactured in designs with lubrication groove or without it.

Double row cylindrical roller bearings feature high rigidity and are used mostly in locations of service spindles of machine tools and similar equipment.

## NN design

Double row cylindrical roller bearings of NN version have two rows of rollers guided by three flanges on inner ring. The outer ring is without flanges, and therefore these flanges cannot transfer axial forces. Double row cylindrical roller bearings of NN30K version are commonly used with cylindrical bore 1:12; if pre-agreed so, they can be supplied also with cylindrical bore.

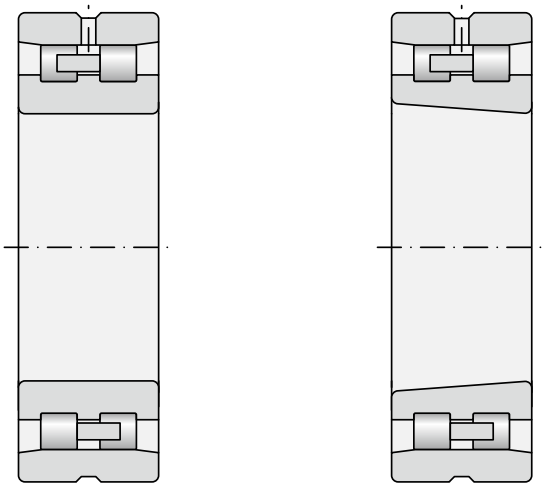


*Fig. 12.4.12 (a, b)*

## NNU design

Double row cylindrical roller bearings of NNU49 version have three guide flanges on outer ring and smooth inner ring. Bearings can transfer radial load only. NNU4920 and NNU4924 type bearings are also supplied in tandems in compliance with technical conditions of TPF 11322. A pair coupled in this manner in location has the function of four-row cylindrical roller bearings, and suits location of rollers of rolling mills, levellers, etc. If you need tandem of different bearing dimensions, please contact the technical and consultancy services of Dunlop. Double row cylindrical roller bearings in NNU design can be supplied with cylindrical or tapered bore.

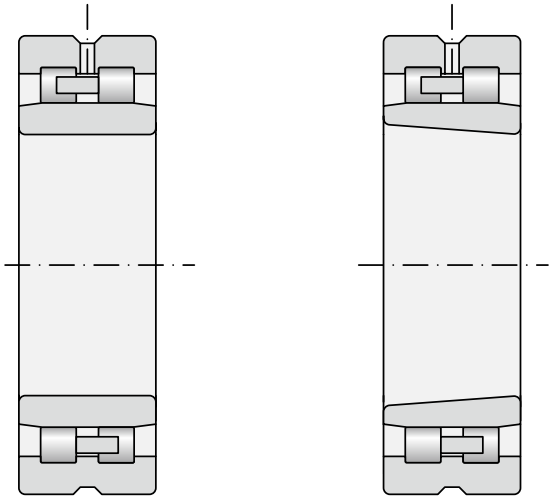


*Fig. 12.4.13 (a, b)*

## General information

### Main dimensions

The main dimensions of double row cylindrical roller bearing stated in the dimension tables comply with international dimensional plan ISO 15.

### Tolerances

Double row cylindrical roller bearings are usually made in normal accuracy level P0 which is not presented. Delivery of bearings in higher accuracy levels P6, P5 and P4 has to be consulted in advance with the supplier. Tapered bore cylindrical roller bearings are only produced in high accuracy levels P5 and P4. The limit values of bearing dimension and run accuracy deviations comply with the standard ISO 492 (see chapter 7).

### Radial clearance

Double row cylindrical roller bearings with cylindrical bore are made with normal radial clearance. Delivery of bearings with bigger clearance C3, C4 or C5, alternatively with smaller clearance C2, has to be consulted with the supplier. Values of radial clearances comply with the standard ISO 5753 and apply for bearings in non-assembled state. The values comply with the clearances of single row cylindrical roller bearings stated in chart 7.19.

Tapered bore cylindrical roller bearings are only produced with reduced radial clearance with mutually non--interchangeable rings C1NA and C2NA. The C1NA and C2NA symbols are combined with characters for the P5 and P4 accuracy level, e.g. P5 + C1NA is designated P51NA. Values of radial clearances comply with the standard ISO 5753 and are stated in chart 7.20.

### Sliding axial movement

Double row cylindrical roller bearings are to certain extent capable of alignment of the shaft axial displace-ment against the body without reducing the service life of the bearing, same as single row cylindrical roller bearings (fig. 12.4.11). The values of maximum axial slide "s" are stated in the table section.

### Misalignment

Misalignmnet of inner ring in double row cylindrical roller bearings with cylindrical bore against outer ring produces torque load in the bearing which leads to increased load and shortened service life of the bearing.

Cylindrical roller bearings with tapered bore are not suitable for applications in locations where mutual alig-nment of inner and outer bearing rings is not ensured.

### Running temperatures

As standard, rings of double row cylindrical roller bearings are made for operation to 120°C.

Upon request, roller bearings with stabilisation for operation to temperatures 200°C can be supplied. In other cases please contact the technical and consultancy services.

## Cages

Roller bearings are usually manufactured with massive brass cage guided on rolling elements which is usually not designated. Exception is NNU49 bearing with massive brass case M the design of which forms a part of the designation.

Special applications utilise massive steel cage guided on rolling elements; delivery of bearings with steel cages has to be discussed with the supplier.

## Lubrication groove and holes on outer ring

All sizes of double row cylindrical roller bearings can be supplied with a groove and lubrication holes on outer ring (W33). This design allows supply of lubricant directly in the bearing between two rows of rollers which will ensure better lubrication of bearings and higher service reliability.

### Minimum load

Minimum radial load recommended for double row Dunlop BTL cylindrical roller bearings is such that equals to 2% of the dynamic load bearing capacity of the bearing.

### Equivalent dynamic load of bearing

$$P = F_r$$

## Equivalent static load of bearing

$$P_0 = F_r$$

Additional designations

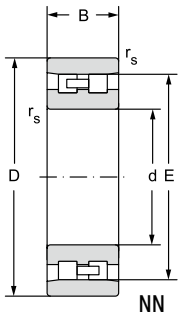
C1NA . . . Radial clearance of double row cylindrical roller bearings with tapered bore

C2NA . . . Radial clearance higher than C1NA of double row cylindrical roller bearings with tapered bore

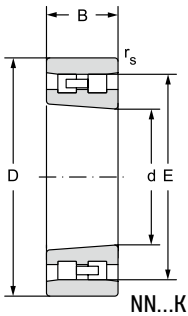
W33 . . . . Lubrication groove and holes on outer ring

# Double row cylindrical roller bearings d = 25 to 1000 mm

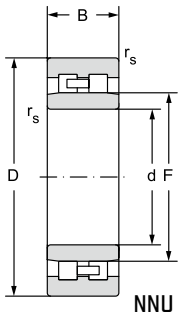
d = 25 to 90 mm



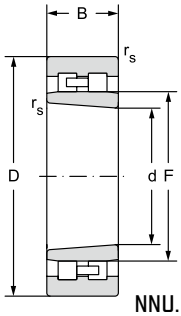

NN




NN...K



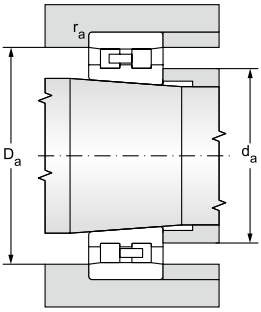

NNU




NNU...K

12.4.2

| Main dimensions | | | | | | | | Basic load rating | | Fatique load limit |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | dynamic | static | |
| d | D | B | $r_s$ | $r_{1s}$ | E | F | s[1)] | $C_r$ | $C_{or}$ | $P_u$ |
| | | | min | min | | | | | | |
| mm | | | | | | | | kN | | kN |
| 25 | 47 | 16 | 1,0 | 1,0 | 41,3 | | 1,0 | 21,5 | 23,8 | 2,90 |
| | 47 | 16 | 1,0 | 1,0 | 41,3 | | 1,0 | 21,5 | 23,8 | 2,90 |
| 30 | 55 | 19 | 1,0 | 1,0 | 48,5 | | 1,0 | 28,7 | 32,5 | 3,96 |
| | 55 | 19 | 1,0 | 1,0 | 48,5 | | 1,0 | 28,7 | 32,5 | 3,96 |
| 35 | 62 | 20 | 1,0 | 1,0 | 55,0 | | 1,0 | 36,9 | 43,8 | 5,34 |
| | 62 | 20 | 1,0 | 1,0 | 55,0 | | 1,0 | 36,9 | 43,8 | 5,34 |
| 40 | 68 | 21 | 1,0 | 1,0 | 61,0 | | 1,0 | 38,3 | 44,7 | 5,45 |
| | 68 | 21 | 1,0 | 1,0 | 61,0 | | 1,0 | 38,3 | 44,7 | 5,45 |
| 45 | 75 | 23 | 1,0 | 1,0 | 67,5 | | 1,0 | 44,7 | 53,1 | 6,48 |
| | 75 | 23 | 1,0 | 1,0 | 67,5 | | 1,0 | 44,7 | 53,1 | 6,48 |
| 50 | 80 | 23 | 1,0 | 1,0 | 72,5 | | 1,0 | 48,2 | 59,6 | 7,27 |
| | 80 | 23 | 1,0 | 1,0 | 72,5 | | 1,0 | 48,2 | 59,6 | 7,27 |
| 55 | 90 | 26 | 1,1 | 1,1 | 81,0 | | 1,2 | 64,3 | 81,0 | 9,88 |
| | 90 | 26 | 1,1 | 1,1 | 81,0 | | 1,2 | 64,3 | 81,0 | 9,88 |
| 60 | 95 | 26 | 1,1 | 1,1 | 86,1 | | 1,2 | 68,1 | 89,1 | 10,87 |
| | 95 | 26 | 1,1 | 1,1 | 86,1 | | 1,2 | 68,1 | 89,1 | 10,87 |
| 65 | 100 | 26 | 1,1 | 1,1 | 91,0 | | 1,2 | 70,8 | 98,1 | 11,96 |
| | 100 | 26 | 1,1 | 1,1 | 91,0 | | 1,2 | 70,8 | 98,1 | 11,96 |
| 70 | 110 | 30 | 1,1 | 1,1 | 100,0 | | 1,2 | 90,9 | 128,0 | 15,61 |
| | 110 | 30 | 1,1 | 1,1 | 100,0 | | 1,2 | 90,9 | 128,0 | 15,61 |
| 75 | 115 | 30 | 1,1 | 1,1 | 105,0 | | 1,2 | 90,9 | 128,0 | 15,61 |
| | 115 | 30 | 1,1 | 1,1 | 105,0 | | 1,2 | 90,9 | 128,0 | 15,61 |
| 80 | 125 | 34 | 1,1 | 1,1 | 113,0 | | 1,4 | 114,0 | 162,0 | 19,76 |
| | 125 | 34 | 1,1 | 1,1 | 113,0 | | 1,4 | 114,0 | 162,0 | 19,76 |
| 85 | 130 | 34 | 1,1 | 1,1 | 118,0 | | 1,4 | 119,0 | 178,0 | 21,71 |
| | 130 | 34 | 1,1 | 1,1 | 118,0 | | 1,4 | 119,0 | 178,0 | 21,71 |
| 90 | 140 | 37 | 1,5 | 1,5 | 127,0 | | 1,4 | 131,0 | 192,0 | 23,41 |
| | 140 | 37 | 1,5 | 1,5 | 127,0 | | 1,4 | 131,0 | 192,0 | 23,41 |

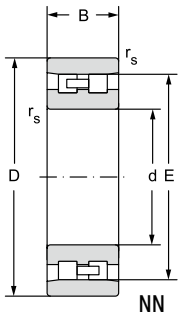



[1] Admissible axial movement

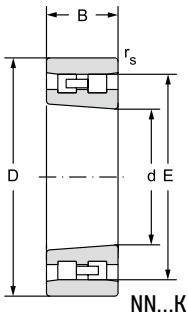
| Limiting speed for lubrication with | | Bearing designation | Abutment and fillet dimensions | | | | | | | Lubrication groove and holes | | Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| grease | oil | | d | $d_a$ | $d_a$ | $D_a$ | $D_a$ | $r_a$ | $r_{1a}$ | a | b | ~ |
| | | | | min | max | min | max | max | max | | | |
| $min^{-1}$ | | | mm | | | | | | | | | kg |
| 19000 | 22000 | **NN3005** | 25 | 29 | - | 42 | 43 | 1,0 | 1,0 | 3,2 | 4,8 | 0,12 |
| 19000 | 22000 | **NN3005K** | | 29 | - | 42 | 43 | 1,0 | 1,0 | 3,2 | 4,8 | 0,12 |
| 16000 | 18000 | **NN3006** | 30 | 35 | - | 49 | 50 | 1,0 | 1,0 | 3,2 | 4,8 | 0,19 |
| 16000 | 18000 | **NN3006K** | | 35 | - | 49 | 50 | 1,0 | 1,0 | 3,2 | 4,8 | 0,19 |
| 14000 | 16000 | **NN3007** | 35 | 40 | - | 56 | 57 | 1,0 | 1,0 | 3,2 | 4,8 | 0,25 |
| 14000 | 16000 | **NN3007K** | | 40 | - | 56 | 57 | 1,0 | 1,0 | 3,2 | 4,8 | 0,25 |
| 12600 | 14000 | **NN3008** | 40 | 45 | - | 62 | 63 | 1,0 | 1,0 | 3,2 | 4,8 | 0,30 |
| 12600 | 14000 | **NN3008K** | | 45 | - | 62 | 63 | 1,0 | 1,0 | 3,2 | 4,8 | 0,30 |
| 11000 | 12600 | **NN3009** | 45 | 50 | - | 69 | 70 | 1,0 | 1,0 | 3,2 | 4,8 | 0,38 |
| 11000 | 12600 | **NN3009K** | | 50 | - | 69 | 70 | 1,0 | 1,0 | 3,2 | 4,8 | 0,38 |
| 10600 | 12000 | **NN3010** | 50 | 55 | - | 74 | 75 | 1,0 | 1,0 | 3,2 | 4,8 | 0,42 |
| 10600 | 12000 | **NN3010K** | | 55 | - | 74 | 75 | 1,0 | 1,0 | 3,2 | 4,8 | 0,42 |
| 9400 | 11000 | **NN3011** | 55 | 62 | - | 82 | 84 | 1,0 | 1,0 | 3,2 | 4,8 | 0,62 |
| 9400 | 11000 | **NN3011K** | | 62 | - | 82 | 84 | 1,0 | 1,0 | 3,2 | 4,8 | 0,62 |
| 8900 | 10000 | **NN3012** | 60 | 67 | - | 87 | 88 | 1,0 | 1,0 | 3,2 | 4,8 | 0,66 |
| 8900 | 10000 | **NN3012K** | | 67 | - | 87 | 88 | 1,0 | 1,0 | 3,2 | 4,8 | 0,66 |
| 8400 | 9400 | **NN3013** | 65 | 72 | - | 92 | 93 | 1,0 | 1,0 | 3,2 | 4,8 | 0,71 |
| 8400 | 9400 | **NN3013K** | | 72 | - | 92 | 93 | 1,0 | 1,0 | 3,2 | 4,8 | 0,71 |
| 7500 | 8400 | **NN3014** | 70 | 77 | - | 102 | 103 | 1,0 | 1,0 | 3,2 | 6,5 | 1,00 |
| 7500 | 8400 | **NN3014K** | | 77 | - | 102 | 103 | 1,0 | 1,0 | 3,2 | 6,5 | 1,00 |
| 7100 | 7900 | **NN3015** | 75 | 82 | - | 107 | 108 | 1,0 | 1,0 | 3,2 | 6,5 | 1,10 |
| 7100 | 7900 | **NN3015K** | | 82 | - | 107 | 108 | 1,0 | 1,0 | 3,2 | 6,5 | 1,10 |
| 6700 | 7500 | **NN3016** | 80 | 87 | - | 115 | 118 | 1,0 | 1,0 | 3,2 | 6,5 | 1,50 |
| 6700 | 7500 | **NN3016K** | | 87 | - | 115 | 118 | 1,0 | 1,0 | 3,2 | 6,5 | 1,50 |
| 6300 | 7100 | **NN3017** | 85 | 92 | - | 120 | 123 | 1,0 | 1,0 | 3,2 | 6,5 | 1,60 |
| 6300 | 7100 | **NN3017K** | | 92 | - | 120 | 123 | 1,0 | 1,0 | 3,2 | 6,5 | 1,60 |
| 6000 | 6700 | **NN3018** | 90 | 98 | - | 129 | 132 | 1,5 | 1,5 | 3,2 | 6,5 | 2,00 |
| 6000 | 6700 | **NN3018K** | | 98 | - | 129 | 132 | 1,5 | 1,5 | 3,2 | 6,5 | 2,00 |

## Double row cylindrical roller bearings

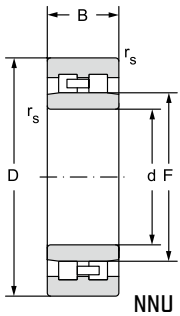
d = 95 to 160 mm



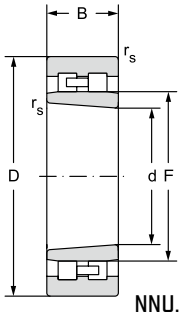

NN




NN...K



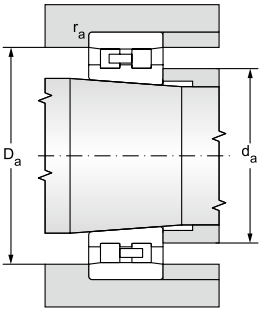

NNU




NNU...K

12.4.2

| Main dimensions | | | | | | | | Basic load rating | | Fatique load limit |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | dynamic | static | |
| d | D | B | $r_s$ | $r_{1s}$ | E | F | s[1)] | $C_r$ | $C_{or}$ | $P_u$ |
| | | | min | min | | | | | | |
| mm | | | | | | | | kN | | kN |
| 95 | 145 | 37 | 1,5 | 1,5 | 132,0 | | 1,4 | 139,0 | 207,0 | 25,24 |
| | 145 | 37 | 1,5 | 1,5 | 132,0 | | 1,4 | 139,0 | 207,0 | 25,24 |
| 100 | 140 | 40 | 1,1 | 1,1 | | 113,0 | 1,7 | 119,0 | 215,0 | 26,22 |
| | 140 | 40 | 1,1 | 1,1 | | 113,0 | 1,7 | 119,0 | 215,0 | 26,22 |
| | 150 | 37 | 1,5 | 1,5 | 137,0 | | 1,5 | 144,0 | 224,0 | 27,32 |
| | 150 | 37 | 1,5 | 1,5 | 137,0 | | 1,5 | 144,0 | 224,0 | 27,32 |
| 105 | 145 | 40 | 1,1 | 1,1 | | 117,0 | 1,7 | 161,0 | 315,0 | 23,70 |
| | 145 | 40 | 1,1 | 1,1 | | 117,0 | 1,7 | 161,0 | 315,0 | 23,70 |
| | 160 | 41 | 2,0 | 2,0 | 146,0 | | 1,5 | 188,0 | 282,0 | 20,85 |
| | 160 | 41 | 2,0 | 2,0 | 146,0 | | 1,5 | 188,0 | 282,0 | 20,85 |
| 110 | 150 | 40 | 1,1 | 1,1 | | 122,0 | 2,0 | 167,0 | 335,0 | 24,91 |
| | 150 | 40 | 1,1 | 1,1 | | 122,0 | 2,0 | 167,0 | 335,0 | 24,91 |
| | 170 | 45 | 2,0 | 2,0 | 155,0 | | 1,8 | 220,0 | 329,0 | 23,93 |
| | 170 | 45 | 2,0 | 2,0 | 155,0 | | 1,8 | 220,0 | 329,0 | 23,93 |
| 120 | 165 | 40 | 1,1 | 1,1 | | 134,5 | 2,2 | 168,0 | 304,0 | 21,99 |
| | 165 | 40 | 1,1 | 1,1 | | 134,5 | 2,2 | 168,0 | 304,0 | 21,99 |
| | 180 | 46 | 2,0 | 2,0 | 165,0 | | 2,1 | 228,0 | 355,0 | 25,29 |
| | 180 | 46 | 2,0 | 2,0 | 165,0 | | 2,1 | 228,0 | 355,0 | 25,29 |
| 130 | 180 | 50 | 1,5 | 1,5 | | 144,0 | 2,5 | 274,0 | 545,0 | 38,45 |
| | 180 | 50 | 1,5 | 1,5 | | 144,0 | 2,5 | 274,0 | 545,0 | 38,45 |
| | 200 | 52 | 2,0 | 2,0 | 182,0 | | 2,4 | 282,0 | 447,0 | 30,95 |
| | 200 | 52 | 2,0 | 2,0 | 182,0 | | 2,4 | 282,0 | 447,0 | 30,95 |
| 140 | 190 | 50 | 1,5 | 1,5 | | 154,0 | 2,7 | 283,0 | 585,0 | 40,50 |
| | 190 | 50 | 1,5 | 1,5 | | 154,0 | 2,7 | 283,0 | 585,0 | 40,50 |
| | 210 | 53 | 2,0 | 2,0 | 192,0 | | 2,8 | 299,0 | 482,0 | 32,79 |
| | 210 | 53 | 2,0 | 2,0 | 192,0 | | 2,8 | 299,0 | 482,0 | 32,79 |
| 150 | 210 | 60 | 2,0 | 2,0 | | 167,0 | 2,8 | 350,0 | 715,0 | 48,23 |
| | 210 | 60 | 2,0 | 2,0 | | 167,0 | 2,8 | 350,0 | 715,0 | 48,23 |
| | 225 | 56 | 2,1 | 2,1 | 206,0 | | 3,0 | 322,0 | 521,0 | 34,71 |
| | 225 | 56 | 2,1 | 2,1 | 206,0 | | 3,0 | 322,0 | 521,0 | 34,71 |
| 160 | 220 | 60 | 2,0 | 2,0 | | 177,0 | 3,3 | 365,0 | 760,0 | 50,44 |
| | 220 | 60 | 2,0 | 2,0 | | 177,0 | 3,3 | 365,0 | 760,0 | 50,44 |
| | 240 | 60 | 2,1 | 2,1 | 219,0 | | 3,5 | 375,0 | 660,0 | 43,13 |
| | 240 | 60 | 2,1 | 2,1 | 219,0 | | 3,5 | 375,0 | 660,0 | 43,13 |

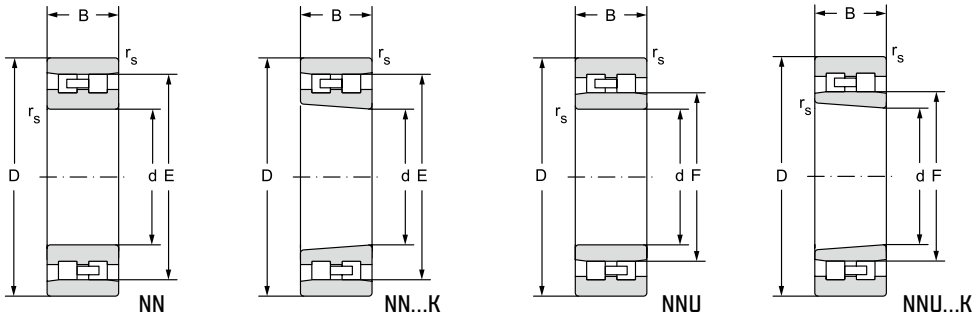



[1] Admissible axial movement

| Limiting speed for lubrication with | | Bearing designation | Abutment and fillet dimensions | | | | | | | Lubrication groove and holes | | Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| grease | oil | | d | $d_a$ | $d_a$ | $D_a$ | $D_a$ | $r_a$ | $r_{1a}$ | a | b | ~ |
| | | | | min | max | min | max | max | max | | | |
| $min^{-1}$ | | | mm | | | | | | | | | kg |
| 5600 | 6300 | **NN3019** | 95 | 103 | - | 134 | 137 | 1,5 | 1,5 | 3,2 | 6,5 | 2,10 |
| 5600 | 6300 | **NN3019K** | | 103 | - | 134 | 137 | 1,5 | 1,5 | 3,2 | 6,5 | 2,10 |
| | | | | | | | | | | | | |
| 3800 | 4700 | **NNU4920M** | 100 | 106 | 112 | - | 134 | 1,0 | 1,0 | 3,2 | 6,5 | 1,92 |
| 3800 | 4700 | **NNU4920KM** | | 106 | 112 | - | 134 | 1,0 | 1,0 | 3,2 | 6,5 | 1,92 |
| 5300 | 6000 | **NN3020** | | 108 | - | 139 | 142 | 1,5 | 1,5 | 3,2 | 6,5 | 2,20 |
| 5300 | 6000 | **NN3020K** | | 108 | - | 139 | 142 | 1,5 | 1,5 | 3,2 | 6,5 | 2,20 |
| | | | | | | | | | | | | |
| 3800 | 4800 | **NNU4921M** | 105 | 111,5 | 116 | - | 138,5 | 1,0 | 1,0 | 3,2 | 6,5 | 1,99 |
| 3800 | 4800 | **NNU4921KM** | | 111,5 | 116 | - | 138,5 | 1,0 | 1,0 | 3,2 | 6,5 | 1,99 |
| 5000 | 5600 | **NN3021** | | 114 | - | 148 | 151 | 2,0 | 2,0 | 3,2 | 6,5 | 2,80 |
| 5000 | 5600 | **NN3021K** | | 114 | - | 148 | 151 | 2,0 | 2,0 | 3,2 | 6,5 | 2,80 |
| | | | | | | | | | | | | |
| 3600 | 4500 | **NNU4922M** | 110 | 116,5 | 121 | - | 143,5 | 1,0 | 1,0 | 3,2 | 6,5 | 2,07 |
| 3600 | 4500 | **NNU4922KM** | | 116,5 | 121 | - | 143,5 | 1,0 | 1,0 | 3,2 | 6,5 | 2,07 |
| 4700 | 5300 | **NN3022** | | 119 | - | 157 | 161 | 2,0 | 2,0 | 3,2 | 6,5 | 3,55 |
| 4700 | 5300 | **NN3022K** | | 119 | - | 157 | 161 | 2,0 | 2,0 | 3,2 | 6,5 | 3,55 |
| | | | | | | | | | | | | |
| 3200 | 4000 | **NNU4924M** | 120 | 126 | 134 | - | 159 | 1,0 | 1,0 | 3,2 | 6,5 | 2,81 |
| 3200 | 4000 | **NNU4924KM** | | 126 | 134 | - | 159 | 1,0 | 1,0 | 3,2 | 6,5 | 2,81 |
| 4500 | 5000 | **NN3024** | | 129 | - | 167 | 171 | 2,0 | 2,0 | 3,2 | 6,5 | 3,85 |
| 4500 | 5000 | **NN3024K** | | 129 | - | 167 | 171 | 2,0 | 2,0 | 3,2 | 6,5 | 3,85 |
| | | | | | | | | | | | | |
| 3000 | 3800 | **NNU4926M** | 130 | 138 | 143 | - | 172 | 1,5 | 1,5 | 3,2 | 6,5 | 3,85 |
| 3000 | 3800 | **NNU4926KM** | | 138 | 143 | - | 172 | 1,5 | 1,5 | 3,2 | 6,5 | 3,85 |
| 4000 | 4500 | **NN3026** | | 139 | - | 184 | 191 | 2,0 | 2,0 | 4,8 | 9,5 | 5,75 |
| 4000 | 4500 | **NN3026K** | | 139 | - | 184 | 191 | 2,0 | 2,0 | 4,8 | 9,5 | 5,75 |
| | | | | | | | | | | | | |
| 2800 | 3600 | **NNU4928M** | 140 | 148 | 153 | - | 182 | 1,5 | 1,5 | 3,2 | 6,5 | 4,08 |
| 2800 | 3600 | **NNU4928KM** | | 148 | 153 | - | 182 | 1,5 | 1,5 | 3,2 | 6,5 | 4,08 |
| 3800 | 4200 | **NN3028** | | 150 | - | 194 | 200 | 2,0 | 2,0 | 4,8 | 9,5 | 6,20 |
| 3800 | 4200 | **NN3028K** | | 150 | - | 194 | 200 | 2,0 | 2,0 | 4,8 | 9,5 | 6,20 |
| | | | | | | | | | | | | |
| 2600 | 3200 | **NNU4930M** | 150 | 159 | 166 | - | 201 | 2,0 | 2,0 | 3,2 | 6,5 | 6,39 |
| 2600 | 3200 | **NNU4930KM** | | 159 | 166 | - | 201 | 2,0 | 2,0 | 3,2 | 6,5 | 6,39 |
| 3500 | 4000 | **NN3030** | | 162 | - | 208 | 213 | 2,0 | 2,0 | 4,8 | 9,5 | 7,50 |
| 3500 | 4000 | **NN3030K** | | 162 | - | 208 | 213 | 2,0 | 2,0 | 4,8 | 9,5 | 7,50 |
| | | | | | | | | | | | | |
| 2400 | 3000 | **NNU4932M** | 160 | 169 | 176 | - | 211 | 2,0 | 2,0 | 3,2 | 6,5 | 6,76 |
| 2400 | 3000 | **NNU4932KM** | | 169 | 176 | - | 211 | 2,0 | 2,0 | 3,2 | 6,5 | 6,76 |
| 2400 | 2800 | **NN3032** | | 171 | - | 222 | 229 | 2,0 | 2,0 | 4,8 | 9,5 | 9,41 |
| 2400 | 2800 | **NN3032K** | | 171 | - | 222 | 229 | 2,0 | 2,0 | 4,8 | 9,5 | 9,41 |

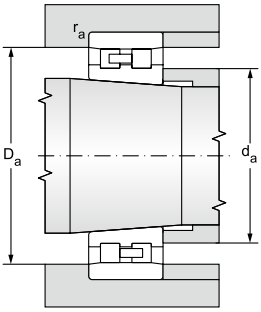
## Double row cylindrical roller bearings

d = 170 to 280 mm




12.4.2

| Main dimensions | | | | | | | | Basic load rating | | Fatique load limit |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | dynamic | static | |
| d | D | B | $r_s$ | $r_{1s}$ | E | F | s[1)] | $C_r$ | $C_{or}$ | $P_u$ |
| | | | min | min | | | | | | |
| mm | | | | | | | | kN | | kN |
| 170 | 230 | 60 | 2,0 | 2,0 | | 187,0 | 3,9 | 375,0 | 805,0 | 52,61 |
| | 230 | 60 | 2,0 | 2,0 | | 187,0 | 3,9 | 375,0 | 805,0 | 52,61 |
| | 260 | 67 | 2,1 | 2,1 | 236,0 | | 4,1 | 450,0 | 805,0 | 51,48 |
| | 260 | 67 | 2,1 | 2,1 | 236,0 | | 4,1 | 450,0 | 805,0 | 51,48 |
| 180 | 250 | 69 | 2,0 | 2,0 | | 200,0 | 4,5 | 480,0 | 1020,0 | 65,23 |
| | 250 | 69 | 2,0 | 2,0 | | 200,0 | 4,5 | 480,0 | 1020,0 | 65,23 |
| | 280 | 74 | 2,1 | 2,1 | 255,0 | | 4,5 | 565,0 | 995,0 | 62,36 |
| | 280 | 74 | 2,1 | 2,1 | 255,0 | | 4,5 | 565,0 | 995,0 | 62,36 |
| 190 | 260 | 69 | 2,0 | 2,0 | | 211,5 | 4,5 | 485,0 | 1060,0 | 66,87 |
| | 260 | 69 | 2,0 | 2,0 | | 211,5 | 4,5 | 485,0 | 1060,0 | 66,87 |
| | 290 | 75 | 2,1 | 2,1 | 265,0 | | 4,6 | 595,0 | 1080,0 | 66,82 |
| | 290 | 75 | 2,1 | 2,1 | 265,0 | | 4,6 | 595,0 | 1080,0 | 66,82 |
| 200 | 280 | 80 | 2,1 | 2,1 | | 223,0 | 5,0 | 570,0 | 1220,0 | 75,49 |
| | 280 | 80 | 2,1 | 2,1 | | 223,0 | 5,0 | 570,0 | 1220,0 | 75,49 |
| | 310 | 82 | 2,1 | 2,1 | 282,0 | | 5,2 | 655,0 | 1170,0 | 71,09 |
| | 310 | 82 | 2,1 | 2,1 | 282,0 | | 5,2 | 655,0 | 1170,0 | 71,09 |
| 220 | 300 | 60 | 3,5 | 3,5 | 278,0 | | 2,0 | 299,0 | 668,0 | 40,35 |
| | 300 | 80 | 2,1 | 2,1 | | 243,0 | 5,0 | 600,0 | 1330,0 | 80,34 |
| | 300 | 80 | 2,1 | 2,1 | | 243,0 | 5,0 | 600,0 | 1330,0 | 80,34 |
| | 340 | 90 | 3,0 | 3,0 | 310,0 | | 5,4 | 815,0 | 1480,0 | 87,43 |
| | 340 | 90 | 3,0 | 3,0 | 310,0 | | 5,4 | 815,0 | 1480,0 | 87,43 |
| 240 | 320 | 60 | 3,5 | 3,5 | 298,0 | | 2,0 | 316,0 | 750,0 | 44,31 |
| | 320 | 80 | 2,1 | 2,1 | | 263,0 | 5,4 | 625,0 | 1450,0 | 85,66 |
| | 320 | 80 | 2,1 | 2,1 | | 263,0 | 5,4 | 625,0 | 1450,0 | 85,66 |
| | 360 | 92 | 3,0 | 3,0 | 330,0 | | 5,7 | 855,0 | 1600,0 | 92,59 |
| | 360 | 92 | 3,0 | 3,0 | 330,0 | | 5,7 | 855,0 | 1600,0 | 92,59 |
| 260 | 360 | 100 | 2,1 | 2,1 | | 289,0 | 6,0 | 935,0 | 2100,0 | 120,33 |
| | 360 | 100 | 2,1 | 2,1 | | 289,0 | 6,0 | 935,0 | 2100,0 | 120,33 |
| | 400 | 104 | 4,0 | 4,0 | 364,0 | | 6,2 | 1030,0 | 1920,0 | 107,97 |
| | 400 | 104 | 4,0 | 4,0 | 364,0 | | 6,2 | 1030,0 | 1920,0 | 107,97 |
| 280 | 380 | 100 | 2,1 | 2,1 | | 309,0 | 6,0 | 960,0 | 2230,0 | 125,41 |
| | 380 | 100 | 2,1 | 2,1 | | 309,0 | 6,0 | 960,0 | 2230,0 | 125,41 |
| | 420 | 106 | 4,0 | 4,0 | 384,0 | | 6,7 | 1100,0 | 2000,0 | 110,50 |
| | 420 | 106 | 4,0 | 4,0 | 384,0 | | 6,7 | 1100,0 | 2000,0 | 110,50 |

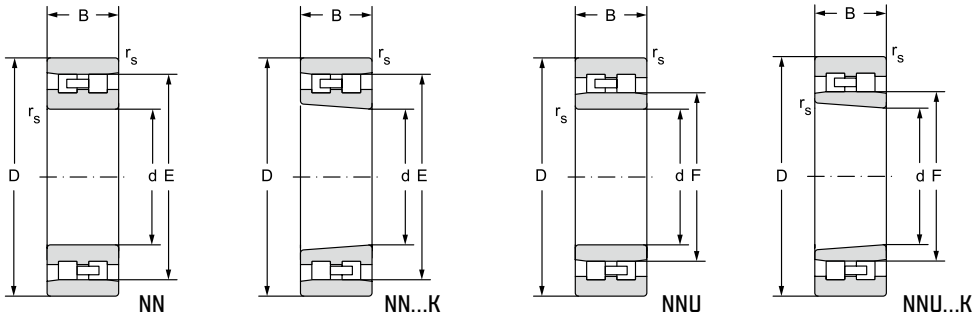



[1] Admissible axial movement

| Limiting speed for lubrication with | | Bearing designation | Abutment and fillet dimensions | | | | | | | Lubrication groove and holes | | Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| grease | oil | | d | $d_a$ | $d_a$ | $D_a$ | $D_a$ | $r_a$ | $r_{1a}$ | a | b | ~ |
| | | | | min | max | min | max | max | max | | | |
| $min^{-1}$ | | | mm | | | | | | | | | kg |
| 2400 | 2800 | **NNU4934M** | 170 | 179 | 186 | - | 221 | 2,0 | 2,0 | 3,2 | 6,5 | 7,12 |
| 2400 | 2800 | **NNU4934KM** | | 179 | 186 | - | 221 | 2,0 | 2,0 | 3,2 | 6,5 | 7,12 |
| 2200 | 2600 | **NN3034** | | 181 | - | 239 | 249 | 2,0 | 2,0 | 4,8 | 9,5 | 12,8 |
| 2200 | 2600 | **NN3034K** | | 181 | - | 239 | 249 | 2,0 | 2,0 | 4,8 | 9,5 | 12,8 |
| 2200 | 2600 | **NNU4936M** | 180 | 189 | 199 | - | 241 | 2,0 | 2,0 | 4,8 | 9,5 | 10,4 |
| 2200 | 2600 | **NNU4936KM** | | 189 | 199 | - | 241 | 2,0 | 2,0 | 4,8 | 9,5 | 10,4 |
| 2000 | 2400 | **NN3036** | | 191 | - | 258 | 269 | 2,0 | 2,0 | 6,0 | 11,1 | 16,8 |
| 2000 | 2400 | **NN3036K** | | 191 | - | 258 | 269 | 2,0 | 2,0 | 6,0 | 11,1 | 16,8 |
| 2000 | 2600 | **NNU4938M** | 190 | 199 | 211 | - | 251 | 2,0 | 2,0 | 4,8 | 9,5 | 10,9 |
| 2000 | 2600 | **NNU4938KM** | | 199 | 211 | - | 251 | 2,0 | 2,0 | 4,8 | 9,5 | 10,9 |
| 2000 | 2400 | **NN3038** | | 201 | - | 268 | 279 | 2,0 | 2,0 | 6,0 | 11,1 | 17,8 |
| 2000 | 2400 | **NN3038K** | | 201 | - | 268 | 279 | 2,0 | 2,0 | 6,0 | 11,1 | 17,8 |
| 1900 | 2400 | **NNU4940M** | 200 | 211 | 222 | - | 269 | 2,0 | 2,0 | 6,0 | 11,1 | 15,3 |
| 1900 | 2400 | **NNU4940KM** | | 211 | 222 | - | 269 | 2,0 | 2,0 | 6,0 | 11,1 | 15,3 |
| 1800 | 2200 | **NN3040** | | 211 | - | 285 | 299 | 2,0 | 2,0 | 6,0 | 11,1 | 22,7 |
| 1800 | 2200 | **NN3040K** | | 211 | - | 285 | 299 | 2,0 | 2,0 | 6,0 | 11,1 | 22,7 |
| 1800 | 2200 | **NN3944** | 220 | - | - | - | - | 4,0 | 4,0 | - | - | 12,0 |
| 1700 | 2200 | **NNU4944M** | | 231 | 242 | - | 289 | 2,0 | 2,0 | 6,0 | 11,1 | 16,6 |
| 1700 | 2200 | **NNU4944KM** | | 231 | 242 | - | 289 | 2,0 | 2,0 | 6,0 | 11,1 | 16,6 |
| 1700 | 2000 | **NN3044** | | 233 | - | 313 | 327 | 2,5 | 2,5 | 7,5 | 13,9 | 29,6 |
| 1700 | 2000 | **NN3044K** | | 233 | - | 313 | 327 | 2,5 | 2,5 | 7,5 | 13,9 | 29,6 |
| 1600 | 2000 | **NN3948** | 240 | - | - | - | - | 2,0 | 2,0 | - | - | 13,0 |
| 1600 | 2000 | **NNU4948M** | | 251 | 262 | - | 309 | 2,0 | 2,0 | 6,0 | 11,1 | 18,0 |
| 1600 | 2000 | **NNU4948KM** | | 251 | 262 | - | 309 | 2,0 | 2,0 | 6,0 | 11,1 | 18,0 |
| 1500 | 1800 | **NN3048** | | 253 | - | 334 | 347 | 2,5 | 2,5 | 7,5 | 13,9 | 32,7 |
| 1500 | 1800 | **NN3048K** | | 253 | - | 334 | 347 | 2,5 | 2,5 | 7,5 | 13,9 | 32,7 |
| 1400 | 1800 | **NNU4952M** | 260 | 271 | 288 | - | 349 | 2,0 | 2,0 | 7,5 | 13,9 | 31,1 |
| 1400 | 1800 | **NNU4952KM** | | 271 | 288 | - | 349 | 2,0 | 2,0 | 7,5 | 13,9 | 31,1 |
| 1400 | 1700 | **NN3052** | | 276 | - | 368 | 384 | 3,0 | 3,0 | 7,5 | 13,9 | 47,7 |
| 1400 | 1700 | **NN3052K** | | 276 | - | 368 | 384 | 3,0 | 3,0 | 7,5 | 13,9 | 47,7 |
| 1300 | 1700 | **NNU4956M** | 280 | 291 | 308 | - | 369 | 2,0 | 2,0 | 7,5 | 13,9 | 33,0 |
| 1300 | 1700 | **NNU4956KM** | | 291 | 308 | - | 369 | 2,0 | 2,0 | 7,5 | 13,9 | 33,0 |
| 1300 | 1600 | **NN3056** | | 298 | - | 388 | 402 | 3,0 | 3,0 | 7,5 | 13,9 | 49,6 |
| 1300 | 1600 | **NN3056K** | | 298 | - | 388 | 402 | 3,0 | 3,0 | 7,5 | 13,9 | 49,6 |

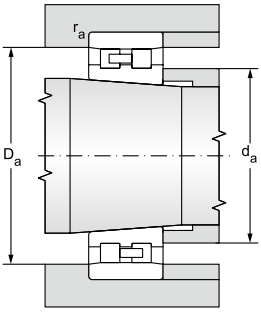
## Double row cylindrical roller bearings

d = 300 to 400 mm




12.4.2

| Main dimensions | | | | | | | | Basic load rating | | Fatique load limit |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | dynamic | static | |
| d | D | B | $r_s$ | $r_{1s}$ | E | F | s[1)] | $C_r$ | $C_{or}$ | $P_u$ |
| | | | min | min | | | | | | |
| mm | | | | | | | | kN | | kN |
| 300 | 420 | 118 | 3,0 | 3,0 | | 336,0 | 6,0 | 1230,0 | 2870,0 | 157,24 |
| | 420 | 118 | 3,0 | 3,0 | | 336,0 | 6,0 | 1230,0 | 2870,0 | 157,24 |
| | 460 | 118 | 4,0 | 4,0 | 418,0 | | 7,0 | 1290,0 | 2460,0 | 132,61 |
| | 460 | 118 | 4,0 | 4,0 | 418,0 | | 7,0 | 1290,0 | 2460,0 | 132,61 |
| 320 | 440 | 118 | 3,0 | 3,0 | | 356,0 | 7,0 | 1260,0 | 3050,0 | 164,41 |
| | 440 | 118 | 3,0 | 3,0 | | 356,0 | 7,0 | 1260,0 | 3050,0 | 164,41 |
| | 480 | 121 | 5,0 | 5,0 | 438,0 | | 8,0 | 1360,0 | 2510,0 | 133,24 |
| | 480 | 121 | 5,0 | 5,0 | 438,0 | | 8,0 | 1360,0 | 2510,0 | 133,24 |
| 340 | 460 | 118 | 3,0 | 3,0 | | 379,0 | 5,0 | 1050,0 | 2600,0 | 138,01 |
| | 460 | 118 | 3,0 | 3,0 | | 379,0 | 5,0 | 1050,0 | 2600,0 | 138,01 |
| | 520 | 133 | 6,0 | 6,0 | 473,0 | | 9,0 | 1680,0 | 3100,0 | 161,02 |
| | 520 | 133 | 6,0 | 6,0 | 473,0 | | 9,0 | 1680,0 | 3100,0 | 161,02 |
| | 580 | 243 | 5,0 | 5,0 | | 402,0 | 10,0 | 4000,0 | 7400,0 | 376,68 |
| | 580 | 243 | 5,0 | 5,0 | | 402,0 | 10,0 | 4000,0 | 7400,0 | 376,68 |
| 360 | 480 | 118 | 3,0 | 3,0 | | 399,0 | 5,0 | 1100,0 | 2700,0 | 141,24 |
| | 480 | 118 | 3,0 | 3,0 | | 399,0 | 5,0 | 1100,0 | 2700,0 | 141,24 |
| | 540 | 134 | 6,0 | 6,0 | 493,0 | | 9,0 | 1740,0 | 3350,0 | 171,65 |
| | 540 | 134 | 6,0 | 6,0 | 493,0 | | 9,0 | 1740,0 | 3350,0 | 171,65 |
| | 600 | 243 | 5,0 | 5,0 | | 422,0 | 5,9 | 4250,0 | 8300,0 | 417,13 |
| | 600 | 243 | 5,0 | 5,0 | | 422,0 | 5,9 | 4250,0 | 8300,0 | 417,13 |
| 380 | 520 | 140 | 4,0 | 4,0 | | 426,0 | 5,5 | 1350,0 | 3500,0 | 179,34 |
| | 520 | 140 | 4,0 | 4,0 | | 426,0 | 5,5 | 1350,0 | 3500,0 | 179,34 |
| | 560 | 180 | 5,0 | 5,0 | | 425,0 | 7,3 | 2800,0 | 5800,0 | 293,34 |
| | 560 | 180 | 5,0 | 5,0 | | 425,0 | 7,3 | 2800,0 | 5800,0 | 293,34 |
| | 620 | 243 | 5,0 | 5,0 | | 442,0 | 7,4 | 4200,0 | 8500,0 | 421,98 |
| | 620 | 243 | 5,0 | 5,0 | | 442,0 | 7,4 | 4200,0 | 8500,0 | 421,98 |
| 400 | 540 | 140 | 4,0 | 4,0 | | 446,0 | 5,5 | 1400,0 | 3650,0 | 184,60 |
| | 540 | 140 | 4,0 | 4,0 | | 446,0 | 5,5 | 1400,0 | 3650,0 | 184,60 |
| | 600 | 200 | 5,0 | 5,0 | | 449,0 | 7,9 | 3400,0 | 7100,0 | 352,48 |
| | 600 | 200 | 5,0 | 5,0 | | 449,0 | 7,9 | 3400,0 | 7100,0 | 352,48 |
| | 650 | 250 | 6,0 | 6,0 | | 463,0 | 7,5 | 4600,0 | 9500,0 | 464,78 |
| | 650 | 250 | 6,0 | 6,0 | | 463,0 | 7,5 | 4600,0 | 9500,0 | 464,78 |

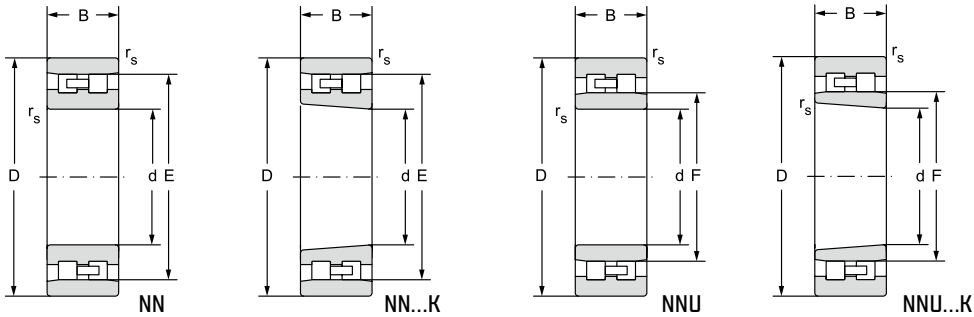



[1] Admissible axial movement
Bearings in the new standard NEW FORCE

| Limiting speed for lubrication with | | Bearing designation | Abutment and fillet dimensions | | | | | | | Lubrication groove and holes | | Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| grease | oil | | d | $d_a$ | $d_a$ | $D_a$ | $D_a$ | $r_a$ | $r_{1a}$ | a | b | ~ |
| | | | | min | max | min | max | max | max | | | |
| $min^{-1}$ | | | mm | | | | | | | | | kg |
| 1200 | 1500 | **NNU4960M** | 300 | 313 | 335 | - | 407 | 2,5 | 2,5 | 9,0 | 16,7 | 51,9 |
| 1200 | 1500 | **NNU4960KM** | | 313 | 335 | - | 407 | 2,5 | 2,5 | 9,0 | 16,7 | 51,9 |
| 1200 | 1400 | **NN3060** | | 316 | - | 422 | 444 | 3,0 | 3,0 | 9,0 | 16,7 | 70,7 |
| 1200 | 1400 | **NN3060K** | | 316 | - | 422 | 444 | 3,0 | 3,0 | 9,0 | 16,7 | 70,7 |
| | | | | | | | | | | | | |
| 1100 | 1400 | **NNU4964M** | 320 | 333 | 355 | - | 427 | 2,5 | 2,5 | 9,0 | 16,7 | 54,9 |
| 1100 | 1400 | **NNU4964KM** | | 333 | 355 | - | 427 | 2,5 | 2,5 | 9,0 | 16,7 | 54,9 |
| 1200 | 1400 | **NN3064** | | 338 | - | 442 | 462 | 3,0 | 3,0 | 9,0 | 16,7 | 74,2 |
| 1200 | 1400 | **NN3064K** | | 338 | - | 442 | 462 | 3,0 | 3,0 | 9,0 | 16,7 | 74,2 |
| | | | | | | | | | | | | |
| 1500 | 1800 | **NNU4968M** | 340 | 352 | 378 | - | 448 | 2,5 | 2,5 | 9,0 | 16,7 | 55,6 |
| 1500 | 1800 | **NNU4968KM** | | 352 | 378 | - | 448 | 2,5 | 2,5 | 9,0 | 16,7 | 55,6 |
| 1100 | 1300 | **NN3068** | | 362 | - | 477 | 498 | 4,0 | 4,0 | 9,0 | 16,7 | 99,0 |
| 1100 | 1300 | **NN3068K** | | 362 | - | 477 | 498 | 4,0 | 4,0 | 9,0 | 16,7 | 99,0 |
| 800 | 950 | **NNU4168M** | | 360 | 392 | - | 560 | 4,0 | 4,0 | 9,0 | 16,7 | 260 |
| 800 | 950 | **NNU4168KM** | | 360 | 392 | - | 560 | 4,0 | 4,0 | 9,0 | 16,7 | 260 |
| | | | | | | | | | | | | |
| 1500 | 1800 | **NNU4972M** | 360 | 372 | 398 | - | 468 | 2,5 | 2,5 | 9,0 | 16,7 | 57,5 |
| 1500 | 1800 | **NNU4972KM** | | 372 | 398 | - | 468 | 2,5 | 2,5 | 9,0 | 16,7 | 57,5 |
| 1000 | 1200 | **NN3072** | | 382 | - | 497 | 518 | 4,0 | 4,0 | 9,0 | 16,7 | 105 |
| 1000 | 1200 | **NN3072K** | | 382 | - | 497 | 518 | 4,0 | 4,0 | 9,0 | 16,7 | 105 |
| 750 | 900 | **NNU4172M** | | 380 | 414 | - | 580 | 4,0 | 4,0 | 9,0 | 16,7 | 275 |
| 750 | 900 | **NNU4172KM** | | 380 | 414 | - | 580 | 4,0 | 4,0 | 9,0 | 16,7 | 275 |
| | | | | | | | | | | | | |
| 1400 | 1700 | **NNU4976M** | 380 | 395 | 425 | - | 505 | 3,0 | 3,0 | 9,0 | 16,7 | 86,0 |
| 1400 | 1700 | **NNU4976KM** | | 395 | 425 | - | 505 | 3,0 | 3,0 | 9,0 | 16,7 | 86,0 |
| 850 | 1000 | **NNU4076M** | | 400 | 417 | - | 540 | 4,0 | 4,0 | 9,0 | 16,7 | 150 |
| 850 | 1000 | **NNU4076KM** | | 400 | 417 | - | 540 | 4,0 | 4,0 | 9,0 | 16,7 | 150 |
| 720 | 850 | **NNU4176M** | | 400 | 434 | - | 600 | 4,0 | 4,0 | 9,0 | 16,7 | 285 |
| 720 | 850 | **NNU4176KM** | | 400 | 434 | - | 600 | 4,0 | 4,0 | 9,0 | 16,7 | 285 |
| | | | | | | | | | | | | |
| 1300 | 1600 | **NNU4980M**** | 400 | 415 | 445 | - | 525 | 3,0 | 3,0 | 9,0 | 16,7 | 91,0 |
| 1300 | 1600 | **NNU4980KM**** | | 415 | 445 | - | 525 | 3,0 | 3,0 | 9,0 | 16,7 | 91,0 |
| 800 | 950 | **NNU4080M**** | | 420 | 440 | - | 580 | 4,0 | 4,0 | 9,0 | 16,7 | 205 |
| 800 | 950 | **NNU4080KM**** | | 420 | 440 | - | 580 | 4,0 | 4,0 | 9,0 | 16,7 | 205 |
| 680 | 800 | **NNU4180M**** | | 426 | 456 | - | 624 | 5,0 | 5,0 | 9,0 | 16,7 | 325 |
| 680 | 800 | **NNU4180KM**** | | 426 | 456 | - | 624 | 5,0 | 5,0 | 9,0 | 16,7 | 325 |

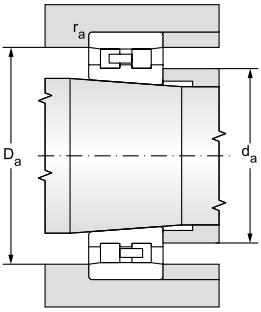
## Double row cylindrical roller bearings

d = 420 to 530 mm




12.4.2

| Main dimensions | | | | | | | | Basic load rating | | Fatique load limit |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | dynamic | static | |
| d | D | B | $r_s$ | $r_{1s}$ | E | F | s[1)] | $C_r$ | $C_{or}$ | $P_u$ |
| | | | min | min | | | | | | |
| mm | | | | | | | | kN | | kN |
| 420 | 560 | 140 | 4,0 | 4,0 | | 466,0 | 5,5 | 1460,0 | 3800,0 | 189,80 |
| | 560 | 140 | 4,0 | 4,0 | | 466,0 | 5,5 | 1460,0 | 3800,0 | 189,80 |
| | 620 | 200 | 5,0 | 5,0 | | 469,0 | 7,8 | 3500,0 | 7500,0 | 367,98 |
| | 620 | 200 | 5,0 | 5,0 | | 469,0 | 7,8 | 3500,0 | 7500,0 | 367,98 |
| | 700 | 280 | 6,0 | 6,0 | | 497,0 | 12,2 | 5300,0 | 11300,0 | 542,24 |
| | 700 | 280 | 6,0 | 6,0 | | 497,0 | 12,2 | 5300,0 | 11300,0 | 542,24 |
| | | | | | | | | | | |
| 440 | 600 | 160 | 4,0 | 4,0 | | 490,0 | 5,8 | 1950,0 | 5000,0 | 245,32 |
| | 600 | 160 | 4,0 | 4,0 | | 490,0 | 5,8 | 1950,0 | 5000,0 | 245,32 |
| | 650 | 157 | 8,0 | 8,0 | 596,0 | | 13,0 | 2460,0 | 4920,0 | 238,02 |
| | 650 | 157 | 8,0 | 8,0 | 596,0 | | 13,0 | 2460,0 | 4920,0 | 238,02 |
| | 650 | 212 | 6,0 | 6,0 | | 487,0 | 9,6 | 3800,0 | 8200,0 | 396,70 |
| | 650 | 212 | 6,0 | 6,0 | | 487,0 | 9,6 | 3800,0 | 8200,0 | 396,70 |
| | 720 | 280 | 6,0 | 6,0 | | 511,0 | 10,8 | 5600,0 | 11800,0 | 560,30 |
| | 720 | 280 | 6,0 | 6,0 | | 511,0 | 10,8 | 5600,0 | 11800,0 | 560,30 |
| | | | | | | | | | | |
| 460 | 620 | 160 | 4,0 | 4,0 | | 510,0 | 5,8 | 2000,0 | 5350,0 | 259,54 |
| | 620 | 160 | 4,0 | 4,0 | | 510,0 | 5,8 | 2000,0 | 5350,0 | 259,54 |
| | 680 | 218 | 6,0 | 6,0 | | 513,0 | 7,7 | 4100,0 | 9300,0 | 443,90 |
| | 680 | 218 | 6,0 | 6,0 | | 513,0 | 7,7 | 4100,0 | 9300,0 | 443,90 |
| | 760 | 300 | 7,5 | 7,5 | | 537,0 | 12,8 | 6200,0 | 12300,0 | 575,27 |
| | 760 | 300 | 7,5 | 7,5 | | 537,0 | 12,8 | 6200,0 | 12300,0 | 575,27 |
| | | | | | | | | | | |
| 480 | 650 | 170 | 5,0 | 5,0 | | 534,0 | 6,0 | 2200,0 | 6000,0 | 287,15 |
| | 650 | 170 | 5,0 | 5,0 | | 534,0 | 6,0 | 2200,0 | 6000,0 | 287,15 |
| | 700 | 218 | 6,0 | 6,0 | | 533,0 | 7,5 | 4200,0 | 9600,0 | 453,51 |
| | 700 | 218 | 6,0 | 6,0 | | 533,0 | 7,5 | 4200,0 | 9600,0 | 453,51 |
| | 790 | 308 | 7,5 | 7,5 | | 557,0 | 12,0 | 6500,0 | 12700,0 | 586,87 |
| | 790 | 308 | 7,5 | 7,5 | | 557,0 | 12,0 | 6500,0 | 12700,0 | 586,87 |
| | | | | | | | | | | |
| 500 | 670 | 170 | 5,0 | 5,0 | | 554,0 | 6,0 | 2200,0 | 6000,0 | 284,17 |
| | 670 | 170 | 5,0 | 5,0 | | 554,0 | 6,0 | 2200,0 | 6000,0 | 284,17 |
| | 720 | 218 | 6,0 | 6,0 | | 553,0 | 7,5 | 4300,0 | 9800,0 | 458,35 |
| | 720 | 218 | 6,0 | 6,0 | | 553,0 | 7,5 | 4300,0 | 9800,0 | 458,35 |
| | 830 | 325 | 7,5 | 7,5 | | 582,0 | 14,0 | 7200,0 | 14500,0 | 660,83 |
| | 830 | 325 | 7,5 | 7,5 | | 582,0 | 14,0 | 7200,0 | 14500,0 | 660,83 |
| | | | | | | | | | | |
| 530 | 780 | 250 | 6,0 | 6,0 | | 591,0 | 10,0 | 5200,0 | 11900,0 | 544,81 |
| | 780 | 250 | 6,0 | 6,0 | | 591,0 | 10,0 | 5200,0 | 11900,0 | 544,81 |
| | 870 | 335 | 7,5 | 7,5 | | 618,0 | 17,0 | 7500,0 | 15500,0 | 695,62 |
| | 870 | 335 | 7,5 | 7,5 | | 618,0 | 17,0 | 7500,0 | 15500,0 | 695,62 |

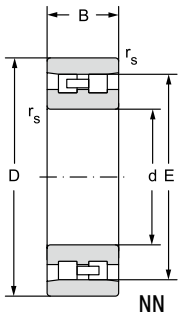



[1] Admissible axial movement
Bearings in the new standard NEW FORCE

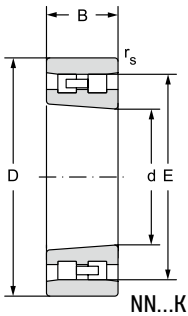
| Limiting speed for lubrication with | | Bearing designation | Abutment and fillet dimensions | | | | | | | Lubrication groove and holes | | Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| grease | oil | | d | $d_a$ | $d_a$ | $D_a$ | $D_a$ | $r_a$ | $r_{1a}$ | a | b | ~ |
| | | | | min | max | min | max | max | max | | | |
| $min^{-1}$ | | | mm | | | | | | | | | kg |
| 1300 | 1600 | **NNU4984M**** | 420 | 435 | 465 | - | 545 | 3,0 | 3,0 | 9,0 | 16,7 | 94,0 |
| 1300 | 1600 | **NNU4984KM**** | | 435 | 465 | - | 545 | 3,0 | 3,0 | 9,0 | 16,7 | 94,0 |
| 750 | 900 | **NNU4084M**** | | 440 | 460 | - | 600 | 4,0 | 4,0 | 9,0 | 16,7 | 185 |
| 750 | 900 | **NNU4084KM**** | | 440 | 460 | - | 600 | 4,0 | 4,0 | 9,0 | 16,7 | 185 |
| 630 | 750 | **NNU4184M**** | | 446 | 480 | - | 674 | 5,0 | 5,0 | 9,0 | 16,7 | 440 |
| 630 | 750 | **NNU4184KM**** | | 446 | 480 | - | 674 | 5,0 | 5,0 | 9,0 | 16,7 | 440 |
| | | | | | | | | | | | | |
| 1200 | 1500 | **NNU4988M**** | 440 | 455 | 489 | - | 585 | 3,0 | 3,0 | 9,0 | 16,7 | 131 |
| 1200 | 1500 | **NNU4988KM**** | | 455 | 489 | - | 585 | 3,0 | 3,0 | 9,0 | 16,7 | 131 |
| 750 | 890 | **NN3088**** | | 468 | - | 602 | 622 | 5,0 | 5,0 | 12,0 | 22,3 | 169 |
| 750 | 890 | **NN3088K**** | | 468 | - | 602 | 622 | 5,0 | 5,0 | 12,0 | 22,3 | 169 |
| 720 | 850 | **NNU4088M**** | | 466 | 477 | - | 624 | 5,0 | 5,0 | 9,0 | 16,7 | 215 |
| 720 | 850 | **NNU4088KM**** | | 466 | 477 | - | 624 | 5,0 | 5,0 | 9,0 | 16,7 | 215 |
| 590 | 700 | **NNU4188M**** | | 466 | 500 | - | 694 | 5,0 | 5,0 | 12,0 | 22,3 | 450 |
| 590 | 700 | **NNU4188KM**** | | 466 | 500 | - | 694 | 5,0 | 5,0 | 12,0 | 22,3 | 450 |
| | | | | | | | | | | | | |
| 1100 | 1400 | **NNU4992M**** | 460 | 475 | 509 | - | 605 | 3,0 | 3,0 | 9,0 | 16,7 | 134 |
| 1100 | 1400 | **NNU4992KM**** | | 475 | 509 | - | 605 | 3,0 | 3,0 | 9,0 | 16,7 | 134 |
| 680 | 800 | **NNU4092M**** | | 486 | 503 | - | 654 | 5,0 | 5,0 | 12,0 | 22,3 | 240 |
| 680 | 800 | **NNU4092KM**** | | 486 | 503 | - | 654 | 5,0 | 5,0 | 12,0 | 22,3 | 240 |
| 570 | 670 | **NNU4192M**** | | 493 | 526 | - | 727 | 6,0 | 6,0 | 12,0 | 22,3 | 535 |
| 570 | 670 | **NNU4192KM**** | | 493 | 526 | - | 727 | 6,0 | 6,0 | 12,0 | 22,3 | 535 |
| | | | | | | | | | | | | |
| 1100 | 1400 | **NNU4996M**** | 480 | 497 | 533 | - | 633 | 4,0 | 4,0 | 9,0 | 16,7 | 160 |
| 1100 | 1400 | **NNU4996KM**** | | 497 | 533 | - | 633 | 4,0 | 4,0 | 9,0 | 16,7 | 160 |
| 630 | 750 | **NNU4096M**** | | 506 | 523 | - | 674 | 5,0 | 5,0 | 12,0 | 22,3 | 275 |
| 630 | 750 | **NNU4096KM**** | | 506 | 523 | - | 674 | 5,0 | 5,0 | 12,0 | 22,3 | 275 |
| 530 | 630 | **NNU4196M**** | | 513 | 545 | - | 757 | 6,0 | 6,0 | 12,0 | 22,3 | 590 |
| 530 | 630 | **NNU4196KM**** | | 513 | 545 | - | 757 | 6,0 | 6,0 | 12,0 | 22,3 | 590 |
| | | | | | | | | | | | | |
| 1000 | 1300 | **NNU49/500M**** | 500 | 517 | 553 | - | 653 | 4,0 | 4,0 | 9,0 | 16,7 | 162 |
| 1000 | 1300 | **NNU49/500M**** | | 517 | 553 | - | 653 | 4,0 | 4,0 | 9,0 | 16,7 | 162 |
| 630 | 750 | **NNU40/500M**** | | 526 | 543 | - | 694 | 5,0 | 5,0 | 12,0 | 22,3 | 285 |
| 630 | 750 | **NNU40/500KM**** | | 526 | 543 | - | 694 | 5,0 | 5,0 | 12,0 | 22,3 | 285 |
| 510 | 600 | **NNU41/500M**** | | 533 | 568 | - | 797 | 6,0 | 6,0 | 12,0 | 22,3 | 710 |
| 510 | 600 | **NNU41/500KM**** | | 533 | 568 | - | 797 | 6,0 | 6,0 | 12,0 | 22,3 | 710 |
| | | | | | | | | | | | | |
| 570 | 670 | **NNU40/530M**** | 530 | 556 | 580 | - | 754 | 5,0 | 5,0 | 12,0 | 22,3 | 420 |
| 570 | 670 | **NNU40/530KM**** | | 556 | 580 | - | 754 | 5,0 | 5,0 | 12,0 | 22,3 | 420 |
| 470 | 560 | **NNU41/530M**** | | 563 | 604 | - | 837 | 6,0 | 6,0 | 12,0 | 22,3 | 790 |
| 470 | 560 | **NNU41/530KM**** | | 563 | 604 | - | 837 | 6,0 | 6,0 | 12,0 | 22,3 | 790 |

## Double row cylindrical roller bearings

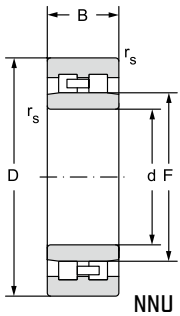
d = 560 to 850 mm



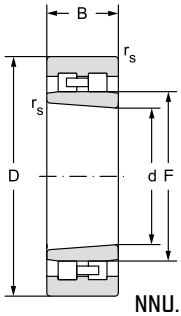

NN




NN...K



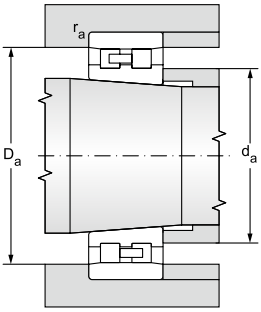

NNU




NNU...K

12.4.2

| Main dimensions | | | | | | | | Basic load rating | | Fatique load limit |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | dynamic | static | |
| d | D | B | $r_s$ | $r_{1s}$ | E | F | s[1)] | $C_r$ | $C_{or}$ | $P_u$ |
| | | | min | min | | | | | | |
| mm | | | | | | | | kN | | kN |
| 560 | 820 | 258 | 6,0 | 6,0 | | 626,0 | 12,5 | 5600,0 | 12500,0 | 563,41 |
| | 820 | 258 | 6,0 | 6,0 | | 626,0 | 12,5 | 5600,0 | 12500,0 | 563,41 |
| | 920 | 355 | 7,5 | 7,5 | | 653,0 | 16,5 | 8500,0 | 18000,0 | 794,46 |
| | 920 | 355 | 7,5 | 7,5 | | 653,0 | 16,5 | 8500,0 | 18000,0 | 794,46 |
| 600 | 870 | 272 | 6,0 | 6,0 | | 664,0 | 9,2 | 6400,0 | 15100,0 | 667,82 |
| | 870 | 272 | 6,0 | 6,0 | | 664,0 | 9,2 | 6400,0 | 15100,0 | 667,82 |
| | 980 | 375 | 7,5 | 7,5 | | 699,0 | 18,0 | 9500,0 | 20500,0 | 887,23 |
| | 980 | 375 | 7,5 | 7,5 | | 699,0 | 18,0 | 9500,0 | 20500,0 | 887,23 |
| 630 | 850 | 218 | 8,0 | 8,0 | | 704,0 | 5,0 | 3910,0 | 10200,0 | 450,19 |
| | 850 | 218 | 8,0 | 8,0 | | 704,0 | 5,0 | 3910,0 | 10200,0 | 450,19 |
| | 920 | 290 | 7,5 | 7,5 | | 699,0 | 10,0 | 7400,0 | 17200,0 | 748,70 |
| | 920 | 290 | 7,5 | 7,5 | | 699,0 | 10,0 | 7400,0 | 17200,0 | 748,70 |
| | 1030 | 400 | 7,5 | 7,5 | | 734,0 | 19,5 | 10400,0 | 23300,0 | 993,57 |
| | 1030 | 400 | 7,5 | 7,5 | | 734,0 | 19,5 | 10400,0 | 23300,0 | 993,57 |
| 670 | 980 | 308 | 7,5 | 7,5 | | 744,0 | 11,5 | 8100,0 | 19100,0 | 815,95 |
| | 980 | 308 | 7,5 | 7,5 | | 744,0 | 11,5 | 8100,0 | 19100,0 | 815,95 |
| | 1090 | 412 | 7,5 | 7,5 | | 774,0 | 19,0 | 11900,0 | 25000,0 | 1 047,52 |
| | 1090 | 412 | 7,5 | 7,5 | | 774,0 | 19,0 | 11900,0 | 25000,0 | 1 047,52 |
| 710 | 1030 | 315 | 7,5 | 7,5 | | 784,0 | 10,5 | 9000,0 | 21000,0 | 882,94 |
| | 1030 | 315 | 7,5 | 7,5 | | 784,0 | 10,5 | 9000,0 | 21000,0 | 882,94 |
| | 1150 | 438 | 9,5 | 9,5 | | 820,0 | 20,0 | 13000,0 | 28000,0 | 1 153,93 |
| | 1150 | 438 | 9,5 | 9,5 | | 820,0 | 20,0 | 13000,0 | 28000,0 | 1 153,93 |
| 750 | 1090 | 335 | 7,5 | 7,5 | | 830,0 | 13,5 | 9900,0 | 23500,0 | 971,63 |
| | 1090 | 335 | 7,5 | 7,5 | | 830,0 | 13,5 | 9900,0 | 23500,0 | 971,63 |
| | 1220 | 475 | 9,5 | 9,5 | | 871,0 | 19,0 | 15500,0 | 34900,0 | 1 413,72 |
| | 1220 | 475 | 9,5 | 9,5 | | 871,0 | 19,0 | 15500,0 | 34900,0 | 1 413,72 |
| 800 | 1150 | 345 | 7,5 | 7,5 | | 885,0 | 16,0 | 10300,0 | 25500,0 | 1 036,11 |
| | 1150 | 345 | 7,5 | 7,5 | | 885,0 | 16,0 | 10300,0 | 25500,0 | 1 036,11 |
| | 1280 | 475 | 9,5 | 9,5 | | 921,0 | 18,5 | 15900,0 | 36000,0 | 1 434,70 |
| | 1280 | 475 | 9,5 | 9,5 | | 921,0 | 18,5 | 15900,0 | 36000,0 | 1 434,70 |
| 850 | 1220 | 365 | 7,5 | 7,5 | | 940,0 | 18,0 | 11200,0 | 28000,0 | 1 117,49 |
| | 1220 | 365 | 7,5 | 7,5 | | 940,0 | 18,0 | 11200,0 | 28000,0 | 1 117,49 |
| | 1360 | 500 | 12,0 | 6,0 | | 976,0 | 21,5 | 19000,0 | 44000,0 | 1 721,92 |
| | 1360 | 500 | 12,0 | 12,0 | | 976,0 | 21,5 | 19000,0 | 44000,0 | 1 721,92 |

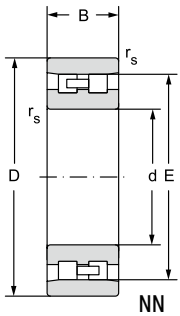



[1] Admissible axial movement
Bearings in the new standard NEW FORCE

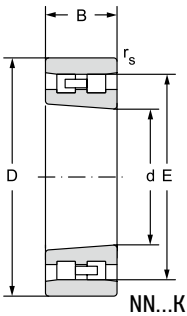
| Limiting speed for lubrication with | | Bearing designation | Abutment and fillet dimensions | | | | | | | Lubrication groove and holes | | Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| grease | oil | | d | $d_a$ | $d_a$ | $D_a$ | $D_a$ | $r_a$ | $r_{1a}$ | a | b | ~ |
| | | | | min | max | min | max | max | max | | | |
| $min^{-1}$ | | | mm | | | | | | | | | kg |
| 530 | 630 | **NNU40/560M**** | 560 | 586 | 615 | - | 794 | 5,0 | 5,0 | 12,0 | 22,3 | 475 |
| 530 | 630 | **NNU40/560KM**** | | 586 | 615 | - | 794 | 5,0 | 5,0 | 12,0 | 22,3 | 475 |
| 450 | 530 | **NNU41/560M**** | | 593 | 638 | - | 887 | 6,0 | 6,0 | 12,0 | 22,3 | 930 |
| 450 | 530 | **NNU41/560KM**** | | 593 | 638 | - | 887 | 6,0 | 6,0 | 12,0 | 22,3 | 930 |
| 510 | 600 | **NNU40/600M**** | 600 | 626 | 653 | - | 844 | 5,0 | 5,0 | 12,0 | 22,3 | 530 |
| 510 | 600 | **NNU40/600KM**** | | 626 | 653 | - | 844 | 5,0 | 5,0 | 12,0 | 22,3 | 530 |
| 400 | 480 | **NNU41/600M**** | | 634 | 682 | - | 946 | 6,0 | 6,0 | 12,0 | 22,3 | 1100 |
| 400 | 480 | **NNU41/600KM**** | | 634 | 682 | - | 946 | 6,0 | 6,0 | 12,0 | 22,3 | 1100 |
| 470 | 600 | **NNU49/630M**** | 630 | 664 | 694 | - | 818 | 6,0 | 6,0 | 12,0 | 22,3 | 363 |
| 470 | 600 | **NNU49/630KM**** | | 664 | 694 | - | 818 | 6,0 | 6,0 | 12,0 | 22,3 | 363 |
| 470 | 560 | **NNU40/630M**** | | 664 | 688 | - | 886 | 6,0 | 6,0 | 12,0 | 22,3 | 635 |
| 470 | 560 | **NNU40/630KM**** | | 664 | 688 | - | 886 | 6,0 | 6,0 | 12,0 | 22,3 | 635 |
| 380 | 450 | **NNU41/630M**** | | 664 | 716 | - | 996 | 6,0 | 6,0 | 12,0 | 22,3 | 1330 |
| 380 | 450 | **NNU41/630KM**** | | 664 | 716 | - | 996 | 6,0 | 6,0 | 12,0 | 22,3 | 1330 |
| 420 | 500 | **NNU40/670M**** | 670 | 704 | 733 | - | 946 | 6,0 | 6,0 | 12,0 | 22,3 | 765 |
| 420 | 500 | **NNU40/670KM**** | | 704 | 733 | - | 946 | 6,0 | 6,0 | 12,0 | 22,3 | 765 |
| 360 | 430 | **NNU41/670M**** | | 704 | 756 | - | 1056 | 6,0 | 6,0 | 12,0 | 22,3 | 1500 |
| 360 | 430 | **NNU41/670KM**** | | 704 | 756 | - | 1056 | 6,0 | 6,0 | 12,0 | 22,3 | 1500 |
| 400 | 480 | **NNU40/710M**** | 710 | 744 | 772 | - | 996 | 6,0 | 6,0 | 12,0 | 22,3 | 850 |
| 400 | 480 | **NNU40/710KM**** | | 744 | 772 | - | 996 | 6,0 | 6,0 | 12,0 | 22,3 | 850 |
| 320 | 380 | **NNU41/710M**** | | 750 | 800 | - | 1110 | 8,0 | 8,0 | 12,0 | 22,3 | 1790 |
| 320 | 380 | **NNU41/710KM**** | | 750 | 800 | - | 1110 | 8,0 | 8,0 | 12,0 | 22,3 | 1790 |
| 360 | 430 | **NNU40/750M**** | 750 | 784 | 816 | - | 1056 | 6,0 | 6,0 | 12,0 | 22,3 | 930 |
| 360 | 430 | **NNU40/750KM**** | | 784 | 816 | - | 1056 | 6,0 | 6,0 | 12,0 | 22,3 | 930 |
| 320 | 380 | **NNU41/750M**** | | 790 | 850 | - | 1180 | 8,0 | 8,0 | 12,0 | 22,3 | 2230 |
| 320 | 380 | **NNU41/750KM**** | | 790 | 850 | - | 1180 | 8,0 | 8,0 | 12,0 | 22,3 | 2230 |
| 340 | 400 | **NNU40/800M**** | 800 | 833 | 871 | - | 1117 | 6,0 | 6,0 | 12,0 | 22,3 | 1140 |
| 340 | 400 | **NNU40/800KM**** | | 833 | 871 | - | 1117 | 6,0 | 6,0 | 12,0 | 22,3 | 1140 |
| 270 | 320 | **NNU41/800M**** | | 840 | 900 | - | 1240 | 8,0 | 8,0 | 12,0 | 22,3 | 2390 |
| 270 | 320 | **NNU41/800KM**** | | 840 | 900 | - | 1240 | 8,0 | 8,0 | 12,0 | 22,3 | 2390 |
| 300 | 360 | **NNU40/850M**** | 850 | 883 | 923 | - | 1187 | 6,0 | 6,0 | 12,0 | 22,3 | 1340 |
| 300 | 360 | **NNU40/850KM**** | | 883 | 923 | - | 1187 | 6,0 | 6,0 | 12,0 | 22,3 | 1340 |
| 250 | 300 | **NNU41/850M**** | | 897 | 935 | - | 1334 | 10,0 | 5,0 | 12,0 | 22,3 | 2900 |
| 250 | 300 | **NNU41/850KM**** | | 897 | 935 | - | 1334 | 10,0 | 10,0 | 12,0 | 22,3 | 2900 |

## Double row cylindrical roller bearings

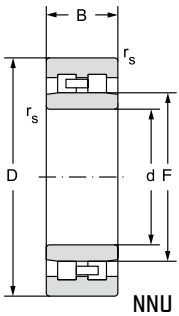
d = 900 to 1000 mm



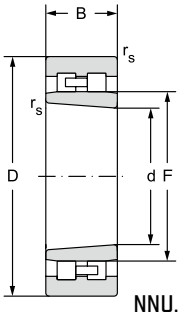

NN




NN...K



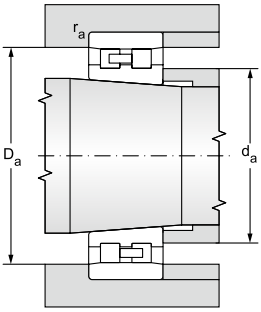

NNU




NNU...K

12.4.2

| Main dimensions | | | | | | | | Basic load rating | | Fatique load limit |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | dynamic | static | |
| d | D | B | $r_s$ | $r_{1s}$ | E | F | s[1)] | $C_r$ | $C_{or}$ | $P_u$ |
| | | | min | min | | | | | | |
| mm | | | | | | | | kN | | kN |
| 900 | 1280 | 375 | 7,5 | 7,5 | | 990,0 | 17,0 | 12000,0 | 30800,0 | 1 210,29 |
| | 1280 | 375 | 7,5 | 7,5 | | 990,0 | 17,0 | 12000,0 | 30800,0 | 1 210,29 |
| | 1420 | 515 | 12,0 | 6,0 | | 1032,0 | 27,5 | 21400,0 | 47000,0 | 1 812,71 |
| | 1420 | 515 | 12,0 | 12,0 | | 1032,0 | 27,5 | 21400,0 | 47000,0 | 1 812,71 |
| | | | | | | | | | | |
| 950 | 1360 | 412 | 7,5 | 7,5 | | 1050,0 | 20,0 | 13700,0 | 34800,0 | 1 343,92 |
| | 1360 | 412 | 7,5 | 7,5 | | 1050,0 | 20,0 | 13700,0 | 34800,0 | 1 343,92 |
| | 1500 | 545 | 12,0 | 6,0 | | 1092,0 | 22,5 | 24800,0 | 56000,0 | 2 124,79 |
| | 1500 | 545 | 12,0 | 12,0 | | 1092,0 | 22,5 | 24800,0 | 56000,0 | 2 124,79 |
| | | | | | | | | | | |
| 1000 | 1320 | 315 | 7,5 | 7,5 | 1238,0 | | 9,5 | 8200,0 | 25000,0 | 964,21 |
| | 1320 | 315 | 7,5 | 7,5 | 1238,0 | | 9,5 | 8200,0 | 25000,0 | 964,21 |
| | 1420 | 412 | 7,5 | 7,5 | | 1101,0 | 19,5 | 15000,0 | 37100,0 | 1 412,88 |
| | 1420 | 412 | 7,5 | 7,5 | | 1101,0 | 19,5 | 15000,0 | 37100,0 | 1 412,88 |
| | 1580 | 580 | 12,0 | 6,0 | | 1154,0 | 28,0 | 26900,0 | 60800,0 | 2 271,41 |
| | 1580 | 580 | 12,0 | 12,0 | | 1154,0 | 28,0 | 26900,0 | 60800,0 | 2 271,41 |




[1] Admissible axial movement
Bearings in the new standard NEW FORCE

| Limiting speed for lubrication with | | Bearing designation | Abutment and fillet dimensions | | | | | | | Lubrication groove and holes | | Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| grease | oil | | d | $d_a$ | $d_a$ | $D_a$ | $D_a$ | $r_a$ | $r_{1a}$ | a | b | ~ |
| | | | | min | max | min | max | max | max | | | |
| $min^{-1}$ | | | mm | | | | | | | | | kg |
| 280 | 340 | **NNU40/900M**** | 900 | 933 | 963 | - | 1257 | 6,0 | 6,0 | 12,0 | 22,3 | 1500 |
| 280 | 340 | **NNU40/900KM**** | | 933 | 963 | - | 1257 | 6,0 | 6,0 | 12,0 | 22,3 | 1500 |
| 230 | 280 | **NNU41/900M**** | | 947 | 1008 | - | 1394 | 10,0 | 5,0 | 12,0 | 22,3 | 3180 |
| 230 | 280 | **NNU41/900KM**** | | 947 | 1008 | - | 1394 | 10,0 | 10,0 | 12,0 | 22,3 | 3180 |
| | | | | | | | | | | | | |
| 270 | 320 | **NNU40/950M**** | 950 | 983 | 1033 | - | 1327 | 6,0 | 6,0 | 12,0 | 22,3 | 1900 |
| 270 | 320 | **NNU40/950KM**** | | 983 | 1033 | - | 1327 | 6,0 | 6,0 | 12,0 | 22,3 | 1900 |
| 220 | 260 | **NNU41/950M**** | | 997 | 1068 | - | 1474 | 10,0 | 5,0 | 12,0 | 22,3 | 3830 |
| 220 | 260 | **NNU41/950KM**** | | 997 | 1068 | - | 1474 | 10,0 | 10,0 | 12,0 | 22,3 | 3830 |
| | | | | | | | | | | | | |
| 280 | 340 | **NN49/1000M**** | 1000 | 1033 | - | 1249 | 1287 | 6,0 | 6,0 | 12,0 | 22,3 | 1200 |
| 280 | 340 | **NN49/1000KM**** | | 1033 | - | 1249 | 1287 | 6,0 | 6,0 | 12,0 | 22,3 | 1200 |
| 250 | 300 | **NNU40/1000M**** | | 1033 | 1084 | - | 1387 | 6,0 | 6,0 | 12,0 | 22,3 | 2000 |
| 250 | 300 | **NNU40/1000KM**** | | 1033 | 1084 | - | 1387 | 6,0 | 6,0 | 12,0 | 22,3 | 2000 |
| 200 | 240 | **NNU41/1000M**** | | 1047 | 1128 | - | 1474 | 10,0 | 5,0 | 12,0 | 22,3 | 4270 |
| 200 | 240 | **NNU41/1000KM**** | | 1047 | 1128 | - | 1474 | 10,0 | 10,0 | 12,0 | 22,3 | 4270 |

# SINGLE ROW FULL COMPLEMENT CYLINDRICAL ROLLER BEARINGS

## Design

Single row full complement cylindrical roller bearings suit locations with high radial load and lower revolution frequencies, comparing to roller bearings with cage. Full complement cylindrical roller bearings have the highest possible number of rollers, and are cageless; they are manufactured in two versions.

## NSF design

Inner bearing ring has guide flanges on both sides; the outer ring has one guide flange (fig. 12.4.14). NSF design bearing is axially guiding in one direction; in one direction the bearing captures axial load whilst in other direction it allows axial displacement of shaft against the body. Outer ring is on the side without guide flange provided with snap ring that ensures components in assembled state. The NSF design complies with SKF bearings in NCF version, and with FAG bearings in SL1818, SL1829, SL1830 and SL1822 version.

## NJB design

Outer bearing ring has guide flanges on both sides; the inner ring has one guide flange (fig. 12.4.15). NJB design bearing is axially guiding in one direction; in one direction the bearing captures axial load whilst in other direction it allows axial displacement of shaft against body. NJB bearing is a separable type bearing; when inner ring is dismantled, rollers are held together by outer ring which is given by optimum adjustment of the outer ring raceway diameter, diameter and number of rollers. NJB bearing is in the heavy dimension series 23. The NJB design complies with SKF bearings in NJG design, and with FAG bearings in SL1923 design.

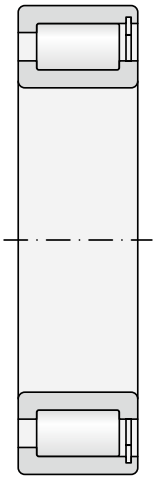


*Fig. 12.4.14*

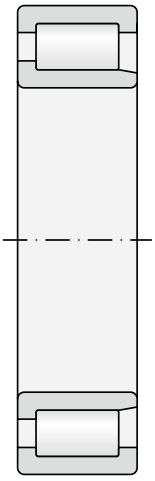


*Fig. 12.4.15*

# General information

## Main dimensions

The main dimensions of single row full complement cylindrical roller bearings stated in the dimension tables comply with international dimensional plan ISO 15.

## Tolerances

Single row full complement cylindrical roller bearings are usually made in normal accuracy level P0 which is not presented. The limit values of bearing dimension and run accuracy deviations comply with the standard ISO 492.

## Radial clearance

Single row full complement cylindrical roller are usually made with normal radial clearance that is not desig-nated on the bearing. Bearings are made also with increased radial clearance C3; the availability must be consulted with the supplier. Values of radial clearances comply with the standard ISO 5753 and apply for bearings in non-assembled state (see Tab. 7.19).

## Misalignment

The same conditions as for usual single row roller bearings with cage apply to misalignment of single row full complement cylindrical roller bearings. (See the chapter Single row roller bearings.)

## Service temperatures

Rings of single row full complement cylindrical roller bearings are usually made with dimension stabilisation "S0"; service temperature of these bearings is therefore within 150 °C. Upon request, roller bearings with "S1" dimension stabilisation for operation at temperatures up to 200 °C can be supplied.

## Minimum load

Minimum radial load recommended for single row full complement cylindrical roller bearings is such that equals to 4 % of the basic dynamic load bearing capacity of the bearing.

## Axial dynamic load rating

Single row full complement cylindrical roller bearings can besides radial load transfer also single direction axial load. In usual service conditions when the temperature difference between the bearing and ambient area does not exceed 60 °C at specific heat passage of 0.5 $mWmm^{-2}\,°C^{-1}$, at minimum value of viscosity rate 2, the maximum admissible axial load can be calculated with sufficient accuracy from the below equation:

### for lubrication with oil

$$F_{a\,max} = \frac{C_{or} \cdot 10^4}{n\,(d + D)} - 0.3\,F_r \qquad [kN]$$

for lubrication with grease

$$F_{a\,max} = \frac{0.5\ C_{or} \cdot 10^4}{n\ (d + D)} - 0.15\ F_r \qquad [kN]$$

$F_{a\,max}$ . . . . maximum admissible axial load [kN]

$C_{or}$ . . . . . basic radial static load rating [kN]

$F_r$ . . . . . radial load of bearings [kN]

n . . . . . rotational frequency [$min^{-1}$]

d . . . . . bearing bore diameter [mm]

D . . . . . outer diameter of bearing [mm]

The $F_{a\,max}$ values calculated according to the above stated equations apply on condition of acting of constant axial force. In case of interrupted load or impact load the admissible axial load can grow by two or three times towards the calculated value. At acting axial load roller bearings operate reliably only if the bearings are loaded radially at the same time. The relation $F_a/F_r \leqslant 0.5$ has to be maintained.

## Equivalent dynamic load of bearing

Axially guiding bearings are capable of transferring both radial and axial load; the following applies to these bearings:

$$P = F_r \qquad \text{for } F_a/F_r \leqslant e$$

$$P = 0.92\ F_r + Y\ F_a \qquad \text{for } F_a/F_r > e$$

where the arithmetic coefficient e . . . . . = 0.2 for bearings of series 18

. . . . . = 0.3 for bearings of other series 22, 23, 28, 29 and 30

and axial load coefficient Y . . . . . = 0.6 for bearings of series 18

. . . . . = 0.4 for bearings of other series 22, 23, 28, 29 and 30

## Equivalent static load of bearing

$$P_0 = F_r$$

### Additional designations

**CV** . . . . . modified internal designation, full complement

**V** . . . . . full complement (without cage)

**VH** . . . . . full complement, rolling elements form non-separable unit with at least one ring

## DOUBLE ROW FULL COMPLEMENT CYLINDRICAL ROLLER BEARINGS

### Design

Double row full complement cylindrical roller bearings transfer big radial loads but at lower rpm than usual bearings with cage. These bearings have as many rolling elements as possible, and are in cageless version. Dunlop manufacture these bearings in three versions that are non-separable and uncovered.

### NNSL design

Inner bearing ring has three guide flanges; outer bearing ring does not have any flange; outer ring is provided with snap ring located between the rollers which secures components in assembled state (fig. 12.4.16). NNSL bearing version is axially free; it allows axial displacement of shaft against body. The NNSL design complies with SKF bearings in NNCL version, and with FAG bearings in SL0248 and SL0249 version.

### NNSF design

Inner bearing ring has three guide flanges; outer bearing ring has one guide flange and snap ring on the other side which secures components in assembled state (fig. 12.4.17). NNSF bearing is axially guiding in one direction; it can capture axial load on the guide flange side. The NNSF design complies with SKF bearings in NNCF version, and with FAG bearings in SL1850 version.

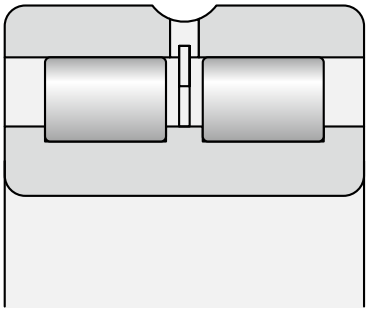


*Fig. 12.4.16*

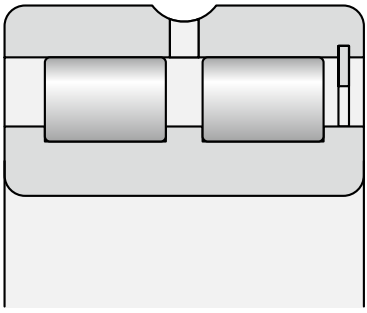


*Fig. 12.4.17*

## NNS design

Inner bearing ring has three guide flanges; outer bearing ring is split and has two guide flanges; outer ring is connected with snap rings that should not be axially stressed. NNS bearing version is axially guiding in both directions. The NNS design complies with SKF bearings in NNC version, and with FAG bearings in SL0148 a SL0149 version.

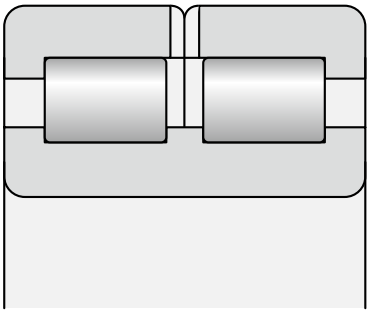


*Fig. 12.4.18*

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## General information

### Main dimensions

Main dimensions of double row full complement cylindrical roller bearings stated in the dimensional tables comply with the international dimensional plan ISO 15.

### Tolerances

Double row full complement cylindrical roller bearings are usually made in normal accuracy level P0 which is not presented. Bearings can be also made in increased accuracy class P6; the availability of these bearings must be consulted with the supplier. The limit values of bearing dimension and run accuracy deviations comply with the standard ISO 492.

### Radial clearance

Single row full complement cylindrical roller bearings are usually made with normal radial clearance that is not designated on the bearing. Bearings are made also with increased radial clearance C3 and reduced radial clearance C2; the availability must be consulted with the supplier. Values of radial clearances comply with the standard ISO 5753 and apply for bearings in non-assembled state (see Tab. 7.19).

## Axial clearance

NNC bearing version that is axially guided in both directions must have certain axial clearance that ranges within 0.1 to 0.2 mm for all bearing sizes.

## Sliding axial movement

Double row full complement cylindrical roller bearings in NNSL and NNSF version are to certain extent capable of alignment of the shaft axial displacement against the body without reducing the service life of the bearing. The values of maximum axial slide "s" (fig. 12.4.19) are stated in the table section.

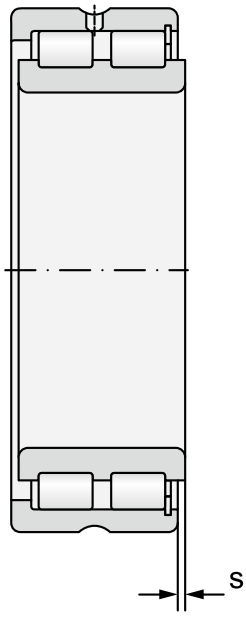



*Fig. 12.4.19*

## Misalignment

Misalignment of inner ring in double row full complement cylindrical roller bearings against outer ring pro-duces torque load in the bearing which leads to increased load and shortened service life of the bearing.

## Running temperatures

Rings of double row full complement cylindrical roller bearings are usually made with dimension stabilisation "S0"; service temperature of these bearings is therefore within 150 °C.

Upon request, roller bearings with "S1" dimension stabilisation for operation at temperatures up to 200 °C can be supplied.

## Lubrication groove and bores on outer ring

All sizes of double row full complement cylindrical roller bearings are manufactured with a slot and lubrication bores on outer ring (W33). This design allows supply of lubricant directly in the bearing between two rows of rollers which will ensure better lubrication of bearings and higher service reliability.

## Minimum load

Minimum radial load recommended for double row full complement cylindrical roller bearings is such that equals to 4 % of the basic dynamic load bearing capacity of the bearing.

## Axial dynamic load capacity

Double row full complement cylindrical roller bearings can besides radial load transfer also axial load in one direction. In usual service conditions when the temperature difference between the bearing and ambient area does not exceed 60 °C at specific heat passage of 0.5 $mWmm^{-2}\,°C^{-1}$, at minimum value of viscosity rate 2, the maximum admissible axial load can be calculated with sufficient accuracy from the below equation:

### for lubrication with oil

$$F_{a\,max} = \frac{0.35\ C_{or} \cdot 10^4}{n\ (d + D)} - 0.1\ F_r \qquad [kN]$$

### for lubrication with grease

$$F_{a\,max} = \frac{0.2\ C_{or} \cdot 10^4}{n\ (d + D)} - 0.06\ F_r \qquad [kN]$$

$F_{a\,max}$ . . . . maximum admissible axial load [kN]

$C_{or}$ . . . . . basic radial static load rating [kN]

$F_r$ . . . . . radial load of bearings [kN]

n . . . . . rotational frequency [$min^{-1}$]

d . . . . . bearing bore diameter [mm]

D . . . . . outer diameter of bearing [mm]

The $F_{a\,max}$ values calculated according to the above stated equations apply on condition of acting of constant axial force. In case of interrupted load or impact load the admissible axial load can grow by two or three times towards the calculated value.

At acting axial load cylindrical roller bearings operate reliably only if the bearings are loaded radially at the same time. The relation $F_a/F_r \leq 0.25$ has to be maintained.

## Equivalent dynamic load of bearing

Axially free NNSL type bearings are capable of transferring radial load only; the following applies to these bearings:

$$P = F_r$$

Axially guiding bearings in NNCF and NNC version are capable of transferring both radial and axial load; the following applies to these bearings:

$$P = F_r \qquad \text{for } F_a/F_r \leq e$$

$$P = 0.92\ F_r + Y\ F_a \qquad \text{for } F_a/F_r > e$$

where the arithmetic coefficient e = 0.15 for double row full complement bearing

and axial load coefficient Y = 0.4 for double row full complement bearing

## Equivalent static load of bearing

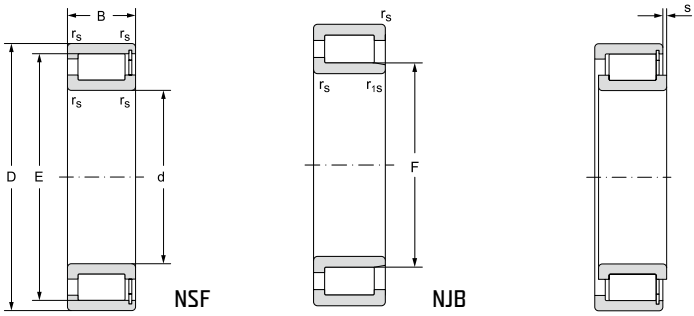
$$P_0 = F_r$$

## Additional designations

**CV** . . . . . modified internal design, full complement

**V** . . . . . full complement (without cage)

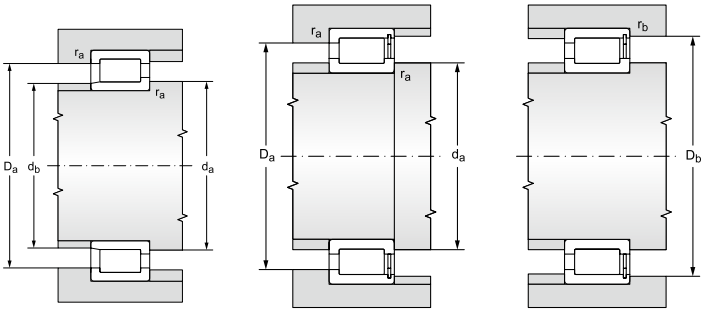
# Single row full complement cylindrical roller bearings d = 20 to 1000 mm




12.4.3

| Main dimensions | | | | | | | | Bearing designation | Basic load rating | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | dynamic | static |
| d | D | B | $r_s$ | $r_{1s}$ | F | E | s[1)] | | $C_r$ | $C_{or}$ |
| | | | min | min | | | | | | |
| mm | | | | | | | | | kN | |
| 20 | 42 | 16,00 | 0,6 | 0,6 | | 36,80 | 1,5 | **NSF3004CV** | 26,0 | 28,0 |
| 25 | 47 | 16,00 | 0,6 | 0,6 | | 42,50 | 1,5 | **NSF3005CV** | 30,0 | 34,0 |
| | 62 | 24,00 | 1,1 | | 31,74 | | 1,7 | **NJB2305VH** | 64,0 | 65,0 |
| 30 | 55 | 19,00 | 1,0 | 1,0 | | 49,60 | 2,0 | **NSF3006CV** | 37,0 | 41,0 |
| | 72 | 27,00 | 1,1 | | 38,36 | | 1,8 | **NJB2306VH** | 80,0 | 82,0 |
| 35 | 62 | 20,00 | 1,0 | 1,0 | | 55,50 | 2,0 | **NSF3007CV** | 46,0 | 53,0 |
| | 80 | 31,00 | 1,5 | | 44,75 | | 2,0 | **NJB2307VH** | 103,0 | 108,0 |
| 40 | 68 | 21,00 | 1,0 | 1,0 | | 61,70 | 2,0 | **NSF3008CV** | 53,0 | 65,0 |
| | 90 | 33,00 | 1,5 | | 51,15 | | 2,4 | **NJB2308VH** | 138,0 | 149,0 |
| 45 | 75 | 23,00 | 1,0 | 1,0 | | 66,90 | 2,0 | **NSF3009CV** | 55,0 | 71,0 |
| | 100 | 36,00 | 1,5 | | 56,14 | | 2,4 | **NJB2309VH** | 167,0 | 188,0 |
| 50 | 80 | 23,00 | 1,0 | 1,0 | | 72,30 | 2,0 | **NSF3010CV** | 70,0 | 93,0 |
| 55 | 90 | 26,00 | 1,1 | 1,1 | | 83,50 | 2,0 | **NSF3011CV** | 100,0 | 136,0 |
| | 120 | 43,00 | 2,0 | | 67,14 | | 2,6 | **NJB2311VH** | 225,0 | 250,0 |
| 60 | 85 | 16,00 | 1,0 | 1,0 | | 78,65 | 1,0 | **NSF2912CV** | 51,0 | 75,0 |
| | 95 | 26,00 | 1,1 | 1,1 | | 86,70 | 1,6 | **NSF3012CV** | 101,0 | 137,0 |
| 65 | 90 | 16,00 | 1,0 | 1,0 | | 85,35 | 1,0 | **NSF2913CV** | 54,0 | 82,0 |
| | 100 | 26,00 | 1,1 | 1,1 | | 93,10 | 2,0 | **NSF3013CV** | 106,0 | 155,0 |
| | 140 | 48,00 | 2,1 | | 80,71 | | 3,0 | **NJB2313VH** | 291,0 | 345,0 |
| 70 | 100 | 19,00 | 1,0 | 1,0 | | 92,50 | 1,0 | **NSF2914CV** | 72,0 | 108,0 |
| | 110 | 30,00 | 1,1 | 1,1 | | 100,30 | 3,0 | **NSF3014CV** | 119,0 | 164,0 |
| | 150 | 51,00 | 2,1 | | 84,22 | | 3,0 | **NJB2314VH** | 324,0 | 389,0 |
| 75 | 105 | 19,00 | 1,0 | 1,0 | | 97,60 | 1,0 | **NSF2915CV** | 73,0 | 112,0 |
| | 115 | 30,00 | 1,1 | 1,1 | | 107,90 | 3,0 | **NSF3015CV** | 124,0 | 181,0 |
| | 160 | 55,00 | 2,1 | | 91,24 | | 3,0 | **NJB2315VH** | 379,0 | 463,0 |
| 80 | 110 | 19,00 | 1,0 | 1,0 | | 102,70 | 1,0 | **NSF2916CV** | 76,0 | 123,0 |
| | 125 | 34,00 | 1,1 | 1,1 | | 117,00 | 4,0 | **NSF3016CV** | 151,0 | 219,0 |
| | 170 | 58,00 | 2,1 | | 98,26 | | 4,0 | **NJB2316VH** | 437,0 | 552,0 |

## d = 20 to 80 mm

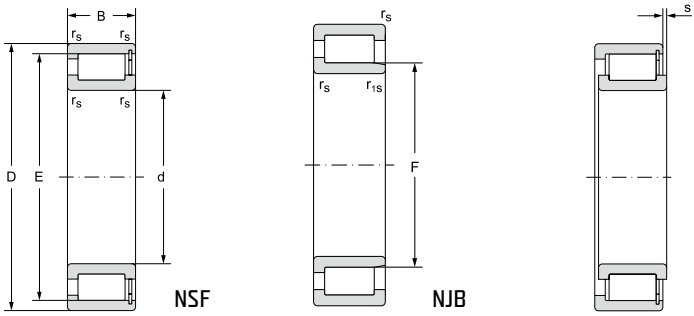



1) Admissible axial movement
2) Recommended diameter of fitting for axially loaded bearings

| Fatique load limit | Limiting speed for lubrication with | | Abutment and fillet dimensions | | | | | | | | Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|
| $P_u$ | grease | oil | d | $d_a$ | $d_{as}$ 2) | $d_b$ | $D_a$ | $D_b$ | $r_a$ | $r_b$ | ~ |
| | | | | min | | max | max | max | max | max | |
| kN | min-1 | | mm | | | | | | | | kg |
| 3,41 | 6900 | 8200 | 20 | 24 | 26,9 | - | 38 | 40 | 0,6 | 0,6 | 0,11 |
| 4,15 | 5700 | 6800 | 25 | 29 | 32,3 | - | 43 | 45 | 0,6 | 0,6 | 0,12 |
| 7,93 | 3600 | 4300 | | 32 | 33,9 | 30,0 | 55 | - | 1,0 | | 0,38 |
| 5,00 | 4800 | 5700 | 30 | 35 | 37,8 | - | 50 | 52 | 1,0 | 1,0 | 0,20 |
| 10,00 | 3315 | 3900 | | 37 | 40,8 | 36,0 | 65 | - | 1,0 | | 0,56 |
| 6,46 | 4300 | 5100 | 35 | 40 | 42,8 | - | 57 | 59 | 1,0 | 1,0 | 0,26 |
| 13,17 | 2800 | 3300 | | 44 | 47,6 | 42,0 | 71 | - | 1,5 | | 0,75 |
| 7,93 | 3900 | 4600 | 40 | 45 | 47,9 | - | 63 | 65 | 1,0 | 1,0 | 0,31 |
| 18,17 | 2400 | 2900 | | 49 | 54,4 | 49,0 | 81 | - | 1,5 | | 1,00 |
| 8,66 | 3400 | 4100 | 45 | 50 | 53,0 | - | 70 | 72 | 1,0 | 1,0 | 0,40 |
| 22,93 | 2200 | 2700 | | 54 | 59,3 | 54,0 | 91 | - | 1,5 | | 1,45 |
| 11,34 | 3200 | 3800 | 50 | 55 | 56,7 | - | 75 | 77 | 1,0 | 1,0 | 0,43 |
| 16,59 | 2700 | 3200 | 55 | 61 | 65,8 | - | 84 | 86 | 1,0 | 1,0 | 0,64 |
| 30,49 | 1780 | 2100 | | 66 | 71,3 | 66,0 | 109 | - | 2,0 | | 2,30 |
| 9,15 | 2900 | 3500 | 60 | 65 | 66,8 | - | 80 | 80 | 1,0 | 1,0 | 0,29 |
| 16,71 | 2800 | 3300 | | 66 | 68,9 | - | 89 | 91 | 1,0 | 1,0 | 0,69 |
| 10,00 | 2600 | 3100 | 65 | 70 | 73,4 | - | 85 | 85 | 1,0 | 1,0 | 0,31 |
| 18,90 | 2400 | 2900 | | 71 | 75,6 | - | 94 | 96 | 1,0 | 1,0 | 0,73 |
| 42,07 | 1500 | 1800 | | 77 | 85,3 | 78,0 | 128 | - | 2,0 | | 3,55 |
| 13,17 | 2400 | 2900 | 70 | 75 | 78,5 | - | 95 | 95 | 1,0 | 1,0 | 0,49 |
| 20,00 | 2200 | 2700 | | 76 | 78,7 | - | 104 | 106 | 1,0 | 1,0 | 1,02 |
| 47,44 | 1400 | 1700 | | 82 | 89,0 | 81,0 | 138 | - | 2,0 | | 4,40 |
| 14,10 | 2200 | 2700 | 75 | 80 | 83,8 | - | 100 | 100 | 1,0 | 1,0 | 0,52 |
| 22,42 | 2100 | 2500 | | 81 | 86,5 | - | 109 | 111 | 1,0 | 1,0 | 1,06 |
| 53,80 | 1200 | 1500 | | 87 | 96,1 | 88,0 | 148 | - | 2,0 | | 5,35 |
| 15,23 | 2100 | 2500 | 80 | 85 | 88,6 | - | 105 | 105 | 1,0 | 1,0 | 0,55 |
| 26,51 | 1900 | 2300 | | 86 | 92,0 | - | 119 | 121 | 1,0 | 1,0 | 1,43 |
| 62,96 | 1100 | 1400 | | 92 | 104,0 | 95,0 | 158 | - | 2,0 | | 6,40 |

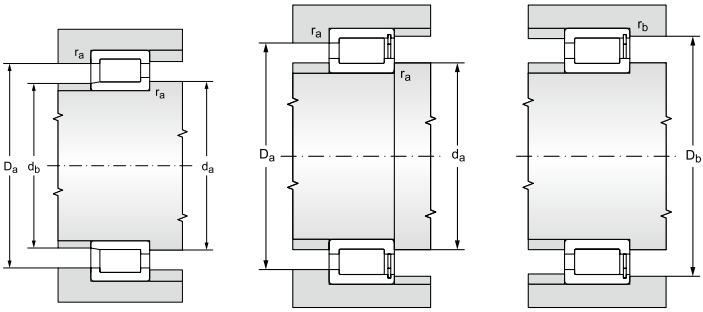
## Single row full complement cylindrical roller bearings

d = 85 to 160 mm




12.4.3

| Main dimensions | | | | | | | | Bearing designation | Basic load rating | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | dynamic | static |
| d | D | B | $r_s$ | $r_{1s}$ | F | E | s[1)] | | $C_r$ | $C_{or}$ |
| | | | min | min | | | | | | |
| mm | | | | | | | | | kN | |
| 85 | 120 | 22,00 | 1,1 | 1,1 | | 109,70 | 1,0 | **NSF2917CV** | 94,0 | 156,0 |
| | 130 | 34,00 | 1,1 | 1,1 | | 121,40 | 4,0 | **NSF3017CV** | 160,0 | 225,0 |
| | 180 | 60,00 | 3,0 | | 107 | | 4,0 | **NJB2317VH** | 455,0 | 605,0 |
| 90 | 125 | 22,00 | 1,1 | 1,1 | | 115,60 | 1,0 | **NSF2918CV** | 98,0 | 165,0 |
| | 140 | 37,00 | 1,5 | 1,5 | | 130,10 | 4,0 | **NSF3018CV** | 185,0 | 260,0 |
| | 190 | 64,00 | 3,0 | | 105,3 | | 4,0 | **NJB2318VH** | 505,0 | 650,0 |
| 100 | 140 | 24,00 | 1,1 | 1,1 | | 130,60 | 1,5 | **NSF2920CV** | 110,0 | 185,0 |
| | 150 | 37,00 | 1,5 | 1,5 | | 139,70 | 4,0 | **NSF3020CV** | 195,0 | 295,0 |
| | 215 | 73,00 | 3,0 | | 119,3 | | 4,0 | **NJB2320VH** | 665,0 | 850,0 |
| 110 | 150 | 24,00 | 1,1 | 1,1 | | 141,10 | 1,5 | **NSF2922CV** | 120,0 | 205,0 |
| | 170 | 45,00 | 2,0 | 2,0 | | 156,10 | 5,5 | **NSF3022CV** | 260,0 | 375,0 |
| | 240 | 80,00 | 3,0 | | 134,3 | | 5,0 | **NJB2322VH** | 840,0 | 1030,0 |
| 120 | 165 | 27,00 | 1,1 | 1,1 | | 154,30 | 1,5 | **NSF2924CV** | 160,0 | 275,0 |
| | 180 | 46,00 | 2,0 | 2,0 | | 167,60 | 5,5 | **NSF3024CV** | 275,0 | 420,0 |
| | 215 | 58,00 | 2,1 | 2,1 | | 192,32 | 4,0 | **NSF2224V** | 500,0 | 720,0 |
| | 260 | 86,00 | 3,0 | | 147,4 | | 5,0 | **NJB2324VH** | 925,0 | 1200,0 |
| 130 | 180 | 30,00 | 1,5 | 1,5 | | 167,10 | 2,0 | **NSF2926CV** | 190,0 | 340,0 |
| | 200 | 52,00 | 2,0 | 1,0 | | 183,00 | 5,5 | **NSF3026CV** | 395,0 | 600,0 |
| | 280 | 93,00 | 4,0 | | 157,9 | | 6,0 | **NJB2326VH** | 1040,0 | 1400,0 |
| 140 | 190 | 30,00 | 1,5 | 1,5 | | 180,00 | 2,0 | **NSF2928CV** | 205,0 | 375,0 |
| | 210 | 53,00 | 2,0 | 1,0 | | 197,00 | 5,5 | **NSF3028CV** | 420,0 | 660,0 |
| | 250 | 68,00 | 3,0 | 3,0 | | 221,90 | 5,0 | **NSF2228V** | 680,0 | 1000,0 |
| | 300 | 102,00 | 4,0 | | 168,5 | | 6,5 | **NJB2328VH** | 1150,0 | 1560,0 |
| 150 | 210 | 36,00 | 2,0 | 2,0 | | 196,40 | 2,5 | **NSF2930CV** | 275,0 | 475,0 |
| | 225 | 56,00 | 2,1 | 1,1 | | 206,00 | 7,0 | **NSF3030CV** | 440,0 | 695,0 |
| | 270 | 73,00 | 3,0 | 3,0 | | 236,70 | 6,0 | **NSF2230V** | 770,0 | 1130,0 |
| | 320 | 108,00 | 4,0 | | 182,5 | | 6,5 | **NJB2330VH** | 1390,0 | 1870,0 |
| 160 | 220 | 36,00 | 2,0 | 2,0 | | 207,20 | 2,5 | **NSF2932CV** | 290,0 | 510,0 |
| | 240 | 60,00 | 2,1 | 1,1 | | 224,00 | 7,0 | **NSF3032CV** | 490,0 | 780,0 |
| | 290 | 80,00 | 3,0 | 3,0 | | 266,40 | 6,0 | **NSF2232V** | 970,0 | 1470,0 |

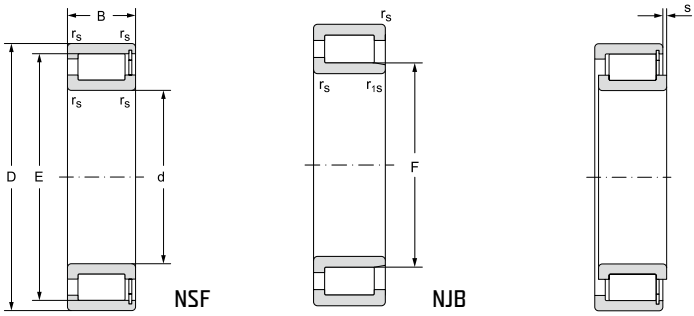



[1] Admissible axial movement
[2] Recommended diameter of fitting for axially loaded bearings

| Fatique load limit | Limiting speed for lubrication with | | Abutment and fillet dimensions | | | | | | | | Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|
| $P_u$ | grease | oil | d | $d_a$ | $d_{as}$ [2] | $d_b$ | $D_a$ | $D_b$ | $r_a$ | $r_b$ | ~ |
| | | | | min | | max | max | max | max | max | |
| kN | $min^{-1}$ | | mm | | | | | | | | kg |
| 18,88 | 2100 | 2500 | 85 | 91 | 93,9 | - | 114 | 114 | 1,0 | 1,0 | 0,81 |
| 26,85 | 1900 | 2300 | | 91 | 96,2 | - | 124 | 126 | 1,0 | 1,0 | 1,51 |
| 67,81 | 1100 | 1300 | | 99 | 113,0 | 104,0 | 166 | - | 2,5 | | 7,40 |
| 19,69 | 1900 | 2300 | 90 | 96 | 99,8 | - | 119 | 119 | 1,0 | 1,0 | 0,84 |
| 30,41 | 1700 | 2100 | | 97 | 103,0 | - | 133 | 135 | 1,5 | 1,5 | 1,97 |
| 71,66 | 1100 | 1300 | | 104 | 111,0 | 105,0 | 176 | - | 2,5 | | 8,75 |
| 21,36 | 1700 | 2100 | 100 | 106 | 111,0 | - | 134 | 134 | 1,0 | 1,0 | 1,14 |
| 33,65 | 1600 | 1900 | | 107 | 112,0 | - | 143 | 145 | 1,5 | 1,5 | 2,15 |
| 90,45 | 900 | 1100 | | 114 | 126,0 | 119,0 | 201 | - | 2,5 | | 13,0 |
| 23,11 | 1500 | 1800 | 110 | 116 | 122,0 | - | 144 | 144 | 1,0 | 1,0 | 1,23 |
| 41,34 | 1400 | 1700 | | 120 | 124,0 | - | 160 | 165 | 2,0 | 2,0 | 3,50 |
| 106,20 | 850 | 1000 | | 124 | 143,0 | 130,0 | 226 | - | 2,5 | | 17,5 |
| 30,16 | 1400 | 1700 | 120 | 126 | 133,0 | - | 159 | 159 | 1,0 | 1,0 | 1,73 |
| 45,35 | 1300 | 1600 | | 130 | 135,0 | - | 170 | 175 | 2,0 | 2,0 | 3,80 |
| 75,22 | 1100 | 1300 | | 131 | 145,0 | - | 204 | 204 | 2,0 | 2,0 | 9,05 |
| 120,71 | 850 | 1000 | | 134 | 156,0 | 142,0 | 246 | - | 2,5 | | 22,5 |
| 36,36 | 1200 | 1500 | 130 | 137 | 143,0 | - | 173 | 173 | 1,5 | 1,5 | 2,33 |
| 62,96 | 1100 | 1400 | | 140 | 148,0 | - | 190 | 195 | 2,0 | 1,0 | 5,80 |
| 137,65 | 800 | 950 | | 147 | 166,0 | 153,0 | 263 | - | 3,0 | | 28,0 |
| 39,35 | 1100 | 1400 | 140 | 147 | 155,0 | - | 183 | 183 | 1,5 | 1,5 | 2,42 |
| 68,05 | 1100 | 1300 | | 150 | 159,0 | - | 200 | 205 | 2,0 | 1,0 | 6,10 |
| 99,81 | 900 | 1100 | | 143 | 167,0 | - | 127 | 127 | 2,5 | 2,5 | 14,5 |
| 150,17 | 720 | 850 | | 157 | 178,0 | 163,0 | 283 | - | 3,0 | | 35,5 |
| 48,56 | 1100 | 1300 | 150 | 159 | 166,0 | - | 201 | 201 | 2,0 | 2,0 | 3,77 |
| 70,19 | 1000 | 1200 | | 161 | 167,0 | - | 214 | 234 | 2,0 | 1,0 | 7,50 |
| 110,31 | 850 | 1000 | | 153 | 178,0 | - | 137 | 137 | 2,5 | 2,5 | 18,4 |
| 176,48 | 680 | 800 | | 167 | 192,0 | 178,0 | 303 | - | 3,0 | | 42,5 |
| 51,30 | 1000 | 1200 | 160 | 169 | 177,0 | - | 211 | 211 | 2,0 | 2,0 | 4,00 |
| 77,26 | 900 | 1100 | | 171 | 180,0 | - | 229 | 304 | 2,0 | 1,0 | 9,10 |
| 140,56 | 800 | 950 | | 163 | 201,0 | - | 147 | 147,0 | 2,5 | 2,5 | 23,0 |

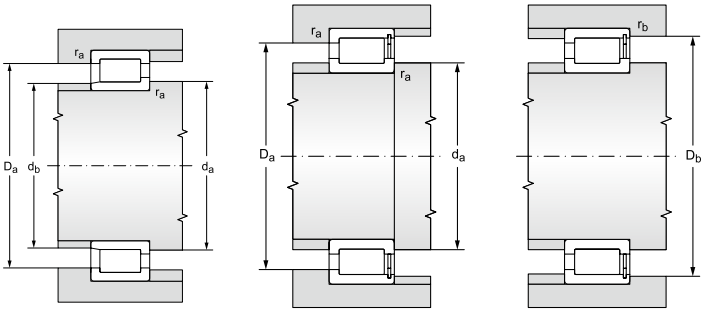
## Single row full complement cylindrical roller bearings

d = 170 to 280 mm




12.4.3

| Main dimensions | | | | | | | | Bearing designation | Basic load rating | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | dynamic | static |
| d | D | B | $r_s$ | $r_{1s}$ | F | E | s[1)] | | $C_r$ | $C_{or}$ |
| | | | min | min | | | | | | |
| mm | | | | | | | | | kN | |
| 170 | 230 | 36,00 | 2,0 | 2,0 | | 218,00 | 2,5 | **NSF2934CV** | 300,0 | 545,0 |
| | 260 | 67,00 | 2,1 | 1,1 | | 242,00 | 7,0 | **NSF3034CV** | 640,0 | 1030,0 |
| | 310 | 86,00 | 4,0 | 4,0 | | 281,10 | 7,0 | **NSF2234V** | 1050,0 | 1670,0 |
| | 360 | 120,00 | 4,0 | | 203,55 | | 7,0 | **NJB2334VH** | 1690,0 | 2410,0 |
| 180 | 250 | 42,00 | 2,0 | 2,0 | | 232,00 | 2,5 | **NSF2936CV** | 375,0 | 680,0 |
| | 280 | 74,00 | 2,1 | 2,1 | | 260,00 | 7,0 | **NSF3036CV** | 740,0 | 1210,0 |
| | 380 | 126,00 | 4,0 | | 221,7 | | 8,0 | **NJB2336VH** | 1800,0 | 2620,0 |
| 190 | 260 | 42,00 | 2,0 | 2,0 | | 244,00 | 2,5 | **NSF2938CV** | 415,0 | 765,0 |
| | 290 | 75,00 | 2,1 | 2,1 | | 269,00 | 9,0 | **NSF3038CV** | 765,0 | 1275,0 |
| | 340 | 92,00 | 4,0 | 4,0 | | 311,00 | 7,0 | **NSF2238V** | 1200,0 | 1880,0 |
| | 400 | 132,00 | 5,0 | | 224,5 | | 8,0 | **NJB2338VH** | 2090,0 | 2970,0 |
| 200 | 250 | 24,00 | 1,5 | 1,1 | | 237,50 | 1,8 | **NSF1840V** | 170,0 | 330,0 |
| | 280 | 48,00 | 2,1 | 2,1 | | 262,00 | 3,0 | **NSF2940CV** | 515,0 | 950,0 |
| | 310 | 82,00 | 2,1 | 2,1 | | 287,00 | 9,0 | **NSF3040CV** | 880,0 | 1500,0 |
| | 420 | 138,00 | 5,0 | | 238,6 | | 9,0 | **NJB2340VH** | 2200,0 | 3150,0 |
| 220 | 270 | 24,00 | 1,5 | 1,1 | | 258,00 | 1,8 | **NSF1844V** | 180,0 | 360,0 |
| | 300 | 48,00 | 2,1 | 2,1 | | 283,00 | 3,0 | **NSF2944CV** | 525,0 | 1030,0 |
| | 340 | 90,00 | 3,0 | 3,0 | | 312,00 | 9,0 | **NSF3044CV** | 1030,0 | 1770,0 |
| | 400 | 108,00 | 4,0 | 4,0 | | 366,00 | 8,0 | **NSF2244V** | 1800,0 | 2700,0 |
| | 460 | 145,00 | 5,0 | | 266,7 | | 10,0 | **NJB2344VH** | 2450,0 | 3510,0 |
| 240 | 300 | 28,00 | 2,0 | 1,1 | | 287,00 | 1,8 | **NSF1848V** | 250,0 | 510,0 |
| | 320 | 48,00 | 2,1 | 2,1 | | 303,00 | 3,0 | **NSF2948CV** | 545,0 | 1110,0 |
| | 360 | 92,00 | 3,0 | 3,0 | | 335,00 | 11,0 | **NSF3048CV** | 1080,0 | 1940,0 |
| | 500 | 155,00 | 5,0 | | 280,6 | | 10,0 | **NJB2348VH** | 2710,0 | 3860,0 |
| 260 | 320 | 28,00 | 2,0 | 1,1 | | 307,20 | 1,8 | **NSF1852V** | 260,0 | 550,0 |
| | 360 | 60,00 | 2,1 | 2,1 | | 333,00 | 3,5 | **NSF2952CV** | 715,0 | 1400,0 |
| | 400 | 104,00 | 4,0 | 4,0 | | 376,00 | 11,0 | **NSF3052CV** | 1450,0 | 2520,0 |
| | 540 | 165,00 | 6,0 | | 615,6 | | 11,0 | **NJB2352VH** | 3300,0 | 4770,0 |
| 280 | 350 | 33,00 | 2,0 | 1,1 | | 334,00 | 2,5 | **NSF1856V** | 330,0 | 690,0 |
| | 380 | 60,00 | 2,1 | 2,1 | | 359,10 | 3,5 | **NSF2956CV** | 840,0 | 1710,0 |
| | 420 | 106,00 | 4,0 | 4,0 | | 391,00 | 11,0 | **NSF3056CV** | 1690,0 | 2630,0 |

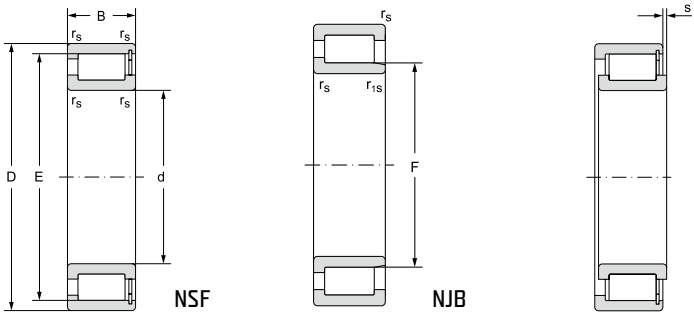



[1] Admissible axial movement
[2] Recommended diameter of fitting for axially loaded bearings

| Fatique load limit | Limiting speed for lubrication with | | Abutment and fillet dimensions | | | | | | | | Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|
| $P_u$ | grease | oil | d | $d_a$ | $d_{as}$ [2] | $d_b$ | $D_a$ | $D_b$ | $r_a$ | $r_b$ | ~ |
| | | | | min | | max | max | max | max | max | |
| kN | $min^{-1}$ | | mm | | | | | | | | kg |
| 53,99 | 900 | 1100 | 170 | 179 | 188,0 | - | 221 | 221,0 | 2,0 | 2,0 | 4,30 |
| 99,84 | 850 | 1000 | | 181 | 192,0 | - | 249 | 274,0 | 2,0 | 1,0 | 12,5 |
| 156,62 | 760 | 900 | | 185 | 212,0 | - | 295 | 295,0 | 3,0 | 3,0 | 28,7 |
| 219,40 | 590 | 700 | | 187 | 214,0 | 200,0 | 343 | - | 3,0 | | 59,5 |
| | | | | | | | | | | | |
| 65,91 | 850 | 1000 | 180 | 189 | 199,0 | - | 241 | 241,0 | 2,0 | 2,0 | 6,20 |
| 114,94 | 850 | 1000 | | 191 | 206,0 | - | 269 | 269,0 | 2,0 | 2,0 | 16,5 |
| 234,61 | 570 | 670 | | 197 | 232,0 | 216,0 | 363 | - | 3,0 | | 69,5 |
| | | | | | | | | | | | |
| 73,15 | 850 | 1000 | 190 | 199 | 208,0 | - | 251 | 251,0 | 2,0 | 2,0 | 6,50 |
| 119,57 | 850 | 1000 | | 201 | 216,0 | - | 279 | 279,0 | 2,0 | 2,0 | 17,0 |
| 171,15 | 680 | 800 | | 205 | 235,0 | - | 325 | 325,0 | 3,0 | 3,0 | 35,7 |
| 261,82 | 530 | 630 | | 210 | 237,0 | 222,0 | 380 | - | 4,0 | | 80,0 |
| | | | | | | | | | | | |
| 31,55 | 850 | 1000 | 200 | 207 | 215,0 | - | 243 | 245,0 | 1,5 | 1,0 | 2,60 |
| 89,09 | 830 | 980 | | 211 | 222,0 | - | 269 | 269,0 | 2,0 | 2,0 | 9,10 |
| 138,14 | 800 | 950 | | 211 | 230,0 | - | 299 | 299,0 | 2,0 | 2,0 | 22,5 |
| 273,58 | 630 | 750 | | 220 | 252,0 | 232,0 | 400 | - | 4,0 | | 92,0 |
| | | | | | | | | | | | |
| 33,55 | 800 | 950 | 220 | 227 | 235,0 | - | 263 | 265,0 | 1,5 | 1,0 | 2,85 |
| 94,30 | 800 | 950 | | 231 | 242,0 | - | 289 | 289,0 | 2,0 | 2,0 | 9,90 |
| 158,49 | 720 | 850 | | 233 | 248,0 | - | 327 | 327,0 | 2,5 | 2,5 | 29,5 |
| 234,50 | 590 | 700 | | 235 | 260,0 | - | 385 | 385,0 | 3,0 | 3,0 | 58,0 |
| 296,52 | 570 | 670 | | 240 | 281,0 | 260,0 | 440 | - | 4,0 | | 111 |
| | | | | | | | | | | | |
| 46,17 | 760 | 900 | 240 | 249 | 259,0 | - | 291 | 295,0 | 2,0 | 1,0 | 4,40 |
| 99,39 | 720 | 850 | | 251 | 263,0 | - | 309 | 309,0 | 2,0 | 2,0 | 10,6 |
| 170,16 | 680 | 800 | | 253 | 271,0 | - | 347 | 347,0 | 2,5 | 2,5 | 32,0 |
| 317,92 | 530 | 630 | | 260 | 295,0 | 282,0 | 480 | - | 4,0 | | 147 |
| | | | | | | | | | | | |
| 48,73 | 680 | 800 | 260 | 270 | 279,0 | - | 310 | 315,0 | 2,0 | 1,0 | 4,75 |
| 121,59 | 630 | 750 | | 271 | 286,0 | - | 349 | 349,0 | 2,0 | 2,0 | 18,5 |
| 214,80 | 590 | 700 | | 275 | 295,0 | - | 385 | 385,0 | 3,0 | 3,0 | 46,5 |
| 383,78 | 360 | 430 | | 286 | 332,0 | 309,0 | 514 | - | 5,0 | | 177 |
| | | | | | | | | | | | |
| 59,64 | 630 | 750 | 280 | 289 | 303,0 | - | 341 | 344,0 | 2,0 | 1,0 | 7,10 |
| 145,76 | 590 | 700 | | 291 | 309,0 | - | 369 | 369,0 | 2,0 | 2,0 | 19,7 |
| 220,25 | 570 | 670 | | 295 | 310,0 | - | 405 | 405,0 | 3,0 | 3,0 | 50,0 |

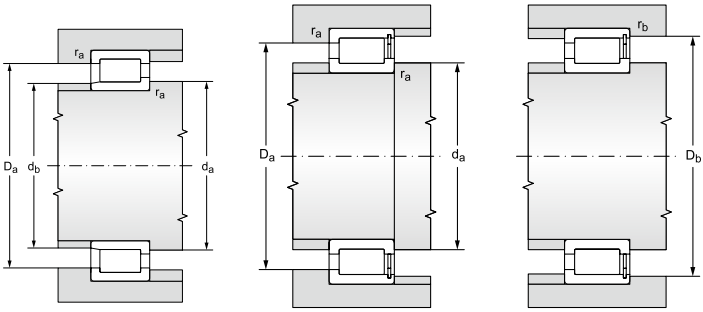
## Single row full complement cylindrical roller bearings

d = 300 to 460 mm




12.4.3

| Main dimensions | | | | | | | | Bearing designation | Basic load rating | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | dynamic | static |
| d | D | B | $r_s$ | $r_{1s}$ | F | E | s[1)] | | $C_r$ | $C_{or}$ |
| | | | min | min | | | | | | |
| mm | | | | | | | | | kN | |
| 300 | 380 | 38,00 | 2,1 | 1,5 | | 363,00 | 3,0 | **NSF1860V** | 410,0 | 850,0 |
| | 420 | 72,00 | 3,0 | 3,0 | | 390,50 | 5,0 | **NSF2960CV** | 1050,0 | 2180,0 |
| | 460 | 118,00 | 4,0 | 4,0 | | 433,00 | 14,0 | **NSF3060CV** | 1810,0 | 3230,0 |
| 320 | 400 | 38,00 | 2,1 | 1,5 | | 383,00 | 3,0 | **NSF1864V** | 430,0 | 900,0 |
| | 440 | 72,00 | 3,0 | 3,0 | | 411,00 | 5,0 | **NSF2964CV** | 1070,0 | 2340,0 |
| | 480 | 121,00 | 4,0 | 4,0 | | 449,00 | 14,0 | **NSF3064CV** | 1900,0 | 3440,0 |
| 340 | 420 | 38,00 | 2,1 | 1,5 | | 403,00 | 3,0 | **NSF1868V** | 440,0 | 950,0 |
| | 460 | 72,00 | 3,0 | 3,0 | | 431,00 | 5,0 | **NSF2968CV** | 1100,0 | 2490,0 |
| | 520 | 133,00 | 5,0 | 5,0 | | 485,00 | 14,0 | **NSF3068CV** | 2300,0 | 4140,0 |
| 360 | 440 | 38,00 | 2,1 | 1,5 | | 418,90 | 4,5 | **NSF1872V** | 400,0 | 900,0 |
| | 480 | 72,00 | 3,0 | 3,0 | | 451,50 | 5,0 | **NSF2972CV** | 1150,0 | 2590,0 |
| | 540 | 134,00 | 5,0 | 5,0 | | 503,00 | 14,0 | **NSF3072CV** | 2340,0 | 4290,0 |
| 380 | 480 | 46,00 | 2,1 | 1,5 | | 458,00 | 3,5 | **NSF1876V** | 620,0 | 1290,0 |
| | 520 | 82,00 | 4,0 | 4,0 | | 488,00 | 5,0 | **NSF2976CV** | 1460,0 | 3230,0 |
| | 560 | 135,00 | 5,0 | 5,0 | | 521,00 | 14,0 | **NSF3076CV** | 2430,0 | 4540,0 |
| 400 | 500 | 46,00 | 2,1 | 1,5 | | 475,00 | 3,5 | **NSF1880V**** | 620,0 | 1340,0 |
| | 540 | 82,00 | 4,0 | 4,0 | | 511,00 | 5,0 | **NSF2980CV**** | 1550,0 | 3450,0 |
| | 600 | 148,00 | 5,0 | 5,0 | | 558,00 | 14,0 | **NSF3080CV**** | 2850,0 | 5500,0 |
| 420 | 520 | 46,00 | 2,1 | 1,5 | | 499,00 | 3,5 | **NSF1884V**** | 660,0 | 1430,0 |
| | 560 | 82,00 | 4,0 | 4,0 | | 524,00 | 5,0 | **NSF2984CV**** | 1550,0 | 3600,0 |
| | 620 | 150,00 | 5,0 | 5,0 | | 577,00 | 15,0 | **NSF3084CV**** | 2930,0 | 5700,0 |
| 440 | 540 | 46,00 | 2,1 | 1,5 | | 516,00 | 3,5 | **NSF1888V**** | 670,0 | 1460,0 |
| | 540 | 60,00 | 2,1 | 1,5 | | 516,00 | 3,5 | **NSF2888V**** | 1050,0 | 2700,0 |
| | 600 | 95,00 | 4,0 | 4,0 | | 565,50 | 6,0 | **NSF2988V**** | 2010,0 | 4400,0 |
| | 650 | 157,00 | 6,0 | 6,0 | | 611,00 | 16,0 | **NSF3088CV**** | 3430,0 | 6550,0 |
| 460 | 580 | 56,00 | 3,0 | 3,0 | | 553,00 | 5,0 | **NSF1892V**** | 910,0 | 1960,0 |
| | 580 | 72,00 | 3,0 | 3,0 | | 553,00 | 5,0 | **NSF2892V**** | 1300,0 | 3050,0 |
| | 620 | 95,00 | 4,0 | 4,0 | | 579,00 | 6,0 | **NSF2992V**** | 2050,0 | 4500,0 |
| | 680 | 163,00 | 6,0 | 6,0 | | 635,00 | 16,0 | **NSF3092CV**** | 3570,0 | 6950,0 |

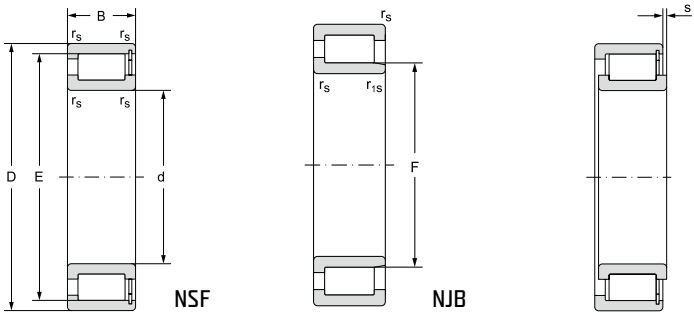



[1] Admissible axial movement
[2] Recommended diameter of fitting for axially loaded bearings
Bearings in the new standard NEW FORCE

| Fatique load limit | Limiting speed for lubrication with | | Abutment and fillet dimensions | | | | | | | | Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|
| $P_u$ | grease | oil | d | $d_a$ | $d_{as}$ [2] | $d_b$ | $D_a$ | $D_b$ | $r_a$ | $r_b$ | ~ |
| | | | | min | | max | max | max | max | max | |
| kN | $min^{-1}$ | | mm | | | | | | | | kg |
| 71,81 | 570 | 670 | 300 | 311 | 326,0 | - | 369 | 373,0 | 2,0 | 1,5 | 10,00 |
| 181,03 | 570 | 670 | | 313 | 334,0 | - | 407 | 407,0 | 2,5 | 2,5 | 31,2 |
| 263,91 | 510 | 600 | | 315 | 344,0 | - | 445 | 445,0 | 3,0 | 3,0 | 69,0 |
| | | | | | | | | | | | |
| 74,74 | 530 | 630 | 320 | 331 | 346,0 | - | 389 | 393,0 | 2,0 | 1,5 | 10,5 |
| 191,19 | 510 | 600 | | 333 | 353,0 | - | 427 | 427,0 | 2,5 | 2,5 | 32,9 |
| 276,77 | 470 | 560 | | 335 | 359,0 | - | 465 | 465,0 | 3,0 | 3,0 | 74,5 |
| | | | | | | | | | | | |
| 77,62 | 510 | 600 | 340 | 351 | 366,0 | - | 409 | 413,0 | 2,0 | 1,5 | 11,0 |
| 200,34 | 470 | 560 | | 353 | 373,0 | - | 447 | 447,0 | 2,5 | 2,5 | 35,0 |
| 325,95 | 450 | 530 | | 358 | 384,0 | - | 502 | 502,0 | 4,0 | 4,0 | 100,0 |
| | | | | | | | | | | | |
| 72,41 | 470 | 560 | 360 | 371 | 384,0 | - | 429 | 433,0 | 2,0 | 1,5 | 11,5 |
| 205,36 | 450 | 530 | | 373 | 396,0 | - | 467 | 467,0 | 2,5 | 2,5 | 36,5 |
| 333,18 | 420 | 500 | | 378 | 402,0 | - | 522 | 522,0 | 4,0 | 4,0 | 105 |
| | | | | | | | | | | | |
| 101,56 | 450 | 530 | 380 | 391 | 411,0 | - | 469 | 473,0 | 2,0 | 1,5 | 19,5 |
| 250,86 | 420 | 500 | | 395 | 420,0 | - | 505 | 505,0 | 3,0 | 3,0 | 52,5 |
| 348,03 | 400 | 480 | | 398 | 420,0 | - | 542 | 542,0 | 4,0 | 4,0 | 110 |
| | | | | | | | | | | | |
| 104,07 | 420 | 500 | 400 | 411 | 428,0 | - | 489 | 493,0 | 2,0 | 1,5 | 20,5 |
| 264,47 | 400 | 480 | | 415 | 442,0 | - | 525 | 525,0 | 3,0 | 3,0 | 54,5 |
| 413,86 | 380 | 450 | | 418 | 449,0 | - | 582 | 582,0 | 4,0 | 4,0 | 145 |
| | | | | | | | | | | | |
| 109,62 | 400 | 480 | 420 | 431 | 452,0 | - | 509 | 513,0 | 2,0 | 1,5 | 21,0 |
| 272,54 | 380 | 450 | | 435 | 455,0 | - | 545 | 545,0 | 3,0 | 3,0 | 57,0 |
| 423,90 | 360 | 430 | | 438 | 469,0 | - | 602 | 602,0 | 4,0 | 4,0 | 150 |
| | | | | | | | | | | | |
| 110,53 | 380 | 450 | 440 | 451 | 469,0 | - | 529 | 533,0 | 2,0 | 1,5 | 22,0 |
| 204,40 | 380 | 450 | | 451 | 469,0 | - | 529 | 533,0 | 2,0 | 1,5 | 29,0 |
| 327,22 | 360 | 430 | | 455 | 492,0 | - | 585 | 585,0 | 3,0 | 3,0 | 80,5 |
| 480,30 | 340 | 400 | | 463 | 488,0 | - | 627 | 627,0 | 5,0 | 5,0 | 175 |
| | | | | | | | | | | | |
| 145,76 | 360 | 430 | 460 | 473 | 495,0 | - | 567 | 567,0 | 2,5 | 2,5 | 34,0 |
| 226,82 | 360 | 430 | | 473 | 495,0 | - | 567 | 567,0 | 2,5 | 2,5 | 44,0 |
| 330,89 | 340 | 400 | | 475 | 506,0 | - | 605 | 605,0 | 3,0 | 3,0 | 83,5 |
| 502,82 | 320 | 380 | | 483 | 511,0 | - | 657 | 657,0 | 5,0 | 5,0 | 195 |

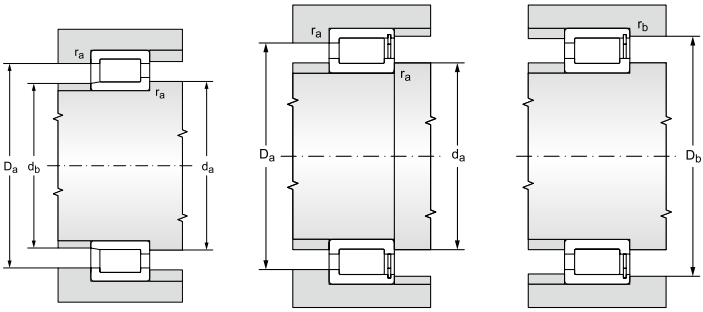
## Single row full complement cylindrical roller bearings

d = 480 to 750 mm




12.4.3

| Main dimensions | | | | | | | | Bearing designation | Basic load rating | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | dynamic | static |
| d | D | B | $r_s$ | $r_{1s}$ | F | E | s[1)] | | $C_r$ | $C_{or}$ |
| | | | min | min | | | | | | |
| mm | | | | | | | | | kN | |
| 480 | 600 | 56,00 | 3,0 | 3,0 | | 573,50 | 5,0 | **NSF1896V**** | 930,0 | 2040,0 |
| | 600 | 72,00 | 3,0 | 3,0 | | 573,50 | 5,0 | **NSF2896V**** | 1320,0 | 3150,0 |
| | 650 | 100,00 | 5,0 | 5,0 | | 600,00 | 7,0 | **NSF2996V**** | 2280,0 | 4900,0 |
| | 700 | 165,00 | 6,0 | 6,0 | | 654,00 | 16,0 | **NSF3096CV**** | 3600,0 | 7200,0 |
| 500 | 620 | 56,00 | 3,0 | 3,0 | | 594,00 | 5,0 | **NSF18/500V**** | 950,0 | 2120,0 |
| | 620 | 72,00 | 3,0 | 3,0 | | 594,00 | 2,4 | **NSF28/500V**** | 1340,0 | 3350,0 |
| | 670 | 100,00 | 5,0 | 5,0 | | 630,90 | 7,0 | **NSF29/500V**** | 2300,0 | 5000,0 |
| | 720 | 167,00 | 6,0 | 6,0 | | 676,00 | 16,0 | **NSF30/500CV**** | 3700,0 | 7500,0 |
| 530 | 650 | 56,00 | 3,0 | 3,0 | | 624,50 | 5,0 | **NSF18/530V**** | 990,0 | 2230,0 |
| | 650 | 72,00 | 3,0 | 3,0 | | 624,50 | 5,0 | **NSF28/530V**** | 1400,0 | 3450,0 |
| | 710 | 106,00 | 5,0 | 5,0 | | 676,00 | 7,0 | **NSF29/530V**** | 2600,0 | 6100,0 |
| | 780 | 185,00 | 6,0 | 6,0 | | 732,30 | 16,0 | **NSF30/530V**** | 5200,0 | 10600,0 |
| 560 | 680 | 56,00 | 3,0 | 3,0 | | 655,00 | 5,0 | **NSF18/560V**** | 1020,0 | 2350,0 |
| | 680 | 72,00 | 3,0 | 3,0 | | 655,00 | 4,3 | **NSF28/560V**** | 1400,0 | 3650,0 |
| | 750 | 112,00 | 5,0 | 5,0 | | 718,00 | 7,0 | **NSF29/560V**** | 3050,0 | 6700,0 |
| | 820 | 195,00 | 6,0 | 6,0 | | 770,00 | 16,0 | **NSF30/560V**** | 5800,0 | 11800,0 |
| 600 | 730 | 60,00 | 3,0 | 3,0 | | 696,00 | 7,0 | **NSF18/600V**** | 1050,0 | 2550,0 |
| | 730 | 78,00 | 3,0 | 3,0 | | 696,00 | 6,0 | **NSF28/600V**** | 1550,0 | 4300,0 |
| | 800 | 118,00 | 5,0 | 5,0 | | 754,00 | 7,0 | **NSF29/600V**** | 3150,0 | 7100,0 |
| 630 | 780 | 69,00 | 4,0 | 4,0 | | 739,00 | 8,0 | **NSF18/630V**** | 1250,0 | 2900,0 |
| | 780 | 88,00 | 4,0 | 4,0 | | 739,00 | 8,0 | **NSF28/630V**** | 1850,0 | 5000,0 |
| | 850 | 128,00 | 6,0 | 6,0 | | 807,00 | 8,0 | **NSF29/630V**** | 3750,0 | 8650,0 |
| 670 | 820 | 69,00 | 4,0 | 4,0 | | 783,00 | 8,0 | **NSF18/670V**** | 1300,0 | 3150,0 |
| | 820 | 88,00 | 4,0 | 4,0 | | 783,00 | 8,0 | **NSF28/670V**** | 1950,0 | 5300,0 |
| | 900 | 136,00 | 6,0 | 6,0 | | 846,00 | 10,0 | **NSF29/670V**** | 3900,0 | 9000,0 |
| 710 | 870 | 74,00 | 4,0 | 4,0 | | 831,00 | 8,0 | **NSF18/710V**** | 1550,0 | 3750,0 |
| | 870 | 95,00 | 4,0 | 4,0 | | 831,00 | 8,0 | **NSF28/710V**** | 2330,0 | 6300,0 |
| | 950 | 140,00 | 6,0 | 6,0 | | 896,00 | 10,0 | **NSF29/710V**** | 4300,0 | 10000,0 |
| 750 | 920 | 78,00 | 5,0 | 5,0 | | 882,00 | 8,0 | **NSF18/750V**** | 1850,0 | 4500,0 |
| | 920 | 100,00 | 5,0 | 5,0 | | 878,00 | 8,0 | **NSF28/750V**** | 2650,0 | 6950,0 |
| | 1000 | 145,00 | 6,0 | 6,0 | | 937,00 | 11,0 | **NSF29/750V**** | 4450,0 | 10600,0 |

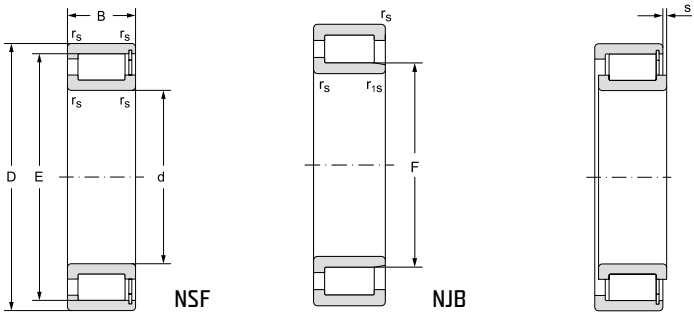



[1] Admissible axial movement
[2] Recommended diameter of fitting for axially loaded bearings
Bearings in the new standard NEW FORCE

| Fatique load limit | Limiting speed for lubrication with | | Abutment and fillet dimensions | | | | | | | | Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|
| $P_u$ | grease | oil | d | $d_a$ | $d_{as}$ [2] | $d_b$ | $D_a$ | $D_b$ | $r_a$ | $r_b$ | ~ |
| | | | | min | | max | max | max | max | max | |
| kN | $min^{-1}$ | | mm | | | | | | | | kg |
| 150,00 | 340 | 400 | 480 | 493 | 516,0 | - | 587 | 587,0 | 2,5 | 2,5 | 35,5 |
| 231,62 | 340 | 400 | | 493 | 516,0 | - | 587 | 587,0 | 2,5 | 2,5 | 46,0 |
| 355,44 | 320 | 380 | | 498 | 527,0 | - | 632 | 632,0 | 4,0 | 4,0 | 98,0 |
| 515,54 | 300 | 360 | | 503 | 532,0 | - | 677 | 677,0 | 5,0 | 5,0 | 205 |
| 154,19 | 320 | 380 | 500 | 513 | 536,0 | - | 607 | 607,0 | 2,5 | 2,5 | 36,5 |
| 243,65 | 320 | 380 | | 513 | 536,0 | - | 607 | 607,0 | 2,5 | 2,5 | 48,0 |
| 358,93 | 320 | 380 | | 518 | 544,0 | - | 652 | 652,0 | 4,0 | 4,0 | 100,0 |
| 531,68 | 300 | 360 | | 523 | 553,0 | - | 697 | 697,0 | 5,0 | 5,0 | 215 |
| 159,67 | 300 | 360 | 530 | 543 | 567,0 | - | 637 | 637,0 | 2,5 | 2,5 | 38,5 |
| 247,03 | 300 | 360 | | 543 | 566,0 | - | 637 | 637,0 | 2,5 | 2,5 | 49,5 |
| 430,33 | 290 | 340 | | 548 | 589,0 | - | 692 | 692,0 | 4,0 | 4,0 | 120 |
| 735,56 | 270 | 320 | | 553 | 595,0 | - | 757 | 757,0 | 5,0 | 5,0 | 300 |
| 165,78 | 290 | 340 | 560 | 573 | 597,0 | - | 667 | 667,0 | 2,5 | 2,5 | 40,5 |
| 257,49 | 290 | 340 | | 573 | 599,0 | - | 667 | 667,0 | 2,5 | 2,5 | 54,0 |
| 464,93 | 270 | 320 | | 578 | 617,0 | - | 732 | 732,0 | 4,0 | 4,0 | 140 |
| 806,15 | 250 | 300 | | 583 | 626,0 | - | 797 | 797,0 | 5,0 | 5,0 | 345 |
| 176,15 | 340 | 400 | 600 | 613 | 638,0 | - | 717 | 717,0 | 2,5 | 2,5 | 51,5 |
| 297,04 | 340 | 400 | | 613 | 638,0 | - | 717 | 717,0 | 2,5 | 2,5 | 67,5 |
| 482,96 | 320 | 380 | | 618 | 652,0 | - | 782 | 782,0 | 4,0 | 4,0 | 170 |
| 196,85 | 250 | 300 | 630 | 645 | 674,0 | - | 765 | 765,0 | 3,0 | 3,0 | 72,5 |
| 339,39 | 250 | 300 | | 645 | 674,0 | - | 765 | 765,0 | 3,0 | 3,0 | 92,5 |
| 578,67 | 240 | 280 | | 653 | 698,0 | - | 827 | 827,0 | 5,0 | 5,0 | 205 |
| 210,31 | 240 | 280 | 670 | 685 | 718,0 | - | 805 | 805,0 | 3,0 | 3,0 | 76,5 |
| 353,85 | 240 | 280 | | 685 | 718,0 | - | 805 | 805,0 | 3,0 | 3,0 | 97,5 |
| 591,52 | 220 | 260 | | 693 | 737,0 | - | 877 | 877,0 | 5,0 | 5,0 | 245 |
| 246,00 | 220 | 260 | 710 | 725 | 759,0 | - | 855 | 855,0 | 3,0 | 3,0 | 92,5 |
| 413,27 | 220 | 260 | | 725 | 759,0 | - | 855 | 855,0 | 3,0 | 3,0 | 115 |
| 646,34 | 200 | 240 | | 733 | 761,0 | - | 927 | 927,0 | 5,0 | 5,0 | 275 |
| 290,33 | 200 | 240 | 750 | 768 | 802,0 | - | 902 | 902,0 | 4,0 | 4,0 | 110 |
| 448,40 | 200 | 240 | | 768 | 799,0 | - | 902 | 902,0 | 4,0 | 4,0 | 140 |
| 674,36 | 185 | 220 | | 773 | 820,0 | - | 957 | 957,0 | 5,0 | 5,0 | 315 |

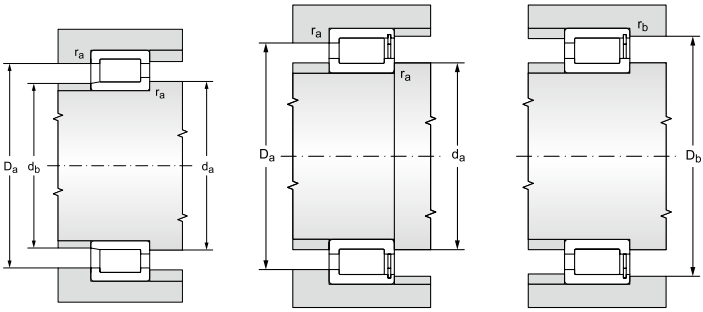
## Single row full complement cylindrical roller bearings

d = 800 to 1000 mm




12.4.3

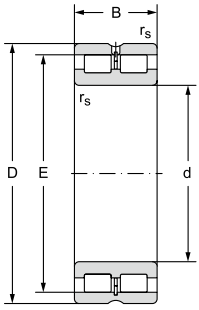
| Main dimensions | | | | | | | | Bearing designation | Basic load rating | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | dynamic | static |
| d | D | B | $r_s$ | $r_{1s}$ | F | E | s[1)] | | $C_r$ | $C_{or}$ |
| | | | min | min | | | | | | |
| mm | | | | | | | | | kN | |
| 800 | 980 | 82,00 | 5,0 | 5,0 | | 936,00 | 9,0 | **NSF18/800V**** | 1950,0 | 4800,0 |
| | 980 | 106,00 | 5,0 | 5,0 | | 936,00 | 10,0 | **NSF28/800V**** | 2750,0 | 7500,0 |
| | 1060 | 150,00 | 6,0 | 6,0 | | 1002,00 | 11,0 | **NSF29/800V**** | 4950,0 | 12200,0 |
| 850 | 1030 | 82,00 | 5,0 | 5,0 | | 985,00 | 9,0 | **NSF18/850V**** | 2000,0 | 5100,0 |
| | 1030 | 106,00 | 5,0 | 5,0 | | 986,00 | 10,0 | **NSF28/850V**** | 2850,0 | 8000,0 |
| | 1120 | 155,00 | 6,0 | 6,0 | | 1061,00 | 13,0 | **NSF29/850V**** | 5200,0 | 12700,0 |
| 900 | 1090 | 85,00 | 5,0 | 5,0 | | 1044,00 | 9,0 | **NSF18/900V**** | 2350,0 | 6000,0 |
| | 1090 | 112,00 | 5,0 | 5,0 | | 1044,00 | 10,0 | **NSF28/900V**** | 3200,0 | 9150,0 |
| | 1180 | 165,00 | 6,0 | 6,0 | | 1120,00 | 13,0 | **NSF29/900V**** | 5900,0 | 14600,0 |
| 950 | 1150 | 90,00 | 5,0 | 5,0 | | 1103,00 | 10,0 | **NSF18/950V**** | 2400,0 | 6300,0 |
| | 1150 | 118,00 | 5,0 | 5,0 | | 1103,00 | 12,0 | **NSF28/950V**** | 3400,0 | 9800,0 |
| | 1250 | 175,00 | 7,5 | 7,5 | | 1179,00 | 14,0 | **NSF29/950V**** | 6600,0 | 16300,0 |
| 1000 | 1220 | 100,00 | 6,0 | 6,0 | | 1165,00 | 12,0 | **NSF18/1000V**** | 2900,0 | 7500,0 |
| | 1220 | 128,00 | 6,0 | 6,0 | | 1165,00 | 12,0 | **NSF28/1000V**** | 4100,0 | 11600,0 |
| | 1320 | 185,00 | 7,5 | 7,5 | | 1252,00 | 14,0 | **NSF29/1000V**** | 7450,0 | 18600,0 |



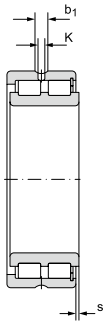

[1] Admissible axial movement
[2] Recommended diameter of fitting for axially loaded bearings
Bearings in the new standard NEW FORCE

| Fatique load limit | Limiting speed for lubrication with | | Abutment and fillet dimensions | | | | | | | | Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | |
| $P_u$ | grease | oil | d | $d_a$ | $d_{as}$ [2] | $d_b$ | $D_a$ | $D_b$ | $r_a$ | $r_b$ | ~ |
| | | | | min | | max | max | max | max | max | |
| kN | $min^{-1}$ | | mm | | | | | | | | kg |
| 303,82 | 185 | 220 | 800 | 818 | 855,0 | - | 962 | 962,0 | 4,0 | 4,0 | 130 |
| 474,71 | 185 | 220 | | 818 | 855,0 | - | 962 | 962,0 | 4,0 | 4,0 | 165 |
| 762,08 | 170 | 200 | | 823 | 860,0 | - | 977 | 977,0 | 5,0 | 5,0 | 360 |
| | | | | | | | | | | | |
| 317,55 | 170 | 200 | 850 | 868 | 902,0 | - | 1012 | 1012,0 | 4,0 | 4,0 | 135 |
| 498,12 | 170 | 200 | | 868 | 903,0 | - | 1012 | 1012,0 | 4,0 | 4,0 | 175 |
| 779,76 | 160 | 190 | | 873 | 914,0 | - | 1097 | 1097,0 | 5,0 | 5,0 | 405 |
| | | | | | | | | | | | |
| 367,27 | 160 | 190 | 900 | 918 | 957,0 | - | 1072 | 1072,0 | 4,0 | 4,0 | 160 |
| 560,09 | 160 | 190 | | 918 | 957,0 | - | 7072 | 1072,0 | 4,0 | 4,0 | 208 |
| 881,92 | 145 | 170 | | 923 | 982,0 | - | 1127 | 1127,0 | 5,0 | 5,0 | 472 |
| | | | | | | | | | | | |
| 379,46 | 145 | 170 | 950 | 968 | 1012,0 | - | 1132 | 1132,0 | 4,0 | 4,0 | 185 |
| 590,28 | 145 | 170 | | 968 | 1012,0 | - | 1132 | 1132,0 | 4,0 | 4,0 | 240 |
| 968,18 | 135 | 160 | | 978 | 1033,0 | - | 1222 | 1222,0 | 6,0 | 6,0 | 565 |
| | | | | | | | | | | | |
| 444,27 | 135 | 160 | 1000 | 1023 | 1063,0 | - | 1197 | 1197,0 | 5,0 | 5,0 | 230 |
| 687,14 | 135 | 160 | | 1023 | 1063,0 | - | 1197 | 1197,0 | 5,0 | 5,0 | 310 |
| 1 087,33 | 125 | 150 | | 1028 | 1091,0 | - | 1292 | 1292,0 | 6,0 | 6,0 | 680 |

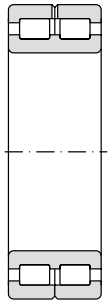
# Double row full complement cylindrical roller bearings d = 20 to 400 mm




NNSL




NNSF

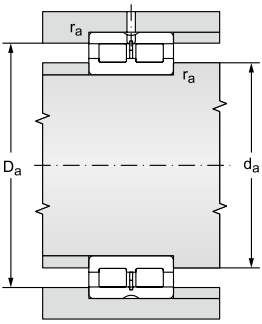


NNS

12.4.4

| Main dimensions | | | | | | Basic load rating | | Fatique load limit |
|---|---|---|---|---|---|---|---|---|
| | | | | | | dynamic | static | |
| d | D | B | $r_s$ | E | s[1)] | $C_r$ | $C_{or}$ | $P_u$ |
| | | | min | | | | | |
| mm | | | | | | kN | | kN |
| 20 | 42 | 30 | 0,6 | 36,81 | 1,0 | 47,0 | 56,0 | 6,83 |
| 25 | 47 | 30 | 0,6 | 42,51 | 1,0 | 54,0 | 70,0 | 8,54 |
| 30 | 55 | 34 | 1,0 | 49,60 | 1,5 | 69,0 | 88,0 | 10,73 |
| 35 | 62 | 36 | 1,0 | 55,52 | 1,5 | 83,0 | 112,0 | 13,66 |
| 40 | 68 | 38 | 1,0 | 61,74 | 1,5 | 101,0 | 139,0 | 16,95 |
| 45 | 75 | 40 | 1,0 | 66,85 | 1,5 | 107,0 | 156,0 | 19,02 |
| 50 | 80 | 40 | 1,0 | 72,23 | 1,5 | 137,0 | 197,0 | 24,02 |
| 55 | 90 | 46 | 1,1 | 83,54 | 1,5 | 184,0 | 280,0 | 34,15 |
| 60 | 85 | 25 | 1,0 | 77,51 | 1,0 | 74,0 | 136,0 | 16,59 |
| | 85 | 25 | 1,0 | 77,51 | - | 74,0 | 136,0 | 16,59 |
| | 85 | 25 | 1,0 | 77,51 | 1,0 | 74,0 | 136,0 | 16,59 |
| | 95 | 46 | 1,1 | 86,74 | 1,5 | 192,0 | 300,0 | 36,59 |
| 65 | 100 | 46 | 1,1 | 93,09 | 1,5 | 203,0 | 325,0 | 39,63 |
| 70 | 100 | 30 | 1,0 | 91,87 | 1,0 | 109,0 | 193,0 | 23,54 |
| | 100 | 30 | 1,0 | 91,87 | - | 109,0 | 193,0 | 23,54 |
| | 100 | 30 | 1,0 | 91,87 | 1,0 | 109,0 | 193,0 | 23,54 |
| | 110 | 54 | 1,1 | 100,28 | 3,0 | 231,0 | 345,0 | 42,07 |
| 75 | 115 | 54 | 1,1 | 107,90 | 3,0 | 245,0 | 380,0 | 31,05 |
| 80 | 110 | 30 | 1,0 | 100,78 | 1,0 | 115,0 | 215,0 | 17,57 |
| | 110 | 30 | 1,0 | 100,78 | - | 115,0 | 215,0 | 17,57 |
| | 110 | 30 | 1,0 | 100,78 | 1,0 | 115,0 | 215,0 | 17,57 |
| | 125 | 60 | 1,1 | 116,99 | 3,5 | 300,0 | 455,0 | 36,34 |
| 85 | 130 | 60 | 1,1 | 121,44 | 3,5 | 305,0 | 475,0 | 37,40 |
| 90 | 125 | 35 | 1,1 | 115,20 | 1,5 | 155,0 | 300,0 | 23,62 |
| | 125 | 35 | 1,1 | 115,20 | - | 155,0 | 300,0 | 23,62 |
| | 125 | 35 | 1,1 | 115,20 | 1,5 | 155,0 | 300,0 | 23,62 |
| | 140 | 67 | 1,5 | 130,11 | 4,0 | 360,0 | 560,0 | 43,21 |

## d = 20 to 90 mm

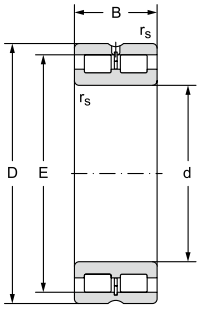



[1] Admissible axial movement
[2] Recommended diameter of fitting for axially loaded bearings

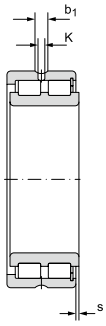
| Limiting speed for lubrication with | | Bearing designation | Abutment and fillet dimensions | | | | | Lubrication slot and holes | | Weight |
|---|---|---|---|---|---|---|---|---|---|---|
| grease | oil | | d | $d_a$ | $d_{as}$ [2] | $D_a$ | $r_a$ | a | b | ~ |
| | | | | min | max | max | max | | | |
| $min^{-1}$ | | | mm | | | | | | | kg |
| 7000 | 8300 | **NNSF5004CV** | 20 | 23,2 | 26,6 | 38,8 | 0,6 | 3,0 | 4,5 | 0,20 |
| 5700 | 6800 | **NNSF5005CV** | 25 | 28,2 | 28,2 | 43,8 | 0,6 | 3,0 | 4,5 | 0,23 |
| 6200 | 7300 | **NNSF5006CV** | 30 | 34,6 | 34,6 | 50,4 | 1,0 | 3,0 | 4,5 | 0,35 |
| 4300 | 5100 | **NNSF5007CV** | 35 | 39,6 | 39,6 | 57,4 | 1,0 | 3,0 | 4,5 | 0,46 |
| 3900 | 4600 | **NNSF5008CV** | 40 | 44,6 | 44,6 | 63,4 | 1,0 | 3,0 | 4,5 | 0,56 |
| 3400 | 4100 | **NNSF5009CV** | 45 | 49,6 | 49,6 | 70,4 | 1,0 | 3,0 | 4,5 | 0,71 |
| 3200 | 3800 | **NNSF5010CV** | 50 | 54,6 | 54,6 | 75,4 | 1,0 | 3,0 | 4,5 | 0,76 |
| 2700 | 3200 | **NNSF5011CV** | 55 | 61 | 61 | 84 | 1,0 | 3,5 | 4,5 | 1,16 |
| 2800 | 3400 | **NNSF4912CV** | 60 | 64,6 | 68,5 | 80,4 | 1,0 | 3,5 | 4,5 | 0,48 |
| 2800 | 3400 | **NNS4912CV** | | 64,6 | 68,5 | 80,4 | 1,0 | 3,5 | 4,5 | 0,48 |
| 2800 | 3400 | **NNSL4912CV** | | 64,6 | - | 80,4 | 1,0 | 3,5 | 4,5 | 0,48 |
| 2700 | 3200 | **NNSF5012CV** | | 66 | 69,2 | 89 | 1,0 | 3,5 | 4,5 | 1,24 |
| 2400 | 2900 | **NNSF5013CV** | 65 | 71 | 71 | 94 | 1,0 | 3,5 | 4,5 | 1,32 |
| 2400 | 2900 | **NNSF4914CV** | 70 | 74,6 | 80,4 | 95,4 | 1,0 | 3,5 | 4,5 | 0,77 |
| 2400 | 2900 | **NNS4914CV** | | 74,6 | 80,4 | 95,4 | 1,0 | 3,5 | 4,5 | 0,77 |
| 2400 | 2900 | **NNSL4914CV** | | 74,6 | - | 95,4 | 1,0 | 3,5 | 4,5 | 0,77 |
| 2200 | 2700 | **NNSF5014CV** | | 76 | 78,9 | 104 | 1,0 | 3,5 | 5,0 | 1,85 |
| 2100 | 2500 | **NNSF5015CV** | 75 | 81 | 81 | 109 | 1,0 | 3,5 | 5,0 | 1,93 |
| 2100 | 2500 | **NNSF4916CV** | 80 | 84,6 | 89,4 | 105,4 | 1,0 | 3,5 | 5,0 | 0,87 |
| 2100 | 2500 | **NNS4916CV** | | 84,6 | 89,4 | 105,4 | 1,0 | 3,5 | 5,0 | 0,87 |
| 2100 | 2500 | **NNSL4916CV** | | 84,6 | - | 105,4 | 1,0 | 3,5 | 5,0 | 0,87 |
| 1950 | 2300 | **NNSF5016CV** | | 86 | 92 | 119 | 1,0 | 3,5 | 5,0 | 2,59 |
| 1950 | 2300 | **NNSF5017CV** | 85 | 91 | 91 | 124 | 1,0 | 3,5 | 5,0 | 2,72 |
| 1950 | 2300 | **NNSF4918CV** | 90 | 96 | 101 | 119 | 1,0 | 3,5 | 5,0 | 1,33 |
| 1950 | 2300 | **NNS4918CV** | | 96 | 101 | 119 | 1,0 | 3,5 | 5,0 | 1,33 |
| 1950 | 2300 | **NNSL4918CV** | | 96 | - | 119 | 1,0 | 3,5 | 5,0 | 1,33 |
| 1700 | 2100 | **NNSF5018CV** | | 97 | 103 | 133 | 1,5 | 3,5 | 5,0 | 3,62 |

## Double row full complement cylindrical roller bearings

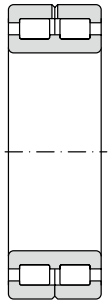
d = 100 to 160 mm




NNSL



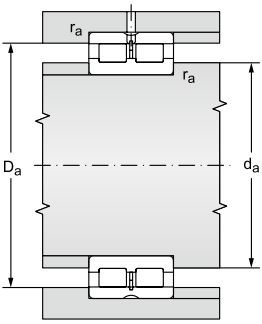

NNSF



NNS

12.4.4

| Main dimensions | | | | | | Basic load rating | | Fatique load limit |
|---|---|---|---|---|---|---|---|---|
| | | | | | | dynamic | static | |
| d | D | B | $r_s$ | E | s[1)] | $C_r$ | $C_{or}$ | $P_u$ |
| | | | min | | | | | |
| mm | | | | | | kN | | kN |
| 100 | 140 | 40 | 1,1 | 129,60 | 2,0 | 200,0 | 400,0 | 30,47 |
| | 140 | 40 | 1,1 | 129,60 | - | 200,0 | 400,0 | 30,47 |
| | 140 | 40 | 1,1 | 129,60 | 2,0 | 200,0 | 400,0 | 30,47 |
| | 150 | 67 | 1,5 | 139,65 | 4,0 | 380,0 | 620,0 | 46,65 |
| | | | | | | | | |
| 110 | 150 | 40 | 1,1 | 138,20 | 2,0 | 210,0 | 430,0 | 31,98 |
| | 150 | 40 | 1,1 | 138,20 | - | 210,0 | 430,0 | 31,98 |
| | 150 | 40 | 1,1 | 138,20 | 2,0 | 210,0 | 430,0 | 31,98 |
| | 170 | 80 | 2,0 | 156,13 | 5,0 | 500,0 | 800,0 | 58,19 |
| | | | | | | | | |
| 120 | 165 | 45 | 1,1 | 153,55 | 3,0 | 230,0 | 480,0 | 34,73 |
| | 165 | 45 | 1,1 | 153,55 | - | 230,0 | 480,0 | 34,73 |
| | 165 | 45 | 1,1 | 153,55 | 3,0 | 230,0 | 480,0 | 34,73 |
| | 180 | 80 | 2,0 | 167,58 | 5,0 | 530,0 | 880,0 | 62,69 |
| | | | | | | | | |
| 130 | 180 | 50 | 1,5 | 165,40 | 4,0 | 265,0 | 530,0 | 37,39 |
| | 180 | 50 | 1,5 | 165,40 | - | 265,0 | 530,0 | 37,39 |
| | 180 | 50 | 1,5 | 165,40 | 4,0 | 265,0 | 530,0 | 37,39 |
| | 200 | 95 | 2,0 | 183,81 | 5,0 | 750,0 | 1250,0 | 86,54 |
| | | | | | | | | |
| 140 | 190 | 50 | 1,5 | 175,90 | 4,0 | 275,0 | 570,0 | 39,46 |
| | 190 | 50 | 1,5 | 175,90 | - | 275,0 | 570,0 | 39,46 |
| | 190 | 50 | 1,5 | 175,90 | 4,0 | 275,0 | 570,0 | 39,46 |
| | 210 | 95 | 2,0 | 197,82 | 5,0 | 800,0 | 1370,0 | 93,19 |
| | | | | | | | | |
| 150 | 190 | 40 | 1,1 | 178,30 | 2,0 | 245,0 | 585,0 | 40,14 |
| | 190 | 40 | 1,1 | 178,30 | - | 245,0 | 585,0 | 40,14 |
| | 190 | 40 | 1,1 | 178,30 | 2,0 | 245,0 | 585,0 | 40,14 |
| | 210 | 60 | 2,0 | 192,77 | 4,0 | 420,0 | 830,0 | 55,98 |
| | 210 | 60 | 2,0 | 192,77 | - | 420,0 | 830,0 | 55,98 |
| | 210 | 60 | 2,0 | 192,77 | 4,0 | 420,0 | 830,0 | 55,98 |
| | 225 | 100 | 2,0 | 206,80 | 6,0 | 830,0 | 1430,0 | 95,28 |
| | | | | | | | | |
| 160 | 200 | 40 | 1,1 | 186,90 | 2,0 | 245,0 | 610,0 | 41,14 |
| | 200 | 40 | 1,1 | 186,90 | - | 245,0 | 610,0 | 41,14 |
| | 200 | 40 | 1,1 | 186,90 | 2,0 | 245,0 | 610,0 | 41,14 |
| | 220 | 60 | 2,0 | 206,16 | 4,0 | 435,0 | 910,0 | 60,39 |
| | 220 | 60 | 2,0 | 206,16 | - | 435,0 | 910,0 | 60,39 |
| | 220 | 60 | 2,0 | 206,16 | 4,0 | 435,0 | 910,0 | 60,39 |
| | 240 | 109 | 2,1 | 224,80 | 6,0 | 940,0 | 1600,0 | 104,56 |

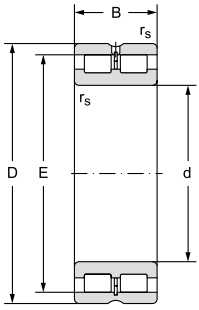



[1] Admissible axial movement
[2] Recommended diameter of fitting for axially loaded bearings

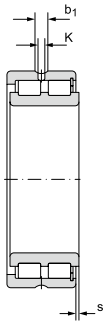
| Limiting speed for lubrication with | | Bearing designation | Abutment and fillet dimensions | | | | | Lubrication slot and holes | | Weight |
|---|---|---|---|---|---|---|---|---|---|---|
| grease | oil | | d | $d_a$ | $d_{as}$ [2] | $D_a$ | $r_a$ | a | b | ~ |
| | | | | min | max | max | max | | | |
| $min^{-1}$ | | | mm | | | | | | | kg |
| 1600 | 1900 | **NNSF4920CV** | 100 | 106 | 114 | 134 | 1,0 | 3,5 | 5,0 | 1,93 |
| 1600 | 1900 | **NNS4920CV** | | 106 | 114 | 134 | 1,0 | 3,5 | 5,0 | 1,93 |
| 1600 | 1900 | **NNSL4920CV** | | 106 | - | 134 | 1,0 | 3,5 | 5,0 | 1,93 |
| 1600 | 1900 | **NNSF5020CV** | | 107 | 112 | 143 | 1,5 | 3,5 | 6,0 | 3,94 |
| 1500 | 1800 | **NNSF4922CV** | 110 | 116 | 122 | 144 | 1,0 | 3,5 | 6,0 | 2,13 |
| 1500 | 1800 | **NNS4922CV** | | 116 | 122 | 144 | 1,0 | 3,5 | 6,0 | 2,13 |
| 1500 | 1800 | **NNSL4922CV** | | 116 | - | 144 | 1,0 | 3,5 | 6,0 | 2,13 |
| 1450 | 1700 | **NNSF5022CV** | | 120 | 124 | 160 | 2,0 | 3,5 | 6,0 | 6,32 |
| 1350 | 1600 | **NNSF4924CV** | 120 | 126 | 136 | 159 | 1,0 | 3,5 | 6,0 | 2,90 |
| 1350 | 1600 | **NNS4924CV** | | 126 | 136 | 159 | 1,0 | 3,5 | 6,0 | 2,90 |
| 1350 | 1600 | **NNSL4924CV** | | 126 | - | 159 | 1,0 | 3,5 | 6,0 | 2,90 |
| 1350 | 1600 | **NNSF5024CV** | | 130 | 135 | 170 | 2,0 | 3,5 | 6,0 | 6,77 |
| 1270 | 1500 | **NNSF4926CV** | 130 | 137 | 146 | 173 | 1,5 | 3,5 | 6,0 | 3,90 |
| 1270 | 1500 | **NNS4926CV** | | 137 | 146 | 173 | 1,5 | 3,5 | 6,0 | 3,90 |
| 1270 | 1500 | **NNSL4926CV** | | 137 | - | 173 | 1,5 | 3,5 | 6,0 | 3,90 |
| 1190 | 1400 | **NNSF5026CV** | | 140 | 140 | 190 | 2,0 | 4,0 | 7,0 | 10,2 |
| 1190 | 1400 | **NNSF4928CV** | 140 | 147 | 156 | 183 | 1,5 | 3,5 | 6,0 | 4,15 |
| 1190 | 1400 | **NNS4928CV** | | 147 | 156 | 183 | 1,5 | 3,5 | 6,0 | 4,20 |
| 1190 | 1400 | **NNSL4928CV** | | 147 | - | 183 | 1,5 | 3,5 | 6,0 | 4,10 |
| 1100 | 1300 | **NNSF5028CV** | | 150 | 150 | 200 | 2,0 | 4,0 | 7,0 | 11,1 |
| 1190 | 1400 | **NNSF4830CV** | 150 | 156 | 163 | 184 | 1,0 | 4,0 | 7,0 | 2,80 |
| 1190 | 1400 | **NNS4830CV** | | 156 | 163 | 184 | 1,0 | 4,0 | 7,0 | 2,90 |
| 1190 | 1400 | **NNSL4830CV** | | 156 | - | 184 | 1,0 | 4,0 | 7,0 | 2,70 |
| 1100 | 1300 | **NNSF4930CV** | | 160 | 167 | 200 | 2,0 | 4,0 | 7,0 | 6,55 |
| 1100 | 1300 | **NNS4930CV** | | 160 | 167 | 200 | 2,0 | 4,0 | 7,0 | 6,65 |
| 1100 | 1300 | **NNSL4930CV** | | 160 | - | 200 | 2,0 | 4,0 | 7,0 | 6,45 |
| 1020 | 1200 | **NNSF5030CV** | | 160 | 160 | 215 | 2,0 | 4,0 | 7,0 | 13,3 |
| 1100 | 1300 | **NNSF4832CV** | 160 | 166 | 171 | 194 | 1,0 | 4,0 | 7,0 | 3,00 |
| 1100 | 1300 | **NNS4832CV** | | 166 | 171 | 194 | 1,0 | 4,0 | 7,0 | 3,10 |
| 1100 | 1300 | **NNSL4832CV** | | 166 | - | 194 | 1,0 | 4,0 | 7,0 | 2,90 |
| 1020 | 1200 | **NNSF4932CV** | | 170 | 181 | 210 | 2,0 | 4,0 | 7,0 | 6,90 |
| 1020 | 1200 | **NNS4932CV** | | 170 | 181 | 210 | 2,0 | 4,0 | 7,0 | 7,00 |
| 1020 | 1200 | **NNSL4932CV** | | 170 | - | 210 | 2,0 | 4,0 | 7,0 | 6,80 |
| 930 | 1100 | **NNSF5032CV** | | 171 | 171 | 229 | 2,0 | 4,0 | 7,0 | 16,2 |

## Double row full complement cylindrical roller bearings

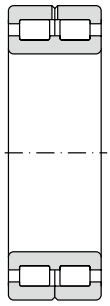
d = 170 to 220 mm




NNSL



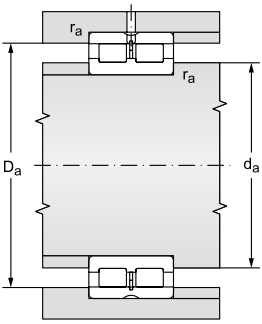

NNSF



NNS

12.4.4

| Main dimensions | | | | | | Basic load rating | | Fatique load limit |
|---|---|---|---|---|---|---|---|---|
| | | | | | | dynamic | static | |
| d | D | B | $r_s$ | E | s[1)] | $C_r$ | $C_{or}$ | $P_u$ |
| | | | min | | | | | |
| mm | | | | | | kN | | kN |
| 170 | 215 | 45 | 1,1 | 201,30 | 3,0 | 270,0 | 650,0 | 42,97 |
| | 215 | 45 | 1,1 | 201,30 | - | 270,0 | 650,0 | 42,97 |
| | 215 | 45 | 1,1 | 201,30 | 3,0 | 270,0 | 650,0 | 42,97 |
| | 230 | 60 | 2,0 | 215,08 | 4,0 | 450,0 | 950,0 | 62,08 |
| | 230 | 60 | 2,0 | 215,08 | - | 450,0 | 950,0 | 62,08 |
| | 230 | 60 | 2,0 | 215,08 | 4,0 | 450,0 | 950,0 | 62,08 |
| | 260 | 122 | 2,1 | 243,00 | 6,0 | 1200,0 | 2100,0 | 134,29 |
| | | | | | | | | |
| 180 | 225 | 45 | 1,1 | 214,10 | 3,0 | 290,0 | 695,0 | 45,25 |
| | 225 | 45 | 1,1 | 214,10 | - | 290,0 | 695,0 | 45,25 |
| | 225 | 45 | 1,1 | 214,10 | 3,0 | 485,0 | 695,0 | 45,25 |
| | 250 | 69 | 2,0 | 230,50 | 4,0 | 580,0 | 1220,0 | 78,02 |
| | 250 | 69 | 2,0 | 230,50 | - | 580,0 | 1220,0 | 78,02 |
| | 250 | 69 | 2,0 | 230,50 | 4,0 | 580,0 | 1220,0 | 78,02 |
| | 280 | 136 | 2,1 | 260,50 | 8,0 | 1400,0 | 2500,0 | 156,67 |
| | | | | | | | | |
| 190 | 240 | 50 | 1,5 | 225,00 | 4,0 | 320,0 | 750,0 | 47,96 |
| | 240 | 50 | 1,5 | 225,00 | - | 320,0 | 750,0 | 47,96 |
| | 240 | 50 | 1,5 | 225,00 | 4,0 | 320,0 | 750,0 | 47,96 |
| | 260 | 69 | 2,0 | 240,70 | 4,0 | 590,0 | 1290,0 | 81,38 |
| | 260 | 69 | 2,0 | 240,70 | - | 590,0 | 1290,0 | 81,38 |
| | 260 | 69 | 2,0 | 240,70 | 4,0 | 590,0 | 1290,0 | 81,38 |
| | 290 | 136 | 2,1 | 270,00 | 8,0 | 1450,0 | 2600,0 | 160,87 |
| | | | | | | | | |
| 200 | 250 | 50 | 1,5 | 235,50 | 4,0 | 325,0 | 800,0 | 50,47 |
| | 250 | 50 | 1,5 | 235,50 | - | 325,0 | 800,0 | 50,47 |
| | 250 | 50 | 1,5 | 235,50 | 4,0 | 325,0 | 800,0 | 50,47 |
| | 280 | 80 | 2,1 | 259,34 | 5,0 | 690,0 | 1500,0 | 92,81 |
| | 280 | 80 | 2,1 | 259,34 | - | 690,0 | 1500,0 | 92,81 |
| | 280 | 80 | 2,1 | 259,34 | 5,0 | 690,0 | 1500,0 | 92,81 |
| | 310 | 150 | 2,1 | 288,00 | 9,0 | 1650,0 | 3050,0 | 185,31 |
| | | | | | | | | |
| 220 | 270 | 50 | 1,5 | 256,50 | 4,0 | 340,0 | 860,0 | 52,88 |
| | 270 | 50 | 1,5 | 256,50 | - | 340,0 | 860,0 | 52,88 |
| | 270 | 50 | 1,5 | 256,50 | 4,0 | 340,0 | 860,0 | 52,88 |
| | 300 | 80 | 2,1 | 276,52 | 5,0 | 725,0 | 1600,0 | 96,65 |
| | 300 | 80 | 2,1 | 276,52 | - | 725,0 | 1600,0 | 96,65 |
| | 300 | 80 | 2,1 | 276,52 | 5,0 | 725,0 | 1600,0 | 96,65 |
| | 340 | 160 | 3,0 | 312,20 | 9,0 | 2000,0 | 3600,0 | 212,68 |

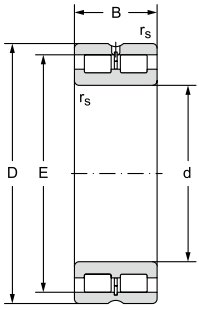



[1] Admissible axial movement
[2] Recommended diameter of fitting for axially loaded bearings

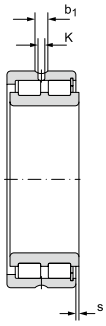
| Limiting speed for lubrication with | | Bearing designation | Abutment and fillet dimensions | | | | | Lubrication slot and holes | | Weight |
|---|---|---|---|---|---|---|---|---|---|---|
| grease | oil | | d | $d_a$ | $d_{as}$ [2] | $D_a$ | $r_a$ | a | b | ~ |
| | | | | min | max | max | max | | | |
| $min^{-1}$ | | | mm | | | | | | | kg |
| 1120 | 1200 | **NNSF4834CV** | 170 | 176 | 184 | 209 | 1,0 | 4,0 | 7,0 | 4,00 |
| 1020 | 1200 | **NNS4834CV** | | 176 | 184 | 209 | 1,0 | 4,0 | 7,0 | 4,10 |
| 1020 | 1200 | **NNSL4834CV** | | 176 | - | 209 | 1,0 | 4,0 | 7,0 | 3,90 |
| 930 | 1100 | **NNSF4934CV** | | 180 | 190 | 220 | 2,0 | 4,0 | 7,0 | 7,20 |
| 930 | 1100 | **NNS4934CV** | | 180 | 190 | 220 | 2,0 | 4,0 | 7,0 | 7,35 |
| 930 | 1100 | **NNSL4934CV** | | 180 | - | 220 | 2,0 | 4,0 | 7,0 | 7,10 |
| 850 | 1000 | **NNSF5034CV** | | 181 | 181 | 249 | 2,0 | 4,0 | 7,0 | 23,0 |
| | | | | | | | | | | |
| 930 | 1100 | **NNSF4836CV** | 180 | 186 | 197 | 219 | 1,0 | 4,0 | 7,0 | 4,20 |
| 930 | 1100 | **NNS4836CV** | | 186 | 197 | 219 | 1,0 | 4,0 | 7,0 | 4,30 |
| 930 | 1100 | **NNSL4836CV** | | 186 | - | 219 | 1,0 | 4,0 | 7,0 | 4,10 |
| 850 | 1000 | **NNSF4936CV** | | 190 | 202 | 240 | 2,0 | 4,0 | 7,0 | 10,7 |
| 850 | 1000 | **NNS4936CV** | | 190 | 202 | 240 | 2,0 | 4,0 | 7,0 | 10,8 |
| 850 | 1000 | **NNSL4936CV** | | 190 | - | 240 | 2,0 | 4,0 | 7,0 | 10,5 |
| 850 | 1000 | **NNSF5036CV** | | 191 | 206 | 269 | 2,0 | 4,0 | 8,0 | 30,5 |
| | | | | | | | | | | |
| 850 | 1000 | **NNSF4838CV** | 190 | 197 | 206 | 233 | 1,5 | 4,0 | 7,0 | 5,50 |
| 850 | 1000 | **NNS4838CV** | | 197 | 206 | 233 | 1,5 | 4,0 | 7,0 | 5,65 |
| 850 | 1000 | **NNSL4838CV** | | 197 | - | 233 | 1,5 | 4,0 | 7,0 | 5,30 |
| 850 | 1000 | **NNSF4938CV** | | 200 | 212 | 250 | 2,0 | 4,0 | 7,0 | 11,1 |
| 850 | 1000 | **NNS4938CV** | | 200 | 212 | 250 | 2,0 | 4,0 | 7,0 | 11,2 |
| 850 | 1000 | **NNSL4938CV** | | 200 | - | 250 | 2,0 | 4,0 | 7,0 | 10,9 |
| 800 | 950 | **NNSF5038CV** | | 201 | 201 | 279 | 2,0 | 4,0 | 8,0 | 31,5 |
| | | | | | | | | | | |
| 850 | 1000 | **NNSF4840CV** | 200 | 207 | 217 | 243 | 1,5 | 4,0 | 7,0 | 5,80 |
| 850 | 1000 | **NNS4840CV** | | 207 | 217 | 243 | 1,5 | 4,0 | 7,0 | 5,90 |
| 850 | 1000 | **NNSL4840CV** | | 207 | - | 243 | 1,5 | 4,0 | 7,0 | 5,70 |
| 800 | 950 | **NNSF4940CV** | | 211 | 227 | 269 | 2,0 | 4,0 | 8,0 | 15,6 |
| 800 | 950 | **NNS4940CV** | | 211 | 227 | 269 | 2,0 | 4,0 | 8,0 | 15,8 |
| 800 | 950 | **NNSL4940CV** | | 211 | - | 269 | 2,0 | 4,0 | 8,0 | 15,3 |
| 800 | 950 | **NNSF5040CV** | | 211 | 230 | 299 | 2,0 | 4,0 | 8,0 | 41,0 |
| | | | | | | | | | | |
| 800 | 950 | **NNSF4844CV** | 220 | 227 | 238 | 263 | 1,5 | 4,0 | 7,0 | 6,30 |
| 800 | 950 | **NNS4844CV** | | 227 | 238 | 263 | 1,5 | 4,0 | 7,0 | 6,40 |
| 800 | 950 | **NNSL4844CV** | | 227 | - | 263 | 1,5 | 4,0 | 7,0 | 6,20 |
| 800 | 950 | **NNSF4944CV** | | 231 | 244 | 289 | 2,0 | 4,0 | 8,0 | 17,0 |
| 800 | 950 | **NNS4944CV** | | 231 | 244 | 289 | 2,0 | 4,0 | 8,0 | 17,2 |
| 800 | 950 | **NNSL4944CV** | | 231 | - | 289 | 2,0 | 4,0 | 8,0 | 16,8 |
| 720 | 850 | **NNSF5044CV** | | 235 | 248 | 325 | 2,5 | 6,0 | 8,0 | 52,5 |

## Double row full complement cylindrical roller bearings

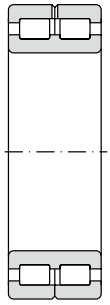
d = 240 to 320 mm




NNSL



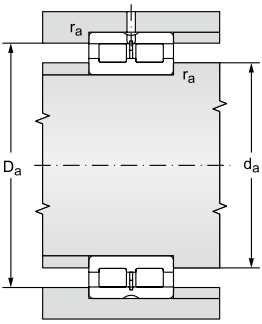

NNSF



NNS

12.4.4

| Main dimensions | | | | | | Basic load rating | | Fatique load limit |
|---|---|---|---|---|---|---|---|---|
| | | | | | | dynamic | static | |
| d | D | B | $r_s$ | E | s[1)] | $C_r$ | $C_{or}$ | $P_u$ |
| | | | min | | | | | |
| mm | | | | | | kN | | kN |
| 240 | 300 | 60 | 2,0 | 281,90 | 4,0 | 530,0 | 1290,0 | 77,05 |
| | 300 | 60 | 2,0 | 281,90 | - | 530,0 | 1290,0 | 77,05 |
| | 300 | 60 | 2,0 | 281,90 | 4,0 | 530,0 | 1290,0 | 77,05 |
| | 320 | 80 | 2,1 | 299,46 | 5,0 | 770,0 | 1750,0 | 103,39 |
| | 320 | 80 | 2,1 | 299,46 | - | 770,0 | 1750,0 | 103,39 |
| | 320 | 80 | 2,1 | 299,46 | 5,0 | 770,0 | 1750,0 | 103,39 |
| | 360 | 160 | 3,0 | 335,60 | 9,0 | 2100,0 | 3900,0 | 225,68 |
| | | | | | | | | |
| 260 | 320 | 60 | 2,0 | 304,20 | 4,0 | 550,0 | 1400,0 | 81,84 |
| | 320 | 60 | 2,0 | 304,20 | - | 550,0 | 1400,0 | 81,84 |
| | 320 | 60 | 2,0 | 304,20 | 4,0 | 550,0 | 1400,0 | 81,84 |
| | 360 | 100 | 2,1 | 331,33 | 6,0 | 1150,0 | 2550,0 | 146,12 |
| | 360 | 100 | 2,1 | 331,33 | - | 1150,0 | 2550,0 | 146,12 |
| | 360 | 100 | 2,1 | 331,33 | 6,0 | 1150,0 | 2550,0 | 146,12 |
| | 400 | 190 | 4,0 | 373,50 | 10,0 | 2850,0 | 5100,0 | 286,80 |
| | | | | | | | | |
| 280 | 350 | 69 | 2,0 | 332,40 | 4,0 | 720,0 | 1850,0 | 105,50 |
| | 350 | 69 | 2,0 | 332,40 | - | 720,0 | 1850,0 | 105,50 |
| | 350 | 69 | 2,0 | 332,40 | 4,0 | 720,0 | 1850,0 | 105,50 |
| | 380 | 100 | 2,1 | 353,34 | 6,0 | 1200,0 | 2700,0 | 151,84 |
| | 380 | 100 | 2,1 | 353,34 | - | 1200,0 | 2700,0 | 151,84 |
| | 380 | 100 | 2,1 | 353,34 | 6,0 | 1200,0 | 2700,0 | 151,84 |
| | 420 | 190 | 4,0 | 389,00 | 10,0 | 2900,0 | 5300,0 | 292,84 |
| | | | | | | | | |
| 300 | 380 | 80 | 2,1 | 356,70 | 6,0 | 850,0 | 2100,0 | 117,04 |
| | 380 | 80 | 2,1 | 356,70 | - | 850,0 | 2100,0 | 117,04 |
| | 380 | 80 | 2,1 | 356,70 | 6,0 | 850,0 | 2100,0 | 117,04 |
| | 420 | 118 | 3,0 | 385,51 | 6,0 | 1650,0 | 3750,0 | 205,45 |
| | 420 | 118 | 3,0 | 385,51 | - | 1650,0 | 3750,0 | 205,45 |
| | 420 | 118 | 3,0 | 385,51 | 6,0 | 1650,0 | 3750,0 | 205,45 |
| | 460 | 218 | 4,0 | 433,00 | 9,0 | 3250,0 | 6550,0 | 353,08 |
| | | | | | | | | |
| 320 | 400 | 80 | 2,1 | 379,70 | 6,0 | 890,0 | 2280,0 | 124,91 |
| | 400 | 80 | 2,1 | 379,70 | - | 890,0 | 2280,0 | 124,91 |
| | 400 | 80 | 2,1 | 379,70 | 6,0 | 890,0 | 2280,0 | 124,91 |
| | 440 | 118 | 3,0 | 412,27 | 6,0 | 1750,0 | 4050,0 | 218,32 |
| | 440 | 118 | 3,0 | 412,27 | - | 1750,0 | 4050,0 | 218,32 |
| | 440 | 118 | 3,0 | 412,27 | 6,0 | 1750,0 | 4050,0 | 218,32 |
| | 480 | 218 | 4,0 | 449,00 | 9,0 | 3650,0 | 6950,0 | 368,92 |

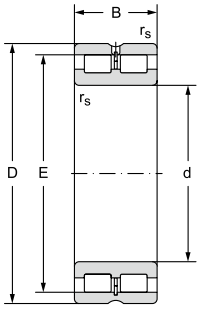



[1] Admissible axial movement
[2] Recommended diameter of fitting for axially loaded bearings

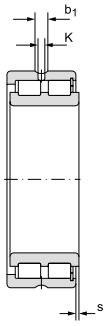
| Limiting speed for lubrication with | | Bearing designation | Abutment and fillet dimensions | | | | | Lubrication slot and holes | | Weight |
|---|---|---|---|---|---|---|---|---|---|---|
| grease | oil | | d | $d_a$ | $d_{as}$ [2] | $D_a$ | $r_a$ | a | b | ~ |
| | | | | min | max | max | max | | | |
| $min^{-1}$ | | | mm | | | | | | | kg |
| 760 | 900 | **NNSF4848CV** | 240 | 250 | 257 | 290 | 2,0 | 4,0 | 8,0 | 9,90 |
| 760 | 900 | **NNS4848CV** | | 250 | 257 | 290 | 2,0 | 4,0 | 8,0 | 10,00 |
| 760 | 900 | **NNSL4848CV** | | 250 | - | 290 | 2,0 | 4,0 | 8,0 | 9,80 |
| 720 | 850 | **NNSF4948CV** | | 251 | 267 | 309 | 2,0 | 4,0 | 8,0 | 18,3 |
| 720 | 850 | **NNS4948CV** | | 251 | 267 | 309 | 2,0 | 4,0 | 8,0 | 18,5 |
| 720 | 850 | **NNSL4948CV** | | 251 | - | 309 | 2,0 | 4,0 | 8,0 | 17,9 |
| 680 | 800 | **NNSF5048CV** | | 255 | 271 | 345 | 2,5 | 5,0 | 9,4 | 56,0 |
| | | | | | | | | | | |
| 680 | 800 | **NNSF4852CV** | 260 | 270 | 280 | 310 | 2,0 | 4,0 | 8,0 | 10,8 |
| 680 | 800 | **NNS4852CV** | | 270 | 280 | 310 | 2,0 | 4,0 | 8,0 | 11,0 |
| 680 | 800 | **NNSL4852CV** | | 270 | - | 310 | 2,0 | 4,0 | 8,0 | 10,6 |
| 630 | 750 | **NNSF4952CV** | | 271 | 290 | 349 | 2,0 | 5,0 | 9,4 | 31,6 |
| 630 | 750 | **NNS4952CV** | | 271 | 290 | 349 | 2,0 | 5,0 | 9,4 | 32,0 |
| 630 | 750 | **NNSL4952CV** | | 271 | - | 349 | 2,0 | 5,0 | 9,4 | 31,2 |
| 590 | 700 | **NNSF5052CV** | | 278 | 297 | 382 | 3,0 | 5,0 | 9,4 | 85,5 |
| | | | | | | | | | | |
| 630 | 750 | **NNSF4856CV** | 280 | 290 | 305 | 340 | 2,0 | 4,0 | 8,0 | 15,8 |
| 630 | 750 | **NNS4856CV** | | 290 | 305 | 340 | 2,0 | 4,0 | 8,0 | 16,0 |
| 630 | 750 | **NNSL4856CV** | | 290 | - | 340 | 2,0 | 4,0 | 8,0 | 15,6 |
| 590 | 700 | **NNSF4956CV** | | 291 | 312 | 369 | 2,0 | 5,0 | 9,4 | 33,5 |
| 590 | 700 | **NNS4956CV** | | 291 | 312 | 369 | 2,0 | 5,0 | 9,4 | 34,0 |
| 590 | 700 | **NNSL4956CV** | | 291 | - | 369 | 2,0 | 5,0 | 9,4 | 33,0 |
| 570 | 670 | **NNSF5056CV** | | 298 | 314 | 402 | 3,0 | 5,0 | 9,4 | 90,5 |
| | | | | | | | | | | |
| 590 | 700 | **NNSF4860CV** | 300 | 311 | 325 | 369 | 2,0 | 5,0 | 9,4 | 22,5 |
| 590 | 700 | **NNS4860CV** | | 311 | 325 | 369 | 2,0 | 5,0 | 9,4 | 23,0 |
| 590 | 700 | **NNSL4860CV** | | 311 | - | 369 | 2,0 | 5,0 | 9,4 | 22,0 |
| 570 | 670 | **NNSF4960CV** | | 315 | 335 | 405 | 2,5 | 5,0 | 9,4 | 52,5 |
| 570 | 670 | **NNS4960CV** | | 315 | 335 | 405 | 2,5 | 5,0 | 9,4 | 53,0 |
| 570 | 670 | **NNSL4960CV** | | 315 | - | 405 | 2,5 | 5,0 | 9,4 | 52,0 |
| 510 | 600 | **NNSF5060CV** | | 318 | 343 | 442 | 3,0 | 5,0 | 9,4 | 130 |
| | | | | | | | | | | |
| 530 | 630 | **NNSF4864CV** | 320 | 331 | 348 | 389 | 2,0 | 5,0 | 9,4 | 23,5 |
| 530 | 630 | **NNS4864CV** | | 331 | 348 | 389 | 2,0 | 5,0 | 9,4 | 24,0 |
| 530 | 630 | **NNSL4864CV** | | 331 | - | 389 | 2,0 | 5,0 | 9,4 | 23,0 |
| 510 | 600 | **NNSF4964CV** | | 335 | 362 | 425 | 2,5 | 5,0 | 9,4 | 55,5 |
| 510 | 600 | **NNS4964CV** | | 335 | 362 | 425 | 2,5 | 5,0 | 9,4 | 56,0 |
| 510 | 600 | **NNSL4964CV** | | 335 | - | 425 | 2,5 | 5,0 | 9,4 | 55,0 |
| 470 | 560 | **NNSF5064CV** | | 338 | 360 | 462 | 3,0 | 5,0 | 9,4 | 135 |

## Double row full complement cylindrical roller bearings

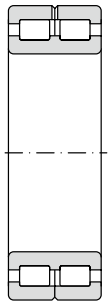
d = 340 to 400 mm




NNSL



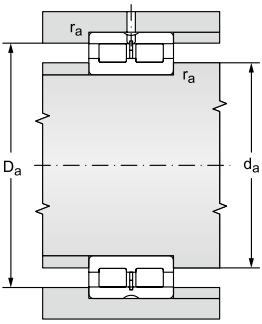

NNSF



NNS

12.4.4

| Main dimensions | | | | | | Basic load rating | | Fatique load limit |
|---|---|---|---|---|---|---|---|---|
| | | | | | | dynamic | static | |
| d | D | B | $r_s$ | E | s[1)] | $C_r$ | $C_{or}$ | $P_u$ |
| | | | min | | | | | |
| mm | | | | | | kN | | kN |
| 340 | 420 | 80 | 2,1 | 396,90 | 6,0 | 900,0 | 2400,0 | 129,37 |
| | 420 | 80 | 2,1 | 396,90 | - | 900,0 | 2400,0 | 129,37 |
| | 420 | 80 | 2,1 | 396,90 | 6,0 | 900,0 | 2400,0 | 129,37 |
| | 460 | 118 | 3,0 | 430,11 | 6,0 | 1780,0 | 4250,0 | 225,60 |
| | 460 | 118 | 3,0 | 430,11 | - | 1780,0 | 4250,0 | 225,60 |
| | 460 | 118 | 3,0 | 430,11 | 6,0 | 1780,0 | 4250,0 | 225,60 |
| | 520 | 243 | 5,0 | 485,00 | 11,0 | 4350,0 | 8300,0 | 431,13 |
| | | | | | | | | |
| 360 | 440 | 80 | 2,1 | 419,80 | 6,0 | 925,0 | 2550,0 | 135,36 |
| | 440 | 80 | 2,1 | 419,80 | - | 925,0 | 2550,0 | 135,36 |
| | 440 | 80 | 2,1 | 419,80 | 6,0 | 925,0 | 2550,0 | 135,36 |
| | 480 | 118 | 3,0 | 448,00 | 6,0 | 1820,0 | 4500,0 | 235,40 |
| | 480 | 118 | 3,0 | 448,00 | - | 1820,0 | 4500,0 | 235,40 |
| | 480 | 118 | 3,0 | 448,00 | 6,0 | 1820,0 | 4500,0 | 235,40 |
| | 540 | 243 | 5,0 | 503,00 | 11,0 | 4450,0 | 8650,0 | 443,22 |
| | | | | | | | | |
| 380 | 480 | 100 | 2,1 | 455,80 | 6,0 | 1400,0 | 3650,0 | 189,59 |
| | 480 | 100 | 2,1 | 455,80 | - | 1400,0 | 3650,0 | 189,59 |
| | 480 | 100 | 2,1 | 455,80 | 6,0 | 1400,0 | 3650,0 | 189,59 |
| | 520 | 140 | 4,0 | 481,35 | 7,0 | 2350,0 | 5700,0 | 292,06 |
| | 520 | 140 | 4,0 | 481,35 | - | 2350,0 | 5700,0 | 292,06 |
| | 520 | 140 | 4,0 | 481,35 | 7,0 | 2350,0 | 5700,0 | 292,06 |
| | 560 | 243 | 5,0 | 521,00 | 11,0 | 4650,0 | 9150,0 | 462,76 |
| | | | | | | | | |
| 400 | 500 | 100 | 2,1 | 470,59 | 6,0 | 1420,0 | 3750,0 | 192,15 |
| | 500 | 100 | 2,1 | 470,59 | - | 1420,0 | 3750,0 | 192,15 |
| | 500 | 100 | 2,1 | 470,59 | 6,0 | 1420,0 | 3750,0 | 192,15 |
| | 540 | 140 | 4,0 | 501,74 | 7,0 | 2400,0 | 6000,0 | 303,45 |
| | 540 | 140 | 4,0 | 501,74 | - | 2400,0 | 6000,0 | 303,45 |
| | 540 | 140 | 4,0 | 501,74 | 7,0 | 2400,0 | 6000,0 | 303,45 |
| | 600 | 272 | 5,0 | 558,00 | 11,0 | 5500,0 | 11000,0 | 546,10 |




[1] Admissible axial movement
[2] Recommended diameter of fitting for axially loaded bearings

| Limiting speed for lubrication with | | Bearing designation | Abutment and fillet dimensions | | | | | Lubrication slot and holes | | Weight |
|---|---|---|---|---|---|---|---|---|---|---|
| grease | oil | | d | $d_a$ | $d_{as}$ [2] | $D_a$ | $r_a$ | a | b | ~ |
| | | | | min | max | max | max | | | |
| $min^{-1}$ | | | mm | | | | | | | kg |
| 510 | 600 | **NNSF4868CV** | 340 | 351 | 365 | 409 | 2,0 | 5,0 | 9,4 | 25,0 |
| 510 | 600 | **NNS4868CV** | | 351 | 365 | 409 | 2,0 | 5,0 | 9,4 | 25,5 |
| 510 | 600 | **NNSL4868CV** | | 351 | - | 409 | 2,0 | 5,0 | 9,4 | 24,5 |
| 470 | 560 | **NNSF4968CV** | | 355 | 380 | 445 | 2,5 | 5,0 | 9,4 | 58,5 |
| 470 | 560 | **NNS4968CV** | | 355 | 380 | 445 | 2,5 | 5,0 | 9,4 | 59,0 |
| 470 | 560 | **NNSL4968CV** | | 355 | - | 445 | 2,5 | 5,0 | 9,4 | 57,8 |
| 450 | 530 | **NNSF5068CV** | | 361 | 384 | 497 | 4,0 | 5,0 | 9,4 | 185 |
| | | | | | | | | | | |
| 470 | 560 | **NNSF4872CV** | 360 | 371 | 388 | 429 | 2,0 | 5,0 | 9,4 | 26,5 |
| 470 | 560 | **NNS4872CV** | | 371 | 388 | 429 | 2,0 | 5,0 | 9,4 | 27,0 |
| 470 | 560 | **NNSL4872CV** | | 371 | - | 429 | 2,0 | 5,0 | 9,4 | 26,0 |
| 450 | 530 | **NNSF4972CV** | | 375 | 398 | 465 | 2,5 | 5,0 | 9,4 | 61,5 |
| 450 | 530 | **NNS4972CV** | | 375 | 398 | 465 | 2,5 | 5,0 | 9,4 | 62,0 |
| 450 | 530 | **NNSL4972CV** | | 375 | - | 465 | 2,5 | 5,0 | 9,4 | 60,8 |
| 420 | 500 | **NNSF5072CV** | | 383 | 402 | 517 | 4,0 | 5,0 | 9,4 | 195 |
| | | | | | | | | | | |
| 450 | 530 | **NNSF4876CV** | 380 | 391 | 415 | 469 | 2,0 | 5,0 | 9,4 | 44,8 |
| 450 | 530 | **NNS4876CV** | | 391 | 415 | 469 | 2,0 | 5,0 | 9,4 | 45,5 |
| 450 | 530 | **NNSL4876CV** | | 391 | - | 469 | 2,0 | 5,0 | 9,4 | 44,0 |
| 420 | 500 | **NNSF4976CV** | | 398 | 424 | 502 | 3,0 | 5,0 | 9,4 | 91,5 |
| 420 | 500 | **NNS4976CV** | | 398 | 424 | 502 | 3,0 | 5,0 | 9,4 | 92,5 |
| 420 | 500 | **NNSL4976CV** | | 398 | - | 502 | 3,0 | 5,0 | 9,4 | 90,5 |
| 400 | 480 | **NNSF5076CV** | | 403 | 420 | 537 | 4,0 | 5,0 | 9,4 | 200 |
| | | | | | | | | | | |
| 420 | 500 | **NNSF4880CV** | 400 | 411 | 430 | 489 | 2,0 | 5,0 | 9,4 | 46,2 |
| 420 | 500 | **NNS4880CV** | | 411 | 430 | 489 | 2,0 | 5,0 | 9,4 | 46,5 |
| 420 | 500 | **NNSL4880CV** | | 411 | - | 489 | 2,0 | 5,0 | 9,4 | 45,9 |
| 400 | 480 | **NNSF4980CV** | | 418 | 444 | 522 | 3,0 | 5,0 | 9,4 | 95,5 |
| 400 | 480 | **NNS4980CV** | | 418 | 444 | 522 | 3,0 | 5,0 | 9,4 | 96,5 |
| 400 | 480 | **NNSL4980CV** | | 418 | - | 522 | 3,0 | 5,0 | 9,4 | 94,5 |
| 380 | 450 | **NNSF5080CV** | | 423 | 449 | 577 | 4,0 | 5,0 | 9,4 | 270 |