**NOMENCLATURE**

**EE Extra Light Inch Series/Miniature Ball Bearings**

<table>
<thead>
<tr>
<th>Bore Diameters</th>
<th>Bearing Series</th>
<th>Bore Diameter (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EE0</td>
<td>EE6</td>
<td>0.1250</td>
</tr>
<tr>
<td>EE1</td>
<td>EE7</td>
<td>0.1875</td>
</tr>
<tr>
<td>EE1 1/2</td>
<td>EE8</td>
<td>0.2500</td>
</tr>
<tr>
<td>EE2</td>
<td>EE9</td>
<td>0.2500</td>
</tr>
<tr>
<td>EE3</td>
<td>EE10</td>
<td>0.3750</td>
</tr>
<tr>
<td>EE4</td>
<td>EE11</td>
<td>0.5000</td>
</tr>
<tr>
<td>EE5</td>
<td>EE12</td>
<td>0.6250</td>
</tr>
</tbody>
</table>

Bore diameters for EE Extra Light Inch Series/Miniature Ball Bearings.

**Bore Diameters**

- **EE0**: 0.1250
- **EE1**: 0.1875
- **EE1 1/2**: 0.2500
- **EE2**: 0.2500
- **EE3**: 0.3750
- **EE4**: 0.5000
- **EE5**: 0.6250

**Closures**

- **One Side**
  - Z: Fixed Shield(s)
  - ZX: Removable Shield(s)
  - RS: Contact Seal(s)
  - RD: Light Contact Seal(s)
  - RU: Non-Contact Seal(s)

- **Both Sides**
  - ZZ: Fixed Shield(s)
  - ZZZ: Removable Shield(s)
  - 2RS: Contact Seal(s)
  - 2RU: Non-Contact Seal(s)

**Internal Clearance**

- **C2**: Smaller than Standard
- **C3**: Larger than Standard
- **C2 Smaller than Standard**
  - XM: 0 ~ 5 mm
  - M1: 0 ~ 5 mm
  - M2: 3 ~ 8 mm
  - M3: 5 ~ 10 mm
  - M4: 8 ~ 13 mm
  - M5: 13 ~ 20 mm

**Grease Code**

- **XM**: Polyrex EM
- **SR**: Multemp SRL
- **A2**: Alvania #2
- **P2**: Multemp PS2

**Operating Temperature Range**

- **XM**: -22° F to 338° F (-30 to 170 °C)
- **SR**: -40° F to 266° F (-40 to 130 °C)
- **A2**: 14° F to 212° F (-10 to 100 °C)
- **P2**: -58° F to 266° F (-50 to 130 °C)

**Koyo Interchange for EE series bearings**

<table>
<thead>
<tr>
<th>&quot;W&quot; series #</th>
<th>Koyo bearing#</th>
<th>Koyo Sealed</th>
<th>Koyo Shielded</th>
</tr>
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<tbody>
<tr>
<td>R-2</td>
<td>EE0</td>
<td>EE0 2RS</td>
<td>EE0 ZZ</td>
</tr>
<tr>
<td>R-3</td>
<td>EE1</td>
<td>EE15 2RS</td>
<td>EE15 ZZ</td>
</tr>
<tr>
<td>R-4</td>
<td>EE1-1/2</td>
<td>EE1-1/2 2RS</td>
<td>EE1-1/2 ZZ</td>
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<tr>
<td>R-4A</td>
<td>EE2</td>
<td>EE25 2RS</td>
<td>EE25 ZZ</td>
</tr>
<tr>
<td>R-6</td>
<td>EE3</td>
<td>EE35 2RS</td>
<td>EE35 ZZ</td>
</tr>
<tr>
<td>R-8</td>
<td>EE4</td>
<td>EE45 2RS</td>
<td>EE45 ZZ</td>
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<tr>
<td>R-10</td>
<td>EE5</td>
<td>EE55 2RS</td>
<td>EE55 ZZ</td>
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<tr>
<td>R-12</td>
<td>EE6</td>
<td>EE65 2RS</td>
<td>EE65 ZZ</td>
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<tr>
<td>R-14</td>
<td>EE8</td>
<td>EE85 2RS</td>
<td>EE85 ZZ</td>
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<td>R-16</td>
<td>EE9</td>
<td>EE95 2RS</td>
<td>EE95 ZZ</td>
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<tr>
<td>R-18</td>
<td>EE10</td>
<td>EE105 2RS</td>
<td>EE105 ZZ</td>
</tr>
<tr>
<td>R-20</td>
<td>EE11</td>
<td>EE115 2RS</td>
<td>EE115 ZZ</td>
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<tr>
<td>R-22</td>
<td>EE12</td>
<td>EE125 2RS</td>
<td>EE125 ZZ</td>
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<td>R-24</td>
<td>EE13</td>
<td>EE135 2RS</td>
<td>EE135 ZZ</td>
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</table>
**NOMENCLATURE**

**Ball Bearings**

### Basic Type & Series

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>1200</td>
<td>Metric, Self-aligning Light Series</td>
</tr>
<tr>
<td>1300</td>
<td>Metric, Self-aligning Medium Series</td>
</tr>
<tr>
<td>3200</td>
<td>Metric, 32° Double Row Angular Contact Light Series</td>
</tr>
<tr>
<td>3300</td>
<td>Metric, 32° Double Row Angular Contact Medium Series</td>
</tr>
<tr>
<td>5200</td>
<td>Metric, 24° Double Row Angular Contact Light Series</td>
</tr>
<tr>
<td>5300</td>
<td>Metric, 24° Double Row Angular Contact Medium Series</td>
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<tr>
<td>6800</td>
<td>Metric, Single Row Ultra Light Series</td>
</tr>
<tr>
<td>6900</td>
<td>Metric, Single Row Extremely Light Series</td>
</tr>
<tr>
<td>6000</td>
<td>Metric, Single Row Extra Light Series</td>
</tr>
<tr>
<td>6200</td>
<td>Metric, Single Row Light Series</td>
</tr>
<tr>
<td>6300</td>
<td>Metric, Single Row Medium Series</td>
</tr>
<tr>
<td>6400</td>
<td>Metric, Single Row Heavy Series</td>
</tr>
<tr>
<td>3NC</td>
<td>Ceramic Rolling Elements</td>
</tr>
</tbody>
</table>

### Internal Clearance

- **C1**: Smaller than C2
- **C2**: Smaller than Standard
- No code: Standard
- **C3**: Greater than Standard
- **C4**: Greater than C3
- **CD2**: Smaller than Standard (Double Row BB)
- No code: Standard (Double Row BB)
- **CD3**: Greater than Standard (Double Row BB)

### Tolerance Code

- No Code: ABEC 1 Precision
- **P6**: ABEC 3 Precision
- **P5**: ABEC 5 Precision

### Grease

- **XM**: Polyrex EM: -22° F to 338° F (-30 to 170 °C)
- **SR**: Multemp SRL: -40° F to 266° F (-40 to 130 °C)
- **A2**: Alvania #2: 14° F to 212° F (-10 to 100 °C)
- **P2**: Multemp PS2: -58° F to 266° F (-50 to 130 °C)

### Internal Design

- **R**: Increased Capacity
- **SH2**: Special Heat Treatment on Inner Ring

### Internal Shape / Seal/ Snap Ring Codes

<table>
<thead>
<tr>
<th>Description</th>
<th>FAG</th>
<th>MRC</th>
<th>Nachi</th>
<th>NSK</th>
<th>NTN</th>
<th>SNR</th>
<th>SKF</th>
<th>Torrington/Fafnir</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z</td>
<td>Z/ZZ</td>
<td>F/FF</td>
<td>Z/ZZ</td>
<td>Z/ZZ</td>
<td>Z/ZZ</td>
<td>Z/ZZ</td>
<td>Z/ZZ</td>
<td>D/IDD</td>
</tr>
<tr>
<td>ZX</td>
<td>ZXX</td>
<td>N/A</td>
<td>L/L</td>
<td>Z/S/Z</td>
<td>Z/S/Z</td>
<td>Z/A/Z</td>
<td>N/A</td>
<td>N/A</td>
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<tr>
<td>RS</td>
<td>2RS</td>
<td>RS/2RS</td>
<td>Z/ZZ</td>
<td>NSL/2NSL</td>
<td>DU/DDU</td>
<td>E/E</td>
<td>RS/2RS</td>
<td>P/PP</td>
</tr>
<tr>
<td>RK</td>
<td>2RK</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>LC/LLC</td>
<td>E10/EE10</td>
<td>N/A</td>
<td>YYY</td>
</tr>
<tr>
<td>RD</td>
<td>2RD</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>VVV</td>
</tr>
<tr>
<td>RDT</td>
<td>2RDT</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
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<td>N/A</td>
<td>VVV</td>
</tr>
<tr>
<td>NR</td>
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<td>G</td>
<td>NR</td>
<td>NR</td>
<td>NR</td>
<td>NR</td>
<td>NR</td>
<td>G</td>
</tr>
</tbody>
</table>

### Shield / Seal

- **Z** Fixed Shield(s)
- **ZX** Removable Shield(s)
- **RS** Contact Seal(s)
- **RK** Dbl lip Contact Seal(s)
- **RD** Extremely Light Contact Seal(s)
- **RDT** Same as 2RD - for Large Size Ball Bearings

### Retainer Codes

- No Code: Pressed Steel Retainer
- **FY**: Machined Brass Retainer
- **FG**: Polymide (Nylon) Retainer

### Bore Size

- For bore series 04 and above, Bore Diameter = Bore Series \( \times 5 \)

<table>
<thead>
<tr>
<th>Bore Series</th>
<th>Bore Diameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>00</td>
<td>10 mm</td>
</tr>
<tr>
<td>01</td>
<td>12 mm</td>
</tr>
<tr>
<td>02</td>
<td>15 mm</td>
</tr>
<tr>
<td>03</td>
<td>17 mm</td>
</tr>
<tr>
<td>04</td>
<td>20 mm</td>
</tr>
<tr>
<td>05</td>
<td>25 mm</td>
</tr>
<tr>
<td>10</td>
<td>50 mm</td>
</tr>
<tr>
<td>12</td>
<td>60 mm</td>
</tr>
<tr>
<td>18</td>
<td>90 mm</td>
</tr>
</tbody>
</table>

### Grease Trade Name

- **XM**: Polyrex EM: Temperature Range -22° F to 338° F (-30 to 170 °C)
- **SR**: Multemp SRL: Temperature Range -40° F to 266° F (-40 to 130 °C)
- **A2**: Alvania #2: Temperature Range 14° F to 212° F (-10 to 100 °C)
- **P2**: Multemp PS2: Temperature Range -58° F to 266° F (-50 to 130 °C)
**NOMENCLATURE**

Angular Contact Ball Bearings

**Basic Type and Series**
- 7200: Metric, Single Row Light Series
- 7300: Metric, Single Row Medium Series
- 7400: Metric, Single Row Heavy Series

**Supplementary Codes**
- 72: Basic Type
- 05: Series Supplementary Code
- B: Contact Angle
- -5G: Axial Internal Clearance
- C3: Tolerance Code

**Retainer Codes**
- No Code: Pressed Steel Retainer
- FY: Machined Brass Retainer
- FT: Phenolic Retainer
- FG: Polyamide (Nylon) Retainer

**Bore Size**
For bore series 04 and above, Bore Diameter ~ Bore Series x 5

<table>
<thead>
<tr>
<th>Bore Diameter</th>
<th>Bore Series</th>
</tr>
</thead>
<tbody>
<tr>
<td>00: 10 mm</td>
<td></td>
</tr>
<tr>
<td>01: 12 mm</td>
<td></td>
</tr>
<tr>
<td>02: 15 mm</td>
<td></td>
</tr>
<tr>
<td>03: 17 mm</td>
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</tr>
<tr>
<td>04: 20 mm</td>
<td></td>
</tr>
<tr>
<td>05: 25 mm</td>
<td></td>
</tr>
<tr>
<td>10: 50 mm</td>
<td></td>
</tr>
<tr>
<td>12: 60 mm</td>
<td></td>
</tr>
<tr>
<td>18: 90 mm</td>
<td></td>
</tr>
</tbody>
</table>

**Contact Angle**
- No Code: 30° Contact angle
- B: 40° Contact angle
- C: 15° Contact angle

**Axial Internal Clearance**
- ST/CN: Standard (for large size bearings only)
- C3: Greater than Standard
- L: Light Preload
- M: Medium Preload
- H: Heavy Preload

**Paired Bearings**
- X2: 2 Bearings
- X3: 3 Bearings

**Tolerance Code**
- No Code: ABEC 1 Precision
- P6: ABEC 3 Precision
- P5: ABEC 5 Precision
- P4: ABEC 7 Precision
NOMENCLATURE
Cylindrical Roller Bearings

**Basic Type**
- NU: Separable inner ring, no thrust load capacity
- NJ: Separable inner ring, thrust load capacity in one direction

**Roller Code**
- No Code: Standard rollers
- R: Larger than standard rollers

**Retainer Code**
- FY: Rivet type machined brass retainer
- TY: Finger type machined brass retainer

**Bore Size**
For bore series 04 and above,
Bore Diameter = Bore Series X 5

<table>
<thead>
<tr>
<th>Bore Series</th>
<th>Bore Diameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>03</td>
<td>17 mm</td>
</tr>
<tr>
<td>04</td>
<td>20 mm</td>
</tr>
<tr>
<td>05</td>
<td>25 mm</td>
</tr>
<tr>
<td>10</td>
<td>50 mm</td>
</tr>
<tr>
<td>12</td>
<td>60 mm</td>
</tr>
<tr>
<td>18</td>
<td>90 mm</td>
</tr>
</tbody>
</table>

**Internal Clearance**
- C2: Smaller than Standard
- No Code: Standard
- C3: Larger than Standard
- C4: Larger than C3
## Interchanges

**Tapered Roller Bearing Sets**

<table>
<thead>
<tr>
<th>Tapered Set Number</th>
<th>Koyo Part Number</th>
<th>CR Bearing</th>
<th>BCA Federal Mogul</th>
<th>L &amp; S Bearing</th>
<th>Timken</th>
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</thead>
<tbody>
<tr>
<td>K1</td>
<td>LM11749R</td>
<td>LM11710</td>
<td>BR1</td>
<td>A1</td>
<td>S1</td>
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<tr>
<td>K2</td>
<td>LM11949</td>
<td>LM11910</td>
<td>BR2</td>
<td>A2</td>
<td>S2</td>
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<td>K3</td>
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<td>M12610</td>
<td>BR3</td>
<td>A3</td>
<td>S3</td>
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<td>A41</td>
<td>S41</td>
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</table>
NOMENCLATURE
Spherical Roller Bearings

Basic Type & Series
- 21300: Dimension Series 13 Spherical Roller Bearings
- 22200: Dimension Series 22 Spherical Roller Bearings
- 22300: Dimension Series 23 Spherical Roller Bearings
- 23000: Dimension Series 30 Spherical Roller Bearings
- 230/: Extra Large 30 Series Spherical Roller Bearing
- 23100: Dimension Series 31 Spherical Roller Bearings
- 23200: Dimension Series 32 Spherical Roller Bearings
- 232/: Extra Large 32 Series Spherical Roller Bearing
- 23900: Dimension Series 39 Spherical Roller Bearings
- 24000: Dimension Series 40 Spherical Roller Bearings
- 24100: Dimension Series 41 Spherical Roller Bearings
- 29000: Dimension Series 90 Spherical Thrust Roller Bearings

Supplementary Codes
- OVS: For Applications Involving Vibratory Loads
- W33: Outer ring with oil groove and lubrication holes
- W502: Outer ring with oil groove and lubrication holes and OD Tolerance of ± 0.005 mm.

Clearance Codes
- No Code: Standard clearance
- C3: Greater than standard clearance
- C4: Greater than C3 clearance

Bore Designs
- **R: With center rib & ribs on both sides (Brass Cage)
- *RR: With center rib & ribs on both sides (Brass Cage)
- RH: Without center rib & without ribs on both sides (Press Steel Cage)
- RHR: Without center rib & without ribs on both sides (Press Steel Cage)

Retainer Codes
- No Code: Pressed Steel Retainer (Standard for 'RH' and 'RHR' Designs)
- FY: Machined Brass Retainer (Standard for 'R' and 'RR' Designs)
- YP: Pressed Brass Retainer (Standard for 24000R Designs)

Bore Size
For bore series 04 and above, Bore Diameter = Bore Series X 5

Bore Series Bore Diameter
- 05: 25 mm
- 10: 50 mm
- 12: 60 mm
- 18: 90 mm

N: Electric motor quality for 29000 series
K: 1:12 Tapered Bore
K30: 1:30 Tapered Bore

* Oil hole quantity & dimensions may vary from Koyo Catalog 20014
* Please consult Koyo Engineering department when using locating pins in oil holes

** 21308 through 21320 same as above.
NOMENCLATURE
Needle Roller & Cage Assemblies

Radial Needle Roller and Cage Assemblies – Metric Nominal Dimensions

Prefix
K needle roller and cage assembly

Outer diameter
28 = 28 mm
65 = 65 mm

K 24 x 28 x 10 H

Bore diameter
24 = 24 mm
49 = 49 mm

Width
10 = 10 mm
38 = 38 mm

Suffix
BE hardened steel cage (for crank pin position)
H hardened steel cage
SE hardened steel cage (for wrist pin position)
TN molded cage of reinforced engineered polymer
ZW double-row
F machined cage
FH machined cage, case hardened
FV machined cage, hardened and tempered

Radial Needle Roller and Cage Assemblies – Inch Nominal Dimensions

Prefixes
WJ needle roller and sigma type cage assembly
WJC needle roller and non-sigma type cage assembly

Width
16 = \(\frac{15}{16}\) = 1 in.

WJ - 20 26 16

Bore
20 = \(\frac{2}{16}\) = 1 1/4 in.

Outer Diameter
26 = \(\frac{25}{16}\) = 1 5/8 in.
**NOMENCLATURE**

**Drawn Cup Needle Roller Bearings**

**Drawn Cup Needle Roller Bearings – Metric Nominal Dimensions**

- **Prefix**
  - HK: drawn cup bearing, caged, open ends
  - BK: drawn cup bearing, caged, closed end
  - DL: drawn cup bearing, full complement, open ends
  - DLH: drawn cup bearing, full complement, closed end

- **Suffix**
  - RS: lip contact seal on one side of the bearing
  - 2RS: lip contact seal on each side of the bearing
  - AS1: lubricating hole

- **Housing**
  - 12: 12 mm
  - 20: 20 mm

- **Bore diameter**
  - 10 mm
  - 10 mm
  - 25 mm

**Inner Rings – Metric Nominal Dimensions**

- **Prefix**
  - JR: inner ring
  - JRD: inner ring without mounting chamfers
  - KR: inner ring for full complement bearings
  - IAC: inner ring with oil hole for full complement bearings

- **Suffix**
  - JS1: lubricating hole
  - R6: crowned raceway (IM types)

- **Housing**
  - 10 mm
  - 14 mm
  - 12 mm

**Drawn Cup Needle Roller Bearings – Inch Nominal Dimensions**

- **Prefixes**
  - B: full complement of mechanically retained needle rollers
  - G: extra-precision
  - H: heavy series
  - J: caged complement of needle rollers
  - M: closed end
  - T: one seal
  - TT: two seals

- **Suffixes**
  - with M prefix signifies closed end inch nominal dimensions
  - limited availability
  - F: plastic cage
  - GF: grease fitting, closed end
  - OH: oil hole
  - OHE: oil hole in closed end

- **Bore**
  - 16 = 5/8 in.
  - 18 = 11/16 in.

- **Width**
  - 12 = 15/16 in.
  - 16 = 7/8 in.

**Inner Rings (with four-digit number) Inch Nominal Dimensions**

- **Prefixes**
  - IR: regular width (for use with drawn cup bearings only)
  - IRA: extended width (for use with drawn cup bearings only)

- **Suffixes**
  - limited availability
  - L: 0.005 in. width tolerance
  - OH: oil hole and lube groove

- **Bore**
  - 5/16 in.
  - 11/16 in.
  - 15/16 in.

- **Width (IR series only)**
  - 12 = 15/16 in.
  - 16 = 1 in.
**NOMENCLATURE**

*Drawn Cup Roller Clutches*

### Metric Series
- **FCS, FC-K**: regular clutch, single roller per stainless steel spring
- **FC**: regular clutch, multi-roller per stainless steel spring
- **FCL-K**: light series clutch, single roller per stainless steel spring
- **FCB**: regular clutch and bearing assembly, multi-roller per stainless steel spring
- **FCBL-K, FCBN-K**: light series clutch and bearing assembly, single roller per stainless steel spring

### Inch Series
- **RC**: regular clutch, single roller per integral spring
- **RC-FS**: regular clutch, single roller per stainless steel spring
- **RCB**: regular clutch and bearing assembly, single roller per integral spring
- **RCB-FS**: regular clutch and bearing assembly, single roller per stainless steel spring

### FCL - 10 - K
- **Bore**, in millimeters

### RC - 10 - 14 - 10 - FS
- **Outer Diameter**: 14 = 1 3/16 = 3/8 in.
- **Bore**: 10 = 10/16 = 5/8 in.
- **Width**: 10 = 10/16 = 5/8 in.
NOMENCLATURE
Solid Race
Needle Roller Bearings

Needle Roller Bearings with Inner Rings – Metric Nominal Dimensions

Series
48 = dimension series 48
49 = dimension series 49
69 = dimension series 69

10 = Series 1000
20 = Series 2000
220 = Series 22000
30 = Series 3000

Inner Ring Bore Diameter
(for NA49, NA69: < 17 mm bore)
00 = 10 mm
01 = 12 mm
02 = 15 mm
03 = 17 mm
(for NA48, NA49, NA69: ≥ 20 mm bore)
bore code x 5 = bore diameter

Prefix
NA needle roller bearing with inner ring,
lube hole in outer ring
NKJ needle roller bearing with inner ring
NKJS needle roller bearing with inner ring,
lube hole in outer ring
NAO needle roller bearing with inner ring,
without flanges

Suffix
RS lip contact seal on one side
.2RS lip contact seal on both sides
TN molded cage of reinforced polymer
AA modified internal design

Inner Ring Bore Diameter
(for NA49, NA69, NKJ, NKJS, NAO)
7  = 7 mm
22 = 22 mm
30 = 3 mm

Bearing Width
(for NKJ, NAO)
16 = 16 mm
17 = 17 mm

Outer Ring Diameter
45 = 45 mm

NA
49
04 .2RS
NA
69 / 22
NKJ
7 / 16 TN
NAO
30 x 45 x 17
NOMENCLATURE
Solid Race
Needle Roller Bearings

Needle Roller Bearings without Inner Rings – Metric Nominal Dimensions

Series
48 = dimension series 48
69 = dimension series 69
20 = Series 2000
220 = Series 22000

Prefix
RNA needle roller bearing without inner ring
NK needle roller bearing without inner ring
NKS needle roller bearing without inner ring, lube hole in outer ring
RNAO needle roller bearing without inner ring, without flanges

RNA 49 04 .2RS
Needle Roller Complement Bore Code
See tables for dimensions

Suffix
RS lip contact seal on one side
.2RS lip contact seal on both sides
TN molded cage of reinforced polymer
A modified internal design

RNA 69 / 22
Needle Roller Complement Bore Diameter
(NK, NKS, RNAO):
10 = 10 mm
35 = 35 mm
(for RNA49, RNA69):
22 = 28 mm
28 = 32 mm
32 = 40 mm

NK 10 / 16 TN

RNAO 35 x 45 x 17
Outer Ring Diameter
45 = 45 mm

Inner Rings for Needle Roller Bearings – Metric Nominal Dimensions

Prefix
JR inner ring for use with metric needle roller bearing
JRZ inner ring for use with metric needle roller bearing, without mounting chamfers

JRZ 25 x 30 x 18 JS1
Bore Diameter
25 = 25 mm
Width
18 = 18 mm
Outer Diameter
30 = 30 mm
Suffix
JS1 lubrication hole
NOMENCLATURE

Solid Race
Needle Roller Bearings

**Needle Roller Bearings – Inch Nominal Dimensions**

- **Prefix**
  - HJ: inch nominal dimensions
  - H/M: matched pair of HJ

- **Outer Diameter**
  - 20 = \( \frac{49}{16} \) in. = 1 1/4 in.

- **Suffix**
  - RS: one seal
  - 2RS: two seals

- **Bore Diameter**
  - HJ: 16 = \( \frac{49}{16} \) in., 80 = \( \frac{49}{16} \) in. = 3 in.

- **Width**
  - 12 = \( \frac{30}{8} \) in., 36 = \( \frac{3}{4} \) in., 2 1/4 in.

**Inner Rings (six-digit number) – Inch Nominal Dimensions**

- **Prefix**
  - IR: for use with machined ring needle roller bearings only

- **Outer Diameter**
  - 14 = \( \frac{35}{8} \) in., 80 = \( \frac{49}{16} \) in. = 3 in.

- **Bore Diameter**
  - IR: 10 = \( \frac{25}{8} \) in., 64 = \( \frac{49}{16} \) in. = 4 in.

- **Width**
  - 16 = \( \frac{3}{4} \) in., 36 = \( \frac{3}{4} \) in., 2 1/4 in.

**Cylindrical Roller Radial Bearings - Metric Nominal Dimensions**

- **Prefix**
  - NJ = cylindrical roller radial bearing (two ribs on outer ring, one rib on inner ring)
  - NU = cylindrical roller radial bearing (two ribs on outer ring, cylindrical inner ring)
  - NUP = cylindrical roller radial bearing (two ribs on outer ring, one fixed rib and one loose rib/flat washer on inner ring)

- **Series**
  - 10 = width series 1; diameter series 0 (dimension series 10)
  - 2 = width series 0; diameter series 2 (dimension series 02)
  - 22 = width series 2; diameter series 2 (dimension series 22)
  - 3 = width series 0; diameter series 3 (dimension series 03)
  - 23 = width series 2; diameter series 3 (dimension series 23)

- **Inner Ring Bore Diameter**
  - 02 = 15 mm
  - 03 = 17 mm
  - (for inner ring bore > 20 mm): bore code x 5 = bore diameter
  - 04 = 4 x 5 = 20 mm

- **Suffix**
  - E.TVP = “E” design bearing, molded reinforced polymer window-type cage
  - M = machined brass cage
**NOMENCLATURE**

**Thrust Needle Roller Bearings & Washers**

### Needle Roller Thrust Bearings – Metric Nominal Dimensions

<table>
<thead>
<tr>
<th>Prefix</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AX</td>
<td>thrust needle roller and cage assembly (without washers), one-piece M profile cage, metric series</td>
</tr>
<tr>
<td>FNT</td>
<td>thrust needle roller and cage assembly (two-piece cage design)</td>
</tr>
<tr>
<td>AX</td>
<td>thrust needle roller and cage assembly with one unitized thin or thick washer</td>
</tr>
<tr>
<td>AX</td>
<td>thrust cylindrical roller and cage assembly with one unitized light and heavy series washers</td>
</tr>
<tr>
<td>AXZ</td>
<td>thrust needle roller and cage assembly with two washers retained with a ring</td>
</tr>
<tr>
<td>AR</td>
<td>thrust cylindrical roller and cage assembly with two washers retained with a steel ring</td>
</tr>
</tbody>
</table>

### Thrust Washers – Metric Nominal Dimensions

<table>
<thead>
<tr>
<th>Prefix</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS</td>
<td>thin thrust washer</td>
</tr>
<tr>
<td>LS</td>
<td>heavy thrust washer</td>
</tr>
<tr>
<td>CP</td>
<td>thin and thick-series thrust washer for AX and AR series</td>
</tr>
<tr>
<td>CPR</td>
<td>heavy series thrust washer for AR series</td>
</tr>
<tr>
<td>CPN</td>
<td>precision series thrust washer for AX series</td>
</tr>
</tbody>
</table>

### Thrust Bearings – Inch Nominal Dimensions

<table>
<thead>
<tr>
<th>Cage Design</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>needle roller</td>
</tr>
<tr>
<td>C</td>
<td>needle roller</td>
</tr>
<tr>
<td>H</td>
<td>cylindrical roller</td>
</tr>
</tbody>
</table>

### Thrust Washers – Inch Nominal Dimensions

<table>
<thead>
<tr>
<th>Cage Design</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A, B, C, etc.</td>
<td>washer thickness, in.</td>
</tr>
<tr>
<td>I, J</td>
<td>bore-piloted washers</td>
</tr>
<tr>
<td>ID, JD</td>
<td>outer-diameter piloted washers</td>
</tr>
</tbody>
</table>
What type of bearing do I use?

How do I mount this bearing for my application?

How does load affect bearing life?

\[ L_{10h} = 10^6 \left( \frac{C}{P} \right) \]

Can you interchange this part number?

6206 2RSC3P5

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