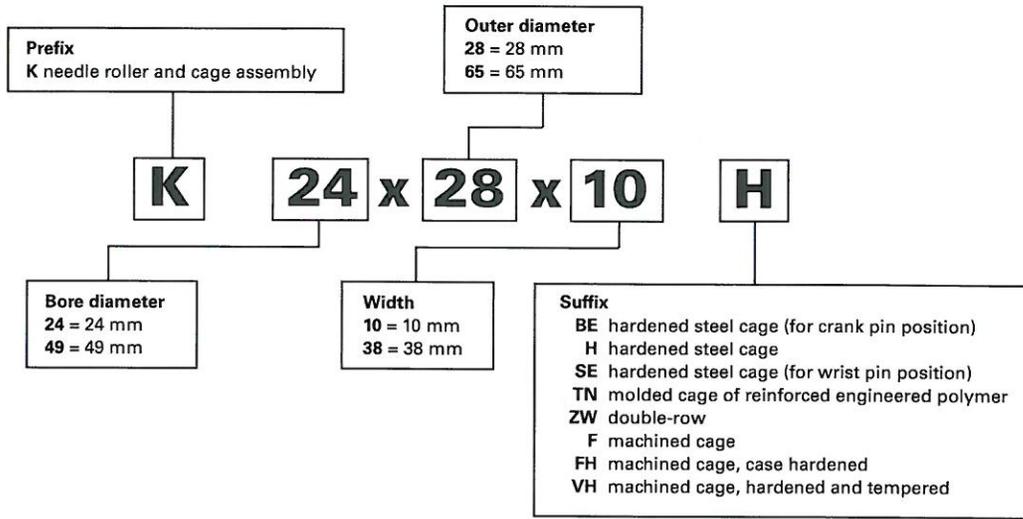
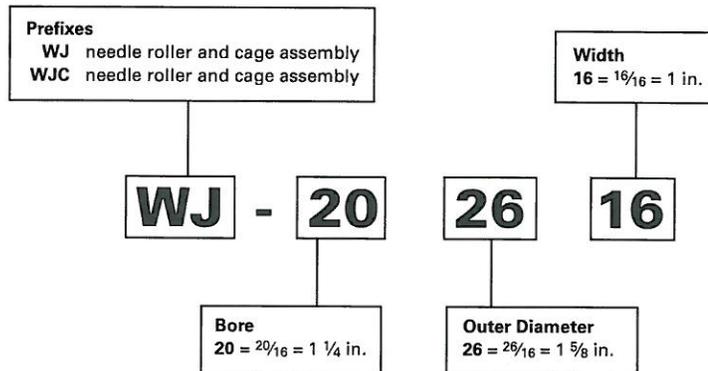




### Radial Needle Roller and Cage Assemblies – Metric Nominal Dimensions



### Radial Needle Roller and Cage Assemblies – Inch Nominal Dimensions



## 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  
 DLF drawn cup bearing, full complement, closed end  
 DLH drawn cup bearing, full complement, oil hole option

### Width

12 = 12 mm  
 20 = 20 mm

**HK**

**10**

**12**

**AS1**

**Bore diameter**  
 10 = 10 mm  
 25 = 25 mm

### Suffix<sup>(1)</sup>

RS lip contact seal on one side of the bearing  
 .RS lip contact seal on each side of the bearing  
 AS1 lubricating hole

<sup>(1)</sup> These suffixes only apply to the HK and BK Series bearings.

## Inner Rings – Metric Nominal Dimensions

### Prefix

JR inner ring  
 JRZ inner ring without mounting chambers  
 IM inner ring for full complement bearings  
 IMC inner ring with oil hole for full complement bearings

### Outer diameter

14 = 14 mm  
 25 = 25 mm

### Suffix

JS1 lubricating hole  
 R6 crowned raceway (IM types)

**JR**

**10**

x

**14**

x

**12**

**JS1**

**Bore diameter**  
 10 = 10 mm  
 20 = 20 mm

**Width**  
 12 = 12 mm  
 30 = 30 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

with M prefix signifies closed end inch nominal dimensions

### Suffixes: limited availability

F plastic cage  
 GF grease fitting, closed end  
 OH oil hole  
 OHE oil hole in closed end

**MJH**

**- 18**

**16**

**1**

**- OH**

**Bore**  
 16 =  $1\frac{5}{16}$  = 1 in.  
 18 =  $1\frac{7}{8}$  = 1  $\frac{1}{8}$  in.

**Width**  
 12 =  $1\frac{1}{4}$  =  $\frac{3}{4}$  in.  
 16 =  $1\frac{1}{8}$  = 1 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 0.0050 in. width tolerance  
 OH oil hole and lube groove

**IR**

**- 14**

**16**

**- OH**

**Bore**  
 5 =  $\frac{5}{16}$  in.  
 14 =  $1\frac{1}{4}$  =  $\frac{7}{8}$  in.

**Width (IR series only)**  
 12 =  $1\frac{1}{4}$  =  $\frac{3}{4}$  in.  
 16 =  $1\frac{1}{8}$  = 1 in.



### 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

**FCL - 10 - K**

Bore, in millimeters

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

Outer Diameter  
14 =  $1\frac{1}{16}$  =  $\frac{7}{8}$  in.

**RC - 10**

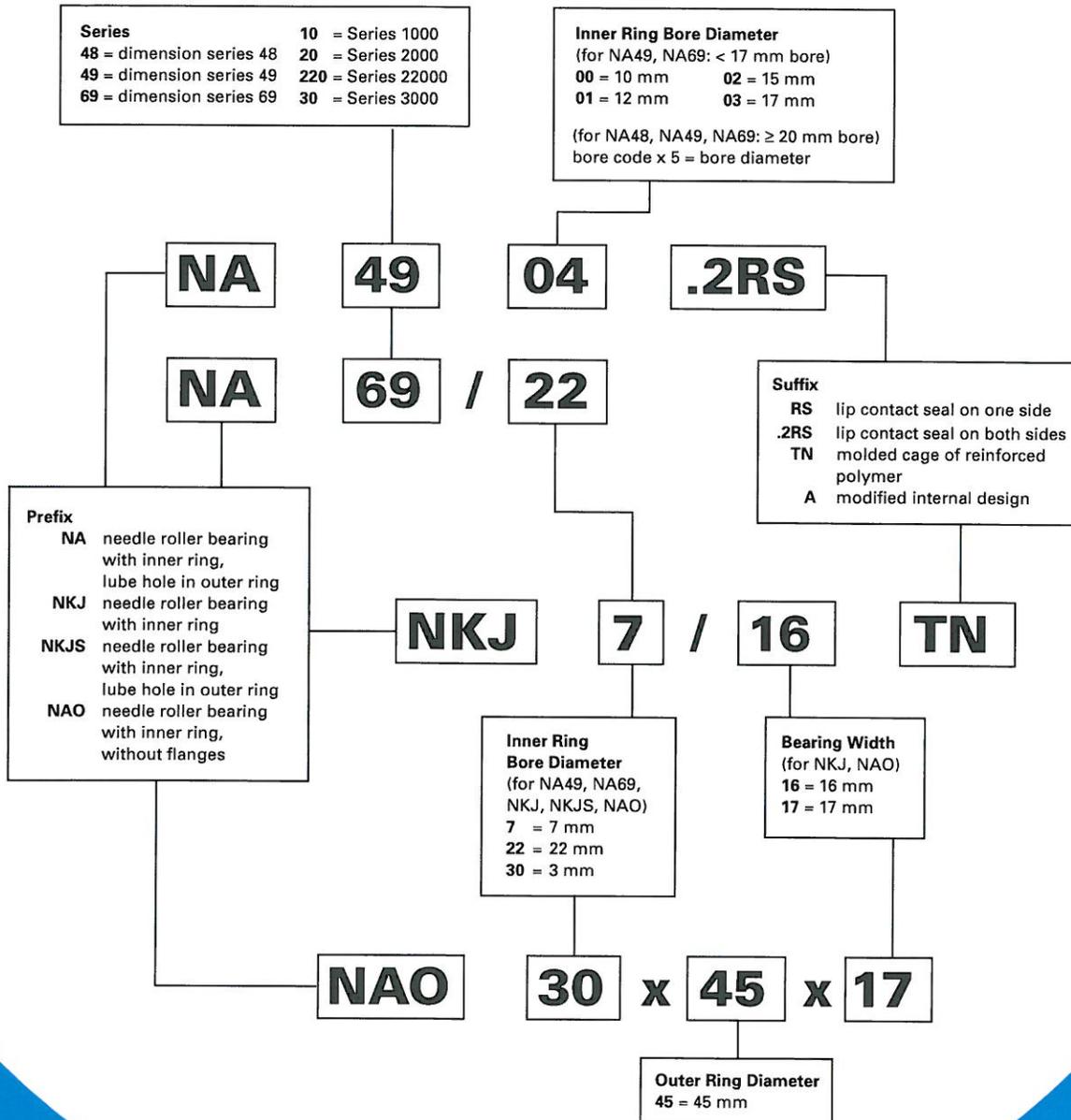
Bore  
10 =  $1\frac{1}{16}$  =  $\frac{5}{8}$  in.

**14**

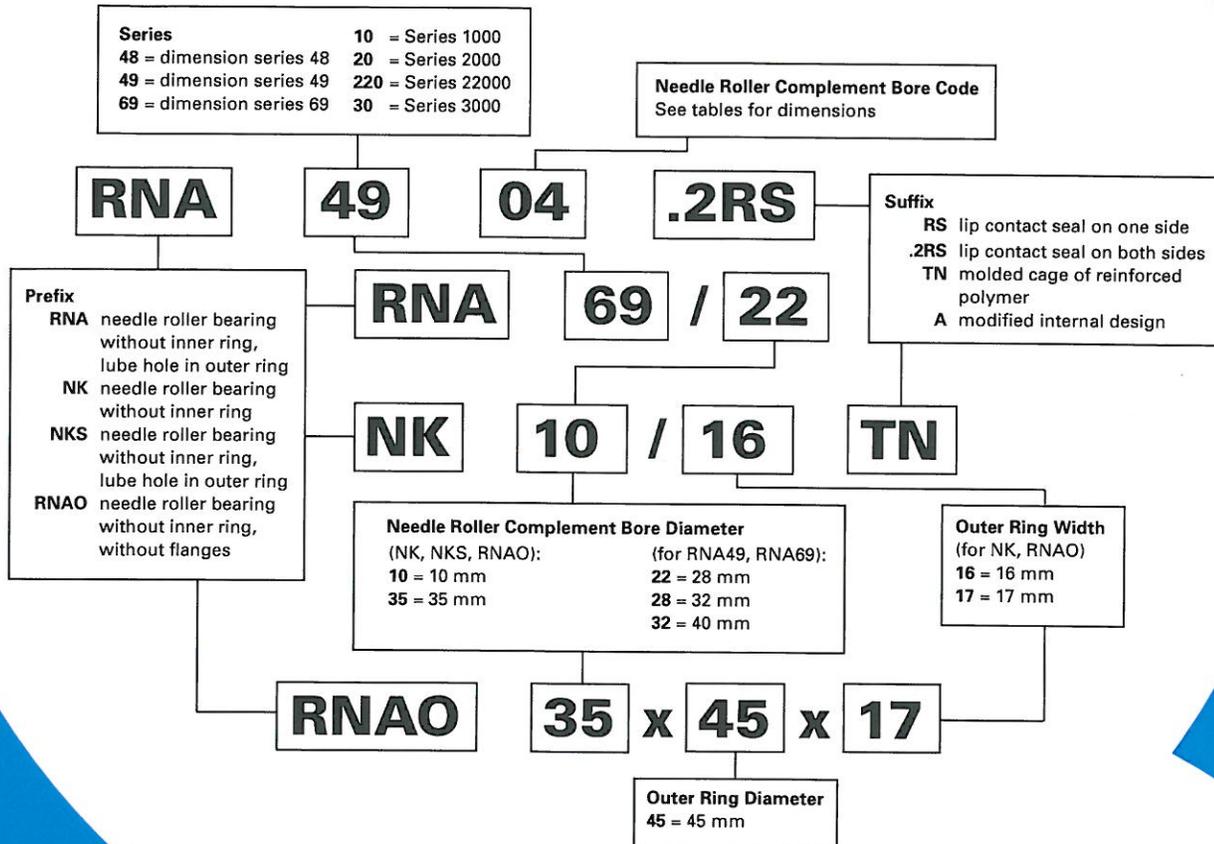
**10 - FS**

Width  
10 =  $1\frac{1}{16}$  =  $\frac{5}{8}$  in.

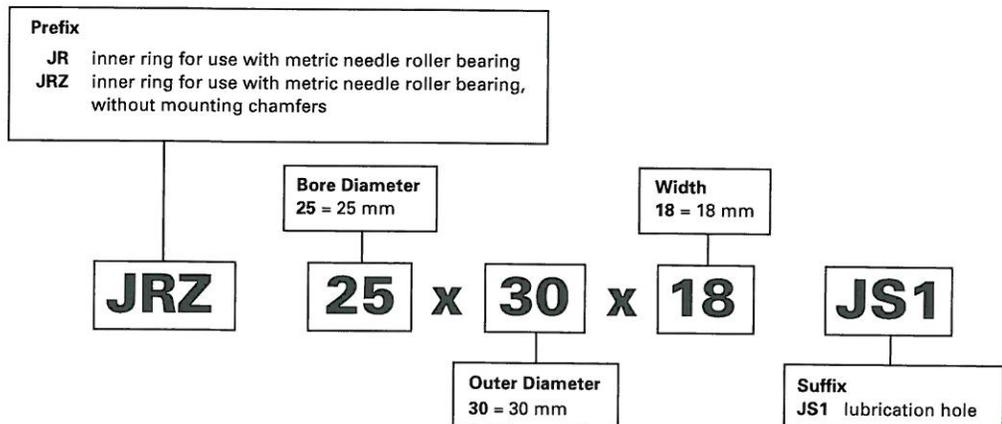
## Needle Roller Bearings with Inner Rings – Metric Nominal Dimensions



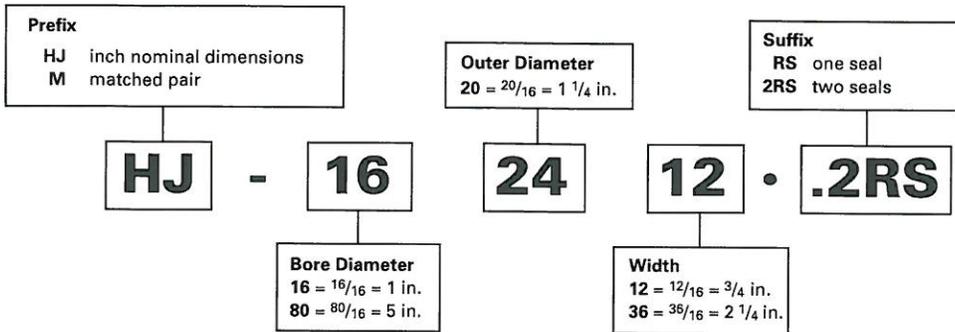
## Needle Roller Bearings without Inner Rings – Metric Nominal Dimensions



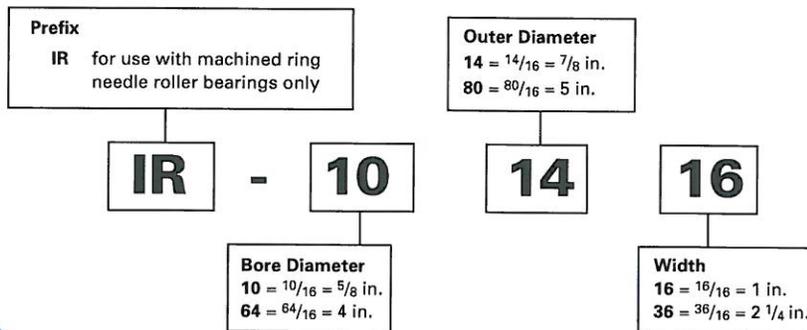
## Inner Rings for Needle Roller Bearings – Metric Nominal Dimensions



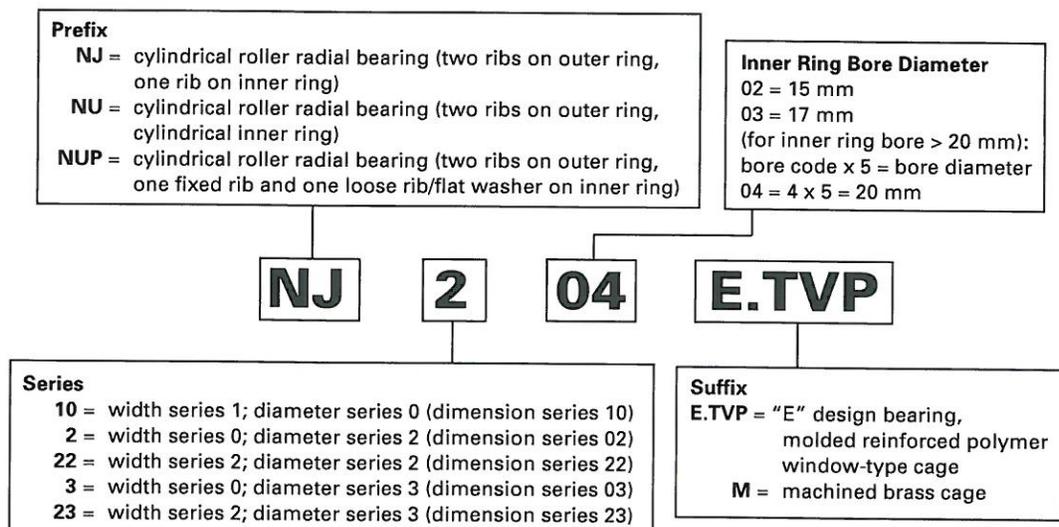
## Needle Roller Bearings – Inch Nominal Dimensions



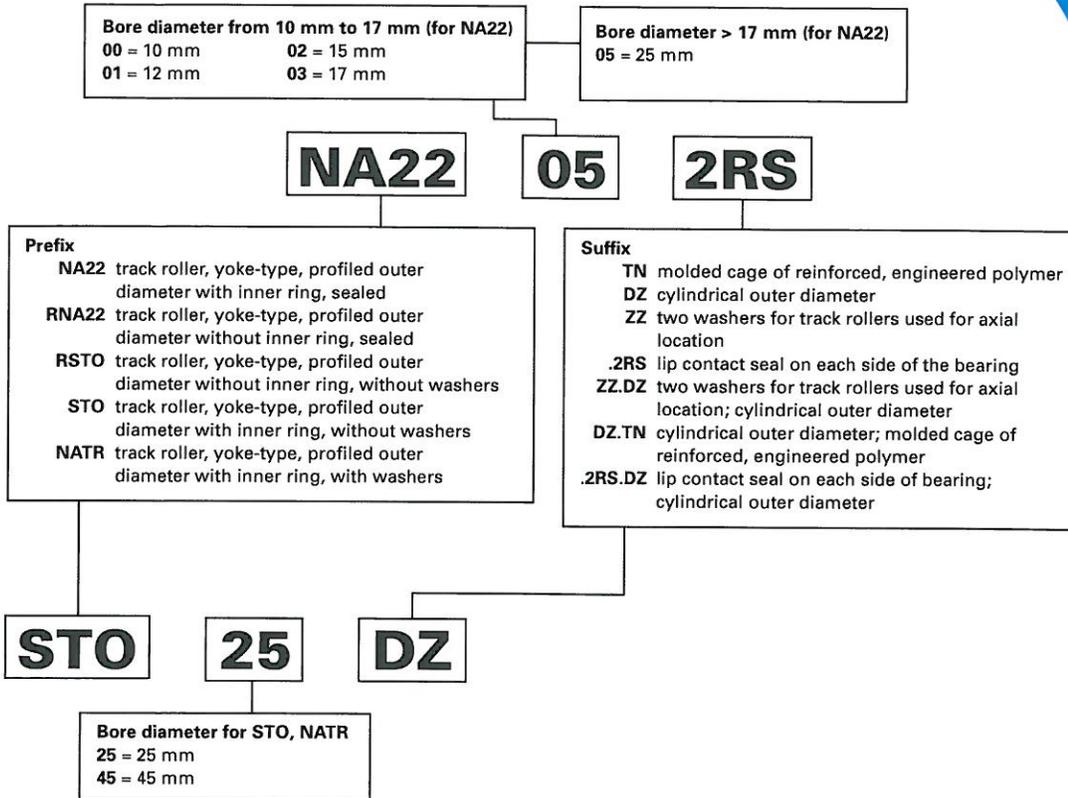
## Inner Rings (six-digit number) – Inch Nominal Dimensions



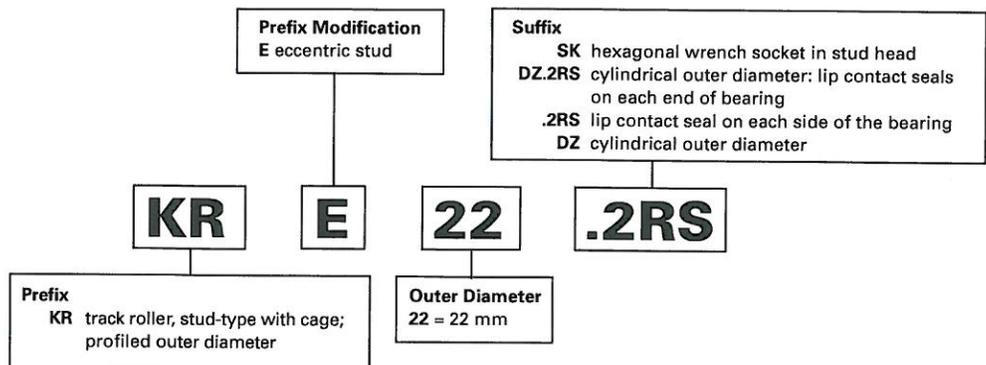
## Cylindrical Roller Radial Bearings - Metric Nominal Dimensions



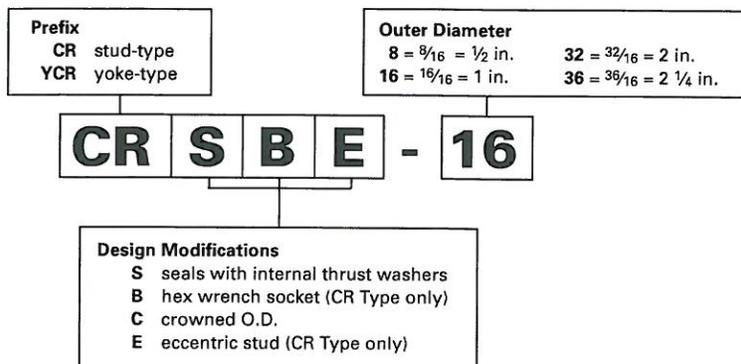
## Caged Yoke-Type Track Rollers – Metric Nominal Dimensions



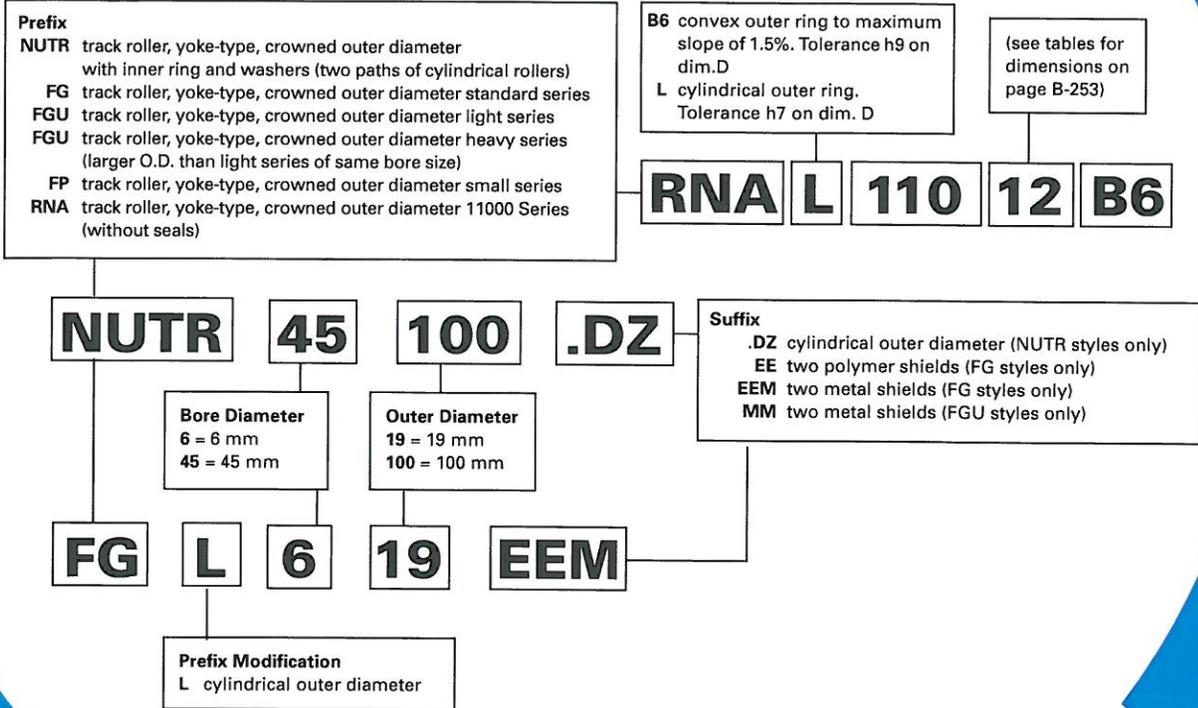
## Caged Stud-Type Track Rollers – Metric Nominal Dimensions



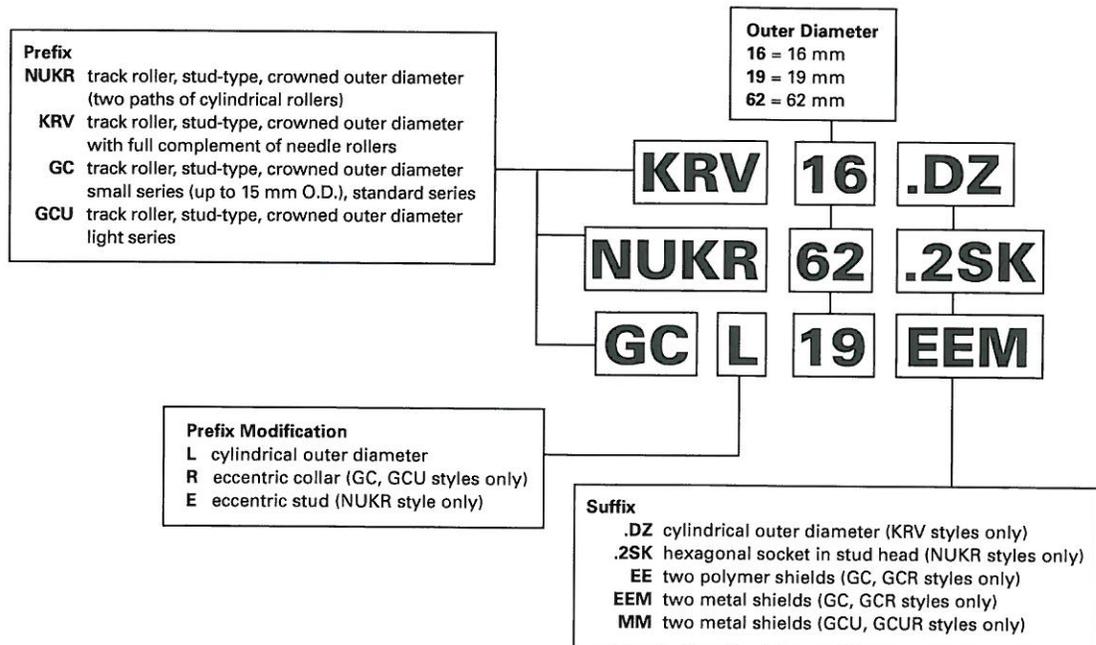
## Full Complement Track Rollers – Inch Nominal Dimensions



## Full Complement Yoke-Type Track Rollers – Metric Nominal Dimensions



## Full Complement Stud-Type Track Rollers – Metric Nominal Dimensions



## Needle Roller Thrust Bearings – Metric Nominal Dimensions

### Prefix

- AXK** thrust needle roller and cage assembly (without washers), one-piece M profile cage, metric series
- FNT** thrust needle roller and cage assembly (two-piece cage design)
- AX** thrust needle roller and cage assembly with one unitized thin or thick washer
- AR** thrust cylindrical roller and cage assembly with one unitized light and heavy series washers
- AXZ** thrust needle roller and cage assembly with two washers retained with a ring
- ARZ** thrust cylindrical roller and cage assembly with two washers retained with a steel ring

**Width** (for AX or AR bearings) over 3 mm  
3.5 = 3.5 mm

### Bore

60 = 60 mm  
(<sup>1</sup>)thick AX series and heavy AR(Z) series have same bore but larger O.D. dimension

**Outer Diameter**  
85 = 85 mm

**AXZ**

**3.5**

**60**

**85**

### Prefix

- K.811** cylindrical roller thrust bearing
- K.812** cylindrical roller thrust bearing

### Bore Diameter

02 = 15 mm  
03 = 17 mm  
(for bore ≥ 20 mm): bore code x 5 = bore diameter  
04 = 4 x 5 = 20 mm

**K.811**

**04**

**TVP**

### Suffix

- TVP** molded, reinforced polymer window-type cage
- LPB** machined, light metal window-type cage

## Thrust Washers – Metric Nominal Dimensions

### Prefix

- AS** thin thrust washer
- LS** heavy thrust washer
- CP** thin and thick series thrust washer for AX and AR series
- CPR** heavy series thrust washer for AR series
- CPN** precision series thrust washer for AX series

**Width** (for CP and CPR washers over 1 mm thick)  
8 = 8 mm

**Bore**  
40 = 40 mm

**Outer Diameter**  
60 = 60 mm

**LS**

**8**

**40**

**60**

### Prefix

- GS.811, GS.812** housing washer
- WS.812, WS.812** shaft washer

### Bore Diameter

**for WS.811, WS.812:**  
02 = 15 mm  
03 = 17 mm  
(for bore ≥ 20 mm):  
bore code x 5 = bore diameter  
04 = 4 x 5 = 20 mm

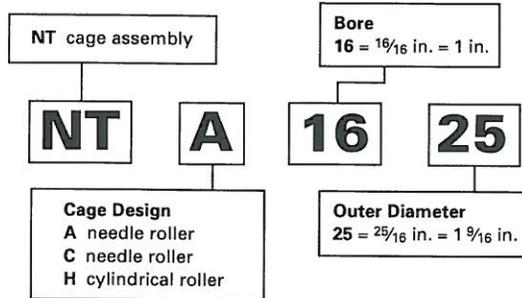
**for GS.811:**  
02 = 16 mm  
03 = 18 mm  
04 = 21 mm  
05 = 26 mm  
(for bore ≥ 30 mm):  
[bore code x 5]+2 = bore diameter  
06 = [6 x 5] + 2 = 32 mm

**for GS.812:**  
02 = 16 mm  
03 = 17 mm  
04 = 21 mm  
05 = 26 mm  
(for bore ≥ 30 mm):  
[bore code x 5]+2 = bore diameter  
06 = [6 x 5] + 2 = 32 mm  
(for bore > 85 mm):  
[bore code x 5]+3 = bore diameter  
17 = [17 x 5] + 3 = 88 mm

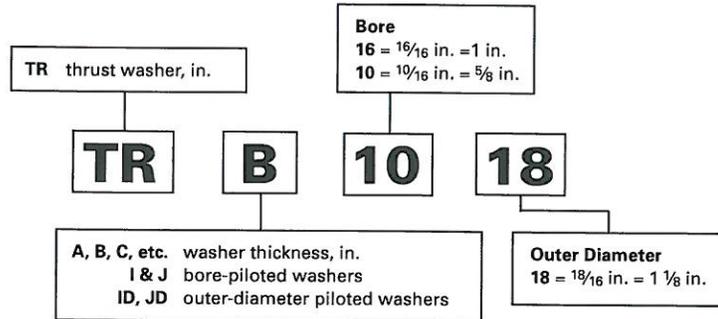
**GS.811**

**04**

### Thrust Bearings – Inch Nominal Dimensions

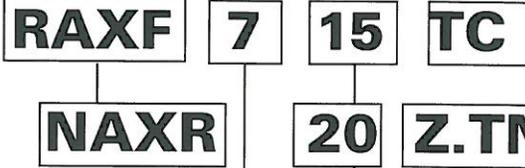


### Thrust Washers – Inch Nominal Dimensions



## Combined Needle Roller Bearings – Metric Nominal Dimensions

**Prefix**  
**RAX** radial needle roller and thrust needle (or cylindrical) roller bearing without inner ring or thrust washer  
**RAXF** closed-end drawn cup design radial needle roller and needle thrust roller bearing without inner ring or thrust washer  
**RAXZ** unitized machined outer ring thrust cylindrical roller and radial needle roller bearing  
**NAXR** machined outer ring thrust cylindrical roller and radial needle roller bearing without inner ring



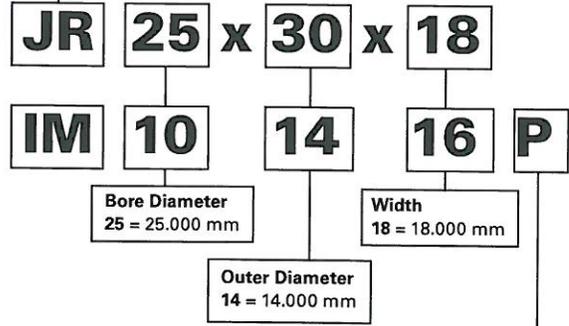
**Suffix**  
**TN** molded polymer retainer  
**Z** thrust washer retaining dust cap  
**TB** radial play under rollers set to lower half of F6 tolerance  
**TC** radial play under rollers set to upper half of F6 tolerance

**Bore Diameter**  
 20 = 20.000 mm

**Series (RAX)**  
**700** drawn cup design radial needle roller and needle thrust roller bearing without inner ring or thrust washer  
**400** machined ring radial needle roller and thrust needle roller bearing without inner ring or thrust washer  
**500** machined ring radial needle roller and thrust cylindrical roller bearing

## Inner Rings for Combined Needle Roller Bearings – Metric Nominal Dimensions

**Prefix**  
**JR** inner ring for use with NAXR series bearings  
**IM** inner ring for use RAX series bearings



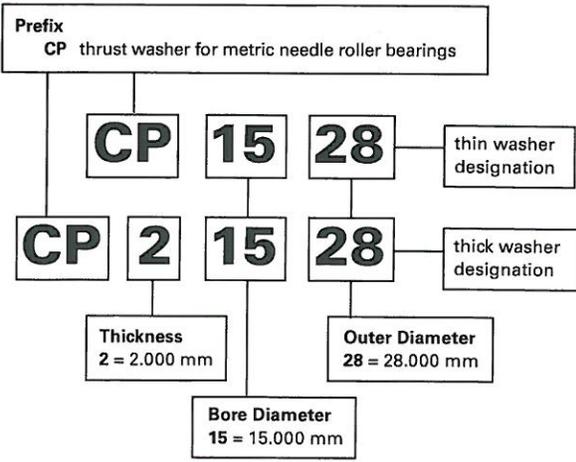
**Bore Diameter**  
 25 = 25.000 mm

**Width**  
 18 = 18.000 mm

**Outer Diameter**  
 14 = 14.000 mm

**Suffix (IM Series)**  
 P ISO 492 toleranced inner ring

## Thrust Washers for Combined Needle Roller Bearings - Metric Nominal Dimensions



**thin washer designation**

**thick washer designation**

**Thickness**  
 2 = 2.000 mm

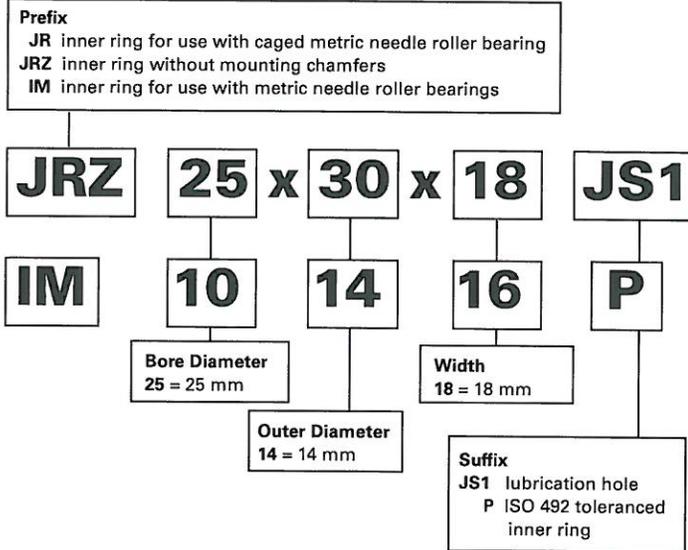
**Outer Diameter**  
 28 = 28.000 mm

**Bore Diameter**  
 15 = 15.000 mm

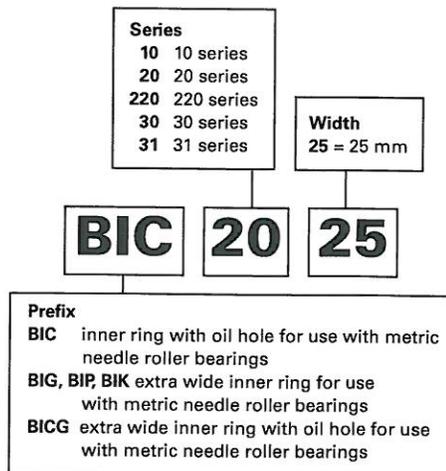
B



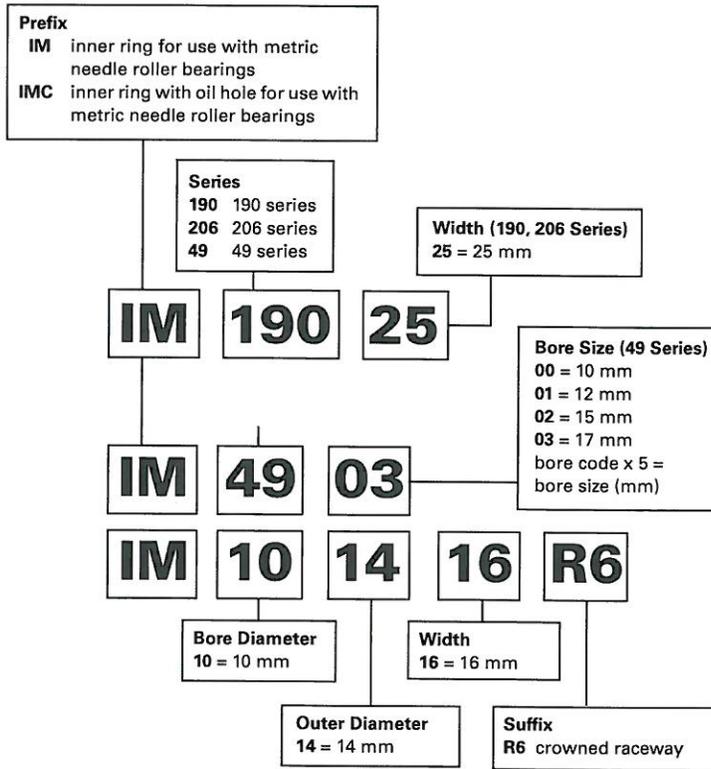
## Standard Inner Rings for Needle Roller Bearings – Metric Nominal Dimensions



## Extra Wide Inner Rings for Needle Roller Bearings – Metric Nominal Dimensions



## Inner Rings for Full Complement Needle Roller Bearings – Metric Nominal Dimensions



## Loose Rollers – Metric Nominal Dimensions

