

Koyo®

Ball, Needle & Roller Bearing *NOMENCLATURE GUIDE*



August 2013

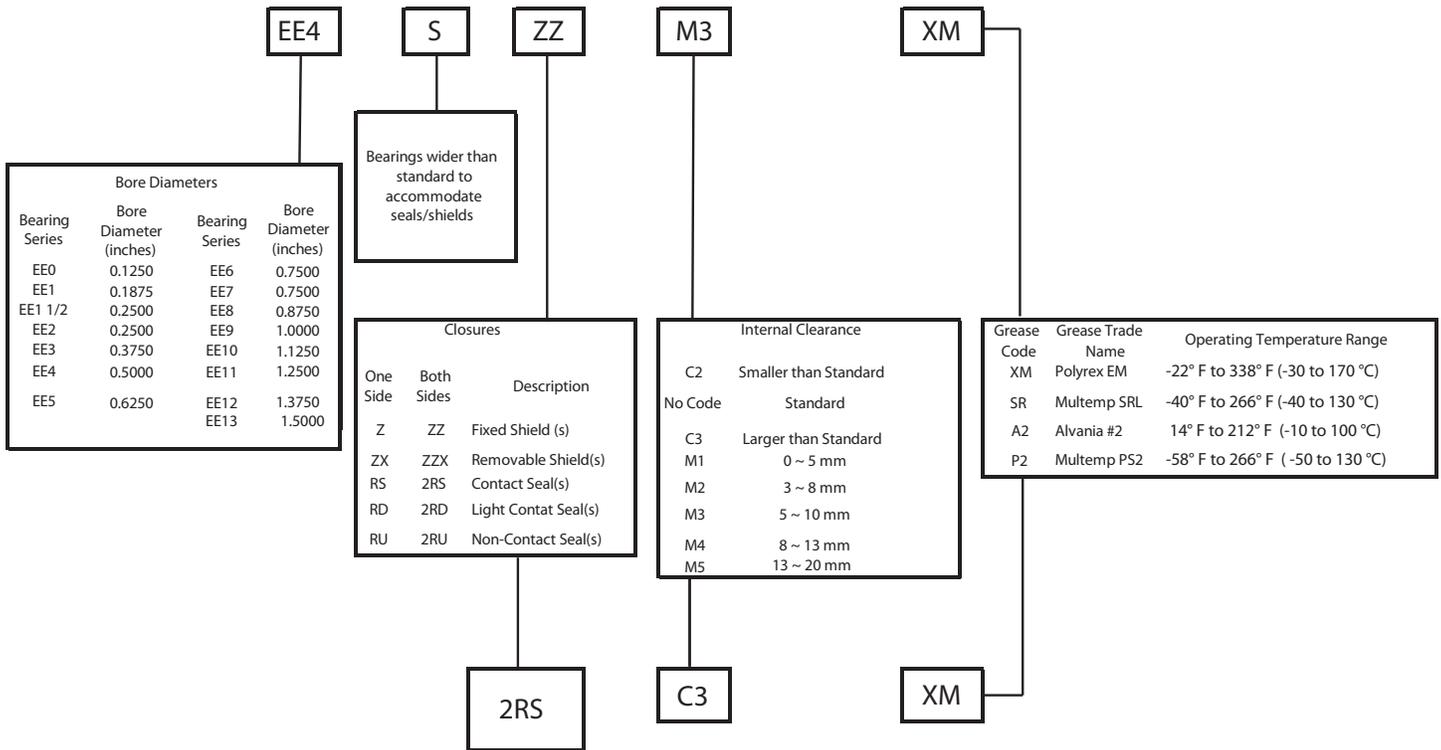
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TOYODA

NOMENCLATURE

EE Extra Light Inch Series/Miniature Ball Bearings



Koyo Interchange for EE series bearings			
"R" series #	Koyo bearing#	Koyo Sealed	Koyo Shielded
R-2	EE0	EE0 2RS	EE0 ZZ
R-3	EE1	EE1S 2RS	EE1S ZZ
R-4	EE1-1/2	EE1-1/2 2RS	EE1-1/2 ZZ
R-4A	EE2	EE2S 2RS	EE2S ZZ
R-6	EE3	EE3S 2RS	EE3S ZZ
R-8	EE4	EE4S 2RS	EE4S ZZ
R-10	EE5	EE5S 2RS	EE5S ZZ
R-12	EE6	EE6S 2RS	EE6S ZZ
R-14	EE8	EE8S 2RS	EE8S ZZ
R-16	EE9	EE9S 2RS	EE9S ZZ
R-18	EE10	EE10S 2RS	EE10S ZZ
R-20	EE11	EE11S 2RS	EE11S ZZ
R-22	EE12	EE12S 2RS	EE12S ZZ
R-24	EE13	EE13S 2RS	EE13S ZZ

NOMENCLATURE

Ball Bearings

Basic Type & Series

1200: Metric, Self-aligning Light Series
1300: Metric, Self-aligning Medium Series
3200: Metric, 32° Double Row Angular Contact Light Series
3300: Metric, 32° Double Row Angular Contact Medium Series
5200: Metric, 24° Double Row Angular Contact Light Series
5300: Metric, 24° Double Row Angular Contact Medium Series
6800: Metric, Single Row Ultra Light Series
6900: Metric, Single Row Extremely Light Series
6000: Metric, Single Row Extra Light Series
6200: Metric, Single Row Light Series
6300: Metric, Single Row Medium Series
6400: Metric, Single Row Heavy Series
3NC: Ceramic Rolling Elements

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

62

05

RSH2

ZZ

C3

FY

P5

XM

Bore Size

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

Bore Series	Bore Diameter
00:	10 mm
01:	12 mm
02:	15 mm
03:	17 mm
04:	20 mm
05:	25 mm
10:	50 mm
12:	60 mm
18:	90 mm

Internal Design Material Code

R Increased Capacity
SH2 Special Heat Treatment on Inner Ring

Retainer Codes

No Code: Pressed Steel Retainer
FY: Machined Brass Retainer
FG: Polyamide (Nylon) Retainer

Grease Code	Grease Trade Name	Operating Temperature Range
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)

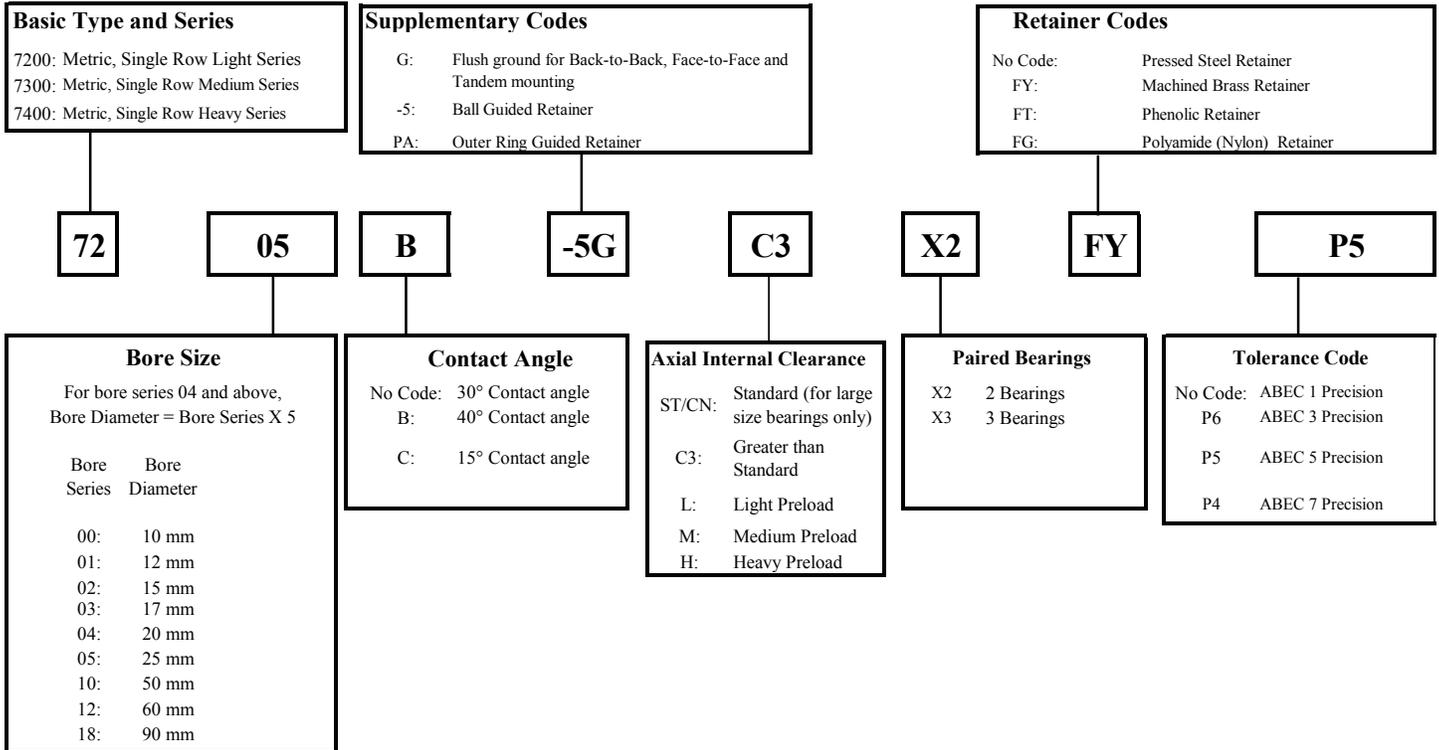
Shield / Seal/ Snap Ring Codes

One Side	Both Sides	Description	FAG	MRC	Nachi	NSK	NTN	SNR	SKF	Torrington/ Fafnir
Z	ZZ	Fixed Shield(s)	Z/ZZ	F/FF	Z/ZZ	Z/ZZ	Z/ZZ	Z/ZZ	Z/ZZ	D/DD
ZX	ZZX	Removable Shield(s)	N/A	L/LL	ZS/ZZS	ZS/ZZS	ZA/ZZA	N/A	N/A	N/A
RU	2RU	Non-contact Seal(s)	RSD/2RSD	N/A	NKE/2NKE	V/VV	LB/LLB	N/A	RZ/2RZ	PL/PPL
RS	2RS	Contact Seal(s)	RS/2RS	Z/ZZ	NSL/2NSL	DU/DDU	LU/LLU	E/EE	RS/2RS	P/PP
RK	2RK	Dbl lip Contact Seal(s)	N/A	N/A	N/A	N/A	LC/LLC	E10/EE10	N/A	Y/YY
RD	2RD	Extremely Light Contact Seal(s)	N/A	N/A	NSE/2NSE	N/A	LH/LLH	N/A	N/A	V/VV
RDT	2RDT	Same as 2RD - for Large Size Ball Bearings	N/A	N/A	NSE/2NSE	N/A	LH/LLH	N/A	N/A	V/VV
NR:		Snap Ring on Outer Ring O.D.	NR	G	NR	NR	NR	NR	NR	G

Interchange

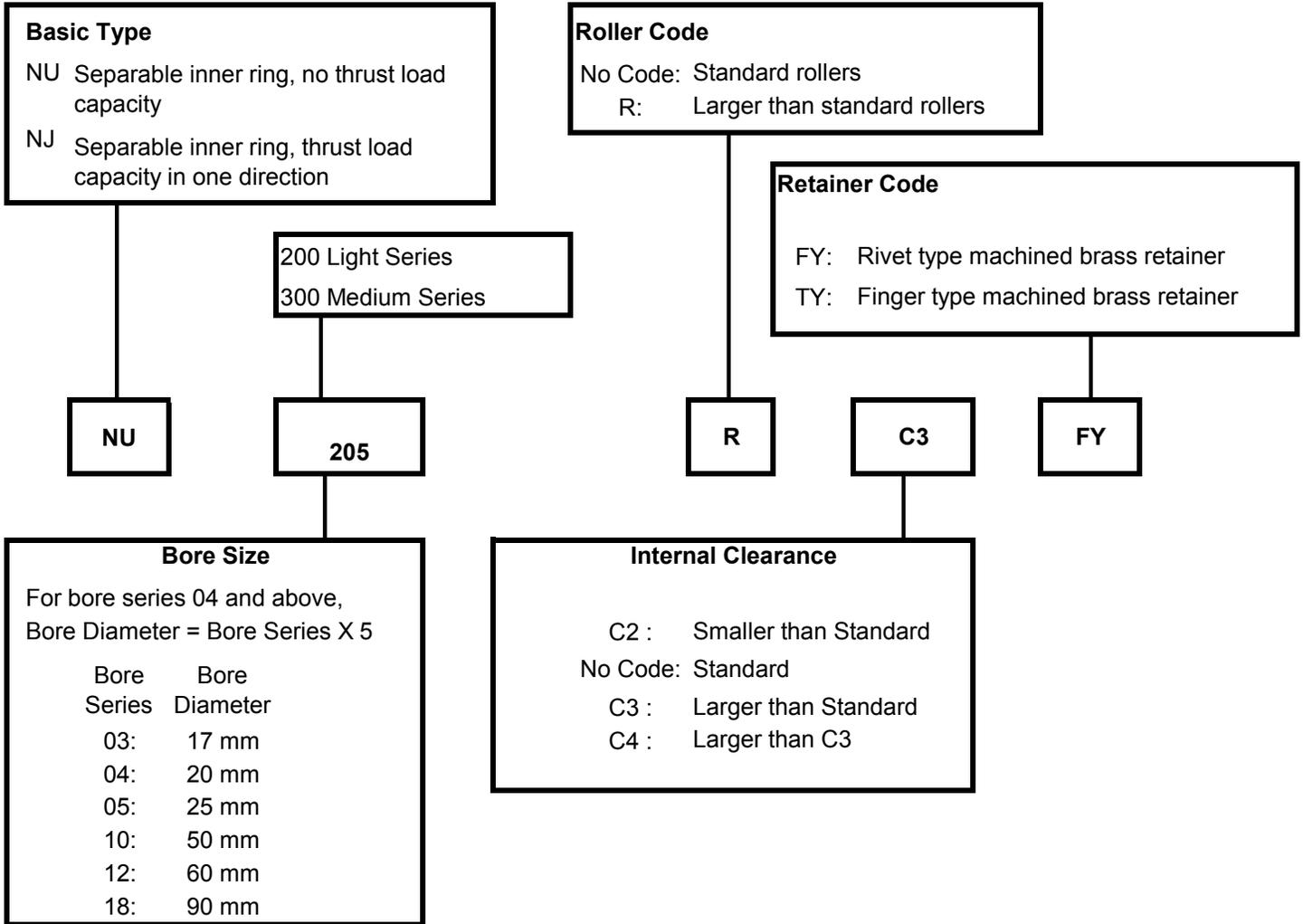
NOMENCLATURE

Angular Contact Ball Bearings



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Cylindrical Roller Bearings



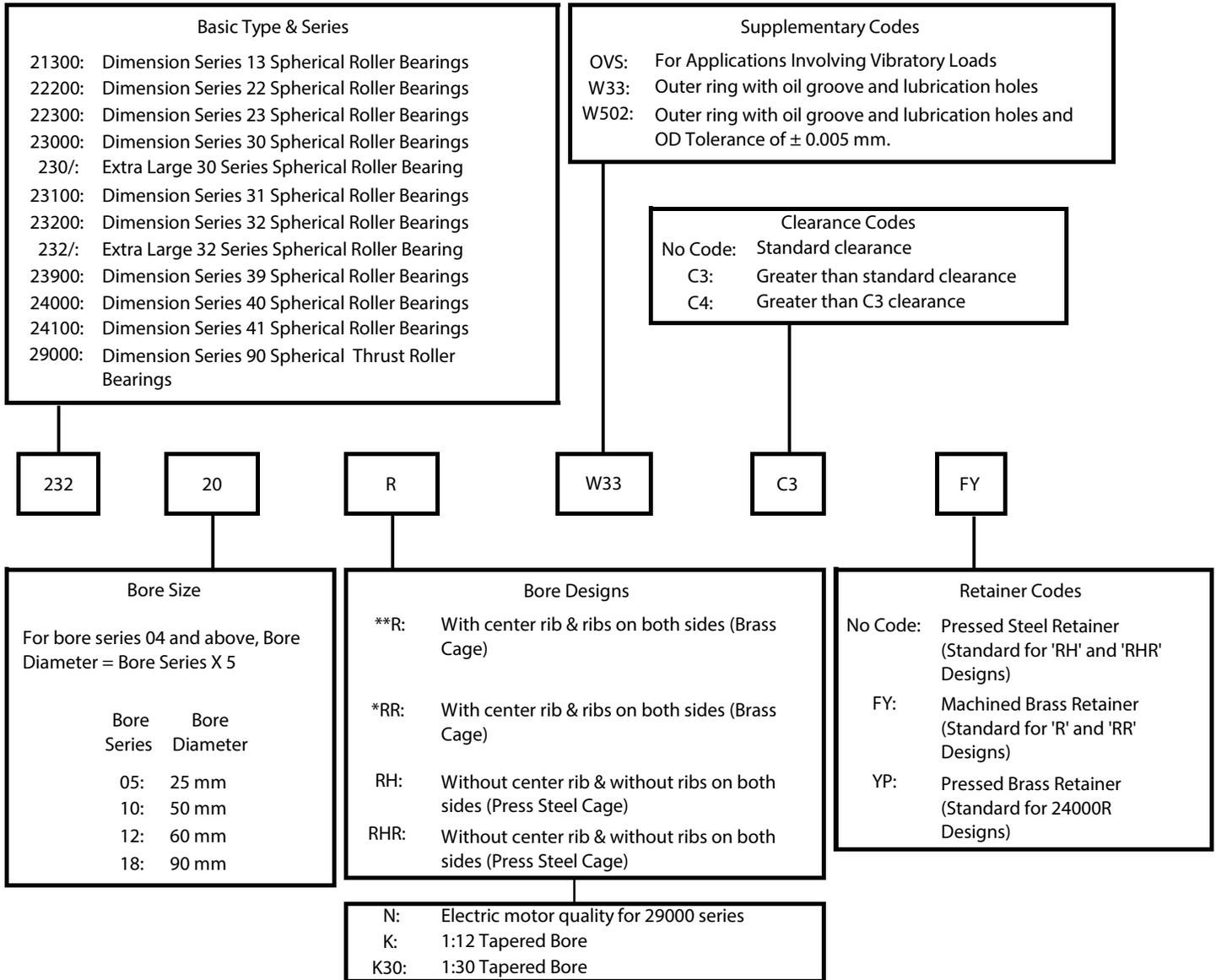
Interchanges

Tapered Roller Bearing Sets

Tapered Set Number	Koyo Part Number		CR Bearing	BCA Federal Mogul	L & S Bearing	Timken
	Cone	Cup				
K1	LM11749R	LM11710	BR1	A1	S1	SET 1
K2	LM11949	LM11910	BR2	A2	S2	SET 2
K3	M12649	M12610	BR3	A3	S3	SET 3
K4	L44649R	L44610	BR4	A4	S4	SET 4
K5	LM48548	LM48510	BR5	A5	S5	SET 5
K6	LM67048	LM67010	BR6	A6	S6	SET 6
K12	LM12749	LM12710	BR12	A12	S12	SET 12
K13	L68149	L68110	BR13	A13	S13	SET 13
K14	L44643R	L44610	BR14	A14	S14	SET 14
K15	L45449	L45410	BR15	A15	S15	SET 8
K16	LM12749	LM12711	BR16	A16	S16	SET 16
K17	L68149	L68111	BR17	A17	S17	SET 17
K18	JL69349	JL69310	BR18	A18	S18	SET 11
K29	LM67049A	LM67010	BR22	A29	S29	SET 22
K35	LM501349	LM501310	BR35	A35	S35	N/A
K36	LM603049	LM603012	BR36	A36	S36	SET 36
K37	LM603049	LM603011	BR37	A37	S37	SET 37
K38	LM104949	LM104911	BR38	A38	S38	SET 38
K39	JL26749	JL26710	BR39	A39	S39	SET 46
K41	57410 LFT	LM29710	BR41	A41	S41	SET 41

NOMENCLATURE

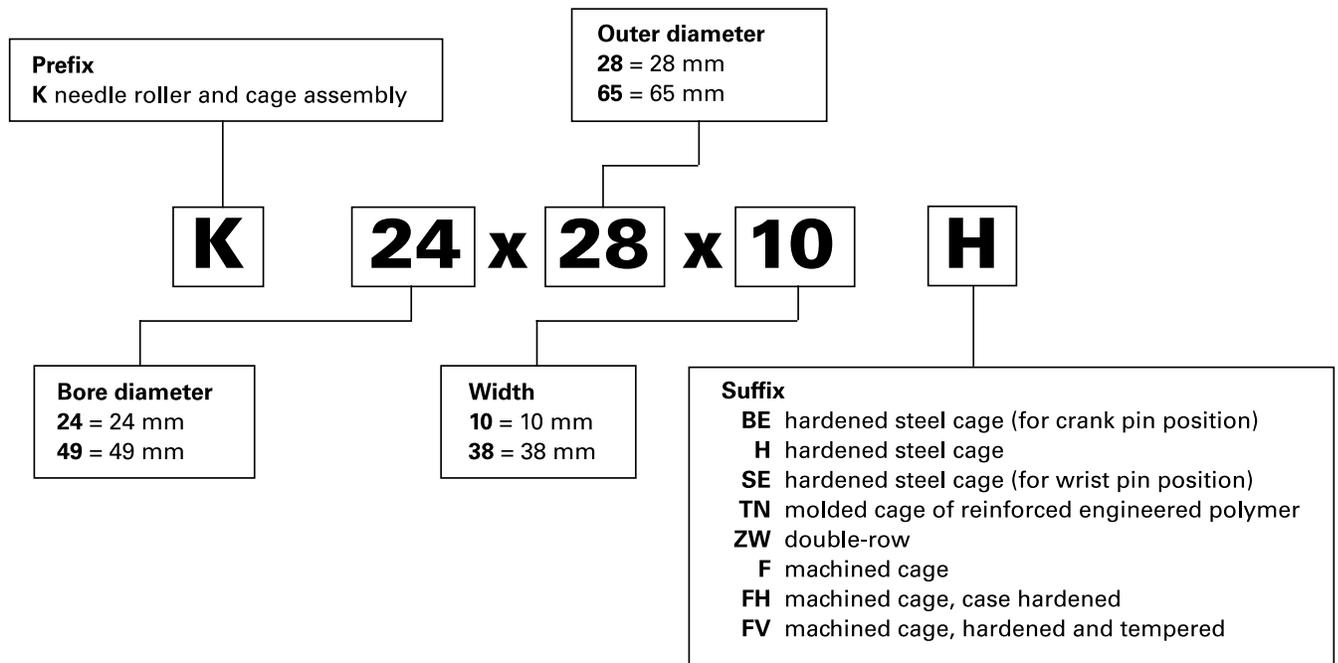
Spherical Roller Bearings



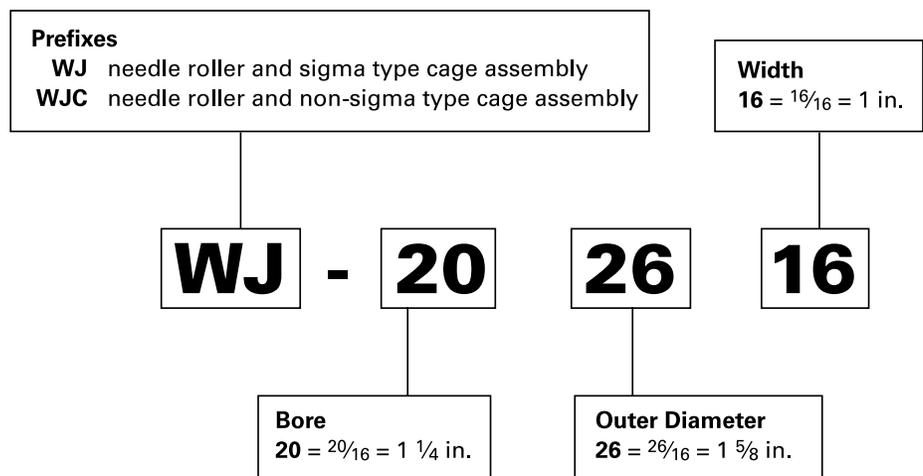
NOMENCLATURE

Needle Roller & Cage Assemblies

Radial Needle Roller and Cage Assemblies – Metric Nominal Dimensions



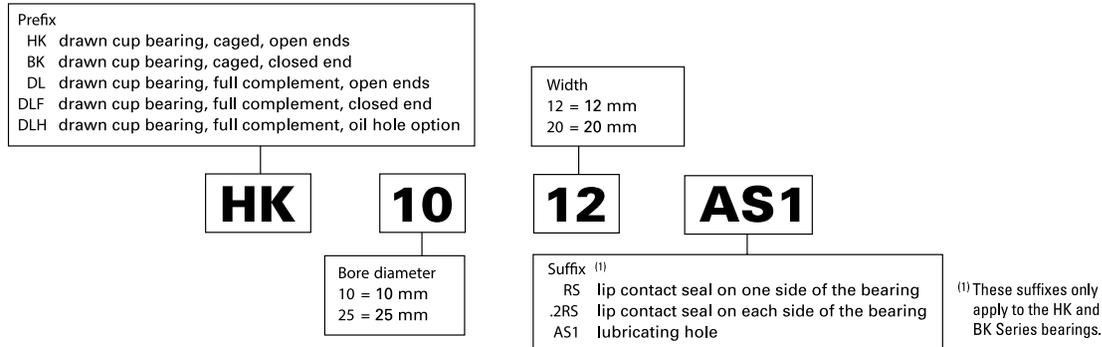
Radial Needle Roller and Cage Assemblies – Inch Nominal Dimensions



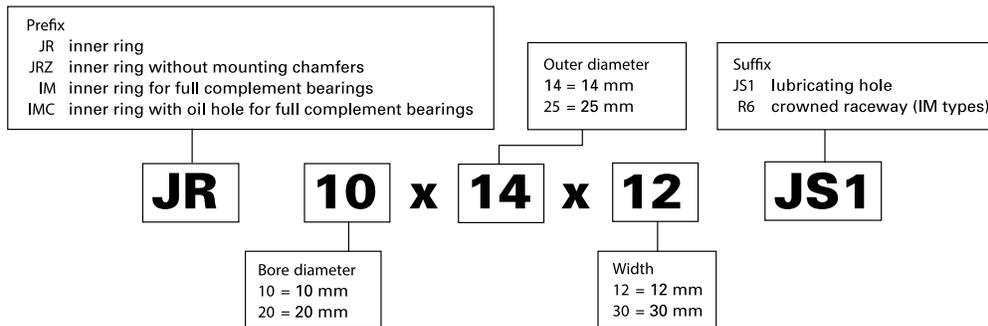
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Drawn Cup Needle Roller Bearings

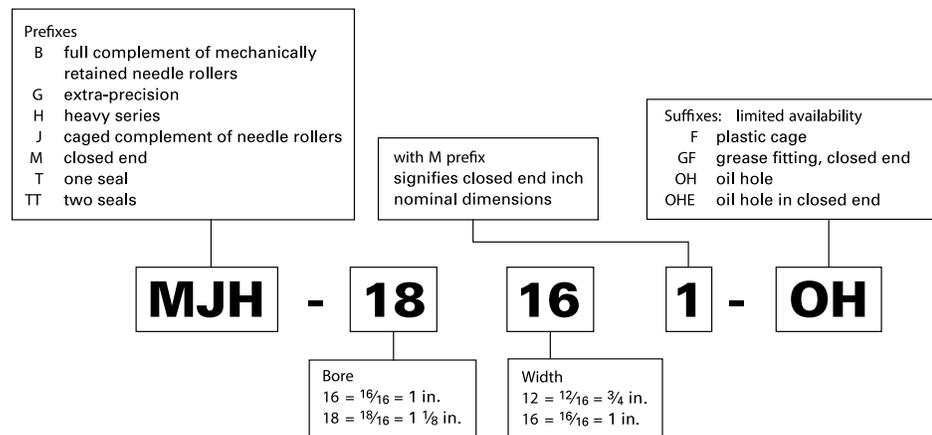
Drawn Cup Needle Roller Bearings – Metric Nominal Dimensions



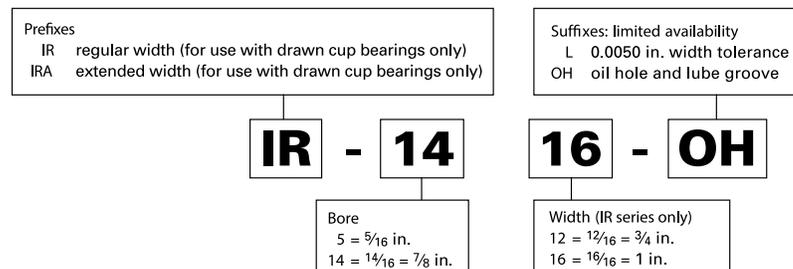
Inner Rings – Metric Nominal Dimensions



Drawn Cup Needle Roller Bearings – Inch Nominal Dimensions



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

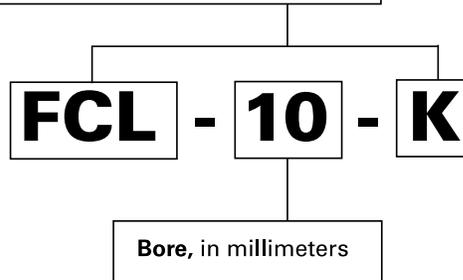


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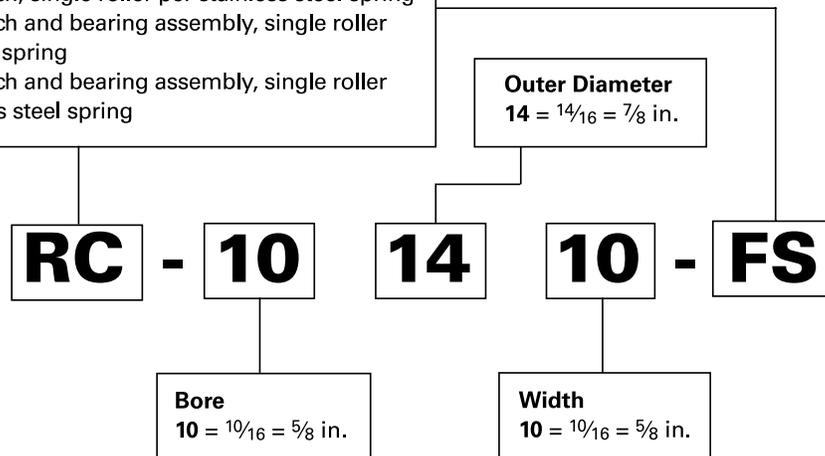
Drawn Cup Roller Clutches

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



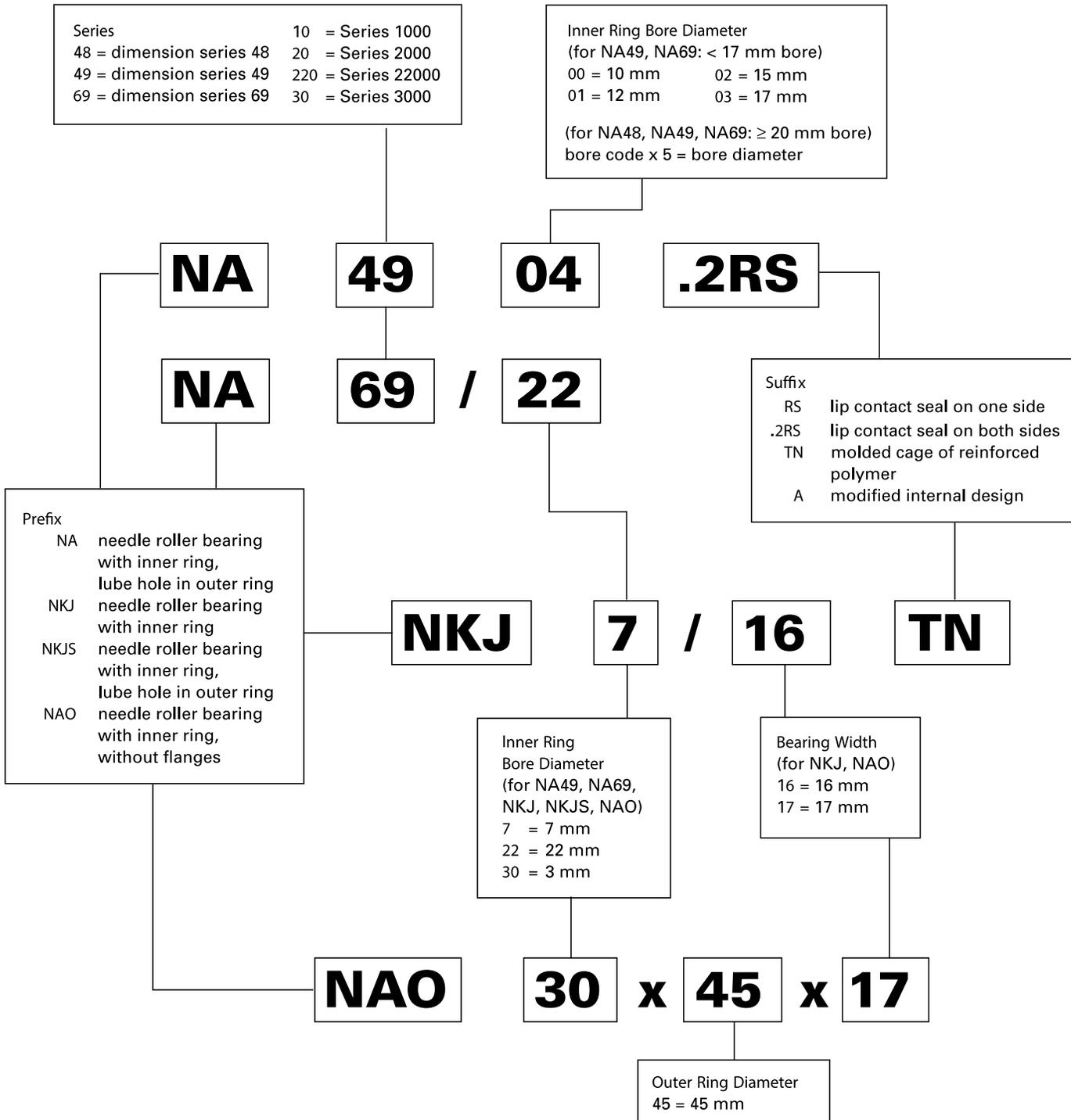
Inch Series	
RC	regular clutch, single roller per integral spring
RC-FS	regular clutch, single roller per stainless steel spring
RCB	regular clutch and bearing assembly, single roller per integral spring
RCB-FS	regular clutch and bearing assembly, single roller per stainless steel spring



NOMENCLATURE

Solid Race Needle Roller Bearings

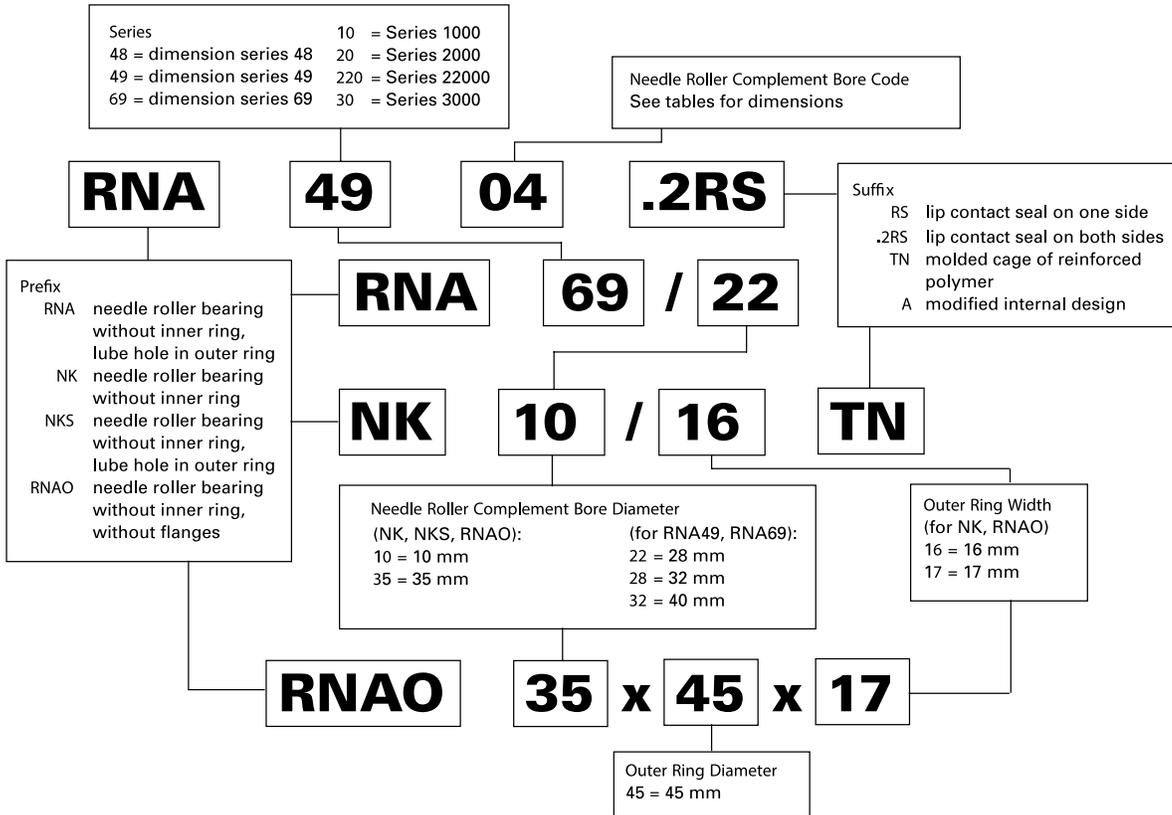
Needle Roller Bearings with Inner Rings – Metric Nominal Dimensions



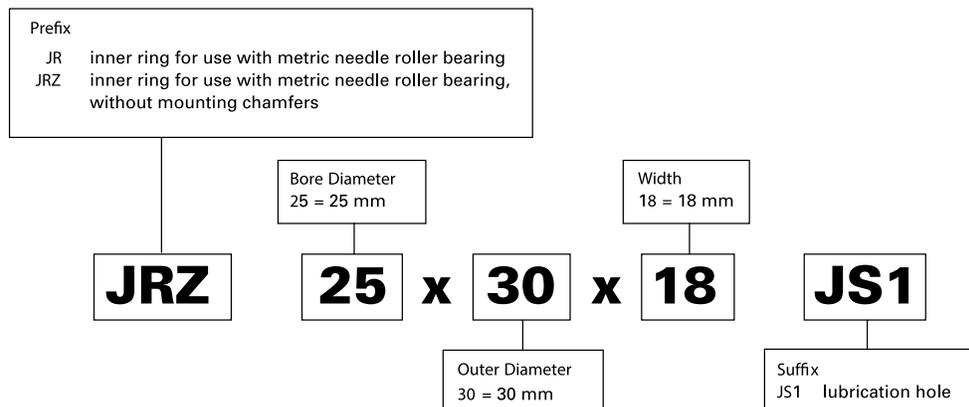
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Solid Race Needle Roller Bearings

Needle Roller Bearings without Inner Rings – Metric Nominal Dimensions



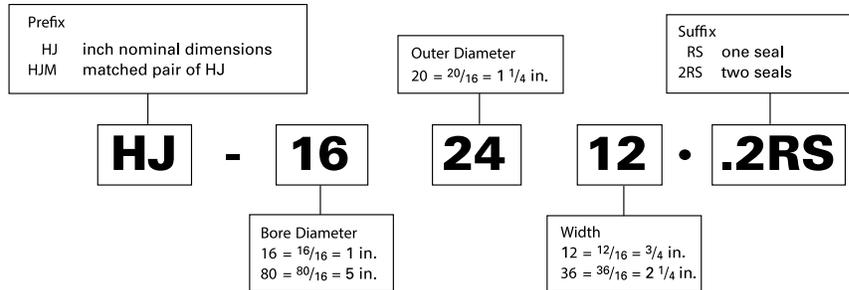
Inner Rings for Needle Roller Bearings – Metric Nominal Dimensions



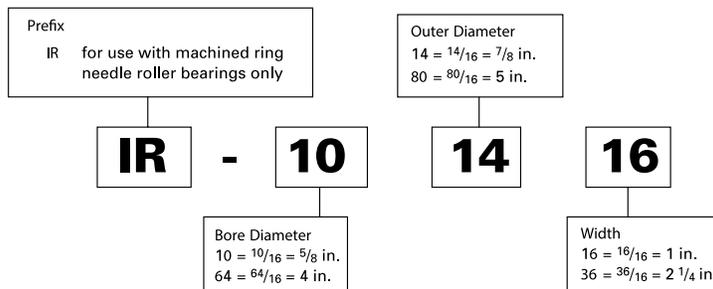
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Solid Race Needle Roller Bearings

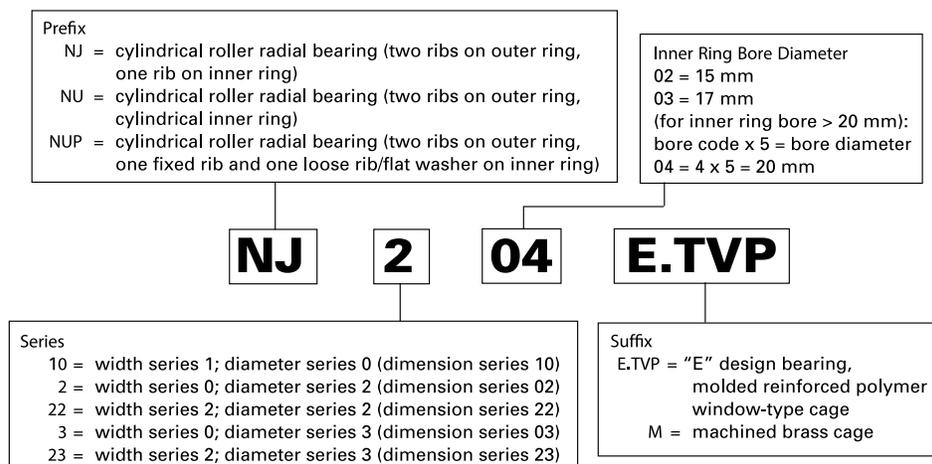
Needle Roller Bearings – Inch Nominal Dimensions



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



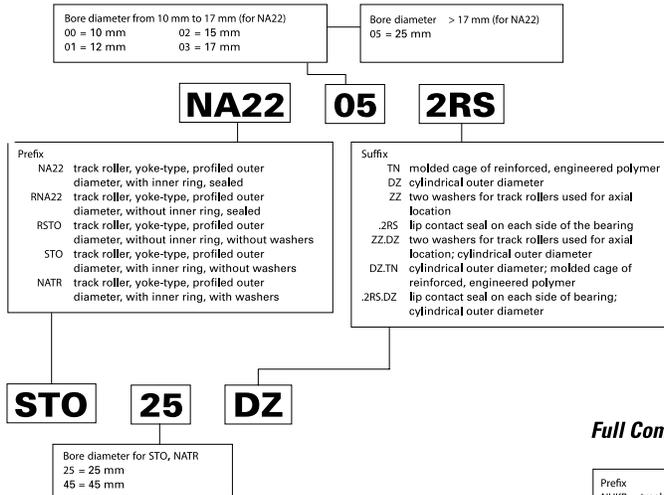
Cylindrical Roller Radial Bearings - Metric Nominal Dimensions



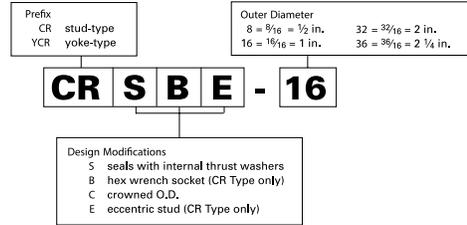
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Track Rollers / Cam Followers

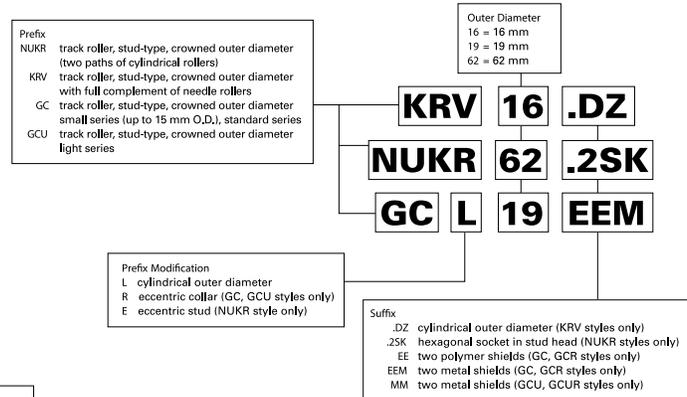
Caged Yoke-Type Track Rollers – Metric Nominal Dimensions



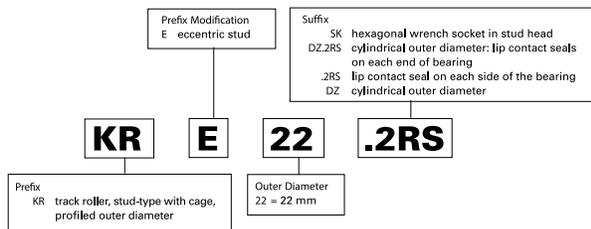
Full Complement Track Rollers – Inch Nominal Dimensions



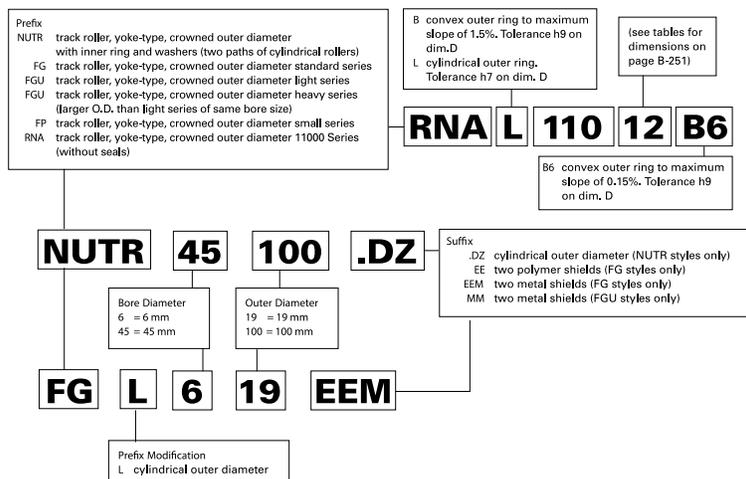
Full Complement Stud-Type Track Rollers – Metric Nominal Dimensions



Caged Stud-Type Track Rollers – Metric Nominal Dimensions



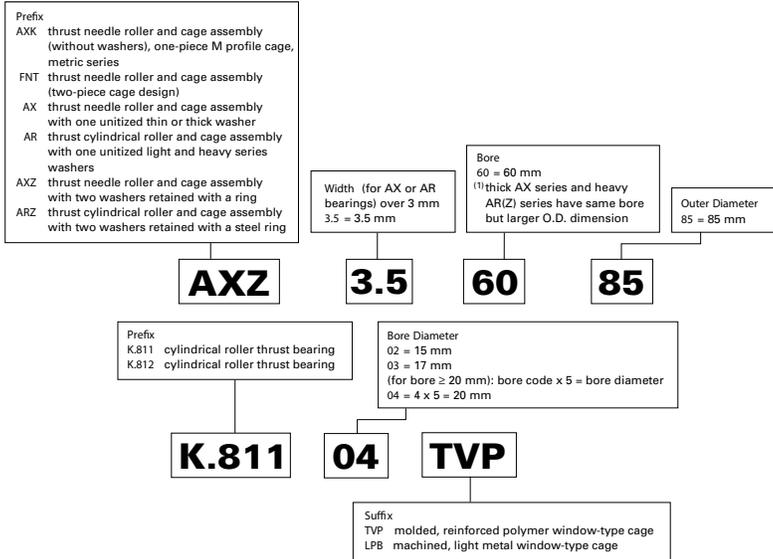
Full Complement Yoke-Type Track Rollers – Metric Nominal Dimensions



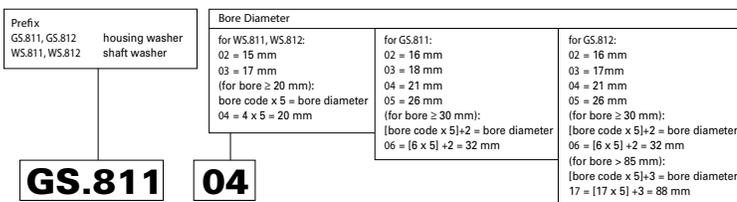
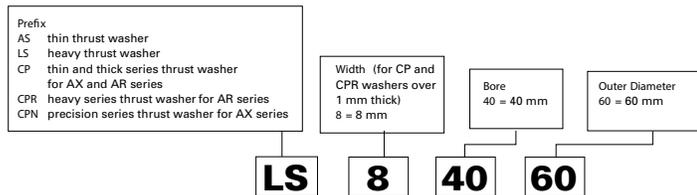
NOMENCLATURE

Thrust Needle Roller Bearings & Washers

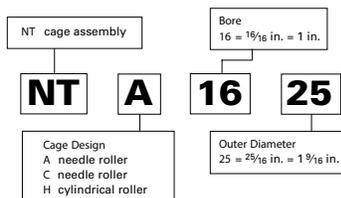
Needle Roller Thrust Bearings – Metric Nominal Dimensions



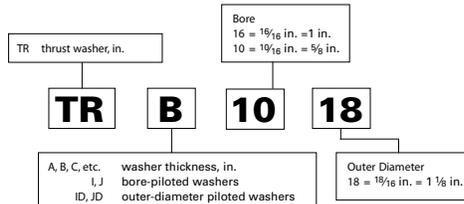
Thrust Washers – Metric Nominal Dimensions



Thrust Bearings – Inch Nominal Dimensions



Thrust Washers – Inch Nominal Dimensions



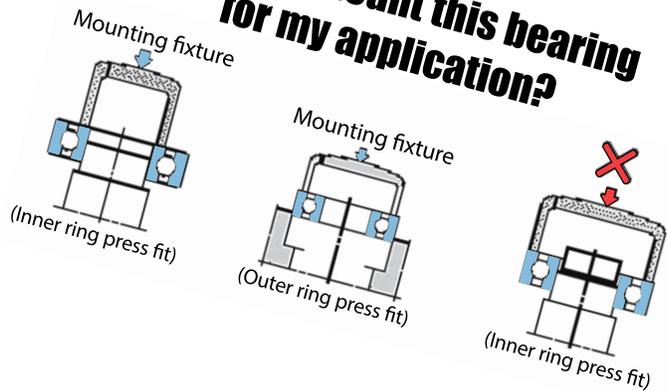
Koyo[®]

TECHNICAL HOTLINE

1-866-KOYOTECH

What type of bearing do I use?

How do I mount this bearing for my application?



How does load affect bearing life?

$$L_{10h} = 10^6 \left(\frac{C}{60n P} \right)$$

Can you interchange this part number?

6206 2RSC3P5

Call

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