

Needle Roller Bearings

Thrust needle roller bearings

Prefix Bore Code Suffix

K811 **d** **T2**

AXK11 Needle thrust bearing

$\varnothing 10 \text{ mm} < d < \varnothing 160 \text{ mm}$

INA : AXK

K811... thrust roller and cage, series 811
K812... thrust roller and cage, series 812

$\varnothing 10 \text{ mm} < d < \varnothing 160 \text{ mm}$

T2 Polyamide resin cage
J Pressed steel cage

INA : K811, K812

811... thrust roller & cage with WS/GS thrust washer, series 811
812... thrust roller & cage with WS/GS thrust washer, series 812

$\varnothing 10 \text{ mm} < d < \varnothing 160 \text{ mm}$

T2 Polyamide resin cage
J Pressed steel cage

INA : 811, 812

AS pressed thrust washer
GS machined thrust washer, centered on the housing
WS machined thrust washer, centered on the shaft

$\varnothing 10 \text{ mm} < d < \varnothing 160 \text{ mm}$

INA : AS, GS, WS

K893 thrust roller and cage, series 893 (2 rollers per pocket) heavy use

$\varnothing 30 \text{ mm} < d < \varnothing 110 \text{ mm}$

INA : K893

893 thrust roller & cage with WS/GS thrust washer, series 893 (2 rollers per pocket) heavy use

$\varnothing 30 \text{ mm} < d < \varnothing 110 \text{ mm}$

INA : 893

K874... thrust roller and cage, series 874 (3 rollers per pocket) heavy use

$\varnothing 40 \text{ mm} < d < \varnothing 90 \text{ mm}$

874 thrust roller & cage with WS/GS thrust washer, series 874 (3 rollers per pocket) heavy use

$\varnothing 40 \text{ mm} < d < \varnothing 170 \text{ mm}$

Machined ring needle roller bearings

Bore Code and Inscribed Diameter

Prefix Series **d** Suffix

NA **49** **d** **LL**

RNA 48 series 48 **RNA 49** series 49
RNA 59 series 59

48 : $\varnothing 120 \text{ mm} < Fw < \varnothing 415 \text{ mm}$
49 : $\varnothing 7 \text{ mm} < Fw < \varnothing 490 \text{ mm}$
59 : $\varnothing 20 \text{ mm} < Fw < \varnothing 160 \text{ mm}$

R Ribbed type
 INA : RNA48, RNA49

RNA 69 series 69

$\varnothing 16 \text{ mm} < Fw < \varnothing 110 \text{ mm}$

R Ribbed type
 INA : RNA69 if $Fw < 40 \text{ mm}$
 RNA69...ZW si $Fw \geq 40 \text{ mm}$

NO inner ring

RNA 49...L series 49, sealed on one side

$\varnothing 14 \text{ mm} < Fw < \varnothing 58 \text{ mm}$

INA : RNA49...RSR

RNA 49...LL series 49, both side sealing

$\varnothing 14 \text{ mm} < Fw < \varnothing 58 \text{ mm}$

INA : RNA49...2RSR

NA 48 series 48 **NA 49** series 49
NA 59 series 59

48 : $\varnothing 110 \text{ mm} < d < \varnothing 390 \text{ mm}$
49 : $\varnothing 5 \text{ mm} < d < \varnothing 440 \text{ mm}$
50 : $\varnothing 15 \text{ mm} < d < \varnothing 140 \text{ mm}$

R Ribbed type
 INA : NA48, NA49

NA 69 series 69

$\varnothing 12 \text{ mm} < d < \varnothing 95 \text{ mm}$

R Ribbed type
 INA : NA69 if $d < 32 \text{ mm}$
 NA69...ZW if $d \geq 32 \text{ mm}$

WITH inner ring

NA 49...L series 49, sealed on one side

$\varnothing 10 \text{ mm} < Fw < \varnothing 50 \text{ mm}$

INA : NA49...RSR

NA 49...LL series 49, both side sealing

$\varnothing 10 \text{ mm} < Fw < \varnothing 50 \text{ mm}$

INA : NA49...2RSR

Machined ring needle roller bearing

Bore Code and Inscribed Diameter

Prefix **d** **D** Width Suffix

1R **d** **D** **L** **D**

NK **Fw** / **L** **R**

1R inner ring, metric size
M1 inner ring, imperial size

1R : $\varnothing 5 \text{ mm} < d < \varnothing 440 \text{ mm}$
M1 : $\varnothing \frac{1}{8} \text{ inch} < d < \varnothing 8 \text{ inch}$

D Lubrication hole
 INA : 1R, M1

NK... without inner ring
NKS... without inner ring, heavy series
MR without inner ring, imperial size

NK : $\varnothing 5 \text{ mm} < Fw < \varnothing 165 \text{ mm}$
NKS : $\varnothing 12 \text{ mm} < Fw < \varnothing 135 \text{ mm}$
MR : $\varnothing \frac{1}{2} \text{ inch} < Fw < \varnothing \frac{1}{2} \text{ inch}$

R Ribbed type
 INA : NK, NKS, NCS

NK...+1R with inner ring
NKS...+1R with inner ring, heavy series
MR+M1 with inner ring, imperial size

NK+1R : $\varnothing 5 \text{ mm} < d < \varnothing 150 \text{ mm}$
NKS+1R : $\varnothing 9 \text{ mm} < d < \varnothing 120 \text{ mm}$
MR+M1 : $\varnothing \frac{1}{4} \text{ inch} < d < \varnothing 8 \text{ inch}$

R Ribbed type
 INA : NK, NKS, NCS+PI

Separable machined ring needle roller bearings

Bore Diameter Outer Diameter Width Suffix

Prefix **d** **D** **L** **ZW**

NAO... with inner ring

$\varnothing 6 \text{ mm} < d < \varnothing 90 \text{ mm}$

ZW double row
T2 polyamide resin cage
 INA : NAO...ZW, TV

RNAO... without inner ring

$\varnothing 5 \text{ mm} < Fw < \varnothing 100 \text{ mm}$

ZW double row
T2 polyamide resin cage
 INA : RNAO...ZW, TV

Roller Followers

Prefix Bore Code Suffix

RNAB2 **d** **X**

RNAB2... with OR, and rollers in cage (no inner ring), separable

$\varnothing 16 \text{ mm} < D < \varnothing 90 \text{ mm}$

X \varnothing cylindrical OD
 INA : RSTO, RSTO...X

NAB2... with OR, rollers in cage, and IR (separable IR), separable

$\varnothing 19 \text{ mm} < D < \varnothing 90 \text{ mm}$

X \varnothing cylindrical OD
 INA : STO, STO...X

RNA22... with cage, sealed

$\varnothing 19 \text{ mm} < D < \varnothing 90 \text{ mm}$

X \varnothing cylindrical OD
 INA : RNA22...2RSR

NA22... as RNA22LL but with inner ring

$\varnothing 19 \text{ mm} < D < \varnothing 90 \text{ mm}$

X \varnothing cylindrical OD
 INA : NA22...2RSR

NUTR2... with double row cylindrical rollers, series 200
NUTR3... with double row cylindrical rollers, series 300

$\varnothing 35 \text{ mm} < D < \varnothing 110 \text{ mm}$

X \varnothing cylindrical OD
 INA : NUTR

NUTW2... with double row cylindrical rollers and central rib, series 200

$\varnothing 35 \text{ mm} < d < \varnothing 90 \text{ mm}$

X \varnothing cylindrical OD

Roller Followers

Prefix Outer Diameter Suffix

NATR **D** **LL**

NATR... with cage, no seal
NATR...LL with cage, sealed

NATR : $\varnothing 16 \text{ mm} < D < \varnothing 90 \text{ mm}$
LL : $\varnothing 16 \text{ mm} < D < \varnothing 90 \text{ mm}$

X \varnothing cylindrical OD
 INA : NATR, NATR...PP

NATV... full complement needles
NATV...LL full complement needles, sealed
NACV... full complement needles, imperial size
NACV...LL full complement needles, sealed, imperial size

NATV : $\varnothing 16 \text{ mm} < D < \varnothing 90 \text{ mm}$
NACV : $\varnothing \frac{1}{4} \text{ inch} < D < \varnothing 6 \text{ inch}$

X \varnothing cylindrical OD
 INA : NATV, NATR...PP, RF

Combined needle roller bearings

Bore and inscribed diameter Suffix

Prefix **NKX** **d** **Fw** **T2**

NKX... with thrust ball bearing

$\varnothing 10 \text{ mm} < Fw < \varnothing 70 \text{ mm}$

T2 polyamide resin cage
Z with protection cover
 INA : NKX

NKXR... with roller thrust bearing

$\varnothing 15 \text{ mm} < Fw < \varnothing 50 \text{ mm}$

T2 polyamide resin cage
Z with protection cover
 INA : NKXR

NK1A 59... with angular contact ball bearing

$\varnothing 15 \text{ mm} < d < \varnothing 70 \text{ mm}$

INA : NK1A 59

NK1B 59... with 3-point contact ball bearing

$\varnothing 15 \text{ mm} < d < \varnothing 70 \text{ mm}$

R Ribbed type
 INA : NK1B 59

Needle roller and cage assemblies

Outer Inscribed \varnothing Inner Inscribed \varnothing Width Suffix

Prefix **K** **Fw** x **Ew** x **L** **T2**

K... Default is machined steel cage

$\varnothing 3 \text{ mm} < Fw < \varnothing 285 \text{ mm}$

T2 polyamide resin cage
S welded steel cage
 INA : K, K...TV

KMJ... Default is pressed steel cage

$\varnothing 15 \text{ mm} < d < \varnothing 100 \text{ mm}$

M : M shape

KJ...S welded steel cage

$\varnothing 20 \text{ mm} < Fw < \varnothing 40 \text{ mm}$

K...ZW machined, double row

$\varnothing 8 \text{ mm} < Fw < \varnothing 285 \text{ mm}$

INA : K...ZW

PCJ Imperial size, Default is pressed steel cage

$\varnothing \frac{1}{2} \text{ inch} < Fw < \varnothing 4 \text{ inch}$

INA : C

GK Machined split cage

$\varnothing 8 \text{ mm} < Fw < \varnothing 285 \text{ mm}$

Needle roller and cage assemblies

Outer Inscribed \varnothing Inner Inscribed \varnothing Width Suffix

Prefix **K** **Fw** x **Ew** x **L** **T2**

PK... Machined steel cage

$\varnothing 10 \text{ mm} < Fw < \varnothing 38 \text{ mm}$

INA : KZB

Cranks Pin Applications

GPK Machined split steel cage

$\varnothing 8 \text{ mm} < Fw < \varnothing 285 \text{ mm}$

KMJ...S Welded steel cage

$\varnothing 10 \text{ mm} < Fw < \varnothing 38 \text{ mm}$

KBK Machined steel cage

$\varnothing 7 \text{ mm} < Fw < \varnothing 25 \text{ mm}$

INA : KBK

Piston Pin Applications

KV...S welded steel cage, V shape

$\varnothing 7 \text{ mm} < Fw < \varnothing 100 \text{ mm}$

Drawn cup needle roller bearings

Prefix Inscribed Diameter Width Suffix

HK **Fw** **L** **T2**

HK... open, no seal
HMK... open, heavy series

HK : $\varnothing 3 \text{ mm} < Fw < \varnothing 50 \text{ mm}$
HMK : $\varnothing 15 \text{ mm} < Fw < \varnothing 50 \text{ mm}$

T2 Polyamide resin cage
F/FM Optimized design
 INA : HK, HK...TV (no heavy series)

HK...L open, sealed on one side
HMK...L open, sealed on one side, heavy series

HK : $\varnothing 12 \text{ mm} < Fw < \varnothing 50 \text{ mm}$
KMK : $\varnothing 8 \text{ mm} < Fw < \varnothing 50 \text{ mm}$

INA : HK...RS (no heavy series)

HK...L open, double sealing
HMK...L open, sealed on one side, heavy series

HK : $\varnothing 12 \text{ mm} < Fw < \varnothing 50 \text{ mm}$
HMK : $\varnothing 12 \text{ mm} < Fw < \varnothing 50 \text{ mm}$

INA : HK...2RS (no heavy series)

HK...ZWD open, double row, lubrication hole
HMK...ZWD open, double row, heavy series, lubrication hole

HK : $\varnothing 15 \text{ mm} < Fw < \varnothing 30 \text{ mm}$
HMK : $\varnothing 38 \text{ mm} < Fw < \varnothing 50 \text{ mm}$

INA : HK...ZW (no heavy series)

Needle Rollers

Sold x100

Prefix Diameter Length

W **F** **D** **L**

F... flat ends
A... rounded ends

F : $1x4,8 \text{ mm} > 8x39,8 \text{ mm}$
A : $1,5x5,8 \text{ mm} > 6x59,8 \text{ mm}$

Standard tolerances on the diameter

INA : NRA, NRB

Drawn cup needle roller bearings

DCL or SCE, open type, imperial size

$\varnothing \frac{1}{4} \text{ inch} < Fw < \varnothing 2 \text{ inch}$

INA : SCE

BK... closed end type

$\varnothing 12 \text{ mm} < Fw < \varnothing 50 \text{ mm}$

T2 polyamide resin cage
F/FM Optimized design
 INA : BK

BK...L closed end type with seals

$\varnothing 12 \text{ mm} < Fw < \varnothing 50 \text{ mm}$

INA : BK...RS

BK...ZWD closed end type with double row (ZW), and lubricating hole (D)

$\varnothing 15 \text{ mm} < Fw < \varnothing 30 \text{ mm}$

INA : BK...ZW

Cam Followers

Prefix Outer Diameter Suffix

KRV **D** **T2**

KR... with cage
KR...LL with cage, sealed
CR... with cage, imperial size

KR : $\varnothing 10 \text{ mm} < d < \varnothing 90 \text{ mm}$
CR : $\varnothing \frac{1}{2} \text{ inch} < d < 2 \frac{1}{4} \text{ inch}$

H hexagonal socket
X \varnothing cylindrical OD
 INA : KR, KR...PP (Hexagonal socket as standard without suffix)

KRV... full complement needles
KRV...LL full complement needles, sealed
CRV... full complement needles, imperial size

KRV : $\varnothing 10 \text{ mm} < d < \varnothing 90 \text{ mm}$
CRV : $\varnothing \frac{1}{2} \text{ inch} < d < 2 \frac{1}{4} \text{ inch}$

H hexagonal socket
X \varnothing cylindrical OD
 INA : KRV, KRV...PP, CE...Y (Hexagonal socket as standard without suffix)

KRT... with cage, threaded hole for lubrication

KRT : $\varnothing 16 \text{ mm} < d < \varnothing 90 \text{ mm}$

H hexagonal socket as standard
X \varnothing cylindrical OD

KRVT... fully complement needles, threaded hole for lubrication

KRVT : $\varnothing 16 \text{ mm} < d < \varnothing 90 \text{ mm}$

H hexagonal socket as standard
X \varnothing cylindrical OD

KRU... with eccentric stud
KRU...L with eccentric stud, sealed

KRU : $\varnothing 10 \text{ mm} < d < \varnothing 90 \text{ mm}$
LL : $\varnothing 10 \text{ mm} < d < \varnothing 90 \text{ mm}$

X \varnothing cylindrical OD
 INA : non-interchangeable

KRVU... fully complement needles, eccentric stud fully complement needles, eccentric stud, sealed

KRVU : $\varnothing 10 \text{ mm} < d < \varnothing 90 \text{ mm}$
LL : $\varnothing 10 \text{ mm} < d < \varnothing 90 \text{ mm}$

X \varnothing cylindrical OD
 INA : non-interchangeable

KRM...XH Miniature cam follower, with cage
KRMV...XH Miniature cam follower with fully complement rollers

KRM : $\varnothing 4 \text{ mm} < d < \varnothing 12 \text{ mm}$
KRMV : $\varnothing 4 \text{ mm} < d < \varnothing 12 \text{ mm}$

H hexagonal socket
X \varnothing cylindrical OD
 INA : NUKR

NUKR... with shielded full complement double row rollers

NUKR : $\varnothing 30 \text{ mm} < d < \varnothing 180 \text{ mm}$

H hexagonal socket
X \varnothing cylindrical OD
 INA : NUKR

NUKRU... with shielded full complement double row rollers, eccentric stud

NUKRU : $\varnothing 30 \text{ mm} < d < \varnothing 180 \text{ mm}$

X \varnothing cylindrical OD
 INA : non-interchangeable

NUKRT... with shielded full complement double row rollers, threaded hole for lubricator

NUKRT : $\varnothing 30 \text{ mm} < d < \varnothing 180 \text{ mm}$

X \varnothing cylindrical OD

Combined needle roller bearings

Prefix Bore diameter Outer diameter Suffix

AXN **d** **D** **T2**

AXN... with thrust needle roller bearings

$\varnothing 20 \text{ mm} < d < \varnothing 50 \text{ mm}$

INA : AXN

ARN... with thrust needle roller bearings for high axial loading

$\varnothing 20 \text{ mm} < d < \varnothing 70 \text{ mm}$

T2 polyamide resin cage
P5 Precision P5
 INA : ARN

