







MACHINED RING NEEDLE ROLLER BEARINGS



Machined type needle roller bearings (NA, NK, NA..UU)

Type and Part Code

Type	Applicable axis diameter	Feature	Part Code
 RNA48,49,59,69	$\phi 7 \sim \phi 175$	Machined type needle roller bearings With collar outer ring Without inner ring Without seal *Double rows: RNA69 (Fw $\geq \phi 37$)	<p>Type RNA ↓ Type of bearing</p> <p>Dimensions 49 10 ↓ ↓ Dimension series Bore diameter number</p> <p>Suffix code P6 ↓ Classification symbol (Class 6) (Standard: No symbol, Class 0)</p>
 NK	$\phi 5 \sim \phi 110$	Machined type needle roller bearings Light load type With collar outer ring Without inner ring Without seal (There are no oil holes and oil grooves if the roller set bore diameter (Fw) is 10 mm or less)	<p>Type NK ↓ Type of bearing</p> <p>Dimensions 40 / 20 ↓ ↓ Outer ring width Inscribed circle diameter</p> <p>Suffix code P6 ↓ Classification symbol (Class 6) (Standard: No symbol, Class 0)</p>
 NA48,49,59,69	$\phi 5 \sim \phi 160$	Machined type needle roller bearings With collar outer ring With inner ring Without seal *Double rows: NA69 (shaft dia. $\geq \phi 32$)	<p>Type NA ↓ Type of bearing</p> <p>Dimensions 49 10 ↓ ↓ Dimension series Bore diameter number</p> <p>Suffix code C3 P6 ↓ ↓ Clearance symbol (C3 clearance) (Standard: No symbol, CN clearance) Classification symbol (Class 6) (Standard: No symbol, Class 0)</p>
 NKI	$\phi 5 \sim \phi 100$	Machined type needle roller bearings Light load type With collar outer ring With inner ring Without seal (There are no oil holes and oil grooves if the bore diameter is 8mm or less)	<p>Type NKI ↓ Type of bearing</p> <p>Dimensions 35 / 20 ↓ ↓ Bore diameter Outer ring width</p> <p>Suffix code C3 P6 ↓ ↓ Clearance symbol (C3 clearance) (Standard: No symbol, CN clearance) Classification symbol (Class 6) (Standard: No symbol, Class 0)</p>
 RNA49,69..UU	$\phi 14 \sim \phi 58$	Machined type needle roller bearings With collar outer ring Without inner ring With seal *Double rows: RNA69 (Fw $\geq \phi 42$)	<p>Type RNA ↓ Type of bearing</p> <p>Dimensions 49 10 ↓ ↓ Dimension series Bore diameter number</p> <p>Suffix code UU P6 ↓ ↓ UU: With Seal Classification symbol (Class 6) (Standard: No symbol, Class 0)</p>
 NA49,69..UU	$\phi 10 \sim \phi 50$	Machined type needle roller bearings With collar outer ring With inner ring With seal *Double rows: NA69 (shaft dia. $\geq \phi 35$)	<p>Type NA ↓ Type of bearing</p> <p>Dimensions 49 10 ↓ ↓ Dimension series Bore diameter number</p> <p>Suffix code UU C3 P6 ↓ ↓ ↓ UU: With Seal Clearance symbol (C3 clearance) (Standard: No symbol, CN clearance) Classification symbol (Class 6) (Standard: No symbol, Class 0)</p>

Structure and Features

Machined type needle roller bearings offer high stiffness and bearing accuracy and are of a structure whereby the cage and needle rollers are mounted on a machined outer ring. They can also be used in light metal housing due to the high stiffness of the outer ring.

Moreover, because the needle roller diameter is relatively small, the cross-sectional height is low, meaning that large radial loads can be supported in a small envelope. This enables machinery to be smaller and lighter.

There are machined type needle roller bearings both with and without inner rings, and the shaft can also be used directly as a track surface.

Without inner ring

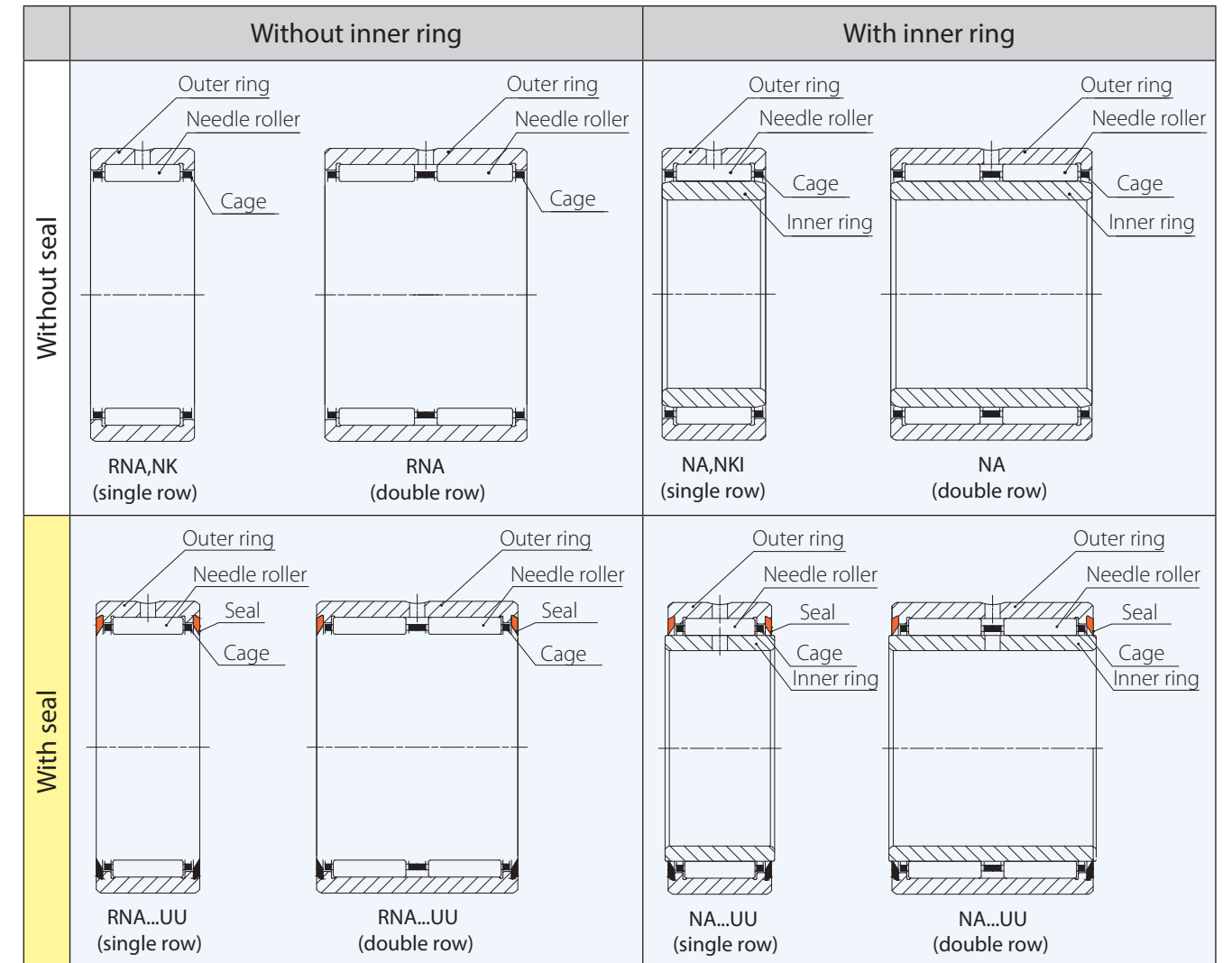
The shaft is directly used as the track surface of the machined type needle roller bearing. If using the shaft directly as a track surface, please refer to 6-2 Accuracy of track surface and 6-3 Material and heat treatment of track surface.

With inner ring

If the shaft surface cannot achieve the specified hardness, accuracy and roughness, the type with an inner ring is used. The inner ring has been tempered and polished so it is of the hardness, accuracy and roughness required for the track and can be used as is.

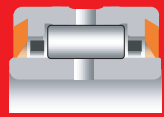
With seal

NA49UU and NA69UU have seals embedded in both ends. The synthetic rubber seals help to prevent lubricant leakage and the infiltration of external dust.



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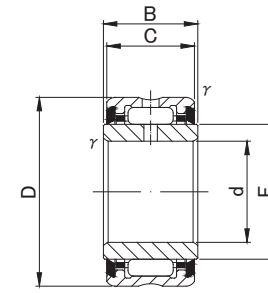
SEALED, WITH INNER RING



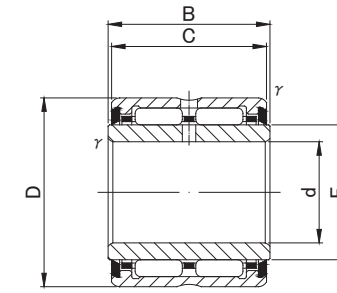
NA49UU,NA69UU(d≤30)



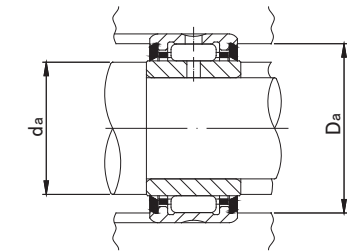
NA69UU



NA49UU,NA69UU(d ≤ 30)



NA69UU



NA49UU,NA69UU,SEALED TYPE

Prepacked Grease

Shaft Diameter (mm)	Designation		Dimensions (mm)						Standard mounting dimensions (mm)			Basic dynamic load rating	Basic static load rating	Limiting speed (GREASE)	Mass	Usable bearing designation	
	NA 49UU	NA 69UU	d	D	C	B	l/s min	F	da		Da	Cr N	Cor N	rpm	g (approx)	OUTER RING	INNER RING
									MIN	MAX	MAX						
10	NA 4900UU	—	10 ⁰ _{-0.008}	22	13	14	0.3	14	12	13	20	8 000	8 500	14 000	25	RNA4900UU	IRZ101414
12	NA 4901UU	—	12 ⁰ _{-0.008}	24	13	14	0.3	16	14	15	22	8 400	9 300	12 000	28	RNA4901UU	IRZ121614
	—	NA 6901UU	12 ⁰ _{-0.008}	24	22	23	0.3	16	14	15	22	15 600	20 400	12 000	46	RNA6901UU	IRZ121623
15	NA 4902UU	—	15 ⁰ _{-0.008}	28	13	14	0.3	20	17	19	26	9 600	11 700	9 500	36	RNA4902UU	IRZ152014
	—	NA 6902UU	15 ⁰ _{-0.008}	28	23	24	0.3	20	17	19	26	18 400	27 100	9 500	63	RNA6902UU	IRZ152024
17	NA 4903UU	—	17 ⁰ _{-0.008}	30	13	14	0.3	22	19	21	28	10 300	13 100	8 500	40	RNA4903UU	IRZ172214
	—	NA 6903UU	17 ⁰ _{-0.008}	30	23	24	0.3	22	19	21	28	19 800	30 600	8 500	69	RNA6903UU	IRZ172224
20	NA 4904UU	—	20 ⁰ _{-0.010}	37	17	18	0.3	25	22	24	35	17 900	20 500	7 500	78	RNA4904UU	IRZ202518
	—	NA 6904UU	20 ⁰ _{-0.010}	37	30	31	0.3	25	22	24	35	33 000	44 500	7 500	140	RNA6904UU	IRZ202531
25	NA 4905UU	—	25 ⁰ _{-0.010}	42	17	18	0.3	30	27	29	40	20 300	25 100	6 500	93	RNA4905UU	IRZ253018
	—	NA 6905UU	25 ⁰ _{-0.010}	42	30	31	0.3	30	27	29	40	39 200	58 600	6 500	162	RNA6905UU	IRZ253031
30	NA 4906UU	—	30 ⁰ _{-0.010}	47	17	18	0.3	35	32	34	45	21 600	28 400	5 500	106	RNA4906UU	IRZ303518
	—	NA 6906UU	30 ⁰ _{-0.010}	47	30	31	0.3	35	32	34	45	40 100	63 100	5 500	185	RNA6906UU	IRZ303531
35	NA 4907UU	—	35 ⁰ _{-0.012}	55	20	21	0.6	42	39	41	51	30 100	46 300	4 500	179	RNA4907UU	IRZ354221
	—	NA 6907UU	35 ⁰ _{-0.012}	55	36	37	0.6	42	39	41	51	51 600	92 600	4 500	320	RNA6907UU	IRZ354237
40	NA 4908UU	—	40 ⁰ _{-0.012}	62	22	23	0.6	48	44	47	58	37 200	58 300	4 000	245	RNA4908UU	IRZ404823
	—	NA 6908UU	40 ⁰ _{-0.012}	62	40	41	0.6	48	44	47	58	63 700	116 700	4 000	440	RNA6908UU	IRZ404841
45	NA 4909UU	—	45 ⁰ _{-0.012}	68	22	23	0.6	52	49	51	64	38 800	63 400	3 500	290	RNA4909UU	IRZ455223
	—	NA 6909UU	45 ⁰ _{-0.012}	68	40	41	0.6	52	49	51	64	66 700	126 500	3 500	510	RNA6909UU	IRZ455241
50	NA 4910UU	—	50 ⁰ _{-0.012}	72	22	23	0.6	58	54	57	68	41 300	71 100	3 500	300	RNA4910UU	IRZ505823
	—	NA 6910UU	50 ⁰ _{-0.012}	72	40	41	0.6	58	54	57	68	70 800	142 200	3 500	530	RNA6910UU	IRZ505841