

Heavy duty needle roller bearing is a kind of high capacity bearing with small sectional height . It can operate very flexibly even with the light alloy bearing seat due to its high hard outer ring. There are two series: metric and inch series. Both of which are structured with retainer, full needle and sealing types. Besides, the entity bushed needle roller bearings are divided into two kinds: that with inner ring and without ring. The center shaft is used as rolling body tray for those without inner ring so that its size is even smaller.

Structure

NK	Light series needle roller bearings without inner ring
NKS	Heavy series needle roller bearings without inner ring
RNA 49	Needle roller bearings without inner ring
RNA 69	Double row needle roller bearings without inner ring
RNA 48	Needle roller bearings without inner ring
NKI	Light series needle roller bearings with inner ring
NKIS	Heavy series needle roller bearings with inner ring
NA 49	Needle roller bearings with inner ring
NA 69	Double row needle roller bearings with inner ring
NA 48	Needle roller bearings with inner ring
RNA 49...RS	Single sealed needle roller bearings without inner ring
RNA 49...2RS	Double sealed needle roller bearings without inner ring
NA 49...RS	Single sealed needle roller bearings with inner ring
NA 49...2RS	Double sealed needle roller bearings with inner ring
IR	Inner ring series
BR	Inch system series needle roller bearings without inner ring
BRI	Inch system series needle roller bearings with inner ring



Needle roller bearings with retaining edge

The retaining edge of heavy duty needle roller bearing is on the outer ring. It can be either fixed or spring lock ring. If the center shaft tray is quenched and ground, the dismountable inner ring can be cancelled. Generally there are one row needle roller which includes NKI, NKIS, NA48, NA49 series needle roller bearings, NA69 series bearings. All those with aperture diameter over 32 mm are double row needle roller bearings. There are oil groove or holes on the outer ring which make needle roller bearing easy for lubricating. Only NKI series and the small sized NK19/16 , NK12/16 have neither oil groove nor oil hole .one side sealed (RS) or double sides sealed (2RS). NA49 series bearing have an oil hole on the inner ring. NA49 series needle roller bearings are either

Needle roller bearings without retaining edge

Needle roller bearings without retaining edge is NAO series which have got a smaller needle retainer assembly than the bearing outer ring . Thus , the needle unit can move freely after the bearings are fitted . The axial guidance of the needle unit requires a positioning face on the side. There is a oil groove , a oil hole and two rows of needles in the needle outer ring of wide series, but no oil groove and oil hole in the narrow series which has only one row of bearing unit.

Needle roller bearings without inner ring

Needle roller bearings without inner ring includes NK , NKS ,RNA48 ,RNA49 RNA69 , RNA0 series. The rolling needles roll directly on the quenched and ground shaft. The needle bearings without inner ring are compact in structure. The rotating precision will be increased if the shaft is machined with high precision. For those needle bearings without retaining edge or inner ring (RNAO), the outer ring and needle unit can not be exchanged.

Single side and double side sealed needle roller bearings

The sealed needle roller bearings are filled with lithium based grease. For more effective functioning of the sealing in axle movement, there will be no guiding slope on the inner ring which is 1mm higher than outer ring. Ordinary sealed bearings will operate in the temperature range of -30°C-20°C.

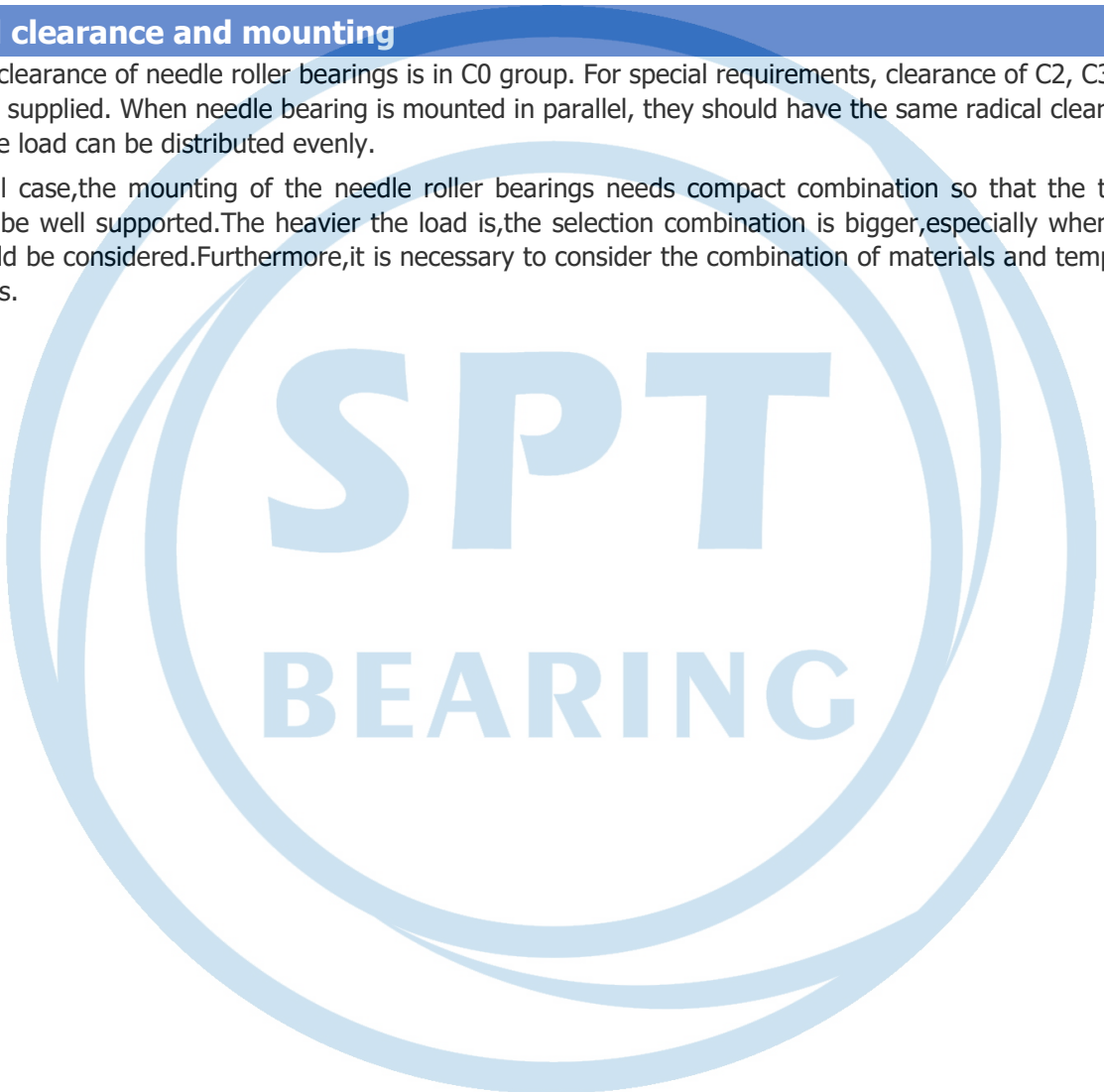
Inner rings

The inner ring of IR series is quenched and made with high precision. The dimensional tolerance and the geometric precision of the standard grade inner ring is in compliance with PO grade. In using needle roller bearings, the selection of inner ring will enable the bearing to keep a normal operational backlash.

Radical clearance and mounting

Standard clearance of needle roller bearings is in C0 group. For special requirements, clearance of C2, C3 and C4 can be supplied. When needle bearing is mounted in parallel, they should have the same radial clearances so that the load can be distributed evenly.

In general case, the mounting of the needle roller bearings needs compact combination so that the thin wall bush can be well supported. The heavier the load is, the selection combination is bigger, especially when impact load should be considered. Furthermore, it is necessary to consider the combination of materials and temperature differences.

The logo for SPT BEARING is centered on the page. It features the letters 'SPT' in a large, bold, sans-serif font, with 'BEARING' in a slightly smaller, bold, sans-serif font directly below it. The text is light blue. Behind the text are several concentric, slightly offset circles of the same light blue color, creating a sense of motion or a stylized bearing design.

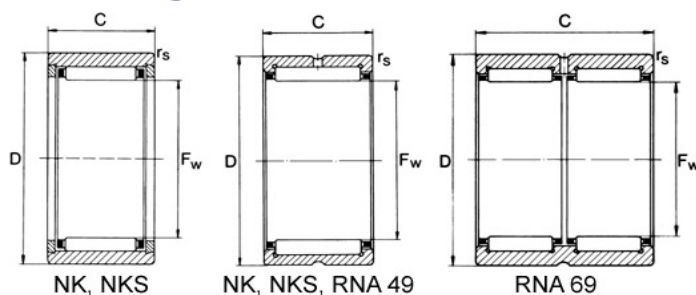
SPT
BEARING

SERVICE / PRECISION / TECHNOLOGY

Heavy Duty Needle Roller Bearings without Inner Ring



Series NK, NKS,
RNA 49, RNA 69

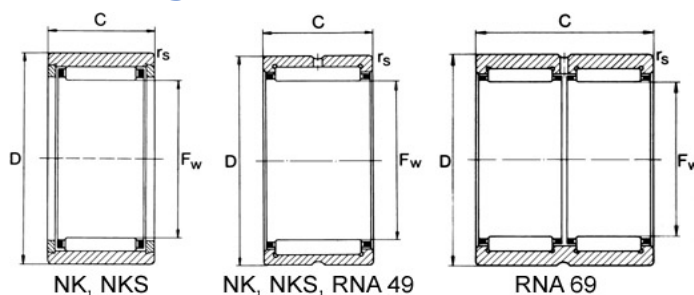


Shaft Diameter (mm)	Bearing Designation	Mass (g)	Boundary Dimensions (mm)			Basic Load Rating		Limiting Speed Oil
			Fw	D	C	Dynamic Cr(N)	Static Cor(N)	
5	NK 05/10 TN	3.3	5	10	10	2100	1600	35000
	NK 05/12 TN	4.0	5	10	12	2800	2300	35000
6	NK 06/10 TN	5.1	6	12	10	2400	1900	32000
	NK 06/12 TN	6.2	6	12	12	3100	2800	32000
7	NK 07/10 TN	7.3	7	14	10	2600	2300	30000
	NK 07/12 TN	8.8	7	14	12	3400	3200	30000
8	NK 08/12 TN	9.6	8	15	12	3700	3700	28000
	NK 08/16 TN	12.8	8	15	16	4900	5300	28000
	NKS 8 TN	11	8	16	13	5000	4700	28000
9	NK 09/12 TN	10.4	9	16	12	4200	4500	27000
	NK 09/16 TN	13.9	9	16	16	5600	6500	27000
10	NK 10/12 TN	11.2	10	17	12	4400	4900	25000
	NK 10/16 TN	15.1	10	17	16	5900	7200	25000
	NKS 10 TN	15	10	19	13	5800	6000	25000
12	NK 12/12	12.4	12	19	12	6500	7100	23000
	NK 12/16	16.3	12	19	16	9100	11000	23000
	NKS 12 TN	23	12	22	16	9600	10400	22000
14	NK 14/16	20.9	14	22	16	11000	12500	21000
	NK 14/20	26.2	14	22	20	13900	17000	21000
	NKS 14	29	14	25	16	14400	13800	20000
	RNA 4900	16.5	14	22	13	8600	9200	21000
15	NK 15/16	21.8	15	23	16	10900	12700	20000
	NK 15/20	27.2	15	23	20	13800	17200	20000
	NKS 15	30	15	26	16	14400	14000	19000
16	NK 16/16	23.0	16	24	16	11500	13900	19000
	NK 16/20	28.6	16	24	20	14600	18800	19000
	NKS 16	35	16	28	16	15700	15800	18000
	RNA 4901	17.4	16	24	13	9600	10900	19000
	RNA 6901	31	16	24	22	16200	21600	19000
17	NK 17/16	24.2	17	25	16	12100	15000	19000
	NK 17/20	30.2	17	25	20	15400	20400	19000
18	NK 18/16	25.4	18	26	16	12700	16200	18000
	NK 18/20	31.7	18	26	20	16100	22000	18000
	NKS 18	37.9	18	30	16	16800	17700	17000
19	NK 19/16	26.6	19	27	16	13000	17400	18000
	NK 19/20	33.2	19	27	20	16800	23600	18000
20	NK 20/16	27.4	20	28	16	13200	17500	17000
	NK 20/20	34.3	20	28	20	16700	23800	17000
	NKS 20	48.7	20	32	20	23000	25000	16000
	RNA 4902	21.7	20	28	13	10300	12800	17000
	RNA 6902	39.7	20	28	23	17600	25300	17000

Heavy Duty Needle Roller Bearings without Inner Ring



Series NK, NKS,
RNA 49, RNA 69

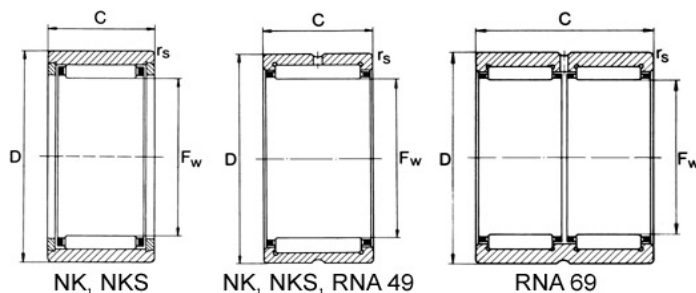


Shaft Diameter (mm)	Bearing Designation	Mass (g)	Boundary Dimensions (mm)			Basic Load Rating		Limiting Speed Oil
			Fw	D	C	Dynamic Cr(N)	Static Cor(N)	
21	NK 21/16	28.6	21	29	16	13700	18700	17000
	NK 21/20	35.9	21	29	20	17400	25400	17000
22	NK 22/16	29.9	22	30	16	14200	19900	16000
	NK 22/20	37.4	22	30	20	18000	27000	16000
	NKS 22	61.5	22	35	20	24500	28000	14000
	RNA 4903	22.2	22	30	13	11200	14600	16000
	RNA 6903	42.4	20	30	23	18900	28800	16000
24	NK 24/16	32.3	24	32	16	15200	22300	14000
	NK 24/20	40.4	24	32	20	19300	30300	14000
	NKS 24	65.5	24	37	20	26000	31000	13000
25	NK 25/16	33.2	25	33	16	15100	22400	14000
	NK 25/20	41.4	25	33	20	19200	30400	14000
	NKS 25	68.1	25	38	20	27500	33500	13000
	RNA 4904	52.3	25	37	17	21100	25100	13000
	RNA 6904	100	25	37	30	35200	48400	13000
26	NK 26/16	34.4	26	34	16	15600	23600	13000
	NK 26/20	42.9	26	34	20	19800	32000	13000
28	NK 28/20	51.6	28	37	20	22300	33900	12000
	NK 28/30	77.7	28	37	30	33800	57700	12000
	NKS 28	83.6	28	42	20	28500	36500	11500
	RNA 49/22	50.2	28	39	17	23100	29100	11500
	RNA 69/22	98	28	39	30	38500	56200	11500
29	NK 29/20	52.7	29	38	20	22200	34000	11500
	NK 29/30	79.4	29	38	20	33600	57900	11500
30	NK 30/20	64.2	30	40	20	22900	35800	11500
	NK 30/30	96.6	30	40	30	34700	61000	11500
	NKS 30	104	30	45	22	32000	40000	11000
	RNA 4905	61	30	42	17	24000	31200	11000
	RNA 6905	112	30	42	30	40000	60200	11000
32	NK 32/20	67.6	32	42	20	23500	37700	11000
	NK 32/30	101.6	32	42	30	35600	64300	11000
	NKS 32	110	32	47	22	33500	43500	10000
	RNA 49/28	73.2	32	45	17	24800	33200	11000
	RNA 69/28	135	32	45	30	41500	64200	11000
35	NK 35/20	73.1	35	45	20	24800	41400	10500
	NK 35/30	109.9	35	45	30	37500	70600	10500
	NKS 35	118	35	50	22	35000	47000	10000
	RNA 4906	69.4	35	47	17	25000	35500	10500
	RNA 6906	126	35	47	30	43500	71000	10500

Heavy Duty Needle Roller Bearings without Inner Ring



Series NK, NKS,
RNA 49, RNA 69

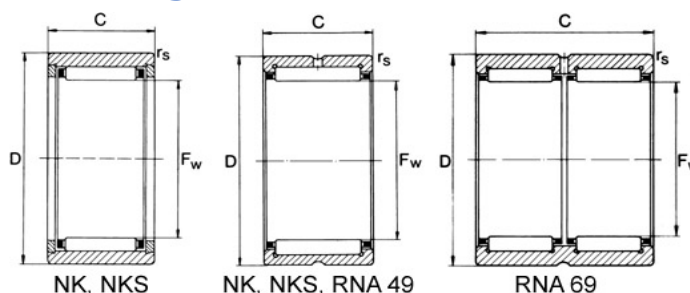


Shaft Diameter (mm)	Bearing Designation	Mass (g)	Boundary Dimensions (mm)			Basic Load Rating		Limiting Speed Oil
			F _w	D	C	Dynamic Cr(N)	Static Cor(N)	
37	NK 37/20	76.5	37	47	20	25300	43300	10000
	NK 37/30	115.0	37	47	30	38300	73900	10000
	NKS 37	123	37	52	22	36500	50000	10000
38	NK 38/20	78.5	38	48	20	25900	45200	10000
	NK 38/30	118.1	38	48	30	39200	77000	10000
40	NK 40/20	81.9	40	50	20	26400	47100	9500
	NK 40/30	123.2	40	50	30	40000	80200	9500
	NKS 40	129	40	55	22	38000	54000	9500
	RNA 49/32	89.1	40	52	20	30500	47500	9500
	RNA 69/32	162	40	52	36	47000	82000	9500
42	NK 42/20	85.3	42	52	20	26900	49000	9500
	NK 42/30	128.4	42	52	30	40700	83500	9500
	RNA 4907	107	42	55	20	31500	50000	9500
	RNA 6907	193	42	55	36	48000	86000	9500
43	NK 43/20	87.3	43	53	20	27500	50800	9500
	NK 43/30	131.5	43	53	30	41600	86600	9500
	NKS 43	139	43	58	22	39000	57000	85000
45	NK 45/20	90.7	45	55	20	28000	52700	8500
	NK 45/30	136.6	46	55	30	42400	89800	8500
	NKS 45	145	45	60	22	40500	60000	8500
47	NK 47/20	94.7	47	57	20	29200	56400	8500
	NK 47/30	142.6	47	57	30	44200	96100	8500
48	RNA 4908	140	48	62	22	43000	67000	8500
	RNA 6908	256	48	62	40	66000	116000	8500
50	NK 50/25	153.7	50	62	25	38700	74300	8500
	NK 50/30	215.4	50	62	35	51700	107700	8500
	NKS 50	157	50	65	22	42500	67000	8500
52	RNA 4909	182	52	68	22	45900	72900	7500
	RNA 6909	338	52	68	40	69000	127000	7500
55	NK 55/25	188.2	55	68	25	41000	82500	6800
	NK 55/35	263.7	55	68	35	54700	119500	6800
	NKS 55	221	55	72	22	45000	74000	6500
58	RNA 4910	163	58	72	22	48100	80000	6500
	RNA 6910	310	58	72	40	73000	139000	6500
60	NK 60/25	181.3	60	72	25	43100	90700	6000
	NK 60/35	254.0	60	72	35	57500	131400	6000
	NKS 60	335	60	80	28	63000	98000	6000
63	RNA 4911	255	63	80	25	58500	99000	5600
	RNA 6911	470	63	80	45	90000	176000	5600

Heavy Duty Needle Roller Bearings without Inner Ring



Series NK, NKS,
RNA 49, RNA 69



Shaft Diameter (mm)	Bearing Designation	Mass (g)	Boundary Dimensions (mm)			Basic Load Rating		Limiting Speed Oil
			Fw	D	C	Dynamic Cr(N)	Static Cor(N)	
65	NK 65/25	218.8	65	78	25	45200	98800	5600
	NK 65/35	306.5	65	78	35	60300	143300	5600
	NKS 65	3556	65	85	28	67000	108000	5600
68	NK 68/25	245.0	68	82	25	45400	91900	5600
	NK 68/35	343.3	68	82	35	66500	150100	5600
	RNA 4912	275	68	85	25	61200	107600	5200
	RNA 6912	488	68	85	45	94000	191000	5200
70	NK 70/25	277.2	70	85	25	46100	94700	5200
	NK 70/35	388.5	70	85	35	67500	154600	5200
	NKS 70	380	70	90	28	68000	113000	5200
72	RNA 4913	312	72	90	25	62300	112100	5200
	RNA 6913	580	72	90	45	95000	198000	5200
73	NK 73/25	319.4	73	90	25	54200	100800	5200
	NK 73/35	448.4	73	90	35	79400	164700	5200
75	NK 75/25	327.5	75	92	25	55300	104300	4800
	NK 75/35	459.8	75	92	35	80900	170300	4800
	NKS 75	402	75	95	28	71000	123000	4800
80	NK 80/25	288.1	80	95	25	57200	111200	4800
	NK 80/35	404.7	80	95	35	83700	181600	4800
	NKS 80	413	80	100	28	75000	133000	4400
	RNA 4914	460	80	100	30	83900	151400	4400
	RNA 6914	857	80	100	54	128000	265000	4400
85	NK 85/25	428.5	85	105	25	69300	120500	4400
	NK 85/35	600.1	85	105	35	100700	194900	4400
	RNA 4915	489	85	105	30	86000	162000	4400
	RNA 6915	935	85	105	54	130000	275000	4400
90	NK 90/25	452.2	90	110	25	72200	129600	4400
	NK 90/35	633.6	90	110	35	104900	209700	4400
	RNA 4916	516	90	110	30	89000	169600	4400
	RNA 6916	987	90	110	54	135000	300000	4400
95	NK 95/26	491.8	95	115	26	76800	142700	3800
	NK 95/36	681.3	95	115	36	109600	225700	3800
100	NK 100/26	516.5	100	120	26	79700	152400	3500
	NK 100/36	715.7	100	120	36	113900	241000	3500
	RNA 4917	657	100	120	35	111300	233700	3500
	RNA 6917	1200	100	120	63	166000	400000	3500

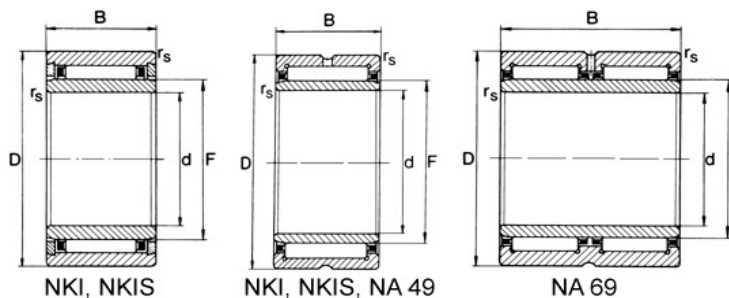
Remarks:

- 1.TN=The allowable working temperature for plastic cage: 120°C (continuously); 150°C (temporarily); 180°C(for a shorttime).
2. Allowable rotational speed applies to oil lubrication. For grease lubrication, a maximum of 60% of this value is allowable.

Heavy Duty Needle Roller Bearings with Inner Ring



Series NKI, NKIS,
NA 49, NA 69

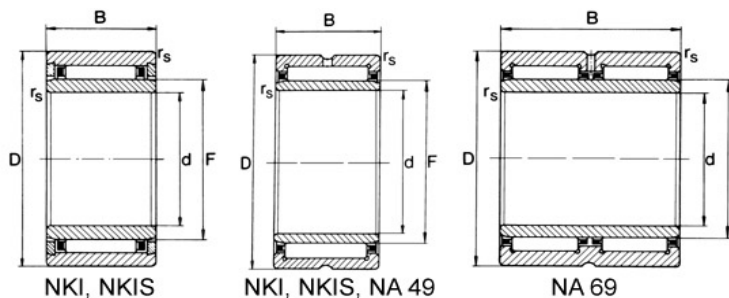


Shaft Diameter (mm)	Bearing Designation	Mass (g)	Boundary Dimensions (mm)				Basic Load Rating		Limiting Speed Oil
			d	F	D	B	Dynamic Cr(N)	Static Cor(N)	
5	NKI 5/12 TN	11.5	5	8	15	12	3700	3700	26000
	NKI 5/16 TN	15.5	5	8	15	16	4900	5300	26000
6	NKI 6/12 TN	13.5	6	9	16	12	4200	4500	25000
	NKI 6/16 TN	17.5	6	9	16	16	5600	6500	25000
	NKIS 6 TN	20	6	10	19	13	4700	4800	23000
7	NKI 7/12 TN	13.8	7	10	17	12	4400	4900	23000
	NKI 7/16 TN	18.5	7	10	17	16	5900	7200	23000
	NKIS 7 TN	34.6	7	12	22	16	7700	8400	20800
8	NKIS 8	47.1	8	14	25	16	11500	11100	19200
9	NKI 9/12	16.6	9	12	19	12	6500	7100	22000
	NKI 9/16	22	9	12	19	16	9100	11000	22000
	NKIS 9	41.5	9	15	26	16	11500	11200	18500
10	NKI 10/16	29.5	10	14	22	16	11000	12500	20000
	NKI 10/20	37.1	10	14	22	20	13900	17000	20000
	NKIS 10	54	10	16	28	16	12600	12500	18000
	NA 4900	23	10	14	22	13	6800	7300	20000
12	NKI 12/16	33.5	12	16	24	16	11500	13900	18500
	NKI 12/20	42	12	16	24	20	14600	18800	18500
	NKIS 12	60	12	18	30	16	13500	14500	17000
	NA 4901	26	12	16	24	13	7500	8700	18500
	NA 6901	46	12	16	24	22	13000	17300	18500
15	NKI 15/16	39	15	19	27	16	13300	17400	18000
	NKI 15/20	48.8	15	19	27	20	16800	23600	18000
	NKIS 15	92	15	22	35	20	19600	22400	15000
	NA 4902	34	15	20	28	13	8500	10900	17000
	NA 6902	63.6	15	20	28	23	13900	20400	17000
17	NKI 17/16	42.5	17	21	29	16	13700	18700	17000
	NKI 17/20	53.5	17	21	29	20	17400	25400	17000
	NKIS 17	98	17	24	37	20	20800	25000	14000
	NA 4903	37	17	22	30	13	8800	11700	16000
	NA 6903	72	17	22	30	23	14900	23200	16000
20	NKI 20/16	49	20	24	32	16	15200	22300	15000
	NKI 20/20	61	20	24	32	20	19300	30300	15000
	NKIS 20	129	20	28	42	20	22800	29200	12000
	NA 4904	75.2	20	25	37	17	17000	20400	14000
	NA 6904	141	22	25	37	30	28800	41000	14000
22	NKI 22/16	52	22	26	34	16	14200	19900	14000
	NKI 22/20	65.5	22	26	34	20	18000	27000	14000
	NA 49/22	80	22	28	39	17	18300	23600	12000
	NA 69/22	150	22	28	39	30	30000	4400	12000

Heavy Duty Needle Roller Bearings with Inner Ring



Series NKI, NKIS,
NA 49, NA 69

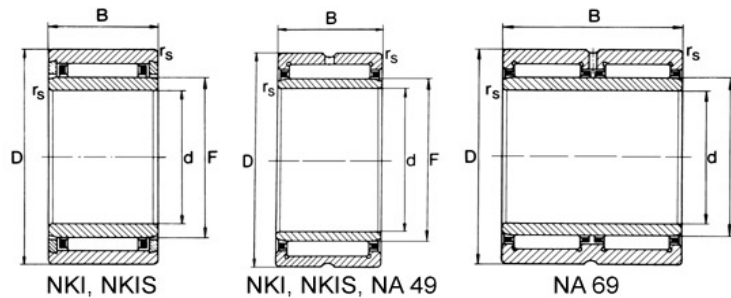


Shaft Diameter (mm)	Bearing Designation	Mass (g)	Boundary Dimensions (mm)				Basic Load Rating		Limiting Speed Oil
			d	F	D	B	Dynamic Cr(N)	Static Cor(N)	
25	NKI 25/20	79.5	25	29	38	20	22200	34000	12000
	NKI 25/30	124	25	29	38	30	33600	57900	12000
	NKIS 25	162	25	32	47	22	33000	43000	10500
	NA 4905	88	25	30	42	17	24000	32000	11000
	NA 6905	161	25	30	42	30	39000	59000	11000
28	NKI 28/20	96.5	28	32	42	20	23500	37700	11000
	NKI 28/30	146	28	32	42	30	35600	64300	11000
	NA 49/28	97.7	28	32	45	17	24000	34000	11000
	NA 69/28	182	28	32	45	30	40500	63000	11000
30	NKI 30/20	112	30	35	45	20	24800	41400	10500
	NKI 30/30	170	30	35	45	30	37500	70600	10500
	NKIS 30	184	30	37	52	22	37500	50000	9600
	NA 4906	101	30	35	47	17	25500	36500	10500
	NA 6906	192	30	35	47	30	44000	71500	10500
32	NKI 32/20	118	32	37	47	20	23500	43300	9600
	NKI 32/30	180	32	37	47	30	38300	73900	9600
	NA 49/32	158	32	40	52	20	30500	48000	8800
	NA 69/32	288	32	40	52	36	47000	82000	8800
35	NKI 35/20	127	35	40	50	20	26400	47100	8800
	NKI 35/30	193	35	40	50	30	40000	80200	8800
	NKIS 35	220	35	43	58	22	40000	57500	8000
	NA 4907	170	35	42	55	20	32000	50000	8800
	NA 6907	310	35	42	55	36	48000	86000	8800
38	NKI 38/20	136	38	43	53	20	27500	50800	8800
	NKI 38/30	207	38	43	53	30	41600	86600	8800
40	NKI 40/20	142	40	45	55	20	28000	52700	8000
	NKI 40/30	216	40	45	55	30	42400	89800	8000
	NKIS 40	281	40	50	65	22	68000	9000	7200
	NA 4908	230	40	48	62	22	6800	9000	7200
	NA 6908	430	40	48	62	40	11700	10000	7200
42	NKI 42/20	148	42	47	57	20	29200	56400	8000
	NKI 42/30	222	42	47	57	30	44200	96100	8000
45	NKI 45/25	229	45	50	62	25	38700	74300	7200
	NKI 45/35	322	45	50	62	35	51700	10700	7200
	NKIS 45	336	45	55	72	22	45000	75000	6400
	NA 4909	271	45	52	68	22	45000	75000	6800
	NA 6909	495	45	52	68	40	70000	128000	6800
50	NKI 50/25	270	50	55	68	25	41000	82500	6800
	NKI 50/35	379	50	55	68	35	54700	119500	6800
	NKIS 50	518	50	60	80	28	64000	99000	6000
	NA 4910	274	50	58	72	22	50000	80000	6400
	NA 6910	515	50	58	72	40	75000	140000	6400

Heavy Duty Needle Roller Bearings with Inner Ring



Series NKI, NKIS,
NA 49, NA 69



Shaft Diameter (mm)	Bearing Designation	Mass (g)	Boundary Dimensions (mm)				Basic Load Rating		Limiting Speed Oil
			d	F	D	B	Dynamic Cr(N)	Static Cor(N)	
55	NKI 55/25	272	55	60	72	25	42500	90000	6200
	NKI 55/35	379	55	60	72	35	55500	120000	6200
	NKIS 55	558	55	65	85	28	62000	105000	5600
	NA 4911	393	55	63	80	25	55000	100000	5600
	NA 6911	780	55	63	80	45	85000	17500	5600
60	NKI 60/25	394	60	68	82	25	45400	91900	5600
	NKI 60/35	553	60	68	82	35	66500	150100	5600
	NKIS 60	560	60	70	90	28	70000	115000	5200
	NA 4912	426	60	68	85	25	65000	110000	5200
	NA 6912	808	60	68	85	45	95000	195000	5200
65	NKI 65/25	467	65	73	90	25	54200	100800	5200
	NKI 65/35	659	65	73	90	35	79400	164700	5200
	NKIS 65	641	65	75	95	28	74000	127000	4800
	NA 4913	456	65	72	90	25	64000	125000	5200
	NA 6913	833	65	72	90	45	98000	200000	5200
70	NKI 70/25	521	70	80	95	25	57200	111200	4800
	NKI 70/35	737	70	80	95	35	83700	181600	4800
	NKIS 70	680	70	80	100	28	77000	135000	4400
	NA 4914	728	70	80	100	30	85000	160000	4400
	NA 6914	1340	70	80	100	54	130000	270000	4400
75	NKI 75/25	641	75	85	105	25	69300	120500	4400
	NKI 75/35	908	75	85	105	35	100700	194900	4400
	NA 4915	775	75	85	105	30	89000	165000	4400
	NA 6915	1450	75	85	105	54	135000	280000	4400
80	NKI 80/25	677	80	90	110	25	72200	129600	4000
	NKI 80/35	959	80	90	110	35	104900	209700	4000
	NA 4916	878	80	90	110	30	90000	175000	4000
	NA 6916	1522	80	90	110	54	140000	300000	4000
85	NKI 85/26	743	85	95	115	26	76800	142700	3900
	NKI 85/36	1040	85	95	115	36	109600	225700	3900
	NA 4917	1250	85	100	120	35	121000	280000	3700
	NA 6917	2200	85	100	120	63	170000	400000	3700
90	NKI 90/26	778	90	100	120	26	797000	152400	3700
	NKI 90/36	1090	90	100	120	36	113900	241000	3700
	NA 4918	1312	90	105	125	35	125000	260000	3500
	NA 6918	2310	90	105	125	63	180000	435000	3500

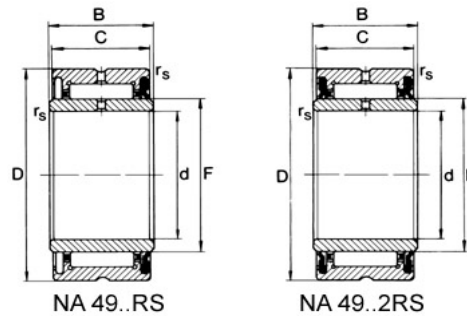
Remarks:

1. TN=The allowable working temperature for plastic cage: 120°C (continuously); 150°C (temporarily); 180°C (for a short time).
2. Allowable rotation speed applies to oil lubrication. For grease lubrication, a maximum of 60% of this value is allowable.

Heavy Duty Needle Roller Bearings with Inner Ring with Seals



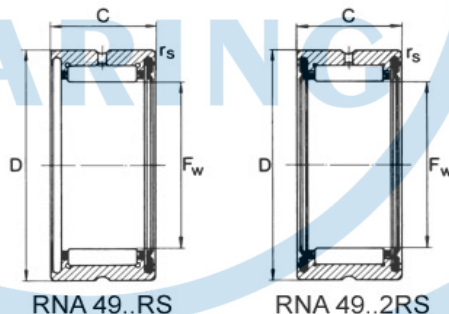
Series NA 49..RS, NA 49.. 2RS



Shaft Diameter (mm)	Bearing Designation		Mass (g)	Boundary Dimensions (mm)					Basic Load Rating		Limiting Speed Grease
									Dynamic	Static	
	NA 49..RS	NA 49..2RS		d	F	D	C	B	Cr(N)	Cor(N)	
10	NA 4900 RS	NA 4900 2RS	24.5	10	14	22	13	14	4800	4800	11000
12	NA 4901 RS	NA 4901 2RS	27.5	12	16	24	13	14	5400	5800	11000
15	NA 4902 RS	NA 4902 2RS	37	15	20	28	13	14	6000	9200	8500
17	NA 4903 RS	NA 4903 2RS	40	17	22	30	13	14	6100	7700	7500
20	NA 4904 RS	NA 4904 2RS	80	20	25	37	17	18	12100	14000	6500
25	NA 4905 RS	NA 4905 2RS	89.5	25	30	42	17	18	13500	16900	5500
30	NA 4906 RS	NA 4906 2RS	104	30	35	47	17	18	14800	20000	5000
35	NA 4907 RS	NA 4907 2RS	175	35	42	55	20	21	18600	27700	4000
40	NA 4908 RS	NA 4908 2RS	252	40	48	62	22	23	26200	37000	3800
45	NA 4909 RS	NA 4909 2RS	290	45	52	68	22	23	26600	41300	3800
50	NA 4910 RS	NA 4910 2RS	295	50	58	72	22	23	28000	44800	3500

Heavy Duty Needle Roller Bearings without Inner Ring with Seals

Series RNA 49..RS, RNA 49.. 2RS



Shaft Diameter (mm)	Bearing Designation		Mass (g)	Boundary Dimensions(mm)			Basic Load Rating		Limiting Speed Grease
				Fw	D	C	Dynamic	Static	
	Cr(N)	Cor(N)							
14	RNA 4900 RS	RNA 4900 2RS	16	14	22	13	4800	4800	11000
16	RNA 4901 RS	RNA 4901 2RS	18	16	24	13	5400	5800	11000
20	RNA 4902 RS	RNA 4902 2RS	21.5	20	28	13	60000	9200	8500
22	RNA 4903 RS	RNA 4903 2RS	23	22	30	13	6100	7700	7500
25	RNA 4904 RS	RNA 4904 2RS	56	25	37	17	12100	14000	6500
30	RNA 4905 RS	RNA 4905 2RS	60	30	42	17	13500	16900	5500
35	RNA 4906 RS	RNA 4906 2RS	69	35	47	17	14800	20000	5000
42	RNA 4907 RS	RNA 4907 2RS	107	42	55	20	18600	27700	4000
48	RNA 4908 RS	RNA 4908 2RS	154	48	62	22	26200	37000	3800
50	RNA 4909 RS	RNA 4909 2RS	157	52	68	22	26600	41300	3800
58	RNA 4910 RS	RNA 4910 2RS	160	58	72	22	28000	44800	3500

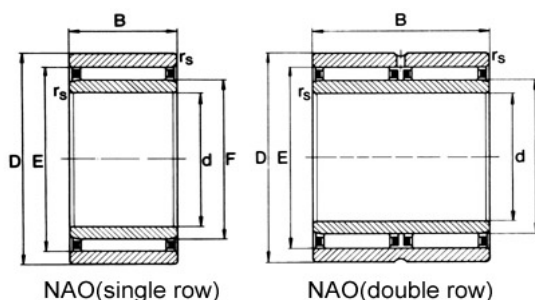
Heavy Duty Needle Roller Bearings

without Ribs, with Inner Ring



Series NAO single row

NAO double row



NAO(single row)

NAO(double row)

Shaft Diameter (mm)	Bearing Designation	Mass (g)	Boundary Dimensions (mm)					Basic Load Rating		Limiting Speed Oil
			d	D	B	F	E	Dynamic Cr(N)	Static Cor(N)	
6	NAO 6X17X10 TN	14	6	17	10	10	13	14500	5200	26000
9	NAO 9X22X12 TN	24	9	22	12	12	18	9500	9500	24000
12	NAO 12X24X13	30	12	24	13	16	20	8500	11000	22000
	NAO 12X24X20	45	12	24	20	16	20	13000	18800	22000
	NAO 12X28X12	40	12	28	12	16	22	11000	11900	21000
15	NAO 15X28X13	30	15	28	13	20	24	9300	13500	19000
	NAO 15X32X12	50	15	32	12	20	26	13000	15400	19000
17	NAO 17X30X13	42	17	30	13	22	26	10000	15100	18000
	NAO 17X35X16	78	17	35	16	22	29	19000	25000	17000
20	NAO 20X35X17	75	20	35	17	25	29	14000	24000	16000
	NAO 20X37X16	82	20	37	16	25	32	20000	25000	15000
25	NAO 25X40X17	88	25	40	17	30	35	18700	32000	13500
	NAO 25X42X16	85	25	42	16	30	37	22000	31500	13500
	NAO 25X42X32	190	25	42	32	30	37	37500	65000	13500
30	NAO 30X45X13	77	30	45	13	35	40	15000	25000	12000
	NAO 30X45X17	102	30	45	17	35	40	20000	35500	12000
	NAO 30X45X26	155	30	45	26	35	40	25000	53000	12000
	NAO 30X47X16	110	30	47	16	35	42	23000	35000	12000
	NAO 30X47X18	120	30	47	18	35	42	26000	40000	12000
	NAO 30X52X18	180	30	52	18	37	44	25000	42000	11000
35	NAO 35X50X17	115	35	50	17	40	45	21000	39000	11000
	NAO 35X55X20	190	35	55	20	40	47	31000	54000	9900
	NAO 35X57X20.5	215	35	57	20.5	42	50	34000	55000	9900
40	NAO 40X55X17	130	40	55	17	45	50	21400	44000	9900
	NAO 40X65X20	280	40	65	20	50	58	33000	60000	8100
50	NAO 50X68X20	230	50	68	20	55	60	27000	63000	7700
	NAO 50X78X20	410	50	78	20	60	68	42000	80000	6800
70	NAO 70X100X30	850	70	100	30	80	88	68000	170000	5500
75	NAO 75X105X25	700	75	105	25	85	93	54000	130000	5000
80	NAO 80X110X30	920	80	110	30	90	98	65000	163000	4500
90	NAO 90X120X30	1050	90	120	30	100	108	68000	178000	4200

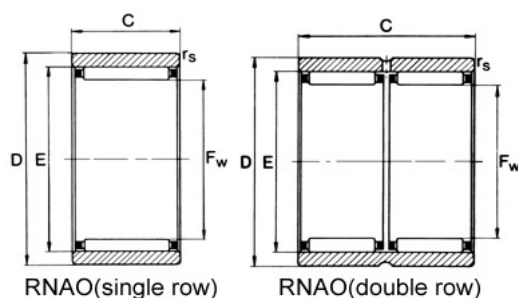
Remarks:

1. TN=The allowable working temperature for plastic cage: 120°C (continuously); 150°C (temporarily); 180°C(for a shorttime).
2. Allowable rotational speed applies to oil lubrication. For grease lubrication, a maximum of 60% of this value is allowable.

Heavy Duty Needle Roller Bearings without Ribs, without Inner Ring



Series RNAO single row
RNAO double row

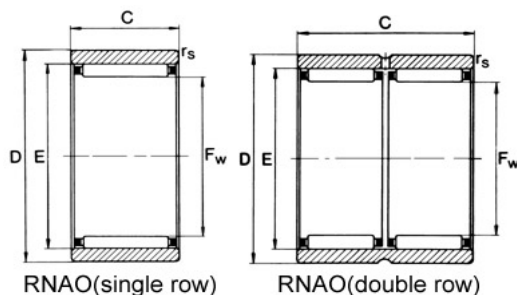


Shaft Diameter (mm)	Bearing Designation	Mass (g)	Boundary Dimensions (mm)				Basic Load Rating		Limiting Speed Oil
			Fw	D	C	E	Dynamic Cr(N)	Static Cor(N)	
5	RNAO 5X10X8 TN	3	5	10	8	8	2200	1800	35000
6	RNAO 6X13X8 TN	6	6	13	8	9	2400	2100	33000
7	RNAO 7X14X8 TN	6	7	14	8	10	2500	2500	32000
8	RNAO 8X15X10 TN	8	8	15	10	11	3700	3900	29000
10	RNAO 10X17X10 TN	10	10	17	10	13	4500	5200	26000
12	RNAO 12X19X13.5 TN	15	12	19	13.5	15	6100	8000	24000
	RNAO 12X22X12 TN	19	12	22	12	18	9500	9500	23500
15	RNAO 15X23X13	20	15	23	13	19	8000	10000	21000
16	RNAO 16X24X13	21	16	24	13	20	8500	11000	21000
	RNAO 16X24X20	32	16	24	20	20	13000	19000	21000
	RNAO 16X28X12	32	16	28	12	22	11000	12000	20500
17	RNAO 17X25X13	22	17	25	13	21	10000	14000	20500
18	RNAO 18X30X24	69	18	30	24	24	20000	26000	19500
20	RNAO 20X28X13	25	20	28	13	24	95000	14000	19000
	RNAO 20X28X26	50	20	28	26	24	16000	28000	19000
	RNAO 20X32X12	38	20	32	12	26	13000	16000	19000
22	RNAO 22X30X13	27	22	30	13	26	10000	15500	18000
	RNAO 22X35X16	59	22	35	16	29	19000	25000	17000
25	RNAO 25X35X17	53	25	35	17	29	14500	25000	16500
	RNAO 25X35X26	76	25	35	26	29	19000	35000	16500
	RNAO 25X37X16	60	25	37	16	32	20000	27000	15000
	RNAO 25X37X32	119	25	37	32	32	34000	53000	15000
26	RNAO 26X39X13	60	26	39	13	30	11000	19000	17000
30	RNAO 30X40X17	60	30	40	17	35	19000	33000	13500
	RNAO 30X40X26	94	30	40	26	35	25000	49000	13500
	RNAO 30X42X16	59	30	42	16	37	23000	33000	13500
	RNAO 30X42X32	137	30	42	32	37	39000	65000	13500
35	RNAO 35X45X13	53	35	45	13	40	16000	26000	12000
	RNAO 35X45X17	69	35	45	17	40	20500	38000	12000
	RNAO 35X45X26	91	35	45	26	40	27000	55000	12000
	RNAO 35X47X16	78	35	47	16	42	24000	37000	12000
	RNAO 35X47X18	89	35	47	18	42	27000	42000	12000
	RNAO 35X47X32	156	35	47	32	42	40000	72000	12000
37	RNAO 37X52X18	125	37	52	18	44	26000	43000	10800

Heavy Duty Needle Roller Bearings without Ribs, without Inner Ring



Series RNAO single row
RNAO double row



Shaft Diameter (mm)	Bearing Designation	Mass (g)	Boundary Dimensions (mm)				Basic Load Rating		Limiting Speed Oil
			Fw	D	C	E	Dynamic Cr(N)	Static Cor(N)	
40	RNAO 40X50X17	75	40	50	17	45	21000	40000	10800
	RNAO 40X50X34	152	40	50	34	45	35000	79000	10800
	RNAO 40X55X20	145	40	55	20	47	32000	55000	10800
	RNAO 40X55X40	275	40	55	40	48	61000	115000	9900
42	RNAO 42X57X20	150	42	57	20	50	34000	55000	9900
45	RNAO 45X55X17	85	45	55	17	50	22000	44000	9900
	RNAO 45X62X40	377	45	62	40	53	65000	130000	9000
50	RNAO 50X62X20	104	50	62	20	55	25000	57000	9000
	RNAO 50X65X20	168	50	65	20	58	35000	59000	8600
	RNAO 50X65X40	355	50	65	40	58	58000	12000	8100
55	RNAO 55X68X20	166	55	68	20	60	27000	60000	8100
60	RNAO 60X78X20	255	60	78	20	68	42000	80000	7700
	RNAO 60X78X40	435	60	78	40	68	72000	168000	6800
65	RNAO 65X85X30	464	65	85	30	73	55000	120000	6800
70	RNAO 70X90X30	500	70	90	30	78	58000	130000	6300
80	RNAO 80X100X30	580	80	100	30	88	71000	170000	5900
85	RNAO 85X105X25	460	85	105	25	93	55000	130000	5400
90	RNAO 90X105X26	375	90	105	26	98	58000	140000	5000
	RNAO 90X110X30	610	90	110	30	98	65000	170000	4500
100	RNAO 100X120X30	695	100	120	30	108	68000	180000	4500

Remarks:

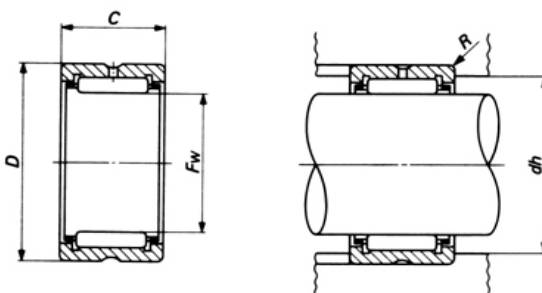
1. TN=The allowable working temperature for plastic cage: 120°C (continuously); 150°C (temporarily); 180°C (for a short time).
2. Allowable rotational speed applies to oil lubrication. For grease lubrication, a maximum of 60% of this value is allowable.

Heavy Duty Needle Roller Bearings © Inch Series

without Inner Ring



Series BR



Shaft diameter (mm)	Bearing Designation	Boundary dimensions (mm)			Standard mounting dimensions (mm)		Basic Load Ratings		Limiting Speed Oil
		F _w	D	C	dh Max	R(2) Max	Dynamic C(kgf)	Static Co(kgf)	
15.875	BR 101812	15.875	28.575	19.05	24.5	0.6	1930	2010	25000
19.05	BR122012	19.05	31.75	19.05	26.5	1	2220	2490	20000
	BR 122016	19.05	31.75	25.4	26.5	1	2810	3380	20000
22.225	BR 142212	22.225	34.925	19.05	29.7	1	2340	2770	18000
	BR 142216	22.225	34.925	25.4	29.7	1	2970	3760	18000
25.4	BR 162412	25.4	38.1	19.05	32.9	1	2580	3250	16000
	BR 162416	25.4	38.1	25.4	32.9	1	3280	4420	16000
28.575	BR 182616	28.575	41.275	25.4	36	1	3560	5090	14000
	BR 182620	28.575	41.275	31.75	36	1	4410	6690	14000
31.75	BR 202816	31.75	44.45	25.4	39.2	1	3670	5450	13000
	BR 202820	31.75	44.45	31.75	39.2	1	4550	7180	13000
34.925	BR 223016	34.925	47.625	25.4	42.4	1	3930	6120	11000
	BR 223020	34.925	47.625	31.75	42.4	1	4870	8060	11000
38.1	BR 243316	38.1	52.388	35.4	45.1	1.5	4460	6820	11000
	BR 243320	38.1	52.388	31.75	45.1	1.5	5530	8980	11000
41.275	BR 263516	41.275	55.562	25.4	48.3	1.5	4570	7230	9500
	BR 263520	41.275	55.562	31.75	48.3	1.5	5670	9530	9500
44.45	BR 283716	44.45	58.738	25.4	51.5	1.5	4850	7980	9000
	BR 283720	44.45	58.738	31.75	51.5	1.5	6010	10500	9000
	BR 283820	44.45	60.325	31.75	53.1	1.5	6010	10500	9000
47.625	BR 303920	47.625	61.912	31.75	54.7	1.5	6130	11000	8500
50.8	BR 324116	50.8	65.088	25.4	57.8	1.5	5200	9110	8000
	BR 324120	50.8	65.088	31.75	57.8	1.5	6440	12000	8000
57.15	BR 364824	57.15	76.2	38.1	69	1.5	9200	16100	7000
	BR 364828	57.15	76.2	44.45	69	1.5	10700	19500	7000
63.5	BR 405224	63.5	82.55	38.1	74.3	2	9640	17700	6500
	BR 405228	63.5	82.55	44.45	74.3	2	11200	21400	6500
69.85	BR 445624	69.85	88.9	38.1	80.7	2	10100	19300	5500
	BR 445628	69.85	88.9	44.45	80.7	2	11700	23300	5500
76.2	BR 486024	76.2	95.25	38.1	87	2	10700	21600	5500
	BR 486028	76.2	95.25	44.45	87	2	12400	26100	5500
82.55	BR 526828	82.55	107.95	44.45	99.7	2	14400	26400	5000
	BR 526832	82.55	107.95	50.8	99.7	2	15700	29500	5000
88.9	BR 567232	88.9	114.3	50.8	106.1	2	16500	32100	4500
95.25	BR 607632	95.25	120.65	50.8	111.4	2.5	17200	34900	4000
101.6	BR 648032	101.6	127	50.8	117.8	2.5	18000	37500	4000

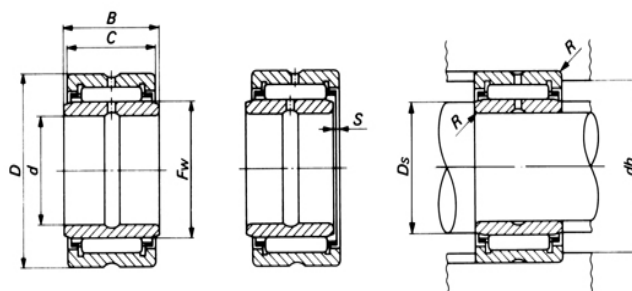
Remarks:

1. TN=The allowable working temperature for plastic cage: 120°C (continuously); 150°C (temporarily); 180°C(for a shorttime).
2. Allowable rotational speed applies to oil lubrication. For grease lubrication, a maximum of 60% of this value is allowable.

Heavy Duty Needle Roller Bearings © Inch Series with Inner Ring



Series BR



Shaft diameter (mm)	Bearing Designation	Boundary dimensions (mm)			Standard mounting dimensions (mm)		Basic Load Ratings		Limiting Speed Oil
		F _w	D	C	dh Max	R(2) Max	Dynamic kgf	Static kgf	
9.525	BRI 061812	15.875	28.575	19.05	24.5	0.6	1930	2010	25000
12.7	BRI 082012	19.05	31.75	19.05	26.5	1	2220	2490	20000
	BRI 082016	19.05	31.75	25.4	26.5	1	2810	3380	20000
15.875	BRI 102212	22.225	34.925	19.05	29.7	1	2340	2770	18000
	BRI 102216	22.225	34.925	25.4	29.7	1	2970	3760	18000
19.05	BRI 122412	25.4	38.1	19.05	32.9	1	2580	3250	16000
	BRI 122416	25.4	38.1	25.4	32.9	1	3280	4420	16000
22.225	BRI 142616	28.575	41.275	25.4	36	1	3560	5090	14000
	BRI 142620	28.575	41.275	31.75	36	1	4410	6690	14000
25.4	BRI 142620	31.75	44.45	25.4	39.2	1	3670	5450	13000
	BRI 162816	31.75	44.45	31.75	39.2	1	4550	7180	13000
28.575	BRI 162820	34.925	47.625	25.4	42.4	1	3930	6120	11000
	BRI 183020	34.925	47.625	31.75	42.4	1	4870	8060	11000
31.75	BRI 203316	38.1	52.388	25.4	45.1	1.5	4460	6820	11000
	BRI 203320	38.1	52.388	31.75	45.1	1.5	5530	8980	11000
34.925	BRI 223516	41.275	55.562	25.4	48.3	1.5	4570	7230	9500
	BRI 223520	41.275	55.562	31.75	48.3	1.5	5670	9530	9500
38.1	BRI 243716	44.45	58.738	25.4	51.5	1.5	4850	7980	9000
	BRI 243720	44.45	58.738	31.75	51.5	1.5	6010	10500	9000
	BRI 243820	44.45	60.325	31.75	53.1	1.5	6010	10500	9000
	BRI 243920	47.625	61.912	31.75	54.7	1.5	6130	11000	8500
50.8	BRI 264116	50.8	65.088	25.4	57.8	1.5	5200	9110	8000
	BRI 264120	50.8	65.088	31.75	57.8	1.5	6440	12000	8000
44.45	BRI 284824	57.15	76.2	38.1	69	1.5	9200	16100	7000
	BRI 284828	57.15	76.2	44.45	69	1.5	10700	19500	7000
50.8	BRI 325224	63.5	82.55	38.1	74.3	2	9640	17700	6500
	BRI 325228	63.5	82.55	44.45	74.3	2	11200	21400	6500
57.15	BRI 365624	69.85	88.9	38.1	80.7	2	10100	19300	5500
	BRI 365628	69.85	88.9	44.45	80.7	2	11700	23300	5500
63.5	BRI 406024	76.2	95.25	38.1	87	2	10700	21600	5500
	BRI 406028	76.2	95.25	44.45	87	2	12400	26100	5500
69.85	BRI 446828	82.55	107.95	44.45	99.7	2	14400	26400	5000
	BRI 446832	82.55	107.95	50.8	99.7	2	15700	29500	5000
76.2	BRI 487232	88.9	114.3	50.8	106.1	2	16500	32100	4500
82.55	BRI 527632	95.25	120.65	50.8	111.4	2.5	17200	34900	4000
88.9	BRI 568032	101.6	127	50.8	111.4	2.5	18000	37500	4000

Remarks:

1. TN=The allowable working temperature for plastic cage: 120°C (continuously); 150°C (temporarily); 180°C (for a short time).
2. Allowable rotational speed applies to oil lubrication. For grease lubrication, a maximum of 60% of this value is allowable.