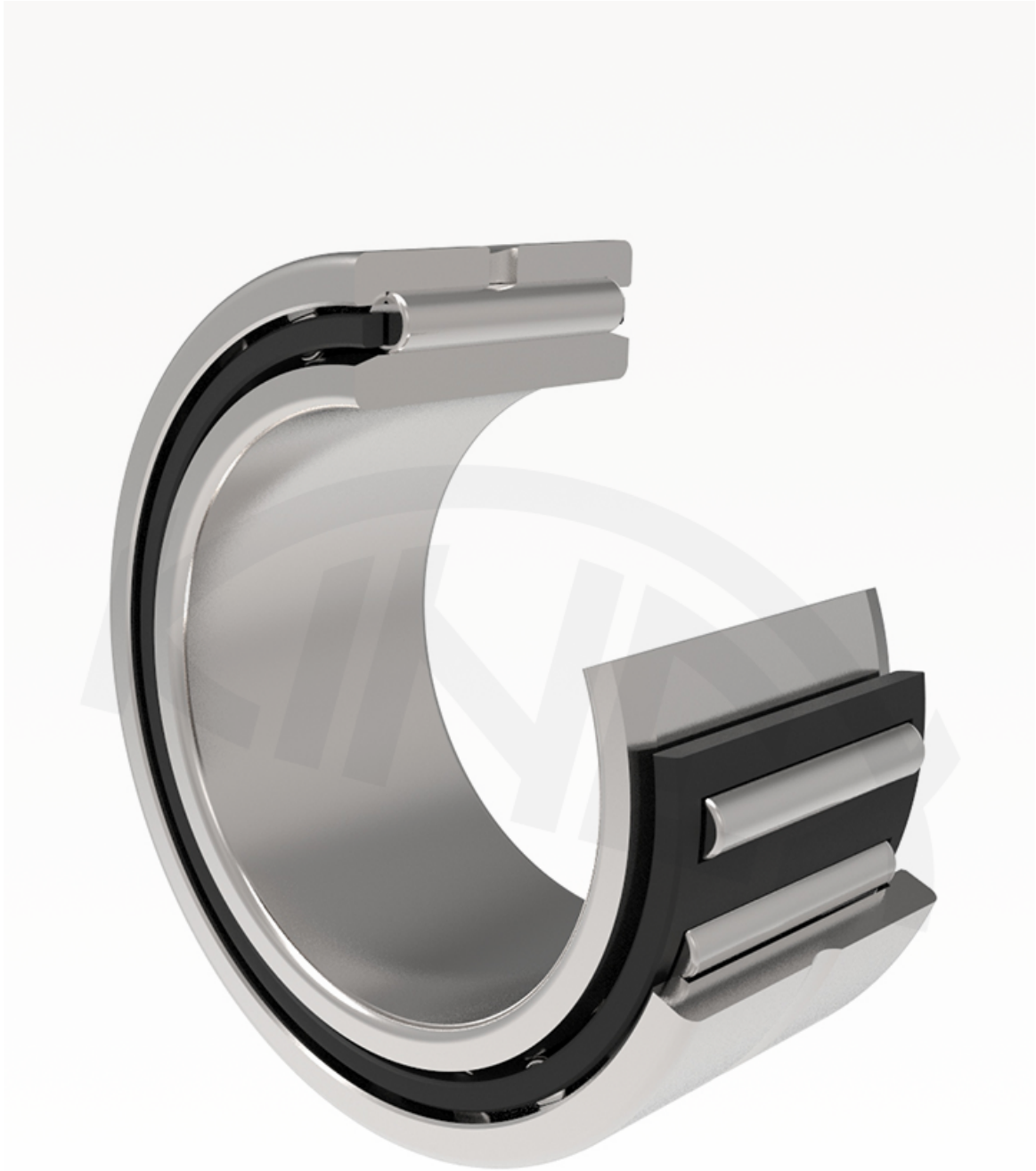


Needle bearings with guide ribs with inner ring



Needle bearings without inner ring and with inner ring are the roller bearings for high loading with simple spatial construction. Needle rollers guided evenly to the axis in fix cage are made with tolerance diameter of 2 μm . Outer ring with ribs and a cage with needle rollers create the construction unit.

Needle bearings with ribs with inner ring are supplied in following design: NKI, NKIS, NA48, NA49, NA 69.

The design with inner ring is used when the raceway cannot be made on the shaft. Outer ring with a cage and inner ring may be assembled independently. The shift values ("s") specified in the dimension tables cannot be exceeded in view of the manufacturing tolerances and the thermal expansion of connecting elements during operation. If the table values are insufficient, needle bearings may be combined with wider IR and LR rings, as shown in the dimension tables. For lubrication purposes the bearings have a lubrication groove and opening, this does not apply for bearings NKI $d \leq 7 \text{ mm}$.

[Download the current general catalogue EN](#)

Dimensions						Bearing designation	Basic load rating		Fatigue load limit	Limiting speed for lubrication with		Mass
							dynamic	static		grease	oil	
d	D	B	r _s	F _w	s		C _r	C _{or}	C _u	kg		
mm							kN			min ⁻¹		
5	15	12	0.3	8	1.5	NKI5/12TV	4.4	5.0	0.609	19000	32000	0.014
5	15	16	0.3	8	2.0	NKI5/16TV	5.6	6.8	0.829	19000	32000	0.017
6	16	12	0.3	9	1.5	NKI6/12TV	4.1	4.8	0.585	18000	30000	0.015
6	16	16	0.3	9	2.0	NKI6/16TV	5.9	7.7	0.939	18000	30000	0.019
7	17	12	0.3	10	1.5	NKI7/12TV	5.2	6.6	0.804	17000	28000	0.017
7	17	16	0.3	10	2.0	NKI7/16TV	5.6	7.4	0.902	17000	28000	0.021
9	19	12	0.3	12	1.5	NKI9/12TV	6.4	7.7	0.939	16000	26000	0.018
9	19	16	0.3	12	2.0	NKI9/16TV	6.4	9.2	1.121	16000	26000	0.024
10	22	13	0.3	14	0.5	NA4900	8.2	9.2	1.121	16000	26000	0.025
10	22	16	0.3	14	0.5	NKI10/16	11.0	13.7	1.670	16000	26000	0.032
10	22	20	0.3	14	0.5	NKI10/20	13.2	17.3	2.109	16000	26000	0.040
12	24	13	0.3	16	0.5	NA4901	9.0	11.0	1.341	15000	24000	0.028
12	24	16	0.3	16	0.5	NKI12/16	11.4	15.0	1.829	15000	24000	0.036
12	24	20	0.3	16	0.5	NKI12/20	13.7	19.0	2.317	15000	24000	0.046

Dimensions						Bearing designation	Basic load rating		Fatigue load limit	Limiting speed for lubrication with		Mass
							dynamic	static		grease	oil	
d	D	B	r _s	F _w	s		C _r	C _{or}	C _u			
mm							kN			min ⁻¹		kg
12	24	22	0.3	16	1.0	NA6901	14.3	20.0	2.439	15000	24000	0.051
15	27	16	0.3	19	0.5	NKI15/16	12.5	17.3	2.109	14000	22000	0.042
15	27	20	0.3	19	0.5	NKI15/20	15.0	22.0	2.682	14000	22000	0.054
15	28	13	0.3	20	0.5	NA4902	10.2	13.7	1.670	13000	20000	0.037
15	28	23	0.3	20	1.0	NA6902	16.6	25.5	3.109	13000	20000	0.067
17	29	16	0.3	21	0.5	NKI17/16	13.4	20.0	2.439	13000	20000	0.047
17	29	20	0.3	21	0.5	NKI17/20	16.3	25.0	3.048	13000	20000	0.059
17	30	13	0.3	22	0.5	NA4903	10.4	14.6	1.780	12000	19000	0.040
17	30	23	0.3	22	1.0	NA6903	18.0	29.0	3.536	12000	19000	0.084
17	37	20	0.3	24	0.5	NKIS17	26.0	31.0	3.780	10000	17000	0.108
20	32	16	0.3	24	0.5	NKI20/16	14.3	22.4	2.731	10000	17000	0.053
20	32	20	0.3	24	0.5	NKI20/20	17.3	28.5	3.475	10000	17000	0.067
20	37	17	0.3	25	0.8	NA4904	19.0	23.6	2.878	10000	17000	0.084
20	37	30	0.3	25	1.0	NA6904	33.5	49.0	5.975	10000	17000	0.133
20	42	20	0.3	28	0.5	NKIS20	27.5	36.5	4.451	9000	15000	0.130
22	34	16	0.3	26	0.5	NKI22/16	14.6	23.6	2.878	9500	16000	0.058
22	34	20	0.3	26	0.5	NKI22/20	17.6	30.0	3.658	9500	16000	0.071
22	39	17	0.3	28	0.8	NA49/22	20.8	27.5	3.353	9000	15000	0.089
22	39	30	0.3	28	0.5	NA69/22	29.0	51.0	6.219	9000	15000	0.163
25	38	20	0.3	29	1.0	NKI25/20	20.8	34.0	4.146	8500	14000	0.086
25	38	30	0.3	29	1.5	NKI25/30	27.0	54.0	6.585	8500	14000	0.130
25	42	17	0.3	30	0.8	NA4905	21.6	30.0	3.658	8500	14000	0.099
25	42	30	0.3	30	1.0	NA6905	36.5	57.0	6.951	8500	14000	0.178
25	47	22	0.6	32	1.0	NKIS25	32.5	44.0	5.365	8000	13000	0.174
28	42	20	0.3	32	1.0	NKI28/20	22.0	37.5	4.573	8000	13000	0.104
28	42	30	0.3	32	1.5	NKI28/30	32.5	62.0	7.560	8000	13000	0.156
28	45	17	0.3	32	0.8	NA49/28	22.4	31.5	3.841	8000	13000	0.108
28	45	30	0.3	32	1.0	NA69/28	40.0	60.0	7.317	8000	13000	0.190
30	45	20	0.3	35	1.0	NKI30/20	23.2	41.5	5.060	7500	12000	0.120
30	45	30	0.3	35	1.5	NKI30/30	34.0	68.0	8.292	7500	12000	0.179

Dimensions						Bearing designation	Basic load rating		Fatigue load limit	Limiting speed for lubrication with		Mass
							dynamic	static		grease	oil	
d	D	B	r _s	F _w	s		C _r	C _{or}	C _u	grease	oil	
mm							kN			min ⁻¹		kg
30	47	17	0.3	35	0.8	NA4906	23.2	33.5	4.085	7500	12000	0.114
30	47	30	0.3	35	1.0	NA6906	39.0	65.5	7.987	7500	12000	0.205
30	52	22	0.6	37	1.0	NKIS30	35.5	51.0	6.219	7000	11000	0.198
32	47	20	0.3	37	0.5	NKI32/20	23.6	43.0	5.243	7000	11000	0.127
32	47	30	0.3	37	1.0	NKI32/30	34.5	71.0	8.658	7000	11000	0.192
32	52	20	0.6	40	0.8	NA49/32	28.5	46.5	5.670	6700	10000	0.169
32	52	36	0.6	40	0.5	NA69/32	43.0	78.0	9.512	6700	10000	0.313
35	50	20	0.3	40	0.5	NKI35/20	25.0	47.5	8.320	6700	10000	0.135
35	50	30	0.3	40	1.0	NKI35/30	36.5	76.5	9.329	6700	10000	0.208
35	55	20	0.6	42	0.8	NA4907	29.0	49.0	5.975	6700	10000	0.179
35	55	36	0.6	42	0.5	NA6907	44.0	83.0	10.121	6700	10000	0.340
35	58	22	0.6	43	0.5	NKIS35	37.5	57.0	6.951	6300	9500	0.235
38	53	20	0.3	43	0.5	NKI38/20	26.0	51.0	6.219	6300	9500	0.146
38	53	30	0.3	43	1.0	NKI38/30	38.0	83.0	10.121	6300	9500	0.196
40	55	20	0.3	45	0.5	NKI40/20	26.5	53.0	6.463	6300	9500	0.152
40	55	30	0.3	45	1.0	NKI40/30	39.0	86.5	10.548	6300	9500	0.229
40	62	22	0.6	48	1.0	NA4908	40.0	64.0	7.804	5600	8500	0.248
40	62	40	0.6	48	0.5	NA6908	64.0	118.0	14.390	5600	8500	0.473
40	65	22	1.0	50	0.5	NKIS40	41.5	68.0	8.292	5600	8500	0.292
42	57	20	0.3	47	0.5	NKI42/20	27.0	55.0	6.707	6000	9000	0.159
42	57	30	0.3	47	1.0	NKI42/30	39.0	90.0	10.975	6000	9000	0.241
45	62	25	0.6	50	1.5	NKI45/25	37.5	76.5	9.329	5600	8500	0.244
45	62	35	0.6	50	2.0	NKI45/35	51.0	114.0	13.902	5600	8500	0.345
45	68	22	0.6	52	1.0	NA4909	41.5	69.5	8.475	5300	8000	0.291
45	68	40	0.6	52	0.5	NA6909	65.5	125.0	15.243	5300	8000	0.559
45	72	22	1.0	55	0.5	NKIS45	42.5	72.0	8.780	5300	7500	0.360
50	68	25	0.6	55	1.5	NKI50/25	41.5	81.5	9.939	5000	7500	0.288
50	68	35	0.6	55	2.0	NKI50/35	57.0	122.0	14.352	5000	7500	0.406
50	72	22	0.6	58	1.0	NA4910	43.0	76.5	9.329	4800	7000	0.296
50	72	40	0.6	58	0.5	NA6910	67.0	132.0	16.097	4800	7000	0.577

Dimensions						Bearing designation	Basic load rating		Fatigue load limit	Limiting speed for lubrication with		Mass
							dynamic	static		grease	oil	
d	D	B	r _s	F _w	s		C _r	C _{or}	C _u			
mm							kN			min ⁻¹		kg
50	80	28	1.1	60	2.0	NKIS50	60.0	98.0	11.951	4800	7000	0.523
55	72	25	0.6	60	1.5	NKI55/25	40.0	88.0	10.731	4800	7000	0.290
55	72	35	0.6	60	2.0	NKI55/35	55.0	132.0	16.097	4800	7000	0.410
55	80	25	1.0	63	1.5	NA4911	56.0	100.0	12.195	4500	6700	0.426
55	80	45	1.0	63	1.5	NA6911	83.0	160.0	19.512	4500	6700	0.800
55	85	28	1.1	65	2.0	NKIS55	64.0	108.0	13.170	4300	6300	0.569
60	82	25	0.6	68	1.0	NKI60/25	44.0	95.0	11.585	4000	6000	0.440
60	82	35	0.6	68	1.0	NKI60/35	60.0	143.0	17.439	4000	6000	0.520
60	85	25	1.0	68	1.5	NA4912	58.5	108.0	13.170	4000	6000	0.457
60	85	45	1.0	68	1.5	NA6912	71.0	176.0	21.463	4000	6000	0.854
60	90	28	1.1	70	2.0	NKIS60	65.5	114.0	13.902	4000	6000	0.607
65	90	25	0.6	73	1.0	NKI65/25	55.0	112.0	13.658	3800	5600	0.500
65	90	25	1.0	72	1.0	NA4913	58.5	114.0	13.902	4000	6000	0.489
65	90	35	0.6	73	1.5	NKI65/35	75.0	166.0	20.243	3800	5600	0.690
65	90	45	1.0	72	1.5	NA6913	95.0	196.0	23.902	4000	6000	0.945
65	95	28	1.1	75	2.0	NKIS65	69.5	125.0	15.243	3800	5600	0.655
70	95	25	1.0	80	0.8	NKI70/25	58.5	122.0	14.878	3600	5300	0.561
70	95	35	1.0	80	0.8	NKI70/35	72.0	176.0	21.463	3600	5300	0.700
70	100	28	1.1	80	1.5	NKIS70	72.0	137.0	16.707	3400	5000	0.680
70	100	30	1.0	80	1.5	NA4914	78.0	150.0	18.292	3600	5300	0.772
70	100	54	1.0	80	1.0	NA6914	125.0	270.0	32.926	3600	5300	1.450
75	105	25	1.0	85	1.0	NKI75/25	69.5	129.0	15.731	3400	5000	0.640
75	105	30	1.0	85	1.5	NA4915	80.0	156.0	19.024	3400	5000	0.817
75	105	35	1.0	85	1.0	NKI75/35	98.0	208.0	25.365	3400	5000	1.050
75	105	54	1.0	85	1.0	NA6915	129.0	290.0	35.365	3400	5000	1.550
80	110	25	1.0	90	1.0	NKI80/25	72.0	140.0	17.073	3000	4500	0.790
80	110	30	1.0	90	1.5	NA4916	83.0	170.0	20.731	3000	4500	0.862
80	110	35	1.0	90	1.0	NKI80/35	102.0	220.0	26.829	3000	4500	0.980
80	110	54	1.0	90	1.0	NA6916	118.0	320.0	39.024	3000	4500	1.620
85	115	26	1.0	95	1.5	NKI85/26	46.5	116.0	14.146	3000	4500	0.862

Dimensions						Bearing designation	Basic load rating		Fatigue load limit	Limiting speed for lubrication with		Mass
							dynamic	static		grease	oil	
d	D	B	r _s	F _w	s		C _r	C _{or}	C _u	grease	oil	
mm							kN			min ⁻¹		kg
85	115	36	1.0	95	1.5	NKI85/36	104.0	228.0	27.804	3000	4500	1.040
85	120	35	1.1	100	1.0	NA4917	100.0	220.0	26.346	2800	4300	1.310
85	120	63	1.1	100	1.0	NA6917	143.0	415.0	49.698	2800	4300	2.430
90	120	26	1.0	100	1.5	NKI90/26	75.0	153.0	18.322	2800	4300	0.780
90	120	36	1.0	100	1.5	NKI90/36	108.0	245.0	29.340	2800	4300	1.080
90	125	35	1.1	105	1.0	NA4918	104.0	236.0	27.888	2600	4000	1.370
90	125	63	1.1	105	1.0	NA6918	160.0	405.0	47.859	2600	4000	2.640
95	125	26	1.0	105	1.5	NKI95/26	50.0	129.0	15.244	2600	4000	0.935
95	125	36	1.0	105	1.5	NKI95/36	69.5	196.0	23.161	2600	4000	1.300
95	130	35	1.1	110	1.0	NA4919	106.0	245.0	28.563	2400	3800	1.430
95	130	63	1.1	110	1.0	NA6919	150.0	455.0	53.046	2400	3800	2.670
100	130	30	1.1	110	1.5	NKI100/30	93.0	208.0	24.249	2400	3800	0.984
100	130	40	1.1	110	2.0	NKI100/40	122.0	290.0	33.809	2400	3800	1.410
100	135	32	1.1	115	1.5	NKIS100	95.0	216.0	24.839	2200	3600	1.340
100	140	40	1.1	115	2.0	NA4920	127.0	285.0	32.705	2200	3600	2.010
110	140	30	1.0	120	2.0	NA4822	81.5	216.0	24.629	2000	3400	1.210
110	150	40	1.1	125	0.8	NA4922	134.0	315.0	35.341	2000	3400	2.190
120	150	30	1.0	130	2.0	NA4824	85.0	236.0	26.305	1900	3200	1.310
120	165	45	1.1	135	0.8	NA4924	160.0	380.0	41.614	1800	3000	3.040
130	165	35	1.1	145	1.5	NA4826	98.0	300.0	32.304	1700	2800	1.990
130	180	50	1.5	150	1.0	NA4926	190.0	490.0	51.987	1700	2800	4.140
140	175	35	1.1	155	1.5	NA4828	102.0	315.0	33.297	1600	2600	2.120
140	190	50	1.5	160	1.0	NA4928	193.0	520.0	54.177	1600	2600	4.410
150	190	40	1.1	165	1.5	NA4830	125.0	375.0	39.210	1600	2600	2.980
160	200	40	1.1	175	1.5	NA4832	139.0	390.0	39.740	1500	2400	3.150
170	215	45	1.1	185	1.5	NA4834	163.0	480.0	48.093	1400	2200	4.250
180	225	45	1.1	195	1.5	NA4836	166.0	510.0	50.315	1400	2200	4.480