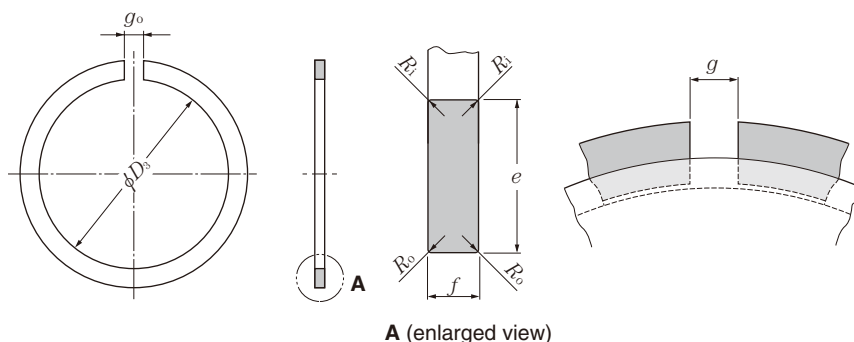


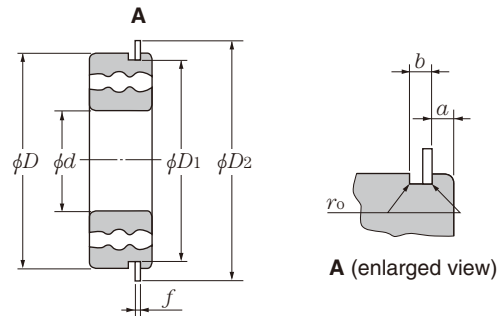
Snap rings for dimension series 18 and 19 bearings



Dimension unit: mm

Bearing No.	Dimensional tolerance of bore								Reference								applicable bearing dimension series	
	tolerance of ΔD_3								snap ring fitted inside groove	snap ring outer diameter	nominal bearing outer diameter	R_i min	R_o min	thickness variation V_f max	g_o	nominal bearing outer diameter d		
	D_3	Upper	Lower	max	e min	max	f min	g	D_2 max	D								
NR1022	20.5	0	− 0.3	2.00	1.85	0.7	0.6	2	24.8	22	0.2	0.1	0.06	1	—	10		
NR1024	22.5	0	− 0.3	2.00	1.85	0.7	0.6	2	26.8	24	0.2	0.1	0.06	1	—	12		
NR1028	26.4	0	− 0.3	2.05	1.90	0.85	0.75	3	30.8	28	0.25	0.15	0.06	2	—	15		
NR1030	28.3	0	− 0.3	2.05	1.90	0.85	0.75	3	32.8	30	0.25	0.15	0.06	2	—	17		
NR1032	30.3	0	− 0.3	2.05	1.90	0.85	0.75	3	34.8	32	0.25	0.15	0.06	2	20	—		
NR1034	32.3	0	− 0.3	2.05	1.90	0.85	0.75	3	36.8	34	0.25	0.15	0.06	2	22	—		
NR1037	35.3	0	− 0.3	2.05	1.90	0.85	0.75	3	39.8	37	0.25	0.15	0.06	2	25	20		
NR1039	37.3	0	− 0.3	2.05	1.90	0.85	0.75	3	41.8	39	0.25	0.15	0.06	2	—	22		
NR1040	38.3	0	− 0.3	2.05	1.90	0.85	0.75	3	42.8	40	0.25	0.15	0.06	2	28	—		
NR1042	40.3	0	− 0.4	2.05	1.90	0.85	0.75	3	44.8	42	0.25	0.15	0.06	2	30	25		
NR1044	42.3	0	− 0.4	2.05	1.90	0.85	0.75	4	46.8	44	0.25	0.15	0.06	2.5	32	—		
NR1045	43.3	0	− 0.4	2.05	1.90	0.85	0.75	4	47.8	45	0.25	0.15	0.06	2.5	—	28		
NR1047	45.3	0	− 0.4	2.05	1.90	0.85	0.75	4	49.8	47	0.25	0.15	0.06	2.5	35	30		
NR1052	50.3	0	− 0.4	2.05	1.90	0.85	0.75	4	54.8	52	0.25	0.15	0.06	2.5	40	32		
NR1055	53.3	0	− 0.4	2.05	1.90	0.85	0.75	4	57.8	55	0.25	0.15	0.06	2.5	—	35		
NR1058	56.3	0	− 0.6	2.05	1.90	0.85	0.75	4	60.8	58	0.25	0.15	0.06	2.5	45	—		
NR1062	60.2	0	− 0.6	2.05	1.90	0.85	0.75	4	64.8	62	0.25	0.15	0.06	2.5	—	40		
NR1065	63.2	0	− 0.6	2.05	1.90	0.85	0.75	4	67.8	65	0.25	0.15	0.06	2.5	50	—		
NR1068	66.2	0	− 0.6	2.05	1.90	0.85	0.75	5	70.8	68	0.25	0.15	0.06	3	—	45		
NR1072	70.2	0	− 0.6	2.05	1.90	0.85	0.75	5	74.8	72	0.25	0.15	0.06	3	55	50		
NR1078	75.7	0	− 0.6	3.25	3.10	1.12	1.02	5	82.7	78	0.4	0.3	0.06	3	60	—		
NR1080	77.4	0	− 0.6	3.25	3.10	1.12	1.02	5	84.4	80	0.4	0.3	0.06	3	—	55		
NR1085	82.4	0	− 0.6	3.25	3.10	1.12	1.02	5	89.4	85	0.4	0.3	0.06	3	65	60		
NR1090	87.4	0	− 0.6	3.25	3.10	1.12	1.02	5	94.4	90	0.4	0.3	0.06	3	70	65		
NR1095	92.4	0	− 0.6	3.25	3.10	1.12	1.02	5	99.4	95	0.4	0.3	0.06	3	75	—		
NR1100	97.4	0	− 0.6	3.25	3.10	1.12	1.02	5	104.4	100	0.4	0.3	0.06	3	80	70		
NR1105	101.9	0	− 0.8	4.04	3.89	1.12	1.02	5	110.7	105	0.4	0.3	0.06	3	—	75		
NR1110	106.9	0	− 0.8	4.04	3.89	1.12	1.02	5	115.7	110	0.4	0.3	0.06	3	85	80		
NR1115	111.9	0	− 0.8	4.04	3.89	1.12	1.02	5	120.7	115	0.4	0.3	0.06	3	90	—		
NR1120	116.9	0	− 0.8	4.04	3.89	1.12	1.02	7	125.7	120	0.4	0.3	0.06	4	95	85		
NR1125	121.8	0	− 0.8	4.04	3.89	1.12	1.02	7	130.7	125	0.4	0.3	0.06	4	100	90		
NR1130	126.8	0	− 0.8	4.04	3.89	1.12	1.02	7	135.7	130	0.4	0.3	0.06	4	105	95		
NR1140	136.8	0	− 1.0	4.04	3.89	1.7	1.6	7	145.7	140	0.6	0.5	0.06	4	110	100		
NR1145	141.8	0	− 1.0	4.04	3.89	1.7	1.6	7	150.7	145	0.6	0.5	0.06	4	—	105		
NR1150	146.8	0	− 1.2	4.04	3.89	1.7	1.6	7	155.7	150	0.6	0.5	0.06	4	120	110		
NR1165	161	0	− 1.2	4.85	4.70	1.7	1.6	7	171.5	165	0.6	0.5	0.06	4	130	120		
NR1175	171	0	− 1.2	4.85	4.70	1.7	1.6	10	181.5	175	0.6	0.5	0.06	6	140	—		
NR1180	176	0	− 1.2	4.85	4.70	1.7	1.6	10	186.5	180	0.6	0.5	0.06	6	—	130		
NR1190	186	0	− 1.4	4.85	4.70	1.7	1.6	10	196.5	190	0.6	0.5	0.06	6	150	140		
NR1200	196	0	− 1.4	4.85	4.70	1.7	1.6	10	206.5	200	0.6	0.5	0.06	6	160	—		

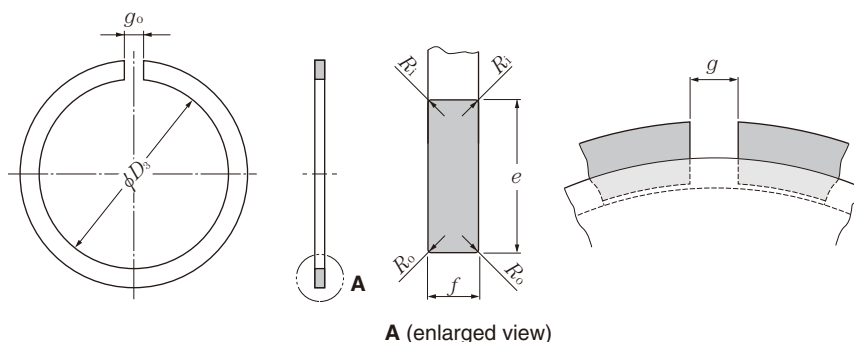
Groove



Dimension unit: mm

Nominal bearing outer diameter <i>D</i>	Groove diameter		Dimension series				Groove width		Knuckle radius
			18	19					
	Groove position								
	<i>D</i> ₁	<i>a</i>	<i>b</i>	<i>r</i> _o					
	max	min	max	min	max	min	max	min	max
22	20.8	20.5	—	—	1.05	0.90	1.05	0.8	0.2
24	22.8	22.5	—	—	1.05	0.90	1.05	0.8	0.2
28	26.7	26.4	—	—	1.30	1.15	1.20	0.95	0.25
30	28.7	28.4	—	—	1.30	1.15	1.20	0.95	0.25
32	30.7	30.4	1.30	1.15	—	—	1.20	0.95	0.25
34	32.7	32.4	1.30	1.15	—	—	1.20	0.95	0.25
37	35.7	35.4	1.30	1.15	1.70	1.55	1.20	0.95	0.25
39	37.7	37.4	—	—	1.70	1.55	1.20	0.95	0.25
40	38.7	38.4	1.30	1.15	—	—	1.20	0.95	0.25
42	40.7	40.4	1.30	1.15	1.70	1.55	1.20	0.95	0.25
44	42.7	42.4	1.30	1.15	—	—	1.20	0.95	0.25
45	43.7	43.4	—	—	1.70	1.55	1.20	0.95	0.25
47	45.7	45.4	1.30	1.15	1.70	1.55	1.20	0.95	0.25
52	50.7	50.4	1.30	1.15	1.70	1.55	1.20	0.95	0.25
55	53.7	53.4	—	—	1.70	1.55	1.20	0.95	0.25
58	56.7	56.4	1.30	1.15	—	—	1.20	0.95	0.25
62	60.7	60.3	—	—	1.70	1.55	1.20	0.95	0.25
65	63.7	63.3	1.30	1.15	—	—	1.20	0.95	0.25
68	66.7	66.3	—	—	1.70	1.55	1.20	0.95	0.25
72	70.7	70.3	1.70	1.55	1.70	1.55	1.20	0.95	0.25
78	76.2	75.8	1.70	1.55	—	—	1.6	1.3	0.4
80	77.9	77.5	—	—	2.1	1.9	1.6	1.3	0.4
85	82.9	82.5	1.70	1.55	2.1	1.9	1.6	1.3	0.4
90	87.9	87.5	1.70	1.55	2.1	1.9	1.6	1.3	0.4
95	92.9	92.5	1.70	1.55	—	—	1.6	1.3	0.4
100	97.9	97.5	1.70	1.55	2.5	2.3	1.6	1.3	0.4
105	102.6	102.1	—	—	2.5	2.3	1.6	1.3	0.4
110	107.6	107.1	2.1	1.9	2.5	2.3	1.6	1.3	0.4
115	112.6	112.1	2.1	1.9	—	—	1.6	1.3	0.4
120	117.6	117.1	2.1	1.9	3.3	3.1	1.6	1.3	0.4
125	122.6	122.1	2.1	1.9	3.3	3.1	1.6	1.3	0.4
130	127.6	127.1	2.1	1.9	3.3	3.1	1.6	1.3	0.4
140	137.6	137.1	2.5	2.3	3.3	3.1	2.2	1.9	0.6
145	142.6	142.1	—	—	3.3	3.1	2.2	1.9	0.6
150	147.6	147.1	2.5	2.3	3.3	3.1	2.2	1.9	0.6
165	161.8	161.3	3.3	3.1	3.7	3.5	2.2	1.9	0.6
175	171.8	181.3	3.3	3.1	—	—	2.2	1.9	0.6
180	176.8	176.3	—	—	3.7	3.5	2.2	1.9	0.6
190	186.8	186.3	3.3	3.1	3.7	3.5	2.2	1.9	0.6
200	196.8	196.5	3.3	3.1	—	—	2.2	1.9	0.6

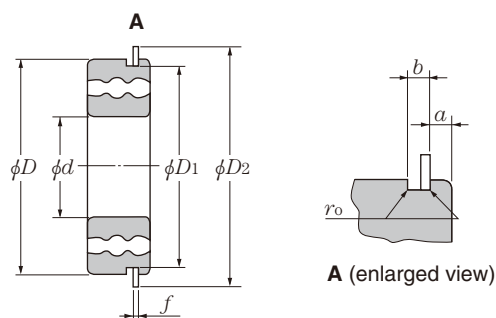
Snap rings for diameter series 0, 2, 3 and 4 bearings



Dimension unit: mm

Bearing No.	Dimensional tolerance of bore								snap ring fitted inside groove snap ring outer diameter D_2 max	nominal bearing outer diameter D	R_i min	R_o min	thickness variation V_f max	Reference g_o	applicable bearing dimension series			
	tolerance of ΔD_3														0	2	3	4
	D_3			e		f									nominal bearing outer diameter d			
	Upper	Lower	max	min	max	min	g											
NR 30	27.9	0	— 0.4	3.25	3.10	1.12	1.02	3	34.7	30	0.4	0.3	0.06	2	—	10	9	8
NR 32	29.9	0	— 0.4	3.25	3.10	1.12	1.02	3	36.7	32	0.4	0.3	0.06	2	15	12	—	9
NR 35	32.9	0	— 0.4	3.25	3.10	1.12	1.02	3	39.7	35	0.4	0.3	0.06	2	17	15	10	—
NR 37	34.5	0	— 0.4	3.25	3.10	1.12	1.02	3	41.3	37	0.4	0.3	0.06	2	—	—	12	10
NR 40	37.8	0	— 0.4	3.25	3.10	1.12	1.02	3	44.6	40	0.4	0.3	0.06	2	—	17	—	—
NR 42	39.5	0	— 0.5	3.25	3.10	1.12	1.02	3	46.3	42	0.4	0.3	0.06	2	20	—	15	12
NR 44	41.5	0	— 0.5	3.25	3.10	1.12	1.02	3	48.3	44	0.4	0.3	0.06	2	22	—	—	—
NR 47	44.3	0	— 0.5	4.04	3.89	1.12	1.02	4	52.7	47	0.4	0.3	0.06	2.5	25	20	17	—
NR 50	47.3	0	— 0.5	4.04	3.89	1.12	1.02	4	55.7	50	0.4	0.3	0.06	2.5	—	22	—	—
NR 52	49.4	0	— 0.5	4.04	3.89	1.12	1.02	4	57.9	52	0.4	0.3	0.06	2.5	28	25	20	15
NR 55	52.3	0	— 0.5	4.04	3.89	1.12	1.02	4	60.7	55	0.4	0.3	0.06	2.5	30	—	—	—
NR 56	53.2	0	— 0.6	4.04	3.89	1.12	1.02	4	61.7	56	0.4	0.3	0.06	2.5	—	—	22	—
NR 58	55.2	0	— 0.6	4.04	3.89	1.12	1.02	4	63.7	58	0.4	0.3	0.06	2.5	32	28	—	—
NR 62	59.0	0	— 0.6	4.04	3.89	1.7	1.6	4	67.7	62	0.6	0.5	0.06	2.5	35	30	25	17
NR 65	62.0	0	— 0.6	4.04	3.89	1.7	1.6	4	70.7	65	0.6	0.5	0.06	2.5	—	32	—	—
NR 68	64.2	0	— 0.6	4.85	4.70	1.7	1.6	5	74.6	68	0.6	0.5	0.06	3	40	—	28	—
NR 72	68.2	0	— 0.6	4.85	4.70	1.7	1.6	5	78.6	72	0.6	0.5	0.06	3	—	35	30	20
NR 75	71.2	0	— 0.6	4.85	4.70	1.7	1.6	5	81.6	75	0.6	0.5	0.06	3	45	—	32	—
NR 80	76.2	0	— 0.6	4.85	4.70	1.7	1.6	5	86.6	80	0.6	0.5	0.06	3	50	40	35	25
NR 85	81.2	0	— 0.6	4.85	4.70	1.7	1.6	5	91.6	85	0.6	0.5	0.06	3	—	45	—	—
NR 90	86.2	0	— 0.6	4.85	4.70	2.46	2.36	5	96.5	90	0.6	0.5	0.06	3	55	50	40	30
NR 95	91.2	0	— 0.6	4.85	4.70	2.46	2.36	5	101.6	95	0.6	0.5	0.06	3	60	—	—	—
NR100	96.2	0	— 0.8	4.85	4.70	2.46	2.36	5	106.5	100	0.6	0.5	0.06	3	65	55	45	35
NR110	106.2	0	— 0.8	4.85	4.70	2.46	2.36	5	116.6	110	0.6	0.5	0.06	3	70	60	50	40
NR115	111.2	0	— 0.8	4.85	4.70	2.46	2.36	5	121.6	115	0.6	0.5	0.06	3	75	—	—	—
NR120	114.6	0	— 0.8	7.21	7.06	2.82	2.72	7	129.7	120	0.6	0.5	0.06	4	—	65	55	45
NR125	119.6	0	— 0.8	7.21	7.06	2.82	2.72	7	134.7	125	0.6	0.5	0.06	4	80	70	—	—
NR130	124.6	0	— 0.8	7.21	7.06	2.82	2.72	7	139.7	130	0.6	0.5	0.06	4	85	75	60	50
NR140	134.6	0	— 1.2	7.21	7.06	2.82	2.72	7	149.7	140	0.6	0.5	0.06	4	90	80	65	55
NR145	139.6	0	— 1.2	7.21	7.06	2.82	2.72	7	154.7	145	0.6	0.5	0.06	4	95	—	—	—
NR150	144.5	0	— 1.2	7.21	7.06	2.82	2.72	7	159.7	150	0.6	0.5	0.06	4	100	85	70	60
NR160	154.5	0	— 1.2	7.21	7.06	2.82	2.72	7	169.7	160	0.6	0.5	0.06	4	105	90	75	65
NR170	162.9	0	— 1.2	9.60	9.45	3.1	3.0	10	182.9	170	0.6	0.5	0.06	6	110	95	80	—
NR180	172.8	0	— 1.2	9.60	9.45	3.1	3.0	10	192.9	180	0.6	0.5	0.06	6	120	100	85	70
NR190	182.8	0	— 1.4	9.60	9.45	3.1	3.0	10	202.9	190	0.6	0.5	0.06	6	—	105	90	75
NR200	192.8	0	— 1.4	9.60	9.45	3.1	3.0	10	212.9	200	0.6	0.5	0.06	6	130	110	95	80

Groove



Dimension unit: mm

Nominal bearing outer diameter <i>D</i>	Groove diameter		Dimension series				Groove width		Knuckle radius <i>r</i> _o
			0	2, 3, 4					
	Groove position								
	<i>D</i> ₁		<i>a</i>				<i>b</i>		
	max	min	max	min	max	min	max	min	
30	28.17	27.91	—	—	2.06	1.90	1.65	1.35	0.4
32	30.15	29.90	2.06	1.90	2.06	1.90	1.65	1.35	0.4
35	33.17	32.92	2.06	1.90	2.06	1.90	1.65	1.35	0.4
37	34.77	34.52	—	—	2.06	1.90	1.65	1.35	0.4
40	38.10	37.85	—	—	2.06	1.90	1.65	1.35	0.4
42	39.75	39.50	2.06	1.90	2.06	1.90	1.65	1.35	0.4
44	41.75	41.50	2.06	1.90	—	—	1.65	1.35	0.4
47	44.60	44.35	2.06	1.90	2.46	2.31	1.65	1.35	0.4
50	47.60	47.35	—	—	2.46	2.31	1.65	1.35	0.4
52	49.73	49.48	2.06	1.90	2.46	2.31	1.65	1.35	0.4
55	52.60	52.35	2.08	1.88	—	—	1.65	1.35	0.4
56	53.60	53.35	—	—	2.46	2.31	1.65	1.35	0.4
58	55.60	55.35	2.08	1.88	2.46	2.31	1.65	1.35	0.4
62	59.61	59.11	2.08	1.88	3.28	3.07	2.2	1.9	0.6
65	62.60	62.10	—	—	3.28	3.07	2.2	1.9	0.6
68	64.82	64.31	2.49	2.29	3.28	3.07	2.2	1.9	0.6
72	68.81	68.30	—	—	3.28	3.07	2.2	1.9	0.6
75	71.83	71.32	2.49	2.29	3.28	3.07	2.2	1.9	0.6
80	76.81	76.30	2.49	2.29	3.28	3.07	2.2	1.9	0.6
85	81.81	81.31	—	—	3.28	3.07	2.2	1.9	0.6
90	86.79	86.28	2.87	2.67	3.28	3.07	3.0	2.7	0.6
95	91.82	91.31	2.87	2.67	—	—	3.0	2.7	0.6
100	96.80	96.29	2.87	2.67	3.28	3.07	3.0	2.7	0.6
110	106.81	106.30	2.87	2.67	3.28	3.07	3.0	2.7	0.6
115	111.81	111.30	2.87	2.67	—	—	3.0	2.7	0.6
120	115.21	114.71	—	—	4.06	3.86	3.4	3.1	0.6
125	120.22	119.71	2.87	2.67	4.06	3.86	3.4	3.1	0.6
130	125.22	124.71	2.87	2.67	4.06	3.86	3.4	3.1	0.6
140	135.23	134.72	3.71	3.45	4.90	4.65	3.4	3.1	0.6
145	140.23	139.73	3.71	3.45	—	—	3.4	3.1	0.6
150	145.24	144.73	3.71	3.45	4.90	4.65	3.4	3.1	0.6
160	155.22	154.71	3.71	3.45	4.90	4.65	3.4	3.1	0.6
170	163.65	163.14	3.71	3.45	5.69	5.44	3.8	3.5	0.6
180	173.66	173.15	3.71	3.45	5.69	5.44	3.8	3.5	0.6
190	183.64	183.13	—	—	5.69	5.44	3.8	3.5	0.6
200	193.65	193.14	5.69	5.44	5.69	5.44	3.8	3.5	0.6