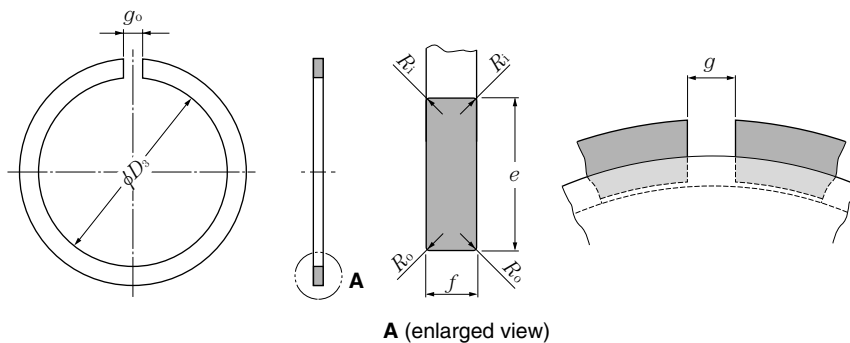


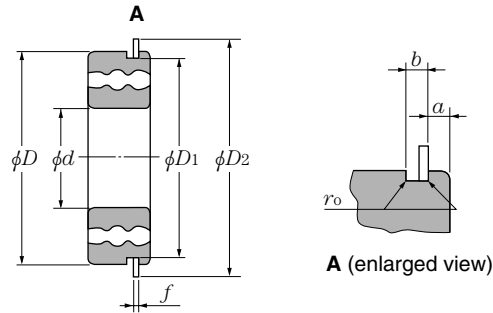
Snap rings for dimension series 18 and 19 bearings



Dimension unit: mm

Bearing No.	Dimensional tolerance of bore		tolerance of ΔD_3						snap ring fitted inside groove		nominal bearing outer diameter		Reference			applicable bearing dimension series	
	D_3	Upper	Lower	e		f		g	snap ring outer diameter D_2 max	D	R_i min	R_o min	thickness variation V_t max	g_0	18	19	
				max	min	max	min										
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	—	

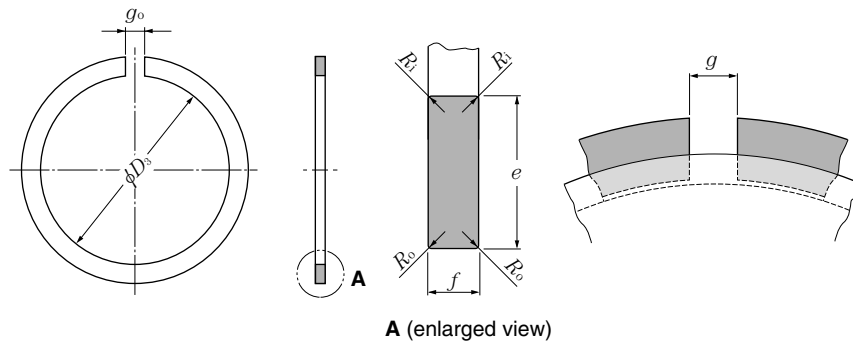
Groove



Dimension unit: mm

Nominal bearing outer diameter D	Groove diameter		Dimension series				Groove width		Knuckle radius r_o
	D_1		18		19		b		
	max	min	Groove position a				max	min	
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

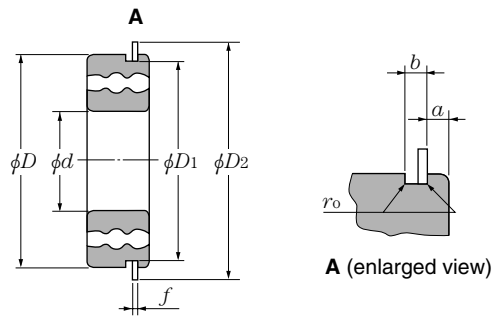
Snap rings for diameter series 0, 2, 3 and 4 bearings



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	Reference		applicable bearing dimension series				
	tolerance of ΔD_3			e	min	max	f	min					g	V_1 max	g_o	0	2	3	4
	Upper	Lower	max													nominal bearing outer diameter d			
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 D	Groove diameter		Dimension series				Groove width		Knuckle radius
	D_1		0		2, 3, 4		b		r_o
	max	min	max	min	Groove position a		max	min	max
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