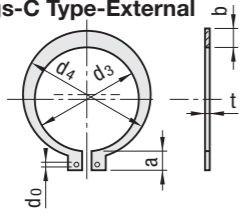


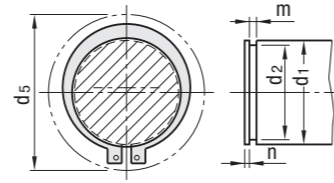
[Technical Data] Retaining Rings C Type

Excerpts from JIS B 2804(2001)

1. Retaining Rings-C Type-External

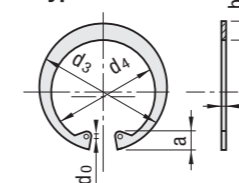


The hole with diameter d_0 should be positioned to protrude out of the groove when the retaining ring is inserted in the shaft.

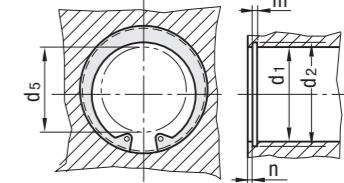


d_5 is the max. outer diameter when the retaining ring is fitted onto the shaft.

2. Retaining Rings-C Type-Internal



The hole with diameter d_0 should be positioned to protrude out of the groove when the retaining ring is inserted in the hole.



d_5 is the minimum diameter of the internal circumference when the retaining ring is fitted.

Retaining Rings-C Type-External

Unit: mm

Nominal(°)	Retaining Rings						Applicable Shaft (Reference)											
	Reference Dimension	Tolerance	Reference Dimension	Tolerance	(Approx.)	(Approx.)	(Min.)	d_5	d_1	Reference Dimension	Tolerance	Reference Dimension	Tolerance	(Min.)				
10	9.3	±0.15	1	±0.05	1.6	3	1.2	17	10	9.6	-0.09	1.15	0	-0.11				
(11)	10.2							18	11	10.5								
12	11.1	19						12	11.5									
(13)	12	20						13	12.4									
14	12.9	22						14	13.4									
15	13.8	1.7			2.1	3.5	1.7	1.5	23	15	14.3				0	1.35	0	-0.21
16	14.7								24	16	15.2							
17	15.7								25	17	16.2							
18	16.5								26	18	17							
(19)	17.5								27	19	18							
20	18.5	1.2	±0.06	2.7	3.9	2	28	20	19	0	1.75	0	-0.25					
(21)	19.5						29	21	20									
22	20.5						30	22	21									
(24)	22.2						31	22	21									
25	23.2						33	24	22.9									
(26)	24.2	1.6(°)	±0.07	3.1	4.3	2	34	25	23.9	0				1.95	0	-0.25		
28	25.9						35	26	24.9									
(29)	26.9						38	28	26.6									
30	27.9						39	29	27.6									
32	29.6						40	30	28.6									
(34)	31.5	±0.25	1.8	4	5.3	2.5	43	32	30.3	0	+0.14	0	-0.25					
35	32.2						45	34	32.3									
(36)	33.2						46	35	33									
(38)	35.2						47	36	34									
40	37						50	38	36									
(42)	38.5	±0.4	2	5	6.7	2.5	53	40	38	0				1.75	0	-0.25		
45	41.5						55	42	39.5									
(48)	44.5						58	45	42.5									
50	45.8						62	48	45.5									
(52)	47.8						64	50	47									
55	50.8	±0.07	2	5	7	2.5	66	52	49	0	2.2	0	-0.3					
(56)	51.8						70	55	52									
(58)	53.8						71	56	53									
60	55.8						73	58	55									
(62)	57.8						75	60	57									
(63)	58.8	±0.45	2.5	±0.08	5.5	7.2	77	62	59	0				2.7	0	-0.3		
65	60.8						78	63	60									
(68)	63.5						81	65	62									
70	65.5						84	68	65									
(72)	67.5						86	70	67									
75	70.5	±0.08	2.5	±0.08	7	7.9	88	72	69	0	2.5	0	-0.3					
(78)	73.5						92	75	72									
80	74.5						95	78	75									
							97	80	76.5									

Note(°): Priority should be given to values not in (). A value in () may be used if necessary.

Note(°): Thickness(t)=1.6mm, may be kept at 1.5mm for the time being. m should be 1.65mm.

Reference: 1. The minimum width of the ring of the retaining ring should be less than the plate thickness t.

2. The recommended dimensions of the applicable shaft are given here for reference.

3. d_4 (mm) should preferably be equal to $d_4=d_3+(1.4\sim 1.5)b$.

Reference: The thickness t, conforms to the Japan Spring Manufacturers Association Standard, JSMA No. 6-1976 (steel belt for a spring).

Retaining Rings-C Type-Internal

Unit: mm

Nominal(°)	Retaining Rings						Applicable Shaft (Reference)												
	Reference Dimension	Tolerance	Reference Dimension	Tolerance	(Approx.)	(Approx.)	(Min.)	d_5	d_1	Reference Dimension	Tolerance	Reference Dimension	Tolerance	(Min.)					
10	10.7	±0.18	1	±0.05	1.8	3.1	1.2	3	10	10.4	0	1.15	+0.11	0					
11	11.8							4	11	11.4									
12	13							5	12	12.5									
(13)	14.1							6	13	13.6									
14	15.1							7	14	14.6									
15	16.2				1.7	2	3.6	4	1.5	8	15				15.7	0	1.35	+0.21	0
16	17.3									8	16				16.8				
(17)	18.3									9	17				17.8				
18	19.5									10	18				19				
19	20.5									11	19				20				
20	21.5	±0.2	1.2	±0.06	2.5	4	12	20	21	0	1.75	+0.25	0						
(21)	22.5						12	21	22										
22	23.5						13	22	23										
(24)	25.9						15	24	25.2										
25	26.9						16	25	26.2										
(26)	27.9	1.6(°)	±0.07	3	4.6	2	16	26	27.2	0				1.95	+0.14	0			
28	30.1						18	28	29.4										
30	32.1						20	30	31.4										
32	34.4						21	32	33.7										
(34)	36.5						23	34	35.7										
35	37.8	±0.25	1.8	3.5	5.2	2.5	24	35	37	0	2	+0.25	0						
(36)	38.8						25	36	38										
37	39.8						26	37	39										
(38)	40.8						27	38	40										
40	43.5						28	40	42.5										
42	45.5	±0.4	2	4	5.7	2.5	30	42	44.5	0				2.2	+0.3	0			
45	48.5						33	45	47.5										
47	50.5						34	47	49.5										
(48)	51.5						35	48	50.5										
50	54.2						37	50	53										
52	56.2	±0.45	2	±0.07	5.1	6.5	39	52	55	0	2.7	+0.35	0						
55	59.2						41	55	58										
(56)	60.2						42	56	59										
(58)	62.2						44	58	61										
60	64.2						46	60	63										
(62)	66.2	±0.55	2.5	±0.08	5.5	6.9	48	62	65	0				2.5	+0.35	0			
63	67.2						49	63	66										
(65)	69.2						50	65	68										
68	72.5						53	68	71										
(70)	74.5						55	70	73										
72	76.5	±0.08	2.5	±0.08	6.6	7.4	57	72	75	0	2.5	+0.35	0						
75	79.5						60	75	78										
(78)	82.5						62	78	81										
80	85.5						64	80	83.5										

Note(°): Priority should be given to values not in (). A value in () may be used if necessary.

Note(°): Thickness(t)=1.6mm, may be kept at 1.5mm for the time being. m should be 1.65mm.

Reference: 1. The minimum width of the ring of the retaining ring should be less than the plate thickness t.

2. The recommended dimensions of the applicable shaft are given here for reference.

3. d_4 (mm) should preferably be equal to $d_4=d_3-(1.4\sim 1.5)b$.

Reference: The thickness t, conforms to the Japan Spring Manufacturers Association Standard, JSMA No. 6-1976 (steel belt for a spring).