

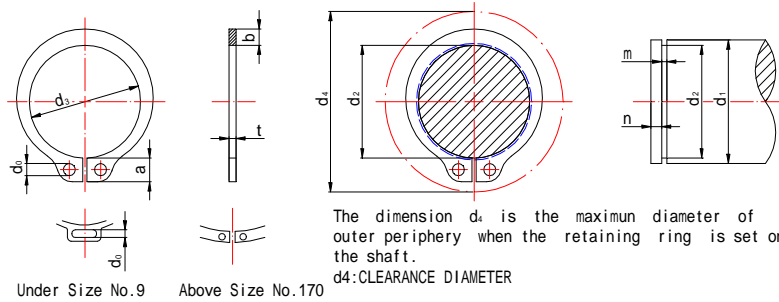


# Retaining Rings (External)

**JIS B 2804**  
(JAPANESE INDUSTRIAL STANDARD)

## Groove Dimension

## S-PACK



STW-rings can be supplied in tape wrapped or banded.  
Size No.10 through 48 tape wrapped.  
Size No.50 through 125 tape wrapped or banded.



Unit: mm

Size-No.	Ring dimension							Ref. d4	Groove dimension					
	d3		t		b	a	d0		d1	d2		m		Ref.n.
	Max.	Min.	Max.	Min.	Approx.	Approx.	Min.			Max.	Min.	Max.	Min.	Min.
STW-3	2.74	2.55	0.275	0.225	0.5	1.7	0.7	7	3	2.85	2.81	0.45	0.35	0.3
4	3.74	3.55	0.43	0.37	0.9	2.2	0.8	9	4	3.8	3.76	0.6	0.5	0.3
5	4.74	4.55	0.64	0.56	1.1	2.4	0.8	10.5	5	4.8	4.76	0.8	0.7	0.3
6	5.66	5.4	0.74	0.66	1.3	2.8	1	12	6	5.7	5.66	0.9	0.8	0.5
7	6.56	6.3	0.84	0.76	1.4	3	1	14	7	6.7	6.64	1.0	0.9	0.5
8	7.46	7.2	0.84	0.76	1.6	3	1	15	8	7.6	7.54	1.0	0.9	0.6
9	8.46	8.2	1.05	0.95	1.8	3.2	1	16	9	8.6	8.54	1.29	1.15	0.6
10	9.45	9.15	1.05	0.95	1.8	3	1.2	17	10	9.6	9.51	1.29	1.15	1.5
11	10.35	10.05	1.05	0.95	2	3.1	1.2	18	11	10.5	10.39	1.29	1.15	1.5
12	11.28	10.92	1.05	0.95	2.1	3.2	1.5	19	12	11.5	11.39	1.29	1.15	1.5
13	12.18	11.82	1.05	0.95	2.1	3.3	1.5	20	13	12.4	12.29	1.29	1.15	1.5
14	13.08	12.72	1.05	0.95	2.2	3.4	1.7	22	14	13.4	13.29	1.29	1.15	1.5
15	13.98	13.62	1.05	0.95	2.2	3.5	1.7	23	15	14.3	14.19	1.29	1.15	1.5
16	14.88	14.52	1.05	0.95	2.2	3.6	1.7	24	16	15.2	15.09	1.29	1.15	1.5
17	15.88	15.52	1.05	0.95	2.2	3.7	1.7	25	17	16.2	16.09	1.29	1.15	1.5
18	16.68	16.32	1.26	1.14	2.6	3.8	1.7	26	18	17	16.89	1.49	1.35	1.5
19	17.68	17.32	1.26	1.14	2.7	3.8	2	27	19	18	17.89	1.49	1.35	1.5
20	18.7	18.3	1.26	1.14	2.7	3.9	2	28	20	19	18.79	1.49	1.35	1.5
21	19.7	19.3	1.26	1.14	2.7	4	2	30	21	20	19.79	1.49	1.35	1.5
22	20.7	20.3	1.26	1.14	2.7	4.1	2	31	22	21	20.79	1.49	1.35	1.5
23	21.6	21.2	1.26	1.14	2.9	4.5	2	32.5	23	22	21.79	1.49	1.35	1.5
24	22.4	22.0	1.26	1.14	3.1	4.2	2	33	24	22.9	22.69	1.49	1.35	1.5
25	23.4	23.0	1.26	1.14	3.1	4.3	2	34	25	23.9	23.69	1.49	1.35	1.5
26	24.4	24.0	1.26	1.14	3.1	4.4	2	35	26	24.9	24.69	1.49	1.35	1.5
27	25.2	24.8	1.26	1.14	3.3	4.5	2	36	27	25.8	25.59	1.49	1.35	1.5
28	26.1	25.7	1.56	1.44	3.1	4.6	2	38	28	26.6	26.39	1.79	1.65	1.5
29	27.1	26.7	1.56	1.44	3.5	4.7	2	39	29	27.6	27.39	1.79	1.65	1.5
30	28.1	27.7	1.56	1.44	3.5	4.8	2	40	30	28.6	28.39	1.79	1.65	1.5
32	29.8	29.4	1.56	1.44	3.5	5	2.5	43	32	30.3	30.05	1.79	1.65	1.5
34	31.75	31.25	1.56	1.44	4	5.3	2.5	45	34	32.3	32.05	1.79	1.65	1.5
35	32.45	31.95	1.56	1.44	4	5.4	2.5	46	35	33	32.75	1.79	1.65	1.5
36	33.45	32.95	1.82	1.68	4	5.4	2.5	47	36	34	33.75	2.04	1.9	2
38	35.45	34.95	1.82	1.68	4.5	5.6	2.5	50	38	36	35.75	2.04	1.9	2
40	37.4	36.6	1.82	1.68	4.5	5.8	2.5	53	40	38	37.75	2.04	1.9	2
42	38.9	38.1	1.82	1.68	4.5	6.2	2.5	55	42	39.5	39.25	2.04	1.9	2
45	41.9	41.1	1.82	1.68	4.8	6.3	2.5	58	45	42.5	42.25	2.04	1.9	2
47	43.8	43.0	1.82	1.68	5	6.6	2.5	61	47	44.5	44.25	2.04	1.9	2
48	44.9	44.1	1.82	1.68	4.8	6.5	2.5	62	48	45.5	45.25	2.04	1.9	2
50	46.2	45.4	2.07	1.93	5	6.7	2.5	64	50	47	46.75	2.34	2.2	2
52	48.2	47.4	2.07	1.93	5	6.8	2.5	66	52	49	48.75	2.34	2.2	2
55	51.25	50.35	2.07	1.93	5	7	2.5	70	55	52	51.7	2.34	2.2	2
56	52.25	51.35	2.07	1.93	5	7	2.5	71	56	53	52.7	2.34	2.2	2

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Size-No.	Ring dimension							Ref. d4	Groove dimension					
	d3		t		b	a	d0		d1	d2		m		Ref.n.
	Max.	Min.	Max.	Min.	Approx.	Approx.	Min.			Max.	Min.	Max.	Min.	Min.
STW- 58	54.25	53.35	2.07	1.93	5.5	7.1	2.5	73	58	55	54.7	2.34	2.2	2
60	56.25	55.35	2.07	1.93	5.5	7.2	2.5	75	60	57	56.7	2.34	2.2	2
62	58.25	57.35	2.07	1.93	5.5	7.2	2.5	77	62	59	58.7	2.34	2.2	2
63	59.25	58.35	2.07	1.93	5.5	7.3	2.5	78	63	60	59.7	2.34	2.2	2
65	61.25	60.35	2.58	2.42	6.4	7.4	2.5	81	65	62	61.7	2.84	2.7	2.5
68	63.95	63.05	2.58	2.42	6.4	7.8	2.5	84	68	65	64.7	2.84	2.7	2.5
70	65.95	65.05	2.58	2.42	6.4	7.8	2.5	86	70	67	66.7	2.84	2.7	2.5
72	67.95	67.05	2.58	2.42	7	7.9	2.5	88	72	69	68.7	2.84	2.7	2.5
75	70.95	70.05	2.58	2.42	7	7.9	2.5	92	75	72	71.7	2.84	2.7	2.5
78	73.95	73.05	2.58	2.42	7.4	8.1	2.5	95	78	75	74.7	2.84	2.7	2.5
80	74.95	74.05	2.58	2.42	7.4	8.2	2.5	97	80	76.5	76.2	2.84	2.7	2.5
82	76.95	76.05	2.58	2.42	7.4	8.3	3	99	82	78.5	78.2	2.84	2.7	2.5
85	79.95	79.05	3.09	2.91	8	8.4	3	103	85	81.5	81.15	3.38	3.2	3
88	83.05	81.95	3.09	2.91	8	8.6	3	106	88	84.5	84.15	3.38	3.2	3
90	85.05	83.95	3.09	2.91	8	8.7	3	108	90	86.5	86.15	3.38	3.2	3
95	90.05	88.95	3.09	2.91	8.6	9.1	3	114	95	91.5	91.15	3.38	3.2	3
100	95.05	93.95	3.09	2.91	9	9.5	3	119	100	96.5	96.15	3.38	3.2	3
105	98.55	97.45	4.09	3.91	9.5	9.8	3	125	105	101	100.46	4.38	4.2	4
110	103.55	102.45	4.09	3.91	9.5	10	3	131	110	106	105.46	4.38	4.2	4
115	108.55	107.45	4.09	3.91	9.5	10.5	3	137	115	111	110.46	4.38	4.2	4
120	113.55	112.45	4.09	3.91	10.3	10.9	3	143	120	116	115.46	4.38	4.2	4
125	118.55	117.45	4.09	3.91	10.3	11.3	3.5	148	125	121	120.37	4.38	4.2	4
130	123.63	121.74	4.09	3.91	11	11.5	3.5	154	130	126	125.37	4.4	4.2	6
135	128.63	126.74	4.09	3.91	11	11.5	3.5	159	135	131	130.37	4.4	4.2	6
140	133.63	131.74	4.09	3.91	11	11.8	3.5	164	140	136	135.37	4.4	4.2	6
145	138.63	136.74	4.09	3.91	11.6	11.8	3.5	170	145	141	140.37	4.4	4.2	6
150	142.63	140.74	4.09	3.91	11.6	12.3	3.5	175	150	145	144.37	4.4	4.2	7.5
155	146.63	144.74	4.09	3.91	12.2	12.7	3.5	181	155	150	149.37	4.4	4.2	7.5
160	151.63	149.74	4.09	3.91	12.2	12.9	3.5	186	160	155	154.37	4.4	4.2	7.5
165	156.13	154.24	4.09	3.91	12.9	13.1	3.5	192	165	160	159.37	4.4	4.2	7.5
170	161.13	159.24	4.09	3.91	12.9	-	4	197	170	165	164.37	4.4	4.2	7.5
175	166.13	164.24	4.09	3.91	12.9	-	4	202	175	170	169.37	4.4	4.2	7.5
180	171.13	169.24	4.09	3.91	13.5	-	4	208	180	175	174.37	4.4	4.2	7.5
185	176.22	174.06	4.09	3.91	13.5	-	4	213	185	180	179.37	4.4	4.2	7.5
190	181.22	179.06	4.09	3.91	14	-	4	219	190	185	184.28	4.4	4.2	7.5
195	186.22	184.06	4.09	3.91	14	-	4	224	195	190	189.28	4.4	4.2	7.5
200	191.22	189.06	4.09	3.91	14	-	4	229	200	195	194.28	4.4	4.2	7.5
210	198.72	196.56	5.15	4.85	14	-	4	239	210	204	203.28	5.45	5.2	9
220	208.72	206.56	5.15	4.85	14	-	4	249	220	214	213.28	5.45	5.2	9
230	218.72	216.56	5.15	4.85	14	-	4	259	230	224	223.28	5.45	5.2	9
240	228.72	226.56	5.15	4.85	14	-	4	269	240	234	233.28	5.45	5.2	9
250	238.72	236.56	5.15	4.85	14	-	4	279	250	244	243.28	5.45	5.2	9
260	245.72	243.56	5.15	4.85	16	-	4	293	260	252	251.19	5.45	5.2	12
270	255.81	253.38	5.15	4.85	16	-	4	303	270	262	261.19	5.45	5.2	12
280	265.81	263.38	5.15	4.85	16	-	4	313	280	272	271.19	5.45	5.2	12
290	275.81	273.38	5.15	4.85	16	-	4	323	290	282	281.19	5.45	5.2	12
300	285.81	283.38	5.15	4.85	16	-	4	333	300	292	291.19	5.45	5.2	12

Material=Carbon spring steel. Hardness=HRC44~52, Finish=Black phosphate coating (ACP), Zn plating, Chromate dip.

Material=Stainless spring steel

Note: mark and size No.130 above are according to our company's specification.

mark is old JIS.

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