

# Retaining Rings - C Type (External) / E Type

# Retaining Rings - C Type (Internal) / Retaining Ring Pliers

When large quantities are needed, box package sales is more economical. **P.273**

**Retaining Rings - C Type (External)**

**STWN**  
**STWS** (Stainless Steel)

**Applicable Shaft**

d4: Maximum O.D. when retaining ring is fitted on d1. (Clearance O.D.)

Type	Material	Hardness
STWN	Spring Steel	44-53HRC
STWS	EN 1.4301 (CSP) Equiv.	36-44HRC

RoHS10

Part Number	Retaining Ring										Applicable Shaft (Reference)						STWN			STWS			
	Type	No.	d3	Tolerance	t	Tolerance	b	a	do	d4	d1	d2	Tolerance	m	Tolerance	n	(Min.)	1-49	50-199	200-1000	1-49	50-199	200-500
STWN	3	2.7	+0.04	0.25	+0.025	0.5	1.7	0.7	7	3	2.85	0	0.35										
	4	3.7	-0.15	0.4	+0.03	0.9	2.2	0.8	9	4	3.8	0	0.5										
	5	4.7		0.6		1.1	2.4		10.5	5	4.8	-0.04	0.7	+0.10	0	0.3							
	6	5.6	+0.06	0.7	+0.04	1.3	2.8		12	6	5.7		0.8										
	7	6.5	-0.2	0.8		1.4	3	1	14	7	6.7	0	0.9										
	8	7.4		0.8		1.6	3		15	8	7.6	-0.06	0.9										
	4	3.6		0.25	+0.03	0.7	1.4		9	4	3.7		0.3										
	5	4.5		0.4		0.7	1.4		10.5	5	4.7		0.45	+0.10	0	0.5							
STWS	6	5.5	+0.1	0.4	+0.04	0.8	2.0		12	6	5.7	+0.06	0.45										
	7	6.3		0.9		2.0		14	7	6.5		0.7											
	8	7.1		0.65		1.0	2.2	1	15	8	7.4		0.7										
	10	9.3	+0.15	1.8		3			17	10	9.6	-0.09											
	11	10.2		2	3.1	1.2			18	11	10.5												
	12	11.1		2.1	3.2	1.5			19	12	11.5												
	13	12		3.3	20	13	12.4																
	14	12.9	+0.18	3.4	22	14	13.4																
STWN	15	13.8		2.2	3.5	1.7			23	15	14.3												
	16	14.7		3.6	24	16	15.2																
	17	15.7		3.7	25	17	16.2																
	18	16.5		2.6	3.8				26	18	17												
	19	17.5		3.8	27	19	18																
	20	18.5		3.9	28	20	19																
	21	19.5		2.7	4	30	21	20															
	22	20.5		4.1	31	22	21																
	23	21.4		2.9	4.5	32.5	23	22															
	24	22.2	+0.2	4.2	33	24	22.9	0															
	25	23.2		3.1	4.3	34	25	23.9	-0.21														
	26	24.2		4.4	35	26	24.9																
	28	25.9		4.6	38	28	26.6																
	29	26.9		4.7	39	29	27.6																
	30	27.9		3.5	4.8	40	30	28.6															
	32	29.6		5	43	32	30.3																
35	32.2	+0.25	4	5.4	46	35	33																
40	37		4.5	5.8	53	40	38	0															
45	41.5	+0.4	4.8	6.3	58	45	42.5	-0.25															
50	45.8		5	6.7	64	50	47																
52	47.8		6.8	66	52	49																	
60	55.8	+0.45	5.5	7.2	75	60	57	0															
80	74.5		2.5	+0.08	7.4	8.2			97	80	76.5	-0.3	2.7										

For orders larger than indicated quantity, please check with WOS.

**Retaining Rings - E Type**

**NETW**  
**NETWS** (Stainless Steel)

**Applicable Shaft**

Type	Material	Hardness	Surface Treatment
NETW	Spring Steel	44-53HRC	Trivalent Chromate
NETWS	EN 1.4301 (CSP) Equiv.	37-46HRC	-

RoHS10

Part Number	Retaining Ring										Applicable Shaft (Reference)						NETW			NETWS			
	Type	No.	d	Tolerance	D	Tolerance	H	Tolerance	t	Tolerance	d1 Class	Over	or Less	d2	Tolerance	m	Tolerance	n	(Min.)	1-199	5-199	200-1000	
NETW	1.2	1.2		3	+0.1	1		0.3	+0.025	1.4	2	1.2		0.6									
	1.5	1.5		4		1.3		0.4	+0.03	2	2.5	1.5		0.5	+0.05	0							
	2	2	-0.09	5		1.7	-0.25				2.5	3.2	2										
NETWS	2.5	2.5		6		2.1				3.2	4	2.5											
	3	3		7		2.6				4	5	3											
	4	4		9	+0.2	3.5		0.6		5	7	4											
	5	5	-0.12	11		4.3	-0.30			6	8	5											
	6	6		12		5.2				7	9	6											
	7	7		14		6.1				8	11	7											
	8	8		16		6.9				9	12	8											
	9	9	-0.15	18		7.8	-0.35			10	14	9											

For orders larger than indicated quantity, please check with WOS.

**Retaining Rings - C Type (Internal)**

**RTWN**  
**RTWS** (Stainless Steel)

**Applicable Hole**

d4: Minimum circumferential diameter when a retaining ring is fitted inside d1. (Clearance I.D.)

Type	Material	Hardness
RTWN	Spring Steel	44-53HRC
RTWS	EN 1.4301 (CSP) Equiv.	36-44HRC

RoHS10

Part Number	Retaining Ring										Applicable Bore (Reference)						RTWN			RTWS			
	Type	No.	d3	Tolerance	t	Tolerance	b	a	do	d4	d1	d2	Tolerance	m	Tolerance	n	(Min.)	1-49	50-199	200-1000	1-49	50-199	200-1000
RTWN	10	10.7		1.5	2.8	1.2			4	10	10.4												
	11	11.8	+0.18	3	3.1	1.5			5	12	12.5												
	12	13		1.7	3.1				6	13	13.6												
	13	14.1		3.6	7	14	14.6																
	14	15.1		3.6	8	15	15.7																
	15	16.2		3.7	9	16	16.8																
	16	17.3		3.8	10	17	17.8																
	17	18.3		4	11	19	20																
	19	20.5		4	12	20	21																
	20	21.5		4.1	12	21	22																
	21	22.5		4.1	13	22	23																
	22	23.5		4.3	15	24	25.2																
	24	25.9		4.4	16	25	26.2																
	25	26.9		4.6	16	26	27.2																
	26	27.9		4.7	18	28	29.4																
	28	30.1		4.7	20	30	31.4																
30	32.1		5.2	21	32	33.7																	
32	34.4		5.2	24	35	37																	