

RING NO.	HOUSING Dia. (mm)	GROOVE SIZE				RINGS SIZE & WEIGHT							SUPPLEMENTARY DATA					
		DIAMETER	WIDTH	DEPTH	THICKNESS ***	FREE DIAMETER	LUG HT.	MAX. SEC.	HOLE DIA.	WEIGHT	EDGE MARGIN	THRUST LOAD Ring	THRUST LOAD Groove	Allowable Rad./Cham.	Max. load w/ R/Ch Max.			
	Dh	Dg	Tol.	W Min.	d	T	Tol.	DI	Tol.	H Max.	S Ref.	R Min.	kg/1000	Y Min.	Pr kN	Pg kN	R/Ch Max.	Pr kN
DHO-39	39	41.0		1.60	1.00	1.50		42.0		5.6	3.8	2.5	4.00	3.0	28.8	26.00	1.5	6.9
DHO-40	40	42.5		1.85	1.25	1.75		43.5		5.8	3.9	2.5	4.70	3.8	44.6	27.00	2.0	8.3
DHO-41	41	43.5		1.85	1.25	1.75		44.5		5.9	4.0	2.5	5.10	3.8	45.0	27.60	2.0	8.3
DHO-42	42	44.5		1.85	1.25	1.75		45.5	+0.90	5.9	4.1	2.5	5.40	3.8	44.7	28.40	2.0	8.4
DHO-43	43	45.5	+0.25	1.85	1.25	1.75	-0.06	46.5	-0.39	5.9	4.2	2.5	5.60	3.8	44.5	28.80	2.0	8.4
DHO-44	44	46.5		1.85	1.25	1.75		47.5		6.0	4.2	2.5	5.80	3.8	43.3	29.50	2.0	8.3
DHO-45	45	47.5		1.85	1.25	1.75		48.5		6.2	4.3	2.5	6.00	3.8	43.1	30.20	2.0	8.2
DHO-46	46	48.5		1.85	1.25	1.75		49.5		6.3	4.4	2.5	6.05	3.8	42.9	30.80	2.0	8.2
DHO-47	47	49.5		1.85	1.25	1.75		50.5		6.4	4.4	2.5	6.10	3.8	43.5	31.40	2.0	8.3
DHO-48	48	50.5		1.85	1.25	1.75		51.5	+1.10	6.4	4.5	2.5	6.70	3.8	43.2	32.00	2.0	8.4
DHO-50	50	53.0	+0.30	2.15	1.50	2.00		54.2	-0.46	6.5	4.6	2.5	7.30	4.5	60.8	40.50	2.0	12.1
DHO-51	51	54.0		2.15	1.50	2.00		55.2		6.5	4.7	2.5	7.75	4.5	60.2	41.20	2.0	12.0
DHO-52	52	55.0		2.15	1.50	2.00		56.2		6.7	4.7	2.5	8.20	4.5	60.2	42.00	2.0	12.0
DHO-53	53	56.0		2.15	1.50	2.00		57.2		6.7	4.9	2.5	8.22	4.5	60.7	42.90	2.0	12.1
DHO-54	54	57.0		2.15	1.50	2.00		58.2		6.7	5.0	2.5	8.25	4.5	60.4	43.60	2.0	12.3
DHO-55	55	58.0		2.15	1.50	2.00		59.2		6.8	5.0	2.5	8.30	4.5	60.3	44.40	2.0	12.5
DHO-56	56	59.0		2.15	1.50	2.00		60.2		6.8	5.1	2.5	8.80	4.5	60.3	45.20	2.0	12.6
DHO-57	57	60.0		2.15	1.50	2.00		61.2		6.8	5.1	2.5	9.40	4.5	60.8	46.00	2.0	12.7
DHO-58	58	61.0		2.15	1.50	2.00		62.2		6.9	5.2	2.5	10.50	4.5	60.8	46.70	2.0	12.7
DHO-60	60	63.0	+0.30	2.15	1.50	2.00	-0.07	64.2	+1.10	7.3	5.4	2.5	11.10	4.5	61.0	48.30	2.0	13.0
DHO-62	62	65.0		2.15	1.50	2.00		66.2	-0.46	7.3	5.5	2.5	11.20	4.5	60.9	49.80	2.0	13.0
DHO-63	63	66.0		2.15	1.50	2.00		67.2		7.3	5.6	2.5	12.40	4.5	60.8	50.60	2.0	13.0
DHO-64	64	67.0		2.15	1.50	2.00		68.2		7.4	5.7	2.5	12.45	4.5	60.6	51.40	2.0	13.0
DHO-65	65	68.0		2.65	1.50	2.50		69.2		7.6	5.8	3.0	14.30	4.5	121	51.80	2.5	20.8
DHO-67	67	70.0		2.65	1.50	2.50		71.5		7.7	6.0	3.0	15.30	4.5	121	53.80	2.5	21.1
DHO-68	68	71.0		2.65	1.50	2.50		72.5		7.8	6.1	3.0	16.00	4.5	119	56.20	2.5	21.0
DHO-70	70	73.0		2.65	1.50	2.50		74.5		7.8	6.2	3.0	16.50	4.5	119	56.20	2.5	21.0
DHO-72	72	75.0		2.65	1.50	2.50		76.5		7.8	6.4	3.0	18.10	4.5	119	58.00	2.5	21.0
DHO-75	75	78.0		2.65	1.50	2.50		79.5		7.8	6.6	3.0	18.80	4.5	118	60.00	2.5	21.0
DHO-76	76	79.0		2.65	1.50	2.50		80.5		7.8	6.6	3.0	19.00	4.5	119	61.00	2.5	21.0
DHO-78	77	80.0		2.65	1.50	2.50		82.5	+1.30	8.5	6.8	3.0	20.40	4.5	121	61.60	2.5	21.5
DHO-78	78	81.0	+0.35	2.65	1.50	2.50		82.5	-0.54	8.5	6.8	3.0	20.40	4.5	122	62.30	2.5	21.8
DHO-80	80	83.5		2.65	1.75	2.50		85.5		8.5	7.0	3.0	22.00	5.3	120	74.60	2.5	21.8

ALL DIMENSIONS IN MILLIMETERS.

*The radius "R" on the load side must not exceed 0.1 T.

*** FOR PLATED RINGS, ADD 0.05 TO THE LISTED MAXIMUM THICKNESS. MAXIMUM RING THICKNESS WILL BE A MINIMUM OF 0.005 LESS THAN THE LISTED GROOVE WIDTH (W) MINIMUM. FOR HARDNESS SPECIFICATIONS, SEE END OF THIS SECTION.



This steel is known for its high strength, and reliability in retaining ring applications. Since carbon spring steel is subject to corrosion, Rotor Clip treats all such rings with a protective coating to ensure some corrosion resistance. For long-term corrosion protection, a zinc plating or non-metallic finish should be applied over the steel. (See "[Finishes](#)" section).

STAINLESS STEEL

- PH 15-7 Mo is an extra strength corrosion-resistant steel, capable of preventing atmospheric oxidation at temperatures up to 900° F. It also offers the following advantages:
 1. Minimal distortion due to unique heat-treating process.
 2. A minimum of 225,000 psi for high ultimate tensile strength.
 3. High creep strength. Note: We reserve the right to substitute PH 17-7 stainless steel material for PH 15-7 Mo on larger rings. All PH 15-7Mo rings are supplied with a standard passivated finish.
- TYPE 420 - A less expensive alternative to PH 15-7Mo. Since general corrosion resistance for this material is less than PH-15-7Mo, use of this material depends upon the application. Contact Technical Sales for assistance.
- DIN 1.4122 - A grade of stainless steel commonly used on DIN standard retaining rings.

BERYLLIUM COPPER ALLOY#25

Applications that require conductivity are best served by this material. It is also characterized by excellent corrosion resistance and is particularly effective in sea air and seawater atmospheres.

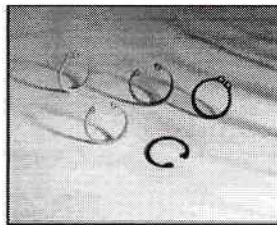
PHOSPHOR BRONZE ALLOY#5218

The least expensive copper material Rotor Clip offers. This type exhibits higher strength compared to standard phosphor bronze materials with the same tin percentages. It is also characterized by very good stress relaxation characteristics. (Note: Rotor Clip can also supply phosphor bronze material to DIN standard 17 662, Material Number 2.1020. Contact Rotor Clip Technical Sales for more information).

Materials Reference Chart

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Finishes for Tapered and Constant Section Retaining Rings:



PHOSPHATE COATING (PA)

This standard finish is recommended over unfinished plain steel since it offers an extended shelf-life protection against rusting. RoHS & ELV compliant. THERE IS NO ADDITIONAL CHARGE FOR THIS FINISH.

PHOSPHATE AND OIL (PD)

This finish provides 8-hour salt spray protection. RoHS & ELV compliant.

PHOSPHATE WITH SEALER (PAL)

A coating is added to the finish to control loose phosphate crystals on the surface of the part. RoHS & ELV compliant.

HEAVY PHOSPHATE AND OIL (HPD)

This finish provides 72 salt spray hours and can be used in place of costly stainless steel material in some applications. RoHS & ELV compliant. (Contact Rotor Clip Technical Sales for more information).

ZINC PLATING (ZD)

This coating features a yellow dichromate post plating finish. It affords the metal excellent salt spray protection (96 hours) and is particularly effective for applications exposed to seawater. Rotor Clip SAE 1060-1090 steel retaining rings are zinc plated using a mechanical plating process, which effectively eliminates hydrogen embrittlement.

ZINC BRIGHT (ZF)

Most of the dichromate is leached out of this process, leaving a "bright" silver finish on the parts. ZF offers some corrosion protection (48 hours), but is widely used when the aesthetics of the part are a factor.

ZINC DICHROMATE w/SEALER (ZDL)

This improved finish offers corrosion protection of up to 240 hours of salt spray protection. (Heavy Zinc Dichromate with Sealer - HZDL - offers 480 hours of salt spray protection.) It is a low cost substitution for costly non-corrosive materials such as stainless steel in some applications. Call for additional information.

studies, and instructional videos.

ENVIRONMENTAL
Rotor Clip: The Green Ring, RoHS & ELV compliance, environmental innovations.

QUALITY
Inspection procedures, testing, heat treating & certifications.