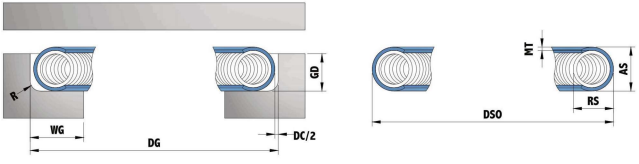
Metal C-Ring Internal Pressure Spring Energized

Common Metallic Material Options
• Alloy 718 • Alloy X-750 • 316 SS
Common Plating Options
• Silver • Nickel • Gold • Stannum • Copper • PTFE

Groove and Seal Design

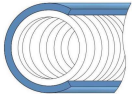


Seal: DSO = DG -DC – (Plating thickness) X 2
Groove: DG = DSO + DC + (Plating thickness) X 2

Groove Finish Recommendation

Groove finish is a critical factor for metal seal. Depend on different medium, Sonkit recommend the following groove surface roughness

Medium	For metal seal with plating	For meta seal without plating
Viscous media	Ra = 1.6 – 2.5	Ra = 0.8 – 1.6
Liquid media	Ra = 0.4 – 0.8	Unrecommended
Vacuum/ gases	Ra = 0.2 -0.6	Unrecommended



CSI

Note: Performance data based on Alloy 718 jacket and spring, without heat treatment and plating.

Groove Dimension				Seal Dimension						Performance			
DG	GD	WG	R	AS		MT		DC	RS	Load		SB	
Groove Diameter Range	Groove Depth Range	Width Groove (min)	Radius (max)	Axial Section	Tolerance On AS (cross section)	Material No	Thickness	Diametrical clearance	Radial Section	N/mm Circumference M	N/mm Circumference H	Spring Back (mm) M	Spring Back (mm) H
15-280	1.27-1.37	2.05	0.35	1.57	±0.05	M/H	0.15	0.15	1.42	75	175	0.08	0.07
20-300	1.60-1.68	2.50	0.40	2.00	±0.05	M	0.25	0.20	1.75	180	245	0.08	O.R.
25-300	1.76-1.85	2.86	0.45	2.20	±0.05	M	0.25	0.32	1.95	155	210	0.08	O.R.
25-400	1.91-2.01	3.10	0.50	2.39	±0.05	M/H	0.25	0.24	2.14	140	310	0.13	0.11
25-500	2.23-2.34	3.60	0.50	2.79	±0.05	M/H	0.38	0.28	2.41	215	345	0.12	0.10
25-600	2.54-2.67	4.10	0.75	3.18	±0.08	M/H	0.38	0.32	2.80	140	285	0.15	0.12
32-750	2.88-3.02	4.68	0.75	3.60	±0.08	M	0.41	0.36	3.19	160	350	0.12	O.R.
32-750	3.18-3.30	5.10	1.20	3.96	±0.08	M/H	0.41	0.39	3.55	145	320	0.20	0.15
50-800	3.52-3.69	5.72	1.20	4.40	±0.08	M	0.41	0.44	3.99	180	265	0.20	O.R.
75-900	3.84-3.99	6.20	1.20	4.78	±0.10	M/H	0.51	0.47	4.37	185	420	0.28	0.20
75-900	4.00-4.20	6.50	1.20	5.00	±0.10	M	0.51	0.50	4.49	175	395	0.35	O.R.
75-900	4.16-4.37	6.76	1.20	5.20	±0.10	M/H	0.51	0.52	4.69	235	375	0.29	O.R.
75-1000	4.48-4.70	7.30	1.20	5.60	±0.10	M/H	0.51	0.56	5.09	215	340	0.30	O.R.
100-1800	5.08-5.28	8.30	1.50	6.35	±0.10	M/H	0.64	0.64	5.71	325	555	0.35	0.30
150-3000	6.32-6.58	10.40	1.50	7.90	±0.10	M/H	0.97	0.79	6.93	335	675	0.40	O.R.
300-3000	7.62-8.03	12.40	1.50	9.53	±0.10	M/H	0.97	0.96	8.56	505	805	0.43	0.35
600-7600	10.16-10.67	16.50	1.50	12.70	±0.13	M/H	1.27	1.27	11.43	635	915	0.56	O.R.

Typical Applications

• Aerospace • Oil & gas • Injection systems
• Valves • Turbo chargers • Exhaust
• Vacuum applications • Windows Seals
• Power generation (GT, ST-casing, heat exchangers, Nuclear waste)

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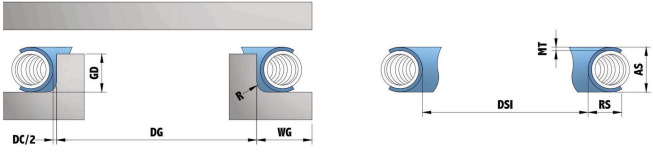

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CSE

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