

## Metal C-Ring Internal Pressure Spring Energized

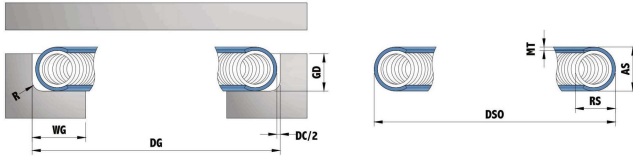
### Common Metallic Material Options

- Alloy 718 • Alloy X-750 • 316 SS

### Common Plating Options

- Silver • Nickel • Gold • Stannum • Copper • PTFE

### Groove and Seal Design

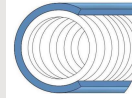


Seal:  $DSO = DG - DC - (\text{Plating thickness}) \times 2$   
 Groove:  $DG = DSO + DC + (\text{Plating thickness}) \times 2$

### 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 (mm)	Radius (max)	Axial Section	Tolerance On AS (cross section)	Material No	Thickness	Diametrical clearance	Radial Section	Nims Circumference		Spring Back (mm)	
										M	H	M	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)



In house lab



In house HT



Test Report