

# EEE Metal E-Rings External Pressure Face Seal

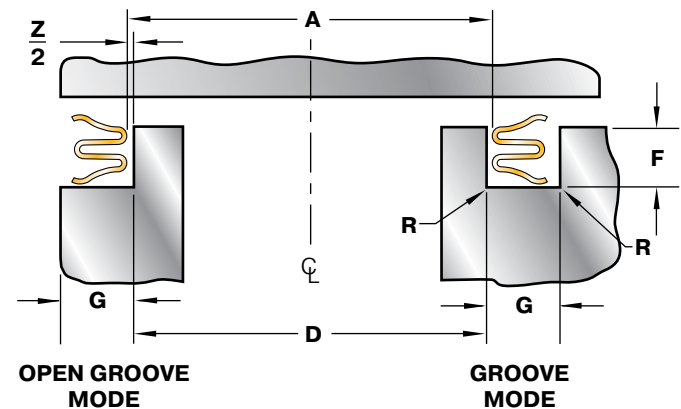
## Applications:

- High temperature pneumatic joints with external pressurization and/or joints with considerable movement.
- Multi-convolution E-rings available for very high deflection applications.
- Available externally pressure-energized or pressure neutral for reversing pressures.
- Resonant frequency of E-ring may be customized to avoid destructive resonance in high vibration applications.
- For temperatures up to 1450°F depending on material and application parameters. If application temperature exceeds range, contact Parker.



## Features:

- Optimized one piece construction for lower costs.
- Highly compliant, very low load seal.
- Generally used unplated.
- Many custom cross sections available. See page E-65 for a selection of more popular styles.
- Available in a range of diameters. See table on page 27 for details or contact us for specific availability.
- Radiused footprint area protects mating surfaces.
- Fully elastic working envelope for consistent performance over many compression/extension cycles.
- Available in a choice of high strength/high temperature nickel and cobalt alloys.
- Available with TriCom or T800 anti-wear coating.
- Electro deposited anti-wear coatings as well.



Cavity Dimensions				
Nominal Cross Section	D	F	G	R
	I.D. Range Tolerance h10	Depth Range	Minimum Width	Maximum Radius
1/16	1.750 – 8.000	0.061 – 0.063	0.090	0.015
3/32	2.000 – 12.000	0.085 – 0.087	0.115	0.020
	2.250 – 12.000	0.085 – 0.089	0.170	0.020
	2.000 – 12.000	0.085 – 0.089	0.115	0.020
1/8	2.000 – 24.000	0.116 – 0.120	0.165	0.030
	2.000 – 24.000	0.116 – 0.120	0.165	0.030
3/16	3.375 – 36.000	0.179 – 0.183	0.230	0.040
1/4	6.000 – 48.000	0.244 – 0.250	0.315	0.060

All dimensions are in inches. The tolerance reference table can be found on page F-85.

## Part Numbering:

Refer to Section A, page A-9 for part numbering convention. The seal size is specified in the part number as follows:

**EEE - 000000 - 00 - 00 - 0 - XXX**

Seal I.D. (dimension A) to three decimal places. (Example: A 3.000 inch seal is specified as 003000)

Metal Seal Cross Section Code

Material (Section D)

Temper (Section D)

Coating or Finish (Section D)\*



## Seal and Cavity Sizing:

Seal free height is based on cavity diameter and depth alone. Seal diameter (dimension A) is derived below.

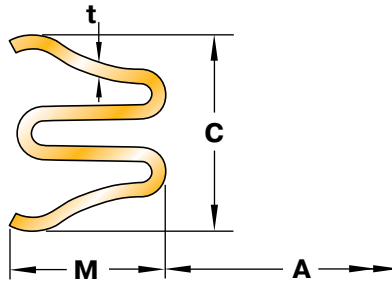
$$A = D + Z + 2P_{max}$$

(tolerance H11, see page F-85)

Where: D = Maximum cavity I.D.

Z = Diametral clearance between cavity and seal

P<sub>max</sub> = Maximum plating thickness (from page D-56)



\*Only plating offered is TriCom or T800



E-rings are available with additional convolutions for even greater springback. See page F-63 for additional styles.

Seal Dimensions					
Nominal Cross Section	Z	C	t	M	Cross Section Code
	Diametral Clearance	Free Height	Material Thickness	Maximum Radial Width	
1/16	0.003	0.074 ± 0.003	0.005	0.066	05
3/32	0.003	0.102 ± 0.005	0.010	0.091	06
		0.108 ± 0.005	0.009	0.145	07
		0.108 ± 0.005	0.010	0.091	08
1/8	0.005	0.140 ± 0.004	0.012	0.122	10
		0.132 ± 0.005	0.015	0.122	11
3/16	0.006	0.218 ± 0.005	0.015	0.190	13
1/4	0.008	0.295 ± 0.006	0.020	0.267	15

Performance		
Seating Load (pounds per inch circumference)	Springback (inches)	Working** Pressure Rating (psi)
30	0.012	1500
30	0.015	1500
40	0.021	1500
90	0.018	5000
60	0.022	3500
75	0.014	5500
50	0.037	2000
80	0.048	2000

All dimensions are in inches and prior to plating.

Performance data is based on Alloy 718 material with -6 treatment. Seal performance is discussed in Section F.

\*\*If working pressures exceed these ratings consult Parker for recommendations.