

ECA Metal C-Ring Axial Seal

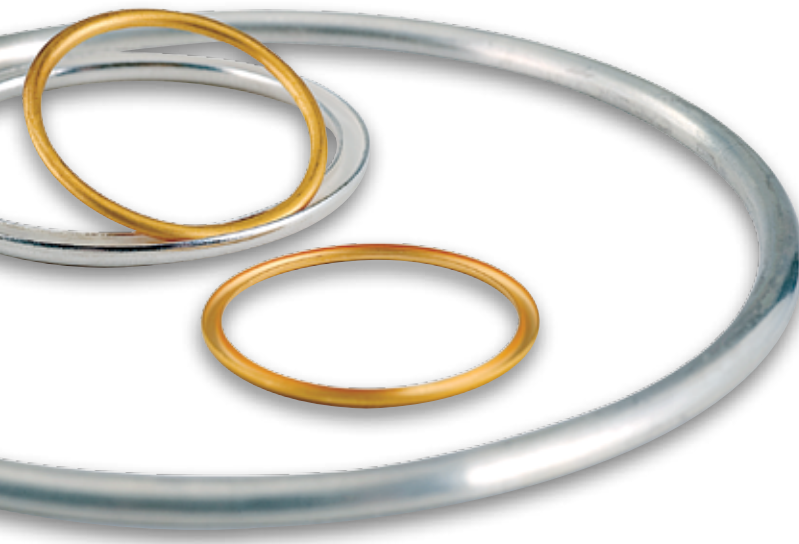
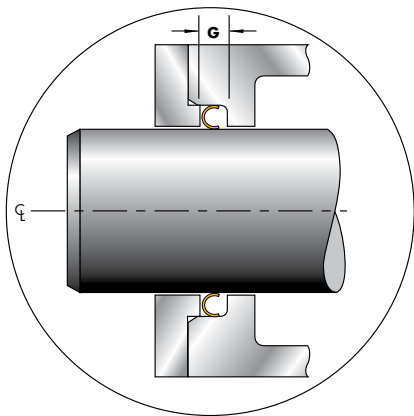
Applications:

- Static and low cycle dynamic axial sealing.
- Fire-safe quarter turn valve stem sealing: up to 30,000 operating cycles.
- 'Plug-in' connector sealing.
- High temperature sealing of mechanical seal to shaft interface.

Features:

- Close tolerance seal for light installation loads.
- Plating partially transfers to stem for low wear characteristics on quarter turn applications.

INSTALLED VIEW

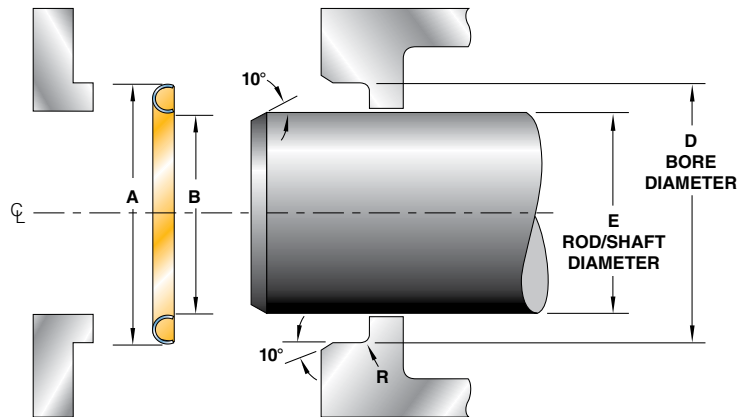


Cavity Requirements:

- Requires careful control of diametral tolerances and concentricity.

Bore Diameter D	Concentricity ◎
≤ 3.250	0.0005
> 3.250	0.001

- Static mating surfaces should be 8 – 16 μ inch Ra, 60 Rc.
- Dynamic mating surfaces should be 4 – 8 μ inch Ra, 60 Rc.



Cavity Dimensions

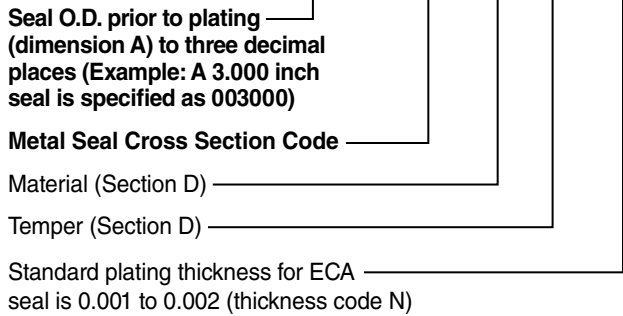
Nominal Cross Section	D		E		G	R
	Bore Diameter		Rod/Shaft Diameter		Min. Width	Max. Radius
	Range	tol.	tol.			
1/16	0.500–1.500	+0.001 -0.000	D_{min} –0.123	+0.000 -0.001	0.051	0.015
	1.501–1.750	+0.001 -0.000	D_{min} –0.121	+0.000 -0.001		
3/32	1.188–1.500	+0.001 -0.000	D_{min} –0.185	+0.000 -0.001	0.078	0.020
	1.501–3.250	+0.001 -0.000	D_{min} –0.183	+0.000 -0.001		
1/8	2.000–3.250	+0.001 -0.000	D_{min} –0.246	+0.000 -0.001	0.104	0.030
	3.251–6.000	+0.002 -0.000	D_{min} –0.242	+0.000 -0.002		
	6.001–8.000	+0.002 -0.000	D_{min} –0.238	+0.000 -0.002		
5/32	3.250–6.000	+0.002 -0.000	D_{min} –0.304	+0.000 -0.002	0.129	0.050
	6.001–10.000	+0.002 -0.000	D_{min} –0.300	+0.000 -0.002		
3/16	4.000–6.000	+0.002 -0.000	D_{min} –0.367	+0.000 -0.002	0.156	0.050
	6.001–12.000	+0.002 -0.000	D_{min} –0.363	+0.000 -0.002		
1/4	6.000–12.000	+0.002 -0.000	D_{min} –0.488	+0.000 -0.002	0.208	0.060

All dimensions are in inches.

Part Numbering:

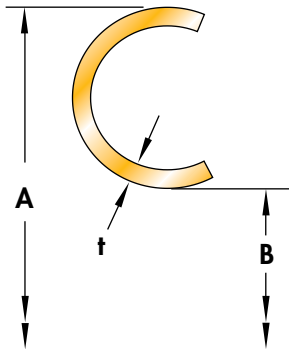
Refer to Section A, page A-9 for part numbering convention. The seal size is specified in the part number as follows:

ECA - 000000 - 00 - 00 - 0 - XXN



Seal and Cavity Sizing:

From Bore Diameter (dim. D) derive the Rod/Shaft Diameter (dim. E) and Seal O.D. (dim. A) using the tables below.



Section C
Metal Seal Size Selection

Seal Dimensions					Pressure Rating
Nominal Cross Section	A	B	t	Cross Section Code	Working Pressure Rating (psi)
	Seal O.D.	Seal I.D.	Material Thickness		
	tol.	tol.			
1/16	$D_{min}+0.003 \pm 0.001$	$A - 0.129 \pm 0.001$	0.006	05	57,000
	$D_{min}+0.004 \pm 0.001$	$A - 0.129 \pm 0.001$			
3/32	$D_{min}+0.003 \pm 0.001$	$A - 0.191 \pm 0.001$	0.010	07	23,500
	$D_{min}+0.003 \pm 0.001$	$A - 0.191 \pm 0.001$			
1/8	$D_{min}+0.004 \pm 0.001$	$A - 0.254 \pm 0.001$	0.015	09	38,000
	$D_{min}+0.006 \pm 0.002$	$A - 0.254 \pm 0.002$			
	$D_{min}+0.008 \pm 0.002$	$A - 0.254 \pm 0.002$			
5/32	$D_{min}+0.006 \pm 0.002$	$A - 0.316 \pm 0.002$	0.016	11	31,000
	$D_{min}+0.008 \pm 0.002$	$A - 0.316 \pm 0.002$			
3/16	$D_{min}+0.006 \pm 0.002$	$A - 0.379 \pm 0.002$	0.020	13	32,500
	$D_{min}+0.008 \pm 0.002$	$A - 0.379 \pm 0.002$			
1/4	$D_{min}+0.008 \pm 0.002$	$A - 0.504 \pm 0.002$	0.025	15	30,000

All dimensions are in inches and prior to plating.

