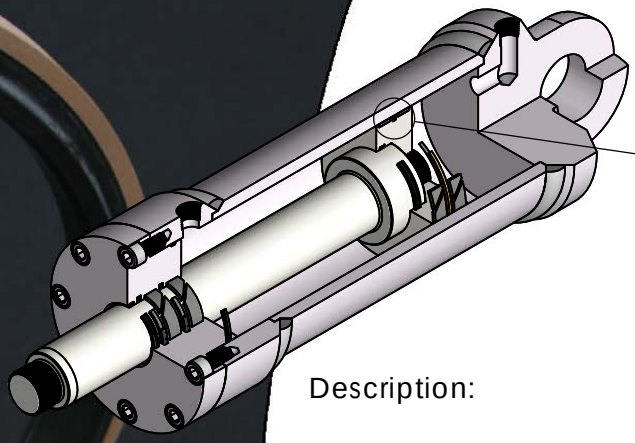
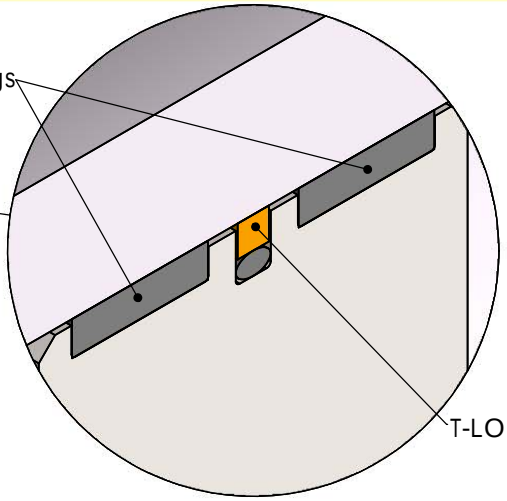
T-LON® "SPI" Series Piston Seal





Description:

With over 30 years of application success, the SPI hydraulic piston seal is a proven reliable seal for both low and high pressure systems.

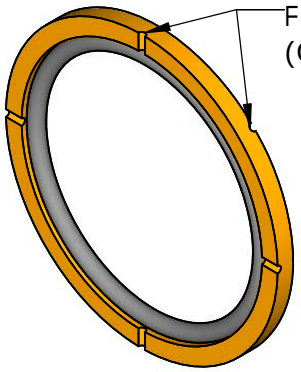
The SPI seal is an inexpensive double-acting filled T-LON® PTFE compound with an o-ring elastomer energizer designed for reciprocating applications. The filled PTFE seal ring is manufactured with an interference fit with the bore and optimum compression with the o-ring energizer. This offers excellent sealability at low pressures and high pressures when the cylinder experiences ballooning. Since the energizers are standard AS568 o-ring sizes, many elastomer compounds are readily available.

Advantages:

- Low seal drag/friction (Minimize energy loss)
- No Stick-slip (Smooth Operation)
- Long seal life from T-LON® filled PTFE compounds
- Available for cylinders up to 45" diameter

Face Grooves (Optional):

For applications of high pressure rise rates, pressure spikes, and rapid change of direction, the seal is apt to experience blow-by. To prevent blow-by and to energize the seal rapidly, face grooves are added to both sides of the seal.



Applications:

- Mobile Hydraulic Cylinders
- Pneumatic Piston Cylinders
- Agriculture Equipment
- Hydraulic Valves and Pumps
- Filling Machines
- Testing Machinery

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Telephone 262 / 367-2333 • FAX 262 / 367-8159

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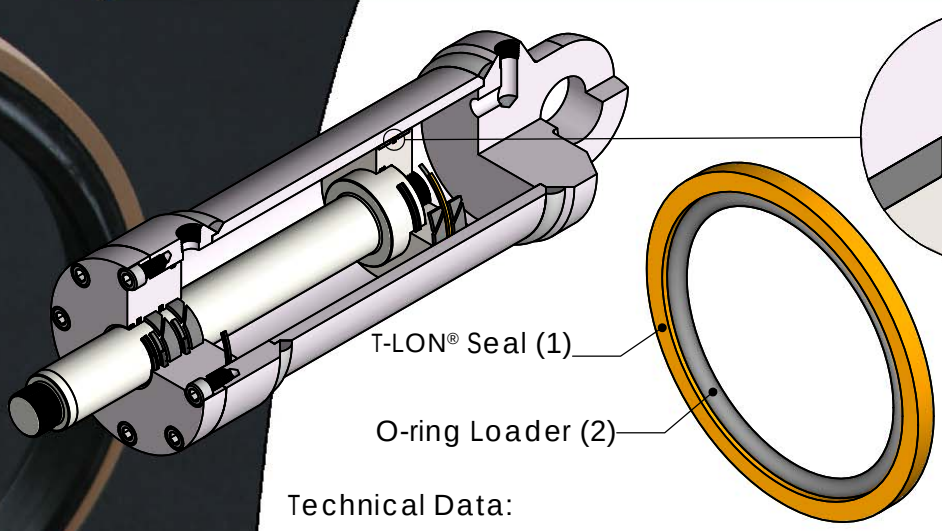

MAXIMUM E-GAP (inch) (25% GF PTFE)***			
RING CS	1500 PSI	3000 PSI	5800 PSI
0.070	0.016	0.010	0.006
0.109	0.016	0.010	0.008
0.115	0.016	0.010	0.008
0.143	0.020	0.012	0.008

***USE PISTON WEAR RINGS SO E-GAP DOES NOT EXCEED TABLED VALUES

Technical Data:

(1) T-LON® seal compound determines allowable pressure and velocity ranges
- Velocity: Up to 12 ft/s
- Pressure: Up to 8500 psi

(Function of e-gap and T-LON® compound. Max velocity and pressure cannot be used together)

Most Common:

BRONZE FILLED PTFE ("21" or "22")
- Highest Extrusion Resistance (Higher bronze content increases extrusion/wear resistance; I.E. larger e-gap allowable)
- Good sealability

GLASS FILLED PTFE ("03" or "09")
- Good wear resistance for tubes with rougher surface finish (Higher glass content increases extrusion/wear resistance)
- More chemical resistant but more abrasive on mating components

(2) Loader compound determines temperature and chemical compatibility

Most Common:

NBR SHORE 70 A ("P")
- Working Temp. Range -30°F to 230°F (250°F intermittent)
- Commonly used with greases, aliphatic hydrocarbon mineral and vegetable oils, and various hydraulic fluids

EPDM SHORE 70 A ("E")
- Working Temp. Range -50°F to 300°F (400°F steam intermittent)
- Commonly used with water, steam, water/ silicone/ glycol based fluids, and app's affected by ozone and weathering.

ORDERING INFORMATION

SPI - __ __ __ __ - __ - __ __ - __ - __ __

BORE Ø: "0100" = 1.00" … "1050" = 10.50"

LOADER SERIES: "0" = 000 SERIES AS568A (1/16") … "2" = 200 SERIES AS568A (1/8")

TLON MATERIAL: "03" = 15% GLASS PTFE; "09" = 25% GLASS PTFE; "21" = 40% BRONZE PTFE; "22" = 60% BRONZE PTFE

GROOVE OPTION: OMIT IF NO FACE GROOVES REQ'D; "G" = ADD FACE GROOVES

PACKAGING: OMIT IF NO LOADERS REQ'D; "B" = BULK PACKAGE COMPONENTS; "I" = INDIVIDUALLY PACKAGE SEALS

LOADER MATL: OMIT IF NO LOADERS REQ'D; "P" = STANDARD NBR 70A; "E" = EPDM 70A

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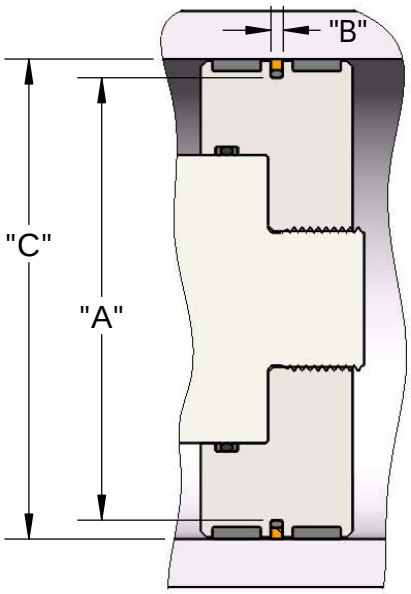

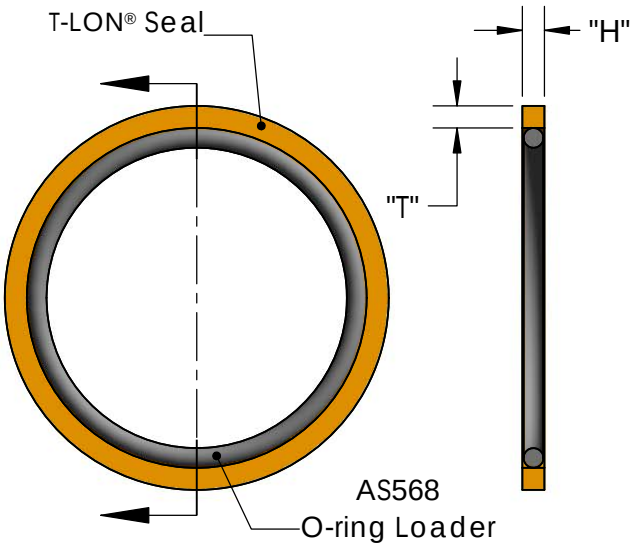

T-LON® "SPI" Series Piston Seal Sizes (More Available Upon Request)

Groove dimensions conform to American National Standard,
ANSI B93.32-1973 and NFPA T3.19.18

Size	Bore Dia. ± .001 (C)	Groove Dimension		Ring Dimension		O-ring Loader No.
		Dia. ±.002 (A)	Width ±.002 (B)	X-Section (T)	Width (H)	
0050-0	0.500	0.240	0.083	0.070 ±.005	0.070 ±.005	-010
0075-0	0.750	0.490				-014
0087-0	0.875	0.615				-016
0100-0	1.000	0.740				-018
0112-0	1.125	0.865				-020
0125-0	1.250	0.990				-022
0137-0	1.375	1.116				-023
0150-0	1.500	1.241				-025
0162-1	1.625	1.233	0.122	0.109 ±.005	0.109 ±.005	-123
0175-1	1.750	1.359				-125
0187-1	1.875	1.483				-127
0200-1	2.000	1.604	0.129	0.115 ±.010	0.115 ±.010	-129
0212-1	2.125	1.729				-133
0225-1	2.250	1.858				-133
0237-1	2.375	1.983				-135
0250-1	2.500	2.108				-137
0262-1	2.625	2.233				-139
0275-1	2.750	2.358				-141
0287-1	2.875	2.484				-143
0300-1	3.000	2.608				-145
0312-1	3.125	2.729				-148
0325-1	3.250	2.858				-149

Size	Bore Dia. ± .001 (C)	Groove Dimension		Ring Dimension		O-ring Loader No.
		Dia. ±.002 (A)	Width ±.002 (B)	X-Section ±.010 (T)	Width ±.010 (H)	
0337-1	3.375	2.983	0.129	0.115	0.115	-150
0350-1	3.500	3.108				-151
0362-1	3.625	3.233				-152
0375-1	3.750	3.358				-152
0400-1	4.000	3.608				-153
0425-1	4.250	3.858				-154
0450-1	4.500	4.108				-155
0475-1	4.750	4.358				-156
0487-1	4.875	4.483				-156
0500-1	5.000	4.608				-157
0525-1	5.250	4.858				-158
0550-1	5.500	5.108				-159
0575-2	5.750	5.232	0.159	0.143	0.143	-251
0587-2	5.875	5.357				-252
0600-2	6.000	5.482				-253
0625-2	6.250	5.732				-255
0650-2	6.500	5.982				-257
0675-2	6.750	6.232				-258
0700-2	7.000	6.482				-259
0712-2	7.125	6.607				-260
0725-2	7.250	6.732				-260
0750-2	7.500	6.982				-261

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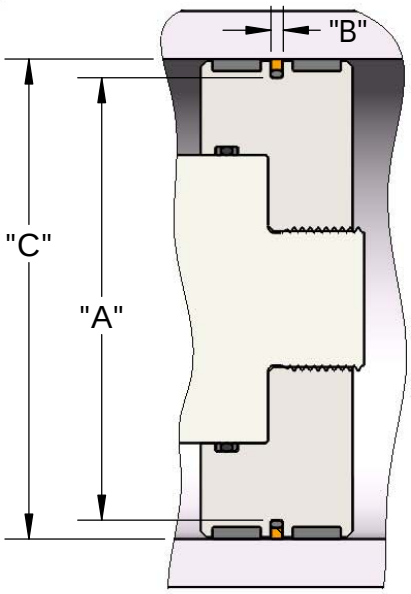

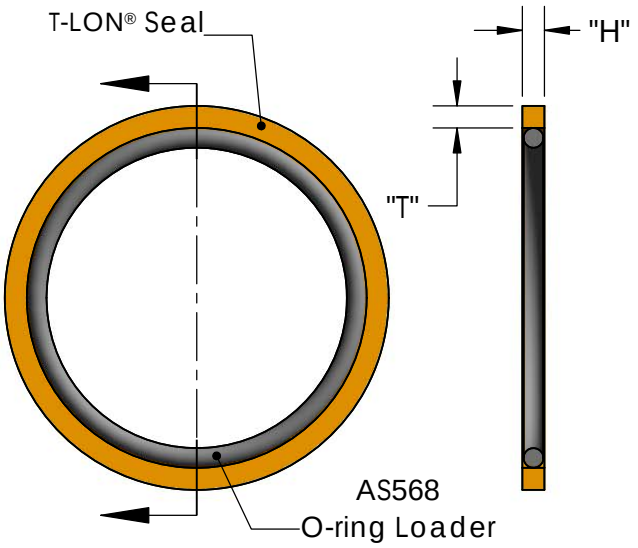

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Size	Bore Dia. ± .001 (C)	Groove Dimension		Ring Dimension		O-ring Loader No.
		Dia. ±.002 (A)	Width ±.002 (B)	X-Section ±.010 (T)	Width ±.010 (H)	
0775-2	7.750	7.232				-262
0800-2	8.000	7.482				-263
0825-2	8.250	7.732				-264
0850-2	8.500	7.982				-265
0875-2	8.750	8.232				-266
0900-2	9.000	8.482				-267
0925-2	9.250	8.732				-268
0950-2	9.500	8.982				-269
0975-2	9.750	9.232				-270
1000-2	10.000	9.482				-271
1025-2	10.250	9.732	0.159	0.143	0.143	-272
1050-2	10.500	9.982				-273
1075-2	10.750	10.232				-274
1100-2	11.000	10.482				-275
1150-2	11.500	10.982				-276
1200-2	12.000	11.482				-277
1250-2	12.500	11.982				-278
1300-2	13.000	12.482				-278
1400-2	14.000	13.482				-279
1500-2	15.000	14.482				-280
1600-2	16.000	15.482				-281