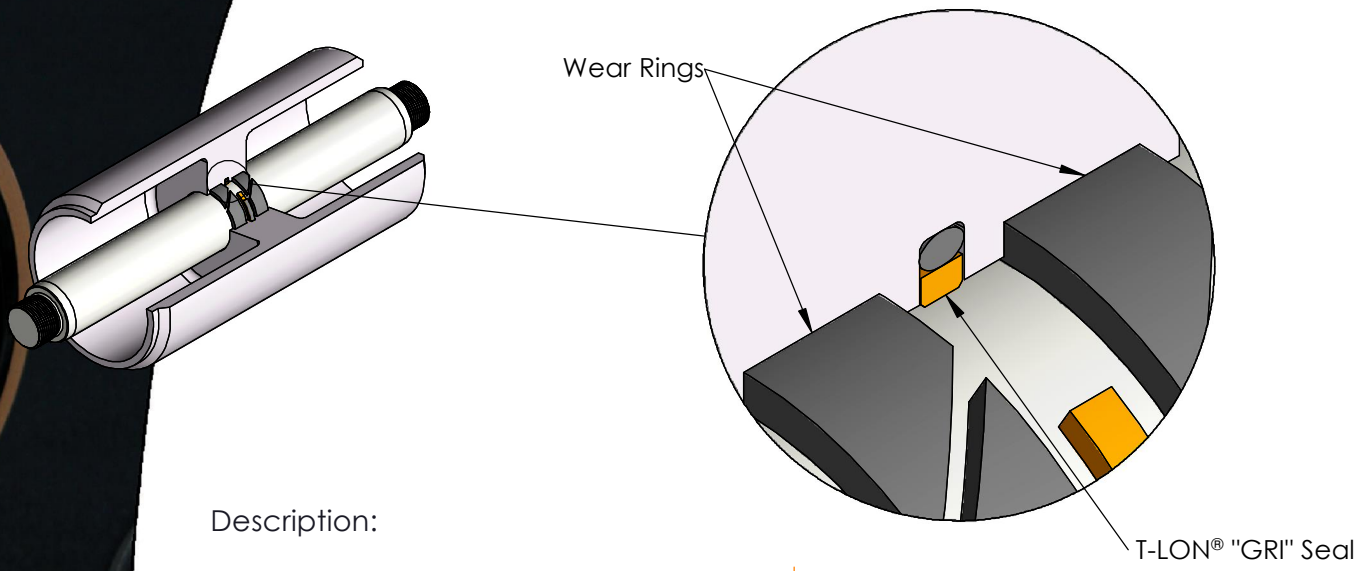
T-LON® "GRI" Series Bi-Directional Rod Seal



Description:

The GRI rod seal is a proven reliable seal for both low and high pressure systems.

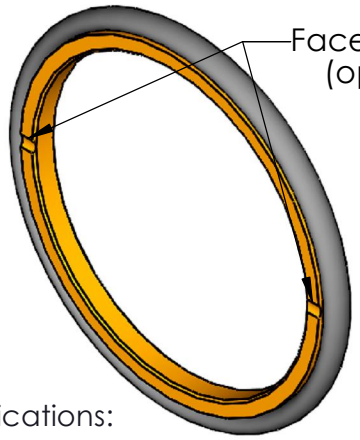
The GRI seal is a bi-directional seal and filled T-LON® PTFE compound with an o-ring elastomer energizer designed for reciprocating applications. The filled PTFE seal ring is manufactured with an interference fit with the rod and optimum compression with the o-ring energizer. The optimized sealing surface allows a fluid film to form between the seal and rod during reciprocating motion with excellent sealability for static holding applications.

Advantages:

- Low seal drag/friction (Minimize energy loss)
- No Stick-slip (Smooth Operation)
- Long seal life from T-LON® filled PTFE compounds
- Available for rods up to 19-3/4" 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.

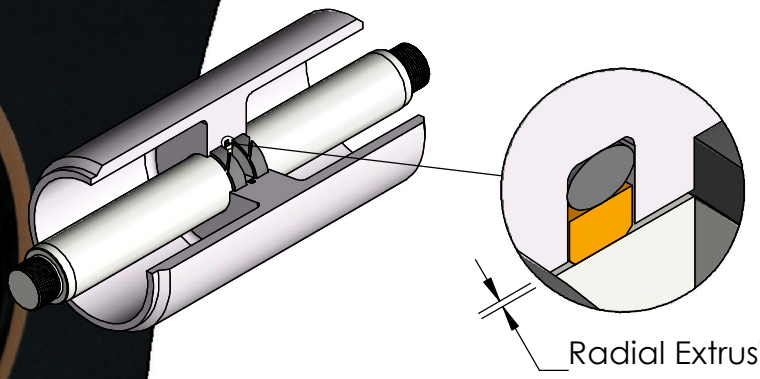


Applications:

- Hydraulic Rams/Presses
- Hydraulic & Pneumatic Valves
- Injection Molding Machines

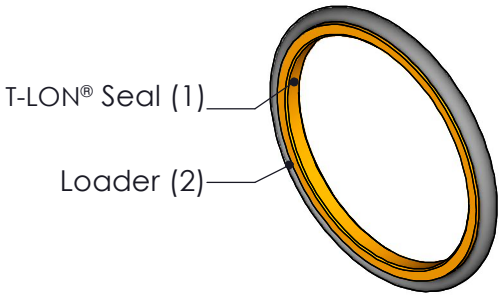
1110 Richards Rd • Hartland, WI 53029
Telephone 262 / 367-2333 • FAX 262 / 367-8159

T-LON® "GRI" Series Bi-Directional Rod Seal



MAXIMUM E-GAP (40% BZ PTFE)***			
O-ring Series	1500 PSI (in)	3000 PSI (in)	5800 PSI (in)
-0-	0.016	0.010	0.006
-1-	0.016	0.010	0.006
-2-	0.016	0.010	0.008
-3-	0.020	0.012	0.008
-4-	0.024	0.014	0.010

***USE ROD 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 13 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

CARBON/GRAPHITE FILLED PTFE ("36")
- Good for pneumatics and non-lubricating fluids
- More chemical resistant and used in applications with short stroke movements/vibrations

(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

GRI - __ __ __ __ - __ - __ __ - __ - __ __

ROD Ø
"0113" = 1.125"
"1050" = 10.500"

LOADER SERIES
"1" = 100 SERIES AS568A (3/32")
"3" = 300 SERIES AS568A (3/16")

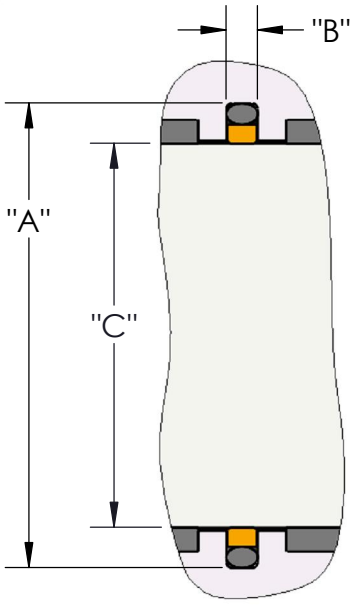
TLON MATERIAL
"21" = 40% BRONZE PTFE
"22" = 60% BRONZE PTFE
"36" = CARBON/GRAPHITE PTFE

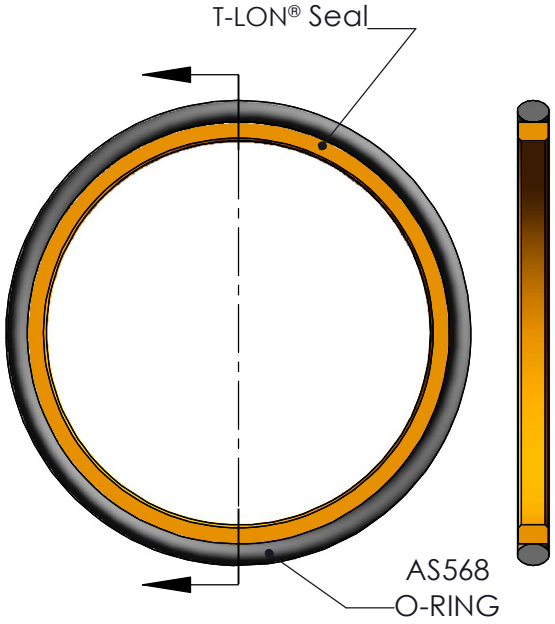
FACE GROOVES
OMIT IF NO FACE GROOVES REQ'D
"G" = ADD FACE GROOVES

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

T-LON® "GRI" Series Bi-Directional Rod Seal





T-LON® "GRI" Series Rod Seal Sizes (More Available Upon Request)

Groove dimensions for "GRI" Series (Dimensions are in inches)

Size	Rod Dia (C)		Groove Dimension Dia. (A)		Groove Dimension Width (B)		O-ring No.
0031-0	0.312	+.000 -.002	0.505	+.003 -.000	0.087	+.008 -.000	-012
0038-0	0.375		0.568				-013
0044-0	0.438		0.631				-014
0050-0	0.500		0.693				-015
0063-1	0.625	+.000 -.002	0.912	+.003 -.000	0.126	+.008 -.000	-116
0075-1	0.750		1.037				-118
0088-1	0.875		1.162				-120
0100-1	1.000		1.287				-122
0125-1	1.250		1.537				-126
0150-1	1.500		1.787				-130
0075-2	0.750	+.000 -.003	1.171	+.003 -.000	0.165	+.008 -.000	-213
0100-2	1.000		1.421				-217
0125-2	1.250		1.671				-221
0138-2	1.375		1.796				-222
0150-2	1.500		1.921				-223
0175-2	1.750		2.171				-225
0188-2	1.875		2.296				-226
0200-2	2.000		2.421				-227
02125-2	2.125		2.546				-228
0225-2	2.250		2.671				-229
0250-2	2.500		2.921				-231
0275-2	2.750		3.171				-233
0300-2	3.000		3.421				-235
0325-2	3.250		3.671				-237
0350-2	3.500		3.921				-239
0400-2	4.000		4.421				-243
0450-2	4.500		4.921				-247

Size	Rod Dia (C)		Groove Dimension Dia. (A)		Groove Dimension Width (B)		O-ring No.
0200-3	2.000	+.000 -.004	2.594	+.004 -.000	0.248	+.008 -.000	-327
0225-3	2.250		2.844				-331
0250-3	2.500		3.094				-335
0300-3	3.000		3.594				-339
0350-3	3.500		4.094				-343
0400-3	4.000		4.594				-347
0450-3	4.500		5.094				-351
0475-3	4.750		5.344				-353
0500-3	5.000		5.594				-355
0550-3	5.500		6.094				-359
0600-3	6.000		6.594				-362
0650-3	6.500		7.094				-364
0675-3	6.750		7.344				-365
0700-3	7.000		7.594				-366
0400-4	4.000	+.000 -.005	4.807	+.005 -.000	0.319	+.008 -.000	-424
0450-4	4.500		5.307				-428
0500-4	5.000		5.807				-432
0550-4	5.500		6.307				-436
0600-4	6.000		6.807				-438
0650-4	6.500		7.307				-440
0700-4	7.000		7.807				-442
0750-4	7.500		8.307				-444
0800-4	8.000		8.807				-445
0900-4	9.000		9.807				-447
1000-4	10.000		10.807				-449
1100-4	11.000		11.807				-451
1200-4	12.000		12.807				-453