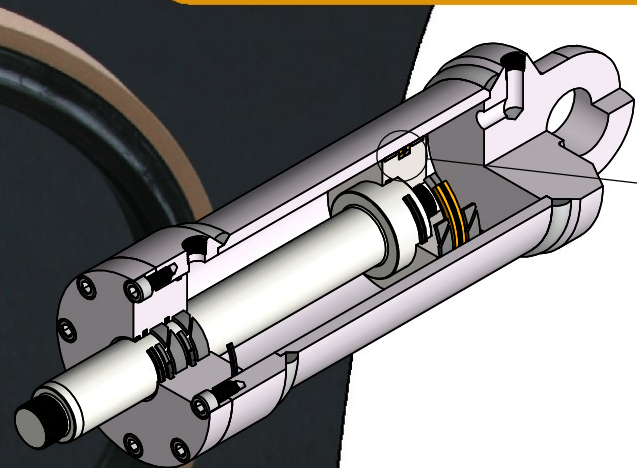
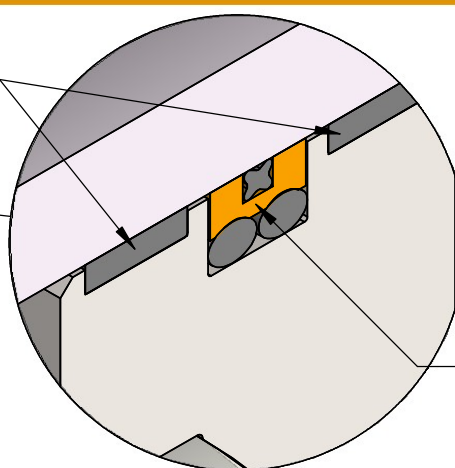




Wear Rings



T-LON® "TLQ5" Seal

Description:

The TLQ5 hydraulic piston seal is a proven reliable "zero-leak" seal for both low and high pressure systems for applications requiring holding loads for an extended time period.

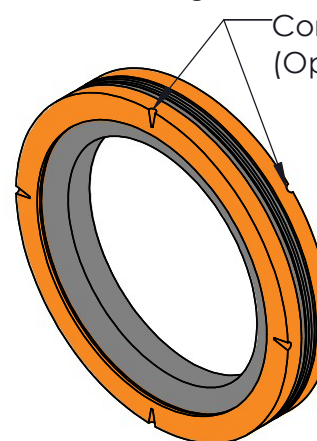
The TLQ5 seal is a double-acting filled T-LON® PTFE compound designed to function with two o-ring energizers in reciprocating applications along with an x-ring elastomer energizer on the OD to minimize leakage / OD blow-by. The filled PTFE seal ring is manufactured with an interference fit with the bore and optimum compression with the ID and x-ring energizers. This offers excellent sealability at low pressures and high pressures when the cylinder experiences ballooning.

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 27" dia

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, conical face grooves are added to both sides of the seal. The redesigned conical face grooves, "N", have been tested to eliminate energizer nibbling



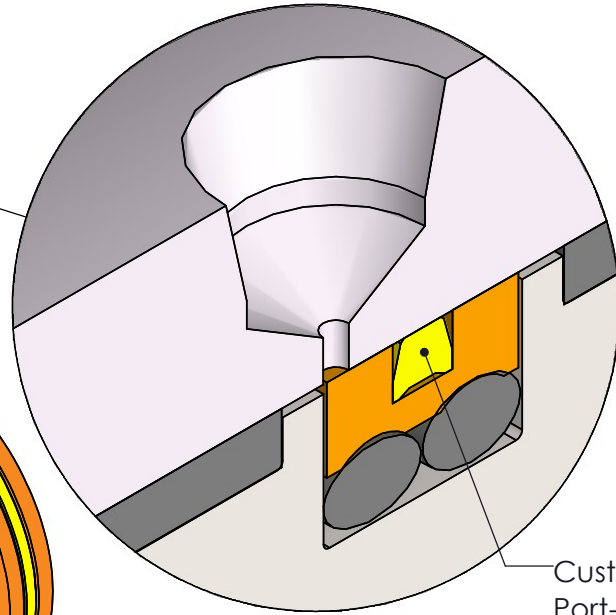
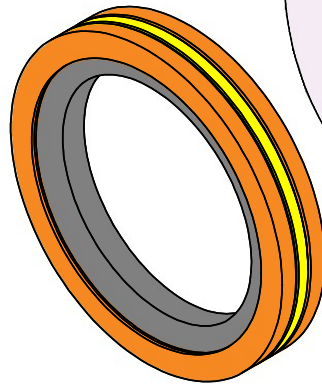
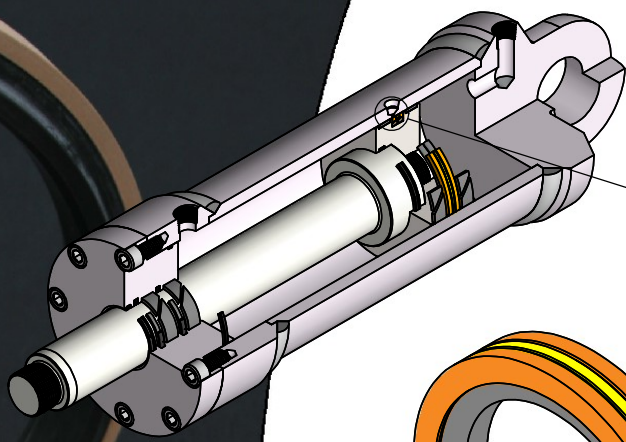
Conical Face Grooves (Optional)

Applications:

- Accumulators
- Mobile Hydraulic Cylinders
- Lift Cylinders
- Agriculture Equipment
- Holding Cylinders
- Filling Machines
- Testing Machinery

T-LON® "TLQ5" Seal





Custom Polyurethane Port-Crossing Element

Port-crossing Element (optional):

For applications with disruptions in the bore, the x-ring will extrude and/or get damaged. Replacing the x-ring with this port-crossing element will alleviate this potential issue and maintain all of the benefits of the "TLQ5" seal.

Polyurethane ("U")

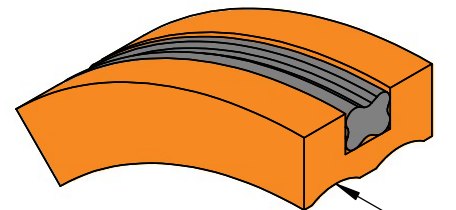
- Working Temp. Range -30°F to 230°F
- Commonly used with greases, aliphatic hydrocarbon mineral and vegetable oils, and various hydraulic fluids
- Resistance to Hydrolysis

Applications:

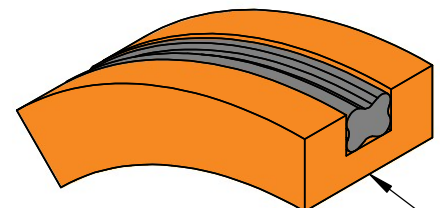
- Rephasing/Resynchronizing Cylinders
- Air purge over piston seal
- Cylinders with hydraulic port in seal path

Net Molded/Flat ID (optional):

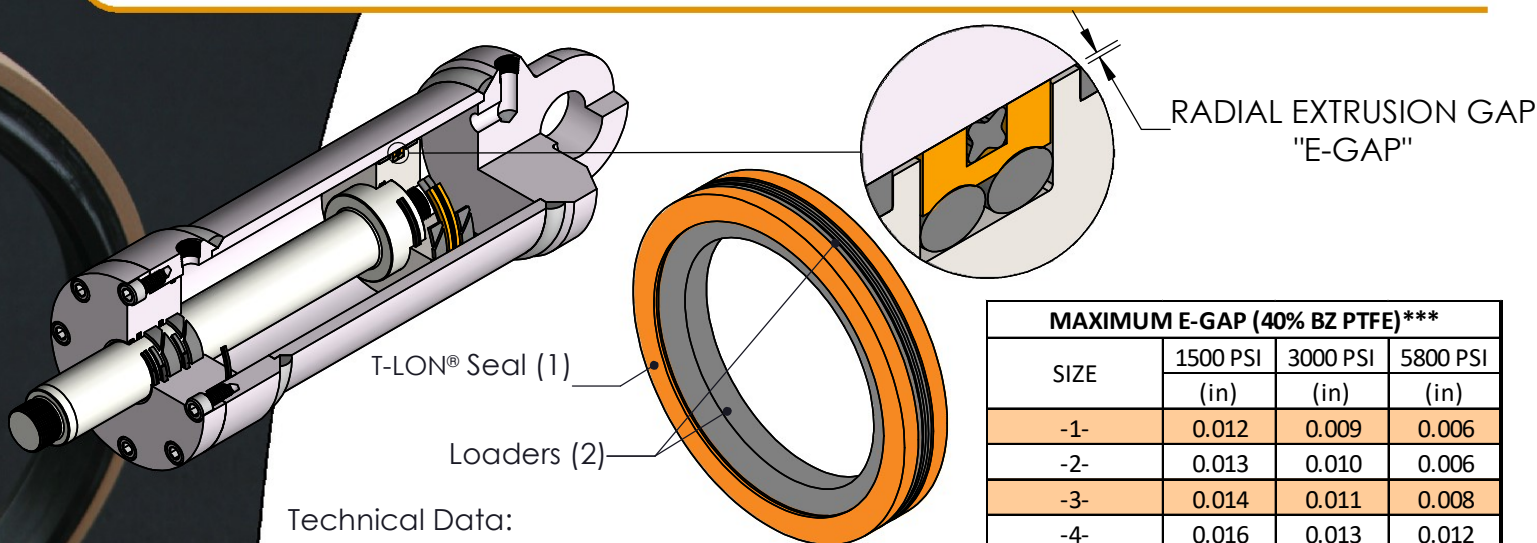
The inner diameter profile on the TLQ5 cap ring comes standard with saddle ID grooves for housing the o-rings (code "L" in the part number). This design option was optimized for better seal activation and performance. For potential cost savings, T-lon offers this design with a net-molded/flat ID profile. For decades, customers have approved the performance of the flat ID design option and enjoyed these cost savings.



ID GROOVES, "L"



NET-MOLDED, FLAT ID



MAXIMUM E-GAP (40% BZ PTFE)***			
SIZE	1500 PSI	3000 PSI	5800 PSI
	(in)	(in)	(in)
-1-	0.012	0.009	0.006
-2-	0.013	0.010	0.006
-3-	0.014	0.011	0.008
-4-	0.016	0.013	0.012

***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 10 ft/s
 - Pressure: Up to 8700 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/MoS2 FILLED PTFE ("31")

- Good wear resistance for tubes with rougher surface finish
- More chemical resistant and used in applications when seal could run dry

- (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

FKM SHORE 75 A ("V")

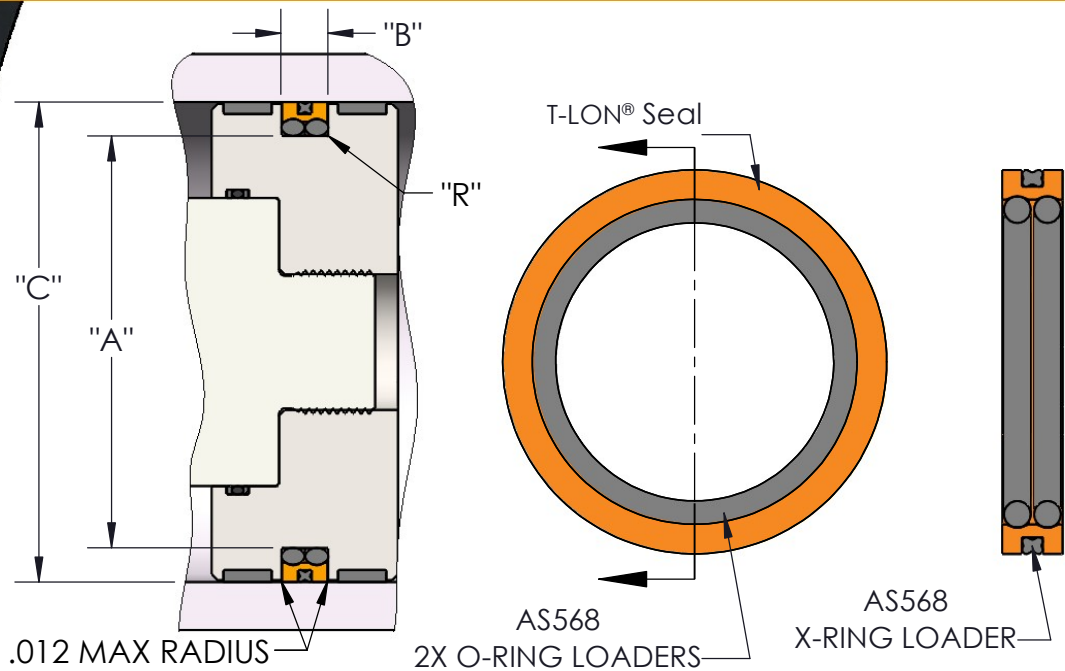
- Working Temp. Range -10°F to 400°F
- Commonly used in higher temperature applications or with acids, alcohols, fuels, and transmission fluids.

ORDERING INFORMATION

TLQ5 -

BORE Ø	LOADERS	T L O N M A T E R I A L	I D G R O O V E S	F A C E G R O O V E S	P A C K A G I N G	L O A D E R M A T L	OMIT IF NO PORT CROSSING "U" = URETHANE ELEMENT
"0150" = 1.50" "1050" = 10.50"							
"2" = 200 SERIES AS568 "3" = 300 SERIES AS568 "4" = 400 SERIES AS568							OMIT IF NO LOADERS REQ'D "P" = O-RING NBR 70A "V" = FKM 75A
"31" = 15% GLASS/ 5% MoS2 PTFE "21" = 40% BRONZE PTFE "22" = 60% BRONZE PTFE							OMIT IF NO PACKAGING REQ'D "I" = INDIVIDUALLY PACKAGE SEALS
							OMIT IF NO FACE GROOVES REQ'D "N" = CONICAL FACE GROOVES "G" = THRU RADIAL FACE GROOVES
							OMIT IF NO ID GROOVES "L" = ADD ID O-RING GROOVES

T-LON® "TLQ5" Series Piston Seals



T-LON® "TLQ5" Series Piston Seal Sizes (More Available Upon Request)
Groove dimensions for "TLQ5" Series

Size	Bore Dia (C)	T O L	Groove Dimension				Double O-ring Loader No.	X-Ring Loader No.
			Dia (A)	T O L	Width (B) ±.004	Max Radius (R)		
0150-1	1.500	+0.003 / -.000	1.106	+0.000 / -.003	0.252	0.015	-121	-028
0200-1	2.000		1.606				-129	-032
0225-1	2.250		1.856				-133	-034
0250-1	2.500		2.106				-137	-036
0275-1	2.750		2.356				-141	-038
0300-2	3.000	+0.003 / -.000	2.488	0.330	0.025	0.025	-230	-149
0325-2	3.250		2.738				-232	-151
0350-2	3.500		2.988				-234	-152
0375-2	3.750		3.238				-236	-153
0400-2	4.000		3.488				-238	-154
0425-2	4.250		3.738				-240	-155
0450-2	4.500		3.988				-242	-156
0475-2	4.750		4.238				-244	-157
0500-3	5.000	+0.005 / -.000	4.291	0.488	0.035	0.035	-347	-248
0550-3	5.500		4.791				-351	-252
0600-3	6.000		5.291				-355	-256
0650-3	6.500		5.791				-359	-259
0700-3	7.000		6.291				-362	-261
0750-3	7.500		6.791				-364	-263
0800-3	8.000		7.291				-366	-265
0900-3	9.000		8.291				-370	-269
1000-3	10.000		9.291				-374	-273
1050-3	10.500		9.791				-376	-274
1100-3	11.000		10.291				-377	-275
1150-3	11.500		10.791				-378	-276
1200-3	12.000		11.291				-379	-277
1250-3	12.500		11.791				-380	-278
1300-3	13.000		12.291				-381	-278
1450-3	14.500		13.791				-382	-280
1500-3	15.000		14.291				-383	-280
1600-3	16.000		15.291				-384	-281
1700-3	17.000		16.291				-385	-282
1800-3	18.000		17.291				-386	-283
1900-3	19.000		18.291				-387	-284

Size	Bore Dia (C)	T O L	Groove Dimension				Double O-ring Loader No.	X-Ring Loader No.
			Dia (A)	T O L	Width (B) ±.004	Max Radius (R)		
1200-4	12.000	+0.000 / -.000	10.780	+0.000 / -.006	0.646	0.035	-450	-380
1250-4	12.500		11.280				-451	-381
1300-4	13.000		11.780				-452	-381
1350-4	13.500		12.280				-453	-382
1400-4	14.000		12.780				-454	-382
1450-4	14.500		13.280				-455	-383
1500-4	15.000		13.780				-456	-383
1550-4	15.500		14.280				-457	-384
1600-4	16.000		14.780				-458	-384
1650-4	16.500		15.280				-459	-385
1700-4	17.000		15.780				-460	-385
1750-4	17.500		16.280				-461	-386
1800-4	18.000		16.780				-462	-386
1850-4	18.500		17.280				-463	-387
1900-4	19.000		17.780				-464	-387
1950-4	19.500		18.280				-465	-388
2000-4	20.000		18.780				-466	-284
2100-4	21.000		19.780				-468	-389
2200-4	22.000		20.780				-469	-390
2300-4	23.000		21.780				-470	-391
2400-4	24.000		22.780				-471	-392
2500-4	25.000		23.780				-472	-393
2600-4	26.000		24.780				-473	-394
2700-4	27.000		25.780				-474	-395