

Description:

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

The TLI seal is a double-acting filled T-LON® PTFE compound with a T-shaped elastomer energizer and two high compressive strength nylon back-up rings designed for extreme pressures in reciprocating applications. The filled PTFE seal ring is manufactured with an interference fit with the bore and optimum compression with the T-shaped energizer. This offers excellent sealability at low pressures and high pressures when the cylinder experiences ballooning. The two **back-up rings must be installed with the inner radius facing the center of the seal** and are designed asymmetrical to prevent loader damage during the life of the seal.

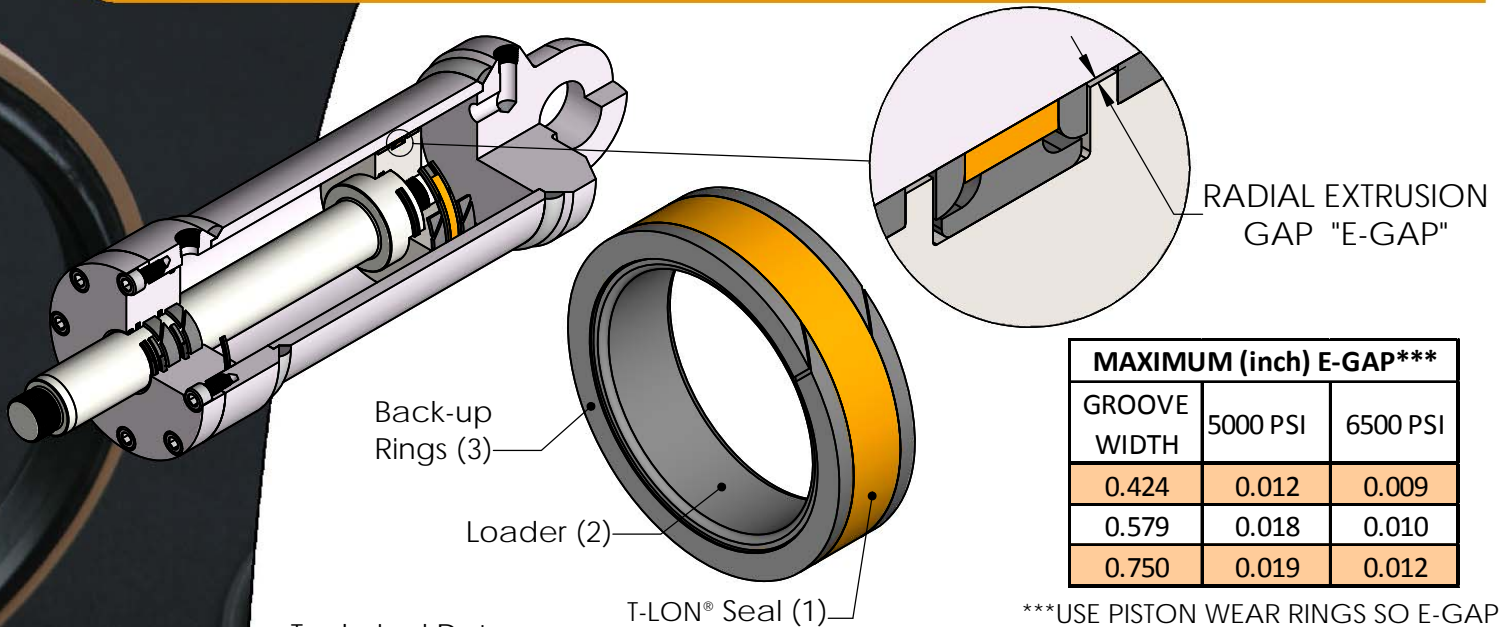
Advantages:

- 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

Applications:

- Heavy Duty Hydraulic Cylinders
- Agriculture Equipment
- Excavators
- Testing Machinery





MAXIMUM (inch) E-GAP***		
GROOVE WIDTH	5000 PSI	6500 PSI
0.424	0.012	0.009
0.579	0.018	0.010
0.750	0.019	0.012

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

Technical Data:

- (1) **T-LON® seal compound** determines velocity and seal life
- Velocity: Up to 5 ft/s
 - Pressure: Up to 10,000 psi (Function of e-gap and T-LON® compound. Max velocity and pressure cannot be used together)

Most Common:

BRONZE FILLED PTFE ("21")

- Highest Extrusion Resistance (Higher bronze content increases extrusion/wear resistance)
- 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

- 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

- (3) **Back-up rings** prevent seal extrusion and allow larger e-gaps. Note temperature and chemical limitations

Most Common:

MoS2 Filled Polyamide

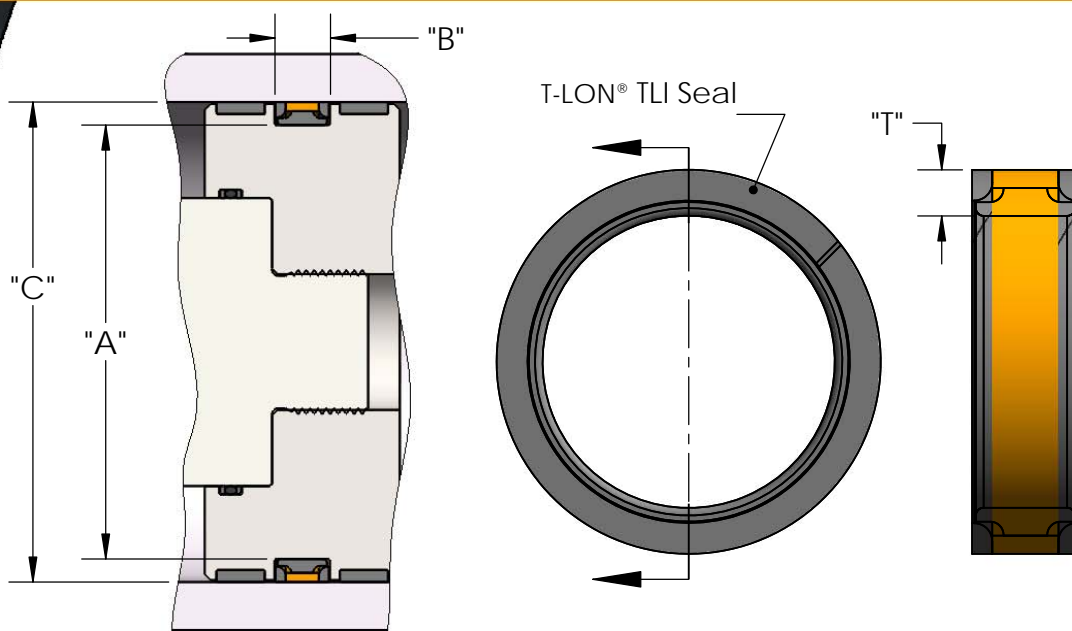
- Working Temp. Range -65°F to 250°F
- Commonly used with greases, aliphatic hydrocarbon mineral and vegetable oils, and various hydraulic fluids. Avoid water based fluids.

ORDERING INFORMATION

TLI - _____ - _____ - _____

B O R E Ø	G R O O V E	W I D T H	T L O N S E A L	M A T E R I A L
"0200" = 2.00" "1050" = 10.50"	"424" = 0.424" GROOVE WIDTH "750" = 0.750" GROOVE WIDTH			
				"21" = 40% BRONZE PTFE "31" = 15% GLASS/ 5%MoS2 PTFE

T-LON® "TLI" Series Piston Seal



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

Size	Bore Dia (C)	Groove Dimensions		Nominal Cross-Section (T)	Size	Bore Dia (C)	Groove Dimensions		Nominal Cross-Section (T)																			
		Dia. (A)	Width (B)				Dia. (A)	Width (B)																				
0100-424	1.000	+ .002 / -.000	0.625	0.424	0.210	0500-750	5.000	4.271	± .002																			
0125-424	1.250		0.875			0.750	0525-750	5.250		4.521																		
0150-424	1.500		1.125				+ .010 / -.000	0550-750		5.500	4.771																	
0175-424	1.750		1.375					0.405		0575-750	5.750	5.021																
0200-424	2.000		1.625							+ .004 / -.000	0600-750	6.000	5.271															
0225-424	2.250		1.875								± .002	0625-750	6.250	5.521														
0250-424	2.500		2.125									+ .002 / -.001	0650-750	6.500	5.771													
0275-424	2.750		2.375										+ .010 / -.000	0675-750	6.750	6.021												
0300-579	3.000	2.520	0.275	0700-750	7.000									6.271														
0325-579	3.250	2.770		+ .005 / -.000	0725-750									7.250	6.521													
0350-579	3.500	3.020			± .002									0750-750	7.500	6.771												
0375-579	3.750	3.270												+ .002 / -.001	0775-750	7.750	7.021											
0400-579	4.000	3.520													0.750	0800-750	8.000	7.271										
0425-579	4.250	3.770														+ .010 / -.000	0825-750	8.250	7.521									
0450-579	4.500	4.020															± .002	0850-750	8.500	7.771								
0475-579	4.750	4.270																+ .005 / -.000	0875-750	8.750	8.021							
0500-579	5.000	4.520																	0.405	0900-750	9.000	8.271						
0550-579	5.500	5.020																		+ .002 / -.003	0950-750	9.500	8.771					
0600-579	6.000	5.520																			± .002	1000-750	10.000	9.271				
0650-579	6.500	6.020																				+ .004 / -.000	1100-750	11.000	10.271			
																							± .002	1200-750	12.000	11.271		
																								+ .005 / -.000	1250-750	12.500	11.771	
																									± .002	1300-750	13.000	12.271
																										+ .006 / -.000	1400-750	14.000
									± .002																		1500-750	15.000