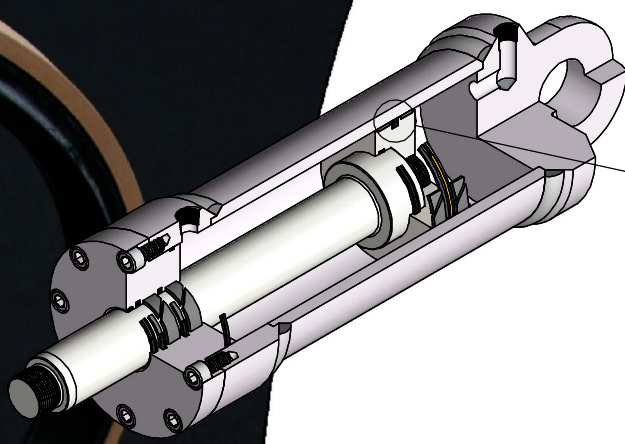
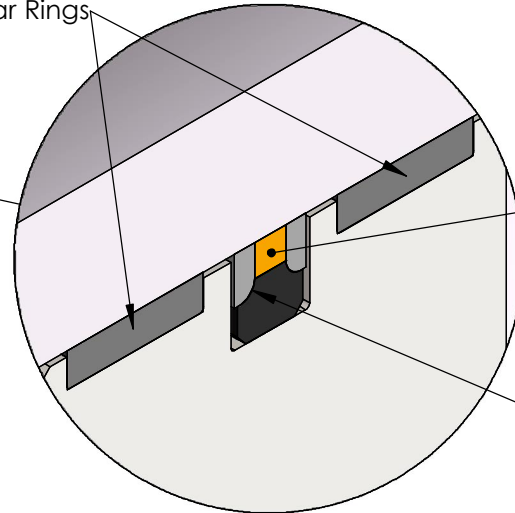




Wear Rings



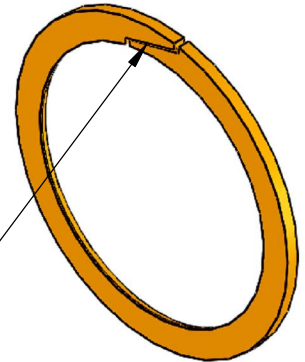
T-LON® "TLQ4" Seal

Note back-up ring radius facing towards the seal center

Description:

Rigorously tested statically and dynamically, the TLQ4 hydraulic piston seal is a proven reliable seal for both low and high pressure systems. The unique patented JZ-cut on the back-up rings was a creative solution to prevent seal degradation, loader nibbling, and extrusion during operation

The TLQ4 seal is a double-acting filled T-LON® PTFE compound with a T-shaped elastomer energizer and two high compressive strength 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.



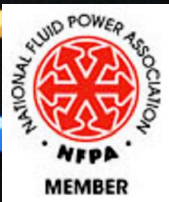
Patented JZ-cut

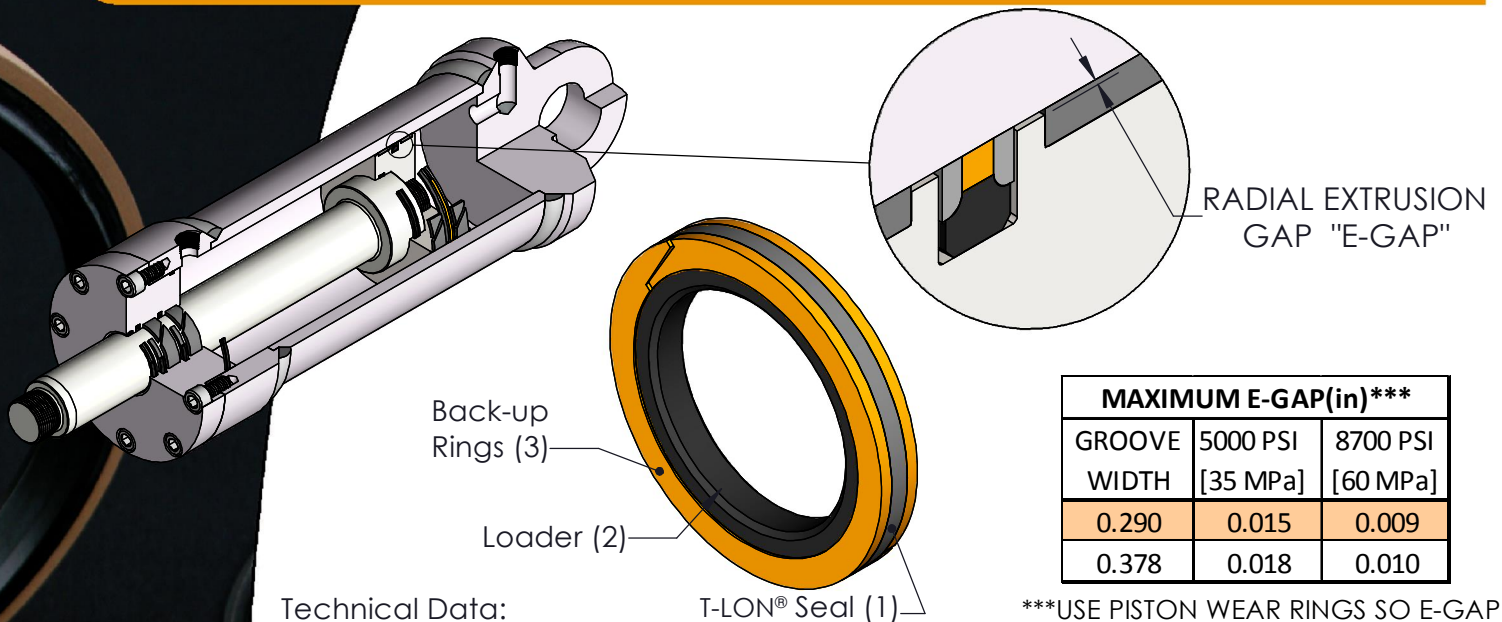
Advantages:

- 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 20" diameter

Applications:

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





MAXIMUM E-GAP(in)***		
GROOVE WIDTH	5000 PSI [35 MPa]	8700 PSI [60 MPa]
0.290	0.015	0.009
0.378	0.018	0.010

***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 [1.5 m/s]
 - Pressure: Up to 8,700 psi [60 MPa]
- (Function of E-gap and Temperature. Max velocity and pressure cannot be used together)

Most Common:

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

BRONZE FILLED PTFE ("21")

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

- (2) **Loader compound** determines temperature and chemical compatibility

Standard:

Low-Temp NBR

- Working Temp. Range -65°F to 275°F [-54°C to 135°C]
- 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

Standard:

MoS2 Filled Polyamide

- Working Temp. Range -65°F to 275°F [-54°C to 135°C]
- Commonly used with greases, aliphatic hydrocarbon mineral and vegetable oils, and various hydraulic fluids. Avoid water based fluids.

Available:

Acetal (POM)

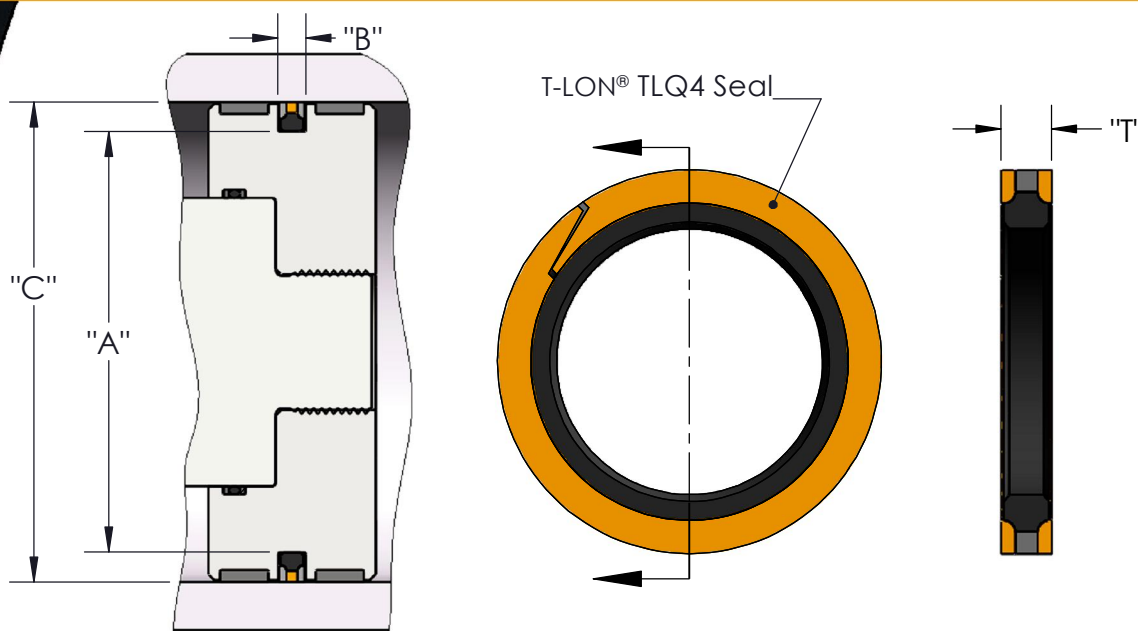
- Working Temp. Range -65°F to 275°F [-54°C to 135°C]
- Low water absorption

ORDERING INFORMATION

TLQ4 - - - -

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	B A C K U P R I N G
"200" = 2.00" "500" = 5.00"	"3" = 0.290" "4" = 0.378"		"21" = 40% BRONZE PTFE "31" = 15% GLASS/ 5%MoS2 PTFE		

OMIT = MD Polyamide
"D" = Machined Acetal



T-LON® "TLQ4" Series Piston Seal Sizes (More Available Upon Request)

Groove dimensions for "TLQ4" series

Size	Bore Dia (C)	Groove Dimension		Nominal Seal Height (T)
		Dia (A) ± .003	Width (B) ± .002	
0200-3	2.000	1.384	0.290	0.265
0225-3	2.250	1.634		
0250-3	2.500	1.884		
0275-3	2.750	2.134		
0300-3	3.000	2.384		
0325-3	3.250	2.634		
0350-3	3.500	2.884		
0375-3	3.750	3.134		
0400-3	4.000	3.384		
0450-3	4.500	3.884		
0500-3	5.000	4.384		
0550-4	5.500	4.660	0.378	0.350
0600-4	6.000	5.160		
0650-4	6.500	5.665		
0700-4	7.000	6.170		

*** Not currently tooled