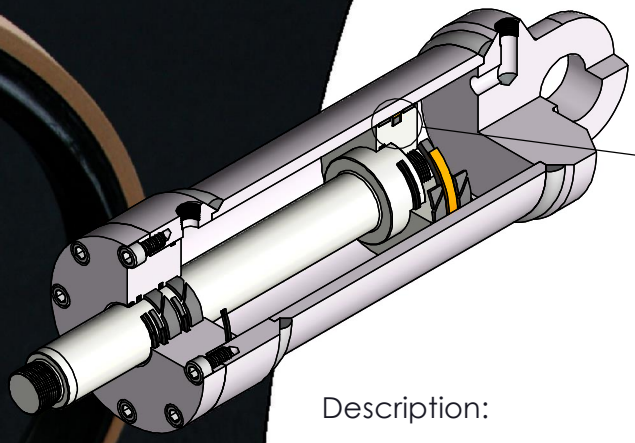
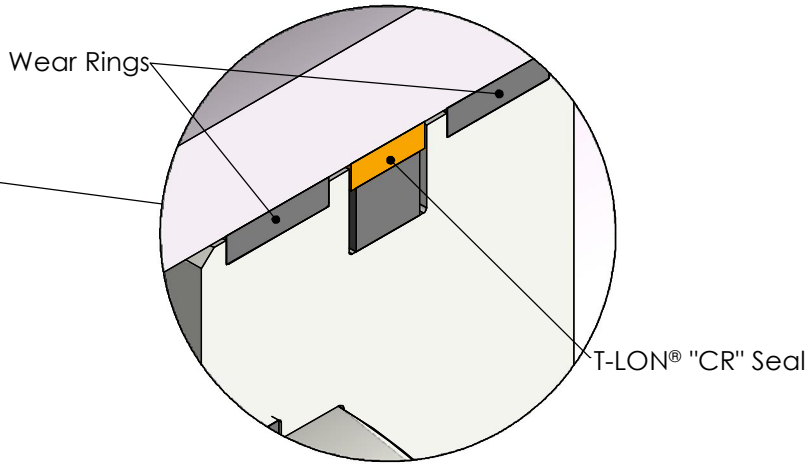
T-LON® "CR" Series Piston Seal





Description:

For over a decade, T-LON® Products has supplied the CR hydraulic piston seal to use in the Caterpillar® Type 1 piston seal groove. It is a proven reliable seal for both low and high pressure systems.

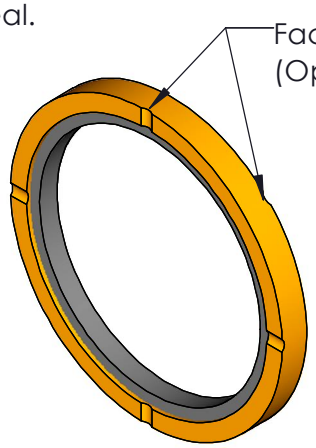
The CR seal is a double-acting filled T-LON® PTFE compound with a custom designed rectangular profile elastomer energizer offering premium seal stability in reciprocating applications. The filled PTFE seal ring is manufactured with an interference fit with the bore and optimum compression with the custom energizer. This offers excellent sealability at low pressures and high pressures when the cylinder experiences ballooning. The rectangular profile energizer helps prevent the seal from rocking often experienced with a standard o-ring.

Advantages:

- Low seal drag/friction (Minimize energy loss)
- No Stick-slip (Smooth Operation)
- Long seal life from T-LON® filled PTFE compounds

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:

- Caterpillar® Hydraulic Cylinders

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

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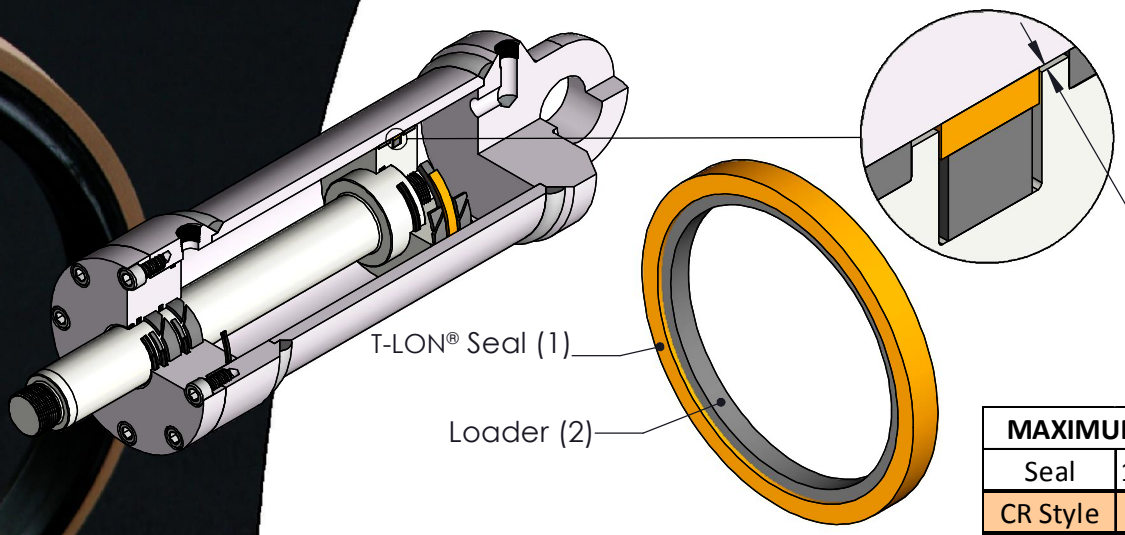

MAXIMUM E-GAP (inch) (Ref only)***			
Seal	1500 PSI	3000 PSI	5800 PSI
CR Style	0.016	0.010	0.008

***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 12 ft/s
- Pressure: Up to 5,000 psi

(Function of e-gap and T-LON® compound. 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

(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

ORDERING INFORMATION

CR - __ __ __ __ __ __ - __ __ - __ - __ __

- T-LON PART #: "5J4986" = 4.500" SEAL
- T-LON MATERIAL: "31" = 15% GLASS 5% MoS2 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

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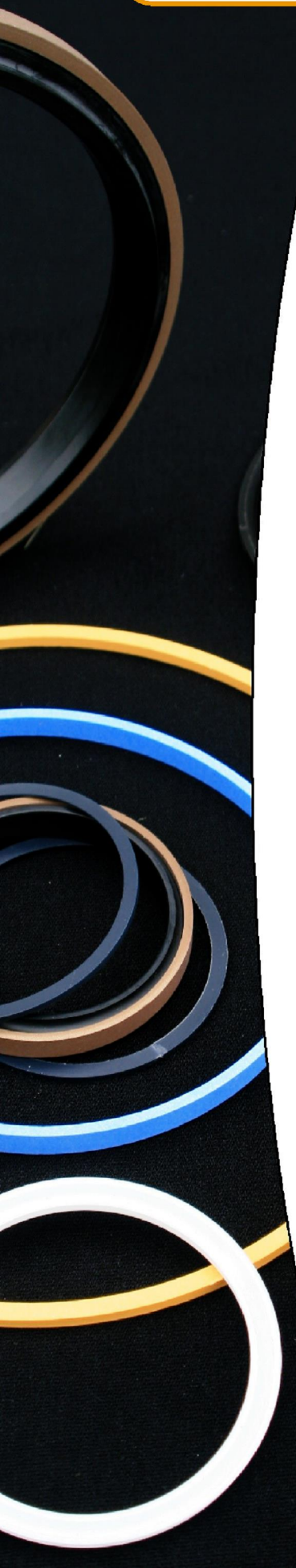

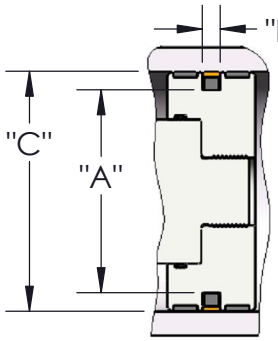

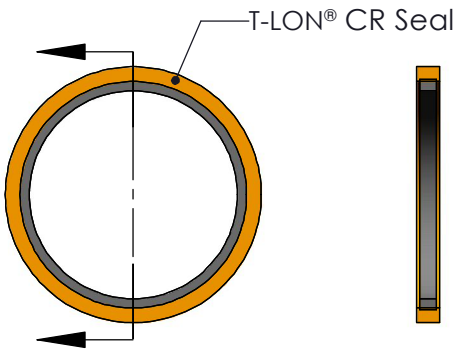

T-LON® "CR" Series Piston Seal Sizes

Groove Dimensions for Caterpillar® Type 1 Piston Seals

Caterpillar® Type 1 Piston Seal Part #	Size	Gland Dimensions					
		Bore Dia H9 (C)		Groove Dia ±.003" [±.08] (A)		Groove Width ±.002" [±.05] (B)	
		(in)	[mm]	(in)	[mm]	(in)	[mm]
3E-4277	3E4277	1.000	25.40	0.69094	17.55	0.129	3.28
3E-4278	3E4278	1.250	31.75	0.941	23.90	0.129	3.28
5J-9822	5J9822	1.500	38.10	1.10591	28.09	0.118	3.00
3E-4279	3E4279	1.750	44.45	1.441	36.60	0.129	3.28
5J-7004	5J7004	2.000	50.80	1.6252	41.28	0.192	4.88
IU-3998	1U3998	2.250	57.15	1.875	47.63	0.192	4.88
8J-6213	8J6213	2.500	63.50	2.1252	53.98	0.192	4.88
5J-7010	5J7010	2.750	69.85	2.375	60.33	0.192	4.88
6J-1972	6J1972	3.000	76.20	2.45984	62.48	0.192	4.88
6J-0793	6J0793	3.250	82.55	2.710	68.83	0.192	4.88
3E-4255	3E4255	3.250	82.55	2.85591	72.54	0.130	3.30
5J-7013	5J7013	3.500	88.90	2.960	75.18	0.192	4.88
5J-8011	5J8011	3.750	95.25	3.20984	81.53	0.192	4.88
5J-5402	5J5402	4.000	101.60	3.335	84.71	0.252	6.40
4T-0529	4T0529	4.125	104.78	3.45984	87.88	0.252	6.40
5J-7854	5J7854	4.250	107.95	3.585	91.06	0.252	6.40
5J-4986	5J4986	4.500	114.30	3.83504	97.41	0.252	6.40
5J-4987	5J4987	4.750	120.65	4.085	103.76	0.252	6.40
5J-5020	5J5020	5.000	127.00	4.2252	107.32	0.379	9.63
5J-7234	5J7234	5.250	133.35	4.475	113.67	0.379	9.63
5J-4988	5J4988	5.500	139.70	4.7252	120.02	0.379	9.63
9J-4981	9J4981	5.750	146.05	4.975	126.37	0.379	9.63
5J-4989	5J4989	6.000	152.40	5.09488	129.41	0.379	9.63
5J-4990	5J4990	6.250	158.75	5.345	135.76	0.379	9.63
5J-4991	5J4991	6.500	165.10	5.59488	142.11	0.379	9.63
5J-4997	5J4997	7.000	177.80	6.095	154.81	0.379	9.63
5J-4993	5J4993	7.250	184.15	6.34488	161.16	0.379	9.63
9J-7117	9J7117	7.500	190.50	6.595	167.51	0.379	9.63
5J-7016	5J7016	7.750	196.85	6.84488	173.86	0.379	9.63
3E-4280	3E4280	8.000	203.20	7.254	184.25	0.379	9.63
5J-5559	5J5559	8.250	209.55	7.25512	184.28	0.379	9.63
6J-9385	6J9385	8.500	215.90	7.505	190.63	0.379	9.63
3E-4281	3E4281	9.000	228.60	8.13701	206.68	0.379	9.63
5J-7019	5J7019	9.250	234.95	8.255	209.68	0.379	9.63
3E-4282	3E4282	9.500	241.30	8.63701	219.38	0.379	9.63
121-4179	1214179	10.000	254.00	8.880	225.55	0.440	11.18
5J-6762	5J6762	10.500	266.70	9.37992	238.25	0.440	11.18
6E-0253	6E0253	11.000	279.40	9.880	250.95	0.440	11.18

Note: Caterpillar® part numbers and groove dimensions are shown for reference only. Their appearance here does not imply they are the original product of Caterpillar®.