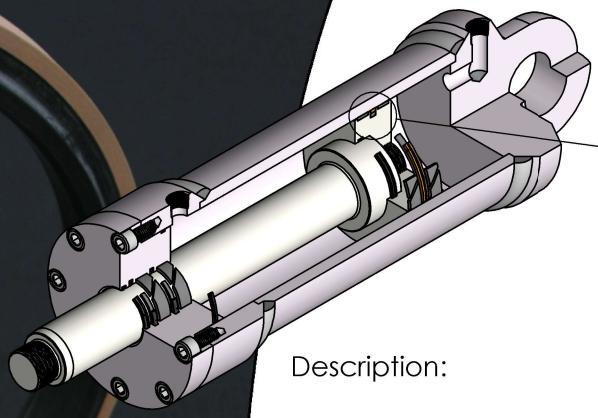
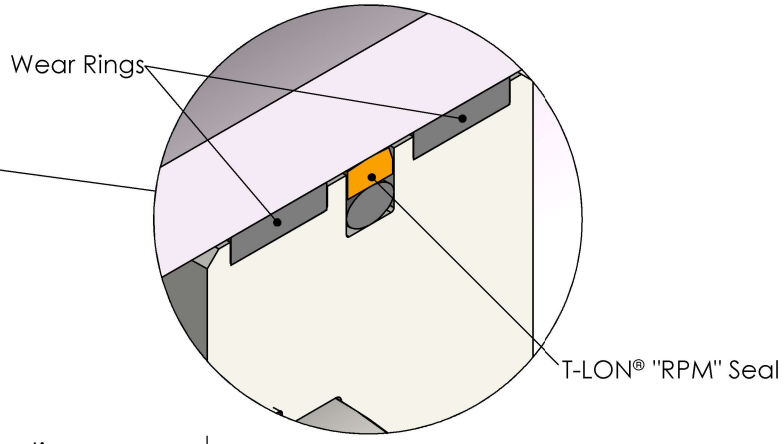
T-LON® "RPM" Series Metric Piston Seal





Description:

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

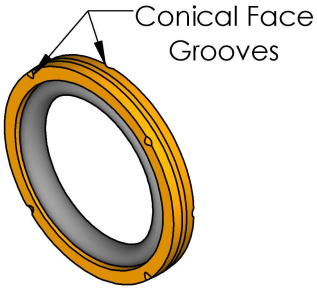
The RPM seal is a double-acting filled T-LON® PTFE compound with an o-ring elastomer energizer designed for reciprocating applications. The filled PTFE seal ring is manufactured with an interference fit with the bore and optimum compression with the o-ring energizer. This offers excellent sealability at low pressures and high pressures when the cylinder experiences ballooning. The beveled edges on the RPM ring aid in assembly and crossing over ports in the cylinder. Since the energizers are standard AS568 o-ring sizes, many elastomer compounds are readily available.

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 500mm diameter

Face Grooves:

A standard feature on the RPM seals are conical face grooves on the cap ring. 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. The unique conical groove allows no extrusion path for the o-ring energizer ensuring no loader damage.

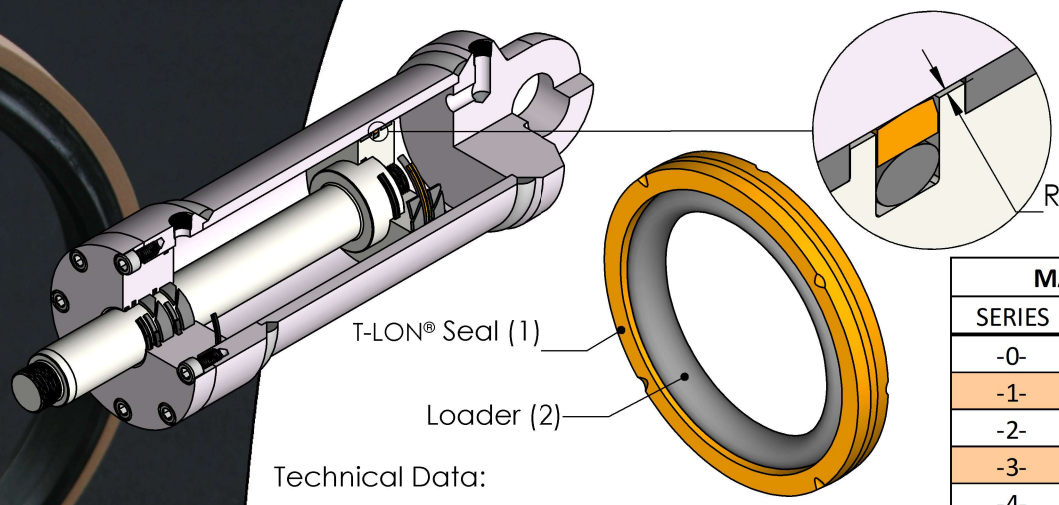


Applications:

- Mobile Hydraulic Cylinders
- Pneumatic Piston Cylinders
- Agriculture Equipment
- Hydraulic Valves and Pumps
- Filling Machines
- Testing Machinery

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

T-LON® "RPM" Series Metric Piston Seal



MAXIMUM E-GAP (mm)***			
SERIES	10 Mpa	20 Mpa	40 Mpa
-0-	0.30	0.20	0.15
-1-	0.40	0.25	0.15
-2-	0.40	0.25	0.20
-3-	0.50	0.30	0.20
-4-	0.60	0.35	0.25

***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 4 m/s
- Pressure: Up to 60 MPa

(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 (Increased bronze content improves 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 (Higher glass content increases extrusion/wear resistance)
- Improved stick-slip resistance
- More chemical resistant but more abrasive on mating components

(2) Loader compound determines temperature and chemical compatibility

Most Common:

NBR SHORE 70 A ("P")
- Working Temp. Range -35°C to 110°C (121°C intermittent)
- Commonly used with greases, aliphatic hydrocarbon mineral and vegetable oils, and various hydraulic fluids

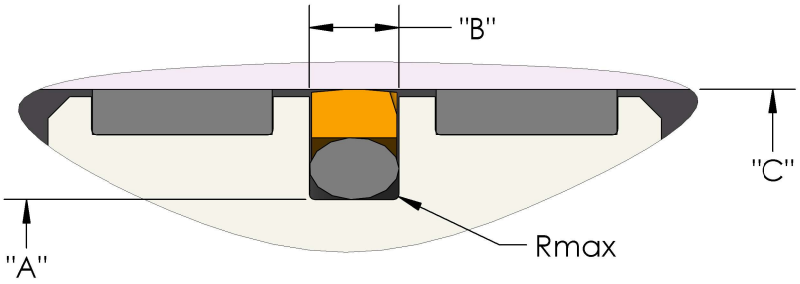
EPDM SHORE 70 A ("E")
- Working Temp. Range -45°C to 150°C (204°C steam intermittent)
- Commonly used with water, steam, water/ silicone/ glycol based fluids, and app's affected by ozone and weathering.

ORDERING INFORMATION

RPM ___ - ____ - ___ - ____ - ___

- ___: OMIT FOR STANDARD ISO 7425-1 GROOVES; "S" = ALTERNATE METRIC GROOVE DIM'S (SHT 4)
- BORE Ø ____: "020" = 20mm; "115" = 115mm
- SERIES ___: "1" = 100 SERIES AS568A (2.62mm); "3" = 300 SERIES AS568A (5.33mm)
- T-LON MATL ____: "21" = 40% BRONZE PTFE; "31" = 15% GLASS, 5% MoS2 PTFE
- 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® "RPM" Series Metric Piston Seal



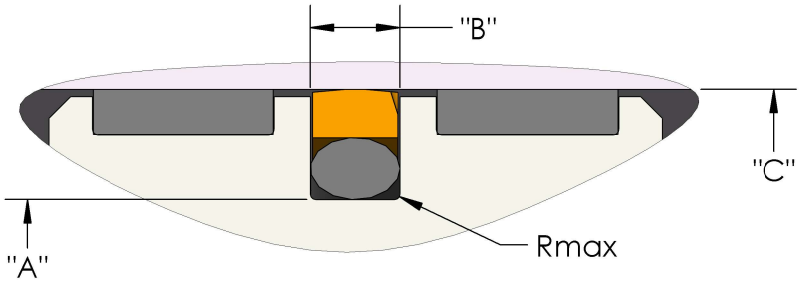
T-LON® "RPM" Series Piston Seal Sizes (More Available Upon Request)

Groove Dimensions for "RPM" Series per ISO 7425-1

Size	Bore Dia. ISO H9 (C)	Groove Dimension			O-Ring Loader No.
		Diameter ISO h9 (A)	Width +0.2 (B)	R_{Max}	
008-0	8.00	3.0	2.2	0.5	-006
011-0	11.00	6.0			-009
014-0	14.00	9.0			-011
016-1	16.00	8.5	3.2	0.5	-109
020-1	20.00	12.5			-112
028-1	28.00	20.5			-117
032-1	32.00	24.5			-119
038-1	38.00	30.5			-123
025-2	25.00	14.0	4.2	0.5	-207
032-2	32.00	21.0			-211
040-2	40.00	29.0			-216
045-2	45.00	34.0			-219
050-2	50.00	39.0			-222
055-2	55.00	44.0			-224
060-2	60.00	49.0			-225
063-2	63.00	52.0			-226
065-2	65.00	54.0			-227
070-2	70.00	59.0			-228
075-2	75.00	64.0			-230
040-2HD	40.00	30.0	5.0	0.5	-217
050-2HD	50.00	40.0			-222
055-2HD	55.00	45.0			-224
060-2HD	60.00	50.0			-225
063-2HD	63.00	53.0			-226
070-2HD	70.00	60.0			-229
075-2HD	75.00	65.0			-230
050-3	50.00	34.5	6.3	0.9	-324
055-3	55.00	39.5			-325
060-3	60.00	44.5			-327
063-3	63.00	47.5			-328
065-3	65.00	49.5			-328
070-3	70.00	54.5			-330
075-3	75.00	59.5			-331
080-3	80.00	64.5			-333
085-3	85.00	69.5			-335
090-3	90.00	74.5			-337
095-3	95.00	79.5			-338
100-3	100.00	84.5			-339
105-3	105.00	89.5			-341
110-3	110.00	94.5			-342
115-3	115.00	99.5			-344
120-3	120.00	104.5			-346
125-3	125.00	109.5			-347

Size	Bore Dia. ISO H9 (C)	Groove Dimension			O-Ring Loader No.
		Diameter ISO h9 (A)	Width +0.2 (B)	R_{Max}	
075-3HD	75.00	60.0	7.5	0.9	-332
080-3HD	80.00	65.0			-333
090-3HD	90.00	75.0			-336
100-3HD	100.00	85.0			-339
080-4	80.00	59.0	8.1	0.9	-408
085-4	85.00	64.0			-409
090-4	90.00	69.0			-411
095-4	95.00	74.0			-413
100-4	100.00	79.0			-414
105-4	105.00	84.0			-415
110-4	110.00	89.0			-417
115-4	115.00	94.0			-418
120-4	120.00	99.0			-420
125-4	125.00	104.0			-421
130-4	130.00	109.0			-423
135-4	135.00	114.0			-425
140-4	140.00	119.0			-426
145-4	145.00	124.0			-427
150-4	150.00	129.0			-429
160-4	160.00	139.0			-432
165-4	165.00	144.0			-434
170-4	170.00	149.0			-436
175-4	175.00	154.0			-437
180-4	180.00	159.0			-438
190-4	190.00	169.0			-439
200-4	200.00	179.0			-441
210-4	210.00	189.0			-442
220-4	220.00	199.0			-444
230-4	230.00	209.0			-445
240-4	240.00	219.0			-446
250-4	250.00	229.0			-447
260-4	260.00	239.0			-447
280-4	280.00	259.0			-449
290-4	290.00	269.0			-450
300-4	300.00	279.0			-451
310-4	310.00	289.0			-451
350-4HD	350.00	325.5			-454
400-4HD	400.00	375.5			-458
450-4HD	450.00	425.5			-462
500-4HD	500.00	475.5			-466

T-LON® "RPM" Series Metric Piston Seal



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

Groove Dimensions for "RPMS" Series

Size	Bore Dia. (C)	T O L	Groove Dimension				O-ring Loader No.
			Dia. (A)	T O L	Width +.20 -.00 (B)	R_{Max}	
008-0	8.0	+.05 -.00	3.1	+.00 -.05	2.2	0.5	-006
009-0	9.0		4.1				-007
010-0	10.0		5.1				-008
012-0	12.0		7.1				-010
013-0	13.0		8.1				-011
014-0	14.0		9.1				-012
015-1	15.0	+.05 -.00	7.7	+.00 -.08	3.2		-109
018-1	18.0		10.7				-111
020-1	20.0		12.7				-112
025-1	25.0		17.7				-115
030-1	30.0		22.7				-118
035-1	35.0		27.7				-121
040-2	40.0	+.08 -.00	29.3	+.00 -.08	4.2		-216
050-2	50.0		39.3				-222
060-2	60.0		49.3				-225
070-2	70.0		59.3				-228
075-2	75.0		64.3				-230

Size	Bore Dia. (C)	T O L	Groove Dimension				O-ring Loader No.
			Dia. (A)	T O L	Width +.20 -.00 (B)	R_{Max}	
080-3	80.0	+.10 -.00	64.9	+.00 -.10	6.3	0.9	-333
090-3	90.0		74.9				-336
100-3	100.0		84.9				-339
110-3	110.0		94.9				-343
115-3	115.0		99.9				-344
120-3	120.0		104.9				-346
125-3	125.0		109.9				-347
130-3	130.0		114.9				-349
135-4	135.0	+.13 -.00	114.5	+.00 -.13	8.1		-425
140-4	140.0		119.5				-426
180-4	180.0		159.5				-438
250-4	250.0		229.5				-447
320-4	320.0		299.5				-452
350-4HD	350.0		326.0				-454
400-4HD	400.0		376.0				-458
450-4HD	450.0		426.0				-462
500-4HD	500.0		476.0				-466