

Piston Seals

Technical details

Operating conditions

Maximum Speed	0.5 m/sec
Temperature Range	-30°C + 100°C
Maximum Pressure	350 bar

Inch

1.5 ft/sec
-22°F + 212°F
6000 p.s.i.

Surface roughness

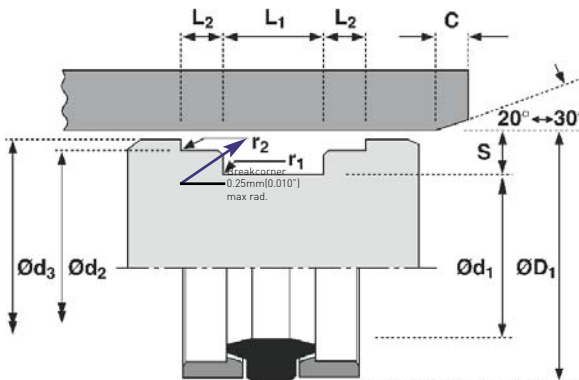
	µmRa	µmRt	µinCLA	µinRMS
Dynamic Sealing Face $\varnothing D_1$	0.1 <> 0.4	4 max	4 <> 16	5 <> 18
Static Sealing Face $\varnothing d_1$ $\varnothing d_2$	1.6 max	10 max	63 max	70 max
Static Housing Faces $\varnothing d_3$ L_1 L_2	3.2 max	16 max	125 max	140 max

Chamfers & Radii

	Metric	Metric	Inch
Groove Section $\leq S$ mm	3.75	5.00	6.50
Min Chamfer C mm	2.00	2.50	4.00
Max Fillet Rad r_1 mm	0.40	0.40	0.40
Max Fillet Rad r_2 mm	0.20	0.20	0.20
Groove Section $\leq S$ in	0.156	0.187	0.250
Min Chamfer C in	0.078	0.093	0.125
Max Fillet Rad r_1 in	0.016	0.016	0.016
Max Fillet Rad r_2 in	0.008	0.008	0.008

Tolerances

	$\varnothing D_1$	$\varnothing d_1$	$\varnothing d_2$	$\varnothing d_3$	L_1	L_2
mm	H10	h9	h9	h11	+0.4 +0.13	0 -0.13
in	H10	h9	h9	h11	+0.015 +0.005	0 -0.005



Design

Ideal for light to medium duty one piece piston applications, the Hallite 77 seal is a simple, effective and economical design. Its compact dimensions enable the designer to keep the length of the piston to a minimum.

It is an assembly of a continuous rubber seal and two scarf cut bearings.

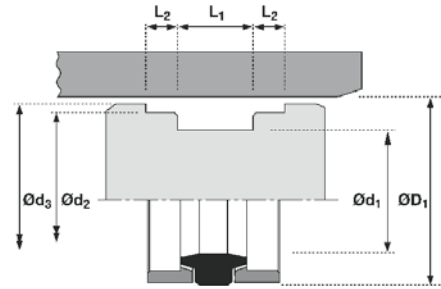
The nitrile rubber seal is designed to be pre-loaded by the housing to ensure an effective seal at low pressure. The outward thrust of the rubber seal on the bearings as it reacts to increasing pressure prevents any extrusion damage in the sealing area.

The pair of polyacetal bearings are proportioned to support the piston and its side load.

Features

- Compact design
- Easy assembly
- Low wear
- Long life

77



metric

ØD ₁	TOL H10	Ød ₁	TOL h9	Ød ₂	TOL h9	Ød ₃	TOL h11	L ₁ + 0.4 + 0.13	L ₂ 0 - 0.13	PART No.
25	+0.08 +0.00	17.5	+0.00 -0.04	21.3	+0.000 -0.052	24.0	+0.00 -0.13	8.50	3.25	6111410
40	+0.10 +0.00	30	+0.00 -0.05	35.5	+0.000 -0.062	39.0	+0.00 -0.16	11.00	4.00	6111210
50	+0.10 +0.00	40	+0.00 -0.06	45.5	+0.000 -0.062	49.0	+0.00 -0.16	11.00	4.00	2326110
60	+0.10 +0.00	48	+0.00 -0.06	55.9	+0.000 -0.062	59.2	+0.00 -0.16	20.50	4.30	2326210
63	+0.12 +0.00	53	+0.00 -0.07	58.5	+0.000 -0.074	61.5	+0.00 -0.19	11.00	4.00	2325810
80	+0.12 +0.00	70	+0.00 -0.07	75.5	+0.000 -0.074	78.5	+0.00 -0.19	11.00	4.00	2325710
100	+0.14 +0.00	87	+0.00 -0.09	93.8	+0.000 -0.087	98.5	+0.00 -0.22	14.00	6.00	2326010
125	+0.16 +0.00	112	+0.00 -0.09	118.8	+0.000 -0.087	123.5	+0.00 -0.25	14.00	6.00	2325910

inch

ØD ₁	TOL H10	Ød ₁	TOL h9	Ød ₂	TOL h9	Ød ₃	TOL h11	L ₁ + 0.015 + 0.005	L ₂ 0 - 0.005	PART No.
1.250	+0.004 +0.000	0.937	+0.000 -0.002	1.079	+0.000 -0.002	1.187	+0.000 -0.005	0.343	0.125	6567790
2.375	+0.005 +0.000	2.000	+0.000 -0.003	2.200	+0.000 -0.003	2.312	+0.00 -0.005	0.437	0.150	6918060
2.500	+0.005 +0.000	2.125	+0.000 -0.003	2.325	+0.000 -0.003	2.437	+0.000 -0.005	0.437	0.150	2360210
3.250	+0.005 +0.000	2.875	+0.000 -0.003	3.270	+0.000 -0.004	3.437	+0.000 -0.005	0.437	0.150	2360310