

Piston Seals

Technical details

Operating conditions

Maximum Speed	0.5 m/sec
Temperature Range	-30°C +100°C
Maximum Pressure	500 bar

Inch

1.5 ft/sec
-22°F +212°F
7500 p.s.i.

Surface roughness

	µmRa	µmRt
Dynamic Sealing Face $\varnothing D_1$	0.1 <-> 0.4	4 max
Static Sealing Face $\varnothing d_1$ $\varnothing d_2$	1.6 max	10 max
Static Housing Faces $\varnothing d_3$ L ₁ L ₂	3.2 max	16 max

µinCLA	µinRMS
4 <-> 16	5 <-> 18
63 max	70 max
125 max	140 max

Chamfers & Radii

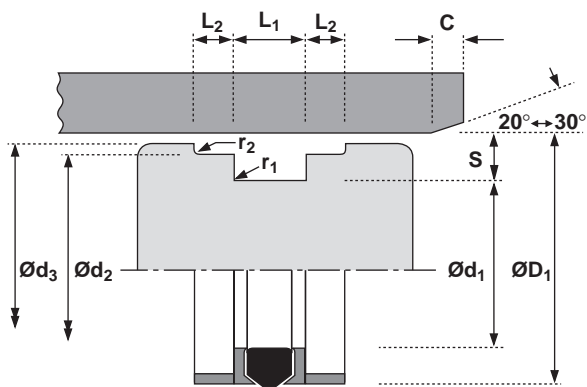
Groove Section $\leq S$ mm	5.0	7.5	10.0	12.5	15.0
Min Chamfer C mm	2.5	4.0	5.0	6.5	7.5
Max Fillet Rad r ₁ mm	0.4	0.4	0.4	0.8	0.8
Max Fillet Rad r ₂ mm	0.4	0.4	0.4	0.8	0.8

Tolerances

	$\varnothing D_1$	$\varnothing d_1$	$\varnothing d_2$	$\varnothing d_3$	L ₁	L ₂
mm	H10	h9	h9	h11	+0.35 +0.1	+0.1 -0



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Design

A robust seal assembly designed specifically for one piece pistons, the Hallite 68 double acting seal uses a rubber sealing element which has proved itself in service to be extremely wear resistant and capable of working most effectively in a wide variety of medium to heavy duty applications. The seal is also suitable for two piece pistons.

The assembly comprises a rubber seal, two split support rings and two split bearings, one of each located either side of the seal. The nitrile rubber seal is designed to have its section compressed by the housing, to ensure a low pressure seal, and when pressurised be protected from extrusion damage by the extending lips of the support ring. The support ring is manufactured from a tough but flexible polymer and scarf cut for assembly.

Polyacetal rectangular section bearings provide the support and guidance for the piston and the other parts of the seal.

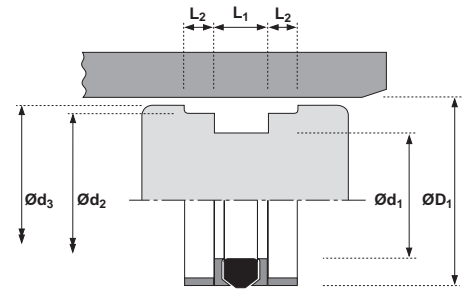
NB: All sizes are suitable for the larger radial section housings to ISO 6547 and are suffixed ‡

Other sizes of this design of seal are shown under Hallite 50, 53 and 64.

Features

- ISO 6547 Housing
- Compact groove design
- Positive no drift seal

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ØD1	TOL H10	Ød1	TOL h9	Ød2	TOL h9	Ød3	TOL h11	L1 + 0.35 + 0.1	L2 + 0.1 - 0	PART No.
25	+0.08 +0.00	15	+0.00 -0.04	22.0	+0.000 -0.052	24.0	+0.00 -0.13	12.50	4.0	6594610‡
32	+0.10 +0.00	22	+0.00 -0.05	29.0	+0.000 -0.052	31.0	+0.00 -0.16	12.50	4.0	2249320‡
40	+0.10 +0.00	30	+0.00 -0.05	37.0	+0.000 -0.062	39.0	+0.00 -0.16	12.50	4.0	2249420‡
50	+0.10 +0.00	35	+0.00 -0.06	46.0	+0.000 -0.062	48.5	+0.00 -0.16	20.00	5.0	0074020‡
63	+0.12 +0.00	48	+0.00 -0.06	59.0	+0.000 -0.074	61.5	+0.00 -0.19	20.00	5.0	6594710‡
80	+0.12 +0.00	60	+0.00 -0.07	75.0	+0.000 -0.074	78.0	+0.00 -0.19	25.00	6.3	0073830‡
100	+0.14 +0.00	80	+0.00 -0.07	95.0	+0.000 -0.087	98.0	+0.00 -0.22	25.00	6.3	0083620‡
125	+0.16 +0.00	100	+0.00 -0.09	119.0	+0.000 -0.087	123.0	+0.00 -0.25	32.00	10.0	0087540‡
160	+0.16 +0.00	135	+0.00 -0.10	154.0	+0.000 -0.100	158.0	+0.00 -0.25	32.00	10.0	0089930‡
200	+0.19 +0.00	170	+0.00 -0.10	192.0	+0.000 -0.115	197.0	+0.00 -0.29	36.00	12.5	1270120‡
250	+0.19 +0.00	220	+0.00 -0.12	242.0	+0.000 -0.115	247.0	+0.00 -0.29	36.00	12.5	1264320‡