

Design

Ideal for light duty one piece piston applications, the Hallite 65 double acting seal is a simple, effective and economical design for pressures up to 160 bar/2500 p.s.i. Its compact dimensions enable the designer to keep the length of the piston to a minimum.

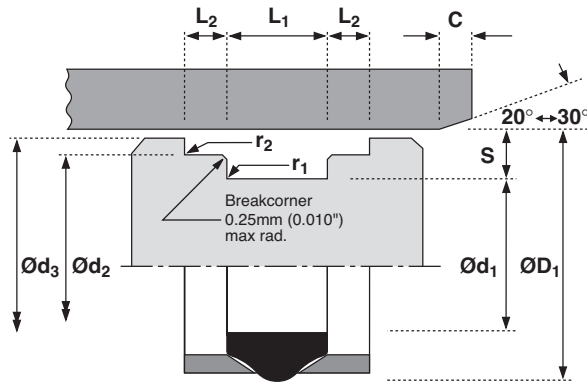
It is an assembly of a continuous rubber seal and two scarf cut bearings.

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

Features

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



Technical details

Operating conditions

Maximum Speed	0.5 m/sec
Temperature Range	-30°C +100°C
Maximum Pressure	160 bar

Inch

1.5 ft/sec
-22°F +212°F
2500 p.s.i.

Surface roughness

	μmRa	μmRt
Dynamic Sealing Face ØD_1	0.1 < > 0.4	4 max
Static Sealing Face Ød_1 Ød_2	1.6 max	10 max
Static Housing Faces Ød_3 L_1 L_2	3.2 max	16 max

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

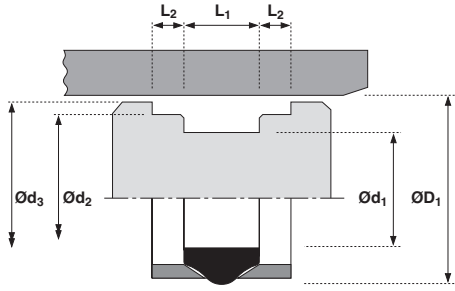
Chamfers & Radii

	3.75	5.00	6.50	8.00	10.00
Groove Section $\leq S$ mm					
Min Chamfer C mm	2.00	2.50	4.00	5.00	5.00
Max Fillet Rad r_1 mm	0.40	0.40	0.40	0.80	0.80
Max Fillet Rad r_2 mm	0.20	0.20	0.20	0.40	0.40
Groove Section $\leq S$ in	0.156	0.187	0.250	0.312	0.375
Min Chamfer C in	0.078	0.093	0.125	0.156	0.187
Max Fillet Rad r_1 in	0.016	0.016	0.016	0.032	0.032
Max Fillet Rad r_2 in	0.008	0.008	0.008	0.016	0.016

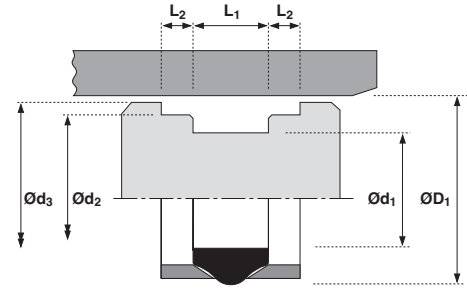
Tolerances

	ØD_1	Ød_1	Ød_2	Ød_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





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	2218210
32	+0.10 +0.00	22	+0.00 -0.05	27.5	+0.000 -0.052	31.0	+0.00 -0.16	11.00	4.00	2218110
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	2218010
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	2217910
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	2217810
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	2217610
92	+0.14 +0.00	82	+0.00 -0.09	87.5	+0.000 -0.087	90.5	+0.00 -0.22	11.00	4.00	2240410
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	0352510
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	0315810
140	+0.16 +0.00	124	+0.00 -0.10	132.0	+0.000 -0.100	138.5	+0.00 -0.25	17.50	8.75	0317710
160	+0.16 +0.00	140	+0.00 -0.10	151.4	+0.000 -0.100	158.5	+0.00 -0.25	25.00	12.50	0315910
180	+0.16 +0.00	160	+0.00 -0.10	171.4	+0.000 -0.100	178.5	+0.00 -0.25	25.00	12.50	0316010
200	+0.19 +0.00	180	+0.00 -0.10	191.4	+0.000 -0.115	198.5	+0.00 -0.29	25.00	12.50	0316910



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.
1.000	+0.003 +0.000	0.687	+0.000 -0.002	0.829	+0.000 -0.002	0.937	+0.000 -0.005	0.343	0.125	2221210
1.250	+0.004 +0.000	0.937	+0.000 -0.002	1.079	+0.000 -0.002	1.187	+0.000 -0.006	0.343	0.125	2221310
1.500	+0.004 +0.000	1.125	+0.000 -0.002	1.324	+0.000 -0.002	1.437	+0.000 -0.006	0.437	0.150	2219610
1.750	+0.004 +0.000	1.375	+0.000 -0.002	1.574	+0.000 -0.002	1.687	+0.000 -0.006	0.437	0.150	2220910
2.000	+0.005 +0.000	1.625	+0.000 -0.002	1.824	+0.000 -0.002	1.937	+0.000 -0.006	0.437	0.150	2224010
2.250	+0.005 +0.000	1.875	+0.000 -0.002	2.075	+0.000 -0.003	2.187	+0.000 -0.007	0.437	0.150	2221110
2.500	+0.005 +0.000	2.125	+0.000 -0.003	2.325	+0.000 -0.003	2.437	+0.000 -0.007	0.437	0.150	2224110
2.750	+0.005 +0.000	2.375	+0.000 -0.003	2.575	+0.000 -0.003	2.687	+0.000 -0.007	0.437	0.150	2219510
2.875	+0.005 +0.000	2.500	+0.000 -0.003	2.700	+0.000 -0.003	2.812	+0.000 -0.007	0.437	0.150	2225210
3.000	+0.005 +0.000	2.625	+0.000 -0.003	2.825	+0.000 -0.003	2.937	+0.000 -0.007	0.437	0.150	2224210
3.250	+0.006 +0.000	2.875	+0.000 -0.003	3.075	+0.000 -0.003	3.187	+0.000 -0.009	0.437	0.150	2219710
3.500	+0.006 +0.000	3.000	+0.000 -0.003	3.270	+0.000 -0.003	3.437	+0.000 -0.009	0.562	0.210	0177610
3.750	+0.006 +0.000	3.250	+0.000 -0.003	3.520	+0.000 -0.003	3.687	+0.000 -0.009	0.562	0.210	0178810
4.000	+0.006 +0.000	3.500	+0.000 -0.003	3.770	+0.000 -0.003	3.937	+0.000 -0.009	0.562	0.210	1172310
4.250	+0.006 +0.000	3.750	+0.000 -0.003	4.020	+0.000 -0.003	4.187	+0.000 -0.009	0.562	0.210	0309210
4.500	+0.006 +0.000	4.000	+0.000 -0.003	4.270	+0.000 -0.003	4.437	+0.000 -0.009	0.562	0.210	0418910
4.750	+0.006 +0.000	4.250	+0.000 -0.003	4.520	+0.000 -0.003	4.687	+0.000 -0.009	0.562	0.210	1155810
5.000	+0.006 +0.000	4.375	+0.000 -0.003	4.689	+0.000 -0.003	4.937	+0.000 -0.010	0.687	0.344	1175410
5.250	+0.006 +0.000	4.625	+0.000 -0.003	4.938	+0.000 -0.004	5.187	+0.000 -0.010	0.687	0.344	1173710
5.500	+0.006 +0.000	4.875	+0.000 -0.004	5.188	+0.000 -0.004	5.437	+0.000 -0.010	0.687	0.344	1173610
6.000	+0.006 +0.000	5.250	+0.000 -0.004	5.712	+0.000 -0.004	5.937	+0.000 -0.010	1.000	0.500	0300110
6.500	+0.006 +0.000	5.750	+0.000 -0.004	6.212	+0.000 -0.004	6.437	+0.000 -0.010	1.000	0.500	0047010
7.000	+0.006 +0.000	6.250	+0.000 -0.004	6.712	+0.000 -0.004	6.937	+0.000 -0.010	1.000	0.500	0314110
8.000	+0.007 +0.000	7.250	+0.000 -0.005	7.712	+0.000 -0.005	7.937	+0.000 -0.011	1.000	0.500	0045110
9.000	+0.007 +0.000	8.250	+0.000 -0.005	8.712	+0.000 -0.005	8.937	+0.000 -0.011	1.000	0.500	0045510