

Technical details

Metric

Inch

Operating conditions

Maximum Speed 4.0 m/sec
 Temperature Range -30°C + 100°C
 Maximum Pressure 300 bar

12.0 ft/sec
 -22°F + 212°F
 4500 p.s.i.

Maximum extrusion gap

Figures show the maximum permissible gap all on one side using minimum rod \varnothing and maximum clearance \varnothing .

Pressure bar	100	150	250	300
Maximum Gap mm	0.6	0.5	0.45	0.4
Pressure p.s.i.	1500	2400	3750	4500

Surface roughness

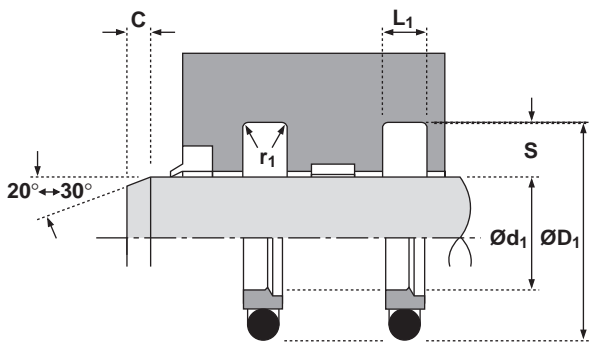
	μmRa	μmRt	μinCLA	μinRMS
Dynamic Sealing Face $\varnothing d_1$	0.1 <> 0.4	4 max	4 <> 16	5 <> 18
Static Sealing Face $\varnothing D_1$	1.6 max	10 max	63 max	70 max
Static Housing Faces L_1	3.2 max	16 max	125 max	140 max

Chamfers & Radii

Groove Section $\leq S$ mm	3.75	5.50	7.75	10.50	12.25
Min Chamfer C mm	2.0	3.0	5.0	7.5	8.0
Max Fillet Rad r_1 mm	0.4	0.8	1.2	1.6	1.6

Tolerances

$\varnothing d_1$	$\varnothing D_1$	L_1 mm
f9	H11	+0.2 -0



Design

Used in tandem, the Hallite 16 rod seal provides the designer with a compact low friction seal for light to medium duty hydraulic cylinders.

It has a special filled PTFE ring with a pre-loaded lip energised by an O ring. The lip is designed to have a contact area with the rod adequate to retain the media at low pressure. As high pressure acts on the O ring it compresses the lip against the rod increasing the contact area and the effectiveness of the seal.

The special PTFE ring has the low frictional properties normally associated with this material but is strengthened by additives to reduce creep. It has a low breakout friction so stick-slip is eliminated.

Standard seals are supplied with a nitrile O ring but other materials can be provided.

For the best results it is recommended two seals are fitted. The PTFE ring should always be mounted with the sealing lip on the pressure side. Sizes above 30mm are easily installed by deforming the PTFE ring into a kidney shape, sizes under 30mm are best installed using a tool, details of which can be provided.

A number of material options can be provided to extend operating conditions. Please ensure that the correct part number is specified for the material option as indicated.

NB: Part numbers suffixed by “‡” indicate housing sizes to meet ISO7425-2.

Features

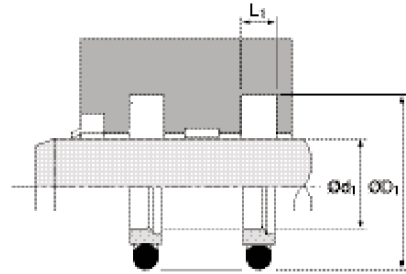
- Ultra low friction
- Compact housing
- Inch sizes available on request
- The seal ring component is machined by Hallite, therefore any size can be catered for

Materials

Face material - O-Ring	last two digits of part number
Standard material	
15% Glass/PTFE - NBR	----- 10
Material options:	
15% Glass/PTFE - FKM	----- 11
Bronze/PTFE - NBR	----- 20
Bronze/PTFE - FKM	----- 21

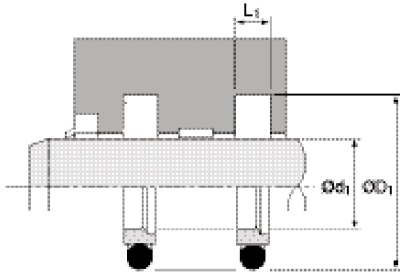
Technical details shown are for 15% Glass/PTFE and NBR energiser. Technical details for material options should be requested from Hallite Seals.

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$\varnothing d_1$	TOL f9	$\varnothing D_1$	TOL H11	L_1 +0.2-0	PART No.
12	-0.016 -0.059	19.5	+0.13 +0.00	3.2	86106_+_‡
14	-0.016 -0.059	21.5	+0.13 +0.00	3.2	86098_+_‡
15	-0.016 -0.059	22.5	+0.13 +0.00	3.2	86179__
16	-0.016 -0.059	23.5	+0.13 +0.00	3.2	66225_+_‡
18	-0.016 -0.059	25.5	+0.13 +0.00	3.2	66226_+_‡
20	-0.020 -0.072	31.0	+0.16 +0.00	4.2	65948_+_‡
22	-0.020 -0.072	33.0	+0.16 +0.00	4.2	65949_+_‡
25	-0.020 -0.072	36.0	+0.16 +0.00	4.2	65950_+_‡
28	-0.020 -0.072	39.0	+0.16 +0.00	4.2	66227_+_‡
30	-0.020 -0.072	41.0	+0.16 +0.00	4.2	65951__
32	-0.025 -0.087	43.0	+0.16 +0.00	4.2	65952_+_‡
35	-0.025 -0.087	46.0	+0.16 +0.00	4.2	66228__
36	-0.025 -0.087	47.0	+0.16 +0.00	4.2	65953_+_‡
40	-0.025 -0.087	55.5	+0.19 +0.00	6.3	65954__
43	-0.025 -0.087	58.5	+0.19 +0.00	6.3	86075__
45	-0.025 -0.087	60.5	+0.19 +0.00	6.3	65955__
50	-0.025 -0.087	65.5	+0.19 +0.00	6.3	65956__
56	-0.030 -0.104	71.5	+0.19 +0.00	6.3	65957__
60	-0.030 -0.104	75.5	+0.19 +0.00	6.3	65958__
63	-0.030 -0.104	78.5	+0.19 +0.00	6.3	65959_+_‡

$\varnothing d_1$	TOL f9	$\varnothing D_1$	TOL H11	L_1 +0.2-0	PART No.
65	-0.030 -0.104	80.5	+0.22 +0.00	6.3	65960__
70	-0.030 -0.104	85.5	+0.22 +0.00	6.3	65961_+_‡
75	-0.030 -0.104	90.5	+0.22 +0.00	6.3	65962__
78	-0.030 -0.104	93.5	+0.22 +0.00	6.3	86112__
80	-0.030 -0.104	95.5	+0.22 +0.00	6.3	65963_+_‡
85	-0.036 -0.123	100.5	+0.22 +0.00	6.3	65964__
90	-0.036 -0.123	105.5	+0.22 +0.00	6.3	65965_+_‡
95	-0.036 -0.123	110.5	+0.22 +0.00	6.3	65966__
97	-0.036 -0.123	112.5	+0.22 +0.00	6.3	86113__
100	-0.036 -0.123	115.5	+0.22 +0.00	6.3	65967_+_‡
105	-0.036 -0.123	120.5	+0.25 +0.00	6.3	86478__
110	-0.036 -0.123	125.5	+0.25 +0.00	6.3	66229_+_‡
115	-0.036 -0.123	130.5	+0.25 +0.00	6.3	66391__
120	-0.043 -0.143	135.5	+0.25 +0.00	6.3	86099__
125	-0.043 -0.143	140.5	+0.25 +0.00	6.3	66392_+_‡
130	-0.043 -0.143	145.5	+0.25 +0.00	6.3	86102__
135	-0.043 -0.143	150.5	+0.25 +0.00	6.3	86103__
140	-0.043 -0.143	155.5	+0.25 +0.00	6.3	66393_+_‡
145	-0.043 -0.143	160.5	+0.25 +0.00	6.3	86156__
150	-0.043 -0.143	165.5	+0.25 +0.00	6.3	86157__



Ød ₁	TOL f9	ØD ₁	TOL H11	L ₁ +0.2-0	PART No.
160	-0.043 -0.143	175.5	+0.25 +0.00	6.3	66394_ _ ‡
170	-0.043 -0.143	185.5	+0.25 +0.00	6.3	86083_ _
180	-0.043 -0.143	195.5	+0.29 +0.00	6.3	66395_ _ ‡
190	-0.050 -0.165	205.5	+0.29 +0.00	6.3	86074_ _
200	-0.050 -0.165	221.0	+0.29 +0.00	8.1	66396_ _ ‡
210	-0.050 -0.165	231.0	+0.29 +0.00	8.1	86094_ _
220	-0.050 -0.165	241.0	+0.29 +0.00	8.1	66397_ _ ‡
240	-0.050 -0.165	261.0	+0.29 +0.00	8.1	86159_ _
250	-0.050 -0.165	271.0	+0.32 +0.00	8.1	66398_ _ ‡
270	-0.056 -0.186	294.5	+0.32 +0.00	8.1	86069_ _
280	-0.056 -0.186	304.5	+0.32 +0.00	8.1	66399_ _ ‡

Ød ₁	TOL f9	ØD ₁	TOL H11	L ₁ +0.2-0	PART No.
290	-0.056 -0.186	314.5	+0.32 +0.00	8.1	86173_ _
300	-0.056 -0.186	324.5	+0.36 +0.00	8.1	66400_ _
320	-0.062 -0.211	344.5	+0.36 +0.00	8.1	86082_ _ ‡
330	-0.062 -0.211	354.5	+0.36 +0.00	8.1	86196_ _
340	-0.062 -0.211	364.5	+0.36 +0.00	8.1	86197_ _
350	-0.062 -0.211	374.5	+0.36 +0.00	8.1	86198_ _
360	-0.062 -0.211	384.5	+0.36 +0.00	8.1	86199_ _ ‡
370	-0.062 -0.211	394.5	+0.36 +0.00	8.1	86200_ _
380	-0.062 -0.211	404.5	+0.40 +0.00	8.1	86201_ _
390	-0.062 -0.211	414.5	+0.40 +0.00	8.1	86202_ _
400	-0.062 -0.211	424.5	+0.40 +0.00	8.1	86203_ _