Hallite

735

Design

Hallite 735 is a compact double acting piston seal assembly designed for one piece pistons and is suitable for low to high pressure, medium to heavy duty applications. The assembly comprises as standard a self lubricating wear resistant bronze filled or glass / MoS2 filled PTFE cap ring, which is loaded by a NBR energiser. Thermoplastic split anti-extrusion rings support the seal on both sides and prevent contamination of the the energiser and cap ring.

Hallite's 735 piston seal is designed to be used in a variety of equipment and is particularly suited to use in earthmoving and other off-highway equipment.

The range consists of seals to suit popular North American and Asian housings.

For information about other material options available, please contact your local Hallite Seals office.

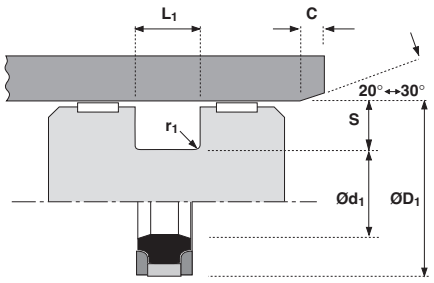
Features

- Heavy duty
- High pressure capability
- PTFE cap ring
- Compact design
- Low friction
- Long life
- Range of material options to extend service temperature range

Material

Material options (cap ring):
PTFE, 40% Bronze
_ _ _ _ _ _0

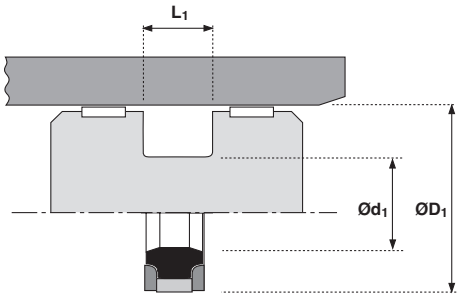
PTFE, 15% Glass 5% MoS2
_ _ _ _ _ _1



Technical details

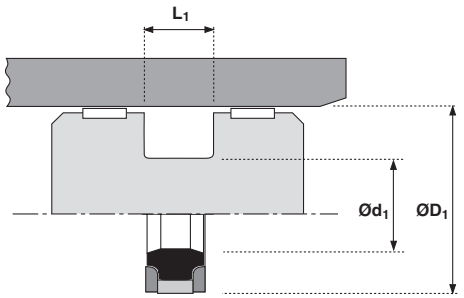
	Metric		Inch	
Operating conditions				
Maximum Speed	1.5 m/sec		4.5 ft/sec	
Temperature Range	-40°C +120°C		-40°F +250°F	
Maximum Pressure	500 bar		7500 p.s.i.	
Maximum extrusion gap	**Figures show the maximum permissible gap all on one side using minimum rod Ø and maximum clearance Ø. Refer to Housing Design section.**			
Pressure bar	160	250	400	500
Maximum Gap mm	1.0	0.8	0.6	0.5
Pressure p.s.i.	2400	3750	6000	7500
Maximum Gap in	0.040	0.030	0.024	0.020
Surface roughness	**µmRa**	**µmRt**	**µinCLA**	**µinRMS**
Dynamic Sealing Face $ØD_1$	0.1 < > 0.4	4 max	4 < > 16	5 < > 18
Static Sealing Face $Ød_1$	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 ≤ S mm	7.0	7.5	11.5	14.0
Min Chamfer C mm	4.0	5.0	7.0	8.0
Max Fillet Rad r_1 mm	0.8	0.8	0.8	0.8
Groove Section ≤ S in	0.187	0.240	0.365	0.470
Min Chamfer C in	0.160	0.200	0.250	0.280
Max Fillet Rad r_1 in	0.016	0.016	0.032	0.032
Tolerances	**$ØD_1$**	**$Ød_1$**	**L_1**	
mm	H9	+0 -0.2	+0.2 -0	
in	H9	*see below	+0.01 -0	
$ØD_1$ in	≤ 3.000	≤ 4.500	> 4.500	
$Ød_1$ Tol	+0 – 0.002	+0 – 0.003	+0 – 0.004	

piston seals



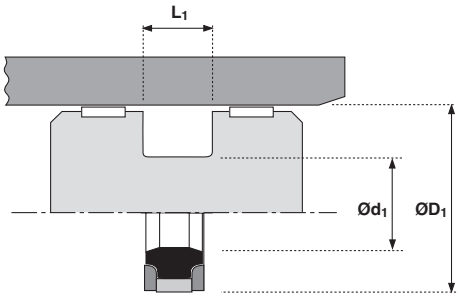
ØD1 H9	TOL +0.0 -0.2	Ød1	L1 +0.2 -0 .0	PART No.
50	+0.06 +0.00	36	9.0	715100_†
60	+0.07 +0.00	46	9.0	715150_†
63	+0.07 +0.00	48	11.0	715200_†
65	+0.07 +0.00	50	11.0	715250_†
70	+0.07 +0.00	55	11.0	715300_†
75	+0.07 +0.00	60	11.0	715350_†
80	+0.07 +0.00	65	11.0	715400_†
85	+0.09 +0.00	70	11.0	715450_†
90	+0.09 +0.00	75	11.0	715500_†
95	+0.09 +0.00	80	11.0	715550_†
100	+0.09 +0.00	85	12.5	715600_†
105	+0.09 +0.00	90	12.5	715650_†
110	+0.09 +0.00	95	12.5	715700_†
115	+0.09 +0.00	100	12.5	715750_†
120	+0.09 +0.00	105	12.5	715800_†
125	+0.10 +0.00	102	16.0	715850_†
130	+0.10 +0.00	107	16.0	715900_†
135	+0.10 +0.00	112	16.0	715950_†
140	+0.10 +0.00	117	16.0	716000_†
145	+0.10 +0.00	122	16.0	716050_†
150	+0.10 +0.00	127	16.0	716100_†
160	+0.10 +0.00	137	16.0	716150_†
165	+0.10 +0.00	142	16.0	716200_†

ØD1 H9	TOL +0.0 -0.2	Ød1	L1 +0.2 -0 .0	PART No.
170	+0.10 +0.00	147	16.0	716250_†
175	+0.10 +0.00	152	16.0	716280_†
180	+0.10 +0.00	157	16.0	716300_†
185	+0.12 +0.00	162	16.0	716350_†
190	+0.12 +0.00	167	16.0	716400_†
200	+0.12 +0.00	177	16.0	716450_†
210	+0.12 +0.00	187	16.0	716500_†
215	+0.12 +0.00	192	16.0	716530_†
220	+0.12 +0.00	197	16.0	716550_†
225	+0.12 +0.00	202	16.0	716600_†
230	+0.12 +0.00	207	16.0	716650_†
240	+0.12 +0.00	217	16.0	716700_†
250	+0.12 +0.00	222	17.5	716750_†
260	+0.13 +0.00	232	17.5	716800_†
270	+0.13 +0.00	242	17.5	716820_†
280	+0.13 +0.00	252	17.5	716840_†
290	+0.13 +0.00	262	17.5	716850_
300	+0.13 +0.00	272	17.5	716870_†
320	+0.13 +0.00	292	17.5	716890_†
330	+0.13 +0.00	302	17.5	716910_
350	+0.14 +0.00	322	17.5	716950_
400	+0.14 +0.00	372	17.5	716990_



ØD1 H9	TOL	Ød1	TOL	L1 +0.010 -0	PART No.
1.500	+0.002 -0.000	1.127	+0.000 -0.002	0.424	710020_
1.750	+0.002 -0.000	1.377	+0.000 -0.002	0.424	710030_
2.000	+0.002 -0.000	1.627	+0.000 -0.002	0.424	710050_
2.250	+0.002 -0.000	1.877	+0.000 -0.002	0.424	710060_
2.500	+0.002 -0.000	2.127	+0.000 -0.002	0.424	710070_
2.750	+0.002 -0.000	2.377	+0.000 -0.002	0.424	710080_
3.000	+0.003 -0.000	2.522	+0.000 -0.002	0.579	710100_
3.250	+0.003 -0.000	2.772	+0.000 -0.003	0.579	710150_
3.500	+0.003 -0.000	3.022	+0.000 -0.003	0.579	710200_
3.750	+0.003 -0.000	3.272	+0.000 -0.003	0.579	710250_
4.000	+0.003 -0.000	3.522	+0.000 -0.003	0.579	710300_
4.250	+0.003 -0.000	3.772	+0.000 -0.003	0.579	710350_
4.500	+0.003 -0.000	3.909	+0.000 -0.003	0.492	710390_
4.500	+0.003 -0.000	4.022	+0.000 -0.003	0.579	710400_
4.750	+0.004 -0.000	4.159	+0.000 -0.004	0.492	710420_
4.750	+0.004 -0.000	4.272	+0.000 -0.004	0.579	710430_
5.000	+0.004 -0.000	4.094	+0.000 -0.004	0.630	710440_
5.000	+0.004 -0.000	4.274	+0.000 -0.004	0.750	710450_
5.250	+0.004 -0.000	4.524	+0.000 -0.004	0.750	710500_
5.500	+0.004 -0.000	4.594	+0.000 -0.004	0.630	710540_
5.500	+0.004 -0.000	4.774	+0.000 -0.004	0.750	710550_
5.500	+0.004 -0.000	5.022	+0.000 -0.004	0.579	710600_
6.000	+0.004 -0.000	5.094	+0.000 -0.004	0.630	710640_

ØD1 H9	TOL	Ød1	TOL	L1 +0.010 -0	PART No.
6.000	+0.004 -0.000	5.274	+0.000 -0.004	0.750	710650_
6.250	+0.004 -0.000	5.344	+0.000 -0.004	0.630	710680_
6.250	+0.004 -0.000	5.772	+0.000 -0.004	0.579	710690_
6.250	+0.004 -0.000	5.524	+0.000 -0.004	0.750	710700_
6.500	+0.004 -0.000	5.594	+0.000 -0.004	0.630	710740_
6.500	+0.004 -0.000	5.774	+0.000 -0.004	0.750	710750_
6.500	+0.004 -0.000	6.022	+0.000 -0.004	0.579	710800_
7.000	+0.004 -0.000	6.094	+0.000 -0.004	0.630	710840_
7.000	+0.004 -0.000	6.274	+0.000 -0.004	0.750	710850_
7.250	+0.005 -0.000	6.344	+0.000 -0.004	0.630	710860_
7.500	+0.005 -0.000	6.594	+0.000 -0.004	0.630	710890_
7.500	+0.005 -0.000	6.774	+0.000 -0.004	0.750	710900_
7.750	+0.005 -0.000	6.844	+0.000 -0.004	0.630	710920_
8.000	+0.005 -0.000	7.274	+0.000 -0.004	0.750	710950_
8.250	+0.005 -0.000	7.524	+0.000 -0.004	0.750	710980_
8.250	+0.005 -0.000	7.344	+0.000 -0.004	0.630	710970_
8.500	+0.005 -0.000	7.594	+0.000 -0.004	0.630	710990_
8.500	+0.005 -0.000	7.774	+0.000 -0.004	0.750	711000_
9.000	+0.005 -0.000	8.274	+0.000 -0.004	0.750	711050_
10.000	+0.005 -0.000	8.898	+0.000 -0.004	0.687	711090_
10.000	+0.005 -0.000	9.275	+0.000 -0.004	0.750	711100_
10.500	+0.005 -0.000	9.398	+0.000 -0.004	0.687	711120_
11.000	+0.005 -0.000	10.275	+0.000 -0.004	0.750	711150_



ØD1 H9	TOL	Ød1	TOL	L1 +0.010 -0	PART No.
11.500	+0.005 -0.000	10.398	+0.000 -0.004	0.687	711170_
12.000	+0.005 -0.000	11.275	+0.000 -0.004	0.750	711200_
12.500	+0.005 -0.000	11.775	+0.000 -0.004	0.750	711220_
13.000	+0.005 -0.000	12.275	+0.000 -0.004	0.750	711240_
14.000	+0.006 -0.000	12.898	+0.000 -0.004	0.687	711270_

ØD1 H9	TOL	Ød1	TOL	L1 +0.010 -0	PART No.
14.000	+0.005 -0.000	13.275	+0.000 -0.004	0.750	711400_
14.500	+0.006 -0.000	13.775	+0.000 -0.004	0.750	711280_
15.000	+0.006 -0.000	14.275	+0.000 -0.004	0.750	711300_
16.000	+0.006 -0.000	15.275	+0.000 -0.004	0.750	711320_
18.000	+0.006 -0.000	17.060	+0.000 -0.004	0.750	711380_