Hallite
Former Advanced Sealing Technologies

735

Technical details

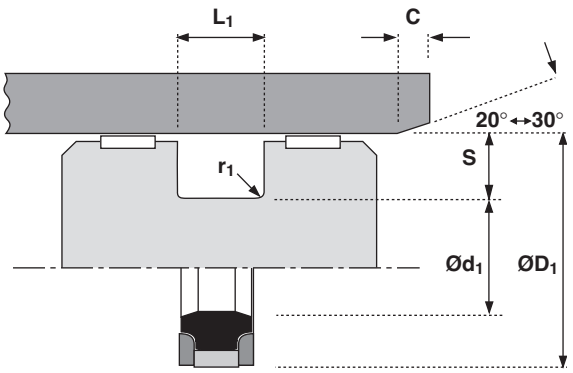
	Metric			Inch
Operating conditions				
Maximum Speed	1.5 m/sec			4.5 ft/sec
Temperature Range	-40°C +120°C			-40°F +250°F
Maximum Pressure	500 bar			7500 p.s.i.

Maximum extrusion gap	**Figures show the maximum permissible gap all on one side using minimum rod Ø and maximum clearance Ø.**			
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	0.035	0.035

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



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.

Material Options (Last 2 digits of part number)

	Energizer and AE Ring Materials			
Face material	**Standard:** NBR energizer, nylon MoS_2 AE rings	NBR energizer, glass filled nylon AE rings	HNBR energizer, nylon MoS_2 AE rings	HNBR energizer, glass filled nylon AE rings
Bronze 40%, PTFE	_____00	_____10	_____20	_____30
Glass 15%, MoS_2 5%, PTFE	_____01	_____11	_____21	_____31
*Polyester	_____02	_____12	_____22	_____32
*Lubricated Polyester	_____03	_____13	_____23	_____33
*Polyurethane 55D	_____04	_____14	_____24	_____34

*** Polyurethane or polyester face materials are suggested for positive position holding (zero drift) applications**

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

Features

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

Products suffixed † are designed to suit popular Asian housings

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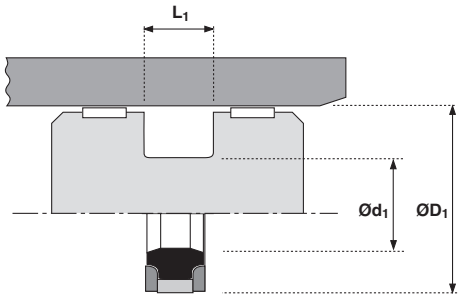

ØD1	TOL H9	Ød1	TOL	L1 +0.010 -0 .000	PART No.
1.750	+0.002 -0.000	1.377	+0.000 -0.002	0.424	71003_ _
2.000	+0.002 -0.000	1.627	+0.000 -0.002	0.424	71005_ _
2.250	+0.002 -0.000	1.877	+0.000 -0.002	0.424	71006_ _
2.500	+0.002 -0.000	2.127	+0.000 -0.002	0.424	71007_ _
2.750	+0.002 -0.000	2.377	+0.000 -0.002	0.424	71008_ _
3.000	+0.003 -0.000	2.522	+0.000 -0.002	0.579	71010_ _
3.250	+0.003 -0.000	2.772	+0.000 -0.003	0.579	71015_ _
3.500	+0.003 -0.000	3.022	+0.000 -0.003	0.579	71020_ _
3.750	+0.003 -0.000	3.272	+0.000 -0.003	0.579	71025_ _
4.000	+0.003 -0.000	3.522	+0.000 -0.003	0.579	71030_ _
4.250	+0.003 -0.000	3.772	+0.000 -0.003	0.579	71035_ _
4.500	+0.003 -0.000	3.909	+0.000 -0.003	0.492	71039_ _
4.500	+0.003 -0.000	4.022	+0.000 -0.003	0.579	71040_ _
4.750	+0.004 -0.000	4.159	+0.000 -0.004	0.492	71042_ _
4.750	+0.004 -0.000	4.272	+0.000 -0.004	0.579	71043_ _
5.000	+0.004 -0.000	4.094	+0.000 -0.004	0.630	71044_ _
5.000	+0.004 -0.000	4.274	+0.000 -0.004	0.750	71045_ _
5.250	+0.004 -0.000	4.524	+0.000 -0.004	0.750	71050_ _
5.500	+0.004 -0.000	4.594	+0.000 -0.004	0.630	71054_ _
5.500	+0.004 -0.000	4.774	+0.000 -0.004	0.750	71055_ _
5.500	+0.004 -0.000	5.022	+0.000 -0.004	0.579	71060_ _

ØD1	TOL H9	Ød1	TOL	L1 +0.010 -0 .000	PART No.
6.000	+0.004 -0.000	5.094	+0.000 -0.004	0.630	71064_ _
6.000	+0.004 -0.000	5.274	+0.000 -0.004	0.750	71065_ _
6.250	+0.004 -0.000	5.344	+0.000 -0.004	0.630	71068_ _
6.250	+0.004 -0.000	5.772	+0.000 -0.004	0.579	71069_ _
6.250	+0.004 -0.000	5.524	+0.000 -0.004	0.750	71070_ _
6.500	+0.004 -0.000	5.594	+0.000 -0.004	0.630	71074_ _
6.500	+0.004 -0.000	5.774	+0.000 -0.004	0.750	71075_ _
6.500	+0.004 -0.000	6.022	+0.000 -0.004	0.579	71080_ _
7.000	+0.004 -0.000	6.094	+0.000 -0.004	0.630	71084_ _
7.000	+0.004 -0.000	6.274	+0.000 -0.004	0.750	71085_ _
7.250	+0.005 -0.000	6.344	+0.000 -0.004	0.630	71086_ _
7.500	+0.005 -0.000	6.594	+0.000 -0.004	0.630	71089_ _
7.500	+0.005 -0.000	6.774	+0.000 -0.004	0.750	71090_ _
7.750	+0.005 -0.000	6.844	+0.000 -0.004	0.630	71092_ _
8.000	+0.005 -0.000	7.274	+0.000 -0.004	0.750	71095_ _
8.250	+0.005 -0.000	7.344	+0.000 -0.004	0.630	71097_ _
8.500	+0.005 -0.000	7.594	+0.000 -0.004	0.630	71099_ _
8.500	+0.005 -0.000	7.774	+0.000 -0.004	0.750	71100_ _
9.000	+0.005 -0.000	8.274	+0.000 -0.004	0.750	71105_ _
10.000	+0.005 -0.000	8.898	+0.000 -0.004	0.687	71109_ _
10.000	+0.005 -0.000	9.275	+0.000 -0.004	0.750	71110_ _

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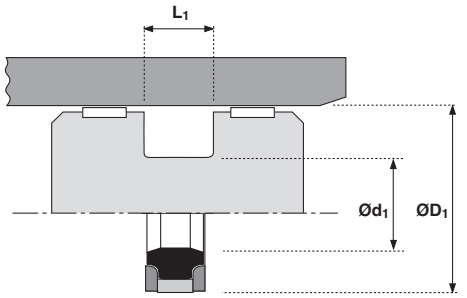

ØD1	TOL H9	Ød1	TOL	L1 +0.010 -0 .000	PART No.
10.500	+0.005 -0.000	9.398	+0.000 -0.004	0.687	71112_ _
11.000	+0.005 -0.000	10.275	+0.000 -0.004	0.750	71115_ _
11.500	+0.005 -0.000	10.398	+0.000 -0.004	0.687	71117_ _
12.000	+0.005 -0.000	11.275	+0.000 -0.004	0.750	71120_ _
12.500	+0.005 -0.000	11.775	+0.000 -0.004	0.750	71122_ _
13.000	+0.005 -0.000	12.275	+0.000 -0.004	0.750	71124_ _
14.000	+0.005 -0.000	12.898	+0.000 -0.004	0.687	71127_ _
14.000	+0.005 -0.000	13.275	+0.000 -0.004	0.750	71140_ _
14.500	+0.005 -0.000	13.775	+0.000 -0.004	0.750	71128_ _
15.000	+0.005 -0.000	14.275	+0.000 -0.004	0.750	71130_ _
16.000	+0.005 -0.000	15.275	+0.000 -0.004	0.750	71132_ _
18.000	+0.005 -0.000	17.060	+0.000 -0.004	0.750	71138_ _

Other sizes available up to and including 20 in diameter. Please contact Hallite Seals for more information.

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	Metric			Inch
Operating conditions				
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Temperature Range	-40°C +120°C			-40°F +250°F
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Min Chamfer C in	0.160	0.200	0.250	0.280
Max Fillet Rad r_1 in	0.016	0.016	0.035	0.035
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	

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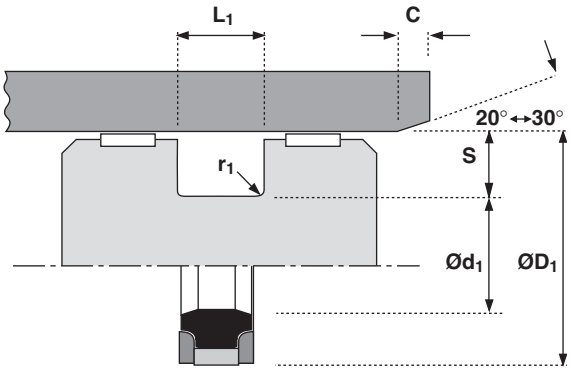

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Glass 15%, MoS_2 5%, PTFE	_____01	_____11	_____21	_____31
*Polyester	_____02	_____12	_____22	_____32
*Lubricated Polyester	_____03	_____13	_____23	_____33
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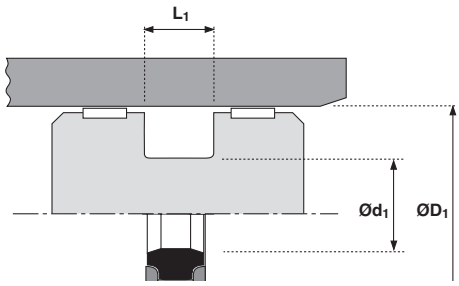

ØD1	TOL H9	Ød1	TOL	L1 +0.2 -0 .0	PART No.
50	+0.06 +0.00	36	+0.00 -0.20	9.0	71510_ _†
60	+0.07 +0.00	46	+0.00 -0.20	9.0	71515_ _†
63	+0.07 +0.00	48	+0.00 -0.20	11.0	71520_ _†
65	+0.07 +0.00	50	+0.00 -0.20	11.0	71525_ _†
70	+0.07 +0.00	55	+0.00 -0.20	11.0	71530_ _†
75	+0.07 +0.00	60	+0.00 -0.20	11.0	71535_ _†
80	+0.07 +0.00	65	+0.00 -0.20	11.0	71540_ _†
85	+0.09 +0.00	70	+0.00 -0.20	11.0	71545_ _†
90	+0.09 +0.00	75	+0.00 -0.20	11.0	71550_ _†
95	+0.09 +0.00	80	+0.00 -0.20	11.0	71555_ _†
100	+0.09 +0.00	85	+0.00 -0.20	12.5	71560_ _†
105	+0.09 +0.00	90	+0.00 -0.20	12.5	71565_ _†
110	+0.09 +0.00	95	+0.00 -0.20	12.5	71570_ _†
115	+0.09 +0.00	100	+0.00 -0.20	12.5	71575_ _†
120	+0.09 +0.00	105	+0.00 -0.20	12.5	71580_ _†
125	+0.10 +0.00	102	+0.00 -0.20	16.0	71585_ _†
130	+0.10 +0.00	107	+0.00 -0.20	16.0	71590_ _†
135	+0.10 +0.00	112	+0.00 -0.20	16.0	71595_ _†
140	+0.10 +0.00	117	+0.00 -0.20	16.0	71600_ _†
145	+0.10 +0.00	122	+0.00 -0.20	16.0	71605_ _†
150	+0.10 +0.00	127	+0.00 -0.20	16.0	71610_ _†

ØD1	TOL H9	Ød1	TOL	L1 +0.2 -0 .0	PART No.
160	+0.10 +0.00	137	+0.00 -0.20	16.0	71615_ _†
165	+0.10 +0.00	142	+0.00 -0.20	16.0	71620_ _†
170	+0.10 +0.00	147	+0.00 -0.20	16.0	71625_ _†
175	+0.10 +0.00	152	+0.00 -0.20	16.0	71628_ _†
180	+0.10 +0.00	157	+0.00 -0.20	16.0	71630_ _†
185	+0.12 +0.00	162	+0.00 -0.20	16.0	71635_ _†
190	+0.12 +0.00	167	+0.00 -0.20	16.0	71640_ _†
200	+0.12 +0.00	177	+0.00 -0.20	16.0	71645_ _†
210	+0.12 +0.00	187	+0.00 -0.20	16.0	71650_ _†
215	+0.12 +0.00	192	+0.00 -0.20	16.0	71653_ _†
220	+0.12 +0.00	197	+0.00 -0.20	16.0	71655_ _†
225	+0.12 +0.00	202	+0.00 -0.20	16.0	71660_ _†
230	+0.12 +0.00	207	+0.00 -0.20	16.0	71665_ _†
240	+0.12 +0.00	217	+0.00 -0.20	16.0	71670_ _†
250	+0.12 +0.00	222	+0.00 -0.20	17.5	71675_ _†
260	+0.13 +0.00	232	+0.00 -0.20	17.5	71680_ _†
270	+0.13 +0.00	242	+0.00 -0.20	17.5	71682_ _†
280	+0.13 +0.00	252	+0.00 -0.20	17.5	71684_ _†
300	+0.13 +0.00	272	+0.00 -0.20	17.5	71687_ _†
320	+0.14 +0.00	292	+0.00 -0.20	17.5	71689_ _†
330	+0.14 +0.00	302	+0.00 -0.20	17.5	71691_ _

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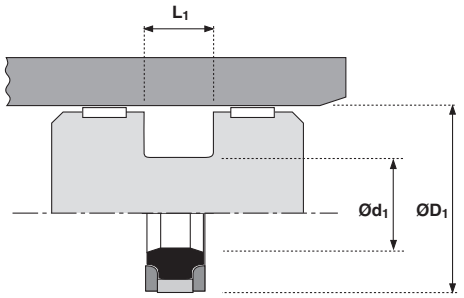

ØD1	TOL H9	Ød1	TOL	L1 +0.2 -0 .0	PART No.
350	+0.14 +0.00	322	+0.00 -0.20	17.5	71695_ _

ØD1	TOL H9	Ød1	TOL	L1 +0.2 -0 .0	PART No.
400	+0.14 +0.00	372	+0.00 -0.20	17.5	71699_ _