Hallite

730

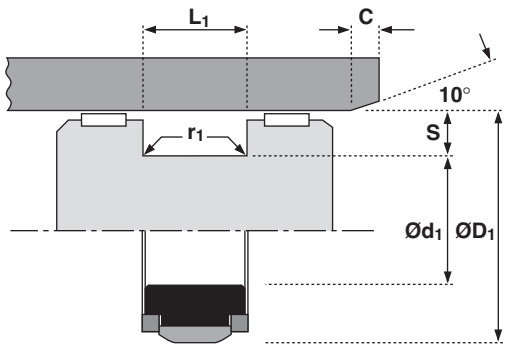
Design

The Hallite 730 is a top of the range double acting piston seal. It is constructed with a tough wear resistant thermoplastic polyester elastomer (TPE) face, which is loaded by a profiled nitrile energiser. Material options can be provided for the sealing face, including lubricated polyester and PTFE. All designs have rectangular polyacetal anti-extrusion rings. The TPE face material is suitable for both roller-burnished and honed tubing.

N.B. For installation of the Hallite 730 refer to guide following the size list.

Features

- High shock load capabilty
- High pressure capability
- Proven on both roller-burnished and honed tubing



Technical details

	Metric			Inch	
Operating conditions					
Maximum Speed	0.3 m/sec			1.0 ft/sec	
Temperature Range	-40°C +110°C			-40°F + 230°F	
Maximum Pressure	700 bar			10,000 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.**

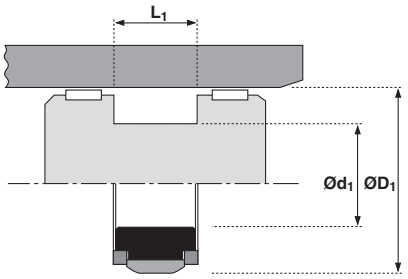
Pressure bar	160	250	500	700
Maximum Gap mm	1.00	0.80	0.40	0.25
Pressure p.s.i.	2400	3750	7500	10,000

Surface roughness	**µmRa**	**µmRt**	**µinCLA**	**µinRMS**
Dynamic Sealing Face $ØD_1$	0.1 < > 0.4	4 max	4 < > 16	5 < > 18
Static Sealing Face $Ød_1$ $Ød_2$	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	7.5	10.0	12.5	15.0
Min Chamfer C mm	8.0	10.0	13.0	15.0
Max Fillet Rad r_1 mm	0.2	0.4	0.8	0.8

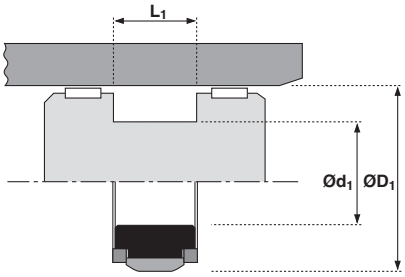
Tolerances	$ØD_1$	$Ød_1$	L_1
mm	H10	h9	+0.2 -0

piston seals

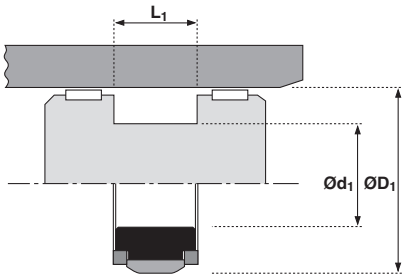


$ØD_1$	TOL H10	$Ød_1$	TOL h9	L_1 +0.2 -0	PART No.
40	+0.10 +0.00	28	+0.00 -0.06	11.5	2390810
50	+0.10 +0.00	38	+0.00 -0.06	11.5	2335410
60	+0.10 +0.00	44	+0.00 -0.06	13.0	2390710
60	+0.12 +0.00	44	+0.00 -0.06	20.5	2356710
63	+0.12 +0.00	50	+0.00 -0.06	14.5	2331210
75	+0.12 +0.00	55	+0.00 -0.07	23.0	2346420
80	+0.12 +0.00	66	+0.00 -0.07	17.0	2330310
90	+0.14 +0.00	75	+0.00 -0.07	13.5	2331310
90	+0.14 +0.00	76	+0.00 -0.07	16.0	2364810
100	+0.14 +0.00	82	+0.00 -0.09	22.5	2331410
100	+0.14 +0.00	85	+0.00 -0.09	12.5	2342910*
100	+0.14 +0.00	85	+0.00 -0.09	13.5	2335010
100	+0.14 +0.00	86	+0.00 -0.09	22.5	2359710
105	+0.14 +0.00	80	+0.00 -0.09	22.5	2346710
105	+0.14 +0.00	91	+0.00 -0.09	16.5	2348210
110	+0.14 +0.00	95	+0.00 -0.09	12.5	2343010*
110	+0.14 +0.00	95	+0.00 -0.09	16.0	2331610
115	+0.14 +0.00	90	+0.00 -0.09	21.0	2329110
115	+0.14 +0.00	97	+0.00 -0.09	22.5	2356110
115	+0.14 +0.00	100	+0.00 -0.09	16.0	2329210
120	+0.14 +0.00	105	+0.00 -0.09	16.0	2337410
125	+0.16 +0.00	110	+0.00 -0.09	15.8	2331510
130	+0.16 +0.00	113	+0.00 -0.09	12.5	2339110*
130	+0.16 +0.00	113	+0.00 -0.09	20.5	2369010
135	+0.16 +0.00	118	+0.00 -0.09	20.5	2348110
135	+0.16 +0.00	120	+0.00 -0.09	16.0	2334010
140	+0.16 +0.00	123	+0.00 -0.10	16.0	2357910
140	+0.16 +0.00	125	+0.00 -0.10	16.0	2329410
150	+0.16 +0.00	130	+0.00 -0.10	16.0	2339010
150	+0.16 +0.00	133	+0.00 -0.10	20.0	2360510
150	+0.16 +0.00	135	+0.00 -0.10	16.0	2338210
160	+0.16 +0.00	143	+0.00 -0.10	20.0	2365510
160	+0.16 +0.00	145	+0.00 -0.10	16.0	2331910
165	+0.16 +0.00	145	+0.00 -0.10	20.0	2348910
165	+0.16 +0.00	150	+0.00 -0.10	16.0	2332010
170	+0.16 +0.00	145	+0.00 -0.10	25.0	2345510
170	+0.16 +0.00	150	+0.00 -0.10	16.0	2331110
175	+0.16 +0.00	155	+0.00 -0.10	16.0	2335110
180	+0.16 +0.00	160	+0.00 -0.10	16.0	2328510
180	+0.16 +0.00	163	+0.00 -0.10	20.0	2365210
185	+0.19 +0.00	165	+0.00 -0.10	16.0	2328410
185	+0.19 +0.00	165	+0.00 -0.10	20.0	2364010
190	+0.19 +0.00	170	+0.00 -0.10	16.0	2332210
195	+0.19 +0.00	175	+0.00 -0.10	16.0	2334710
200	+0.19 +0.00	180	+0.00 -0.10	16.0	2329310
200	+0.19 +0.00	180	+0.00 -0.10	20.0	2348810

** Uses type 754 face*



ØD1	TOL H10	Ød1	TOL h9	L1 +0.2 -0	PART No.
200	+0.19 +0.00	183	+0.00 -0.12	20.0	2365010
210	+0.19 +0.00	190	+0.00 -0.12	16.0	2332410
210	+0.19 +0.00	190	+0.00 -0.12	20.0	2364710
215	+0.19 +0.00	195	+0.00 -0.12	16.0	2332510
215	+0.19 +0.00	195	+0.00 -0.12	20.0	2345110
220	+0.19 +0.00	195	+0.00 -0.12	16.0	2345810
220	+0.19 +0.00	195	+0.00 -0.12	22.0	2333920
220	+0.19 +0.00	195	+0.00 -0.12	25.0	2333910
220	+0.19 +0.00	200	+0.00 -0.12	20.5	2356510
224	+0.19 +0.00	204	+0.00 -0.12	20.5	2348510
225	+0.19 +0.00	205	+0.00 -0.12	16.0	2332610
225	+0.19 +0.00	205	+0.00 -0.12	20.0	2346810
230	+0.19 +0.00	210	+0.00 -0.12	16.0	2332710
230	+0.19 +0.00	210	+0.00 -0.12	20.0	2344510
240	+0.19 +0.00	215	+0.00 -0.12	25.0	2333010
240	+0.19 +0.00	220	+0.00 -0.12	25.0	2364310
245	+0.19 +0.00	220	+0.00 -0.12	25.0	2328810
250	+0.19 +0.00	225	+0.00 -0.12	25.0	2348310
255	+0.19 +0.00	230	+0.00 -0.12	25.0	2348320
260	+0.21 +0.00	230	+0.00 -0.12	30.0	2347810
260	+0.21 +0.00	235	+0.00 -0.12	25.0	2347910
275	+0.21 +0.00	250	+0.00 -0.12	25.0	2362210
280	+0.21 +0.00	255	+0.00 -0.13	25.0	2333510
285	+0.21 +0.00	260	+0.00 -0.13	25.0	2362410
290	+0.21 +0.00	265	+0.00 -0.13	27.0	2364410
300	+0.21 +0.00	275	+0.00 -0.13	25.0	2333610
305	+0.21 +0.00	280	+0.00 -0.13	25.0	2333630
310	+0.21 +0.00	285	+0.00 -0.13	25.0	2333710
320	+0.23 +0.00	290	+0.00 -0.13	30.0	2348010
340	+0.23 +0.00	310	+0.00 -0.13	30.0	2366010
340	+0.23 +0.00	310	+0.00 -0.13	32.0	2390910
345	+0.23 +0.00	315	+0.00 -0.13	30.0	2363610
350	+0.23 +0.00	320	+0.00 -0.14	30.0	2345410
360	+0.23 +0.00	330	+0.00 -0.14	30.0	2345430
360	+0.23 +0.00	330	+0.00 -0.14	31.5	2365410
370	+0.23 +0.00	340	+0.00 -0.14	30.0	2362710
380	+0.23 +0.00	350	+0.00 -0.14	32.0	2362110
390	+0.23 +0.00	360	+0.00 -0.14	32.0	2362120
400	+0.23 +0.00	370	+0.00 -0.14	32.0	2359810
410	+0.25 +0.00	380	+0.00 -0.14	32.0	2359820
420	+0.25 +0.00	390	+0.00 -0.14	32.0	2366410
440	+0.25 +0.00	410	+0.00 -0.16	32.0	2365910
450	+0.25 +0.00	410	+0.00 -0.16	32.0	2390510
480	+0.25 +0.00	440	+0.00 -0.16	32.0	2391010
500	+0.25 +0.00	470	+0.00 -0.16	32.0	2369410



PLEASE NOTE!

Before installation of the seals onto the piston check that the piston is free of dirt and sharp edges. Sharp edged tools which could damage the seal during installation must not be used.

INSTALLATION

The rubber energiser must be installed first. It can be pulled over the piston with a circling movement, using a plastic strip for the stretching. The energiser should then be positioned in the centre of the groove, with a clearance either side. The first AE-ring is fitted next. It must be positioned opposite the installation side for the TPE face. This is fitted over the NBR energiser using the plastic installation strip. Please note that the TPE face ring needs to be installed directly against the AE ring. This can easily be achieved by circling movements with the fitting strap. The second AE ring can now be snapped on.

To provide the necessary seal interference, the seal will be considerably larger than the piston diameter. The assembly chamfer on the cylinder tube should be as long and flat as possible. Ensure that all edges are deburred and that the intersection points of the assembly chamfers with the bore are smoothly rounded.

Before the cylinders are assembled, the seal surface should be well greased. The grease also helps the seal to slip into the tube easily. For tubes longer than 800 mm the bore needs to be greased as well.

PLEASE NOTE!

The surface between energiser and face-ring must be kept free of grease.

For T730 with nominal groove lengths above 16 mm an installation sleeve is required (this can also be helpful for groove lengths up to 16 mm). This sleeve is needed to extend the assembly chamfer. A slope angle between 7° and 10° is required to prevent the face ring taking up a conical shape that will allow the rear AE-ring to slip under the TPE face ring.

The installation sleeve should be machined from a suitable plastic (such as polyacetal or polyamide). It can be made as a one piece design or as two half shells.

When automatic screwing equipment is used for the installation of the associated gland the maximum surface speed of the seal with respect to the bore must not exceed 0.1 m/s.