

755

PISTON SEAL

*Double-Acting
Polyester Face with Rubber Energizer*

DESIGN

The Hallite 755 double-acting piston seal is a compact, low friction seal for light to medium duty applications designed originally to fit North American NFPA groove standards.

The Hallite 755 is comprised of a tough, wear-resistant thermoplastic elastomer face seal which is pre-loaded by a square cross-section NBR expander. The face material comes in a number of material options to extend operating conditions. The housing width allows a narrow width piston to be used.

We recommend that an adequate bearing, such as the Hallite 506 or 87 bearing strip or the Hallite 533 molded bearing, is mounted on one or both sides of the seal. For further details of bearing grooves, please refer to the appropriate product data sheet.



FEATURES

- Excellent position holding characteristics under load
- Low breakout and low operating friction levels
- Excellent wear resistance
- More tolerant to contamination
- Rapid recovery of face after assembly
- Compatible with most hydraulic fluids
- Operates on wide range of surface finishes
- Ideal for use with Hallite 506, 533, or 87 bearing

MATERIALS

This product comes in a number of material options to extend operating conditions. Contact your local Hallite technical team to decide which is best for your application. Use the part designator in the table below as the last digit of the part number to specify material choice when ordering. For further material details, please refer to the Hallite Material Table.

MATERIAL OPTIONS	Name	Face Type	Face Color	Part Designator
Standard	TPE 061 - NBR	TPE	Red	0
Optional	TPE 111 - NBR	TPE	Grey	1
Optional	TPE 261 - NBR	TPE	Cream	2
Optional	TPE 051 - NBR	TPE	Dark Red	3
Optional - Limited Size Range	Hythane® 181 - NBR	TPU-EU	Blue	4

TECHNICAL DETAILS

OPERATING CONDITIONS	METRIC	INCH
Maximum Speed	1.0 m/sec	3.0 ft/sec
Temperature Range	-40°C +110°C	-40°F +230°F
Maximum Pressure	350 bar	5000 psi

NOTE

Data given are maximum values and can apply depending on specific application. Maximum ratings of temperature, pressure, or operating speeds are dependent on fluid medium, surface, gap value, and other variables such as dynamic or static service. Maximum values are not intended for use together at the same time, e.g. max temperature and max pressure. Please contact your Hallite technical representative for application support.

NOTE

Technical details shown are for the standard material TPE 061.

MAXIMUM EXTRUSION GAP				
Pressure bar	100	160	250	350
Pressure psi	1500	2400	3750	5000
Maximum Gap (S>0.280 in)	0.030	0.025	0.020	0.010
Maximum Gap (S<0.280 in)	0.025	0.020	0.015	0.005

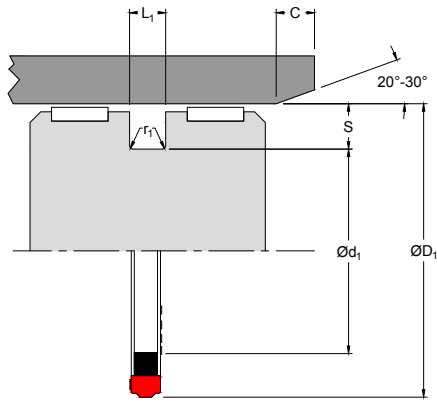
NOTE

Figures show the maximum permissible gap all on one side using minimum rod \varnothing and maximum clearance \varnothing . Refer to Housing Design section.

SURFACE ROUGHNESS	μmRa	μmRz	μmRt	μinRa	μinRz	μinRt
Dynamic Sealing Face $\varnothing D_1$	0.1 - 0.4	1.6 max	4 max	4 - 16	63 max	157 max
Static Sealing Face $\varnothing d_1$	1.6 max	6.3 max	10 max	63 max	250 max	394 max
Static Housing Faces L_1	3.2 max	10 max	16 max	125 max	394 max	630 max

CHAMFERS & RADII				
Groove Section $\leq S$ in	0.154	0.269	0.373	0.431
Min Chamfer C in	0.100	0.150	0.200	0.200
Max Fillet Rad r_1 in	0.016	0.016	0.016	0.016

TOLERANCES	$\varnothing D_1$	$\varnothing d_1$	L_1
$L_1 = 0.129$ in	H9	js10	± 0.002
$L_1 = 0.283$ in	H9	js10	± 0.003
$L_1 > 0.283$ in	H9	js10	± 0.004



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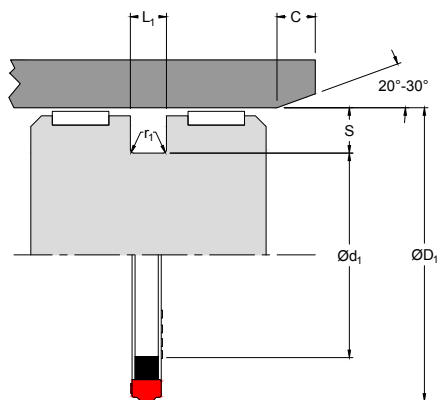
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PART NUMBER RANGE

INCH						
ØD ₁	TOL H9	Ød ₁	TOL js10	L ₁	TOL	PART No.
1.000	+0.002 0.000	0.691	+0.001 -0.001	0.129	+0.002 -0.002	8910000
1.250	+0.003 0.000	0.941	+0.002 -0.002	0.129	+0.002 -0.002	8910100
1.500	+0.003 0.000	1.191	+0.002 -0.002	0.129	+0.002 -0.002	8910200
1.750	+0.003 0.000	1.441	+0.002 -0.002	0.129	+0.002 -0.002	8910300
2.000	+0.003 0.000	1.462	+0.002 -0.002	0.283	+0.003 -0.003	4553520
2.000	+0.003 0.000	1.606	+0.002 -0.002	0.129	+0.002 -0.002	8913100*
2.000	+0.003 0.000	1.691	+0.002 -0.002	0.129	+0.002 -0.002	8910400
2.250	+0.003 0.000	1.941	+0.002 -0.002	0.129	+0.002 -0.002	8910500
2.500	+0.003 0.000	1.962	+0.002 -0.002	0.283	+0.003 -0.003	4490020
2.500	+0.003 0.000	2.106	+0.002 -0.002	0.129	+0.002 -0.002	4439310*
2.500	+0.003 0.000	2.191	+0.002 -0.002	0.129	+0.002 -0.002	8910600
2.750	+0.003 0.000	2.441	+0.002 -0.002	0.129	+0.002 -0.002	8910700
3.000	+0.003 0.000	2.462	+0.002 -0.002	0.283	+0.003 -0.003	8910800
3.250	+0.004 0.000	2.712	+0.002 -0.002	0.283	+0.003 -0.003	8910900
3.500	+0.004 0.000	2.962	+0.002 -0.002	0.283	+0.003 -0.003	8911000

NOTE

Part numbers suffixed by "*" are supplied with an O-ring energiser.

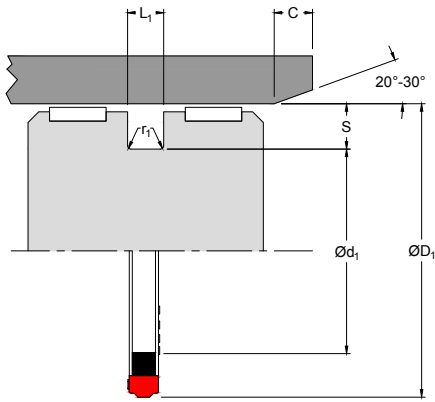


PART NUMBER RANGE

INCH						
ØD ₁	TOL H9	Ød ₁	TOL js10	L ₁	TOL	PART No.
3.750	+0.004 0.000	3.212	+0.003 -0.003	0.283	+0.003 -0.003	8911100
4.000	+0.004 0.000	3.462	+0.003 -0.003	0.283	+0.003 -0.003	8911200
4.250	+0.004 0.000	3.712	+0.003 -0.003	0.283	+0.003 -0.003	8911300
4.500	+0.004 0.000	3.962	+0.003 -0.003	0.283	+0.003 -0.003	8911400
4.750	+0.004 0.000	4.212	+0.003 -0.003	0.283	+0.003 -0.003	8911500
5.000	+0.004 0.000	4.462	+0.003 -0.003	0.283	+0.003 -0.003	8911600
5.250	+0.004 0.000	4.504	+0.003 -0.003	0.378	+0.004 -0.004	8911700
5.500	+0.004 0.000	4.754	+0.003 -0.004	0.378	+0.004 -0.004	8911800
5.750	+0.004 0.000	5.004	+0.003 -0.004	0.378	+0.004 -0.004	8913200
6.000	+0.004 0.000	5.254	+0.003 -0.004	0.378	+0.004 -0.004	8911900
6.250	+0.004 0.000	5.504	+0.003 -0.004	0.378	+0.004 -0.004	8912000
6.500	+0.004 0.000	5.754	+0.003 -0.004	0.378	+0.004 -0.004	8912100
7.000	+0.004 0.000	6.250	+0.003 -0.004	0.312	+0.004 -0.004	4394810*
7.000	+0.004 0.000	6.254	+0.003 -0.004	0.378	+0.004 -0.004	8912200
7.250	+0.004 0.000	6.504	+0.003 -0.004	0.378	+0.004 -0.004	8912300

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INCH						
ØD ₁	TOL H9 0.000	Ød ₁	TOL js10 -0.004	L ₁	TOL -0.004	PART No.
7.500	+0.004 0.000	6.754	+0.003 -0.004	0.378	+0.004 -0.004	8912400
8.000	+0.004 0.000	7.254	+0.004 -0.004	0.378	+0.004 -0.004	8912500
8.437	+0.004 0.000	7.691	+0.004 -0.004	0.378	+0.004 -0.004	8913000
8.500	+0.004 0.000	7.754	+0.004 -0.004	0.378	+0.004 -0.004	8912600
9.000	+0.004 0.000	8.137	+0.004 -0.004	0.378	+0.004 -0.004	8912700
9.500	+0.004 0.000	8.637	+0.004 -0.004	0.378	+0.004 -0.004	8912800
10.000	+0.005 0.000	9.137	+0.004 -0.004	0.378	+0.004 -0.004	8912900

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