

775

PISTON SEAL

*Double-Acting
Polyurethane Face with Rubber
Energizer for O-Ring Housings*

DESIGN

The Hallite 775 double-acting piston seal is a compact seal for light to medium-duty applications and designed to fit two housing standards; one for standard O-ring grooves, the second for grooves designed for an O-ring and two back-up rings. The advanced face geometry gives the Hallite 775 single-acting capabilities making it an excellent choice for double-acting applications where minimal dynamic leakage is required.

The Hallite 775 is comprised of a tough polyurethane face seal which is pre-loaded by a rectangular cross-section NBR expander. The standard material is suitable for hydraulic mineral oil applications.

The Hallite 775 can be used on SG iron pistons or on pistons where there is an adequate remote bearing, such as the Hallite 506, 533, and 87 bearings.



FEATURES

- Double-acting seal with single-acting capabilities
- Advanced face geometry provides enhanced dynamic and static sealing
- Excellent wear resistance and high extrusion resistance
- More tolerant to contamination
- Rapid recovery after assembly
- Operates on wide range of surface finishes
- Ideal for use with Hallite 506, 533, or 87 bearing

MATERIALS

As standard, this product comes in the following materials. Contact your local Hallite technical team if you would like to find out if this profile can be made in a custom material to suit your application. For further material details, please refer to the Hallite Material Table.

MATERIAL OPTIONS	Name	Face Type	Face Color
Standard	Hythane® 361-NBR	TPU-AU	Orange

TECHNICAL DETAILS

OPERATING CONDITIONS	METRIC	INCH
Maximum Speed	1.0 m/sec	3.0 ft/sec
Temperature Range	-30°C +110°C	-22°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.

MAXIMUM EXTRUSION GAP				
Pressure bar	100	160	250	350
Maximum Gap mm	0.64	0.50	0.40	0.20
Pressure psi	1500	2400	3750	5000
Maximum Gap in	0.025	0.020	0.016	0.008

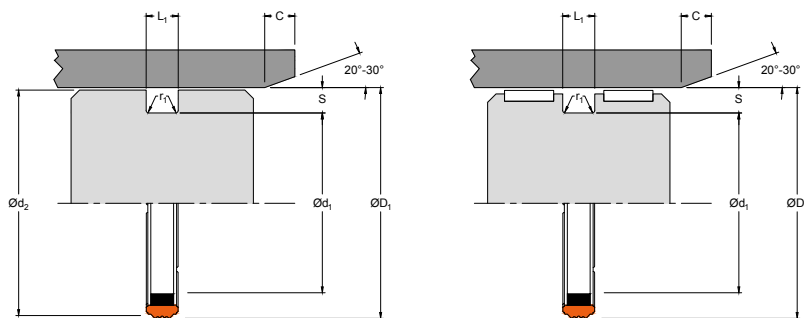
NOTE

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

RADII			
Groove Section $\leq S$ in	0.125	0.187	0.250
Min Chamfer C in	0.100	0.150	0.200
Max Fillet Rad r_1 in	0.016	0.016	0.016

TOLERANCES	$\varnothing D_1$	$\varnothing d_1$	$\varnothing d_2$	L_1
$\varnothing D_1 \leq 2.500$ in	+0.003 -0	+0 -0.003	+0 -0.001	+0.005 -0
$\varnothing D_1 > 2.500$ in	+0.004 -0	+0 -0.004	+0 -0.001	+0.005 -0



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PART NUMBER RANGE

HOUSINGS TO SUIT STANDARD O-RING - INCH

ØD ₁	TOL	Ød ₁	TOL	Ød ₂ +0-0.001	L ₁ +0.005-0	O-RING	PART No.
1.375	+0.003 0.000	1.133	0.000 -0.003	1.372	0.187	216	4763516
1.500	+0.003 0.000	1.258	0.000 -0.003	1.497	0.187	218	4731816
1.750	+0.003 0.000	1.508	0.000 -0.003	1.747	0.187	222	4750716
2.000	+0.003 0.000	1.630	0.000 -0.003	1.997	0.281	326	4731016
2.500	+0.003 0.000	2.130	0.000 -0.003	2.497	0.281	330	4731116
3.000	+0.004 0.000	2.630	0.000 -0.004	2.997	0.281	334	4731216
3.500	+0.004 0.000	3.130	0.000 -0.004	3.497	0.281	338	4731316
4.000	+0.004 0.000	3.630	0.000 -0.004	3.997	0.281	342	4731416
5.000	+0.004 0.000	4.630	0.000 -0.004	4.997	0.281	425	4731516

HOUSINGS TO SUIT STANDARD O-RING WITH TWO BACK-UP RINGS - INCH

ØD ₁	TOL	Ød ₁	TOL	Ød ₂ +0-0.001	L ₁ +0.005-0	O-RING	PART No.
1.500	+0.003 0.000	1.258	0.000 -0.003	1.497	0.275	218	4730516
2.000	+0.003 0.000	1.630	0.000 -0.003	1.997	0.410	326	4733716
2.500	+0.003 0.000	2.130	0.000 -0.003	2.497	0.410	330	4726916
3.000	+0.004 0.000	2.630	0.000 -0.004	2.997	0.410	334	4733816
3.500	+0.004 0.000	3.130	0.000 -0.004	3.497	0.410	338	4733916
4.000	+0.004 0.000	3.630	0.000 -0.004	3.997	0.410	342	4734016
5.000	+0.004 0.000	4.528	0.000 -0.004	4.997	0.538	425	4730616
6.000	+0.004 0.000	5.528	0.000 -0.004	5.997	0.538	433	4734116

PART NUMBERS ON THIS PAGE ARE LISTED IN THE STANDARD MATERIAL OPTION. FOR MATERIAL VARIATIONS OR FOR CUSTOM SIZES, MATERIALS, OR SEAL DESIGNS, PLEASE CONTACT YOUR LOCAL HALLITE REPRESENTATIVE.



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