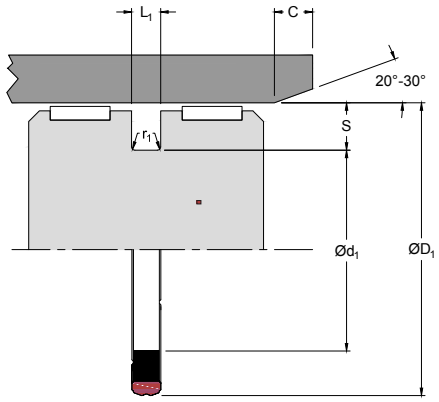


777

PISTON SEAL

Double-Acting
Polyurethane Face with Rubber Energizer

DESIGN

The Hallite 777 double-acting, energised piston seal is a compact seal for medium to heavy-duty applications designed to fit a range of industry standard grooves making it ideal for retrofitting existing products. Our metric part range will fit ISO 7425-1 standard type housings and our inch parts will typically fit standard industry grooves.

The seal's geometry provides fluid reservoir between the primary sealing lips which reduces breakaway and running friction.

The Hallite 777 is comprised of a tough, wear-resistant thermoplastic elastomer face seal pre-loaded with a square or rectangular cross-section NBR energizer depending on the groove proportions. The square or rectangular energiser provides an equal load on the seal face while also providing improved stability over a conventional O-ring energiser. This design allows this seal to be used in smaller grooves without compromising the performance of the sealing system.

The standard face material for the Hallite 777 is Hythane® 743, one of Hallite's high temperature polyurethanes (HTPU). Additional material options are available. The energiser material 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.

We recommend that an adequate bearing, such as the Hallite 506 or 87 bearing strip or the Hallite 533 moulded 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

- High temperature and pressure capabilities
- Fits common industry housings
- Resists rolling and twisting in long stroke applications
- Low operating friction level
- Strong abrasion resistance
- Easy to install
- Positive load holding capabilities
- Ideal for use with Hallite 506, 533, or 87 bearing

PART NUMBER STRUCTURE

777E01500KN01

- Profile Designation
- M = Metric
E = Inch
- Bore Diameter
Metric = mm x 10
Inch = inches x 1000
- Serial Code
- Energizer Material
Refer to **Energizer Table**
for desired material
- Face Material
Refer to **Face Material Table**
for desired material

MATERIALS

As standard, this product comes in the following face material. 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. Use the part designator in the table below to specify material choice when ordering. For further material details, please refer to the Hallite Material Table.

MATERIAL OPTIONS	Name	Face Type	Face Colour	Part Designator
Standard	Hythane® 743	TPU	Burgundy	K

This product comes in a number of energiser 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 to specify material choice when ordering. For further material details, please refer to the Hallite Material Table.

MATERIAL OPTIONS	Name	Energiser Type	Energiser Colour	Part Designator
Standard	Nitrile 75°	NBR	Black	N
Optional	Custom FKM	FKM	Black	F
Optional	Custom	Custom	Custom	X

TECHNICAL DETAILS

OPERATING CONDITIONS	METRIC	INCH
Maximum Speed	0.5 m/sec	1.5 ft/sec
Temperature Range	-40°C +120°C	-40°F +250°F
Maximum Pressure	400 bar	5800 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	165	260	400
Max Gap mm	0.75	0.65	0.50	0.25
Pressure psi	1500	2400	3750	5800
Maximum Gap in	0.030	0.025	0.020	0.010

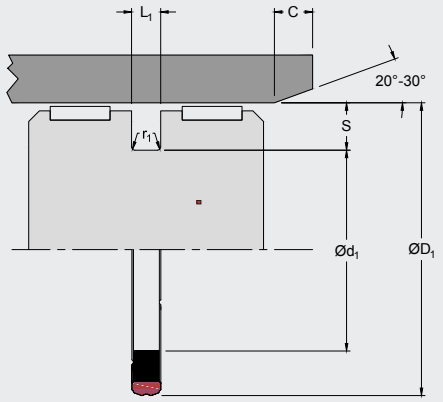
NOTE

This product can perform at pressures over 400 bar subject to discussion with local technical representative and application.

NOTE

Figures show the maximum permissible gap all on one side using maximum bore Ø and minimum piston Ø. Refer to Housing Design section.

SURFACE ROUGHNESS	µmRa	µmRz	µmRt	µinRa	µinRz	µinRt
Dynamic Sealing Face $ØD_1$	0.1 - 0.4	1.6 max	4 max	4 - 16	63 max	157 max
Static Sealing Face $Ød_1$	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



777

PISTON SEAL

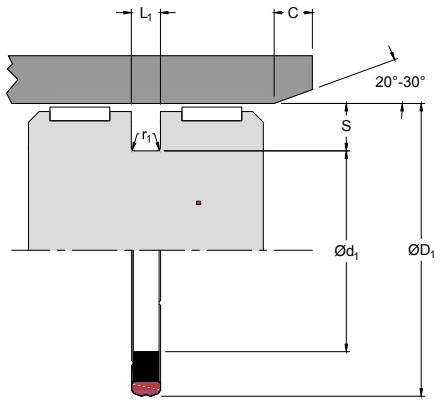
Double-Acting
Polyurethane Face with Rubber Energiser

TECHNICAL DETAILS CONTINUED

CHAMFERS & RADII			
Groove Section ≤ S mm	3.18	4.75	6.35
Min Chamfer C mm	2.50	4.00	5.00
Max Fillet Rad r_1 mm	0.40	0.40	0.40
Groove Section ≤ 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	$ØD_1$	$Ød_1$	L_1
mm	H9	h9	+0.13-0
in	H9	h9	+0.005-0

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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PISTON SEAL

Double-Acting
Polyurethane Face with Rubber Energizer

PART NUMBER RANGE

INCH				
$ØD_1$	TOL	$Ød_1$ +0-0.002	L_1 +0.005-0	PART No.
1.000	+0.002 0.000	0.758	0.187	777E01000KN03
1.250	+0.002 0.000	1.008	0.187	777E01250KN03
1.500	+0.002 0.000	1.258	0.187	777E01500KN03
1.750	+0.002 0.000	1.508	0.187	777E01750KN03
2.000	+0.002 0.000	1.630	0.281	777E02000KN03
2.250	+0.002 0.000	1.880	0.281	777E02250KN03
2.500	+0.002 0.000	2.130	0.281	777E02500KN03
2.750	+0.002 0.000	2.380	0.281	777E02750KN03
3.000	+0.002 0.000	2.630	0.281	777E03000KN03
3.250	+0.002 0.000	2.880	0.281	777E03250KN03

INCH				
$ØD_1$	TOL	$Ød_1$ +0-0.002	L_1 +0.005-0	PART No.
3.500	+0.002 0.000	3.130	0.281	777E03500KN03
3.750	+0.002 0.000	3.380	0.281	777E03750KN03
4.000	+0.002 0.000	3.630	0.281	777E04000KN03
4.250	+0.002 0.000	3.880	0.281	777E04250KN03
4.500	+0.002 0.000	4.130	0.281	777E04500KN03
4.750	+0.002 0.000	4.380	0.281	777E04750KN03
5.000	+0.004 0.000	4.630	0.281	777E05000KN03
5.500	+0.004 0.000	5.028	0.375	777E05500KN03
6.000	+0.004 0.000	5.528	0.375	777E06000KN03

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