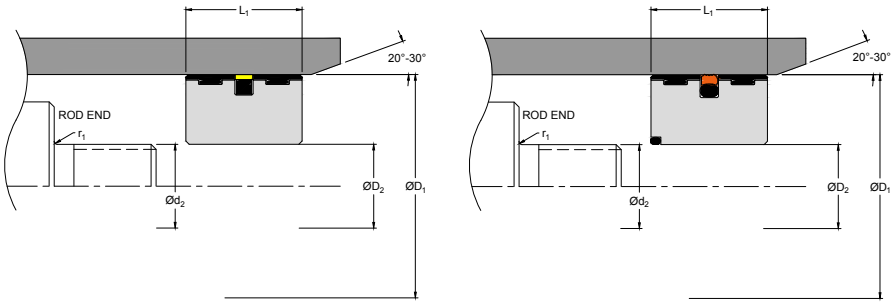


720

UNITISED PISTON

DESIGN

The Hallite 720 is a completely self-contained piston, bearing, and seal-in-one assembly that solves difficult assembly problems and can be a cost-effective alternative to the traditional piston assembly which has a separately fitted seal and bearing(s).

The Hallite 720 improves stability and has smaller extrusion gaps that extend the life of the piston seal. Moulding the bearing material over the outer diameter gives an extremely tight fit between the piston and the cylinder bore. The piston diameter is tightly controlled which reduces the tolerance build up and results in increased performance.

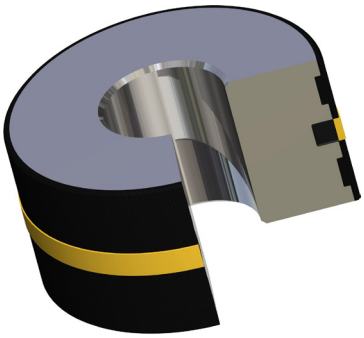
The Hallite 720 unitized piston is constructed using four components:

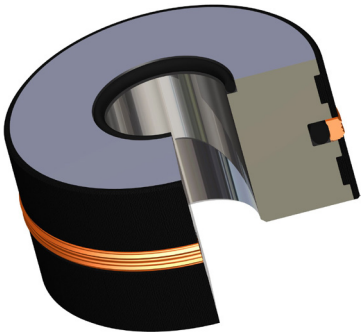
- High strength steel body
- Non-metallic bearing
- Rubber energiser
- Filled PTFE seal ring for inch sizes
- Polyurethane seal ring for metric sizes

The steel piston body is machined to exact dimensions. The non-metallic bearing material is moulded to the piston using a special proprietary process. It is then machined to the final precise outer diameter dimension to suit the cylinder bore and the seal is fitted. It is supplied ready to be attached to the piston rod for use in a cylinder.

In many cases the Hallite 720 is also supplied with an internal static sealing O-ring to provide a positive seal between the piston and the rod. Those marked with an asterisk in the part number range on the following pages do not have this internal seal.

The materials used in the standard unitised piston are selected to handle a broad range of application parameters. Contact your local Hallite technical team to decide which is best for your application.





FEATURES

- Maximum bearing surface area for the piston length
- Works on a variety of cylinder bore finishes
- Increases side load capacity
- Diminishes effect of fluid contamination
- Eliminates metal-to-metal contact and extends seal life
- Compact piston design enables increase in stroke or reduction in overall cylinder length
- Improves supply chain management by reducing warranty claims, increasing manufacturing capacity and reducing inventory

TECHNICAL DETAILS

OPERATING CONDITIONS	METRIC	INCH
Maximum Speed	1.0 m/sec	3.0 ft/sec
Temperature Range	-30°C +100°C	-22°F +212°F
Maximum Pressure	350 bar	5000 psi

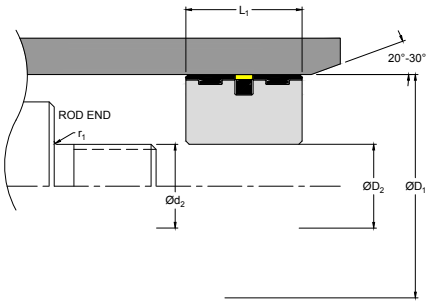
NOTE

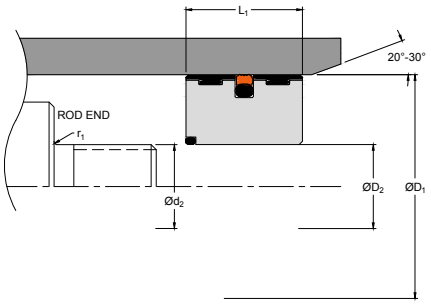
Data given are maximum values and can apply depending on specific application. Maximum ratings of temperature, pressure, or operating speeds are dependent on fluid medium, surface, gap value, and other variables such as dynamic or static service. Maximum values are not intended for use together at the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

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 $Ød_2$	1.6 max	6.3 max	10 max	63 max	250 max	394 max
Static Housing Rod End	3.2 max	10 max	16 max	125 max	394 max	630 max

RADII		
Max Fillet Rad r_1 with Internal O-Ring	3.00	0.125
Max Fillet Rad r_1 without Internal O-Ring	NA	0.031

TOLERANCES	$ØD_1$	$ØD_2$	$Ød_2$	L_1
mm	H9	+0.05 -0	f9	+0.20-0





720

UNITISED PISTON

PART NUMBER RANGE

METRIC				
$ØD_1$	TOL H9	$ØD_2$ +0.05-0	L_1 +0.20-0	PART No.
32.00	+0.06 0.00	12.00	25.00	7240510
40.00	+0.06 0.00	16.00	25.00	7241010
50.00	+0.06 0.00	20.00	25.00	7241510
60.00	+0.07 0.00	25.00	25.00	7242010
63.00	+0.07 0.00	25.00	25.00	7242510
70.00	+0.07 0.00	25.00	29.00	7243010
80.00	+0.07 0.00	25.00	29.00	7243510
100.00	+0.09 0.00	32.00	40.00	7244010

NOTE Part numbers suffixed by "*" are not fitted with an internal static sealing O-Ring.

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.