

## Design

The Hallite 720 is a complete, self-contained piston, bearing and seal in one assembly that can solve difficult assembly problems or be used as a cost effective alternative to the traditional piston assembly with a separately fitted seal and bearing.

The Hallite 720 provides improved 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 inner diameter. The piston diameter is tightly controlled, reducing the number of critical tolerance variables resulting in increased performance.

## Material Option

The materials used for the Standard Unitised Piston are selected to handle a broad range of application parameters.

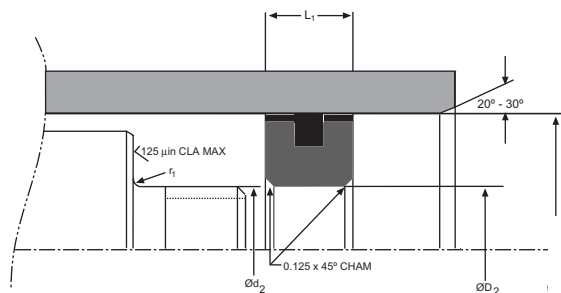
It is constructed using four components:

- High strength steel body
- Non-metallic bearing
- Rubber loading ring
- Filled PTFE seal ring (inch sizes)
- Polyurethane seal ring (metric sizes)

The 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 OD dimension and the seal is installed. It is supplied ready for use in a cylinder.

## Features

- Maximum bearing surface area for the piston length
- Side load Capacity increase
- Improves supply chain management
- Less affected by fluid contamination
- Product improvement
- Extended seal life
- Helps increase manufacturing capacity
- Eliminates metal-to-metal contact
- Reduces warranty claims
- Works on a variety of cylinder bore finishes
- Reduces inventory
- Compact design enables increase in stroke or reduction in overall cylinder length



## Technical details

### Operating conditions

Maximum Speed	1 m/sec
Temperature Range	-30°C + 100°C
Maximum Pressure	350 bar

### Inch

3.0 ft/sec
-22°F +212°F
5000 p.s.i.

### Surface roughness

Dynamic Sealing Face $\text{OD}_1$	$\mu\text{mRa}$ 0.1-0.4	$\mu\text{mRt}$ 4max
Static Housing (Rod end)	3.2 max	16 max

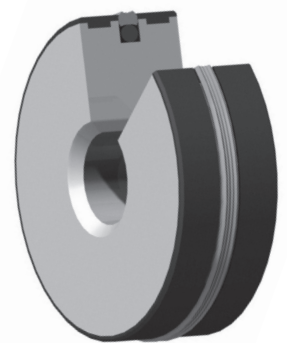
$\mu\text{inCLA}$ 4-16	$\mu\text{inRMS}$ 5-18
125	137

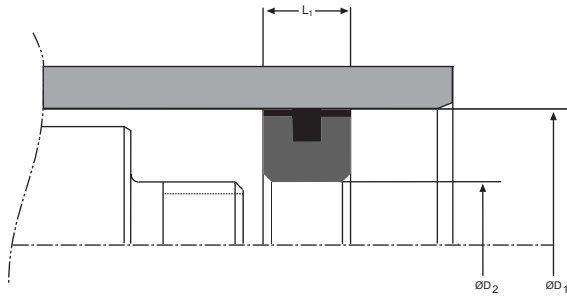
### Radii

Max Fillet Rad $r_1$ mm	3
Max Fillet Rad $r_1$ in	0.125

### Tolerances

	$\text{OD}_1$	$\text{OD}_2$	$\text{OD}_2$
mm	H9	+0.05 -0	f9
in	H9	+0.002 -0	f9





**metric**

$\text{ØD}_1$	TOL H9	$\text{ØD}_2$	TOL	$L_1$ +0.2 -0	PART No.
32	+0.06 +0.00	12.0	+0.05 -0.0	25.0	7240510
40	+0.06 +0.00	16.0	+0.05 -0.0	25.0	7241010
50	+0.06 +0.00	20.0	+0.05 -0.0	25.0	7241510
60	+0.07 +0.00	25.0	+0.05 -0.0	25.0	7242010

$\text{ØD}_1$	TOL H9	$\text{ØD}_2$	TOL	$L_1$ +0.2 -0	PART No.
63	+0.07 +0.00	25.0	+0.05 -0	25.0	7242510
70	+0.07 +0.00	25.0	+0.05 -0.	29.0	7243010
80	+0.07 +0.00	25.0	+0.05 -0	29.0	7243510
100	+0.09 +0.00	32.0	+0.05 -0	40.0	7244010

**inch**

$\text{ØD}_1$	TOL H9	$\text{ØD}_2$	TOL	$L_1$ +0.2 -0	PART No.
1.500	+0.003 -0.000	0.500	+0.002 -0.000	1.000	H1380*
2.000	+0.003 -0.000	0.750	+0.002 -0.000	1.000	H1381*
2.250	+0.003 -0.000	1.000	+0.002 -0.000	1.000	H1443*
2.500	+0.003 -0.000	1.000	+0.002 -0.000	1.000	H1382*
3.000	+0.003 -0.000	1.000	+0.002 -0.000	1.000	H1383
3.500	+0.004 -0.000	1.000	+0.002 -0.000	1.000	H1384
3.500	+0.004 -0.000	1.000	+0.002 -0.000	1.500	H1385

$\text{ØD}_1$	TOL H9	$\text{ØD}_2$	TOL	$L_1$ +0.2 -0	PART No.
4.000	+0.004 -0.000	1.000	+0.002 -0.000	1.000	H1386
4.000	+0.004 -0.000	1.000	+0.002 -0.000	1.500	H1387
4.500	+0.004 -0.000	1.000	+0.002 -0.000	1.500	H1388
5.000	+0.004 -0.000	1.500	+0.002 -0.000	1.250	H1389
5.000	+0.004 -0.000	1.500	+0.002 -0.000	1.750	H1390
6.000	+0.004 -0.000	1.500	+0.002 -0.000	2.500	H1359

\* Not fitted with an internal static sealing O-Ring.