

Standard Unitized Piston

Technical details

Operating conditions

Maximum Speed	1m/sec
Temperature Range	-40°C + 110°C
Maximum Pressure	350 bar

Surface roughness

	μmRa	μmRt
Dynamic Sealing Face ØD_1	0.1-0.4	4max
Static Housing (Rod end)	3.2 max	16 max

Radii

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

Tolerances

ØD_1	ØD_2 mm	ØD_2 in	Ød_2
H9	+0.05 -0	+0.002 -0	f9

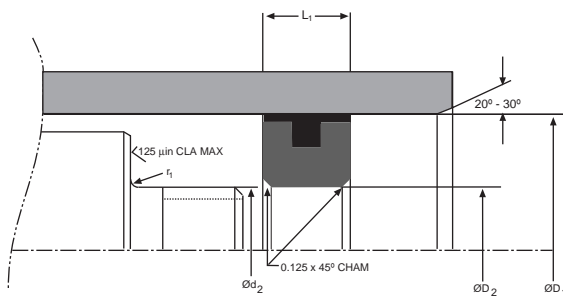
Inch

3.0 ft/sec
-40°F +230°F
5000 p.s.i.

μinCLA	μinRMS
4-16	5-18
125	137



720



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. Molding 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.

Custom configurations of the Unitized Piston are available and can be designed to fit your specific application. Contact Hallite Seals for more information.

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**

Material Option

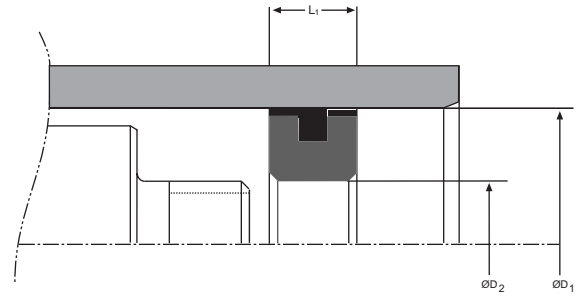
The materials used for the Standard Unitized Piston are selected to handle a broad range of application parameters.

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.

720



inch

ØD ₁	TOL H9	ØD ₂	TOL	L ₁	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

ØD ₁	TOL H9	ØD ₂	TOL	L ₁	PART No.
3.500	+0.004 -0.000	1.000	+0.002 -0.000	1.500	H1385
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

*Not fitted with an internal static sealing O-ring.

metric

ØD ₁	TOL H9	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	+0.06 +0.00	25.0	+0.05 -0.0	25.0	7242010

ØD ₁	TOL H9	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