

Design

Used in tandem, the Hallite 16 rod seal provides the designer with a compact low friction seal for light to medium duty hydraulic cylinders.

It has a special filled PTFE ring with a pre-loaded lip energised by an O ring. The lip is designed to have a contact area with the rod adequate to retain the media at low pressure. As high pressure acts on the O ring it compresses the lip against the rod increasing the contact area and the effectiveness of the seal.

The special PTFE ring has the low frictional properties normally associated with this material but is strengthened by additives to reduce creep. It has a low breakout friction so stick-slip is eliminated.

Standard seals are supplied with a nitrile O ring but other materials can be provided.

For the best results it is recommended two seals are fitted. The PTFE ring should always be mounted with the sealing lip on the pressure side. Sizes above 30mm are easily installed by deforming the PTFE ring into a kidney shape, sizes under 30mm are best installed using a tool, details of which can be provided.

A number of material options can be provided to extend operating conditions. Please ensure that the correct part number is specified for the material option as indicated.

NB: Part numbers suffixed by “#” indicate housing sizes to meet ISO7425-2.

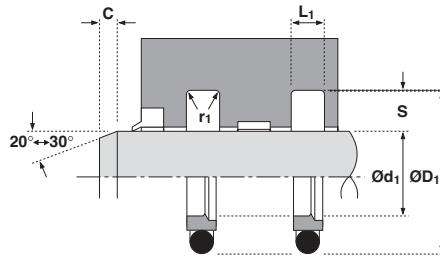
Features

- Ultra low friction
- Compact housing
- Inch sizes available on request
- The seal ring component is machined by Hallite, therefore any size can be catered for

Materials

Face Material - O Ring
Standard material
15% Glass/PTFE – NBR
----- 10

Material options:
15% Glass/PTFE – FKM
----- 11
Bronze/PTFE – NBR
----- 20
Bronze/PTFE – FKM
----- 21



Technical details

Operating conditions

Maximum Speed	4.0 m/sec
Temperature Range	-30°C + 100°C
Maximum Pressure	300 bar

Inch

12.0 ft/sec
-22°F + 212°F
4500 p.s.i.

Maximum extrusion gap

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

Pressure bar	100	150	250	300
Maximum Gap mm	0.6	0.5	0.45	0.4
Pressure p.s.i.	1500	2400	3750	4500

Surface roughness

Dynamic Sealing Face Ød ₁	µmRa	µmRt	µinCLA	µinRMS
Static Sealing Face ØD ₁	0.1 < > 0.4	4 max	4 < > 16	5 < > 18
Static Housing Faces L ₁	1.6 max	10 max	63 max	70 max
	3.2 max	16 max	125 max	140 max

Chamfers & Radii

Groove Section ≤ S mm	3.75	5.50	7.75	10.50	12.25
Min Chamfer C mm	2.0	3.0	5.0	7.5	8.0
Max Fillet Rad r ₁ mm	0.4	0.8	1.2	1.6	1.6

Tolerances

Ød ₁	ØD ₁	L ₁ mm
f9	H11	+0.2 -0



rod seals