Hallite
Fenner Advanced Sealing Technologies

416

Design

The Hallite 416 is a buffer seal developed to work in conjunction with high performance rod seals, such as the Hallite 605 and 621.

It has a bronze filled PTFE ring with a pre-loaded lip energised by an O-Ring. Theseal is designed to protect the primary rod seal from pressure spikes in the cylinder. It has a self relieving design in order to prevent excessive pressure build up in the cavity between the buffer seal and the rod seal.

The special PTFE ring has the low frictional properties normally associated with this material but is strenthened 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.

The PTFE ring should always be mounted with the internal step 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.

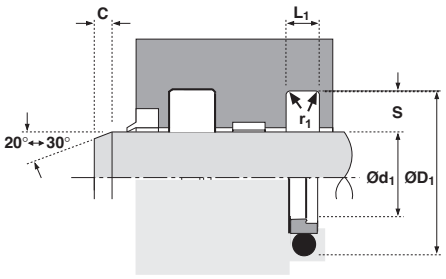
Features

- Self relieving design prevents pressure trapping
- Low friction - no stick slip
- High strength precision machined PTFE cap ring
- Wide range of materials
- Simple groove design and installation

Materials

Face Material - O Ring
Standard material
Bronze/PTFE – NBR
_ _ _ _ _ *00*

Material options:
15% Glass/PTFE – NBR
_ _ _ _ _ *01*
15% Glass/PTFE – FKM
_ _ _ _ _ *11*
Bronze/PTFE – FKM
_ _ _ _ _ *10*



Technical details

	Metric	Inch
Operating conditions		
Maximum Speed	4.0 m/sec	12.0 ft/sec
Temperature Range	-30°C + 100°C	-22°F + 212°F
Maximum Pressure	300 bar	4500 p.s.i.

Maximum extrusion gap — **Figures show the maximum permissible gap on one side using minimum rod Ø and maximum clearance Ø.**

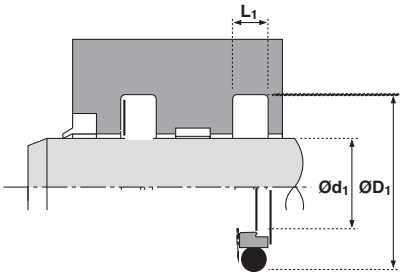
Pressure bar	100	150	250	300
Pressure p.s.i.	1500	2400	3750	4500
Maximum Gap in	0.024	0.020	0.018	0.016

Surface roughness	µmRa	µmRt	µinCLA	µinRMS
Dynamic Sealing Face $Ød_1$	0.1 < > 0.4	4 max	4 < > 16	5 < >18
Static Sealing Face $ØD_1$	1.6 max	10 max	63 max	70 max
Static Housing Faces L_1	3.2 max	16 max	125 max	140 max

Chamfers & Radii					
Groove Section ≤ S in	0.148	0.216	0.305	0.413	0.482
Min Chamfer C in	0.079	0.118	0.197	0.295	0.315
Max Fillet Rad r_1 in	0.016	0.031	0.047	0.059	0.059

Tolerances	$Ød_1$	$ØD_1$	L_1 in
	f9	H11	+0.008 -0

rod buffer seals



Ød1	TOL f9	ØD1	TOL H10	L1 +0.008	PART No.
0.750	-0.0008 -0.0028	1.037	+0.003 -0.000	0.126	72005_ _
1.000	-0.0008 -0.0028	1.287	+0.004 -0.000	0.126	72010_ _
1.250	-0.0010 -0.0034	1.587	+0.004 -0.000	0.126	72012_ _
1.500	-0.0010 -0.0034	1.787	+0.004 -0.000	0.126	72015_ _
1.500	-0.0010 -0.0034	1.921	+0.004 -0.000	0.165	72025_ _
1.750	-0.0010 -0.0034	2.037	+0.005 -0.000	0.126	72020_ _
1.750	-0.0010 -0.0034	2.171	+0.005 -0.000	0.165	72030_ _
2.000	-0.0012 - 0.0041	2.421	+0.005 -0.000	0.165	72035_ _
2.500	-0.0012 - 0.0041	2.921	+0.005 -0.000	0.165	72040_ _
2.750	-0.0012 - 0.0041	3.171	+0.005 -0.000	0.165	72045_ _
2.750	-0.0012 - 0.0041	3.344	+0.005 -0.000	0.248	72054_ _
3.000	-0.0012 - 0.0041	3.421	+0.005 -0.000	0.165	72050_ _
3.000	-0.0014 -0.0048	3.594	+0.005 -0.000	0.248	72055_ _
3.500	-0.0014 -0.0048	4.094	+0.005 -0.000	0.248	72060_ _
3.625	-0.0014 -0.0048	4.219	+0.005 -0.000	0.248	72065_ _
3.750	-0.0014 -0.0048	4.344	+0.005 -0.000	0.248	72070_ _
4.000	-0.0014 -0.0048	4.594	+0.005 -0.000	0.248	72075_ _
4.500	-0.0014 -0.0048	5.307	+0.006 -0.000	0.319	72100_ _
4.500	-0.0014 -0.0048	5.094	+0.006 -0.000	0.248	72079_ _
4.750	-0.0014 -0.0048	5.344	+0.006 -0.000	0.248	72080_ _
5.000	-0.0014 -0.0048	5.594	+0.006 -0.000	0.248	72085_ _
5.125	-0.0017 -0.0056	5.719	+0.006 -0.000	0.248	72090_ _
5.375	-0.0017 -0.0056	5.969	+0.006 -0.000	0.248	72095_ _
5.500	-0.0017 -0.0056	6.307	+0.006 -0.000	0.319	72105_ _
6.000	-0.0017 -0.0056	6.807	+0.006 -0.000	0.319	72110_ _
7.000	-0.0017 -0.0056	7.807	+0.007 -0.000	0.319	72115_ _
8.000	-0.0020 -0.0065	8.807	+0.007 -0.000	0.319	72120_ _
9.000	-0.0020 -0.0065	9.801	+0.007 -0.000	0.319	72125_ _
10.000	-0.0022 -0.0073	10.807	+0.008 -0.000	0.319	72130_ _
12.000	-0.0022 -0.0073	12.807	+0.009 -0.000	0.319	72135_ _