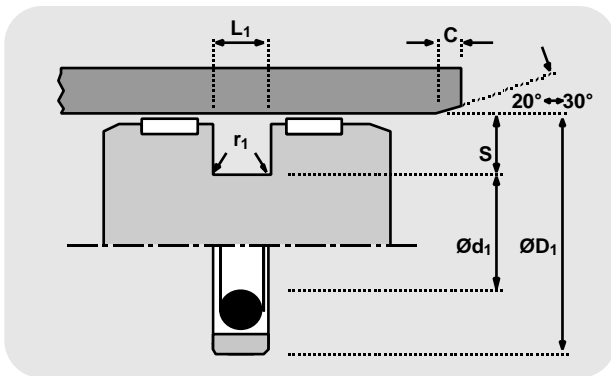
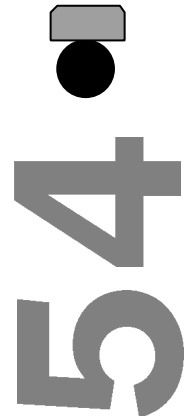


TECHNICAL DETAILS		METRIC	INCH
OPERATING CONDITIONS			
MAXIMUM SPEED	4.0 m/sec	12.0 ft/sec	
TEMPERATURE RANGE	-30°C + 100°C	-22°F + 212°F	
MAXIMUM PRESSURE	350 bar	5000 p.s.i.	
MAXIMUM EXTRUSION GAP			
PRESSURE bar	100	160	250
MAXIMUM GAP mm	0.60	0.50	0.45
PRESSURE p.s.i.	1500	2400	3750
MAXIMUM GAP in	0.024	0.020	0.018
SURFACE ROUGHNESS			
DYNAMIC SEALING FACE $\varnothing d_1$	μmRa 0.1 \checkmark 0.4	μmRt 4 max	μinCLA 4 \checkmark 16
STATIC SEALING FACE $\varnothing d_1$	1.6 max	10 max	63 max
STATIC HOUSING FACES L_1	3.2 max	16 max	125 max
CHAMFERS & RADII			
GROOVE SECTION S mm	3.75	5.50	7.75
MIN CHAMFER C mm	2.00	2.50	5.00
MAX FILLET RAD r_1 mm	0.40	0.80	1.20
GROOVE SECTION S in	0.147	0.216	0.305
MIN CHAMFER C in	0.093	0.125	0.156
MAX FILLET RAD r_1 in	0.016	0.016	0.032
TOLERANCES			
	$\varnothing d_1$	$\varnothing d_1$	L_1
mm	H9	f8	+0.2 -0
in	H9	f8	+0.008 -0



FEATURES

- LOW STICK/SLIP
- LOW BREAKOUT & RUNNING FRICTION
- HIGH MAXIMUM SPEED
- COMPACT PISTON DESIGN
- THE SEAL RING COMPONENT CAN BE MACHINED TO ANY SIZE

MATERIALS

Face material - O-Ring	last two digits of part number
Standard material	
15% Glass/PTFE - NBR	----- 10
Material options:	
15% Glass/PTFE - FKM	----- 11
Bronze/PTFE - NBR	----- 20
Bronze/PTFE - FKM	----- 21

DESIGN

The Hallite 54 double acting piston seal provides the designer with a compact, low friction seal for light to medium duty hydraulic cylinders.

It comprises a PTFE ring, strengthened with additives to resist creep, which is pre-loaded by an O ring to be effective for the operating pressure range recommended. As the pressure rises the O ring deforms and compresses the PTFE ring against the tube wall increasing the sealing force and the effectiveness of the seal. As only the PTFE ring is in contact with the sliding surface, friction is very low and stick-slip movement is eliminated.

The housing width allows the designer to use a narrow width piston, but it is recommended an adequate bearing is mounted either side of the seal as shown.*

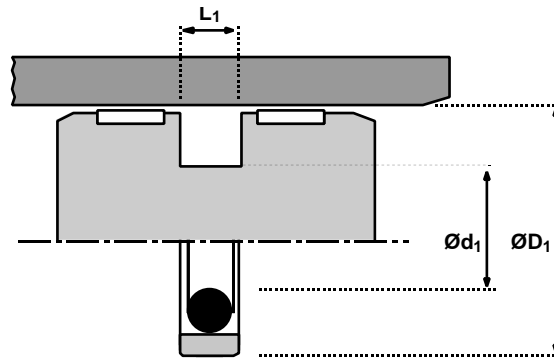
A number of material options can be provided to extend operating conditions. Please ensure that the correct part number is specified for the material option as indicated. Technical details shown are for 15% Glass/PTFE and NBR energiser. Technical details for material options should be requested from Hallite Seals. The Hallite 54 seal is not recommended for applications where it is necessary for the pressurised cylinder to maintain the load in a set position.

*See Hallite 87 and 506 wear ring data sheets.

NB: Part numbers suffixed by "‡" indicate housing sizes to meet ISO 7425-1.

Piston seals

54 metric



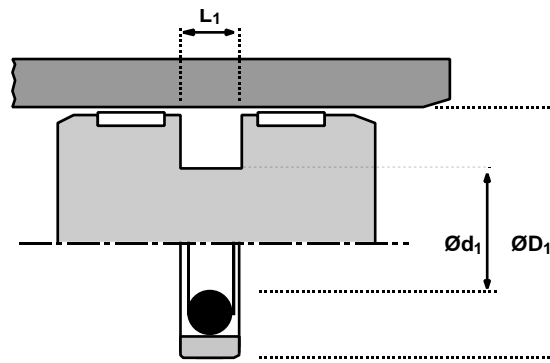
ØD ₁	TOL H9	Ød ₁	TOL f8	L ₁ + 0.2 - 0	PART No.
12	+0.04 +0.00	7.1	-0.01 -0.04	2.20	66239__
15	+0.04 +0.00	7.5	-0.01 -0.04	3.20	86163__
16	+0.04 +0.00	8.5	-0.01 -0.04	3.20	66240__ ‡
20	+0.05 +0.00	12.5	-0.02 -0.04	3.20	66241__ ‡
24	+0.05 +0.00	16.5	-0.02 -0.04	3.20	66154__
25	+0.05 +0.00	17.5	-0.02 -0.04	3.20	66242__ ‡
30	+0.05 +0.00	22.5	-0.02 -0.05	3.20	65968__
32	+0.06 +0.00	24.5	-0.02 -0.05	3.20	65969__ ‡
35	+0.06 +0.00	27.5	-0.02 -0.05	3.20	65970__
38	+0.06 +0.00	30.5	-0.03 -0.06	3.20	66475__
40	+0.06 +0.00	29.0	-0.02 -0.05	4.20	65971__ ‡
42	+0.06 +0.00	31.0	-0.03 -0.06	4.20	65972__
45	+0.06 +0.00	34.0	-0.03 -0.06	4.20	65973__
50	+0.06 +0.00	39.0	-0.03 -0.06	4.20	65974__ ‡
55	+0.07 +0.00	44.0	-0.03 -0.06	4.20	65975__
60	+0.07 +0.00	49.0	-0.03 -0.06	4.20	65976__
63	+0.07 +0.00	52.0	-0.03 -0.08	4.20	66243__ ‡
65	+0.07 +0.00	54.0	-0.03 -0.08	4.20	86118__
70	+0.07 +0.00	59.0	-0.03 -0.08	4.20	65977__
75	+0.07 +0.00	64.0	-0.03 -0.08	4.20	66244__
80	+0.07 +0.00	64.5	-0.03 -0.08	6.30	65978__ ‡
90	+0.09 +0.00	74.5	-0.03 -0.08	6.30	65979__
95	+0.09 +0.00	79.5	-0.03 -0.08	6.30	86084__

ØD ₁	TOL H9	Ød ₁	TOL f8	L ₁ + 0.2 - 0	PART No.
100	+0.09 +0.00	84.5	-0.04 -0.09	6.30	65980__ ‡
110	+0.09 +0.00	94.5	-0.04 -0.09	6.30	65981__
115	+0.09 +0.00	99.5	-0.04 -0.09	6.30	65982__
120	+0.09 +0.00	104.5	-0.04 -0.09	6.30	66361__
125	+0.10 +0.00	109.5	-0.04 -0.09	6.30	65983__ ‡
130	+0.10 +0.00	114.5	-0.04 -0.09	6.30	66476__
135	+0.10 +0.00	114.0	-0.04 -0.09	8.10	66477__
140	+0.10 +0.00	119.0	-0.04 -0.09	8.10	65984__
145	+0.10 +0.00	124.0	-0.04 -0.11	8.10	86080__
150	+0.10 +0.00	129.0	-0.04 -0.11	8.10	65985__
155	+0.10 +0.00	134.0	-0.04 -0.11	8.10	86177__
160	+0.10 +0.00	139.0	-0.04 -0.11	8.10	65986__ ‡
165	+0.10 +0.00	144.0	-0.04 -0.11	8.10	66491__
170	+0.10 +0.00	149.0	-0.04 -0.11	8.10	65987__
180	+0.10 +0.00	159.0	-0.04 -0.11	8.10	65988__
185	+0.12 +0.00	164.0	-0.04 -0.11	8.10	66478__
190	+0.12 +0.00	169.0	-0.04 -0.11	8.10	65989__
200	+0.12 +0.00	179.0	-0.04 -0.11	8.10	65990__ ‡
210	+0.12 +0.00	189.0	-0.05 -0.12	8.10	86146__
220	+0.12 +0.00	199.0	-0.05 -0.12	8.10	66245__
225	+0.12 +0.00	204.0	-0.05 -0.12	8.10	66246__
230	+0.12 +0.00	209.0	-0.05 -0.12	8.10	66247__
240	+0.12 +0.00	219.0	-0.05 -0.12	8.10	86154__

Piston seals

54

metric



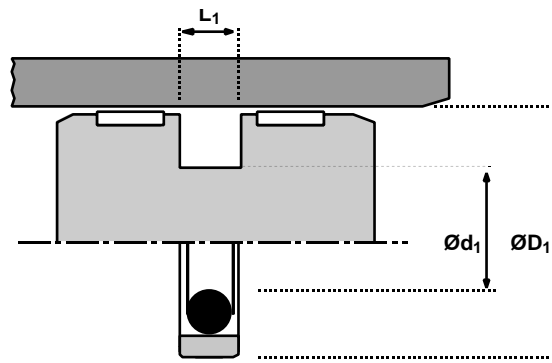
ØD ₁	TOL H9	Ød ₁	TOL f8	L ₁ + 0.2 - 0	PART No.
250	+0.12 +0.00	229.0	-0.05 -0.12	8.10	66401__ ‡
260	+0.12 +0.00	239.0	-0.05 -0.12	8.10	66479__
280	+0.13 +0.00	259.0	-0.06 -0.14	8.10	66402__
300	+0.13 +0.00	279.0	-0.06 -0.14	8.10	66403__
310	+0.13 +0.00	289.0	-0.06 -0.14	8.10	66480__
320	+0.13 +0.00	299.0	-0.06 -0.14	8.10	86086__ ‡
330	+0.13 +0.00	305.5	-0.06 -0.14	8.10	86081__

ØD ₁	TOL H9	Ød ₁	TOL f8	L ₁ + 0.2 - 0	PART No.
340	+0.14 +0.00	315.5	-0.06 -0.14	8.10	66481__
350	+0.14 +0.00	325.5	-0.06 -0.14	8.10	86155__
360	+0.14 +0.00	335.5	-0.06 -0.14	8.10	86218__
370	+0.14 +0.00	345.5	-0.06 -0.14	8.10	86219__
380	+0.14 +0.00	355.5	-0.06 -0.14	8.10	86220__
390	+0.14 +0.00	365.5	-0.06 -0.14	8.10	86221__
400	+0.14 +0.00	375.5	-0.06 -0.14	8.10	66482__ ‡

Piston seals

54

inch



ØD_1	TOL H9	Ød_1	TOL f8	L_1 + 0.008 - 0	PART No.
1.000	+0.002 +0.000	0.704	-0.0008 -0.0020	0.125	66248_ _
1.500	+0.002 +0.000	1.204	-0.0010 -0.0026	0.125	66249_ _
2.000	+0.003 +0.000	1.568	-0.0012 -0.0030	0.165	66250_ _
2.500	+0.003 +0.000	2.068	-0.0012 -0.0030	0.165	66251_ _
3.000	+0.003 +0.000	2.568	-0.0012 -0.0030	0.165	66252_ _
3.250	+0.003 +0.000	2.640	-0.0014 -0.0036	0.250	66253_ _
3.500	+0.003 +0.000	2.890	-0.0014 -0.0036	0.250	66254_ _

ØD_1	TOL H9	Ød_1	TOL f8	L_1 + 0.008 - 0	PART No.
4.000	+0.003 +0.000	3.390	-0.0014 -0.0036	0.250	66255_ _
4.500	+0.003 +0.000	3.890	-0.0014 -0.0036	0.250	66256_ _
5.000	+0.004 +0.000	4.390	-0.0016 -0.0041	0.250	66257_ _
6.000	+0.004 +0.000	5.174	-0.0016 -0.0041	0.320	66258_ _
7.000	+0.004 +0.000	6.174	-0.0016 -0.0041	0.320	66259_ _
8.000	+0.004 +0.000	7.174	-0.0020 -0.0048	0.320	66260_ _