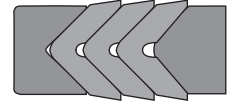


Vee Pack Sets

Technical details

Operating conditions

	Metric	Inch
Maximum Speed	0.5 m/sec	1.5 ft/sec
Temperature Range	-30°C +100°C	-22°F +212°F
Maximum Pressure	400 bar	6000 p.s.i.



Maximum extrusion gap

Pressure bar	100	175	250	400
Maximum Gap mm	0.45	0.4	0.3	0.2
Pressure p.s.i.	1500	2250	3500	6000
Maximum Gap in	0.018	0.015	0.010	0.007

Figures show the maximum permissible gap all on one side, for rod seals using minimum rod \varnothing and maximum clearance \varnothing and for piston seals using the minimum clearance \varnothing and maximum bore \varnothing

Surface roughness

	μmRa	μmRt	μinCLA	μinRMS
Dynamic Sealing Face – Rod $\varnothing d_1$	0.1 <> 0.4	4 max	4 <> 16	5 <> 18
Static Sealing Face – Rod $\varnothing D_1$	1.6 max	10 max	63 max	70 max
Dynamic Sealing Face – Piston $\varnothing d_1$	0.1 <> 0.4	4 max	4 <> 16	5 <> 18
Static Sealing Face – Piston $\varnothing D_1$	1.6 max	10 max	63 max	70 max
Static Housing Faces L_1	3.2 max	16 max	125 max	140 max

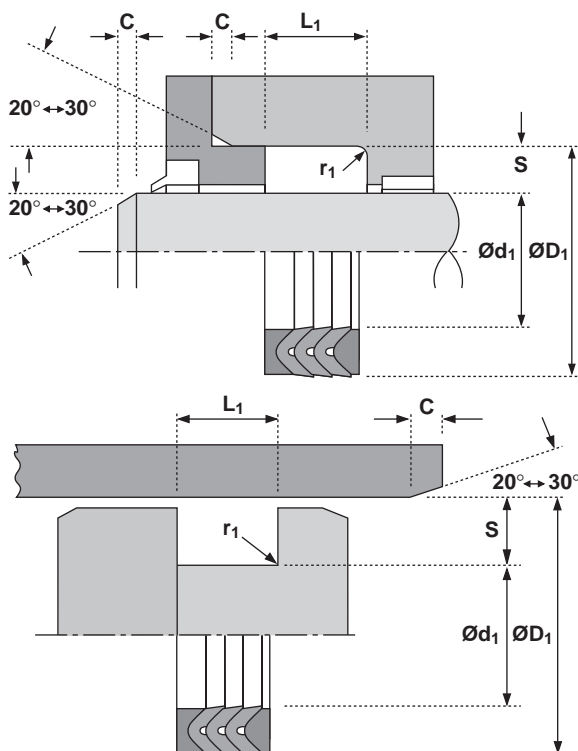
Chamfers & Radii

Groove Section S mm	5.0	7.5	10.0	12.5	15.0
Min Chamfer C mm	3.0	5.0	6.5	7.0	7.5
Max Fillet Rad r_1 mm	0.5	0.8	0.8	0.8	0.8
Groove Section S in	0.187	0.250	0.312	0.375	0.500
Min Chamfer C in	0.093	0.125	0.156	0.187	0.250
Max Fillet Rad r_1 in	0.020	0.031	0.031	0.031	0.031

Tolerances

Rod	$\varnothing d_1$	$\varnothing D_1$	L_1 mm	L_1 in
Piston	f9	Js11	+0.75 -0.0	+0.030 -0
	js11	H9	+0.75 -0.0	+0.030 -0

09



Design

Hallite 09 vee packings incorporate the Hallite 08 vee ring manufactured from fabric reinforced high grade nitrile rubber, which is normally used in multiples in a set with a male and female adaptor. The parts are 'stacked' together and must be lubricated liberally with clean operating fluid prior to assembly.

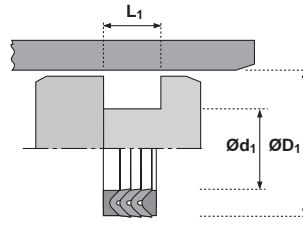
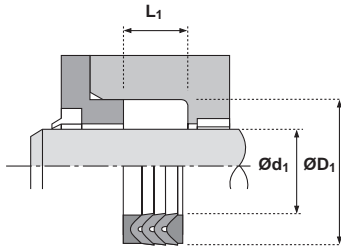
The packing must be axially pre-loaded by the housing. This preload works through the male adaptor on the pressure side, exerting a hinging action on the vees, forcing the sealing lips apart to ensure a low pressure seal. As the pressure increases, so the hinging action increases, increasing the effectiveness of the seal even where severe vibration, shock loading and knuckling may occur.

The standard Hallite 09 comprises of three vees and two adaptors, available in metric and imperial inch sizes. In addition to the ranges the Hallite 09 is also available for standard American inch housings. Some adaptors are rubber fabric while others are polyacetal resin. Individual vee rings are stocked to supplement the sets, but it should be noted that individual adaptors are only available in special circumstances.

For sizes not listed or for special requirements, please contact your Hallite sales office.

N.B: Size lists give "on line" tolerances for rod applications.

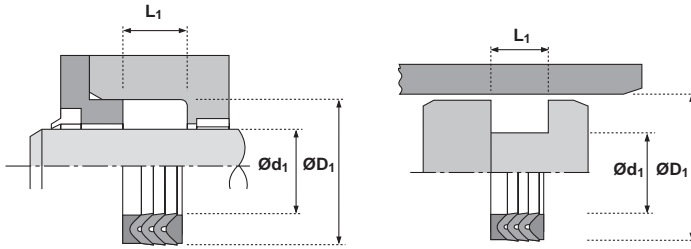
09



For piston sealing tolerances refer to technical details.

Ød ₁	TOL f ₉	ØD ₁	TOL Js11	L ₁ +0.75-0.0	PART No.
0.500	-0.0006 -0.0023	1.000	+0.003 -0.003	0.715	6530830
0.750	-0.0008 -0.0028	1.250	+0.003 -0.003	0.875	1735140
0.875	-0.0008 -0.0028	1.375	+0.003 -0.003	0.825	4135930
1.000	-0.0008 -0.0028	1.375	+0.003 -0.003	0.675	4138630
1.000	-0.0008 -0.0028	1.500	+0.003 -0.003	0.710	0183330
1.125	-0.0008 -0.0028	1.625	+0.003 -0.003	0.775	4136030
1.125	-0.0010 -0.0034	1.750	+0.003 -0.003	1.065	4115330
1.250	-0.0010 -0.0034	1.750	+0.003 -0.003	0.785	4102530
1.500	-0.0010 -0.0034	2.000	+0.004 -0.004	0.710	4007630
1.500	-0.0010 -0.0034	2.125	+0.004 -0.004	1.000	4002130
1.750	-0.0010 -0.0034	2.250	+0.004 -0.004	0.825	1461530
1.750	-0.0010 -0.0034	2.375	+0.004 -0.004	1.000	4135130
1.875	-0.0010 -0.0034	2.500	+0.004 -0.004	0.950	4136230
2.000	-0.0012 -0.0041	2.500	+0.004 -0.004	0.715	4007430
2.000	-0.0012 -0.0041	2.625	+0.004 -0.004	0.898	6557940
2.000	-0.0012 -0.0041	2.750	+0.004 -0.004	0.986	6575730
2.250	-0.0012 -0.0041	2.750	+0.004 -0.004	0.705	6555230

Ød ₁	TOL f ₉	ØD ₁	TOL Js11	L ₁ +0.75-0.0	PART No.
2.250	-0.0012 -0.0041	2.875	+0.004 -0.004	0.937	6530730
2.250	-0.0012 -0.0041	3.000	+0.004 -0.004	0.960	4008030
2.375	-0.0012 -0.0041	3.000	+0.004 -0.004	0.990	4129530
2.500	-0.0012 -0.0041	3.000	+0.004 -0.004	0.777	0334330
2.500	-0.0012 -0.0041	3.125	+0.005 -0.005	0.961	4122230
2.500	-0.0012 -0.0041	3.250	+0.005 -0.005	1.222	4002530
2.750	-0.0012 -0.0041	3.250	+0.005 -0.005	0.795	4182430
2.750	-0.0012 -0.0041	3.500	+0.005 -0.005	0.978	4008430
3.000	-0.0014 -0.0048	3.500	+0.005 -0.005	0.725	4130730
3.000	-0.0014 -0.0048	3.625	+0.005 -0.005	0.918	4001530
3.000	-0.0014 -0.0048	3.750	+0.005 -0.005	1.159	0636930*
3.250	-0.0014 -0.0048	4.000	+0.005 -0.005	0.960	4008330
3.375	-0.0014 -0.0048	4.000	+0.005 -0.005	0.833	4002730
3.375	-0.0014 -0.0048	4.125	+0.005 -0.005	1.236	4134030
3.500	-0.0014 -0.0048	4.000	+0.005 -0.005	0.825	1461130
3.500	-0.0014 -0.0048	4.250	+0.005 -0.005	1.086	4115830
3.750	-0.0014 -0.0048	4.375	+0.005 -0.005	0.900	1365330



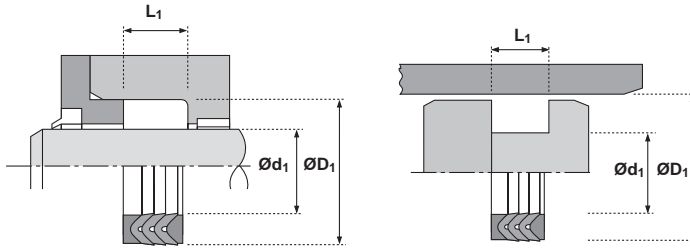
For piston sealing tolerances refer to technical details.

$\varnothing d_1$	TOL f9	$\varnothing D_1$	TOL Js11	L_1 +0.030-0.0	PART No.
3.750	-0.0014	4.500	+0.005	1.090	0755731*
	-0.0048		-0.005		
3.875	-0.0014	4.500	+0.005	0.878	4001930
	-0.0048		-0.005		
4.000	-0.0014	4.500	+0.005	0.775	6565930
	-0.0048		-0.005		
4.000	-0.0014	4.750	+0.005	1.000	6573130
	-0.0048		-0.005		
4.000	-0.0014	5.000	+0.005	1.440	0563630
	-0.0048		-0.005		

$\varnothing d_1$	TOL f9	$\varnothing D_1$	TOL Js11	L_1 +0.030-0.0	PART No.
4.250	-0.0014	5.000	+0.005	1.090	0299330
	-0.0048		-0.005		
5.000	-0.0016	6.000	+0.005	1.765	0307530*
	-0.0056		-0.005		
5.250	-0.0016	6.000	+0.005	1.055	0411130
	-0.0056		-0.005		
5.500	-0.0016	6.500	+0.005	1.175	0048430
	-0.0056		-0.005		
6.000	-0.0016	6.500	+0.005	0.675	1207030
	-0.0056		-0.005		

* Supplied with OD anti-extrusion ring.

09



For piston sealing tolerances refer to technical details.

Ød ₁	TOL f ₉	ØD ₁	TOL Js11	L ₁ +0.75-0.0	PART No.
12.00	-0.016	22.00	+0.055	16.00	0188730
	-0.059		-0.055		
15.00	-0.016	25.00	+0.055	16.00	0189530
	-0.059		-0.055		
16.00	-0.016	26.00	+0.055	16.00	0190130
	-0.059		-0.055		
18.00	-0.016	28.00	+0.055	16.00	0190530
	-0.059		-0.055		
20.00	-0.020	30.00	+0.065	16.00	0190930
	-0.072		-0.065		
22.00	-0.020	32.00	+0.065	16.00	0191730
	-0.072		-0.065		
25.00	-0.020	40.00	+0.065	22.50	0192630
	-0.072		-0.065		
28.00	-0.020	43.00	+0.065	22.50	0193430
	-0.072		-0.065		
30.00	-0.020	45.00	+0.065	22.50	0193930
	-0.072		-0.065		
32.00	-0.025	47.00	+0.080	22.50	0194330
	-0.087		-0.080		
35.00	-0.025	50.00	+0.080	22.50	0195130
	-0.087		-0.080		
36.00	-0.025	51.00	+0.080	22.50	0196030
	-0.087		-0.080		
42.00	-0.025	57.00	+0.080	22.50	0196830
	-0.087		-0.080		
45.00	-0.025	60.00	+0.080	22.50	0197430
	-0.087		-0.080		
48.00	-0.025	63.00	+0.080	22.50	0197730
	-0.087		-0.080		
50.00	-0.025	70.00	+0.080	30.00	1208430
	-0.087		-0.080		
55.00	-0.030	75.00	+0.095	30.00	1208230
	-0.104		-0.095		
56.00	-0.030	76.00	+0.095	32.00	1208630
	-0.104		-0.095		
60.00	-0.030	80.00	+0.095	32.00	1208930
	-0.104		-0.095		
63.00	-0.030	83.00	+0.095	32.00	1209130
	-0.104		-0.095		

Ød ₁	TOL f ₉	ØD ₁	TOL Js11	L ₁ +0.75-0.0	PART No.
65.00	-0.030	85.00	+0.095	30.00	1209230
	-0.104		-0.095		
70.00	-0.030	90.00	+0.095	30.00	1209330
	-0.104		-0.095		
75.00	-0.030	95.00	+0.095	30.00	1209530
	-0.104		-0.095		
80.00	-0.030	100.00	+0.095	30.00	1209630
	-0.104		-0.095		
80.00	-0.030	105.00	+0.095	44.00	0984230
	-0.104		-0.095		
85.00	-0.036	105.00	+0.110	30.00	1209830
	-0.123		-0.110		
90.00	-0.036	110.00	+0.095	30.00	1210630
	-0.123		-0.110		
100.00	-0.036	120.00	+0.095	30.00	1210730
	-0.123		-0.110		
105.00	-0.036	125.00	+0.095	30.00	1203130
	-0.123		-0.110		
110.00	-0.036	130.00	+0.095	30.00	1195030
	-0.123		-0.110		
120.00	-0.036	140.00	+0.095	30.00	4137830
	-0.123		-0.110		
125.00	-0.043	150.00	+0.125	34.00	1215330
	-0.143		-0.125		
135.00	-0.043	160.00	+0.125	34.00	1197630
	-0.143		-0.125		
140.00	-0.043	160.00	+0.125	33.00	0677130
	-0.143		-0.125		
150.00	-0.043	180.00	+0.125	45.00	1220130
	-0.143		-0.125		
170.00	-0.043	200.00	+0.125	45.00	1224930
	-0.143		-0.125		
200.00	+0.050	230.00	+0.145	45.00	1225830
	-0.165		-0.145		