



Rod buffer seals

TECHNICAL DETAILS

METRIC

INCH

OPERATING CONDITIONS

MAXIMUM SPEED
TEMPERATURE RANGE
MAXIMUM PRESSURE

1.0 m/sec
-45°C + 110°C
700 bar

3.0 ft/sec
-50°F + 230°F
10,000 p.s.i.

MAXIMUM EXTRUSION GAP

PRESSURE bar
MAXIMUM GAP (S ≤ 6) mm
MAXIMUM GAP (S > 6) mm
PRESSURE p.s.i.
MAXIMUM GAP (S ≤ 0.250) in
MAXIMUM GAP (S > 0.250) in

Figures show the maximum permissible gap all on one side using minimum rod \varnothing and maximum clearance \varnothing .

160	250	400	500	700
0.6	0.5	0.4	0.3	0.2
1.0	0.8	0.6	0.4	0.25

2400	3750	6000	7500	10,000
0.024	0.020	0.016	0.012	0.008
0.040	0.032	0.024	0.016	0.010

SURFACE ROUGHNESS

DYNAMIC SEALING FACE $\varnothing d_1$
STATIC SEALING FACE $\varnothing D_1$
STATIC HOUSING FACES L_1

μmRa	μmRt	μinCLA	μinRMS
0.1 ↔ 0.4	4 max	4 ↔ 16	5 ↔ 18
1.6 max	10 max	63 max	70 max
3.2 max	16 max	125 max	140 max

CHAMFERS & RADII

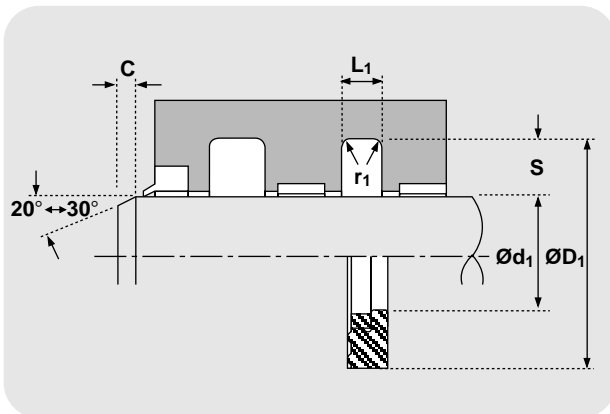
GROOVE SECTION ≤ S mm
MIN CHAMFER C mm
MAX FILLET RAD r_1 mm
GROOVE SECTION ≤ S in
MIN CHAMFER C in
MAX FILLET RAD r_1 in

3.75	5.50	7.75
3.00	3.50	5.00
0.4	0.8	1.2
0.150	0.215	0.306
0.093	0.125	0.156
0.020	0.028	0.047

TOLERANCES

mm
in

$\varnothing d_1$	$\varnothing D_1$	L_1
f9	H11	+0.25 -0
f9	Js11	+0.010 -0



DESIGN

The Hallite 653 is a buffer seal developed to work in conjunction with high performance rod seals, such as the Hallite 605 and 621. It is also interchangeable with common PTFE buffer seal housings.

The seal, which is manufactured in Hythane 181, is designed to provide a valve action to prevent excessive pressure build up in the cavity between the buffer seal and the rod seal. An acetal anti-extrusion ring is fitted to provide maximum extrusion resistance against shock pressure loads.

The Hallite 653 is a patented product :
European patent no. 0427554B1.
U.S.A. patent no. 5088747.

FEATURES

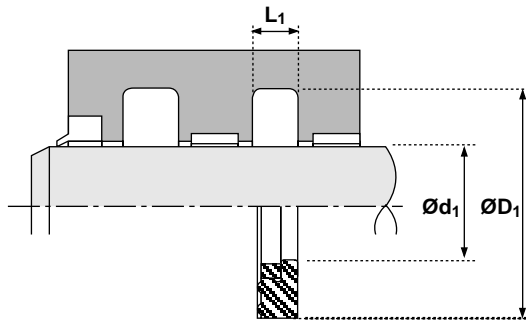
- PREVENTS INTER-SEAL PRESSURE BUILD UP
- INTERCHANGEABLE WITH COMMON PTFE BUFFER SEAL HOUSINGS
- EASY INSTALLATION
- LONG LIFE
- EXCELLENT TEMPERATURE RANGE



Rod buffer seals

653

metric



Ød ₁	TOL f9	ØD ₁	TOL H10	L ₁ +0.25 -0	PART No.
45.0	-0.025 -0.087	56.0	+0.120 -0.00	4.2	4575510
50.0	-0.025 -0.087	65.5	+0.120 -0.000	6.3	4403210
55.0	-0.030 -0.104	70.5	+0.120 -0.000	6.3	4403310
60.0	-0.030 -0.104	75.5	+0.120 -0.000	6.3	4403410
63.0	-0.030 -0.104	78.5	+0.190 -0.000	6.3	4751110
65.0	-0.030 -0.104	80.5	+0.120 -0.000	6.3	4742110
70.0	-0.030 -0.104	85.5	+0.120 +0.000	6.3	4742310
75.0	-0.030 -0.104	90.5	+0.120 +0.000	6.3	4742410

Ød ₁	TOL f9	ØD ₁	TOL H10	L ₁ +0.25 -0	PART No.
80.0	-0.030 -0.104	95.5	+0.095 +0.095	6.3	4742510
85.0	-0.030 -0.104	100.5	+0.095 +0.095	6.3	4742610
90.0	-0.036 -0.123	105.5	+0.110 -0.110	6.3	4523710
95.0	-0.036 -0.123	110.5	+0.110 -0.110	6.3	4742810
100.0	-0.036 -0.123	115.5	+0.110 -0.110	6.3	4742910
110.0	-0.036 -0.123	125.5	-0.110 -0.110	6.3	4743010
215.0	-0.050 -0.165	236.0	+0.145 -0.145	8.1	4705710

inch

Ød ₁	TOL f9	ØD ₁	TOL Js11	L ₁ +0.010 -0	PART No.
2.000	-0.0012 -0.0041	2.424	+0.004 -0.004	0.166	4521310
2.500	-0.0012 -0.0041	2.924	+0.004 -0.004	0.166	4514610
2.750	-0.0012 -0.0041	3.174	+0.004 -0.004	0.166	4533510
3.000	-0.0012 -0.0041	3.616	+0.004 -0.004	0.247	4515910
3.500	-0.0014 -0.0048	4.116	+0.004 -0.004	0.247	4514810

Ød ₁	TOL f9	ØD ₁	TOL Js11	L ₁ +0.010 -0	PART No.
4.000	-0.0014 -0.0048	4.616	+0.004 -0.004	0.247	4524610
7.000	-0.0016 -0.0056	7.616	+0.006 -0.006	0.247	4588310
8.000	-0.0020 -0.0065	8.610	+0.006 0.006	0.247	4753410
8.500	-0.0020 -0.0065	9.116	+0.006 -0.006	0.247	4753410

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