

Rod/ Piston Seals

Technical details

Metric

Inch

Operating conditions

Maximum Speed	4.0 m/sec
Temperature Range	-70°C +200°C
Maximum Pressure	700 bar

12.0 ft/sec
-158°F +424°F
10,000 p.s.i.

For extrusion gap and tolerances see dimensional table.



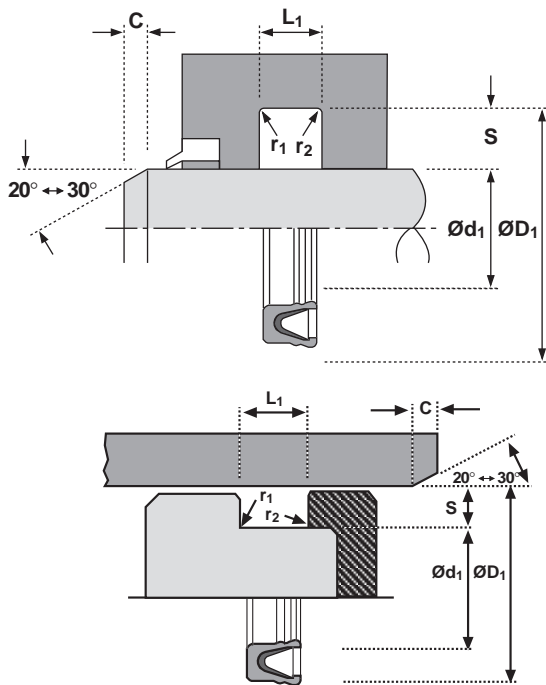
Surface roughness

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

Chamfers & Radii

	3.00	5.00	7.50	10.00	12.50
Groove Section $\leq S$ mm					
Min Chamfer C mm	0.90	1.40	1.80	2.70	3.60
Max Fillet Rad r_1 mm	0.40	0.80	1.20	1.60	1.60
Groove Section $\leq S$ in	0.125	0.188	0.250	0.375	0.500
Min Chamfer C in	0.036	0.054	0.071	0.107	0.142
Max Fillet Rad r_1 in	0.016	0.032	0.064	0.064	0.064

OPTISEAL



Design

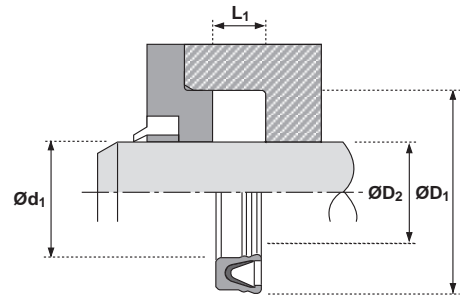
The OptiSeal® is the spring energized seal designed, developed and produced by CDI Seals for over a decade. The basic design of the seal consists of an inert thermoplastic U-ring with metal spring energizer. The success of this low friction seal can be attributed to its ability to perform in extremes of temperature, pressure, and media.

Features

- Low friction
- No stick-slip
- High resistance to abrasion
- Effective seal for extreme temperatures
- Tolerant to contamination

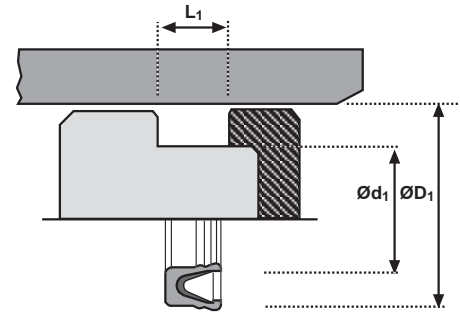
The Optiseal requires no tooling, thus custom sizes and shapes are readily available in a broad range of sizes.

Optiseal



Rod Application Inch

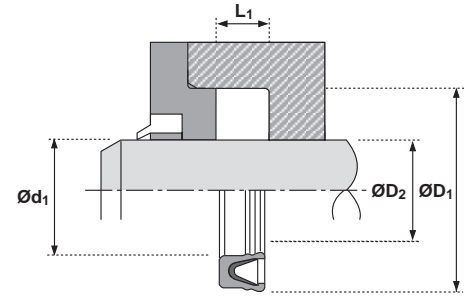
NOMINAL GLAND CROSS SECTION S	$\varnothing d_1$	TOL	$\varnothing D_1$	TOL	L_1 + .010 - 0	MAX DIAMETRICAL CLEARANCE $\varnothing D_2 - \varnothing d_1$
0.125	0.215-0.749	+0.000 -0.001	$\varnothing d_1 + 0.248$	+0.002 -0.000	0.169	0.004
0.188	0.750-2.499	+0.000 -0.003	$\varnothing d_1 + 0.372$	+0.004 -0.000	0.250	0.009
0.250	2.500-6.499	+0.000 -0.004	$\varnothing d_1 + 0.496$	+0.005 -0.000	0.329	0.012
0.375	6.500-11.999	+0.000 -0.006	$\varnothing d_1 + 0.744$	+0.007 -0.000	0.488	0.018
0.500	17.000-20.000	+0.000 -0.007	$\varnothing d_1 + 0.992$	+0.009 -0.000	0.646	0.023



Piston Application Inch

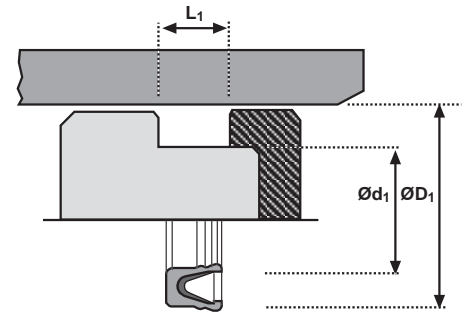
NOMINAL GLAND CROSS SECTION S	$\varnothing D_1$	TOL	$\varnothing d_1$	TOL	L_1 + .010 - 0	MAX DIAMETRICAL CLEARANCE $\varnothing D_1 - \varnothing d_1$
0.125	0.500-0.749	+0.002 -0.000	$\varnothing D_1 - 0.248$	+0 -0.001	0.169	0.004
0.188	0.750-2.499	+0.004 -0.000	$\varnothing D_1 - 0.372$	+0 -0.003	0.250	0.009
0.250	2.500-6.499	+0.005 -0.000	$\varnothing D_1 - 0.496$	+0 -0.004	0.329	0.012
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0.500	17.000-20.000	+0.009 -0.000	$\varnothing D_1 - 0.992$	+0 -0.007	0.646	0.023

OD Optiswivel



Rod Application Metric

NOMINAL GLAND CROSS SECTION S	$\varnothing d_1$	TOL	$\varnothing D_1$	TOL	L_1 + .25 - 0	MAX DIAMETRICAL CLEARANCE $\varnothing D_2 - \varnothing d_1$
3,00	5,0 - 14,9	+0,00 -0,03	$\varnothing d_1 + 5,96$	+0,06 -0,00	4,06	0,11
4,00	15,0 - 24,9	+0,00 -0,05	$\varnothing d_1 + 7,94$	+0,08 -0,00	5,37	0,17
5,00	25,0 - 59,9	+0,00 -0,06	$\varnothing d_1 + 9,92$	+0,09 -0,00	6,64	0,20
7,50	60,0 - 169,9	+0,00 -0,10	$\varnothing d_1 + 14,88$	+0,14 -0,00	9,82	0,33
10,00	170,0 - 409,9	+0,00 -0,015	$\varnothing d_1 + 19,84$	+0,18 -0,00	13,01	0,45



Piston Application Metric

NOMINAL GLAND CROSS SECTION S	$\varnothing D_1$	TOL	$\varnothing d_1$	TOL	L_1 + .25 - 0	MAX DIAMETRICAL CLEARANCE $\varnothing D_1 - \varnothing d_1$
3,00	12,7 - 14,9	+0,03 -0,00	$\varnothing D_1 - 5,96$	+0 -0,03	4,06	0,11
4,00	15,0 - 24,9	+0,05 -0,00	$\varnothing D_1 - 7,64$	+0 -0,05	5,37	0,17
5,00	25,0 - 59,9	+0,06 -0,00	$\varnothing D_1 - 9,92$	+0 -0,06	6,64	0,20
7,50	60,0 - 169,9	+0,10 -0,00	$\varnothing D_1 - 14,88$	+0 -0,10	9,82	0,33
10,00	170,0 - 409,9	+0,015 -0,00	$\varnothing D_1 - 19,84$	+0 -0,15	13,01	0,45
12,50	410,0 - 500,0	+0,00 -0,00	$\varnothing D_1 - 24,82$	+0 -0,20	16,16	0,60