

Rod Seal OD Profile

Catalog EPS 5370/USA

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OD Profile, PTFE Buffer Seal

The Parker OD profile is a rod seal that can be used as a buffer seal in conjunction with a primary rod seal or in tandem with itself to form a sealing system for higher performance. The OD profile is a uni-directional seal, with a unique design that allows trapped fluid pressure back into the cylinder. When the rod extends from the cylinder the OD profile is riding on a sealing point, creating a high compression point to limit leakage. As the rod goes through its return stroke this seal rocks forward, creating a larger sealing surface on the rod. The compression force is spread out over a larger area allowing trapped fluid to pass under the seal and return to the system. This pressure relief feature allows the OD profile to be used in tandem or multiple seal arrangements. The OD features low friction, long life, and versatility.

The OD profile may be ordered without the energizer by omitting the energizer code. See part number nomenclature.

Technical Data

Standard Materials*	Temperature Range	Pressure Range†	Surface Speed
Cap 0401 40% bronze-filled PTFE	-200°F to 575°F (-129°C to 302°C)	5000 psi (344 bar)	< 13 ft/s (4 m/sec)
Energizer A 70A Nitrile	-30°F to 250°F (-34°C to 121°C)		

***Alternate Materials:** For applications that may require an alternate material, please see Section 3 for alternate PTFE (Table 3-4) and energizer (Table 3-5) materials.

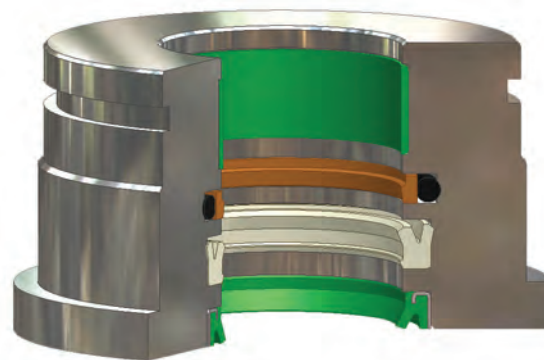
†**Pressure Range** without wear rings (see Table 2-4, page 2-5).

Options

Metric: To configure metric part numbering, see Table 5-34 on page 5-52.



OD Cross-Section

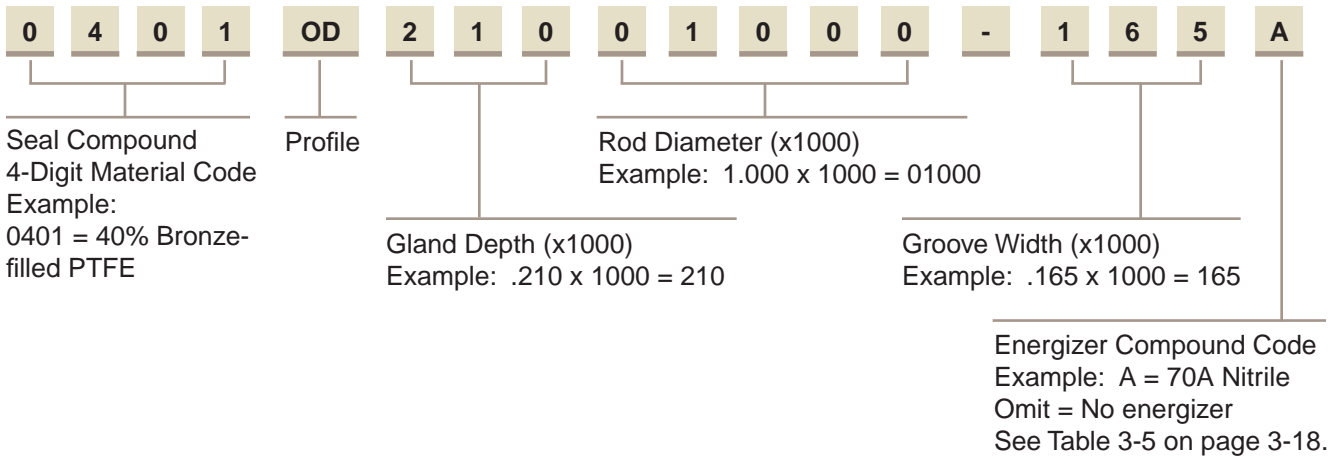


OD installed in Rod Gland

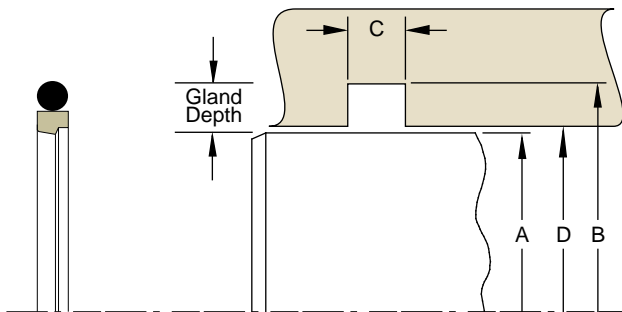
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Part Number Nomenclature — OD Profile

Table 5-31. OD Profile — Inch



Gland Dimensions — OD Profile



Please refer to Engineering Section 2, Page 2-8 for surface finish and additional hardware considerations.



Table 5-32. OD Profile — Inch

A Rod Diameter	B Groove Diameter	C Groove Width	D Throat Diameter*	O-ring Dash Number	Part Number
+ .000 / - .001	+ .001 / - .000	+ .008 / - .000	+ .002 / - .000		
0.313	0.599	0.126	0.314	111	0401OD14300313-126A
0.375	0.661	0.126	0.376	112	0401OD14300375-126A
+ .000 / - .002	+ .002 / - .000	+ .008 / - .000	+ .002 / - .000		
0.438	0.724	0.126	0.439	113	0401OD14300438-126A
0.500	0.786	0.126	0.501	114	0401OD14300500-126A
0.563	0.849	0.126	0.564	115	0401OD14300563-126A
0.625	0.911	0.126	0.626	116	0401OD14300625-126A
0.688	0.974	0.126	0.689	117	0401OD14300688-126A
+ .000 / - .002	+ .002 / - .000	+ .008 / - .000	+ .002 / - .000		
0.750	1.170	0.165	0.751	213	0401OD21000750-165A
0.813	1.233	0.165	0.814	214	0401OD21000813-165A
0.875	1.295	0.165	0.876	215	0401OD21000875-165A
0.938	1.358	0.165	0.939	216	0401OD21000938-165A
1.000	1.420	0.165	1.001	217	0401OD21001000-165A
1.063	1.483	0.165	1.064	218	0401OD21001063-165A
1.125	1.545	0.165	1.126	219	0401OD21001125-165A
1.188	1.608	0.165	1.189	220	0401OD21001188-165A
1.250	1.670	0.165	1.251	221	0401OD21001250-165A
1.313	1.733	0.165	1.314	222	0401OD21001313-165A

*If used with wear rings, refer to wear ring throat diameter, see Section 9.
For custom groove calculations, see Appendix C.

OD Profile

Table 5-32. OD Gland Dimensions — Inch (Continued)

A Rod Diameter	B Groove Diameter	C Groove Width	D Throat Diameter*	O-ring Dash Number	Part Number
+ .000 / -.002	+ .002 / -.000	+ .008 / -.000	+ .002 / -.000		
1.375	1.795	0.165	1.376	222	0401OD21001375-165A
1.438	1.858	0.165	1.439	223	0401OD21001438-165A
+ .000 / -.002	+ .002 / -.000	+ .008 / -.000	+ .003 / -.000		
1.500	2.094	0.248	1.501	327	0401OD29701500-248A
1.563	2.157	0.248	1.564	327	0401OD29701563-248A
1.625	2.219	0.248	1.626	328	0401OD29701625-248A
1.688	2.282	0.248	1.689	328	0401OD29701688-248A
1.750	2.344	0.248	1.751	329	0401OD29701750-248A
1.813	2.407	0.248	1.814	329	0401OD29701813-248A
1.875	2.469	0.248	1.876	330	0401OD29701875-248A
1.938	2.532	0.248	1.939	330	0401OD29701938-248A
+ .000 / -.003	+ .003 / -.000	+ .008 / -.000	+ .003 / -.000		
2.000	2.594	0.248	2.001	331	0401OD29702000-248A
2.125	2.719	0.248	2.126	332	0401OD29702125-248A
2.250	2.844	0.248	2.251	333	0401OD29702250-248A
2.375	2.969	0.248	2.376	334	0401OD29702375-248A
2.500	3.094	0.248	2.501	335	0401OD29702500-248A
2.625	3.219	0.248	2.626	336	0401OD29702625-248A
2.750	3.344	0.248	2.751	337	0401OD29702750-248A
2.875	3.469	0.248	2.876	338	0401OD29702875-248A
3.000	3.594	0.248	3.001	339	0401OD29703000-248A
3.125	3.719	0.248	3.126	340	0401OD29703125-248A
3.250	3.844	0.248	3.251	341	0401OD29703250-248A
3.375	3.969	0.248	3.376	342	0401OD29703375-248A
3.500	4.094	0.248	3.501	343	0401OD29703500-248A
3.625	4.219	0.248	3.626	344	0401OD29703625-248A
3.750	4.344	0.248	3.751	345	0401OD29703750-248A
3.875	4.469	0.248	3.876	346	0401OD29703875-248A
4.000	4.594	0.248	4.001	347	0401OD29704000-248A
4.125	4.719	0.248	4.126	348	0401OD29704125-248A
4.250	4.844	0.248	4.251	349	0401OD29704250-248A
4.375	4.969	0.248	4.376	350	0401OD29704375-248A
4.500	5.094	0.248	4.501	351	0401OD29704500-248A
4.625	5.219	0.248	4.626	352	0401OD29704625-248A
+ .000 / -.004	+ .004 / -.000	+ .008 / -.000	+ .003 / -.000		
4.750	5.344	0.248	4.752	353	0401OD29704750-248A
4.875	5.469	0.248	4.877	354	0401OD29704875-248A
5.000	5.594	0.248	5.002	355	0401OD29705000-248A
5.125	5.719	0.248	5.127	356	0401OD29705125-248A
5.250	5.844	0.248	5.252	357	0401OD29705250-248A
5.375	5.969	0.248	5.377	358	0401OD29705375-248A
5.500	6.094	0.248	5.502	359	0401OD29705500-248A
5.625	6.219	0.248	5.627	360	0401OD29705625-248A
5.750	6.344	0.248	5.752	361	0401OD29705750-248A
6.000	6.594	0.248	6.002	362	0401OD29706000-248A
6.250	6.844	0.248	6.252	363	0401OD29706250-248A
6.500	7.094	0.248	6.502	364	0401OD29706500-248A
6.750	7.344	0.248	6.752	365	0401OD29706750-248A
7.000	7.594	0.248	7.002	366	0401OD29707000-248A

*If used with wear rings, refer to wear ring throat diameter, see Section 9.
For custom groove calculations, see Appendix C.



Table 5-32. OD Gland Dimensions — Inch (Continued)

A Rod Diameter	B Groove Diameter	C Groove Width	D Throat Diameter*	O-ring Dash Number	Part Number
+ .000 / - .005	+ .005 / - .000	+ .008 / - .000	+ .003 / - .000		
7.250	7.844	0.248	7.252	367	0401OD29707250-248A
7.500	8.094	0.248	7.502	368	0401OD29707500-248A
7.750	8.344	0.248	7.752	369	0401OD29707750-248A
+ .000 / - .005	+ .005 / - .000	+ .008 / - .000	+ .004 / - .000		
8.000	8.806	0.319	8.003	445	0401OD40308000-319A
8.250	9.056	0.319	8.253	446	0401OD40308250-319A
8.500	9.306	0.319	8.503	446	0401OD40308500-319A
8.750	9.556	0.319	8.753	447	0401OD40308750-319A
9.000	9.806	0.319	9.003	447	0401OD40309000-319A
9.250	10.056	0.319	9.253	448	0401OD40309250-319A
9.500	10.306	0.319	9.503	448	0401OD40309500-319A
9.750	10.556	0.319	9.753	449	0401OD40309750-319A
+ .000 / - .005	+ .005 / - .000	+ .008 / - .000	+ .005 / - .000		
10.000	10.944	0.319	10.003	450	0401OD47210000-319A
10.500	11.444	0.319	10.503	451	0401OD47210500-319A
11.000	11.944	0.319	11.003	452	0401OD47211000-319A
11.500	12.444	0.319	11.503	453	0401OD47211500-319A
12.000	12.944	0.319	12.003	454	0401OD47212000-319A
+ .000 / - .006	+ .006 / - .000	+ .008 / - .000	+ .005 / - .000		
12.500	13.444	0.319	12.503	454	0401OD47212500-319A
13.000	13.944	0.319	13.003	455	0401OD47213000-319A
13.500	14.444	0.319	13.503	456	0401OD47213500-319A
14.000	14.944	0.319	14.003	457	0401OD47214000-319A
14.500	15.444	0.319	14.503	458	0401OD47214500-319A
15.000	15.944	0.319	15.003	459	0401OD47215000-319A
15.500	16.444	0.319	15.503	460	0401OD47215500-319A
16.000	16.944	0.319	16.003	461	0401OD47216000-319A
16.500	17.444	0.319	16.503	462	0401OD47216500-319A
17.000	17.944	0.319	17.003	463	0401OD47217000-319A
17.500	18.444	0.319	17.503	464	0401OD47217500-319A
18.000	18.944	0.319	18.003	465	0401OD47218000-319A
18.500	19.444	0.319	18.503	466	0401OD47218500-319A
19.000	19.944	0.319	19.003	467	0401OD47219000-319A
19.500	20.444	0.319	19.503	468	0401OD47219500-319A
+ .000 / - .007	+ .007 / - .000	+ .008 / - .000	+ .001 / - .000		
20.000	20.944	0.319	20.003	469	0401OD47220000-319A

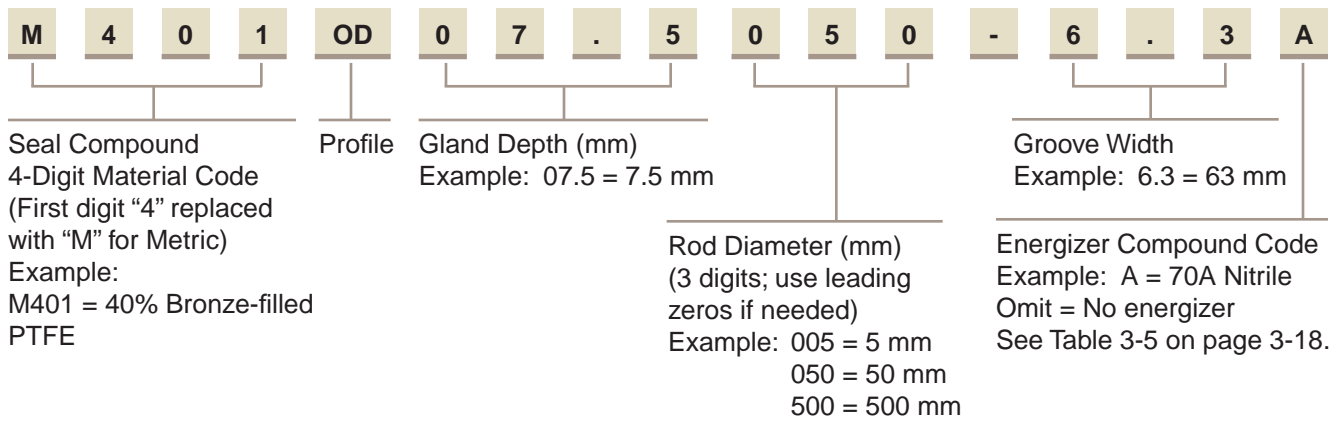
*If used with wear rings, refer to wear ring throat diameter, see Section 9.
 For custom groove calculations, see Appendix C.

NOTE: For sizes larger than those shown in the table, please contact your local Parker Seal representative.

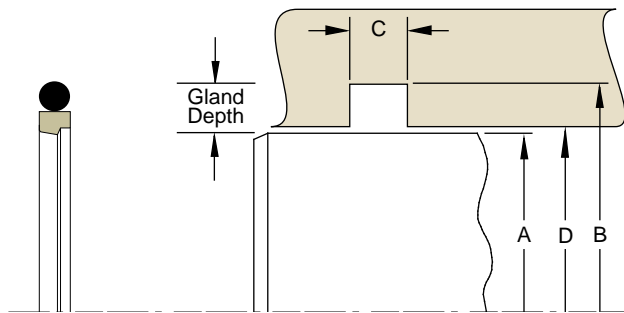
OD Profile

Part Number Nomenclature — OD Profile

Table 5-33. OD Profile — Metric



Gland Dimensions — OD Profile



Please refer to Engineering Section 2, Page 2-8 for surface finish and additional hardware considerations.

Table 5-34. OD Profile — Metric

A Rod Diameter	B Groove Diameter	C Groove Width	D Throat Diameter*	O-ring Dash Number	Part Number
f7	H9	+0.20/-0.00	H8		
For ISO tolerances refer to Appendix F.					
8.0	15.2	3.2	8.0	111	M401OD03.6008-3.2A
10.0	17.2	3.2	10.0	112	M401OD03.6010-3.2A
12.0	19.2	3.2	12.0	113	M401OD03.6012-3.2A
14.0	21.2	3.2	14.0	114	M401OD03.6014-3.2A
15.0	22.2	3.2	15.0	115	M401OD03.6015-3.2A
16.0	23.2	3.2	16.0	116	M401OD03.6016-3.2A
18.0	25.2	3.2	18.0	117	M401OD03.6018-3.2A
20.0	30.6	4.2	20.0	213	M401OD05.3020-4.2A
22.0	32.6	4.2	22.0	215	M401OD05.3022-4.2A
25.0	35.6	4.2	25.0	217	M401OD05.3025-4.2A
28.0	38.6	4.2	28.0	219	M401OD05.3028-4.2A
30.0	40.6	4.2	30.0	220	M401OD05.3030-4.2A
32.0	42.6	4.2	32.0	221	M401OD05.3032-4.2A
35.0	45.6	4.2	35.0	222	M401OD05.3035-4.2A
36.0	46.6	4.2	36.0	223	M401OD05.3036-4.2A
40.0	55.0	6.3	40.0	327	M401OD07.5040-6.3A
42.0	57.0	6.3	42.0	328	M401OD07.5042-6.3A
45.0	60.0	6.3	45.0	329	M401OD07.5045-6.3A

*If used with wear rings, refer to wear ring throat diameter, see Section 9.
For custom groove calculations, see Appendix C.

Table 5-34. OD Gland Dimensions — Metric (continued)

A Rod Diameter	B Groove Diameter	C Groove Width	D Throat Diameter*	O-ring Dash Number	Part Number
f7	H9	+ .20/- .00	H8		
For ISO tolerances refer to Appendix F.					
48.0	63.0	6.3	48.0	330	M401OD07.5048-6.3A
50.0	65.0	6.3	50.0	331	M401OD07.5050-6.3A
52.0	67.0	6.3	52.0	331	M401OD07.5052-6.3A
55.0	70.0	6.3	55.0	332	M401OD07.5055-6.3A
56.0	71.0	6.3	56.0	333	M401OD07.5056-6.3A
60.0	75.0	6.3	60.0	334	M401OD07.5060-6.3A
63.0	78.0	6.3	63.0	335	M401OD07.5063-6.3A
65.0	80.0	6.3	65.0	335	M401OD07.5065-6.3A
70.0	85.0	6.3	70.0	337	M401OD07.5070-6.3A
75.0	90.0	6.3	75.0	339	M401OD07.5075-6.3A
80.0	95.0	6.3	80.0	340	M401OD07.5080-6.3A
85.0	100.0	6.3	85.0	342	M401OD07.5085-6.3A
90.0	105.0	6.3	90.0	343	M401OD07.5090-6.3A
95.0	110.0	6.3	95.0	345	M401OD07.5095-6.3A
100.0	115.0	6.3	100.0	347	M401OD07.5100-6.3A
105.0	120.0	6.3	105.0	348	M401OD07.5105-6.3A
110.0	125.0	6.3	110.0	350	M401OD07.5110-6.3A
115.0	130.0	6.3	115.0	351	M401OD07.5115-6.3A
120.0	135.0	6.3	120.0	353	M401OD07.5120-6.3A
125.0	140.0	6.3	125.0	354	M401OD07.5125-6.3A
130.0	145.0	6.3	130.0	356	M401OD07.5130-6.3A
135.0	150.0	6.3	135.0	358	M401OD07.5135-6.3A
140.0	155.0	6.3	140.0	359	M401OD07.5140-6.3A
150.0	165.0	6.3	150.0	362	M401OD07.5150-6.3A
160.0	175.0	6.3	160.0	363	M401OD07.5160-6.3A
170.0	185.0	6.3	170.0	365	M401OD07.5170-6.3A
180.0	195.0	6.3	180.0	366	M401OD07.5180-6.3A
190.0	205.0	6.3	190.0	368	M401OD07.5190-6.3A
200.0	220.6	8.1	200.0	446	M401OD10.3200-8.1A
210.0	230.6	8.1	210.0	446	M401OD10.3210-8.1A
220.0	240.6	8.1	220.0	447	M401OD10.3220-8.1A
230.0	250.6	8.1	230.0	448	M401OD10.3230-8.1A
240.0	260.6	8.1	240.0	449	M401OD10.3240-8.1A
250.0	270.6	8.1	250.0	450	M401OD10.3250-8.1A
260.0	280.6	8.1	260.0	450	M401OD10.3260-8.1A
270.0	294.2	8.1	270.0	452	M401OD12.1270-8.1A
280.0	304.2	8.1	280.0	453	M401OD12.1280-8.1A
290.0	314.2	8.1	290.0	454	M401OD12.1290-8.1A
300.0	324.2	8.1	300.0	455	M401OD12.1300-8.1A
320.0	344.2	8.1	320.0	458	M401OD12.1320-8.1A
350.0	374.2	8.1	350.0	458	M401OD12.1350-8.1A
360.0	384.2	8.1	360.0	462	M401OD12.1360-8.1A
400.0	424.2	8.1	400.0	367	M401OD12.1400-8.1A
420.0	444.2	8.1	420.0	463	M401OD12.1420-8.1A
450.0	474.2	8.1	450.0	466	M401OD12.1450-8.1A
460.0	484.2	8.1	460.0	468	M401OD12.1460-8.1A
480.0	504.2	8.1	480.0	469	M401OD12.1480-8.1A
500.0	524.2	8.1	500.0	469	M401OD12.1500-8.1A

*If used with wear rings, refer to wear ring throat diameter, see Section 9.

For custom groove calculations, see Appendix C.

NOTE: For sizes larger than those shown in the table, please contact your local Parker Seal representative.

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