

Rod Seal OR Profile

Catalog EPS 5370/USA



OR Profile, Rotary PTFE Cap Seal

The Parker OR profile is a bi-directional rod seal for use in pneumatic and low to medium duty rotary or oscillating applications. The OR profile is a two piece design comprised of a standard size o-ring energizing a wear resistant PTFE cap. The OR profile offers long wear and low friction without stick-slip. This PTFE outer diameter is designed with a special interference with the o-ring to eliminate spinning between the o-ring and seal. Special grooves are designed into the PTFE inner diameter to provide lubrication and create a labyrinth effect for reduced leakage. The seal is commonly used in swivel joints, hose reels, and machine applications. Parker's OR profile will retrofit non-Parker seals of similar design.

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

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Technical Data

Standard Materials*	Temperature Range	Pressure Range†	Surface Speed
Cap			
0205 15% fiberglass-, 5% MoS ₂ -filled PTFE	-200°F to 575°F (-129°C to 302°C)	3000 psi (206 bar)	< 3.3 ft/s (1.0 m/sec)

Energizer

A	70A Nitrile	-30°F to 250°F (-34°C to 121°C)
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***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.

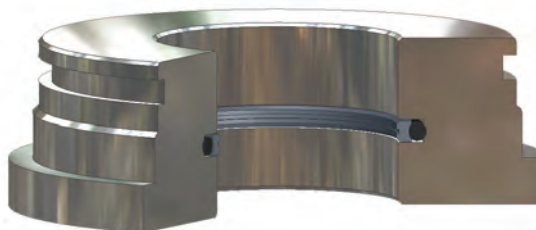
†**Pressure Range** without wear rings (see Table 2-4, page 2-5).

Minimum rotary shaft hardness = 60 Rc.

Note: Small size cross sections feature single outer diameter grooves. Cross sections 305 and greater feature dual grooves.



OR Cross-Section



OR installed on Rotary Shaft Gland

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OR Profile

Part Number Nomenclature — OR Profile

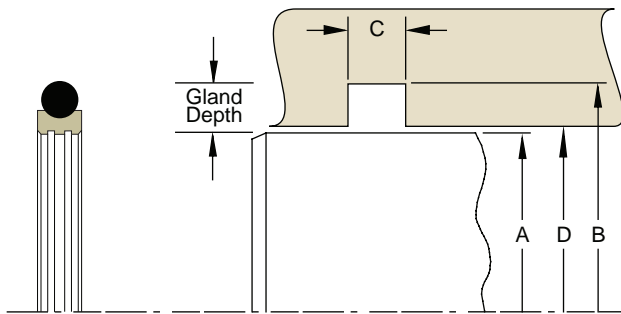
Table 5-39. OR Profile — Inch

0	2	0	5	OR	1	4	7	0	2	0	0	0	-	1	2	6	A
Seal Compound 4-Digit Material Code Example: 0205 = 15% Fiberglass-, 5% MoS ₂ -filled PTFE				Profile	Gland Depth (x1000) Example: .147 x 1000 = 147				Bore Diameter (x1000) Example: 2.000 x 1000 = 02000				Groove Width (x1000) Example: .126 x 1000 = 126				Energizer Compound Code Example: A = 70A Nitrile Omit = No energizer See Table 3-5 on page 3-18.

Option:
N = Notched walls


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Gland Dimensions — OR Profile



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

Table 5-40. OR Gland Dimensions — Inch

A Rod Diameter	B Groove Diameter	C Groove Width	D Throat Diameter*	O-ring Dash Number	Part Number
+0.000/-0.001	+0.001/-0.000	+0.008/-0.000	+0.002/-0.000		
0.313	0.506	0.087	0.314	012	0205OR09700313-087A
0.375	0.568	0.087	0.376	013	0205OR09700375-087A
+0.000/-0.002	+0.002/-0.000	+0.008/-0.000	+0.002/-0.000		
0.438	0.631	0.087	0.439	014	0205OR09700438-087A
0.500	0.693	0.087	0.501	015	0205OR09700500-087A
0.563	0.756	0.087	0.564	016	0205OR09700563-087A
0.625	0.818	0.087	0.626	017	0205OR09700625-087A
0.688	0.881	0.087	0.689	018	0205OR09700688-087A
0.750	0.943	0.087	0.751	019	0205OR09700750-087A
0.813	1.006	0.087	0.814	020	0205OR09700813-087A
0.875	1.068	0.087	0.876	021	0205OR09700875-087A
0.938	1.131	0.087	0.939	022	0205OR09700938-087A
1.000	1.193	0.087	1.001	023	0205OR09701000-087A
1.125	1.318	0.087	1.126	025	0205OR09701125-087A
1.250	1.443	0.087	1.251	027	0205OR09701250-087A
1.375	1.568	0.087	1.376	028	0205OR09701375-087A

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

Table 5-40. OR Gland Dimensions — Inch (Continued)

A Rod Diameter	B Groove Diameter	C Groove Width	D Throat Diameter*	O-ring Dash Number	Part Number
+ .000/- .002	+ .003/- .000	+ .008/- .000	+ .002/- .000		
1.500	1.795	0.126	1.501	130	0205OR14801500-126A
1.625	1.920	0.126	1.626	132	0205OR14801625-126A
1.750	2.045	0.126	1.751	134	0205OR14801750-126A
1.875	2.170	0.126	1.876	135	0205OR14801875-126A
+ .000/- .003	+ .003/- .000	+ .008/- .000	+ .002/- .000		
2.000	2.295	0.126	2.001	137	0205OR14802000-126A
2.125	2.420	0.126	2.126	139	0205OR14802125-126A
2.250	2.545	0.126	2.251	141	0205OR14802250-126A
2.375	2.670	0.126	2.376	143	0205OR14802375-126A
2.500	2.795	0.126	2.501	145	0205OR14802500-126A
2.625	2.920	0.126	2.626	147	0205OR14802625-126A
2.750	3.045	0.126	2.751	149	0205OR14802750-126A
2.875	3.170	0.126	2.876	150	0205OR14802875-126A
+ .000/- .003	+ .003/- .000	+ .008/- .000	+ .003/- .000		
3.000	3.433	0.165	3.001	235	0205OR21703000-165A
3.125	3.558	0.165	3.126	236	0205OR21703125-165A
3.250	3.683	0.165	3.251	237	0205OR21703250-165A
3.375	3.808	0.165	3.376	238	0205OR21703375-165A
3.500	3.933	0.165	3.501	239	0205OR21703500-165A
3.625	4.058	0.165	3.626	240	0205OR21703625-165A
3.750	4.183	0.165	3.751	241	0205OR21703750-165A
3.875	4.308	0.165	3.876	242	0205OR21703875-165A
4.000	4.433	0.165	4.001	243	0205OR21704000-165A
4.125	4.558	0.165	4.126	244	0205OR21704125-165A
4.250	4.683	0.165	4.251	245	0205OR21704250-165A
+ .000/- .003	+ .004/- .000	+ .008/- .000	+ .003/- .000		
4.375	4.808	0.165	4.376	246	0205OR21704375-165A
4.500	4.933	0.165	4.501	247	0205OR21704500-165A
4.625	5.058	0.165	4.626	248	0205OR21704625-165A
+ .000/- .004	+ .004/- .000	+ .008/- .000	+ .003/- .000		
4.750	5.183	0.165	4.751	249	0205OR21704750-165A
4.875	5.308	0.165	4.876	250	0205OR21704875-165A
5.000	5.433	0.165	5.001	251	0205OR21705000-165A
5.125	5.558	0.165	5.126	252	0205OR21705125-165A
5.250	5.683	0.165	5.251	253	0205OR21705250-165A
5.375	5.808	0.165	5.376	254	0205OR21705375-165A
5.500	5.933	0.165	5.501	255	0205OR21705500-165A
5.625	6.058	0.165	5.626	256	0205OR21705625-165A
5.750	6.183	0.165	5.751	257	0205OR21705750-165A
5.875	6.308	0.165	5.876	258	0205OR21705875-165A
+ .000/- .004	+ .004/- .000	+ .008/- .000	+ .004/- .000		
6.000	6.610	0.248	6.002	362	0205OR30506000-248A
6.250	6.860	0.248	6.252	363	0205OR30506250-248A
6.500	7.110	0.248	6.502	364	0205OR30506500-248A
6.750	7.360	0.248	6.752	365	0205OR30506750-248A
7.000	7.610	0.248	7.002	365	0205OR30507000-248A

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

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Table 5-40. OR 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	+ .004/- .000		
7.250	7.860	0.248	7.252	366	0205OR30507250-248A
7.500	8.110	0.248	7.502	367	0205OR30507500-248A
7.750	8.360	0.248	7.752	368	0205OR30507750-248A
8.000	8.610	0.248	8.002	369	0205OR30508000-248A
8.250	8.860	0.248	8.252	370	0205OR30508250-248A
8.500	9.110	0.248	8.502	371	0205OR30508500-248A
8.750	9.360	0.248	8.752	372	0205OR30508750-248A
9.000	9.610	0.248	9.002	373	0205OR30509000-248A
9.250	9.860	0.248	9.252	374	0205OR30509250-248A
9.500	10.110	0.248	9.502	375	0205OR30509500-248A
9.750	10.360	0.248	9.752	376	0205OR30509750-248A
10.000	10.610	0.248	10.002	377	0205OR30510000-248A
10.500	11.110	0.248	10.502	378	0205OR30510500-248A
11.000	11.610	0.248	11.002	379	0205OR30511000-248A
11.500	12.110	0.248	11.502	380	0205OR30511500-248A
+ .000/- .006	+ .006/- .000	+ .008/- .000	+ .005/- .000		
12.000	12.827	0.319	12.002	453	0205OR41412000-319A
12.500	13.327	0.319	12.502	454	0205OR41412500-319A
13.000	13.827	0.319	13.002	455	0205OR41413000-319A
13.500	14.327	0.319	13.502	456	0205OR41413500-319A
14.000	14.827	0.319	14.002	457	0205OR41414000-319A
14.500	15.327	0.319	14.502	458	0205OR41414500-319A
15.000	15.827	0.319	15.002	459	0205OR41415000-319A
15.500	16.327	0.319	15.502	460	0205OR41415500-319A
16.000	16.827	0.319	16.002	461	0205OR41416000-319A
16.500	17.327	0.319	16.502	462	0205OR41416500-319A
17.000	17.827	0.319	17.002	463	0205OR41417000-319A
17.500	18.327	0.319	17.502	464	0205OR41417500-319A
18.000	18.827	0.319	18.002	465	0205OR41418000-319A
18.500	19.327	0.319	18.502	466	0205OR41418500-319A
19.000	19.827	0.319	19.002	467	0205OR41419000-319A
19.500	20.327	0.319	19.502	468	0205OR41419500-319A
+ .000/- .007	+ .007/- .000	+ .008/- .000	+ .005/- .000		
20.000	20.827	0.319	20.002	469	0205OR41420000-319A

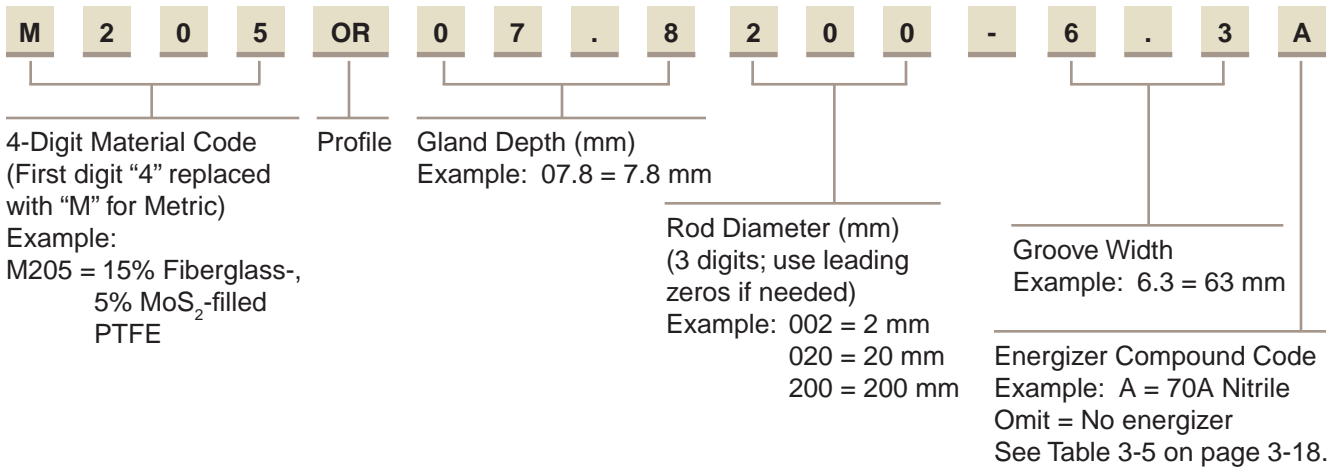
*If used with wear rings, refer to wear ring throat diameter, see Section 9.
For custom groove calculations, see Appendix C.

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

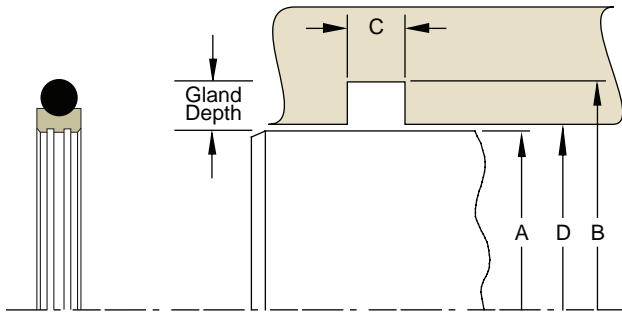


Part Number Nomenclature — OR Profile

Table 5-41. OR Profile — Metric



Gland Dimensions — OR Profile



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



Table 5-42. OR Gland Dimensions — Metric

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.					
6.0	10.9	2.2	6.0	011	M205OR02.5006-2.2A
8.0	12.9	2.2	8.0	012	M205OR02.5008-2.2A
10.0	14.9	2.2	10.0	013	M205OR02.5010-2.2A
12.0	16.9	2.2	12.0	014	M205OR02.5012-2.2A
14.0	18.9	2.2	14.0	016	M205OR02.5014-2.2A
15.0	19.9	2.2	15.0	016	M205OR02.5015-2.2A
16.0	20.9	2.2	16.0	017	M205OR02.5016-2.2A
18.0	22.9	2.2	18.0	018	M205OR02.5018-2.2A
20.0	27.5	3.2	20.0	118	M205OR03.8020-3.2A
22.0	29.5	3.2	22.0	119	M205OR03.8022-3.2A
25.0	32.5	3.2	25.0	121	M205OR03.8025-3.2A
28.0	35.5	3.2	28.0	123	M205OR03.8028-3.2A
30.0	37.5	3.2	30.0	124	M205OR03.8030-3.2A
32.0	39.5	3.2	32.0	126	M205OR03.8032-3.2A
35.0	42.5	3.2	35.0	127	M205OR03.8035-3.2A
36.0	43.5	3.2	36.0	128	M205OR03.8036-3.2A
40.0	51.0	4.2	40.0	224	M205OR05.5040-4.2A
42.0	53.0	4.2	42.0	224	M205OR05.5042-4.2A

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

OR Profile

Table 5-42. OR 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/-0.00	H8		
For ISO tolerances refer to Appendix F.					
45.0	56.0	4.2	45.0	225	M205OR05.5045-4.2A
48.0	59.0	4.2	48.0	226	M205OR05.5048-4.2A
50.0	61.0	4.2	50.0	227	M205OR05.5050-4.2A
52.0	63.0	4.2	52.0	227	M205OR05.5052-4.2A
55.0	66.0	4.2	55.0	228	M205OR05.5055-4.2A
56.0	67.0	4.2	56.0	229	M205OR05.5056-4.2A
60.0	71.0	4.2	60.0	230	M205OR05.5060-4.2A
63.0	74.0	4.2	63.0	231	M205OR05.5063-4.2A
65.0	76.0	4.2	65.0	232	M205OR05.5065-4.2A
70.0	81.0	4.2	70.0	233	M205OR05.5070-4.2A
75.0	86.0	4.2	75.0	234	M205OR05.5075-4.2A
80.0	91.0	4.2	80.0	236	M205OR05.5080-4.2A
85.0	96.0	4.2	85.0	237	M205OR05.5085-4.2A
90.0	101.0	4.2	90.0	239	M205OR05.5090-4.2A
95.0	106.0	4.2	95.0	241	M205OR05.5095-4.2A
100.0	111.0	4.2	100.0	243	M205OR05.5100-4.2A
105.0	116.0	4.2	105.0	242	M205OR05.5105-4.2A
110.0	121.0	4.2	110.0	246	M205OR05.5110-4.2A
115.0	126.0	4.2	115.0	247	M205OR05.5115-4.2A
120.0	131.0	4.2	120.0	248	M205OR05.5120-4.2A
125.0	136.0	4.2	125.0	250	M205OR05.5125-4.2A
130.0	141.0	4.2	130.0	251	M205OR05.5130-4.2A
135.0	146.0	4.2	135.0	253	M205OR05.5135-4.2A
140.0	151.0	4.2	140.0	255	M205OR05.5140-4.2A
150.0	161.0	4.2	150.0	257	M205OR05.5150-4.2A
160.0	171.0	4.2	160.0	259	M205OR05.5160-4.2A
170.0	181.0	4.2	170.0	261	M205OR05.5170-4.2A
180.0	191.0	4.2	180.0	263	M205OR05.5180-4.2A
190.0	201.0	4.2	190.0	264	M205OR05.5190-4.2A
200.0	215.5	6.3	200.0	369	M205OR07.8200-6.3A
210.0	225.5	6.3	210.0	370	M205OR07.8210-6.3A
220.0	235.5	6.3	220.0	372	M205OR07.8220-6.3A
230.0	245.5	6.3	230.0	374	M205OR07.8230-6.3A
240.0	255.5	6.3	240.0	375	M205OR07.8240-6.3A
250.0	265.5	6.3	250.0	377	M205OR07.8250-6.3A
280.0	301.0	8.1	280.0	451	M205OR10.5280-8.1A
300.0	321.0	8.1	300.0	453	M205OR10.5300-8.1A
320.0	341.0	8.1	320.0	454	M205OR10.5320-8.1A
350.0	371.0	8.1	350.0	456	M205OR10.5350-8.1A
360.0	381.0	8.1	360.0	457	M205OR10.5360-8.1A
400.0	421.0	8.1	400.0	460	M205OR10.5400-8.1A
420.0	441.0	8.1	420.0	462	M205OR10.5420-8.1A
450.0	471.0	8.1	450.0	465	M205OR10.5450-8.1A
480.0	501.0	8.1	480.0	467	M205OR10.5480-8.1A
500.0	521.0	8.1	500.0	469	M205OR10.5500-8.1A
600.0	621.0	8.1	600.0	472	M205OR10.5600-8.1A

*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.

