

Rod Seal CR Profile

Catalog EPS 5370/USA

5



CR Profile, PTFE Rod Cap Seal to Retrofit O-ring Glands

The Parker CR profile is a cap seal with anti-extrusion, low friction and low wear features. The seal is a bi-directional rod seal for use in pneumatic and low to medium duty applications. Because of its short assembly length, it requires minimal space in the rod housing. The three CR profiles will fit into standard o-ring grooves without modification. Parker's CR profiles will retrofit non-Parker seals of similar design.

- CR0 fits a standard o-ring groove
- CR1 fits an o-ring groove designed for one back-up ring
- CR2 fits an o-ring groove designed for two back-up rings

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

Technical Data

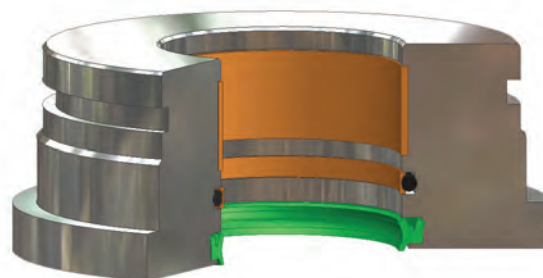
Standard Materials*	Temperature Range	Pressure Range†	Surface Speed
Cap			
0401 40% bronze filled PTFE	-200°F to 575°F (-129°C to 302°C)	5000 psi (344 bar)	< 13 ft/s (4 m/sec)
Energizer			
A 70A Nitrile	-30°F to 250°F (-34°C to 121°C)		

***Alternate Materials:** For pneumatic applications, compound 0102 is recommended. 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).



CR Cross-Section



CR installed in Rod Gland

09/01/07

Technical Data (Continued)

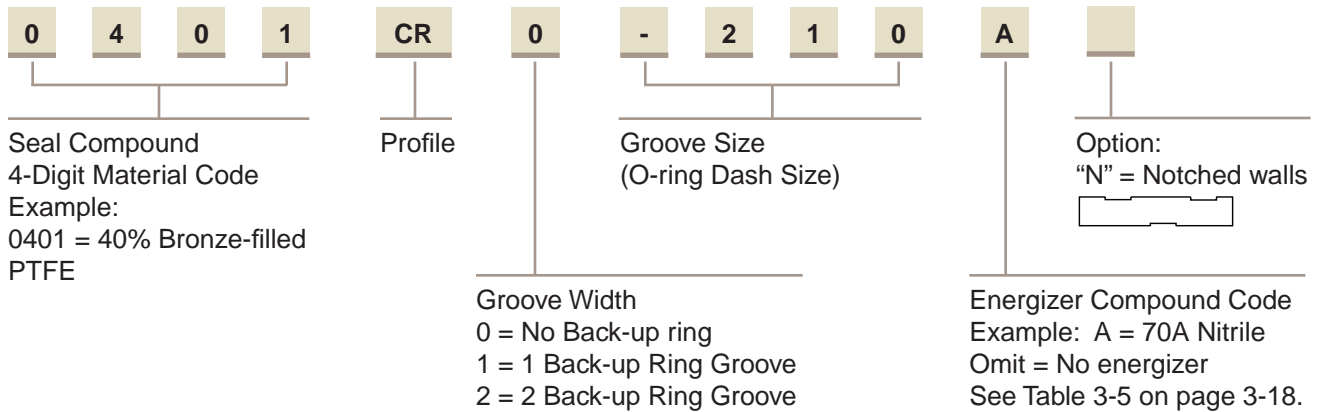
Options

Notched side walls: Notches can be added to the side walls of the PTFE cap. This can help to optimize the seal's response to fluid pressure. Notched side walls help ensure that fluid pressure fills the cavity between the side face of the seal and the side face of the seal gland. Consult your local Parker Seal representative for the availability and cost to add side notches to the CR profile.

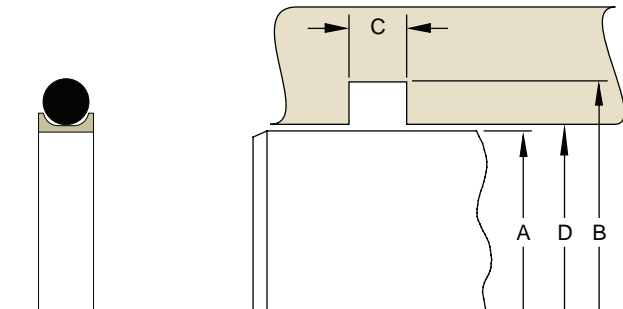
N = Notched walls 

Part Number Nomenclature — CR Profile

Table 5-24. CR Profile — Inch



Gland Dimensions — CR Profile



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

Table 5-25. CR Profile — Inch

A Rod Diameter	B Groove Diameter	C Groove Width (CR0)	C Groove Width (CR1)	C Groove Width (CR2)	D Throat Diameter*	O-ring Dash Number	CR Part Number (X = Groove Width of 0, 1 or 2)
+0.000/-0.002	+0.002/-0.000	+0.005/-0.000	+0.005/-0.000	+0.005/-0.000	+0.001/-0.000		
0.125	0.235	0.093	0.138	0.205	0.126	006	0401CR X-006A
0.156	0.266	0.093	0.138	0.205	0.157	007	0401CR X-007A
0.187	0.297	0.093	0.138	0.205	0.188	008	0401CR X-008A
0.219	0.329	0.093	0.138	0.205	0.220	009	0401CR X-009A
0.250	0.360	0.093	0.138	0.205	0.251	010	0401CR X-010A
0.312	0.422	0.093	0.138	0.205	0.313	011	0401CR X-011A
0.375	0.485	0.093	0.138	0.205	0.376	012	0401CR X-012A

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

Table 5-25. CR Gland Dimensions — Inch (Continued)

A Rod Diameter	B Groove Diameter	C Groove Width (CR0)	C Groove Width (CR1)	C Groove Width (CR2)	D Throat Diameter*	O-ring Dash Number	CR Part Number (X = Groove Width of 0, 1 or 2)
+0.000/-0.002	+0.002/-0.000	+0.005/-0.000	+0.005/-0.000	+0.005/-0.000	+0.001/-0.000		
0.437	0.547	0.093	0.138	0.205	0.438	013	0401CR X-013A
0.500	0.610	0.093	0.138	0.205	0.501	014	0401CR X-014A
0.562	0.672	0.093	0.138	0.205	0.563	015	0401CR X-015A
0.625	0.735	0.093	0.138	0.205	0.626	016	0401CR X-016A
0.687	0.797	0.093	0.138	0.205	0.688	017	0401CR X-017A
0.750	0.860	0.093	0.138	0.205	0.751	018	0401CR X-018A
0.812	0.922	0.093	0.138	0.205	0.813	019	0401CR X-019A
0.875	0.985	0.093	0.138	0.205	0.876	020	0401CR X-020A
0.937	1.047	0.093	0.138	0.205	0.938	021	0401CR X-021A
1.000	1.110	0.093	0.138	0.205	1.001	022	0401CR X-022A
1.062	1.172	0.093	0.138	0.205	1.063	023	0401CR X-023A
1.125	1.235	0.093	0.138	0.205	1.126	024	0401CR X-024A
1.187	1.297	0.093	0.138	0.205	1.188	025	0401CR X-025A
1.250	1.360	0.093	0.138	0.205	1.251	026	0401CR X-026A
1.312	1.422	0.093	0.138	0.205	1.313	027	0401CR X-027A
1.375	1.485	0.093	0.138	0.205	1.376	028	0401CR X-028A
+0.000/-0.002	+0.002/-0.000	+0.005/-0.000	+0.005/-0.000	+0.005/-0.000	+0.002/-0.000		
0.125	0.301	0.140	0.171	0.238	0.126	104	0401CR X-104A
0.156	0.332	0.140	0.171	0.238	0.157	105	0401CR X-105A
0.187	0.363	0.140	0.171	0.238	0.188	106	0401CR X-106A
0.218	0.394	0.140	0.171	0.238	0.219	107	0401CR X-107A
0.250	0.426	0.140	0.171	0.238	0.251	108	0401CR X-108A
0.312	0.488	0.140	0.171	0.238	0.313	109	0401CR X-109A
0.375	0.551	0.140	0.171	0.238	0.376	110	0401CR X-110A
0.437	0.613	0.140	0.171	0.238	0.438	111	0401CR X-111A
0.500	0.676	0.140	0.171	0.238	0.501	112	0401CR X-112A
0.562	0.738	0.140	0.171	0.238	0.563	113	0401CR X-113A
0.625	0.801	0.140	0.171	0.238	0.626	114	0401CR X-114A
0.687	0.863	0.140	0.171	0.238	0.688	115	0401CR X-115A
0.750	0.926	0.140	0.171	0.238	0.751	116	0401CR X-116A
0.812	0.988	0.140	0.171	0.238	0.813	117	0401CR X-117A
0.875	1.051	0.140	0.171	0.238	0.876	118	0401CR X-118A
0.937	1.113	0.140	0.171	0.238	0.938	119	0401CR X-119A
1.000	1.176	0.140	0.171	0.238	1.001	120	0401CR X-120A
1.062	1.238	0.140	0.171	0.238	1.063	121	0401CR X-121A
1.125	1.301	0.140	0.171	0.238	1.126	122	0401CR X-122A
1.187	1.363	0.140	0.171	0.238	1.188	123	0401CR X-123A
1.250	1.426	0.140	0.171	0.238	1.251	124	0401CR X-124A
1.312	1.488	0.140	0.171	0.238	1.313	125	0401CR X-125A
1.375	1.551	0.140	0.171	0.238	1.376	126	0401CR X-126A
1.437	1.613	0.140	0.171	0.238	1.439	127	0401CR X-127A
1.500	1.676	0.140	0.171	0.238	1.502	128	0401CR X-128A
1.562	1.738	0.140	0.171	0.238	1.564	129	0401CR X-129A
1.625	1.801	0.140	0.171	0.238	1.627	130	0401CR X-130A
1.687	1.863	0.140	0.171	0.238	1.689	131	0401CR X-131A
1.750	1.926	0.140	0.171	0.238	1.752	132	0401CR X-132A

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



Table 5-25. CR Gland Dimensions — Inch (Continued)

A Rod Diameter	B Groove Diameter	C Groove Width (CR0)	C Groove Width (CR1)	C Groove Width (CR2)	D Throat Diameter*	O-ring Dash Number	CR Part Number (X = Groove Width of 0, 1 or 2)
+ .000/- .002	+ .002/- .000	+ .005/- .000	+ .005/- .000	+ .005/- .000	+ .003/- .000		
1.812	1.988	0.140	0.171	0.238	1.814	133	0401CR X-133A
1.875	2.051	0.140	0.171	0.238	1.877	134	0401CR X-134A
1.937	2.113	0.140	0.171	0.238	1.939	135	0401CR X-135A
2.000	2.176	0.140	0.171	0.238	2.002	136	0401CR X-136A
2.062	2.238	0.140	0.171	0.238	2.064	137	0401CR X-137A
2.125	2.301	0.140	0.171	0.238	2.127	138	0401CR X-138A
2.187	2.363	0.140	0.171	0.238	2.189	139	0401CR X-139A
2.250	2.426	0.140	0.171	0.238	2.252	140	0401CR X-140A
2.312	2.488	0.140	0.171	0.238	2.314	141	0401CR X-141A
2.375	2.551	0.140	0.171	0.238	2.377	142	0401CR X-142A
2.437	2.613	0.140	0.171	0.238	2.439	143	0401CR X-143A
2.500	2.676	0.140	0.171	0.238	2.502	144	0401CR X-144A
2.562	2.738	0.140	0.171	0.238	2.564	145	0401CR X-145A
2.625	2.801	0.140	0.171	0.238	2.627	146	0401CR X-146A
2.687	2.863	0.140	0.171	0.238	2.689	147	0401CR X-147A
2.750	2.926	0.140	0.171	0.238	2.752	148	0401CR X-148A
2.812	2.988	0.140	0.171	0.238	2.814	149	0401CR X-149A
2.875	3.051	0.140	0.171	0.238	2.877	150	0401CR X-150A
3.000	3.176	0.140	0.171	0.238	3.002	151	0401CR X-151A
+ .000/- .002	+ .002/- .000	+ .005/- .000	+ .005/- .000	+ .005/- .000	+ .002/- .000		
0.187	0.429	0.187	0.208	0.275	0.188	201	0401CR X-201A
0.250	0.492	0.187	0.208	0.275	0.251	202	0401CR X-202A
0.312	0.554	0.187	0.208	0.275	0.313	203	0401CR X-203A
0.375	0.617	0.187	0.208	0.275	0.376	204	0401CR X-204A
0.437	0.679	0.187	0.208	0.275	0.438	205	0401CR X-205A
0.500	0.742	0.187	0.208	0.275	0.501	206	0401CR X-206A
0.562	0.804	0.187	0.208	0.275	0.563	207	0401CR X-207A
0.625	0.867	0.187	0.208	0.275	0.626	208	0401CR X-208A
0.687	0.929	0.187	0.208	0.275	0.688	209	0401CR X-209A
0.750	0.992	0.187	0.208	0.275	0.751	210	0401CR X-210A
0.812	1.054	0.187	0.208	0.275	0.813	211	0401CR X-211A
0.875	1.117	0.187	0.208	0.275	0.876	212	0401CR X-212A
0.937	1.179	0.187	0.208	0.275	0.938	213	0401CR X-213A
1.000	1.242	0.187	0.208	0.275	1.001	214	0401CR X-214A
1.062	1.304	0.187	0.208	0.275	1.063	215	0401CR X-215A
1.125	1.367	0.187	0.208	0.275	1.126	216	0401CR X-216A
1.187	1.429	0.187	0.208	0.275	1.188	217	0401CR X-217A
1.250	1.492	0.187	0.208	0.275	1.251	218	0401CR X-218A
1.312	1.554	0.187	0.208	0.275	1.313	219	0401CR X-219A
1.375	1.617	0.187	0.208	0.275	1.376	220	0401CR X-220A
1.437	1.679	0.187	0.208	0.275	1.438	221	0401CR X-221A
1.500	1.742	0.187	0.208	0.275	1.501	222	0401CR X-222A
1.625	1.867	0.187	0.208	0.275	1.627	223	0401CR X-223A
1.750	1.992	0.187	0.208	0.275	1.752	224	0401CR X-224A
1.875	2.117	0.187	0.208	0.275	1.877	225	0401CR X-225A
2.000	2.242	0.187	0.208	0.275	2.002	226	0401CR X-226A
2.125	2.367	0.187	0.208	0.275	2.127	227	0401CR X-227A

*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 5-25. CR Gland Dimensions — Inch (Continued)

A Rod Diameter	B Groove Diameter	C Groove Width (CR0)	C Groove Width (CR1)	C Groove Width (CR2)	D Throat Diameter*	O-ring Dash Number	CR Part Number (X = Groove Width of 0, 1 or 2)
+0.000/-0.002	+0.002/-0.000	+0.005/-0.000	+0.005/-0.000	+0.005/-0.000	+0.002/-0.000		
2.250	2.492	0.187	0.208	0.275	2.252	228	0401CR X-228A
2.375	2.617	0.187	0.208	0.275	2.377	229	0401CR X-229A
2.500	2.742	0.187	0.208	0.275	2.502	230	0401CR X-230A
2.625	2.867	0.187	0.208	0.275	2.627	231	0401CR X-231A
2.750	2.992	0.187	0.208	0.275	2.752	232	0401CR X-232A
2.875	3.117	0.187	0.208	0.275	2.877	233	0401CR X-233A
3.000	3.242	0.187	0.208	0.275	3.002	234	0401CR X-234A
3.125	3.367	0.187	0.208	0.275	3.127	235	0401CR X-235A
3.250	3.492	0.187	0.208	0.275	3.252	236	0401CR X-236A
3.375	3.617	0.187	0.208	0.275	3.377	237	0401CR X-237A
3.500	3.742	0.187	0.208	0.275	3.502	238	0401CR X-238A
3.625	3.867	0.187	0.208	0.275	3.627	239	0401CR X-239A
3.750	3.992	0.187	0.208	0.275	3.752	240	0401CR X-240A
3.875	4.117	0.187	0.208	0.275	3.877	241	0401CR X-241A
4.000	4.242	0.187	0.208	0.275	4.002	242	0401CR X-242A
4.125	4.367	0.187	0.208	0.275	4.127	243	0401CR X-243A
4.250	4.492	0.187	0.208	0.275	4.252	244	0401CR X-244A
4.375	4.617	0.187	0.208	0.275	4.377	245	0401CR X-245A
4.500	4.742	0.187	0.208	0.275	4.503	246	0401CR X-246A
4.625	4.867	0.187	0.208	0.275	4.628	247	0401CR X-247A
4.750	4.992	0.187	0.208	0.275	4.753	248	0401CR X-248A
4.875	5.117	0.187	0.208	0.275	4.878	249	0401CR X-249A
5.000	5.242	0.187	0.208	0.275	5.003	250	0401CR X-250A
+0.000/-0.002	+0.002/-0.000	+0.005/-0.000	+0.005/-0.000	+0.005/-0.000	+0.002/-0.000		
0.437	0.807	0.281	0.311	0.410	0.439	309	0401CR X-309A
0.500	0.870	0.281	0.311	0.410	0.502	310	0401CR X-310A
0.562	0.932	0.281	0.311	0.410	0.564	311	0401CR X-311A
0.625	0.995	0.281	0.311	0.410	0.627	312	0401CR X-312A
0.687	1.057	0.281	0.311	0.410	0.689	313	0401CR X-313A
0.750	1.120	0.281	0.311	0.410	0.752	314	0401CR X-314A
0.812	1.182	0.281	0.311	0.410	0.814	315	0401CR X-315A
0.875	1.245	0.281	0.311	0.410	0.877	316	0401CR X-316A
0.937	1.307	0.281	0.311	0.410	0.939	317	0401CR X-317A
1.000	1.370	0.281	0.311	0.410	1.002	318	0401CR X-318A
1.062	1.432	0.281	0.311	0.410	1.064	319	0401CR X-319A
1.125	1.495	0.281	0.311	0.410	1.127	320	0401CR X-320A
1.187	1.557	0.281	0.311	0.410	1.189	321	0401CR X-321A
1.250	1.620	0.281	0.311	0.410	1.252	322	0401CR X-322A
1.312	1.682	0.281	0.311	0.410	1.314	323	0401CR X-323A
1.375	1.745	0.281	0.311	0.410	1.377	324	0401CR X-324A
1.500	1.870	0.281	0.311	0.410	1.502	325	0401CR X-325A
1.625	1.995	0.281	0.311	0.410	1.627	326	0401CR X-326A
1.750	2.120	0.281	0.311	0.410	1.752	327	0401CR X-327A
+0.000/-0.002	+0.002/-0.000	+0.005/-0.000	+0.005/-0.000	+0.005/-0.000	+0.002/-0.000		
1.875	2.245	0.281	0.311	0.410	1.878	328	0401CR X-328A
2.000	2.370	0.281	0.311	0.410	2.003	329	0401CR X-329A
2.125	2.495	0.281	0.311	0.410	2.128	330	0401CR X-330A
2.250	2.620	0.281	0.311	0.410	2.253	331	0401CR X-331A

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



Table 5-25. CR Gland Dimensions — Inch (Continued)

A Rod Diameter	B Groove Diameter	C Groove Width (CR0)	C Groove Width (CR1)	C Groove Width (CR2)	D Throat Diameter*	O-ring Dash Number	CR Part Number (X = Groove Width of 0, 1 or 2)
+ .000/- .002	+ .002/- .000	+ .005/- .000	+ .005/- .000	+ .005/- .000	+ .002/- .000		
2.375	2.745	0.281	0.311	0.410	2.378	332	0401CR X-332A
2.500	2.870	0.281	0.311	0.410	2.503	333	0401CR X-333A
2.625	2.995	0.281	0.311	0.410	2.628	334	0401CR X-334A
2.750	3.120	0.281	0.311	0.410	2.753	335	0401CR X-335A
2.875	3.245	0.281	0.311	0.410	2.878	336	0401CR X-336A
3.000	3.370	0.281	0.311	0.410	3.003	337	0401CR X-337A
3.125	3.495	0.281	0.311	0.410	3.128	338	0401CR X-338A
3.250	3.620	0.281	0.311	0.410	3.253	339	0401CR X-339A
3.375	3.745	0.281	0.311	0.410	3.378	340	0401CR X-340A
3.500	3.870	0.281	0.311	0.410	3.503	341	0401CR X-341A
3.625	3.995	0.281	0.311	0.410	3.628	342	0401CR X-342A
3.750	4.120	0.281	0.311	0.410	3.753	343	0401CR X-343A
3.875	4.245	0.281	0.311	0.410	3.878	344	0401CR X-344A
4.000	4.370	0.281	0.311	0.410	4.003	345	0401CR X-345A
4.125	4.495	0.281	0.311	0.410	4.128	346	0401CR X-346A
4.250	4.620	0.281	0.311	0.410	4.253	347	0401CR X-347A
4.375	4.745	0.281	0.311	0.410	4.378	348	0401CR X-348A
4.500	4.870	0.281	0.311	0.410	4.503	349	0401CR X-349A
4.625	4.995	0.281	0.311	0.410	4.628	350	0401CR X-350A
4.750	5.120	0.281	0.311	0.410	4.753	351	0401CR X-351A
4.875	5.245	0.281	0.311	0.410	4.878	352	0401CR X-352A
5.000	5.370	0.281	0.311	0.410	5.003	353	0401CR X-353A
+ .000/- .002	+ .002/- .000	+ .005/- .000	+ .005/- .000	+ .005/- .000	+ .003/- .000		
4.500	4.974	0.375	0.408	0.538	4.504	425	0401CR X-425A
4.625	5.099	0.375	0.408	0.538	4.629	426	0401CR X-426A
4.750	5.224	0.375	0.408	0.538	4.754	427	0401CR X-427A
4.875	5.349	0.375	0.408	0.538	4.879	428	0401CR X-428A
5.000	5.474	0.375	0.408	0.538	5.004	429	0401CR X-429A
5.125	5.599	0.375	0.408	0.538	5.129	430	0401CR X-430A
5.250	5.724	0.375	0.408	0.538	5.254	431	0401CR X-431A
5.375	5.849	0.375	0.408	0.538	5.379	432	0401CR X-432A
5.500	5.974	0.375	0.408	0.538	5.504	433	0401CR X-433A
5.625	6.099	0.375	0.408	0.538	5.629	434	0401CR X-434A
5.750	6.224	0.375	0.408	0.538	5.754	435	0401CR X-435A
5.875	6.349	0.375	0.408	0.538	5.879	436	0401CR X-436A
6.000	6.474	0.375	0.408	0.538	6.004	437	0401CR X-437A
6.250	6.724	0.375	0.408	0.538	6.254	438	0401CR X-438A
6.500	6.974	0.375	0.408	0.538	6.504	439	0401CR X-439A
6.750	7.224	0.375	0.408	0.538	6.754	440	0401CR X-440A
7.000	7.474	0.375	0.408	0.538	7.004	441	0401CR X-441A
7.250	7.724	0.375	0.408	0.538	7.254	442	0401CR X-442A
7.500	7.974	0.375	0.408	0.538	7.504	443	0401CR X-443A
7.750	8.224	0.375	0.408	0.538	7.754	444	0401CR X-444A
8.000	8.474	0.375	0.408	0.538	8.004	445	0401CR X-445A
8.500	8.974	0.375	0.408	0.538	8.504	446	0401CR X-446A
9.000	9.474	0.375	0.408	0.538	9.004	447	0401CR X-447A
9.500	9.974	0.375	0.408	0.538	9.504	448	0401CR X-448A
10.000	10.474	0.375	0.408	0.538	10.004	449	0401CR X-449A

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

CR Profile

Table 5-25. CR Gland Dimensions — Inch (Continued)

A Rod Diameter	B Groove Diameter	C Groove Width (CR0)	C Groove Width (CR1)	C Groove Width (CR2)	D Throat Diameter*	O-ring Dash Number	CR Part Number (X = Groove Width of 0, 1 or 2)
+0.000/-0.002	+0.002/-0.000	+0.005/-0.000	+0.005/-0.000	+0.005/-0.000	+0.004/-0.000		
10.500	10.974	0.375	0.408	0.538	10.504	450	0401CR X-450A
11.000	11.474	0.375	0.408	0.538	11.004	451	0401CR X-451A
11.500	11.974	0.375	0.408	0.538	11.504	452	0401CR X-452A
12.000	12.474	0.375	0.408	0.538	12.004	453	0401CR X-453A
12.500	12.974	0.375	0.408	0.538	12.504	454	0401CR X-454A
13.000	13.474	0.375	0.408	0.538	13.004	455	0401CR X-455A
13.500	13.974	0.375	0.408	0.538	13.504	456	0401CR X-456A
14.000	14.474	0.375	0.408	0.538	14.004	457	0401CR X-457A
14.500	14.974	0.375	0.408	0.538	14.504	458	0401CR X-458A
15.000	15.474	0.375	0.408	0.538	15.004	459	0401CR X-459A
15.500	15.974	0.375	0.408	0.538	15.504	460	0401CR X-460A
16.000	16.474	0.375	0.408	0.538	16.004	461	0401CR X-461A

*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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