

Rod Seal BR Profile

Catalog EPS 5370/USA

BR Profile, Premium Buffer Seal



The BR profile is a compact rod seal designed to act as a buffer seal for the primary rod seal. As a buffer seal, the BR profile provides the majority of the rod sealing performance while allowing fluid to by pass onto and energize the primary rod seal. Fluid located between the BR profile and the rod seal will relieve back into the cylinder by flowing past the BR profile's flexible static side lip and slotted pedestals. This relieving or check valve function allows the BR profile and primary rod seal to work as a sealing system without the danger of developing a pressure trap. As a sealing system, the BR profile and primary rod seal provide optimal performance in the most difficult applications.

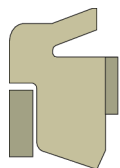
5

Technical Data

Standard Materials*	Temperature Range	Pressure Range†	Surface Speed
P4300A90	-65°F to 275°F (-54°C to 135°C)	5000 psi (344 bar)	< 1.6 ft/s (0.5 m/s)

***Alternate Materials:** For applications that may require an alternate material, please contact your local Parker Seal representative.

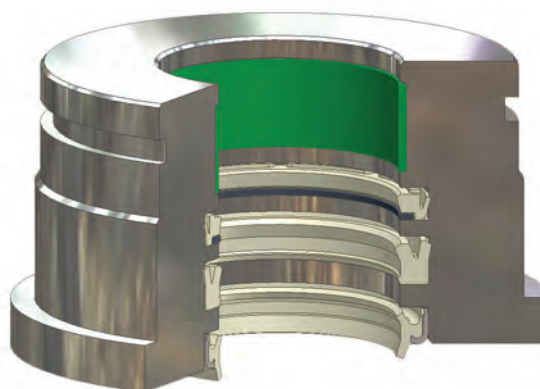
†**Pressure Range** without wear rings (see Table 2-4, page 2-5).



BR Cross-Section with Back-up



BR Cross-Section without Back-up



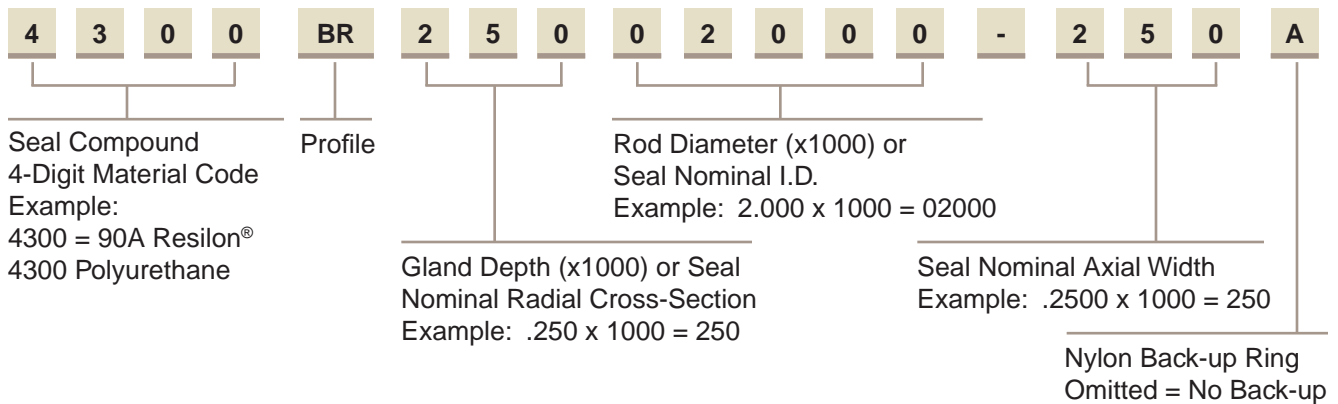
BR Installed in Rod Gland

02/15/08

BR Profile

Part Number Nomenclature — BR Profile

Table 5-28. BR Profile — Inch



Gland Dimensions — BR Profile

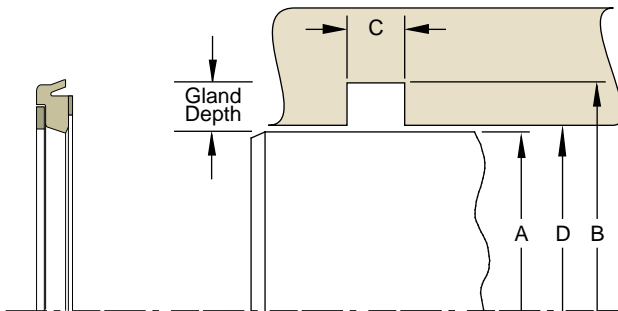


Table 5-29. Gland Dimension Tolerances

Nominal Gland Depth	A Rod Diameter	B Groove Diameter	C Groove Width	D Throat Diameter
1/8	+0.000/-0.001	+0.002/-0.000	+0.010/-0.000	+0.002/-0.000
3/16	+0.000/-0.002	+0.002/-0.000		+0.002/-0.000
1/4	+0.000/-0.002	+0.003/-0.000		+0.003/-0.000
5/16	+0.000/-0.002	+0.004/-0.000		+0.003/-0.000
3/8	+0.000/-0.002	+0.005/-0.000		+0.004/-0.000
7/16	+0.000/-0.003	+0.006/-0.000		+0.004/-0.000
1/2	+0.000/-0.003	+0.007/-0.000		+0.005/-0.000
5/8	+0.000/-0.003	+0.009/-0.000		+0.006/-0.000
3/4	+0.000/-0.004	+0.011/-0.000		+0.007/-0.000
1	+0.000/-0.005	+0.015/-0.000		+0.009/-0.000

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

Table 5-30. BR Gland Dimensions — Inch

A Rod Diameter	B Groove Diameter	C Groove Width	D Throat Diameter*	Part Number	
1.000	1.374	0.205	1.001	4300	BR18701000-187A
1.125	1.499	0.205	1.126	4300	BR18701125-187A
1.250	1.624	0.205	1.251	4300	BR18701250-187A
1.250	1.812	0.135	1.251	4300	BR28101250-135
1.375	1.749	0.205	1.376	4300	BR18701375-187A
1.375	1.937	0.135	1.376	4300	BR28101375-135

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

Table 5-30. BR Gland Dimensions — Inch (Continued)

A Rod Diameter	B Groove Diameter	C Groove Width	D Throat Diameter*	Part Number	
1.500	2.000	0.275	1.501	4300	BR25001500-250A
1.500	2.062	0.135	1.501	4300	BR28101500-135
1.750	2.250	0.275	1.751	4300	BR25001750-250A
1.750	2.312	0.135	1.751	4300	BR28101750-135
2.000	2.500	0.275	2.001	4300	BR25002000-250A
2.000	2.562	0.135	2.001	4300	BR28102000-135
2.250	2.926	0.252	2.251	4300	BR33802250-229A
2.500	3.000	0.275	2.501	4300	BR25002500-250A
2.500	3.174	0.252	2.502	4300	BR33702500-229A
2.750	3.397	0.252	2.752	4300	BR32402750-229A
3.000	3.500	0.275	3.001	4300	BR25003000-250A
3.500	4.000	0.275	3.501	4300	BR25003500-250A
3.500	4.166	0.252	3.502	4300	BR33303500-229A
3.750	4.250	0.275	3.751	4300	BR25003750-250A
4.000	4.624	0.343	4.002	4300	BR31204000-312A
4.000	4.666	0.252	4.002	4300	BR33304000-229A
4.250	4.750	0.275	4.251	4300	BR25004250-250A
4.250	4.866	0.275	4.252	4300	BR30804250-250A
4.500	5.124	0.343	4.502	4300	BR31204500-312A
4.750	5.500	0.412	4.752	4300	BR37504750-375A
5.000	5.750	0.412	5.002	4300	BR37505000-375A
5.000	5.830	0.358	5.002	4300	BR41505000-325A
5.500	6.250	0.412	5.502	4300	BR37505500-375A
5.750	6.250	0.275	5.751	4300	BR25005750-250A
9.000	10.000	0.550	9.002	4300	BR50009000-500A

*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.