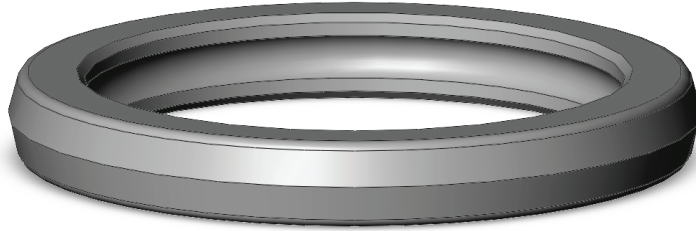


Brawn Seal



**The one-piece elastomeric
high-pressure seal.**

Description

K.C. Seals Brawn® Seal is a compact, double acting rod or piston seal with almost no dead spots. The profile maintains non-twisting in dynamic applications, as required for many applications in exploration and production. The Brawn® seal is commonly used as a T-Seal replacement, as well as an O-Ring and back-up ring replacement because of its high-pressure rating.

Applications

- Directional tools
- O-Ring replacement
- T-Seal replacement
- Choke valves
- Actuators and Control modules
- Flow Control
- Blow-Out Preventers (BOPs)
- Completion tools
- Fishing and jar tools
- Gas lifts
- O-Ring and Back-up ring configuration replacement

Features

- Easy installation
- One-piece high-pressure seal
- Stability in the groove
- Zero pressure trap
- Stress reduction on sealing surface
- Non-Twisting in dynamic applications

Technical Data

Operating Pressure: 15,000 psi for static applications. 10,000 psi for dynamic applications.

Speed: 2.3 ft/s

Temperature range: -45 °C to +232 °C depending on elastomer.

Proven Test Data (HNBR)

10,000 Psi max @ 80°C (3 hours)

Several pressure reversals in that time

ASTM D395 compression set @ 22 hours at 125°C = 5%

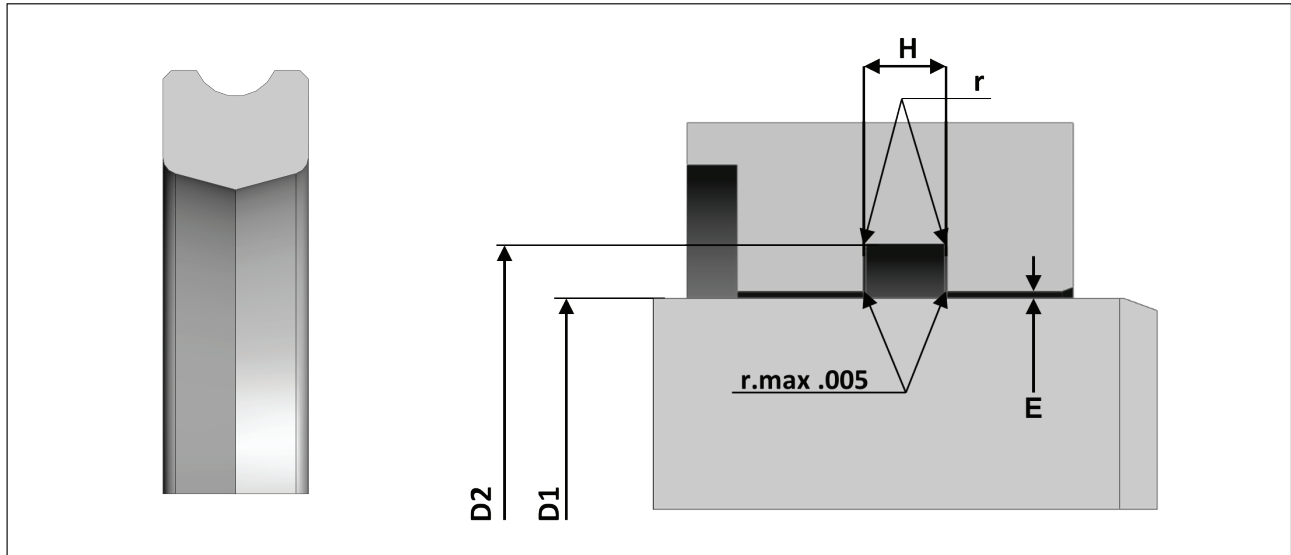
Brawn Seal

Available Materials

Material	Description	Temperature Range	Material Code
Standard Grade Viton®	FKM type A commercial grade compound. Off the shelf, low cost, and highly accessible Viton® compound.	-20°C to +205°C -4°F to 400°F	V
Aflas®	Aflas® offers excellent steam resistance, resistance to acids and bases, amines, Ozone and H2S. Its unique features, especially its steam resistance, help to enhance performance and durability in oil recovery equipment.	-4 to 232°C 25°F to 450°F	A
Standard Grade HNBR	A general applications HNBR compound. HSN provides good chemical resistance to crude oil, lubricating agents and oil additives with superior resistance to carbon dioxide, water, drilling mud and amine corrosion inhibitors. HSN is off the shelf, low cost, and highly accessible HNBR compound.	-40°C to 160°C -40°F to 325°F	H
Standard Grade NBR (BUNA)	Low-cost, general-purpose compound. Nitrile offers good resistance to compression set and tear/abrasion. Nitrile is resistant to many petroleum oils/greases, hydraulic fluids, alcohol, ambient water, silicone greases, Diester base lubricants and ethylene-glycol based fluids.	-35°C to +120°C -30°F to +250°F	N
Viton™ Extreme™	Viton™ ETP-600S provides excellent resistance to low molecular weight esters, ketones, and aldehydes. Additionally, Viton™ Extreme™ ETP-600S is inherently resistant to attack by high pH fluids and base materials. This enables hoses, seals, gaskets, or O-rings made with Viton™ Extreme™ fluoroelastomers to not swell in volume or lose their elastomeric properties in highly caustic solutions and amines.	-20°C to +225°C -4°F to 437°F	EE7749

Brawn Seal

Hardware And Part Number Information for Rod Brawn Seals



Dimensional table. Rod-Inch

K.C. Seals Part Number	Bore D1 Tol: +/- .002	Groove D2 Tol: +/- .004	Groove Width H	Corner Radii r	Radial Clearance *E _{max.}		
					1.500 psi (10 MPa)	3.000 psi (20 MPa)	5.800 psi (40 MPa)
BR 006	.125	.236	.093/.101	.005/.015	.004	.003	.002
BR 007	.156	.267	.093/.101	.005/.015	.004	.003	.002
BR 008	.187	.298	.093/.101	.005/.015	.004	.003	.002
BR 009	.219	.330	.093/.101	.005/.015	.004	.003	.002
BR 010	.250	.361	.093/.101	.005/.015	.004	.003	.002
BR 011	.312	.423	.093/.101	.005/.015	.004	.003	.002
BR 012	.375	.486	.093/.101	.005/.015	.004	.003	.002
BR 110	.375	.553	.140/.148	.005/.015	.006	.004	.003
BR 111	.437	.615	.140/.148	.005/.015	.006	.004	.003
BR 112	.500	.678	.140/.148	.005/.015	.006	.004	.003
BR 113	.562	.740	.140/.148	.005/.015	.006	.004	.003
BR 114	.625	.803	.140/.148	.005/.015	.006	.004	.003
BR 115	.687	.865	.140/.148	.005/.015	.006	.004	.003
BR 116	.750	.928	.140/.148	.005/.015	.006	.004	.003
BR 210	.750	.994	.187/.195	.010/.025	.008	.006	.003
BR 211	.812	1.056	.187/.195	.010/.025	.008	.006	.003
BR 212	.875	1.119	.187/.195	.010/.025	.008	.006	.003
BR 213	.937	1.181	.187/.195	.010/.025	.008	.006	.003
BR 214	1.000	1.244	.187/.195	.010/.025	.008	.006	.003
BR 215	1.062	1.306	.187/.195	.010/.025	.008	.006	.003

Brawn Seal

BR 216	1.125	1.369	.187/.195	.010/.025	.008	.006	.003
BR 217	1.187	1.431	.187/.195	.010/.025	.008	.006	.003
BR 218	1.250	1.494	.187/.195	.010/.025	.008	.006	.003
BR 219	1.312	1.556	.187/.195	.010/.025	.008	.006	.003
BR 220	1.375	1.619	.187/.195	.010/.025	.008	.006	.003
BR 221	1.437	1.681	.187/.195	.010/.025	.008	.006	.003
BR 222	1.500	1.744	.187/.195	.010/.025	.008	.006	.003
BR 325	1.500	1.872	.281/.289	.020/.035	.010	.008	.004
BR 326	1.625	1.997	.281/.289	.020/.035	.010	.008	.004
BR 327	1.750	2.122	.281/.289	.020/.035	.010	.008	.004
BR 328	1.875	2.247	.281/.289	.020/.035	.010	.008	.004
BR 329	2.000	2.372	.281/.289	.020/.035	.010	.008	.004
BR 330	2.125	2.497	.281/.289	.020/.035	.010	.008	.004
BR 331	2.250	2.622	.281/.289	.020/.035	.010	.008	.004
BR 332	2.375	2.747	.281/.289	.020/.035	.010	.008	.004
BR 333	2.500	2.872	.281/.289	.020/.035	.010	.008	.004
BR 334	2.625	2.997	.281/.289	.020/.035	.010	.008	.004
BR 335	2.750	3.122	.281/.289	.020/.035	.010	.008	.004
BR 336	2.875	3.247	.281/.289	.020/.035	.010	.008	.004
BR 337	3.000	3.372	.281/.289	.020/.035	.010	.008	.004
BR 338	3.125	3.497	.281/.289	.020/.035	.010	.008	.004
BR 339	3.250	3.622	.281/.289	.020/.035	.010	.008	.004
BR 340	3.375	3.747	.281/.289	.020/.035	.010	.008	.004
BR 341	3.500	3.872	.281/.289	.020/.035	.010	.008	.004
BR 342	3.625	3.997	.281/.289	.020/.035	.010	.008	.004
BR 343	3.750	4.122	.281/.289	.020/.035	.010	.008	.004
BR 344	3.875	4.247	.281/.289	.020/.035	.010	.008	.004
BR 345	4.000	4.372	.281/.289	.020/.035	.010	.008	.004
BR 346	4.125	4.497	.281/.289	.020/.035	.010	.008	.004
BR 347	4.250	4.622	.281/.289	.020/.035	.010	.008	.004
BR 348	4.375	4.747	.281/.289	.020/.035	.010	.008	.004
BR 349	4.500	4.872	.281/.289	.020/.035	.010	.008	.004
BR 425	4.500	4.977	.375/.383	.020/.035	.012	.010	.006
BR 426	4.625	5.102	.375/.383	.020/.035	.012	.010	.006
BR 427	4.750	5.227	.375/.383	.020/.035	.012	.010	.006
BR 428	4.875	5.352	.375/.383	.020/.035	.012	.010	.006
BR 429	5.000	5.477	.375/.383	.020/.035	.012	.010	.006
BR 430	5.125	5.602	.375/.383	.020/.035	.012	.010	.006
BR 431	5.250	5.727	.375/.383	.020/.035	.012	.010	.006
BR 432	5.375	5.852	.375/.383	.020/.035	.012	.010	.006
BR 433	5.500	5.977	.375/.383	.020/.035	.012	.010	.006
BR 434	5.625	6.102	.375/.383	.020/.035	.012	.010	.006
BR 435	5.750	6.227	.375/.383	.020/.035	.012	.010	.006
BR 436	5.875	6.352	.375/.383	.020/.035	.012	.010	.006
BR 437	6.000	6.477	.375/.383	.020/.035	.012	.010	.006

Brawn Seal

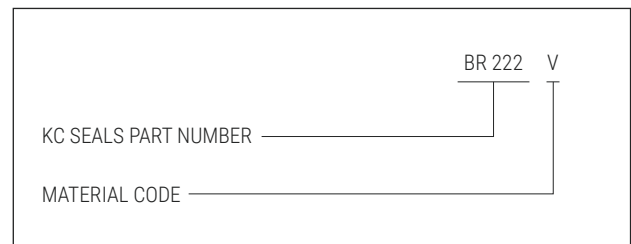
BR 438	6.250	6.727	.375/.383	.020/.035	.012	.010	.006
BR 439	6.500	6.977	.375/.383	.020/.035	.012	.010	.006
BR 440	6.750	7.227	.375/.383	.020/.035	.012	.010	.006
BR 441	7.000	7.477	.375/.383	.020/.035	.012	.010	.006
BR 442	7.250	7.727	.375/.383	.020/.035	.012	.010	.006
BR 443	7.500	7.977	.375/.383	.020/.035	.012	.010	.006
BR 444	7.750	8.227	.375/.383	.020/.035	.012	.010	.006
BR 445	8.000	8.477	.375/.383	.020/.035	.012	.010	.006
BR 446	8.500	8.977	.375/.383	.020/.035	.012	.010	.006
BR 447	9.000	9.477	.375/.383	.020/.035	.012	.010	.006
BR 448	9.500	9.977	.375/.383	.020/.035	.012	.010	.006
BR 449	10.000	10.477	.375/.383	.020/.035	.012	.010	.006
BR 450	10.500	10.977	.375/.383	.020/.035	.012	.010	.006
BR 451	11.000	11.477	.375/.383	.020/.035	.012	.010	.006
BR 452	11.500	11.977	.375/.383	.020/.035	.012	.010	.006
BR 453	12.000	12.477	.375/.383	.020/.035	.012	.010	.006
BR 454	12.500	12.977	.375/.383	.020/.035	.012	.010	.006
BR 455	13.000	13.477	.375/.383	.020/.035	.012	.010	.006
BR 456	13.500	13.977	.375/.383	.020/.035	.012	.010	.006
BR 457	14.000	14.477	.375/.383	.020/.035	.012	.010	.006
BR 458	14.500	14.977	.375/.383	.020/.035	.012	.010	.006
BR 459	15.000	15.477	.375/.383	.020/.035	.012	.010	.006
BR 460	15.500	15.977	.375/.383	.020/.035	.012	.010	.006

Custom Dimensions

For custom housing dimensions, KC Seals would require either dimensions of, or drawings of your metal work.

For any questions or concerns please contact us at info@kcseals.ca

Rod Brawn Seal Part Numbering System

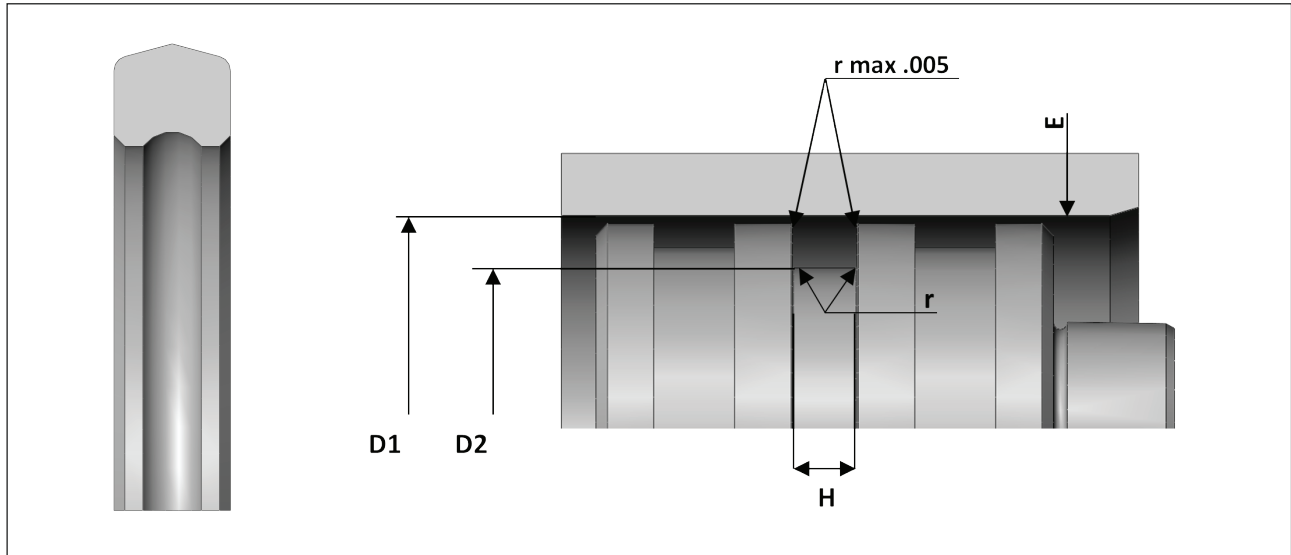


Brawn Seal

Notes

Brawn Seal

Hardware and Part Number Information for Piston Brawn Seals



Dimensional table. Rod-Inch

K.C. Seals Part Number	Bore D1 Tol: +/- .002	Groove D2 Tol: +/- .004	Groove Width H	Corner Radii r	Radial Clearance *E _{max.}		
					1.500 psi (10 MPa)	3.000 psi (20 MPa)	5.800 psi (40 MPa)
BP 006	.251	.140	.093/.101	.005/.015	.004	.003	.002
BP 007	.282	.171	.093/.101	.005/.015	.004	.003	.002
BP 008	.313	.202	.093/.101	.005/.015	.004	.003	.002
BP 009	.345	.234	.093/.101	.005/.015	.004	.003	.002
BP 010	.376	.265	.093/.101	.005/.015	.004	.003	.002
BP 011	.438	.327	.093/.101	.005/.015	.004	.003	.002
BP 012	.501	.390	.093/.101	.005/.015	.004	.003	.002
BP 110	.564	.386	.140/.148	.005/.015	.006	.004	.003
BP 111	.627	.449	.140/.148	.005/.015	.006	.004	.003
BP 112	.689	.511	.140/.148	.005/.015	.006	.004	.003
BP 113	.752	.574	.140/.148	.005/.015	.006	.004	.003
BP 114	.814	.636	.140/.148	.005/.015	.006	.004	.003
BP 115	.877	.699	.140/.148	.005/.015	.006	.004	.003
BP 116	.939	.761	.140/.148	.005/.015	.006	.004	.003
BP 210	1.002	.758	.187/.195	.010/.025	.008	.006	.003
BP 211	1.065	.821	.187/.195	.010/.025	.008	.006	.003
BP 212	1.127	.883	.187/.195	.010/.025	.008	.006	.003
BP 213	1.190	.946	.187/.195	.010/.025	.008	.006	.003
BP 214	1.252	1.008	.187/.195	.010/.025	.008	.006	.003
BP 215	1.315	1.071	.187/.195	.010/.025	.008	.006	.003

Brawn Seal

BP 216	1.377	1.133	.187/.195	.010/.025	.008	.006	.003
BP 217	1.440	1.196	.187/.195	.010/.025	.008	.006	.003
BP 218	1.502	1.258	.187/.195	.010/.025	.008	.006	.003
BP 219	1.565	1.321	.187/.195	.010/.025	.008	.006	.003
BP 220	1.627	1.383	.187/.195	.010/.025	.008	.006	.003
BP 221	1.690	1.446	.187/.195	.010/.025	.008	.006	.003
BP 222	1.752	1.508	.187/.195	.010/.025	.008	.006	.003
BP 325	1.877	1.505	.281/.289	.020/.035	.010	.008	.004
BP 326	2.002	1.630	.281/.289	.020/.035	.010	.008	.004
BP 327	2.127	1.755	.281/.289	.020/.035	.010	.008	.004
BP 328	2.252	1.880	.281/.289	.020/.035	.010	.008	.004
BP 329	2.377	2.005	.281/.289	.020/.035	.010	.008	.004
BP 330	2.502	2.130	.281/.289	.020/.035	.010	.008	.004
BP 331	2.627	2.255	.281/.289	.020/.035	.010	.008	.004
BP 332	2.752	2.380	.281/.289	.020/.035	.010	.008	.004
BP 333	2.877	2.505	.281/.289	.020/.035	.010	.008	.004
BP 334	3.002	2.630	.281/.289	.020/.035	.010	.008	.004
BP 335	3.127	2.755	.281/.289	.020/.035	.010	.008	.004
BP 336	3.252	2.880	.281/.289	.020/.035	.010	.008	.004
BP 337	3.377	3.005	.281/.289	.020/.035	.010	.008	.004
BP 338	3.502	3.130	.281/.289	.020/.035	.010	.008	.004
BP 339	3.627	3.255	.281/.289	.020/.035	.010	.008	.004
BP 340	3.752	3.380	.281/.289	.020/.035	.010	.008	.004
BP 341	3.877	3.505	.281/.289	.020/.035	.010	.008	.004
BP 342	4.002	3.630	.281/.289	.020/.035	.010	.008	.004
BP 343	4.127	3.755	.281/.289	.020/.035	.010	.008	.004
BP 344	4.252	3.880	.281/.289	.020/.035	.010	.008	.004
BP 345	4.377	4.005	.281/.289	.020/.035	.010	.008	.004
BP 346	4.502	4.130	.281/.289	.020/.035	.010	.008	.004
BP 347	4.627	4.255	.281/.289	.020/.035	.010	.008	.004
BP 348	4.752	4.380	.281/.289	.020/.035	.010	.008	.004
BP 349	4.877	4.505	.281/.289	.020/.035	.010	.008	.004
BP 425	5.003	4.526	.375/.383	.020/.035	.012	.010	.006
BP 426	5.128	4.651	.375/.383	.020/.035	.012	.010	.006
BP 427	5.253	4.776	.375/.383	.020/.035	.012	.010	.006
BP 428	5.378	4.901	.375/.383	.020/.035	.012	.010	.006
BP 429	5.503	5.026	.375/.383	.020/.035	.012	.010	.006
BP 430	5.628	5.151	.375/.383	.020/.035	.012	.010	.006
BP 431	5.753	5.276	.375/.383	.020/.035	.012	.010	.006
BP 432	5.878	5.401	.375/.383	.020/.035	.012	.010	.006
BP 433	6.003	5.526	.375/.383	.020/.035	.012	.010	.006
BP 434	6.128	5.651	.375/.383	.020/.035	.012	.010	.006
BP 435	6.253	5.776	.375/.383	.020/.035	.012	.010	.006
BP 436	6.378	5.901	.375/.383	.020/.035	.012	.010	.006
BP 437	6.503	6.026	.375/.383	.020/.035	.012	.010	.006

Brawn Seal

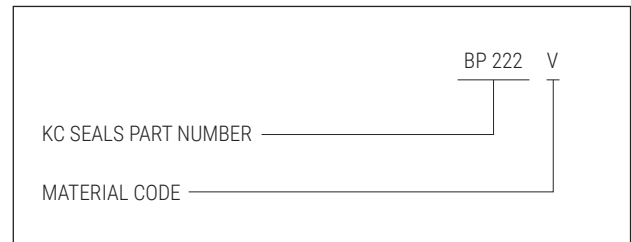
BP 438	6.753	6.276	.375/.383	.020/.035	.012	.010	.006
BP 439	7.003	6.526	.375/.383	.020/.035	.012	.010	.006
BP 440	7.253	6.776	.375/.383	.020/.035	.012	.010	.006
BP 441	7.503	7.026	.375/.383	.020/.035	.012	.010	.006
BP 442	7.753	7.276	.375/.383	.020/.035	.012	.010	.006
BP 443	8.003	7.526	.375/.383	.020/.035	.012	.010	.006
BP 444	8.253	7.776	.375/.383	.020/.035	.012	.010	.006
BP 445	8.503	8.026	.375/.383	.020/.035	.012	.010	.006
BP 446	9.003	8.526	.375/.383	.020/.035	.012	.010	.006
BP 447	.004	9.026	.375/.383	.020/.035	.012	.010	.006
BP 448	10.004	9.526	.375/.383	.020/.035	.012	.010	.006
BP 449	10.504	10.026	.375/.383	.020/.035	.012	.010	.006
BP 450	11.004	10.526	.375/.383	.020/.035	.012	.010	.006
BP 451	11.504	11.026	.375/.383	.020/.035	.012	.010	.006
BP 452	12.004	11.526	.375/.383	.020/.035	.012	.010	.006
BP 453	12.504	12.026	.375/.383	.020/.035	.012	.010	.006
BP 454	13.004	12.526	.375/.383	.020/.035	.012	.010	.006
BP 455	13.504	13.026	.375/.383	.020/.035	.012	.010	.006
BP 456	14.004	13.526	.375/.383	.020/.035	.012	.010	.006
BP 457	14.504	14.026	.375/.383	.020/.035	.012	.010	.006
BP 458	15.004	14.526	.375/.383	.020/.035	.012	.010	.006
BP 459	15.504	15.026	.375/.383	.020/.035	.012	.010	.006
BP 460	16.004	15.526	.375/.383	.020/.035	.012	.010	.006

Custom Dimensions

For custom housing dimensions, KC Seals would require either dimensions of, or drawings of your metal work.

For any questions or concerns please contact us at info@kcseals.ca

Piston Brawn Seal Part Numbering System



Brawn Seal

Notes