

BP Profile Piston Seal

No. 5212B1-USA

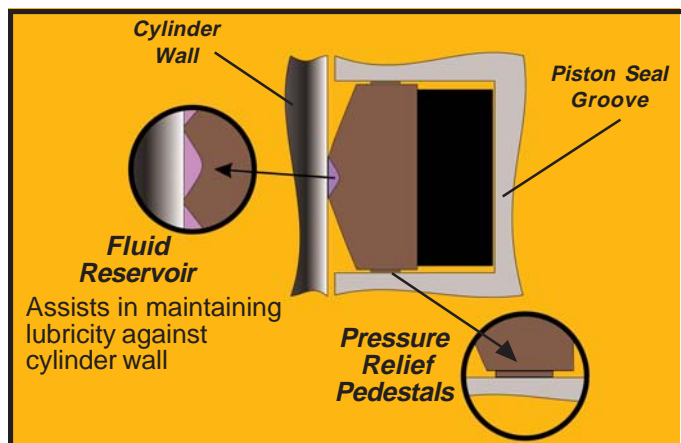
BP Profile Double Acting Piston Seal for Medium to Heavy-duty Hydraulic Cylinders (up to 7000 psi)

BP Profile Delivers Superior Performance

Parker's BP piston seal is another example of sealing excellence developed by Parker Hannifin. Parker developed the Bi-directional Piston (BP) seal utilizing its diverse resources including Finite Element Analysis engineering, state of the science materials development and a functional on-site test laboratory. Parker's BP seal offers superior performance in safety critical medium- to heavy-duty fluid power cylinders.

Benefits of using Parker's BP Seal

- Low break-away and running friction
- Easy snap in installation
- High extrusion resistance at medium to high pressures (to 7000 psi)
- Features RESILON™ ER for expanded temperature range over urethane materials
- Wear resistant
- Will not roll in groove, resists spiral failure
- Longer life, resulting in less down time for your customer



Ease of Installation

The BP design allows easy snap-in installation and is ideal for installation on one-piece pistons or is available in Parker's **Integrated Piston™** Assembly product line (See Catalog EPS-5220). With its high rebound characteristics, the BP seal installs with greater ease than a solid PTFE piston ring, and requires no resizing.



Engineered Sealing Material

RESILON™ ER (4304)

RESILON™ ER (4304) is a member of Parker's PPDI-based RESILON™ family of materials. A 60 Shore D polyurethane, RESILON ER performs with improved extrusion resistance over a broader range of pressures and temperatures than other MDI and TODI polyurethanes. Combining the higher durometer feature of this material with the premiere physical properties of the RESILON™ family, and the FEA profile design creates an ideal polyurethane seal. Improved properties include higher service temperature, greater strength and abrasion resistance, excellent compression set and a rebound unmatched by any other 60 Shore D polyurethane material on the market.

Fluid and Temperature Range

RESILON ER has a continuous service temperature range of -40°F to +275°F and offers excellent fluid compatibility with most petroleum based fluids, acetic and alkaline solutions under 10% concentration, salts, aliphatic alcohols, hydrocarbon and mixtures containing less than 80% aromatics, oxygen and ozone. RESILON™ ER is not recommended for use in steam, automotive brake fluids, esters or ketones.

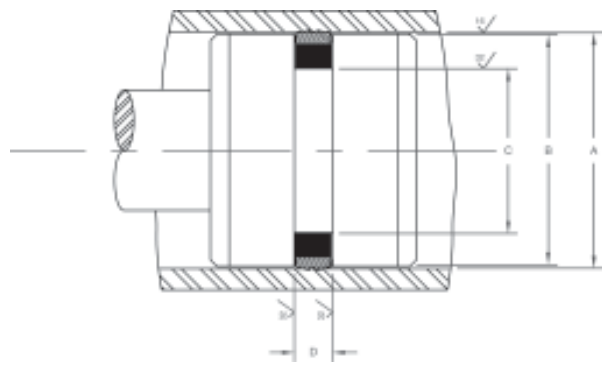
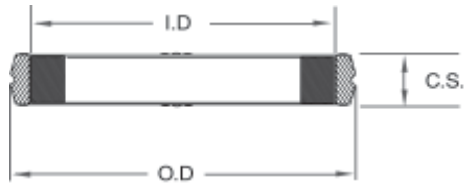
RESILON ER Typical Physical Properties

Physical Property	Values
Hardness	60
Tensile Strength (psi)	5500
100% Modulus (psi)	2700
300% Modulus (psi)	3500
Elongation (%)	500
Rebound (%)	45
Specific Gravity	1.15
Compression Set (%)	40
70 hrs @ 158°F	

Data is to be used as a guide only. Actual test values may be different.

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BP Profile Piston Seal Groove Dimensions



Part Number	Nominal O.D.	Nominal I.D.	Nominal C.S.	A Bore Dia. +.002 - .000	B Piston Dia. +.000 - .001	C Groove Dia. +.000 - .002	D Groove Width +.005 - .000
BP203A	9/16	5/16	1/8	.562	.559	.320	.187
BP204A	5/8	3/8	1/8	.625	.622	.383	.187
BP205A	11/16	7/16	1/8	.687	.684	.445	.187
BP206A	3/4	1/2	1/8	.750	.747	.508	.187
BP207A	13/16	9/16	1/8	.812	.809	.570	.187
BP208A	7/8	5/8	1/8	.875	.872	.633	.187
BP209A	15/16	11/16	1/8	.937	.934	.695	.187
BP210A	1	3/4	1/8	1.000	.997	.758	.187
BP211A	1 1/16	13/16	1/8	1.062	1.059	.820	.187
BP212A	1 1/8	7/8	1/8	1.125	1.122	.883	.187
BP213A	1 3/16	15/16	1/8	1.187	1.184	.945	.187
BP214A	1 1/4	1	1/8	1.250	1.247	1.008	.187
BP215A	1 5/16	1 1/16	1/8	1.312	1.309	1.070	.187
BP216A	1 3/8	1 1/8	1/8	1.375	1.372	1.133	.187
BP217A	1 7/16	1 3/16	1/8	1.437	1.434	1.195	.187
BP218A	1 1/2	1 1/4	1/8	1.500	1.497	1.258	.187
BP219A	1 9/16	1 5/16	1/8	1.562	1.559	1.320	.187
BP220A	1 5/8	1 3/8	1/8	1.625	1.622	1.383	.187
BP221A	1 11/16	1 7/16	1/8	1.687	1.684	1.445	.187
BP222A	1 3/4	1 1/2	1/8	1.750	1.747	1.508	.187
BP325A	1 7/8	1 1/2	3/16	1.875	1.872	1.505	.281
BP326A	2	1 5/8	3/16	2.000	1.997	1.630	.281
BP327A	2 1/8	1 3/4	3/16	2.125	2.122	1.755	.281
BP328A	2 1/4	1 7/8	3/16	2.250	2.247	1.880	.281
BP329A	2 3/8	2	3/16	2.375	2.372	2.005	.281
BP330A	2 1/2	2 1/8	3/16	2.500	2.497	2.130	.281
BP331A	2 5/8	2 1/4	3/16	2.625	2.622	2.255	.281
BP332A	2 3/4	2 3/8	3/16	2.750	2.747	2.380	.281
BP333A	2 7/8	2 1/2	3/16	2.875	2.872	2.505	.281
BP334A	3	2 5/8	3/16	3.000	2.997	2.630	.281
BP335A	3 1/8	2 3/4	3/16	3.125	3.122	2.755	.281
BP336A	3 1/4	2 7/8	3/16	3.250	3.247	2.880	.281
BP337A	3 3/8	3	3/16	3.375	3.372	3.005	.281
BP338A	3 1/2	3 1/8	3/16	3.500	3.497	3.130	.281
BP339A	3 5/8	3 1/4	3/16	3.625	3.622	3.255	.281
BP340A	3 3/4	3 3/8	3/16	3.750	3.747	3.380	.281
BP341A	3 7/8	3 1/2	3/16	3.875	3.872	3.505	.281
BP342A	4	3 5/8	3/16	4.000	3.997	3.630	.281
BP343A	4 1/8	3 3/4	3/16	4.125	4.122	3.755	.281
BP344A	4 1/4	3 7/8	3/16	4.250	4.247	3.880	.281
BP345A	4 3/8	4	3/16	4.375	4.372	4.005	.281
BP346A	4 1/2	4 1/8	3/16	4.500	4.497	4.130	.281
BP347A	4 5/8	4 1/4	3/16	4.625	4.622	4.255	.281
BP349A	4 7/8	4 1/2	3/16	4.875	4.872	4.505	.281
BP350A	5	4 5/8	3/16	5.002	4.997	4.630	.281
BP426A	5 1/8	4 5/8	1/4	5.127	5.123	4.653	.375
BP427A	5 1/4	4 3/4	1/4	5.252	5.248	4.778	.375
BP428A	5 3/8	4 7/8	1/4	5.377	5.373	4.903	.375
BP429A	5 1/2	5	1/4	5.502	5.498	5.028	.375
BP430A	5 5/8	5 1/8	1/4	5.627	5.623	5.153	.375
BP431A	5 3/4	5 1/4	1/4	5.752	5.748	5.278	.375
BP432A	5 7/8	5 3/8	1/4	5.877	5.873	5.403	.375
BP433A	6	5 1/2	1/4	6.002	5.998	5.528	.375
BP434A	6 1/8	5 3/8	1/4	6.127	6.123	5.653	.375
BP435A	6 1/4	5 1/4	1/4	6.252	6.248	5.778	.375
BP437A	6 1/2	6	1/4	6.502	6.498	6.028	.375
BP438A	6 3/4	6 1/4	1/4	6.752	6.748	6.278	.375
BP439A	7	6 1/2	1/4	7.002	6.998	6.528	.375

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