

PSP Seals (Parker Slide Pak) BI-DIRECTIONAL PISTON SEAL

No. 5238B1-USA

For use in all types of fluid power piston seal applications

About PSP Seals

Parker PSP Seals are bi-directional squeeze type seals used exclusively as piston seals in medium-duty fluid-power cylinders.

Applications

PSP Seals are used in double-acting cylinder applications where installation problems exist, space is a problem, shock loads may occur, or extended seal life is required. Currently, the Parker PSP piston seal may be found in agricultural cylinders, industrial-type cylinders, hydraulic valves, hydraulic brake systems, and many other applications.

Benefits of PSP Seals Include:

- Low friction, advanced polyurethane material
- Resists abrasion, extrusion, and rolling in the groove.
- Needs only a single seal groove.
- Easy snap-in installation on one-piece pistons
- Direct substitution for O-rings, T-Seals, and Cap Seals in industrial no-back-up O-ring grooves.

Resists Spiral Failure

PSP Seals are "square" in cross-section for improved stability. The "square" profile resists rolling and twisting in the groove in long stroke applications.

Easy to Install

The PSP Seal geometry allows easy, snap-in installation and is ideal for installation on one-piece pistons. The PSP Seal installs as a snap-in type seal with greater ease than solid PTFE piston rings.

Advanced Sealing Compound

Parker "A" Style PSP Seals are manufactured from our revolutionary, new Resilon™ HT (P4300) compound. This high performance urethane has been developed with greatly improved physical properties. The superior compression set and rebound properties of the Resilon family of materials provide increased sealing capabilities.

Fluid and Temperature Range

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



Other Physical Properties

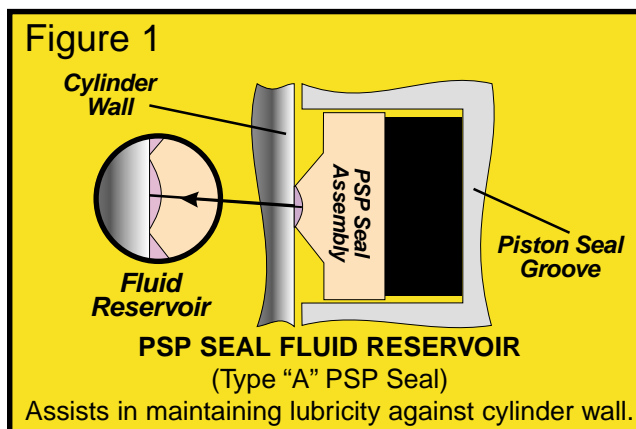
With a tensile strength of over 8000 psi, Resilon™ HT will resist extrusion over a broad pressure range. Excellent abrasion resistance and low wear provide extended seal life. Bay shore resilience of 60% makes for a very responsive piston seal as sealing surfaces will remain in contact with cylinder walls while reacting to rapid changes in load. Compression set for 70 hrs. @ 158°F approaches that of conventional rubber materials.

Unique Seal Geometry

The unique geometry of the PSP Seal design creates a fluid reservoir *between* the two beveled bi-lip sealing surfaces. This important feature provides extra lubrication, resulting in reduced breakaway and running friction. (See Figure 1)

Additional Compounds

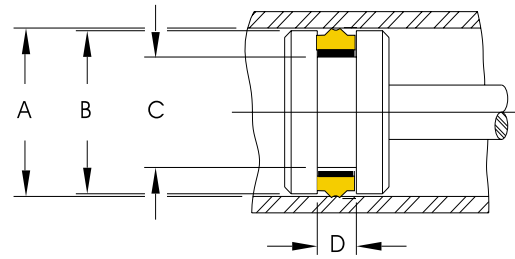
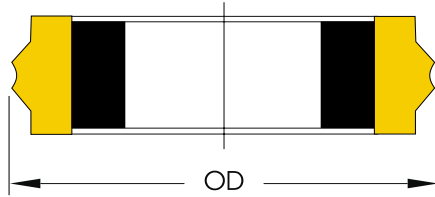
"A" Style PSP Seals are also available in Parker Seal compounds P4622D90 (Ultrathane™) and Z4651D53 (PolyMyte) depending on tooling availability.



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Parker PSP Seals

Recommended groove, bore and piston 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
PSP-203A	9/16	5/16	1/8	.562	.559	.320	.187
PSP-204A	5/8	3/8	1/8	.625	.622	.383	.187
PSP-205A	11/16	7/16	1/8	.687	.684	.445	.187
PSP-206A	3/4	1/2	1/8	.750	.747	.508	.187
PSP-207A	13/16	9/16	1/8	.812	.809	.570	.187
PSP-208A	7/8	5/8	1/8	.875	.872	.633	.187
PSP-209A	15/16	11/16	1/8	.937	.934	.695	.187
PSP-210A	1	3/4	1/8	1.000	.997	.758	.187
PSP-211A	1 1/16	13/16	1/8	1.062	1.059	.820	.187
PSP-212A	1 1/8	7/8	1/8	1.125	1.122	.883	.187
PSP-213A	1 3/16	15/16	1/8	1.187	1.184	.945	.187
PSP-214A	1 1/4	1	1/8	1.250	1.247	1.008	.187
PSP-215A	1 5/16	1 1/16	1/8	1.312	1.309	1.070	.187
PSP-216A	1 3/8	1 1/8	1/8	1.375	1.372	1.133	.187
PSP-217A	1 7/16	1 3/16	1/8	1.437	1.434	1.195	.187
PSP-218A	1 1/2	1 1/4	1/8	1.500	1.497	1.258	.187
PSP-219A	1 9/16	1 5/16	1/8	1.562	1.559	1.320	.187
PSP-220A	1 5/8	1 3/8	1/8	1.625	1.622	1.383	.187
PSP-221A	1 11/16	1 7/16	1/8	1.687	1.684	1.445	.187
PSP-222A	1 3/4	1 1/2	1/8	1.750	1.747	1.508	.187
PSP-325A	1 7/8	1 1/2	3/16	1.875	1.872	1.505	.281
PSP-326A	2	1 5/8	3/16	2.000	1.997	1.630	.281
PSP-327A	2 1/8	1 3/4	3/16	2.125	2.122	1.755	.281
PSP-328A	2 1/4	1 7/8	3/16	2.250	2.247	1.880	.281
PSP-329A	2 3/8	2	3/16	2.375	2.372	2.005	.281
PSP-330A	2 1/2	2 1/8	3/16	2.500	2.497	2.130	.281
PSP-331A	2 5/8	2 1/4	3/16	2.625	2.622	2.255	.281
PSP-332A	2 3/4	2 3/8	3/16	2.750	2.747	2.380	.281
PSP-333A	2 7/8	2 1/2	3/16	2.875	2.872	2.505	.281
PSP-334A	3	2 5/8	3/16	3.000	2.997	2.630	.281
PSP-335A	3 1/8	2 3/4	3/16	3.125	3.122	2.755	.281
PSP-336A	3 1/4	2 7/8	3/16	3.250	3.247	2.880	.281
PSP-337A	3 3/8	3	3/16	3.375	3.372	3.005	.281
PSP-338A	3 1/2	3 1/8	3/16	3.500	3.497	3.130	.281
PSP-339A	3 5/8	3 1/4	3/16	3.625	3.622	3.255	.281
PSP-340A	3 3/4	3 3/8	3/16	3.750	3.747	3.380	.281
PSP-341A	3 7/8	3 1/2	3/16	3.875	3.872	3.505	.281
PSP-342A	4	3 5/8	3/16	4.000	3.997	3.630	.281
PSP-343A	4 1/8	3 3/4	3/16	4.125	4.122	3.755	.281
PSP-344A	4 1/4	3 7/8	3/16	4.250	4.247	3.880	.281
PSP-345A	4 3/8	4	3/16	4.375	4.372	4.005	.281
PSP-346A	4 1/2	4 1/8	3/16	4.500	4.497	4.130	.281
PSP-347A	4 5/8	4 1/4	3/16	4.625	4.622	4.255	.281
PSP-348A	4 3/4	4 3/8	3/16	4.750	4.747	4.380	.281
PSP-349A	4 7/8	4 1/2	3/16	4.875	4.872	4.505	.281
PSP-350A	5	4 5/8	3/16	5.002	4.997	4.630	.281
PSP-426A	5 1/8	4 5/8	1/4	5.127	5.123	4.653	.375
PSP-427A	5 1/4	4 3/4	1/4	5.252	5.248	4.778	.375
PSP-428A	5 3/8	4 7/8	1/4	5.377	5.373	4.903	.375
PSP-429A	5 1/2	5	1/4	5.502	5.498	5.028	.375
PSP-430A	5 5/8	5 1/8	1/4	5.627	5.623	5.153	.375
PSP-431A	5 3/4	5 1/4	1/4	5.752	5.748	5.278	.375
PSP-432A	5 7/8	5 3/8	1/4	5.877	5.873	5.403	.375
PSP-433A	6	5 1/2	1/4	6.002	5.998	5.528	.375
PSP-434A	6 1/8	5 3/8	1/4	6.127	6.123	5.653	.375
PSP-435A	6 1/4	5 1/4	1/4	6.252	6.248	5.778	.375
PSP-437A	6 1/2	6	1/4	6.502	6.498	6.028	.375
PSP-438A	6 3/4	6 1/4	1/4	6.752	6.748	6.278	.375
PSP-439A	7	6 1/2	1/4	7.002	6.998	6.528	.375

Engineering Data

This data is dimensioned and toleranced the same as standard industrial O-Ring grooves. Recommended surface finishes for static surfaces are 32 rms and 10-16 rms on dynamic surfaces.

NOTE: Consult factory for latest availability!

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Consult factory for engineering data on sizes not listed. Consult factory for availability of sizes listed. Some sizes may require a non-recurring set-up charge for their production.

The information in this publication is based on the best sources available, and Parker EPS Division has attempted to make it both accurate and useful. However, it is impossible to test packings and devices under all conditions to which they might be exposed in the field. It is important, therefore, that packings and sealing devices be tested under conditions that duplicate the service conditions before the seal design is finalized.