

Piston Seal PSP Profile

Catalog EPS 5370/USA



PSP Profile, TPU Piston Cap Seal

Parker's PSP seal is a squeeze type, bi-directional piston seal for use in light to medium duty hydraulic applications. Available from proprietary Parker polyurethanes, the PSP offers low friction, abrasion and extrusion resistance. The nitrile elastomer energizer ensures resistance to compression set to increase seal life. The PSP seal's geometry provides a fluid reservoir between the two sealing lips which holds system fluid, resulting in reduced breakaway and running friction. Designed to retrofit grooves for a single O-ring or an O-ring with two back-ups, the PSP profile is easy to install and resist rolling and twisting in long stroke applications.

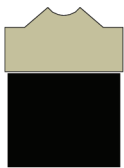
The PSP profile is sold only as an assembly (seal and energizer). See part number nomenclature.

Technical Data

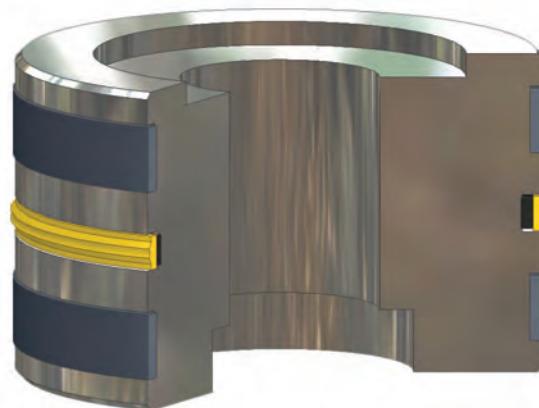
| Standard Materials* | Temperature Range | Pressure Range† | Surface Speed |
|---------------------|------------------------------------|-----------------------|---------------------------|
| Cap | | | |
| P4622A90 | -65°F to 225°F (-54°C to 107°C) | 5000 psi (344 bar) | < 1.6 ft/s (0.5 m/sec) |
| P4300A90 | -65°F to 275°F (-54°C to 135°C) | 5000 psi (344 bar) | < 1.6 ft/s (0.5 m/sec) |
| Energizer | | | |
| A 70A Nitrile | -30°F to 250°F (-34°C to 121°C) | | |

***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).



PSP Cross-Section

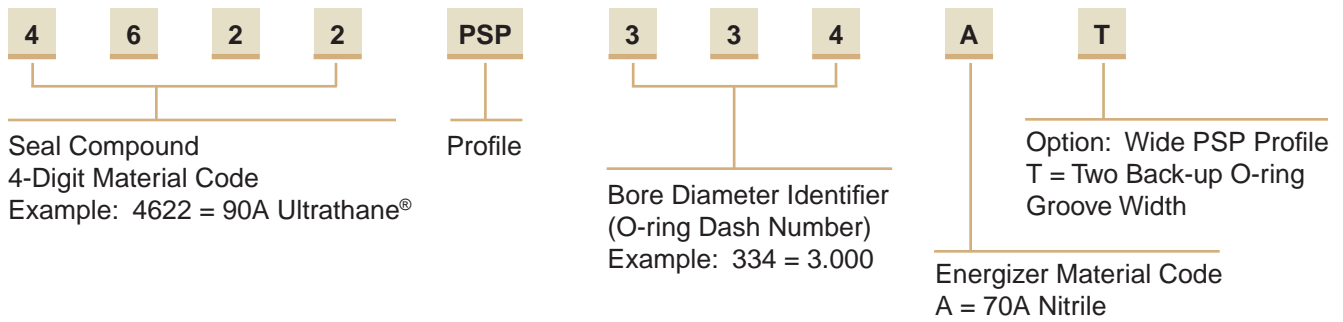


PSP installed in Piston Gland

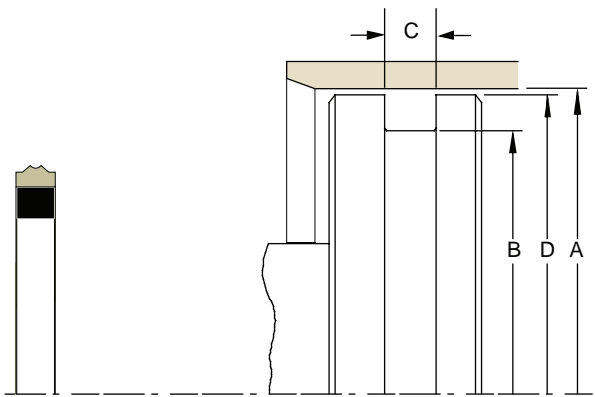
09/01/07

Part Number Nomenclature — PSP Profile

Table 7-6. PSP Profile — Inch



Gland Dimensions — PSP Profile



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

Table 7-7. PSP Gland Dimensions

| A Bore Diameter | B Groove Diameter | C Groove Width | D Piston Diameter* | Compound (X = Standard Offering) | | | Part Number | |
|-----------------------|-------------------------|----------------------|--------------------------|----------------------------------|------|----------|------------------|----------|
| | | | | PSP | | Wide PSP | Compound Code | |
| | | | | 4622 | 4300 | 4300 | | |
| +0.002/-0.000 | +0.000/-0.002 | +0.005/-0.000 | +0.000/-0.001 | | | | | |
| 0.625 | 0.383 | 0.187 | 0.662 | | X | | XXXX | PSP204A |
| 0.750 | 0.508 | 0.187 | 0.747 | | X | | XXXX | PSP206A |
| 1.000 | 0.758 | 0.187 | 0.997 | X | X | | XXXX | PSP210A |
| 1.250 | 1.008 | 0.187 | 1.247 | X | X | | XXXX | PSP214A |
| 1.500 | 1.258 | 0.187 | 1.497 | X | X | | XXXX | PSP218A |
| 1.500 | 1.258 | 0.275 | 1.497 | | | X | XXXX | PSP218AT |
| 1.750 | 1.508 | 0.187 | 1.747 | X | | | XXXX | PSP222A |
| 1.750 | 1.508 | 0.275 | 1.747 | | | X | XXXX | PSP222AT |
| 1.875 | 1.633 | 0.187 | 1.872 | | X | | XXXX | PSP223A |
| 2.125 | 1.833 | 0.187 | 2.122 | | X | | XXXX | PSP225A |
| 2.250 | 2.008 | 0.187 | 2.247 | | X | | XXXX | PSP226A |
| 1.875 | 1.505 | 0.281 | 1.872 | | | | XXXX | PSP325A |
| 2.000 | 1.630 | 0.281 | 1.997 | X | X | | XXXX | PSP326A |
| 2.000 | 1.630 | 0.410 | 1.997 | | | X | XXXX | PSP326AT |
| 2.250 | 1.880 | 0.281 | 2.247 | X | X | | XXXX | PSP328A |
| 2.500 | 2.130 | 0.281 | 2.497 | X | X | | XXXX | PSP330A |
| 2.500 | 2.130 | 0.410 | 2.497 | | | X | XXXX | PSP330AT |
| 2.625 | 2.255 | 0.281 | 2.622 | | X | | XXXX | PSP331A |
| 2.750 | 2.380 | 0.281 | 2.747 | X | X | | XXXX | PSP332A |
| 3.000 | 2.630 | 0.281 | 2.997 | X | X | | XXXX | PSP334A |

*If used with wear rings, refer to wear ring piston diameter, see Section 9.



Table 7-7. PSP Gland Dimensions — Inch (Continued)

| A Bore Diameter | B Groove Diameter | C Groove Width | D Piston Diameter* | Compound (X = Standard Offering) | | | Part Number | |
|-----------------------|-------------------------|----------------------|--------------------------|----------------------------------|------|----------|------------------|----------|
| | | | | PSP | | Wide PSP | Compound Code | |
| | | | | 4622 | 4300 | 4300 | | |
| + .002/- .000 | + .000/- .002 | + .005/- .000 | + .000/- .001 | | | | | |
| 3.000 | 2.630 | 0.410 | 2.997 | | | X | XXXX | PSP334AT |
| 3.125 | 2.755 | 0.281 | 3.122 | | X | | XXXX | PSP335A |
| 3.250 | 2.880 | 0.281 | 3.247 | X | X | | XXXX | PSP336A |
| 3.500 | 3.130 | 0.281 | 3.497 | X | X | | XXXX | PSP338A |
| 3.500 | 3.130 | 0.410 | 3.497 | | | X | XXXX | PSP338AT |
| 3.625 | 3.255 | 0.281 | 3.622 | X | | | XXXX | PSP339A |
| 4.000 | 3.630 | 0.281 | 3.997 | X | X | | XXXX | PSP342A |
| 4.000 | 3.630 | 0.410 | 3.997 | | | X | XXXX | PSP342AT |
| 4.500 | 4.130 | 0.281 | 4.497 | X | | | XXXX | PSP346A |
| 4.500 | 4.130 | 0.410 | 4.497 | | | X | XXXX | PSP346AT |
| 5.002 | 4.630 | 0.281 | 4.997 | X | | | XXXX | PSP350A |
| 5.002 | 4.528 | 0.538 | 4.997 | | | X | XXXX | PSP425AT |
| 5.502 | 5.028 | 0.375 | 5.498 | X | | | XXXX | PSP429A |
| 5.502 | 5.028 | 0.538 | 5.498 | | | X | XXXX | PSP429AT |
| 6.002 | 5.528 | 0.375 | 5.998 | X | | | XXXX | PSP433A |
| 6.002 | 5.528 | 0.538 | 5.998 | | | X | XXXX | PSP433AT |
| 6.502 | 6.028 | 0.375 | 6.498 | | X | | XXXX | PSP437A |
| 7.002 | 6.528 | 0.538 | 6.998 | | | X | XXXX | PSP439AT |
| 8.002 | 7.528 | 0.375 | 7.998 | | X | | XXXX | PSP443A |
| 12.002 | 11.528 | 0.375 | 11.998 | | X | | XXXX | PSP452A |

*If used with wear rings, refer to wear ring piston diameter, see Section 9.

NOTE: For sizes larger than those shown in the table, please contact your local Parker Seal representative.