

PTFE S5000 Series Piston Rings

No. 5301B1-USA

Parker S5000 Series PTFE Piston Rings for Demanding Sealing Applications

Parker EPS produces a wide range of PTFE piston rings for a variety of standard piston bore dimensions.

Parker PTFE Piston Ring Features:

- Lubrication not required
- Stick/slip breakaway problems eliminated
- Piston design simplified
- Easy installation and removal
- Bi-directional sealing
- Prevents cylinder wall scoring
- Damage from cast iron or phenolic piston ring particles is eliminated
- Temperature range: -30°F to +250°F with standard nitrile expanders (PTFE is serviceable to 500°F)
- Pressures to 3000 psi
- Interference fit assures positive sealing
- Conforms to out-of-round bore condition
- Can be cut in field for easier installation
- 45° bevel cut preferred
- Butt, bevel or step-cut joints available (at additional cost)

Material Selection

Standard Parker Piston Ring materials are:

- 15% Fiberglass filled virgin PTFE
- 60% Bronze filled virgin PTFE.

Several other Parker PTFE materials are available. Consult Parker Applications Engineers for more information and for tooling availability and pricing data.

Expander Materials Available

The Standard material for Parker Piston Ring expanders (whether O-Rings for the Series S5000 or Lathe-Cut type for Series R5100) is **70 durometer Nitrile, N674-70**. Other Parker elastomer compounds are available to meet varying chemical compatibility, compression set or operating temperature requirements. Contact Parker for information on compound selection and availability.

Optional split piston rings available as shown:



Standard Parker PTFE Piston Ring Materials

| Parker Compound Number | P701 | P808 | ASTM Test Method |
|------------------------|--------------------|-----------------------|------------------|
| Filler Content (Color) | 60% Bronze (brown) | 15% Fiberglass (gold) | N/A |
| Tensile Strength (psi) | 1800 | 2200 | D1708 |
| Elongation (%) | 90 | 225 | D1708 |
| Specific Gravity | 3.85 | 2.19 | D792 |
| Hardness (Shore D) | 63 | 55 | D785 |

Tolerance Information

Parker Piston Rings shown in this bulletin are molded to the dimensions shown on the reverse side of this bulletin. If closer width tolerances are required, molded piston rings can be machined to $\pm .005$ " width tolerance at extra cost.

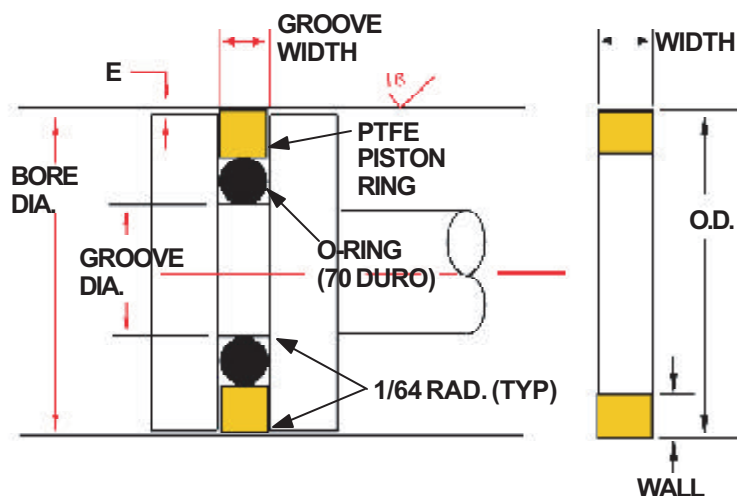
Ordering Information

For Standard Piston Ring sizes listed, specify quantity, Parker compound number, and Parker part number.

EXAMPLE: 500 pcs - P808- P/N S-5000-80

For **Special** non-listed sizes, furnish groove dimensions, bore diameter, bore material and service conditions to Parker for evaluation and recommendation.

PTFE S5000 Series Piston Rings



| Bore Tolerance | |
|--------------------------------|------------------|
| 1.000" – 2.750" | + .002 - .000 |
| 3.000" – 5.000" | + .004 - .000 |
| 5.250" – and up | + .006 - .000 |
| E = Radial Clearance | |
| To 1500 psi | .008/ .012 |
| 3500 psi | .005/ .008 |
| 5000 psi | .004/ .005 |
| O.D. Ring Tolerance | |
| ± 1/2% (Not less than ± .005") | |

| Groove Details | | | | | Ring Dimensions | | | | | | |
|----------------|-------------|-------------------|--------|-------|-----------------|-------|------|--------|-------|--------|--------------------|
| Parker P/N | Bore Dia | Groove Dimensions | | | Ring Dimensions | | | | | | |
| | | Width | Tol | Dia | Tol | O.D. | Wall | Tol | Width | Tol | Expander O-Ring |
| S-5000-08 | .500 | .083 | ± .002 | .240 | ± .002 | .511 | .070 | ± .005 | .070 | ± .005 | -009 |
| S-5000-10 | .625 | .083 | ± .002 | .365 | ± .002 | .636 | .070 | ± .005 | .070 | ± .005 | -011 |
| S-5000-12 | .750 | .083 | ± .002 | .490 | ± .002 | .761 | .070 | ± .005 | .070 | ± .005 | -013 |
| S-5000-16 | 1.000 | .083 | ± .002 | .740 | ± .002 | 1.011 | .070 | ± .005 | .070 | ± .005 | -017 |
| S-5000-18 | 1.125 | .083 | ± .002 | .865 | ± .002 | 1.136 | .070 | ± .005 | .070 | ± .005 | -019 |
| S-5000-20 | 1.250 | .083 | ± .002 | .990 | ± .002 | 1.261 | .070 | ± .005 | .070 | ± .005 | -021 |
| S-5000-24 | 1.500 | .083 | ± .002 | 1.240 | ± .002 | 1.511 | .070 | ± .005 | .070 | ± .005 | -025 |
| S-5000-26 | 1.625 | .122 | ± .002 | 1.235 | ± .002 | 1.646 | .109 | ± .010 | .109 | ± .010 | -123 |
| S-5000-28 | 1.750 | .122 | ± .002 | 1.360 | ± .002 | 1.771 | .109 | ± .010 | .109 | ± .010 | -125 |
| S-5000-32 | 2.000 | .130 | ± .002 | 1.606 | ± .002 | 2.024 | .115 | ± .010 | .115 | ± .010 | -129 |
| S-5000-36 | 2.250 | .130 | ± .002 | 1.856 | ± .002 | 2.274 | .115 | ± .010 | .115 | ± .010 | -133 |
| S-5000-40 | 2.500 | .130 | ± .002 | 2.106 | ± .002 | 2.524 | .115 | ± .010 | .115 | ± .010 | -137 |
| S-5000-44 | 2.750 | .130 | ± .002 | 2.356 | ± .002 | 2.774 | .115 | ± .010 | .115 | ± .010 | -141 |
| S-5000-48 | 3.000 | .130 | ± .002 | 2.606 | ± .003 | 3.026 | .115 | ± .010 | .115 | ± .010 | -145 |
| S-5000-52 | 3.250 | .130 | ± .002 | 2.856 | ± .003 | 3.276 | .115 | ± .010 | .115 | ± .010 | -149 |
| S-5000-56 | 3.500 | .130 | ± .002 | 3.106 | ± .003 | 3.526 | .115 | ± .010 | .115 | ± .010 | -151 |
| S-5000-60 | 3.750 | .130 | ± .002 | 3.356 | ± .003 | 3.776 | .115 | ± .010 | .115 | ± .010 | -152 |
| S-5000-64 | 4.000 | .130 | ± .002 | 3.606 | ± .003 | 4.026 | .115 | ± .010 | .115 | ± .010 | -153 |
| S-5000-68 | 4.250 | .130 | ± .002 | 3.856 | ± .003 | 4.278 | .115 | ± .010 | .115 | ± .010 | -154 |
| S-5000-72 | 4.500 | .130 | ± .002 | 4.106 | ± .003 | 4.528 | .115 | ± .010 | .115 | ± .010 | -155 |
| S-5000-76 | 4.750 | .130 | ± .002 | 4.356 | ± .003 | 4.778 | .115 | ± .010 | .115 | ± .010 | -156 |
| S-5000-80 | 5.000 | .130 | ± .002 | 4.606 | ± .003 | 5.028 | .115 | ± .010 | .115 | ± .010 | -157 |
| S-5000-84 | 5.250 | .130 | ± .002 | 4.856 | ± .004 | 5.280 | .115 | ± .010 | .115 | ± .010 | -158 |
| S-5000-88 | 5.500 | .130 | ± .002 | 5.106 | ± .004 | 5.530 | .115 | ± .010 | .115 | ± .010 | -159 |
| S-5000-92 | 5.750 | .160 | ± .003 | 5.232 | ± .004 | 5.780 | .143 | ± .010 | .143 | ± .010 | -251 |
| S-5000-96 | 6.000 | .160 | ± .003 | 5.482 | ± .004 | 6.030 | .143 | ± .010 | .143 | ± .010 | -253 |
| S-5000-100 | 6.250 | .160 | ± .003 | 5.732 | ± .004 | 6.282 | .143 | ± .010 | .143 | ± .010 | -255 |
| S-5000-104 | 6.500 | .160 | ± .003 | 5.982 | ± .004 | 6.532 | .143 | ± .010 | .143 | ± .010 | -257 |
| S-5000-108 | 6.750 | .160 | ± .003 | 6.232 | ± .004 | 6.782 | .143 | ± .010 | .143 | ± .010 | -258 |
| S-5000-112 | 7.000 | .160 | ± .003 | 6.482 | ± .004 | 7.032 | .143 | ± .010 | .143 | ± .010 | -259 |
| S-5000-116 | 7.250 | .160 | ± .003 | 6.732 | ± .004 | 7.282 | .143 | ± .010 | .143 | ± .010 | -260 |
| S-5000-120 | 7.500 | .160 | ± .003 | 6.982 | ± .004 | 7.532 | .143 | ± .010 | .143 | ± .010 | -261 |
| S-5000-124 | 7.750 | .160 | ± .003 | 7.232 | ± .004 | 7.782 | .143 | ± .010 | .143 | ± .010 | -262 |
| S-5000-128 | 8.000 | .160 | ± .003 | 7.482 | ± .004 | 8.040 | .143 | ± .010 | .143 | ± .010 | -263 |
| S-5000-132 | 8.250 | .160 | ± .003 | 7.732 | ± .004 | 8.289 | .143 | ± .010 | .143 | ± .010 | -264 |
| S-5000-136 | 8.500 | .160 | ± .003 | 7.982 | ± .004 | 8.540 | .143 | ± .010 | .143 | ± .010 | -265 |

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