

Features:

- Symmetrical design for equalized lip forces
- Premium wear resistance
- Highly extrusion resistant
- Easy to install



MATERIAL

The 106 Series rod seal features high-grade polyurethane. Standard materials are MP03 machined H-PU, available up to 2100 mm in diameter, and MP50 injection-molded TPU. To suit a variety of applications, the 106 series is also available in NBR, H-NBR, EPDM and high temperature-resistant FPM.

| Material | Code |
|-------------------|------|
| Polyurethane H-PU | MP03 |
| Polyurethane TPU | MP50 |

OPERATING PARAMETERS

| Temperature | MP03 | | MP50 | |
|---------------------------|----------------------|------------|-------------|-------------|
| | °C | °F | °C | °F |
| hydraulic oil | -20...+115 | -5...+240 | -30... +110 | -20...+230 |
| water oil emulsions (HFA) | +5...+55 | +40...+130 | +5... +50 | +40... +120 |
| water-glycol fluids (HFC) | -20...+55 | -5...+130 | -30...+40 | -20...+100 |
| polyol esters (HFD) | - | - | - | - |
| water | +5...+55 | +40...+130 | +5...+50 | +40...+120 |
| speed | 0.5 m/s (1.6 ft/sec) | | | |
| pressure | 400 bar (6,000 psi) | | | |

Note: for other materials or fluids please contact our engineering department.

DESCRIPTION

The 106 Series U-Cup seal is one of System Seals' most popular designs used in standard-duty applications. Its symmetrical design ensures that the seal lip forces are equal for every cross section and diameter. The 106 is widely used in standard- to moderate-duty hydraulic applications. Manufactured in a variety of materials and sizes from 6 mm up to 2100 mm in standard and custom diameters.

PRODUCT BENEFITS

- High pressure capability and wide temperature range
- Excellent fluid compatibility including water-based fluids (H-PU)
- Exceptional abrasion resistance
- Available in diameters up to 2100 mm

APPLICATIONS

The 106 Series U-Cup is one of the most versatile seals typically used as a primary seal in moderate-to high-pressure applications.

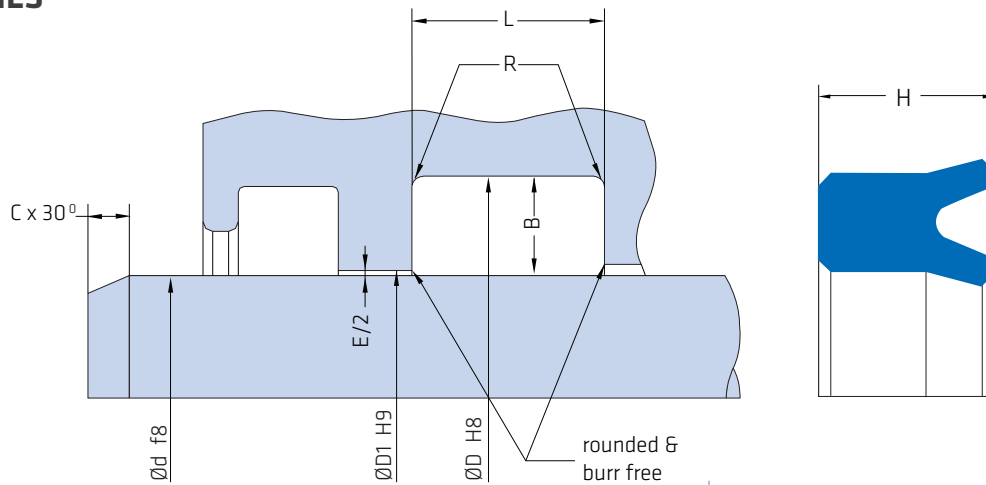
Typical applications include:

- Mobile Hydraulics
- Hydraulic Cylinder Rebuild
- Agricultural Hydraulics
- Construction Equipment
- Hydraulic Presses
- Injection Molding Machines



Above: Installation Drawing

DESIGN GUIDELINES



METRIC SERIES

| | B | L ^{+0.20} | H | ØD | ØD1 | R | C |
|----------|----------|--------------------|-------|-----------|-------|------|------|
| Series 1 | 4.00 mm | 6.30 | 5.70 | d + 8.00 | d + E | 0.40 | 2.50 |
| Series 2 | 4.00 mm | 9.00 | 8.10 | d + 8.00 | d + E | 0.40 | 2.50 |
| Series 3 | 4.00 mm | 11.00 | 9.90 | d + 8.00 | d + E | 0.40 | 2.50 |
| Series 4 | 5.00 mm | 8.00 | 7.20 | d + 10.00 | d + E | 0.40 | 4.00 |
| Series 5 | 5.00 mm | 11.00 | 9.90 | d + 10.00 | d + E | 0.40 | 4.00 |
| Series 6 | 7.50 mm | 12.50 | 11.30 | d + 15.00 | d + E | 0.40 | 5.00 |
| Series 7 | 10.00 mm | 16.00 | 14.40 | d + 20.00 | d + E | 0.40 | 6.50 |
| Series 8 | 15.00 mm | 19.00 | 17.10 | d + 30.00 | d + E | 0.40 | 7.50 |

| Pressure | E |
|----------|------|
| ≤100 bar | 0.50 |
| ≤250 bar | 0.35 |
| ≤400 bar | 0.25 |

INCH SERIES

| | B | L ^{+0.008} | H | ØD | R | C |
|----------|----------|---------------------|-------|-----------|-------|-------|
| Series 1 | 0.250 in | 0.413 | 0.375 | d + 0.500 | 0.016 | 0.195 |
| Series 2 | 0.375 in | 0.619 | 0.563 | d + 0.750 | 0.016 | 0.195 |
| Series 3 | 0.500 in | 0.825 | 0.750 | d + 1.000 | 0.016 | 0.250 |
| Series 4 | 0.563 in | 0.928 | 0.844 | d + 1.125 | 0.016 | 0.295 |
| Series 5 | 0.625 in | 1.031 | 0.938 | d + 1.250 | 0.016 | 0.295 |
| Series 6 | 0.750 in | 1.238 | 1.125 | d + 1.500 | 0.016 | 0.400 |
| Series 7 | 1.000 in | 1.650 | 1.500 | d + 2.000 | 0.016 | 0.500 |

| Pressure | E |
|------------|-------|
| ≤1,450 psi | 0.020 |
| ≤3,625 psi | 0.015 |
| ≤6,000 psi | 0.010 |

Note: The extrusion gap "E" is suitable for pressure up to 400 bar (6,000 psi) and temperatures up to 80° C (176° F). For higher pressures or temperatures, please consult our engineering department for guidance.

SURFACE FINISH

| Surface roughness | Ra | Rt | RMS |
|------------------------|---------|--------|---------|
| Sliding surface | ≤0.3 µm | ≤3 µm | 8 RMS |
| Surface of groove I.D. | ≤1.8 µm | ≤10 µm | 64 RMS |
| Sides of groove | ≤3 µm | ≤16 µm | 125 RMS |