

## **Model 106-PR-R**

# **Pressure Reducing And Pressure Sustaining Valve**

### **Specifications:**

The valve shall be a Singer Valve model 106 (206) -PR-R, size "\_\_\_\_", ANSI Class 150 (ANSI 300, ANSI flanges drilled to ISO PN 10 / 16/ 25 or 40) pressure rating/ flange standard, globe (angle), style valve. The Model 160 Pressure Reducing Pilot (Normally Open Pilot) spring range shall be "\_\_\_ to \_\_\_" Psi (bar), with set point preset at factory to "\_\_\_" Psi (bar). The Model 81-RP Pressure Relief Pilot (Normally Closed Pilot) spring range shall be "\_\_\_ to \_\_\_" Psi (bar), with set point preset at factory to "\_\_\_" Psi (bar). Assembly shall be according to Schematic A-0332C.

- The valve shall maintain accurate control of the downstream pressure regardless of fluctuation in flow or upstream pressure until the upstream pressure drops to a predetermined value. The sustaining pilot shall override the pressure reducing function at such time as the upstream pressure drops to the predetermined value maintaining constant upstream pressure.

*Refer to "Main Valve" section, 106-PG (or 206-PG) for detailed information pertaining to valve sizes and materials, selection criteria and specifications.*

*Refer to "Pilot and Accessories" section, Model 160 Pressure Reducing Pilot (Normally Open Pilot), Model 81-RP Pressure Relief Pilot (Normally Closed Pilot) and Model 26 Flow Stabilizer for detailed information pertaining to materials and specifications.*

### **Main Valve:**

- Valve(s) shall be a hydraulically operated globe (angle) valve. The inner valve assembly shall be top and bottom guided by means of easily replaceable bearing bushings. The inner valve assembly shall be the only moving part and shall be securely mounted on a 316 stainless steel stem. The stainless steel stem shall be provided with wrench flats on all valves 1" (25mm) to 8" (200mm), for ease of assembly and maintenance.
- All pressure containing components shall be constructed of ASTM A536-65/45/12 ductile iron. The flanges shall be designed to ANSI Class 150 or Class 300 standards. Flange drilling to ANSI shall be standard however British, ISO and other drillings shall be available upon request.
- Valve(s) shall have a protective fusion bonded epoxy coating internally and externally. The protective fusion bonded epoxy coating shall conform to the ANSI/AWWA C116/A21.16 (current version) specification.
- Valve(s) 8" (200mm) and smaller shall provide smooth "frictionless" motion with actuation being achieved by the use of a flat style EPDM diaphragm. They shall be constructed of nylon fabric bonded with synthetic rubber. The diaphragms shall not be used as a seating surface. No lip seals or packing may be used to seal the actuator.

**Singer Valve Inc.**

12850 - 87th Avenue • Surrey, British Columbia, Canada V3W 3H9

Tel: 604 594 5404 • Fax: 604 594 8845 • Toll-Free Fax (US & Canada): 1 800 663 7266

E-Mail: [singer@singervalve.com](mailto:singer@singervalve.com) • [singervalve.com](http://singervalve.com)

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- Valve(s) 10" (250mm) and larger shall provide smooth "frictionless" motion and maximum low flow stability with actuation being achieved by the use of the Singer rolling diaphragm technology. The diaphragms shall not be used as a seating surface. No lip seals or packing may be used to seal the actuator.
- The valve cover shall have a separate stem cap giving access to the stem for alignment check, spring installation and ease of assembly.
- On valve(s) 1"(25mm) and larger, bonnets shall be accurately located to bodies utilizing locating pins. Locating pins shall eliminate corrosion resulting from the use of uncoated ductile iron to ductile iron surfaces.
- Valve(s) 3"(80mm) and larger shall have the 316 stainless steel seat, bolted in place, utilizing "Spiralock" thread tapping technology. The 316 stainless steel seat ring shall be easily replaceable without special tools.
- The valve(s) shall form a drip tight seal between the stationary stainless steel seat ring and the resilient disc, which has a rectangular cross-section and is retained by clamping on three and one half sides. The resilient disc shall be constructed of Buna or EPDM for normal service conditions.
- All external fasteners shall be 18/8 stainless steel with 18/8 washers.
- All repairs and maintenance shall be possible without removing the valve from the line. To facilitate easy removal and replacement of the inner valve assembly and to reduce unnecessary wear on the guide, the stem shall be vertical when the valve is mounted in a horizontal line.
- Each valve shall be tested prior to shipment. The standard test shall include a pressure test and a full functional, operational test when pilots and accessories are fitted to suit a particular application.
- The valve(s) shall be covered by a minimum three year (3) warranty against defects in materials and workmanship. The stainless steel seat ring shall be covered by a lifetime replacement warranty.
- The valve shall be a Singer Model.... Refer to other Catalog Sections for further details.

### **Pilots & Accessories:**

- Isolation Valve - standard 4" (100mm) and larger
- Strainer - standard 4" (100mm) and larger
- Model 26 Flow Stabilizer
- Fixed Restriction
- Isolation Valve - standard 4" (100mm) and larger
- Model 160 pilot - standard spring 20 to 200 psi (1.37 to 13.7 bar)
  - specify for 5 to 50 psi (.35 to 3.5bar), 10 to 80 psi (.7 to 5.5bar), 100 to 300 psi (6.9 to 21 bar).
- Isolation Valve - standard all sizes
- Model 81-RP pilot - standard spring 20 to 200 psi (1.37 to 13.7 bar)
  - specify for 5 to 50 psi (.35 to 3.5bar), 10 to 80 psi (.7 to 5.5bar), 100 to 300 psi (6.9 to 21 bar).

Standard materials for pilot system components are:

- ASTM B62 bronze or ASTM B16 brass
- AISI 303/316 stainless trim

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