

Model 106-DW

Deep Well Pump Control Valve (Double Chamber)

Specifications:

The valve shall be a Singer Valve model 106 (206) -DW, 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. Solenoid Valve shall be four-way de-energized to open valve, with a 120VAC/ 60Hz (220 VAC/ 50 Hz or 240 VAC/ 60Hz) solenoid coil. Assembly shall be according to Schematic A-7514C.

- The valve shall be normally open. On pump start-up, a pilot solenoid is energized to close the valve, at a rate governed by the closing speed control. Separate flow control valves and a double chamber design will allow opening and closing speeds to be adjusted independently. When the solenoid is de-energized the valve slowly opens while the pump continues to run. When the valve is almost fully open and all flow has been diverted as a result of the pipeline check valve closing, a stem-mounted cam triggers the limit switch to stop the pump.

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

Refer to "Pilot and Accessories" section, Micrometer Flow Control Valves for detailed information pertaining to materials and specifications. Solenoid specification information is available from the factory only at this time.

Main Valve:

- Valve(s) shall be a hydraulically operated globe (angle) valve. The inner valve assembly shall be guided in two locations 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 two operating chambers shall be separated from each other by the diaphragm and from the flowing media by an adapter plate.
- 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.

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 • singervalve.com

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- 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.
- 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 be fully supported through their full stroke and 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) 3" (80mm) 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 optional INTERNAL DROP CHECK feature shall provide rapid, positive shut-off to prevent reverse flow, independently of the stem position or the pilot operation. When this option is included in a 106-PT valve, the model name becomes 106-PTC.
- The valve shall be a Singer Model.... Refer to other Catalog Sections for further details.

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Pilots & Accessories:

- Micrometer Flow Control Valve
- Strainer - 40 mesh stainless steel screen
- Isolation Valve
- CONNECTION TO PIPELINE SIDE OF HEADER CHECK VALVE - complete in the field
- EXHAUST TO DRAIN - complete in the field
- Solenoid Valve - four way, NEMA 4
- Micrometer Flow Control Valve
- Model X129 Limit Switch Assembly - NEMA 4, SPDT

Standard materials for pilot system components are:

- ASTM B-62 bronze or ASTM B-16 brass
- AISI 303/316 stainless steel trim

Minimum basic wiring requirements as per drawing A0408D.

Refer to SPC bulletin (see Electronic Control Section) and consult factory for pump control panel options.

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