SINGER VALVE
Result-Based Solutions. Globally.™

12850-87th Avenue
Surrey, BC. Canada. V3W 3H9
Ph: 604-594-5404
Fx: 604-594-8845
www.singervalve.com

SINGER MODEL 106/206-PR-SC

Pressure Reducing and Solenoid Control Valve Schematic A-0335C
Installation, Operating and Maintenance Instructions

DESCRIPTION:

Model 106/206-PR-SC is a pilot operated pressure reducing valve designed to automatically reduce a high inlet pressure into a lower outlet pressure. The valve will maintain a relatively steady downstream pressure regardless of fluctuations in the supply pressure or flow rate.

A Solenoid Valve in the pilot system closes the valve when de-energized (normally closed) and allows the valve to act as a pressure reducing valve when energized. A normally open solenoid is also available.

DESCRIPTION OF OPERATION:

Main Valve (1) is normally open when pressure is applied to the valve inlet. When the same pressure is applied to the bonnet, the valve closes tight. Refer to 106/206-PG 'Description of Operation'. By controlling the pressure in the bonnet, the Main Valve can be made to open fully, close tight or open partially.

The bonnet pressure (and therefore the position of the Main Valve) is controlled by a pilot circuit consisting of Fixed Restriction (5), Solenoid Valve (10) and Pressure Reducing Pilot (7).

When there is no demand (and the downstream pressure is at the setting of Pilot [7]), Pressure Reducing Pilot (7) is closed. Pressure from the inlet side of the Main Valve is directed to the bonnet through Fixed Restriction (5) and Flow Stabilizer (4), if so equipped. The Main Valve closes. When flow is required, Pilot (7) senses a drop in pressure and opens. Flow through Pilot (7) is greater than flow through Fixed Restriction (5). Bonnet pressure is reduced and the Main Valve opens to supply the demand. Speed of opening is determined by the setting of Flow Stabilizer (4), if so equipped. Refer to Model 26 instructions for details and adjustment.

Under flowing conditions Pilot (7) reacts to small changes in pressure to modulate the bonnet pressure (and Main Valve position) as required to keep the downstream pressure constant. Note that the Main Valve position follows the position of Pilot (7). When Pilot (7) closes, the Main Valve closes. When Pilot (7) opens, the Main Valve opens.

If Solenoid Valve (10) is de-energized (closed), the Main Valve closes as described above.

INSTALLATION:

1. Refer to 106/206-PG 'Installation'.
2. Loosely held piping and/or elbows close to the valve may cause the valve to pulsate.
3. Wire the solenoid coil as required. Check coil for correct voltage. Voltage information is on the side of the coil, not on the name plate.

Never energize an AC coil when it is removed from the solenoid valve; the coil will be destroyed in a matter of seconds

ADJUSTING PROCEDURE:

1. To adjust the valve, flow is required. To allow flow, Solenoid Valve (10) must be open. To open the solenoid valve, a normally closed solenoid valve must be energized; a normally open solenoid valve must be de-energized.
2. Open Isolating Valves (2), (6) if so equipped and (8).
3. Crack outlet stop valve and slowly open inlet stop valve wide.
4. Bleed air from Main Valve bonnet. SEE 106/206-PG 'INSTALLATION'.
5. Open outlet stop valve wide.
6. Set reduced (downstream) pressure by turning Pilot (7) adjusting screw. To increase pressure, turn adjusting screw clockwise. To reduce pressure, turn adjusting screw counterclockwise.
7. **NOTE THAT THERE MUST BE FLOW THROUGH THE VALVE WHEN PRESSURE IS ADJUSTED.**
8. **IF THE VALVE DOES NOT OPEN** (pressure remains low), check that Solenoid Valve (10) is open [see (1) above], also check the adjustment of Flow Stabilizer (4), if so equipped. SEE MODEL 26 INSTRUCTIONS.
9. **IF THE VALVE BEGINS TO OSCILLATE OR HUNT:** Bleed air from Main Valve bonnet. SEE 106/206-PG 'INSTALLATION'. Adjust Flow Stabilizer (4), if so equipped. SEE MODEL 26 INSTRUCTIONS.

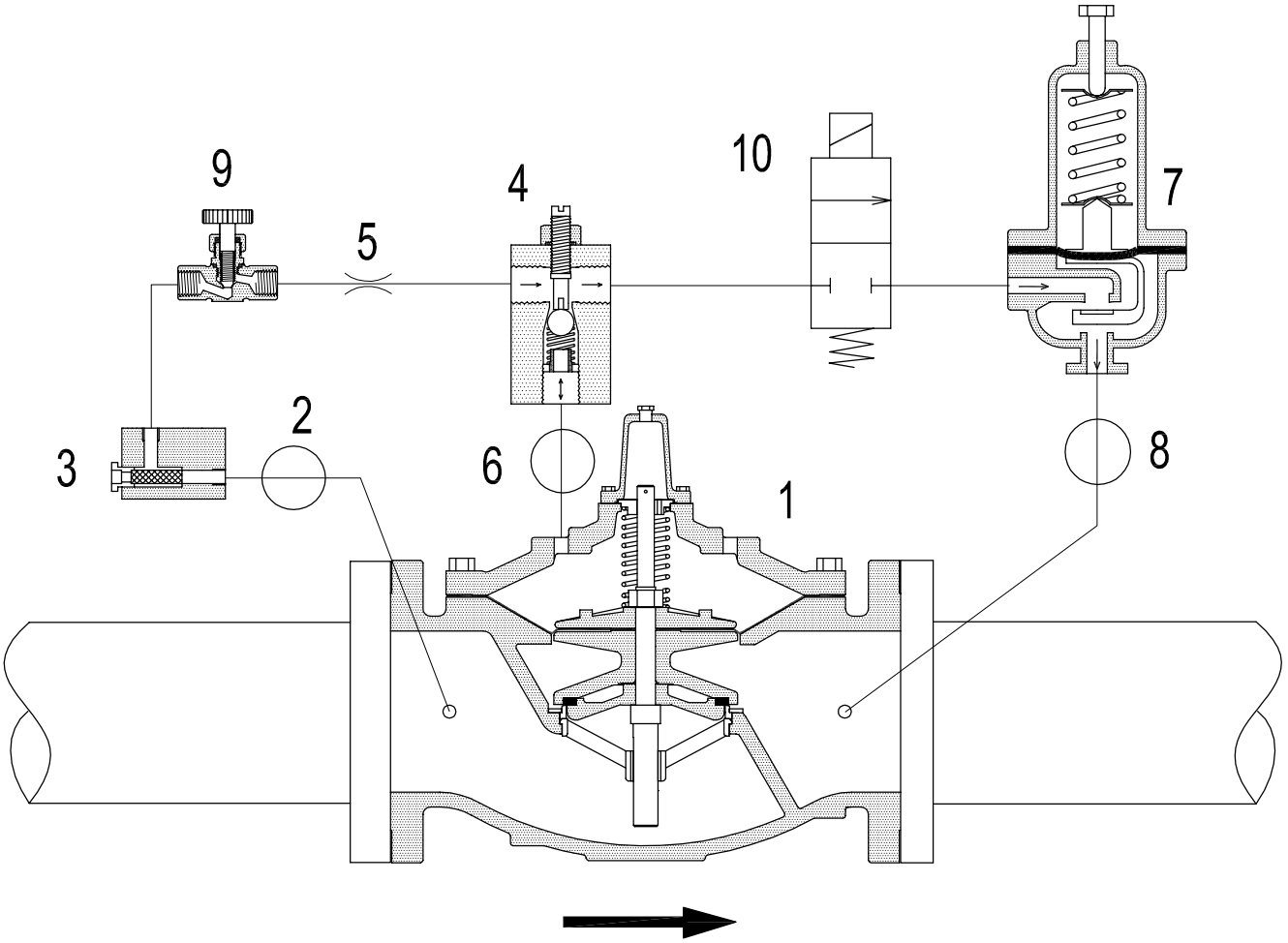
SERVICE SUGGESTIONS:

In addition to service suggestions listed in the 106/206-PG instruction, we suggest the following:

IF THE VALVE FAILS TO CLOSE:

Close Isolating Valve (8). If the Main Valve closes, Pilot (7) is defective. If the Main Valve does not close, close Isolating Valve (2). Remove the copper tube between Strainer (3) and Flow Stabilizer (4), if so equipped. If there is flow from Flow Stabilizer (4), Main Valve diaphragm is ruptured. If there is no flow from Flow Stabilizer (4), open Isolating Valve (2) slowly. If there is no flow, Strainer (3) is plugged.

A-0335C



1. Main Valve - Model 106/206-PG.
2. Isolating Valve - 4" and larger only.
3. Strainer - 40 mesh - J0098A.
4. Flow Stabilizer - Model 26 - 8" 106/10" 206 and smaller only.
5. Fixed Restriction.
6. Isolating Valve - 4" and larger only.
7. Pressure Reducing Pilot - Model 160.
8. Isolating Valve.
9. Closing Speed Control - Model 852-B.
10. Solenoid Valve - NC - energize to open Main Valve.

Pressure Reducing Valve with
Solenoid Override.

Model 26 removed from 10" 106/12" 206 and larger April 25, 2008.

SINGER VALVE
Result-Based Solutions. Globally.™

www.singervalve.com 12850-87th Avenue. Surrey, B.C. V3W 3H9

Drawn By:	Approved By:
Baljeet Jonjua	Kari Oksanen
Date:	Drawing:
February 26, 1996	A-0335C

Model 106 or 206-PR-SC-NC (or NO)