

Technical Bulletin Pressure Reducing & Downstream Surge Control Valve

Model 6115-7JM

Components

- 1) Main Valve
- 2) Reducing Pilot
- 3) Supply Orifice
- 4) Adjustable Opening Speed
- 5) Position Indicator
- 6) Flow Clean Strainer
- 7) Ball Valve
- 8) Surge Control Pilot



Part Number List

Item Description	Complete Assembly	Repair Kit
Model 6115-7JM	234802	3313-01
Reducing Pilot	0661-01	221101
Surge Control Pilot	0680-02	221201

Operation

The Model 6115-7JM is designed to automatically reduce a fluctuating higher upstream (inlet) pressure to a constant lower downstream (outlet) pressure and will rapidly modulate towards a closed position if downstream pressure suddenly becomes greater than the desired regulated setpoint. The quick closing action prevents possible damaging high pressure from passing through valve. Regulating action is controlled by a normally open Pressure Reducing Pilot designed to: 1) Open (allowing fluid out of the main valve cover chamber) when downstream pressure is below its adjustable setpoint, and, 2) Close (allowing fluid to fill the main valve cover chamber) when downstream pressure is above its adjustable setpoint. A decrease in downstream pressure causes the valve to modulate towards an open position, raising downstream pressure. An increase in downstream pressure causes the valve to modulate towards a closed position, lowering downstream pressure.

If downstream pressure suddenly becomes greater than the desired regulated setpoint, the normally closed Surge Control Pilot opens and rapidly admits higher inlet pressure into the valve cover, increasing rate of valve closure. Normal pressure reducing operation resumes when downstream pressure is again below the desired regulated setpoint.

Model 6115-7JM Installation

Prior to installation, flush line to remove debris.

- 1. Install valve horizontally "in line" (cover facing up), so flow arrow matches flow through the line. Consult factory prior to ordering if installation is other than described.
- 2. Install inlet and outlet isolation valves.

<u>Note</u>: When using butterfly valves, ensure disc does not contact control valve. Damage or improper valve seating can occur.

- 3. Provide adequate clearance for valve servicing and maintenance.
- 4. Install pressure gauges to monitor valve inlet and outlet pressure.

<u>Note</u>: If installation is subjected to very low flow or potentially static conditions, It is recommended that a pressure relief valve (1/2" minimum) be installed downstream of the Pressure Reducing Valve for additional system protection. See Watts Model PV20-CB.

Start-Up Instructions

- <u>Note</u>: Set-up the Model 6115-7JM in a flowing condition for proper start-up. Automatic Control Valve start-up requires bringing the valve into service in a controlled manner. All adjustments to control pilot and speed controls should be made slowly, allowing the valve to respond and the system to stabilize. For proper operation, the Surge Control Pilot is adjusted approximately 5 psi <u>higher</u> than the Pressure Reducing Pilot.
- 1. Close upstream and downstream isolation valves.
- 2. Turn the Reducing Pilot (item 2) adjustment screw counterclockwise, releasing the spring tension. Isolate the Surge Control Pilot by turning its adjustment screw clockwise. Open all isolation Ball Valves.
- 3. Turn Adjustable Opening Speed Control (item 4) clockwise until seated, and then counterclockwise 2-1/2 turns. This is an approximate setting and should be fine tuned to suit system requirements once pressure adjustments have been made.
- 4. Slowly open the upstream isolation valve. Loosen air bleed petcock on Position Indicator (item 5) allowing air to vent. Close the air bleed petcock when all air is vented.
- 5. Slowly open the downstream isolation valve. Gradually turn the Reducing Pilot adjustment screw clockwise to raise the downstream pressure. There must be a demand for flow for proper start-up. Continue to adjust Reducing Pilot until downstream pressure is approximately 5 psi higher than the desired outlet pressure.
- 6. While observing downstream pressure gauge (or position indicator) slowly turn Surge Control Pilot adjustment screw counterclockwise until downstream pressure quickly falls. The Surge Control Pilot is set at the point when the Model 6115-7JM begins to close. Tighten the locknut on the Surge Control Pilot. Turn adjustment screw counterclockwise on Pressure Reducing Pilot, decreasing setpoint, until desired downstream pressure is achieved. Tighten locknut on Pressure Reducing Pilot. The Surge Control Pilot is set approximately 5 psi higher than the reduced pressure setpoint.
- 7. Fine tune Opening Speed Control to suit system requirements. Adjust Opening Speed Control clockwise for slower opening, and counterclockwise for faster opening.