

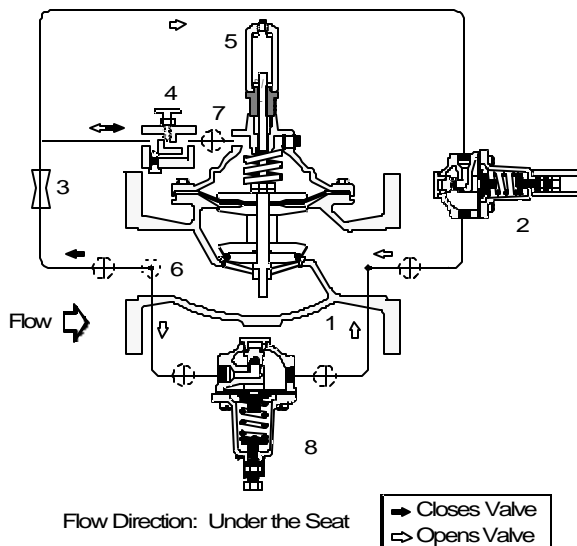
# Technical Bulletin

## Pressure Reducing Control Valve with Low Flow By-Pass

### Model 6115-74JM

#### Standard 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) Low Flow By-Pass Pilot



#### Part Number List

Item Description	Complete Assembly	Repair Kit
Model 6115-74JM	234803	3313-01
Reducing Pilot	0661-01	221101
Low Flow By-Pass Pilot	228803	5138-07

### Operation

The Model 6115-74JM is designed to automatically reduce a fluctuating higher upstream (inlet) pressure to a constant lower downstream (outlet) pressure across a broad range of flow requirements. It 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.

The Low By-Pass Pilot is piped "around" the Main Pressure Reducing Control Valve, and is set approximately 10 psi higher. Flow requirements below the range of the Main Pressure Reducing Valve are handled by the Low Flow By-Pass Pilot. When flow requirements exceed the capacity of the Low Flow By-Pass Pilot, the Main Pressure Reducing Control Valve opens supplementing flow and pressure. As the flow demand decreases, the Main Pressure Reducing Valve closes, and the Low Flow By-Pass resumes command of flow and pressure.

## Model 6115-74JM 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.

**Note:** 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.

**Note:** 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

**Note:** Set-up the control valve in a flowing condition for proper start-up. Proper Automatic Control Valve start-up requires bringing the valve into service in a controlled manner. All adjustments to control pilot and speed controls, if equipped, should be made slowly, allowing the valve to respond and the system to stabilize. For proper operation, the Low Flow By-Pass Pilot is set 10 psi higher than the Main Pressure Reducing Valve.

1. Close upstream and downstream isolation valves.
2. Turn the Pilot (item 2) and Low Flow By-Pass (item 8) adjustment screws counterclockwise, releasing the spring tension. 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.**
6. Gradually turn the adjustment screw on Reducing Pilot clockwise raising downstream pressure to the desired setpoint. Allow valve and system to stabilize. Observe inlet and outlet pressure gauges. Continue to adjust Reducing Pilot as needed, pausing approximately every 1-1/2 turns, allowing valve and system to stabilize. Turning the adjustment screw clockwise raises the downstream pressure. Turning the adjustment screw counterclockwise lowers the downstream pressure. **Set Reducing Pilot approximately 10 psi lower than the desired downstream pressure.** Tighten the locknut on the Reducing Pilot.
7. Gradually turn the adjustment screw on Low Flow By-Pass clockwise raising downstream pressure to the desired setpoint. Allow valve and system to stabilize. Observe inlet and outlet pressure gauges. Continue to adjust Low Flow By-Pass pausing approximately every 1-1/2 turns to allow the valve and system to stabilize. Turning the adjustment screw clockwise raises the downstream pressure. Turning the adjustment screw counterclockwise lowers the downstream pressure. When desired downstream pressure is reached, tighten the locknut on Low Flow By-Pass.
8. Fine tune Opening Speed Control to suit system requirements. Adjust Opening Speed Control clockwise for slower opening, and counterclockwise for faster opening.