RATE-OF-FLOW VALVE with PRESSURE REDUCING FEATURE

01/05

Stainless Series

S114-2 or S6114-2 (Globe)
S1114-2 or S61114-2 (Angle)

Operation

The Watts ACV Rate-of-Flow Control Valve with Pressure Reducing Feature is designed to automatically limit flow rate to a constant, adjustable, maximum, and reduce a fluctuating higher upstream pressure to a constant lower downstream pressure. In most applications, the Pressure Reducing function will be secondary to the primary Flow Control Function.

The flow control action of the valve is controlled by a normally open, differential control pilot designed to: 1) Open (allowing fluid out of the main valve cover chamber) when the differential pressure across the orifice plate is below it's adjustable set point, and, 2) Close (allowing fluid to fill the main valve cover chamber) when the differential pressure across the orifice plate is above it's adjustable set point. A decrease in differential pressure causes the valve to modulate towards an open position, increasing flow rate. An increase in differential pressure causes the valve to modulate towards a closed position, decreasing flow rate.

The pressure reducing action of the valve 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 the adjustable setpoint, and 2) Close (allowing fluid to fill the main valve cover chamber) when downstream pressure is above the adjustable setpoint. A decrease in downstream pressure causes the valve to modulate toward an open position, raising downstream pressure. An increase in downstream pressure causes the valve to modulate toward a closed position, lowering downstream pressure.

The Orifice Plate Assembly should be installed three to five pipe diameters downstream of the Rate-of-Flow Valve, and field connected with 3/8" minimum copper tubing in accordance with factory piping schematic. Please specify desired flow rate prior to ordering.

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Installation Guidelines

- Prior to installation, flush line to remove debris.
- Install valve horizontally “in line” (cover facing UP), so flow arrow matches flow through the line. Avoid installing valves 6” or large vertically. Consult factory **prior** to ordering if installation is other than described.
- Install inlet and outlet isolation valves. **NOTE:** When using butterfly valves, insure disc does not contact control valve. Damage or improper valve seating may occur.
- Provide adequate clearance for valve servicing and maintenance.
- Install pressure gauges to monitor valve inlet and outlet pressure.
- Install Orifice Plate Assembly (provided) 3 to 5 pipe diameters **downstream** of the Rate-of-Flow Valve with the sensing connections offset from top of pipeline to avoid air accumulation. The Orifice Plate Assembly should not be installed next to a butterfly valve.
- Connect Orifice Plate Assembly to Rate-of-Flow Pilot using 3/8” diameter minimum copper tubing (field installed) in accordance with factory piping schematic.

Other Watts ACV Rate-of-Flow Control Valves

S114 / S6114	Rate-of-Flow Control Valve
S114-1 / S6114-1	Rate-of-Flow Control Valve with Solenoid (On-Off) Feature
S114-3 / S6114-3	Rate-of-Flow Control Valve with Hydraulic Check Feature
S114-8 / S6114-8	Rate-of-Flow Control Valve with Pressure Sustaining Feature