



Stainless Series

**S114-8 or S6114-8 (Globe)
S1114-8 or S61114-8 (Angle)**

Operation

The Watts ACV Rate-of-Flow Control Valve with Pressure Sustaining Feature is designed to automatically limit flow rate to a constant, adjustable, maximum, and sustain a minimum upstream pressure. 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 its 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 its 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 normally closed sustaining pilot remains open when upstream pressure is above the adjustable setpoint, and modulates toward a closed position if upstream pressure falls below the setpoint. As the sustaining pilot closes, fluid is directed into the main valve cover chamber, allowing the valve to modulate toward a closed position, raising upstream pressure. Normal flow control operation resumes when upstream pressure is above the sustaining pilot setpoint.

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.

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
S114-2 / S6114-2	Rate-of-Flow Control Valve with Pressure Reducing Feature
S114-3 / S6114-3	Rate-of-Flow Control Valve with Hydraulic Check Feature