



PRESSURE REDUCING and SUSTAINING VALVE with SURGE CONTROL FEATURE

01/05

Stainless Series

S115-43 or S6115-43 (Globe)
S1115-43 or S61115-43 (Angle)

Operation

The Watts ACV Combination Pressure Reducing and Sustaining Control Valve with Downstream Surge Control Feature is designed to automatically reduce a fluctuating higher upstream pressure to a constant lower downstream pressure regardless of varying flow rates, throttles to sustain a minimum upstream pressure, and will quickly modulate toward a closed position if downstream pressure suddenly becomes greater than the desired regulated setpoint. The quick closing action prevents possible damaging high inlet pressure from passing through the valve to downstream piping. Pressure Reducing 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 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 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 pressure reducing operation resumes when upstream pressure is above the sustaining pilot setpoint, and downstream pressure is below the reducing pilot setpoint.

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 decreases below the desired regulated setpoint.



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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” and larger 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.
- If installation is subjected to very low flow or potentially static conditions, AMES recommends a pressure relief valve (1/2” minimum) be installed downstream of the Pressure Reducing Valve for additional system protection.

Other Watts ACV Pressure Reducing Control Valves

S115 / S6115	Pressure Reducing Valve
S115-2 / S6115-2	Pressure Reducing and Sustaining Valve
S115-3 / S6115-3	Pressure Reducing Valve with Hydraulic Check Feature
S115-4 / S6115-4	Pressure Reducing Valve with Solenoid (On-Off) Feature
S115-7 / S6115-7	Pressure Reducing Valve with Downstream Surge Control Feature
S115-11 / S6115-11	Pressure Reducing and Sustaining Valve with Hydraulic Check Feature
S115-58 / S6115-58	Pressure Reducing Valve with Return Flow Feature
S115-74 / S6115-74	Pressure Reducing Valve with Low Flow By-Pass