



Stainless Series

**S116 or S6116 (Globe)
S1116 or S61116 (Angle)**

Operation

The Watts ACV Pressure Relief, Sustaining or Backpressure Control Valve is designed to permitting flow when upstream pressure is above the adjustable setpoint of the control pilot, and throttle toward closed when upstream pressure falls below the adjustable setpoint. It is controlled by a normally closed control pilot designed to: 1) Open (allowing fluid out of the main valve cover chamber) when upstream pressure is above the adjustable setpoint, and, 2) Close (allowing fluid to fill the main valve cover chamber) when upstream pressure is below the adjustable setpoint. An increase in upstream pressure causes the valve to modulate toward an open position. A decrease in upstream pressure causes the valve to modulate toward a closed position.

When the valve is installed “off the main line” on the **branch of a tee**, it serves as a **Pressure Relief Control Valve**. The valve is normally closed, and quickly opens when upstream pressure exceeds the pilot setting, **relieving** pressure, commonly discharging to a storage reservoir, pump suction, or atmosphere. When upstream pressure is lowered below the pilot setting, the valve closes at a controlled, adjustable rate.

When the valve is located “in line” **connecting two distribution zones**, the valve acts as a **Pressure Sustaining Control Valve**. When pressure in the upstream zone falls below the pilot setting, the valve modulates toward a closed position, **sustaining** pressure in the upstream zone. The valve will close, if necessary, until upstream pressure is above the pilot setting. The valve should be specified to include the optional **opening speed control** and **position indicator** when used for Pressure Sustaining applications.

When the valve is installed “in line” on the **discharge of a pump**, it acts as **Backpressure Control Valve**. When pump discharge pressure falls below the pilot setting, the valve modulates toward a closed position, increasing **backpressure** against the pump. The valve should be specified to include the optional **opening speed control** when used for Backpressure applications.



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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 upstream 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 upstream and outlet pressure.

Other Watts ACV Pressure Relief / Backpressure or Sustaining Control Valves

S116-5 / S6116-5	Backpressure / Sustaining Valve with Hydraulic Check Feature
S116-31 / S6116-31	Pressure Sustaining Valve with Solenoid (On-Off) Feature
S116-32 / S6116-32	Pressure Sustaining Valve with Solenoid (On-Off) and Check Features
S116-52 / S6116-52	Surge Anticipator and Pressure Relief Valve