



RATE-OF-FLOW VALVE with PRESSURE REDUCING FEATURE

01/06

950 Series

—Model— **951**
651

Operation

The AMES Model 951 / 651 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 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 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 Model 951 / 651, 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 950 / 650 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 AMES Rate-of-Flow Control Valves

950 / 650	Rate-of-Flow Control Valve
950-01 / 650-01	Rate-of-Flow Control Valve with Hydraulic Check Feature
950-15 / 650-15	Rate-of-Flow Control Valve with Solenoid (On-Off) Feature
952 / 652	Rate-of-Flow Control Valve with Pressure Sustaining Feature