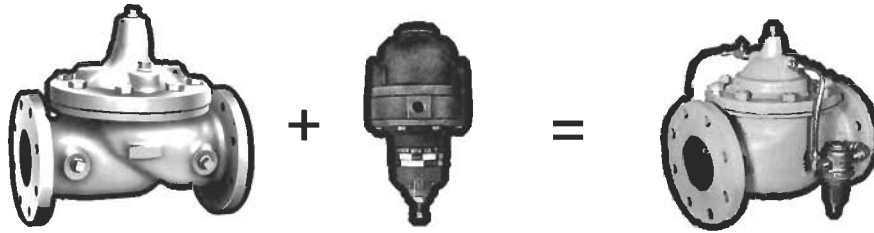
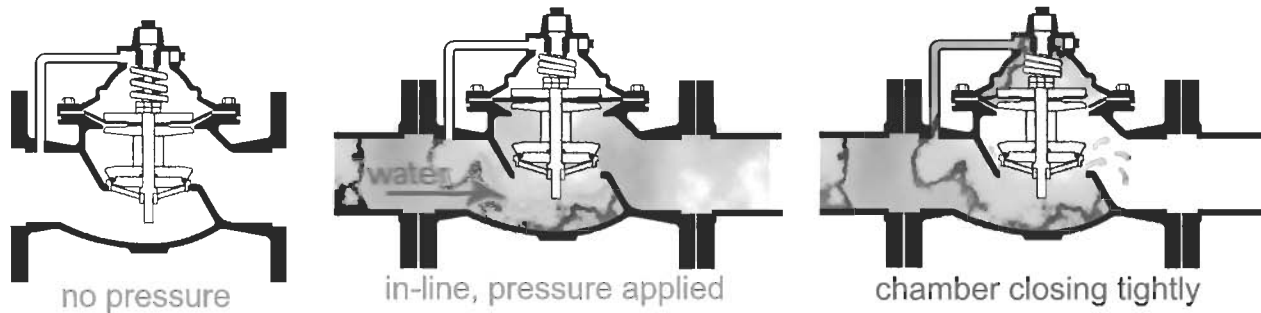


# Understanding Automatic Control Valves

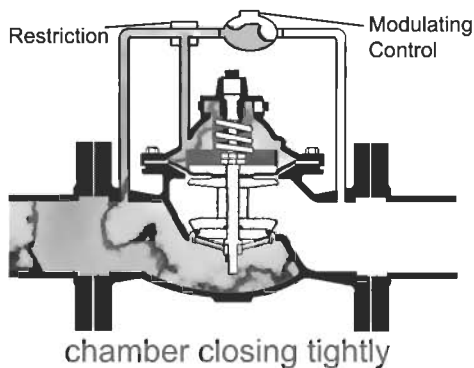
Most Automatic Control Valves (ACVs) consist of a basic valve and some kind of pilot control system.



When there is no pressure on the assembly, the spring and the weight of the assembly hold the valve closed. When placed in-line and pressure is applied, the valve opens. If inlet pressure is piped into the cover chamber the valve closes tightly.



A control that simply opens the valve and closes it (three way valve) is called “non-throttling” because it cannot vary the size of its opening. The valve is either open, or when fluid flows into the cover chamber, closed. To open: control is turned to exhaust cover chamber pressure. To close: control is turned to apply pressure. Non-throttling valves are usually hard to operate because they require high pressures. **Modulating valves** use different mechanisms, making operation easier: by hand, pressure, solenoid, by a difference in two pressures, or by a float.



**Modulating valves** open and close based on pressure, like non-throttling valves. Modulating valves provide the following operations:

- **Pressure Reduction:** Outlet pressure on control diaphragm makes main valve counteract to hold inlet pressure constant.
- **Pressure Relief:** Inlet pressure on control diaphragm makes main valve counteract to hold constant inlet pressure.

- **Rate of Flow Controller:** Keeps flows constant by making main valve counteract any slight changes in differential pressure across an orifice plate located in the main line.

- **Liquid Level Controller:** Slight changes in flow through a float control cause main valve to counteract changes in reservoir level so liquid level remains constant.

- **Check Valve:** The simplest control ... uses a tube running from the cover to the outlet of the valve. Direction of flow is reverse of all other valves described. Greater inlet pressure pushes the valve open. Greater outlet pressure is directed to cover chamber to close the valve. *The End.*

**Questions? Call 1-800-66-BKFLO and we can help!**

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