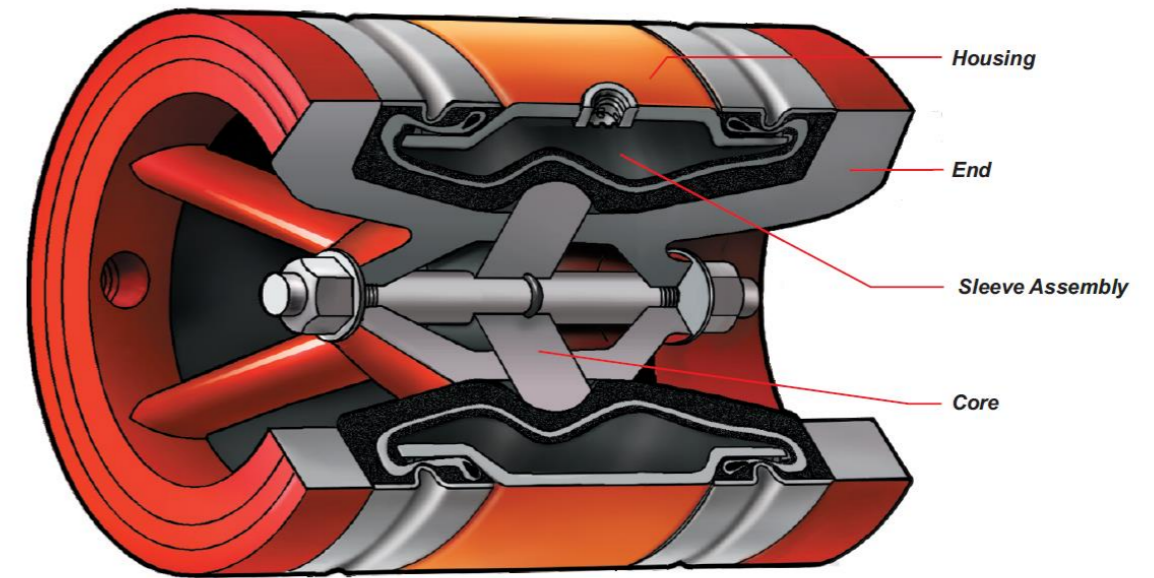


# Automatic Water Control Valve

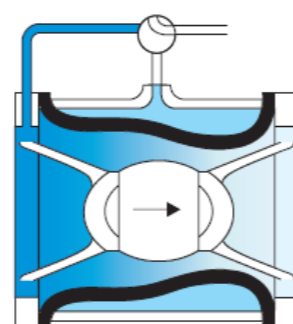
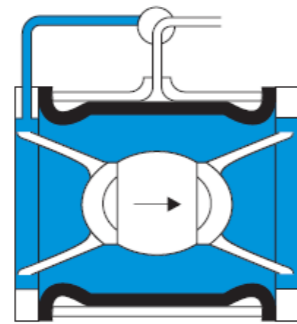
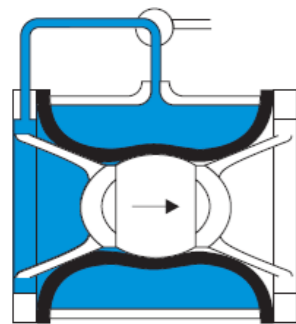
## Series 700D



### Operation

The Control Chamber of the **Inbal** Automatic Water Control Valve is the annular space between the valve Housing and the Sleeve. The valve is held in a closed position as long as inlet pressure is maintained in the Control Chamber.

In the set position, the water pressure is transmitted from the upstream through the valve trim to the Control Chamber, and the **Inbal** Valve stays closed. Actuation of the valve by a manual, hydraulic, pneumatic, or electric release system allows venting of the pressure in the **Inbal** Valve Control Chamber, and the valve opens wide, permitting a flow of water to the piping system. When a pressure or flow control is added, the Control Chamber is monitored to modulate a preset delivery pressure, maximum inlet pressure, or flow rate. The principle of operation is illustrated in Figures (1) through (3). The nominal pressure losses are shown in Graph (1).



#### Tight closing operation

When pressure from the valve inlet (or an equivalent independent operating pressure) is applied to the Control Chamber, the **Inbal** Valve closes drip tight. The fabric sleeve safely envelopes the resilient sleeve giving full support.

#### Full open operation

When pressure in the Control Chamber is relieved to the atmosphere, the **Inbal** Valve opens wide. The sleeve assembly is safely enveloped by the housing.

#### Modulating action

A stable throttling position is obtained when a quantity of pressurized fluid is held in the Control Chamber. It is the amount of fluid in the Control Chamber that determines the position of the sleeve assembly. The Control Chamber can be alternately filled or exhausted to achieve the desired operating condition.

Figure (1)

Figure (2)

Figure (3)

### Installation

Refer to the Trim Chart applicable to the specific **Inbal** Valve model in use.

1. When the **Inbal** Valve is delivered, carefully unpack and visually check that there has been no damage to the operating components, piping, and fittings.
2. The **Inbal** Valve must be installed in an area not subject to freezing conditions.
3. Always flush the pipelines before installing the valve.
4. Place the **Inbal** Valve in the piping in the outlet of the Water Supply Valve. Verify that the arrow on the valve housing matches the actual flow direction. The **Inbal** Valve may be installed in any position. Determine which side the valve will be accessed from and locate all the components accordingly.
5. Install the **Inbal** Valve in the piping system. Refer also to the applicable Installation Guide.

**Threaded End Valve** - connect the female threaded ends of the **Inbal** Valve to the male threads of the piping. Use the pipe joint compound sparingly on the male threads only.

**Flanged End Valve** - connect with bolts and nuts, the valve flanges to the existing flanges in the piping system, using gaskets in between. Complete bolting with uniform tightening.

**Wafer End Valve** - Install the **Inbal** Valve between the piping flanges. Place gaskets between the valve ends and the pipe flanges. Insert four of the stud bolts, 90° apart around the valve, through the bolt sleeves and the pipe's flanges, and tighten with nuts. Complete bolting with uniform tightening.

6. Complete the trim assembly by connecting the preassembled sections, or assemble the trim if ordered in loose component form. Refer to the applicable Trim Chart and Installation Guide.
7. The pressure supply to the trim must always be sourced from either inlet of Water Supply Valve or **Inbal** Valve upstream, through a 1/2" pipe.
8. Exhaust tube must be free of any back pressure. Provide an air gap between the exhaust tube and drain facility.
9. Set the **Inbal** Valve by following the applicable Resetting procedure.
10. Test the **Inbal** Valve, the trim, and alarms according to the applicable Testing procedure.

### Resetting

The **Inbal** Automatic Water Control Valve system must be reset and restored to service as soon as possible after automatic, emergency, or manual actuation. Refer to the relevant bulletin for detailed procedure.