

## Z1712 ACCUMUTROL ... ENGINEERED FOR HIGH-CAPACITY and SEVEREST WATER HAMMER APPLICATIONS

Z1712 is the most advanced water hammer arrestor available. It contains only one moving part: a micrometrically sized spherical piston which “floats” inside the surge chamber to accept in-line hydrodynamic concussions which result in “water hammer.” When line is out of service, piston rests on a permanentized Viton seat to seal in air charge. Simplicity of design permits years of effective, trouble-free operation.

Zurn Accumutrol is compact – not large and bulky like the commonly known air chamber, therefore it can be installed quickly and economically. And unlike other arrestor designs (such as piston, diaphragm, and bellows type), the Zurn Accumutrol eliminates the possibility of wear, rupture, and fatigue failures.

Controlled by installation of Zurn Z1712 Accumutrol, complete with floating stainless steel spherical piston, surge chamber, and valve and gauge assembly. Sizes and locations shall be required to dissipate generated kinetic energy based on selection from the Zurn Accumutrol Selector.

**Regularly Furnished** Bronze surge chamber with non-corrosive stainless steel spherical piston, Viton valve seat, and bronze air charge and gauge assembly.

**Optional Variations** Stainless steel surge chamber.

**Sizing and Selection Information** Sizing and selection are customized to each specific application, based on scientific data accumulated by Zurn research and development technicians. Zurn engineering does the rest, providing you with a scientifically designed unit that eliminates water hammer – with none of the disadvantages of conventional type air chambers.

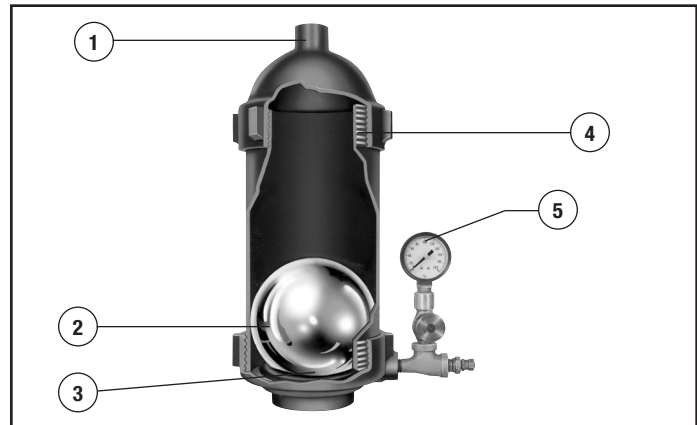
### Easy Start Up

1. With shut-off valve closed, close drain valve and open gauge valve.
2. Operate equipment to establish normal flow in the supply line. Open shut-off valve, read pressure on gauge, close shut-off valve and slowly shut off flow in the supply line. The pressure read on the gauge is the flowing (residual) pressure. This entire operation should be accomplished in a manner that will not allow the quick closing valve to close rapidly or in a manner that can cause water hammer in the system.
3. With shut-off valve closed and drain valve open, open gauge valve and introduce air or nitrogen into the Accumutrol to bring the pressure to 75% of the flowing pressure as read in 2 above.
4. Close both the drain and gauge valves, open the shut-off valve and the Accumutrol will be in operation.

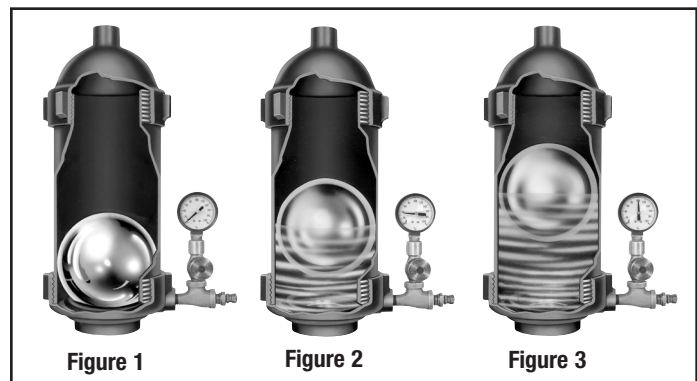
### Operational Maintenance

1. It is recommended that the precharge pressure, as established in 3 above, be checked periodically. This should be done daily just after start-up and once a week thereafter. This only involves closing the shut-off valve, opening the gauge and drain valves, and reading the pressure. If the precharge pressure is low, add air; if it is above the flowing pressure, as determined in 2 above, bleed air out of the Accumutrol. Close both gauge and drain valves and open the shut-off valve to put the unit back in service. Such adjustment should be required very infrequently.
2. If at any time it appears the unit is not holding its precharge pressure, close the shut-off valve, open the drain valve, and bleed off the air from the unit. Remove the bottom cap of the Accumutrol and inspect the Viton seat and the spherical piston and if damaged replace them.\* Any other loss of precharge pressure should be traceable to leaks in the system.

\***Note:** Brass insert in Viton seat should be installed with inside chamber up.



- 1 **Protective Cap** – Prevents damage to spherical piston in event unit is placed in operation without air charge in chamber. Tapping in top of cap simplifies mounting.
- 2 **Durable, Precision-Like Piston** – Hollow, stainless steel, spherical piston is sufficiently rugged to withstand in-service pressures, yet light enough to “float” at its midpoint inside surge chamber. Moves freely without high friction normally attending piston motion. No piston rings, or O-rings, to prevent the free movement.
- 3 **Permanentized Viton Seat** – Supported internally and externally to prevent extrusion even under severe overpressure.
- 4 **Rugged Cylindrical Surge Chamber** – Designed to withstand severe overpressures. Closed at top, open at bottom for connection to tee in supply line.
- 5 **Built-in Valve and Gauge Assembly** – Simplified charging and recharging procedure.



### Before Charging (Figure 1)

Spherical piston rests on Viton seat only prior to introduction of air into surge chamber; keeping seat wear to an absolute minimum.

### In Normal Position (Figure 2)

After surge chamber is charged and put in service, the spherical piston “floats” inside the chamber, ready to accept in-line hydrodynamic shock.

### During Operation (Figure 3)

When valve closes quickly, flow in line is diverted into Accumutrol; it compresses the air charge and gradually stops.