

# SURGE ANTICIPATING VALVE

with Solenoid Control

Model 735-55-M EN/ES

Hydraulically operated, solenoid controlled, off-line surge anticipating valve that immediately opens in response to an electric signal. The pre-opened valve dissipates the returning high pressure wave, eliminating the surge. The valve smoothly closes drip tight as quickly as the relief feature allows, thereby preventing closing surge. The valve also relieves excessive system pressure.

BERMAD 700 SIGMA EN/ES series valves are hydraulic, oblique pattern, globe valves with a raised seat assembly and double chamber unitized actuator, that can be disassembled from the body as a separate integral unit. The valves hydrodynamic body is designed for unobstructed flow path and provides excellent and highly effective modulation capacity for high differential pressure applications. The valves are available in the standard configuration or with an Independent Check Feature code "2S". The 700 SIGMA EN/ES Valves operate under difficult operation conditions with minimal cavitation and noise. They meet size and dimensions requirements of various standards.



[Click here for control accessories](#)



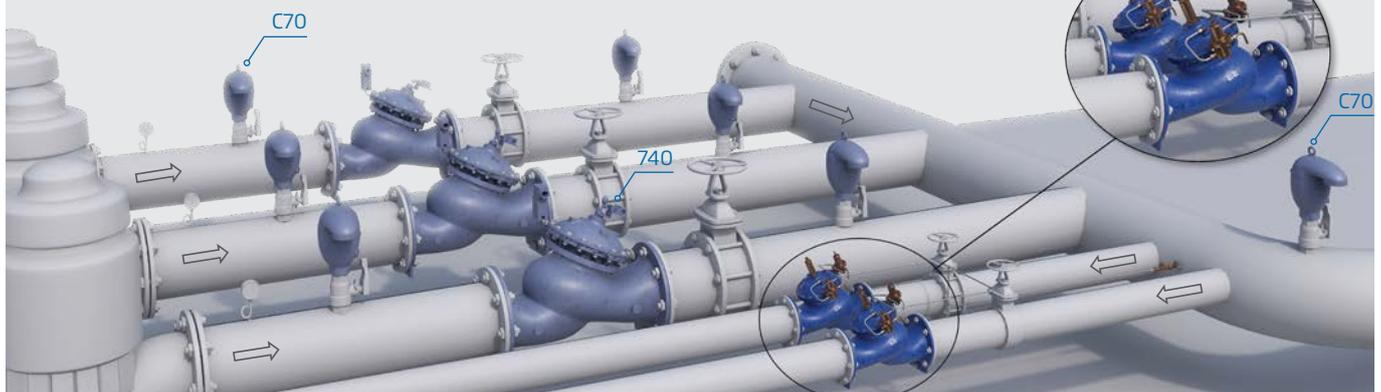
## Features and Benefits

- Designed to - stand up to the toughest conditions
  - Excellent anti-cavitation properties
  - Wide flow range
  - High stability and accuracy
  - Drip tight sealing
- Double chamber design
  - Moderated valve reaction
  - Protected diaphragm
  - Optional operation in very low pressure
  - Moderated closing curve
- Flexible design - Easy addition of features
- Obstacle free flow pass
- V-Port Throttling Plug (Optional) - Very stable at low flow
- Compatible with various standards
- High quality materials
- In-line serviceable - Easy maintenance

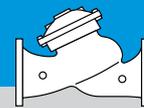
## Major Additional Features

- Hydraulic control – 735-M
  - Quick pressure relief valve – 73Q
  - Hydraulic override – 735-55-09-M
  - Independent Check Feature - 735-55-M-2S
- See relevant BERMAD publication

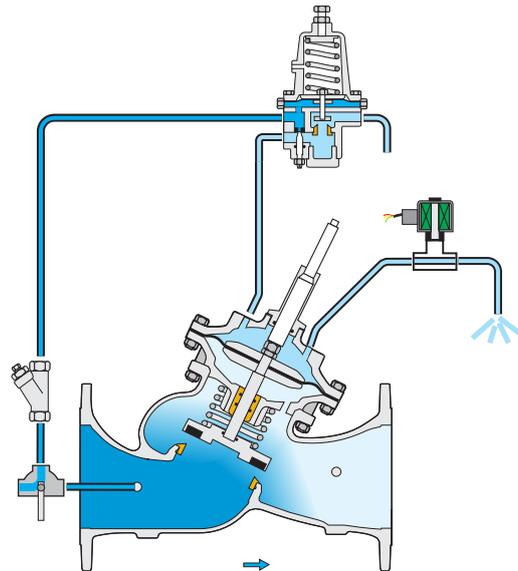
## Typical Installation



All images in this catalog are for illustration only



CLOSED  
Regulating



This drawing refers to 1½ – 8"; 40-200 mm sized valves only. For other sizes please refer to the Model's IOM.

### Main Valve

**Valve Patterns:** "Y" (Globe)

**Size Range:**

**EN Series:** 1½-16"; 40-400 mm

**ES Series:** 2½-24"; 65-600 mm

**Pressure Rating:** 25 bar; 400 psi

**End Connections:** Flanged (all standard)

**Plug Types:** Flat disc, V-port, Cavitation cage

**Temperature Rating:** 60°C; 140°F for Cold water applications

**Optional higher temperature:** Available on request

#### Standard Materials:

**Body & actuator:** Ductile Iron

**Bolts, nuts & studs:** Stainless Steel

**Internals:** Stainless Steel, Tin Bronze & Coated Steel

**Diaphragm:** Fabric-reinforced synthetic rubber

**Seals:** Synthetic rubber

**Coating:** Dark blue Fusion bonded epoxy

**Required Data For Surge Analysis:** Pipe profile and characteristic, pumping station full details, valves and reservoirs.

### Control System

#### Standard Materials:

**Accessories:** Stainless Steel, Bronze & Brass

**Tubing:** Stainless Steel or Copper

**Fittings:** Forged Stainless Steel or Brass

#### Pilot standard materials:

**Body:** Stainless Steel, Bronze or Brass

**Elastomers:** Synthetic Rubber

**Internals and Spring:** Stainless Steel

#### Solenoid Standard Materials:

**Body:** Brass or Stainless Steel

**Elastomers:** NBR or FPM

**Enclosure:** Molded Epoxy

#### Solenoid Electrical Data:

**Voltages:** DC: 24Power

**Consumption:** DC 8-11.6 W

Values may vary according to specific solenoid model.

#### BR 735-UPS Controller:

**Supply Voltage:** 110, 230 VAC 50/60 Hz

**Self-Power Consumption:** 6VA

**Batteries:** Two 12V, 4AH, rechargeable type

**Protection Case:** IP54

**Operating Temperature:** 10-50°C (50-125°F)

**Dimensions (mm):** H-211, W-240, D-116

Energizing 1-2 24VDC 12W solenoids.

#### Pilot Options:

For more details check solenoid product page

### Notes

- Full system data is required for surge analysis and optimal valve sizing.
- A flow stem enables limiting valve opening stroke, adjusting precisely the required flow through the valve.
- Recommended maximum flow velocity: 15 m/sec; 50 ft/sec.
- Minimum operating pressure: 0.7bar/10psi. For lower pressure requirements consult factory.

