

# SOLENOID CONTROLLED VALVE

## Model 710 EN/ES

Hydraulically operated, solenoid controlled valve that either opens fully or shuts off in response to an electric signal. It is available in several models including Normally Open (NO), Normally Closed (NC) or LATCH.

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

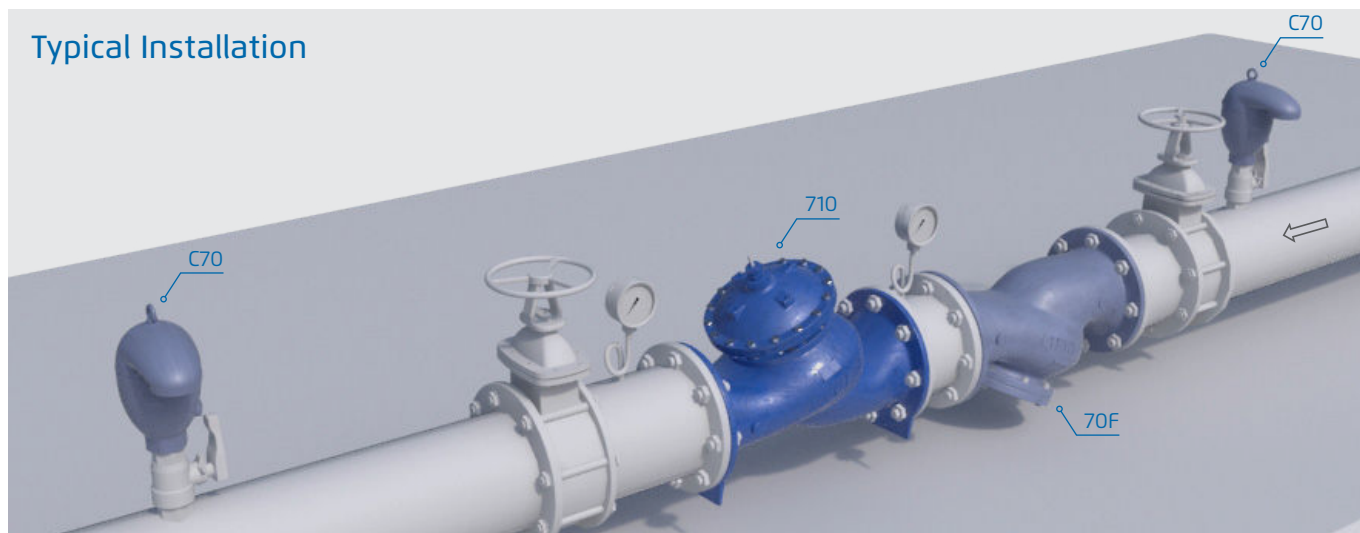
- Designed to - stand up to the toughest conditions
  - Excellent anti-cavitation properties
  - Wide flow range
  - High stability and accuracy
  - Drip tight sealing
- Double chamber design
  - Moderated valve reaction
  - Protected diaphragm
  - Optional operation in very low pressure
  - Moderated 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

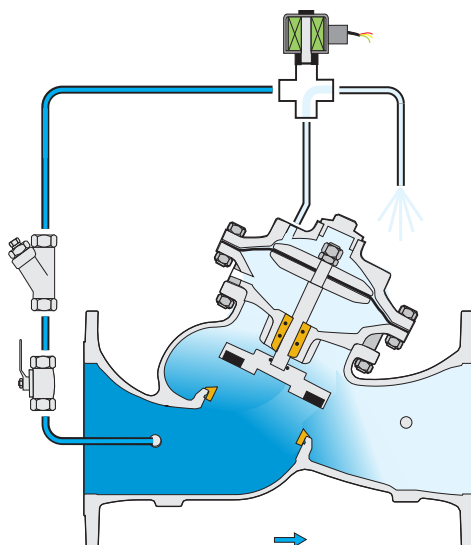
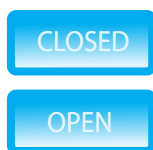
- Full powered opening & closing – 710-B
  - Opening & Closing speed control – 710-03
  - Closing signal (limit switch) – 710-S
  - Relief override – 710-3Q
  - Flow over the seat (fail-safe close) – 710-0
  - Closing surge prevention – 710-49
  - Independent Check Feature – 710-2S
- See relevant BERMAD publications.



### Typical Installation



All images in this catalog are for illustration only



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

### Control System

#### Standard Materials:

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

**Tubing:** Stainless Steel or Copper

**Fittings:** Stainless Steel or Brass

#### Solenoid Standard Materials:

**Body:** Brass or Stainless Steel

**Elastomers:** NBR or FPM

**Enclosure:** Molded Epoxy

#### Solenoid Electrical Data:

##### Voltages:

**(AC):** 24, 110-120, 220-240, (50-60Hz) **(DC):** 12, 24, 110, 220 Power Consumption:

**(AC):** 30VA, inrush; 15VA (8W), holding or 70VA, inrush: 40VA (17.1W), holding **(DC):** 8-11.6W

Values might vary according to specific solenoid model.

For more details check solenoid product page.

### Notes

- Inlet Pressure, Outlet Pressure and Flow-rate are required for optimal sizing.
- Recommended maximum flow velocity: 6.0 m/sec; 20 ft/sec.
- Minimum operating pressure: 0.7 bar; 10 psi. For lower pressure requirements consult factory.

For detailed Engineering & Specification data, IOM and CAD Drawings, visit the Model Page on the [BERMAD](http://www.bermad.com) website.