

# PRESSURE REDUCING VALVE

with Multi Level Setting, Electrically Controlled

## Model 720-45 EN/ES

Hydraulically operated, pressure reducing control valve that reduces higher upstream pressure to lower constant downstream pressure, regardless of fluctuating demand or varying upstream pressure. This valve can be set to two different modulation values through an electric command allowing selection between the two set-points.

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.



### 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 - Very stable at low flow
- Compatible with various standards
- High quality materials
- In-line serviceable - Easy maintenance

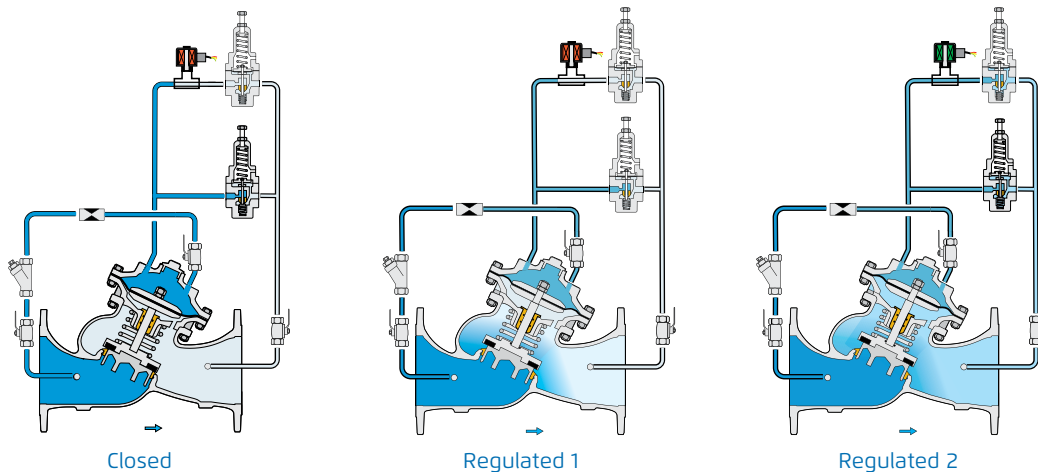
### Major Additional Features

- Pressure management valve – 7PM
  - 3-Way control – 720-45-X
  - Anti-cavitation cage – 720-45-C2
  - Safety valve – 720-45-TC
  - Independent check feature – 720-45-2S
  - Hydraulic check valve – 720-45-20
  - Solenoid control – 720-45-55
  - High sensitivity pilot – 720-45-12
  - Downstream over pressure guard – 720-45-48
- 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

### Pilot Standard Materials:

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

**Elastomers:** Synthetic Rubber

**Spring:** Stainless Steel

**Internals:** Stainless Steel

### Pilot Options:

Various pilots and calibration springs are available.

Select according to valve size and operating conditions.

For more details check pressure reducing pilots product pages.

## Notes

- Inlet pressure, outlet pressure and flow rate are required for optimal sizing and cavitation analysis
- Recommended continuous flow velocity: 0.1-6.0 m/sec; 0.3-20 ft/sec
- Minimum operating pressure: 0.7 bar / 10 psi. For lower pressure requirements consult factory
- Typical solenoid: Latch type, compatible with battery operated time based controllers

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