

# PROPORTIONAL PRESSURE REDUCING VALVE

## Model 720-PD-EN/ES

Hydraulically operated, diaphragm actuated, pressure reducing control valve that reduces higher upstream pressure to lower downstream pressure at a fixed ratio. The fixed pressure reducing ratio is determined with regard to valve size and plug type.

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 "25". 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

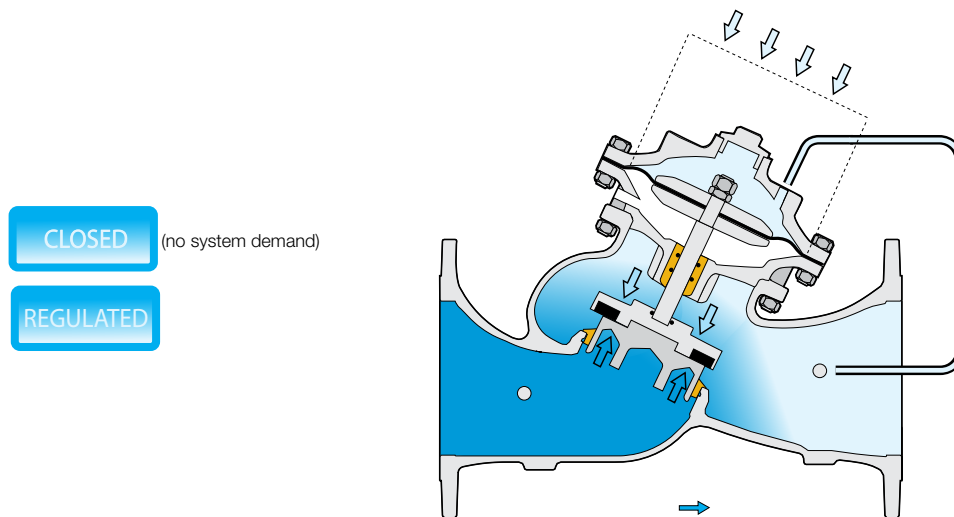
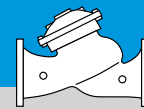
### Major Additional Features

- Solenoid control – 720-PD-55
  - Closing & Opening speed control – 720-PD-03
  - Emergency pressure reducing valve – 720-PD-59
  - Pressure sustaining – 723-PD
- 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:**

**ES Series:** 2½-24"; 65-600 mm

**EN Series:** 1½-16"; 40-400 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

### Reduction Ratios Table:

Valve Size		700 ES		700 EN	
		Min.	Max.	Min.	Max.
1½"	DN40	-	-	2.8	3.2
2"	DN50	-	-	2.8	3.2
2½"	DN65	2.8	3.2	-	-
3"	DN80	2.8	3.2	2.6	2.9
4"	DN100	2.8	3.2	-	-
5"	DN125	2.8	3.2	2.6	2.9
6"	DN150	2.5	2.8	2.5	2.7
8"	DN200	2.5	2.7	2.4	2.6
10"	DN250	2.4	2.6	2.3	2.5
12"	DN300	2.3	2.5	2.2	2.4
14"	DN350	2.2	2.4	-	-
16"	DN400	2.2	2.4	2.2	2.3
18"	DN450	2.2	2.3	-	-
20"	DN500	2.2	2.3	-	-
24"	DN600	2.2	2.3	-	-

### Notes

- Reduction ratio may vary at extreme flow velocity and upstream pressure.
- Reduction ratios are based on flow velocity of 2.0-3.0 m/sec; 6.5-10 ft/sec.
- Recommended continuous flow velocity: 0.1-6.0 m/sec; 0.3-20 ft/sec.
- Minimum operating pressure: 0.7 bar / 10 psi.

