

# PROPORTIONAL PRESSURE REDUCING VALVE

## Model 720-PD / 720-PD2

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

The BERMAD 700 SIGMA EN/ES series valves are hydraulic globe valves with a raised seat and double chamber actuator. They provide unobstructed flow, effective high-pressure modulation, and minimal cavitation, complying with various potable water standards.



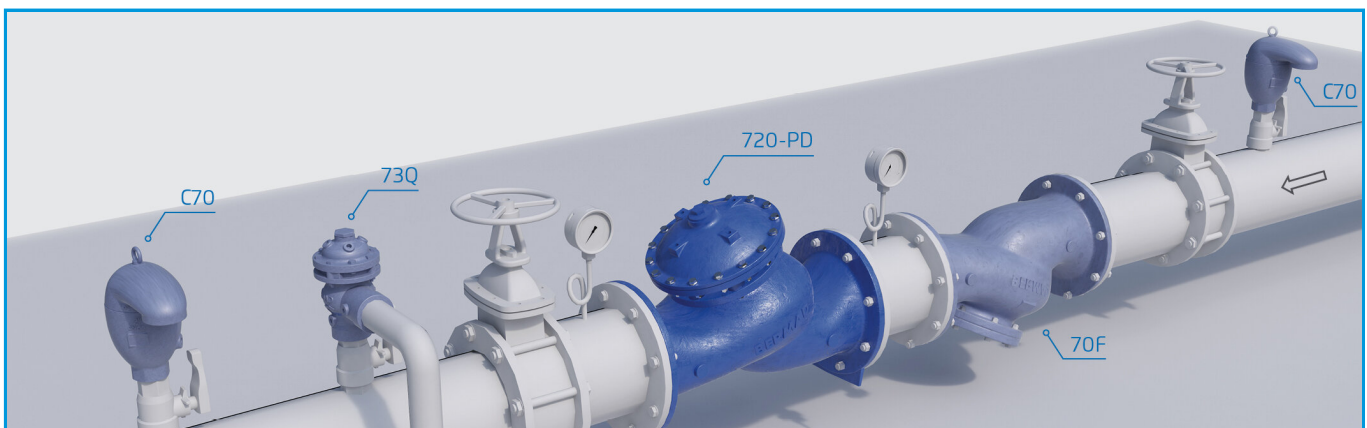
### Features & Benefits

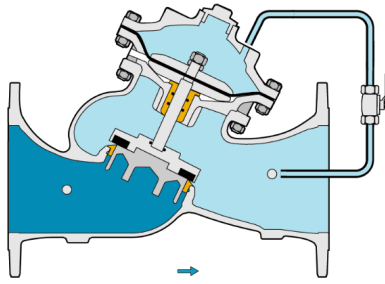
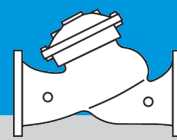
- Certified to functional and drinking water standards: EN-1074, NSF-ANSI 61-372, WRAS, AS 5081 and others
- Designed to - Stand up to the toughest conditions
  - Excellent anti-cavitation properties
  - Wide flow range
  - High stability
  - Drip tight sealing
- Double chamber design
  - Moderated valve 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
- High quality materials
- In-line serviceable - Easy maintenance

### Typical Applications

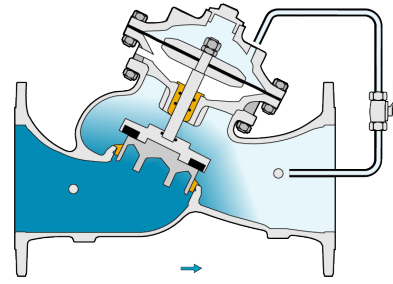
- First stage at a two stage pressure reducing system
- Municipal and national systems - Reducing pressure at downhill pipe lines
- Highrise and midrise buildings - Two stage pressure reduction at the pressure zone inlet - model 720-PD2
- Pumping stations - Minimize cavitation and noise in circulation valves
- Reservoirs - Minimize cavitation and noise in modulating level control

### Typical Installation





Closed (no system demand)



Regulating

This drawing refers to 1½ – 24"; 40-600 mm sized valves only. For other sizes please refer to the Model's IOM.

## Main Valve

### Size Range:

**EN Series:** 1½"-16"; DN40-400

**ES Series:** 2½"-24"; DN65-600

**Pattern:** "Y" (globe)

**Pressure Rating:** 16 bar; 25 bar

**End Connection:** Flanged

**Plug Types:** Flat disc, V-port, Single cavitation cage

**Temperature Rating:** 80°C

*For 60–80°C consult factory*

### Standard Materials:

**Body & Cover:** Ductile Iron

**Bolts, Nuts & Studs:** Stainless Steel

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

**Diaphragm:** Fabric-reinforced synthetic rubber

**Seals:** Synthetic rubber

**Coating:** Dark blue Fusion bonded epoxy

*For other materials contact BERMAD*

## Control System

### Standard Materials:

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

**Tubing:** Stainless Steel or Copper

**Fittings:** Stainless Steel or Brass

### 720-PD Reduction Ratios Table:

Valve Size		700 ES		700 EN		700-00	
		Min	Max	Min	Max	Min	Max
1½"	DN40	-	-	2.8	3.2	3.7	4.0
2"	DN50	-	-	2.8	3.2	3.7	4.0
2½"	DN65	2.8	3.2	2.8	3.2	3.7(2.8*)	4.0(3.2*)
3"	DN80	2.8	3.2	2.7	3.0	2.7	3.0
4"	DN100	2.7	3.0	2.5	2.9	2.5	2.9
5"	DN125	2.5	2.9	-	-	-	-
6"	DN150	2.5	2.8	2.4	2.7	2.4	2.7
8"	DN200	2.4	2.7	2.3	2.6	2.3	2.6
10"	DN250	2.3	2.6	2.2	2.5	2.2	2.5
12"	DN300	2.2	2.5	2.1	2.4	2.1	2.4
14"	DN350	2.1	2.4	-	-	-	-
16"	DN400	2.1	2.4	2.1	2.3	2.1	2.4
18"	DN450	2.1	2.3	-	-	-	-
20"	DN500	2.1	2.3	-	-	2.1	2.3
24"	DN600	2.1	2.3	-	-	2.1	2.3

\* 2.5"; DN65 grooved body only

### 720-PD2 Reduced Reduction Ratios Table:

Valve Size		700 ES		700 EN		700-00	
		Min	Max	Min	Max	Min	Max
1½"	DN40	-	-	2.0	2.4	2.0	2.4
2"	DN50	-	-	2.0	2.4	2.0	2.4
2½"	DN65	2.0	2.4	2.0	2.4	2.0	2.4
3"	DN80	2.0	2.4	2.0	2.4	2.0	2.4
4"	DN100	2.0	2.4	2.0	2.4	2.0	2.4
5"	DN125	2.0	2.4	-	-	-	-

## Notes

- Recommended continuous flow velocity: 0.1-6.0 m/sec; 0.3-20 ft/sec.
- Minimum operating pressure: 0.7 bar; 10 psi.
- Reduction ratio is proportional to the valve opening rate, which vary due to changes in flow rate and pressures.
- Reduction ratios are based on flow velocity of 2.0-3.0 m / sec; 6.5-10 ft /sec.

For detailed Engineering & Specification data, IOM and CAD Drawings, visit the Model Page on the BERMAD website.