

# FLOW CONTROL VALVE

## with Opening and Closing Speed Controls

### Model 770-03-U

Hydraulically operated flow control valve that maintains pre-set maximum flow, regardless of fluctuating demand or varying system pressure.

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.



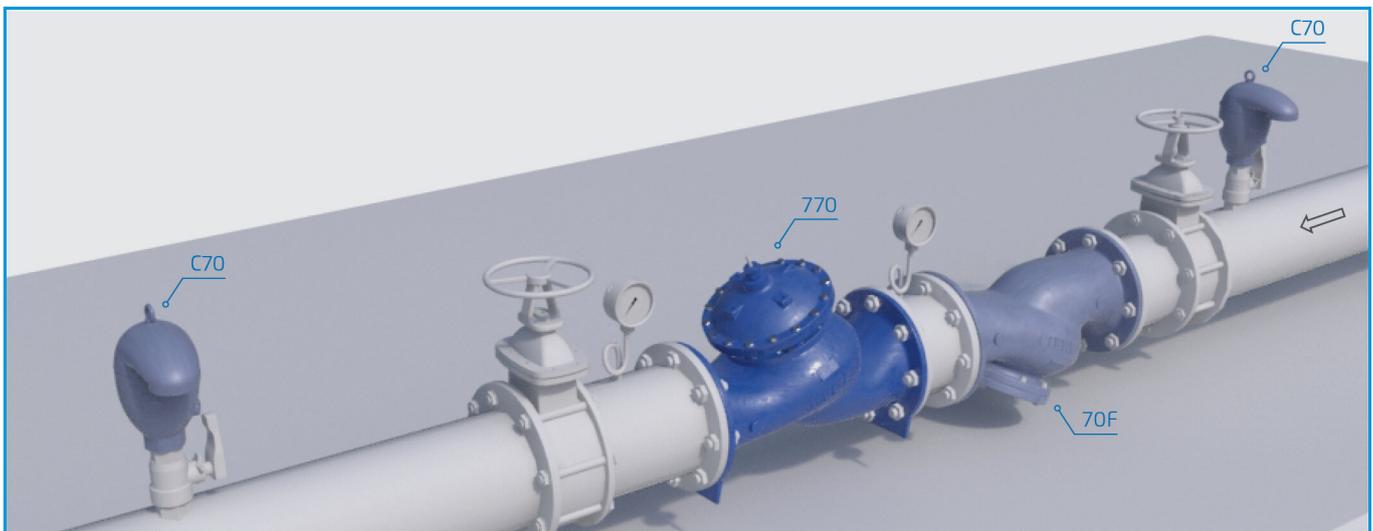
#### Features & Benefits

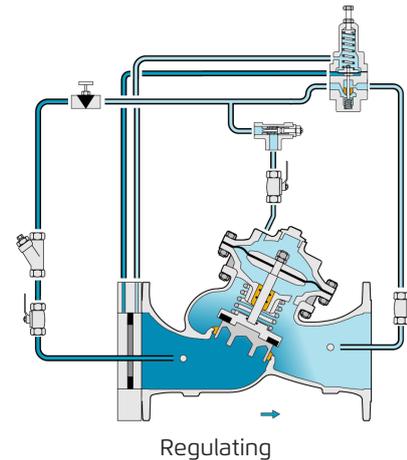
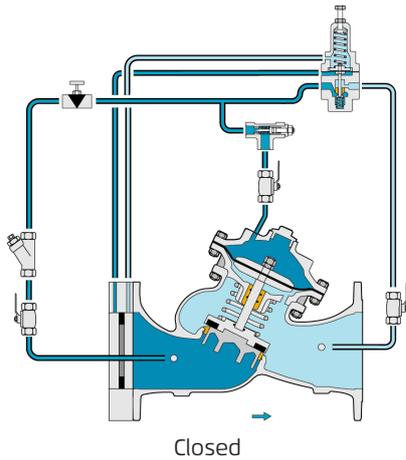
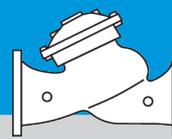
- Designed to - Stand up to the toughest conditions
  - Excellent anti-cavitation properties
  - Wide flow range
  - High stability and accuracy
  - Drip tight sealing
- Double chamber design
  - Moderated valve reaction
  - Protected diaphragm
  - Optional operation in very low pressure
  - Moderated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

#### Typical Applications

- Water delivery systems - Balancing supply capacity with demand
- HVAC Systems - Flow limiting to maintain efficiency and ensure optimal performance
- Filtration system - Process flow control in filtration applications

#### Typical Installation





This drawing refers to 1½ – 12”; 40-300 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:** 250 psi; 400 psi

**End Connection:** Flanged

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

**Temperature Rating:** 180°F

*For 140–180°F 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

### Pilot standard materials:

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

**Elastomers:** Synthetic Rubber

**Internals and Spring:** Stainless Steel

### Pilot Options:

Various pilots and calibration springs are available. Select according to valve size and operating conditions. For more details check relevant pilots product pages.

**Orifice Standard Material:** POM-C or Stainless Steel

## Notes

- Orifice diameter is calculated for each valve.
- Flow Setting Range: (-)15% and (+)25% from predetermined flow.
- Orifice adds 20-32mm; 0.8"-1.2" to valve length.
- The orifice additional head loss is 0.2 bar ; 2.8 psi
- Recommended continuous flow velocity: 0.3-6.0 m/sec; 1-20 ft/sec.
- Minimum operating pressure: 1.0 bar; 15 psi. For lower pressure requirements consult factory.
- Inlet Pressure, Outlet Pressure and Flow-rate are required for optimal sizing and cavitation analysis.
- When minimum head loss is essential and flow velocity is higher than 1.0 m/sec, consider using model 770-J.

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