

BOOSTER PUMP CONTROL AND PRESSURE SUSTAINING VALVE

Active Check Valve

Model 743 EN/ES

Hydraulically operated, active check, pump control & pressure sustaining valve with two independent functions: It opens fully or shuts off in response to electric signals, isolating the pump from the system during pump startup and shutdown, thereby preventing pipeline surges. While open, it sustains minimum pump discharge pressure regardless of fluctuating flow, and prevents the pump from exceeding its designed flow or power consumption.

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

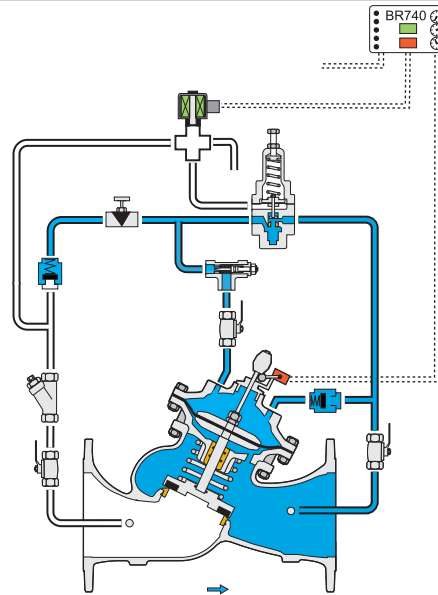
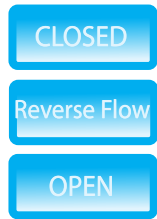
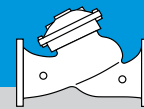
Major Additional Features

- Independent check feature – 743-2S
 - Differential pressure sustaining – 743-06
 - 3-Way control – 743-X
 - Flow control – 747-U
 - Pressure reducing – 742
 - Pump circulation control – 745
 - Electronic control – 740-18
 - Pressure sustaining and Pressure reducing – 743-2Q
- 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.

BR 740-E Controller:

Supply Voltage: 110, 230 VAC 50/60Hz

Power Consumption: <8VA Solenoid Circuit Fuse: 2A (internal)

Pump Control Circuit Fuse: 1A (internal)

Dimensions: 96 x 96 x 166mm (DIN), 0.75kg

Housing Material: NORYL (DN 43700)

Limit Switch:

Switch Type: SPDT

Electrical Rating: 10A, type gl or gG

Operating Temperature: Up to 85°C (185°F)

Enclosure Rating: IP66

For more details check solenoid product page.

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

