

400 Series

# Solenoid Activated, Remote Controlled Monitor Valve

Model: FP 400E-3X



#### Size: 4" - 12"

### **Description**

The Bermad Remote Controlled On-Off valves replace motor driven valves or actuated quarter turn valves. They are especially suitable for oscillating or remote controlled Monitors, and for installation in modern foam systems where a shut-off function is required. The hydraulic actuation by a compact solenoid is resource saving, while providing maximum safety.

### **Typical Applications**



Remote monitor



Foam systems



Zone isolating, on-off remote control



Offshore platforms / marine vessels



Emergency low DC power activation

#### Features and Benefits

- 3-Way control system Avoids continuous releasing
- Simple design Cost effective
- Smooth opening and closing characteristics –
  Prevents water surge
- One-piece molded elastomeric moving part –
  No maintenance required
- Quick cover removal Minimal downtime

#### **Optional Features**

- Seawater service (add FS as prefix to model)
- Foam concentrate service (add FC as prefix to model)
- Explosion-proof for hazardous locations (code: 7/8/9)
- Electric indication (Limit Switch or Pressure Switch)
- Valve Position Single/Double Limit Switches

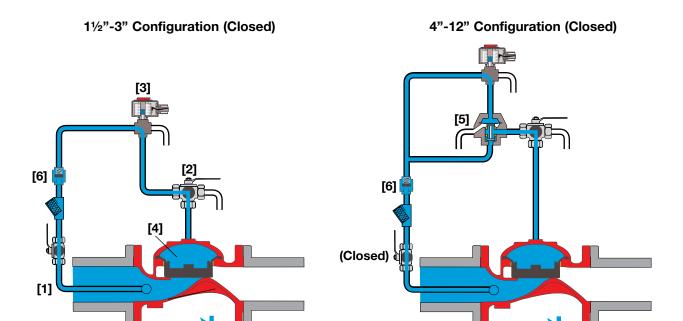




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### **Operation**

The Model FP 400E-3X is an on/off solenoid controlled valve designed to open and close drip-tight in response to an electric signal. It is a line pressure driven, diaphragm actuated globe valve. The valve uses line-pressure [1] to develop maximum hydraulic power and does not require external power. Through the override cock valve [2], the 3-way solenoid [3] either applies upstream pressure to the valves control chamber [4] to close the main valve, or vents the control chamber allowing the main valve to open. For 4" valves and larger, an accelerator [5] quickens valve reaction. The Model FP 400E-3X can be supplied in either the standard normally closed (energize to open) or the optional fail-safe open (energize to close) configuration. The solenoid can be supplied in various voltages and specifications. The Check Valve [6] traps high pressure peaks, ensuring that the valve remains locked in the closed position to maintain drip-tight sealing.



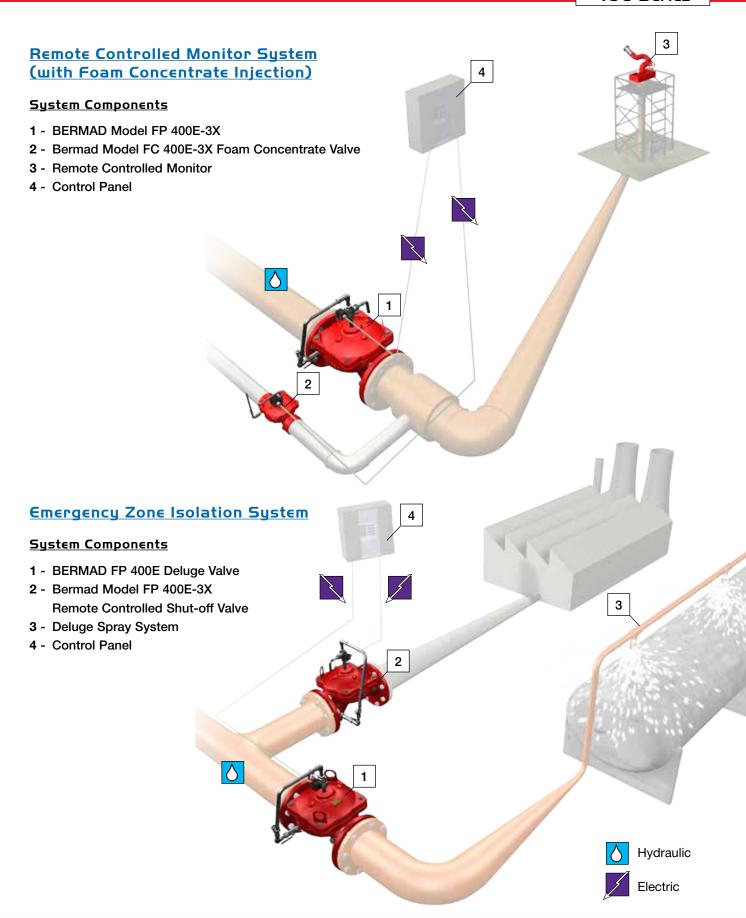
### Engineer Specifications

- The valve shall be solenoid operated elastomeric type globe valve with a rolling-diaphragm.
- The valve shall have an unobstructed flow path, with no stem guide or supporting ribs.
- Valve actuation shall be accomplished by a fully peripherally supported, one-piece balanced rolling-diaphragm, vulcanized with a rugged radial seal disk. The diaphragm assembly shall be the only moving part.
- The valve shall have a removable cover for quick in-line service enabling all necessary inspection and servicing.
- The control trim shall consist of non-corrosive tubing and fittings, and plated brass accessories, including 3-Way Solenoid Valve, Y strainer, 3-Way Manual Override Valve and check valve. Valves 4" and larger shall be supplied with a 3-Way accelerator.
- The control trim shall be supplied as an assembly, pre-assembled and hydraulically tested at an ISO 9000 and 9001 certified factory.
- The Solenoid Controlled Valve shall open and close in response to an electric signal.





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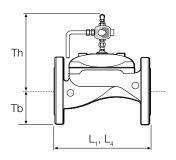


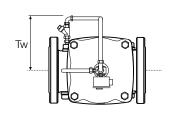


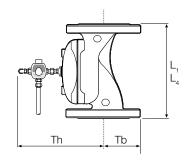


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#### Technical Data







Size		1½"		2"		2½"		3"		4"		6"		8"		10"		12"	
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
Dimensions	L <sub>1</sub> (1)	205	81/16	205	81/16	205	81/16	257	102/16	320	1210/16	415	165/16	500	1911/16	607	2314/16	725	289/16
	L <sub>4</sub> (2)	205	81/16	205	81/16	N/A	N/A	257	10 <sup>2</sup> / <sub>16</sub>	320	1210/16	415	16 <sup>5</sup> / <sub>16</sub>	500	1911/16	N/A	N/A	N/A	N/A
	Tw	255	101/16	255	101/16	255	101/16	255	101/16	255	101/16	255	101/16	255	101/16	255	101/16	255	101/16
	Tb	64	28/16	78	31/16	89	38/16	100	315/16	115	48/16	140	58/16	172	6 <sup>12</sup> / <sub>16</sub>	204	81/16	242	98/16
	Th	289	11 <sup>6</sup> / <sub>16</sub>	289	11 <sup>6</sup> / <sub>16</sub>	301	1 1 <sup>14</sup> / <sub>16</sub>	325	1213/16	345	139/16	420	16º/16	471	18º/16	471	189/16	588	232/16

#### Notes:

- 1. L, is for flanged ANSI #150 and ISO PN16.
- 2. L<sub>4</sub> is for grooved end connections (Ductile Iron Only).
- 3. Provide adequate space around valve for maintenance.
- 4. Data is for envelope dimensions, specific component positioning may vary.

#### **Connection Standard**

- Flanged: ANSI B16.42 (Ductile Iron), B16.5 (Steel & Stainless Steel), B16.24 (Bronze)
- ISO PN16
- Grooved: ANSI/AWWA C606 for 2, 3, 4, 6 & 8" Water Temperature
- 0.5 50°C (33 122°F)

#### **Available Sizes**

• 1½, 2, 2½, 3, 4, 6, 8, 10 & 12"

#### **Pressure Rating\***

- Max. working pressure: 250 psi (17 bar)
- \* Pressure rating might be limited due to solenoid valve rating

#### **Manufacturers Standard Materials**

#### Main valve body and cover

• Ductile Iron ASTM A-536

#### Main valve internals

Stainless Steel & Elastomer

#### **Control Trim System**

- Brass control components/accessories
- Stainless Steel 316 tubing & fittings

#### **Elastomers**

 Polyamide fabric reinforced Polyisoprene, NR

#### Coating

 Electrostatic Powder Coating Polyester, Red (RAL 3002)

#### Optional Materials

#### Main valve body

- Carbon Steel ASTM A-216 WCB
- Stainless Steel 316
- Ni-Al-Bronze ASTM B-148

#### **Control Trim**

- Stainless Steel 316
- Monel® and Al-Bronze
- Hastelloy C-276

#### **Elastomers**

- NBR
- EPDM
- High Build Epoxy Fusion-Bonded with UV Protection, Anti-Corrosion

#### Solenoid Pilot Valve

#### Standard

- 3-Way, direct actuated type
- Brass body
- Main valve closed when de-energized
- Enclosure: General purpose watertight, NEMA 4 and 4X / IP65, Class F
- Power: 24VDC, 8 watts
- UL Listed

#### Options (see also ordering guide)

- Hazardous locations:
- Class I Division 1, Gr. A, B, C, D, T4 (code 7)
- Class I Division 2, Gr. A, B, C, D, T4
- ATEX, EEx d IIC T5 (code 9)
- Voltage: see ordering guide (voltage option table)
- Stainless steel 316 body material (code K)

