Solenoid Activated, Remote Controlled Monitor Valve

Model: FP 400E-3X

Size: 1½" - 3"

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

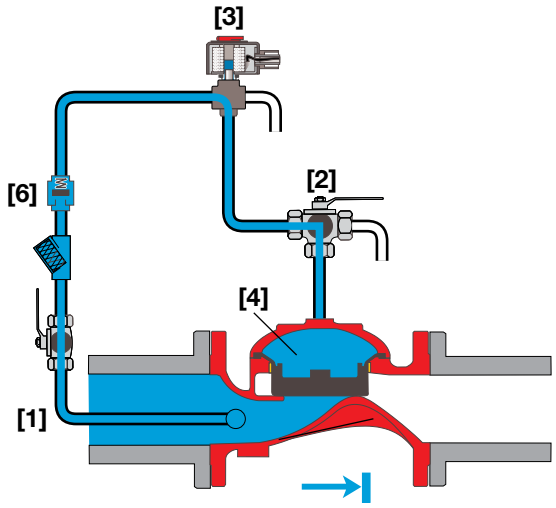
Optional Features

- **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**

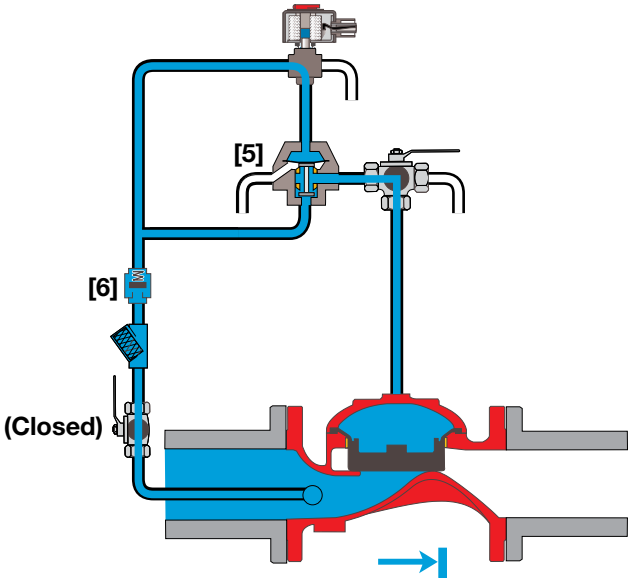
Operation

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.

1½"-3" Configuration (Closed)



4"-12" Configuration (Closed)



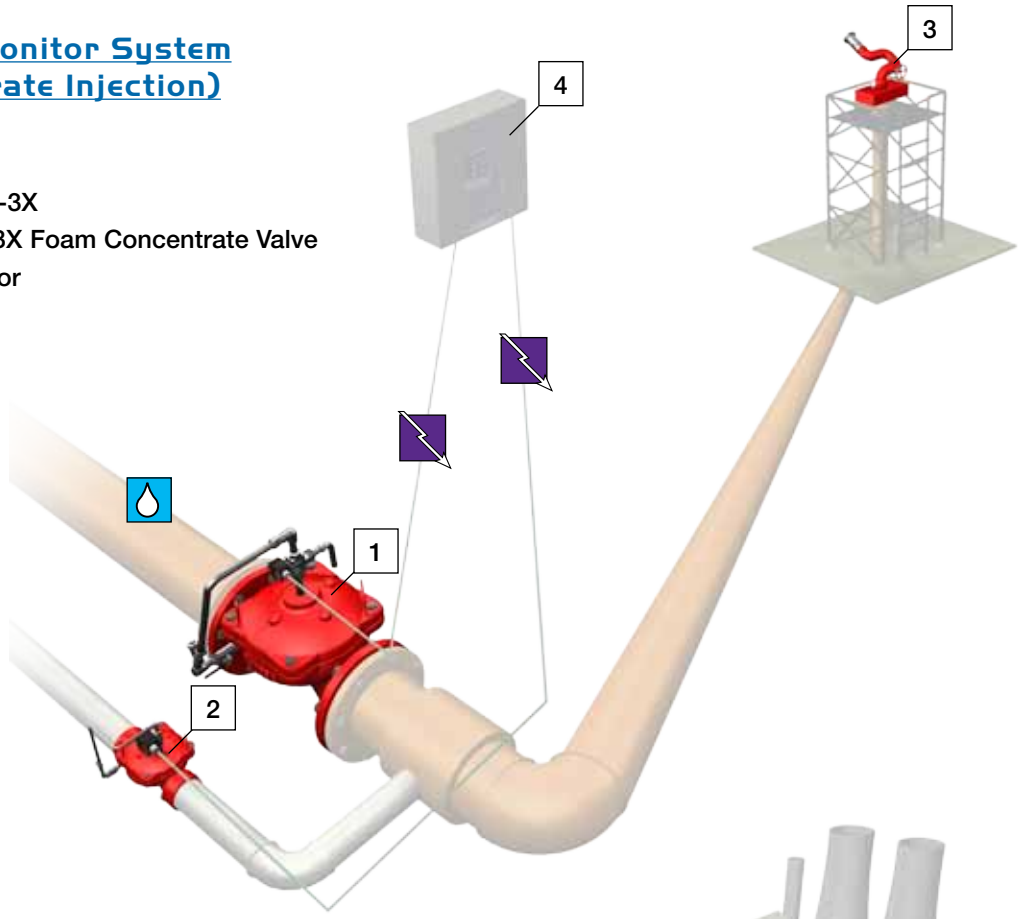
Engineer Specifications

- 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.

Remote Controlled Monitor System (with Foam Concentrate Injection)

System Components

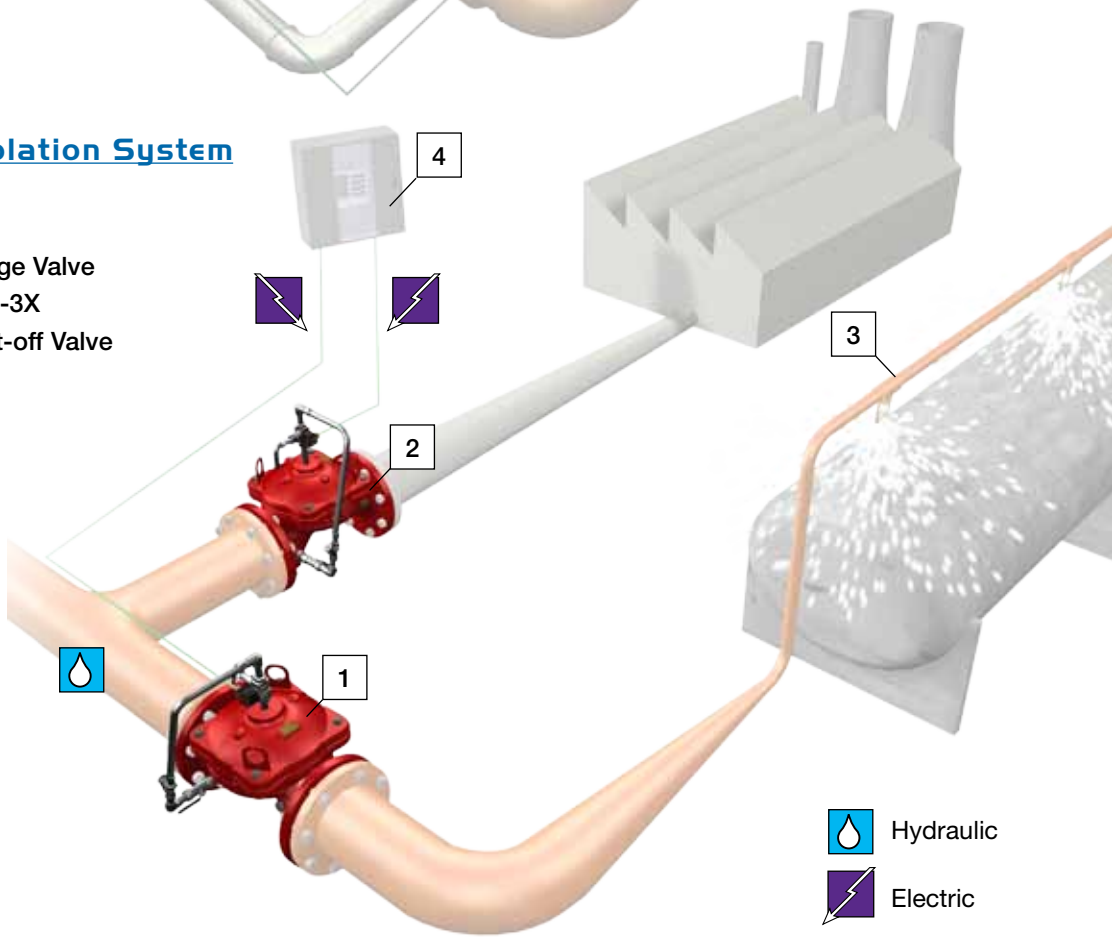
1 - BERMAD Model FP 400E-3X
2 - Bermad Model FC 400E-3X Foam Concentrate Valve
3 - Remote Controlled Monitor
4 - Control Panel



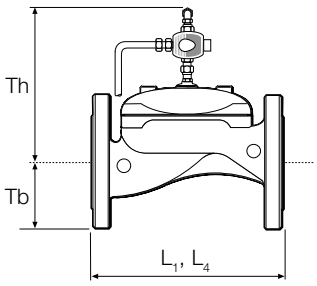
Emergency Zone Isolation System

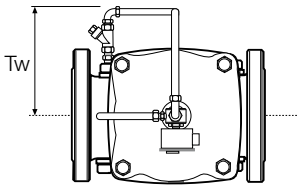
System Components

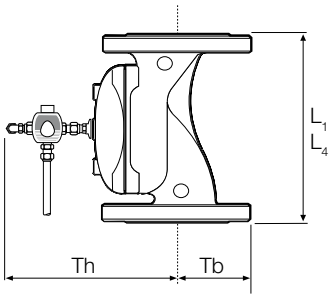
1 - BERMAD FP 400E Deluge Valve
2 - Bermad Model FP 400E-3X
Remote Controlled Shut-off Valve
3 - Deluge Spray System
4 - Control Panel



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_1 (1)	205	8 1/16	205	8 1/16	205	8 1/16	257	10 2/16	320	12 10/16	415	16 5/16	500	19 11/16	607	23 14/16	725	28 9/16
	L_4 (2)	205	8 1/16	205	8 1/16	N/A	N/A	257	10 2/16	320	12 10/16	415	16 5/16	500	19 11/16	N/A	N/A	N/A	N/A
	Tw	255	10 1/16	255	10 1/16	255	10 1/16	255	10 1/16	255	10 1/16	255	10 1/16	255	10 1/16	255	10 1/16	255	10 1/16
	Tb	64	2 8/16	78	3 1/16	89	3 8/16	100	3 15/16	115	4 8/16	140	5 8/16	172	6 12/16	204	8 1/16	242	9 8/16
	Th	289	11 6/16	289	11 6/16	301	11 14/16	325	12 13/16	345	13 9/16	420	16 9/16	471	18 9/16	471	18 9/16	588	23 2/16

Notes:
1. L_1 is for flanged ANSI #150 and ISO PN16.
2. L_4 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

Coating
- 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)