

## Solenoid Activated, Remote Controlled Monitor Valve

Model: FP 400E-3X



### 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



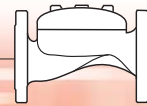
Emergency low DC power activation

### Features and Benefits

- **3-Way control system** – Avoids continuous releasing
- **Simple design** – Cost effective
- **Smooth opening and closing characteristics** – Prevents water surge
- **One-piece vulcanized diaphragm** – Reliability
- **Quick cover removal** – Minimal downtime

### Optional Features

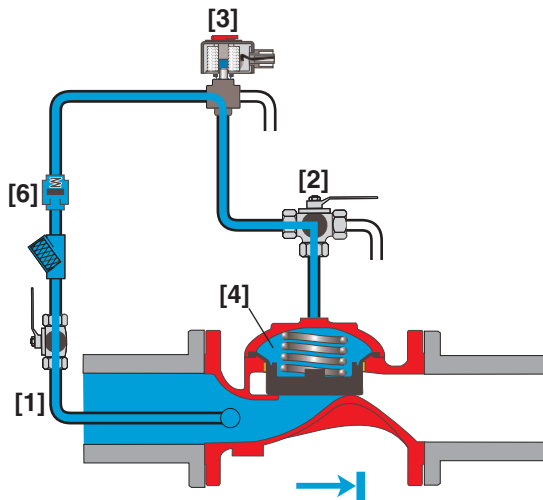
- **Seawater service** (add FS as prefix to model)
- **Foam concentrate service** (add FC as prefix to model)
- **Explosion-proof for hazardous locations** (code: 7/8/9)
- **Electric indication** (Limit Switch or Pressure Switch)



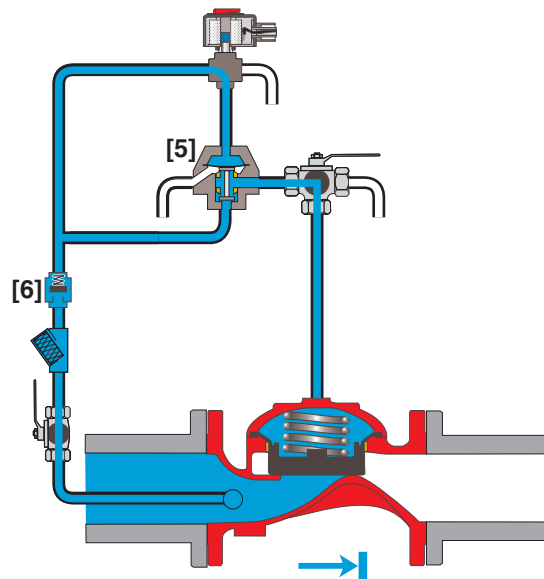
## Operation

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 valve's control chamber [4] to close the main valve, or vents the control chamber allowing the main valve to open. For 3" 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.

2-3" Configuration

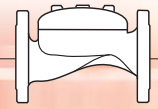


4-12" Configuration



## Engineer Specifications

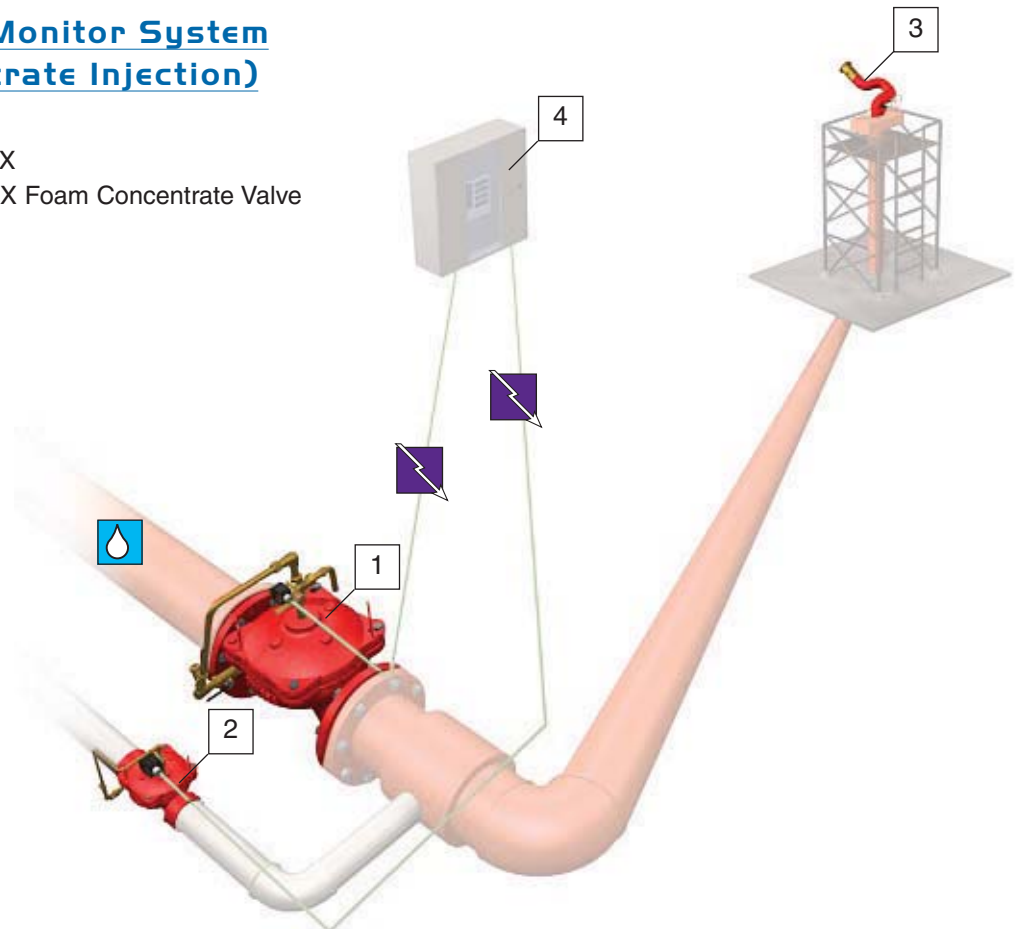
- The valve shall be solenoid operated elastomeric type globe valve with a **rolling-diaphragm**.
- The valve shall have an **unobstructed flow path**, with no stem guide or **supporting ribs**.
- Valve actuation shall be accomplished by a fully peripherally supported, one-piece balanced rolling-diaphragm, 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 of 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

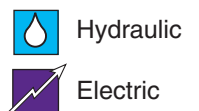
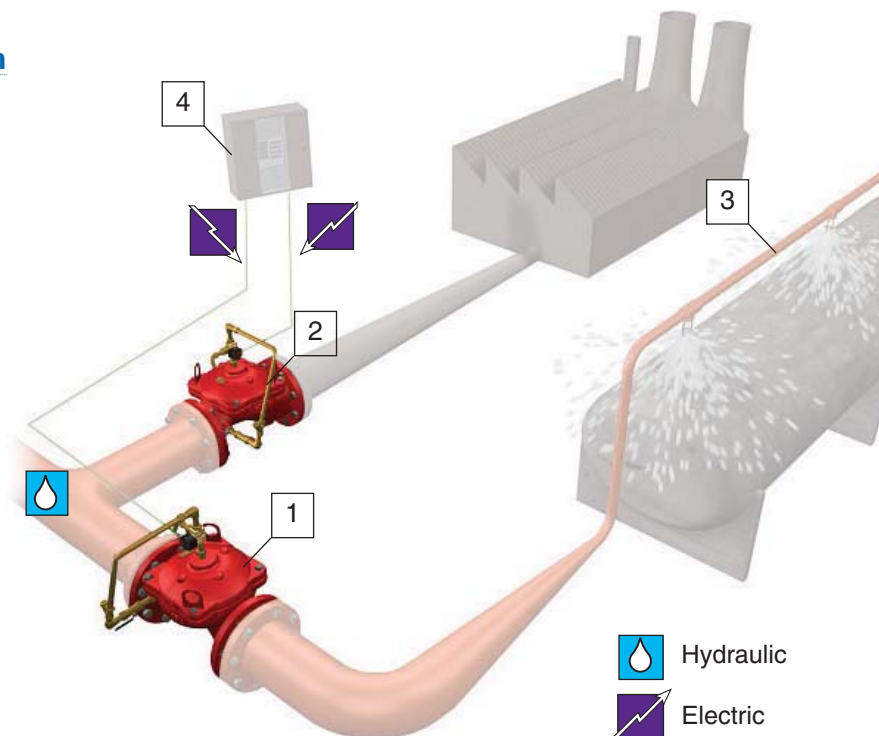
- 1 - BERMAD Model FP 400E-3X
- 2 - BERMAD Model FC 400E-3X Foam Concentrate Valve
- 3 - Remote Controlled Monitor
- 4 - Control Panel

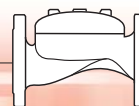


## Emergency Zone Isolation System

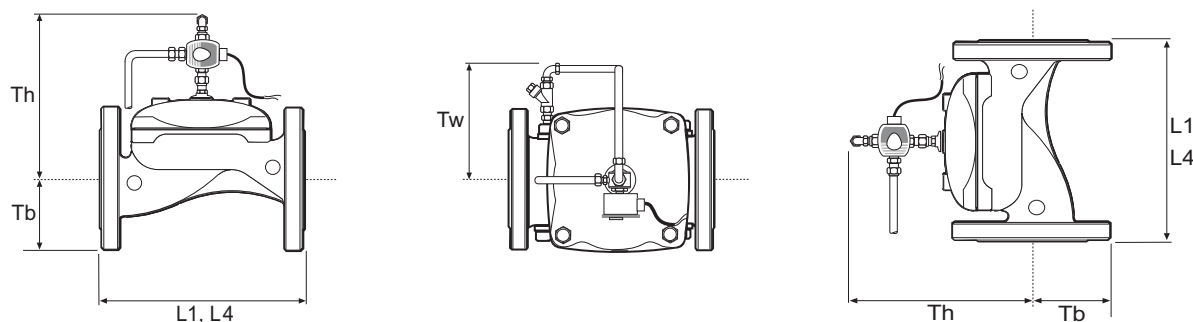
### System Components

- 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	1 1/2"		2"		2 1/2"		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	(1)L1	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
	(2)L4	205	8 1/16	205	8 1/16	N/A	N/A	257	10 2/16	320	12 10/16	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Tw	133	5 4/16	133	5 4/16	139	5 8/16	142	5 9/16	163	6 7/16	211	8 5/16	225	8 14/16	225	8 14/16	289	11 6/16
	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	144	5 11/16	144	5 11/16	156	6 2/16	180	7 1/16	229	9	304	11 15/16	355	13 15/16	355	13 15/16	472	18 9/16	

### Notes:

- L1 is for flanged ANSI #150 and ISO 16
- L4 is for grooved end connections.
- Provide adequate clearance around valve for maintenance.
- 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"

### Water Temperature

- 0.5 – 50°C (33 – 122°F)

### Available Sizes

- 1 1/2, 2, 2 1/2, 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

## Materials

### 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 Built 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)

