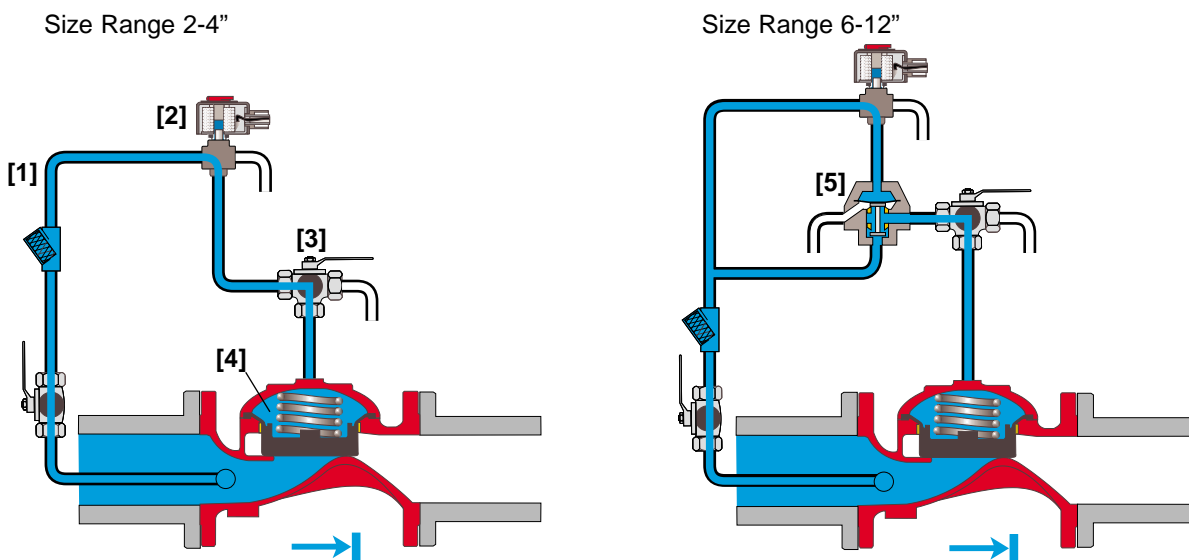


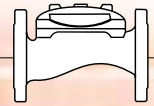
Operation

The Model FP-400E-3X is an on/off automatic control valve designed to open and close drip-tight in response to an electric signal sent to a solenoid. It is a line-pressure driven, diaphragm actuated globe valve. The valve uses line-pressure [1] to develop maximum power and does not require external power. A 3-way solenoid [2], through an override cock valve [3], either applies upstream pressure to the control-chamber [4] to close the main valve or vents the control chamber, allowing the main valve to open. For 6" valves and larger, an accelerator [5] quickens valve reaction. The FP-400E-3X can be supplied in either the standard normally closed (energize to open) or the optional normally open (energize to close) configuration. The solenoid can be supplied in various voltages and specifications. The Check-lock option (model FP-400E-3X-11) traps high pressure picks, ensuring that the valve remains locked in the closed position to maintain drip-tight sealing.



Engineer Specifications

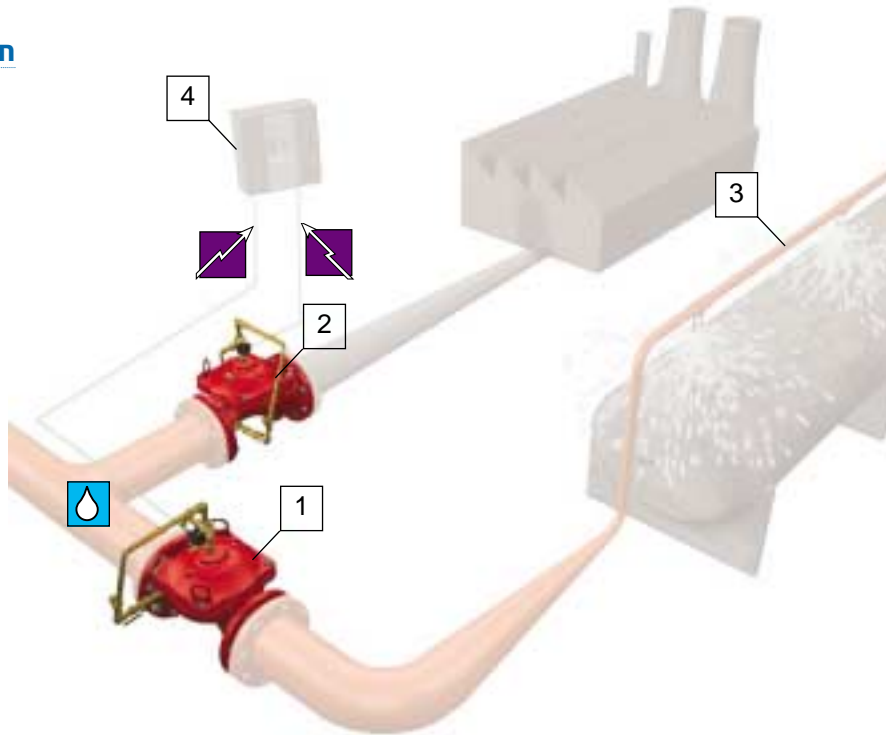
- The valve shall be solenoid controlled, elastomeric globe with a rolling-diaphragm.
- The valve shall have an unobstructed flow path, with no stem guide or supporting ribs.
- Valve actuation shall be accomplished by a fully peripherally supported, one-piece balanced rolling-diaphragm, vulcanized with metal insert. 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, Manual Override Cock Valve and an accelerator (for 6" valves and larger).
- The Trim shall be supplied as an assembly, pre-assembled and hydraulically tested at an ISO 9000 & 9001 certified factory.



Emergency Zone Isolation System

System Components

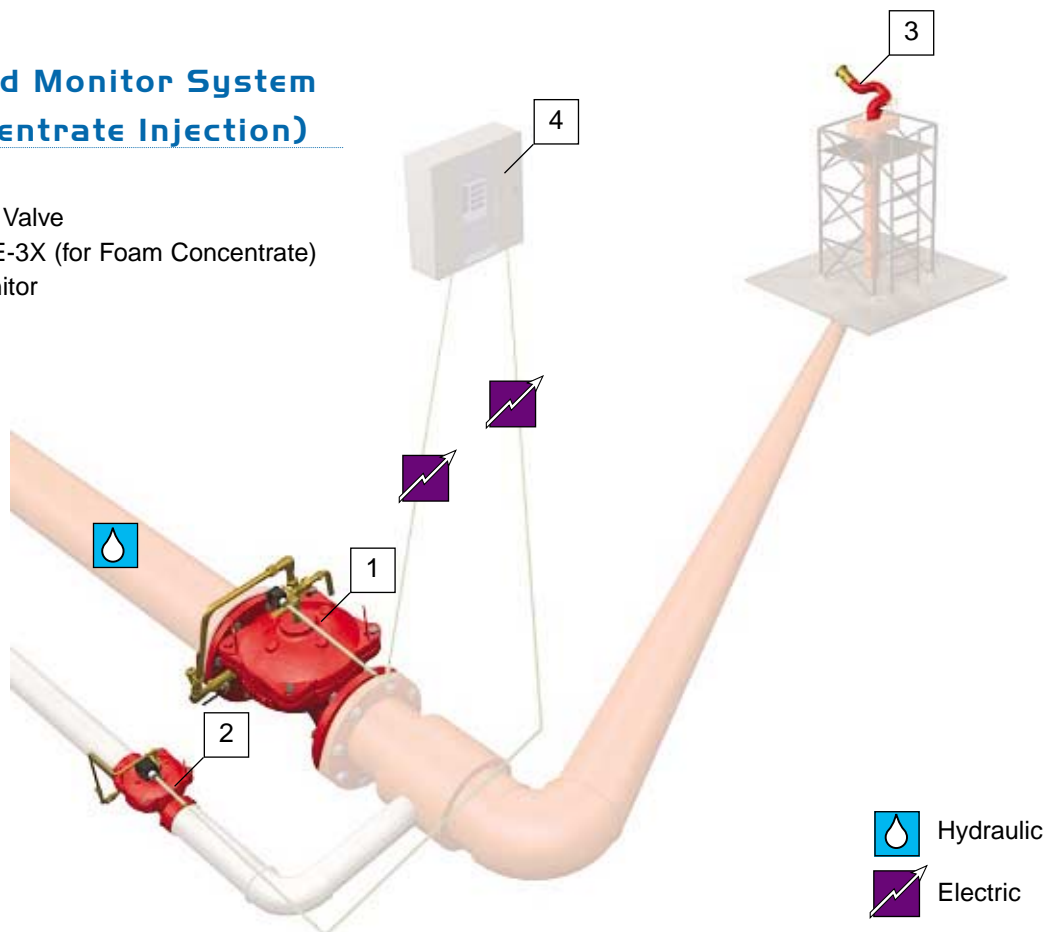
- 1 - BERMAD 400E Deluge Valve
- 2 - Bermad Model FP 400E-3X Remote-Controlled Shut-off Valve
- 3 - Deluge Spray System
- 4 - Control Panel





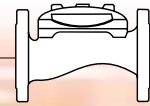
Remote-Controlled Monitor System (with Foam Concentrate Injection)

System Components

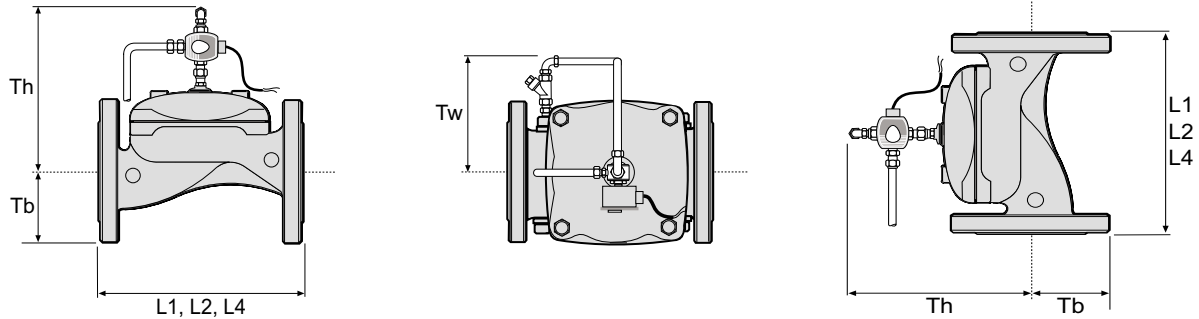
- 1 - BERMAD 400E Deluge Valve
- 2 - Bermad Model FP-400E-3X (for Foam Concentrate)
- 3 - Remote-Controlled Monitor
- 4 - Control Panel



 Hydraulic
 Electric



Technical Data



Valve Size	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	
Dimensions	(1)L1	205	8 1/16	205	8 1/16	250	9 13/16	320	12 5/8	415	16 5/16	500	19 11/16	605	23 13/16	725	28 1/2
	(2)L2	180	7 1/16	210	8 1/4	255	10 1/16	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	(3)L4	205	8 1/16	N/A	N/A	250	9 13/16	320	12 5/8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Tw	318	12 1/2	329	12 15/16	340	13 3/8	352	13 13/16	393	15 1/2	423	16 5/8	443	17 7/16	481	18 15/16
	Tb	78	3 1/16	89	3 1/2	100	4	112	4 7/16	140	5 1/2	170	6 1/16	202	8	240	9 1/2
	Th	258	10 3/16	269	10 9/16	280	11	292	11 1/2	320	12 5/8	350	13 3/4	382	15 1/16	430	16 15/16

Notes:

- L1 is for flanged ANSI #150 and ISO 16
- L2 is for threaded female, NPT or BSP
- L4 is for grooved.
- 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), B16.1 (Cast iron), B16.5 (Steel & Stainless), B16.24 (Bronze), & ISO PN16
- Threaded: NPT or BSP for 2 & 2 1/2 "
- Grooved: ANSI/AWWA C606 for 2, 3, 4 & 6"

Water Temperature

- 0.5 – 50°C (33 – 122°F)

Available Sizes

- Globe: 2, 2 1/2, 3, 4, 6, 8, 10 & 12"
- Angle: 2, 2 1/2, 3 & 4"

Pressure Rating

- Max working pressure: 250 psi (17 bar)

Materials

Manufacturers Standard Materials

Main valve body and cover

- Cast iron ASTM A126 class B⁽¹⁾
- Ductile iron ASTM A 536⁽¹⁾

Main valve internals

- Stainless steel 304

Control Trim System

- Accessories: Brass ASTM B21
- Forged brass fittings & copper tubing

Elastomers

- Nylon fabric reinforced polyisoprene

Optional Materials

Main valve body and accessories

- Carbon steel ASTM A216-WCB⁽¹⁾
- Stainless steel 316
- Ni-Al bronze ASTM B-148
- Seawater spec⁽²⁾

Main valve and accessories internals

- Stainless steel 316

Elastomers

- NBR
- EPDM

Coatings (main valve body)

- Marine epoxy

Tubing and Fittings

- Stainless steel 316
- Copper-nickel

Solenoid Pilot Valve

Standard: 3-way

- Main valve closed when de-energized
- Enclosure: General purpose water-tight NEMA 4 & 4X
- Optional: Explosion-proof NEMA 6, 6P, 7 & 9

Voltage

- Standard: 24VDC
- Optiona: 24, 110, 220, AC 50 Hz (or 24, 120, 240, AC 60 Hz), 120DC
- Continuous duty-molded Class F

Approvals

- UL-listed
- CSA certified
- ATEX EEx available

Notes:

- Epoxy coated, fusion bonded – standard. Other coatings available on request.
- For seawater service, see BERMAD publication "Seawater and Corrosive Media".

