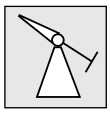
Hydraulically Operated, Remote Controlled Monitor Valve

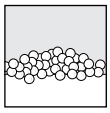
Model: FP 400E-5X

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 with boosted local pressure release from the valve's control chamber, provides maximum safety also in systems with long hydraulic remote control piping lines.

Typical Applications


Remote monitor

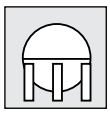

Foam systems

Zone isolating, on-off remote control


Hydraulic remote controlled systems


Offshore platforms / marine vessels


Sea water/corrosive water supplies


Gas storage tanks

Features and Benefits

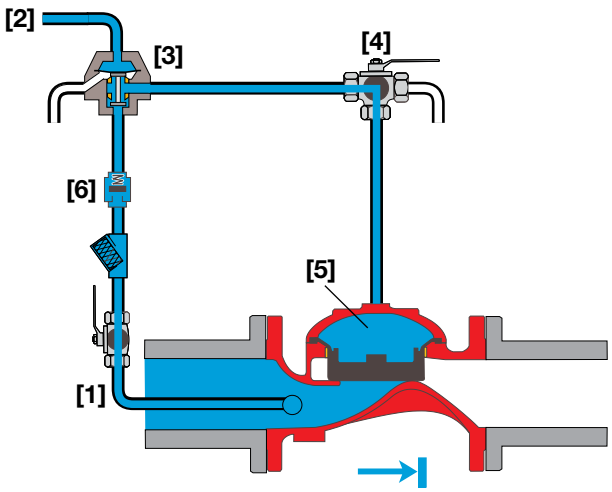
- **3-Way control system –** Avoids continuous releasing
- **Simple design –** Cost effective
- **Smooth opening and closing characteristics –** Prevents water surge
- **One-piece molded elastomeric moving part –** No maintenance required
- **Quick cover removal –** Minimal downtime
- **Remote reset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

Optional Features

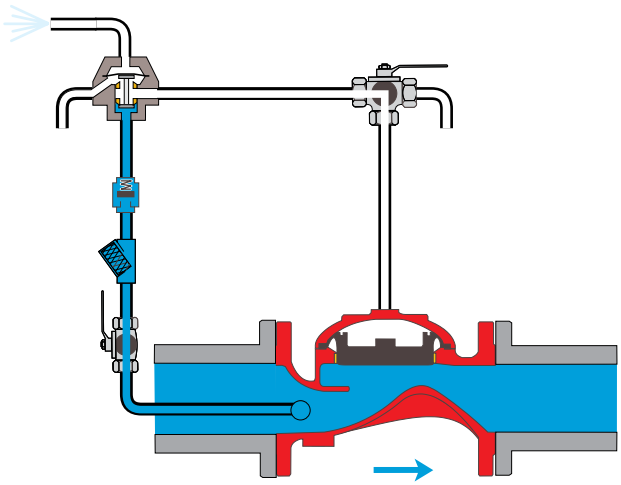
- **Seawater service** (add FS as prefix to model)
- **Foam concentrate service** (add FC as prefix to model)
- **Valve position indicator**
- **Electric indication** (Limit Switch or Pressure Switch)
- **Valve Position Single/Double Limit Switches**

Operation

The Model FP 400E-5X is an on/off hydraulic remote controlled valve designed to open and close drip tight in response to an external hydraulic pressure command. It is a line pressure driven, diaphragm actuated globe valve, which harnesses line pressure **[1]** to develop maximum hydraulic power. Wet pilot line hydraulic pressure **[2]** is applied, to a 3-way Hydraulic Relay Valve (HRV-3) **[3]**, opening it. Through the override cock valve **[4]**, the HRV-3 applies upstream pressure to the valve's control chamber **[5]** closing the main valve.
Under FIRE condition, a wet pilot line hydraulic pressure drop closes the HRV-3, which then vents the valve's control chamber allowing the main valve to open.
The Check Valve **[6]** traps high pressure peaks, ensuring that the valve remains locked in the closed position to maintain drip-tight sealing.



Valve Closed (set position)



Valve Open (operating condition)

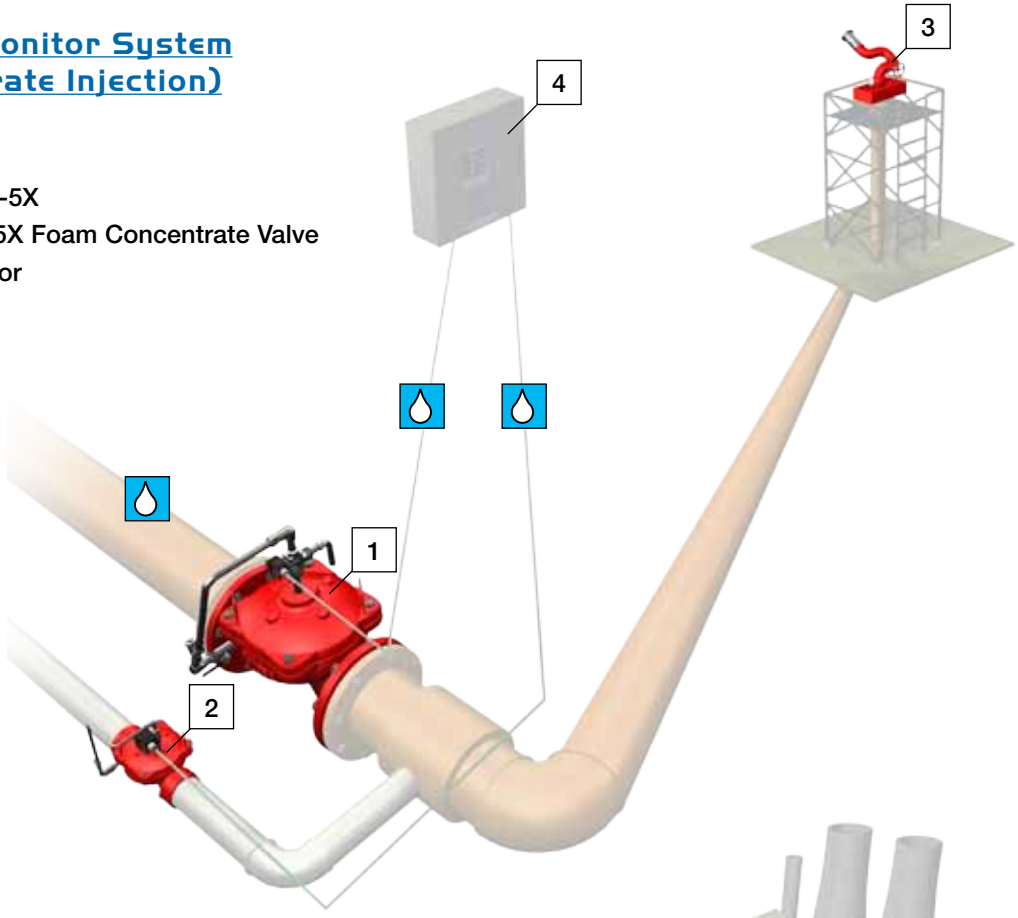
Engineer Specifications

- The valve shall be hydraulically 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 Hydraulic Relay Valve (HRV-3), Y strainer, 3-Way Manual Override Valve and check valve.
- The control trim shall be supplied as an assembly, pre-assembled and hydraulically tested at an ISO 9000 and 9001 certified factory.
- The Hydraulically Controlled Valve shall open and close in response to a wet pilot line hydraulic pressure drop.

Remote Controlled Monitor System (with Foam Concentrate Injection)

System Components

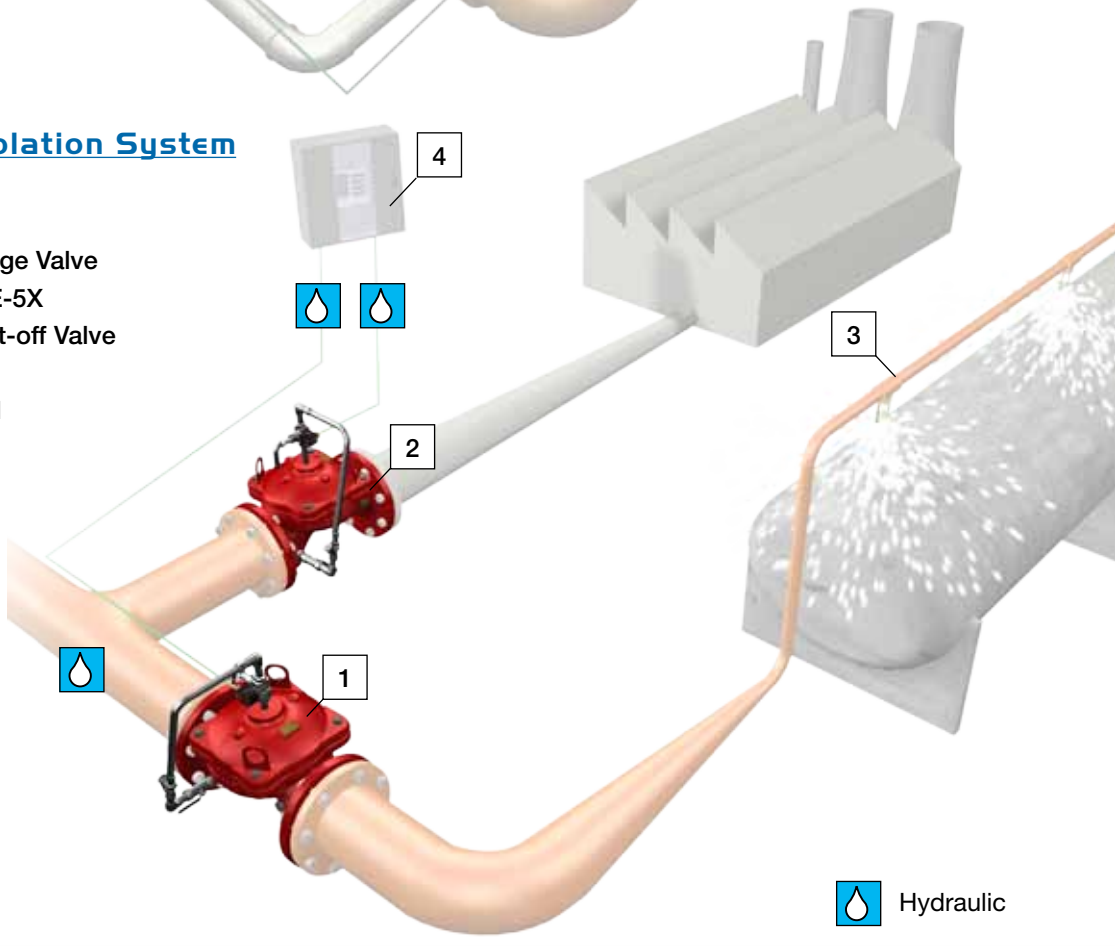
1 - BERMAD Model FP 400E-5X
2 - Bermad Model FC 400E-5X Foam Concentrate Valve
3 - Remote Controlled Monitor
4 - Control Panel



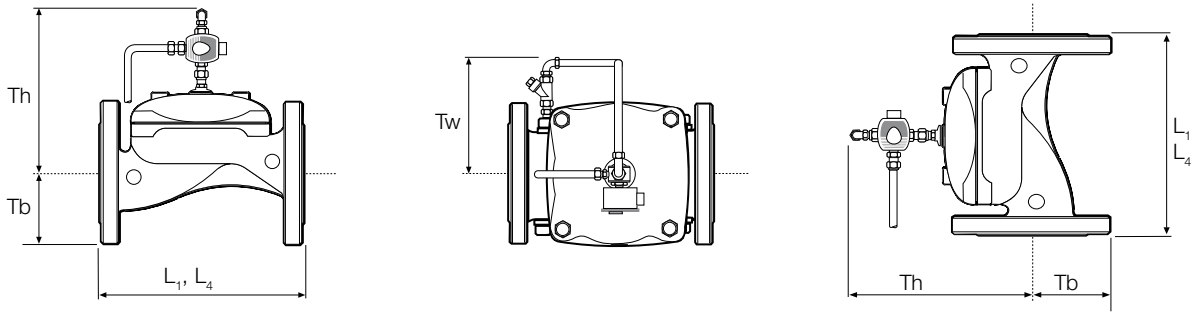
Emergency Zone Isolation System

System Components

1 - BERMAD FP 400E Deluge Valve
2 - Bermad Model FP 400E-5X
Remote Controlled Shut-off Valve
3 - Deluge Spray System
4 - Hydraulic 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	133	5 4/16	133	5 4/16	139	5 8/16	142	5 9/16	163	6 7/16	211	8 5/16	255	8 14/16	255	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	145	5 11/16	145	5 11/16	157	6 3/16	181	7 2/16	201	7 15/16	276	10 14/16	327	12 14/16	327	12 14/16	444	17 8/16

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)

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