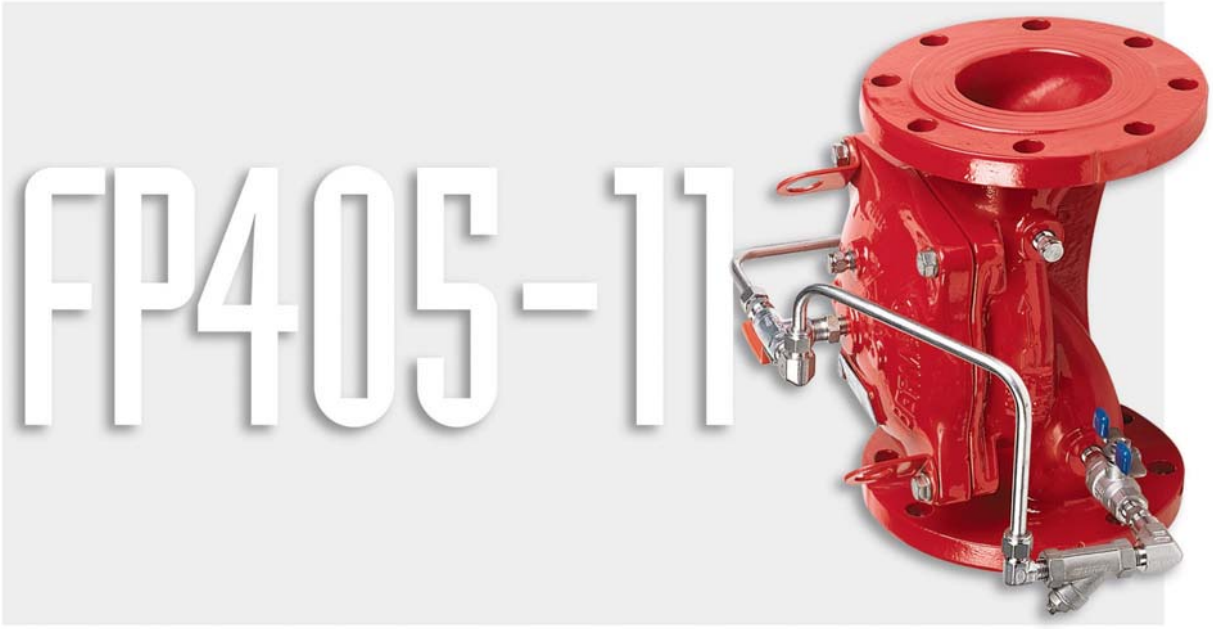
Manually-Operated Monitor Valve

FP405-11



Typical Applications

- Fire Hydrant and Monitor Valves
- Hydraulic remote-controlled systems
- Zone isolating valve
- Manual-operated flood valve
- Hydraulically-operated hydrants

Features and Benefits

- Quick & easy manual opening **requires only 1/4 turn** of pilot handle
- High flow capacity
- One piece vulcanized diaphragm
  - No distortion due to high differential pressure
  - Reliability
- Quick cover removal – **minimal down-time**
- Simple design – **cost effective**
- **Unobstructed flow-path** with no supporting ribs

Optional Features

- **Seawater service**
- Corrosive environment materials
- Remote hydraulic control
- Foam resistant materials and coatings

CONTROL VALVES BERMAD

FP405-11 **Manually-Operated Monitor Valve**

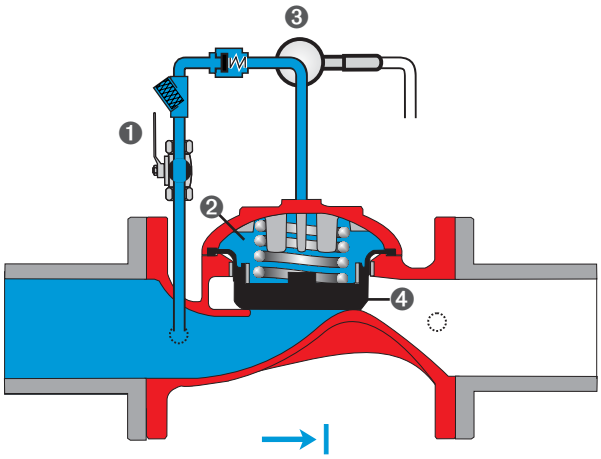
Operation

The BERMAD Model 405-11-Z is a simply designed, manually-operated, on/off valve. It is particularly suited for monitors and industrial high-capacity hydrants.

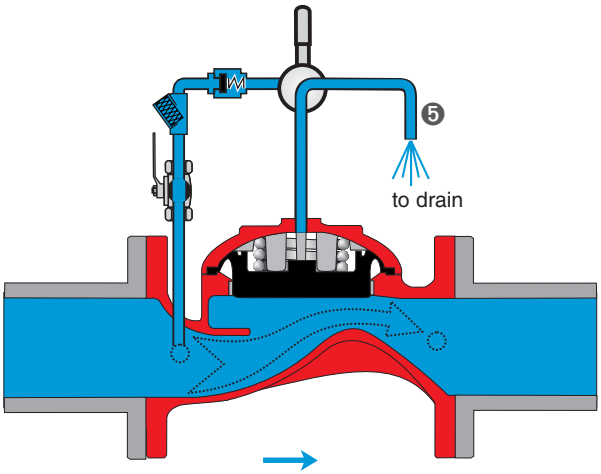
The Model 405-11-Z is held closed by line-pressure ❶ applied to the control chamber ❷ of the valve. The closed valve prevents the water (or water-foam) from passing through the valve until the pressure is released from the control chamber by a 1/4 turn of the pilot handle ❸.

In the closed condition, the line pressure is applied to the control chamber of the valve. The pressure holds the diaphragm-plug of the main valve to the valve seat ❹. Sealing is drip-tight and keeps the downstream piping dry.

To open, water is manually released from the control chamber. Water exits the control chamber ❺, allowing the opening force on the bottom of the diaphragm-plug to push open the diaphragm allowing water to flow into the system.



Valve Closed
(set condition)



Valve Open
(operating condition)

Tender Specifications

The monitor valve shall be a direct-diaphragm actuated, globe pattern valve. The main valve body shall be manufactured from a single non-fabricated material.

Valve actuation shall be accomplished by a vulcanized, one piece, balanced direct-diaphragm, with metal insert. The diaphragm assembly shall be peripherally guided. The diaphragm shall be the only moving part and shall form a sealed chamber in the upper portion of the valve.

The valve cover shall be removable for in-line service, enabling all necessary inspection and servicing.

The valve shall have an unobstructed flow path, with no stem-guide or supporting ribs.

The control pilot system shall be factory pre-assembled and integrated to the main valve, hydraulically-tested and supplied as an assembly consisting of:

- "Y" strainer
- Manual release pilot valve, requiring only 1/4 turn for full opening or closing
- Spring-loaded check valve
- Non-corrosive trim of uniform metal, neither steel nor galvanized piping is permitted

The manufacturer shall be certified according to ISO 9001 standards. The main valve shall be UL-listed for Special Systems.

Manually-Operated Monitor Valve

FP405-11

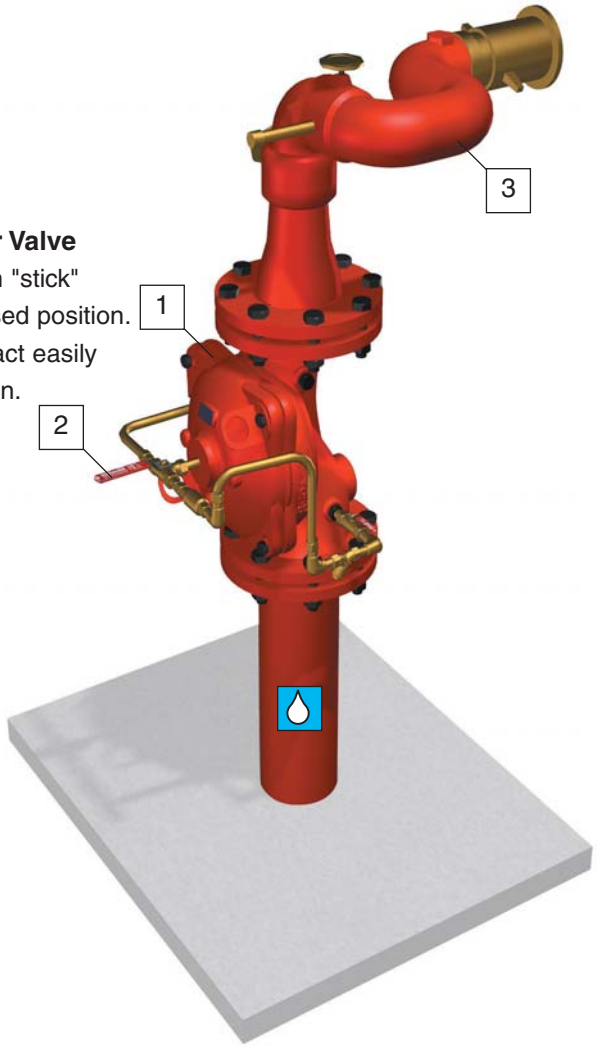
System Components*

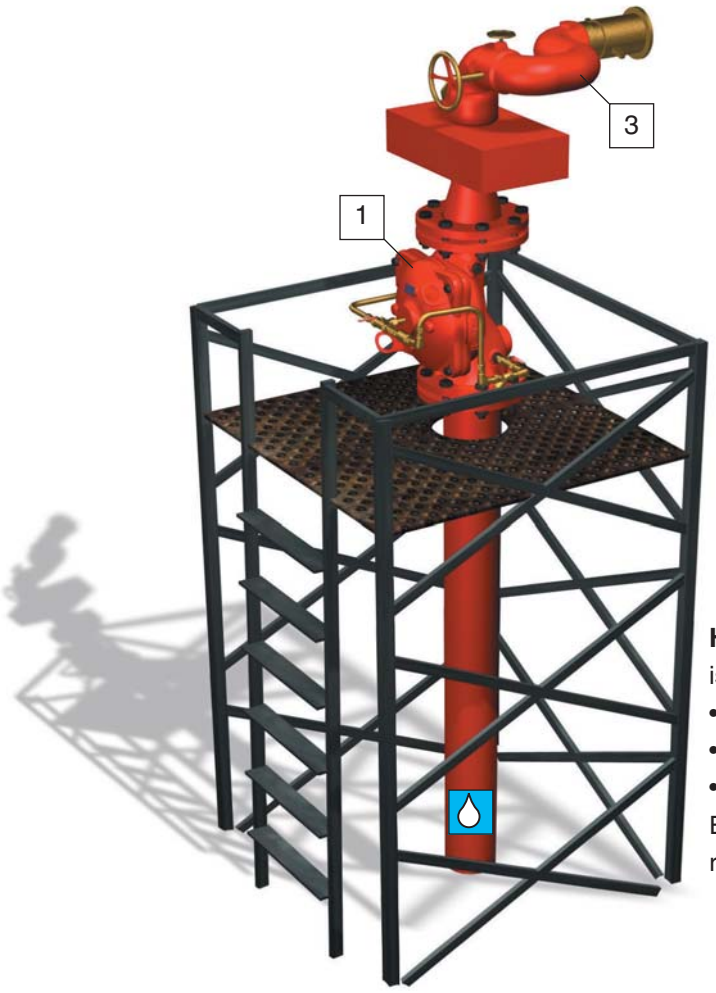
1 - Main Valve, BERMAD 400E Series

2 - Manual Emergency Release

3 - Fire Monitor

Local Manually-Operated Monitor Valve
replaces mechanical valves that often "stick" after “waiting” long periods in the closed position. This valve is built to wait and then react easily from either the closed or open position.





Hydraulic Remote-Controlled Monitor Valve
is suited for several types of fire monitors:

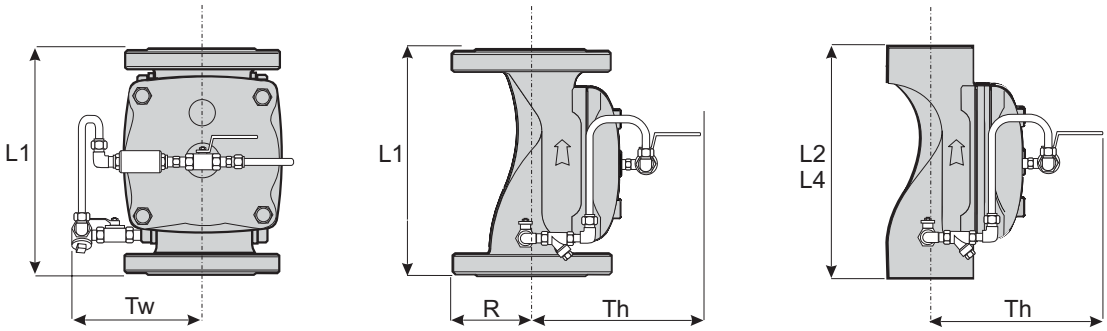
- Remotely-located manually-operated
- Oscillating
- Hydraulic remote controlled

Easy 1/4 turn of the pilot handle ensures quick response to any situation.

Hydraulic

FP405-11 Manually-Operated Monitor Valve

Specifications



Valve Size		2"		2½"		3"		4"		6"		8"		10"	
		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
	(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
	(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
	Tw	317.5	12 1/2	329	12 15/16	340	13 3/8	351.5	13 13/16	393	15 1/2	422.5	16 5/8	442.5	17 7/16
	Th	232	9 1/8	244	9 5/8	265	10 3/8	285	11 1/4	360	14 3/16	415	16 5/16	413	16 1/4
	R	78	3 1/16	89	3 1/2	100	3 15/16	112	4 7/16	140	5 1/2	170	6 11/16	203	8

Notes:
1. Ly1 is for flanged ANSI #150 and ISO PN16.
2. Ly2 is for threaded female, NPT or BSP.
3. Ly4 is for grooved.
4. Provide adequate space around valve for maintenance.
5. Tw is the max trim width.
6. Data is for envelope dimensions, specific component positioning may vary.
7. For complete dimensions of 400E main valve, see BERMAD publication "400E Basic Deluge Valve".

Connection Standard
- Flanged: ANSI B16.42 (Ductile Iron), B16.5 (Steel & Stainless), B16.24 (Bronze), B16.1 (Cast iron), ISO PN16
- Threaded: NPT or BSP for 2, 2½ & 3"
- Grooved: ANSI/AWWA C606 for 2, 3, 4 & 6"

Water Temperature
- 0.5 – 50°C (33 – 122°F)

Available Sizes
- Globe: 2, 2½, 3, 4, 6, 8, 10 & 12"
- Angle: 2, 3 & 4"

Working Pressure
- Max working pressure: 235 psi (16 bar)

Materials

Manufacturers Standard Materials

Main valve body and cover
- Ductile iron ASTM A 536(1)

Main valve wetted parts
- Stainless steel 304

Control 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
- Marine bronze
- Ni-Al bronze
- Seawater spec(2)

Main valve and accessories internals
- Stainless steel 316

Optional coatings (main valve body)
- Halar,
- Marine epoxy

Optional elastomers
- NBR
- EPDM

Tubing and Fittings
- Stainless steel 316
- Copper-nickel

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

Cat # PC4PE21 ver 4/00
English
www.bermad.com
E-mail: info@bermad.com