MANUALLY OPERATED MONITOR VALVE

Model FP-405-11

The BERMAD model 405-11 is an elastomeric hydraulic, line pressure operated deluge valve, designed specifically for advanced fire protection systems and the latest industry standards.
The 405-11 is activated manually by opening the local Manual Release Valve attached to the valve's control.
The 405-11 is suited for use with locally operated high capacity water/foam monitors as a quick opening control valve.
As standard the release valve is positioned locally on the valve, optionally the release valve can be positioned remotely.
The optional valve position indicator can include a limit switch suitable for Fire & Gas monitoring systems.



Features & Benefits

- Safety and reliability
  - Time proven, simple design with a fail safe actuation
  - Single piece, rugged elastomeric diaphragm seal - VRSD technology
  - Obstacle-free, uninterrupted flow path
  - No mechanical moving parts
  - Valve position limit switches (optional)
- Quick and easy maintenance
  - Fast and easy cover removal
  - In-line serviceable

Approvals

ABS TYPE APPROVED PRODUCT	ABS American Bureau of Shipping Type Approval
DNV	Det Norske Veritas Type Approval
Lloyd's Register TA TYPE APPROVED	Lloyd's Register Type Approval

Typical Applications

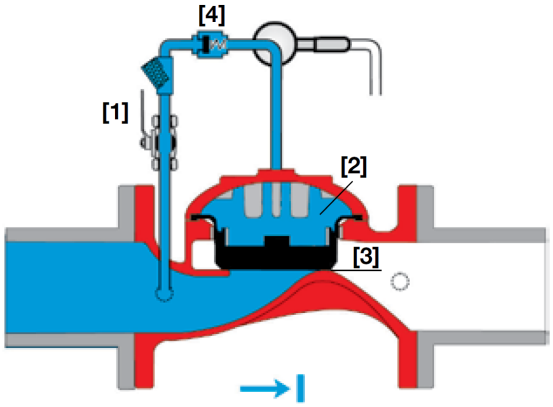
- Fire hydrant supply
- Fire monitor installations
- Hose station supply
- Remote hydraulic control
- Petrochemical facilities
- Oil & Gas storage tanks

Optional Features

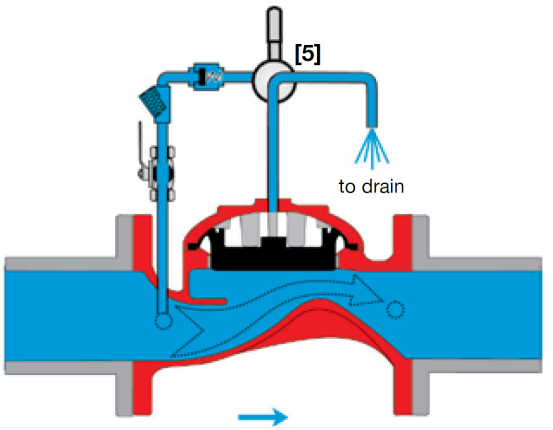
- Corrosion resistant zinc based high build epoxy coating
- Seawater compatibility
- Valve Position Indicator
- Alarm pressure switch
- Large control filter

All images in this catalog are for illustration only

Operation



Valve Open (normal conditions)



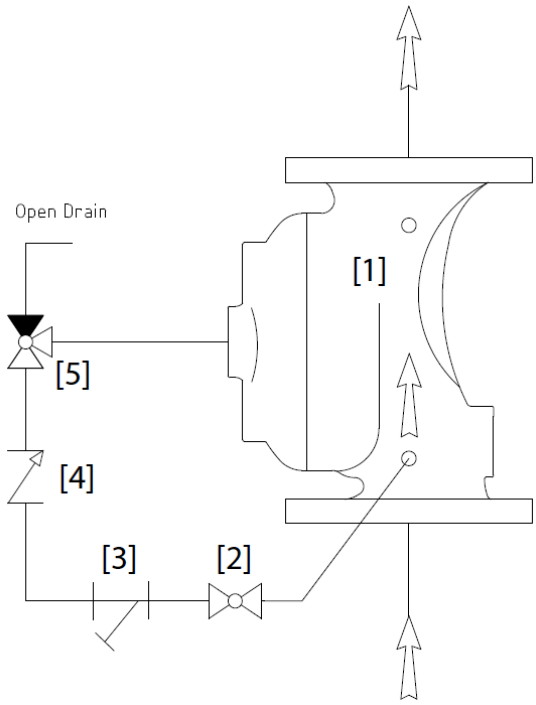
Valve Closed (fire conditions)

The BERMAD Model FP 405-11 is a simply designed, manually operated, on/off valve. It is particularly suited for

monitors and industrial high capacity hydrants. The Model FP 405-11 is held closed by line-pressure [1] applied to the control chamber [2] of the valve. The closed valve prevents the water (or water foam) from passing through the valve, keeping the downstream piping dry.

In the set position, the line pressure is applied to the control chamber of the valve. The pressure holds the main valve's diaphragm and plug against the valve seat [3]. The seal is drip tight. The Check Valve [4] traps high pressure peaks ensuring that the valve remains locked in the closed position to maintain drip tight sealing. To open, a ¼ turn of the Manual Release Pilot [5] handle releases pressure from the control chamber through the opened Manual Release Valve. The diaphragm plug is then pushed open by the upstream force at its below it, allowing water to flow into the system.

System P&ID



	Components
1	BERMAD FP-400 Valve
2	Priming ball valve
3	Priming strainer
4	Check valve
5	3-Way ball valve

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System Installation

A typical installation of the BERMAD model 405-11 features manual actuation via a 3 way release valve positioned on the main valve's trim.
Opening the release valve releases the hydraulic pressure in the valve's control chamber instantly and effortlessly opening the FP-405-11 monitor control valve.
The simple elastomeric design inherently guarantees a reliable opening after being fully closed for extended periods.

Optional System Items



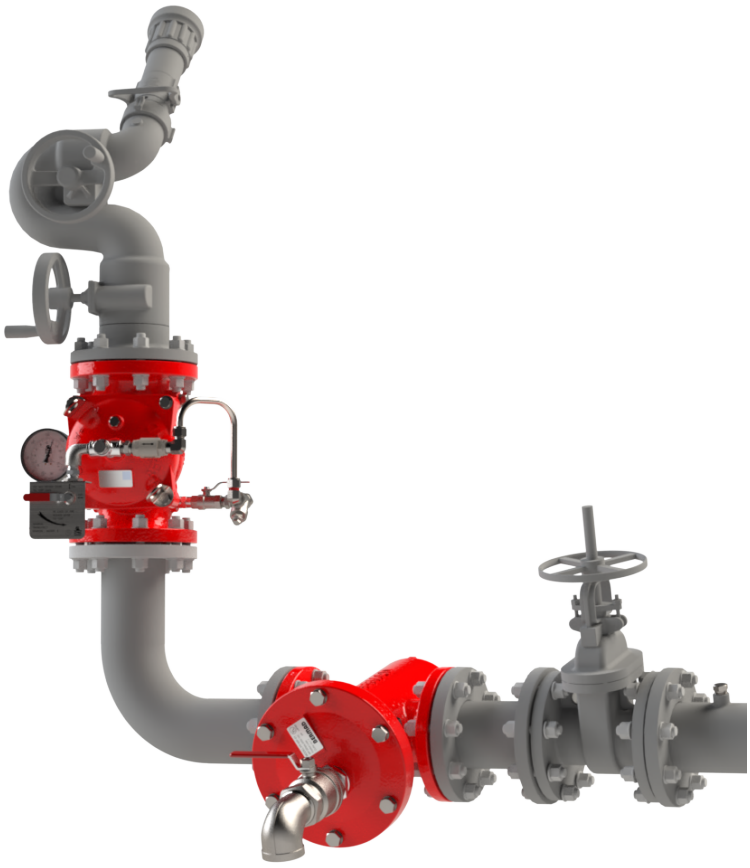
S.S. Glycerin Filled Pressure Gauge



Large Control Filter



Basket Strainer - 60F



Suggested Specifications

The valve shall be a hydraulically controlled, elastomeric type globe valve with a rollingdiaphragm.
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, Manual Release Pilot, Check Valve and Y strainer. The valve trim shall be supplied as an assembly, pre-assembled and hydraulically tested at an ISO 9000 and 9001 certified factory.

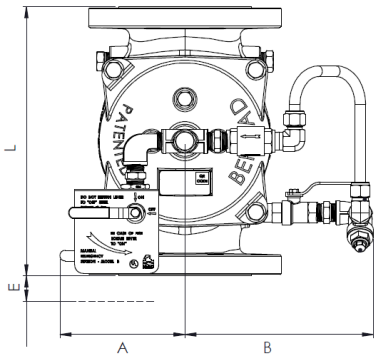
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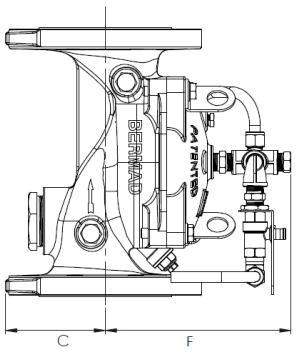
Technical Data

Available Sizes:
Flanged- 1½, 2, 2½, 3, 4, 6, 8, 10 & 12"
Grooved- 2, 3, 4, 6, & 8"

Pressure Rating:
ANSI#150 - 17.2 bar | 250 psi

Elastomer:
HTNR - Fabric Reinforced High Temperature Compound - See engineering data





Valve Size	L #150 mm | in	L Grooved mm | in	A mm | in	B mm | in	C mm | in	øD in	E mm | in	F mm | in	G mm | in	Weight #150 kg | lb
DN40 | 1½"	205 | 8.1	-	149 | 5.9	175 | 6.9	64 | 2.5	-	55 | 2.2	168 | 6.6	-	14 | 31
DN50 | 2"	205 | 8.1	205 | 8.1	149 | 5.9	175 | 6.9	78 | 3.1	-	55 | 2.2	168 | 6.6	-	15 | 33
DN65 | 2½"	205 | 8.1	-	149 | 5.9	180 | 7.1	92 | 3.6	-	55 | 2.2	168 | 6.6	-	17 | 37
DN80 | 3"	257 | 10.1	250 | 9.8	149 | 5.9	217 | 8.5	97 | 3.8	-	29 | 1.1	201 | 7.9	-	26 | 57
DN100 | 4"	320 | 12.6	320 | 12.6	149 | 5.9	224 | 8.8	119 | 4.7	-	-	221 | 8.7	-	38 | 84
DN150 | 6"	415 | 16.3	415 | 16.3	149 | 5.9	252 | 9.9	145 | 5.7	-	-	297 | 11.7	-	82 | 181
DN200 | 8"	500 | 19.7	-	189 | 7.4	285 | 10.6	174 | 6.9	-	-	348 | 13.7	-	145 | 320
DN250 | 10"	605 | 23.8	-	383 | 15.1	295 | 11.6	210 | 8.3	-	-	345 | 13.6	-	161 | 354
DN300 | 12"	725 | 28.5	-	438 | 17.2	363 | 13.1	252 | 16.6	-	-	476 | 18.7	-	249 | 549

IMPORTANT: Dimensions for the trim envelope or extents refer to a vertical orientation and may vary with specific component positioning -Apart from the "L" dimension, allow a tolerance of at least ±15%

Valve Code Designations

FP | 6" | 405-11 | H | C | A5 | ER | NN | 6nF

Category	Code
Standard	FP
Seawater	FS

Valve Size	
1½"	40 mm
2"	50 mm
2½"	60 mm
3"	80 mm
4"	100 mm
6"	150 mm
8"	200 mm
10"	250 mm
12"	300 mm

Installation	Code
Vertical	V
Horizontal	H

Material Body & Cover (1)	Code
Ductile Iron A356 (2)	C
Steel ASTM A216 WCB (2)	S

End Connections	Code
ANSI#150RF	A5
ANSI#150FF	a5
ISO PN16	16
Grooved ANSI C606	VI

Coating	Code
High Build Epoxy	ER
Zinc Based High Build Epoxy (5)	ZR

Tubing & Fittings	Code
Stainless Steel	NN
Monel 400	MM

Factory Supplied Additional Items	Code
General Purpose NEMA-4 Pressure Switch	P
Pressure Gauge Assembly (3)	6
S.S Glycerin Pressure Gauge Assembly (3)	6n
Monel Pressure Gauge Assembly (3)	6m
Large Control Filter	F
Valve Position Indicator	I
S.S 316 Trim Accessories	N
Pressure Transmitter (3)	Q

*More options available – consult BERMAD

Notes:
(1) Other materials available see engineering data
(2) Coated internally and externally
(3) Supplied loose
(4) Consult BERMAD for availability
(5) For valves up to and including 10"

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