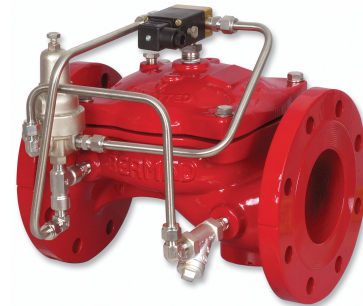


PRESSURE RELIEF VALVE WITH ELECTRIC OVERRIDE

Model FP-430-59

The BERMAD Model FP 430-59 combines fire pump relief with a pre-opening feature to anticipate pump start- startup surge. The valve opens fully by means of electric override upon pump start-up, and continues to function as a pressure relief valve. The valve performs reliably in high capacity fire pump 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
 - Designed for high reliability and easy maintenance
 - In-line serviceable
 - Fast and easy cover removal

Typical Applications

- Fire pump pressure relief
- Foam concentrate recirculation
- Surge prevention on pump start up.

Approvals



ABS
American Bureau of Shipping
Type Approval

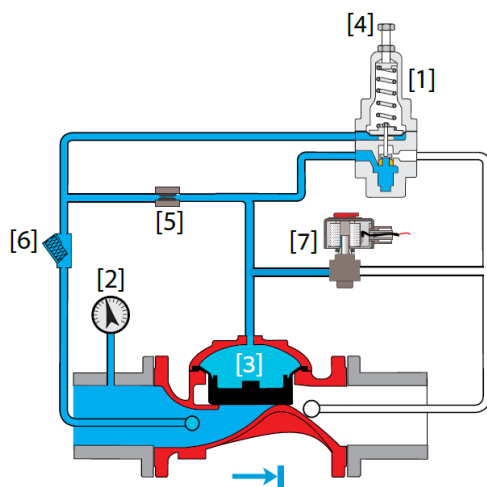


Lloyd's Register
Type Approval

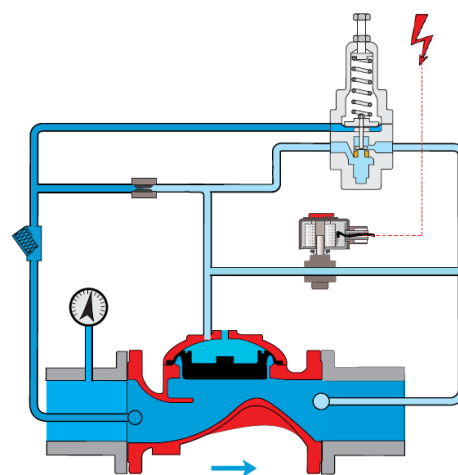
Additional Features

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

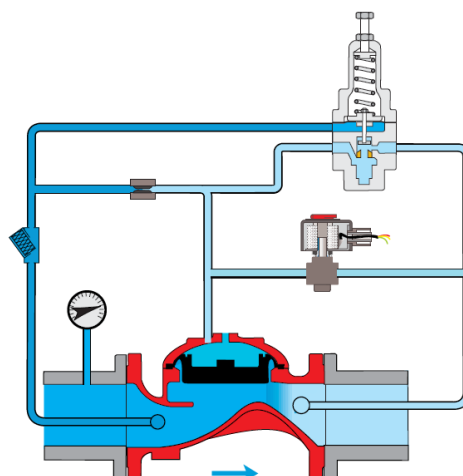
Operation



Valve Closed – Inlet pressure below set relief pressure



Valve Open 1 - Relief opening by way of electric command, regardless of inlet pressure



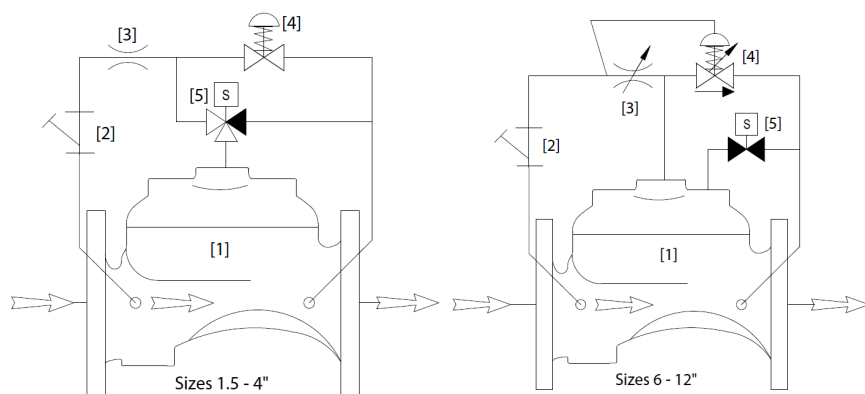
Valve open 2 - The valve opens when the pilot senses overpressure at the inlet.

The BERMAD Model FP 430-59 is equipped with 2 parallel control systems to provide both pressure relief (via hydraulic pilot valve) and pump start-up surge anticipation (via solenoid valve):

■ Simultaneously with electrically powering the pump to start, an electric command is sent to the Solenoid Valve [1]. This fully opens the main valve, ensuring that pump start-up sudden flow and pressure surge will be relieved and will not cause a water hammer effect. Via a timer, the electric power is kept active long enough to ensure functionality. After the electric command is turned off, the pump pressure relief feature remains active.

■ When the Pressure Sustaining (PS) Pilot [2] senses upstream pressure that is higher than its set point, it acts upon the main valve control chamber [3] causing the main valve to modulate open, relieving excess pressure to either a reservoir or sump. The PS Pilot is equipped with an adjusting screw [4] to preset the desired upstream pressure and an integral needle valve [5] to control the main valve closing speed.

System P&ID



Components	
1	BERMAD 400E Water Control Valve
2	Y Strainer
3	Restriction Orifice/Needle Nalve
4	Pressure Relief Pilot Valve
5	Solenoid valve

System Installation

- Valve size should be no less than NFPA-20 requirements.
- Provide adequate clearance around valve for maintenance, ensuring that the actuator can be easily removed.
- Design installation with the valve cover up for best performance.
- Ensure that before the valve is installed, pipeline is flushed at full flow.

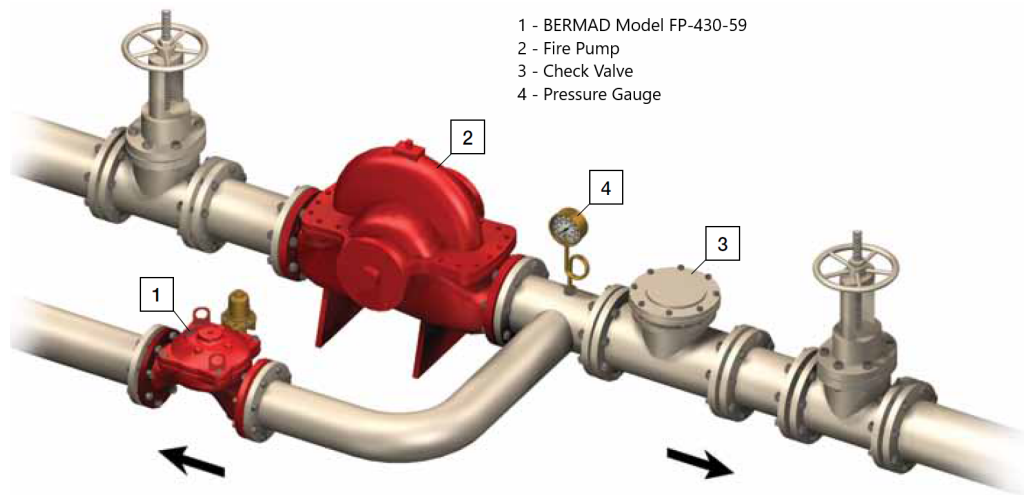
Optional System Items



Pressure Gauge



Single Ex d
Proximity S.S.316
Limit Switch



Suggested Specifications

The pressure relief valve shall be both solenoid pilot and hydraulic pilot controlled. The main valve shall be an elastomeric type globe valve with a rolling diaphragm.

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 an unobstructed flow path, with no stem guide or supporting ribs.

The valve shall have a removable cover for quick in-line service enabling all necessary inspection and servicing.

The pilot system shall be field adjustable, with adjustable valve closing speed, integrated into the main valve, hydraulically-tested and supplied as an assembly consisting of:

- * Relief pilot valve with a built-in integral needle valve (6"-12" only)
- * Solenoid valve
- * "Y" strainer

The control trim shall be supplied as a complete assembly, pre-assembled and hydraulically tested at an ISO 9000 and 9001 certified factory.

Technical Data

Available Sizes:

Flanged- 1½, 2, 2½, 3, 4, 6, 8, 10 & 12"

Grooved- 2, 3, 4, 6, & 8"

Pressure Rating:

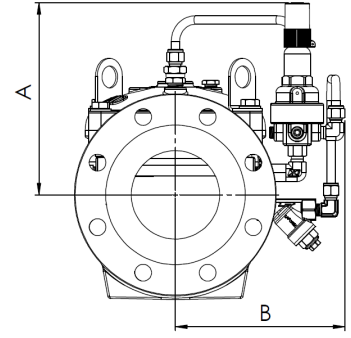
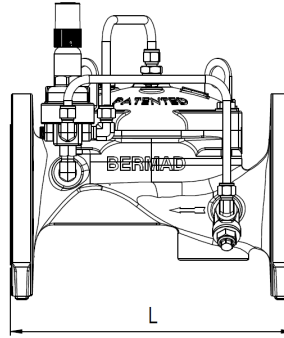
ANSI#150 - 17.2 bar | 250 psi

Setting range: 2 - 12 bar | 30 - 175 psi

Elastomer:

HTNR - Fabric Reinforced High Temperature

Compound - See engineering data



Valve Size	L #150 mm in	L Grooved mm in	L #300 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	Weight #300 kg lb
DN40 1½"	205 8.1	-	-	159 6.2	64 2.5	-	-	-	-	-	11 25	-
DN50 2"	205 8.1	205 8.1	-	159 6.3	78 3.1	-	-	-	-	-	12 27	-
DN65 2½"	205 8.1	-	-	158 6.2	92 3.6	-	-	-	-	-	14 31	-
DN80 3"	257 10.1	250 9.8	-	177 7	97 3.8	-	-	-	-	-	23 51	-
DN100 4"	320 12.6	320 12.6	-	328 12.9	119 4.7	-	-	-	-	-	33 73	-
DN150 6"	415 16.3	415 16.3	-	276 10.8	145 5.7	-	-	-	-	-	77 170	-
DN200 8"	500 19.7	500 19.7	-	327 12.9	174 6.9	-	-	-	-	-	139 306	-
DN250 10"	605 23.8	-	-	324 12.8	210 8.3	-	-	-	-	-	156 343	-
DN300 12"	725 28.5	-	-	440 17.3	248 9.8	-	-	-	-	-	250 550	-

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

