

DIFFERENTIAL PRESSURE CONTROL VALVE, IN-LINE

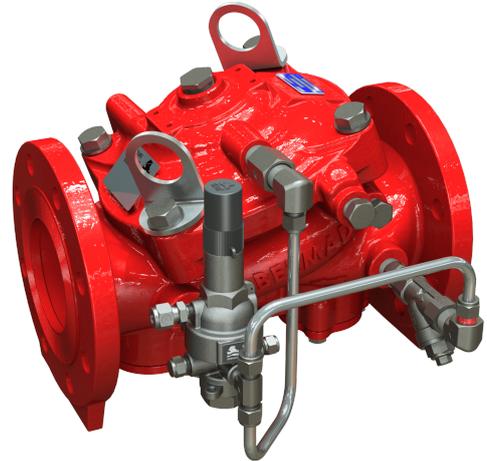
Model FP-42T-06-02

The BERMAD model 42T-06 is an elastomeric hydraulic line pressure driven differential reducing valve, specifically designed for advanced fire protection systems and the latest industry standards. The 42T-06 is equipped with an adjustable differential pilot valve and is used to maintain a set pressure differential between two different points.

When the differential between the two sensed pressures approaches the pre-set maximum the pilot valve starts to close the main valve regulating the pressure and preventing the differential from rising further.

The 42T-06 is ideal for balanced foam proportioning systems, also as a safeguard for dosing pump flow overload.

As an option the 42T-06 can be fitted with a valve position indicator that 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
- High performance
 - Very high flow efficiency
 - Straight through Y type body
 - Approved for PN25 / 365 psi
- Quick and easy maintenance
 - In-line serviceable
 - Fast and easy cover removal

Typical Applications

- Pump overload & cavitation protection
- Balanced pressure proportioning systems
- Pump flow safeguard
- Foam concentrate injection systems

Approvals



ABS
American Bureau of Shipping
Type Approval



Det Norske Veritas
Type Approval

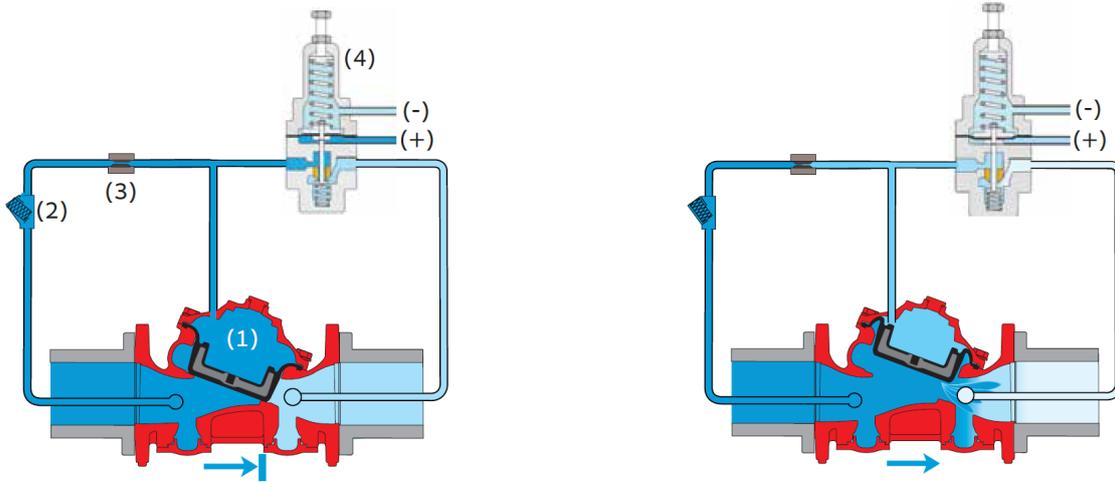


Lloyd's Register
Type Approval

Additional Features

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

Operation

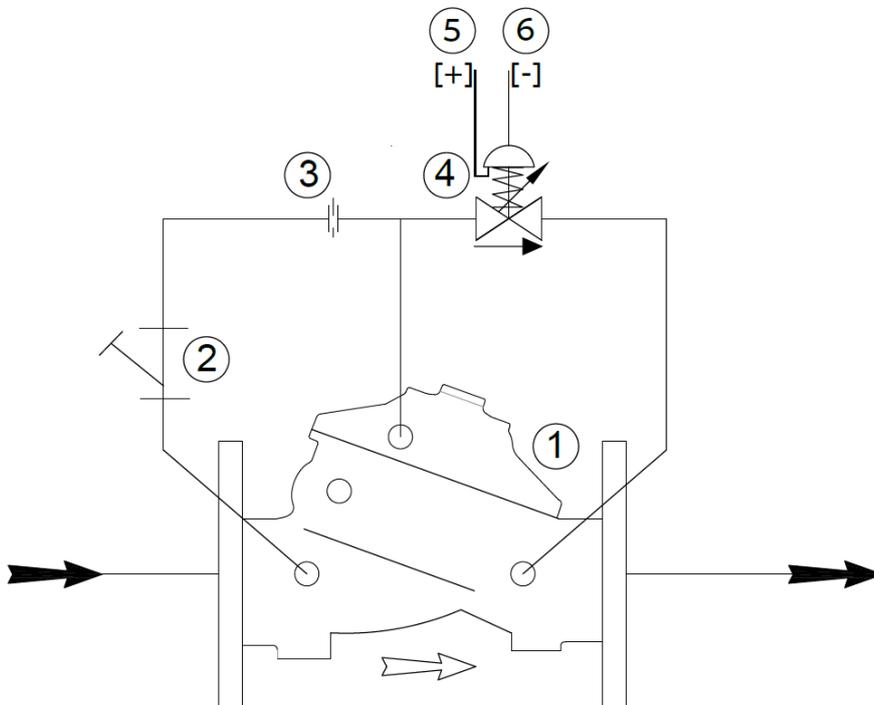


The BERMAD model 42T-06 is held closed by inlet pressure in the control chamber [1] supplied via the pilot line filter [2] and the restriction orifice [3]. To open the valve the pressure in the control chamber must be released to the outlet by way of the pilot [4] opening.

The pilot senses two pressures, a higher pressure (+) and a lower pressure (-). Should the differential between these two pressures approach the set maximum (determined by the pilot adjusting screw) the pilot will tend to close, thus allowing pressure to accumulate in the valve control chamber causing the main valve to throttle. This regulates the pressure in the downstream pipeline keeping the differential pressure below the set maximum.

Should the differential pressure fall, the pilot will open, releasing pressure in the valve control chamber thereby causing the main valve to open and maintain the differential pressure.

System P&ID



Components	
1	BERMAD 400Y Main Valve
2	Priming strainer
3	Restriction orifice
4	Differential pressure reducing pilot valve
5	High pressure sensing
6	Low pressure sensing

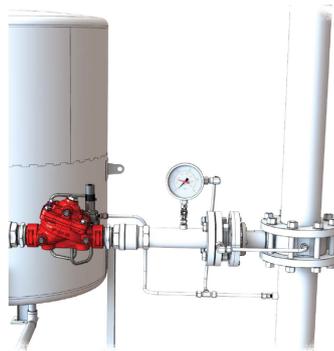
System Installation

A typical installation of the BERMAD model 400Y 42T-06 features valve actuation via pilot control to regulate the 42T-06 in response to an increase in differential pressure between two points. The 42T-06 is ideally suited for regulation in balanced pressure proportioning systems or foam dosing applications.

The valve employs a time-proven, simple actuation mechanism with no mechanical moving parts, which minimizes the risk of failure. Its single-piece elastomeric diaphragm (VRSD technology) contributes to its durability and reliability in demanding environments

Balanced Pressure Proportioning System

- A typical installation is in a Balanced Pressure Proportioning System, where the BERMAD 42T-06 is installed on the foam concentrate supply pipe, and is used to maintain the correct pressure differential between the firewater system pressure and the foam supply pressure.



Foam Concentrate Dosing System

- By sensing the differential pressure across the dosing pump the 42T-06 tends to throttle when the maximum allowable flow rate for the dosing pump has been reached, regulating and preventing the flow from exceeding the recommended maximum for the dosing pump, avoiding dangerous pump overload.



Suggested Specifications

The valve shall be UL-listed and FM-approved, 365-psi/25-bar rated, with a straight-through Ytypebody.

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

The main valve shall have no mechanical moving parts, and the actuation shall utilize a single-piece diaphragm assembly of VRSD technology.

The valve shall be coated internally and externally with UV protection. Optional: C5-VH grade of ISO-12944 standard against corrosive conditions.

Removing the valve cover for full inspection and maintenance shall be in-line and not require removal of the control trim.

The deluge valve and control trim shall be pre-assembled and hydraulically tested by a UL/FM and ISO 9000, 9001 certified factory.

Technical Data

Available Sizes:

Flanged- 1½, 2, 2½, 3, 4, 6, 8, 10, 12, 14 & 16"

Grooved- 1½, 2, 2½, 3, 4, 6, 8 & 10"

Pressure Rating:

ANSI#150 - 17.2 bar | 250 psi

ANSI#300 - 1½" to 10" - 25 bar | 365 psi

ANSI#300 - 12" to 16" - 20 bar | 300 psi

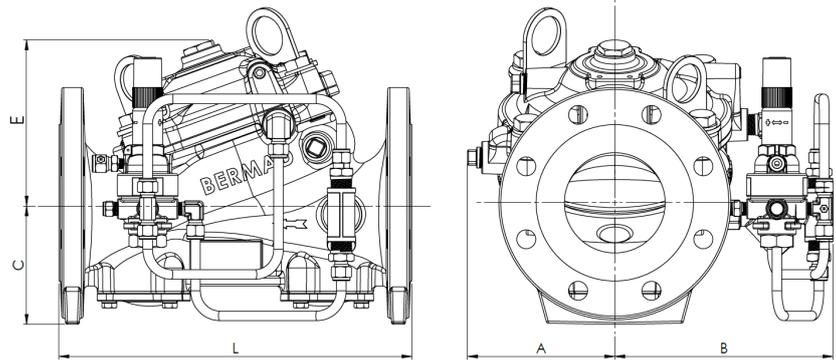
Grooved - 17.2 / 25 bar | 250 / 365 psi

Setting range: 0.5 - 3 bar | 7 - 43 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"	-	-	-	-	-	-	-	-	-	-	-	-
DN50 2"	205 8.1	205 8.1	-	284 11.2	210 8.3	-	-	-	-	-	11 24.2	-
DN65 2½"	205 8.1	-	-	284 11.2	210 8.3	-	-	-	-	-	11 24.2	-
DN80 3"	257 10.1	250 9.8	-	300 11.8	215 8.5	-	-	-	-	-	13 28.6	-
DN100 4"	320 12.6	320 12.6	-	313 12.3	243 9.6	-	-	-	-	-	30 66	-
DN150 6"	415 16.3	415 16.3	-	341 13.4	315 12.4	-	-	-	-	-	70 154	-
DN200 8"	500 19.7	500 19.7	-	415 16.3	350 13.8	-	-	-	-	-	128 282	-
DN250 10"	605 28.7	-	-	443 17.4	382 15	-	-	-	-	-	145 319	-
DN300 12"	725 28.5	-	-	481 18.9	430 16.9	-	-	-	-	-	323 712	-
DN350 14"	980 38.6	-	980 38.6	242 9.5	656 26	272 10.7	-	441 17.4	-	-	356 784	416 915
DN400 16"	1100 43.3	-	1100 43.3	242 9.5	656 25.8	316 12.5	-	415 16.3	-	-	403 886	523 1151

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

Valve Code Designations

