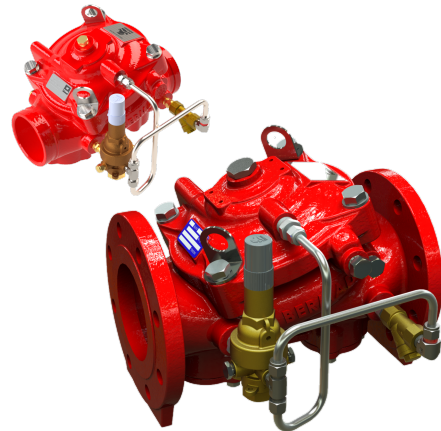


PRESSURE REDUCING VALVE

Model FP-42T

The BERMAD model 42T is an elastomeric, line pressure driven pilot operated pressure control valve, designed specifically for advanced fire protection systems and the latest industry standards. The 42T reduces high upstream pressure to a precise, preset, stable downstream pressure. Due to its exceptional reliability and low head loss the 42T is ideal for control of fire pump discharge. It is also well-suited to prevent over-pressure in sprinklers, hose stations, and other discharge devices. As an option the 42T can be fitted with a valve position indicator that can include a limit switch.



Features & Benefits

- Safety and reliability
 - Low headloss design - Increased safety at reduced pressure supply
 - Time proven, simple design with a fail safe actuation
 - Single piece rugged elastomer, VRSD technology
 - Obstacle-free, uninterrupted flow path
 - No mechanical moving parts
- High performance
 - Fast, smooth stabilizing response to pressure fluctuations
 - Very high flow efficiency
 - Efficient Straight through flow
 - PN25/365 psi working pressure
- Specifically-designed for fire protection
 - Face-to-face length standardized to ISO 5752 EN 558-1
 - Accurate and stabilizing pressure control
- Quick and easy maintenance
 - In-line serviceable
 - Fast and easy cover removal

Typical Applications

- Sprinkler feed systems
- Fire pump discharge control
- Hose station supply
- Fire hydrant supply
- Foam applications
- Zonal Pressure Control

Approvals



UL-Listed
Pilot Operated Pressure Reducing and
Pressure Control Type (VLMT)
Sizes 1½" - 16"



FM Approved
Pressure Reducing Valves
Sizes 1½" - 16"



Det Norske Veritas
Type Approval



ABS
American Bureau of Shipping
Type Approval

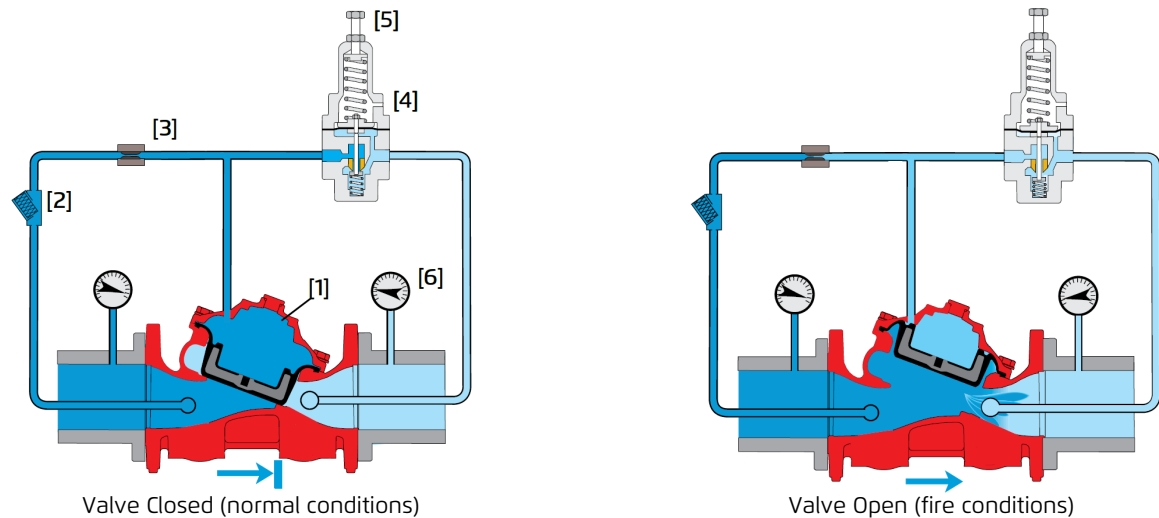


Lloyd's Register
Type Approval

Optional Features

- Seawater compatibility
- Large control filter ☒
- Integrated downstream relief valve
- Valve position limit switches ☒

Operation

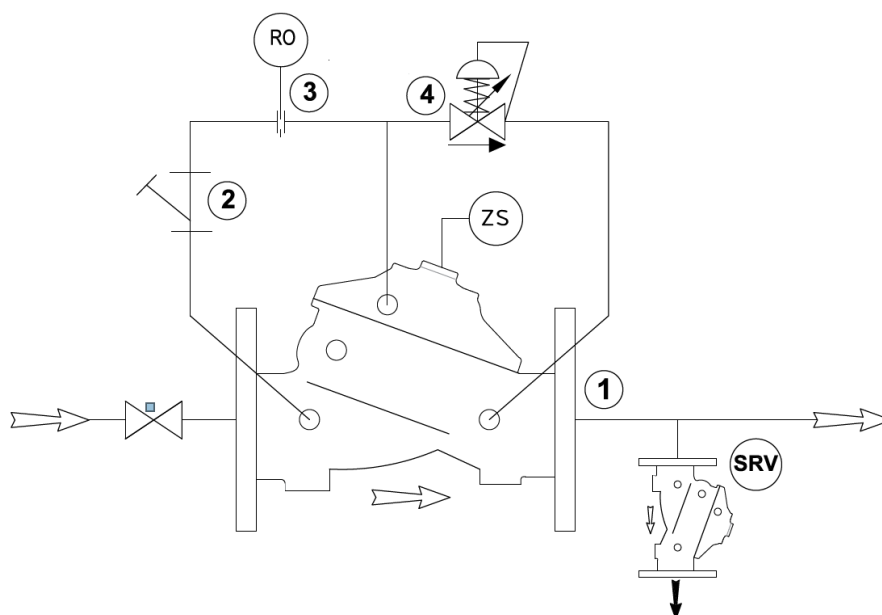


The BERMAD Model 42T pressure control valve, reduces water pressure automatically and accurately from a high inlet pressure to a lower, preset outlet pressure. The outlet set pressure can be adjusted by way of the pilot adjusting screw [5]. The valve operates under both flow and static conditions. The pressure-reducing pilot valve [4] senses changes in outlet pressure [6] and modulates the control valve to maintain the preset outlet pressure.

When outlet pressure rises above the preset pressure, the pilot valve throttles, enabling pressure to accumulate in the control chamber [1], this causes the control valve to close further and reduce outlet pressure. When outlet pressure falls, the pilot valve opens wider, releasing pressure from the control chamber. This causes the control valve to open wider and increase outlet pressure. An integral restrictor [3] controls the valve's closing speed.

To comply with the NFPA 13 and 14 standards and the UL/FM requirements, a listed pressure relief valve is to be installed on the downstream side of any pressure reducing valve. For sizing the required relief valve for optimal performance see the BERMAD recommendation in the sizing table on the last page.

System P&ID

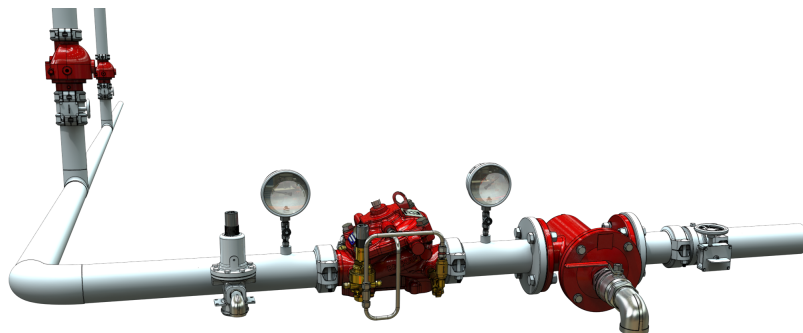


Components	
1	BERMAD 400Y Water Control Valve
2	Y Strainer
3	Restriction Orifice
4	Pressure Reducing Pilot Valve

System Installation

Sprinkler System Pressure Reduction

- Reduces a high, unstable pressure supply to a preset, stable system pressure
- Sets the sprinkler pressure to suit the system design
- For zonal pressure control



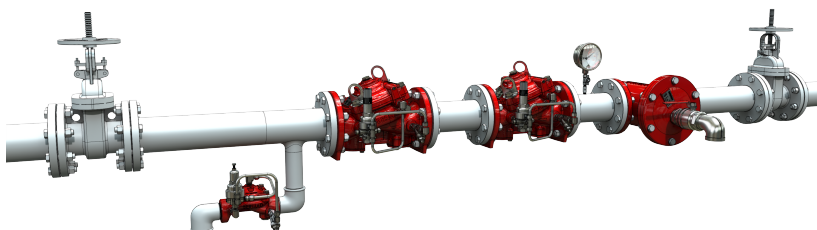
Hose System Pressure Reduction

- Reduces a high/unstable pressure supply to suit fire hose pressure
- Pressure reducing systems



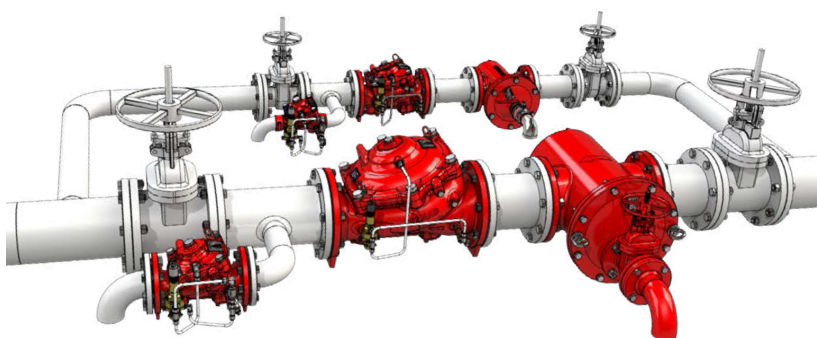
Back-Up / Two-Stage Pressure Reduction

- Backup pressure reducing valve in-line to a master valve to secure pressure zone rating at all times. When in doubt consult BERMAD.



Parallel / Redundancy Pressure Reduction

- Recommended for a wide variation of flow rates. This arrangements enables high and low flow rates as well as providing a full pressure supply redundancy and serviceability with zero down time.



Suggested Specifications

The pressure reducing valve shall maintain the preset maximum downstream pressure, including at static no flow conditions.

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

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 - 25 bar | 365 psi

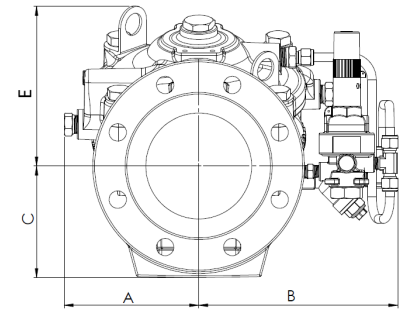
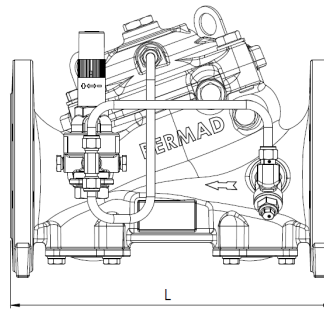
Setting range: FM: 30 to 235 psi / 2 to 16 bar |

UL: 4 to 12 bar / 60 to 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"	230 9.1	230 9.1	230 9.1	77.5 3	155 6.1	42 1.7	-	147 5.8	64 2.5	48.2 1.9	18 40	20 44
DN50 2"	230 9.1	230 9.1	238 9.4	77.5 3	155 6.1	42 1.7	-	147 5.8	77 3	60.4 2.4	11 24.2	13 29
DN65 2½"	235 9.3	235 9.3	241 9.4	82 3.3	187 7.4	48 1.9	-	147 5.8	92 3.6	73 2.9	23 50	25 55
DN80 3"	310 12.2	310 12.2	326 12.8	100 3.9	251 9.9	70 2.8	-	147 5.8	106 4.2	89 3.5	34 75	39 86
DN100 4"	350 13.8	350 13.8	368 14.5	115 4.5	166 10.5	85 3.3	-	158 6.2	121 4.8	114.4 4.5	44 96	51 112
DN150 6"	480 18.9	480 18.9	506 19.9	140 5.51	372 14.7	94 3.7	-	228 9	140 5.5	168.4 6.6	87 190	100 220
DN200 8"	600 23.6	600 23.6	626 24.6	172 6.8	490 19.3	-	-	295 11.7	172 6.8	220 8.7	150 330	170 374
DN250 10"	730 28.7	730 28.7	730 28.7	204 8	490 19.3	-	-	296 11.7	204 8	273 10.7	180 397	216 475
DN300 12"	850 33.5	-	888 35	242 9.7	656 25.8	-	-	441 17.4	247 9.7	-	323 712	373 821
DN350 14"	980 38.6	-	980 38.6	242 9.5	656 26	-	-	441 17.4	272 10.7	-	356 784	416 915
DN400 16"	1100 43.3	-	1100 43.3	242 9.5	656 25.8	-	-	415 16.3	316 12.5	-	403 886	523 1151

Recommended Sizing for Relief Valve

42T Pressure Reducing Valve Size in. (mm)	1½" (40)	2" (50)	2½" (65)	3" (80)	4" (100)	6" (150)	8" (200)	10" (250)	12" (300)	14" (350)	16" (400)
Recommended Relief valve size, in. (mm)	¾" (20)	¾" (20)	¾" (20)	¾" (20)	2" (50)	3" (80)	3" (80)	4" (100)	2 x 4" (2x100)	2 x 4" (2x100)	2 x 4" (2x100)

Valve Code Designations

