PRESSURE CONTROL VALVES

Model FP-42T-A5 & FP-42T-A3
Pressure reducing valve
235 psi (16 bar) & 365 psi (25 bar)



PRODUCT DESCRIPTION

The pressure reducing valve model FP-42T has been specifically designed for fire protection systems. It is suitable for fire pump discharge control, and other discharge devices. Model FP-42T reduces high upstream pressure to a precise, preset, stable downstream pressure.

TECHNICAL DATA

Models	FP-42T-A5 FP-42T-A3
Sizes	1 ½" DN40, 2" DN50, 3" DN80, 4" DN100, 6" DN150 , 8" DN200 & 10" DN250[(1)]
End connections	Flange: FP-42T-A5: ANSI 150lb FF FP-42T-A3: ANSI 300lb RF Groove (optional): except 10" valve Threaded (optional) : for 1 ½" and 2" valves
Maximum working pressure	235 psi (16 bar) – FP-42T-A5 365 psi (25 bar) – FP-42T-A3
Setting pressure range	60 to 175 psi (4 to 12 bar)
Maximum differential pressure	175 psi (12 bar) when normal inlet operation pressure is below 330 psi (23 bar) 200 psi (14 bar) when normal inlet operation pressure is above 330 psi (23 bar)
Materials	Body: Ductile Iron Tubing: Stainless Steel
Finish	Red RAL 3000

[(1)] Only the 10" valves connected by flange are UL listed.

TYPICAL APPLICATIONS

- Fire pump discharge control.
- Hose station feeds.
- Sprinkler systems with over pressure.
- Deluge systems with over pressure.
- Foam systems.
- Fire hydrant water supply.

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OPERATION

The pressure reducing valve model FP-42T, reduces water pressure automatically and accurately from a high inlet pressure to a lower, preset outlet pressure.

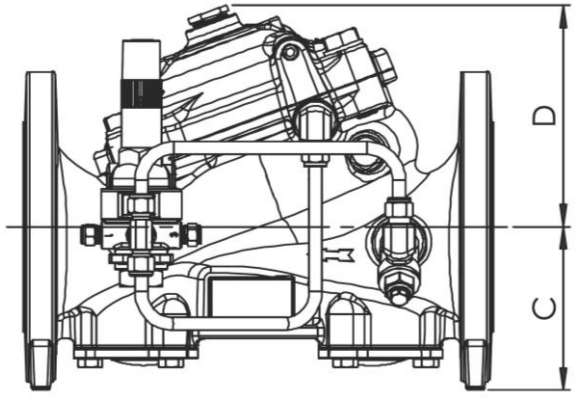
When the pressure-reducing pilot valve senses changes in outlet pressure it modulates the control valve to maintain the preset outlet pressure.

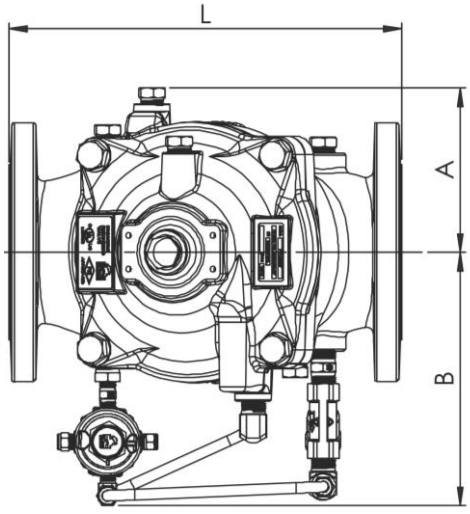
When the outlet rises above the preset pressure the control valve close further and reduce outlet pressure. When outlet pressure falls, the pilot valve opens wider, releasing pressure from the control chamber. This causes the control valve to open wider and increase outlet pressure.

The outlet set pressure can be adjusted by way of the pilot adjusting screw. An integral restrictor controls the valve's closing speed.

DIMENSIONS

VALVE SIZE	1 ½" DN40	2" DN50	3" DN80	4" DN100	6" DN150	8" DN200	10" DN300
L ANSI 150lb Inch (mm)	9,06 (230)	9,06 (230)	12,21 (310)	13,79 (350)	18,91 (480)	23,64 (600)	28,76 (730)
L ANSI 300lb Inch (mm)	9,06 (230)	9,25 (235)	12,84 (326)	14,50 (368)	19,64 (506)	24,66 (626)	28,76 (730)
A Inch (mm)	3 (77,5)	77,5 (3)	3,94 (100)	4,53 (115)	5,51 (140)	6,77 (172)	8 (204)
B Inch (mm)	6,10 (155)	6,10 (155)	9,88 (251)	10,47 (266)	14,65 (372)	19,29 (490)	19,29 (490)
C Inch (mm)	2,52 (64)	3,03 (77)	4,17 (106)	4,76 (121)	5,51 (140)	6,77 (172)	8,03 (204)
D Inch (mm)	4,69 (119)	4,69 (119)	5,75 (146)	6,22 (158)	8,07 (205)	10,08 (256)	10,08 (256)
Kv m^3/h (Cv gpm)	68 (79)	80 (92)	190 (219)	345 (398)	790 (912)	1160 (1340)	1355 (1565)
Leq m (ft)	2 (7)	5 (16)	7 (23)	9 (30)	15 (49)	27 (89)	62 (203)
Weight flanged Kg (lb)	11,5 (25,3)	12,8 (28,2)	27,5 (60,5)	37,5 (82,5)	81 (178,2)	146 (321,2)	176 (387,2)





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INSTALLATION, TESTING AND MAINTENANCE

The relief valve model FP-43T must be installed, inspected and tested by a qualified and trained person according to NFPA-20 requirements.

Before assembly of the pressure reducing valve to the supply piping, thoroughly flush the piping with water to avoid sand, residue, welding slag or other debris hindering the proper functioning of the valve. After few initial successful tests, an authorized person must be trained to perform the inspection and testing of the reducing valve.

A typical installation of the pressure reducing valve model FP-42T features a pilot valve for the automatic stable and accurate reduction of water pressure from a high upstream value to a preset lower downstream value, regardless of fluctuating upstream pressure or flow. A unique actuator design ensures quick and smooth valve action.

Installed singly, the FP-42T provides a standard pressure-reducing system. Installed in parallel, two FP-42T valves provide high flow rates, redundancy, and zero downtime for maintenance. Installed in series, two FP-42T valves can provide a two-stage, high reduction in pressure and/or added protection to a reduced-pressure zone.

To comply with the requirements outlined in the FM and UL standards, a pressure relief valve is to be installed on the downstream side of any approved or listed pressure reducing valve.

The pressure relief valve model FP-43T is ideally suited for this purpose.

It must be inspected regularly for possible damage or dirt around the moving parts. If any abnormal conditions are observed such as poor discharge, excessive wear, water leak, corrosion effect, damage etc., then reducing valve must be taken out of service and repaired by qualified technician or replaced.

The relief valve should be ready for use. To achieve this condition, scheduled inspection and maintenance operation should be performed and it must be recorded in the maintenance register book indicating the requirement or recommendation. The recommended maintenance, procedure must be followed as given in the manual and also as per the local authority having jurisdiction.

Periodic proper greasing through grease nipple provided on bearing, worm wheel and worm shaft must be ensured. Use water resistant low friction synthetic grease.

The owner is responsible for maintenance of the relief valve in proper operating condition.

RELIEF VALVE SIZING

FP-42T REDUCING VALVE	1 ½" DN40	2" DN50	3" DN80	4" DN100	6" DN150	8" DN200	10" DN250
FP-43T RELIEF VALVE	¾" DN20	¾" DN20	1 ½" DN40	2" DN50	3" DN80	3" DN80	4" DN100

ORDERING INFORMATION

SIZE	FLANGE TYPES			
	ISO PN16	ANSI B16.5 #150	ISO PN25	ANSI B16.5 #300
1 ½" DN40	VLR42TA5C0400	VLR42TA5C0401	VLR42TA3C0400	VLR42TA3C0401
2" DN50	VLR42TA5C0500	VLR42TA5C0501	VLR42TA3C0500	VLR42TA3C0501
3" DN80	VLR42TA5C0800	VLR42TA5C0801	VLR42TA3C0800	VLR42TA3C0801
4" DN100	VLR42TA5C1000	VLR42TA5C1001	VLR42TA3C1000	VLR42TA3C1001
6" DN150	VLR42TA5C1500	VLR42TA5C1501	VLR42TA3C1500	VLR42TA3C1501
8" DN200	VLR42TA5C2000	VLR42TA5C2001	VLR42TA3C2000	VLR42TA3C2001
10" DN250	VLR42TA5C2500	VLR42TA5C2501	VLR42TA3C2500	VLR42TA3C2501

Specify:

Model	
Quantity	
Size	
Flange specification	

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  - High Velocity Nozzles
  - Medium Velocity Nozzles
  - Window Nozzles
  - Hydroshield Nozzles
  - Mushroom Type Nozzles
- Foam equipment
  - Tanks
  - Proportioners
  - Foam Discharge Equipment
  - Foam Concentrates
- Deluge equipment for Water Spray and Foam
  - Clapper Deluge Valves
  - Diaphragm Deluge Valves
- Monitors
  - Manual Monitors
  - Remote Monitors
  - Monitor Nozzles
  - Towers and Trolleys
- Valves
  - Butterfly Valves
  - Gate Valves
  - Check Valves
  - Pressure Control Valves
  - Test and Drain
  - Hose, Hydrant and Fire Connection Valves
  - Fire Department Connections

The equipment presented in this bulletin is to be installed in accordance with the latest published Standard of the National Fire Protection Association, Factory Mutual Research Corporation, or other similar organizations and also with the provisions of governmental codes or ordinances whenever applicable.
This documentation is not contractual. AG Fire Sprinkler reserves the right to any kind of change without notice.

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