

Pressure restricting valve

A155 Standard equipment

Female NPT inlet and outlet forged brass valve. Red hand wheel.

A155 pressure restricting valve



a	b
1 1/2"	1 1/2"
2 1/2"	2 1/2"

Forged brass, adjustable restriction of residual pressure up to 175 psi . Locking pin device.

A155 Thread

A155SX001	1 1/2" NPT CR FF (with
A155SY001	hydrolator)
A155X001	1 1/2" NPT GL FF (with
A155X005	hydrolator)
A155X011	1 1/2" NPT CR FF
A155X015	2 1/2" NPT CR FF
A155Y001	1 1/2" NPT CRL FF
A155Y005	2 1/2" NPT CRL FF
A155Y011	1 1/2" NPT GL FF
A155Y015	2 1/2" NPT GL FF
	1 1/2" NPT LUC FF
	2 1/2" NPT LUC FF

A156 Standard equipment

Female NPT inlet x male hose thread outlet forged brass valve. Red hand wheel.

A156 Pressure restricting valve



a	b
1 1/2"	1 1/2"
2 1/2"	2 1/2"

Forged brass, adjustable restriction of residual pressure up to 175 psi . Locking pin device.

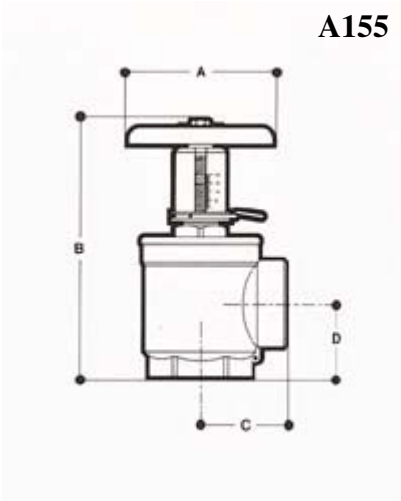
A156 Thread

- A156SX0021 1/2" NPSH CR MF (with
- A156SX032hydrolator)
- A156SY0021 1/2" NPSH CRL MF (with
- A156X001hydrolator)
- A156X0021 1/2" NPSH GL MF (with
- A156X005hydrolator)
- A156X0081 1/2" NST CR MF
- A156X0091 1/2" NPSH CR MF
- A156X0102 1/2" NST CR MF
- A156X0112 1/2" CSA CR MF
- A156X0122 1/2" BCT CR MF
- A156X0132 1/2" QST CR MF
- A156X0312 1/2" WCT CR MF
- A156X0322 1/2" NWFLDCR MF
- A156X0352 1/2" NSST CR MF
- A156X0381 1/2" NST CRL MF
- A156Y0011 1/2" NPSH CRL MF
- A156Y0022 1/2" NST CRL MF
- A156Y0052 1/2" CSA CRL MF
- A156Y0061 1/2" NST GL MF
- A156Y0071 1/2" NPSH GL MF
- A156Y0082 1/2" NST GL MF
- A156Y0092 1/2" NYT GL MF
- A156Y0102 1/2" NCFD GL MF
- A156Y0112 1/2" CSA GL MF
- A156Y0122 1/2" BCT GL MF
- A156Y0132 1/2" QST GL MF
- A156Y0242 1/2" WCT GL MF
- A156Y0352 1/2" NWFLDGL MF
- 2 1/2" NSST GL MF
- 1 1/2" NST LUC MF MICR.
- 2 1/2" NST LUC MF MICR.

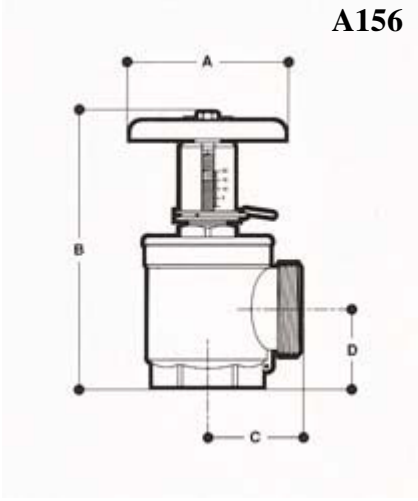
Construction

Valves are made of forged brass in accordance with ASTM B124 C37700 (corresponding European Standard EN 12164 CuZn40Pb2).

Dimensions



	1 1/2"x 1 1/2"	2 1/2"x 2 1/2"
	4 1/64"	5 1/8"
	7 3/32"	9 31/32"
	2 9/64"	3 5/16"
	1 57/64"	2 41/64"



	1 1/2"x 1 1/2"	2 1/2" x 2 1/2"
A	4 1/16"	5 1/8"
B	7 3/32"	9 31/32"
C	2 17/64"	3"
D	1 57/64"	2 41/64"

How to use the valve

The valves are adjustable to provide a range of outlet pressures under flowing condition only.

Determining the proper outlet pressure

1- The valves are restricting the downstream water pressure under flowing (residual) condition only. The valve should not be set to provide less than the minimum pressure required by NFPA 14 while flowing 250 GPM for 2 1/2 inch size and 100 GPM for 1 1/2 inch size.

NFPA 14-1993 Edition requires that Standpipe systems shall be hydraulically designed to provide the required water flow rate at a minimum residual pressure of 100 PSI at the outlet of hydraulically most remote 2 1/2" hose connection and 65 PSI at the outlet at the hydraulically most remote 1 1/2" hose station. Outlet pressures which do not correspond to NFPA 14 requirements must be authorized by local fire department.

There will be a pressure drop due to friction loss between the outlet and the nozzle.

The amount of this loss should be calculated by qualified personnel, to assure that the nozzle receives water pressure sufficient to its design needs.

Note that some fire hose nozzles may not operate properly when valve outlet pressure is set at the minimum pressure authorized in the 1993 edition of NFPA 14.

The installer should consult with the fire authorities concerning pressures needed by their equipment.

The outlet pressures indicated in the curves are at the outlet of the valve.

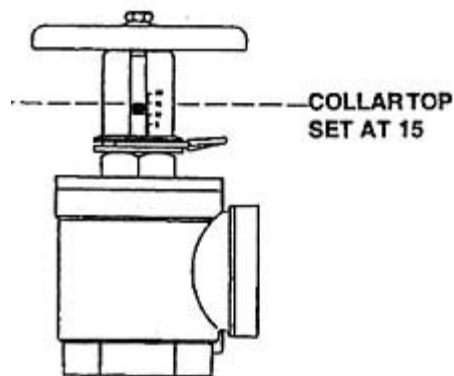
2- To determine the pressures at the hose nozzle, the hydraulic calculation information provided in NFPA Fire Protection Handbook should be followed.

3- The valves are designed and listed to reduce inlet pressures under flowing conditions: see the enclosed graphs. Authorities having jurisdiction should be consulted to confirm that the outlet pressures and flowrates are acceptable.

Installation

For installation requirements refer to NFPA 14 for Standpipe and hose systems. Valves shall be tested periodically in accordance with NFPA 25

- 1- Pipe unions or rubber-gasketed fitting are to be installed immediately up-stream and downstream of the valve to permit easy replacement.
- 2- Connect the valve to the piping
- 3- Select setting number from proper graph
- 4- Close valve hand-tight.
- 5- Loosen set screw in collar.
- 6- Rotate indicator-cap until top collar reaches selected setting number
- 7- Tighten set screw in collar. Valve is now set.
- 8- To override pressure restriction, pull spring clip



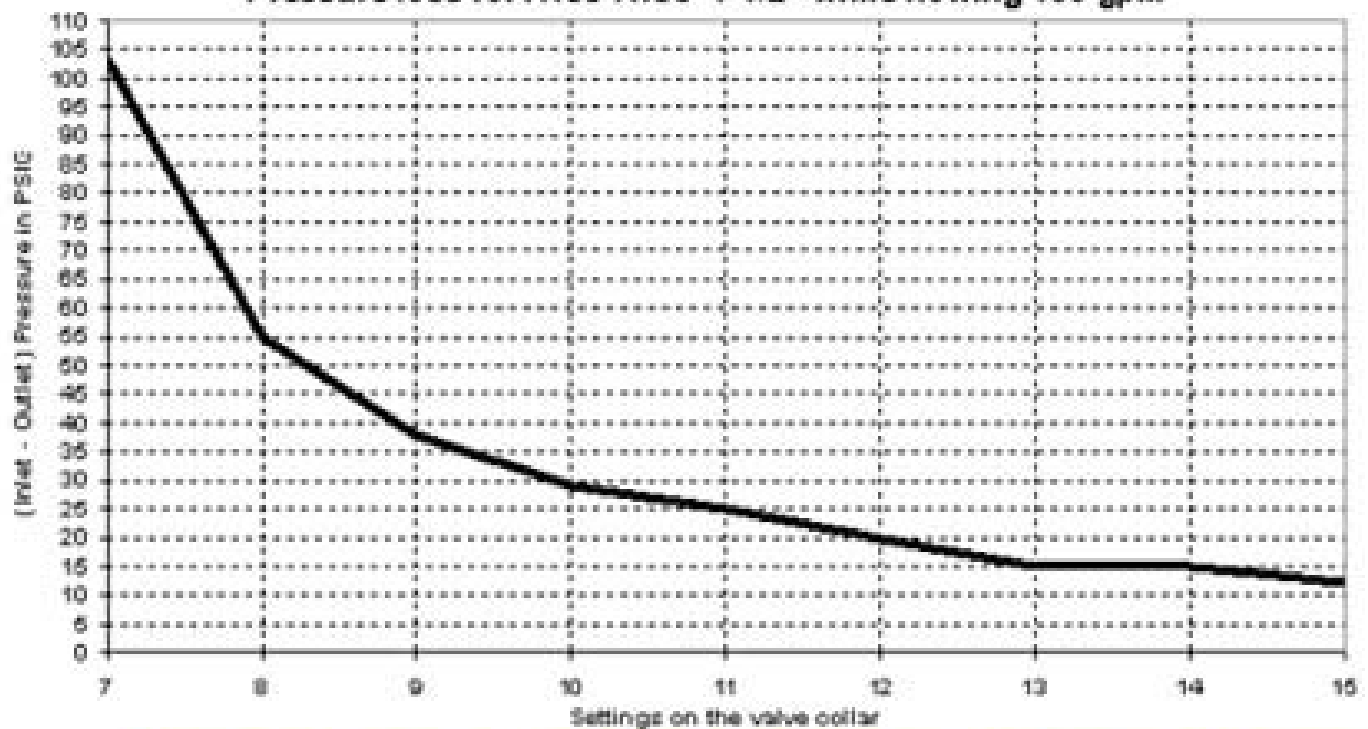
These valves are intended for use in Class III Standpipe systems.

Pipe union or rubber-gasketed fittings are to be installed immediately upstream of the valve to permit easy replacement.

If the valve does not perform as intended, the valve would need to be replaced.

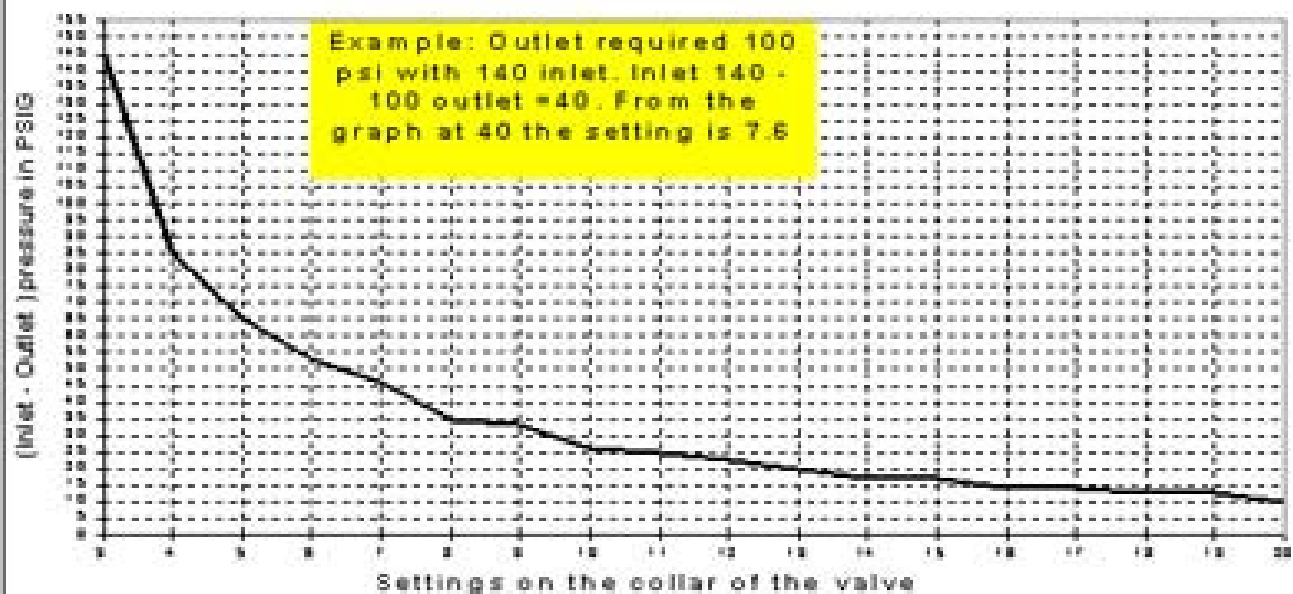
Pressure loss

Pressure loss for A155-A156 1-1/2" while flowing 100 gpm



Example: Outlet required 65 psig, Inlet 120 ; Pressure drop= 120-65 = 55 psi;

Pressure loss for A155 - A156 2-1/2" size while flowing 250 gpm at various settings



Example: Outlet required 100 psi with 140 inlet. Inlet 140 - 100 outlet = 40. From the graph at 40 the setting is 7.6