

Series M115F / M1115F

ACV: Fire System Pressure Reducing Valve

Size: DN50-DN200

The Watts M115F (Globe) and M1115F (Angle) Pressure Reducing Valves meet all requirements for UL listed fire protection service. They automatically reduce a higher inlet pressure to an adjustable lower outlet pressure regardless of changing flow rate or varying inlet pressure.

Available as Globe in Flanged and Grooved, and Angle in Flanged.

Features

- Pressure reducing control is a normally open pilot with an adjustable spring load to maintain a constant downstream pressure
- Stainless steel trim as standard, for greater reliability & service life
- Dual pressure gauges as standard, for ease of setting and confidence in performance
- Factory tested and downstream pressure preset to 500 kPa as standard

Operating Pressure

- 150# Flanged: ANSI B16.42, Max WP 12 bar (1200 kPa)
- Grooved End: Max WP 20.7 bar (2070 kPa)
- Pilot Spring: 2.07-20.7 bar (207-2070 kPa)
- UL Rated Pressure:
 - Max Inlet Pressure: 2070 kPa
 - Reduced Pressure Adjustment Range: 340~1140 kPa

Specification

- Design Standard: UL 1478
- Connection Standard: Flanged to ANSI B16.42
Grooved to AWWA C606

Note: Single Stage Pressure Reduction is recommended where incoming pressure is less than 1380kPa and where the reduction ratio is less than 3:1. If the initial pressure is 1390kPa or greater, or pressure reduction ratio is greater than 3:1 (e.g. from 1380kPa to 340kPa), or when the inflow pressure fluctuates greatly two stage Pressure reduction is recommended by having two PRVs in series.

Operating Principle

The main valve is controlled by a pressure reducing pilot control which is of direct acting, spring loaded-diaphragm actuated design. The control is a normally open pilot with an adjustable spring load to maintain a constant downstream pressure. As the main line downstream pressure increases to the set-point, it is sensed internally by the pilot, and the pilot throttles moving towards the closed position. This action in turn prevents the main valve cover pressure supply from being vented away, and the result is increased pressure in the main valve cover. This pressure acts to close the valve and modulate to the set point.

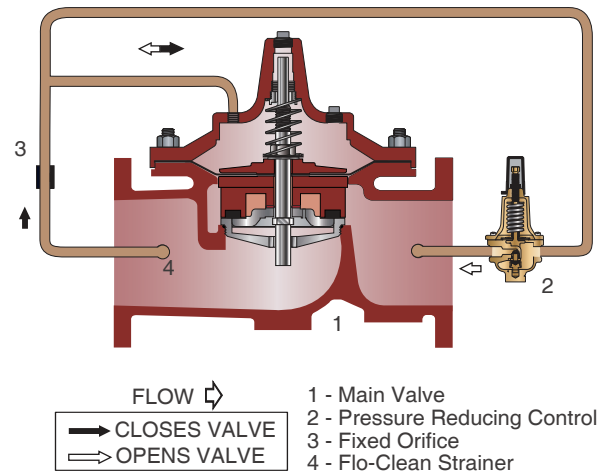


M115F Flanged

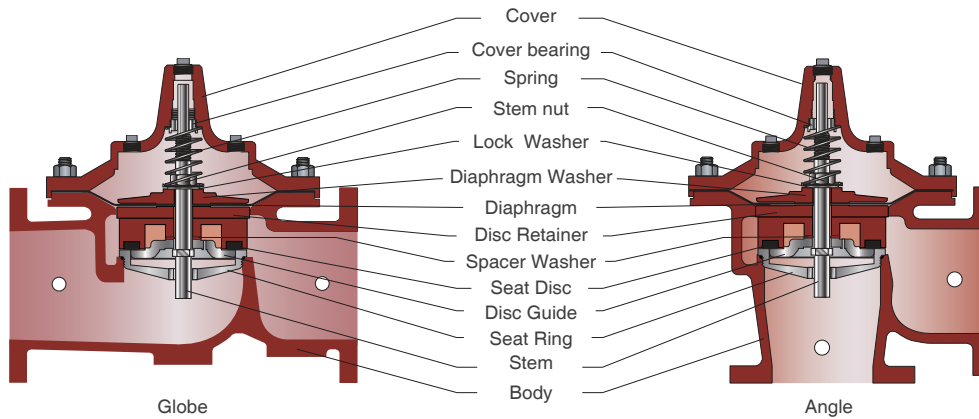


M115F Grooved End

Approval

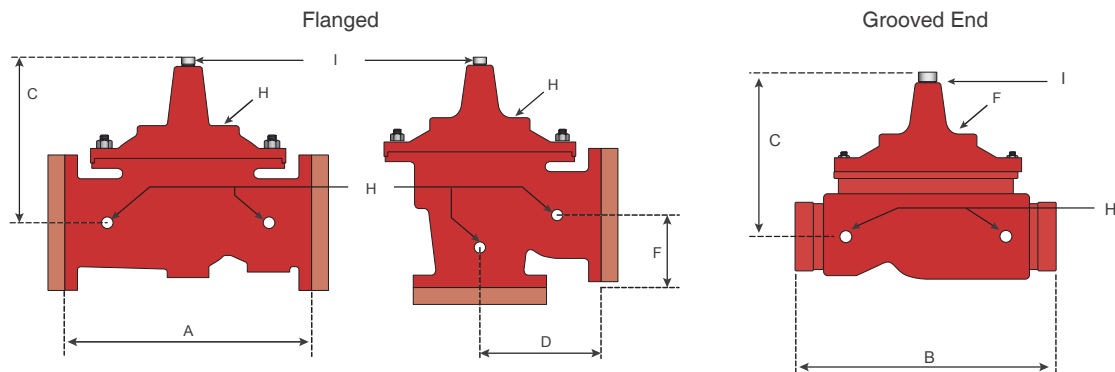


Material



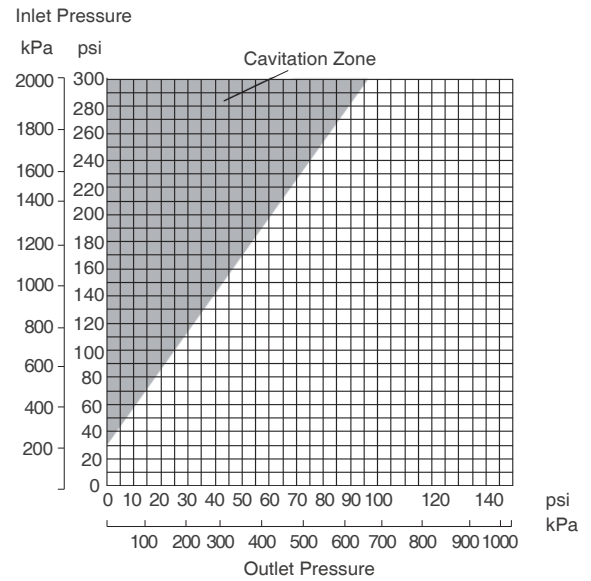
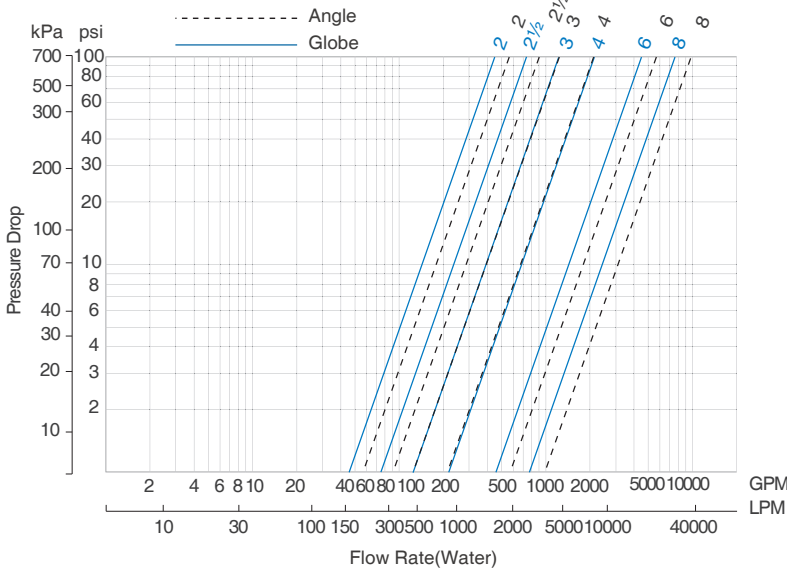
Component	Material
Body & Cover	Ductile Iron Fused Red Epoxy inside and out
Seat (Trim)	Stainless Steel - Xylan Coated (Optional)
Stem	Stainless Steel - Xylan Coated (Optional)
Spring	Stainless Steel
Elastomers	Buna-N
Pilot	Body: Copper Silicon Alloy Internals: Stainless Steel Elastomers: BUNA-N (Nitrile)
Pilot System	Strainer Flo-Clean: Brass or Stainless Steel Body, Monel Screen Fittings: Lead Free* Brass or Stainless Steel Control Tubing: Copper or Stainless Steel
Pressure Gauge	UL Approved 0-2070 kPa

Installation Dimensions



Size		Globe 150#	Globe Grooved	Center	Angle	Angle	Port Size NPT	Port Size NPT	MAX Rated Flow
in	DN	A	B	C	D	F	H	I	LPM
2	50	238	229	165	121	83	10	15	568
2½	65	279	279	191	140	102	15	15	757
3	80	305	318	210	152	102	15	15	1136
4	100	381	381	270	191	127	20	20	1892
6	150	508	508	340	254	152	20	20	4920
8	200	645	645	406	324	203	25	25	5867

Characteristic Curves



Installation & Start-Up

Refer to Std NFPA 13, and NFPA 14 for additional installation requirements as applicable for these valves. Refer to Std NFPA 25 for inspection, maintenance, and testing requirements as applicable for these valves. These valves are to be set to provide pressures and flows, and are to be tested after installation in accordance with NFPA 13 or NFPA 14 or both, whichever is applicable, and tested periodically thereafter in accordance with NFPA 25.

System Requirements

For a Valve intended for use in sprinkler systems, a relief valve of 1/2" size or larger is to be installed on the downstream side of the main valve as shown

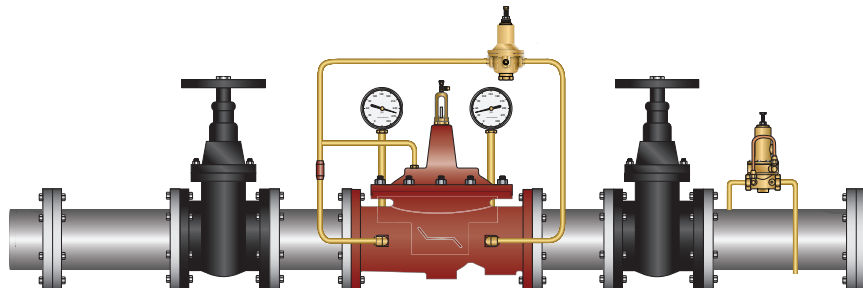
Dry Steps

- Clear the line of slag and debris.
- Install the valve so that the flow arrow matches flow into the system
- Install a pressure gauge
 - downstream of the control valve
 - in the main valve outlet side Port
 - in the pilot gauge port
- Loosen pilot lock nut to allow for adjustment.
- Loosen a tube fitting connection near the valve cover port.
- Close the downstream manual valve if installed in the system.

Wet Steps

- Slowly supply pressure/fluid to the control valve by opening the upstream manual valve. This will fill or "charge" the control valve. Care should be made not to overpressure the system
- Close the tube filling connection after all air has been vented from the line.
- Slowly open the downstream manual valve to establish flow through the valve.
- Under flowing conditions, note the outlet (downstream) pressure
- Adjust the control pilot to the desired set-point IN-Clockwise to increase the downstream pressure OUT-Counterclockwise to decrease the downstream pressure. This adjustment should be made gradually, allowing for the system pressure to change and stabilize.
- Allow the system to flow. Make final adjustments as required.
- Tighten the adjustment nut on the control when the desired outlet pressure is reached and the system is stable.

NOTICE: As a point of reference, the reducing control is factory set between 310-380kPa. The objective to proper start-up is to bring the valve into service under controlled conditions. Pressure reducing valves should be put into service with a lower initial setting, allowing for a gradual increase to the desired set-point. If the desired pressure is equal to or less than the factory setting, turn the adjustment screw on the pilot counter-clockwise (OUT) to lower the initial setting of the control.



NOTICE

The information contained herein is not intended to replace the full product installation and safety information available or the experience of a trained product installer. You are required to thoroughly read all installation instructions and product safety information before beginning the installation of this product.

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