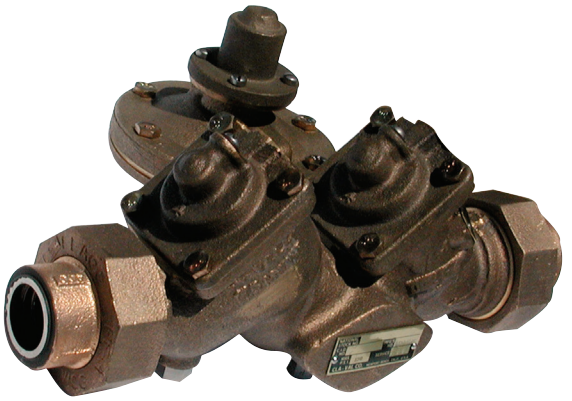
Model **RP-2M**

SHIPBOARD BACKFLOW PREVENTER



- **Positively Protects Water Lines Against the Hazards of Contamination due to Cross Connection**
- **Minimum Head Loss**
- **Reduced Pressure Principle - Maximum Backflow Protection**
- **Shock and Vibration Qualified to MIL STANDARDS**

The Model RP-2M Shipboard Backflow Preventer protects potable water lines against contamination. This device combines protection against backflow with exceptionally low head loss. It operates on the reduced pressure principle, which is the accepted method of safeguarding potable water supplies against the hazards of cross connection. The

Model RP-2M is carefully constructed of corrosion-resisting materials. It consists of two independently acting Poppet-Type Check Valves and an automatic Pressure Differential Relief Valve located between the two check valves.

The automatic Pressure Differential Relief Valve is designed to open on a decreasing differential. It is closed whenever the inlet pressure is 2 to 3 PSI higher than the pressure in the zone between the two check valves. Pressure sensing is through internal porting for reliable operation.

Principle of Operation

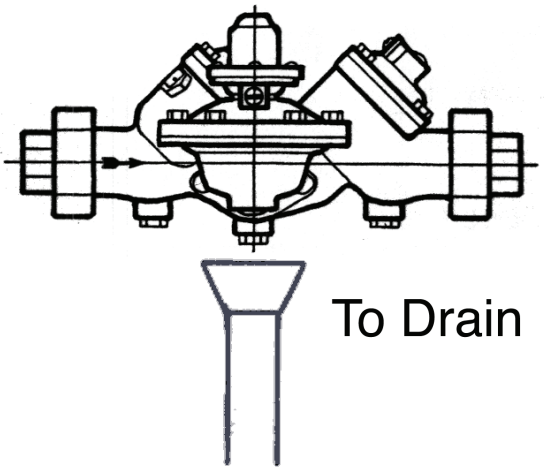
When a normal flow condition exist, both Check Valves are open and the pressure Differential Relief Valve is closed.

When flow ceases, both Check Valves close and pressure in the zone between the Check Valves is maintained at least 2 PSI lower than inlet pressure. Should inlet pressure drop to 2 PSI or less, the Pressure differential Relief Valve opens the zone between the Check Valves to atmosphere.

When a backflow condition, exists, the Pressure Differential Relief Valve will open to maintain the zone pressure at least 2 PSI less than the inlet pressure.

Installation

The Cla-Val Model RP-2M is designed to be installed in a horizontal position with the Pressure Differential Relief Valve discharging vertically down. Right hand mount of the Relief Valve is standard. Left hand mount of the Relief Valve is available at extra cost. Adequate drainage with appropriate air gap provisions must be provided for Relief valve discharge,



Specifications

Size: 3/4", 1", 1 1/4", 1 1/2"
End Detail: Threaded: ANSI B 16.15
Maximum Working Pressure: 150 psi
Max. Temperature: to 110°F

Fluid: Potable Water/ Seawater
Hydrostatic Test Pressure: to 300 psi
Military: Shock qualified to MIL-S-901C
Vibration Qualified to MIL-STD-167B

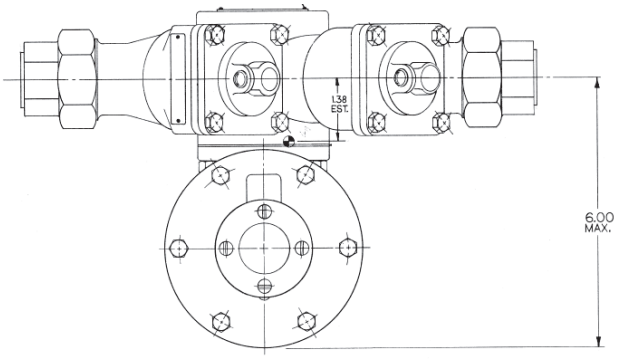
Materials

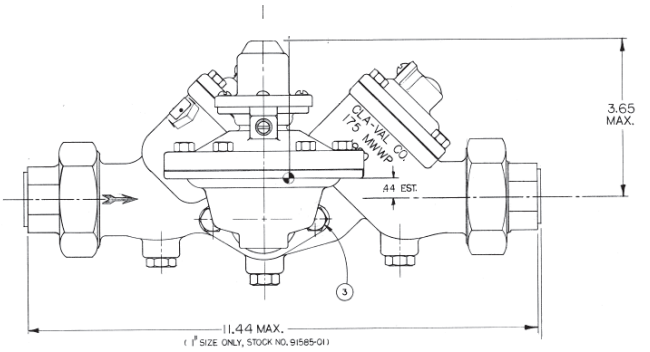
Main Body Valve and Cover: Bronze ASTM B-61
Main valve trim: Monel & Delrin
Seals: Buna-N
Diaphragm: Nylon Reinforced Buna-N

Dimensions (in inches)

Size	A	B (MAX.)	C (MAX.)	Weight LBS
3/4"	11.60	3.65	6.00	15
1"	14.44	3.65	6.00	15
1 - 1/2"	14.81	4.00	6.19	25

We recommend providing adequate space around assembly for maintenance work and testing.





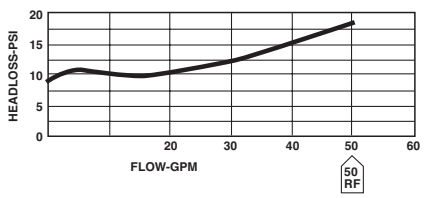
The reduced pressure principle backflow preventer shall consist of two independently acting spring-loaded check valves and an automatically operating pressure differential relief valve, and shall have provision for installing properly located test cocks. Operation shall be completed automatic. All internal parts of the spring-loaded check valves and the pressure differential relief valve must be removable or replaceable without removal of the backflow preventer form the line. The total head loss at rated flow rate through the complete backflow preventer assembly shall not exceed (select values as shown in the table). The reduced pressure principle backflow preventer shall be the Model RP-2M Shipboard Backflow Preventer as manufactured by Cla-Val, Newport Beach, California.

Valve Size in Inches	Rated Flow	Pressure Drop in PSI
3/4"	30	12.8
1"	50	12.25
1-1/2"	100	13.5

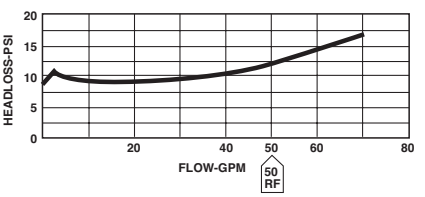
Flow Curves

Meter Rated Flow*

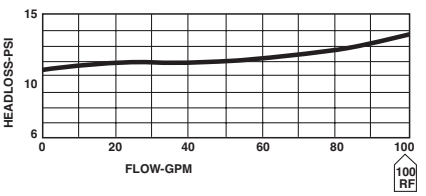
3/4" Model RP-2M



1" Model RP-2M



1-1/2" Model RP-2M



Flow curves generated by the Foundation for Cross-Connection Control and Hydraulic Research University of Southern California.
*"Metered Rated Flow" Values adopted by the American Water Works Association and the New England Water Works Association