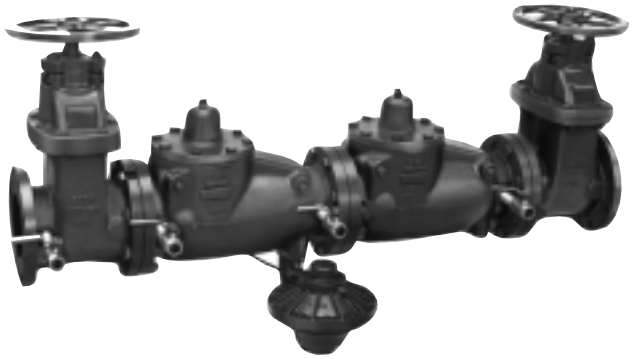
CLA-VAL™

— MODEL — **RP-4**

# Reduced Pressure Principle Backflow Preventer



Classified by Underwriters' Laboratories Inc.® as to friction loss and body strength only. (3" Through 10")

- **Meets AWWA Standard C511-89**
- **Extremely Low Head Loss**
- **Designed for Easy Field Testing**

The Cla-Val Model RP-4 Backflow Preventer protects potable water lines against contamination. This assembly combines protection against backflow with exceptionally low head loss characteristics. It operates on the reduced pressure principle, which is an accepted method of safeguarding potable water supplies against the hazards of cross-connections.

The Model RP-4 is carefully constructed of corrosion resisting materials. It consists of two independently acting toggle lever check valves, an automatic pressure differential relief valve located between the two check valves, two shutoff valves and four test cocks. The levers, links and pins are rugged, simple and direct with ample clearances to insure long, trouble free operation, even in very hard water and over prolonged periods of time.

## Operation

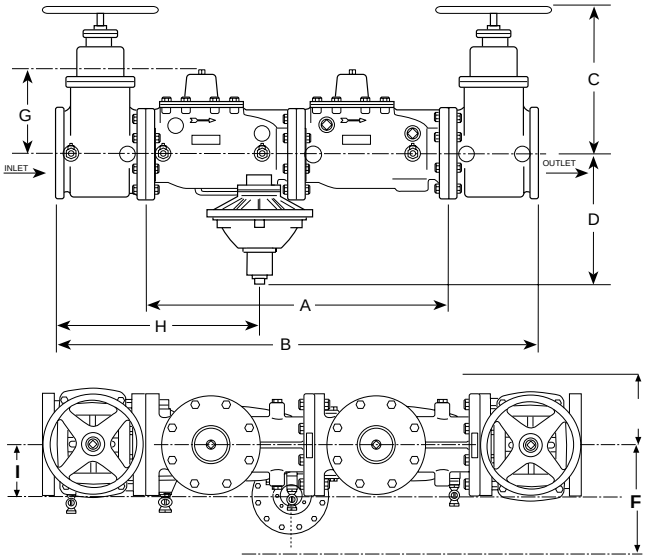
Under a normal flow condition, both check valves are open and the pressure differential relief valve is closed. During normal flow and at the cessation of flow, the pressure in the zone between the two check valves is maintained at least 2 psi less than the supply pressure by action of the pressure differential relief valve.

Under a no flow condition, both check valves are closed. When supply pressure drops **to** 2 psi above the "zone" pressure, then the relief valve discharges as necessary to maintain the "zone" pressure at 2 psi below supply pressure. When supply pressure drops **below** 2 psi above the "zone" pressure, then the relief valve opens fully.

The Model RP-4 operates efficiently at either high or low pressures. There are no pressure adjustments. The flow curves show the slight pressure drop at rated flow, (See next page.)

The assembly is required to be installed in a horizontal position and provisions for adequate drainage must be made. Right hand mount of relief valve is standard. Left hand mount is optional. Shut-off valves on 2" are resilient seat ball valves. Standard shut-off valves on 2 1/2"and larger are a resilient seat non-rising stem design. When used in fire service, OS&Y shut-off valves must be used, which are available at extra cost.
For installation recommendations see N-BKFW Installation Data Sheet.

Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California. (2" Through 10")




**RP-4** Dimensions (In Inches)

| Valve Size | 2" Screwed | 2 1/2" | 3" | 4" | 6" | 8" | 10" |
|---|---|---|---|---|---|---|---|
| A | 20.06 | 26.06 | 26.06 | 30.06 | 40.06 | 50.81 | 59.56 |
| B | 33.16 | 42.19 | 42.19 | 48.19 | 61.19 | 73.94 | 85.69 |
| C Max | 5.25 | 13.12 | 15.25 | 17.50 | 21.00 | 24.85 | 29.38 |
| D | 7.94 | 9.44 | 9.44 | 12.56 | 13.56 | 14.75 | 17.06 |
| E | 4.00 | 4.00 | 4.50 | 5.00 | 6.00 | 8.00 | 10.00 |
| F | 10.75 | 10.75 | 10.75 | 14.38 | 14.38 | 14.38 | 14.38 |
| G | 5.25 | 7.25 | 7.25 | 8.31 | 11.00 | 13.00 | 15.75 |
| H | 14.74 | 18.56 | 18.56 | 20.56 | 26.81 | 32.94 | 38.31 |
| I | 7.70 | 7.70 | 7.70 | 9.00 | 9.00 | 9.00 | 9.00 |

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

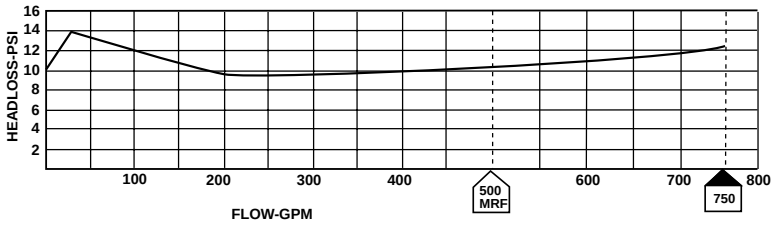
CLA-VAL™

# Model RP-4
# Reduced Pressure Principle Backflow Preventer Flow Curves

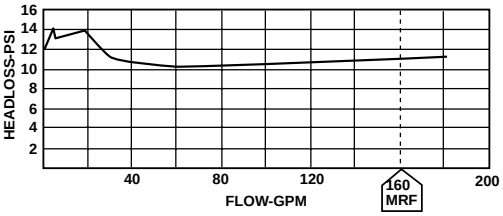
MRF Meter Rated Flow*

150% of Meter Rated Flow

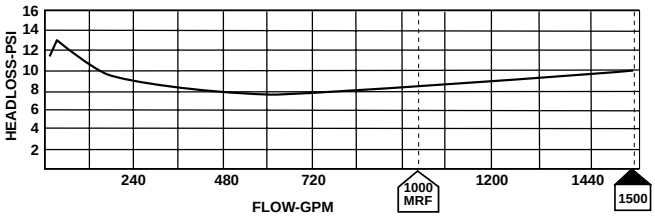
**4" MODEL RP-4**



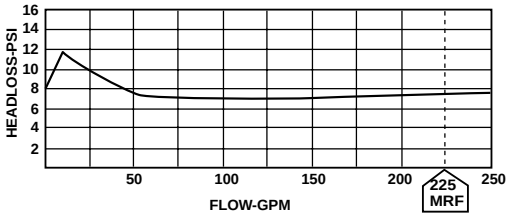

**2" MODEL RP-4**



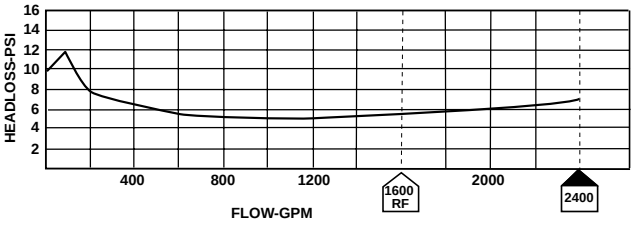

**6" MODEL RP-4**



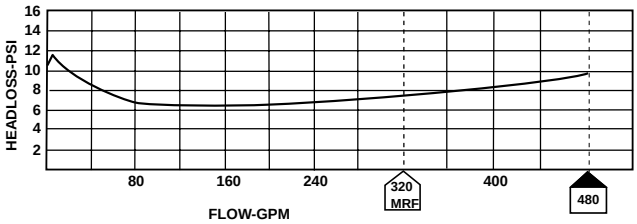

**2½ " MODEL RP-4**



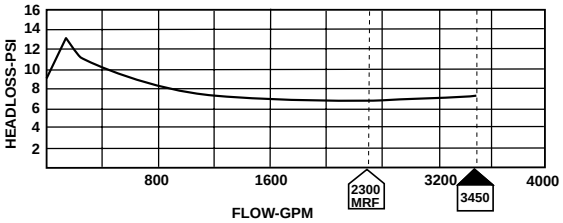

**8" MODEL RP-4**




**3" MODEL RP-4**




**10" MODEL RP-4**




*"Meter Rated Flow" Values adopted by the American Water Works Association and the New England Water Works Association.
Flow curves generated by the Foundation for Cross-Connection Control and Hydraulic Research University of Southern California.
3" thru 10" sizes are UL Classified.

## Specifications

**Sizes:**

2", 2 1/2", 3", 4", 6", 8", 10"

**End Details:**

2" Screwed:
2–11 1/2" NPT

2"-10" Flanged:
125 lb. ANSI 16.1

**Maximum Working Pressure:**

175 psi

**Hydrostatic Test Pressure:**

350 psi

**Max. Temperature:**

to 110° F

**Fluid**

Water

**Material:**

2" Main Valve Body and Cover:
Bronze ASTM B-61

2 1/2" and Larger Main Valve Body and Cover:
Cast Iron ASTM A-126 interior and exterior epoxy coated AWWA C550

Main Valve Trim:
Bronze ASTM B-61

Differential Relief Valve:
Bronze ASTM B-61 with Stainless Steel 316 Trim

**Shut-off Valves:**

Resilient Seat Non-Rising Stem Type
Epoxy Coated Interior and Exterior AWWA C550
2" only Resilient Seat Ball Valve Type


CLA-VAL
PO Box 1325 Newport Beach CA 92659-0325
Phone: 949-722-4800 • Fax: 949-548-5441

CLA-VAL CANADA, LTD.
4687 Christie Drive
Beamsville, Ontario
Canada LOR 1B4
Phone: 905-563-4963
Fax: 905-563-4040

CLA-VAL SA
Chemin des Mesanges 1
CH-1032 Romanel/
Lausanne, Switzerland
Phone: 41-21-643-15-55
Fax: 41-21-643-15-50

www.cla-val.com






Represented By: