ARMSTRONG®

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INSTALLATION AND OPERATING INSTRUCTIONS

BFP Dual Check Backflow Preventer with Atmospheric Vent

TYPICAL APPLICATIONS:

Protecting water lines has become increasingly important in modern engineering, as communities become more sensitive to the problems of safeguarding potable water. Delivering untainted water for safe and efficient consumption is the desired goal. In order to protect the lines on potable water systems, it is necessary to install valves that prevent the return of polluted water.

Armstrong BFP Backflow Preventers are specifically designed to protect against siphonage or back pressure of non-potable (non-hazardous) substances, thus preventing the flow of polluted water back into the safe drinking water supply. The BFP series valves include two spring-loaded check valves that act independently for positive protection, and also have an intermediate atmospheric vent that ensures a safeguard against backflow conditions.

The BFP backflow preventers are suitable for use under continuous pressure for either hot or cold water service. Typical applications include residential and commercial installations on boiler feed lines to prevent backflow from the heating system to the potable water supply lines when supply pressure falls below heating system pressure. In addition they can be installed on laboratory equipment, processing tanks, and other installations that contain polluted water.

TECHNICAL DATA	
Maximum Working Pressure	175 psi (1207 kPa)
Operating Temperature Range	39°F – 210°F (4°C – 99°C)
Emergency Back Pressure Temperature	250°F (121°C)
Flow Co-efficient	½" C_v = 2.0 ¾" C_v = 3.0

INSTALLATION:

1. Prior to installation, provisions should be made to flush the piping of any debris or other foreign materials to ensure proper system operation.

> **CAUTION:** Failure to follow the above instruction can permit foreign material to impede the operation of this device and lead to its premature failure.

NOTE: Steps 2 - 4 refer to models with SWEAT (Solder) connections.

2. Prior to soldering, remove union tailpieces and gaskets from the valve, to prevent valve damage. Ensure that union nuts are placed over piping.

3. Solder the valve body in line using 95/5 (95% tin, 5% antimony) type solder or equal. Always follow local plumbing codes for installation best practices.

4. After soldering, ensure that piping is properly flushed and install the valve with supplied gaskets using the union connections.

5. The BFP is internally equipped with a stainless steel filter. However, it is also recommended that a suitable strainer be installed upstream of the backflow preventer, as required by local authorities.

6. The BFP backflow preventers **must be installed horizontally** on supply pipes with the vent port pointing down, as shown in Fig 1.

7. All BFPs are marked with an arrow on the valve body to indicate direction of flow. The arrow must point in the direction of flow for proper operation.

8. The backflow preventers must be piped with a minimum 2” (5 cm) air gap from a drain to allow for water discharge from the vent port, which will occur under backflow condition. BFP must be installed in an accessible location where venting of water will not cause property damage.

WARNING: Failure to follow the above instruction can result in personal injury or property damage.

9. The BFP must be installed in a position that allows easy access for maintenance and servicing.

CAUTION: When tightening, do not apply any force to the body of the BFP backflow preventer as it may affect its operation; use the hexagonal ends of the body and the tailpiece to tighten.

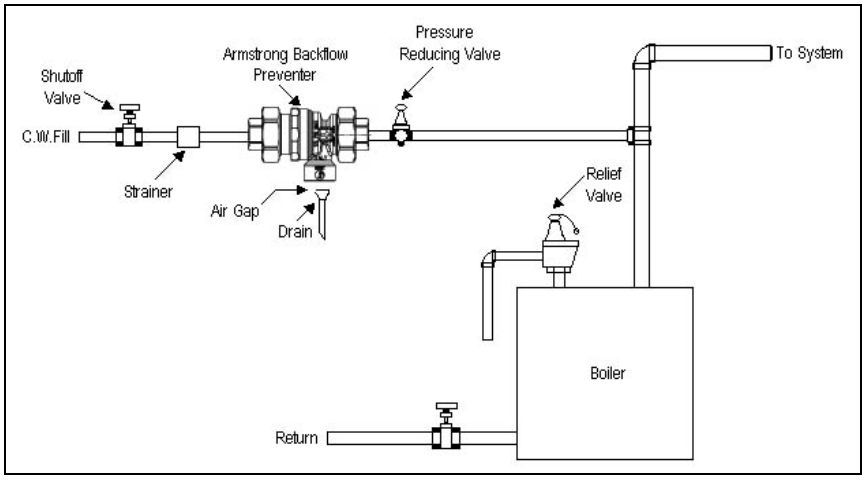

Fig. 1 Typical Installation

OPERATION

1. During normal operation of the BFP backflow preventer, the check valves are open allowing water through, while the vent connected to the drain remains closed. (Fig. 2)
2. During back-siphonage conditions, both check valves close shut and the atmospheric vent opens, permitting air to enter the intermediate zone. (Fig. 3)
3. When in a condition of back pressure, or when the second check is obstructed for accidental reasons, the vent connected to the drain opens and polluted water is ejected. (Fig. 4)
4. As a result, in any working condition, the water is unable to return to the line.

Fig. 2

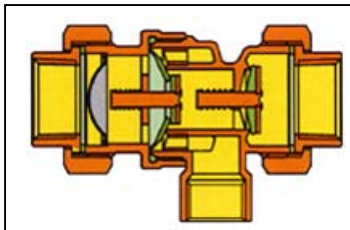

Fig. 3

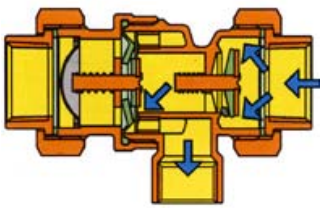

Fig. 4

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