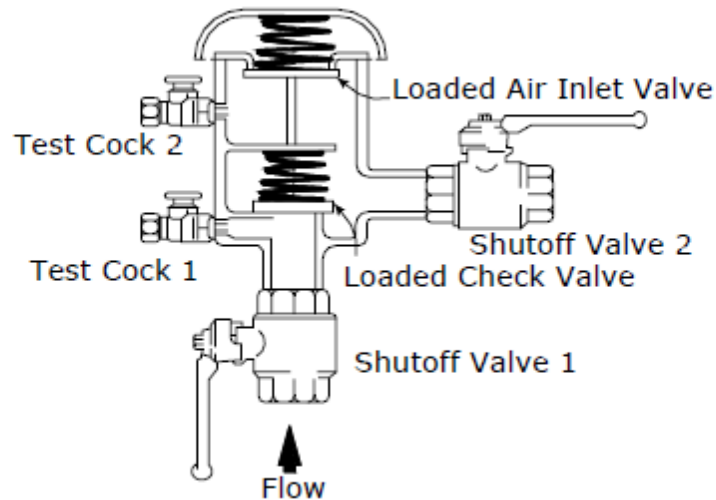


Pressure Vacuum Breaker Backflow Prevention Assembly (PVB) (Standard ASSE 1020)

Pressure Vacuum Breaker (PVB) Description (PVB). A pressure vacuum breaker assembly consists of an independently operating internally loaded check valve and an independently operating loaded air inlet valve located on the discharge side of the check valve, with properly located resilient-seated test cocks and tightly closing resilient-seated shutoff valves attached at each end of the assembly (Figure 2-16). **Approved Standards (PVB):** shall conform to ASSE standard 1020 or standards of USC FCCC & HR.



Function (PVB). Figure 2-17 indicates a normal flow situation in which the internally loaded check valve remains open, and the air inlet valve is closed. When a backsiphonage condition develops, the internally loaded check valve closes. And, if this check is not fouled, it precludes the backsiphonage of water from the PVB body and downstream piping. However, if the check valve is fouled, the air inlet valve opens with the cessation of normal flow and allows air to enter the supply pipe through the fouled check valve, thus, breaking the vacuum and not permitting backsiphonage from the downstream piping.

Application (PVB). The PVB is effective against backflow caused by backsiphonage only and should not be used if backpressure could develop in the downstream piping. The PVB is normally used at irrigation connections to protect against both pollutants and contaminants (Figure 2-19). If used for health hazards, careful consideration must be given to the possibility of the assembly being circumvented. Where such possibilities exist, area or premises isolation is necessary.

Installation (PVB). Following are several installation considerations. For more information, refer to the manufacturer's specifications.

- The PVB is designed to operate under constant pressures for long periods of time.
- The PVB shall be installed at least 12 in. (305 mm) above downstream piping and the highest fixture flood level rim, outlet, or highest point of water use.
- The PVB shall be installed in a vertical position with adequate space to facilitate maintenance and testing.
- The PVB shall be installed in an area where water spillage through the vacuum relief valve (air vent) is not objectionable.
- The PVB shall not be installed in a vent hood or where toxic or objectionable fumes could enter and contaminate the potable water piping.
- The PVB shall be installed "in line" and should be the same size as the supply and discharge piping.

- Low inlet-supply pressure will make closing of the air inlet port very difficult. Additionally, water hammer often occurs when the air inlet valve closes.
- Before installation, refer to the manufacturer’s literature for temperature ranges. The PVB must be protected from freezing temperatures. If installed where temperatures will reach 110 °F (43 °C) or above, the hot-water type of assembly must be used.
- Where test cocks are threaded, these test cocks shall be plugged and not used for any other purpose except for testing, as is the intent of the manufacturer.
- Device shall be supported to prevent sagging

PRESSURE VACUUM BREAKER
SIDE VIEW

