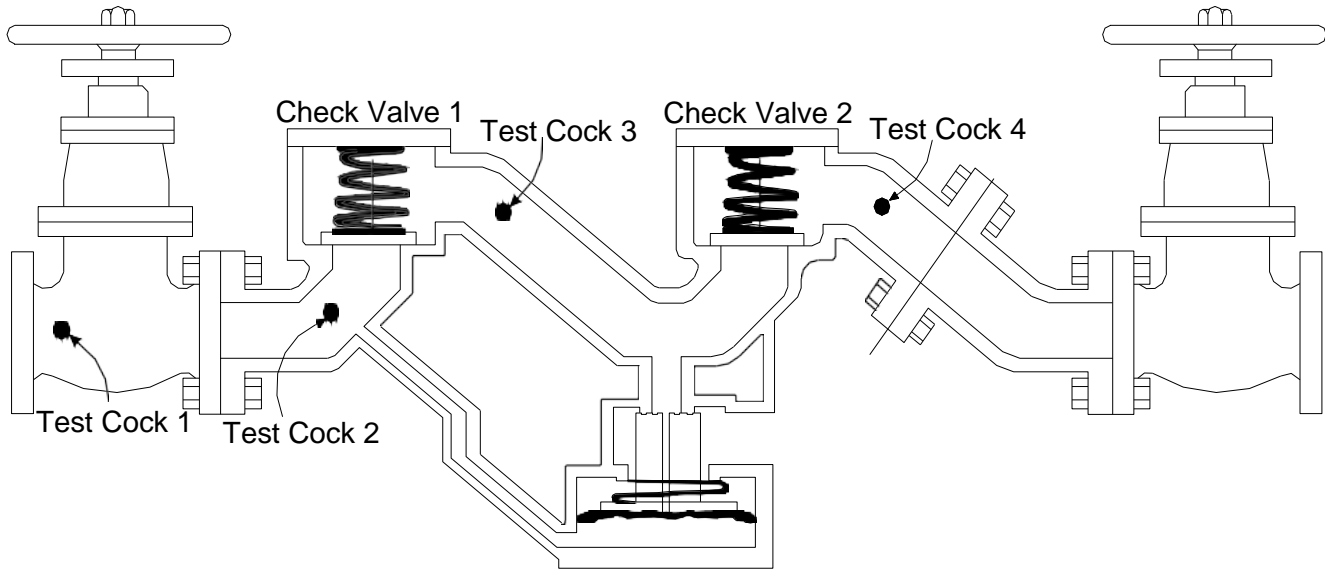


Reduced Pressure Backflow Prevention Assembly (RPBA) (Standard ASSE 1013)

Description (RPBA). The approved reduced pressure principle backflow prevention assembly consists of two independently acting, approved check valves together with a hydraulically operating, mechanically independent pressure differential relief valve located between the check valves and below the first check valve. These units are located between two tightly closing resilient-seated shutoff valves, as an assembly, and are equipped with properly located resilient-seated test cocks as shown in Figure 2-5. **Approved Standards (RPBA):** shall conform to AWWA standards C511-92 or ASSE standards 1013 or USC FCCC & HR.



Function (RPBA). During normal operation, the first internally loaded check valve creates a reduced pressure zone between the two check valves and under flow conditions both check valves open, allowing water to flow to the downstream piping. The relief valve is held closed by the supply pressure acting on a diaphragm within the relief valve. In a no-flow or static-pressure condition both check valves will close and the supply pressure will hold the relief valve shut.

Application (RPBA). The RPBA is effective against backflow caused by backpressure and backsiphonage. The RPBA is used to isolate health hazards. The main advantage is that there is visible flow if failure of the assembly or system occurs. The RPBA is normally used in locations where an approved air gap is impractical. It is important to remember that RPBA's are mechanical assemblies and must be tested and serviced regularly to maintain positive protection.

Installation (RPBA)

- The backflow device shall be installed in an accessible location to facilitate testing and servicing.
- Reduced pressure principle assemblies shall be installed in the horizontal position.
- Flush the lines before installing the RPBA.
- The RPBA shall not be installed in an area where corrosive fumes or gases could render the assembly inoperable. The RPBA shall be installed "in line" and should be the same size as the supply and discharge piping.

- The backflow device shall be installed with a minimum of 12" (inches) clearance between the relief valve opening and ground level in order to prevent any part of the device from becoming submerged. Parallel backflow devices may be necessary if water shut down during testing is not practical.
- Device shall be supported to prevent sagging.
- Where test cocks are threaded, these test cocks shall be plugged and not used for any other purpose except testing, as is the intent of the manufacturer.

Backflow devices installed in modified enclosures shall have at least 2' (feet) of clearance on each side of the device to facilitate testing and servicing. A mechanical pump shall provide adequate drainage.

A strainer is recommended and may be installed ahead of the device to extend service life by preventing fouling from debris. No strainer is to be used in a fire line without the (FM) seal of approval.

