

Double Check Valves

(Most Common Type, 99% of Installations)

Double check valves (DCV, also called double check assemblies or DCA) are a good choice for underground or indoor installations. A DCA consists of an inlet shutoff valve, two independently operating spring-loaded check valves (usually inside a single valve body), four test cocks, and an outlet shutoff valve. Double check assemblies should only be installed vertically if allowed by local building codes.



The DCA is the most common type of approved backflow prevention device for use in underground or in-line installations. In-line (or below-grade) simply means that the backflow device is parallel with the piping of the sprinkler system; unlike the PVB, the DCA does not have to be installed 12 inches above the highest point in the system. Some areas do require above-ground installation, so check with local authorities before installing below ground.

It is possible to build a double check valve assembly from new components, but this is not the best option as there is a high risk of built assemblies not meeting local code. A better option, for convenience, cost-effectiveness, and coding restrictions, is to purchase a pre-assembled double check valve assembly.

****Any Meter large Than 2" Must Have Backflow Installed in Vault**

Reduced Pressure Zone Assembly (RPZ)

(Required for Medical Facilities or Chemical Containing Facilities)

Reduced pressure zone assemblies (RPZ), also sometimes called a reduced pressure principle assembly, is the most complex and expensive backflow preventer. However, when working properly, RPZs are the most secure and reliable of all backflow prevention devices. A reduced pressure zone assembly consists of an inlet shutoff valve, two independently operating spring-loaded check valves separated by a pressure differential relief valve, four test cocks, and an outlet shutoff valve.



Some localities, such as Honolulu, do not allow reduced pressure zone assemblies to be installed below grade in underground lawn sprinkler systems, while others require copper pipe on both ends of the assembly. Local codes may be especially variable and stringent on reduced pressure zone assembly, so have a thorough understanding of local requirements before proceeding.

Reduced pressure zone assemblies come in a variety of configurations. Choose an “inline” or “straight” configuration for installation underground. For above-ground installation, consider an “n” configuration assembly for a very small footprint.