

Backflow Prevention Devices and Assemblies

Hose Connection Backflow Preventer



Summary – Hose Connection Backflow Preventer

Standards, Requirements, Usages
ASSE Standard 1052 (left), ASSE Standard 1011 (right), ASSE Standard 1019 (wall hydrant, not pictured)
Required for any new hose bibbs without integral backflow preventers or existing hose bibbs without any other backflow prevention in place
Can be used for low or high hazard applications
Can be used for backsiphonage only. No valves may be placed downline of this device
Cannot be used under continuous pressure
ASSE 1052 and ASSE 1019 backflow devices are field testable once installed

Atmospheric Vacuum Breaker (AVB)



Summary – Atmospheric Vacuum Breaker

Standards, Requirements, Usages
ASSE Standard 1001
Often installed on faucets where a hose may be attached
Can be used for low or high hazard applications
Can be used for backsiphonage only. No valves may be placed downline of this device
Cannot be used under continuous pressure
Must be installed at least 6 inches above highest downline water outlet
Cannot be field tested once installed

Pressure Vacuum Breaker (PVB)



Summary – Pressure Vacuum Breaker

Standards, Requirements, Usages
ASSE Standard 1020
Commonly installed in irrigation systems with shutoff valves downstream
Can be used for low or high hazard applications
Can be used for backsiphonage only
Can be under continuous pressure
Must be installed at least 12 inches above all downstream piping and flood-level rim of receptor
Annual testing required

Spill-Proof Pressure Vacuum Breaker (SVB)



Summary – Spill-Proof Pressure Vacuum Breaker

Standards, Requirements, Usages
ASSE Standard 1056 (ASSE 1056 SVBs is the only pressure vacuum breaker allowed for portable cleaning equipment and dental units not subject to backpressure)
May be used in the same hazard and backflow conditions as PVB meeting Standard 1020
Must be at least 12 inches above all downstream piping and flood-level rim of receptor
Annual testing required

Dual Check Valve with Intermediate Atmospheric Vent (DCVIAV)



Summary - Dual Check Valve With Intermediate Atmospheric Vent

Standards, Requirements, Usages
ASSE Standard 1012
No longer listed in the Plumbing Code. Consult Plumbing Authority on legality of use
To be used for low hazard connections only
Protects against backpressure or backsiphonage
Can be used under continuous pressure
Non-testable device
Code-approved installation on domestic boilers prior to adoption of 2015 Minnesota Plumbing Code (The effective date of the 2015 MN Plumbing Code is 1/23/2016)

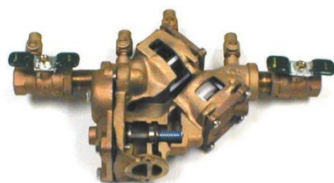
Backflow Preventer for Beverage Dispensing Equipment (DCVIAV)



Summary - Backflow Preventer for Beverage Dispensing Equipment

Standards, Requirements, Usages
ASSE Standard 1022, stainless steel type (left), bimetallic type (right)
Required on beverage dispensers, including pre/post mix carbonated beverage machines, coffee makers, and juice machines
Install in water line upstream of carbonator. No copper or brass downline
Many different types. Include stainless steel, bimetallic, and composite construction
Non-testable device

Reduced Pressure Principle Backflow Preventer Assembly (RP)



Summary - Reduced Pressure Principle Backflow Preventer Assembly

Standards, Requirements, Usages
ASSE Standard 1013 (ASSE 1047 for Fire Detector RP)
Used to safely supply water for nonpotable use, such as fire protection
Can be used for low or high hazard applications
Provides backpressure and backsiphonage protection
Can be used under continuous pressure
Annual testing required
Labeling of nonpotable water downstream may be required

Double-Check Valve (DCVA)



Summary - Double-Check Valve

Standards, Requirements, Usages
ASSE Standard 1015 (ASSE 1048 for Fire Detector DCVA)
Often used with fire protection equipment, or supplying boilers
To be used for low hazard
Provides backpressure and backsiphonage protection
Cannot be used for connection between potable and high hazard/contaminated water system
Can be used under continuous pressure
Annual testing required