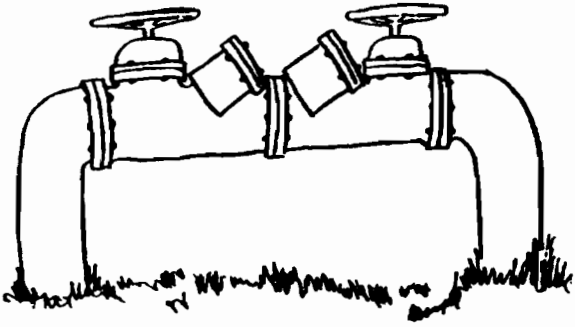
How to Select Backflow Preventers for Irrigation Systems



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Why Do We Need Backflow Preventers on Irrigation Systems?

A backflow preventer is a device which prevents contamination of the drinking water system from bacteria, insecticides, fertilizers, and other organic and inorganic contaminants which can be present in both landscape and crop irrigation systems.

These contaminants may enter the drinking water system (a "backflow") through an unprotected connection (a "cross-connection") between the drinking water system and irrigation system.

This backflow can be caused by backpressure or backsiphonage.

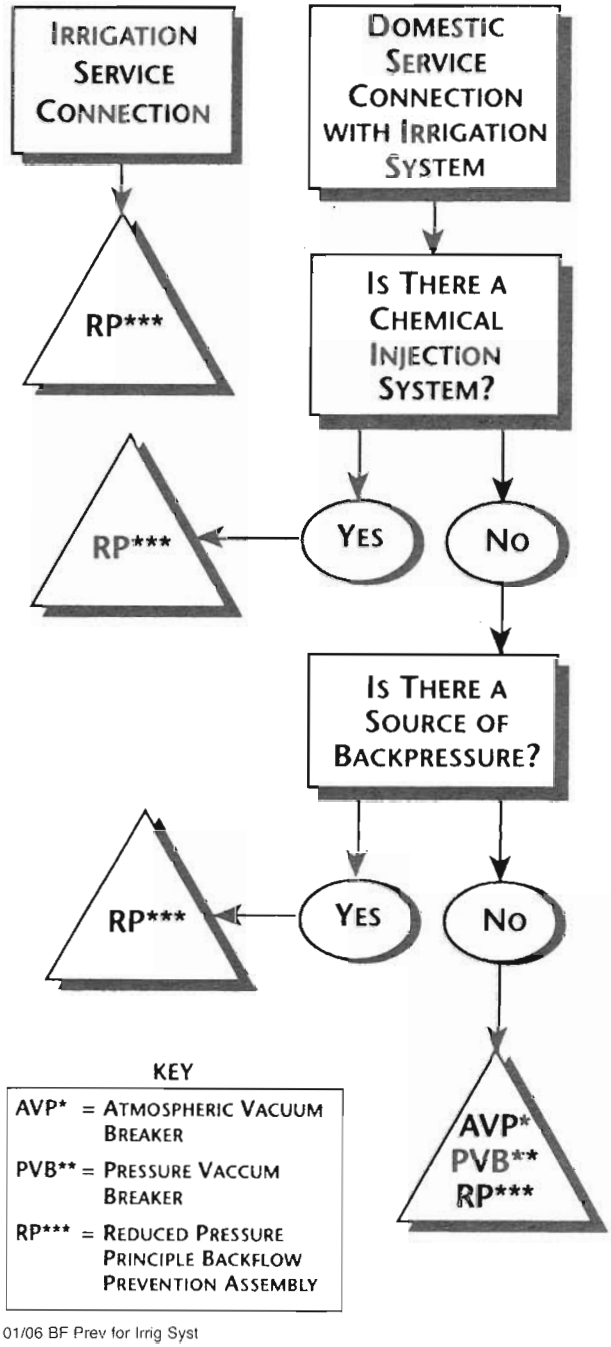
- **Backpressure** may occur when a source of pressure, such as a booster pump or pressure type chemical injector, creates a pressure greater than the drinking water system.

- **Backsiphonage** may occur when the pressure in the drinking water system drops, siphoning the contents of the irrigation system back into the drinking water supply.

There are three types of mechanical backflow preventers approved for use on irrigation systems:

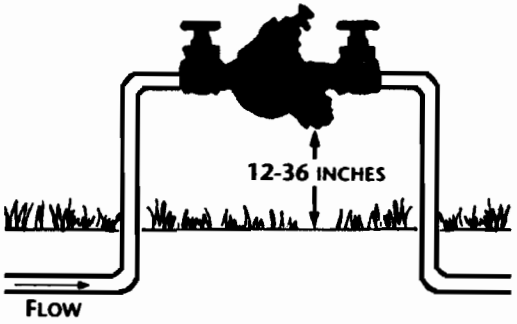
1. **Reduced Pressure Principle Backflow Prevention Assembly (RP)**
2. **Pressure Vacuum Breaker (PVB)**
3. **Atmospheric Vacuum Breaker (AVB)**

Backflow Device Selection Guide



01/06 BF Prev for Irrig Syst

1. Reduced Pressure Principle Backflow Prevention Assembly (RP)

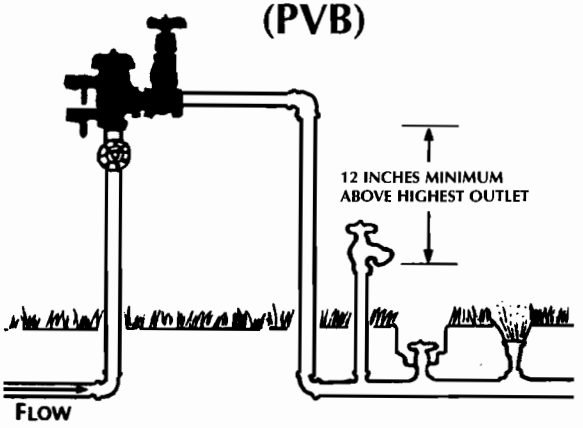


The RP is a mechanical device effective against both backpressure and backsiphonage.

Control valves, chemical injectors, and sources of backpressure are permitted downstream or RPs.

The device must be mounted twelve to thirty-six inches above the surrounding ground and is subject to periodic testing requirements.

2. Pressure Vacuum Breaker (PVB)

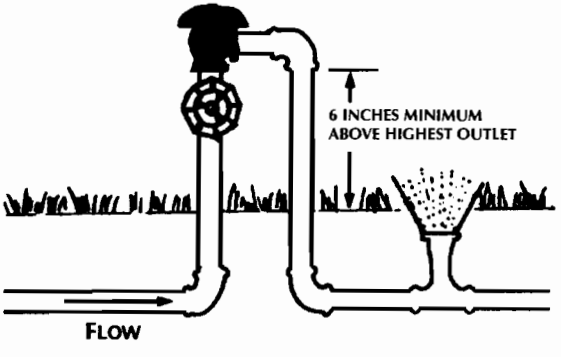


A PVB is a mechanical device effective only against backsiphonage.

Control valves are permitted downstream of the device. It must be installed twelve inches above the surrounding ground and twelve inches above the highest downstream piping or outlet.

No injection equipment or backpressure of any kind is permitted downstream of the device. It is subject to periodic testing requirements.

3. Atmospheric Vacuum Breaker (AVB)



An AVB is a simple mechanical device effective only against backsiphonage.

It must be installed downstream of the last control valve and at least six inches above the surrounding ground and the highest downstream piping or outlet.

No injection equipment or backpressure of any kind is permitted downstream of this device.

AVBs are not subject to periodic testing. While AVBs are relatively inexpensive, it is often necessary to install several of them on each system.

Device Location

On an irrigation service connection, the backflow preventer must be installed at the service connection.

On a domestic service connection, the backflow preventer must be installed at the point where the irrigation system connects to the onsite drinking water system.

It should be noted that a legal airgap can be substituted for any of the aforementioned backflow preventers.

Airgaps are generally only practical on large crop irrigation systems because repressurization of the water is required after it passes through the airgap.

If you have any questions or would like to know more about water quality protection and cross-connection control, contact your water purveyor or:

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