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# Backflow Prevention - Frequently Asked Questions

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## **What is backflow?**

Backflow is the undesirable reversal of flow in a potable water distribution system through a cross-connection. A cross-connection is an actual or potential link connecting a source of pollution or contamination with a potable water supply. Backflow may allow liquids, gases, nonpotable water and other substances, from any source, to enter a public water system.

## **How does backflow occur?**

Backflow may occur due to high pressure on the customer side, or low pressure in the water system. Backflow through a cross-connection can contaminate the potable water in a building, on a block, or throughout an entire water system.

## **What is backflow prevention?**

Backflow prevention protects public water systems from contamination or damage through cross-connections located in customer facilities. Backflow prevention is typically achieved by placing a backflow prevention assembly between the customer and the public water system. This is called containment backflow prevention.

## **Does my water system require backflow prevention?**

Missouri's backflow prevention regulation (10 CSR 60-11.010) applies to all community water systems. These are water systems that serve at least 15 connections or at least 25 people on a year-round basis. Missouri has more than 1,400 community water systems. They serve more than 4.9 million people, almost 90 percent of the state population.

## **Must my home or business have backflow prevention?**

Many businesses must have backflow prevention. Common examples are manufacturing and processing plants, medical facilities, laboratories (including school chemistry and biology labs), and buildings that have boilers, fire sprinkler systems and irrigation systems.

Solely residential facilities are exempt from the rule unless a specific cross-connection is identified. For example, single-family residences with a lawn irrigation system require backflow prevention. Multi-family residences with a boiler or fire sprinkler system require backflow prevention.

Call your local water supplier to confirm whether or not backflow prevention is required at your home or business.

## **What kind of backflow prevention is required at my home or business?**

Under the Missouri rule, three types of backflow prevention assemblies are permissible for containment: air gaps, reduced pressure principle assemblies and double check valve assemblies. The type of assembly you need depends on the type of hazard present.

Generally, where you have a backflow hazard that may threaten public health you must have an air gap or a reduced pressure principle assembly. Where there is a lesser hazard that may damage the water system or degrade the aesthetic quality of the water, a double check valve assembly is required.

Only approved backflow prevention assemblies may be used. If you can find the manufacturer and model number on your assembly you can check with your water supplier to find out if it is an approved assembly. Modifications to an assembly invalidate the approval. If your assembly looks like it has been changed, get in touch with your water supplier or a certified backflow prevention assembly tester to see if it is an approved assembly.

Water suppliers may have more strict or specific requirements than the state rule. Contact your local water supplier to make sure you have the appropriate backflow prevention assembly to meet local requirements.

### **Must I have my backflow prevention assembly inspected?**

Yes. To ensure the device is functioning properly, a certified tester must test it at least annually. For new facilities, the assembly must be tested when installed. If the tester finds the assembly is not working, you must arrange to have it repaired and tested again. It is your responsibility to pay for the test and repairs. The tester is required to provide a copy of the test report to you and the water supplier. To obtain a list of certified testers in your area, call your water supplier or the Missouri Department of Natural Resources.

### **Does the backflow prevention assembly protect my entire facility?**

No. The required backflow prevention assembly provides containment and it protects the public water system from hazards in your facility. Cross-connections in your own plumbing may allow contaminants to backflow from hazardous processes to drinking water taps in your building.

Backflow prevention applied within a facility to protect drinking water plumbing from process plumbing is called isolation. Isolation backflow prevention is not covered by departmental rules, but may be required by local plumbing codes. Check with your local code enforcement agencies to see what standards apply to your facility.

### **Additional Resource:**

*Cross-Connection Control Manual*,  
U.S. Environmental Protection Agency (EPA 816-R-03-002, February 2003),  
[www.epa.gov/safewater/crossconnection.html](http://www.epa.gov/safewater/crossconnection.html)

### **For more information**

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