BLOUNTVILLE UTILITY DISTRICT
PROCEDURE *REQUIREMENTS* FOR
NEW SERVICE TAPS

1. At the time of sign up for water service by the Customer, The Utility will require the Customer provide a Property Tax Card, Tax Map, or some form of ownership, to insure they are eligible for water services as provided in the Utility's Policy, Rules, and Regulations.

2. Once the Customer has met the eligibility requirements for water service, they will be required to pay all necessary fees, complete Water Service Contract and Cross-Connection Control Survey. This Survey will determine what requirements will be necessary for the Customer to comply with the Utility's Cross-Connection Policy. A violation of the Utility's Cross-Connection Policy includes having the Utility's water supply connection to an auxiliary water supply (well) or anything potentially harmful that could backflow into the Utility's water system. If this condition exists or will exist in the future, the Utility will require complete separation.

3. Once the Customer has completed all the necessary steps to sign up for water services the Utility will provide the Customer with a blue flag with their address on their property line in a location that is mutually agreeable to both the Customer and the Utility.

4. When the Utility installs the water tap on the Customer's property line, the water tap will be **locked out until a shut-off device just outside the meter box has been installed** on the Customers side of the water tap and an inspection performed by Utility personnel. To be in compliance with Blountville Utility District the customer **must install and maintain a shut-off device** just outside the meter box on the customer's side.

5. The customer shall be responsible for and bear the expense of installing and maintaining the above plumbing from the meter setter to the Customer's residence/business.

6. In addition to inspecting the required shut-off device, Utility personnel will inspect the Customers plumbing arrangements for any cross-connection problems/violations. This inspection will be based upon the Cross-Connection Control Survey completed previously by the Customer and Customer Type as noted in the Customer's Water Service Contract. Any cross-connection violation will require complete separation by the customer.

7. Once the shut-off device has been installed inspected and approved by Utility personnel, water service will be turned on to the Customer.

8. No trip charge fee will be charged for the initial turn on/inspection; however, a trip charge fee will be charged for any subsequent requests for turn on/offs in the future.

9. The Utility will begin charging the Customer for water service on the date the water meter is installed by the Utility.

The cut-off device inside the water meter box is the property of the Utility. Only Utility personnel are authorized to operate this cut-off, or anything located inside the meter box.

Customer Contract

a) Treat the Applicant in actual possession of the premises at the service address as being entitled to such service, notwithstanding the rights or claims of other persons;

b) Withhold service pending a judicial or other settlement of the rights of the various claimants.

THIS AGREEMENT, entered into by and between Blountville Utility District of Sullivan County, Tennessee, a Utility established and existing under the laws of the State of Tennessee, hereinafter referred to as the "Utility," and the Applicant, hereinafter referred to as "Customer":

Full Legal Name(s): _____

Street/911 Address (for service): _____

Billing Address (if different): _____

Driver License No.(s): _____

Phone No. of Service Address: (_____) _____ - _____ (_____) _____ - _____

Applicant is: ____ Owner ____ Renter ____ Other: (*specify*) _____

Service Type: ____ Residential ____ Business

Is there any medical reason that service cannot be interrupted? _____(Yes) _____(No)

Written verification from a medical doctor is required before meter can be labeled as non-cut-off. The water bill is still required to be paid in full, but notification will be made prior to disconnect.

The meters will be read between the thirteenth (13th) and the eighteenth (18th) of each month. Bills will be mailed to customers the last working day of each month. The due date is as followed: If your payment has not been received by 5:30 pm on the 25th of the month, the utility will automatically add a past-due fee of $50.00 to your account and the services will be subject to disconnect for non-payment on the 26th should payment not be received by this date and time.

Blountville Utility District is ***NOT RESPONSIBLE*** for any damage to Personal, or Private property that results from or due to having the water meter turned on.

In consideration of payment by the Customer of certain fees detailed in the "Schedule of Rates and Charges", the Utility agrees to furnish service to the service address listed herein, and the Customer agrees to purchase services from the Utility, subject to the terms and conditions herein set forth.

1 ... The obligations of this contract shall be binding upon the executors, administrators and estate of the original parties, provided that no application, service agreement or service contract may be assigned or transferred without the written consent of the Utility.
2 ... It is agreed that if Customer sells, subdivides or leases the property herein described, Customer will notify the Utility in order that it may execute a new contract with the successor Customer.
3 ... It is understood and agreed that every condition of this contract is of the essence of the contract, and if breached, the Utility may cut off one or all of its services to the service address and may not be reconnected except by order of the Utility, after the payment of all rates and charges have been made by the Customer.
4 ... Services provided by the Utility shall be supplied only to the Applicant at the address named in this contract. Customer **shall not connect any other dwelling or property to his service.**
5 ... The meter and related appurtenances serving the Customer's service address shall remain the property of the Utility.
6 ... The Utility or its agents reserve the right to make inspections of the service installation within the Customer's premises upon reasonable notice and at reasonable time. The Utility assumes no liability operation or maintenance of the Customer's plumbing.
7... The Customer agrees to keep the property at the service address accessible and free from impediments included but not limited to: not to be fenced-in, clear of trees, bushes, shrubs, structures, vehicles and equipment to Utility access, maintenance and meter reading. Upon notification from the Utility, the Customer agrees to remove any impediments to Utility access. If such impediments are not removed within such reasonable time as requested by the Utility, service will be disconnected. Service shall be reinstated after any impediments are removed and all bills, reconnection fees and other such fees are paid by the Customer.
8... The Utility shall have the right to restrict, control or discontinue service at any time during emergencies or repairs. The Utility shall not be liable for failure to furnish service for any reason beyond its control or for any loss, injury or damage to persons, plumbing or property resulting from such service curtailment or discontinuance.
9 ... The Utility makes no guarantees, expressed or implied, as to service quality, quantity, pressure, consistency or continuity.
10 ... The Utility shall, at its discretion, specify how and what uses may be made of service provided to Customer. If the Customer fails to comply with the uses so specified, service shall be discontinued.
11 ... All pressure regulators, valves, service lines, backflow preventers and other devices located on the Customer's side of the meter are the responsibility of the Customer. No pump may be installed on potable water lines without the written permission of the Utility.
12 ... Customer agrees not to allow any cross-connection between Utility service and a private well or spring or any other connection, either inside or outside of any building, in such manner that a flow of water from such connection may potentially be introduced into Utility service lines.
13 ... All requests for disconnection of service should be made either in writing or in person if possible. The utility will accept telephone requests for discontinuance if caller can give adequate identification. The Utility will make every effort to respond within a reasonable time.
14 ... If the Applicant fails to connect to the system when service is available and a tap is made, the Customer will pay the minimum bill, not to be less than one (1) year.
15 ... The Customer shall be responsible for installing and maintaining a pressure regulator device and cutoff valve on their line.
16 ... If the Utility discontinues service for non-payment or any other reason and the service is turned on without authority of the Utility, the Utility shall charge a penalty charge according to its Rates and Fees Schedule.
17 ... The Customer agrees that in the event any utility property is damaged, destroyed or tampered with by the fault of the Customer, it shall be repaired or replaced at the Customer's expense and shall be subject to the fees and charges set forth in the Utility's "Theft & Tampering policy".
18 ... The Utility shall have the right to estimate or prorate any bill when conditions beyond the control of the Utility prevent the normal billing procedure.
19 ... If the Customer after signing this Contract does not take the service for any reason, the Customer shall reimburse the Utility for any expenses incurred.
20 ... The receipt by the Utility of the application for service of the prospective Customer, regardless of whether or not accompanied by payment of fees, shall not obligate the Utility to render such service. If the service cannot be supplied in accordance with the Utility's policies, rules, regulations and general practice or those of any state or federal agency with oversight regarding service, the liability of the Utility to the Applicant for such service shall be limited to the return of any fees paid to the Utility by such Applicant.
21 ... Customer agrees that this document is only an Application for service and shall not be effective as a Contract until approved by an official of the Utility. If the service in the opinion of the Utility cannot be supplied, the liability of the Utility to the Customer shall be limited to the return of any fees, less any project development costs as incurred by the Utility.
22 ... As a condition of service, the property owner shall provide at no cost a suitable place for the installation of the meter and related equipment and give an easement to the Utility for said location. If for any reason a Customer wishes to have their meter relocated (any time after the initial installation) the Customer must pay all cost incurred for the relocation. If the Utility at any time determined that the Customer has altered the area where the meter was initially installed, and this area is no longer a suitable location as determined by the Utility the customer must pay all costs incurred by the Utility to relocate the meter.
23 ... The Utility bills for services monthly, and bills are mailed in bulk at the US Post office. The Utility cannot guarantee the delivery of its bills. Failure to receive a bill does not relieve the Customer of the responsibly of paying of the bill.
24 ... If the Utility damages any underground facilities the Customer cannot locate, the Customer will be responsible for all repairs.

By my signature, I obligate myself to obey all rules and regulations of the Utility and pay for all Utility service at the service address in accordance with the prevailing rate schedule set by the Governing Board. In the event of non-payment or unauthorized partial payment, I agree that the Utility may terminate service and that all unpaid bills are immediately payable by me, including all costs of collection and attorney's fees. It is further understood that the Utility has the right and shall continue to have the right to make, amend and enforce any policies, regulations or by-laws that may be necessary or proper regarding any Utility matter. The Customer agrees to abide by such policies, regulations or by-laws.

Signature: _____ Date: _____

Blountville Utility District
P. O. Box 469
Blountville, TN 37617

WELL USER AGREEMENT

In accordance with System Name's cross connection control program, a private well or auxiliary water source may not be connected in any manner to the public water supply unless proper protection against cross connection is provided. Only Reduced Pressure Backflow Preventers or approved air gaps may be used for protection. These devices must have prior approval by the System Name. Customers not in compliance with this rule will have their water service discontinued.

Check appropriate box

☐ *This serves as notification that a well is located on the property at the following address:*

☐ *This serves as notification that a well is not located on the property at the following address:*

_____
Please type or print

_____

_____

I (we) understand and agree that this system is, and shall remain totally segregated from the public water supply, and no unapproved or unauthorized cross connections, auxiliary intakes, bypasses, or interconnections will be permitted without the written approval of the Pleasant View Utility District

I (we) further understand and agree that should an auxiliary water supply be connected to the public water system at the above address, maximum cross connection control equipment in the form of an approved air gap or reduced pressure backflow prevention device shall be installed to protect the public water supply.

Date: _____

Name: _____

Signature: _____

Blountville Utility District
Multiple Connections to One Meter

BACKGROUND AND PURPOSE:

It is accepted utility practice in the United States that only one dwelling be allowed to hook on to a single utility service line. The costs of utility service are to be shared as equitably as possible among utility Customers. Minimum bills reflect, among other things, the overhead required to keep utility service in place, regardless of whether a particular Customer uses the service during a billing period. The fact that service is ready upon demand 24 hours every day to meet a Customer's potential needs places financial demands on the system that are generally reflected in the minimum bill. If utilities were to allow more than one Customer to hook up to a single service line, several users would be paying only one minimum bill. The legitimate overhead costs of the system would be disproportionately passed on to other Customers.

In addition, the following circumstances require the Utility to limit service to one dwelling unit per meter:

a) Extending lines to serve more than one Customer through a single service line may create pressure and/or quality problems within the system;
b) Meters and other equipment have a definite capacity and working range. If more than one Customer is served by a single residential meter installation, the reliability and life span of the equipment is impaired;

The Utility is run for the benefit of all present and future Customers, and while no Customer shall intentionally be treated unfairly, no Customer shall be treated in a way that compromises the interests of other Customers.

LIMITATIONS:

The Utility is subject to various state, federal regulations and requirements it has no discretion to offer service in a manner, which would violate these regulations.

POLICY STATEMENT:

1 ... The service connection to single family residences shall be limited to serving one residence only. No other dwelling, whether located on the same parcel or on an adjoining parcel, shall be served through the same service connection. Customers may have lines extended to barns and other uninhabited buildings as part of their service, provided that the installation meets the Utility's specifications.

2 ... A residential tapping privilege **shall not** entitle a Customer to connect a commercial or industrial business such as a beauty parlor or repair shop to the Utility's lines without notifying the Utility and paying the additional amount required for a commercial or industrial tap.

3 ... Authorized employees, representatives and contractors of the Utility shall have access to all properties served by the Utility at reasonable times for the purpose of reading meters, maintaining and inspecting lines and connections to the Utility (or believed to be connected to the Utility), observation, measurement, sampling and testing as provided by the policies of the Utility and by state and federal law.

4 ... The failure of a Customer to comply with the provisions of this and other policies of the Utility shall constitute a breach of contract by the Customer. Any Customer found to be violating any provision of this policy shall be served by the Utility with written notice stating the nature of the violation and providing a time limit for the satisfactory correction thereof. The offending Customer shall, within the period of time stated in such notice, permanently cease all violations.

5 ... Any Customer who shall continue any violation beyond the time limit stated in the notice shall be disconnected from the system at the convenience of the Utility.

6 ... If more than one Customer is served from a single residential meter installation, the reliability and lifespan of the equipment is impaired. Connection of more than one unit to a meter, failure to give notice of additions, and changes in service to Utility equipment shall render the Customer liable for any damage to Utility lines, or other equipment caused by the addition or modified installation.

7 ... The following residential dwellings shall have a SEPARATE METER FOR EACH LIVING UNIT:

a) Single-family dwellings;
b) Duplexes (two (2) meters).

8 …The following residential dwellings shall be allowed to maintain multiple living units on one COMMERCIAL tap:

a) Mobile home parks;
b) Apartment buildings;
c)Hotels, motels and campgrounds.

50

Cross-Connection Questions, Answers, & Illustrations

Relating To

Backflow Prevention Products

and

Protection of Safe Drinking Water Supply

WATTS® REGULATOR

U.S.A: 815 Chestnut St., No. Andover, MA 01845-6098; www.wattsreg.com
Canada: 5435 North Service Rd., Burlington, ONT. L7L 5H7;www.wattscanada.ca

ISO 9001 CERTIFIED

1 What is back-siphonage?

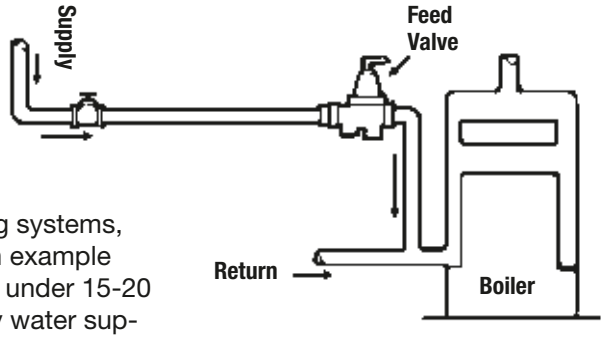
Back-siphonage is the reversal of normal flow in a system caused by a negative pressure (vacuum or partial vacuum) in the supply piping.

2 What factors can cause back-siphonage?

Back-siphonage can be created when there is stoppage of the water supply due to nearby fire-fighting, repairs or breaks in city main, etc. The effect is similar to the sipping of a soda by inhaling through a straw, which induces a flow in the opposite direction.

3 What is backpressure backflow?

Backpressure backflow is the reversal of normal flow ina system due to an increase in the downstream pressure above that of the supply pressure.

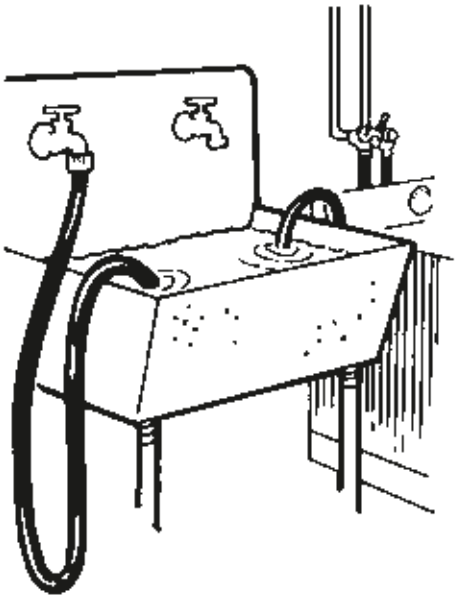


4 What factors can cause a backpressure-backflow condition?

Back pressure-backflow is created whenever the downstream pressure exceeds the supply pressure which is possible in installations such as heating systems, elevated tanks, and pressure-producing systems. An example would be a hot water space-heating boiler operating under 15-20 lbs. pressure coincidental with a reduction of the city water supply below such pressure (or higher in most commercial boilers). As water tends to flow in the direction of least resistance, a backpressure-backflow condition would be created and the contaminated boiler water would flow into the potable water supply.

5 What is a cross connection?

A cross connection is a direct arrangement of a piping line which allows the potable water supply to be connected to a line which contains a contaminant. An example is the common garden hose attached to a sill cock with the end of the hose lying in a cesspool. Other examples are a garden hose attached to a service sink with the end of the hose submerged in a tub full of detergent, supply lines connected to bottom-fed tanks, supply lines to boilers.

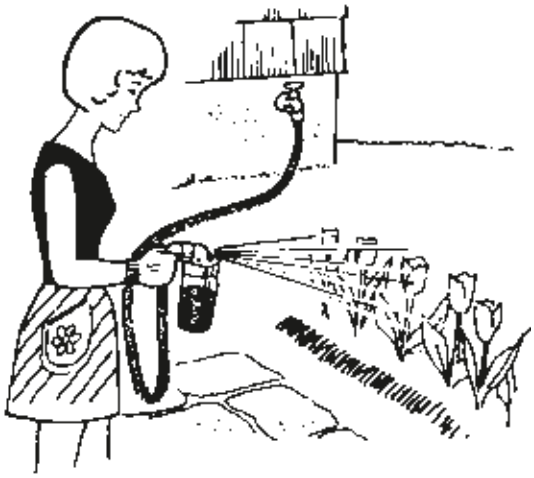


6 What is the most common form of a cross connection?

Ironically, the ordinary garden hose is the most common offender as it can be easily connected to the potable water supply and used for a variety of potentially dangerous applications.

7 What is potentially dangerous about an unprotected sill cock?

The purpose of a sill cock is to permit easy attachment of a hose for outside watering purposes. However, a garden hose can be extremely hazardous because they are left submerged in swimming pools, lay in elevated locations (above the sill cock) watering shrubs, chemical sprayers are attached to hoses for weed-killing, etc.; and hoses are often left laying on the ground which may be contaminated with fertilizer, cesspools, and garden chemicals.



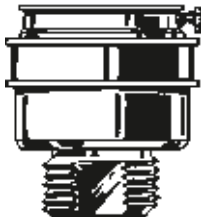
8 What protection is required for sill cocks?

A hose bibb vacuum breaker should be installed on every sill cock to isolate garden hose applications thus protecting the potable water supply from contamination.

Hose Bibb Vacuum Breaker
Watts 8

9 Should a Hose Bibb Vacuum Breaker be used on frost-free hydrants?

Definitely, providing the device is equipped with means to permit the line to drain after the hydrant is shut-off. A “removable” type hose bibb vacuum breaker could allow the hydrant to be drained, but the possibility exists that users might fail to remove it for draining purposes, thus defeating the benefit of the frost-proof hydrant feature. If the device is of the “Non-Removable” type, be sure it is equipped with means to drain the line to prevent winter freezing.



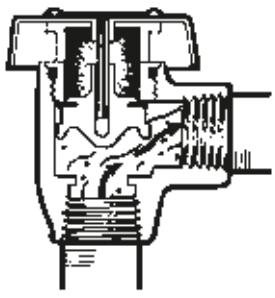
Hose Bibb Vacuum Breaker
for Frost-Proof Hydrants
Watts NF8

10 Can an Atmospheric, Anti-Siphon Vacuum Breaker be installed on a hose bibb?

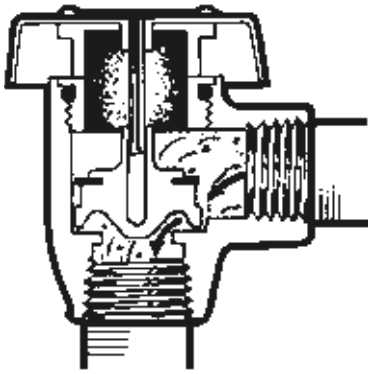
Theoretically yes, but practically no. An anti-siphon vacuum breaker must be elevated above the sill cock to operate properly. This would require elevated piping up to the vacuum breaker and down to the sill cock and is normally not a feasible installation. On the other hand, a hose bibb vacuum breaker can be attached directly to the sill cock, without plumbing changes and at minor cost.

11 What is an Atmospheric Vacuum Breaker?

The most commonly used atmospheric anti-siphon vacuum breakers incorporate an atmospheric vent in combination with a check valve. Its operation depends on a supply of potable water to seal off the atmospheric vent, admitting the water to downstream equipment. If a negative pressure develops in the supply line, the loss of pressure permits the check valve to drop sealing the orifice while at the same time the vent opens admitting air to the system to break the vacuum.



Atmospheric Vacuum Breaker
Watts 288A

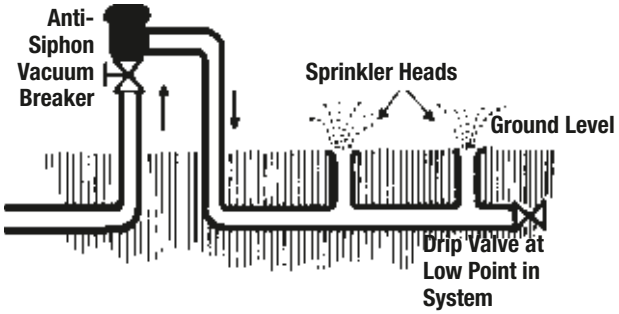


12 Will an Anti-Siphon Vacuum Breaker protect against a backpressure backflow condition?

Absolutely not! If there is an increase in the downstream pressure over that of the supply pressure, the check valve would tend to "modulate" thus permitting the backflow of contaminated water to pass through the orifice into the potable water supply line.

13 Can an Atmospheric Vacuum Breaker be used on lawn sprinkler systems?

Yes, if these are properly installed, they will protect the potable water supply. The device shall be installed 6" above the highest sprinkler head and shall have no control valves located downstream from the device.



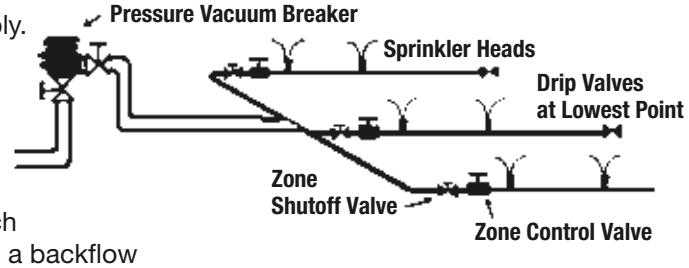
Single Zone System

14 Can an Atmospheric Vacuum Breaker be used under continuous pressure?

No! codes do not permit this as the device could become "frozen", and not function under an emergency condition.

15 Can a Pressure Vacuum Breaker be used on a multi-zone lawn sprinkler system?

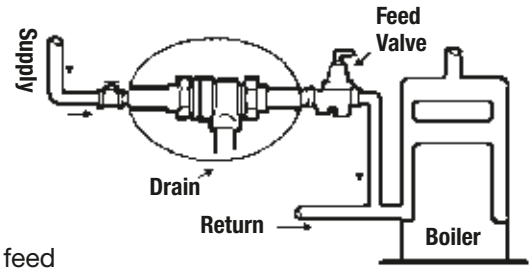
Yes. This type of vacuum breaker can be used under continuous pressure. Therefore, if properly installed, it will protect the potable water supply. The device shall be installed 12" above the highest sprinkler head.



Multi-Zone System

16 What is continuous pressure?

This is a term applied to an installation in which the pressure is being supplied continuously to a backflow preventer for periods of over 12 hours at a time. Laboratory faucet equipment, for example, is entirely suitable for a non-pressure, atmospheric anti-siphon vacuum breaker because the supply is periodically being turned on and shut off. A vacuum breaker should never be subjected to continuous pressure unless it is of the continuous pressure type and clearly identified for this service.

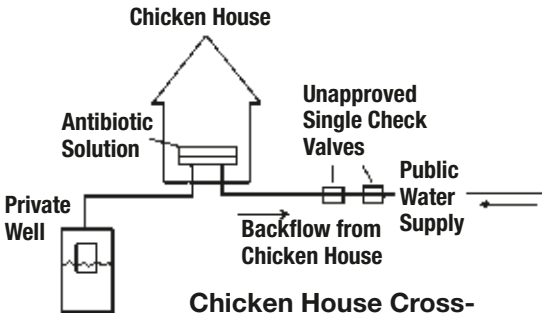


17 Are check valves approved for use on boiler feed lines?

Most jurisdictions require backflow protection on all boiler feed lines. Some will allow a backflow preventer with intermediate vent as minimum protection for residential boilers. A reduced pressure backflow preventer is generally required on commercial and compound boilers. However, low cost, continuous pressure backflow preventers are now available which will perform with maximum protection; thus check valves are not recommended.

18 What is the difference between pollution and contamination?

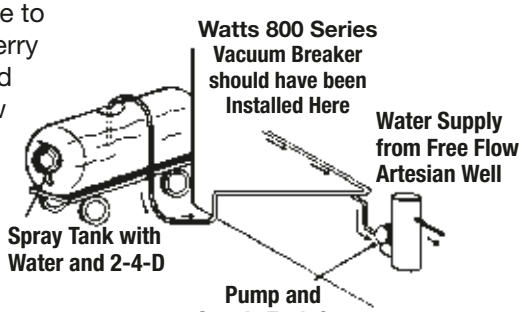
Pollution of the water supply does not constitute an actual health hazard, although the quality of the water is impaired with respect to taste, odor or utility. Contamination of the water supply, however, does constitute an actual health hazard; the consumer being subjected to potentially lethal water borne disease or illness.



Chicken House Cross-Connection, Spring 1991

19 What recent case would reflect users being exposed to contamination of the water supply?

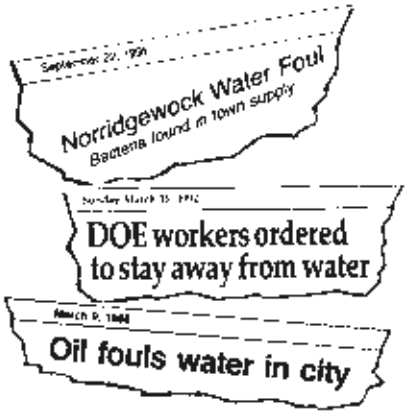
Chicken House Cross-Connection, Spring 1991. In response to a complaint from a customer on the Casa Water System (Perry County), a staff member of the Division of Engineering found that the water systems had been contaminated by backflow from chicken houses. The water system connected to the chicken houses included two single check valves in series for backflow prevention purposes. The water was being used to administer an antibiotic solution to the chickens.



2-4-D Backsiphonage Case

20 What other case reflects users being exposed to "contamination" of the water supply?

On or about the week of the 14th of May, 1991, a back-siphonage problem occurred. A local farmer reported the problem on his farm. He was filling a spray tank on his farm with water and 2-4-D. The wind kept blowing the fill hose away from the fill spout so he extended the hose down into the tank. As the tank filled, he went onto other duties. He went into the house for some reason and his wife told him that the water had become salty tasting. He immediately thought of the 2-4-D and went to the tank and it had began siphon-ing water from the tank. He told his wife not to use any more water. An artesian well, (free flow) was filling the tank. The artesian well also supplied water to the home through a storage tank and pump system. As the spray tank was filling, the pump in the house came on and created a pull on the well greater than the pressure at the well head. Consequently, as the pump was on, it was also pulling the 2-4-D and water from the spray tank.

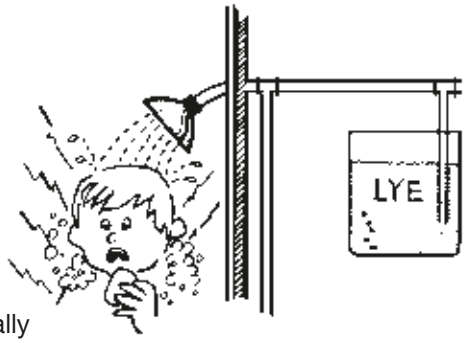


21 Are there any records of recent cases involving unprotected cross connections?

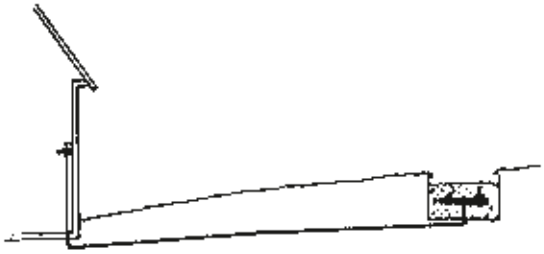
The startling fact is that cross connections continue to occur and there are documented cases involving reverse flow. For other cases, request folder F-SBN.

22 What recently reported cases occurred in a plant?

In addition to the case described in "No. 19", there are other reports but because of the possibility of litigation for pending cases, information can be difficult to obtain. However, in San Francisco, an industrial plant had a submerged water inlet supplying a lye vat. Immediately adjacent to this installation was the employee's shower room. Officials fortunately discovered the cross connection, but were alarmed that employees could potentially be bathing in water contaminated with lye from the vats.



23 What case was reported involving a school?



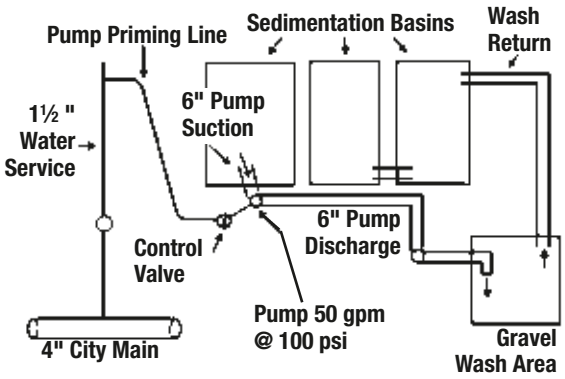
Most people are familiar with the details of the Holy Cross Football Teams' "hepatitis" incident, which was later determined to be caused by a backflow of contaminated water. It took close to nine months for officials to determine that a severe fire in nearby Worcester lowered the pressure in the football field area to the point where a back pressure backflow condition was created allowing contaminants from a sunken hose bibb pit to backflow into the field house drinking bubbler.

24 What case was reported involving a commercial building?

Much to the surprise of the customers of a bank in Atlanta, Georgia they saw yellow water flowing from drinking fountains and green ice rolling out of cafeteria dispensing machines.

It was later reported that a pump, used for the air conditioning system, burned out; and a maintenance man, unaware of the danger, connected the system to another pump used for potable water. The result caused large doses of bichromate of soda to be forced into the potable water supply, causing the dramatic appearance of yellow water and colored ice cubes.

25 Are there any cases involving outside processing activities?

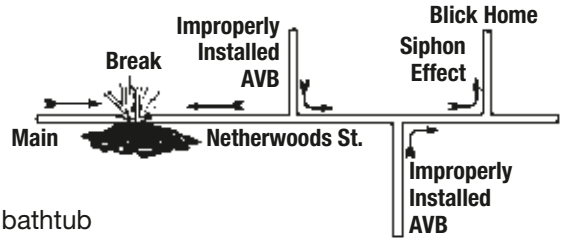


Yes, a case occurred in a gravel pit operation in Illinois. A pump was used in the processing operation supplying 100 lbs. pressure. Contaminated water was forced back through an unprotected "prime line" overcoming the city water pressure of 45 lbs. The contaminated water entered the city main and was channeled into a nearby bottling plant. This probably would have gone undetected except that personnel in the bottling plant noticed that the water was not only dirty but was warm. City officials were immediately called which led to the discovery of the reverse flow from the gravel pit operation.

26 What other typical cases have been reported?

Unwanted Guests (Residents find parasites in tap water) Oct. 1991.

Parasitical worms were found in the water at two homes after a malfunctioning lawn sprinkler coupled with a water main break sucked the nematodes into the water system.



The nematodes first showed up in the evening of Oct. 1 after the backflow prevention system on the privately owned underground sprinkler malfunctioned. When the water pressure dropped, the vacuum in the system sucked some water from the sprinkler into the city water.

A homeowner found the worms swimming around in his bathtub when he started filling the tub for his child. He said he was appalled to find the critters, as well as rust and other debris in his water. "The only reason I noticed it is because I have children and was giving my kid a bath. If you have a screen on your faucet or you were taking a shower, you wouldn't see it."

The contractor who installed the sprinkler system didn't pull a city permit and used a "cheap" atmospheric vacuum breaker. When it malfunctioned, which was at the time of the water main break, the nematodes were pulled right in.

In Utah, a doctor reported two gold fish flowing into his bath tub. Earlier in the day he had been filling his gold fish pool with a garden hose when a back-siphonage condition developed resulting in the late emergence of the gold fish into the bath tub.

What is significant, however, is the number of recent cases that are not reported. The number of unprotected cross connections in existence are potential disasters which can occur any time unless adequate protective devices are installed.

27 What is meant by "Degree of Hazard"?

The degree of hazard is a commonly used phrase utilized in cross connection programs and is simply a determination on whether the substance in the non-potable system is toxic (health hazard) or non-toxic (non-health hazard).

Health Hazard

Non-Health Hazard

28 What is the difference between a toxic and a non-toxic substance?

Toxic substance is any liquid, solid or gas, which when introduced into the water supply creates, or may create a danger to health and well-being of the consumer. An example is treated boiler water. A non-toxic substance is any substance that may create a non-health hazard, is a nuisance or is aesthetically objectionable. For example, food stuff, such as sugar, soda pop, etc. Therefore, you must select the proper device according to the type of connection and degree of hazard. There are five basic products that can be used to correct cross connection.

29 What are the five basic products used for protection of cross connections?

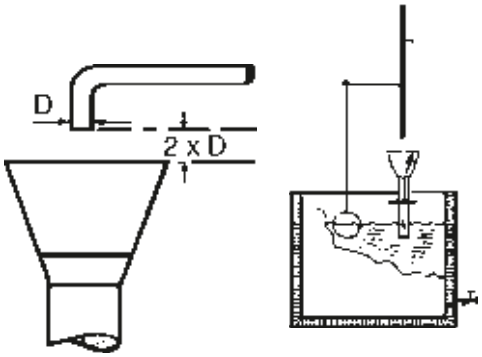
The five basic products are:

1. Air Gap
2. Atmospheric Vacuum Breakers -which also includes hose connection vacuum breakers
3. Pressure Vacuum Breakers - which also includes backflow preventer with intermediate atmospheric vent for ½" and ¾" lines
4. Double Check Valve Assembly
5. Reduced Pressure Zone Assembly

Watts 909AG

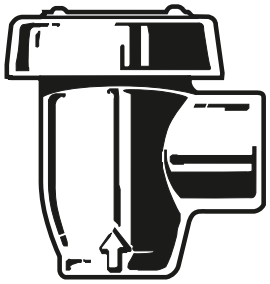
30 What is an Air Gap?

Air Gap is the physical separation of the potable and non-potable system by an air space. The vertical distance between the supply pipe and the flood level rim should be two times the diameter of the supply pipe, but never less than 1". The air gap can be used on a direct or inlet connection and for all toxic substances.



31 Where is an Atmospheric Vacuum Breaker used?

Atmospheric Vacuum Breakers may be used only on connections to a non-potable system where the vacuum breaker is never subjected to backpressure and is installed on the discharge side of the last control valve. It must be installed above the usage point. It cannot be used under continuous pressure. (Also see No. 11)



Watts 288A

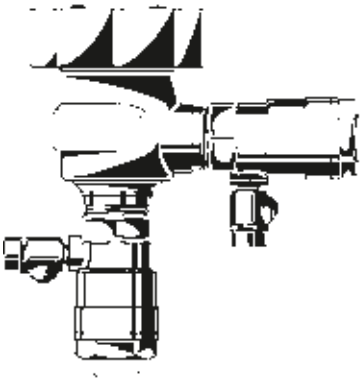
32 Where is a Hose Bibb Vacuum Breaker used?

Hose Bibb Vacuum Breakers are small inexpensive devices with hose connections which are simply attached to sill cocks and threaded faucets or wherever there is a possibility of a hose being attached which could be introduced to a contaminant. However, like the Atmospheric Vacuum Breaker they should not be used under continuous pressure.

Watts 8

33 Where is a Pressure Vacuum Breaker used?

Pressure Vacuum Breakers may be used as protection for connections to all types of non-potable systems where the vacuum breakers are not subject to backpressure. These units may be used under continuous supply pressure. They must be installed above the usage point. (spill resistant models for indoor use are also available).



Watts 800M4QT

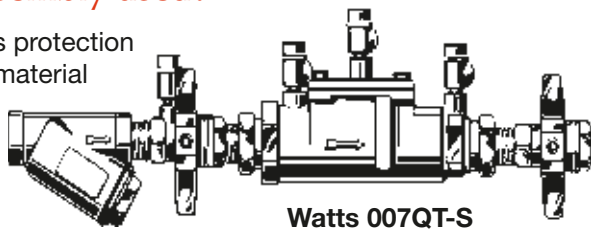
34 Where is a Backflow Preventer with Intermediate Atmospheric vent used?

These devices are made for ½" and ¾" lines and may be used on non-health hazard cross connections. They are suitable for use under continuous supply pressure and possible protection against backsiphonage or backpressure backflow

Watts 9D

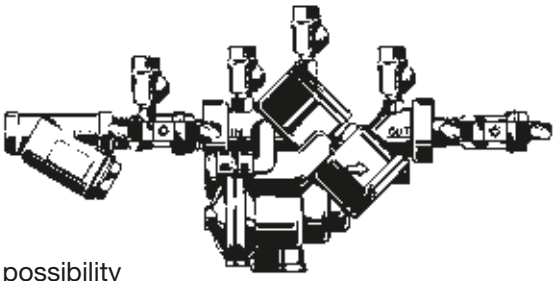
35 Where is a Double Check Valve Assembly used?

A double check valve assembly may be used as protection of all direct connections through which foreign material might enter the potable system in concentration which would constitute a nuisance or be aesthetically objectionable, such as air, steam, food, or other material which does not constitute a health hazard.



Watts 007QT-S

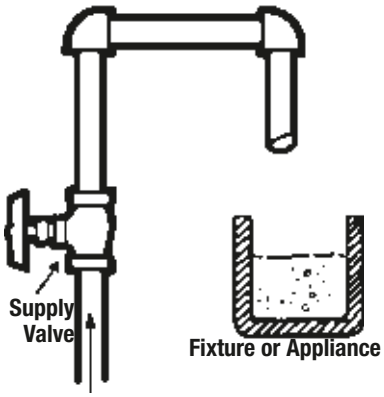
36 Where is a Reduced Pressure Zone Assembly used?



Watts 909QT-S

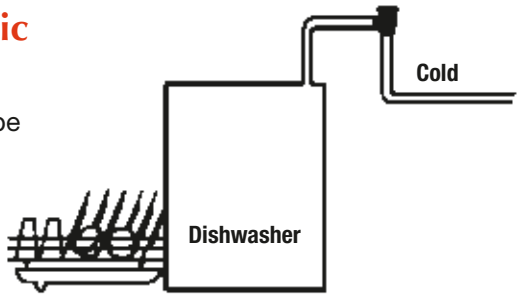
Reduced Pressure Zone Assemblies may be used on all direct connections which may be subject to backpressure or back-siphonage, and where there is the possibility of contamination by the material that does constitute a potential health hazard.

37 What are typical applications for an Air Gap?



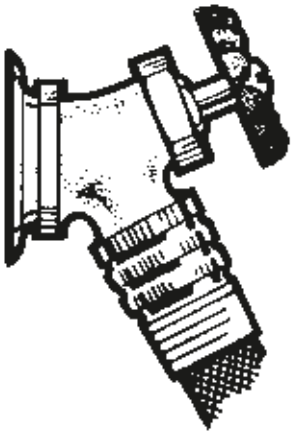
Because today's complex plumbing systems normally require continuous pressure, air gap applications are actually in the minority. It should be remembered, however, that whenever a piping terminates a suitable distance above a contaminant, this itself is actually an air gap. Air Gaps are frequently used on industrial processing applications, but care should be taken that subsequent alterations are not made to the piping which would result in a direct connection.

38 What are typical applications for Atmospheric Vacuum Breakers?



Atmospheric Vacuum Breakers can be used on most inlet type water connections which are not subject to backpressure such as low inlet feeds to receptacles containing toxic and non-toxic substances, valve outlet or fixture with hose attachments, lawn sprinkler systems and commercial dishwashers.

39 What are typical applications for Hose Bibb Vacuum Breakers?

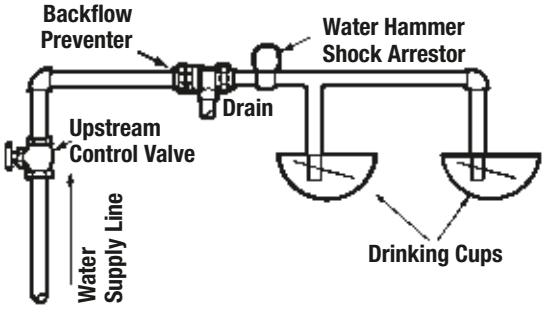


Hose Bibb Vacuum Breakers are popularly used on sill cocks, service sinks and any threaded pipe to which a hose may potentially be attached.

40 What are typical applications for Pressure Vacuum Breakers?

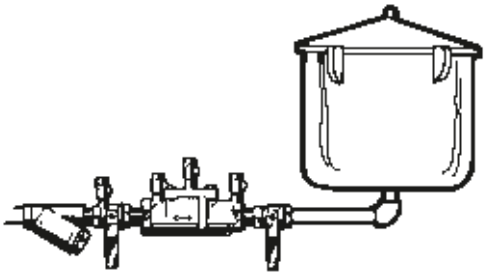
These applications should be similar to the Atmospheric Vacuum Breaker with the exception that these may be used under continuous pressure. However, they should not be subject to backpressure.

41 What are typical applications of Back-flow Preventer with Intermediate Vent?



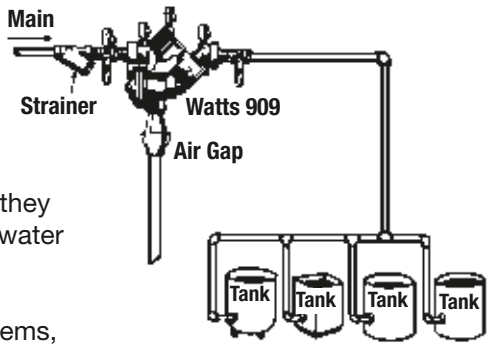
For ½" and ¾" lines these devices are popularly used on boiler feed water supply lines, cattle drinking fountains, trailer park water supply connections and other similar low-flow applications. They will protect against both back-siphonage and backpressure and can be used under continuous pressure.

42 What are typical applications for Double Check Valve Assemblies?



Briefly, Double Check Valve Assemblies may be used where the degree of hazard is low, meaning that the non-potable source is polluted rather than contaminated. The degree of hazard is oftentimes determined by local Inspection Departments and, therefore, such departments should be questioned in order to comply with local regulations.

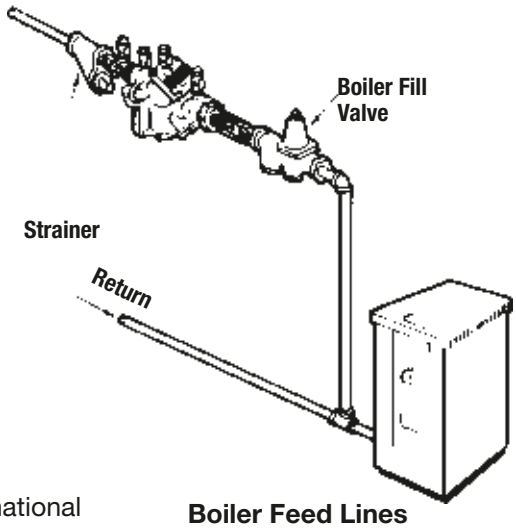
43 What are typical applications for Reduced Pressure Zone Assemblies?



Branch Line Applications

This type should be used whenever the non-potable source is more of a contaminant than a pollutant. Basically, they are applied as main line protection to protect the municipal water supply, but should also be used on branch line applications where non-potable fluid would constitute a health hazard, such as boiler feed lines, commercial garbage disposal systems, industrial boilers, etc.

44 Are there any regulations in OSHA regarding cross connections?



Boiler Feed Lines

Yes, OSHA requires that no cross connection be allowed in an installation unless it is properly protected with an approved backflow preventer. These requirements are also covered in B.O.C.A., Southern Std. Building Code, Uniform Plumbing Code and City, State and Federal Regulations.

45 What Standards are available governing the manufacture of backflow prevention devices?

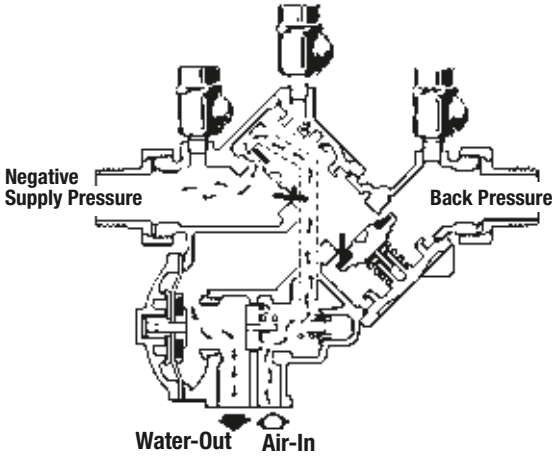
Standards such as ASSE (American Society of Sanitary Engineering), CSA (Canadian Standards Association), AWWA (American Water Works Association) , IAPMO (International Association of Plumbing Mechanical Officials), apply to most backflow prevention products.

46 What is the benefit of a strainer preceding a backflow preventer?

A strainer will protect the check valves of a backflow preventer from fouling due to foreign matter and debris which may be flowing through the line. This not only protects the valve but eliminates nuisance fouling and subsequent maintenance and shutdown. The use of a strainer with a water pressure reducing valve has been an accepted practice for years. The amount of pressure drop attributed to the strainer is negligible and is far outweighed by the advantages provided by the strainer.

47 What would cause a Reduced Pressure Zone Assembly to leak?

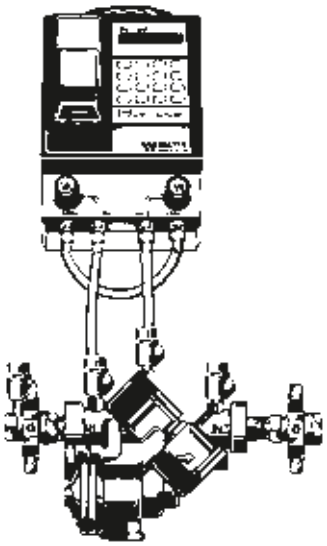
Leakage from a backflow preventer is normally attributed to foreign matter lodging on the seating area of either the first or second check valve. Most times this can be corrected by simply flushing the valve which will dislodge any loose particles. It is, therefore, most important on new installations that the piping be thoroughly flushed before installing the unit. It should be remembered, however, that spillage does provide a "warning signal" that the valve is in need of maintenance.



48 Is periodic testing required for Reduced Pressure Zone Assemblies?

Yes, and this is to ensure that the valve is working properly and is a requirement of many states and cross connection control programs. Test cocks are provided on the valve for this purpose and manufacturers are required to furnish field testing information.

Watts TK-DP



49 Should a backflow preventer be installed in the water supply line to each residence?

Because of the growing number of serious residential backflow cases, many water purveyors are now requiring the installation of approved dual check valve backflow preventers at residential water meters. They are also educating the public concerning cross connections and the danger of backflow into the local water supply. Since water purveyors cannot possibly be responsible for or monitor the use of water within a residence, the requirements for these cross connection control programs are increasing throughout the country.

50 What is a cross connection control program?

This is a combined cooperative effort between plumbing and health officials, waterworks companies, property owners and certified testers to establish and administer guidelines for controlling cross connections and implementing means to ensure their enforcement so that the public potable water supply will be protected both in the city main and within buildings. The elements of a program define the type of protection required and responsibility for the administration and enforcement. Other elements ensure continuing education programs.

For Technical Assistance Call Your Authorized Watts Agent.

			Telephone #	Fax #
	HEADQUARTERS: Watts Regulator Company	815 Chestnut St., North Andover, MA 01845-6098 U.S.A.	978 688-1811	978 794-1848
North East	Edwards, Platt & Deely, Inc.	271 Royal Ave., Hawthorne, NJ 07506	973 427-2898	973 427-4246
	Edwards, Platt & Deely, Inc.	368 Wyandanch Ave., North Babylon, NY 11703	631 253-0600	631 253-0303
	W. P. Haney Co., Inc.	51 Norfolk Ave., South Easton, MA 02375	508 238-2030	508 238-8353
Mid Atlantic	J. B. O'Connor Company, Inc.	P.O. Box 12927, Pittsburgh, PA 15241	724 745-5300	724 745-7420
	RMI	Glenfield Bus. Ctr., 2535 Mechanicsville Tpk., Richmond, VA 23223	804 643-7355	804 643-7380
	The Joyce Agency, Inc.	8442 Alban Rd., Springfield, VA 22150	703 866-3111	703 866-2332
	Vernon Bitzer Associates, Inc.	980 Thomas Drive, Warminster, PA 18974	215 443-7500	215 443-7573
	WMS Sales, Inc. (Main office)	9580 County Rd., Clarence Center, NY 14032	716 741-9575	716 741-4810
South East	Billingsley & Associates, Inc.	2728 Crestview Ave., Kenner, LA 70062-4829	504 602-8100	504 602-8106
	Billingsley & Associates, Inc.	478 Cheyenne Lane, Madison, MS 39110	601 856-7565	601 856-8390
	Francisco J. Ortiz & Co., Inc.	Charlyn Industrial Pk., Road 190 KM1.9 - Lot #8, Carolina, Puerto Rico 00983	787 769-0085	787 750-5120
	Mid-America Marketing, Inc.	203 Industrial Drive, Birmingham, AL 35211	205 879-3469	205 870-5027
	Mid-America Marketing, Inc.	1364 Foster Avenue, Nashville, TN 37210	615 259-9944	615 259-5111
	Mid-America Marketing, Inc.	5466 Old Hwy. 78, Memphis, TN 38118	901 795-0045	901 795-0394
	Smith & Stevenson Co., Inc.	4935 Chastain Ave., Charlotte, NC 28217	704 525-3388	704 525-6749
	Harry Warren, Inc.	1243 West Colonial Dr., Orlando, Fl 32804	407 841-9237	407 841-9246
	Watts	2861-B Bankers Industrial Drive, Atlanta, GA 30360	770 209-3310	770 447-4583
North Central	Aspinall Associates, Inc.	6840 Hillsdale Court, Indianapolis, IN 46250	317 849-5757	317 845-7967
	Dave Watson Associates	1325 West Beecher, Adrian, MI 49221	517 263-8988	517 263-2328
	Disney McLane & Associates	428 McGregor Ave., Cincinnati, OH 45206	800 542-1682	877 476-1682
	BWA Company	17610 S. Waterloo Rd., Cleveland, OH 44119	216 486-1010	216 486-2860
	Mid-Continent Marketing Services Ltd.	1724 Armitage Ct., Addison, IL 60101	630 953-1211	630 953-1067
	Soderholm & Associates, Inc.	7150 143rd Ave. N.W., Anoka, MN 55303	763 427-9635	763 427-5665
	Stickler & Associates	333 North 121 St., Milwaukee, WI 53226	414 771-0400	414 771-3607
South Central	Hugh M. Cunningham, Inc.	13755 Benchmark, Dallas, TX 75234	972 888-3808	972 888-3838
	Mack McClain & Associates	11132 South Towne Square, Suite 202, St. Louis, MO 63123	314 894-8188	314 894-8388
	Mack McClain & Associates, Inc.	1450 NE 69th Place, Ste. 56 Ankeny, IA 50021	515 288-0184	515 288-5049
	Mack McClain & Associates, Inc.	15090 West 116th St., Olathe, KS 66062	913 339-6677	913 339-9518
	OK! Sales, Inc.	2200 Blue Creek Dr., Norman, OK 73026	405 360-6161	405 360-0092
	Phoenix Marketing, Ltd.	2416 Candelaria N.E., Albuquerque, NM 87107	505 883-7100	505 883-7101
Western	Delco Sales, Inc.	1930 Raymer Ave., Fullerton, CA 92833	714 888-2444	714 888-2448
	Delco Sales, Inc.	111 Sand Island Access Rd., Unit I-10, Honolulu, HI 96819	808 842-7900	808 842-9625
	Fanning & Associates, Inc.	6765 Franklin St., Denver, CO 80229-7111	303 289-4191	303 286-9069
	Hollabaugh Brothers & Associates	6915 South 194th St., Kent, WA 98032	253 867-5040	253 867-5055
	Hollabaugh Brothers & Associates	3028 S.E. 17th Ave., Portland, OR 97202	503 238-0313	503 235-2824
	P I R Sales, Inc.	3050 North San Marcos Place, Chandler, AZ 85225	480 892-6000	480 892-6096
	Preferred Sales	31177 Wiegman Road, Hayward, CA 94544	510 487-9755	510 476-1595
	R. E. Fitzpatrick Sales, Inc.	4109 West Nike Dr. (8250 South), West Jordan, UT 84088	801 282-0700	801 282-0600
Canada	Watts Industries (Canada) Inc. (Watts Regulator Co. Division)	5435 North Service Road, Burlington, Ontario L7L 5H7	905 332-4090	905 332-7068
	Con-Cur West Marketing, Inc.	71B Clipper Street, Coquitlam, British Columbia V3K 6X2	604 540-5088	604 540-5084
	D.C. Sales Corporation Inc.	#10-6130 4th St. S.E., Calgary, Alberta T2H 2A6	403 253-6808	403 259-8331
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	GTA Sales Team.	Greater Toronto Area	888 208-8927	888 479-2887
	Hydro-Mechanical Sales, Ltd.	3700 Joseph Howe Drive, Suite 1, Halifax, Nova Scotia B3L 4H7	902 443-2274	902 443-2275
	Hydro-Mechanical Sales, Ltd.	P.O. Box 1445 (Mailing), 297 Collishaw St., Suite 7 (shipping) Moncton, New Brunswick E1C 9R2	506 859-1107	506 859-2424
	J.D.S. Sales Ltd.	4 Lancaster Street, St. John's, Newfoundland A1A 5P7	709 579-5771	709 579-1558
	Le Groupe B.G.T., Inc.	23 du Buisson, Pont Rouge, Quebec G3H 1X9	418 873-2500	418 873-2505
	Le Groupe B.G.T., Inc.	86 des Enterprises #208, Boisbriand, Quebec J7G 2T3	450 434-9010	450 434-9848
	Mar-Win Agencies, Ltd.	1333 Clifton St., Winnipeg, Manitoba R3E 2V1	204 775-8194	204 786-8016
	Northern Mechanical Sales	P.O. Box 280 (mailing) 163 Pine St. (shipping), Garson, Ontario P3L 1S6	705 693-2715	705 693-4394
	Palser Enterprises, Ltd.	P.O. Box 28136 (mailing), 1885 Blue Heron Dr., #4, London, Ontario N6H 5L9	519 471-9382	519 471-1049
	RAM Mechanical Marketing Inc.	1401 St. John Street, Regina, Saskatchewan S4R 1S5	306 525-1986	306 525-0809
	RAM Mechanical Marketing Inc.	510 Ave M South, Saskatoon, Saskatchewan S7M 2K9	306 244-6622	306 244-0807
	Walmar Mechanical Sales	24 Gurdwara Rd., Nepean, Ontario K2E 8B5	613 225-9774	613 225-0673
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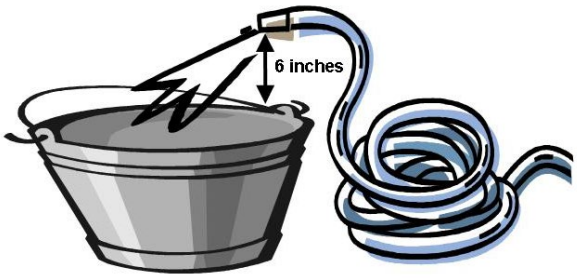
ISO 9001 CERTIFIED

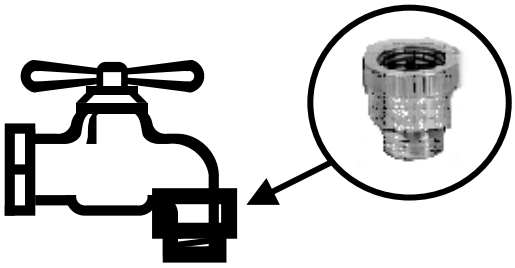
Watts USA website: www.wattsreg.com
Watts Canada website: www.wattscanada.ca

Blountville Utility District makes every effort to ensure that our customers enjoy a continuous supply of safe drinking water. We appreciate the help of our customers to maintain the quality of our water supply.

Cross Connections can cause the water system to become contaminated. A cross connection is a link with the public water supply and a possible source of contamination. An example of a cross connection would be a garden hose submerged in a source of contamination such as a swimming pool, car radiator or other liquid. If a water main break should occur or if a fire pumper used a fire hydrant while the hose was submerged in a source of contamination, the contaminant could be pulled back into the public water supply. This occurrence, known as backflow, can be prevented.

One simple way to stop backflow is by using an air gap. An air gap can be created by arranging your hose so that the end is at least six inches above the top rim of the container it is being used to fill. This air gap will prevent the contaminant from being siphoned into the water supply.





Another method of preventing backflow with a garden hose is using a device known as a vacuum breaker. Vacuum breakers are inexpensive devices that can be screwed onto your outside faucet. These devices will prevent contaminants from being siphoned back into your plumbing and the public water system.

More hazardous cross connections or cross connections created with permanently installed plumbing may require more sophisticated devices known as reduced pressure backflow preventers. These devices are much more complicated and must be tested annually by certified testers.

For more information on preventing cross connections and protecting our water supply, contact Blountville Utility District at (423) 323-2189.

REMEMBER: Never submerge your garden hose in anything you would not want to drink

BLOUNTVILLE UTILITY DISTRICT
Customer Rates, Fees, and Charges

Water Rates:
$20.92 +tax……. Availability Fee "minimum bill"
$7.14 +tax……..... Each 1,000 gallons after minimum

ServLine:
$1.25 per Month…... Water Loss Protection (auto enrolled)
$4.00 per Month ……. Water Line Protection (sign-up by calling ServLine)

Tap Fees:
$1,500.00……..¾" Tap
$2,000.00…….. 1" Tap
$5,000.00…….. 2" Tap
Commercial or Industrial 4" & Larger are quoted as cost plus jobs.

Service Fees:
$50.00……. New Service if you *<u>own</u>* the property
$100.00…….... New Service if you *<u>rent</u>* the property
$50.00……. Seasonal
$30.00……. Temporary Service (30 days)
$25.00……. Trip Charge
$25.00……. Meter Tremble Report
$50.00……. ¾ Residential Meter Testing
$350.00……. 1" & Larger Commercial and Industrial Meter Testing

Payment Fees:
$50.00……. Past Due Fee
$30.00……. Returned check Fee

Theft of Service, and Tampering Violation Fees:
$100.00……Tampering Violation
$250.00……Meter replacement
$25.00……. Meter Lock
$50.00……. Setter Valve
$250.00……Unauthorized Use of Service (per occurrence)
$1,000.00…….Illegal System Connection (per connection)

Fire Hydrants: Quoted as cost plus jobs.

Public Records: Refer to "Public Records Request Policy".

DEBIT AUTHORIZATION

I (we) hereby authorize Blountville Utility District of Sullivan County, hereinafter called Company, to initiate debit entries to my (our) account indicated below and the financial institution named below, hereinafter called Financial Institution, to debit the same to such account for (Application). I (we) acknowledge that the origination of ACH transactions to my (our) account must comply with the provisions of U.S. law and when applicable the *NACHA Operating Rules and Guidelines.*

_____	_____	_____
Routing Number	Account Number	Name of Bank

***Please Attach Copy of Voided Check to This Form.**

Effective Next Billing Cycle

Date of Debit (s): **22nd of each month**.
If the debit falls on a non-banking day, the debit will hit your account on the next banking day and will not hit your account prior to the authorized date.

(Note: For varying amounts the company must send, based on the *NACHA Operating Rules,* written notification of the amount and the date on or after which the transfer will be debited at least ten calendar days in advance of the debit. If the date varies, the *Rules* state that the Originator must send the Receiver notification of new date at least seven calendar days in advance of the debit.)

This authority is to remain in full force and effect until Company has [r***eceived written notification from me (or either of us) or describe your process for revocation of the authorization***] of its termination in such time and manner as to afford Company and Financial Institution a reasonable opportunity to act on it. **Any Changes must be made 30 days in advance.**

_____
Address

_____
City/State/Zip

(_____) _____
Phone Number

_____
Print or Type Individual Name

_____ _____
Signature Date

UTILITY' USE ONLY

Customer's Utility Account #_____

Date received: _____ By: _____