



Lawn Sprinkler Systems
Reserve Irrigation Inc.

O & M

Version 2009
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Spring Start-up

The best way to get your system up and running in the spring is to have your contractor go through their startup procedure. They will be able to check and make sure all the components are working properly and help to ensure that your system is ready to work for the season.

If you decide to attempt to start up the irrigation system yourself, please refer to this checklist for important steps to follow.

1. Before turning on any water to the system, make sure all manual drain valves are returned to the "closed" position. This includes test cocks on your backflow device. Most backflow ball valves will be in a "45 degree" position during the winter. If this is the case then you want to close both valves and turn the water on in the basement first. Then if your backflow device is a Pressure Vacuum Breaker you will want to open the first valve on the PVB rather quickly. Once the device pressurizes you can open the second valve slowly until your mainline is under pressure.
2. Open the system main water valve slowly to allow pipes to fill with water gradually. If these valves are opened too quickly, sprinkler main lines are subjected to high surge pressures, uncontrolled flow and water hammer.
3. Verify the proper operation of each zone valve by manually activating it from the controller.
4. Walk through each station on the controller, checking for proper operation of the zone. Check for proper operating pressure (low pressure indicates a line break or missing sprinkler), proper rotation and adjustment of sprinkler heads, and adequate coverage. Check and clean filters on poorly performing sprinklers. Adjust heads to grade as necessary.
5. Reprogram the controller for automatic watering. Replace the controller back-up battery if necessary.
6. Uncover and clean the system rain sensor, if applicable.

Finish and clean any in-line filters for drip irrigation zones.

Picture #1: Backflow Test Port / Test Cock



In this picture the test port / test cock is in the open position, to close the test port / test cock use a flat head screw driver and turn so that the valve is perpendicular to the test port / test cock. In this case you would want the valve vertical to turn the test port / test cock to the off position.



This picture above is that where the ball valves on the backflow are at 45 degrees (how they should be for winter)



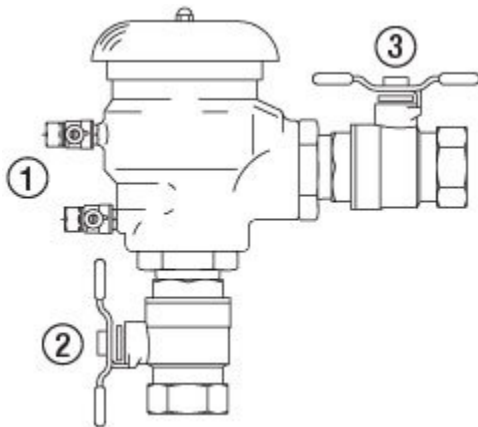
This picture above is that of a backflow device with both ball valves in the open position.



The picture above is an example of what can happen if your ball valves are not left at a 45 degree angle during freezing temps.



The picture above is one where you have the #1 shut off ball valve in the closed position while the #2 shut off ball valve is at a 45 degree angle



1: Test Ports / Test Cocks

2: Shut off ball valve #1

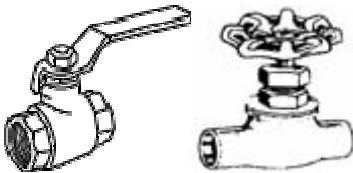
3: Shut off ball valve #2



Above is a picture of a boiler drain, these may be in the open position in the spring or may need to be removed so you can put a new layer of Teflon tape on the threads before placing it back on the system.

Interior valves for sprinkler system found in basement.

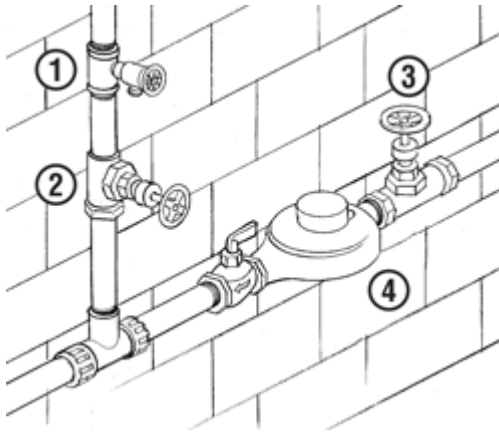
Every sprinkler system is tied into the plumbing of a home where the sprinkler line will Tee into a house line. After the connection is made you will find an isolation valve strictly for the irrigation system. The valve may look like one of the following.



The one on the left is a ball valve: most ball valves are a quarter turn on or off. When the lever is inline with the piping it is in the on position when the lever is perpendicular with the piping it is in the off position.

The valve on the right is a gate valve. Turn left to open and turn right to close.

An example of what an irrigation plumbing connection to the house water could look like.



1: Boiler Drain

2: Irrigation isolation valve

3: Main water valve (gate valve) for house water

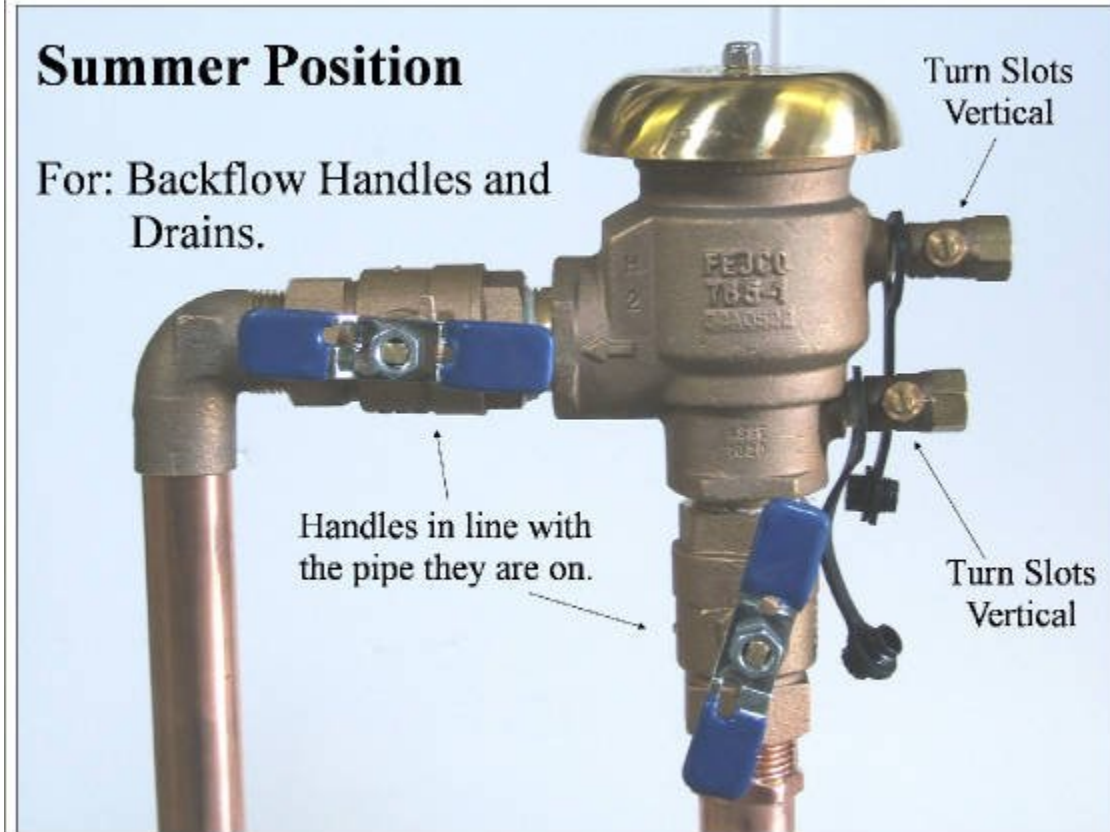
4: Water Meter

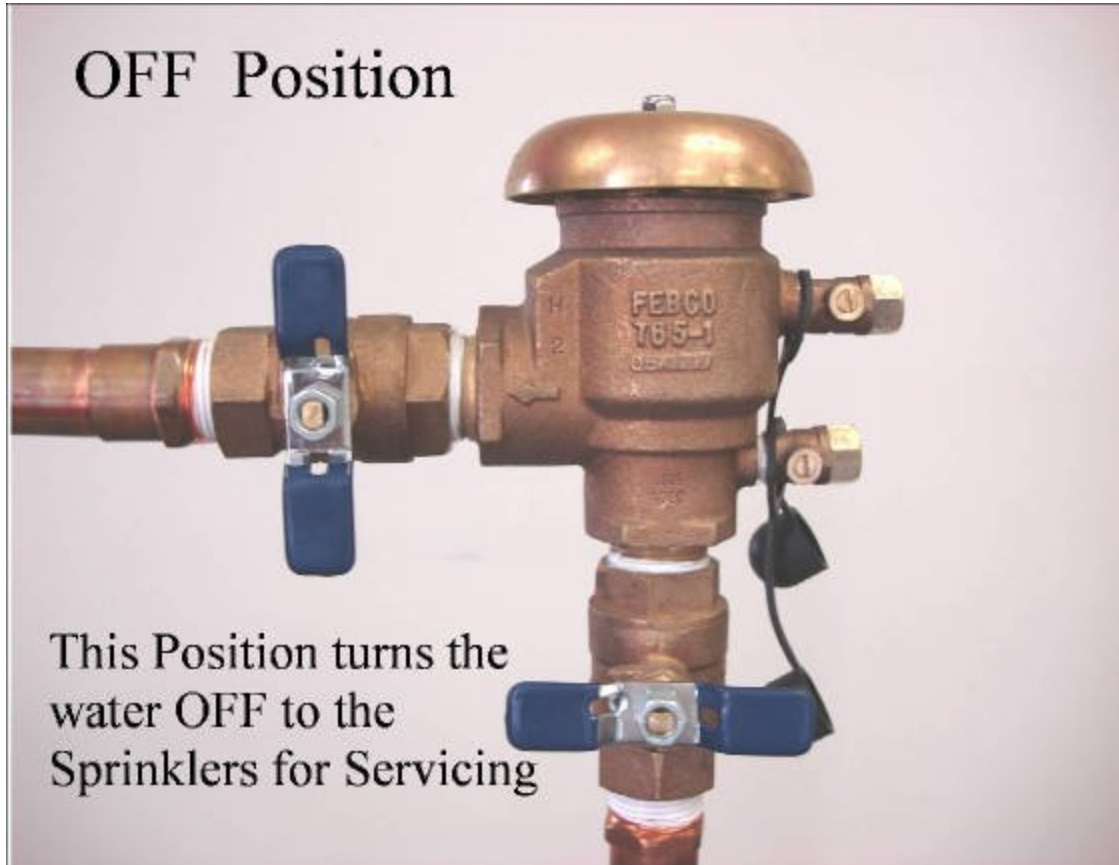
Winter Position



Summer Position

For: Backflow Handles and
Drains.





****If you have your irrigation water on and a zone or multiple zones are “on” please read the following:**

If we winterize the system and were not able to use the timer (owner not home at time of service or rain sensor was tripped due to weather at time of service)

You may need to make sure that all the valves are closed now that the water pressure is on.

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Each valve will have a “solenoid” which has two wires coming out of the top of it. Some valves may also have a “bleeder screw.” Both the solenoid and the bleeder screw will need to be turned hand snug to the right.



Don't over tighten. Only hand tighten. Part of our start up service is to make sure that all the valves are closed once water pressure is on for the summer. The valves should be checked every year to make sure that they closed properly.

The valves are located in the manifold box which unless someone mulched over it, it should be exposed for service reasons.



Summer

It's a good idea to check it frequently during the peak watering season to make sure that everything is functioning correctly and water is being applied as needed to the plant material. Users will often do a quick run through of each zone after they have finished mowing and trimming.

Fall (Winterizing System)

Winterizing sprinkler systems in cold climates is a necessity and must be done correctly to be effective. Every year, before the first freeze, the ritual of irrigation "blow out" becomes the priority for all irrigation systems that are in regions of the country where the frost level extends below the depth of the installed piping.

Even if you have drained some water out of the system, the remaining water can freeze, expand and crack the PVC piping (rigid, white pipe), usually from fitting to fitting. Freezing water in the backflow assembly will damage the internal components and could possibly crack the brass body. To minimize the risk of freeze damage to your irrigation system, you'll need to "winterize" your irrigation system

Irrigation systems in areas where "winterization" is mandatory are installed using one of three types of water removal in mind: manual drain, auto drain, or blowout. If you don't know your system type, it would be best to use the blowout method.

"Blow Out" Method

WARNING! WEAR ANSI APPROVED SAFETY EYE

PROTECTION! Extreme care must always be taken when blowing out the system with compressed air. Compressed air can cause serious injury, including serious eye injury, from flying debris. Always wear ANSI approved safety eye protection and do not stand over any irrigation components (pipes, sprinklers and valves) during air blow out.

SERIOUS PERSONAL INJURY MAY RESULT IF YOU DO NOT PROCEED AS RECOMMENDED!

It is recommended that a qualified licensed contractor perform this type of "Winterization" method. The blow out method utilizes an air compressor with a Cubic Foot per Minute (CFM) rating of 80-100 for any mainline of 2" or less. These types of compressors can be rented at your local equipment rental yard. The compressor is attached to the mainline via a quick coupler, hose bib or other type connection, which is located after the backflow device. Compressed air should not be blown through any backflow device. To start the "blow out", shut off the irrigation water supply and, with the compressor valve in the closed position, attach the air compressor hose to the fitting. Activate the station on the controller that is the zone or sprinklers highest in elevation and the furthest from the compressor. Close the backflow isolation valves. Then slowly open the valve on the compressor; this should gradually introduce air into the irrigation system. The blow out pressure should remain below the maximum operating pressure specification of the lowest pressure rated component on that zone and should NEVER exceed 80 PSI.

Each station/zone should be activated starting from the furthest station/zone from the compressor slowly working your way to the closest station/zone to the compressor. Each station/zone should be activated until no water can be seen exiting the heads, this should take approximately two minutes or more per station/zone. It is better to use two or three short cycles per station/zone than to have one long cycle. Once the station/zone is dry, you should not continue to blow air through the pipe. Compressed air moving through dry pipes can cause friction, which will create heat and the heat could cause damage.

Once the water has been removed from the irrigation system, disconnect the air compressor and release any air pressure that may be present.

Outdoor mounted controllers? Leave the power on and the dial / switch in the "Off" position. The heat from the transformer will keep the enclosure warm enough to keep condensation from forming inside the controller enclosure. The dial in the "OFF" will keep the controller from activating the solenoids in the field.

Indoor mounted controllers? You may either leave the power on and the dial/switch in the "Off" position OR you may remove the battery backup and unplug the transformer.

The Do NOTS of "BLOW~OUT" Winterization

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1. Do not allow the air pressure to exceed 80 PSI for systems with PVC piping and 50 PSI for systems with polyethylene piping.
2. Do not stand over component parts while the system is pressurized with air.
3. Do not leave the air compressor unattended.
4. Do not blow the system out through a backflow or pump. First blow out the system, then drain the backflow or pump.
5. Leave the manual drain valves / plugs open after the blow out.