

## Product FAQ: Valves

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### Why won't the valve open

There are many things that can cause a valve to not allow water to go through it:

**REMEMBER TO TURN OFF WATER MAIN BEFORE TAKING APART VALVES!**

#### **Issue: Water Main is turned off.**

**Test:** Manually turn on the valve using the manual bleed screw. If no water is present at the bleed screw area then the main shut off valve is most likely turned off.

**Solution:** Turn the water main on.

#### **Issue: Flow Control is turned down.**

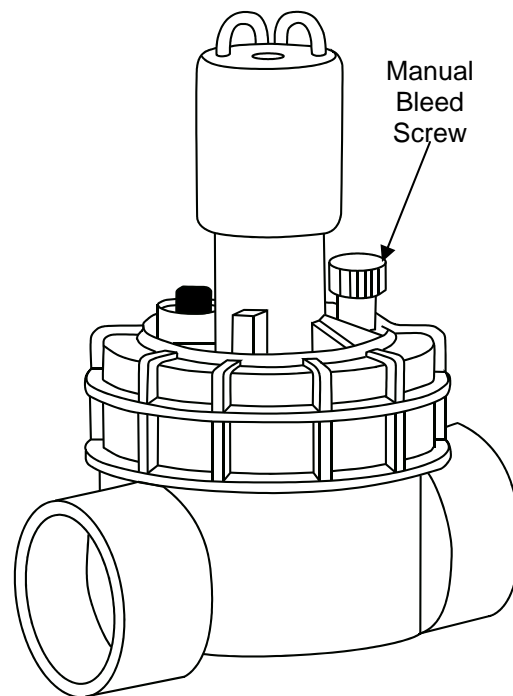
**Test:** Some valves come with a Flow Control. The Flow Control is a device within the valve that restricts the flow of water. The adjustment piece is generally on the top of the valve. Manually turn on the valve using the manual bleed screw. If the sprinklers don't come on then the flow control may be turned all the way down.

**Solution:** Open the flow control (Counter-Clockwise) to allow water to run through it.

#### **Issue: Timer/Controller is not sending power to the valve.**

**Test:** A volt meter is used to determine if a 24Volt AC output is present. If you do not feel comfortable doing this take your controller to an authorized dealer of the brand of your timer. They can test it and fix it if needed. You can also call a professional contractor to troubleshoot it at your location.

**Solution:** If no 24 volt output is present replace the transformer or the controller.



**Issue: Wires have a break between controller and valve.**

**Test:** Use a Volt Meter to test the wires coming into the valve box from the controller. You must turn the zone on manually at the controller. If you do not feel comfortable doing this call a professional contractor to test it for you. If there is no power coming through and the controller is sending power then there is a break in the line somewhere. This could be from digging, corrosion, or pests.

**Solution:** Start looking for freshly dug areas between the controller and the valve. Remember that many wires have not been run in a direct line due to obstacles. Once the break is found use water proof wire connectors to reconnect the wires. If you cannot find the break it is recommended you replace the wire if possible or contact a professional contractor to find and fix the break for you.

**Issue: The Solenoid could be bad.**

**Test:** If there is electricity coming through the wires then it most likely is a bad solenoid.

Double check the wire connections are tight within the wire connectors. If the valve is next to a valve that works correctly, then disconnect the wires (coming from the controller) from the working solenoid and connect them to the solenoid in question. Then manually turn on that zone from the controller. Remember to switch the wires back after testing.

You can also take out the solenoid and test it with a 9v battery.

**WARNING:** Plunger and spring within the solenoid may come apart when taking off the solenoid! Most solenoids will actuate with a 9v battery. The plunger will be pulled into the body if it is working properly.

**Solution:** If it does not work then replace with a new solenoid.

**Why won't the valve turn off**

To determine what is causing the valve not to shut down properly follow the steps listed below:

1.) Disconnect one of the valve wires. Does the valve shut off?

**Yes,** the valve shuts off; the problem is with the timer. (Please refer to the manual of your controller)

**No,** the valve does not shut off. Check the bleed screw to make sure it is not loose or broken.

2. Is this a new installation?

**Yes,** low flow may prevent the valve from closing; compare the GPM (gallons per minute)/LPM (liters per minute) requirements of zone to valve specifications.

- If the GPM/LPM is not within the specifications, add more heads to increase water flow or select a valve that works well at low flow rates.

**No**, turn off the main water supply

- Remove valve cover and diaphragm.
- Turn water back on and flush out for 15 seconds.
- Inspect diaphragm for holes/tears replace if necessary.

### Valve Leaks When Water is Off

Why is the valve leaking?

**\*\* Make sure the water supply is shut off to the irrigation system prior to disassembling any portion of the valve to avoid injury.**

If water leaks to the sprinkler heads, check the following:

- Disconnect one of the wires at the valve. If this stops the leak the problem is not the valve. If the leak does not stop determine if the leak is internal or external.
- Verify if Manual option is on - If yes, turn it to the off position.
- Check valve diaphragm for a tear, pinhole or scratch. - Replace diaphragm.
- Verify if the solenoid is stuck - The plunger inside the solenoid could be stuck. If it is stuck clean or replace solenoid.
- Is debris visible - Clean out valve.
- Internal crack - Replace valve

If water leaks to the valve box, check the following:

- Check bleed screw. Is it closed? - The black or white flow control screw maybe loose or broken.
- Is the Bonnet (top of the valve) tight? - Screws on the top of the cover assembly may need to be tightened.
- If an external crack is present - Replace valve

### Here are some tips for valve repair:

1. Turn the controller to "Off" position so it does not try to cycle a program.
2. Shut off the main water supply. Opening a valve under pressure is dangerous and you could be injured.
3. Unscrew the solenoid (cylinder with two wires) and make sure the plunger is clean and moves freely. You can test the solenoid by running that station manually from the controller and see if the plunger retracts when energized.
4. Unscrew the bonnet screws or jar top depending on your valve model. Be careful when you pull the bonnet away from the body as to not lose the diaphragm or spring.
5. The diaphragm may be sitting in the body or captured in the bonnet.

- Remove the diaphragm and spring. Make note of the orientation of the diaphragm so you can put it back together the same way it came out.
6. Examine the diaphragm and spring. The diaphragm should be clean and free of wrinkles, tears, or perforations. The seal should be clean and free of nicks, dents or abrasions. Wash the diaphragm with clean fresh water to remove any debris that may have been deposited there.
  7. The diaphragm spring should be intact and bounce back when compressed.
  8. Examine the valve body and remove any debris, pebbles, or dirty water.
  9. The seal seat should be clean and free of nicks, grooves, or abrasions.
  10. Examine the porting in both the valve body and the bonnet. All ports should be clear and pass water freely. A small piece of flexible wire can be passed through the ports to remove blockage.
  11. Reassemble the valve in the reverse order of how it was taken apart. The diaphragm should sit with the lip in the matching groove on both the body and the bonnet. The screws or jar top should be hand tightened. Over tightening can damage the valve.