

## Anti Siphon Valve

### A. Water won't shut off (seeping for full flow)

1. Incorrect controller setting (check length of run time)
2. Loose solenoid (should be tight)
3. Loose bleed screw - check and tighten (finger tight only)
  - 4a. Diaphragm filter clogged. Use manual external bleed to flush valve. If this does not improve operation, remove top of valve (6 screws). Remove diaphragm and inspect filter for debris. (Check 4b at same time) Clean diaphragm filter and reassemble valve.
  - 4b. Diaphragm / valve seat fouled or damaged. Remove diaphragm and inspect diaphragm and valve seat for damage or debris. Clean or replace diaphragm and reassemble valve.

### B. Valve won't turn on manually

1. Flow control turned off. Check by turning black knob counterclockwise until encountering resistance. do not force beyond point of resistance. Turn knob back clockwise approximately on half turn.
2. Water supply off at meter or system control shut-off. (check this first by manually bleeding the valve with either bleed screw or by turning solenoid counterclockwise).
3. Blocked parts. If valve will turn on with manual, external, bleed screw but not by turning the solenoid for internal bleed, remove the solenoid and check solenoid cavity for debris. Visually check small square hole at edge of cavity and carefully run a straightened wire through the center round hole to clear tube of possible debris. Take care not to scratch sides of center port tube as any change in size can affect valve operation.

### C. Valves won't turn on Electrically (with controller)

1. Controller settings incorrect. Check programming, start times, run times and day schedules.
2. If none of the valves are working, check the common (ground) wire for a tight connection or damage. If only one or part of the valves do not work, check wiring for damage (staples, nails, cracks,) between controller and valve location.
3. Check all reasons in section B.
4. Faulty solenoid. Turn off water supply. Switch solenoids with one from a nearby valve which is working correctly. If original valve works with second solenoid, replace original solenoid. (Install water tight wire connections on all valves at this time to avoid future solenoid shorts and / or failures.)
5. Controller not supplying power to valve/valves. Check fuse. If blown, replace fuse with same size. (Do not change sizes. A different size fuse will damage controller during operation and will void warranty.) If fuse is ok, either use a volt/ohm meter to check controller output (24vac) at each terminal screw (station/valve connection) or disconnect an operating solenoid from a valve and take it to the controller. Attach one wire to the C terminal (common ground) and attach the other wire to the station which is not working. Activate the controller in manual start. The solenoid should click (pull the plunger up into the solenoid tube) and it may hum. If nothing happens, (and the controller is still under warranty) you should either return your controller to the store or call your installer. If it's no longer under warranty, you will need to purchase a new controller. Be sure to install water tight connectors on your wiring and a surge protector (if you live in high lightning prone areas). This will help to avoid future problems.

### PRS-D Pressure Regulator

External Leaks - Main cause is improper o-ring seal between bonnet, cartridge, adapter or solenoid.

1. Turn off water supply to the valve, then unthread parts at the leak.
2. Wipe or blow parts clean, reassemble, then turn on water supply and verify proper function.

Internal Leaks - Main cause is loose solenoid. If tightening solenoid does not fix the leak, proceed as follows.

1. Turn off water supply to the valve, then remove solenoid and clean debris.
2. Unthread the PRS-D and check the rubber boot under the housing for tears or debris.
3. Check inside the solenoid bowl for damage to the white seat; a slight impression on top is normal.
4. Clean all parts and reassemble, then turn on water supply and verify proper function.

Excess Vibration - Main cause is excess air in the line or operation outside recommended flow ranges. To purge the air, proceed as follows.

1. Keep water supply on.
2. PGA valves only, remove solenoid and let water flow for two minutes.
3. All other valves, remove external bleed screw and let water flow for two minutes.
4. Open and close flow control handle a few times to remove air trapped inside the bonnet.
5. Reinstall parts, follow adjustment procedures and verify proper function.

### DV & DVF Valves

VALVE WON'T SHUT OFF COMPLETELY (SPRINKLERS WEEP) - Tighten the solenoid completely (1/4 turn beyond hand tight). Use the solenoid handle, which is specifically designed to shut the valve off completely and keep it from weeping. Also tighten the bleed screw and bonnet screws. Use external bleed screw to flush the valve. If performance does not improve, turn off water. Unscrew bonnet screws and remove bonnet. Remove diaphragm and clean it in clear water. Reinstall diaphragm and bonnet. If necessary, replace the diaphragm.

VALVE WON'T OPEN - Check water source, controller power, and flow control to make sure they are open. Turn off water. Unscrew bonnet screws and remove bonnet. Inspect body for debris. If filter is missing from diaphragm, replace diaphragm. Turn off water, remove solenoid and replace with a known working solenoid. If the valve still won't open, replace the solenoid.

VALVE SLAMS ON/OFF (WATER HAMMER) - Check system water pressure. If pressure is greater than 80 psi (5,5 bars), install a pressure regulator on the line before the valve to reduce water pressure.

#### Remote Control Valves (RCV)

VALVE WILL NOT CLOSE - There are two things that will cause this. The first cause is a physical obstruction (rocks or other debris) preventing the diaphragm from seating. When removing a physical obstruction, be sure to thoroughly inspect the diaphragm assembly and valve seat area for damage. Insufficient force above the diaphragm can be caused by several things.

1. The plunger is missing or stuck in the up position. Remove and inspect the solenoid.
2. Diaphragm filter plugged. This will prevent water from entering the upper chamber.
3. Flow control turned up too high. The diaphragm can stick in the up position under low flow/low pressure conditions.
4. Constant voltage from the controller. The solenoid will usually be warm to the touch and a slight vibration can be felt if this is happening.
5. Leak between the bonnet and body. Water will be visibly leaking where the body and bonnet are connected. This will again prevent sufficient force from developing in the upper chamber.
6. An open manual bleed. An open external manual bleed will be very obvious. An internal manual bleed system can be unknowingly activated if the valve is unfamiliar to the customer.
7. A large hole in the diaphragm. (Forward flow valve only). Sufficient force will not build up in the upper chamber. Remove the diaphragm assembly and inspect it very carefully, replace it if there are many bubbles or other signs of wear.
8. The valve is installed backwards. The valve is now an expensive coupling. The arrows on the valve body indicate the direction of water flow through the valve.

VALVE SEEPING - This is usually indicated by a puddle at the lowest sprinkler head. Using an automotive stethoscope may aid in determining which valve is leaking in a manifold. There are two main causes for this to happen.

1. Solenoid or solenoid seat is damaged. Water will constantly leak past the plunger. Replace the solenoid plunger or the seat if possible.
2. Valve seat is damaged. Check the valve seat and the diaphragm seating area for pitting and small debris. Replace the diaphragm if damaged. It may be necessary to replace the valve body if the seat area is damaged.

VALVE WILL NOT OPEN - There are again two main causes of this problem.

1. The first cause is an adjustment problem, the flow control stem is tightened all the way down.
2. The second is that force is not being released from the upper chamber. There are several reasons for this to happen.
  - a) Solenoid burned out. A resistance test will verify if the coil is bad or not. Revert to

the volt ohm-meter section to learn how to perform this test. Replace if necessary. 2. A torn diaphragm. (reverse flow valve only). The hole in the diaphragm will allow more water into the upper chamber than can be bled off through the solenoid port. Inspect the diaphragm, and replace it if necessary.

b) Plugged ports. The port below the solenoid and/or the port leading to the solenoid chamber is plugged. This would again prevent the water in the upper chamber from being relieved. Clean the ports with a paper clip, never drill out the ports.

c) Solenoid not receiving voltage. The controller is not sending the necessary voltage, there are wiring problems, or the wire connections are faulty. Refer to the volt ohm-meter section to learn how to inspect the field wiring.