



# \_Model\_ CSV1A

## Pump Control Valve

### Installation Instructions

#### PREPARATION and INSTALLATION

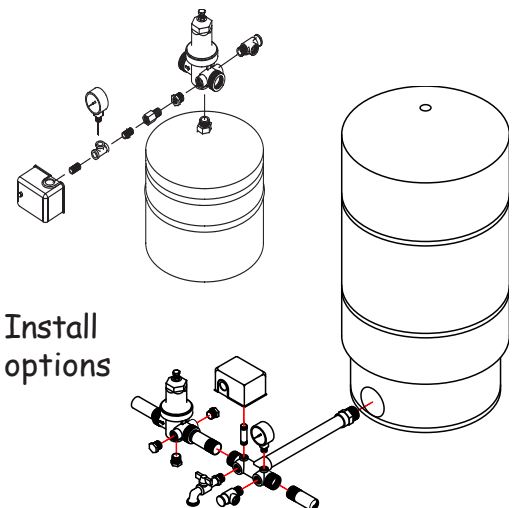
- 1) It is important that the well has been pumped until clean before any valve installations. You do not want to fill the valve with debris/drilling mud/sand/pvc shavings, etc. (Note: Multiple pump systems need a CSV for each pump). Turn off power to pump and drain system.
- 2) The CSV1A must be installed prior to any tee offs. Correct order of installation should be: Pump - CSV1A - All other outlets including the tank/switch. The only valve allowed between the pump and the Cycle Stop Valve is a check valve. (Always keep in mind this is a pump control valve. All water pumped/demanded must first go through our valve for it to be able to control the pump). Direction of flow is indicated by the arrow → on the valve itself for proper positioning.
- 3) The diaphragm style pressure tank should be installed downstream of the of the CSV1A. There are two options: The tank can be installed/plumbed into the 3/4" port on the bottom of the CSV1A valve with the pressure switch/gauge/pressure relief valve installed on the two 1/2" side ports...or the tank can be tee'd off of the main line via a standard tank Cross or tank tee. Pressure switch and other controls can either be installed on the tank tee or tank cross. (Note: Do not install pressure switch directly on main line away from pressure tank. Pre-charge pressure in the tank should be 2-5 psi lower than pressure switch start point.)
- 4) Install using teflon tape on all threads. Four to seven wraps of teflon tape is usually sufficient. All connections should be water tight.

#### SETTING THE VALVE

- 1) Be sure the adjustment stem is loosened counter clockwise almost all of the way out. (You might have to loosen the lock nut if it is tight)
- 2) Turn on enough water to dump your pressure tank and cause your pump to come on.
- 3) Once the pump has come on, adjust your demand to 2-3 gpm (This reduced demand is important. You do not want to set the valve with more gpm going through it than this). With the adjustment stem loosened all of the way out, the valve is going to try to hold a low pressure of 15-25 psi or so. Wait a few moments after each adjustment for the valve to react and the pressure to level off.
- 4) The CSV1A is adjusted by turning the adjustment stem clockwise to increase downstream pressure and counter clockwise to decrease downstream pressure. Adjust the CSV1A until the pressure steadies at your desired working pressure. Tighten the lock nut. The valve is set.

The CSV1A works with your pump system using pressure. The CSV1A has to be set within your existing system pressure parameters to work correctly. The pressure tank pressure needs to be 2-5 psi lower than your pressure switch cut in pressure. The pressure switch cut off pressure needs to be higher than the CSV1A working pressure. How much higher depends on your pressure tank size. See chart below for your specific tank/pressure switch recommendations/examples.

Pressure Tank Total Capacity	Air Pressure in Tank	Pressure Switch Cut in and Cut out	CSV1A set working pressure
86 Gallon Capacity	38	40/60	58 psi
62 Gallon Capacity	38	40/60	57 psi
44 Gallon Capacity	38	40/60	56 psi
34 Gallon Capacity	38	40/60	55 psi
20 Gallon Capacity	38	40/60	53 psi
10 Gallon Capacity	38	40/60	52 psi
4.4 Gallon Capacity	38	40/60	50 psi





# CSV1A Troubleshooting

## Symptom

## Cause

## Remedy

Pump is Cycling off and on

Diaphragm is worn out

This is usually due to differential pressure being higher than 125 PSI. Use a second valve to reduce differential pressure to original valve. Replace diaphragm in original valve.

Pressure switch or valve not set correctly

Cut off pressure must be higher than valve pressure. Reset pressure switch or valve.

Waterlogged pressure tank

Replace tank

Bad or torn diaphragm

Replace pilot diaphragm

Low pressure

Valve is not set correctly

Reset valve

Demand is more than pump can provide at desired pressure

Reduce demand so it is within pump capabilities to maintain desired pressure.

Chattering valve

Too much air pressure in tank

Reduce air pressure in tank to 5-10 PSI below cut in pressure.

Pump rapid cycles at start up and then begins to function correctly

Pressure switch is located on the main line or closer to the main line than the pressure tank.

Move pressure switch to small line at the base of the tank on a line no larger than 1 1/4" in diameter

CSV setting is too close to cut off pressure

Set pressure switch cut off pressure at least 10 PSI higher than CSV setting

Air pressure in tank too high

Reduce air pressure in tank to 5-10 PSI below cut in pressure

Multiple check valves in system working against each other

Remove all but the check valve or foot valve on the pump itself