

# \_Model\_ CSV1A

## Pump Control Valve

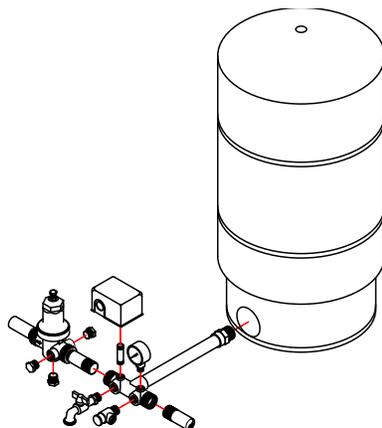
### Installation Instructions

NOTE: Submersible motor manufacturers recommend using a flow inducer sleeve to be sure the motor is sufficiently cooled at low flows. Pressure differential across the valve cannot be more than 125 PSI.

Please read all instructions before installation.

- 1) Be sure that well has been pumped clean before any valve installations. It is also important that all lines including the pump be flushed clean of debris. Never install multiple pumps behind one CSV. Turn off power to pump and drain system.
- 2) The valve must be installed on the pump side of the pressure tank/pressure switch with all water outlets downstream of the valve. Flow direction is indicated by the arrow → on the valve itself. (Note: There cannot be any water outlets between the pump and the valve itself. If outlet lines exist between the well and the tank, the valve must be installed at the well head.)
- 3) The pressure tank should be installed on a tee at a 90° angle to the main discharge line downstream of the CSV1A. Pressure switch and other controls must be installed on the small line as close to the diaphragm type pressure tank as possible or directly on the tank tee or tank cross. The CSV1A also has three additional female thread ports: two each 1/2" side ports that can be used for pressure switch or pressure gauge and one each 3/4" bottom port that can be used for a pressure tank) 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) CYCLE STOP VALVE should be tightened using teflon tape on threaded ends. Four to seven wraps of teflon tape is usually sufficient. All connections should be water tight.
- 5) Turn stem on CSV1A counterclockwise until it is loosened all the way out. Open a line downstream and turn on pump. Slowly close lines downstream until demand is approximately 2 to 3 GPM. The CSV1A is adjusted by turning the top bolt clockwise to increase downstream pressure and counter clockwise to decrease downstream pressure. Adjust the CSV1A until the pressure steadies at the desired pressure. Close off downstream water usage. The pressure tank will fill at approximately 1 GPM. When using a small tank (5 gallons or less of drawdown), set your cut in pressure the same as or up to 10 psi lower than the valve set pressure. When working with a tank with more than 5 gallons of drawdown, adjust your pressure switch to its highest setting. Next, set your pressure switch shut off by closing off all water outlets and timing the tank filling. Wait a minimum of 2 minutes and adjust your pressure switch until the pump is turned off.

\* Important: Pressure switch shut off point must always be higher than the pressure regulated by the CSV1A. Actual pressure switch settings vary depending on the size of the tank used and minimum run time needed.



Optional install



# 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