



# \_Model\_ **CSV3B** Pump Control Valve

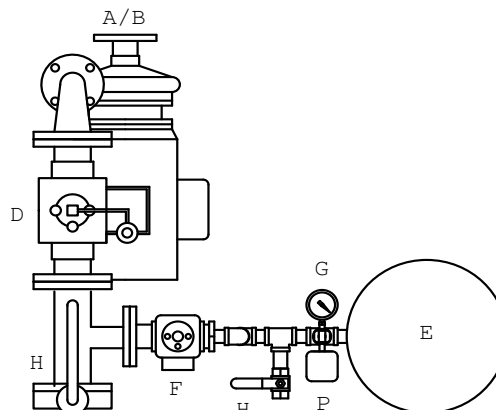
## INSTALLATION INSTRUCTIONS

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 the well has been pumped clean before the valve is installed. It is important that all lines including the pump, be flushed clean of debris. Turn off power to pump and drain system.
- 2) The valve should be installed horizontally and right side up downstream of the pump before the pressure tank/pressure switch with all demand downstream of the valve. Four inch and smaller valves can be installed vertically with flow going up, not down. Flow direction is indicated by the arrow on the valve (Note: There cannot be any water outlets between the pump and the valve (ie..gate valve, pressure relief valve, etc. If outlet lines exist between the well and the tank, the valve must be installed at the well head. )
- 3) We recommend using teflon tape on threaded ends however most thread compounds are acceptable. All connections should be water tight.
- 4) Pressure tank should be installed downstream of the CSV3B on a tee at a 90 degree angle to the main discharge line . Pressure tank pre-charge should be 5-10 psi lower than the pressure switch start point. A water line at least 8" or longer and no larger than tank inlet size should be used to connect the tank. Pressure switch must be installed on the line going into the tank, as close to base of the tank as possible. (closer to the tank than the main line). Pressure switch should never be installed directly on the main line.
- 5) For start up, loosen the lock nut on adjusting stem of pilot valve (small valve attached to CSV3B). Make sure adjusting stem is loosened completely by turning counter clockwise until you feel it is no longer making contact with the spring. Set the pressure switch to desired settings. Cut off pressure must be at least 10 PSI higher than the desired valve set pressure (ie..40/60 pressure switch, valve set at 50). Open a small water outlet to turn pump on. It is critical to allow at least 5GPM and not more than 10 GPM out of the system during valve setting procedure (approximately 1 standard 3/4" water hose). Now adjust the CSV3B to desired pressure by turning the adjusting stem on the pilot valve clockwise to increase pressure, and counterclockwise to decrease pressure. When pressure steadies at the desired system pressure, tighten the lock nut on adjusting stem of the pilot valve. Valve setting is complete. (Note: If water hammer occurs on pump start up, you must set valve pressure and cut in pressure the same. For example...40/60 pressure switch, valve set at 40.)
- 6) Close off the water outlet making sure no water is being demanded. The pressure tank will begin to fill at approximately 5 gpm. As pressure tank slowly fills, pressure in the system will increase until the pressure switch turns the pump off.

**Note: In multiple pump applications, never share a CSV with multiple pumps. Each pump must have its own valve.**



- A) Pump
- B) Motor
- C) Check valve
- D) Cycle Stop Valve
- E) Pressure tank
- F) Pressure relief valve
- G) Pressure gauge
- H) Isolation valve
- P) Pressure switch
- LP) Low Pressure Cut off



# CSV3B Troubleshooting

## Symptom

## Cause

## Remedy

Pump is Cycling off and on

Pilot screen is stopped up

Clean screen (2003 or older models only)

Pressure switch is not set correctly

Cut off pressure must be at least 10 psi higher than valve set pressure.

Valve is not set correctly

Reset valve to at least 10 PSI lower than cut off pressure

Debris between diaphragm and seat

Clean out valve

Waterlogged pressure tank

Replace tank

Bad or torn diaphragm in main valve or pilot valve

Replace damaged diaphragm

Pressure modulates 10-15 PSI from set pressure

Air trapped in mainline-usually occurs on new start ups and spring start ups.

Release air from main line and reset CSV if necessary

Low pressure

Valve is not set correctly

Reset valve

Check colored (red on 2", orange on 3" and larger) restriction fitting on pilot for enlarged, missing, or wrong color orifice.

Replace worn orifice or get correct colored orifice.

Demand is more than pump can provide at desired pressure

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

Chattering valve

Pressure tank is located too far away from the valve

Relocate valve or tank to bring them closer together or add a second smaller tank to the system close to the valve.

Too much air pressure in tank

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

Worn or defective diaphragm

Replace diaphragm

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

Pressure switch is located on the main line

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

Cut in pressure is not the same as CSV set pressure

Set pressure switch to come on at the same pressure the CSV is set to hold

Air trapped in cover or bonnet

Loosen tubing or plug on cover to release trapped air

More than 125 psi differential between inlet and outlet pressure of valve

Reduce differential pressure or add a second valve