

# TROUBLESHOOTING - EFSUB SUBMERSIBLE PUMP

Problem	Probable	Cause/Corrective Action
The motor will not start but fuses do not blow.	There is no voltage at the fuse box.	Replace blown fuses.
	There is no voltage at the pressure switch	Replace the faulty pressure switch.
	There is no voltage at the control box	Rewire the supply to the control box.
	Cable or splices are bad.	Consult a licensed electrician or serviceman.
	The control box is incorrectly wired.	Reconnect the control box correctly (see wiring diagrams).
The fuses blow or overload protector trips when the motor starts.	The fuse or time delay fuse size is wrong.	Check the fuse size against the Recommended Fusing Data tables in the Wiring section of this manual. Install the correct fuse or time delay fuse.
	The wire size is too small.	Check the wire size against the tables in the Wiring section of this manual. Install the correct size wire.
	The starting capacitor is defective or blown.	Check the control box to see if starting capacitor has blown out. Replace the starting capacitor.
	The voltage is either too low or high.	Check that line voltage is within $\pm 10\%$ of the name plate rated voltage while the motor is running. If voltage variation is greater than $\pm 10\%$ , call the power company to adjust the voltage.
	The cable leads are not correctly connected to the control box.	Check the control box wiring diagram against the incoming power hookup. Check drop cable color coding. Reconnect the drop cable so the cable color code matches the motor lead color code.
	There is a broken wire in the control box.	Examine all connections and wiring in the control box. Disconnect the power and repair or replace the faulty wire.
	The pump or motor is stuck or binding.	Check for a locked rotor in the pump. If necessary, pull the pump (make all possible above ground checks first). If the pump is locked, replace it. Clean the well of all sand or lime before reinstalling pump.
Fuses blow or overload protector trips when the motor is running.	The voltage is either too low or too high.	Check that line voltage is within $\pm 10\%$ of the nameplate rated voltage while the motor is running. If voltage variation is greater than $\pm 10\%$ , call the power company to adjust the voltage.
	The ambient (atmospheric) temperature is high.	Check the temperature of the control box. Do not mount the control box in direct sunlight.
	Control box with wrong voltage or horsepower rating.	Compare voltage and horsepower on the motor name plate with those given on the control box nameplate or on the circuit diagram inside the control box cover. Replace the control box if the numbers do not match.
	The wire size is too small.	Check the wire size against the table in the Wiring section of this manual. Install the correct size wire.
	Cable splices or motor leads grounded, shorted, or open.	Consult a licensed electrician or qualified serviceman. Do not attempt to disassemble the pump or motor.

## TROUBLESHOOTING - EFSUB SUBMERSIBLE PUMP continued

Problem	Probable	Cause/Corrective Action
The pump starts too frequently.	There are leaks in the system.	Check all tank connections with soapsuds for air leaks. Check plumbing for leaks. The system must be air and water tight.
	The pressure switch is defective.	Check for a defective switch or switch out of adjustment. Re-adjust or replace the pressure switch.
	The tank's pressure is not set properly.	Pre-charged tanks; check tank pre-charge air pressure and check for leak in the bladder. adjust air pressure to 2 PSI (13.8 kPa) less than the pump cut-in pressure (when there is no water pressure on system). Replace the bladder if necessary. Air over water tanks: check for air leaks. Check Air Volume Control (AVC). Check snifter valve operation. Repair or replace tanks; replace snifter valves if necessary.
	There is a leak in the drop pipe or check valve	Raise the drop pipe one length at a time until water stands in the pipe. Replace the pipe above that point.
	The pressure switch is too far from the tank.	Measure the distance from the pressure switch to the tank. Move the switch to within 1 ft. of the tank.
Little or no water is being delivered.	The bleeder orifice check valve is stuck or installed backwards (standard tank only).	Examine the valve. If stuck, free the valve; if installed backwards, reverse it.
	The water level is low.	Determine the lowest water level in the well while the pump is running and compare to the pump depth setting. Lower the pump further into the well (but at least 5 ft. (1.6M) above the bottom of the well). Throttle the pump discharge until the discharge equals the recovery rate of the well. NOTICE: Running the pump while airlocked can cause loss of prime and seriously damage the pump.
	The voltage is low.	Check the voltage at the control box with the pump running. Check incoming wire size and power supply wire size against the tables in the Wiring section of this manual. Install a larger wire from the meter to the control box. Install a larger wire from the control box to the pump. If necessary, have the power company raise the supply voltage.
	The intake screen is plugged.	Pull the pump and check the condition of the screen. Clean or replace as necessary.
	The valve at the pump discharge is stuck or blocked.	Pull the pump and examine the check valve. Free the check valve. Do not block the check valve with over tightening pipe.
	Impellers and diffusers are worn.	Make sure the system is clear of obstructions and the pump is in solid water and operating normally. Replace the pump.
There is air or a milky water discharge coming from the faucet.	There is gas in the well water.	Check for the presence of gas in the well water. Remove bleeder orifices; plug tees. Be sure plugged tees do not leak. If necessary, separate gas from air before it enters the pressure tank.
	The air volume control is not working (standard tanks only).	Make sure ports and ball check valves are clear. Replace the control if necessary.