TYPICAL SUBMERSIBLE PUMP INSTALLATION

Sizes and lengths have not been specified in the diagrams since they vary with each installation.

1-inch pipe is most common and usually adequate for deliveries up to 15 gallons per minute for reasonable distances. 1-1/4 inch size is used in systems with long runs or for those requiring greater delivery.

1. We recommend the captive-air style pressure tank. It has significantly higher drawdown than a standard pressure tank and eliminates water logging problems. The air level in the tank should be 2 lbs. less than pressure switch turn-on level. For a 30-50 switch, this would be 28 lbs. of air with the tank dry.

2. Use a pressure switch featuring a low-pressure cut-out for wells of low or unknown production.

3. WARNING! A pressure relief valve is required by plumbing code and should be large enough to relieve the maximum GPM of the system’s design.

4. WARNING! Piping inside buildings must be of an approved type, generally metal. Schedule 40 PVC is recommended for running in trenches. PEX or CPVC non-metallic piping may be approved – check with local code enforcement agency.

WARNING!

A Pressure Relief Valve is required on all pump tank installations. Failure to do so may result in serious personal injury, death and property damage. A Pressure Relief Valve is required by code and should be large enough to relieve the maximum GPM of the system’s design.

WARNING!

DO NOT override the Pressure Switch. Manual overriding of the pressure switch can result in serious personal injury, death and property damage.

Not all Pump Installations are the same. Therefore, this rendition is intended to be general, and may not meet all installation requirements.
5. Codes require the well head to be above ground. The well seal caps the casing while providing ports for the pipe, wire and venting.

6. A poly rope is used as a safety line for pumps installed within its weight limits. Stainless steel cable should be used when weight exceeds poly rope limits.

7. Some areas permit use of UF wire to pump. Others require pump cable. Check before installing UF-type wire.

8. Use nylon cable ties or electrical tape above and below each well spacer to secure wire to pipe and keep the spacer in place.

9. If using poly pipe, locate well spacers 10’ apart to center pipe and keep wires from chafing on the well casing.

10. Casing sealant installed by driller. Prevents surface water from seeping around casing into potable water.

11. Threaded and coupled galvanized pipe should be used on extremely deep wells. Threaded schedule 80 PVC and a heavy grade poly pipe are also available and are much lighter and easier to work with.

12. Position a torque arrestor directly above the top of the pump. This will center the pump in the well and keep the pipe from twisting due to torque created by the pump motor.

13. IMPORTANT! Wire splices should be staggered, securely crimped and weatherproof. Heat shrink splice kits have a sealant that makes the joint completely waterproof.

14. Pump should be suspended some distance off the bottom especially when a sand condition exists. Check with driller for proper height for pump.

IMPORTANT! When pump is first started, it should be left running until test samples clear up and are completely free of sand.
These "How-To-Do-It" sheets have been reviewed in June 2007 by a professional Engineer. If you find a problem, please notify G & G Electric & Plumbing at 1900 78th Street, Ste. 101, Vancouver, Washington 98665.
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