Thursday 1 October - Now you have a choice: Higher performance pumping system

If you use well water, you've probably discovered the more water you need, the less water pressure you have. Constant water pressure means you will always get what you need when the tap is open even if the sprinklers are on and someone else is pressure-washing the car. The system will deliver reliable constant pressure in domestic water supply, irrigation, pressure boosting, water furnace and water transfer applications. Even when the needs change, the system adjusts its performance to meet the demand. The system does what you want when you want.

To deliver constant pressure in a domestic water supply you need the SmartFlo SQE pump, CU 301 control unit, pressure sensor, and 2-gallon tank. SQE Smartflo systems are two-wire, single phase, variable speed, 3-inch electronic, high performance units.

You can also have the pump SQ, a high performance unit designed for use in traditional systems, ideal for domestic water supply, irrigation, pressure boosting, water furnace and water transfer applications utilizing standard controls and conventional tanks. In addition, the pumps are offered in a variety of performance ranges and are equipped with built in pump protection (dry run, overload, over temperature, over/under voltage), soft start, and starting torque competitive with three-wire motors.

When installing a traditional system :

- It is important to follow the sizing methods to choose the tank size. Problems to avoid: if your resevoir is too small, the pump will cycle continously, this can damage the pump or the electrical cable, and can shorten the life of your water pumping system.
- A properly sized pump will give you approximately 8gpm at your well's dynamic level (depending on your additionnal needs). This will ensure you adequate water supply for any water treatment system that you may require.
- If you need more than 8gpm the pump has to be chosen accordingly to what you need and the application, but you must always consider your well's reserve and flow rate.

*Sizing and selection of the tank

Based on a physical law, Boyle's Law (P1V1 = P2V2) states that the pressure of an air

cushion, in a pressure tank, multiplied by the volume of the air cushion at one system pressure condition, will always equal the pressure of the air cushion multiplied by its volume at any other pressure condition.

1. Systems flow rate (pump capacity or discharge in gpm)
2. Desired running time in minutes and fractions of minutes 1 min .30 sec = 1.5 min = ESP 1.5 min «Effective System Protection» (ESP1/ESP2"volume) will protect the pump and operating controls by insuring that pump operation conforms to the manufacturer's specified minimum running time. «1 minute to 2 minutes running time»
3. Pump cut in / cut out of pressure gauge = acceptance factors
4. acceptance factors 20/40 = .37   30/50 = .31   40/60 = .27
5. Calculating tank size example : pumping system flow rate = 10gpm
6. ESP desired running time = 1.5 min
7. acceptance factor 30/50 = .31 10gpm x 1.5min divided by .31 = tank size 48 gal (ESP volume)

Now you have a choice when you install a new pumping system or replace an existing one. You can choose a high performance unit designed to provide constant pressure or traditional systems with the adequat gpm needed, chosen according to household needs. Why worry about water supply problems?

*1 *reference : Amtrol, application,selection,sizing and installation procedures, page 3*

2 reference Grundfos