

When I start using water my pump begins clicking and the pressure gauge quickly oscillates as the pump turns off and on very rapidly.

Turn off the power to your pump! You have a problem that we call rapid cycling that will damage your pump in equipment. There can be several causes, but we will refer to the most common cause of rapid cycling; your pressure tank is waterlogged.

Your pressure tank is located above ground and is designed to hold and deliver water at pressure. Your pressure tank provides an air cushion for the pump to pressurize the stored water against. When you start using water, the air cushion pushes the water stored in the pressure tank out. When the water pressure drops significantly, the pump turns on to build the pressure back up in the pressure tank.

Old style pressure tanks allowed the water and the air in the pressure tank to contact each other. This results in the air being absorbed into the water just as oxygen is absorbed into your bloodstream. Over time the air volume decreases and needs to be replenished. A small amount of air is injected each time the pump turns on to help maintain the air cushion in the galvanized tank.

When the air injection system fails, the air cushion is depleted to the point that there is just water in the pressure tank, and since water does not compress, the instant you start using water the pump turns on. The pump supplies more water/ pressure than you can use at one fixture and thus the pressure spikes because water does not compress. The pump turns off, the pressure quickly drops, the pump turns on, pressure spikes, pump turns off. This process can happen several times a second and burn up the controls and motor for your pump!

New style pressure tanks have been developed that have an air bladder inside which is pressurized. This air bladder ensures that the air does not dissolve into the water. After many years of service, the internal bladder may become damaged causing the air/water to come into contact and result in the rapid cycling scenario above. With new style pressure tanks, the entire pressure tank must be replaced.

After correcting the problem with your pressure tank air injection system or replacing your bladder type pressure tank, it is absolutely imperative that your pressure switch be replaced. The rapid cycling often damages the contact points/diaphragm. In addition, your pump & control box should be checked for proper operation. Devices are available that detect/stop and stop the rapid cycle condition before it damages your expensive pumping equipment.

