Pre-Charged Pressure Tank Frequently Asked Questions

Q. I've heard these called "pre-charged" tanks, "bladder" tanks, "captive air" tanks, etc. What is the right name?
A. Any of these names are fine. We call them "Pre-Charged Pressure Tanks" or "Bladder Tanks"

Q. What is the difference between a "pre-charged pressure tank" and a regular one?
A. A pre-charged bladder style tank has a bladder inside of it that is made of vinyl. The bladder is surrounded by pressurized air. Your well pump will push water into the bladder under pressure. When the pump shuts off, the water is held inside the tank by a one-way check valve in the piping system. When someone opens up a faucet, shower, etc. the air pressure inside the tank will squeeze on the bladder and force the water out.

Q. Is a bladder tank the same as a diaphragm tank?
A. No. The bladder tank has a vinyl bag inside of it. The diaphragm tank has a vinyl or rubber flat diaphragm mounted in it – usually about 2/3 of the way from front to back. If you look at the steel tank, you will see a seam around the outside of it. That is where the diaphragm is. The function of the diaphragm and bladder tanks is the same. Compressed air on one side of the diaphragm pushes against the diaphragm and the water on the other side of it.

Q. Is there an advantage in using one of these tanks instead of the older style standard air-over-water tanks?
A. The primary advantage of a pre-charged tank is the physical size. Because it holds compressed air, it can do the same job as a much larger standard air-over-water tank.

Q. There is only one pipe connection on this tank. How does water get in and out of it?
A. When the tank is connected, a tee will be installed either at the tank or at the pump. The tee has a total of three connections: One goes to the pump, one goes to the tank, and one goes to the household plumbing system. Water from the pump can go either into the tank or directly into the household plumbing. When the pump is not running, the water comes out of the tank into the household plumbing.

Q. How big of a tank do I need?
A. When it comes to pressure tanks, bigger is better. Period. The whole idea of having a tank is to store water under pressure so it's ready to use in the house. It prevents the pump from having to turn on every time a little water is needed. One of the biggest factors in shortening a pump's life is frequent starts. Having a big pressure tank means that you have that much more water stored. It means the pump will not have to turn on for a longer period of time. That helps prevent the pump from having to start often. In short, when it comes to choosing a pressure tank, you want to buy as big a tank as you can afford and have room for.

Q. Can I connect multiple tanks together to get more storage?
A. Yes. You would put a tee into each tank connection. You want to put your pipe in from the pump, s well as the pipe out to your household plumbing, close to the middle of your tank set. This will help allow the tanks to be used more evenly.

Q. I don't have much pressure in the house. I think the tank is the problem, right?
A. Many people think that the tank makes pressure but it does not. It only holds the pressure that the well pump puts into it. It's kind of like a balloon. If you lay a balloon on a table, it does not inflate itself. It cannot create the pressure. In order to get pressure into it, your lungs need to blow the air into it. Now it can hold the pressure. The water tank is the same. The pump has to put the pressure into it.

Q. There is an air valve (like a tire valve) on top of the tank. Do I need to check pressure or something?
A. YES – Absolutely! The tank comes with a pre-charge from the factory but you need to set the air pressure when you install the tank. It needs to be set to 2 psi less than the turn-on pressure that your pressure switch is set to. See the tank owners' manual for details on how to set it. NOTE: The tank pressure needs to be checked AT LEAST twice a year. It is better to check it every-other-month. There are instructions in the owners' manual on how to do this. You will want to have a good accurate tire pressure gauge to do this. It uses exactly the same type of valve that's on your car or bicycle so the same kind of tire pressure gauge will work fine.

Q. How do I add air if it's low? Use a bike tire pump or something?
A. Adding air to the tank is exactly like adding air to a car tire. A portable air compressor will be MUCH easier than any kind of hand pump. The

volume of air inside a tank would mean a LOT of pumping by hand.

Q. What happens if I don't check the air pressure regularly?
A. Just like the tires on your car, air pressure can slowly leak out of the tank. The air pressure is what keeps the bladder from over-expanding from the pump's pressure. If too much air pressure leaks out of the tank, the water pressure will over-expand the bladder so much that it can burst. At that time the bladder, or the tank, needs to be replaced.

Q. Is the bladder replaceable in the tank?
A. Yes. If you notice the bladder has failed (pump frequent-cycles, air pressure can't be set properly, etc.) and you notice it fairly soon, then the inside of the tank walls will not have started rusting yet. As long as the inside tank walls are not rusty or otherwise rough, they will not damage a new bladder when you put it in.

Q. There is a threaded fitting directly on the top of the tank. What is that for?
A. That was used in production. The tank hangs on a threaded connection that takes it along the assembly and paint line. It is not a pipe connection since it does not go into the tank.

Q. I have a small pipe feeding me water from the city. My pressure drops off when I use a lot of water. Can I use one of these tanks so I can just store extra water inside my house under the city pressure?
A. Yes you can. Where the water pipe comes into your home, install a check valve. You don't want your water going back out to the city. Check your city water pressure at a faucet, etc. to find out what the city water pressure is. Set the pre-charge in your tank to 70% of the city water pressure.

Q. My water pressure at the faucets and shower drops off to nothing, and then it surges back on. Is that a tank problem or a pump problem?
A. In most cases, it's a matter of the pre-charge air pressure in your tank being set too high. Check the pre-charge air pressure in your tank (according to the directions in the manual) and set correctly.

Q. Can I use a bladder style pre-charged tank to hold the water that my Reverse Osmosis filter system puts out?
A. No. RO tanks have bladders made of butyl rubber. Ours are a type of vinyl. RO water is so very pure that it wants to pull contaminants into it. If stored in the vinyl bladder of a pre-charged tank, the "elastomers" in the bladder will be pulled out of the bladder into the water leaving the bladder very brittle. What it pulls into the water can also be considered to be toxic.

Q. I don't have any water when I open a faucet. My tank is bad, right?
A. No. The tank only holds water that the pump puts into it. If the pump doesn't put any water into the tank, then it doesn't have anything to hold. If you get NO water when you open a faucet, check your pump.

Q. Is it OK to mount my tank outside?
A. The tank is not designed to be exposed to the weather. Being in direct sun can cause the pressure to fluctuate inside the tank. If the paint on the tank gets chipped or scratched it would be possible for the tank to rust.

Q. My water smells funny in the house. Is that because of the tank?
A. There are certain types of bacteria called "anaerobic bacteria" that can grow where air does not touch the water. If your well has this kind of bacteria in it, the bacteria can start to grow once it gets inside the bladder since that water is not touching air. This bacteria is usually harmless but you should have your water tested for things like iron bacteria or sulphur bacteria.

Q. How do I get rid of those bacteria?
A. Some people will tell you to chlorinate your well but that will only work for a short time. There are only two real solutions here: 1) Install a "contact tank" with a chlorine dosing system. This type of system injects a small amount of chlorine into the water as it comes into the house. The chlorine kills off the bacteria so it can't grow in your tank. 2) Switch back to the older technology of an air-over-water standard tank. In that kind of tank the air touches the water and this anaerobic bacteria cannot grow.

Q. What does the size designation of my tank mean? How can one tank have three different capacities related to it?
A. The three capacities that you might see listed for a tank are as follows:

The "Equivalency Rated Size" – this is a comparison to an older-style air-over-water tank.

The "Actual Capacity" – this is how much the physical tank would hold with no bladder in it.

The “Drawdown” – this is the amount of usable water that can come out of the tank between pump cycles.

Q. Which one of those sizes is really most important to ME?
A. If you are replacing an older air-over-water standard tank, the “equivalency rated size” is important. You would want to pick a tank that is at least the same size as the one you took out, preferably larger. The other rating that’s important is the “Drawdown”. This is how much water can come out of the tank between pump cycles and it is how much water the pump has to put back into the tank when it has to run. This is the number you want to look at so you can figure out the run time of your pump. You want to choose a tank large enough that the pump has to run a minimum of 1 minute, preferably 2 minutes, each time it runs. So choose a tank with a “drawdown” that is the same or larger than the GPM rating of your pump.

Q. I tried to check the air pressure in my tank and water came out of the valve. What’s that mean?
A. If you get water out of the air valve stem, it means your bladder has failed. Water has left the bladder and is up above it in the tank. It is now time to replace the bladder or the whole tank.

Q. I see some tank makers put the air in the bladder instead of the water in the bladder. Why?
A. You usually see this in “fiberwound” tanks that are made of fiberglass instead of steel. With this type of tank it’s fine for the water to touch the inside of the tank itself without the tank body rusting. We don’t currently have any fiberwound tanks in our line-up so we use steel and put the water into the bladder.