



20929 Bridge Street, Southfield, MI 48033
4121 Brockton Drive SE, Grand Rapids, MI 49512
6200 Baron Drive, Bridgeport, MI 48722
6910 Treeline Drive, Suite A, Brecksville, OH 44141

Phone: (800) 589-6120 - Fax: (248) 354-3710
www.deppmann.com

February 13th 2012 ~ Monday Morning Minutes:

Expansion and Compression Tanks – Part 11

Frequently Asked Questions Page 1

by Norman Hall

1. Q: How do I select a B&G bladder tank to replace my plain steel compression tank?

A: I use the “reverse engineered” method. I determine what the minimum fill pressure and maximum pressure at the existing tank should be. Then I find the fluid type (Water? Glycol?) and the design maximum temperature and temperature drop. Then I go into the B&G program with those estimates and go back and forth raising the volume until I get the existing tank size and a solution. Now I use that volume, refigure the fill and maximum pressures for the bladder tank selection, find the new tank model and raise it one size for safety. (Wessel Company also has a conversion calculation sheet that allows for long hand selection) [Click here to request a copy.](#)

2. Q. What tank do I need for my XXX BTUH Boiler?

A. This is a dangerous question. There are a lot of rules of thumb out there. Sometimes they work and sometimes they don't. I use rules of thumb for budget pricing and 90% reviews but always select the tank using the correct information before scheduling and purchase.

3. Q. Can I install the bladder / diaphragm tank on its side?

A. The construction of Bell and Gossett bladder and diaphragm tanks for horizontal or vertical installation are identical except for the drain connection. Remember from previous articles that the water is inside the balloon and the air is inside the tank. If the bladder breaks, how do you get the water out? The drain connection provides a means to drain the water out of the tank. The tank selected will operate in either horizontal or vertical installations. The trouble will come when you try to service the tank. It's pretty hard to remove a horizontal tank when it has 1000 lbs. of water in it. Stick with the proper tank for the installation.

4. Q. How come the factory can't charge my tank to something other than 12 PSIG?

A. The 12 PSIG fill is a carryover from residential two story baseboard systems with a basement. If we take the 12 PSIG and subtract 4 PSIG for venting at the top, we get 8 PSIG or 18.5 feet. It is also the preset setting for most hydronic pressure reducing (PRV) fill valves; but what about the question? If the tank is in the penthouse, most engineers will default to the standard setting of 12 PSIG for the tank and the PRV. If the tank is below the penthouse, the fill pressure will depend on the location of the tank. If the fill is at 20 PSIG, someone will need 22, fill is at 30, someone needs 35 and so on. It causes the tank to become special because there is another labor component.

5. Q. Why is my compression tank water logged? When I soap it, I can't find a leak.

A. This is the most common question asked by service contractors and owners about their compression tanks. 1. We assume you have a B&G Airtrol Tank Fitting on the tank to stop gravity circulation which can pull air back into the system from the tank. 2. Oh those gauge glass sets! The fibrous washer in the top gauge cock can and will dry out and shrink. When it shrinks, it can cause air to leak out and water levels in the tank to rise. When the water level reaches the gauge cock, the washer swells again and stops the leak. A frustrating circle of events you can never find! Close the gauge cocks and mark them “normally closed”. 3. If you have a second compression tank in another location in the system, water can leave one tank and move to another taking air with it as it goes. Check your fill pressure. Pipe, filled with air at the top of the system, will act like another compression tank.

Next week we look at the next 5 most frequently asked questions.

Disclaimer: R. L. Deppmann and it's affiliates can not be held liable for issues caused by use of the information on this page. While the information comes from many years of experience and can be a valuable tool, it may not take into account special circumstances in your system and we therefore can not take responsibility for actions that result from this information. Please feel free to contact us if you do have any questions.