

WFA Bladder Tank Series Installation & Operation Instructions

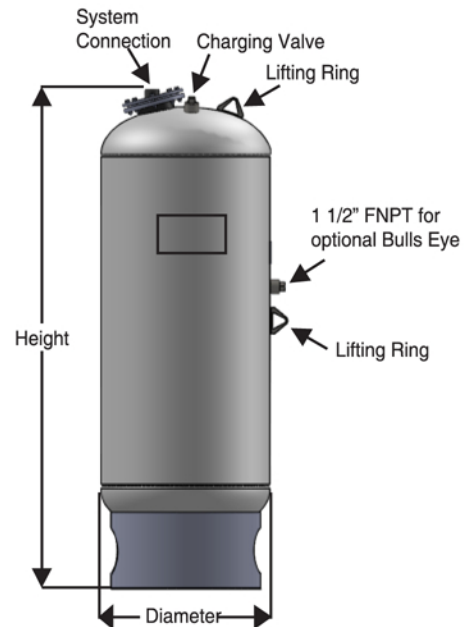
VESSEL DESCRIPTION: American Wheatley tanks are ASME constructed, pre-charged bladder expansion tanks. They are designed to absorb the expansion forces and control the pressure in heating/cooling systems. The system's expanded water (fully compatible with water/glycol mixtures) is contained in a heavy-duty bladder preventing tank corrosion and water logging problems. The factory set pre-charge for these tanks is 12 psig.

The tank pre-charge should be set equal to the minimum system pressure required at the point where the tank is installed.

CAUTION- If charging above 80 psi, charge to approximately 60 psi, then slowly introduce approximately 1/3 of tank water volume before SLOWLY charging up to desired pressure.

IMPORTANT: When pressure testing the system piping, the expansion tank must be isolated from the elevated pressure test. Bladder stress and premature failure may result. When filling the system with water, open valve to tank to ensure that any residual air in the tank is displaced by water. It is recommended that the pre-charge be checked annually to ensure proper system protection and long-life for the vessel.

TANK PREPARATION: Visually inspect tank for damage, which may occur during transit. Factory pre-charge pressure may not be correct for the installation. Pre-charge is typically set to equal the system pressure. If unsure, consult a factory representative. Tank MUST be pre-charged to system design pressure BEFORE placing into operation. Remove pipe plug covering the valve enclosure. Check and adjust the charge pressure by adding or releasing air for each application.



WFA 140 thru WFA 15000

Set tank in place and pipe system connection to system. Be sure to include isolation valve and drain. Do not loosen nuts on cover plate; this will result in loss of pre-charge. Cover plate should only be removed when replacing bladder, and then only after the tank has been bled to zero gauge pressure.

If system has been filled with water and the tank has been through several cycles, the tank must be isolated from the system and the tank emptied before charging. This ensures all fluid has exited the bladder and proper charging will occur.

If the pre-charge adjustment is necessary, oil and water free compressed air or nitrogen gas may be used. Check the pre-charge using an accurate pressure gauge at the charging valve and adjust as required. Check air valve for leakage. If evident, replace the Schrader-type tire valve core. Do not depend on the valve cap to seal the leak. After making sure air charge is correct, replace protective cover over the charging valve for protection.

JOB NAME _____
LOCATION _____
CONTRACTOR _____
CONTRACTOR P.O. NO. _____

ITEMS	QUANTITY
_____	_____
_____	_____
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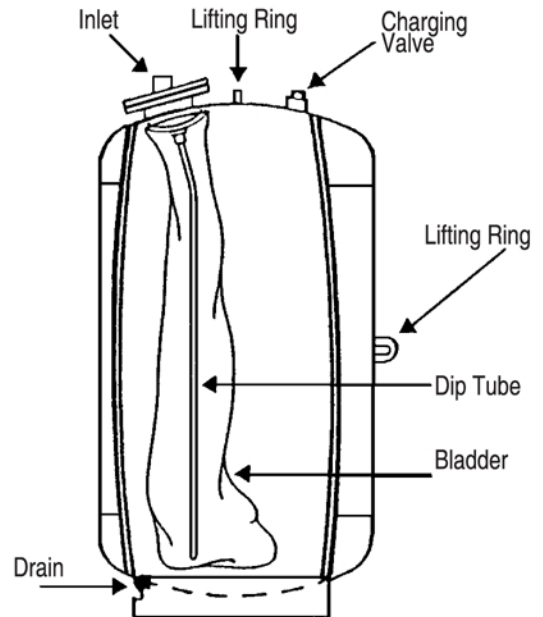
WFA Bladder Expansion Tank

Instructions for Bladder change

RECOMMENDED TOOLS AND SUPPLIES:

- | | |
|--------------------------|--|
| 1. Plumbers tool box | 6. Length of rope or cord |
| 2. Compressed air source | 7. Work light |
| 3. Replacement Bladder | 8. Portable pump (as needed) |
| 4. Chain block | 9. Extension cord (as needed) |
| 5. Pressure gauge | 10. Wooden stick, at least 1 ft. longer than tank height |

- Isolate bladder-type expansion tank from system. Shut off automatic fill-valve and drain boiler to release all system pressure.
- Bleed system air charge through air charging valve. Remove air valve core at top of the tank and discharge remaining air.
- Open drain plug located at bottom of tank.
- Disconnect tank from system.
- Remove bolted upper flange.
- Examine and clean bladder hose assembly attached to the upper flange. Replace as necessary.
- Pump water out of the bladder as necessary.
- Pump any remaining water out of the bottom of the tank. Also, if necessary, hose down the walls of the inside of the tank.
- Check the internal walls of the tank for any rust debris and sharp edges that may cut the bladder. Remove debris and sharp edges as necessary.
- Carefully roll up the replacement bladder lengthwise, with both sides rolled toward the middle like a scroll. This insures the bladder will expand without twisting when filled. Secure at intervals with rope or cord in order to keep it rolled.
- Insert the replacement bladder, removing the rope or cord as it nears the tank opening. Many times, on larger sized tanks, the bladder may be inserted more easily with the tank laying on its side on the floor.
- With the long wooden stick, carefully clear an opening for the dip tube. Extreme care must be taken not to puncture the bladder.
- Checking the markings which were made on the flanges, line up the upper and lower flanges and assemble the upper mating flange. Tighten bolts evenly, using a star pattern.
- Using compressed air source and pressure gauge, apply 10 psi air pressure to the flange connection and then relieve pressure. These actions should ensure proper positioning of the replacement bladder within the tank.
- Clean drain plug and coupling.
- Reassemble the drain plug, using a liberal amount of thread sealant. This connection must be air-tight.
- Reassemble the air valve at the top of the tank.
- Precharge tank to fill-pressure or minimum operating pressure.
- Using soapy water, check the drain fitting threads, air valve and flange joint for leakage.
- Reconnect the system, open the fill-valve and check operation of the tank. Always precharge tank before completing this step.



JOB NAME _____
LOCATION _____

CONTRACTOR _____
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ITEMS	QUANTITY
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