Introduction

PLEASE READ ALL INSTRUCTIONS AND WARNINGS BEFORE INSTALLING YOUR NEW GLOBAL WATER SOLUTIONS PRESSURE TANK

These instructions have been prepared to acquaint you with the correct method of installing and operating your GWS pressure tank. Please read and follow these instructions and heed any warnings to ensure safety and maximum product performance. In the event of installation difficulties or need for further advice, please contact the nearest GWS sales office or dealer.

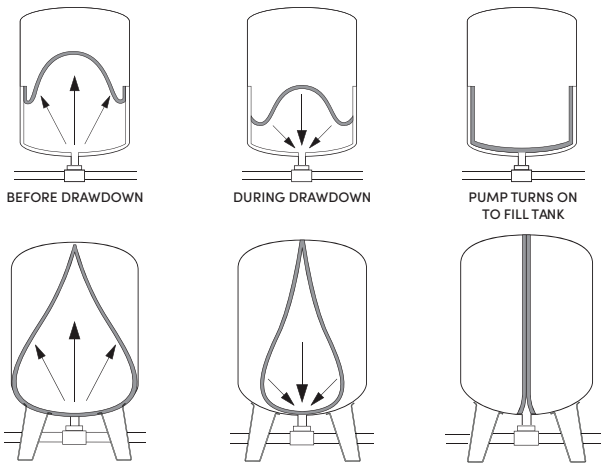
The following instructions and warnings are subject to periodic updates and should be regularly reviewed on the website www.gwsusa.com/support for important safety information and instruction updates.

Operation

This pressure tank has been designed to store and deliver potable water under pressure in a domestic water system. It features a diaphragm or membrane design that keeps the system water in a safe and contaminant-free chamber for pressurized water supply between pump cycles.

Without a pressurized storage tank, a domestic water system's pump would turn on every time there is a demand for water, even if the demand is small. This frequent on/off cycling shortens the useful life of the pump. Pressure tanks are designed to store water when the pump is running and then deliver pressurized water to the system when the pump is shut off **(See Fig. 1)**. A properly sized tank will store at least one gallon of water for every gallon per minute (GPM) of pump capacity. This allows for fewer pump starts and longer run times which maximizes the life and efficiency of the pump system.

Fig. 1



THIS IS A SAFETY ALERT SYMBOL. IT IS USED TO ALERT YOU TO POTENTIAL PERSONAL INJURY HAZARDS. OBEY ALL SAFETY MESSAGES THAT FOLLOW THIS SYMBOL TO AVOID POSSIBLE INJURY OR DEATH.

⚠ WARNING

INDICATES A POTENTIALLY HAZARDOUS SITUATION WHICH, IF NOT AVOIDED, COULD RESULT IN SERIOUS INJURY, DEATH, AND/OR SIGNIFICANT PROPERTY DAMAGE .

⚠ **WARNING: COMPLIANCE TO CODES** This pressure tank must be installed by a qualified professional following all local and national plumbing and electrical codes. The tank must be annually inspected for visible signs of damage, corrosion, or leakage and replaced immediately if these signs are present. **Failure to follow these instructions and codes may result in serious injury, death and/or property damage and will void the product warranty.**

⚠ **WARNING: EXPLOSION HAZARD** This pressure tank is designed for water storage at a maximum pressure of 150 psi and a maximum temperature of 194° F. **The system must be protected by a suitable pressure relief valve set at a maximum of 125 psi.** This pressure tank is shipped with a pre-charge of 38 psi and any adjustment to the pre-charge must be done prior to installation and at ambient temperature. Do not adjust the pre-charge of this tank if the product is corroded or damaged or shows any signs of diminished integrity. The maximum allowable pre-charge in this pressure tank is 80 psi. **Failure to follow these instructions may result in serious injury, death and/or property damage.**

⚠ **WARNING: PROPER PLACEMENT OF TANK** This pressure tank should be installed in a covered, dry area. This tank must not be installed in a location that is subject to freezing or where it can rub or vibrate against a hard surface. The tank must be installed in a suitable location to prevent water damage due to leaks and have means for adequate drainage. **The manufacturer of this product is not liable or responsible for any water damage associated with the installation and/or failure of this product. Failure to follow these instructions may result in serious injury, death and/or property damage.**

⚠ **WARNING: FOR POTABLE WATER USE ONLY** This pressure tank is intended for use with potable water systems only. Use with non-potable water or any other fluid may be dangerous and will void the warranty. This product's performance and lifespan can significantly be impacted by aggressive water conditions. A water test should be conducted specifically looking for corrosive water, acids and other relevant water contaminants which, if present, must be treated appropriately. The system piping must be properly grounded to earth. A dielectric union may be required in the system. **Failure to follow these instructions may result in serious injury, death and/or property damage.**

ADJUSTING TANK PRE-CHARGE

Correct pre-charge is required for proper tank performance. Any adjustments to the factory pre-charge must be done prior to initial tank installation and with zero pressure on the system.

⚠ **WARNING:** Do not adjust the tank air pressure if there are any visible signs of corrosion on the tank. If this pressure tank shows any visible signs of corrosion or rusting, the tank must be replaced immediately. Failure to follow these instructions may result in serious injury, death and/or property damage.

⚠ **DO NOT ADJUST THE PRE-CHARGE OF THE PRESSURE TANK WITH THE SYSTEM UNDER PRESSURE.**

This pressure tank is shipped from the factory with a pre-charge of 38 psi.

1. For tanks installed with a fixed speed pumping system with a differential pressure set up to 30 psi, the pre-charge should be set to 2 psi below the cut-in pressure. (**Example:** In a 20/40 pressure switch, the tank is set to 18 psi; a 30/50 pressure switch, tank is set to 28 psi; and a 40/60 pressure switch, tank is set to 38 psi.)
2. For tanks installed with a pump controlled by a pressure switch with a pressure differential greater than 30 psi, electronic controls or variable speed controls, the pre-charge should be set to 65% of the maximum system pressure.
3. For tanks installed on mains pressure, the tank pre-charge should be set equal to the system pressure. If the system pressure exceeds 88 psi then a suitable pressure reducing valve should be installed.

⚠ **WARNING:** In no event should the tank pre-charge exceed 80 psi.

TO ADJUST TANK PRE-CHARGE PRIOR TO INSTALLATION

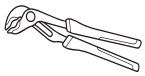
- Remove the protective cap from the air valve.
- Check the tank pre-charge pressure using a suitable pressure gauge.
- If required, add air at ambient temperature to the tank using a manual pump or air compressor until the proper pre-charge pressure is reached.
- Replace the protective cap on the air valve.

TO ADJUST TANK PRE-CHARGE AFTER INSTALLATION (IF REQUIRED)

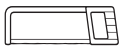
- Disconnect all power to the system pump.
- Drain the tank of water by opening a faucet or drain valve.
- Add or release air at ambient temperature, if required, using a manual pump or air compressor until the proper pre-charge pressure is reached.

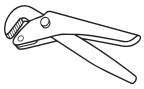
PRESSURE TANK INSTALLATION

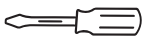
TOOLS NEEDED

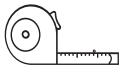
Adjustable Pliers 

Adjustable Wrench 

Hacksaw 

Pipe Wrench 

Screwdriver 

Tape Measure 

Tire Pressure Gauge 

ACCESSORIES NEEDED

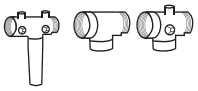
Check Valve 

Drain Valve 

Pressure Gauge 

Pressure Relief Valve 

Pressure Switch 

Tank Connector Fitting 

Teflon™ Tape 

Installation location

⚠ WARNING: The tank must be installed in a suitable location to prevent water damage due to leaks and have adequate drainage. The manufacturer is not liable for any water damage that occurs in association with tank installation or failure.

In order to ensure your tank provides its maximum service life, it should be installed in a covered, dry area that is not subject to freezing. This tank must not be installed in a location where it can rub against a hard surface such as a wall.

The tank should always be located downstream from the pump. If the tank is located at a lower elevation than the demand, a check valve must be installed.

The tank should be located as close as possible to the system pressure switch, transducer or flow sensor to reduce the negative effects of added friction loss and/or differences in elevation between the tank and these components.

This tank has been designed to be mounted on a level surface and must be adequately supported around the entire base using the mounting holes or brackets provided. Inline tanks should be connected directly to the pump or the supply line using a 3- or 5-way fitting.

If replacing a tank

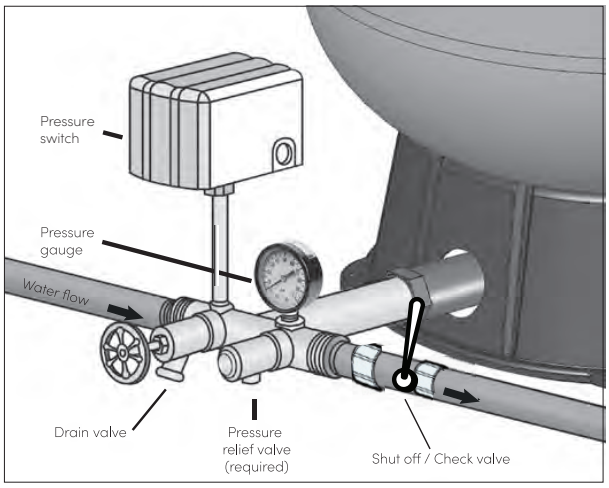
With all power turned off to the pump system, drain the old tank, close all water flow to the tank and disconnect it from the system. Check all fittings, valves, switches and gauges for proper working condition and replace as appropriate.

Connecting tank to system

⚠ **WARNING**: Disconnect or shut off all electric power to the water supply/pump system. Shut off the water supply to the system and remove all water pressure from the system. Failure to follow these instructions may result in serious injury, death and/or property damage and will void product warranty.

⚠ **WARNING: A suitable pressure relief valve, set at a maximum of 125 psi, must be installed in the system near the pressure tank (see Fig.1.1)** The pressure tank should be installed in the incoming water supply line from the pump system and before any point of user (POU) fixtures. **(see Fig. 1.1)**

Fig. 1.1



EASY AS 1-2-3 INSTALLATION

1. Remove and discard the protective cap from the pressure tank's stainless steel water connection. Connect the tank cross / tee fitting (3- or 5- way connector for inline or horizontal pressure tanks) into the pressure tank with adequate pipe sealant (Teflon™ tape or pipe dope) on the male threads. Be cautious to not over-tighten, cross, or strip threads when connecting fittings.
2. Once the fitting is securely tightened, be sure that the threaded holes for your pressure switch and pressure gauge on the tank connection fitting are in the upward position. (See vertical tank examples Figures 1.1, 1.2, and 1.3, horizontal tank example Figure 1.4 and inline tank example Figure 1.5).
3. With adequate pipe sealant, connect all of the fittings, valves, pressure switch, pressure gauge and water system pipe / connection unions to the connection fitting.

⚠ **WARNING:** All piping and electrical components should be in accordance with prevailing local codes and standards.

STARTING SYSTEM

Before turning on the water supply to the system, open a water faucet to allow air from the system piping to be purged. Turn on the power to the water supply and the pump should turn on, filling the system piping. When the water is flowing freely from the faucet without air, close the faucet. The pump will continue to run filling the pressure tank.

⚠ **WARNING: Inspect the installation for water leaks paying close attention to the connection between the pressure tank and the system piping.**

TYPICAL INSTALLATIONS

Fig. 1.2 With submersible pump

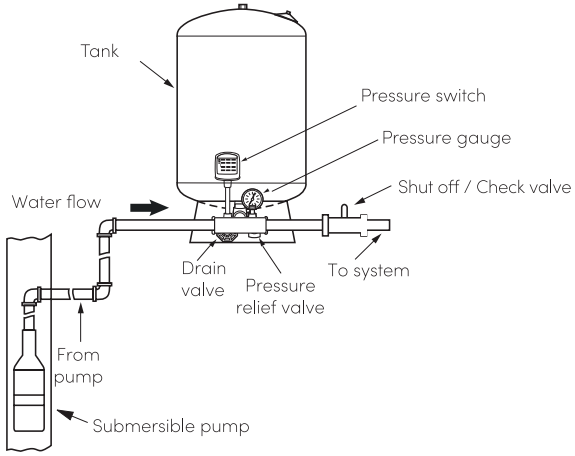
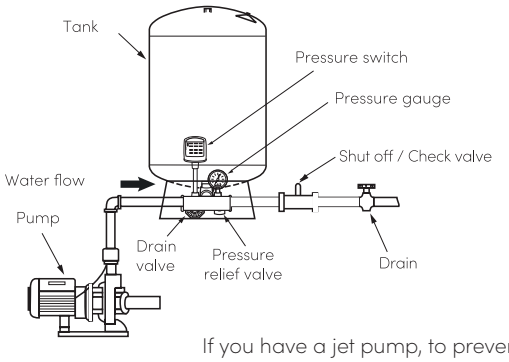


Fig. 1.3 With convertible jet pump



If you have a jet pump, to prevent damage to the well system, close or plug the opening during tank installation where the installation where the vacuum and air volume controls connect to the pump and/or piping.

Fig. 1.4 Booster pump with horizontal tank

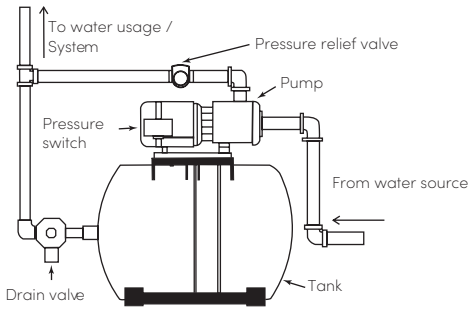
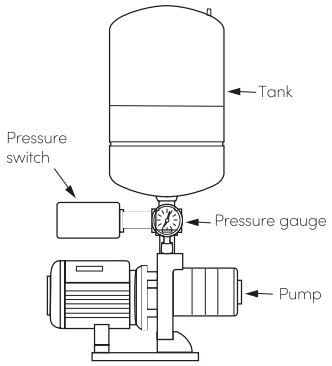


Fig. 1.5 Booster pump with inline tank



MULTIPLE TANK INSTALLATION

All tanks must have the same pre-charge for the system to function properly. Tanks should be installed on a header to ensure all tanks receive equal and balanced pressure. Adjust each tank pre-charge as detailed in the adjusting tank pre-charge section. The system pressure switch or control should be centrally located (see Figure 2.1 & 2.2) in order for the tanks to function properly.

Fig. 2.1

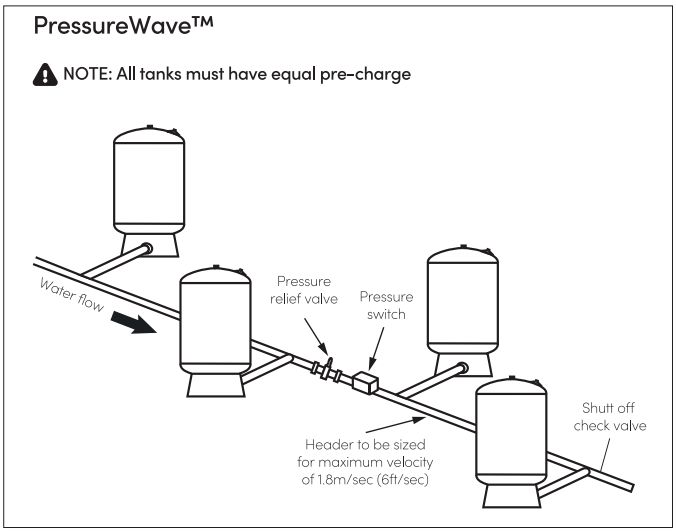
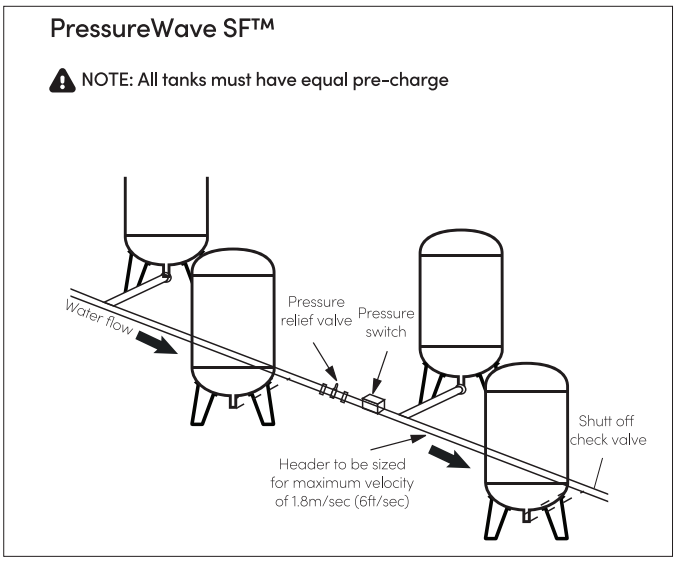


Fig. 2.2



MAINTENANCE

It is recommended that the system is checked annually by a qualified professional. The pressure tank and its connections to the system should be visually inspected regularly for any signs of water leakage or corrosion on the exterior of the tank or connection. If any is seen, replace tank immediately. Although our PressureWave™ diaphragm tank design is maintenance-free, damaged and/or poorly working accessories and tank fittings can adversely affect the tank's performance, as can extreme temperature variations and age. Therefore, the tank pre-charge should also be checked periodically.

GLOBAL WATER SOLUTIONS USA LIMITED PRODUCT WARRANTY

PRODUCTS COVERED

PRESSURE WAVE™ Series – LX, LH, and LV Tanks
PRESSURE WAVE SF™ Series – LV Tanks

IMPORTANT

Carefully read the installation, operating and maintenance instructions manual to avoid serious personal injury and/or property damage and to ensure safe use and proper care of this product.

WARRANTY

Warranty is extended to the original purchaser of the new product and is not assignable or transferable. Global Water Solutions USA (GWS USA) warrants that will be free from defect in material or workmanship under normal usage conditions beginning on the date of manufacture for a period of five (5) years. Any warranty claim must be made within five (5) years (unless another time period is set forth in the manual), measured from the date of manufacture. To receive service under this warranty, the consumer must deliver the alleged defective product, freight prepaid, to an authorized GWS USA distributor or dealer within thirty (30) days after the expiration of the warranty period. GWS USA will either refund the purchase price paid, or, at its option, repair or replace defective product freight prepaid to the distributor or dealer. GWS USA will not accept any claims for, nor will GWS USA be responsible for, any other cost, including labor. All warranty is subject to verifiable proper installation, adjustment of pre-charge, and installation of pressure relief valve as outlined in the manual.

EXCLUSIONS

This warranty does not cover any failure or problem unless it was caused by a defect in material or workmanship. In addition, this warranty shall not apply to the following:

- If the product is subject to misuse (including use in a manner inconsistent with the design of the product), abuse, neglect, accident or is not properly installed, operated, repaired by any person or entity other than GWS USA or their authorized representatives.
- If the product has been altered, modified, or repaired by any person or entity other than GWS USA or their authorized representatives.
- If the product is used for a purpose not described in the installation manual.
- If the product is subject to negligent handling or improper storage, damage during shipment, or damage due to environmental conditions or acts of God such as lightning, floods, fire, or freezing.
- If the product is installed outside of the United States, Canada, or US territories or possessions.

WARRANTY LIMITATIONS

This limited warranty is in lieu of all other warranties, written or oral, statutory, express, or implied, including any warranty of merchantability or fitness for a particular purpose. Purchaser's sole and exclusive remedy for GWS USA's breach of its obligations hereunder, including breach of any express or implied warranty or otherwise, unless provided on the face hereof or in a written instrument made part of this limited warranty, shall be for the purchase price paid to GWS USA for the nonconforming or defective product or for the repair or replacement of non-conforming or defective product, at GWS USA's election. Any product which GWS USA determines to be defective within the warranty period shall be, at GWS USA's sole option, repaired, replaced, or refunded at the purchase price paid.

Without limiting the generality of the exclusions of this limited warranty, GWS USA shall not be liable to the purchaser or any third party for any and all (i) incidental expenses or other charges, costs, expenses (including costs of inspection, testing, storage, removal, reinstallation, or transportation) or (ii) damages, including consequential, special damages, punitive or indirect damages, including, without limitation, lost profits, loss or damage to property, mold, lost time and lost business opportunities, regardless of whether GWS USA is or is shown to be at fault, and regardless of whether there is or there is shown to have been a defect in materials or workmanship, negligence in manufacture or design, or a failure to warn.

GWS USA's liability arising out of the sale or delivery of its products, or their use, whether based upon warranty contract, negligence, or otherwise, shall not in any case exceed the cost of repair or replacement of the product and, upon expiration of any applicable warranty period, any and all such liability shall automatically terminate.

Without limiting the generality of the exclusions of this limited warranty, GWS USA does not warrant the adequacy of any specifications provided directly or indirectly by a purchaser or that its products will perform in accordance with such specifications.

HOW TO CLAIM WARRANTY

You must notify the authorized GWS USA distributor or dealer who sold you the product within thirty (30) days of the event leading to the warranty claim. Warranty service must be authorized by the GWS USA distributor or dealer which sold you the product to qualify for coverage. If you do not receive a prompt response, you may contact GWS USA directly at support@gwsusa.com. Notice of the warranty claim should be submitted within sixty (60) days of the event leading to the claim by the authorized distributor/ dealer to GWS USA at the following address:

Global Water Solutions USA, Warranty Claim Department
3165 Lakewood Ranch Blvd., Suite 101, Bradenton, FL 34211
Email: support@gwsusa.com

Before GWS USA determines to provide any replacement part or product, it may, as a pre-condition to making such a determination, require that the warranty claimant ship the product, postage prepaid, to an authorized GWS USA distributor, or to GWS USA, and provide proof of purchase evidenced by the original sales receipt.

REPLACEMENT PRODUCT WARRANTY

In case of replacement of a product or any component part, GWS USA reserves the right to make changes in the construction, design, or material of the substitute components or products, which, in its judgment, constitute a product improvement. The replacement shall be subject to all of the terms and limitations of this warranty, except that the applicable warranty period shall be reduced by the amount of time the warranty claimant owned the product prior to submitting notification of the warranty claim.

OWNER'S RECORD KEEP FOR LATER USE

Serial Number (see tank data label on the tank): _____

Model (see tank data label on the tank): _____

Purchase Location and Date: _____

Date Installed: _____

Installer Name: _____

Telephone Number: _____

Please retain copy of product and installation receipts

globalwater
solutions USA

Have questions or need assistance?
www.gwsusa.com