

INSTRUCTIONS FOR INSTALLATION AND OPERATION OF ZILMET USA WELL TANKS

firmly affixed to the tank and must not be removed, tampered with, hidden, covered, or changed.

If the label on the ZILMET tank is missing or the technical characteristics on the ZILMET label are not legible, DO NOT INSTALL the well tank and contact ZILMET immediately by phone at 401 884 4943 or by e-mail at info@zilmetusa.com.

1. Each tank comes with a factory precharge pressure that must be checked prior to installation. The precharge pressure may not be correct for the installation. Measure and adjust the tank precharge so it is 2psig below the cut-in pressure setting of the pressure switch to the well pump.
2. If the system has been filled, the tank must be isolated from the system and the tank emptied before charging. This ensures all fluid has exited the bladder and proper precharge pressure can be charged.
3. Check the precharge using a calibrated pressure gauge at the charging valve and adjust as required. Check air valve for leakage. Do not depend on the valve cap to seal the leak. After making sure air charge is correct, replace air stem cap.
4. Zilmet sells separately a Tank Tee with Union for the Hydro-Plus ZHP Side Connection tanks.



The Tank Tee with Union is sold separately and comes in 1" (ZZT-1) and 1-1/4" (ZTT-2). Both kits come with No Lead Brass Tank Tee with Swivel, Union Nut, 40/60 Pressure Switch, No Lead Pressure Gauge, 1/4" NPT x 3" Copper Nipple, 1/2" NPT No Lead Brass Boiler Drain with Hose Bib, and 1/2" No Lead Pressure Relief Valve. The Tank Tee with Union is for the Hydro-Plus ZHP Side Connection Tanks only.



WARNING: The values of the maximum working temperature and the maximum working pressure, shown in the label affixed to the well tank and must be considered the maximum working parameters for the well tanks.

DO NOT INSTALL OR OPERATE THE SYSTEM AT SUSTAINED OR INSTANTANEOUS PRESSURE AND/OR AT TEMPERATURES EXCEEDING THE LIMITS ON THE LABEL AFFIXED TO THE WELL TANK.



WARNING: EXCEEDING MAXIMUM PRESSURE AND/OR TEMPERATURE, EITHER SUSTAINED OR DUE TO SUDDEN INCREASES, IS DANGEROUS AND MAY RESULT IN REDUCED TANK LIFE, PROPERTY DAMAGE, SERIOUS SCALDING AND/OR BODILY INJURY OR DEATH.

The tank may be used in systems that have a different maximum working system temperature, provided that the tank's own temperature does not exceed the prescribed limits for the diaphragm. This may be achieved by installation of the tank in the coldest part of the system, thermostatic control etc.



Do not expose the well tank to temperatures lower than 14 °F. **DO NOT USE ANTIFREEZE** for the production and storage of potable water.

In accordance with local regulations, or following specifications agreed in specific cases between ZILMET and the purchaser, the maximum working pressure and the maximum working temperature may be lower than those shown on the product label, but may never exceed the same. **Please always refer to the agreed specifications and/or to the local codes, regulations and standards.**



3. WARNINGS

- The system in which the expansion tank is installed must have a pressure-limiting device (pressure relief valve), sized and installed in accordance with local codes.
- To prevent corrosion due to stray and galvanic currents, the system must be grounded properly in accordance with local electrical and plumbing codes and standards. If needed, the tank may be provided with dielectric joints after careful evaluation of the characteristics of the installation.
- Other possible causes for pin-holing and corrosion phenomena must be evaluated, including the water's chemical, physical and thermal characteristics, the presence of oxygen or melted salts and the use of devices made of different materials (e.g. carbon steel and stainless steel, carbon steel and copper) within the system. All of these factors must be considered by the manufacturer of the complete system and by the personnel in charge of installation and maintenance, taking into account all local plumbing, electrical and safety standards and regulations.
- Water quality may affect the lifespan of expansion tanks. Water may require treatment to ensure the correct performance and complete lifespan of the expansion tank. If installed near the sea, damage from salty air may occur.
- Do not use this tank with the following fluids: (a) chemicals, solvents, petroleum products, acids, bases or any other substance that may be

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detrimental to the tanks itself, (b) explosive, extremely flammable, flammable, toxic, or oxidizing fluids.

- Only use this tank with non dangerous fluids and having a vapor pressure greater than 7.25 psi above the normal atmosphere pressure (14.7 psi) at the maximum working temperature of the expansion tank.
- Do not use this tank with water containing sand, clay, particulates or other solid substance that may damage the tank (particularly the internal coating) and / or clog its connecting pipes.
- Proper means must be provided in order to prevent air from accumulating in the chamber of the tank (water side) connected to the system.
- The tank and the connected system must be protected against below-freezing temperatures by using proper antifreeze (if for use with non-potable water, see above) or installing the tank in suitable indoor areas.
- Do not use this expansion tank for any purpose other than the purpose for which it was intended.
- The well tank, piping and connections may leak water or other liquids over time. Therefore, the well tank must be installed in a suitable technical room capable of supporting the weight of the vessel filled with water and that must have adequate drainage and protection such that any leakage will not damage the surrounding area and will not cause scalding injuries. **THE MANUFACTURER SHALL NOT BE RESPONSIBLE FOR ANY DAMAGE TO PROPERTY, INJURIES OR SCALDING IN CONNECTION WITH THIS WELL TANK.**
- **THE MANUFACTURER SHALL NOT BE RESPONSIBLE FOR ANY DAMAGES TO PROPERTY AND / OR INJURIES DUE TO IMPROPER TRANSPORT, HANDLING, INSTALLATION OPERATION OR MAINTENANCE OF THE TANK.**
- As in all plumbing products, bacteria can grow in the well tank, especially during times of non use. The local health and safety office must be consulted regarding any measures the personnel in charge of service and maintenance takes to safely disinfect the plumbing system. **DO NOT USE ABRASIVE DETERGENTS OR OTHER SUBSTANCES THAT MAY CAUSE DAMAGE TO THE TANK OR CONTAMINATION OF DRINKING WATER. IF BACTERIA CONTAMINATION IS DETECTED, IT MAY BE ADVISABLE TO REPLACE THE TANK.**
- DO NOT drill, open, heat with flames or tamper with the tank in any way.
- NOTE that certain pressure tanks may have an opened upper connection in order to allow the installation of a three way connection on which a manometer and a pressure relief valve may be installed. If the three way connection is not installed, or the upper part is not closed with a suitable threaded nut, fluid escape may occur from the vessel.
- In the event it is necessary to change the factory pre-charge, specialized technicians should calculate and determine the new pre-charge. The calculation must ensure that, for all foreseeable working conditions, the specified limits (particularly the maximum working pressure) are never exceeded and that all local codes and standards are observed.



WARNING -DO NOT OVER-PRESSURIZE- EXPLOSION HAZARD. The pre-charge should never exceed 50% of the maximum working pressure. The new value of the pre-charge pressure (user set) must be written in the appropriate space on the label that is permanently affixed to the tank.

- Make sure that the system layout allows for future maintenance and provides sufficient access and working space around the system to allow for replacement of components whenever necessary.
- If vibration is likely to occur in the vicinity, proper means must be provided in order to insulate the expansion tank from vibrations (e.g. installation on a resilient mount).
- The tank can only be disposed of at selective waste collection authorized centers, in accordance with local codes and standards.

CALIFORNIA PROPOSITION 65 WARNING: This product contains chemicals known to the State of California to cause [cancer](#) and [birth defects](#) or other reproductive harm. (California Installer / Contractor E California law requires that this notice to be given to consumer / end user of this product.)

4. GENERAL INSTRUCTIONS FOR INSTALLATION



SHUT OFF THE ELECTRIC POWER AND THE WATER SUPPLY TO THE SYSTEM. MAKE SURE THE SYSTEM IS COOLED AND NOT PRESSURIZED TO AVOID SCALDING AND / OR SERIOUS BODILY INJURY.

Inspect the product for any damage that may have occurred during shipping. If evident damage is detected, notify the freight carrier and reseller immediately, and do not install the tank.

- ‡ **Ensure that access to the installation area is restricted. Do not install where children are present or may be present.**
- ‡ Use caution and always wear protective gloves and safety goggles during installation and maintenance of the expansion tank. Use suitable and appropriate lifting tools when positioning and installing the tank.
- ‡ Choose an appropriate site for installation which is enclosed and well aerated. Tank must be placed far from heat sources, electric generators and any other element that may damage the tank. Install in an area that allows for easy access and inspection of the tank.
- ‡ Depending on the model, the weight of the well tank filled with water can be supported by the system piping. To avoid overloading the pipes and possibly breaking or offsetting the pipe connections, it is important that the piping is supported by suitable bracing (strapping, hanger, brackets). If the tank does not have a support base, and is installed horizontally, it must be properly supported along the entire length of the tank.
- ‡ Before using any Zilmet accessory to hang the expansion vessel on a wall, check that the wall itself can sustain the weight of a full expansion vessel, as it will fill with system liquid. This will add considerable weight to the tank during normal operation.
- ‡ Before installing the well tank, remove the plastic cap on the air valve of the tank and using a calibrated air gauge verify that it has the correct factory set pre-charge (with a tolerance of $\pm 20\%$). Adjust the tank pre-charge to the required value (**do not over-pressurize**) and replace and tighten the plastic cap on the air valve. Only adjust the tank when empty of water.
- ‡ Install the tank at the point specified by the system design, specifications and instructions, preferably in a vertical position for diaphragm cycle symmetry to result in optimum product life.

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1. Proper sizing is critical for reliable operation of the well tank and for longevity in service. See sizing charts below for recommended tank sizes at 1 and 2 minute pump run times. Consult your pump manufacturer for recommended pump run time. For any questions about tank sizing, contact Zilmet USA.
2. Visually inspect tank for damage, which may have occurred during transit. Do not install tank if there is evidence of damage.
3. Install the tank on firm level grounding that is capable of supporting the operating weight of the tank plus water.
4. Install the tank as close to the pressure switch as possible to eliminate the effects of pressure drop in the line.
5. Install the tank in an area that is clean and with adequate space to service and maintain.
6. Tank must be installed after a backflow preventer from the well pump.
7. Set tank in place and pipe system connection to system. Be sure to include isolation valve(s) to aide in future service.
8. Always install a safety relief valve, drain valve, and pressure gauge with the pressure switch.
9. Do not install in an area where leakage could cause property damage. The tank can be installed either vertically or horizontally. However, if the tank is to be installed horizontally, then it must be fully supported independent from the piping. Failure to do so will void the warranty.
10. Precharge, pressure cycle setting, and visual inspection every 6 months.
11. For underground installation, make sure that the tank is buried below the frost line and above the water table. Rest the tank in a buried hole on firm rock-free earth. Go not support or cover the tank with rocks or gravel. Use only sand for backfill. Check the system performance of the tank before backfilling the hole.

Hydro-Pro ZHP Side Connection Well Tank

■ zilmet well tank sizing chart

Gallons per Minute GPM	30/50 psig		40/60 psig	
	1 min	2 min	1 min	2 min
5	ZHP202	ZHP203	ZHP202	ZHP203
10	ZHP203	ZHP251	ZHP204	ZHP302
12	ZHP204	ZHP302	ZHP250	ZHP302
15	ZHP250	ZHP302	ZHP251	ZHP351
20	ZHP251	ZHP351	ZHP302	ZHP302 (2)
25	ZHP302	ZHP302 (2)	ZHP350	ZHP350 (2)
30	ZHP350	ZHP350 (2)	ZHP351	ZHP351 (2)
35	ZHP351	ZHP351 (2)	ZHP351	ZHP351 (2)

* Use this chart to properly size your well tank to prevent excessive wear and tear on your well pump and to reduce energy consumption. (2) indicates - two tanks required.

Hydro-Pro ZHP-BC Bottom Connection Well Tank

■ zilmet well tank sizing chart

Gallons per Minute GPM	30/50 psig		40/60 psig	
	1 min	2 min	1 min	2 min
5	ZHP202BC/202BVBC	ZHP34BC	ZHP202BC/202BVBC	ZHP34BC
10	ZHP34BC	ZHP250BC	ZHP34BC	ZHP302BC
12	ZHP204BC	ZHP302BC	ZHP204BC	ZHP302BC
15	ZHP204BC	ZHP302BC	ZHP250BC	ZHP351BC
20	ZHP250BC	ZHP351BC	ZHP302BC	ZHP302BC (2)
25	ZHP302BC	ZHP302BC (2)	ZHP302BC	ZHP302BC (2)
30	ZHP302BC	ZHP302BC (2)	ZHP351BC	ZHP351BC (2)
35	ZHP351BC	ZHP351BC (2)	ZHP351BC	ZHP351BC (2)

* Use this chart to properly size your well tank to prevent excessive wear and tear on your well pump and to reduce energy consumption. (2) indicates - two tanks required.

For any questions about tank sizing, contact Zilmet USA.

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AFTER THE INSTALLATION OF THE TANK

- After the installation of the tank and the re-start of the well system, check for leakage and verify the properly adjusted pressure cycle range. Check to make sure that the system pressure and temperature are within safe operating range. If necessary, adjust system settings to bring the pressure within safe limits.
- Do not over-tighten the threaded connection.
- Ensure proper support, restraint and anchoring of the well tank to avoid displacement or rupture in the event of vibrations or earthquake.



The above installation instructions are intended as a reference and must be adapted by taking into account the specifications and instructions of supporting components where the tank is installed, the system design, the operation requirements and local codes and standards.

5. MAINTENANCE



ONLY QUALIFIED AND LICENSED PERSONNEL MAY PERFORM SERVICE AND MAINTENANCE.

DO NOT ACCESS WHILE UNDER PRESSURE. DANGER OF SCALDING, BURSTING OR WATER DAMAGE.

BEFORE PERFORMING MAINTENANCE AND CONTROL OPERATIONS, THE SYSTEM (INCLUDING THE TANK) MUST BE SHUT OFF, COOLED AND NOT PRESSURIZED, ALL OF THE ELECTRICAL PARTS MUST BE UNPLUGGED AND THE TANK MUST BE COMPLETELY EMPTY.

- **Unless otherwise stated, at least once every six months the well tank must be checked to verify that the pre-charge is within the value indicated on the label (factory pre-charge or customer set pre-charge) with a tolerance of $\pm 20\%$.**
- To lengthen the life of the well tank's external protection, periodically clean the external portions of the tank using warm water and soap.
- Inspect the tank visually for signs of damage / corrosion at least once every 6 months
- The well tank includes components which undergo stress. In the event such components deteriorate with time, the tank must be replaced.
- Use only original ZILMET spare parts.

Note: To ensure the proper functioning of the system, the well tank must be replaced in the event of excessive deterioration and, in any case, no later than 5 years from the installation date.

Current copies of this manual can be viewed at www.zilmetusa.com

6. WARRANTY

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Products Covered: All Products Manufactured And Identified As Manufactured By Zilmet.

This warranty cannot be transferred . it is extended only to the original purchaser or first user of the product. By accepting and keeping this product you agree to all of the warranty terms and limitations of liability described below. The warranty is not valid if the purchaser does not follow the terms of payment agreed to with ZILMET.

IMPORTANT WARNING - READ CAREFULLY THE INSTALLATION, OPERATING AND MAINTENANCE INSTRUCTIONS MANUAL ("MANUAL") to avoid serious personal injury and/or property damage and to ensure the safe use and proper care of this product.

Who Receives Zilmet's Product Warranty: all purchasers or first user of the new product; the warranty is non-transferable.

What Is Covered By This Warranty: ZILMET warrants to the purchaser or first user of the new product that, at the time of manufacture, the product is free from defects in material and workmanship. **Any warranty claim must be made within five (5) years, unless another time period is agreed between ZILMET and the purchaser, measured from the time the product was manufactured.**

What Zilmet Will Do If You Have A Covered Warranty Claim: in the event of a breach of the foregoing warranty, ZILMET will, at its option, **either** make repairs to correct any defect in material or workmanship or supply and ship either new or used replacement parts or products. ZILMET will not accept any claims for labor, **property damage** or other costs.

What This Warranty Does Not Cover - Exclusions And Limitations: this warranty does not cover any claim unless it was caused by a defect in material or workmanship during the **warranty period**. In addition, this warranty shall not apply:

- if the product is not correctly installed, operated and maintained as described in the manual provided with this warranty;
- to any failure or malfunction resulting from abuse (including freezing); improper or negligent: handling, shipping (by anyone other than ZILMET), storage, use, operation, accident; or alteration, lightning, flood or any other environmental condition;
- to any failure or problem resulting from the use of the product for any purpose other than those specified in the accompanying manual or alteration of any part of the product;
- this warranty does not cover labor costs, shipping charges, service charges, delivery expenses, administrative fees or any costs incurred in removing or reinstalling the product;
- this warranty does not cover any claims submitted to ZILMET or a ZILMET-authorized distributor or retailer more than 15 days after expiration of the applicable warranty time period described in this warranty ;
- this warranty does not cover repair or replacement costs not authorized in advance by ZILMET;
- this warranty also does not cover corrosion on mild steel flanges (stainless steel flanges must be used).

THESE WARRANTIES ARE GIVEN IN LIEU OF ALL OTHER EXPRESS WARRANTIES. NO ZILMET REPRESENTATIVE OR ANY OTHER PARTY IS AUTHORIZED TO MAKE ANY WARRANTY OTHER THAN THOSE EXPRESSLY CONTAINED IN THIS WARRANTY AGREEMENT.

Additional Warranty Limitations: ALL IMPLIED WARRANTIES, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE SPECIFICALLY DISCLAIMED. Some states do not allow limitations on how long an implied Warranty lasts, so the above limitation may not apply to you.

Limitations Of Remedies: THE REMEDIES CONTAINED IN THIS WARRANTY ARE THE PURCHASER'S / FIRST USER'S EXCLUSIVE REMEDIES. IN NO CIRCUMSTANCES WILL ZILMET BE LIABLE FOR MORE THAN, AND PURCHASER / FIRST USER'S REMEDIES SHALL NOT EXCEED, THE PRICE PAID FOR THE PRODUCT. IN NO CASE SHALL ZILMET BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES, WHETHER RESULTING FROM NON-DELIVERY OR FROM THE USE, MISUSE, OR INABILITY TO USE THE PRODUCT OR FROM DEFECTS IN THE PRODUCT OR FROM ZILMET'S OWN NEGLIGENCE OR OTHER TORT. This exclusion applies regardless of whether such damages are sought for breach of warranty, breach of contract, negligence, strict liability, in tort or under any other legal theory. Such damages include, but are not limited to, inconvenience, loss or damage to property, mold, loss of profits, loss of savings or revenue, loss of use of the products or any associated equipment, facilities, buildings or services, downtime, and the claims of third parties including customers. **Some states do not allow the limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.**

What To Do If You Have A Problem Covered By This Warranty: any covered warranty service must be authorized by ZILMET. Contact the person from whom you purchased the product, who must receive a written authorization from a ZILMET distributor or from ZILMET. The following documentation must be supplied in order to receive authorization:

- The "Schedule of returns" sheet duly filled by the purchaser / first user;
- Reports, photos etc. describing the problem. If you do not receive a prompt response, call ZILMET directly at **401 884 4943**. Notice of a warranty claim should be submitted by the authorized distributor to ZILMET at the following address:

ZILMET USA

**400 Frenchtown Road
East Greenwich, RI 02818
phone 401 884 4943
info@zilmetusa.com**

Before ZILMET decides 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 ZILMET distributor, or to ZILMET, 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, ZILMET reserves the right to make changes in the design, construction, or material of the substitute components or products, which shall be subject to all of the terms and limitation of this warranty, except that the applicable warranty periods shall be reduced by the amount of time the warranty claimant owned the product prior to submitting notification of the warranty claim.