

# RLU/RWU/RSE

## Installation, Operation & Maintenance Manual

Hot Water Storage Tank with  
Heater / Hot Water Storage  
Tank



**IMPORTANT!** - READ ALL INSTRUCTIONS IN THIS MANUAL  
BEFORE OPERATING OR SERVICING A PUMP.

**→GENERAL NOTES AND WARNINGS**

This manual is intended to detail installation and maintenance procedures for FloFab Tanks. Since each unit is built to meet customer specifications, instructions may seem general in nature at times.

If questions are not answered by this manual, or if specific installation or maintenance procedures are not clearly understood, contact FloFab for clarification before proceeding.

All installation and maintenance procedures should be performed only by experienced, trained, and certified personnel. Personnel should be trained in correct piping procedures and methods, and should be experienced in working with steam, boiler water, high temperature water, and high pressure systems.

FloFab has no control over the use of FloFab Tanks or the type of system into which they may be integrated. Depending on the system in which the tank has been installed, the possibility for bodily injury or death may be present if the system is not properly prepared for maintenance procedures. If any of the following elements apply to the system, follow all accepted / recommended practices, and use common sense before attempting any maintenance procedures.

1. Steam
2. High Temperature or Boiler Water
3. Connected Energy Source
4. Connected Power Source
5. Pressurized System
6. Any Combination of the Above

FloFab Tanks are designed for indoor use only, unless otherwise required by design specifications. Each unit requires at least two feet (2') of clearance around and above the unit. It should be located on a level surface (no more than one-half degree [ $\frac{1}{2}^\circ$ ] of slope), capable of supporting the total weight of the unit when filled to capacity.

The tank should be mounted to the floor following applicable architectural and local code requirements for the specific installation site.

In areas prone to seismic activity, it is recommended that the tank be mounted to the floor according to recommended procedures and codes for the site / location, to make it less susceptible to seismic damage.

Inspection procedures and periodic maintenance, as well as suggested intervals, are detailed on pages 5 to 8 of this manual.

FloFab Tanks are available in a wide range of operating pressures. For the specific design range for your tank, refer to the design specifications. The maximum rated working pressure is also stamped on the tank for quick reference.

If the tank is damaged during installation or maintenance, contact FloFab for instructions.

**→OPERATION**

For all piping connections, the use and / or type of joint compound or sealer should be determined by referring to local codes, accepted standards, and / or the requirements of the installing contractor.

An A.S.M.E. approved pressure, or pressure / temperature relief valve, rated higher than the maximum heat in Btu / hr must be installed. The valve should have a pressure setting no higher than the maximum design pressure of the tank.

**⚠ WARNING**

As with any tank designed for use as a pressure vessel, the potential exists for severe personal injury if proper installation and maintenance procedures are not followed. Listed below are specific warnings pertaining to FloFab Tanks. In addition, throughout this manual, warnings are restated when procedures are described pertaining to areas of potential danger. All warnings should be carefully read and understood. All precautions contained in the warnings should be carefully followed to reduce the chance of injury.

In addition, most components which will be connected to the tank by the purchaser, will be accompanied by their own documentation. This documentation may contain warnings specific to the component. It is strongly recommended that each document be reviewed before attempting any installation or maintenance procedures.

### DANGER

#### Areas of potential danger:

1. All inlet and outlet lines, joints, and valves;
2. All pressure regulators;
3. All power connections and cables;
4. All energy lines, joints, and valves; and
5. All pneumatic (instrument air) lines and joints.

### WARNING

#### Before attempting any installation or maintenance procedure:

1. Assure that any energy source connected to the system has been turned off;
2. If the unit has been in operation, allow the water in the tank, as well as all components and surfaces, to cool before starting the procedure;
3. Assure that all power has been shut off / disconnected before attempting any procedures; and
4. Assure that all inlet and outlet lines have been turned off at the manual shutoff valves.

### WARNING

If the tank will be used for holding hot water, it can present a very dangerous situation due to the fact it is under pressure and at very high temperatures. To avoid possible injury or death, use common sense and follow all accepted / recommended procedures when performing installation and maintenance procedures.

### WARNING

If both electricity and water / steam are to be used in the system, the combination can pose a very dangerous situation. Assure that all power has been shut off and disconnected before attempting any installation or maintenance procedures.

#### → TRANSPORTING AND UNPACKING THE TANK

Most FLOFAB® Tanks are not crated at the factory. Larger tanks are shipped with lifting lugs attached to provide a safe means for lifting and moving the unit.

- ▼ The tank should only be lifted by the lifting lugs provided. Improper lifting of the tank may result in damage to the unit.
- ▼ Care should be taken not to «drop» or damage the tank during transport and unpacking. This could result in damage to the hydraulic cement lining of the tank.

#### → LOCATION REQUIREMENTS

FloFab Tanks are designed for indoor use only, and require at least two feet (2') of clearance around and above the unit, unless otherwise required by the design specifications. The tank should be located on a level surface (no more than one-half degree [ $\frac{1}{2}^\circ$ ] of slope), capable of supporting the total weight of the tank when filled to capacity.

#### → EXAMINING THE TANK

After the tank has been set in place and uncrated (if necessary), it should be carefully examined to assure that it was not damaged during shipping. If any evidence of damage is detected that could affect the tank, contact FloFab, or your authorized sales representative, to report the damage and to receive instructions on how to proceed.

#### → MOUNTING THE TANK

The tank should be mounted to the floor, following applicable architectural / local code requirements, or accepted standards for the specific installation site and for the tank purchased.

In areas prone to seismic activity, it is recommended that the tank be mounted to the floor, according to recommended procedures for the site, to make it less susceptible to damage from seismic activity.

#### → CONNECTING A PRESSURE RELIEF VALVE

Each FloFab Tank has been built to exact customer specifications. An A.S.M.E. approved pressure or pressure / temperature relief valve must be installed in the tank. While the pressure rating of the valve can be lower, it must not exceed the working pressure of the tank.

#### → CONNECTING COMPONENTS TO THE TANK

Care should be taken when connecting any component(s) to the tank. Each component should be carefully mounted to the appropriate fitting and properly aligned before tightening.

**Note:** For all piping connections, the use and / or type of joint compound or sealer on the joint should be determined by referring to local codes, accepted practices, or the requirements of the installing contractor.

After the tank is filled, each fitting should be examined to assure that no leaks are present. Leakage at fittings can cause the outside of tank to rust, effectively shortening the life of the tank.

Because of the superior design and construction of FLOFAB® Tanks, very little is required in the way of inspection or maintenance. The following table identifies the three (3) inspections that are recommended and their suggested frequency.

**→RECOMMENDED INSPECTIONS**

Because of the superior design and construction of FloFab Tanks, very little is required in the way of inspection or maintenance. The following table identifies the three (3) inspections that are recommended and their suggested frequency.

TO BE INSPECTED	EACH MONTH	EVERY TIME (3) YEARS
Sediment Buildup in Tank	150 PSI	375 °F
Leaks at Fittings	150 PSI	375 °F
Tank Interior and Lining	150 PSI	375 °F

**Note:** Anodes must be changed every year or warranty will be void.

If any problems are detected during inspections, refer to the Maintenance section (page 6) for specific

**→MAINTENANCE**

The information contained in this section will detail maintenance procedures suggested for all FloFab Tanks. Remember, this manual serves all FloFab Tanks.

Therefore, the maintenance procedures may be general in some instances. If there are any questions concerning maintenance procedures that are not clearly explained in this manual, contact FloFab. Be sure to have the serial number of the tank available before making contact.

**⚠ WARNING**

FloFab has no control over the use of FloFab Tanks or the type of system into which they may be integrated. Depending on the system in which the tank has been installed, the possibility for bodily injury or death may be present if the system is not properly prepared for maintenance procedures. If any of the following elements apply to the system, follow all accepted / recommended practices, and use common sense before attempting any maintenance procedure.

1. Steam
2. High Temperature or Boiler Water
3. Connected Energy Source
4. Connected Power Source
5. Pressurized Systems
6. Any Combination of the Above

**→REMOVAL OF SEDIMENT BUILDUP IN THE TANK**

Each month, it is recommended that the tank be «drained down» to remove any sediment that has accumulated in the tank. To drain down the tank, follow the steps detailed below.

1. Be sure the drain line is piped to floor drain and that any water from the tank will go into the floor drain. If the system is under pressure, relieve the pressure from the tank via the pressure relief valve.
2. After assuring that step 1 has been completed, and any other special circumstances present within the system have been addressed in an accepted / recommended manner, open the drain valve on the bottom of the tank.
3. Allow the contents of the tank to drain until no evidence of sediment is present.
4. Close the drain and return it to operation within the system.

**→REPAIRING LEAKING FITTINGS**

If leaks are detected at any of the fittings in the tank, follow the steps detailed below to correct the leak.

1. Isolate the tank from the system in which it is installed.
2. If the system is under pressure, relieve the pressure from the tank via the pressure relief valve.
3. If the system operates at a high temperature, allow time for the tank, its contents, and all components to cool.
4. After assuring that steps 1 through 3 above, have been completed, and any other special circumstances present within the system have been addressed in an accepted / recommended manner, open the drain valve on the bottom of the tank.
5. Allow the contents of the tank to drain until the fluid level is below the level of the leaking fitting.
6. Break the joint at the fitting.
7. Inspect both the threads of the fitting and the pipe for signs of damage. If damage is found, either rethread or replace the damaged component.
8. If no damage is detected, thoroughly clean the threads of both the fitting and pipe.
9. Insert the pipe into the fitting and carefully tighten.

**Note:**

For all piping connections, the use and / or type of joint compound or sealer on the joint should be determined by referring to local codes, accepted practices, or the requirements of the installing contractor.

10. Close the drain and refill the tank. As the tank is filling, inspect the fitting for any signs of leakage.

11. If no signs of leakage are detected, return the tank to operation within the system. After the tank has been returned to operation, and the system has had time to return to normal operation, reinspect the fitting for leakage.

**→INSPECTION OF THE INTERIOR OF THE TANK AND LINING**

It is recommend that every three (3) years the interior of the tank and lining be inspected. On larger FloFab Tanks, a «manhole» is supplied to allow this inspection. To inspect the interior of the tank and lining, follow the steps detailed below.

1. Isolate the tank from the system in which is installed.
2. If the system is under pressure, relieve the pressure from the tank via the pressure relief valve.
3. If the system operates at a high temperature, allow time for the tank, its contents, and all components to cool.
4. After assuring that steps 1 through 3 above, have been completed, and any other special circumstances present within the system have been addressed in an accepted / recommended manner, open the drain valve on the bottom of the tank.
5. Allow the contents of the tank to drain completely.
6. Break the bolts securing the manhole cover to the tank.

**Note: Do not allow the manhole to fall into the tank. If the manhole falls into the tank during removal or replacement, the interior and lining of the tank may be damaged.**

**LIMITED WARRANTY**

We warrant to our immediate customer and to the ultimate consumer that products of our manufacture will be free of defects in material and workmanship under normal use and service for the following time periods: when installed and maintained in accordance with our instructions. Pumps products: eight (8) years after date of invoicing. As used herein, "the ultimate consumer" is defined as the purchaser who first uses the product after its initial installation or, in the case of product designed for non-permanent installation, the first owner who used the product. It is the purchaser's or any sub-vendee's obligation to make known to the ultimate consumer the terms and conditions of this warranty. This warranty gives you specific legal rights, and there may also be other rights which vary from province/state to province/state. In the event the product is covered by the Consumer Product Warranty

(1) the duration of any implied warranty associated with the product by virtue of said law is limited to the same duration as stated herein, (2) this warranty is a LIMITED WARRANTY, and (3) no claims of any nature whatsoever shall be made against us, until the ultimate's consumer, his successor, or assigns, notifies us in writing of the defect, and delivers the product and/or defective part(s) freight prepaid to our factory or nearest authorized service station. THE SOLE AND EXCLUSIVE REMEDY FOR BREACH OF ANY AND ALL WARRANTIES WITH RESPECT TO ANY PRODUCT SHALL BE TO REPAIR AT OUR ELECTION, F.O.B. POINT OF MANUFACTURE OR AUTHORIZED PARTS REPAIR STATION, AND/OR PARTS AS PROVEN DEFECTIVE. THERE SHALL BE NO FURTHER LIABILITY, WHETHER BASED ON WARRANTY, NEGLIGENCE OR OTHERWISE. Unless stated otherwise, guarantees in the nature of performance specifications furnished in addition to the fore-going material and workmanship, warranties on a product manufactured by us, if any are subject to laboratory tests corrected for field performance. Any additional guarantees, in the nature of performance specifications must be in writing and such writing must be signed by our authorized representative.

Due to inaccuracies in field testing, if a conflict arises between the results of field testing conducted by or for user, and laboratory test corrected for field performance, the latter shall control. Components or accessories supplied by us but manufactured by others are warranted only to the extent of and by the terms and conditions of the original manufacturer's warranty.

RECOMMENDATION FOR SPECIAL APPLICATIONS OR THOSE RESULTING FROM SYSTEMS ANALYSIS AND EVALUATIONS WE CONDUCT WILL BE BASED ON OUR BEST AVAILABLE EXPERIENCE AND PUBLISHED INDUSTRY INFORMATION. SUCH RECOMMENDATIONS DO NOT CONSTITUTE A WARRANTY OF SATISFACTORY PERFORMANCE AND NO SUCH WARRANTY IS GIVEN. This warranty shall NOT apply when damage is caused by (A) improper installation, (B) improper voltage (C) lightning (D) sand or other abrasive material (E) scale or corrosion build-up due to excessive chemical content (F) rupture of mechanical seals (G) premature wear. Any modification of the original equipment will also void the warranty. We will not be responsible for loss, damage or labor cost due to interruption of service caused by defective parts. Neither will we accept charges incurred by others without our prior written approval. This warranty is void if our inspection reveals the product was in a manner inconsistent with normal industry practice and/or our specific recommendations. The purchaser is responsible for communication of all necessary information regarding the application and use of the product.

UNDER NO CIRCUMSTANCES WE WILL BE RESPONSIBLE FOR ANY OTHER DIRECT OR CONSEQUENTIAL DAMAGES, INCLUDING BUT NOT LIMITED TO LOST PROFITS, LOST INCOME, LABOUR CHARGES, DELAYS IN PRODUCTION, IDLE PRODUCTION, WHICH ARE DAMAGES CAUSED BY ANY DEFECTS IN MATERIAL AND/OR WORKMANSHIP AND/OR DELAYS IN SHIPMENT. THIS WARRANTY IS IN LIEU OF ANY OTHER EXPRESS OR IMPLIED WARRANTY, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. No rights extended under this warranty shall be assigned to any other person, whether by operation of law or otherwise, without our prior written approval. If any litigation is commenced between the parties hereto for the enforcement of any rights hereunder, the successful party in subject litigation shall be entitled to receive from the unsuccessful party all costs incurred in connection therewith, including a reasonable amount of attorney's fees. YOUR ACCEPTANCE OF ANY GOODS SUPPLIED BY US, OR ON OUR BEHALF, SHALL BE WITHOUT LIMITATION, CONSTITUTE ACCEPTANCE OF ALL THE TERMS AND CONDITIONS. PLEASE TAKE NOTE THAT THE WARRANTY IS ANNULLED ONCE AN INVOICE FROM FLO FAB INC REMAINS UNPAID 90 DAYS AFTER THE BILLING DATE.

Our acceptance of your order is expressly conditioned on the general terms and conditions. The contract shall not include any deviating or additional terms unless expressly agreed to in writing and signed by an officer of our company.



## ○ TERMS & CONDITIONS – SECTION 1.2

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*Our acceptance of your order is expressly conditioned on the general terms and conditions set forth below and all terms stated on the face of this form. The contract shall not include any deviating or additional terms unless expressly agreed to in writing and signed by an officer of our company.*

**PRICES:** All prices are subject to change without notice and all shipments will be invoiced at the price in effect at the time of shipment, except when otherwise agreed to in writing by our authorized representative. Published prices are for products of our standard design and construction and any item not covered by the most recent published price list must be referred to us for special pricing. Prices do not include freight. Weights shown in price lists are approximate shipping weights. The amount of any applicable present or future tax or other government charge upon the production, sale, shipment or use of goods ordered or sold is not in the price and will be added to billing unless you provide us with an appropriate exemption certificate.

**QUOTATION:** Prices quoted by us are valid for 30 days from date of quotation unless we have otherwise specified in writing. Clerical errors on quotations are subject to our correction and such errors will not be binding.

**CANCELLATION & REVISIONS:** No purchase orders accepted and acknowledged by us may be cancelled or revised by you except with our prior written consent and upon payment of reasonable cancellation charges compensating us for all costs incurred in work done and material purchased. We reserve the right to determine what constitutes reasonable cancellation charges.

**RETURN OF EQUIPMENT:** No equipment shall be returned to us without first obtaining a written Returned Goods Authorization and shipping instruction from us. The returner must prepay the charges in full for transportation to our factory. Credit allowed for new, undamaged equipment of current standard design will be 80% of the invoiced price or current billing price, whichever is less. Equipment which has been used, however slight, will not be accepted. Authorization will not be given for return of equipment, (1) which would, in our opinion, result in an excess in the amount of stock we normally carry, (2) not invoiced within the last 3 months, or (3) which is non-standard and manufactured specifically to a buyer's specifications. For non-standard equipment not of our manufacture, the only credit allowed will be such credit as may be allowed by the manufacturer of such equipment. Equipment must be returned within 30 days of the issuance of the Returned Goods Authorization. No item with a net value of less than \$50.00 will be authorized for return. Unauthorized returns may be refused and/or returned freight collect.

**CREDIT & PAYMENT:** Payment is due as noted on our invoice. Overdue accounts are subject to a service charge. All orders are subject to approval of our credit department and we may require full or partial payment in advance. Pro rata payments shall become due as shipments are made. If the shipments are delayed by you for any cause, payments shall become due from date on which we are prepared to make shipment and storage shall be at your risk and expense. If manufacture is delayed by you for any cause, a partial payment based upon the proportion of the order completed shall become due from the date on which we are notified of the delay.

**SECURITY INTEREST:** We shall have a lien on all goods sold as security for payment on the invoice price, and upon request you shall provide and execute a financing statement showing such lien.

**DELIVERY:** We will reasonable effort to meet your delivery requirement provided you provide us, on a timely basis, all approvals, technical data, instructions and credit approval requirements needed for release of the shipment. However, all delivery and/or shipment dates are estimates only unless we have expressly guaranteed delivery of such dates in writing at your specific request. In no event shall we have any liability if delivery is delayed by strikes, labour disturbances, material shortages, plant calamities or disaster, acts of God, government actions, civil disturbance, the failure of any pre-supposed condition of the contract, withholding shipments due to credit clearance, or other interferences beyond our reasonable control, and the date of delivery shall be extended for a period of time equal to the time lost because of any such reason.

**SHIPPING:** Unless you specify in writing and we acknowledge in writing, (A) goods will be boxed or crated as we may deem proper for protection against normal handling and for domestic shipment, (B) routing and manner of shipment will be at our discretion, and may be insured at your expense. An extra charge will be made for special handling. All shipments are F.O.B. point of manufacture. Delivery of goods to the initial carrier will constitute delivery to you and all goods will be shipped at your risk. A claim for loss or damage in transit must be entered with the carrier and prosecuted by you. Acceptance of material from a common carrier constitutes a waiver of any claims against us for delay, damage or loss.

**GOVERNING LAW:** It is understood and agreed that these Terms and Condition of Sale shall be interpreted under and pursuant to the laws of the Province of Quebec; you agree that any action at law which is related to any contract of sale brought against the company shall be filed in the appropriate court located in the Province of Quebec.

