LIMITED WARRANTY

Elbi Of America, Inc. warrants its TOP-PRO tanks against manufacturing defects in materials and workmanship for a period of five years from the date of purchase. Product must be returned to original place of purchase with the original receipt. Warranty applies to Elbi Of America's products only when used for their intended purpose, and does not apply if defect results from improper use of the product, misapplication, misuse or abuse of the product or accidents.

Manufacturer's sole obligation under the terms of this warranty is to repair or replace, at its option those products found to be defective. Products repaired or replaced under the terms of this warranty shall be warranted for a period of ninety (90) days or the unexpired warranty of the product being repaired/replaced.

In no event shall Elbi Of America, Inc. be responsible or liable for:

- Consequential, collateral or incidental damages
- Labor costs associated with product replacement
- Lost profits associated with product replacement

No employee of the manufacturer, agent, dealer or distributor has any authority to change or enlarge the terms of this warranty or to obligate the manufacturer to other than the strict terms of this written warranty.

THIS WARRANTY IS THE SOLE WARRANTY OF THE MANUFACTURER ANY OTHER WARRANTIES EXPRESSED OR IMPLIED. INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR USE, ARE HEREBY SPECIFICALLY EXCLUDED.

This warranty gives you specific rights, and you may also have other rights, which vary from state to state.

Warranty Handling Procedures

1. The warranty claim form must be filled out in its entirety.
2. Tanks claimed defective might be returned to the factory, freight collect, for inspection.
3. All tanks returned for inspection must be intact.
4. Prior to returning any tanks to the factory a Returned Good Authorization number (RGA) must be secured from Elbi Of America, Inc. Tanks returned without prior authorization will not be accepted.
5. Manufacturer will not consider nor is responsible for any tanks lost in transit.

TOP-PRO®*tector*

The Ultimate in Pump Protection

"DWT-SERIES" OWNER'S MANUAL
INSTALLATION INSTRUCTIONS AND GENERAL SPECIFICATIONS

Congratulations on the purchase of your new Top-Pro tank. Please take the time to read these instructions completely before you attempt to install this product. It is important that you verify that the tank you are attempting to install is properly sized to your system
Your tank was shipped from our factory with a pre-charge of 20 PSIG (model DWT-8) or 30 PSIG (models DWT-18 thru DWT-100V) or 38 PSIG (models DWT-150V thru DWT-500V) for the operating specifications see table below:

Model	Capacity US Gallons	Dimensions (Inches) Pressure Diameter	Height	Maximum Working (PSIG)	Weight	Factory Pre-charge (PSIG)	Acceptance Factor	Connector NOT (in.)
DWT-8	2.1	8.00	11.82	150	6.34	20	.60	¾
DWT-18	5.0	10.75	16.15	150	11.50	30	.75	¾
DWT-25	6.5	10.63	18.62	150	13.72	30	.72	¾
DWT-25H	6.5	10.63	18.62	150	14.22	30	.75	¾
DWT-50V	13.5	15.75	23.25	150	23.16	30	.80	1
DWT-50H	13.5	15.75	23.25	150	24.16	30	.80	1
DWT-80V	21.0	15.75	33.00	150	44.60	30	.75	1
DWT-100V	27.0	19.69	31.00	150	49.60	30	.83	1 ¼
DWT-150V	40.0	19.69	39.00	150	59.40	38	.75	1 ¼
DWT-200V	53.0	24.00	40.00	150	90.40	38	.72	1 ¼
DWT-300V	80.0	25.60	47.50	150	119.00	38	.65	1 ¼
DWT-450V	119.0	31.00	52.00	150	145.50	38	.62	1 ¼
DWT-500V	132.0	31.00	56.00	125	176.40	38	.60	1 ¼

Elbi TOP-PRO well tanks feature the exclusive internal Top-Pro coating to isolate your water from all internal metallic parts. A conveniently located air charge valve allows for easy checking and maintenance of the pressure gauge (see pressure switch manufacturer's instructions) and the charge to your tank can optimize the performance of your system by increasing its draw-down, thus saving your pump from excessive starts and stops. This saves wear and tear on your pump and will reduce your power consumption.

SIZING OF ELBI-PRO WELL TANKS-
Before you install any tank you should make sure it is properly sized according to your system. To quickly determine proper sizing, please refer to chart 1, the only information you need to know is your pump flow rate in GPM (gallons per minute) and your system's pressure deferential.

DANGERS OF UNDER SIZING TANKS-
Reduced pump life due to excessive cycling
Voids warranty of tank and/or pump
Warranty service: costs time and money to all
Dissatisfied customers

BENEFITS OF PROPER SIZING-
Protects and extends life of pump
Professional installation for customer
Minimized warranty service calls which increase profits
Customer satisfaction

We strongly recommend the use of a dielectric union when connecting to dissimilar metals.

Do not precharge tanks over stated maximum working pressure.

REFER TO CHART 1 TO ENSURE PROPER TANK SIZE TO REMAIN WITHIN WARRANTY SPECIFICATION.

ELBI OF AMERICA 15882 DIPLOMATIC PLAZA SUITE 170 HOUSTON, TX 77032 Phone 713-674-2900 Fax 713-674-2982

Chart 1-Quick Sizing Table

Max. Pump Flow (GPM)	System Pressure Ranges								
	20-40			30-50			40-60		
	MINIMUM RUN TIME IN MINUTES								
	1	1.5	2	1	1.5	2	1	1.5	2
2.5	DWT-50V/H	DWT-50V/H	DWT-50V/H	DWT-50V/H	DWT-50V/H	DWT-80V	DWT-50	DWT-50V/H	DWT-80
5	DWT-50V/H	DWT-80V	DWT-100V	DWT-80V	DWT-100V	DWT-150V	DWT-80V	DWT-100V	DWT-150V
7	DWT-80V	DWT-150V	DWT-150V	DWT-80V	DWT-150V	DWT-200V	DWT-100V	DWT-150V	DWT-200V
10	DWT-100V	DWT-150V	DWT-200V	DWT-100V	DWT-200V	DWT-300V	DWT-150V	DWT-300V	DWT-300V
12	DWT-150V	DWT-300V	DWT-300V	DWT-150V	DWT-200V	DWT-300V	DWT-150V	DWT-300V	DWT-450V
15	DWT-200V	DWT-300V	DWT-300V	DWT-200V	DWT-300V	DWT-450V	DWT-200V	DWT-300V	DWT-450V
20	DWT-300V	DWT-300V	DWT-450V	DWT-300V	DWT-450V	2x DWT-300V	DWT-300V	DWT-450V	2x DWT-300V
25	DWT-300V	DWT-450V	DWT-450V	DWT-300V	DWT-450V	2x DWT-300V	DWT-450V	2x DWT-300V	2x DWT-450V
30	DWT-300V	DWT-450V	2x DWT-300V	2x DWT-300	DWT-300V	2x DWT-450V	DWT-450V	2x DWT-300V	2x DWT-450V

Chart 2- Available Draw down

Model	20-40	30-50	40-50
DWT-8	8	6	5
DWT-18	1.8	1.5	1.3
DWT-25/H	2.4	2.0	1.7
DWT-50V/H	4.9	4.2	3.6
DWT-80V	7.7	6.5	5.6
DWT-100V	9.9	8.3	7.2
DWT-150V	14.6	12.4	10.7
DWT-200V	29.3	24.7	21.4
DWT-300V	29.3	24.7	21.4
DWT-450V	43.5	36.8	31.9
DWT-500V	48.3	40.8	35.3

TYPICAL INSTALLATION

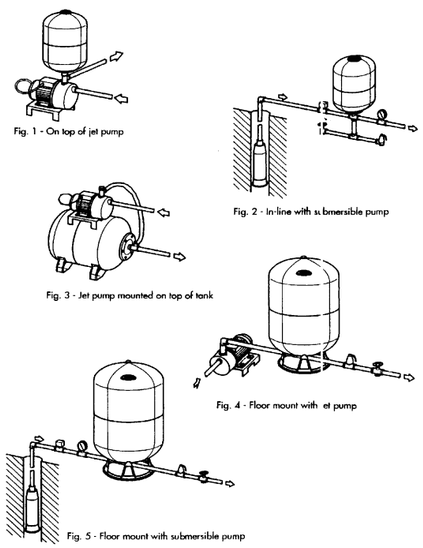

Fig. 1 - On top of jet pump

Fig. 2 - In-line with submersible pump

Fig. 3 - Jet pump mounted on top of tank

Fig. 4 - Floor mount with jet pump

Fig. 5 - Floor mount with submersible pump

INSTALLATION-

1. If you are replacing an old system be sure to turn off all electrical power to your pump at the control box. When replacing a regular galvanized tank with an Elbi diaphragm well tank, be sure to remove air volume controls, air-charging devices, etc. and plug the tapping on the pump's suction side.
2. Unpack your new Elbi well tank. On stand models (DWT-50 through DWT-500, lay carton on its side for easier operation.
3. Remove the protective air valve cap and check the factory pre-charge with a suitable pressure gauge. Be sure the pre-charge is 1-2 PSIG **below** the pump cut-in setting of your pressure switch. Release air from or add air to tank as necessary.
4. Replace the protective air valve cap
5. Place tank in desired location and level as required. Make sure the tank is located as close to the pressure switch as possible to reduce friction and elevation loss (see figs.)
6. Connect the tank to the service supply and the pump discharge using the simplest pipe configuration possible. The diameter of the piping should be the same as the diameter of the pump discharge outlet. Always observe local plumbing codes. *
7. It is recommended that a 75 PSIG pressure relief valve be installed to ensure proper system protection.
8. Restore power to the pump at the control box after properly connecting the tank to the system
9. Fill the system by running the pump until the pressure switch deactivates the pump
10. Open the faucet farthest from the tank to remove all the air that may be trapped in the line. Open and close the faucet a few times to be sure all the air has been removed.
11. Now open one or several faucets to empty the tank. If there is a pause in the flow of water from the time the tank empties until the pump cuts in, you may either slightly increase the cut-in setting of your pressure switch (see manufacturer's instruction) or decrease the pre-charge pressure of the tank.
12. Repeat steps 9 thru 11 until the pause has been eliminated. Now the system is ready for use.

* **We strongly recommend the use of a dielectric union when connecting to dissimilar metals.**

TROUBLESHOOTING PROCEDURE

When servicing an Elbi tank it is important to first verify the system configuration and working conditions. If there's no evident reason (e.g. hole in the weld seam, evident leaks) for assuming the tank has failed, please observe the following directions.

Prior to verification of the tank, retrieve and record the following information
Pump GPM (gallons per minute) output
Cut-in and cutout setting on the pressure switch.
This data will be useful to perform the verification of the tank and of the entire system

VERIFICATION OF PROPER SIZING-
Please use the charts supplied in this booklet to verify if the installed tank is suitable according to the pump's maximum flow. To do this, check the intersection between pump's flow and system pressure ranges. Depending on the minimum running time of the pump you may find different size tanks suitable for your system.
If your tank matches one of the minimum run times then record the value to compare it to the system run times
If the tank listed under the "1 minute" column is larger than the tank you have in your system, then the tank is undersized and must be replaced with an appropriate size tank.

1. **VERIFICATION OF THE SYSTEM CYCLING-**
Verify pressure switch differential on gauge. The usual cut-in to cutout differential is 20 psi and should not exceed 25 psi. Adjust as necessary.
Start the system and observe its operation. If the tank is properly sized according to step one, the minimum run time of your pump should be no less than 1 minute. If cycling is correct your system is working properly and your service call is completed.

2. **VERIFICATION OF THE SYSTEM DRAW-DOWN-**
Measure water draw-down from switch cut off point to switch cut-in point with a bucket. Compare the resulting draw-down with the Elbi chart data appropriate size tank as it appears in this booklet. If draw-down equals the value specified in chart 2 then the tank is working properly. If the tank draw-down does not equal Elbi specifications, check the following.

3. **CHECK THE AIR PRESSURE IN TANK-**
Turn electrical power off the pump and drain system until 0 psi registers on the gauge. With a pressure gauge check tank pressure at air valve under black cap located on the upper part of the tank. The gauge should read the same pressure as the pump cut in pressure or not more than 2 pounds less. Consider some minor differences may be due to the ambient temperature or elevation. If necessary, correct air pressure.

4. **SEARCH FOR LEAKS-**
Re-pressurize tank to 40 psi. Cover the welded seam and air valve with soapy water solution. Carefully look for bubbles at all points of possible leakage. If no leaks are found, reduce pressure to 2psi than cut-in pressure. Replace black cap tightly.
Wait a few minutes and check the air pressure in the tank again. If it's lower than you're last setting then the tank leaks from the diaphragm or the diaphragm seal.

If all the above testing checks out fine, the tank is in good working condition. If performance problems persist with your system check other components.

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