*"Designed, Tested and Approved for Shipment by LWT Engineering Staff"*

# INDUSTRIAL GRADE WATER SOFTENERS

# LWTS INDUSTRIAL SERIES

150,000 to 1,050,000 GRAIN CAPACITY


Single, Twin, Triple, or Quadruple Demand Systems Available



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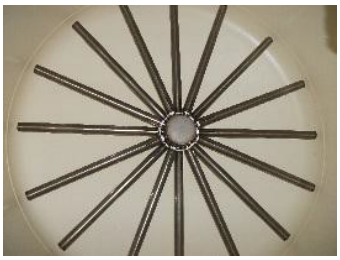
# "Industrial Performance and Proven Reliability"

**Carbon Steel Pressure Vessels (NON-Code & ASME Code)** - Standard working pressure is 100 PSI. Higher pressures are available with custom engineered systems. A standard epoxy lining is applied internally and safety blue finish coating is applied over the exterior of the vessel. The vessels are fabricated in NON-code for standard products, and ASME Code is optional. Alternative vessel material, such as stainless steel and fiberglass are available.

**Lakeside Provides Resins** that are manufactured using full 8 % DVB. This process provides high chemical and physical stability, lower pressure drop, and greater resistance to bead breakage. Lakeside resins are shipped in the sodium form providing immediate soft water for your customer. High tolerance resins are available for chlorine, high temperature, increased flow rates or lower hardness leakage applications.

**Underdrain -** The radial hub underdrain construction uses high quality schedule 80 PVC pipe and fittings, delivering high performance standards. The .010" PVC slotted laterals provide high flow rates and reliable service. **Lakeside also features a standard hide-out preventer in all vessels to reduce hardness leakage when dilute brine is not rinsed out in the bottom of the vessel during the regeneration process.** Boiler applications that have very critical water quality requirements often request this feature on custom products.

**Brine Maker** The non-toxic polyethylene molded brine tank provides the ultimate corrosion resistance and superior strength. Our standard grid plate and special brine valve maintain precise brine saturation for optimum ion exchange. **The brine valve is designed with four internal primary checks delivering proven and reliable industrial performance.**

**Cast Iron diaphragm valve nest** design allows each valve to be exactly designed and sized for the required functions, providing the most cost effective, efficient and serviceable system in the market. Numerous piping and valve configurations such as Copper, PVC, or Stainless steel are also available. Galvanized steel piping material is standard.

**Brine Eductors** are constructed of PVC and deliver the correct brine concentration to the softener resin. These hydraulic eductors are pressure compensating and produce 8-12% brine concentration to the softener bed for proper Ion exchange.



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**Flow Sensors** are designed to interface with the controllers. The meter sends a pulse signal to the controller that converts into gallons. The correctly programmed K-Factor will ensure the correct batch count and deliver continuous soft water 24/7.

**The Standard Lakeside 2001 Programmable Microprocessor** automatically controls the regeneration cycles by utilizing a pilot valve to operate the diaphragm valves. These valves can be hydraulically or pneumatically operated for your operational requirements. **The 2001 microprocessor also features a pre-rinse cycle to prevent hardness leakage at the beginning of the service run on twin alternating systems.** Boiler applications typically have very critical water quality requirements and often request this feature.

**The Optional AQMatic Programmable Microprocessor** provides single, twin, triple or quadruple system capabilities. The controller features twin alternating, progressive demand, or parallel application options. Multiple tank applications, progressive demand and the diagnostic capabilities are premiere features of this controller. **The progressive demand application allows one to four softeners to be online in proportion to the service demand.** One softener is always in service, and the other units automatically come online as the flow increases. As the flow rate decreases, softeners will be removed from service based on the pre-programmed GPM settings. This feature provides uninterrupted flow of soft water 24/7 during variable and peak flows *(One auxiliary output is provided to start a chemical feeder, pump or motor application).*

**Optional Allen-Bradley® PLC** control packages come standard with a color screen HMI which has user friendly programming. **Lakeside PLC solenoid system features a hold, advance, resume, termination, or close of all valves function, for fast, easy, field service.** The main screen can be designed to display a variety of parameters such as current flow rates, online tank status and remaining gallons of each vessel. Custom programming available.

**Custom programming and alternate communication**




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**Operating Parameters:** Pressure 30-100 PSI. Temperature range 35F-100F Electrical: 120VAC/60Hz Electrical enclosures rated NEMA 12/4X Drain piping limits: Max. 10ft. vertical discharged to an atmospheric floor drain sized to handle the backwash rate of the system (Max. proven length is 25ft.).

**OPTIONS AVAILABLE:**

- Skid mounted, pre-piped, pre-wired for faster and cost effective installations
- ASME code vessels are available. Pressure ratings above 100 PSI available.
- Low flow recirculation systems to prevent channeling during low service flow periods
- Hard water by-pass (single units)
- Brine Reclamation systems can save up to 25% on salt usage
- Pumped brine and dilution stations are available for pit or silo applications
- Pre-engineered systems and custom engineered systems are available

# LWTS Series Water Softener Table

| Model LWTS | Grains Capacity Max. | Grains Capacity Min. | Resin Qty. Cu. Ft. | Flow Cont. GPM | PSID | Flow Peak GPM | PSID | Mineral Tank Size DxOAH (Inches) | Service Pipe Size | BW Flow Rate GPM | Brine Maker Size D x H (Inches) | Salt Storage Cap. (Lbs.) | Salt Usage Max. Dosage (Lbs.) | Salt Usage Min. Dosage (Lbs.) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **150-1.2** | 150,000 | 100,000 | 5 | 35 | 13 | 50 | 24 | 20 X 54 | 1 1/4" | 10 | 24 X 41 | 375 | 75 | 30 |
| **150-1.5** | 150,000 | 100,000 | 5 | 45 | 13 | 60 | 20 | 20 X 54 | 1 1/2" | 10 | 24 X 41 | 375 | 75 | 30 |
| **210-1.5** | 210,000 | 140,000 | 7 | 50 | 13 | 70 | 24 | 24 X 54 | 1 1/2" | 15 | 24 X 54 | 525 | 105 | 42 |
| **210-2** | 210,000 | 140,000 | 7 | 60 | 8 | 85 | 14 | 24 X 54 | 2" | 15 | 24 X 54 | 525 | 105 | 42 |
| **300-2** | 300,000 | 200,000 | 10 | 75 | 10 | 105 | 17 | 30 X 54 | 2" | 20 | 30X 48 | 600 | 150 | 60 |
| **300-2.5** | 300,000 | 200,000 | 10 | 95 | 8 | 130 | 13 | 30 X 54 | 2 1/2" | 20 | 30 X 48 | 600 | 150 | 60 |
| **450-2** | 450,000 | 300,000 | 15 | 75 | 11 | 105 | 19 | 30 X 60 | 2" | 20 | 30 x60 | 675 | 225 | 90 |
| **450-2.5** | 450,000 | 300,000 | 15 | 110 | 12 | 130 | 16 | 30 X 60 | 2 1/2" | 20 | 30 X60 | 675 | 225 | 90 |
| **600-2.5** | 600,000 | 400,000 | 20 | 110 | 10 | 150 | 17 | 36 X 60 | 2 1/2" | 30 | 39 X 48 | 900 | 300 | 120 |
| **600-3** | 600,000 | 400,000 | 20 | 140 | 9 | 180 | 12 | 36 X 60 | 3" | 30 | 39 X 48 | 900 | 300 | 120 |
| **750-2.5** | 750,000 | 500,000 | 25 | 110 | 11 | 150 | 18 | 36 X 72 | 2 1/2" | 30 | 39 X 60 | 1125 | 375 | 150 |
| **750-3** | 750,000 | 500,000 | 25 | 140 | 10 | 180 | 14 | 36 X 72 | 3" | 30 | 39 X 60 | 1125 | 375 | 150 |
| **900-2.5** | 900,000 | 600,000 | 30 | 125 | 12 | 170 | 20 | 42 X 60 | 2 1/2" | 45 | 42 X 60 | 1,350 | 450 | 180 |
| **900-3** | 900,000 | 600,000 | 30 | 165 | 10 | 210 | 14 | 42 X 60 | 3" | 45 | 42 X 60 | 1,350 | 450 | 180 |
| **1050-3** | 1,050,000 | 700,000 | 35 | 165 | 15 | 205 | 25 | 48 X 72 | 3" | 45 | 42 X 60 | 1,050 | 525 | 210 |

2020-05

*PSID slightly higher for Sch. 80 PVC piping.



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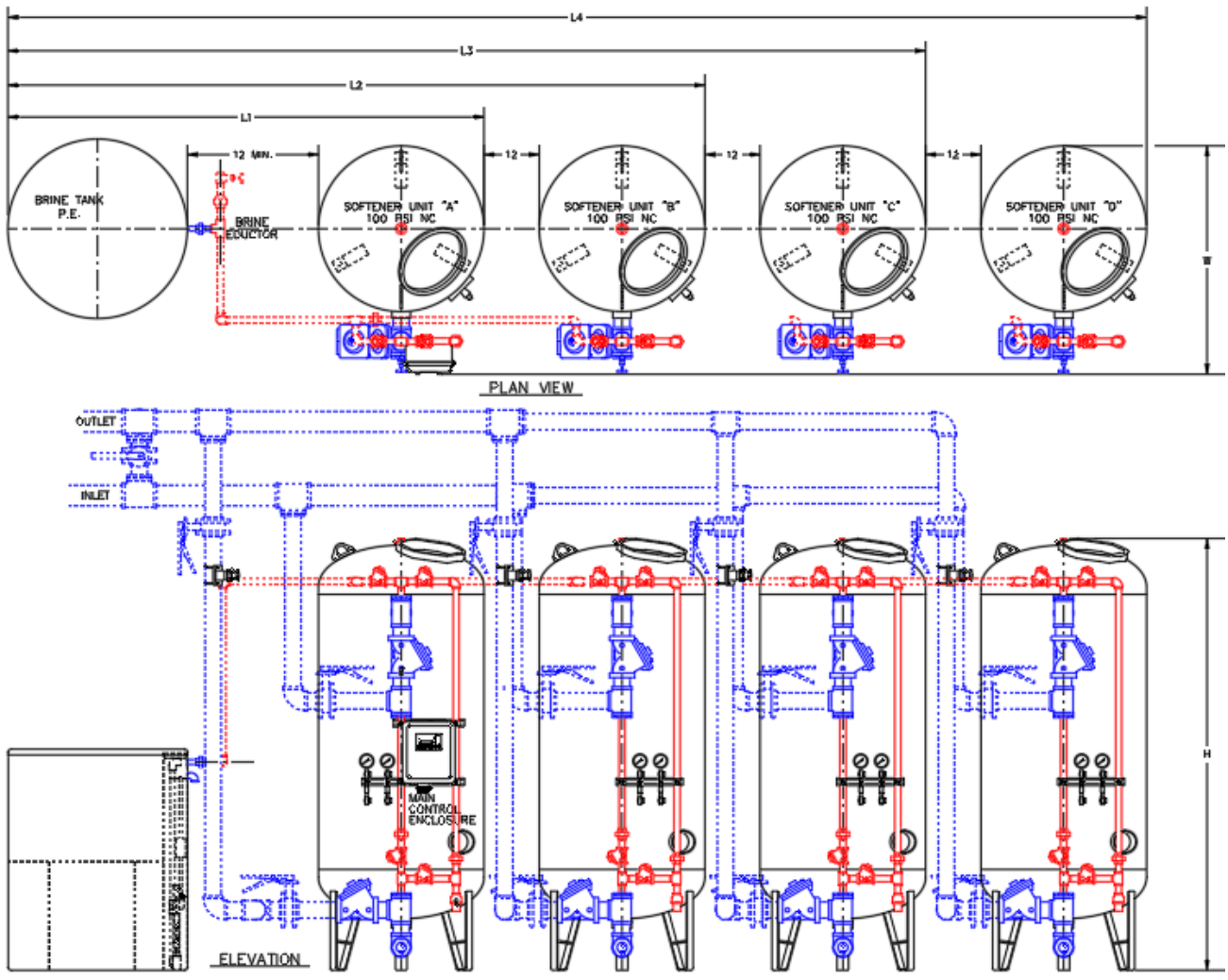
# LWTS Series Water Softener Dimensions

| MODEL NO. | RESIN TANK | BRINE TANK | OAH | Width | Length-Inches | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Single | Twin | Triple | Quad |
| **LWTS-150** | 20" X 54" | 24" X 41" | 69 | 32 | 57 | 89 | 121 | 153 |
| **LWTS-210** | 24" X 54" | 24" X 54" | 70 | 36 | 61 | 97 | 133 | 169 |
| **LWTS-300** | 30" X 54" | 30" X 48" | 75 | 42 | 72 | 114 | 156 | 198 |
| **LWTS-450** | 30" X 60" | 30" X 60" | 81 | 42 | 72 | 114 | 156 | 198 |
| **LWTS-600** | 36" X 60" | 39" X 48" | 89 | 50 | 87 | 135 | 183 | 231 |
| **LWTS-750** | 36" X 72" | 39" X 60" | 101 | 50 | 87 | 135 | 183 | 231 |
| **LWTS-900** | 42" X 60" | 42" X 60" | 90 | 55 | 96 | 150 | 204 | 258 |
| **LWTS-1050** | 42" X 72" | 42" X 60" | 102 | 55 | 96 | 150 | 204 | 258 |

- Dims. are approximate. • Add 6" to OAH for skid mounted. • ASME tanks add additional height.
- OAL includes 12" clearance between tanks. • Clearance above tanks required to load resin



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