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

INDUSTRIAL GRADE WATER SOFTENERS

LWT INDUSTRIAL SERIES

1,200,000 TO 3,000,000 GRAINS CAPACITY

"WATER SOLUTIONS * CUSTOM ENGINEERING * INDUSTRIAL PERFORMANCE"

(Single, Twin, Triple or Quadruple Demand Systems)

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"Industrial Performance and Proven Reliability"

CARBON STEEL PRESSURE VESSELS Standard working pressure is 100PSI. Higher pressures are available with custom engineered systems. A standard epoxy lining of 10-12 DFT mil is applied internally and 6-8 mils DFT safety blue finish coating applied over the exterior of the vessel. The vessels are fabricated in non-code for standard products and ASME is optional. Stainless steel or fiberglass vessels are available with custom engineered systems.

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 resin is 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 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 for many years. Stainless steel internals (304 or 316) can be substituted for increased strength and durability in a radial hub design. **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 rigid polyethylene brine tank provides the ultimate corrosion resistance and superior strength. **Lakeside's thermo Plastic hydraulic diaphragm valve delivers consistent brine saturation for optimum ion exchange eliminating valve corrosion from the brine concentration.** This brine valve configuration system is the work horse in the industry 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. These valves can be hydraulically or pneumatically operated for your operational requirements. Numerous piping and valve configurations such as Copper, PVC or Stainless steel are available. **Boiler drain valves and Rack style pressure gauge packages are standard for fast and easy diagnostics and service.**

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INJECTORS are constructed of PVC that delivers the correct brine concentration to the softener resin. These hydraulic injectors are pressure compensating and produce 10-14% brine concentration to the softener bed for proper Ion exchange. Pumped brine systems and brine silos are available.

Flow Sensors are designed to interface with the controllers. The magnetic paddle wheel 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 Lakeside 2001 Programmable Microprocessor automatically controls the regeneration cycles by utilizing a pilot valve to operate the diaphragm valves. **The standard 2001 microprocessor also features a pre-rinse cycle to prevent hard water leakage at the beginning of the service run on twin alternating systems.** Boiler applications that have very critical water quality requirements often request this feature on custom products.

The Optional Pentair 3214 Programmable Microprocessor provides single, twin, triple or quadruple system capabilities. The controller features twin alternating, progressive demand or parallel application options. Multiple tank application, progressive demand and the diagnostic capabilities are the 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 of the facility. One auxiliary output is provided to start a chemical feeder, pump or motor application if needed.

Optional Allen Bradley PLC control packages come with a color HMI touch screen and is extremely 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, regeneration cycle time remaining and remaining gallons of each vessel. **The AB10/100 IP Ethernet Network Connection port is standard for building management capabilities. Custom programming and alternate communication protocols are available.**

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

LWT WATER SOFTENER OPTIONS AVAILABLE:

- Skid mounted, pre-piped, pre-wired for faster and cost effective installations
- Brine Reclamation systems save up to 25% on salt usage
- Low flow recirculation systems prevent channeling during low service flow periods
- Brine pump systems and dilution stations
- Hard water by-pass (typically single units)
- Non-code and ASME code vessels with custom linings and exterior finishes
- Custom controls, programming and custom engineered systems available
- Higher operating pressure and temperature systems available
- Separate Brine Distribution Headers

Model LWT	Cap. Max. 15lbs. CU/FT.	Cap. min. 6lbs. CU/FT	Qty. resin CU. FT.	Cont. GPM	PSI -D	Peak GPM	PSI-D	Mineral Tank size (Dia. & Height)	In Out pipe size	BWF Rate GPM	Salt storage Cap. (lbs.)	Salt dosage max. (lbs.	Salt dosage Min. (lbs.)	Brine Tank Size (Dia. & height)
LWT 1200-2.5	1,200,000	800,000	40	150	15	200	25	48 x 72	2.5"	60	2200	600	240	50 X 60
LWT 1200-3	1,200,000	800,000	40	215	15	303	25	48 X 72	3"	60	2,200	600	240	50 X 60
LWT 1200-4	1,200,000	800,000	40	310	15	445	25	48 X 72	4"	60	2200	600	240	50 X 60
LWT 1500-2.5	1,500,000	1,000,000	50	170	15	220	25	54 X 72	2.5"	70	4000	700	300	60 X 64
LWT 1500-3	1,500,000	1,000,000	50	225	15	307	25	54 X 72	3"	70	4000	700	300	60 X 64
LWT 1500-4	1,500,000	1,000,000	50	340	15	495	25	54 X 72	4"	70	4000	700	300	60 X 64
LWT 1950-2.5	1,950,000	1,300,000	65	170	14	220	24	60 X 72	2.5"	90	4800	975	390	72 X 54
LWT 1950-3	1,950,000	1,300,000	65	235	15	325	25	60 X 72	3"	90	4800	975	390	72 X 54
LWT 1950-4	1,950,000	1,300,000	65	445	15	650	25	60 X 72	4"	90	4800	975	390	72 X 54
LWT 2400-2.5	2,400,000	1,600,000	80	170	13	220	23	66 X 72	2.5"	110	5800	1200	480	72 X 64
LWT 2400-3	2,400,000	1,600,000	80	245	15	340	25	66 X 72	3"	110	5800	1200	480	72 X 64
LWT 2400-4	2,400,000	1,600,000	80	480	15	690	25	66 X 72	4"	110	5800	1200	480	72 X 64
LWT 3000-2.5	3,000,000	2,000,000	100	170	12	220	22	72 X 72	2.5"	130	7500	1500	600	90 X 54
LWT 3000-3	3,000,000	2,000,000	100	255	15	355	25	72 X 72	3"	130	7500	1500	600	90 X 54
LWT 3000-4	3,000,000	2,000,000	100	500	15	720	25	72 X 72	4"	130	7500	1500	600	90 X 54
LWT 3000-6	3,000,000	2,000,000	100	540	15	780	25	72 X 72	6"	130	7500	1500	600	90 X 54

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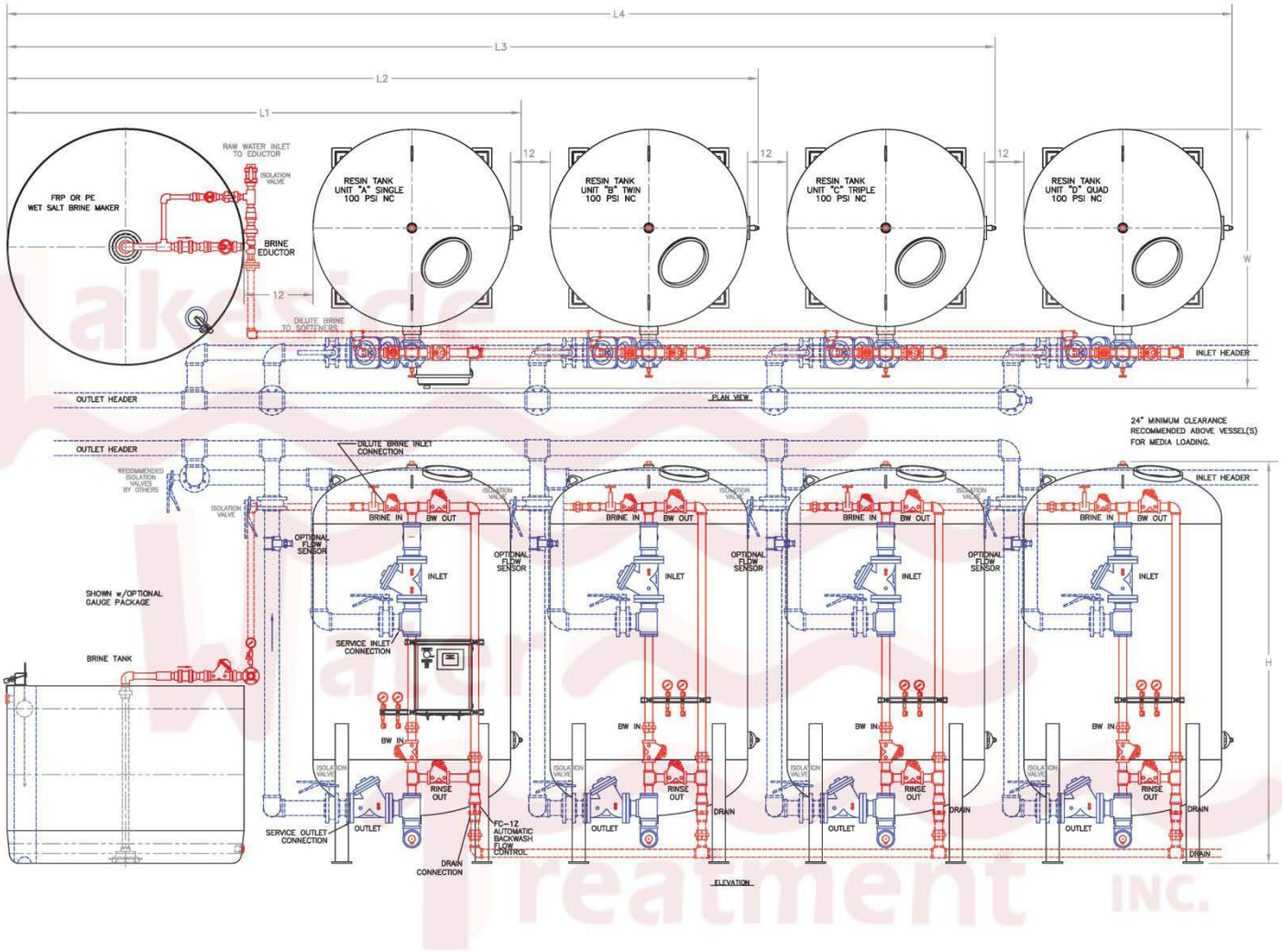
LWT INDUSTRIAL WATER SOFTENERS



RESIN TANK	BRINE TANK	L1 L X W X H	L2 L X W X H	L3 L X W X H	L4 L X W X H
48" X 72"	50" X 60"	113" X 64" X 115"	173" X 68" X 115"	233" X 68" X 115"	293" X 67" X 115"
54" X 72"	60" X 64"	129" X 70" X 112"	195" X 74" X 112"	261" X 74" X 112"	327" X 73" X 112"
60" X 72"	72" X 54"	147" X 75" X 114"	219" X 79" X 114"	291" X 79" X 114"	363" X 78" X 114"
66" X 72"	72" X 64"	153" X 81" X 116"	231" X 85" X 116"	309" X 85" X 116"	387" X 85" X 116"
72" X 72"	90" X 54"	177" X 90" X 118"	261" X 94" X 118"	345" X 94" X 118"	429" X 93" X 118"

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