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

INDUSTRIAL CONDENSATE POLISHERS

LWTCP Series

150,000 TO 3,000,000 GRAINS CAPACITY (Sodium Cycle)

Optimum Efficiency And Proven Reliability

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Condensate Polishers are important in systems treating condensed water from steam to transport or transform thermal energy. Condensate system expenses are related to corrosion, chemicals, mineral build-up causing expensive maintenance repairs and replacement of capital equipment. Condensate polishing typically involves ion exchange technology for the removal of dissolved impurities like, iron oxides particulates, trace minerals and suspended matter. The removal of minerals also maintains the pH balance of the water by removing acidic ions. This reduces the rate of corrosion where water comes in contact with metal and increases heat transfer with less fuel cost. The cost effective alternative to boiler blow down is to "Polish" the untreated condensate for reuse, using a sodium cycle condensate polisher. **More condensate will be used and requires less make-up water, which reduces pretreatment chemical consumption and fuel costs.**

High Temperature Resins are manufactured using the full 10% DVB. This process provides high capacity, physical stability and greater resistance to thermal shock. The Anthracite is an inert media sub fill that improves system performance and protects the underdrain. High flow rates and Lower pressure drops drive Lakeside's high performance products. **Lakeside resin is shipped in the sodium form, providing immediate soft water.**

Stainless Steel Pressure Vessels are standard with working pressure of 100PSI and max temperatures of 212F. The standard vessels are fabricated in non-code. ASME certified vessels are available. The standard 304 SS face pipping utilizes flanged aquamatic valves up to 2" pipe size and double actuated butterfly flanged valves over 2" for cost efficiency. Automatic by-pass is a standard feature on single units that allows untreated condensate to service during regeneration process. Higher temperatures systems are available.

Diaphragm or Butterfly valve nest designs allow each stainless steel diaphragm or butterfly valve to be exactly designed and sized for the required functions, providing the most cost effective and serviceable system in the market. The valve nest design operates the regeneration cycles pneumatically from air pressure from the pilot valve located in the main control panel. **A Rack gauge package along with a boiler drain valve is included in the standard design for easy field diagnostics and service.**

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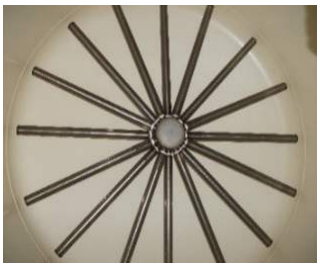

Stainless Steel Underdrains are designed for even bed distribution and higher flow rates that deliver industrial performance. The .010" SS slotted Equa-Log laterals are custom drilled holes logarithmically spaced in the septum pipe and covered with well screen, seal welded for strength and better flow distribution that helps minimize channeling during low flow. **Lakeside also features a standard hide-out preventer on 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 standard rigid polyethylene brine tank provides the ultimate corrosion resistance and superior strength. **Lakeside's special thermo-plastic hydraulic valve delivers consistent brine saturation for optimum ion exchange and is non-corrosive in the brine tank.** This brine valve configuration system is the work horse in the industry delivering proven and reliable industrial performance (requires cold water refill).

Eductors are constructed of PVC that deliver the correct brine concentration to the condensate polisher resin. These hydraulic injectors are pressure compensating and produce 10-16% dilute brine concentrations to the polisher bed for proper Ion exchange. Pumped brine systems and brine silos are available.

The Pentair 3214 Programmable Microprocessor is standard and provides single, twin, triple or quadruple capabilities. The standard 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 condensate polishers to be online in proportion to the service demand.** One unit is always in service, and the other units automatically come online as the flow increases. As the flow rate decreases, units 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)

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Flow Sensors are designed to interface with the controllers. The stainless steel 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. Hot tap sensors and alternate flow technologies are available as an option.

Allen Bradley PLC optional control package comes with the HMI touch screen and has 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 and remaining gallons of each vessel. **Standard AB 10/100 IP Ethernet Network Connection port is standard for building management capabilities. Custom programming and alternate communication protocols are available.**

Operating Parameters Pressure 30-100psi. Temperature range 35F-212F 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 and temperature of the system. (Max proven length is 25ft).

OPTIONS AVAILABLE:

- Skid mounted, pre-piped, pre-wired for faster and cost effective installations
- Differential pressure switch controls
- Chemical feed systems for oxygen scavengers and resin cleaners
- Sub-surface wash systems
- Separate source regeneration packages / Cool-down steps
- Pumped brine systems with dilution station for pit or brine silo applications
- Non-code and ASME code vessels available
- Higher operating pressure and temperatures available
- Catalog products, custom controls, programming and custom engineered systems available

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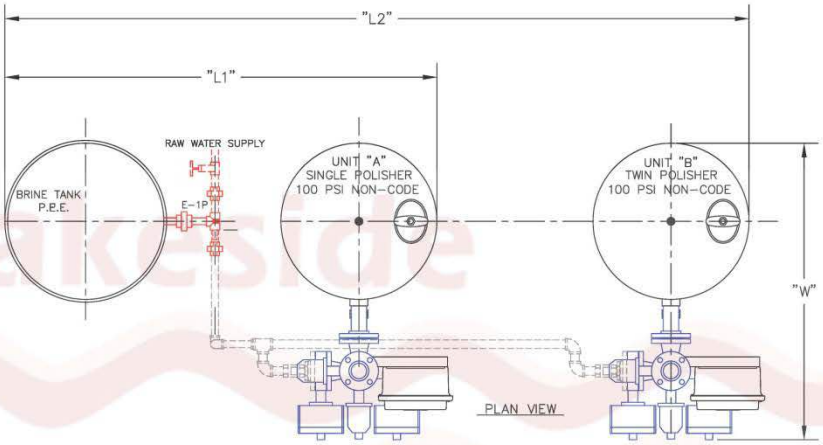
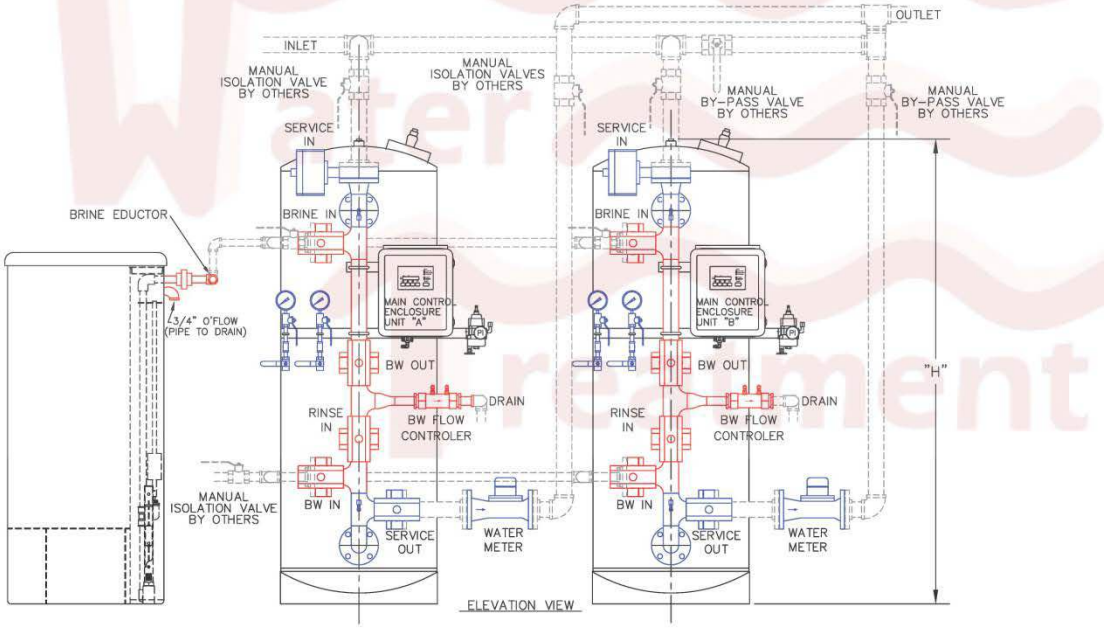
MODEL NO.	RESIN TANK	BRINE TANK	L1 L X W X H	L2 L X W X H
LWTCP-18	18" X 60"	24" X 40"	57" X 40" X 69"	89" X 40" X 69"
LWTCP-24	24" X 60"	24" X 54"	61" X 46" X 76"	97" X 46" X 76"
LWTCP-30	30" X 60"	30" X 60"	72" X 52" X 92"	114" X 52" X 92"
LWTCP-36	36" X 60"	39" X 48"	87" X 58" X 89"	135" X 58" X 89"
LWTCP-42	42" X 60"	42" X 60"	96" X 64" X 97"	150" X 64" X 97"





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