

Xtract

Selective Sorption and Ion Exchange Water Treatment & Ion Recovery

- Modular and intelligently automated for seamless integration
- Operates in simulated moving bed (continuous), lead-lag, or batch modes
- Customizable vessel diameters from 5 to 14 feet
- Easily scalable—add or remove vessels and modules as needed
- Expert testing services determine the optimal resin or adsorbent
- Breakthrough curve development available to inform and optimize system design



3D render of an Xtract plant

Complete, Modular, Off-Site Commissioned Solutions

Xtract is a flexible, modular platform for ion exchange and adsorption, water treatment, and ion recovery processes. It is engineered to target specific ions or remove contaminants with precision. Designed for specialized applications where conventional treatment falls short, its modular design, intelligent automation, and customizable operation make it ideal for owners seeking precision and cost savings.

PFAS Extraction	Regenerable and non-regenerable anion exchange PFAS extraction
Cooling Tower Blowdown & Semiconductor Water Reuse	Mixed strong and weak acid cation exchange hardness removal upstream of high pH water recovery processes
TMA Extraction	Treat tetramethylammonium (TMA) from wastewaters and/or recover as TMAC for further processing and reuse.
Mineral Recovery	Selectively target ions of interest
Lithium Refining	High salinity chelating ion exchange polish of boron or hardness

Note: Xtract is a specialty system that requires design effort for proper sizing and costing, and is not intended to compete with conventional ion exchange systems. Breakthrough curves are needed to size and cost an Xtract system. We can design and quote based on third-party data for a nominal fee. We also offer fee-for-service testing to generate breakthrough curves for your application. Contact our technical experts to learn more.

Tailored IX System Design

Flexible, cost-effective systems tailored to your application. Designed for reliable performance, informed media selection, and efficient system sizing.

Precision Control and Auto Regeneration

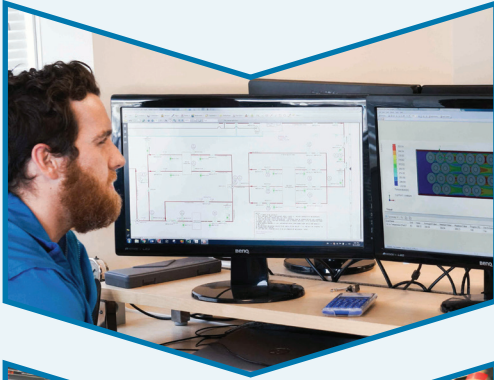
Intelligently automated systems execute optimized regeneration and elution cycles, with optional sensor integration to measure extraction yield in real time.

Proven Media Performance

Breakthrough curve and durability testing ensure optimal resin selection. Achieve high recovery and economic operation with data-driven system design.

Protect Your Media Investment

Prefiltration and preconditioning systems safeguard ion exchange columns from fouling, ensuring longer media life, consistent performance and longer system lifespan.



1. Process Design & Optimization

Saltworks' expert engineers provide a rapid, upfront analysis of your project's goals, constraints, and treatment needs—balancing cost, recovery, energy, and regulatory factors. We deliver tailored, model-driven solutions that maximize value and minimize risk.



2. Pilot Testing & Validation

De-risk your project with bench and pilot testing. Our in-house test center and mobile fleet validate performance using your samples and site conditions, optimizing the flow sheet before full-scale deployment.



3. Complete Systems & Unit Ops

Meet your scale-up objectives with our full-scale modular systems or unit operations. All systems are off-site constructed, pre-commissioned, and intelligently automated to reduce time, cost, and complexity onsite.



4. Support & Expansion

We provide full technical and operational support after your on-site plant installation. Our modular plants are also fully expandable, ensuring long-term flexibility and performance.

Contact our experts to learn more.