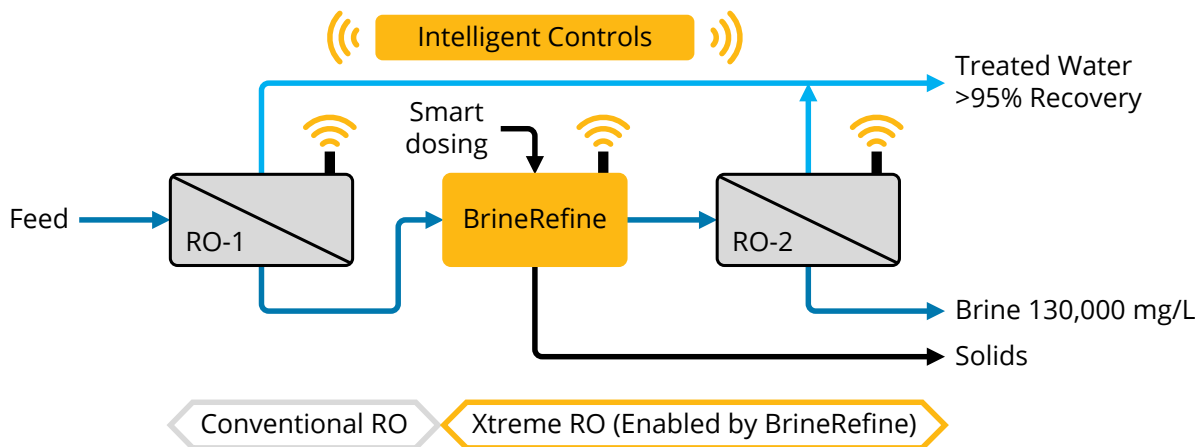
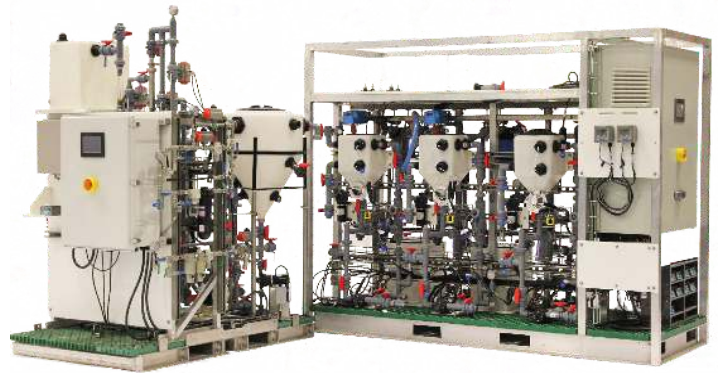


## BrineRefine

### Precise & Automated: Packaged Chemical Softening Technology

- Removes scaling ions to increase downstream recovery
- No coagulants, flocculants or large clarifiers
- Single package with precision dosing & intelligent controls
- Total treatment optimization: communicates upstream
- Compact, modular & expandable
- Smart solids management



#### Process Flexibility

Treats highly variable water with optimized and automated chemical dosing. Adjusts on the fly.

#### Cost-Effective Operations

Maximize membrane system recovery. Reduces the size of downstream evaporator crystallizer systems and decreases disposal costs.

#### Simple Solids Management

Single step, hassle-free, proprietary solids management for easy handling and safe disposal.

#### Double Brine Concentration

Can be integrated with our XtremeRO technology to reduce brine volumes by 50% vs. conventional RO.

#### Maximize Reverse Osmosis (RO) Recovery

Pushes treated water recovery to osmotic pressure limits while lowering scaling risk for the downstream RO system. No aluminium coagulants that gel & foul RO membranes.

#### Total Support

Complete package delivery and installation options. Remote monitoring, 24/7 expert assistance, and predictive maintenance.

## Utility Requirements

Capacity	Modular blocks of: 600 m <sup>3</sup> /day, dependent on water chemistry
Footprint	<ol style="list-style-type: none"> <li>40' ISO shipping container, 2 high Expandable based on hydraulic capacity and water chemistry</li> <li>Custom built</li> </ol>
Voltage	208/408/608 V; 3 phase

### Inputs

Inlet Water Spec	Vast flexibility, contact Saltworks
Chemicals	Dependent on water chemistry, contact Saltworks
Electrical Energy	~2 kWh/m <sup>3</sup> (50 kW)

### Outputs

Solid filter cake  
Non-scaling water; RO, disposal well, and evaporator-friendly

## Automation

- Optimized dosing control system for optimized operating cost
- User-friendly with smart reporting
- Communicates with downstream RO system for maximum system performance
- Smart slurry & solids management with low footprint
- Maximized uptime and minimized operator intervention

## Traditional Chemical Softening Vs. BrineRefine

	Traditional Chemical Softening	BrineRefine
Space	<ul style="list-style-type: none"> <li>• Large clarification tanks</li> <li>• Custom-built</li> </ul>	<ul style="list-style-type: none"> <li>• Compact slurry squeezer</li> <li>• Factory-built</li> </ul>
Flocculation	Expensive & shear-sensitive additives	None
Reagent Dosing	Imprecise if water chemistry changes	Optimized and automated
Site Package	Custom design, stick-built, building required	One modular package, ISO frames, factory-built
Plant Integration	Discrete process, often manual integration	Communicates with the upstream and downstream process for total system optimization

## Delivery Models

Saltworks can deliver complete RO-optimized packages or work with engineering companies & RO vendors to deliver a partnered project.