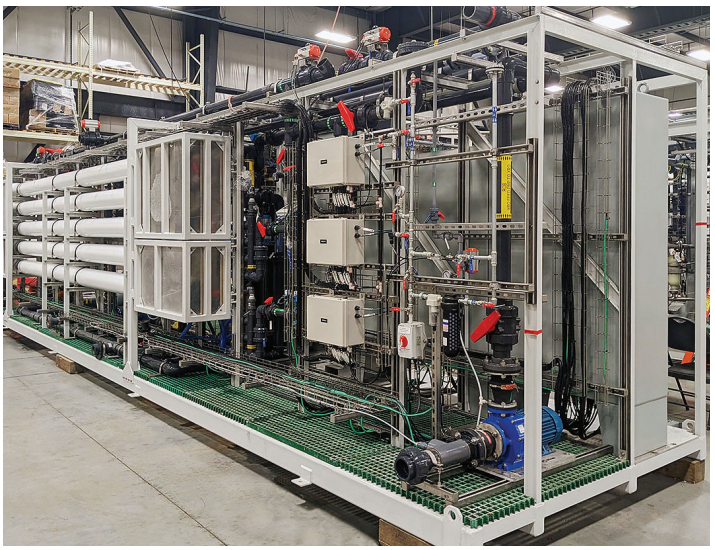
Saltworks

XtremeRO

Reverse Osmosis/Nanofiltration Brine Concentrator

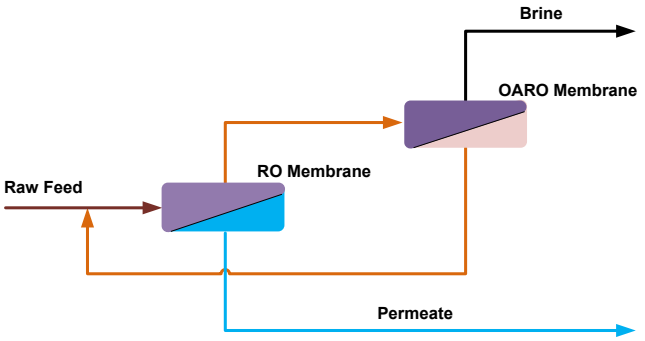
- Next-generation reverse osmosis (RO)/nanofiltration (NF): available in 600, 1,200 and 1,800 psi models
- Reduce brine volumes to new levels
- Leverage with Saltworks' BrineRefine system: automated chemical softening removes scaling ions upstream
- Reduce costs through total system integration
- Customized NF membranes for specific ion separation



OARO

Osmotically Assisted Reverse Osmosis

- Achieve ultra high brine concentration >200,000 mg/L TDS via cascaded RO circuits & specialized membranes
- Saltworks advanced process & controls simplifies OARO while proctecting membrane health



Maximize water recovery with RO: the industry workhorse

Minimize Brine Volume

Achieve higher brine concentration by reaching osmotic pressure limits, made possible by removing scaling ions with Saltworks' BrineRefine chemical reactor.

Intelligent Automation, System View

Integrated controls for optimized, total system monitoring and performance.

Low-cost Install and Fast Start-Up

Built from pre-assembled and factory-tested modules with all equipment on board a single skid for low-cost installation at site.

Process Flexibility

Reacts and adjusts to changing chemistry and capacity requirements. Dynamic recovery control when paired with Saltworks' ScaleSense real-time scaling sensors.

Integration

We integrate with any RO system, tying upstream chemistry adjustments to downstream brine management through optimized processing and controls.

Total Support Operations

Complete, packaged delivery and installation options: remote monitoring, 24/7 expert assistance, and predictive maintenance.

saltworkstech.com +1 604-628-6508 projects@saltworkstech.com

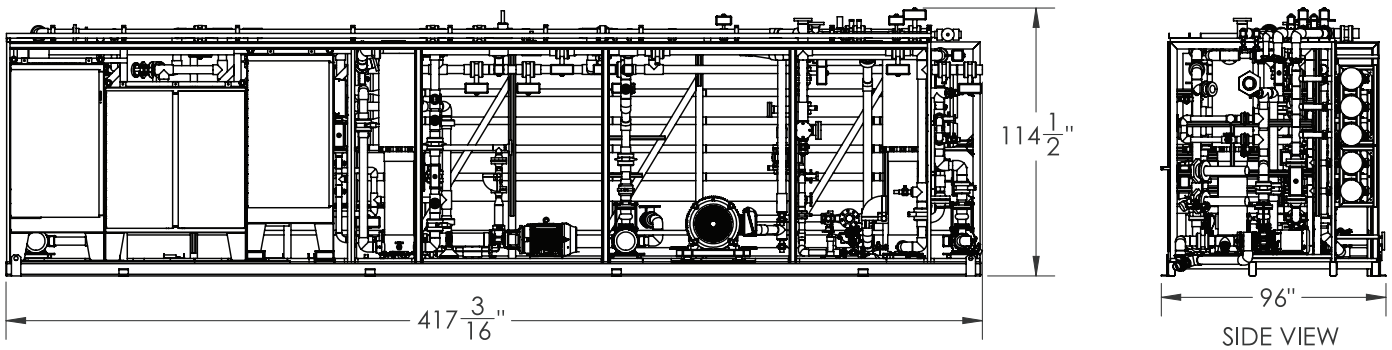
© Saltworks Technologies Inc.

Saltworks

Operating Specifications

XtremeRO Model	1200	1800	OARO
Membrane	Seawater RO	Ultra-High Pressure	Osmotic Assist
Maximum Pressure	1,200 psi ~82 bar	1,800 psi ~124 bar	Varies
NaCl Concentration Limit (mg/L)	80,000	130,000	> 200,000
Na_2SO_4 Concentration Limit (mg/L)	140,000	220,000	N/A
LiCl Concentration Limit (mg/L)	58,000	94,000	~ 180,000
$(NH_4)_2SO_4$ Concentration Limit (mg/L)	135,000	215,000	N/A
Typical Energy at Peak (kWh/m^3 permeate)	6	8	~12
XtremeRO (25 vessels)*	2,500 m^3/day ~458 GPM	500 m^3/day ~91 GPM	Varies

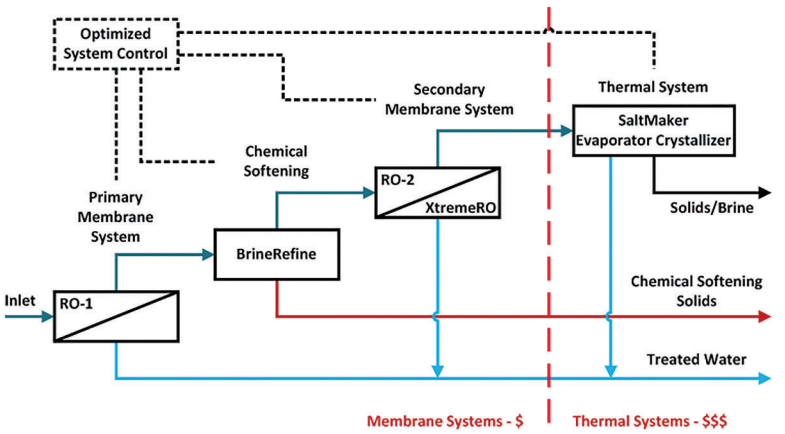
* Peak capacity stated without de-rates



FRONT VIEW

SIDE VIEW

Example of a modularized XtremeRO skid with all systems on board



XtremeRO and OARO reduces brine volume and evaporator capacity

Interior detail of an assembled XtremeRO skid

saltworkstech.com +1 604-628-6508 projects@saltworkstech.com

© Saltworks Technologies Inc.