

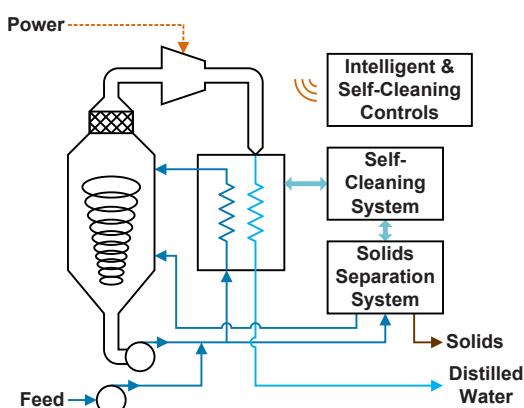
SaltMaker MVR

Electrically Driven Lithium Concentrator & Crystallizer

- Maximize yield by concentrating lithium chloride with reliable, economic evaporation, or produce lithium hydroxide solids
- Crystallize 9,600–93,000 tonnes per year of lithium hydroxide monohydrate as lithium carbonate equivalent (LCE)
- Modernized mechanical vapor recompression (MVR) evaporative crystallizer comes with integrated solids management
- Robust, top-quality build offers intelligent automation for self-cleaning and ease-of-operation
- Modular blocks for rapid, low-cost site installation



A fully assembled SaltMaker MVR plant



SaltMaker MVR process flow diagram



In-house assembly of a SaltMaker MVR plant

Concentrate, Refine, Convert Experts

We are focused on concentrating, refining, and converting lithium chloride solutions to battery- or technical-grade lithium products.

Low-Cost Install and Fast Start-Up

Built from pre-assembled and factory-tested modules for easy, low-cost installation at site.

Intelligent Automation

Intelligent automation with self start-up, capacity control, hibernation, and safe shut down. Built-in heat exchanger monitoring and cleaning.

Battery-Grade Salt Production Packages

Options available for comprehensive solids production and management. Systems include an integrated decanter centrifuge and solid slurry management.

Controlled Production and Supply Chain

Saltworks builds systems at our quality-controlled production facility, with in-house supply chain and engineering.

Lithium Chemistry Expertise

Evaporation, crystallization, slurry management, and corrosion control require expertise. Saltworks' experienced team ensure your system is optimally designed and built for application.



Utility Requirements

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|--------------------------------------|-------------------------------------------------|
| Thermal Source | Not required |
| Electrical Energy Consumption | 40–60 kWh per tonne H ₂ O evaporated |
| Power | 3-phase; voltage and frequency site dependent |

Capacity, Performance & Size

Evaporation capacity increases with the number of evaporation vessels. Vessel capacity is designed for transport on standard roads and infrastructure. Saltworks delivers multi-vessel plants to achieve modular scale-up.

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|-----------------------------------|-----------------------------------------------------------------------------------------------------------|
| Evaporation Capacity | 1 vessel: 96–312 tonnes per day 2 vessels: 310–620 tonnes per day 3 vessels: 620–930 tonnes per day |
| Typical Operating Pressure | 40 kPa absolute (60% vacuum) |
| Evaporator Size | Modules, standard shippable skids: 1 vessel plant: L-65 ft. x W-25 ft. x H-30 ft. |
| Crystallizer Size | Add decanter module; size varies based on solids load |

Primary Features

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|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cost-Effective | <ul style="list-style-type: none">Rapid site installation: place frames and connect modulesNo pre-treatment requiredHigher up-time through reliable design and sound automation |
| Quality Delivered | <ul style="list-style-type: none">Tier 1 components, including heat exchangers, vapour compressors, brine circulation pumps, instrumentation, electrical and controlsProactive and responsive project management inclusive of project integrationExcellent documentation and training packages |
| Reliability | <ul style="list-style-type: none">Smart process design for reliable solids productionAvoids scale caused by conventional boiling evaporation on heat-transfer surfacesSelf-cleans while running |
| Durability | <ul style="list-style-type: none">Corrosion-resistant construction materials balanced with project-specific economics |
| Automation | <ul style="list-style-type: none">Automated self-cleaning, start, stop, and capacity control: ramp from 25% to 100%, or hibernate at 0% while circulatingProgrammed to remove scale before it becomes irreversibleHigh-quality instrumentation and sensors packageUser-friendly graphical interface and controls that offer remote login, data logging, and trend analysisVariable frequency drives (VFD) for energy efficiency |

Standard Package & Options

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|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SaltMaker Plant | Complete packaged system, from inlet to discharged water and solids; arrives with technician to support your installation |
| Training & Support | On-site training and commissioning; ongoing support comes with videos, tutorials, checklists, and remote assistance |
| Additional Options | Ongoing operational support: <ul style="list-style-type: none">Remote Operations Asset Management (ROAM): 24/7 remote monitoring and customizable daily reportsOperations packages: Saltworks operates SaltMaker MVR on-site |