

SaltMaker MultiEffect Closed Evaporator Crystallizer

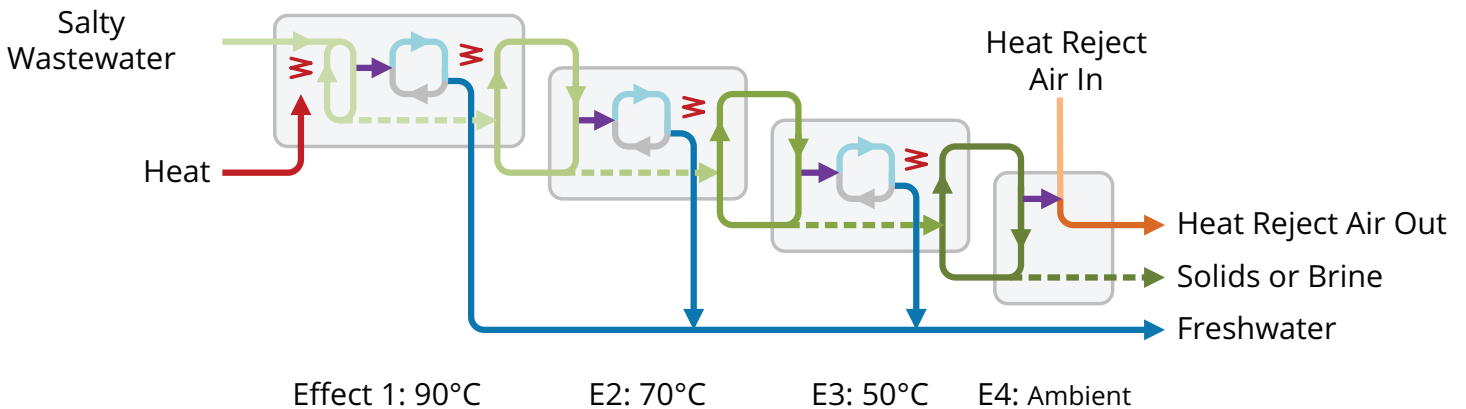
All-in-one zero liquid discharge (ZLD)









REDUCES BRINE VOLUME

PRODUCES SOLID SALT

NO CHEMICAL PRE-TREATMENT



-  Heat Transfer
-  Vapour
-  Concentrated Saltwater Blowdown
-  Humidified Air
-  Dehumidified Air
-  Condensed Water

Multiple Effect Air Humidification Dehumidification, Cleans While Operating

Reliable

High redundancy that performs in harsh, demanding environments. Constructed with durable, non-stick, non-corroding wetted parts.

Cost Effective Operations

Intelligent automation maximizes performance with capacity control, self-cleaning and self-diagnosis. Pre-programmed for easy hibernation, startup and shutdown.

Simple Solids Management

No chemical pretreatment or softening sludge required. A single-step process discharges solids in bags or bins for easy handling.

Rapid Deployment

Modular design enables rapid transport and assembly at site. Pre-fabricated ISO container modules are tested before they ship.

Total Support

Complete package delivery & installation options. Remote monitoring, 24/7/365 expert assistance, reporting dashboards and predictive maintenance keep every SaltMaker MultiEffect running smoothly.

Energy Efficient

Multiple effects lower energy requirements by recycling heat. Options available for using waste heat as an energy source.

Utility Requirements

Heat Source	~0.8-1.1 GJ/m ³ or MMBTU/m ³ Steam or hot water (95°C). Use low grade heat to treat water. 1500 kW of heat based on 125 m ³ /d removed.	
Electrical Energy Consumption	~45 kWh/m ³ removed (Concentrate brine to 450,000 mg/L)	~60 kWh/m ³ removed (Solids production)
Voltage	400 – 600 VAC, 3 ph, 50/60 Hz	

Capacity, Performance & Size

Model & Capacity	S30	S66	S100	S125
Clean Water Removal Capacity	30 m ³ /d	66 m ³ /d	100 m ³ /d	125 m ³ /d
Brine Concentrator De-Rate	Concentrate to 450,000 mg/L; de-rate by 20%			
Crystallizer (Solids) De-Rate	Produce solids; de-rate by 40%			
Brine Concentrator Size (L x W x H)	30' × 45' × 35'	50' × 45' × 35'	50' × 45' × 35'	70' × 45' × 35'
Crystallizer (Solids) Size (L x W x H)	45' × 45' × 35'	65' × 45' × 35'	65' × 45' × 35'	85' × 45' × 35'

Primary Features

Redundancy

Multiple mass produced modules in one plant.



Evaporation Module



Heat Recovery Module

Safety

Low pressure, low temperature, modules slide in and out for inspection and maintenance. No confined spaces, easy lock-out, and ergonomic design.

Reliability

Smart process design for reliable slurry or solids production. Avoids conventional boiling evaporation on heat transfer surfaces, which causes scale. Self cleans while running.

Durability

- Non-corroding, non-stick, no welding, no pressure vessels:
- Pipework: UPVC and CPVC.
 - Modules and tanks: gel-coated, fibre-reinforced plastics.
 - Pumps: Engineered plastics, no wetted metallic parts.
 - Heat exchangers: titanium, non-boiling (no boiling nuclei scaling).

Automation

- Automated self-cleaning, start, stop and capacity control. Ramp from 25-100%, or hibernate at 0% while circulating.
- Programmed to remove scale before it becomes irreversible.
- High quality instrumentation and sensors package.
- PLCs with user-friendly graphical interface and controls that offer remote login, data logging, trend analysis.
- Variable Frequency Drives (VFD) for energy efficiency.

Standard Package & Options

SaltMaker Plant	The SaltMaker MultiEffect is a complete packaged system, from inlet to discharged treated water and solids. Technician provided to support your installation.
Training & Support	On-site training and commissioning. Support with videos, tutorials, checklists, and remote assistance.
Thermal Energy	Gas or liquid fuel-fired thermal source and waste heat conversion options.
Additional Options	<ul style="list-style-type: none"> • Turnkey package including build, delivery, install. • Remote Operations Asset Management (ROAM): 24/7 remote monitoring and customizable daily reports. • Operations packages: Saltworks operates the SaltMaker MultiEffect on-site.