

# SaltMaker-AirBreather

## Open Evaporator Crystallizer

Low grade heat brine concentrator or zero liquid discharge (ZLD) system:

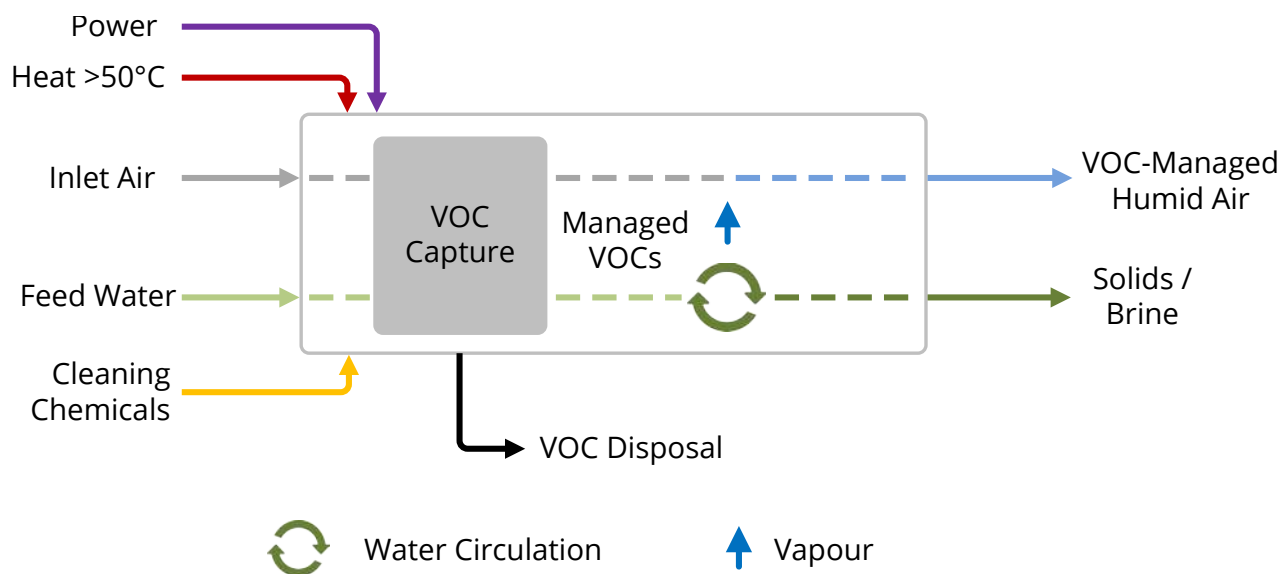
- Open to atmosphere
- Managed organic compounds (VOC) emissions
- Smart design for reliability
- Cost effective & rugged
- 3x capacity; 4x thermal energy (50°C) vs. SaltMaker



### REDUCES BRINE VOLUME

### PRODUCES SOLID SALT

### NO CHEMICAL PRE-TREATMENT



#### Reliable

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

#### Volatile Management System

Built-in system to capture and safely dispose of VOCs and meet air emission standards.

#### Rapid Deployment

Modular design enables rapid transport and assembly at site. Pre-fabricated ISO container blocks for easy transport and install.

#### Simple Solids Management

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

#### Cost Effective Operations

Intelligent automation maximizes performance with capacity control, self-cleaning, and self-diagnosis.

#### Total Support Options

Complete package delivery and installation options. Remote monitoring, 24/7/365 expert assistance and predictive maintenance to keep AirBreather running smoothly.



## Utility Requirements

<b>Heat Source</b>	Any source (>50°C, 90°C preferred). Use low grade heat to treat water. ~3.2-4 GJ/m <sup>3</sup> (4x SaltMaker due to single effect).	
<b>Electrical Energy Consumption</b>	• ~20 kWh/m <sup>3</sup> for brine production	• ~30 kWh/m <sup>3</sup> for solids production
<b>Voltage</b>	Any voltage, 3 phase, 50/60 hz	

## Capacity, Performance & Size: AB 300 Package

<b>Clean Water Removal Capacity</b>	300 m <sup>3</sup> /d
<b>Brine Concentrator De-Rate</b>	Concentrate to 450,000 mg/L; de-rate by 20%
<b>Crystallizer (Solids) De-Rate</b>	Produce solids; de-rate by 40%
<b>Brine Concentrator Size</b>	50' × 45' × 35' (L × W × H)
<b>Crystallizer (Solids) Size</b>	65' × 45' × 35' (L × W × H)

## Primary Features

<b>Cost Effective</b>	<ul style="list-style-type: none"><li>• No pre-treatment</li><li>• Uses waste heat</li><li>• High capacity modular package</li></ul>
<b>Differentiated from other open evaporators</b>	<ul style="list-style-type: none"><li>• Produces a concentrated brine or solids</li><li>• No corrosion</li><li>• No combustion by-products</li><li>• Volatiles management</li><li>• No hot plume</li><li>• Single modular package (cooling tower, vapour instead)</li></ul>
<b>VOC Management</b>	Proprietary - not for public disclosure. Contact Saltworks for project assessment.
<b>Modularity</b>	Expandable with your needs. ISO blocks movable to new sites.
<b>Safety</b>	Low pressure, low temperature, modules slide in and out for inspection and maintenance. No confined spaces, easy lock-out, and ergonomic design.
<b>Reliability</b>	Smart process design for reliable slurry or solids production. Avoids conventional boiling and evaporation on heat transfer surfaces, which causes scale. Self cleans while running.
<b>Durability</b>	<ul style="list-style-type: none"><li>Non-corroding, non-stick, no pressure vessels (atmospheric pressure)</li><li>• Pipework: UPVC and CPVC.</li><li>• Modules and tanks: gel-coated, fibre-reinforced plastics.</li><li>• Pumps: engineered plastics, no wetted metallic parts.</li><li>• Heat exchangers: titanium, non-boiling (no boiling nuclei scaling).</li></ul>
<b>Automation</b>	<ul style="list-style-type: none"><li>• Automated self-cleaning, start, stop and capacity control. Ramp up from 25% to 100%, or hibernate at 0% while circulating.</li><li>• Programmed to remove scale before it becomes irreversible.</li><li>• High quality instrumentation and sensors package.</li><li>• PLCs with user-friendly graphical interface and controls that offer remote login, data logging, and trend analysis.</li><li>• Variable Frequency Drives (VFD) for energy efficiency.</li></ul>

## Standard Package & Options

<b>AirBreather SaltMaker Plant</b>	Complete packaged system, from inlet to discharged treated water and solids. Arrives with technician to support your installation.
<b>Training &amp; Support</b>	On-site training and commissioning. Ongoing support with videos, tutorials, checklists, and remote assistance.
<b>Thermal Energy</b>	Waste heat conversion (>50°C), low pressure steam, hot water, or gas fired options.
<b>Additional Options</b>	<ul style="list-style-type: none"><li>• Turnkey package including build, delivery, installation.</li><li>• Remote Operations Asset Management (ROAM): 24/7 remote monitoring and customizable daily reports.</li><li>• Operations packages: Saltworks operates the AirBreather SaltMaker on-site.</li></ul>