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SaltMaker-AirBreather
Open Evaporator Crystallizer

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

- Two options: closed or open to atmosphere
- Guaranteed to meet all emissions including: VOCs, Methanol & Particulates
- Cost effective & rugged; Smart design for reliability
- 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.

AB100 - 3 x TRAILERS

AB300 - ISO CONTAINER BLOCKS
General Specifications

Heat Source
Any source (>50ºC, 90ºC preferred). Use low grade heat to treat water.
~3.2-4 GJ/m³ (4x SaltMaker due to single effect).

Electrical Energy Consumption
- ~20 kWh/m³ for brine production
- ~30 kWh/m³ for solids production

Voltage
Any voltage, 3 phase, 50/60 hz

Brine Concentrator De-Rate
Concentrate to 450,000 mg/L; de-rate by 20%

Crystallizer (Solids) De-Rate
Produce solids; de-rate by 40%

Capacity & Size

<table>
<thead>
<tr>
<th>Clean Water Removal Capacity (Evaporator non de-rated)</th>
<th>AB100</th>
<th>AB300</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean Water Removal Capacity (Evaporator non de-rated)</td>
<td>100 m³/d (630 BPD)</td>
<td>300 m³/d (1,890 BPD)</td>
</tr>
<tr>
<td>Brine Concentrator Size</td>
<td>3-4 x 50' Trailers or 50' x 50' x 20' H</td>
<td>50' x 80' x 35' H ISO Blocks</td>
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Primary Features

Cost Effective
- No pre-treatment
- Uses waste heat
- High capacity modular package

Differentiated from other open evaporators
- Produces a concentrated brine or solids
- No combustion by-products
- No hot plume (cooling tower, vapour instead)
- No corrosion
- Volatiles management
- Single modular package

Emissions Management
Proprietary - not for public disclosure. Contact Saltworks for project assessment.

Modularity
Expandable with your needs. ISO blocks movable to new sites.

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 and evaporation on heat transfer surfaces, which causes scale. Self cleans while running.

Durability
Non-corroding, non-stick, no pressure vessels (atmospheric pressure)
- Pipework: UPVC and CPVC.
- 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 up from 25% to 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, and trend analysis.
- Variable Frequency Drives (VFD) for energy efficiency.

Standard Package & Options

AirBreather SaltMaker Plant
Complete packaged system, from inlet to discharged treated water and solids. Arrives with technician to support your installation.

Training & Support
On-site training and commissioning. Ongoing support with videos, tutorials, checklists, and remote assistance.

Thermal Energy
Waste heat conversion (>50ºC), low pressure steam, hot water, or gas fired options.