

Desalinization of Water using Low Grade Heat Source

CLAIM:

- Desalination unit
- Absorption refrigeration system (ARS).
- Thermal Energy Storage

OVERVIEW:

Potable water is a scarce and valuable resource. This technology is able to sustainably desalinate and purify non-potable water with low maintenance and operation costs.

ADVANTAGES:

- This technology operates efficiently by evaporating water under a vacuum, which creates low pressure conditions, enabling the system to operate using less energy. Uses 40% less energy than multi-stage flash distillation, which is the most widely used method to desalinate water.
- Less expensive to maintain than reverse osmosis systems, which require frequent replacement of membranes.
- Because of low maintenance and operation costs, this technology can be made accessible to markets that otherwise would not be able to afford filtration systems.
- Can be scaled and manufactured for municipal, agricultural, or private applications.



Low Grade Thermal Heat	Reverse Osmosis
<ul style="list-style-type: none"> • Low capital and operating costs. • High performance (brackish water & seawater) • Output meets US EPA drinking water standards • Corrosion resistant • Low pressure 	<ul style="list-style-type: none"> • Low capital cost • High operating cost (energy and maintenance fees) • High performance (brackish water) • Replaceable membrane • High pressure
Output: 108 L/day Energy in: 4.44 W-hr/L Cost: \$5,000	Output: 150 L/day Energy in: 8.06 W-hr/L Cost: \$10,000

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