Vorsana Electromechanical Desalinator



A Continuous Brine Separator

The Vorsana Electromechanical Desalinator is a simple and scalable separator that can be used for more effective treatment of even extremely salty brine in a continuous, one-pass process. No added heat, chemicals, dead-end filters, membranes, ion exchange, electrodialysis, or distillation are needed. Counter-rotating disks within the separator create powerful radial flow effects that use centrifugal force to separate the brine components of different weights, while a RF pancake coil electrical inductor controls the flow of components according to their electrical properties. These combined effects create a continuous radial counterflow pattern, with purified fluids flowing inward toward the central axis and increasingly concentrated waste products flowing outward into a collection tank. It represents an inexpensive and easily scalable improvement in cleaning of brine waste from oil and gas production, industrial and municipal wastewater processing, and field water purification.

Magnetic field lines from a Tesla induction coil change the viscosity of the salts (conductive elements in a brine), leaving pure water, which does not conduct electricity, free to slip through to the axial outlet. This produces more clean water and air at lower costs. The patented Desalinator uses a fraction of the power required by reverse osmosis, uses no chemicals, and requires no pretreatment, saving on operating costs. US Patent 8025801 B2, international patents pending.





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