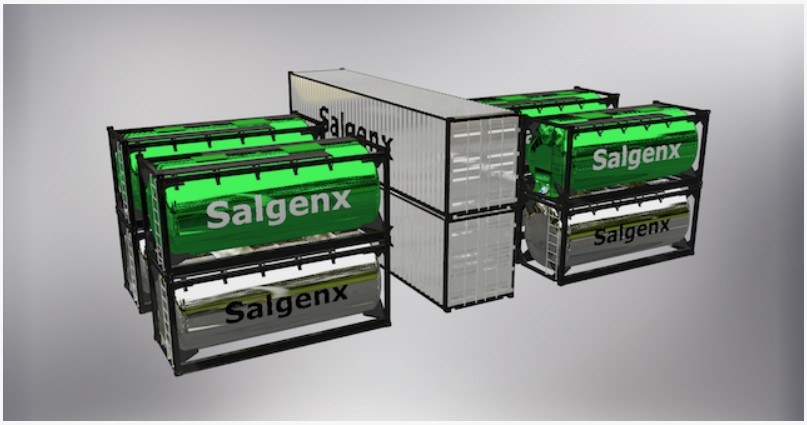
Salgenx Integrates a New Type of Heat Pump for Combined Thermal Storage in a Saltwater Flow Grid-scale Battery

Salgenx integrates a new type of heat pump for combined thermal storage and electricity storage in a saltwater flow battery for grid-scale applications.



Salgenx S12MW 12,000 kWh Grid Scale Battery


Cavgenx 3D Printed Compressor and Turbine in one Part

MADISON, WISCONSIN, USA, November 22, 2023 / EINPresswire.com/ -- Salgenx has teamed up with Cavgenx to provide thermal storage, cooling, and hydraulics from their new heat pump turbine. This will be integrated into the Salgenx saltwater flow battery.

How It Works

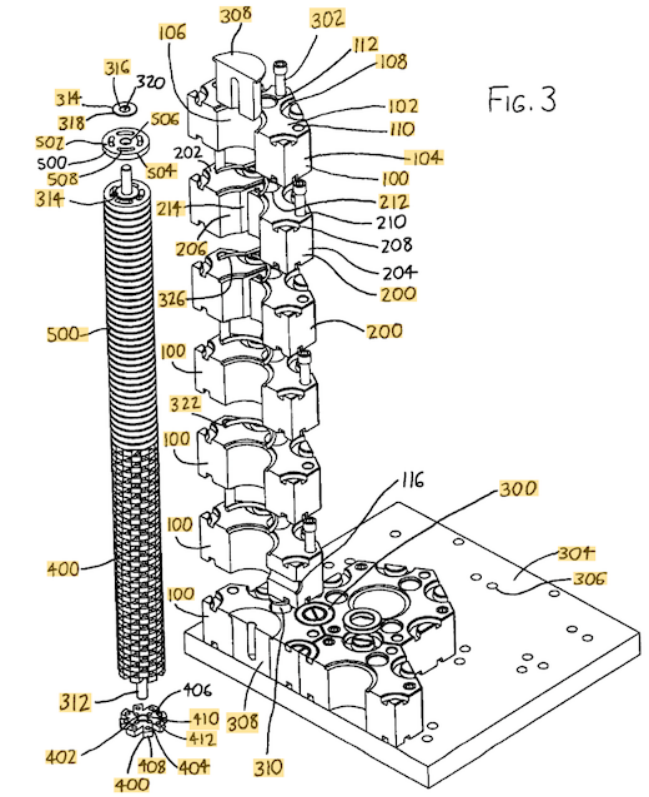
The Salgenx saltwater flow battery uses saltwater as an electrolyte and as a grid-scale battery solution for power storage.

The Cavgenx heat pump turbine boasts a remarkable Coefficient of Performance (COP) exceeding 3, meaning it can produce more than three times the energy thermal output per unit of energy input. The COP efficiency is the ratio of useful heat energy produced to electrical energy consumption. Since the heat pump is a thermal process, the turbine produces a common shaft power which can be used for process cooling and hydraulic power production.

Synergy

The heat pump turbine can be used to input heat or cooling into the saltwater storage

electrolyte while using off-peak grid power. It can also be used to extract that same thermal energy (taking advantage of this difference in energy rates is called energy arbitrage).



Infinity Turbine Patent US7726331B1

Benefit to Salgenx Battery Installations

Off peak power can now result in huge rate savings for both electricity and thermal simultaneously using energy arbitrage. Both cooling and power can be stored during evening off-peak hours, then used during expensive on-peak hours, or sold back to the grid.

Combination of Power and Thermal Savings

When used together, these two products can save the user more than twice as much compared to a standard lithium grid-scale battery.

Leveraging Thermal Energy for Hydraulic Power

What sets the Cavgenx system apart from a standard heat pump is its innovative use of thermal energy to power hydraulic systems. This approach not only maximizes energy efficiency but also aligns with eco-friendly practices by reducing waste and minimizing environmental impact.

Additional Uses

The Salgenx saltwater battery can also be used for desalination, which has benefits to users who need fresh water production in coastal regions or at sea.

Year End Bonus Incentives

Salgenx is now offering license buyers a bonus of up to 20 customer order inquiries from the website, which would result in a very fast payback on the license fee.

A Step Forward for Environmental Sustainability

By harnessing waste heat and reducing reliance on electrical energy, this combination significantly cuts down on greenhouse gas emissions, aligning with global efforts to combat climate change and promote a greener industrial future.

Salgenx and Cavgenx are divisions of Infinity Turbine, a company with a rich history in waste heat to energy turbine design and thermal processor development since 2008, along with extensive experience in CO2-based technologies since 2004. The Modular Fluid Handling Device, an active patent (US7726331B1), enables the stacking of gas and liquid processing blocks like building blocks to create a turboshaft heat pump cycle. This innovative design allows for the easy addition or modification of stages and functions by simply unbolting a block. The same modular block configuration can also be used for assembling electrolyzers for the Salgenx batteries.

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