



Salgenx

# products

3/29/2023

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Products



This webpage QR code

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Salt Water Flow Battery Products

PDF Version of the webpage (first pages)

# Salt Water Battery CFB State of the Art Report

Report from November 19th, 2022

Updated 07 March 2023:

Includes: Executive Summary. Review of current literature. Electrode design. Flow design. Market summary (basic). Electrolytes. Costs and measured power density. Comparison of some other competitive technologies including saltwater and iron flow batteries. Includes basic cell design for building and experimenting with one cell for demonstration purposes only. This is not the cell we are using for commercialization, but demonstrates the technology and concept. Provided as .pdf

<b>Note:</b> This is confidential and copyright protected.

Price: \$999 USD

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Executive Summary

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## On Demand Electrode License

**Purpose:** This licensing is for developers of flow batteries who wish to de-risk and reduce time developing and experimenting with electrodes.

**The Problem Defined:** During our flow battery development validation and evolution, the process of designing, formulating, fabricating, and then testing electrodes became a game of wasting time with various catalyst companies. The process is very time consuming, and many catalyst companies will promise a formula with active loading (xxx mg/cm<sup>2</sup>), and then not even deliver on what they quoted. Weeks and months can be spent going back and forth. If you decide to formulate and build your own electrodes for your flow battery, you'll need some very expensive equipment, and dedicated staff to run it. Setting up a lab with electrode fabrication can take months and hundreds of thousands of dollars.

**Function:** This license is for rapid deployment of forming electrode design, coatings, and catalyst delivery for liquid electrolysis for flow batteries. We have two techniques which allow on-demand catalyst coating on flat, shaped, packed bed, and other electrodes.

**Savings:** This innovation can save you huge amounts of time, staff, and funding while delivering just-in-time electrode development. Imagine formulating an electrode catalyst and being able to test it the same day, or even same hour.

**Experimental:** The license is for on-demand electrode fabrication and catalyst coating. This is specifically for running tests to determine the applicability and design confirmation of the electrode in a electrolyte. Since this has not been duration (time) tested, we cannot guarantee erosion or catalyst degradation profiles over time. With a lab proven catalyst, you can then move to a more traditional fabrication with chemical companies for your system deployment.

**Price:** \$49,999 USD (not time limited)

**Note:** This is confidential and copyright protected and requires a signed Agreement. May not be resold. Updates available via subscription.

## **Build Your Own Brand**

As an alternative to licensing, for those who want a more personalized service.

We start with an assessment of your goals, total available market (TAM), and total serviceable market (TSM). Our staff then determines the appropriate license fee as it may differentiate from the standard (may be less, or more, according) to your needs. During this assessment we will also establish the battery storage sizing to better fit your end user.

The assessment will also determine the level of desired manufacturing versus component supplied assembly to provide a custom solution to serve your customer base.

This not only saves you huge amounts of time, staff, outside consulting, but prototypes and testing to get you to market quickly.

The assessment fee is \$250,000. After the resulting report is finished, you will then be able to move forward with any additional fees to get started building your own brand. The assessment time period is generally less than 30 days. It is important to determine your customer base and geographical market prior to starting the assessment to save time. We can help you with that if needed.

We also have resident Filemaker database coders to assist with any web page design, customer, parts, invoicing, and full accounting solutions. This truly is a out-of-the-box service for those who wish to approach the market quickly.

## **License to Manufacture and Sell**

Licensing is now available for the saltwater battery technology. This system has two electrolyte tanks, one of which is salt water (brine). It does not have, nor use a membrane.

This license and guidance provided, allows you to de-risk the deployment as you are the first into the commercial marketplace. We are your subject matter experts for saltwater flow batteries. We work together with your team to enhance your core for your customer needs.

## Experimental Saltwater Battery Cell Demo Cart Fully Assembled

Experimental Saltwater Battery Demo Cell Cart.

Pricing: \$199,000 (built to order)

Shipping and handling included to any USA lower 48 location. Includes crate, freight, and shipping insurance.

Complete and ready to operate. 110V.

Purpose: Infinity Turbine LLC and Salgenx Saltwater Cell is a demonstrator to show saltwater as a battery. This is a one cell unit for demonstration purposes only.

How it Works: Circulation pumps allow the liquid electrolytes to be in a continuous closed-loop flow from the storage tanks. A vertical mounted optionally heated assembly allows you to experiment with heating the saltwater liquid flow to simulate thermal storage features.

Uses: Showing saltwater as part of an electrochemical cell for storing electricity.

Detailed information at link below.

## Salgenx Modular Block Cell Electrolyzer Unit

Blade \$10,000 to \$30,000 each depending on model application (plus shipping).

1.6-1.8 V discharge cell voltage.

Stack these up to make a full electrolyzer stack and full battery.

1.1 Voltage factor (i.e.  $12V = 12 \times 1.1 = 13.2$  V charging). Divide by 1.6 V as lowest discharge.

Round up and decimal units to make next higher cell voltage.

1.6-1.8 V discharge cell voltage.

200-3500 amps per module.

Each 1.8 V cell can be 1-10 kW power density.

12V = 8 standard cells

24V = 16 standard cells

48V = 32 standard cells

120V = 83 expanded cells

240V = 160 expanded cells

480V = 320 expanded cells

960V = 640 expanded cells

Larger electrolyte tank capacity equals more storage capacity (kWh).

Dimensions: 20 in (508 mm) height x 30 (762 mm) in length x 12 in (305 mm) wide.

Does not include electrolyzer flow bar manifold.

Inputs:

Aqueous and Organic

Outputs:

Aqueous and Organic

Sensors (optional):

Volts, amps, temperature, pH, flow, optional ports for added sensors (future proof).

First few versions are still in Beta stage (not final product).

Non-disclosure agreement has to be signed prior shipment.

## Salgenx SAMx 250 kWh Salt Water Array Battery System

250 kWh Completed Battery System.

Uses IBC (Intermediate bulk containers are DOT/UN approved containers)

48V (other voltages and configurations available)

Upgrade to over 1 MWh

This is a bi-lateral battery system which allows storing and discharge simultaneously.

Price: \$99,000 (\$378.00 per kW) but add tanks to make into over 1 MWh battery capacity (\$79/kWh).

Note: This is basic battery only. 25 kW electrolyzer stack. That means slow charging and maximum 25 kW discharge rate. Does not include charge controller or inverter. Customers have been asking for a bare basic system at a low price.

Salgenx SAMx Flow Battery:

250 kWh: Tax Credit  $\$35 \times 250 \text{ kW} = \$9,155$  per unit sold

1000 kWh: Tax Credit  $\$35 \times 1000 \text{ kW} = \$35,000$  per unit sold

Includes:

(2) IBC Stainless Steel Tank Containers with Command and Control Array Cart.

You supply water, salt, off-the-shelf counter electrolyte.

Current build time from authorized licensed manufacturer: 6-12 months.



## Salgenx S3000 3 MWhr Completed Battery Pack System 48V

3,000 kW Completed Battery System.

48V (other voltages and configurations available)

Price: \$500,000 (\$167.00 per kW).

Salgenx S3000 (3,000 kW) Commercial Flow Battery:

Tax Credit  $\$35 \times 3,000 \text{ kW} = \$105,000$  per unit sold

Includes:

Tank Containers with Command and Control Container.

-or-

Over the road tankers and Command and Control Van.

You supply water, salt, off-the-shelf counter electrolyte.

Current build time from authorized licensed manufacturer: 6-12 months.

Includes Technology Report (1).

## Salgenx S6000 6 MWhr Completed Battery Pack System 48V

6,000 kW Completed Battery System .

48V (other voltages and configurations available)

Price: \$900,000 (\$150.00 per kW).

Salgenx S6000 (6,000 kW) Commercial Flow Battery:

Tax Credit  $\$35 \times 6,000 \text{ kW} = \$210,000$  per unit sold

Utility Scale Flow Battery Bank:

$\$35 \times 6,000 \text{ kW} \times 100 = \$21,000,000$

Includes:

Tank Containers with Command and Control Container.

-or-

Over the road tankers and Command and Control Van.

You supply water, salt, off-the-shelf counter electrolyte.

Current build time from authorized licensed manufacturer: 6-12 months.

Includes Technology Report (1).

## Salgenx S12MW 12 MWhr Completed Battery Pack System 48V

12,000 kW Completed Battery System .

48V (other voltages and configurations available)

Price: \$1,600,000 (\$133.00 per kW).

Salgenx S12MW Commercial Flow Battery:

Tax Credit  $\$35 \times 12,000 \text{ kW} = \$420,000$  per unit sold

Optional: Charge controller and inverter

Includes:

Tank Containers with Command and Control Container.

-or-

Over the road tankers and Command and Control Van.

You supply water, salt, off-the-shelf counter electrolyte.

Current build time from authorized licensed manufacturer: 6-12 months.

Includes Technology Report (1).

## Salgenx S18MW 18 MWhr Completed Battery Pack System 48V

18,000 kW Completed Battery System .

48V (other voltages and configurations available)

Price: \$2,250,000 (\$125.00 per kW).

Salgenx S18MW Commercial Flow Battery:

Tax Credit  $\$35 \times 18,000 \text{ kW} = \$630,000$  per unit sold

Includes:

Tank Containers with Command and Control Container.

-or-

Over the road tankers and Command and Control Van.

You supply water, salt, off-the-shelf counter electrolyte.

Current build time from authorized licensed manufacturer: 6-12 months.

Includes Technology Report (1).

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