

## Kongres Container

# Iron Separator Flow Battery Life



## Overview

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The setup of IRFBs is based on the same general setup as other redox-flow battery types. It consists of two tanks, which in the uncharged state store electrolytes of dissolved ions. The electrolyte is pumped into the battery cell which consists of two separated half-cells. The electrochemical reaction takes place at the electrodes within each half-cell. These can be carbon-based porous, paper or cloth. Porous felts are often utilized as the surface area of the electrode.

Our iron flow batteries work by circulating liquid electrolytes — made of iron, salt, and water — to charge and discharge electrons, providing up to 12 hours of storage capacity. ESS Tech, Inc. (ESS) has developed, tested, validated, and commercialized iron flow technology since 2011.

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This technology strategy assessment on flow batteries, released as part of the Long-Duration Storage Shot, contains the findings from the Storage Innovations (SI) 2030 strategic initiative. The objective of SI 2030 is to develop specific and quantifiable research, development, and deployment (RD&D).

The Iron Redox Flow Battery (IRFB), also known as Iron Salt Battery (ISB), stores and releases energy through the electrochemical reaction of iron salt. This type of battery belongs to the class of redox-flow batteries (RFB), which are alternative solutions to Lithium-Ion Batteries (LIB) for.

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North-West University, Potchefstroom, South Africa. Focus Area: Chemical Resource Beneficiation • Capacity of flow batteries linked to electrolyte tank size – Optimised for different technologies, e.g. LiB, VRFB. Low electrolyte cost: 17 USD kWh<sup>-1</sup> – Low cost GURLEY 4340 Automatic Densometer.

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## Contact Us

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