

## SolarTech Power Solutions

# Bromo-zinc flow battery



## Overview

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A zinc-bromine battery is a rechargeable battery system that uses the reaction between zinc metal and bromine to produce electric current, with an electrolyte composed of an aqueous solution of zinc bromide. Zinc has long been used as the negative electrode of primary cells. It is a widely available, relatively inexpensive metal. It is rather stable in contact with neutral and alkaline aqueous solutions. Overview Zinc-bromine batteries can be split into two groups: flow and non-flow batteries. There are no longer any.

Zinc-bromine batteries share six advantages over lithium-ion storage systems:

- 100% depth of discharge capability on a daily basis.
- Little capacity degradation, enabling 50.

The zinc-bromine (ZBRFB) is a hybrid flow battery. A solution of is stored in two tanks. When the battery is charged or discharged, the solutions (electrolytes) are pumped through a reactor stack.

Flow and non-flow configuration share the same electrochemistry. At the negative electrode is the electroactive species. It is  $Zn$ , with a  $E^\circ = -0.76 \text{ V vs.}$

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