

Water Purification Power Supply Has 4 Times More Energy than Li-ion Batteries



Technology Description

The magnesium carbon battery, or MagC, is an advanced metal-air battery using magnesium as a fuel to generate electricity.

In the MagC battery, magnesium is used as the anode and paired with an advanced carbon-based air cathode. This creates an oxidation-reduction reaction, generating both electricity and hydrogen. The MagC requires saltwater brine as an electrolyte, and power production is enhanced through circulation.

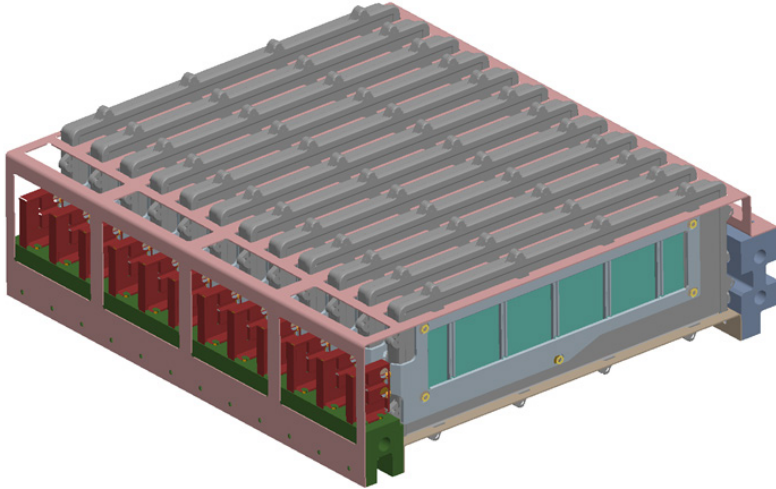
The application of a circulating, saltwater electrolyte is unique. MagC technology is highly effective in applications where saltwater is plentiful or is a waste product from other processes.

An excellent application for MagC technology is reverse osmosis desalination. This not only provides saltwater brine from the reverse osmosis process, but also supplies it at a pressure allowing circulation through the battery cell.

While other energy technologies are used to power reverse osmosis desalination, they show weak performance as compared to the MagC. Compared to the most advanced battery technologies commercially available, MagC has approximately four times more energy for the same mass of battery. In other words, the MagC can produce four times the amount of water per unit weight than current advanced battery technology!

The MagC battery, developed by Concurrent Technologies Corporation (CTC), is designed for use with water purification systems. The MagC employs a reject-water hookup and simple power hookup to the water purification system.

MagC for Water Purification



The MagC produces four times the amount of water per unit weight than any other advanced Li-ion battery technology!



MagC Features and Benefits:

- Provides high density energy source for powering reverse osmosis desalination.
- With optional salt-adder, MagC has the ability to power any water purification system with a reject stream, including ultrafiltration.
- No dependence on fossil fuels — it is a “green” battery technology with no caustic or harmful byproducts.
- Easy to use, and the entire battery is self-contained.
- Longer operational times without recharging. May be coupled to solar energy generation and energy storage, which increases operational time by an order of magnitude.
- Can be used as a generator with the ability to export power to standard 120VAC with optional inverter.
- Highly scalable design with sizing to any common AC/DC voltage, any power level up to 750 watts and any energy capacity up to 40 kWh.
- Optional hydrogen recovery module that can be fully integrated with a Hydrogen PEM fuel cell to generate additional energy from operation.
- May be configured as a primary battery (i.e., throwaway) or mechanically-rechargeable battery.

MagC Technical Specifications:

- Voltage: 12 VDC (Std.), optional other voltages including 120VAC
- Power: 125 watts (Std.), optional down to 5 watts and up to 750 watts
- Energy: 10 kWh (Std.), optional down to 80 Wh and up to 40 kWh
- Weight: ~25 pounds (Std.)
- Optional hydrogen recovery module: Up to 100 watts additional power generation

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