

Performance Characterization of a Vanadium Redox Flow Battery

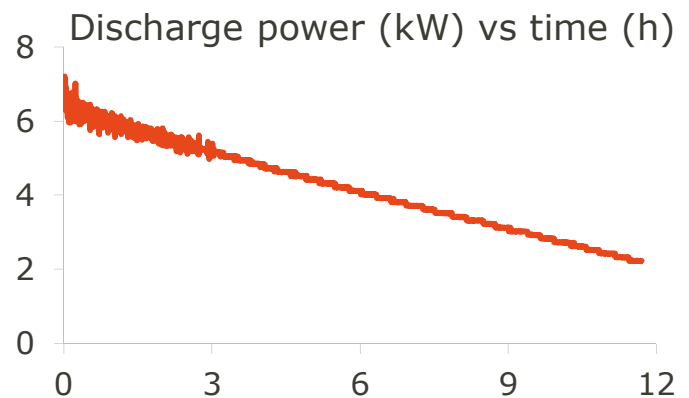
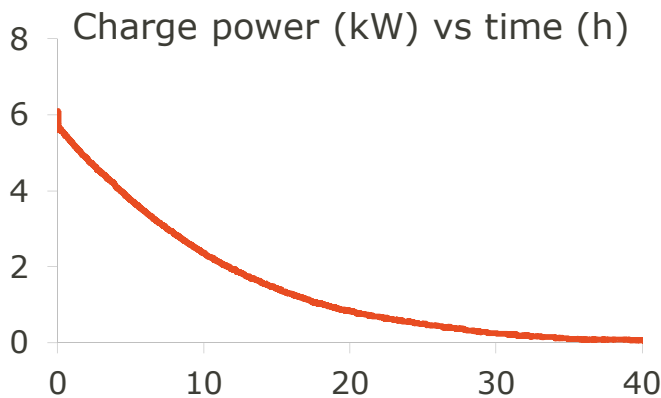
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Vanadium Redox Flow Battery

Specification	Value
Number of cells	40
Tank volume	2x1800 l
Maximum current	200 A
Nominal Power	5 kW
Storage capacity	60 kWh
Battery inverters nominal power	3x2.4 kW



Test 1 – Full Cycle Charge/Discharge Efficiency cell



Test 2 – State of Charge (SOC) vs Voltage of reference

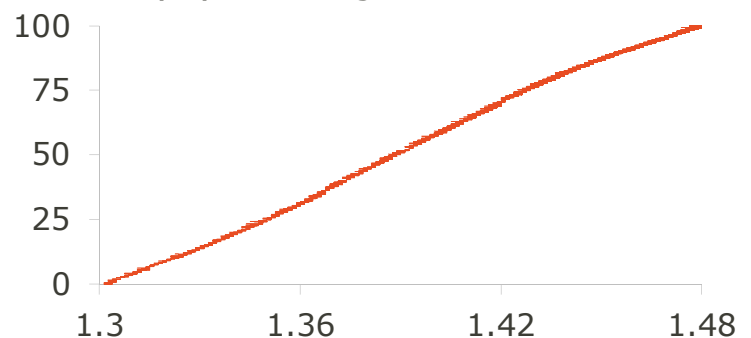
Conclusions:

The tests performed are in accordance with the specifications provided by the battery manufacturer.

The inverters voltage range limit the battery capacity to 60 kWh.

The reference cell voltage is not affected by the battery charge/discharge state. The reference cell allowed a precise SOC measurement.

SOC (%) vs Voltage of reference cell



Total Energy:

Charged 60.4 kWh

Discharged 49.0 kWh

Efficiency 81.1 %