

All Vanadium Redox Flow Batteries @ CSIR-CECRI

India has abundant solar resources for large-scale power generation. To store this energy effectively, Vanadium Redox Flow Batteries (VRFBs) offer a reliable, long-duration storage solution perfectly suited for pairing with renewable energy grids.

Main Features of Redox Flow Batteries

- Ability to independently scale power and energy components.
- Offers a significantly higher level of safety compared to traditional Li-ion batteries.
- Minimal degradation with repeated cycling, ensuring longer operational life.
- Environmentally benign, utilizing fully recyclable vanadium electrolyte.

Specification of 5 kW AVRFB Stack

- **Number of cells:** 38
- **Activated area:** 875 cm²
- **Limited Charge Voltage:** 60 V
- **Volume of Electrolyte:** 20 L
- **Maximum Power:** 10 kW
- **Rated energy efficiency:** 65-70%
- **Weight of the stack:** 160 kg

Prototype Redox Flow Battery – Photograph

