

## BATTERY TESTING LABORATORY

Aim of the battery laboratory is the performance evaluation and characterisation of batteries operating under specified conditions, battery testing according to international standards (such as capacity or endurance tests) and the development of guidelines for the improvement of battery usage depending on the application. The battery laboratory at CRES is equipped mainly with the following hardware:

- Battery cycling equipment: A number of programmable charge-discharge power units are available, which are capable of performing charge and discharge of batteries according to programmed control parameters. The power units range from low voltage and current to 300 VDC and current capacities up to 300A.
- High rate discharge tester: This equipment is designed for the high rate discharge test of 12V batteries. Its maximum discharge current is 1500A.
- Environmental chamber: An environmental chamber is available, providing control of temperature during battery tests. The chamber volume is 1m<sup>3</sup> and the temperature may vary between -20°C and +45°C.
- Water bath: A temperature controlled water bath for the immersion of batteries and control of their temperature during tests. The temperature range for control is between ambient and 40°C.



**Fig.1** Battery testers