

# VRPP

## Nickel Cadmium Valve Regulated Pocket Plate Batteries



The Valve Regulated Pocket Plate (VRPP) battery combines the unmatched reliability of Nickel Cadmium pocket plate technology, with the convenience of ultra-low maintenance requirements.

VRPP's controlled recombination system, with valve regulated venting means no water replenishment is needed during its lifetime under recommended operating conditions. VRPP performs in severe environments, in temperatures ranging from  $-20^{\circ}\text{C}$  to  $+50^{\circ}\text{C}$ , and can survive over-discharge, reversal or prolonged overcharge with no damage.

The Pocket Plate design consists of the active materials encapsulated between folded steel strips which are perforated from both sides. This double perforation method increases the effective surface area by 30% and helps in better utilization of the active material thereby making the battery more efficient. In addition to the Pocket Plate design, the VRPP batteries use a special separator which allows gases generated during charging to recombine inside the cell thus ensuring no water is lost. This makes the VRPP battery virtually maintenance-free. A self resealing type vent cap is also employed to release any excess pressure developed inside the cell during abnormal operation.

The Batteries are available in tough, fusion-welded polypropylene cell containers and lids. For special requirements, the containers can be offered in flame-retardant polypropylene.

HBL's batteries are supplied with the electrolyte, inter-cell connectors and related hardware and accessories required for normal operation and maintenance. Suitable battery racks are also offered as options.

## VRPP benefits

- ▷ Long life
- ▷ Reliable and predictable performance
- ▷ Resistant to abuse, electrical and mechanical
- ▷ Zero or ultra- low maintenance
- ▷ No sudden death failure due to internal corrosion
- ▷ Wide operating temperature range
- ▷ Low installation and life cycle cost
- ▷ Negligible gassing
- ▷ Excellent high rate discharge capability
- ▷ Good performance at low temperature



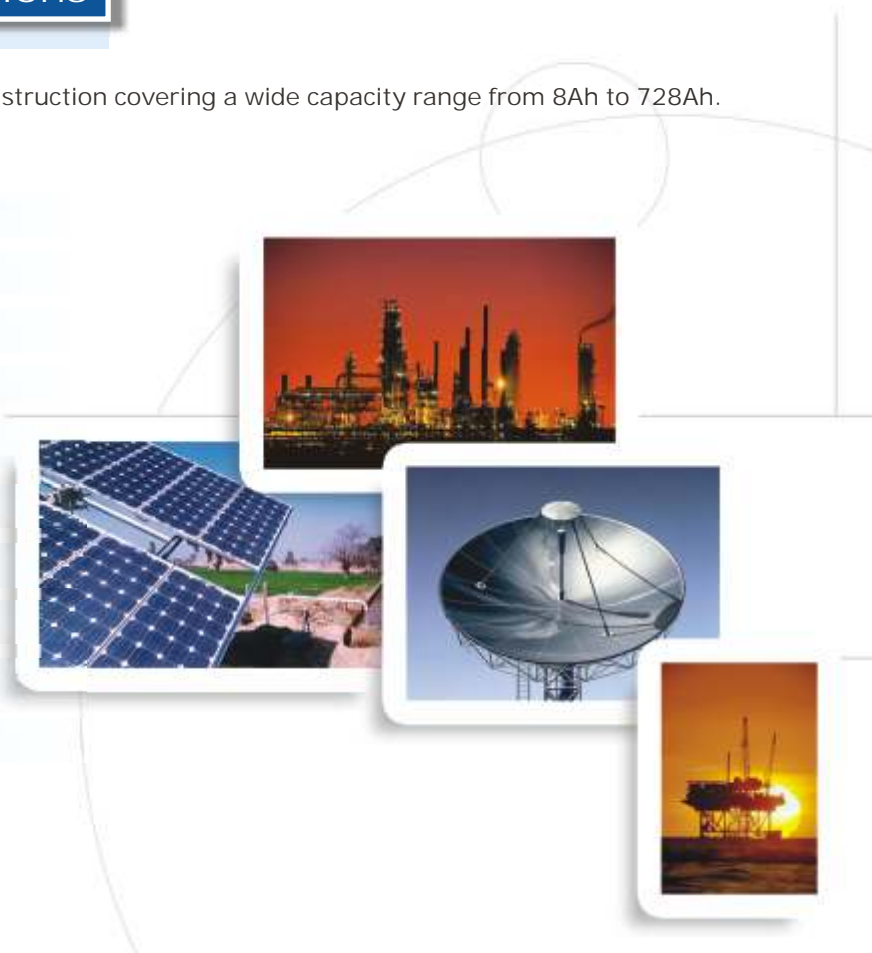
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The fully integrated modern factory, supported by strong process management and quality controls makes HBL one of the best nickel-cadmium battery production facilities in the world.

## Battery Range and Applications

HBL's VRPP batteries are available in block construction covering a wide capacity range from 8Ah to 728Ah. Typical applications include

- ▷ Emergency lighting
- ▷ Railway signaling
- ▷ Switchgear
- ▷ Telecommunications
- ▷ Fire and Security systems
- ▷ UPS
- ▷ Offshore oil and gas
- ▷ Photovoltaics
- ▷ Process control
- ▷ Mass transit



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