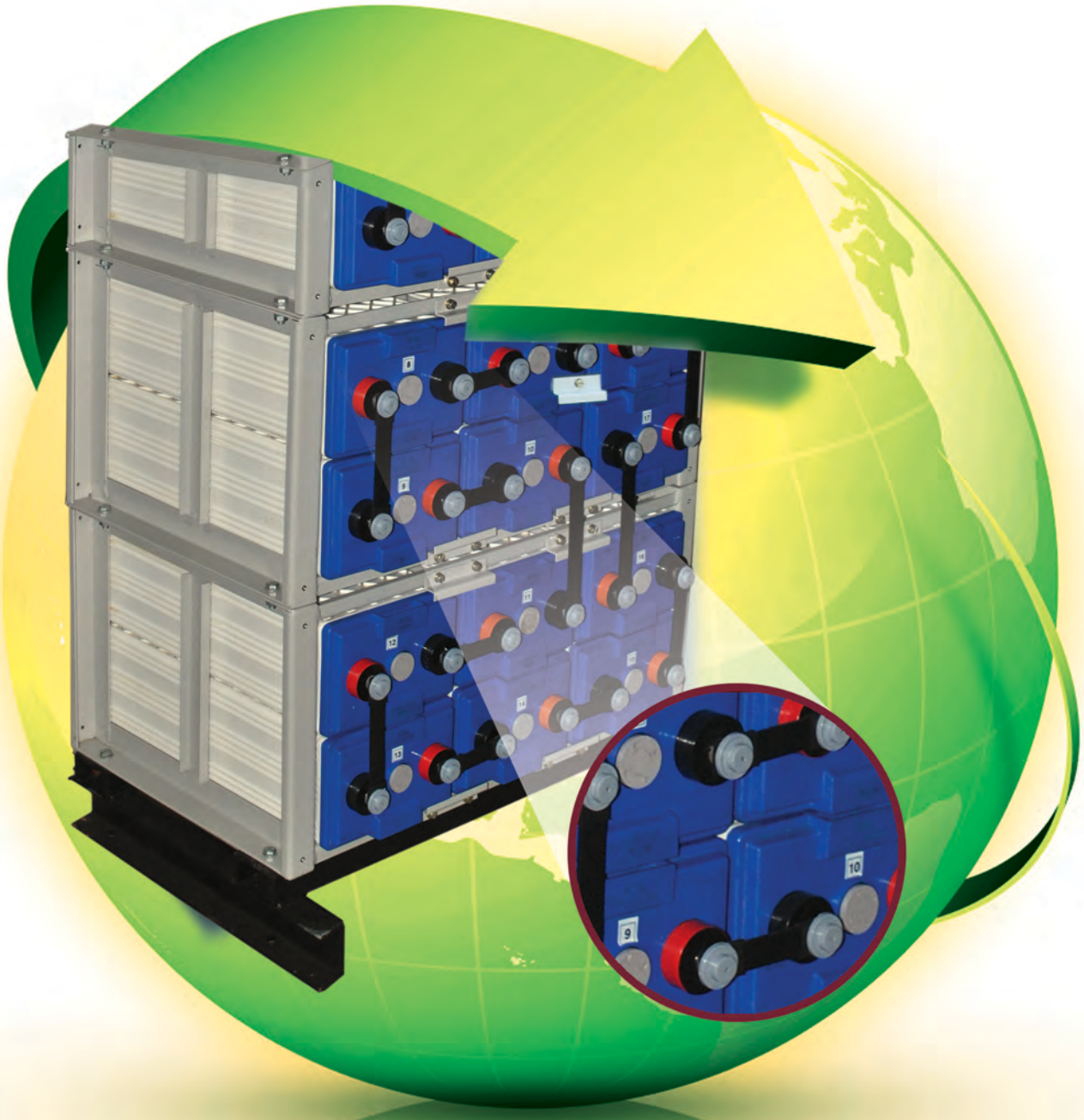
HBL®

Triumph™ PLUS

Advanced VRLA 2V Series



A Cyclic Battery with High Reliability and Consistent Performance

HBL Power Systems Ltd is the pioneer in the design, development & manufacture of specialized batteries in India for Telecom, Railways, Industry and Defence Applications. HBL offers its customers the most appropriate technology based on the applications & field requirement.

Products designed & developed by HBL are-

- MF VRLA-AGM
- Triumph Plus VRLA
- Tubular Gel VRLA
- Tubular LMLA
- Pure lead Tin Engine start batteries,
- Nickel-Cadmium

Telecom BTS sites depend heavily on standby power i.e. batteries and DG due to poor & unreliable power availability. The challenge in maintaining site uptime through uninterrupted power is highly dependent on the consistent & reliable performance of the battery.

Operating conditions in these areas subject the batteries to deep cycling & partial state of charge operation. Hence the need is to install batteries which can perform under harsh operating conditions & effectively address application specific requirements.

HBL's Triumph Plus batteries are designed to meet the growing need of reliable power for various types of telecom sites.

Triumph Plus

Triumph Plus series is an advanced valve regulated lead acid maintenance free battery. Heavy-duty thick plates with unique manufacturing process makes these batteries the most suitable for high rate cyclic life, recovery from deep discharges & efficient performance under Partial State of Charge (PSOC) operating conditions. Also unique design features improve temperature tolerance hence suitable for higher operating temperature/ Outdoor operations

Features & Benefits

- Thick plate for better cyclic performance and longer life
- Fast charging capability up to 0.3C rate
- Superior performance over wide operating temperature range (-20°C to +55°C)
- Sealed & Maintenance free operation
- Easier cell handling
- Non-spillable design

Applications

- Backup power for critical applications
- Telecom BTS Sites
- Hybrid Telecom (Solar / Wind)
- Offshore Applications

Design Features

Positive Plate

High thickness Radial grid design improves the charge efficiency & cycle life.

Grid

High purity, special grade HBC™ alloy for best cyclic performance at elevated temperature.

Paste

Specially formulated Tetrabase® paste to enhance the cycle life from deep discharge.

Separator

Highly absorbent multi-layered separator with extra compression improves plate integrity and gives longer cyclic life.

Electrolyte

Sulphuric acid with special / proprietary additives for improved performance at higher temperatures.

Container/Cover

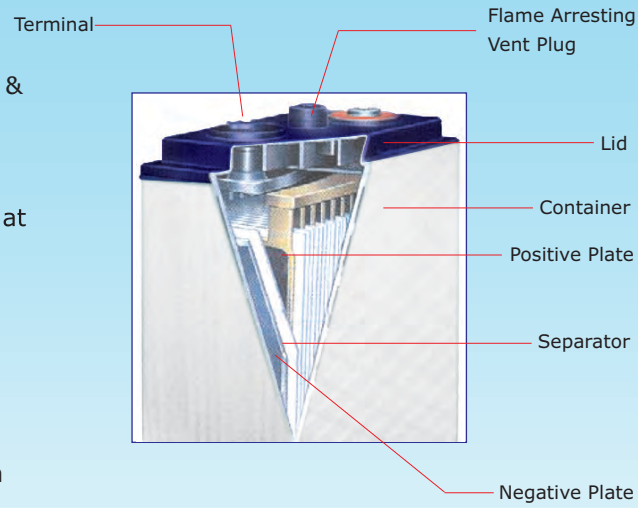
Ribbed container design for improved structural integrity and handle provision for ease during installation.

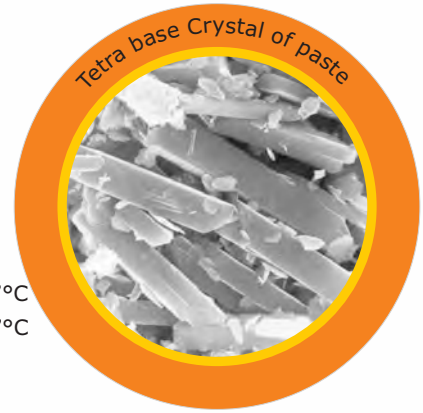
Module

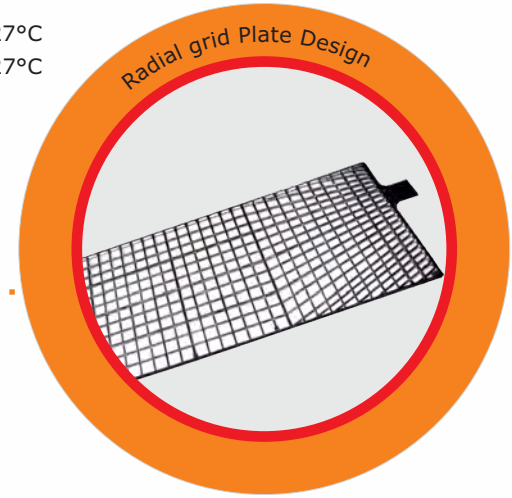
Specially designed battery enclosure for better thermal management.

Inter cell

Insulated copper connectors for safety.







Performance

Float life:

20 years designed life at 27°C on full float with recommended charging methods

Cyclic life:

1400 cycles at 80% Depth of Discharge at 27°C

Standards : Conforms to

IEC 60896-21 & 22.
TEC/GR/TX/BAT-001/04.June 2011 (with Amd. 1)
IS 15549.
IEEE 1188, 1189.

Operating temperature:

-20°C to +55°C

Operation

Charger settings:

Constant potential with current limit

Float Application:

Float Charge : 2.230 ± 0.005 V/cell at 27°C
Boost Charge : 2.320 ± 0.005 V/cell at 27°C
Charge Current : 0.2C Minimum

Cyclic Application:

Float Charge : 2.270 ± 0.005 V/cell at 27°C
Boost Charge : 2.350 ± 0.005 V/cell at 27°C
Charge Current : 0.15C Min
0.30C Max

AC Ripple:

Ripple content shall not exceed 3% RMS in charging system

Certifications:

BUREAU VERITAS Certification ISO 14001 UKAS QUALITY MANAGEMENT
BUREAU VERITAS Certification ISO 9001 UKAS QUALITY MANAGEMENT
BUREAU VERITAS Certification OHSAS 18001 UKAS QUALITY MANAGEMENT

Product Specifications

Model	Nominal Capacity (AH) at C10	No. of basic cells per module	Discharge current in Amps				Module Dimensions & Weights			
			10 Hr. (1.75 ECV)	5 Hr. (1.75 ECV)	3 Hr. (1.75 ECV)	1 Hr. (1.70 ECV)	Length (± 10mm)	Depth (± 10mm)	Height (± 10mm)	Weight (±5% kg)
TP - 5207	225 Ah	12	22.50	40	61	135	696	500	370	190
TP - 6207	240 Ah	12	24.00	43	65	144	696	500	370	196
TP - 5209	300 Ah	12	30.00	54	81	180	696	500	370	239
TP - 6209	320 Ah	12	32.00	58	86	192	696	500	370	244
TP - 5211	375 Ah	6	37.50	67	101	225	696	500	269	155
TP - 6211	400 Ah	6	40.00	72	108	240	696	500	269	159
TP - 5213	450 Ah	6	45.00	81	122	269	696	500	269	175
TP - 6213	480 Ah	6	48.00	86	130	287	696	500	269	177
TP - 5215	525 Ah	6	52.50	94	142	314	696	500	327	198
TP - 6215	560 Ah	6	56.00	101	151	335	696	500	327	207
TP - 5217	600 Ah	6	60.00	108	162	359	696	500	327	219

- Nominal Capacity is at a discharge rate of 10 hours to an end cell voltage of 1.75 V at 27°C
- Dimensions given in the General arrangement drawing will supersede the dimensions mentioned in the catalogue
- Other special design and configurations of battery systems for specific application shall be provided on request. The above table is not exhaustive. Cells of intermediate capacities are also available.
- In accordance with its policy of continuous improvement the company reserves the right to change specifications and designs without notice. Illustrations, data, dimensions and weights given in this brochure are for guidance only and cannot be held binding on the company

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