

**HBL**<sup>®</sup>

An ISO 9001, ISO 14001 and  
OHSAS 18001 Certified Company

Since  
**1977**

Design. Development. Manufacturing

Reliability Redefined

**OPTIMUZ**

**SEALED MAINTENANCE FREE  
VRLA BATTERIES**



## Why OPTIMUZ

Today's global businesses demand a 24X7 uptime environment making Uninterrupted Power Supplies (UPS) an integral part of the infrastructure. Batteries are the single most critical element of UPS system. HBL takes pride in positioning itself as the industry leader in manufacturing reliable, safe, high-quality Sealed Maintenance Free batteries for UPS applications.

HBL has a state of the art manufacturing facilities with high quality standards and is accredited with ISO 9001, 14001 and OHSAS 18001.



## Design and construction features

### Container and cover sealing

Heat sealing / Special epoxy sealing for better joint strength

### Separator

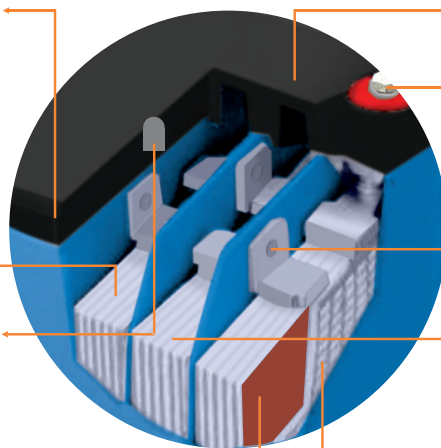
High porosity Absorbent Glass Mat separator (AGM) with low internal resistance

### Safety valve

Self releasing, pressure regulating EPDM valve

### Positive plate

Flat pasted plate with corrosion resistant cyclic lead alloy



### Container

High impact PPCP/ABS container for better strength

### Terminals

High conductivity brass terminals for better electrical conductivity

### Inter Cell Welding

Withstands high rate performance

### Electrolyte

High purity sulphuric acid along with additives to maximize shelf life and to improve heat dissipation

### Negative plate

Flat pasted plate with lead calcium alloy for maintenance free characteristics

## Applications

### UPS Systems

Banking, Financial Services & Insurance  
IT / ITES

### Telecom

Optical Network Terminal  
Telecom Equipment

### Power Back up

CFL/LED Lamps  
Railway Emergency Lighting  
Solar Power Equipment  
Medical Instruments  
Fire & Security Alarm Systems

## Feature benefit snapshot

### Cyclic grid alloy for positive plate

Higher cycle life

### Radial grids

Low internal resistance

Quick recharge

High discharge performance

### AGM Separator

Greater compression

Longer life

### Copper alloy screw type terminals

Better electrical conductivity

Absolute positive contact

Zero wear & tear

### Deep discharge capability

Withstands frequent & long power failures

### Low self discharge

Longer shelf life

### Product conformance

JIS C 8702 - I

Choose **OPTIMUZ** for UPS applications across IT/ITES, Banking, Financial services & Insurance

## Charge settings at 25°C

### Dual setting

Boost 14.0V Float 13.7V

### Single setting 13.8V

### Cyclic 14.1V

### Current limit (% of rated capacity)

Minimum : 10%

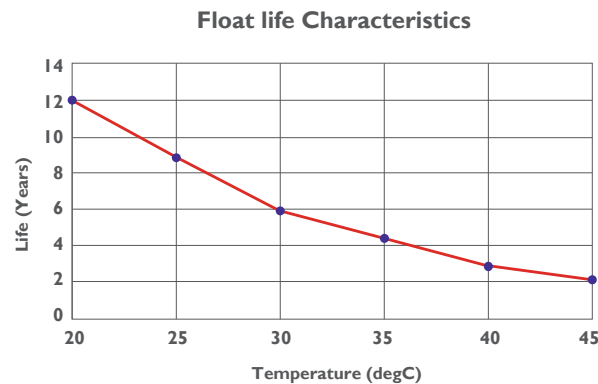
Maximum : 20%

### Temperature compensation for charge voltage

Compensation of 18mV to be reduced for every 1°C rise in temperature and vice versa.

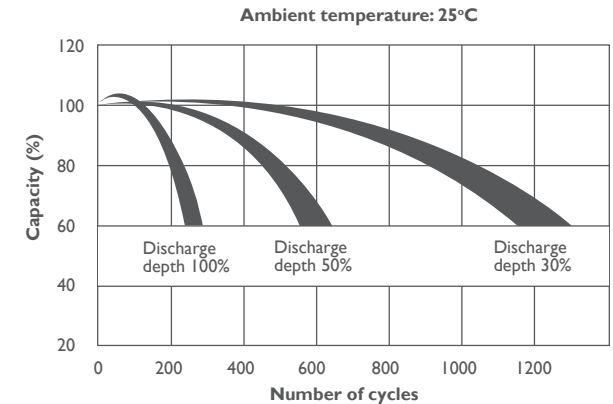
## Design float life

The float life of the battery is defined in calendar years at a standard temperature of 25°C, when floated with a charge voltage of 2.25 volts per cell. The expected float life of batteries at various average ambient temperatures, when floated with a voltage of 2.25 volts per cell is shown in graph.



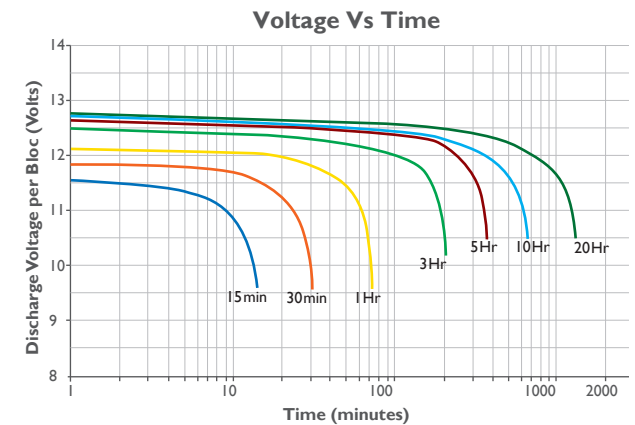
## Cycle life

Battery cycle life is highly dependent on the depth of discharge, recharge and ambient temperature that the battery experiences during each cycle. The number of cycles related to the depth of discharge with respect to % capacity is shown in graph below.



## Discharge characteristics

The curves in the figure illustrate the typical discharge characteristics at an ambient temperature of 25°C. The C<sub>20</sub> expresses the nominal capacity of the battery at 20 hr discharge rate.





## Constant current discharge performance

Bty. Model	Discharge Current/ Battery to 1.75VPC (Amps)							
	10 min	15 min	30 min	1 Hour	3 Hour	5 Hour	10 Hour	20 Hour
OPTI 7	13.2	10.6	6.80	4.28	1.73	1.16	0.65	0.35
OPTI 12	22.6	18.2	11.7	7.3	2.97	1.99	1.11	0.60
OPTI 17	32.1	25.9	16.5	10.4	4.21	2.83	1.58	0.85
OPTI 26	49.0	39.5	25.3	15.9	6.4	4.32	2.41	1.30
OPTI 42	79.2	63.9	40.8	25.7	10.4	7.0	3.90	2.10
OPTI 65	123	99	63.2	39.7	16.1	10.8	6.0	3.25
OPTI 75	141	114	72.9	45.8	18.6	12.5	7.0	3.75
OPTI 85	152	122	79.1	49.3	19.8	13.4	7.7	4.25
OPTI 100	179	143	93.4	57.6	23.3	15.8	9.1	5.00
OPTI 120	215	172	112	69.1	28.0	19.0	10.9	6.00
OPTI 150	269	215	140	86.4	35.0	23.7	13.7	7.50
OPTI 200	358	286	186	115	46.7	31.6	18.2	10.0

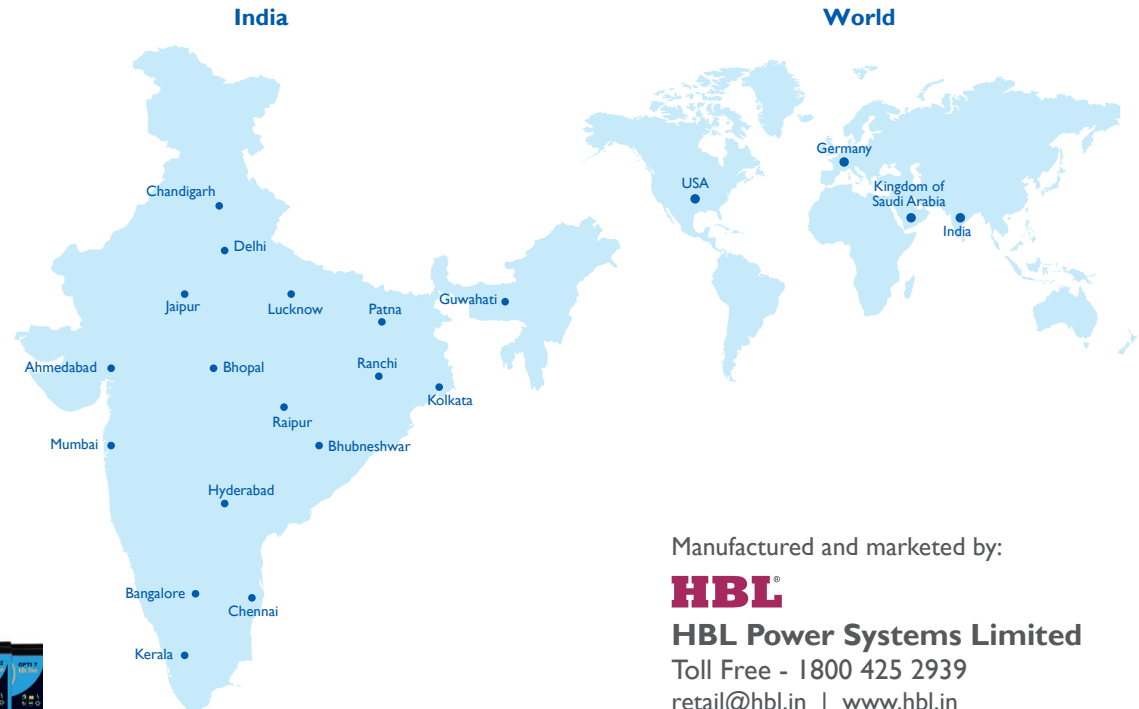
## Constant power discharge performance

Bty. Model	Discharge Watts / Cell to 1.75VPC (Watts)							
	10 min	15 min	30 min	1 Hour	3 Hour	5 Hour	10 Hour	20 Hour
OPTI 7	24.2	20.0	13.0	8.3	3.41	2.30	1.30	0.71
OPTI 12	41.5	34.2	22.3	14.3	5.9	3.95	2.23	1.21
OPTI 17	58.8	48.5	31.6	20.2	8.3	5.6	3.16	1.72
OPTI 26	90	74.2	48.4	30.9	12.7	8.6	4.83	2.62
OPTI 42	145	120	78.2	49.9	20.5	13.8	7.8	4.24
OPTI 65	225	185	121	77.2	31.7	21.4	12.1	6.6
OPTI 75	259	214	140	89.1	36.6	24.7	13.9	7.6
OPTI 85	279	228	152	95.2	39.0	26.6	15.5	8.6
OPTI 100	329	269	179	112	45.9	31.3	18.2	10.1
OPTI 120	394	322	215	134	55.1	37.6	21.8	12.1
OPTI 150	493	403	268	168	68.9	47.0	27.3	15.1
OPTI 200	657	537	358	224	91.9	62.6	36.4	20.2

## Product specifications

Bty. Model	Dimensions ( in mm) +/- 5 mm			Weight in kg. (+/-5%)
	Length	Width	Height	
OPTI 7	151	65	100	2.20
OPTI 12	151	98	100	3.75
OPTI 17	181	76	171	6.00
OPTI 26	166	125	175	9.00
OPTI 42	197	165	170	13.5
OPTI 65	330	168	176	21.0
OPTI 75	350	168	176	23.5
OPTI 85	410	175	225	26.5
OPTI 100	410	175	225	30.0
OPTI 120	410	175	225	33.0
OPTI 150	525	220	225	47.0
OPTI 200	525	220	225	55.0

## Our sales offices



Manufactured and marketed by:

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