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**CSB**  
**Battery**  
**Catalogue**



# CSB Deep Cycle Series

## GP series 4.5 ~ 100A/h

GP Series is a general purpose battery with a design life up to **5 years** in standby service or more than **260 cycles** at 100% discharge in cycle service. As with all CSB batteries, all are rechargeable, highly efficient, leak proof and maintenance free.

### Features

- With an isolated seal, it is not limited to direction or position in place.
- It can be put in a horizontal way, vertical way and side way.
- Long life, low self-discharge rate and high reliability.
- It has safety, low resistance so recharge is easy and energy output is more remarkable.
- Cycle or standby (or float) use.
- High rate discharge construction.
- Deep discharge recoverability



### ► Deep-cycle lead-acid batteries

"Deep-cycle" lead-acid batteries have much thicker plates to aid their longevity. The main benefit of the lead-acid battery is its low cost; the main drawbacks are its large size and weight for a given capacity and voltage. Lead-acid batteries should never be discharged to below 20% of their full capacity, because internal resistance will cause heat and damage when they are recharged. A deep-cycle lead-acid battery is designed to deliver a consistent voltage as the battery discharges. In contrast, starter batteries (e.g. most automotive batteries) are designed to deliver sporadic current spikes. A deep-cycle lead-acid battery is designed to deliver a consistent voltage as the battery discharges. The key structural difference between deep cycle batteries and cranking batteries are the lead plates, which are solid in deep-cycle batteries and composed of porous sponge-like plates in starting batteries. **Some batteries that are labelled "deep-cycle" do not possess these solid lead plates, however, and are actually "hybrid" batteries.**



GP1245



GP1272



GP12260



GP12400



GP12650

Model	Nominal Voltage	Nominal Capacity (20hr/Ah)	Weight (Approx. kg)	Internal Resistance Approx. (m Ω)	Dimension			Max. Charging Current (A)	Charging Voltage	
					Height (h) mm	Length (l) mm	Width (w) mm		Standby Use	Cycle Use
GP645	6	4.5	0.84	19.00	108	70	48	1.35	2.275V ±0.025/Cell at 25°C	2.24V ±0.05/ Cell at 25°C
GP672	6	7.2	1.27	13.50	100	151	34	2.16		
GP6120	6	12	1.94	7.50	100	151	50	3.60		
GP1222	12	2.2	0.90	63.00	66	178	34	0.66		
GP1245	12	4.5	1.66	40.50	108	92.8	69.9	1.35		
GP1272	12	7.2	2.55	21.00	100	151	65	2.16		
GP12120	12	12	3.84	14.00	100	151	98	3.60		
GP12170	12	17	5.85	14.50	167	181	76.2	5.10		
GP12200	12	20	6.40	13.00	167	181	76.2	6.00		
GP12260	12	26	9.18	9.40	125	166	175	7.80		
GP12340	12	34	11.33	8.00	178	195.6	130	10.20		
GP12400	12	40	14.50	8.70	170	197	165	12.00		
GP12650	12	65	21.50	8.00	174	394.4	166	19.50		
GP121000	12	100	35.00	6.00	174	511.8	175.2	30		

Please refer to [www.rectifier.co.za](http://www.rectifier.co.za) for detailed specifications.

# HRL series

**H**RL Series is specially designed for high rate discharge and has a design life of **10 years**. Its characteristics are **high discharge efficiency** and ability to withstand high heat due to PP case construction.. It can be used for more than 260 cycles at 100% discharge in cycle service.



## Features

- HRL stands for "High Rate Long Life." The series is a modern hi-tech energy application product.
- High energy, high intensity, high quality output electrical energy product series.
- Its characteristics are small volume, light weight, high discharge efficiency.
- It is best used for high intensity power supply needs.
- Same volume same quality level can advance high energy output density for an increase of 20%.
- It is best suited for high rate intensive applications and high efficient UPS.
- High rate discharge construction.
- CSB's HRL Series has a long life and high reliability as well as a low self-discharge rate.
- CSB's HRL Series has a low resistance so recharging is easy and energy output is superior.
- Deep discharge recoverability.
- Complies with IATA/ICAO Special Provision A67 for air transport.
- Classified per MG Amendment 27 as a non- hazardous material for water transport.
- Recognized by DOT as "Dry Charge" 49 CFR 171-189 for surface transport.

## ▶▶ VRLA - Valve regulated lead acid

VRLA stands for valve regulated lead-acid and is the designation for low maintenance lead-acid batteries, also called recombinant batteries. VRLA batteries are commonly further classified as Absorbent glass mat batteries and Gel batteries. These batteries are often colloquially called sealed lead-acid batteries, but this term is misleading: a sealed battery would be a safety hazard due to overpressure risks when overcharging, and there is always a safety valve present, hence the name valve-regulated. Sealed is opposed to vented (also called flooded). Because VRLA batteries use much less electrolyte (battery acid) than traditional lead-acid batteries, they are also occasionally referred to as an "acid-starved" design. The name "valve regulated" does not wholly describe the technology; these are really "recombinant" batteries, which means that the oxygen evolved at the positive plates will largely recombine with the hydrogen ready to evolve on the negative plates, creating water, thus preventing water loss. The valve is strictly a safety feature in case the rate of hydrogen evolution becomes dangerously high.



**HRL12330W**



**HRL12390W**

Model	Nominal Voltage	Nominal Capacity (20hr/Ah)	Weight (Approx. kg)	Internal Resistance Approx. (m Ω)	Dimension (h) mm	Dimension (l) mm	Dimension (w) mm	Max. Charging Current (A)
HR1221W	12	5.2	1.9	25	102	90	70	2.1
HR1224W	12	6.5	2.06	21	94	151	51	2.4
HR1234W	12	9	2.26	20	94	151	65	3.4
HRL1280W	12	20	6.5	9	159	181	76.2	8
HRL12110W	12	28	9.9	9	167	165	125	11
HRL12150W	12	38	11.75	7	172	195	130	15
HRL12200W	12	50	17.6	5.9	208	228	139	20
HRL12280W	12	70	25.8	4	215	257	168	28
HRL12330W	12	83	29.6	4	215	309	170	33
HRL12390W	12	98	33	4	218	343	170	39
HRL12500W	12	125	45.7	3.7	278	343	170	50

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## TPL series

TPL-series batteries use the latest **Valve Regulated Lead-Acid (VRLA) technology**, yielding an expected life of **12 years under normal float charge**. Front terminal access gives the battery more flexible installation and maintenance in 19" & 23" relay rack and cabinet enclosures. These batteries feature high performance & long life and they do not leak. They are also small, light and maintenance-free. Like all other CSB batteries, they are rechargeable and highly efficient, with ISO/UL recognition.

### Features

- Flame-retardant container and cover compliance with UL94
- Front terminal access for easy installation and maintenance.
- 19" and 23" relay rack for telecom applications.
- Flame-arresting vents for long life and safety.
- Improved new Pd-Ca-Sn alloy for corrosion resistance.
- Special designed container to maintain structural integrity in high operating temperatures.
- Advanced separator offers gas recombination that is over 99% efficient.
- Lower internal resistance.
- Superior rate discharge characteristics.



Model	Nominal Voltage	Nominal Capacity (8hr/Ah)	Weight (Approx. kg)	Internal Resistance Approx. (m Ω)	Dimension			Max. Charging Current (A)	Max Discharge Current 5 sec (A)	Terminal type
					Height (h) mm	Length (l) mm	Width (w) mm			
TPL12800	12	80	36	4.50	257	513	113	24.00	800	12
TPL12900	12	90	36	4.50	256	513	113	27.00		
TPL121000	12	100	36	4.50	256	513	113	30.00		
TPL121250	12	125	47	4.10	324	557	126	37.50		
TPL121350	12	135	56	4.10	324	557	126	40.50		
TPL121500	12	150	56	4.10	324	557	126	45.00		

## XTV series

XTV-Series batteries are specially designed for **extreme temperatures (-20 to 50°C)**. Innovative valve regulated Lead-Acid (VRLA) technology enables a **12-year design life** in standby use, or more than **400 cycles** at 100% discharge. All CSB batteries are rechargeable, highly efficient, maintenance free, leak proof, useable in any orientation and ISO/UL recognized.

### Features

- Innovative plate structure dramatically improves service life under harsh conditions.
- Newly formulated lead paste sustains performance while reducing thermal runaway risk.
- High-grade separator and new electrolyte formula extend battery life.
- Uniform plate formation makes capacity consistent.
- No-spill design.
- Useable in any orientation.
- Maintenance free.



Model	Nominal Voltage	Nominal Capacity (20hr/Ah)	Weight (Approx. kg)	Internal Resistance Approx. (m Ω)	Dimension			Max. Charging Current (A)	Max Discharge Current 5 sec (A)	Terminal type
					Height (h) mm	Length (l) mm	Width (w) mm			
XTV1272	12	7.2	2.75	21.00	100	94	65	2.16	130	F2
XTV12750	12	75	29.50	6.50	214	211	169	22.50	800	I2
XTV12850	12	85	31.20	6.50	217	214	170	25.50	800	I2
XTV12950	12	95	32.40	6.50	277	274	170	28.50	800	I2

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## MSV series and MSJ series 2V Cells

The MSV-series is a long service life battery up to 15 years expected life and up to 20 years for the MSJ series under normal float charge. As with all CSB batteries, all are rechargeable, highly efficient, leak proof and maintenance free.

### APPLICATIONS

Telecom Systems, VRLA Technology, Power Equipment, Fire Alarm/Security Systems, Emergency Lighting, UPS systems, Solar Battery Systems, Back-up Power for testing and Measuring instrument.

### Features

- MSV Series - Long service life (up to **15 years life MSV Series** in float service at 25 °C temperature) (up to **20 years life MSJ Series** in float service at 25 °C temperature), through newly formulated lead-calcium-tin alloy with high corrosion resistance.
- CSB's MSV series battery range is in line with EURO BAT specifications for "High Integrity"
- MSJ Series - (Over 10 years of service life in floating charge conditions).
- Water adding and specific gravity measurements are not required. There is also no need for an equalization charge, which reduces maintenance cost.
- CSB's MSV and MSJ series battery is manufactured in accordance with JIS C8704 and qualified by the Battery Equipment Approval Committee of Japan for use in fire alarms, security systems and emergency lighting systems (Approval No. 00C248)
- CSB's MSV series meets the NQAS requirements by NTT (Approval No. NQAS 0008)
- **Proven service and supply records for telecommunications.**



Model	Nominal Voltage	Nominal Capacity (8hr/Ah)	Weight (Approx. kg)	Internal Resistance Approx. (m Ω)	Dimension			Max. Charging Current (A)	Max Discharge Current 5 sec (A)	Service life	
					Height (h) mm	Length (l) mm	Width (w) mm				
MSV200	2	200	13.70	0.40	339	170	106	60	1200	15 years in float service	
MSV300	2	300	18.40	0.40	339	170	150	90			
MSV400	2	400	24.70	0.40	339	197	170	120			2400
MSV500	2	500	32.20	0.40	339	241	171	150			3000
MSV650	2	650	41.40	0.40	339	307	171	195			3900
MSV800	2	800	50.60	0.40	339	373	174	240			4800
MSV1000	2	1000	64.40	0.40	339	471	171	300			6000

Model	Nominal Voltage	Nominal Capacity (10hr/Ah)	Weight (Approx. kg)	Internal Resistance Approx. (m Ω)	Dimension			Max. Charging Current (A)	Max Discharge Current 5 sec (A)	Service life
					Height (h) mm	Length (l) mm	Width (w) mm			
MSJ150	2	150	13.65	0.91	365	331	106	45	900	20 years in float service
MSJ200	2	200	15.30	0.90	365	331	106	60	1200	
MSJ260	2	260	17.50	0.36	339	331	131	78	1560	
MSJ300	2	300	22.20	0.88	365	331	150	90	1800	
MSJ350	2	350	22.30	0.87	365	331	150	105	2100	
MSJ400	2	400	28.00	0.41	339	331	170	120	2400	
MSJ500	2	500	36.50	0.84	365	331	171	150	3000	
MSJ650	2	650	46.60	0.81	365	331	171	195	3900	
MSJ800	2	800	57.00	0.78	365	331	174	240	4800	
MSJ1000	2	1000	72.75	0.74	365	331	171	300	6000	

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