



SINCE 1995

Your CLEAN-GREEN Energy Solution

FAT SERIES

Front Access Terminal Batteries for
Telecom/IT Applications



Product Development...

A Brief History of Fullriver Battery Mfg. Co., Ltd. Product Development...

Fullriver Battery Manufacture Co., Ltd. was founded in **1995** and launched the **HGL series**. The HGL series batteries are mainly for general use purposes, i.e. low power UPS, Security & Alarm Systems, Emergency Lighting, Office machines, etc.

The normal voltages for the HGL series are 6V and 12V; the capacity is ranged from 0.8Ah to 260Ah.

In 2001, the **HGXL series** was launched. This series is a 2V stationary maintenance-free battery, designed as high capacity, long life and high power batteries. These are mainly used for high capacity UPS systems, telecommunications and solar battery systems applications. The capacity of this series is ranged from 50 AH to 3000 AH.

In 2003, the **HGHL series** was launched. This series performs well in both high rate discharge and float service applications. This series was specially designed for UPS standby power supply. It is also available for other float service applications, such as emergency power supply, communication power supply, etc. the power of this series is ranged from 35W to 910W.

In 2004, the **FAT series** and the **DC series** were launched. The **FAT series** also has the characteristics of high rate discharge. They are widely used in UPS systems and telecommunications. The FAT series features front terminal connections for fast and easy installation and maintenance. The monobloc's compact design is suitable for 19", 23" and ETSI racking. The capacity of FAT series is ranged from 55Ah to 175Ah.

The **DC series** is specially designed and used for deep cycle applications, which may require many more cycles. This series also has excellent recovery from deep discharge. The DC series is mainly used in golf trolley, golf caddy, forklift, electric wheelchairs, floor cleaning machines, marine, photovoltaic systems, and more.

In 2006, the **SPV series** was launched. This series has a much higher current discharge at lower temperatures and offers a surprisingly high current capability. These models can also be fitted with a protective steel case and TP brass terminals. They are mainly used for car audio accessories or as an engine start power source.

In 2008, we started research, development, and manufacturing of the **HC series**. This series is especially used for engine starting, which requires superior cranking performance at lower temperatures, for high current discharge. These batteries can also be fitted with the protective steel case and TP brass terminals.

Fullriver Batteries Qualifications, Approvals, and Certifications



- **Network Access License for Telecommunications Equipment**
(Ministry of information Industry.PRC)
- **DOT 49CFR173.159 (d) (i) and (ii)** (Non-hazardous shipping)
- **IEC 61056-1; 2004** (General purpose lead-acid batteries, valve regulated types)
- **IEC 60896-2: 2004** (Stationary lead-acid batteries, valve regulated types)
- **JIS C8704-2: 2006** (Stationary lead-acid batteries, valve regulated types)
- **JIS C8702-1: 2003** (Small-sized valve regulated lead-acid batteries)



FAT SERIES



Key Features

- Absorbent Glass Mat technology for efficient gas recombination
- Special lead calcium alloy, good corrosion resistance and high recovery capacity.
- Front terminal connections for fast and easy installation and maintenance.
- Carry handles for ease of installation
- Suitable for 19", 23" and ETSI racking
- One way self resealing safety vent for long life guarantee
- Low self discharge rate
- ABS case and cover on request.
- Compliant with BS 6290 Part 4.
- Designed to be compliant with Telcordia SR-4228

Specifications

- Nominal Voltage 12Volts
- Design Life 10 years @25°C
- Operating Temperature -15°C to 50 °C
- Grid alloy Calcium/Tin lead alloy
- Plates Flat pasted
- Separator AGM (Absorbent Glass Mat)
- Active material Very high purity lead (>99.99)
- Case and cover ABS(V0 on request)
- Charge Voltage Float use: 2.27-2.30 VPC@25°C
Cycle use: 2.40-2.49VPC@25°C
Max. Charge current: 0.25C20
- Electrolyte Sulphuric acid (A/R.)
- Safety Vent Opening pressure 10-35 Kpa

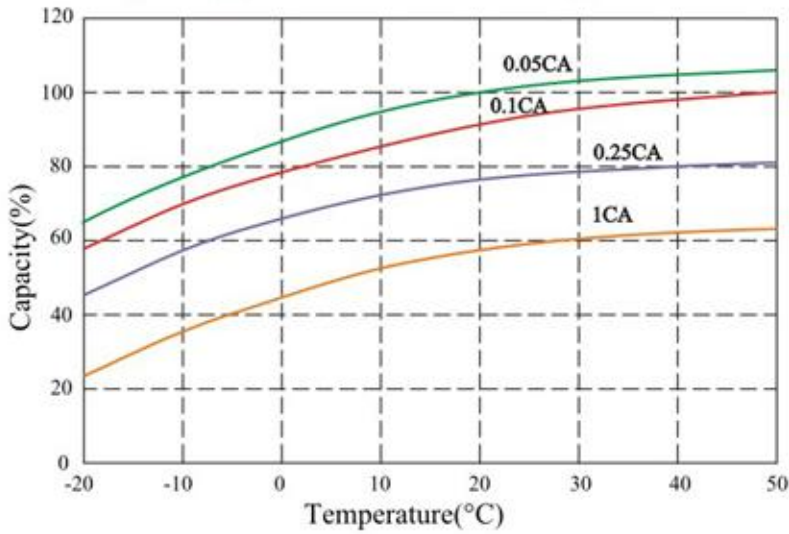
Application

- Telecom
- UPS
- Broadband
- Electric Utility
- Railroad Signal
- Central Office

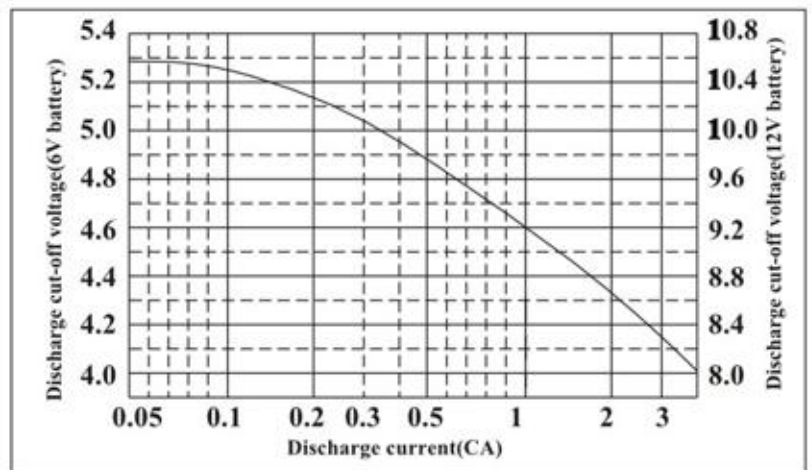


Characteristics

Capacity Vs. Ambient Temperature



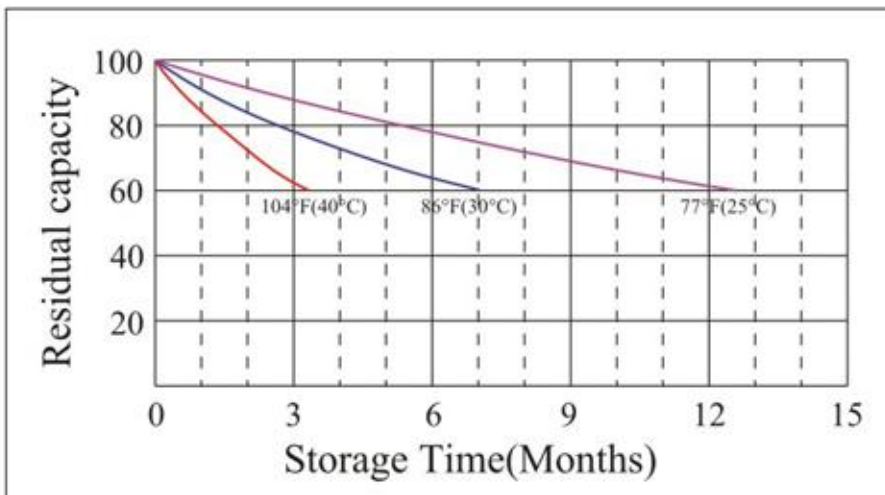
Discharge Current Vs. Cut of Voltage



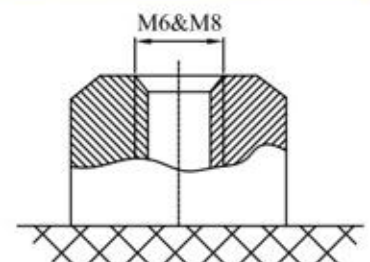
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FAT

Residual capacity test result



Terminal Configuration

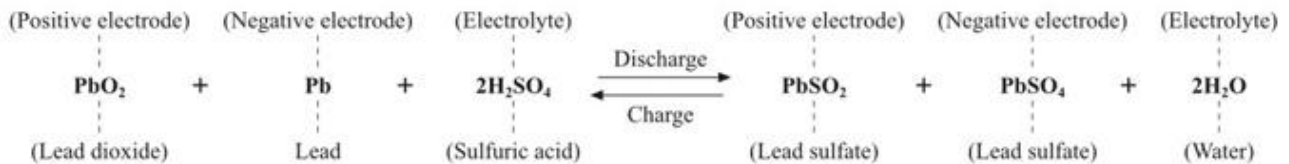


Electrochemical Reactions on Electrodes

The electrochemical reaction processes of the sealed lead-acid battery (negative electrode recombination type) are described below.

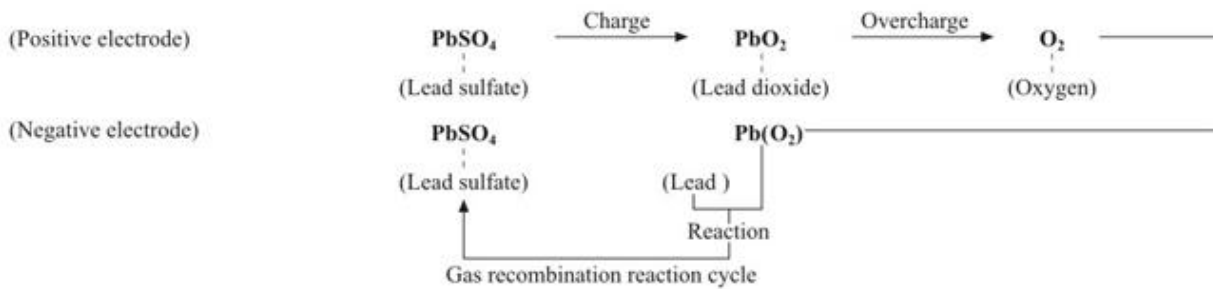
Where "charge" is the operation of supplying the rechargeable battery with direct current from an external power source to

change the active material in the negative plates chemically, and hence to store in the battery electric energy in the form of chemical energy. "Discharge" is the operation of drawing out electric energy from the battery to operate external equipment.



In the final stage of charging, an oxygen-generating reaction occurs at the positive plates. This oxygen transfers inside the battery, then is absorbed into the surface of the negative plates

and consumed. These electrochemical reaction processes are expressed as follows.



General Specifications

Type	Volts	Nominal capacity C8 1.75 V/C 25°C Ah	Nominal capacity C10 1.75 V/C 25°C Ah	Nominal capacity C20 1.75 V/C 25°C Ah	Length		Width		Height		Weight (approx.)		Terminal
					mm	inch	mm	inch	mm	inch	kg	lbs	
FAT55-12	12	51	53	55	278	10.94	106	4.17	223	8.78	17.0	37.48	M6
FAT80-12	12	74.5	77	80	562	22.13	114	4.49	188	7.40	27.2	58.74	M6
FAT95-12	12	86	90	95	395	15.55	105	4.13	266	10.47	29.2	64.24	M6
FAT100-12	12	90	95	100	508	20	111	4.37	227	8.94	32.5	71.65	M8
FAT110-12	12	99	104	110	394	15.51	110	4.33	286	11.26	33.6	74.07	M8
FAT125-12	12	113	120	125	550	21.65	110	4.33	240	9.45	39.3	86.46	M8
FAT160-12	12	146	154	160	550	21.65	110	4.33	287	11.30	48.4	106.70	M8
FAT175-12	12	163	168	175	544	21.42	125	4.92	317	12.48	56.9	125.44	M8