

# USG12-90(12V90AH)

## Applications

- ◆ Telecom application (indoor or outdoor BTS)
- ◆ Solar System
- ◆ Wind system
- ◆ Hybrid solution



## Design

- ◆ Positive plate: flat plate and grid-plate in PbCaSn-alloy
- ◆ Negative plate: flat plate and grid-plate in PbCaSn-alloy with long life expander material
- ◆ Electrolyte: sulphuric acid with a density of 1.29 kg/l(25 °C), fixed as GEL by fumed silica
- ◆ Separator: high quality microporous separator
- ◆ Safety valve: valve with flame arrestor

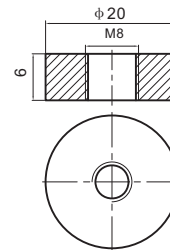
## Features

- ◆ Long life: 12 years design life
- ◆ Good deep discharge resilience performance
- ◆ Special plate design, long cycle lifetime
- ◆ High thermal capacity, reduce the risk of thermal out of control and drying hard, can be used in bad environment
- ◆ Flame retardant container UL94-V0

### Terminal

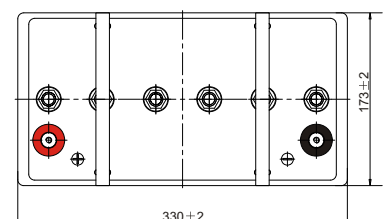
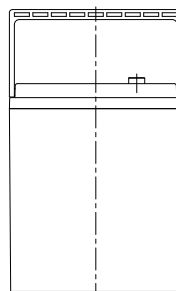
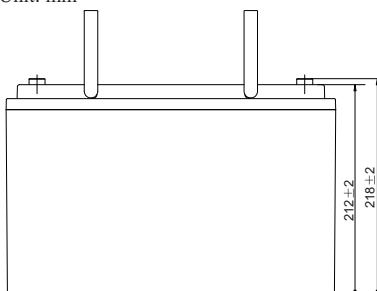
Terminal Model: T11

Unit: mm



### Layout

Unit: mm



## General Purpose GEL Battery-USG Series

### Specification

Nominal Voltage	12V	
Rated Capacity (Ah)	90.0 AH/9.00A	(10hr, 1.80V/cell, 25°C)
	70.8 AH/23.6A	(3hr, 1.75V/cell, 25°C)
	59.4 AH/59.4A	(1hr, 1.60V/cell, 25°C)
Dimension	Length	330.0 ± 2mm
	Width	173 ± 2mm
	Container Height	212.0 ± 2mm
	Total Height	218.0 ± 2mm
Approx. Weight	Approx 33.1 kg	
Terminal	T11	
Container Material	ABS	
Max. Discharge Current	900A (5s)	
Internal Resistance	Approx 5.8mΩ	
Operating Temp. Range	Discharge: -20~55°C Charge: 0~40°C Storage: -20~50°C	
Capacity Affected by Temperature	40°C	103%
	25°C	100%
	0°C	86%
Cycle Use	Initial Charging Current less than 22.5A.	
	Voltage: 14.4V at 25°C	Temp. coefficient -30mV/°C
Standby Use	Equalization voltage: 14.1V at 25°C Temp. coefficient -18mV/°C	
	Float voltage: 13.5V at 25°C	Temp. coefficient -18mV/°C
Self Discharge	USG series batteries may be stored for up to 9 months at 25°C and then a freshening charge is required.	
	For higher temperatures the time interval will be shorter.	



ISO9001



ISO14001

### Performance

#### Constant Current Discharge (Amperes) at 25 °C (77°F)

F.V/Time	20min	30min	45min	1h	2h	3h	4h	5h	6h	7h	8h	9h	10h	20h
1.85V/cell	86.0	67.5	51.5	43.1	27.4	20.8	17.3	14.9	12.5	11.0	10.0	9.11	8.61	4.69
1.80V/cell	98.5	75.5	56.8	47.6	29.6	22.3	18.3	15.7	13.1	11.6	10.4	9.58	9.00	4.88
1.75V/cell	110.8	83.0	61.4	51.0	31.4	23.6	19.2	16.3	13.6	12.0	10.8	9.86	9.15	4.98
1.70V/cell	119.3	88.9	65.2	53.9	33.3	24.6	19.8	16.8	14.0	12.4	11.1	10.13	9.39	5.04
1.67V/cell	124.2	92.3	67.5	55.9	34.1	25.4	20.3	17.1	14.3	12.6	11.3	10.26	9.50	5.09
1.60V/cell	134.5	98.9	72.5	59.4	35.5	26.4	21.1	17.7	14.6	12.8	11.5	10.48	9.69	5.16

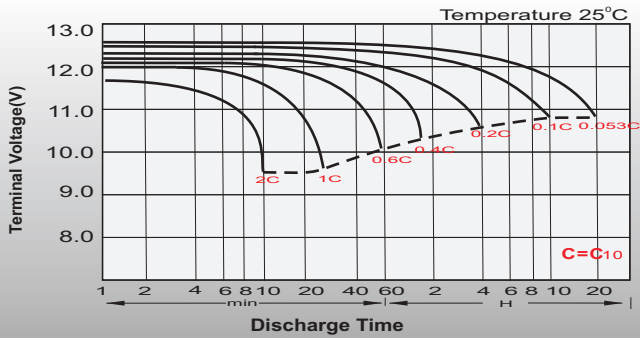
#### Constant Power Discharge (Watts/cell) at 25 °C (77°F)

F.V/Time	20min	30min	45min	1h	2h	3h	4h	5h	6h	7h	8h	9h	10h	20h
1.85V/cell	164.5	130.0	99.8	83.9	53.4	40.8	33.9	29.4	24.7	21.9	19.8	18.1	17.2	9.34
1.80V/cell	186.0	143.9	109.3	92.1	57.5	43.6	35.8	30.8	25.8	22.9	20.7	19.0	17.9	9.72
1.75V/cell	206.7	156.8	117.3	98.1	60.8	45.9	37.4	31.9	26.7	23.6	21.3	19.6	18.2	9.90
1.70V/cell	220.2	166.5	123.6	103.2	64.1	47.7	38.5	32.8	27.5	24.4	21.9	20.1	18.6	10.02
1.67V/cell	226.6	171.2	127.1	106.5	65.4	49.0	39.4	33.4	27.9	24.6	22.2	20.3	18.8	10.11
1.60V/cell	242.9	181.5	135.5	112.4	67.8	50.7	40.7	34.3	28.5	25.1	22.5	20.7	19.2	10.24

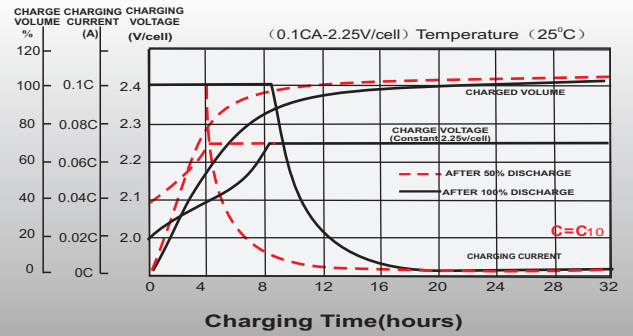
General Purpose GEL Battery-USG Series

Characteristic Curve

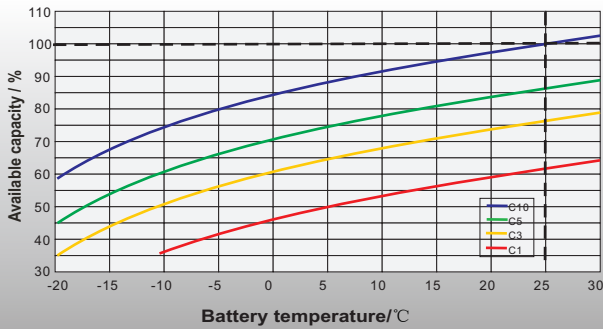
Discharge Characteristics



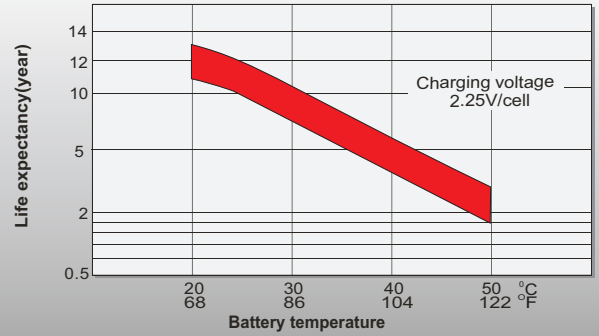
Float Charging Characteristics



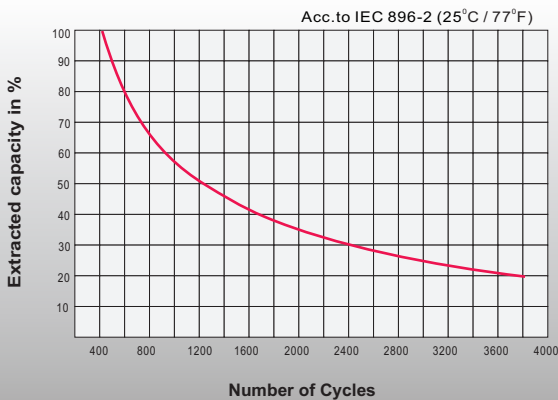
Temperature Effects in Relation to Battery Capacity



Effect of Temperature on Long Term Float Life



Cycle Life in Relation to Depth of Discharge



General Relation of Capacity VS. Storage Time

