



# MSV 600

## 2V 600Ah

MSV 600 is a long service life battery up to 15 years expected life under normal float charge. As with all CSB batteries, all are rechargeable, highly efficient, leak proof and maintenance free.



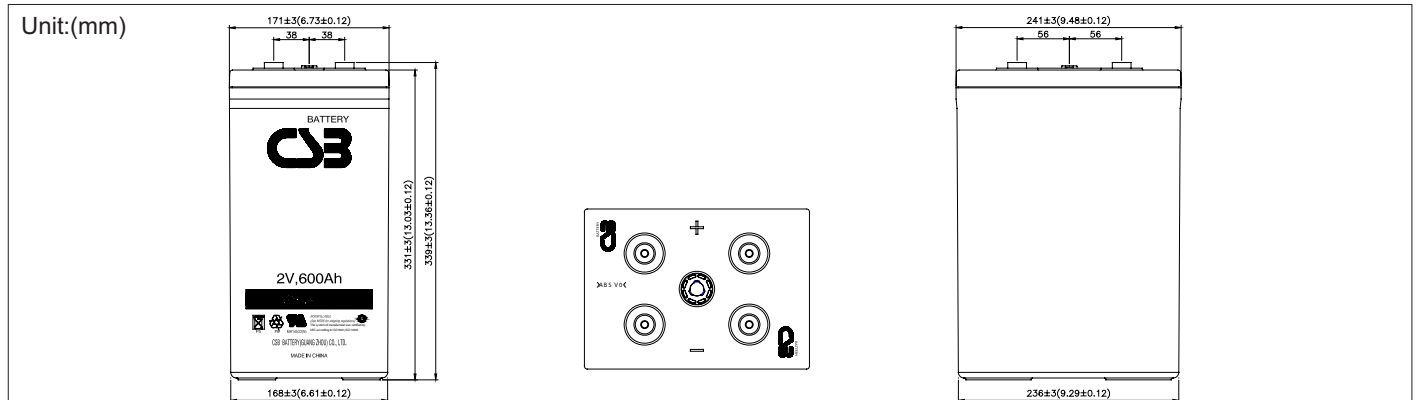
### Specification

Cells Per Unit	1
Voltage Per Unit	2
Capacity	600Ah @ 10hr-rate to 1.80V per cell @25 °C (77°F)
Weight	Approx. 33.5 kg (73.86 lbs)
Maximum Discharge Current	3600A(5sec)
Internal Resistance	Approx. 0.40 mΩ
Operating Temperature Range	Discharge: -20°C~50°C (-4°F~122°F) Charge: 0°C~40°C (32°F~104°F) Storage: -20°C~40°C (-4°F~104°F)
Nominal Operating Temperature Range	25°C±3°C (77°F±5°F)
Float Charging Voltage	2.23±0.02/Cell at 25 °C (77°F) Temp. Coefficient ±3.3mV/°C (± 1.8mV/°F)
Recommended Maximum Charging Current Limit	180A
Equalization and Cycle Service	2.35V Temps coefficient ±3.3mV/°C (± 1.8mV/°F)
Terminal	Pb-Ca-Sn Alloy(L / Recessed Terminal)
Container Material	The container and cover are made of flame retardant plastics which meet ABS(UL 94-V0/File E88637) specifications. The oxygen index level is higher than 28



CSB-manufactured batteries are UL-recognized components under UL924 and UL1989. CSB is also certified by ISO 9001 and ISO 14001.

### Dimensions



### Constant Current Discharge Characteristics Unit:A (25°C, 77°F)

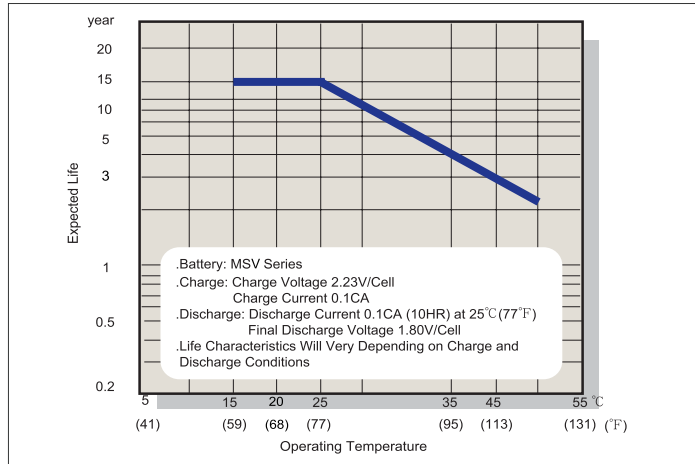
F.V/Time	15MIN	30MIN	60MIN	2HR	3HR	4HR	5HR	6HR	8HR	10HR
1.60V	953	632	388	230	172	137	115	100	80.0	67.0
1.65V	906	607	371	222	164	132	110	97.0	77.0	65.0
1.70V	845	572	364	218	161	131	109	95.0	76.0	64.0
1.75V	750	509	335	206	152	124	104	90.0	73.0	62.0
1.80V	646	469	316	197	146	122	101	89.0	72.0	60.0
1.83V	546	422	292	186	139	113	96.0	84.0	68.0	58.0

### Constant Power Discharge Characteristics Unit:W (25°C, 77°F)

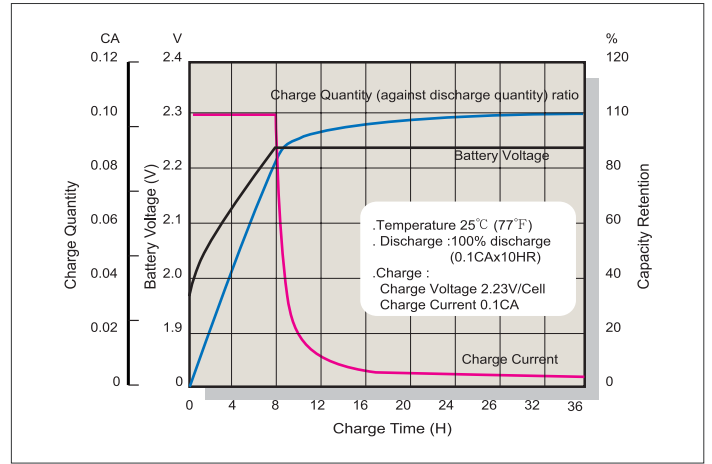
F.V/Time	15MIN	30MIN	60MIN	2HR	3HR	4HR	5HR	6HR	8HR	10HR
1.60V	1668	1124	692	416	312	251	212	188	150	127
1.65V	1652	1118	690	410	311	248	210	186	149	126
1.70V	1520	1040	668	404	301	245	208	182	146	125
1.75V	1367	937	624	386	290	236	199	174	143	121
1.80V	1176	864	588	370	278	229	193	170	138	118
1.83V	995	779	542	348	265	211	185	161	132	114

- All mentioned values are average values.
- Cycle Information : 300~400 cycles@DOD80%, 600~700 cycles@DOD50%, 900~1200 cycles@DOD30%

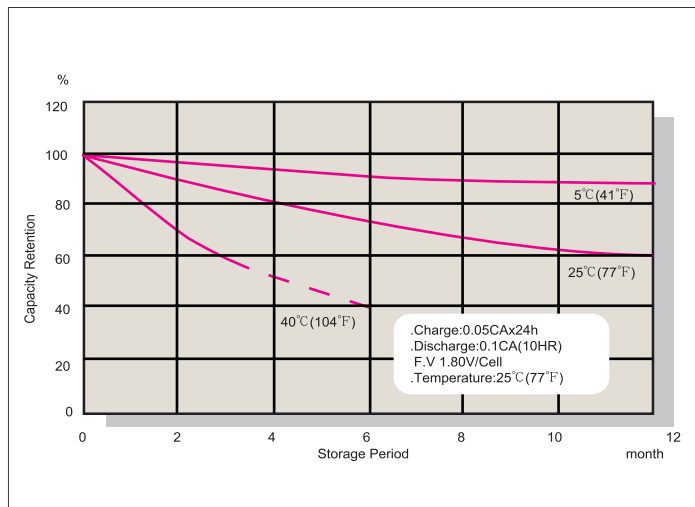
### Expected Life V.S Operating Temperature



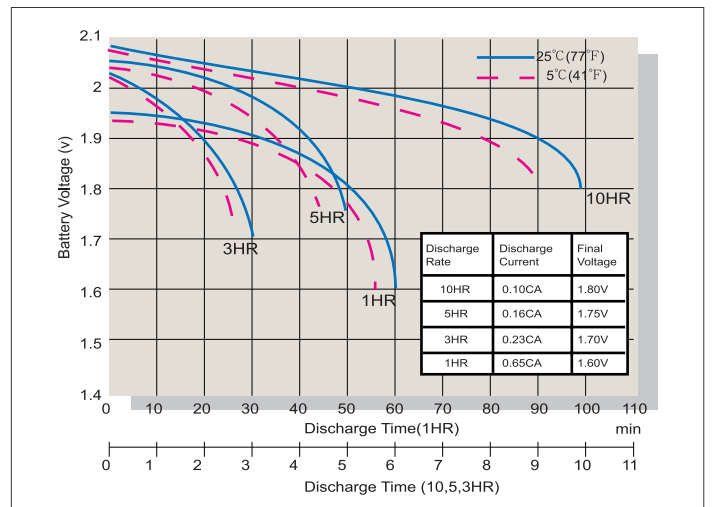
### Typical Constant Voltage Charge Characteristics



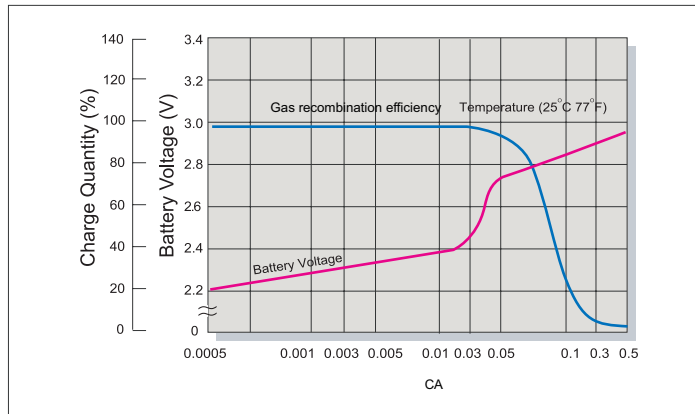
### Capacity Retention Characteristics



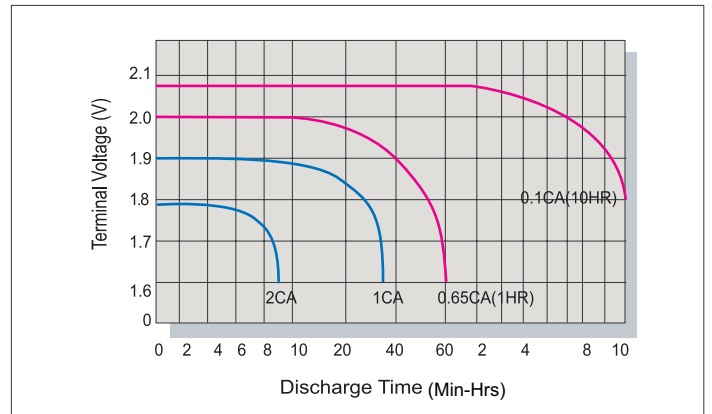
### Discharge Characteristics



### Oxygen Recombination Efficiency Chart



### Terminal Voltage (V) and Discharge Time 25°C (77°F)



### Charging Procedures

Application	Charge Voltage (V/Cell)			Max. Charge Current
	Temperature	Set Point	Allowable Range	
Standby	25°C (77°F)	2.23	2.21~2.25	0.3C

### Discharge Current VS. Discharge Voltage

Discharge Current (A)	Final Discharge Voltage (V/Cell)
0.05C > A	1.90
0.15C > A ≥ 0.05C	1.80
0.20 C > A ≥ 0.15C	1.75
0.40 C > A ≥ 0.20 C	1.70
A > 0.40 C	1.60

Sales Office URL: [WWW.CSB-BATTERY.COM](http://WWW.CSB-BATTERY.COM)

**CSB BATTERY CO., LTD.**  
 TAIWAN OFFICE  
 Tel: +886-2-2555-5600  
 Fax: +886-2-2555-3300  
 E-mail: service@csb-battery.com.tw

**CSB BATTERY LOGISTICS (SHANGHAI) CO., LTD.**  
 SHANGHAI OFFICE  
 Tel: +86-21-5046-1622, 5046-0833  
 Fax: +86-21-5064-3314  
 E-mail: chinasl@csb-battery.com

**CSB BATTERY TECHNOLOGIES, INC**  
 USA OFFICE  
 Tel: +1-817-244-7777/1-8003 CSBUSA(272872)  
 Fax: +1-817-244-4445  
 E-mail: csb@csb-battery.com

**CSB BATTERY LOGISTICS (SHANGHAI) CO., LTD.**  
 BEIJING OFFICE  
 Tel: +86-10-6597-8060, 6597-8070  
 Fax: +86-10-6597-8050  
 E-mail: chinasl@csb-battery.com

**CSB BATTERY OF NETHERLANDS B.V**  
 NETHERLANDS OFFICE  
 Tel: +31(0) 180 418 140  
 Fax: +31(0) 180 418 327  
 E-mail: eurosales@csb-battery.com

**CSB BATTERY LOGISTICS (SHANGHAI) CO., LTD.**  
 SHENZHEN OFFICE  
 Tel: +86-755-8831-6488/6396/16356  
 Fax: +86-755-8831-6548  
 E-mail: she@csb-battery.com.cn