



# EV8-170 (8V170Ah)

EV (Electric Vehicle) series is specially designed for frequent deep cycle discharge. By using the specially designed active material and strong grids, the EV series battery offers reliable performance in high load situations and can deliver more than 300 cycles at 100% DOD. Suitable for mobility scooters, electric wheel chairs, golf buggies etc.

## Specification

Cells Per Unit	4
Voltage Per Unit	8
Capacity	170Ah@10hr-rate to 1.80V per cell @25°C
Weight	Approx. 34.5 Kg( Tolerance $\pm 2\%$ )
Max. Discharge Current	1700 A (5 sec)
Internal Resistance	Approx. 3.2 m $\Omega$
Operating Temperature Range	Discharge: -40°C~60°C Charge: -20°C~50°C Storage: -40°C~60°C
Normal Operating Temperature Range	25°C $\pm$ 5°C
Float charging Voltage	9 to 9.2 VDC/unit Average at 25°C
Recommended Maximum Charging Current Limit	51A
Equalization and Cycle Service	9.6 to 9.8 VDC/unit Average at 25°C
Self Discharge	VMF Valve Regulated Lead Acid (VRLA) batteries can be stored for more than 6 months at 25°C. Self-discharge ratio less than 3% per month at 25°C. Please charge batteries before using.
Terminal	Terminal F22 / double terminals
Container Material	A.B.S. UL94-HB, UL94-V0 Optional.



MH28539



G4M20206-0910-E-16



THE INTERNATIONAL CERTIFICATION NETWORK

CERTIFICATE

Postcode: 421001

is in conformity with

ISO 14001:2004 Standard



THE INTERNATIONAL CERTIFICATION NETWORK

CERTIFICATE

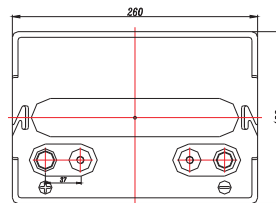
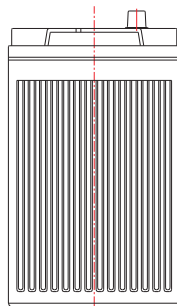
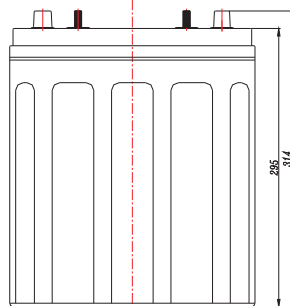
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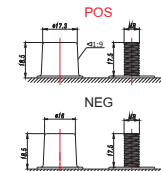
OHSAS 18001:1999 Standard

## Dimensions

Unit: mm Dimension: 260(L)  $\times$  182(W)  $\times$  314(H)



Terminal F22



## Constant Current Discharge Characteristics: A (25°C)

F.V/Tim e	5 MIN	10 MIN	15 MIN	30 MIN	1 HR	2 HR	3 HR	4 HR	5 HR	8 HR	10 HR	20 HR
6.40 V	607.8	447.5	330.2	193.3	110.5	67.40	45.46	37.80	30.12	21.74	17.69	9.365
6.67 V	590.2	425.8	323.4	189.9	108.3	66.90	45.12	37.63	29.94	21.56	17.52	9.191
6.80 V	572.7	410.7	318.3	186.4	105.6	66.39	44.27	37.45	29.75	21.38	17.34	9.016
7.00 V	514.3	379.0	303.1	185.0	103.4	65.88	43.23	37.10	29.38	21.21	17.17	8.841
7.20 V	464.2	345.6	279.4	181.8	100.3	64.70	42.52	36.23	29.15	20.85	17.01	8.751
7.40 V	396.3	308.9	250.6	170.2	96.7	61.83	41.79	34.48	28.42	19.97	16.82	8.396

## Constant Power Discharge Characteristics: W (25°C)

F.V/Tim e	5 MIN	10 MIN	15 MIN	30 MIN	1 HR	2 HR	3 HR	4 HR	5 HR	8 HR	10 HR	20 HR
6.40 V	4275	3209	2436	1475	851.3	533.4	360.4	300.4	240.6	173.0	141.5	76.90
6.67 V	4190	3111	2397	1457	849.2	531.7	358.9	300.0	238.8	172.2	140.6	75.56
6.80 V	4143	3028	2379	1444	842.7	528.5	353.4	299.4	238.0	171.1	139.3	74.17
7.00 V	3771	2820	2306	1451	826.0	526.8	345.5	296.6	235.7	169.7	138.0	72.77
7.20 V	3435	2599	2131	1427	802.7	519.0	341.4	289.8	233.2	166.8	136.6	71.37
7.40 V	3017	2373	1956	1344	774.4	496.6	335.5	275.8	227.8	159.8	134.9	69.32

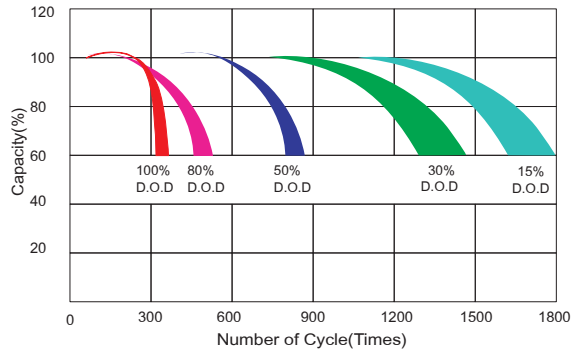
All mentioned values are average values (Tolerance  $\pm 2\%$ ).

# EV8-170

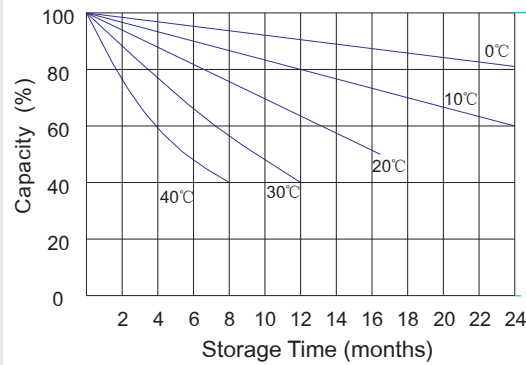
8V170Ah



## Life characteristics of cyclic use



## Storage characteristic



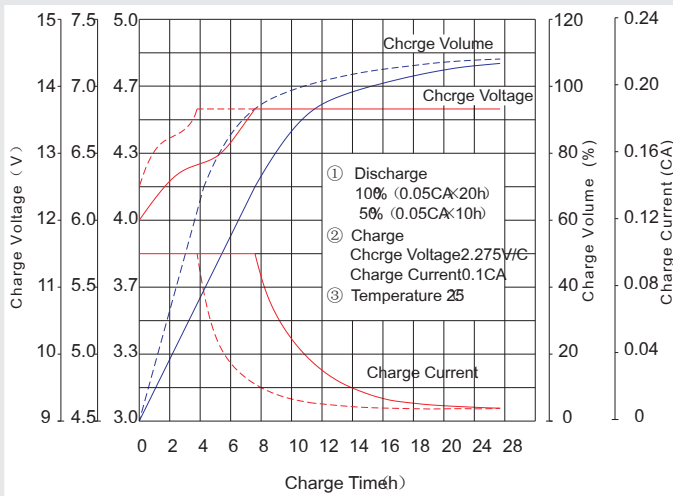
Supplementary charge required (Carry out supplementary charge before use if 100% capacity is required)

Supplementary charge required before use. This supplementary charge will help to recover the capacity and should be made as early as possible.

Supplementary charge may often fail to recover the capacity. The battery should never be left standing till this state is reached

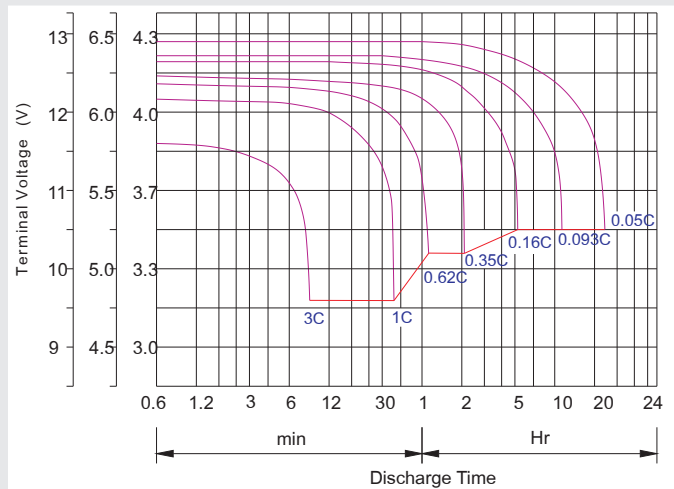
Supplementary charge and storage guidelines

## Charge characteristic Curve for standby use



- ① Discharge  
10% (0.05CA×20h)  
5% (0.05CA×10h)
- ② Charge  
Charge Voltage 2.275V/C  
Charge Current 0.1CA
- ③ Temperature 25

## Discharge characteristic Curve



## Capacity Factors With Different Temperature

Battery Type		-20°C	-10°C	0°C	5°C	10°C	20°C	25°C	30°C	40°C	45°C
GEL Battery	6V&12V	50%	70%	83%	85%	90%	98%	100%	102%	104%	105%
	2V	60%	75%	85%	88%	92%	99%	100%	103%	105%	106%
AGM Battery	6V&12V	46%	66%	76%	83%	90%	98%	100%	103%	107%	109%
	2V	55%	70%	80%	85%	92%	99%	100%	104%	108%	110%

## Discharge C urrent V S. Discharge V oltag

Final Discharge Voltage V /cell	1.75V	1.70V	1.60V
Discharge Current (A)	(A) ≤ 0.2C	0.2C < (A) < 1.0C	(A) ≥ 1.0C

Charge the batteries at least once every six months, if they are stored at 25°C.

Charging Method:

Constant Voltage	-0.2Cx2h+2.4-2.45V/cellx24h, Max. Current 0.3C
Constant Current	-0.2Cx2h+0.1Cx12h
Fast	-0.2Cx2h+0.3Cx4h

Bolt	M5	M6	M8
Terminal	F3 F4 F13 F18 T25 T26	F8 F11 F12-1 F15	F5 F9 F10 F12 F14 F16
Torque	6~7N·m	8~10N·m	10~12N·m

## Maintenance & Cautions

### Cycle service

- ※ Avoid battery over discharge, especially battery series connection use.
- ※ Charged with recommend voltage, ensure battery can be full recharged.
- In general, recharge capacity should be 1.1-1.15 times discharge capacity.
- ※ Effect of temperature on cycle charge voltage: -4mV/Cell.
- ※ There are a number of factors that will affect the length of cyclic service.
- The most significant are depth of discharge, ambient temperature, discharge rate, and the manner in which the battery is recharged.
- Generally speaking, the most important factors is depth of discharge.