

# EV Motive AGM

## Electric Vehicle AGM Series

### GENERAL INFORMATION

EV Motive AGM series is a special **NORTHBATT** Absorbent Glass Mat technology series, designed for all Electric Powered Vehicles. Its robust construction guarantees maximum reliability and product consistency under any Heavy Duty Motive Energy demand. Due to its innovative manufacturing process, delivers high capacity output and more power for same volume and footprint.



Plates are made of novel lead – calcium alloy and ultra purity materials, involving the most environmental friendly processing methods. Strict manufacturing and quality control processes, give product superiority and safety needed to be ready for installation as delivered.

Excellent corrosion resistance performance and long cycle life under very low temperatures are also ensured by exceptional container formation and terminal sealing procedures.

High temperature and humidity plate curing technique, make plate high oxidation extend and harms due to vibrations or shocks to be avoided. EV Motive AGM Series is designed for tough applications and repeated deep discharging.

Tested according to international standard IEC 60896-21, IEC 61982-3: 2001 and complies to defined requirements of IEC 60896-22.

**Positive Plates :** Extra cycle resistant pasted Positive plates are made of multivariate lead grids.

**Negative Plates :** Negative plates with pasted formula provide large discharge current and high starting performance.

**Separator :** High porous acid-proof AGM separator allows hydrogen recombination into water, while high absorptive rate reserves quantitative electrolyte for the chemical reaction.

**Terminals :** Threaded terminals are made of lead-tin alloy with copper insert, conducting electricity reliably and safely.

**Electrolyte :** They utilize an electrolyte suspension system consisting a high porosity, glass fiber material, which in conjunction with plates, totally absorbs the electrolyte.

**Safety Valves :** The pressure maintaining ability of relief valve can promote the gas recombination, meanwhile prevent foreign matters get into the battery or contain bulge because of overcharge.

**Container - Lid :** Made from a ABS (flame retardant optional) material for mechanical strength to ensure vibration proof of the battery.

**Handles :** Most of the sizes have integrated handles in the lid for easy carrying & installation of the batteries.

### DESIGN FEATURES & BENEFITS

- Extra long cycle life and resistance to mechanical stress.
- Increase durability and deep cycle ability (900 cycles @ 50% D.O.D) for heavy demand applications.
- Maintenance-free, Spill proof / leak proof - Multi-position usage
- Very high purity lead (purity rate 99.994%)
- Traction heavy duty grid design gives consistent active material adhesion and corrosion resistance.
- Fully tank formed plates for evenly formed and capacity matched plates.
- Recognized gas recombination efficiency greater than 99.9%
- Flame arresting pressure regulated safety sealing valves.
- Low self-discharge - Very good power to weight ratios
- Charging Voltage – Float 13.7 – 13.9V, Cyclic 14.3 – 14.9V

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### APPLICATIONS

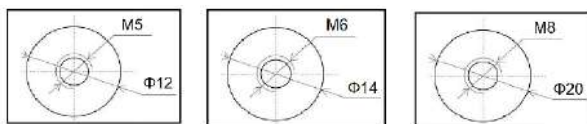
- Electric vehicles/scooters/bicycles
- Golf cars/buggies
- Military target/shooting electric car
- Railways/Marine applications
- Cleaning equipment
- Mobility access/wheelchairs
- UPS/EPS
- Battery powered light weight pallet trucks/ platforms/scissors lifts
- Automated Guided Vehicles (AVG's)
- Small-Medium Solar Systems

### RANGE SUMMARY

NORTHBATT EV MOTIVE AGM SPECIFICATION TABLE													
BATTERY TYPE	V	AH			DIMENSIONS				Recom. max. Charge Current	Recom. max. Discharge Current (5 sec)	WEIGHT	TERMINALS	
					L	W	H	T.H				TYPE	LAYOUT
					(mm)								
		C <sub>20</sub>	C <sub>5</sub>	C <sub>2</sub>									
16-12 EV	12	16	13	12	151	99	98	98.5	2.4	120	3.95	M5	A
27-12 EV	12	27	23	20	181	77	170	170	4.0	200	6.15	M5	B
30-12 EV	12	30	24	22	166	175	125	125	4.8	220	8.00	M5	B
38-12 EV	12	38	33	30	195	130	167	167	6.4	330	11.50	M6	C
50-12 EV	12	50	45	40	198	166	170	170	8.2	400	13.20	M6	B
65-12 EV	12	65	58	49	228	138	205	208	10.6	490	16.50	M6	C
88-12 EV	12	88	80	68	260	168	210	210	14.4	680	24.00	M6	C
123-12 EV	12	123	110	95	330	172	214	214	20.0	950	30.00	M8	C

### TERMINAL TYPES - LAYOUTS

#### TERMINAL TYPES



M5

M6

M8

#### TERMINAL LAYOUTS

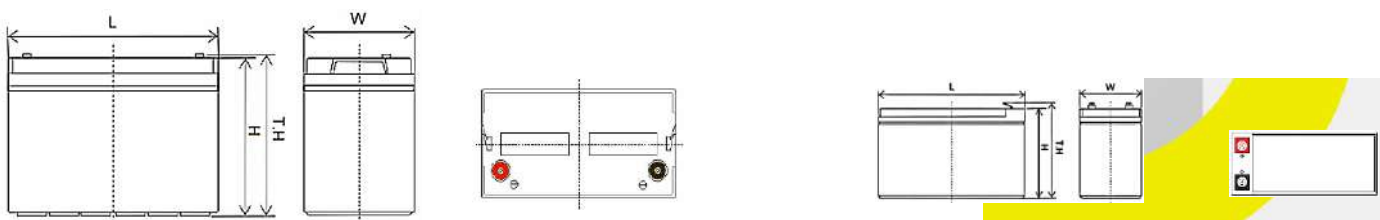


A

B

C

### BATTERY DIMENSIONS

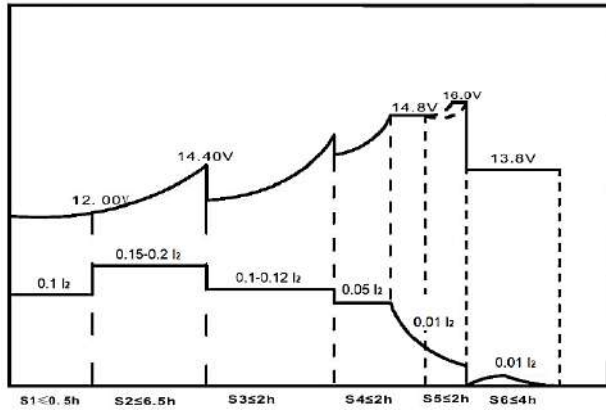


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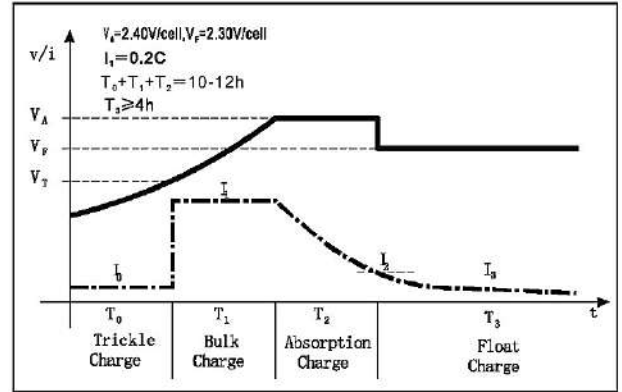
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### PERFORMANCE CURVES

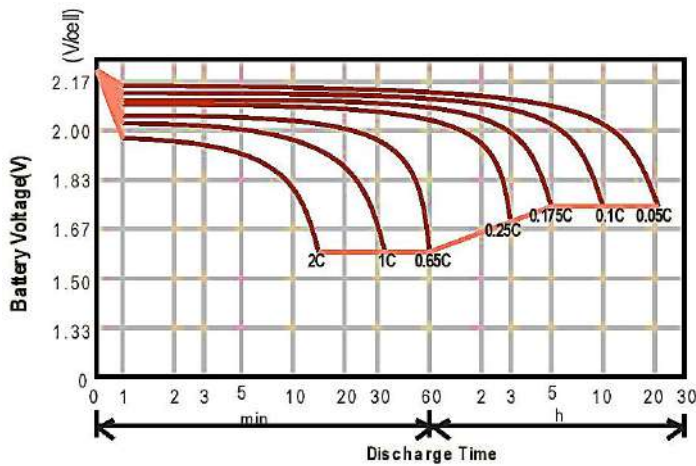
Charge Characteristic Curve  $\leq 38-12$  EV (25 °C)



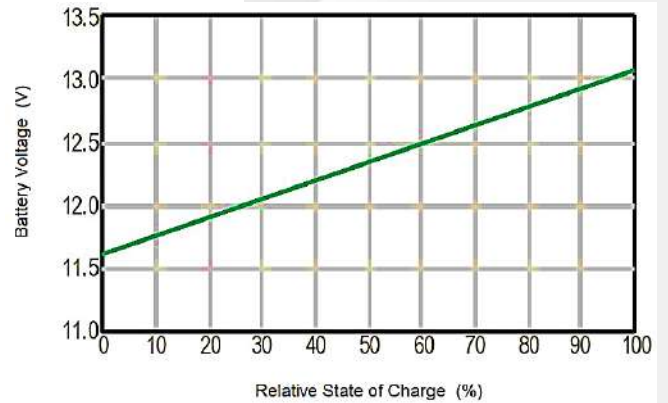
Charge Characteristic Curve  $> 38-12$  EV (25 °C)



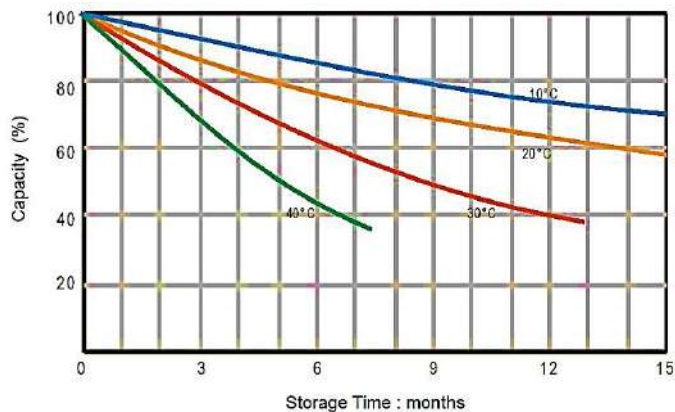
Discharge Characteristic Curves (25 °C)



OCV vs State of Charge (25 °C)



Self Discharge vs Capacity



Cycle Life vs D.O.D

