EV Battery Introduction

VISION EV Series Batteries provide superior performance, capacities, and reliability. These batteries are designed and built with the state of art technology and are made for environmentally sensitive areas which require enhanced cycle life capabilities in commercial, industrial, residential, and private applications. The maintenance-free (VRLA) construction and advanced design features make EV Series the definitive choice for a wide variety of markets.

- ◎ Electric Vehicle and Golf Cart
- ◎ Floor Machines
- ◎ Fork Lifts and Aerial Lifts
- ◎ Solar and Renewable Energy
- ◎ Marine and RV
- ◎ Mobility and Medical Equipment
- ◎ And other DC power needs

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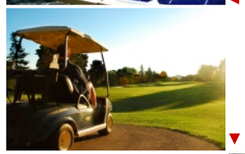
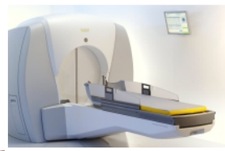
◀ Solar and Renewable Energy



▼ Floor Machines



▲ Medical Equipment

▲ And many other DC power needs

▲ Golf Cart

Fork Lifts▶

◀ Electric Vehicle

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EV SERIES
VALVE REGULATED LEAD ACID BATTERY

Features and Benefits

- VISION, it's facilities, and EV Series are certified to multiple standards:
  - ◎ ISO, OHSAS18001, UL, CE
  - ◎ QC/T 742-2006, GB/T18332.1-2009
- High density lead paste and specialized paste formula for deep cycle application.
- High strength ABS or PP case & cover and valve-regulated construction.
- Maintenance-free.
- High capacities.
- Environmentally friendly, Classified as "Non-Spillable Battery " for transportation, Complies with DOT CFR 49.173.
- High tin alloy grids offer: Less gassing, High corrosion-resistant, Low self discharge, Alloy sheeting material for deep cycle applications.
- Exceptional adaptability to operate at high and low temperature environments.
- Durable copper and stainless steel terminals for high electric conductivity.
- Long life.
- Exclusive electrolyte formula and separator, for protecting the electrolyte density from stratification.
- Superior design allows for fast charge acceptance and resistance to over-discharge.

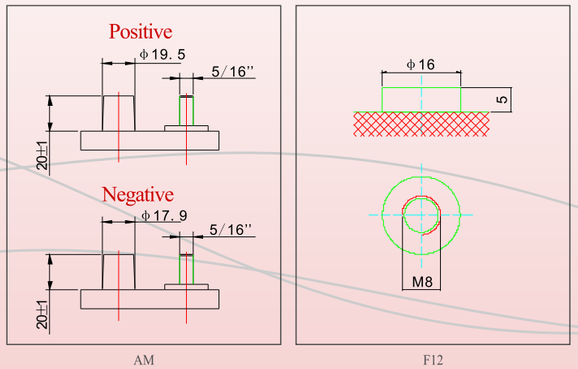
Performance Characteristics

NO.	ITEM	PERFORMANCE INDEX
1	C_{10} Capacity on Normal Temperature	⩾100%
2	Specific energy at C_{20}	⩾40Wh/kg
3	80%DOD cycling times	⩾800 times
4	100%DOD cycling times	⩾400 times
5	Discharge capacity	⩾95%C_3
6	high rate discharge: discharge to 1.50V/cell under current of 1 C_3 (A)	⩾48 min
7	high rate discharge charateristic at low temperature; discharge to 1.40V/cell under current of 2C_3 & -20C	⩾10 min
8	Capacity under low temperature: -20℃, C_3	⩾50% C_{10}
9	Other items	Meet or exceed GB/T 18332.1-2009 standard and QC/T 742-2006 standard.

SHENZHEN CENTER POWER TECH.CO.,LTD.

Specifications

BatteryType	NorminalVolt(V)	20HR(Ah)	10HR(Ah)	5HR(Ah)	"3HR(Ah)	2HR(Ah)	1HR(Ah)	CA@32F	CCA@0F	min@ 25Amps	min@ 75Amps	Length		Width		Height		Totle Height		Weight		Terminal	Material
												mm	in	mm	in	mm	in	mm	in	mm	in		
EV627-205X	6	205	190	170	155	135	115	1240	1110	1000	105	306.0	12.0	168.0	6.6	220.0	8.7	225.0	8.9	28.5	62.8	F11	ABS
EVGC-220A-AM	6	220	210	190	175	155	130	1430	1100	460	120	260.0	10.2	180.0	7.1	254.0	10.0	274.0	10.8	30	66.1	AM	PP
EV6-240-AM	6	240	220	205	185	158	135	/	/	537	136	262.5	10.3	181.0	7.1	246.0	9.7	266.0	10.5	34.0	75.0	AM	ABS
EV6-260-X	6	260	240	220	210	185	150	/	/	580	150	322.5	12.7	178.0	7.0	225.5	8.9	230.5	9.1	36.0	79.4	F12	ABS
EV250-265A-AM	6	265	250	225	205	181	153	1625	1320	1325	168	295.0	11.6	180.0	7.1	274.0	10.8	296.0	11.7	36.0	79.4	AM	PP
EVGT6-280A-AM	6	280	260	235	220	190	165	1770	1380	575	165	260.0	10.2	180.0	7.1	273.0	10.7	295.0	11.6	38.0	83.8	AM	ABS
EV305-360A-AM	6	360	350	320	290	255	210	2400	1850	860	250	295.0	11.6	180.0	7.1	347.0	13.7	368.0	14.5	48.2	106.3	AM	PP
EVL16-400A-AM	6	400	380	320	315	280	230	2580	2010	920	270	295.0	11.6	180.0	7.1	405.0	15.9	426.0	16.8	55.5	122.4	AM	PP
EVGC8-165A-AM	8	165	155	138	125	113	100	1000	820	315	80	260.0	10.2	180.0	7.1	255.0	10.0	275.0	10.8	29	63.9	AM	PP
EV8-200-AM	8	200	180	160	150	130	110	/	/	430	118	260.0	10.2	180.0	7.1	266.0	10.5	286.0	11.3	35.5	78.3	AM	ABS
EV8-200-X	8	200	180	160	150	130	110	/	/	430	118	260.0	10.2	180.0	7.1	266.0	10.5	271.0	10.7	35.5	78.3	F12	ABS
EVGT8-210A-X	8	210	200	180	166	146	122	1300	1060	1050	110	260.0	10.2	182.0	7.2	295.0	11.6	301.0	11.9	38.0	83.8	F12	ABS
EV805-220-X	8	220	210	188	175	150	126	1365	1100	1110	130	260.0	10.2	180.0	7.1	347.0	13.7	368.0	14.5	45.8	101.0	F20	ABS
EV816-295-X	8	295	280	251	230	205	170	1820	1500	1500	196	280.0	11.0	182.0	7.2	380.0	15.0	400.0	15.7	53.1	117.1	F26	ABS
EVU1-34A-X	12	34	32	27	25	23	20	210	170	170	15	198.0	7.8	132.0	5.2	164.0	6.5	182.0	7.2	10.3	22.7	Q(X)	PP
EV22-58A-Q	12	58	55	48	45	40	33.5	358	290	290	30	230.0	9.1	138.0	5.4	205.0	8.1	211.0	8.3	16.0	35.3	Q	PP
EV34-65A-X	12	65	62	58	50	42	38	/	/	128	40	260.0	10.2	168.0	6.6	178.0	7.0	183.0	7.2	20.5	45.2	Q(X)	PP
EV24-85A-AM	12	85	80	72	68	60	50	545	423	165	41	272.0	10.7	172.0	6.8	206.0	8.1	226.0	8.9	25.1	55.3	AM	PP
EV27-100A-AM	12	100	95	86	80	70	60	650	500	195	53	323.0	12.7	172.0	6.8	206.0	8.1	226.0	8.9	29.5	65.0	AM	PP
EV31-115A-AM	12	115	105	92	90	80	70	/	/	228	63	330.0	13.0	169.0	6.7	216.0	8.5	236.0	9.3	33.6	74.1	AM	PP
EVGT12-127A-X	12	127	120	108	100	87	73	780	60	630	68	260.0	10.2	182.0	7.2	295.0	11.6	300.0	11.8	40.5	89.3	F12	ABS
EV12-120-X	12	120	110	105	100	85	66	/	/	248	68	330.0	13.0	172.0	6.8	213.0	8.4	220.0	8.7	33.5	73.9	F12	ABS
EV12-140A-AM	12	140	130	115	105	93	80	850	700	650	70	327.0	12.9	176.0	6.9	254.0	10.0	274.0	10.8	39.6	87.3	AM	PP
EV12-160-X	12	160	140	133	120	106	88	/	/	315	84	408.0	16.1	176.0	6.9	227.0	8.9	227.0	8.9	38.5	84.9	F12	ABS
EV12-190-X	12	190	175	160	150	133	110	/	/	400	100	482.5	19.0	170.5	6.7	238.5	9.4	238.5	9.4	50.5	111.3	F12	ABS
EV4D-240A-AT	12	240	230	200	190	168	135	1550	1220	560	155	528.0	20.8	222.0	8.7	229.0	9.0	250.0	9.8	64.6	142.4	AT	PP
EV185-250A-AM	12	250	235	210	190	175	145	1600	1230	560	160	386.0	15.2	180.0	7.1	346.0	13.6	367.0	14.4	66.5	146.6	AM	PP
EV8D-330A-AT	12	330	300	260	250	220	182	2030	1600	740	210	528.0	20.8	282.0	11.1	229.0	9.0	250.0	9.8	82.9	182.8	AT	PP



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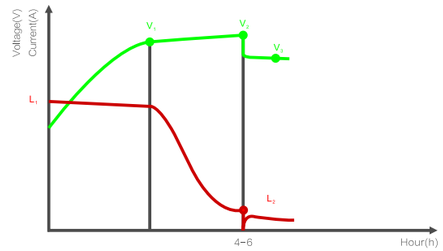
Parameters of Charge

CHARGE PARAMETER				
INITIAL CURRENT I_1(A)	CONSTANT VOLTAGE V_1(V/CELL)	TRANSITINGCURRENT I_2(A)	HIGHEST VOLTAGE V_2(V/CELL)	FLOATING VOLTAGE V_3(V/CELL)
0.1~0.3C	2.4	0.05C	2.45	2.3

Notes:
Above parameter is only for your reference, all parameters are subject to the signed technical agreement.
If there are special requirements on charger, controller and motor in coverage time, it will need an additional signed agreement.

Charge Characteristics Curve



Temperature Compensation Method

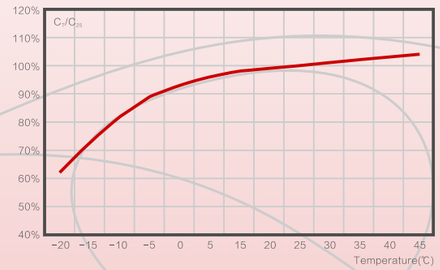
The charger should have a temperature compensation function, automatically reducing the charging voltage according to the compensation coefficient under high temperature, and raising the charging voltage under low temperature. Temperature compensation factor: -5mv/℃.cell.

Conversion relationship of temperature and capacity

Formula of temperature and capacity:

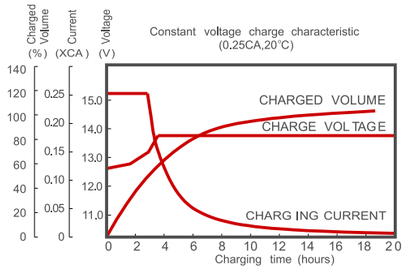
- $C_T/C_{25}=EXP(ak-bk^2)$or $C_T/C_{25}=1+0.006(T-25)$(the formula is applicable between the temperature of 15℃～40℃)
- C_T, C_{25}: Capacity under the temperature of T or 25℃
- k: is T-25
- a、b: Constants, “a”stands for 0.0061 for VISION EV series batteries, “b” stands for 0.000115

Discharge Characteristics Curve at different Temp.

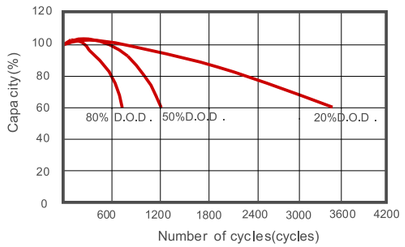


Performance Characteristics

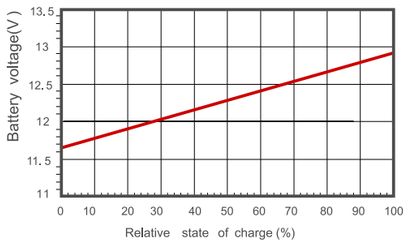
CHARGE CHARACTERISTIC CURVE



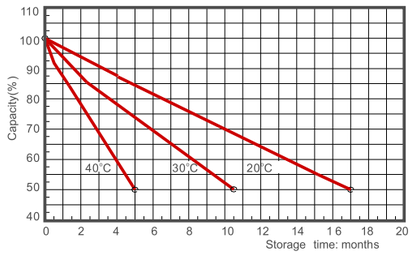
CYCLE SERVICE LIFE IN RELATION TO DEPTH OF DISCHARGE



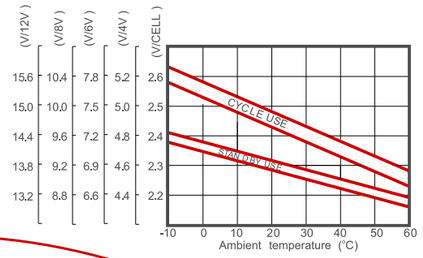
RELATIONSHIP OF OCV AND STATE OF CHARGE (20℃)



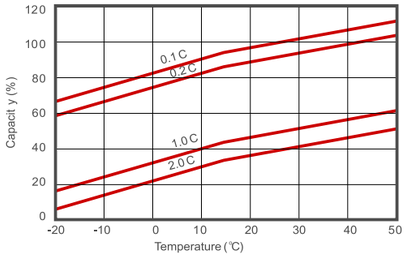
SELF-DISCHARGE CHARACTERISTIC



RELATIONSHIP BETWEEN CHARGING VOLTAGE AND TEMPERATURE



TEMPERATURE EFFECTS ON CAPACITY



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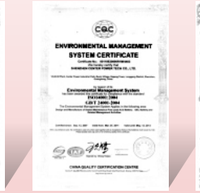
Cautions for Installation and Operation

- The battery should be unpacked with care. Avoid short circuiting terminals of opposite polarity, as these units are capable of discharging at a very high current, especially if the lid or the container is damaged.
- All items should be carefully checked against the accompanying invoice to ascertain if any items are missing.
- The batteries are connected in series (which is with a positive pole to a negative pole) and the distance between two batteries is at least more than 5mm.
- During battery installation, torque terminals to 7-11 ft/lbs (10~15N-m). Putting a cushion under the battery is suggested to protect the battery from vibration, shaking, or damage in a car crash.
- The color red is used for positive, and the color black for negative. Any wires connected to the positive and negative terminal must be kept away from each other.
- Acid leakage or unusual appearance must be checked before turning on any battery operated device. Note any open circuit voltage.
- Batteries should be kept in a dry, clean, and preferably cool location. Keep batteries away from fire, water, heating source, or any organic solution. Avoid direct sunshine and keep the temperature in a set of batteries the same.
- Do not disassemble or place any battery into fire.

Certificates



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