



检测
CNAS L0095



2007002171A

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No.: GJW2009-0893

检验报告

TEST REPORT

NAME OF SAMPLE: Valve Regulated Lead Acid Battery

CLIENT: Shenzhen Center Power Tech. Co., Ltd.

CLASSIFICATION OF TEST: Commission Test



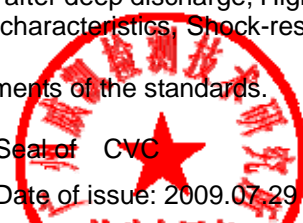
Guangzhou Vkan Certification and Testing Institute (CVC—former GTIHEA)

检 验 报 告

TEST REPORT

No.: GJW2009-0893

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Name of product: Valve Regulated Lead Acid Battery	Trade mark: Vision
Type/Model: CP12250 (CP12240): 12V, 24Ah; CP1290 (CP1290A, CP1290AE): 12V, 9Ah; CP12120: 12V, 12Ah; CP12180 (CP12170, CP12170H, CP12180H): 12V, 17Ah; CP1270 (CP1270A, CP1270AE, CP1270E): 12V, 7Ah CP1240 (CP1245E): 12V, 4Ah	Sample status: —
Manufacturer: Shenzhen Center Power Tech. Co., Ltd.	Commissioned by: Shenzhen Center Power Tech. Co., Ltd.
Manufacturer address: Center Power Industrial Park, Tongfu Industrial District Dapeng Town, 518120, Shenzhen, P. R. China	Commissioner address: Center Power Industrial Park, Tongfu Industrial District Dapeng Town, 518120, Shenzhen, P. R. China
Quantity of sample: 18 pcs	Sampled by: —
Sample identification: CP12250 b1#~b3# CP1290 b1#~b3# CP12120 b1#~b3# CP12180 b1#~b3# CP1270 b1#~b3# CP1240 b1#~b3#	Sampling at (place): —
Means of receiving: Submitted by manufacturer	Means of sampling: —
Classification of test: Commission Test	Sampling date: —
Receiving date: 2009.06.03	Completing date: 2009.07.27
Tested according to: IEC 61056-1:2002	Test item: 10 items
<p>Test conclusion:</p> <p>The Valve Regulated Lead Acid Batteries submitted by Shenzhen Center Power Tech. Co., Ltd. are tested according to the IEC 61056-1:2002 (General purpose lead-acid batteries(valve-regulated types- part 1: General requirements,functional characteristics-Methods of test.)</p> <p>The tested items are Capacity, Endurance(Cycle service endurance, Float service endurance), Charge retention, Maximum permissible current, Charge acceptance after deep discharge, High-rate discharge characteristic, Gas emission intensity, Vibration resistant characteristics, Shock-resistant characteristics.</p> <p>The results of the tested items comply with the relevant requirements of the standards.</p> <div style="text-align: right;">  <p>Seal of CVC Date of issue: 2009.07.29</p> </div>	

Approved by:  Reviewed by: Huang Kun Tested by: 

Description and illustration of the sample:

The samples' status is good.

Description of the sampling procedure:

/

Description of the deviation from the standard, if any :

/

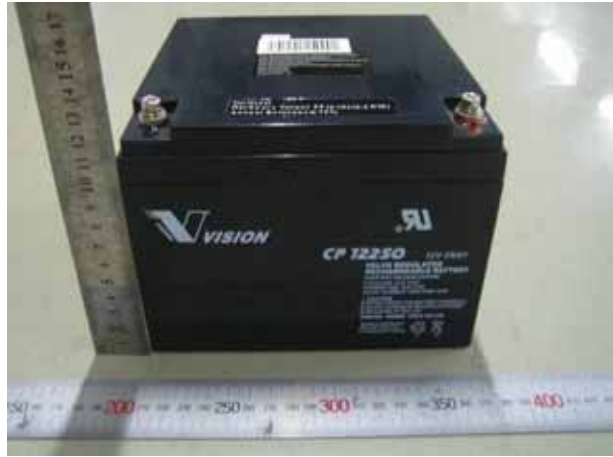
Remarks:

Throughout this report a comma is used as the decimal separator.

Type	Test items
CP12250	Capacity, Endurance (Cycle service endurance, Float service endurance), Charge retention, Maximum permissible current, Charge acceptance after deep discharge, High-rate discharge characteristic, Gas emission intensity, Vibration resistant characteristics, Shock-resistant characteristics.
CP1290(CP1290A, CP1290AE) CP12120 CP12180 (CP12170, CP12170H, CP12180H) CP1270 (CP1270A, CP1270AE, CP1270E) CP1240 (CP1245E)	Endurance (Cycle service endurance, Float service endurance), Charge retention, Gas emission intensity

Photos and markings

CP12250 (12V, 24Ah)



CP1290 (12V, 9Ah)



CP1290A (12V, 9Ah)



Photos and markings

CP1290AE (12V, 9Ah)



CP12180 (12V, 17Ah)



CP12180H (12V, 17Ah)



Photos and markings

CP12170 (12V, 17Ah)



CP12170H (12V, 17Ah)



CP1270 (12V, 7Ah)

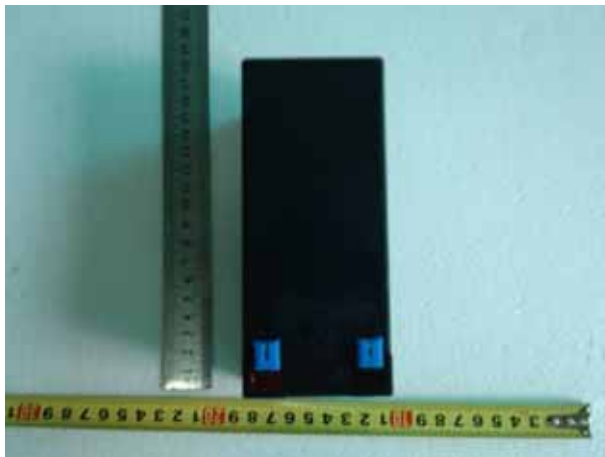


Photos and markings

CP1270A (12V, 7Ah)



CP1270AE (12V, 7Ah)



CP1270E (12V, 7Ah)

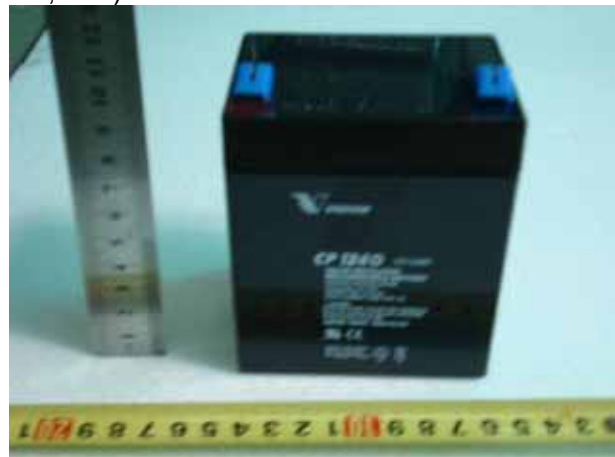
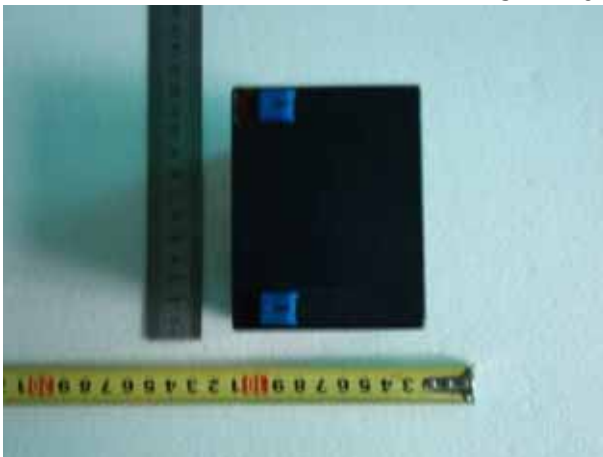


Photos and markings

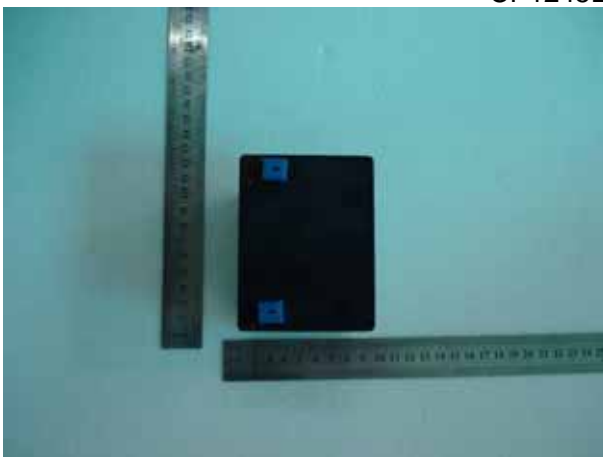
CP12120 (12V, 12Ah)



CP1240 (12V, 4Ah)



CP1245E (12V, 4Ah)



IEC 61056-1:2002			
Cl.	Requirement – Test	Result	Verdict
3	General requirements		P
3.1	construction		P
3.1.1	Battery of this kind are composed of one or more cells		P
3.1.2	Battery shall be fitted with valves		P
3.1.3	Battery or cells shall be designed so that neither water nor electrolyte can be added		P
3.1.4	All battery components shall be designed for current rates as specified in 4.4		N
3.1.5	For charging, battery or cells shall not be installed in any direction beyond 90° From the upright position.		N
3.2	Mechanical strength		N
	Battery shall be designed to withstand mechanical stresses, vibrations and shocks occurring in normal transportation, handling and use.		N
3.3	Designation		
	The battery shall be identified by at least the following information on the surface in durable printing.		P
	Supplier's or manufacture's name and type reference;	CENTER POWER TECH CO., LTD. VALVE REGULATED RECHARGEABLE BATTERY	P
	Nominal voltage (n X 2,0V);	12V	P
	Nominal capacity C ₂₀ (see 4.1.2);		P
	Date of manufacture, its abbreviation or code;		P
	Recycling and safety symbols according to national or international standards.		P
	If the values of functional characteristics or specific requirements are different from the values specified in clause 4 below, these values shall be supplied with the battery or mentioned in the battery instructions.		P
	Additional data such as recommended charging voltage U _c or charging current I _c , capacity at other discharge rates, battery weight,etc. shall be supplied with the battery in a suitable way.		P
3.4	Marking of polarity		P

IEC 61056-1:2002			
Cl.	Requirement – Test	Result	Verdict
	The battery shall carry a marking of polarity of both terminals by the plus symbol +(60417-IEC-5005: Positive polarity) and the minus symbol – (60417-IEC-5006:Negative polarity) on the lid adjacent to the terminals.	“+” and “-”	P
4	Functional characteristics and specific requirements		
4.1	Capacity		P
4.1.1	The essential characteristic of a cell or battery is its capacity for the storage of electric energy .This capacity, expressed in ampere-hours (Ah), varies with the conditions of use (discharge-current, end-of-discharge-voltage , temperature).		P
4.1.2	The nominal capacity C_{20} is a reference value, to be declared by the manufacturer, which is valid for the discharge of a new battery at the reference temperature of 25 and a discharge current: $I_{20} = \frac{C_{20}}{20}$ in which discharge time is 20 h, to a final voltage $U_f = n \times 1,75V$ and where I_{20} is expressed in amperes, and C_{20} is expressed in ampere-hours.	CP12250 (12V, 24Ah): 2#: $C_{20}=30,196Ah$	P
4.1.3	The rated capacity C_1 is a reference value, optionally to be declared by the manufacturer, valid for the discharge at 25 and a discharge current: $I_1 = \frac{C_1}{1}$ In which discharge time is 1 h, to a final voltage $U_f = n \times 1,6V$ and where I_1 is expressed in amperes, and C_1 is expressed in ampere-hours.		N
4.1.4	The actual capacity C_a shall be determined by discharging a fully charged battery (see 5.1.3) with constant current I_{20} in accordance with 6.2. The resultant value shall be used for comparison with the reference calue C_{20} or for control of the state of a battery after long periods of service.		N

IEC 61056-1:2002				
Cl.	Requirement – Test	Result	Verdict	
4.1.5	The determination of the actual capacity C_a in accordance with 6.2 may also be used for comparison with particular performance data (for example, C_1) indicated by the supplier. In this case, the current I_{20} shall be substituted by the particular current corresponding to the relevant performance data.		N	
4.2	Endurance		P	
4.2.1	Cycle service endurance		P	
	This represents the ability of a battery to perform repeated discharge/recharge cycles. This performance shall be tested by a series of cycles under specified conditions with 50% DOD at $I = 3,4 \times I_{20}$ or at $I = 5 \times I_{20}$ after which the actual capacity of the actual capacity of the battery shall be not less than 50% of the nominal capacity in ampere-hours (see 6.4). The number of cycles shall be not less than 200.	Type	The number of cycles	P
		CP12250(CP 12240)	225	
		CP12120	225	
		CP12180 (CP12170, CP12170H, CP12180)	220	
		CP1290(CP1 290A, CP1290AE)	225	
		CP1270 (CP1270A, CP1270AE, CP1270E)	240	
		CP1240 (CP1245E)	220	
4.2.2	Float service endurance		P	
	This represents the life performance of a battery in float application by continuously delivering constant voltage for keeping an approximately full state of charge . The capacity after the test specified in 6.5 shall not be less than the specified value for at least two years' service at 25 ,or 8,5 months service at 40	Type	The number of days	P
		CP12250(CP 12240)	265	
		CP12120	260	
		CP12180 (CP12170, CP12170H, CP12180)	265	
		CP1290(CP1 290A, CP1290AE)	270	
		CP1270 (CP1270A, CP1270AE, CP1270E)	275	

IEC 61056-1:2002			
Cl.	Requirement – Test	Result	Verdict
		CP1240 (CP1245E) 260	
4.3	Charge retention		P
	This is defined as that part of the actual capacity C_a on discharge with I_{20} , expressed as a percentage, which can be discharged with the same current I_{20} after storage on open circuit under specified conditions of temperature and time (see 6.7). Those conditions provided, the retained charge shall be not less than 75% of C_a .	Type	Discharge capacity
		CP12250(CP12240)	80% C_a
		CP12120	79% C_a
		CP12180 (CP12170, CP12170H, CP12180)	80% C_a
		CP1290(CP1290A, CP1290AE)	80% C_a
		CP1270 (CP1270A, CP1270AE, CP1270E)	81% C_a
		CP1240 (CP1245E)	78% C_a
4.4	Maximum permissible current		P
	Batteries shall be suitable to maintain a current of $I_m = 40 \times I_{20}$ for 300 s and of $I_h = 200 \times I_{20}$ for 5 s, under otherwise specified by the manufacturer, without distortion or other damage to the battery (see 6.8)	CP12250(2#): $I_m = 50A$ $I_h = 375A$ The batteries are not distorted and damaged. The discharge time is 15,37min.	P
4.5	Charge acceptance after deep discharge		P
	Batteries according to this part may be subject to very deep discharge by an unintentional connection to a load over long periods of time. They shall then be rechargeable with constant voltage U_c (for U_c see 5.1.3) within a period of 48 h (see 6.9).	CP12250(3#): The capacity after test is 81,4% C_a .	P
4.6	High-rate discharge characteristic		P
	This shows the capability of a battery discharged with high current relative to its capacity. During discharge with $20 \times I_{20}$, the discharge time shall not be less than 20 min.	CP12250(2#): The discharge time: 39,54min	P
4.7	Gas emission intensity		P

IEC 61056-1:2002																								
Cl.	Requirement – Test	Result	Verdict																					
	This test quantifies the escape of gas from the battery during during charge with the manufacturers recommended charging method.		P																					
	When the gas emission intensity is determined during constant voltage float charging (see 6.10.1 to 6.10.7), the value G_e shall not be greater than $0,005 \text{ ml} \times \text{cell}^{-1} \times \text{h}^{-1} \times \text{Ah}^{-1}$ When the gas emission intensity is determined during constant charging (see 6.10.8 to 6.10.11) the gas recombination efficiency η shall not be less than 90%	<table border="1"> <thead> <tr> <th>Type</th> <th>G_e(ml/cell/h/Ah)</th> <th>η</th> </tr> </thead> <tbody> <tr> <td>CP12250(C P12240)</td> <td>0,0208</td> <td>96%</td> </tr> <tr> <td>CP12120</td> <td>0,0208</td> <td>96%</td> </tr> <tr> <td>CP12180 (CP12170, CP12170H, CP12180)</td> <td>0,0208</td> <td>96%</td> </tr> <tr> <td>CP1290(C P1290A, CP1290AE)</td> <td>0,0208</td> <td>97%</td> </tr> <tr> <td>CP1270 (CP1270A, CP1270AE, CP1270E)</td> <td>0,0208</td> <td>97%</td> </tr> <tr> <td>CP1240 (CP1245E)</td> <td>0,0208</td> <td>95%</td> </tr> </tbody> </table>	Type	G_e (ml/cell/h/Ah)	η	CP12250(C P12240)	0,0208	96%	CP12120	0,0208	96%	CP12180 (CP12170, CP12170H, CP12180)	0,0208	96%	CP1290(C P1290A, CP1290AE)	0,0208	97%	CP1270 (CP1270A, CP1270AE, CP1270E)	0,0208	97%	CP1240 (CP1245E)	0,0208	95%	P
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CP1240 (CP1245E)	0,0208	95%																						
4.8	Vibration resistant characteristics		P																					
	During the test according to 6.11, terminal voltage shall be not less than nominal voltage. The battery shall not exhibit such abnormalities as remarkable deformation, damage, and leakage of electrolyte.	CP12250(1#): The open circuit terminal voltage is 13,065V. There are no deformation, damage and leakage of electrolyte for the batteries.	P																					
4.9	Shock-resistant characteristics		P																					
	During the test according to 6.12, terminal voltage shall be not less than nominal voltage. The battery shall not exhibit such abnormalities as remarkable deformation, damage, and leakage of electrolyte.	CP12250(1#): The open circuit terminal voltage is 13,065V. There are no deformation, damage and leakage of electrolyte for the batteries.	P																					

注 意 事 项

Important

1. 报告无检验单位公章无效。
The test report is invalid without the official stamp of CVC.
2. 未经本试验室书面同意，不得部分地复制本报告。
Any photocopies or part photocopies of the test report are forbidden without the written permission from CVC.
3. 报告无负责人、审核人签名无效。
The test report is invalid without the signatures of Author and Reviewer.
4. 报告涂改无效。
The test report is invalid if altered.
5. 对检验报告若有异议,应于收到报告之日起十五天内向检验单位提出。
Objections to the test report must be submitted to CVC within 15 days.
6. 一般情况,委托检验仅对来样负责。
Generally, commission test is responsible for the tested samples only.
7. 检验结果中“N”表示“不适用”,“P”表示“通过”,“F”表示“不通过”。
As for the test result, “N” means “not applicable”, “P” means “pass” and “F” means “fail”.

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