

# Battery Explosion Proof High & Low Temperature Chamber



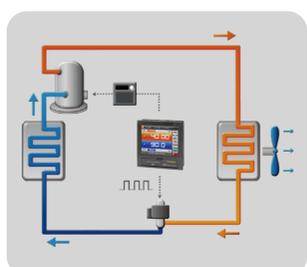
Walk in Battery Explosion Proof High & Low Temperature Chamber



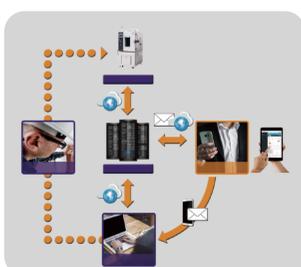
High & Low Temperature Chamber



Battery High & Low Temperature Chamber



Energy Conservation



Remote network system



International standard

Circuit System

Why does battery heat, fire and explosion? What will happen under such phenomenon?



Heat

Burn somebody directly or decrease the insulation performance of components security and make the flammable liquid ignition.



Fire

Burn somebody directly, or may cause products with battery fire.



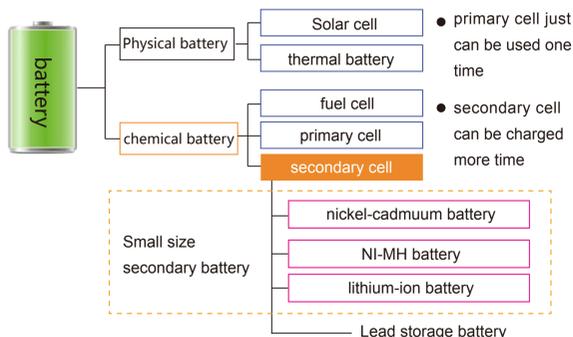
Explosion

Harm somebody directly or damage equipment

## What test should be battery made?

### Secondary battery environmental test

#### Battery type



#### Lithium-ion batter advantages:

- Small size**  
portability energy density, with same capacity, its weight is only half of the nickel cadmium battery and nickel metal hydride batteries, its volume just 20 to 50% of them.
- Its action voltage is 3 times to nickel cadmium battery and nickel metal hydride battery, the machine just need equipped with a few batteries, small size and portability.
- Continuous charge**  
can be charged and discharged under any condition and stock reservoir which will not reduce energy capacity to continuous charging.
- Safety and environmental protection**  
Over-charging ability and over-thermal safety.  
No cadmium, lead, mercury, etc.

## Environmental test necessity and test method

### The necessary reason for environmental test

With econdary battery widely used, the environment will also be changed as mobile phones, computers, household appliances, electric tools, automobile such area change

#### Necessary test

Secondary battery applied in chemical reaction, and chemical reation affected by environment (especially the temperature) a lot

Low/High Temp. Performance Test	preservation test	Charge/discharge test	Transport test
charge or discharge under different environmental temperature to check secondary battery performance under such temperature condition	Under specific environment to long-time use battery and test battery leakage and safety performance	under specific environment to charge/discharge battery repeatedly and check every battery performance	Simulate air transport, road transport (UN) specification
Temperature requirement: any point from -30~30C (according to the temperature range of battery type and usage)	Temperature requirement: any point from -10~70C (according to the temperature range of battery type and usage)	Temperature requirement: any point from -30~30C (according to the temperature range of battery type and usage)	Vibration requirement: 7~18Hz/1G, 18~200Hz/8G, 1.6, mmp-p. X, Y, Z 3 hour Impact and shock requierment: acceleration 150G and maintain 6s on peak value



#### Specifications

Model	SMC-80-CC-FB	SMC-150-CC-FB	SMC-225-CC-FB	SMC-408-CC-FB	SMC-800-CC-FB	SMC-1000-CC-FB	SMC-1500-CC-FB
Temperature control range	-70℃~180℃ (A:0℃~180℃;B: -20℃~180℃; C: -40℃~180℃;D:-70℃~180℃)						
Temperature fluctuation	±0.5℃						
Cooling rate	180.0℃~25.0℃ Cooling rate 2.0~3.0℃/min 25.0℃~40.0℃ Cooling rate 1.0~2.0℃/min 40.0℃~70.0℃ Cooling rate 0.7~1.5℃/min						
Heating rate	-70.0℃~180.0℃ Within 60 mins 3.0~5.0℃/min						
Temperature uniformity	±1.5℃ (-40.0℃~100.0℃) ±2.0℃ (100.1℃~180.0℃ or 40.0℃~70.0℃)						
Humidity control range	20.0%RH~98.0%RH						
Humidity fluctuation	±1.0% RH						
Humidity uniformity	±2.0%RH						
Internal material	Adopts 1.2mm thickness stainless steel(SUS304)						
External material	Adopts 1.2mm thickness Cold rolled sheet / powder spraying						
Heat insulating material	100mm thickness polyurethane plate + 10mm thickness mineral wool						
Fan	Centrifugal blower						
Compressor	Semi-closed Germany Bock, Germany Bitzer						
Condenser	Air cooling, water cooling						
Refrigerant	R404A, R23, R508						
Evaporator	Fin - and - Tube Heat Exchanger						
Heater	Nickel chromium alloy heating wire						
Humidifier	Steam humidifier						
Standard configuration	2 100MM pressure relief port, 4 explosion-proof chains						
Multipoint temperature monitor	Adopts Sanwood developed controller, which can be used to acquire surface temperature points of multiple products						
CO2 fire extinguisher	Automatic fire extinguishing and automatic shutdown of the machine to protect the equipment from burning						
CO, H2 gas detector	When the battery will produce gas, it will detect gas solubility and discharge to outdoor when it exceeds the standard						
Exhaust valve	When the test sample produces harmful gas, ventilate and exhaust internally						
Interior size(mm) W*H*D	500*500*400	500*600*500	500*750*600	800*850*600	1000*1000*800	1000*1000*1000	1200*1000*1250
Outer size(mm) W*H*D	700*1680*1180	700*1720*1275	700*1930*1290	1000*2050*1400	1200*2100*1590	1200*100*1780	1400*2100*2030
Volume (m³)	80L	150L	225L	408L	800L	1000L	1500L
Weight	280	380	450	620	680	840	955
Operating ambient temperature	+5 ~ 35℃						
Power supply	220V AC 50/60Hz 22A	220V AC 50/60Hz 31A	220V AC 50/60Hz 33A	380V AC 50/60Hz 17A	380V AC 50/60Hz 25A	380V AC 50/60Hz 27A	380V AC 50/60Hz 50A
Controller	Adopting SANWOOD self-developed controller, it can test the surface temperature of the sample with multiple temperature sensors.						

**Sanwood (HK) Industrial Corporation.,limited**  
**Guangdong Sanwood Technology Corporation.,limited**

ADD: No.88, Songchang Road, Songbotang, Changping, Dongguan, Guangdong  
TEL: +86+769-81182799  
FAX: +86+769-82987199  
E-mail: info@sanwood.cc  
www.sanwood.cc



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