Battery Puncture and Crush Tester 6012C

1. Product usage

Battery extrusion acupuncture machine is used to simulate the extrusion and puncture of various batteries in the use, transportation, storage or treatment of household waste. The extrusion direction of the extrusion test shall follow the following rules: a battery is squeezed only squeezed once, and the battery is qualified without explosion or fire.

1.1 For cylindrical batteries, the vertical axis of the extrusion battery should be parallel to the two plates of the extrusion device;

1.2 For the square and soft-pack batteries, only the wide surface of the battery is squeezed;

1.3 For coin or button batteries, squeeze the upper and lower planes from the battery in parallel to the plate.

2. Experimental method

Extrusion test: After fully charging the battery according to the specified test method, squeeze the battery in two planes, perpendicular to the plate direction. The squeeze pressure of 13KN+0.78KN is applied between the two plates. Once the pressure reaches the maximum value, the extrusion test can be stopped, and the battery can not occur external short circuit during the test. The battery should not catch fire or explode.

Needle test: the acupuncture test should be carried out in the environment of 20℃± 5℃, put the battery flat on the fixture, use the non-corrosion steel needle with a diameter of φ 3- φ 8mm to insert the central position of the battery surface at the speed of 10 mm/s-40 mm/s, maintain any time and observe the test results, the battery does not explode, no fire is qualified. Battery extrusion test machine is attached with GB31241-2014 and other standards.

2. Implementation standards

2.1 GB 31241-2014 Safety Requirements for Lithium-Ion Batteries and Battery Packs for Portable Electronic Products.

2.2 MT/T 1051-2007 Lithium Ion Battery for Lamlamp.

2.3 SJ/T 11169-1998 (UL1642:1995) Safety Standards for Domestic and Commercial batteries

YD 1268-2003 Safety Requirements and Test Methods for lithium Battery and Charger for Mobile Communication.

2.4 GB/T 19521.11-2005 Safety Code for Inspection of Lithium Battery Pack.

2.5 GB/T 18287-2013 General Specification for Lithium-ion Batteries for Cellular Telephone Use.

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2.6 SJ/T 11170-1998 (UL2054:1997) Safety Standards for Domestic and Commercial batteries.

2.7 UN 38.3, Proposals on the Transport of Dangerous Goods-Testing and Standards Manual, Part III, Section 38.3.

2.8 UL 1642 Lithium Battery Standard 2054 Domestic and Commercial Battery Set.

2.9 IEC62133-2012 Safety requirements for batteries and battery packs containing alkaline or non-acidic electrolyte-Safety batteries for sealed batteries for portable equipment.

2.10 GB/T 8897.4-2008 (IEC 60086-4:2007) Primary Battery-Part 4 Safety Requirements for Lithium Battery.

2.11 YDB 032- -2009 Backup Lithium-ion Battery Pack for Communications.

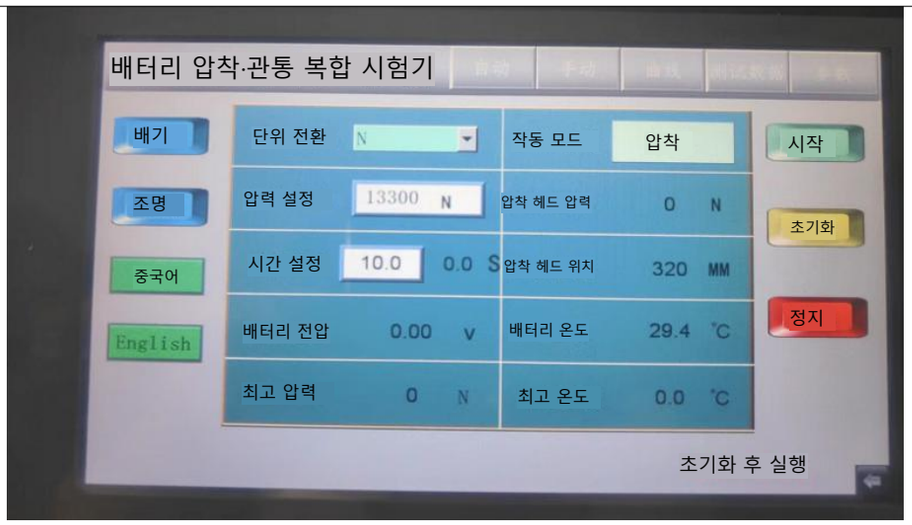
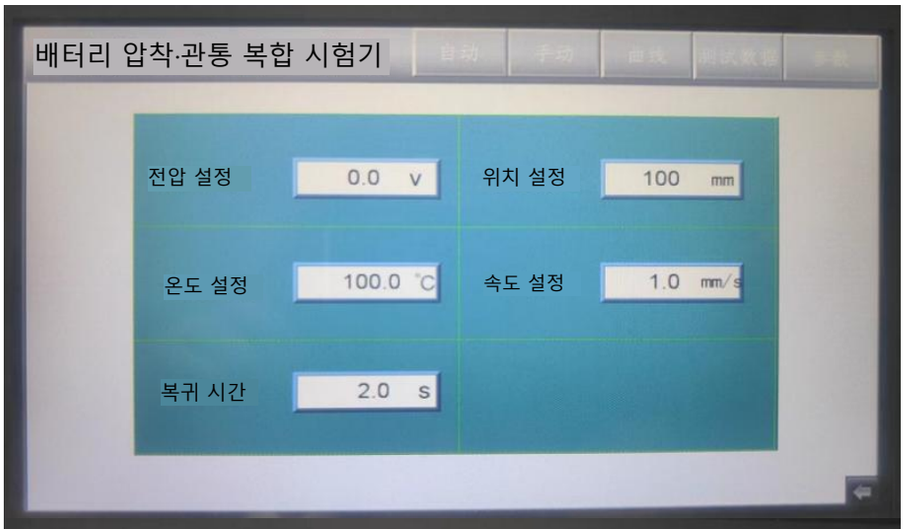
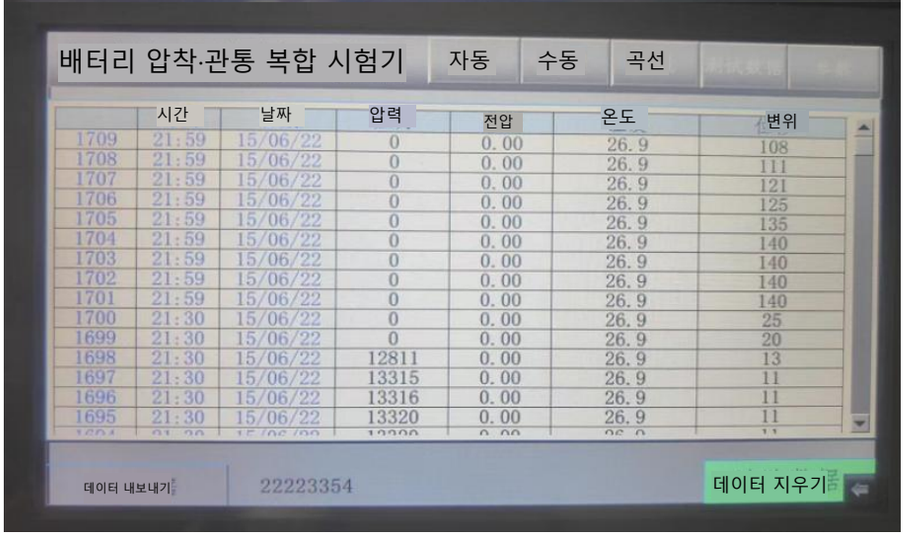
2.12 YD/T 2344.1- -2011 Lithium Iron Phosphate battery pack for communication-Part 1: Integrated battery pack.

2.13 GB/T 21966-2008 (IEC 62281:2004) Safety Requirements for Lithium Original Battery and Battery in Transportation.

3. Technical parameter

Explosive indicators	
Controller	7-Inch touch screen
Test area space	250×300mm (W×D)
Carton size	About 750×750×1800mm (W×D×H) according to the actual size
Drive way	motor drive
Force value range	1 ~ 20 kN (adjustable)
Force measurement accuracy	0.1%
Unit conversion	kg, N ， lb
Squeeze the trip	300mm
Force values are shown	The PLC touch screen display
Battery extrusion head	Standard extrusion head with an area of 20cm²
Internal box material	Stainless steel is 1.5mm thick

External box material	1.2 mm thick A3 cold plate baking paint treatment
Safety device	The rear side of the box is designed with 250×200mm, and the box is equipped with lights
Observation window	250x 200mm two-layer vacuum tempered glass observation window, and install the explosion-proof net
Air outlet	The rear of the box is equipped with high temperature exhaust fan and reserved exhaust pipe interface φ 150mm, Power on the rear fan to turn on and work immediately
Box door	Single door, left open
Box door switch	Open the threshold switch with immediate power off to ensure that there is no misoperation and ensure the safety of personnel
Trundle	There are four universal direction casters under the device, which can move freely
Needle Indicators:	
Steel needle	Φ 3mm / φ 5mm, high temperature resistant tungsten steel needle, the length of 100mm (can be specified) 2 each
Needle stroke	200mm
Unit conversion	Kg、N 、1b
Needle speed	10 ~ 40 mm/s (adjustable)
Needle spike force value	1～300kg
Force values are shown	The PLC touch screen display
Drive way	Motor control, adjustable speed
DA:	
Voltage collection	Voltage range: 0-100V Acquisition rate: 200ms Acquisition channel: 1 channel accuracy:±0.2%F.S（0~100V）
Temperature collection	Temperature range: 0℃ to 1000℃ K type thermocouple Acquisition rate: 200ms Acquisition channel: 1 channel accuracy:±2℃

Touch screen interface	  
Data export	Export data and curves through USB port (protocol format)
Power supply	220V 50HZ 2.5KW
Weight	About 180kg

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Apolegamy	Fire-extinguishing device and video monitoring system

4. Main configuration details

Order number	Accessories name	Model and quantity
1	Electrical machinery	Custom made
2	Pressure sensors	20KN
3	Controller	7-Inch touch screen
4	Electric relay	1
5	Transmitters	1
6	Lead screw	Custom made
7	Squeeze fixtures	Custom made
8	Needle punch fixtures	φ3 φ5 φ8 Length of 100mm

5. Equipment vulnerability list

Order number	Name	Specifications	Explain
01	Tungsten steel needle	Φ3 φ5 φ8	Custom made

6. Equipment delivery list

6.1 Instructions;

6.2 Delivery order;

6.3 One main test machine;

6.4 Qualification certificate, warranty certificate;

7. Use environment requirements

Specifications	Index requirements
Equipment use environment requirements	Temperature below 45℃, humidity below 80%
Power supply	AC220V，50/60Hz
Headwaters	/
Vacuum	/
Compressed air	/

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Ground requirements and load-bearing requirements	Concrete ground is ≥300kg
Network requirements	/
Smoke, dust, exhaust gas, Construction requirements for wastewater Treatment plant	Waste gas exhaust interface exhaust gas exhaust interface φ150mm

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