1. Product name: Flameproof High and Low Temperature All-in-One Battery Testing System



Pour:

1. The proof function only refers to preventing the explosion of the test sample in the test space of the test box, Other parts of the equipment do not have the explosion-proof function;

2.the photos are for reference only, subject to the physical object

1.1 Product model WGDW-400L-40BC-5V30A96CH (Note: see 9.1 for the specifications of the testing equipment)

1.2 Model naming method	**model**		**WGDW**	**-**	**400L**	**-**	**2**	**-**	**40**	**H**	**W**	**B**	**F**	**C**	**-**	**380V**	**-**	**B**
	characteristic		**(1)**		**(2)**		**(3)**		**(4)**	**(5)**	**(6)**	**(7)**	**(8)**	**(9)**		**(10)**		**(11)**
	meaning	(1)	High and low temperature box series															
		(2)	Nominal content product of single-temperature zone box: 400L (other digital analogy)															
		(3)	2:2 temperature zone box type (1 temperature zone does not indicate, other numbers by analogy)															
		(4)	Minimum achievable temperature: 0:0℃, 20: -20℃, 40: -40℃, 70: -70℃															
		(5)	Whether with damp heat function: H: damp heat type (dry hot type, without humidification function)															
		(6)	Cooling mode of refrigeration unit: W: water cooled; A: air cooling (not omitted)															
		(7)	B: Explosion-proof (no explosion-proof function indicated)															
		(8)	F: Automatic fire extinguishing function (no fire extinguishing function)															
		(9)	C: stacked refrigeration system (single compressor system, only for-40℃ equipment)															
		(10)	380V: Equipment voltage 380V (default 380V omitted not indicated, other voltages by analogy)															
		(11)	B: Product iteration update version number, then A, B, C..., Default A does not indicate.															

2.Product application	Suitable for aviation, automobile, scientific research and other fields of electrical, electronic and other products, parts and materials in high and low temperature environment storage, transportation, use of the adaptability test, is the new energy field production enterprises, scientific research institutes for the reliability of the cell performance test equipment
3. Limit the sample	This test equipment is prohibited by: Test or storage of samples of inflammable, explosive and volatile substances Test or storage of test samples of corrosive substances Testing or storage of biological samples Test or storage of samples of strong electromagnetic emission sources Test and storage of test samples of radioactive substances Test and storage of test samples of highly toxic substances Testing or storage of tests or specimens that may produce such substances or objects

4. Volume, size, and weight	
4.1 Nominal content product	400L
4.2 Inner box size	W810mm×D500mm×H1000mm
4.3 Overall dimensions	W1420mm×D1800mm×H2000mm (without bulge)
4.4 Net weight of the equipment	About 700kg
5. Performance	
5.1 Test the environmental conditions	Ambient temperature is +25℃, relative humidity is 85%, with no sample in the test box (no load)
5.2 Test method	GB / T 5170.2-2017 temperature test equipment
5.3 Temperature range	-40℃ ~150℃ (actual temperature range of user: -40℃~150℃)
5.4 Temperature fluctuation degree	± 0.5℃ (when no load, temperature is stable)
5.5 Temperature deviation	± 2.0℃ (when no load and temperature is stable)
5.6 Heat-up time	+ 20℃ + 100℃ 40 min (empty load, average nonlinear)
5.7 Cooling time	+ 20℃ -40℃ 60 min (no load, average nonlinear)

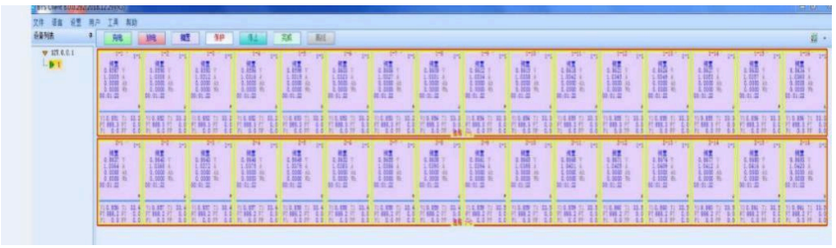
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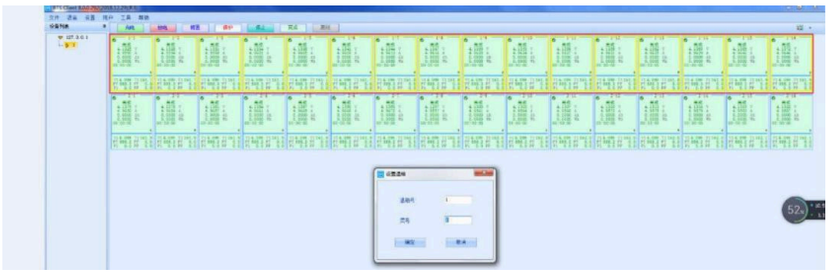
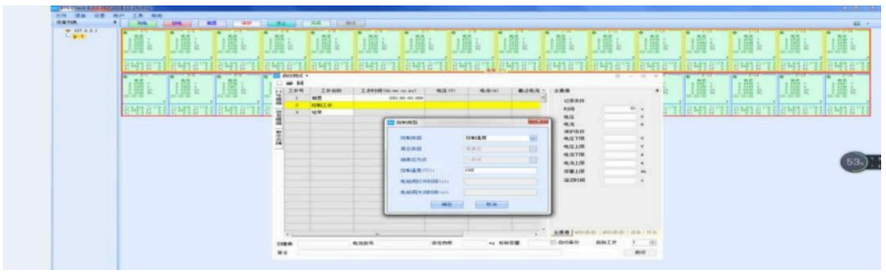
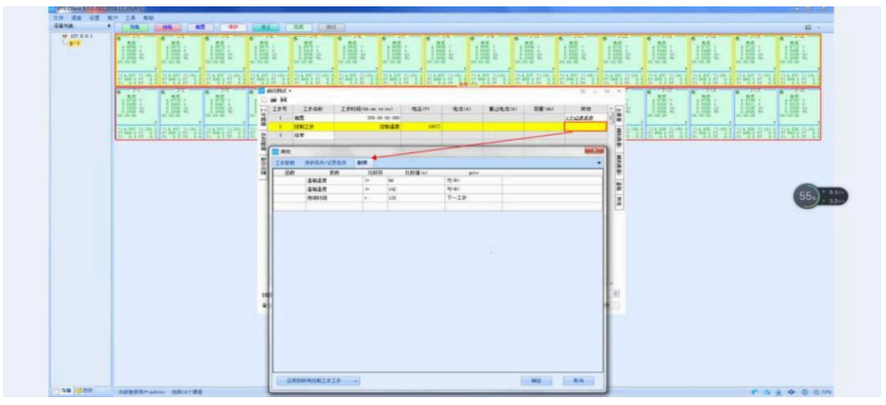
5.8 With a thermal load	600W (due to heating on the cell)
5.9 Meet the test method	GB/T 2423.1-2008 Low Temperature Test Method Ab GB/T 2423.2-2008 High-temperature test method Bb GJB 150.3A-2009 hot test GJB 150.4A-2009 cold test GB/T 10592-2008 Technical conditions of the high and low temperature test box
6. Structural characteristics	
6.1 Thermal insulation and envelope structure	Outer wall material: high quality cold-tempered steel plate, surface spray plastic and paint treatment Inner wall material: stainless steel plate SUS304 Box insulation material: rigid polyurethane foam + glass wool (insulation thickness 100mm) Door thermal insulation material: glass wool
6.2 Air conditioning channel	Centrifugal fan, heater, evaporator (and dehumidifier), etc., using the left and right inlet and outlet air mode
6.3 Standard configuration of the test box	Lead holes (increased): φ 50mm / 12 (With soft rubber plug, located at the back of the box, corresponding to 2 trays for each layer) Casters: 4 (with adjusting feet) 
	Observation window: multi-layer hollow electric thermal film heating anti-fog observation window (located in the door falling-rising tone) Visual range: 330×450 mm (W×H), glass attached Thermal fog removal, can provide the best observation line of sight;  Lighting lamp: 1 Cell tray: high temperature resistant electric insulation cell tray 6 layers, load-bearing (all Cloth): 15kg / layer
6.4 Door	Single open hinged door (left hinge, right handle), with observation window, lighting, Window frame / door frame anti-condensation electric heating device, double-layer silicone rubber sealing strip Single door left and right two sides with 2 explosion-proof chains
6.5 The Control Panel	Controller display screen, overtemperature protection setting device, etc
6.6 Refrigeration unit room	Refrigeration unit, water connection tray, drainage hole, condenser, etc

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6.7 Power distribution control cabinet	Main power supply leakage circuit breaker, distribution board, exhaust fan, Ethernet physical interface 1 temperature and humidity controller, AC contactor, circuit breaker, thermal relay Temperature-limiting protector, solid-state relay and transformer, etc
6.8 The heater	Fned heater (explosion-proof) Heater control mode: no contact and other periodic pulse widening, SSR (solid state relay)
6.9 Power cord hole and osculum	Located on the back of the box
6.10 Explosion-proof pressure relief outlet	Located at the top of the box and automatically opens when the test space pressure exceeds the set pressure 
7. Refrigeration system	
7.1 Working mode	Mechanical compression refolding refrigeration mode
7.2 Refrigeration compressor	France imported "Taikang" fully enclosed compressor or Emerson Valley wheel compressor 
7.3 Main refrigeration components	Expansion valve, pressure controller, dry filter, Refrigeration solenoid valve, liquid reservoir, oil separator, etc
7.4 The evaporator	Fned tube heat exchanger (also dehumidifier)
7.5 The condenser	Air-cooled type: fin-tube type heat exchanger
7.6 The throttle device	Expansion valve / capillary tube
7.7 Control mode of the refrigerator	The control system automatically adjusts the operating condition of the refrigeration unit according to the test conditions Compressor return cooling circuit
7.8 Refrigerant	R404A (ozone depletion index of 0) / R23

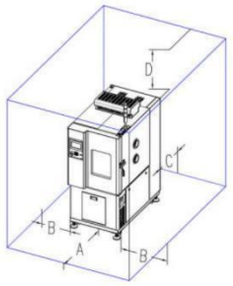
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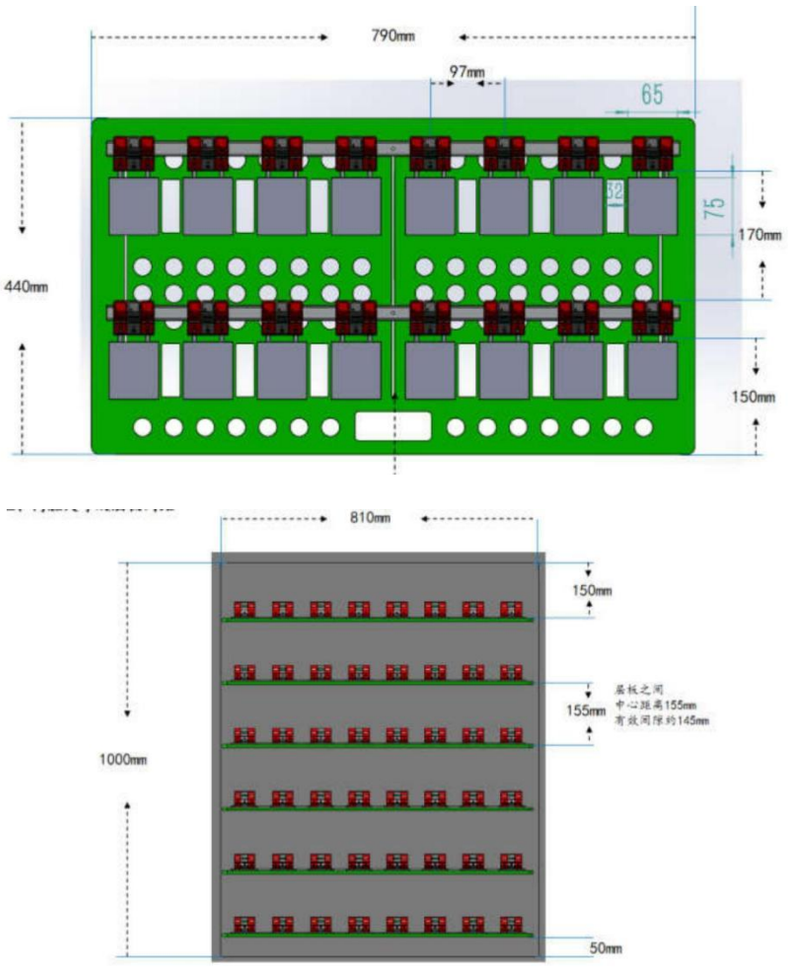
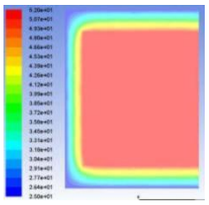
7.9 Welding process	Nitrogen filling protection welding
8. Control system	
8.1 Controller model number	Professional temperature controller
8.2 The display device	Hd color LCD, touch screen
8.3 Operation mode	Program mode, fixed value mode
8.4 Setting mode	Color touch, human-computer interaction, Chinese / English interface
8.5 Control mode	Anti-integral saturation PID BTC balance temperature regulation control mode
8.6 Temperature measurement method	Class A armored PT100 sensor
8.7 Display accuracy	Temperature: 0.01℃; time: 1min
8.8 Overtemperature protection	Independent overtemperature protector, when the studio temperature exceeds the temperature set by the protection device, will protect the shutdown and send an alarm signal
9. Cell testing equipment and test interconnection	
9.1 Testing equipment	5V30A 96CH, located at the back of the box
9.2, the median machine	Twenty-four
9.3 The Network Switch	One
	Step 1: Open the software interface  Step 2: Select to set up the test box

9.4 Upper computer programming control interface (see equipment random data for details)	 Step 3: Find the test box to be set up  Step 4: Set up the test box to control the temperature 
	Step 5: Set the working step control conditions 
10. Safety protection device	
10.1.The refrigeration system	Compressor overheating, compressor overload, compressor overpressure, condensing fan overheating

10.2 Test box	Adjustable overtemperature, box circulation fan abnormal protection
10.3. Smoke prevention alarm	Equipped with a smoke alarm, when the induction of smoke will automatically alarm
10.4. Smoke exhaust device	When the smoke alarm detects that the smoke concentration exceeds the standard, then start the smoke exhaust fan
10.5 Other	Phase sequence and phase protection of total power supply, leakage protection, overload and short circuit protection, power recovery protection
11. Other configurations	
11.1. The power supply cable	1 five-core (three-phase four-wire + protective ground wire) cable (specific specifications are selected according to the contract requirements)
11.2 Main power supply leakage circuit breaker	Three-phase and four-wire + protective ground wire
11.3 Data	Provide the Chinese user manual and the Chinese technical materials
12. Transportation test box is integral, overall transportation	
12.1 Size	Maximum shipping size (excluding packaging): "See 4.3 Outline dimensions"
12.2 Weight	Maximum shipping weight (excluding packaging): "See 4.4 Weight"
13. The following conditions are guaranteed by the user (the user is responsible for the installation of the power supply line of the equipment)	

13.1 Installation site	The ground is flat and complies with GB50209-2002 specification: flatness 5mm / 2m is well ventilated No strong vibration around the equipment There is no strong electromagnetic field influence around the equipment There is no flammable, explosive, corrosive substances and dust around the equipment Appropriate space for use and maintenance around the equipment, as shown in

	the figure: A: not less than 130 cmB: not less than 60cm C: No less than 70cm D: not less than 50cm 
13.2 Environmental conditions	Temperature: 5℃ ~35℃; relative humidity: 85%; air pressure: 86 kPa ~ 106 kPa
13.3 Power supply conditions Source Distribution power Maximum current	AC (380 ± 38) V (50 ± 0.5) Hz three-phase five-wire system The protective ground ground resistance is less than 4 Ω The user is required to configure the corresponding capacity air or power switches for the equipment at the installation site and this The switch must be independent for the equipment 9kW (temperature box) + 22kW (test equipment) 18A+44A
13.4 Others	Opening the door of the test box during the test will cause the temperature fluctuation in the box; If the door opens many times or leaves the door open for a long time or the test sample emits wet steam, the heat exchanger of the refrigeration system may freeze and fail to work normally
14. Cell specifications and placement method	
14.1 Cell specification	Soft pack cell 5V30A96CH, cell size see the following figure
14.2 Cell placement method	Six layers were placed, and each layer was 16 CH

14.3 Form and fixing mode of cell tray (cell tray can be customized as needed) Cell tray is imported, high temperature resistant electric insulation material **Cell pallet high compatibility design, can meet the different sizes and specifications of the cell test use**	 pour: 1. The equipment configuration of six layers of customized cell tray; 2. Each layer of cell tray is equipped with 2 C-type guide rails, with a total of 12 in 6 layers; 3. The channel line should use silica gel soft line; 4. Pictures for reference only, to the object.
15. Simulation diagram during stable temperature operation in the test box (schematic diagram only)	
No-load run	

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