1. Product name: All-in-One 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. Material code	**WGDW-380L-2-40 BFC-5V600A8CH**		
Model naming method	Model	WGDW - 380L - 2 - 40 H W B F C - 380V - B	
	Characteristic	(1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11)	
	Symbol meaning	(1)	High and low temperature box series
		(2)	Nominal content product of single-layer box: 380L (other digital analogy)
		(3)	2:2 layer box type (1 layer does not represent, other digital 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, withou humidification function)
		(6)	Cooling mode of refrigeration unit: W: water cooled; A: air cooling (not omitted)
		(7)	B: Burproof (no burst function)
		(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 voltage by analogy)
		(11)	B: Product iteration update version number, then A, B, C....., Default A does nc indicate

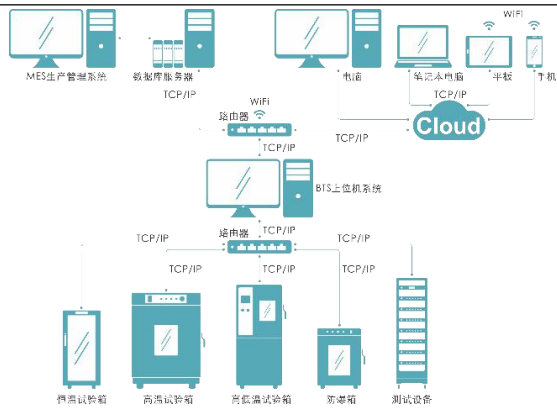
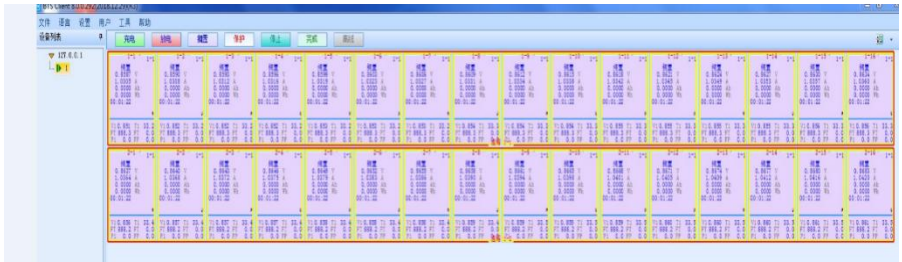
2. Product application	Suitable for aviation, automotive, scientific research and other fields of electrical, electronics and other products, parts and materials in high and low temperature environment storage, transportation, use of the adaptability test, is the new energy field production enterprises, 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	380L×2
4.2 Size of the inner box (single layer)	W1000mm×D500mm×H750mm
4.3 Overall dimensions	W 1600 mm D 1800 mm H 2050 mm (excluding, raised, local increase in equipment width size)
4.4 Net weight of the equipment	About 900kg
5. Performance	
5.1 Test the	Ambient temperature is +25℃, relative humidity is 85%, with no sample in the test

environmental conditions	box (no load)
5.2 Test method	GB / T 5170.2-2017 temperature test equipment
5.3 Temperature range	-40℃~150℃
5.4 Temperature fluctuation degree	≤1℃ (equivalent to ± 0.5℃, with no load and stable temperature)
5.5 Temperature deviation	±2.0℃ (when no load and temperature is stable)
5.6 Heat-up time	+20℃~+150℃ ≤60min (no load, average nonlinearity)
5.7 Cooling time	+20℃~-40℃ ≤60min (no load, average nonlinear)
5.8 Thermal load (single layer)	450W (due to heating on the cell)
5.9 Meet the test method	GB / T 2423.1-2008 CryTemperature Test Method Ab; GB / T 2423.2-2008 High Temperature Test Method Bb; GJB 150.3A-2009 High-temperature test; GJB 150.4A-2009 Low-temperature test; GB / T 10592-2008, technical conditions of 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;

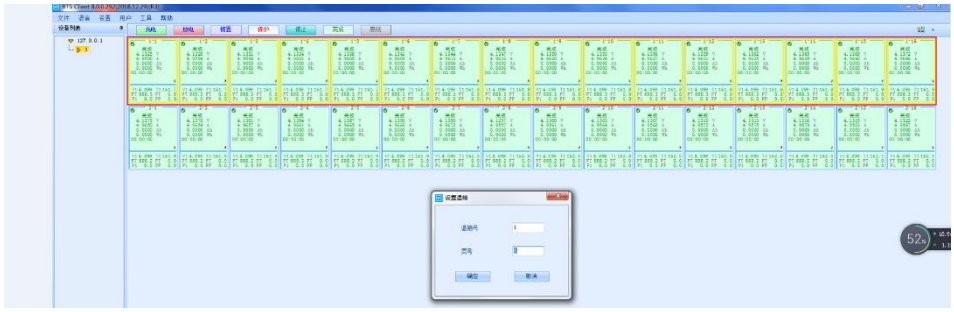
6.2 Air conditioning channel	Centrifugal fan, heater, evaporator (and dehumidifier), etc
6.3 Standard configuration of the test box	Lead hole (single layer box): φ100mm / 1 (With stopplug at the back of the box) Casters: 4 (with adjusting feet) 
	Observation window (single-layer box): multi-layer hollow electric heating film heating anti-fog observation window (located on the door) The visual range is about: 330×450 mm (W×H), with electric heating fog removal inside the glass, which can provide the best observation line of sight; Lighting lamp (single-layer box): 1  Cell pallet (single layer box): 1 layer of stainless steel cell tray, load-bearing (all cloth): 40kg / 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
6.5 The Control Panel	Controller display screen, overtemperature protection setting device, etc
6.6 Refrigeration unit room	Refrigeration unit, water connection plate, drainage hole, condensing fan, etc
6.7 Power distribution control cabinet	● Total 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 Heater	Nickel-chromium alloy electric heating wire type heater 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 on the left side of the box, open automatically 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 Evaporator	Fned tube heat exchanger (also dehumidifier)
7.5 Condenser	Air-cooled type: fin-tube type heat exchanger
7.6 The throttle device	Expansion valve / Capillary tube
7.7 Control mode of the	The control system automatically adjusts the operating condition of the refrigeration unit according to the test conditions

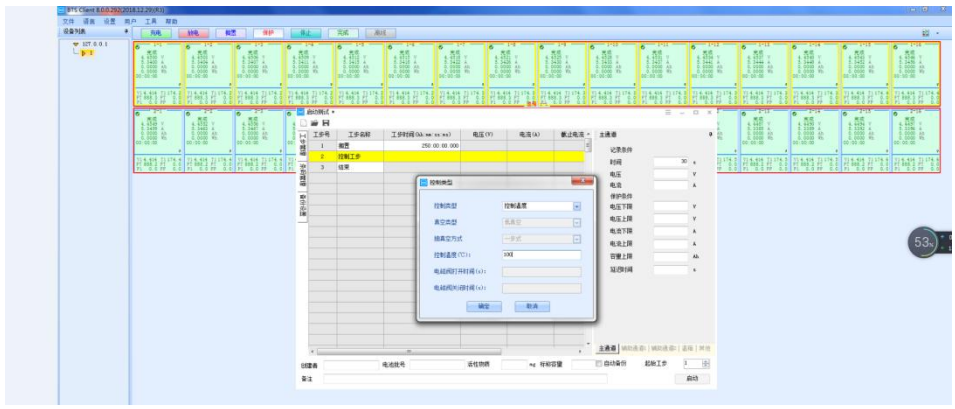
refrigerator	Compressor return cooling circuit
7.8 Refrigerant	R404A (ozone depletion index is 0) / R23
7.9 Welding process	Nitrogen filling protection welding
8. Control system	
8.1 Controller model number	Professional temperature controller
8.2 Display	Hd color LCD touchscreen
8.3 Operation mode	Program 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 will protect the shutdown and send an alarm signal when the studio temperature exceeds the temperature set by this protection device
9. Cell testing equipment and test interconnection	
9.1 Testing equipment	5V600A8CH
9.2 The median	1

machine	
9.3 The Network Switch	1
9.4 Schematic diagram of the network	
9.5 Upper computer programming control interface (see equipment random data for details)	Step 1: Open the software interface  Step 2: Select to set up the test box 

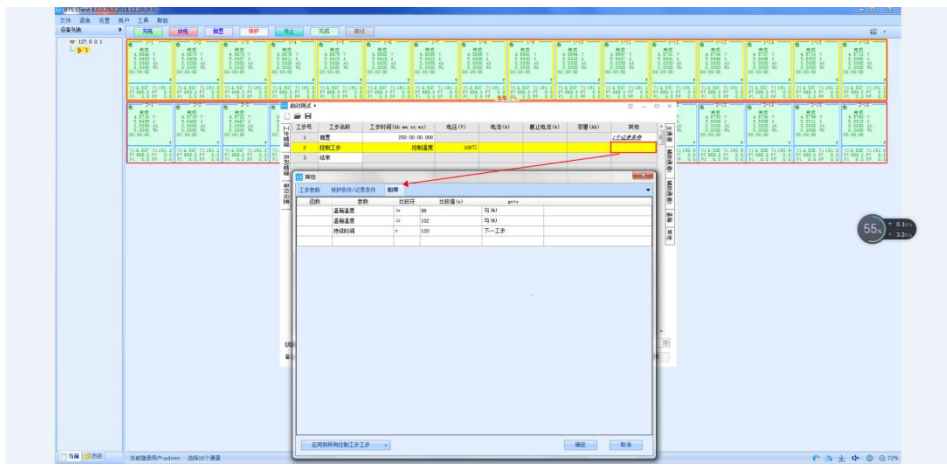
Step 3: Find the test box to be set up



Step 4: Set up the test box to control the temperature

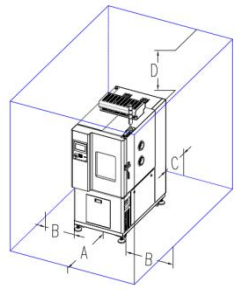


Step 5: Set the working step control conditions

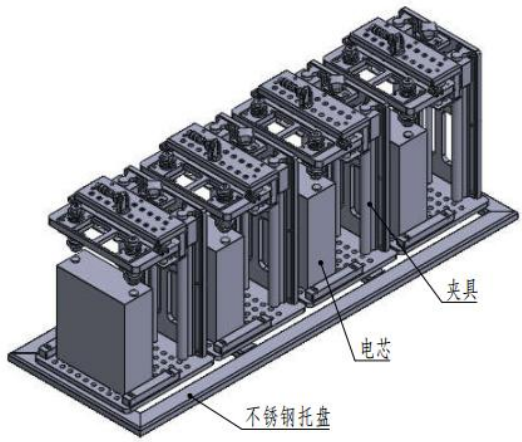


10. Safety protection device

10.1 Refrigeration system	Compressor overheating, compressor overload, compressor overpressure, condensing fan overheating
10.2 Test box	Adjustable overtemperature protection, abnormal protection of the circulation fan in the box
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 Fire extinguishing device	The fire extinguishing device for each equipment is one empty 8L carbon dioxide bottle, Manual or automatic fire extinguishing function can be installed on the side of the equipment  **Note:** Due to the limitation of logistics and transportation, the carbon dioxide fire extinguishing agent should be filled by a local professional gas company
10.6 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 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 Chinese user manual and Chinese technical materials
12. Transportation test box is integral, overall transportation	
12.1 Dimensions	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 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 use and maintenance space is left around the equipment, as shown in the figure: A: not less than 100 cm; B: not less than 60cm C: No less than 70cm; D: not less than 50cm 
13.2 The Environmental conditions	Temperature: 5℃~35℃; Relative humidity: 85%; Air pressure: 86kPa~106kPa
13.3 Power supply conditions Source Distribution power maximum	● AC (380 ± 38) V (50 ± 0.5) Hz three-phase five-wire system ● The protective ground ground resistance is less than 4Ω ● The user is required to configure an air or power switch for the equipment at the installation site, and the switch must be independent for the equipment ● (Temperature box 7kW + test equipment 18kW) 250A×2

current	
13.4 Other	Opening the door of the test box during the test will cause temperature fluctuation in the box during the test; if the door is opened or open the door for many times or if the test sample emits wet steam, the heat exchanger of the refrigeration system may freeze and fail to work normally
14. Cell specification and placement method (single-layer box)	
14.1 Cell specifications	Square cell 5V600A 4CH (see the figure below)
14.2 Cell placement mode	One floor placed
14.3 Cell tray form and cell fixing mode (cell tray can be customized as needed) The cell tray is made of imported high temperature resistance, electric insulation material, and the height direction is appropriately	 Pour: 1. The cell fixture is fixed on a stainless steel tray; 2. The channel line and the fixture probe contact well, try to avoid the heating influence caused by the contact resistance; 3. Pictures are for reference only, subject to the physical object.

adjustable Cell pallet high compatibility design, can meet the different sizes and specifications of the cell test use	
15. Simulation diagram during stable temperature operation in the test box (schematic diagram only)	
No-load run