

Dear Client

Thank you for Purchasing our **HTTX-HI Insulating Boots (Gloves) Withstand Voltage Test Equipment (Auto)**. Please read the manual in detail prior to first use, which will help you use the equipment skillfully.



Our aim is to improve and perfect the company's products continually, so there may be slight differences between your purchase equipment and its instruction manual. You can find the changes in the appendix. Sorry for the inconvenience. If you have further questions, welcome to contact with our service department.



The input/output terminals and the test column may bring voltage, when you plug/draw the test wire or power outlet, they will cause electric spark. PLEASE CAUTION

**RISK OF ELECTRICAL SHOCK!**

**Company Address:**

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## ◆ **SERIOUS COMMITMENT**

All products of our company carry one year limited warranty from the date of shipment. If any such product proves defective during this warranty period we will maintain it for free. Meanwhile we implement lifetime service. Except otherwise agreed by contract.

## ◆ **SAFETY REQUIREMENTS**

Please read the following safety precautions carefully to avoid body injury and prevent the product or other relevant subassembly to damage. In order to avoid possible danger, this product can only be used within the prescribed scope.

*Only qualified technician can carry out maintenance or repair work.*

--To avoid fire and personal injury:

### **Use Proper Power Cord**

Only use the power wire supplied by the product or meet the specification of this produce.

### **Connect and Disconnect Correctly**

When the test wire is connected to the live terminal, please do not connect or disconnect the test wire.

### **Grounding**

The product is grounded through the power wire; besides, the ground pole of the shell must be grounded. To prevent electric shock, the grounding conductor must be connected to the ground.

Make sure the product has been grounded correctly before connecting with the input/output port.

### **Pay Attention to the Ratings of All Terminals**

To prevent the fire hazard or electric shock, please be care of all ratings and labels/marks of this product. Before connecting, please read the instruction manual to acquire information about the ratings.

### **Do Not Operate without Covers**

Do not operate this product when covers or panels removed.

### **Use Proper Fuse**

Only use the fuse with type and rating specified for the product.

### **Avoid Touching Bare Circuit and Charged Metal**

Do not touch the bare connection points and parts of energized equipment.

### **Do Not Operate with Suspicious Failures**

If you encounter operating failure, do not continue. Please contact with our maintenance staff.

### **Do Not Operate in Wet/Damp Conditions.**

### **Do Not Operate in Explosive Atmospheres.**

### **Ensure Product Surfaces Clean and Dry.**

## — **Security Terms**

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Warning: indicates that death or severe personal injury may result if proper precautions are not taken

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Caution: indicates that property damage may result if proper precautions are not taken.

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## Before the test Safety precautions

1. To protect the equipment and personal safety, please read the operating instructions carefully before the test, and strictly follow the instructions.

2. The instrument power supply is a single power supply: AC 120V. Use the instrument's power cord or a 20A or more power cord.

3. To ensure safety, the instrument is equipped with a protective grounding terminal, and the grounding terminals of the test vehicle and the operation box must be reliably grounded before the test.

4. To ensure accurate sampling, please make sure that the grounding terminal on the test car and the operation box is connected with the ground network and ensure that the two grounding terminals are reliably connected to the same grounding network. The grounding resistance should be less than  $0.1\Omega$ .

5. During the test, the operator should set aside enough safe operating distance (less than 20kV per meter in air).

6. The insulation resistance of the transformer should be tested before use. The insulation resistance of the input to ground should be greater than  $2\text{ M}\Omega$ , and the insulation resistance of the output to ground should be greater than  $10\text{ M}\Omega$ .

7. Before use, check whether the contacts of each electrical component are loose, whether the contact is good, and whether the protection systems can work normally.

8. Before use, all parts such as insulating struts, electrodes, electrode rods, and sinks should be wiped with alcohol.

9. After the test is completed, the water in the water tank should be drained, and the parts should be wiped dry with cotton cloth. If the device is not used for a long time, it should be stored in a dry and ventilated place.

10. The device shall be operated and stored in such a way that there is no gas,

vapour, chemical dust, or other explosive and aggressive media that could seriously affect insulation.

11. The device must be operated by professionals and strictly follow the operating procedures.

## **I. Product Description**

### **1.1 Overview**

This product is designed and manufactured by our company according to the testing procedures of insulating boots (gloves) and complying with the opinions of customers. This product adopts automatic rising (falling) pressure to automatically read out the leakage current of each tested product. The whole test process is automatically completed, and the test data is automatically printed, effectively solving irregular test methods in the past, thus simplifying the test procedure. , improve the test speed. More reliable identification of insulation boots (gloves) leakage current, power frequency voltage and other parameters. Safeguarding the safety of test workers is the ideal equipment for insulating boots (gloves). Its main features: Simultaneously test six items to be tested, and read the leakage current of each test item to accurately determine the unqualified sample; the bottom of the test vehicle is equipped with casters, which is easy to move and uses an ultra-large white display screen under strong light. Still clearly visible, the use of a key shuttle, easy operation, has a good interactive experience.

### **1.2 Instrument function**

This instrument is mainly used for the AC withstand voltage test of commonly used electrical insulation tools. The operating box has been preset according to national standards for test parameters of insulating boots, insulating gloves, and insulating pads. The specific parameters are shown in the following table.

Function list	Parameter
Insulated boots	15kV/60s/6mA
Insulated gloves	HV 8kV/60s/9mA LV 2.5kV/60s/2.5mA
Insulated Pad	HV 15kV/60s LV 3.5kV/60s
Customize	1~30kV / 1~20mA /1~10min

### 1.3 Executive standard

No.	Standard Name
1	DL/T 676-2012 Insulating shoes (boots) for live working
2	GB 12011-2009 Foot protection Electrically insulating shoes
3	HG 2949-1999 Insulating rubber sheet
4	GB/T 17622-2008 Insulating gloves for live working
5	GBJ 150 Electrical equipment installation engineering electrical equipment handover test standards
6	GB/T 8218-1987 Low-voltage tester

### 1.4 Instrument features

**1. Automatic and quick:** high-fineness stepper motor is used to control the step-up process of the pressure regulator, and the withstand voltage test is performed automatically according to the test parameters specified by the national standard. After the test is started, the instrument is automatically switched on and the voltage is automatically boosted according to the requirements of the national standard. The predetermined voltage is reached and the test voltage is maintained. The voltage is automatically depressurized after the preset time, and the power is automatically de-energized after zero, prompting the end of the test. Simultaneously display the leakage current of each sample and display the test results;

**2.Comprehensive functions:** full Chinese interface, working status display, simple and clear operation, wide application; with status display, with reminder

function, user's state of the device at a glance; rotation of the mouse operation, all functions can be through a rotation The mouse setting improves the product's safety and reliability; all digital adjustment eliminates the old adjustment method of potentiometer and is extremely convenient for on-site use; the button directly sets the target voltage, leakage current, and withstand voltage time, and is easy to use. ;

**3. Intelligent security protection:** with over-current, over-voltage protection. Accurate and rapid protection can effectively guarantee the safety of personnel and equipment;

**4. Large output voltage measurement is convenient and flexible:** The device can customize any output voltage of 1-50kV, the leakage current threshold can be arbitrarily set to 1-20mA, the test time can be arbitrarily set 1-10min, while the commonly used insulation equipment parameters in accordance with the national standard Integrate into modules for quick and easy testing.

**5.Human-machine interface is friendly:** The large white screen 320\*240 lattice Chinese character graphical interface, clear and beautiful writing; can be clearly visible under strong light, use high-performance rotary mouse, simple and convenient operation, long life; comes with high-speed micro-printer , instant print test data.

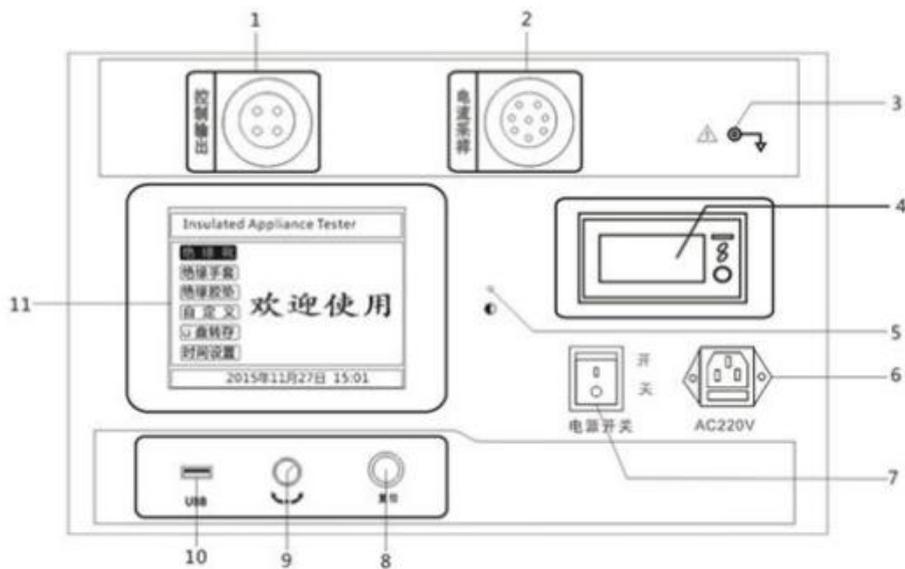
## 1.5 Technical Parameters

Insulation boots test	Voltage	15kV
	Leak	≤6mA
	Time	1min
	Resolution	0.1kV、0.1mA
	Accuracy	Voltage ± (2%+3d) Current± (2%+3d)
Insulation gloves test	Voltage	HV: 8kV LV:2.5kV
	Leak	HV: ≤9mA LV: ≤2.5mA
	Time	1min
	Resolution	0.1kV、0.1mA
	Accuracy	Voltage± (2%+3d) Current± (2%+3d)
Insulation pad test	Voltage	HV: 15kV LV: 3.5kV
	Leak	No Breakdown
	Time	1min
	Resolution	0.1kV、0.1mA
	Accuracy	Voltage± (2%+3d) Current± (2%+3d)
Custom test	Voltage	1-30kV
	Leak	1-20mA
	Time	1-10min
	Resolution	0.1kV、0.1mA
	Accuracy	Voltage± (2%+3d) Current± (2%+3d)
Working Power		AC220V 50HZ
Output Voltage		0-30kV
Capacity		3kVA
Test Numbers		6/time
Ambient temperature		-10℃ ~ +50℃
Operation box volume		35*22*37cm
Operation box quality		12kg

Test vehicle volume	75*90*102cm
Test vehicle quality	60kg

## 1.6 Structure introduction

The instrument is divided into two parts: the operation box and the test vehicle. Operation box panel structure shown in Figure 1.1.

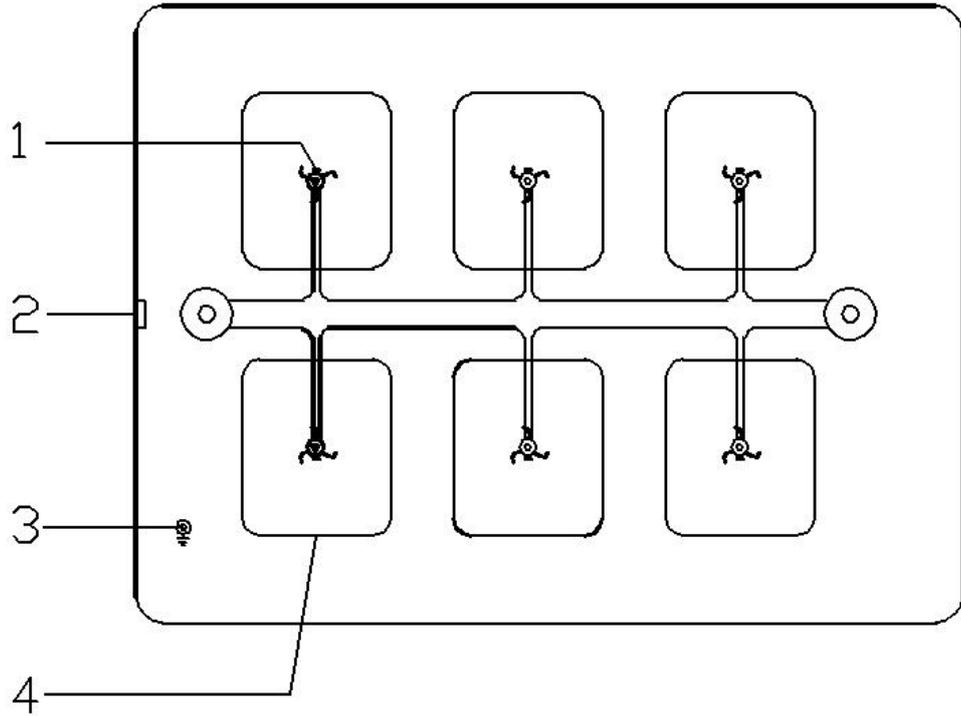


**Figure 1.1 Insulated boots (gloves) operation box panel structure**

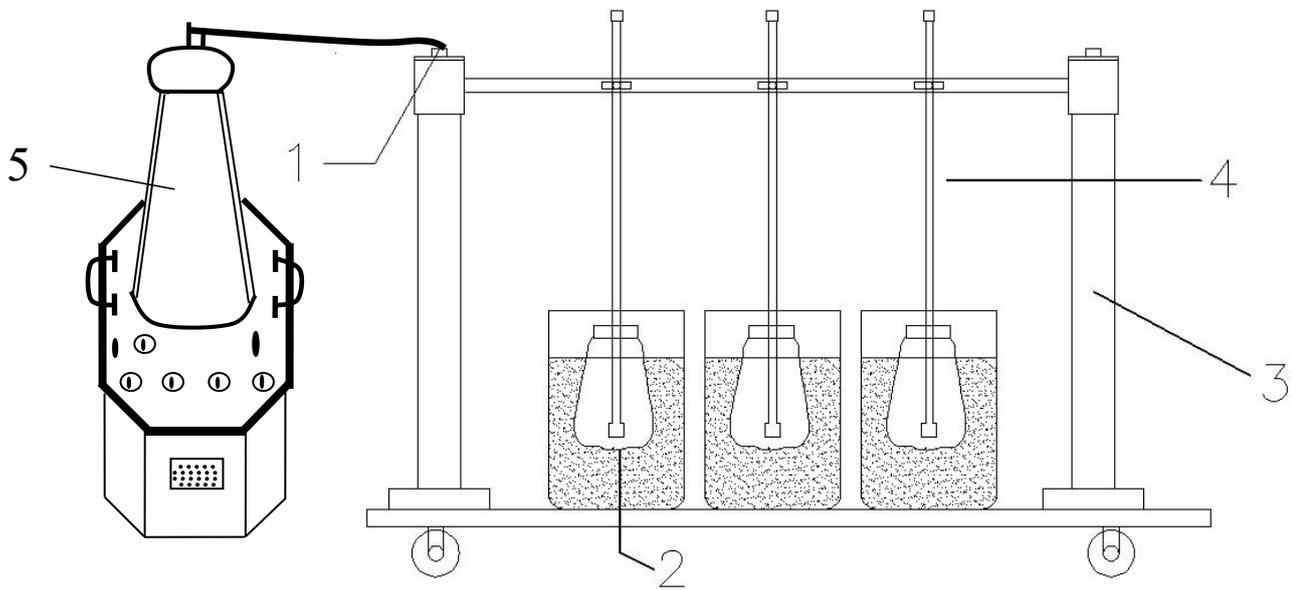
- |   |                                      |
|---|--------------------------------------|
| 1. Voltage output and recovery terminal | 2. Leakage current sampling terminal |
| 3. Earthing terminal                    |                                      |
| 4. Printer                              | 5. Contrast adjustment               |
| 6. Three-core power socket              |                                      |
| 7. Power switch                         | 8. Reset button                      |
| 9. USB interface                        | 10. USB interface                    |
| 11. LCD screen                          |                                      |

Instrument panel is equipped with instrument power supply socket (with 6A insurance), instrument power supply only supports AC120V 60Hz power input, please confirm the power supply voltage before power on, so as to avoid instrument damage due to voltage abnormalities.

The structure of each part of the test vehicle is shown in Figure1.2.



- 1. High voltage electrode
- 2. Leakage current sampling terminal
- 3. Ground terminal
- 4. Test sink



**Figure 1.2 Insulated boots (gloves) test vehicle**

- 1. High Voltage rod
- 2. Test sink
- 3. Insulation bracket
- 4. Test electrode
- 5. High voltage test transformer

## II. Feature Description and Main Menu

### 2.1 LCD display instructions

The operation box adopts a high resolution 320\*240 white backlit LCD display, which can display clearly even under strong sunlight. The test process, test options and test results are displayed on the LCD screen. The full Chinese character operation interface is clear and beautiful. The operation uses a high-quality rotating mouse, which reflects sensitivity and good interaction experience.

### 2.2 Rotate mouse instructions

The function of rotating the mouse is similar to the mouse used on the computer. It has three operations: "**left**", "**right**", "**press selected**". These three operations of the mouse can realize functions such as moving the cursor, data input, and operation selection.

**Move the cursor:** You can move the cursor by rotating the mouse by turning left or right, and move the cursor to the option you want to select. Press the knob to select this option.

**Data input:** When it is necessary to modify or input data, move the cursor to the option that needs to modify the data. Press the mouse to enter the hundred or ten-digit modification operation of the data (the cursor is reduced to the one that is being modified). , Left-hand or right-hand mouse will increase or decrease this bit. Press the mouse to confirm the modification of the bit, and enter the next bit of change, the same as the left or right mouse button to increase or decrease the bit. After the bit-by-bit modification is completed, the cursor is increased to full cursor, ie, the data is modified. At this time, the cursor can be removed by rotating the mouse.

### 2.3 Interface introduction

First connect the AC120V power supply to the instrument panel, open the main power switch on the panel, and the instrument enters the boot screen. After the boot is

completed, the instrument displays the screen as shown in Figure 2.1. The current test item indicated by the cursor after entering the standby screen is **Insulated Boot**, The background of the current selection item will be reversed。 Press the mouse to enter **Insulated Boot** test interface, Rotate the mouse to select **Insulated Glove**、**Insulated Pad**、**Customize**、**U Disk Save** or **Time Setting**.



Figure 2.1 Main interface

### 2.4 Modified date and time

In the main interface, select the setting time option, press to enter the setting time interface (as shown in Figure 2.2), you can set the year, month, day, hour, and minute of the instrument by rotating the mouse. After setting the time, the cursor moves to the determined item. , Click to complete the time setting, the cursor moves to the return item, click does not save the setting time.

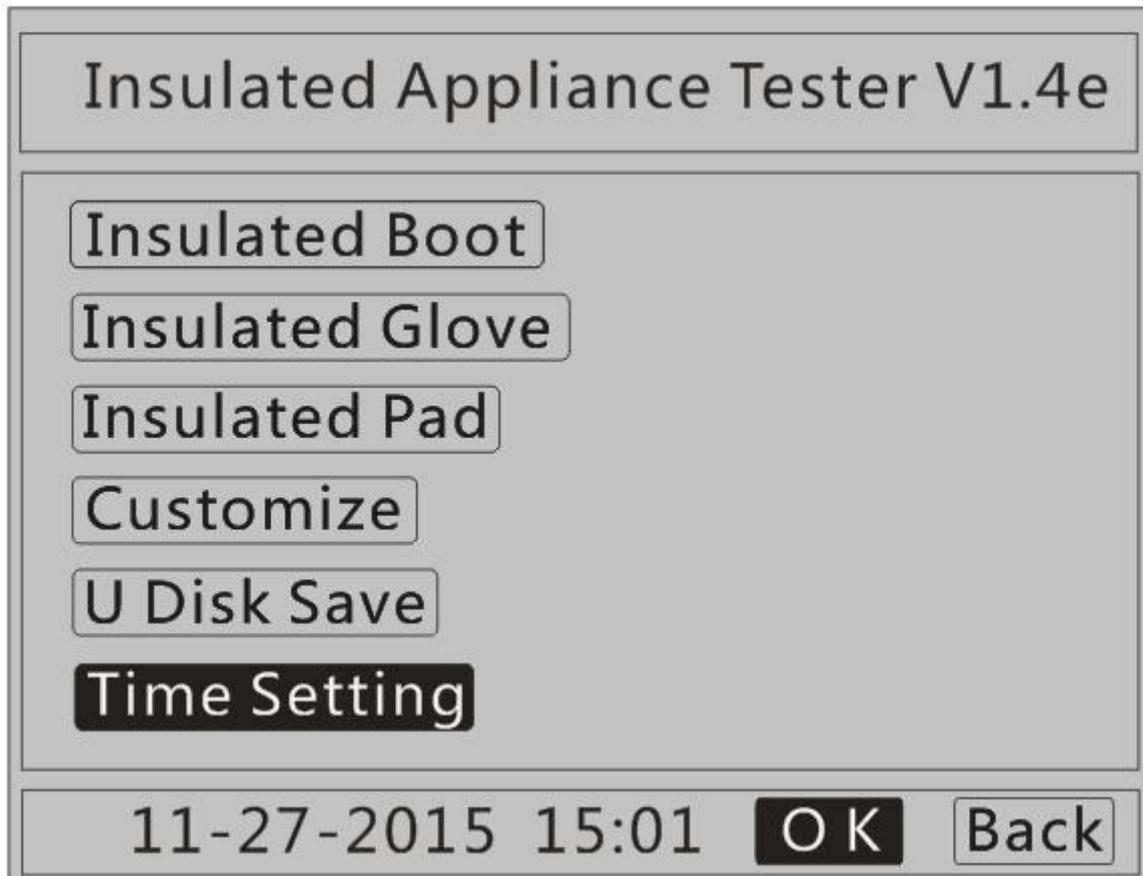


Figure 2.2 Time Settings

## 2.5 U Disk Save

“U Disk Save” The function is to transfer the historical data to the USB flash drive through the USB interface. Before using this function, please insert the USB flash drive into the USB port of the instrument and click on the main interface.

**U Disk Save** With the option, the instrument enters the USB flash disk transfer interface (Figure 2.3).



Figure 2.3 U disk escalation interface

After the transfer is completed, as shown in Figure 2.5, a file with a suffix “.JYX” named by time is stored in the USB flash drive in the format of “xx(month)xx(day)xx(hour)xx(minute).JYX” .

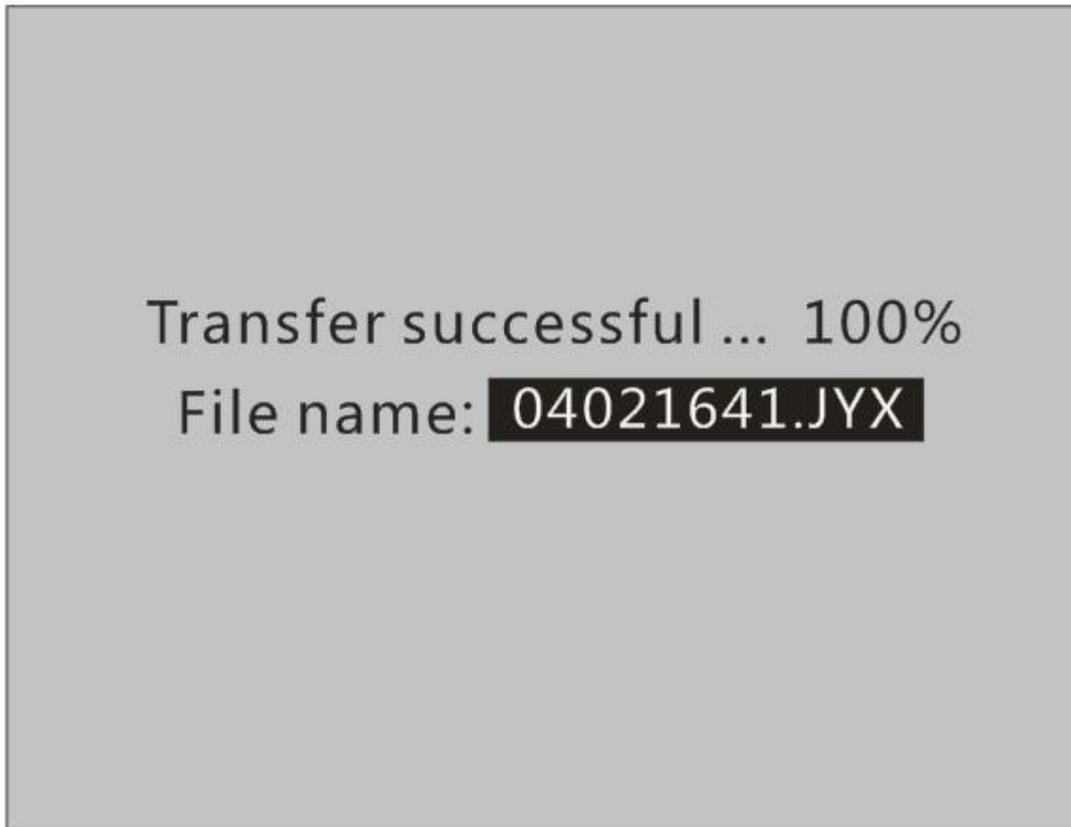


Figure 2.5 U disk transfer completion interface

In order to ensure the integrity of U disk data and the safe use of U disk, after the completion of data transfer, please turn off the instrument and then pull out the U disk. The tester reads the historical data stored in the U disk through the software in the supporting CD on the computer. **For specific operations, see the instructions for using the accessory software in Chapter 5.**

### III. Insulation Apparatus Test

#### 3.1 Test preset parameters

The operating box presets the AC withstand voltage test parameters of commonly used electrical insulation tools according to national standards. When such tests are carried out, the required test items can be automatically completed without parameter setting, which is concise and efficient. Preset test items and parameters are shown in the following table.

Test projects	project	period	Voltage level	Claim			Instructions
Insulated boots	Power frequency withstand voltage test	Six months	Null	Voltage kV	Test time min	Leak mA	Operation box has been preset
15				1	≤6		
Insulated gloves		Six months	Voltage level	Voltage kV	Test time min	Leak mA	Operation box has been preset
			HV	8	1	≤9	
LV			2.5	1	≤2.5		
Insulated Pad		One year	Voltage level	Voltage kV	Test time min	Leak mA	Operation box has been preset
			HV	15	1	No breakdown	
			LV	3.5	1	No breakdown	
customize		Power frequency withstand voltage test			Voltage kV	Test time min	Leak mA
	1-30				1-10	1-20	

If you need to do AC withstand voltage test of other electrical insulation tools, please set through the “custom” menu. For the specific operation method, please refer to the 3.4 user interface instructions.

### 3.2 Insulation boots test operation method introduction

The current test item indicated by the cursor is **Insulated boots**, The background of the currently selected item will be reversed. Press the mouse to enter **Insulated boots** test interface, As shown in Figure 3.2. Default selection **Start**, Rotate the mouse to select **Query** or **Back**, **Query** can query the saved test record interface as shown in Figure 3.1. Press this record query interface  The button can select different storage items and click **Query** You can view the corresponding test data, click **Del** can delete the selected item and click **Clear** All test records can be saved to clear, click **Back** can return to the insulated boot test interface in Figure 3.2. In Figure 3.2 click **Back** can return to the main interface.

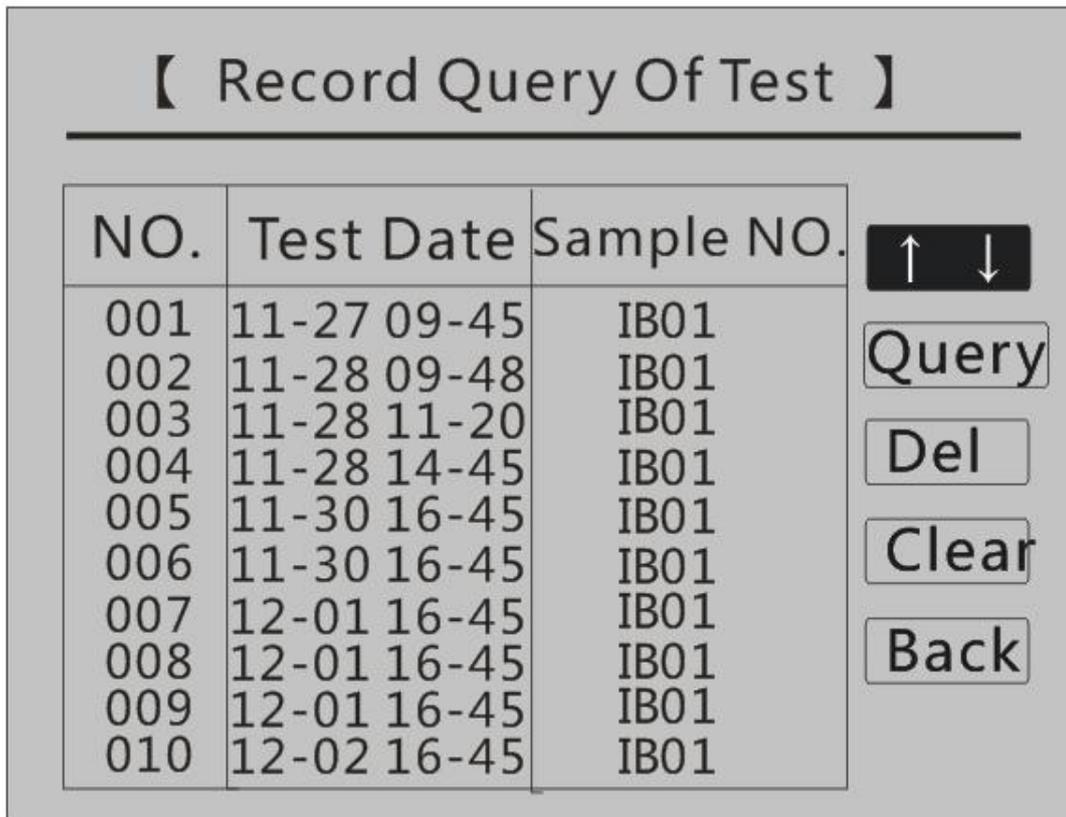


Figure 3.1 Record Query Interface

Rotate the mouse when the cursor is select **Start**, Press again and the security alert screen appears, as shown in Figure 3.3. Then press **O K** again, The instrument starts to pressurize to carry on the test, the test begins to demonstrate the interface to be shown as in Fig. 3.4; You can also choose **Back** by rotating the mouse, Return to the interface shown in Figure 3.2.

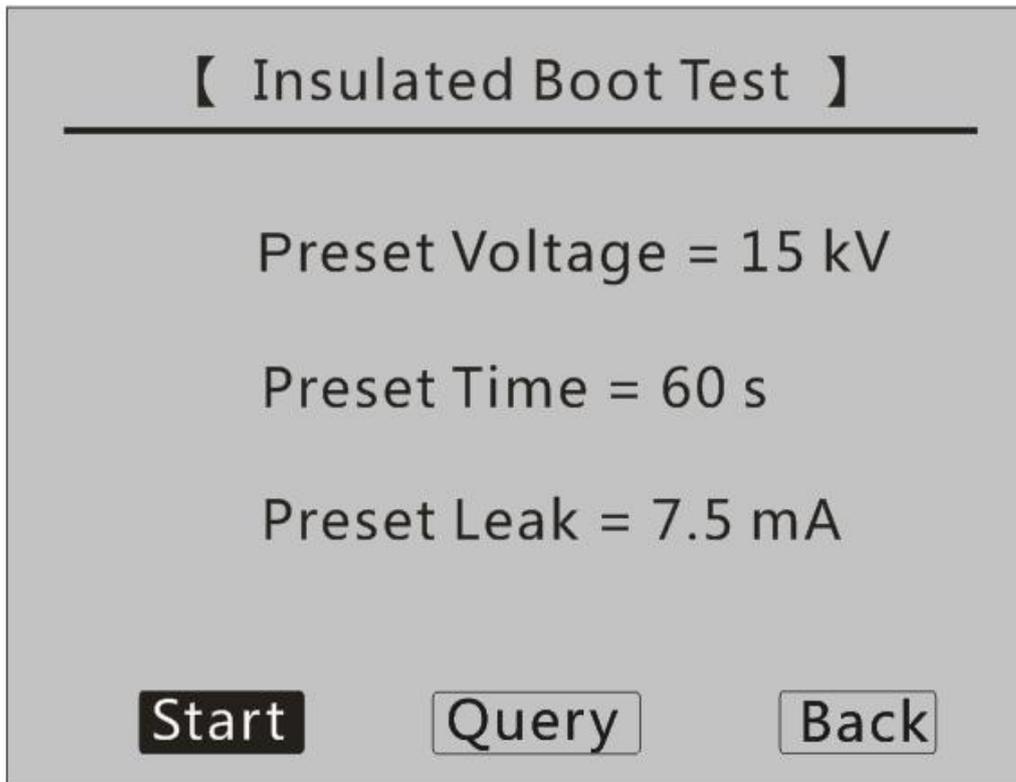


Figure 3.2 Insulation boots test

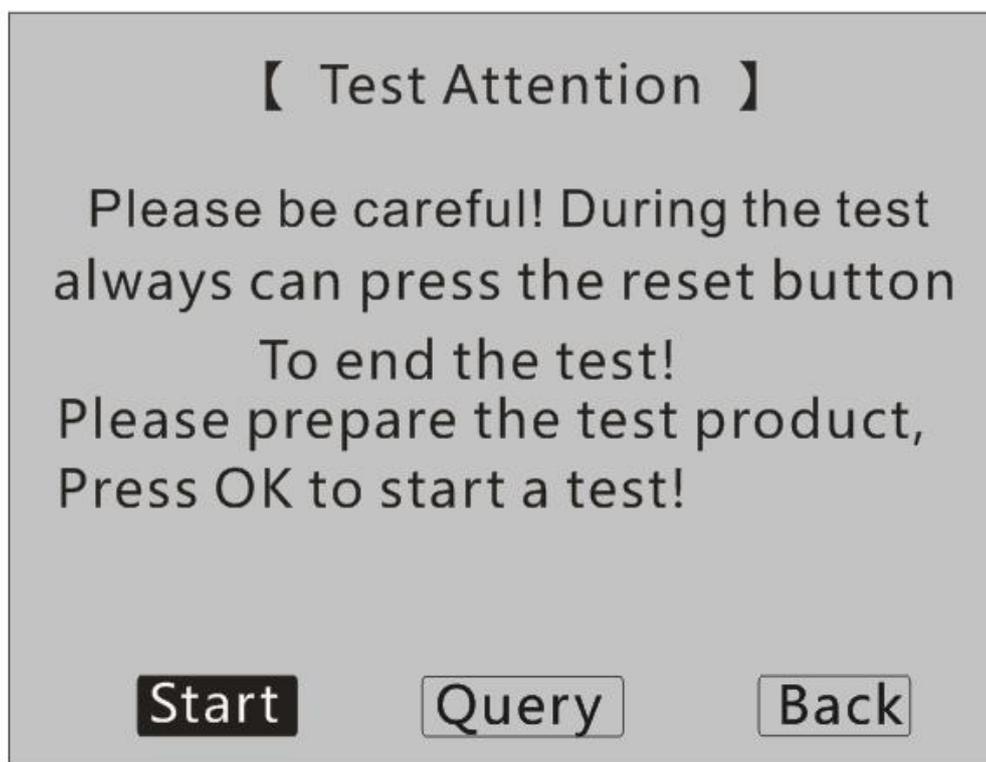


Figure 3.3 Security Alert

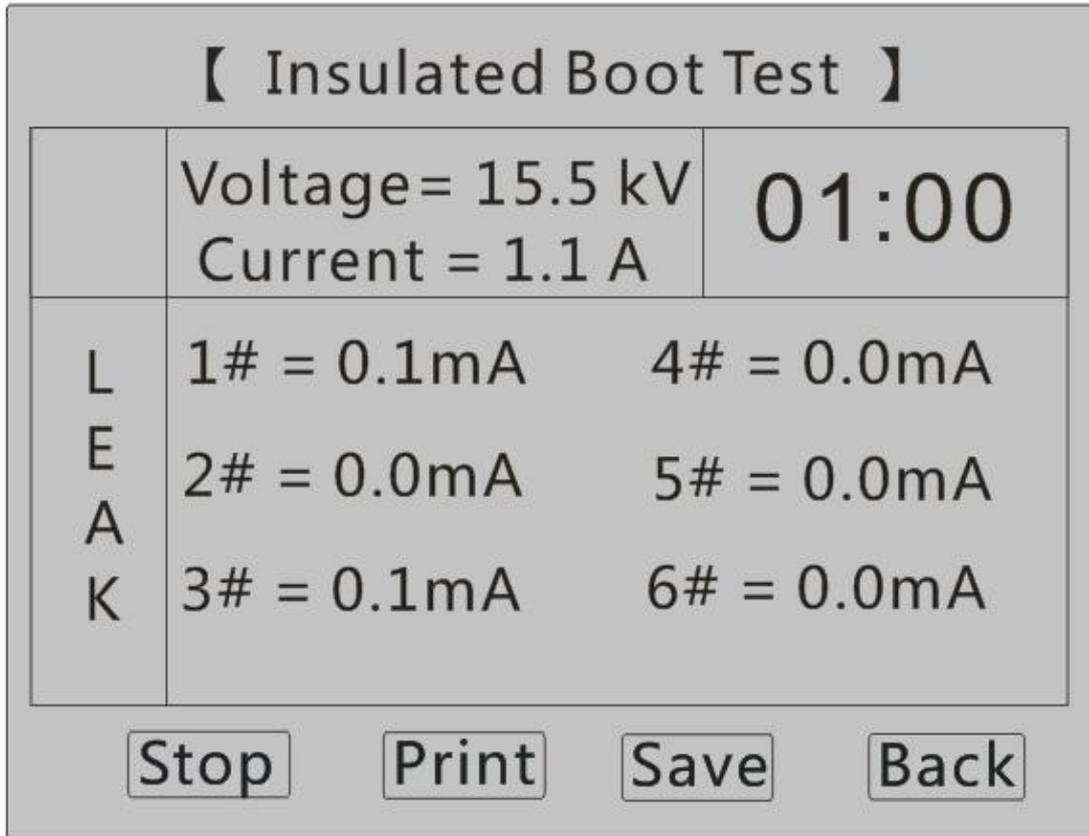


Figure 3.4 Insulation boots boost

When the voltage rises to the preset voltage of 15KV, the boost will stop. The interface is shown in Figure 3.5. Due to grid voltage fluctuations, this stop voltage may be biased, and the held voltage may be fine-tuned by rotating the mouse left or right. The following is the holding time for pressure resistance, in seconds. The following current displays are the output current and the leakage current of the six test barrels respectively. If the leakage current does not exceed the standard during the entire test, after the time is up to 60 seconds, the “End of Test” will be displayed on the time position display. At this point you can click  Button test results to print or click.  The button to enter the save interface is shown in Figure 3.6. In the save interface, you can select and change the sample number by rotating the mouse, then click  To save data or cancel it  previous interface. If any test barrel leakage current exceeds 10mA during the test, the instrument will automatically stop the test and the regulator will return to zero. At the same time, the “leakage exceeds the standard” and there will be an alarm sound; at this time, you can also choose by rotating the mouse  or  Press the key to save the test data, and then shut

down to find the cause of the leak and restart the test.

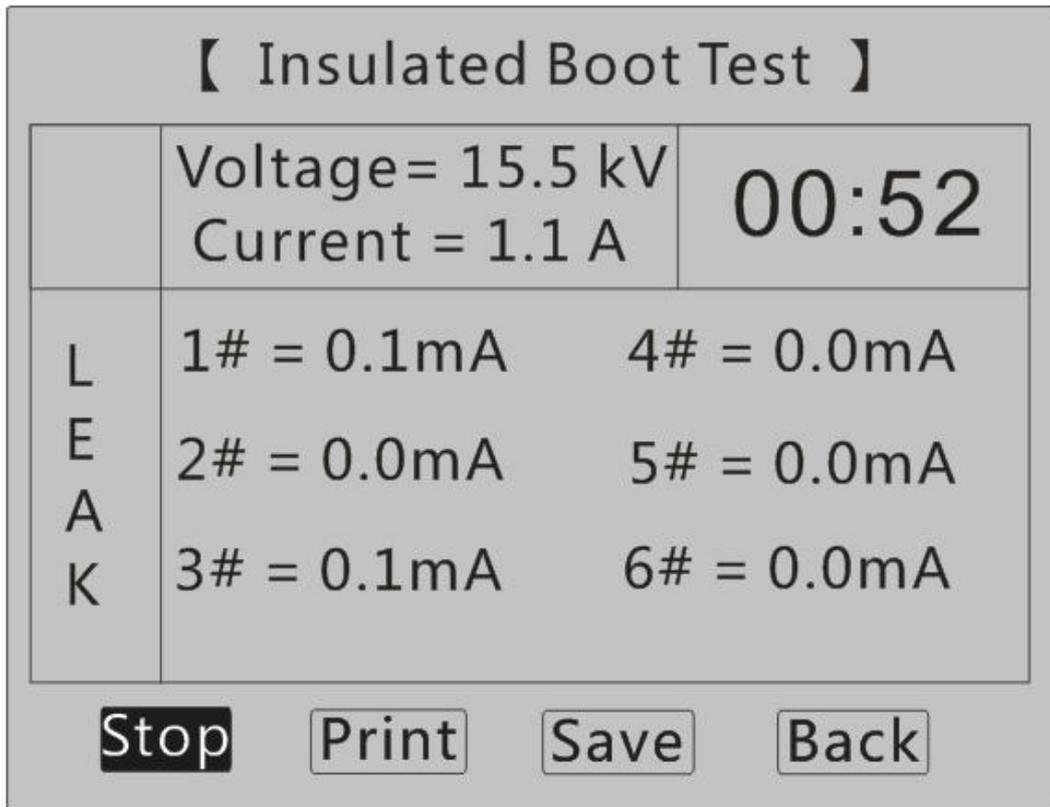


Figure 3.5 Insulated boots withstand voltage test

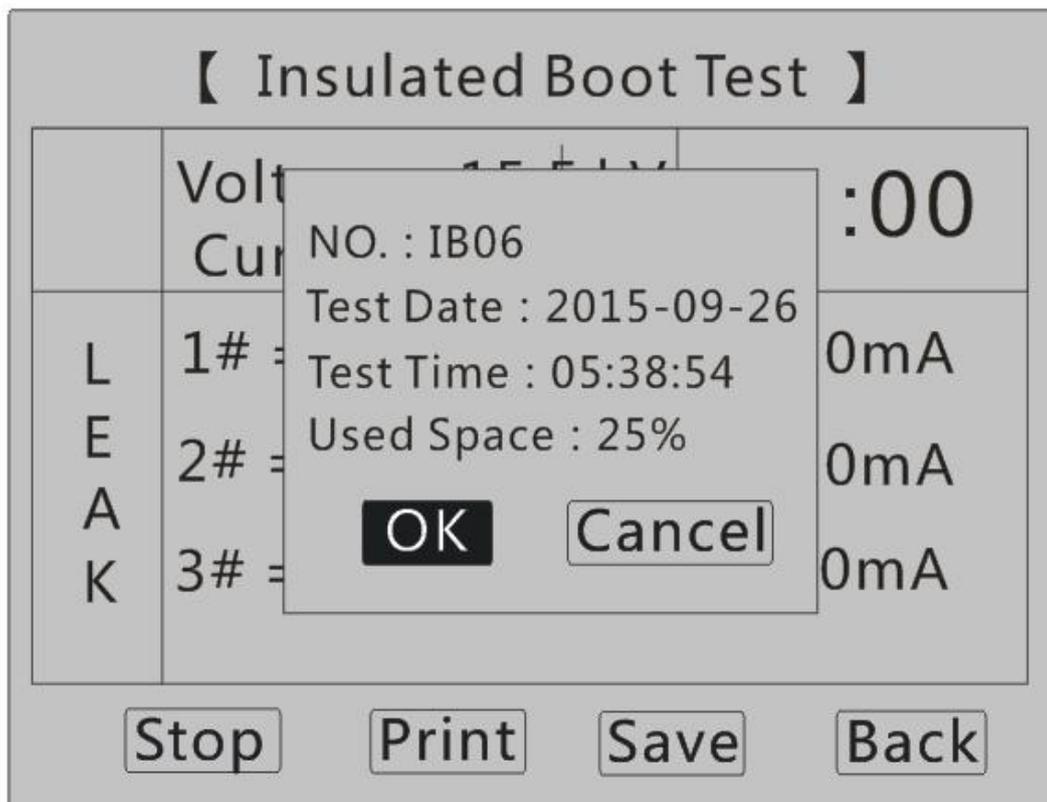


Figure 3.6 Data Saving Interface

**Note: To ensure the personal safety of the test personnel and to fully discharge the instrument and the test object, turn off the power switch for several seconds after each test, then turn it on and start another test.**

### 3.3 Insulating gloves interface

In the main interface of Figure 2.1, rotate the mouse when **Insulated glove** When black, press the mouse to enter the insulation glove test interface. Figure 3.7 shows the interface. The object can be changed by rotating the mouse. The voltage level can be changed to "high voltage" or "low voltage". The preset voltage corresponding to the high voltage is 8 kV, and the preset voltage corresponding to the low voltage is 2.5 kV. The other parameters are exactly the same. After selecting the preset voltage, you can select to **Start** the test by rotating the mouse, A reminder interface similar to that of the insulated boots will appear. Click again to **OK** that the instrument will begin to boost pressure. The subsequent interface display and operation are similar to the insulated boot interface.

You can also select the record **Query** or **Back** in the interface of Fig. 3.7. The operation mode is related to the insulating shoe interface.

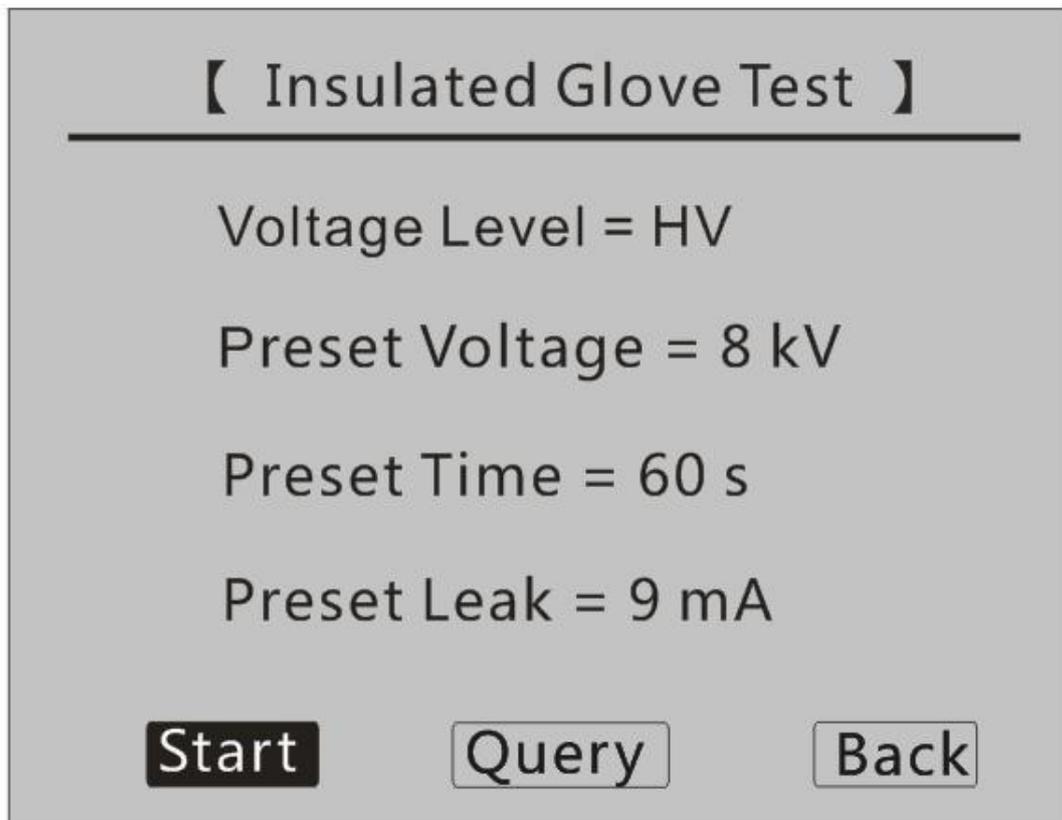


Figure 3.7 Insulating gloves interface

### 3.4 Insulation pad interface

In the main interface of Figure 2.1, by rotating the mouse, when the insulation pad is dark, press the mouse to enter the insulation pad test interface, as shown in Figure 3.8. The selected button can be switched by rotating the mouse, and the voltage level can be changed to "high voltage" or "low voltage". The preset voltage corresponding to the high voltage is 15 kV, and the preset voltage corresponding to the low voltage is 3.5 kV. The other parameters are exactly the same. After selecting the preset voltage, you can select to start the test by rotating the mouse. A reminder interface similar to that of the insulated boots will appear. Click the confirming instrument to start boosting. The subsequent interface display and operation are similar to the insulating boot interface.

You can also select the record query or return in the interface of Fig. 3.8. The operation mode is related to the insulation boots related interface.

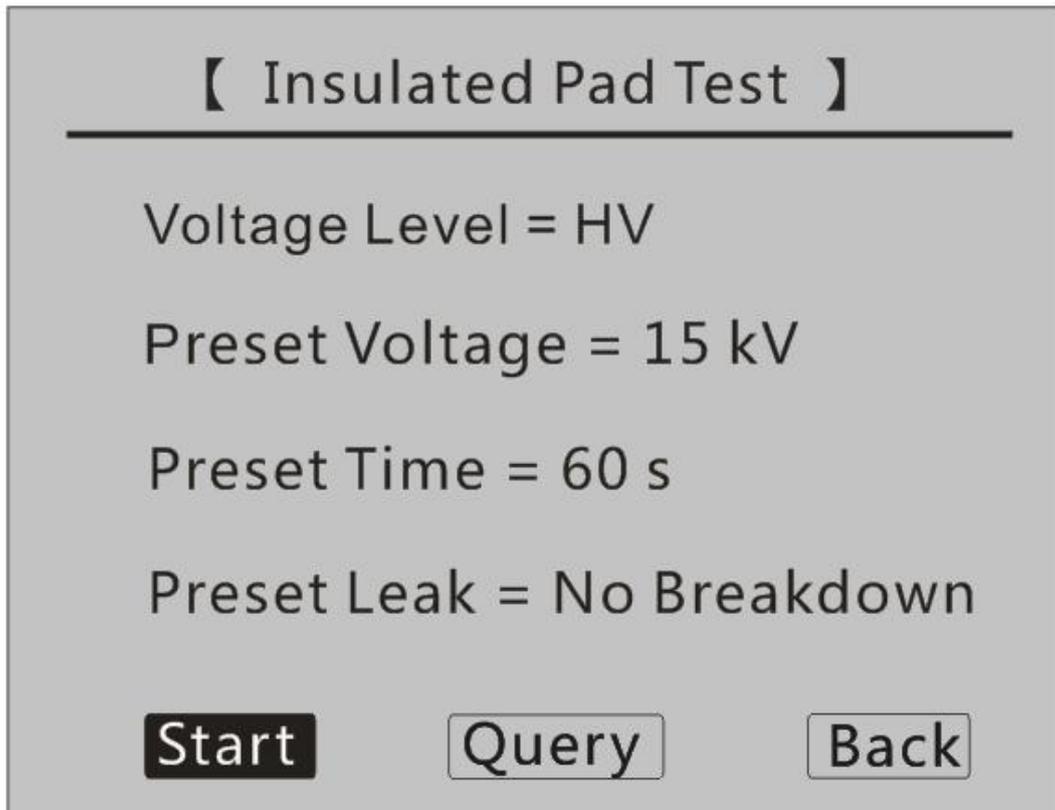


Figure 3.8 Insulation pad interface

### 3.5 Custom interface

In the main interface of Figure 2.1, rotate the mouse. When the custom black, press the mouse to enter the custom pressure test interface, as shown in Figure 3.9 display interface. The preset voltage, preset leak, and preset time can be changed by rotating the mouse. The change method is to rotate the mouse. When the corresponding position is dark, press the mouse, then rotate the mouse to change the selected value. Press again to rotate the mouse. After all the parameters are set, you can start the test by rotating the mouse. A reminder interface similar to that of the insulating boots will appear. Click the confirming instrument to start boosting. The subsequent interface display and operation are similar to the insulating boot interface.

You can also select the record query or return in the interface of Figure 3.9. The operation mode is related to the insulating boots interface.

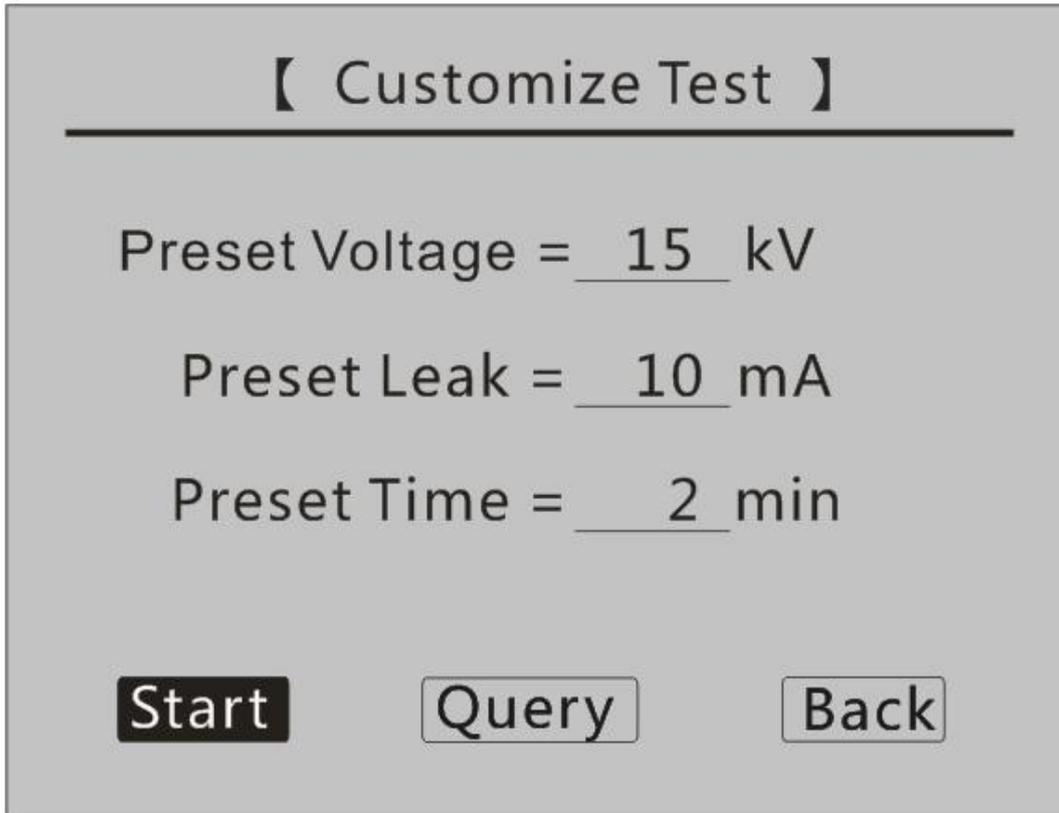


Figure 3.9 Custom Hipot Test Interface

#### IV. Test Methods and Precautions

**Step 1: Connect the high voltage test transformer and the high voltage cap on the test vehicle before use.**

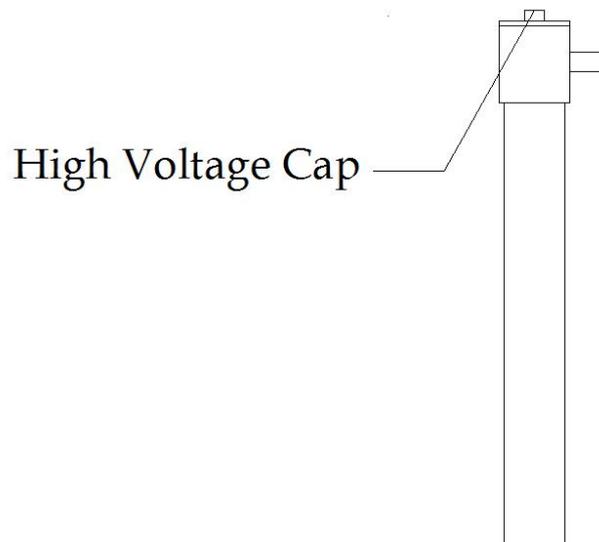


Figure 4.1 Schematic diagram of the tester's high pressure cap

**Step 2:** Insulation boots test reference method: Put the test stand in the test barrel container, put a layer of sponge on the test stand, and then fill the test barrel container with water as long as the sponge on the test stand is completely filled with water. Yes; then put the inside of the insulating shoe into a small steel ball so that it evenly covers the bottom of the insulating shoe. Place the insulating shoe on the water-absorbing sponge. Insert the high voltage electrode into the small steel ball in the insulating shoe and fix the other end of the high voltage electrode. Above the test stand at the high pressure end, clamp the clips on the insulated boots. As shown in Figure 4.2:

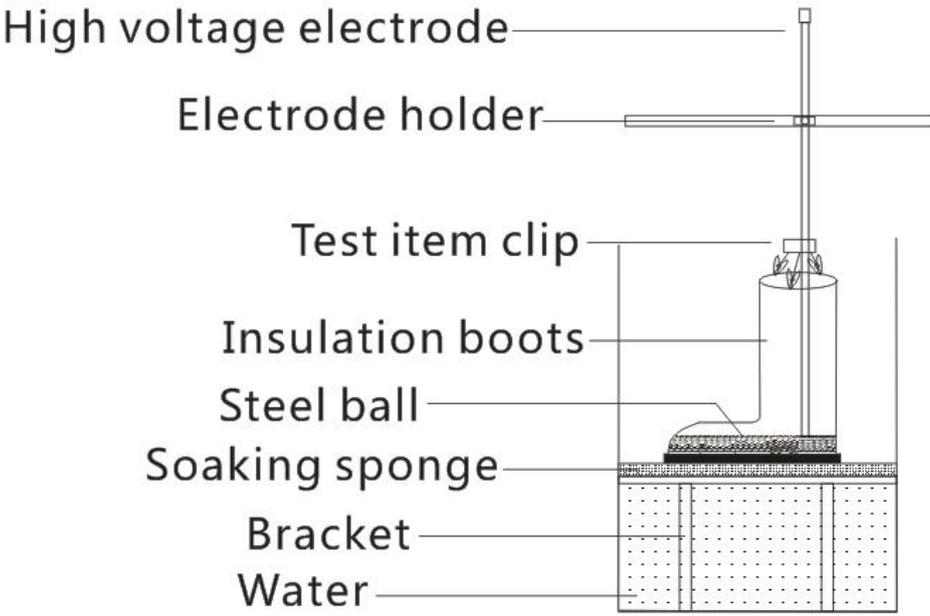


Figure 4.2 Sleeve Test

Insulating gloves test reference method: the test barrel container water injection, insulation gloves water injection, insulation gloves, the height of the water should be consistent with the container water injection height, insulation gloves should have 90mm exposed part of the water surface, and to ensure that exposed part of the water surface is dry and clean, and then Place the high voltage electrode in the water inside the insulating glove and clamp the insulating glove with the clip on the electrode. As shown in Figure 4.3.

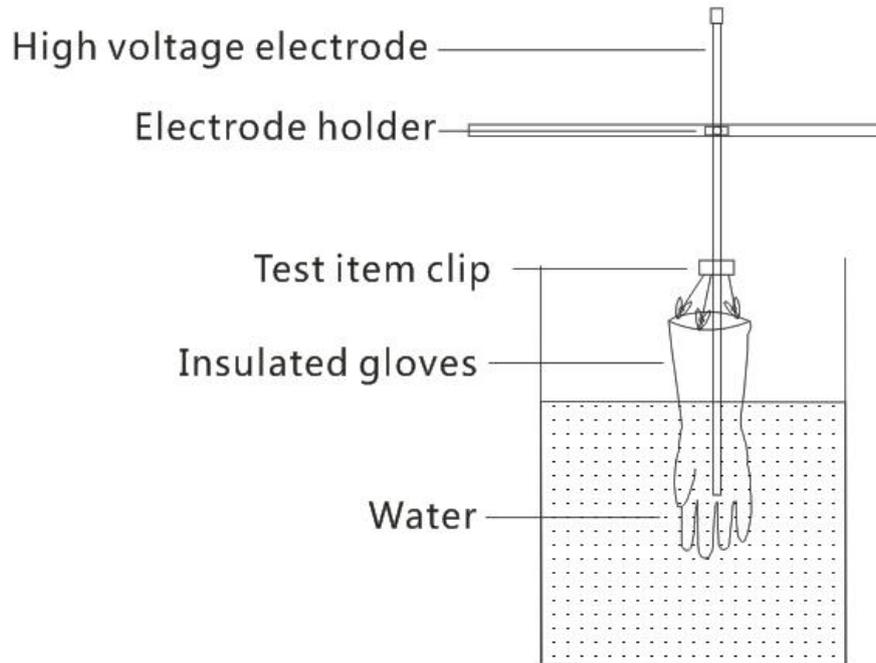


Figure 4.3 Schematic diagram of insulating gloves

**Step 3:** Connect the grounding terminal of the test vehicle to the ground network. Connect the ground terminal on the operation panel panel to the ground network and ensure that the two ground terminals are reliably connected to the same ground network. Otherwise, the test voltage accuracy may be affected.

**Step 4:** Connect the two connection cables between the control box and the test vehicle. One is a four-conductor voltage control cable, and the other is an eight-core signal sampling control cable. Note that the air plugs at both ends of the two cables have plug-ins. Wrong groove.

**Step 5:** Check the connection mode of the connection cable, grounding cable and the test object again. After confirming the connection is correct, the power socket on the control box is connected to the AC 120V voltage. Close the power switch and enter the measurement interface.

**Step 6:** Set the correct test voltage, leakage current threshold, test time and start the test according to the actual test requirements. Please pay attention to the prompts, voltage data, and current data on the display. For details, see Chapter 2 Function Description and Main Menu.

**Step 7:** Watch the voltage and current values closely. When the voltage

rises to the set voltage value, it stops boosting and enters the voltage hold state while timing. When the timer reaches the set value, it will automatically cut off the voltage output and the regulator will return to zero.

**Step 8:** After the regulator returns to zero, press the "Print" button again to print the measurement result. Press the "Reset" button to enter the main interface.

**Note 1:** Observe the leakage current value. If there is a drop in insulation performance of the insulating boots (gloves), the leakage current will be clearly indicated. Any current indication during the test exceeds the specified range of the test object, the system will automatically cut off the high voltage power supply, and the voltage regulator is automatically zeroed. After the regulator is reset to zero, turn off the power switch, look for the relevant cause, and withdraw the problematic boots or gloves before testing.

**Note 2:** In the process of boost or withstand voltage test, if overcurrent, such as short circuit, flashover, breakdown, etc. occurs, the corresponding data will be displayed in reverse video, and be maintained. The system will automatically zero back for the next test.

**Note 3:** In order to ensure the accuracy and completeness of the test, please turn off the power switch for several seconds after each test, and then turn it on to start another test.

## **V. Instructions for Use of Supporting Tools Software**

### **5.1 Supporting Tools Software Usage Environment and CD File**

#### **Introduction**

##### **5.1.1 Software Features**

This supporting tool software can import the measurement data transferred to the U disk through the instrument for the test personnel to further analyze the measurement data.

##### **5.1.2 Software features**

- This software is green software and can be used without installation
- Supports all Windows series operating systems, running fast and easy to use

### 5.1.3 Operating environment

Hardware equipment requirements: It is recommended to use Celeron 533 and above CPU, 512MB or above memory, 1GB or more free hard disk space.

Support Software: Win98、Win2000、XP、Win2003、Vista、Win7、Win8 and other Windows operating systems; Microsoft Office 2000 and above (must include Excel, Word).

### 5.1.4 Random CD file

Open the randomly configured CD and copy the files in the CD file to the local computer folder. Open the file directory as shown in Figure 5.1.

Name	Date modified	Type	Size
 Manual	4/12/2018 2:57 PM	Microsoft Office ...	35 KB
 JYXTEST	4/11/2018 2:06 PM	Application	1,331 KB
 CONFIG	4/10/2018 4:11 PM	Configuration sett...	1 KB

Figure 5.1 CD directory

1. CONFIG.INI is an important file required by the system;
2. JYXTEST.exe supporting the upper computer software for the instrument;
3. Manual.doc is the operating instructions of the instrument;

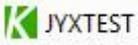
Double click on the JYXTEST.exe file of the upper PC software to run the program.

Manual.doc is the operating instructions of the instrument

Double click on the JYXTEST.exe file of the upper PC software to run the program.

## 5.2 Supporting tool software instructions

### 5.2.1 Software instructions

1. Double click  , Run the insulated boots (gloves) withstanding voltage tester supporting the host software, as shown in Figure 5.2.

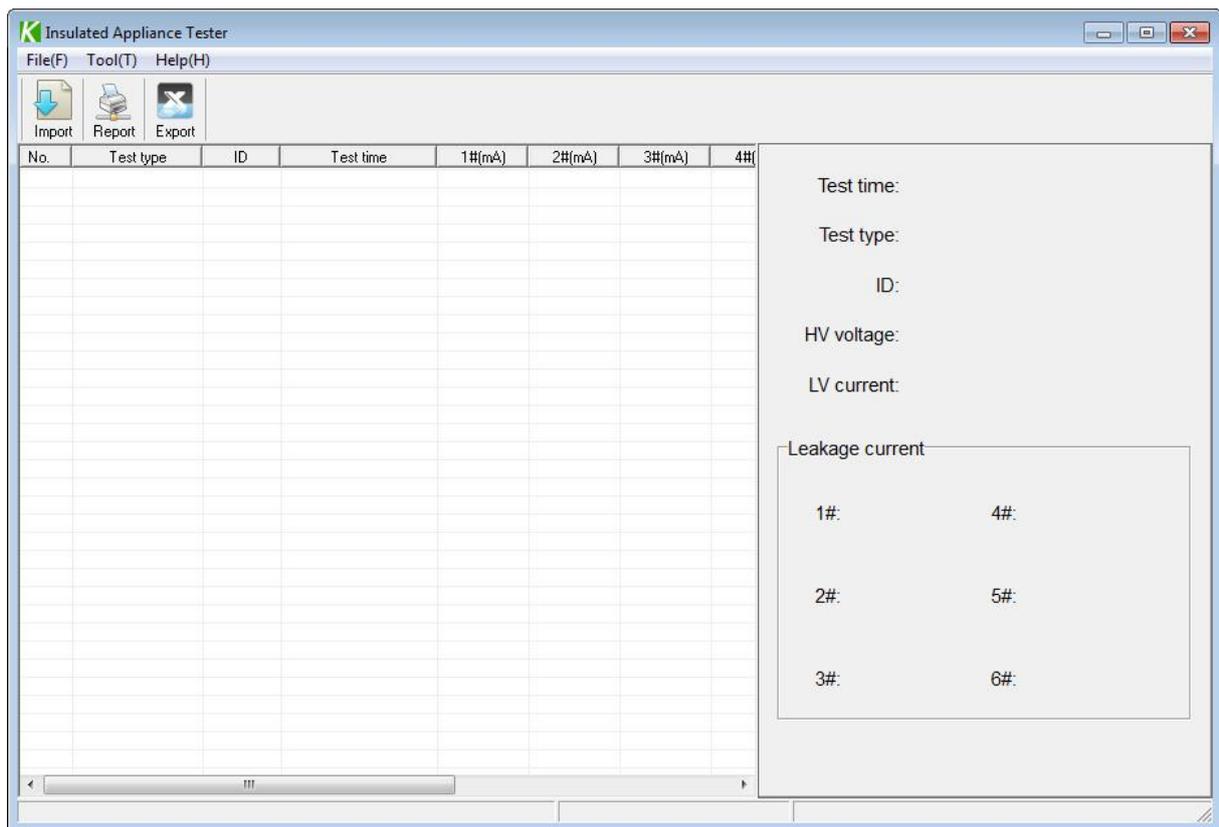


Figure 5.2 Software Interface

## 2. Software Toolbar Features

**Import data:** Select the saved data in the U disk and import it into the software.

**Generate reports:** Automatically generate test reports for test data according to specific formats, which greatly simplifies the report production process and improves work efficiency.

**Export data:** Export all test data and save it as xls format file to facilitate long-term electronic archiving of test data.

### 5.2.2 Import Data

Insert the U disk, click the "Import data" button, select the file you want to import, as shown in Figure 5.3.

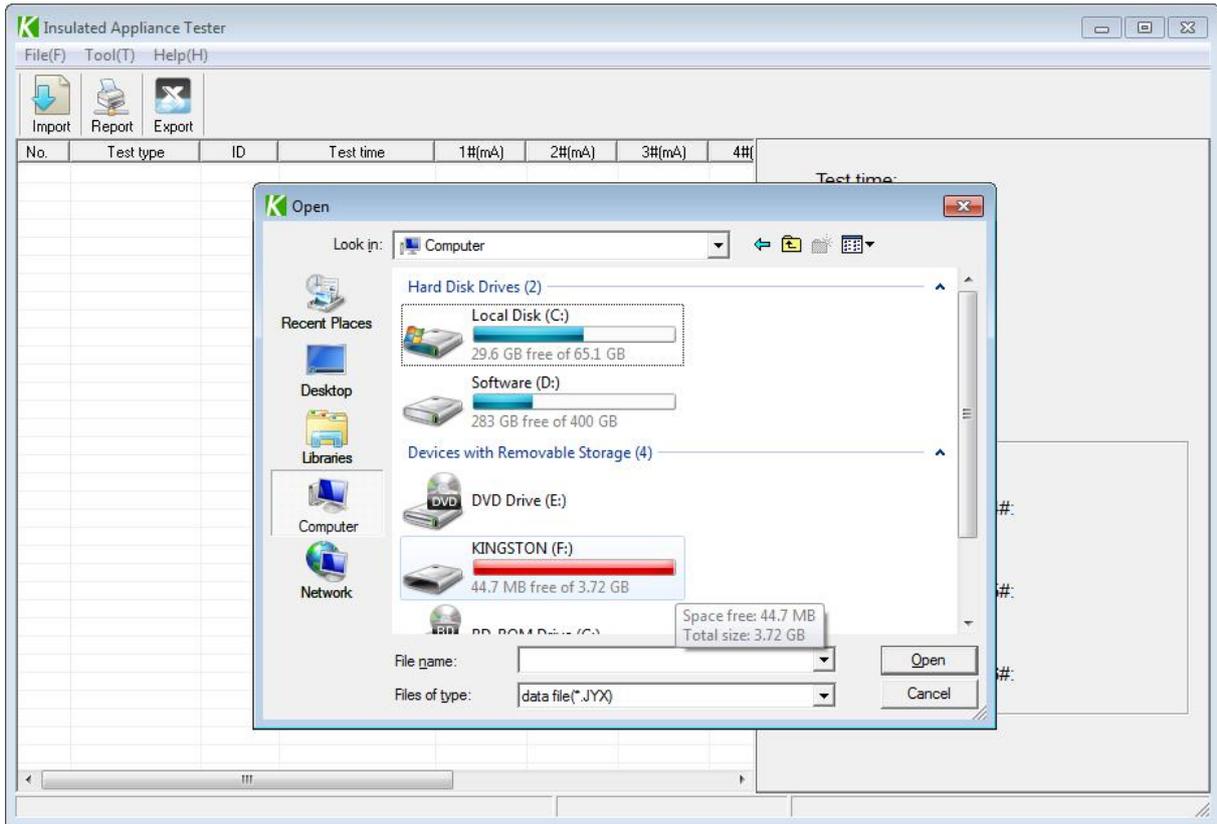


Figure 5.4 File Import

The import data is complete, as shown in Figure 5.4.

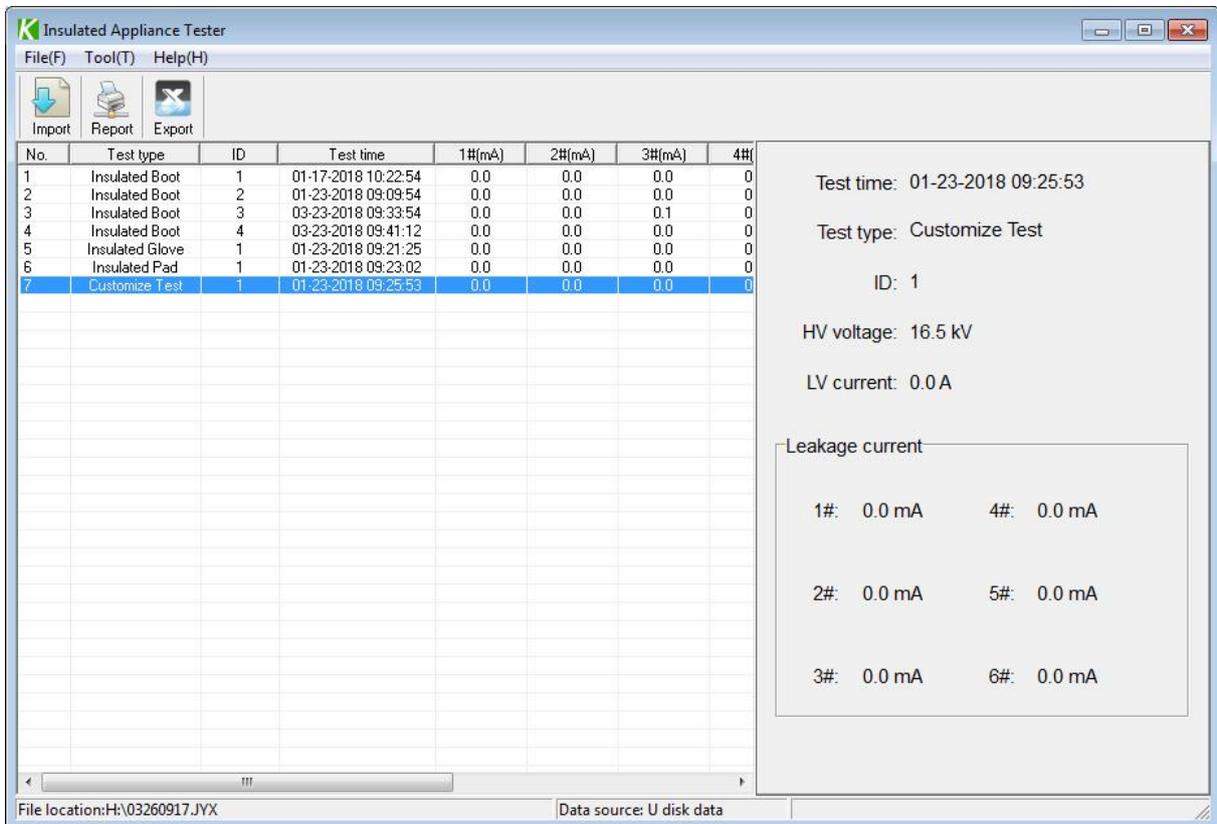


Figure 5.4 Importing Data Completed

### 5.2.3 Generate reports



After the import data is completed, click the button  at the top to enter the report generation interface, as shown in Figure 5.5. You can fill in the corresponding content in the corresponding blank space, and then click the confirmation button to generate a report in the corresponding format. A print preview is shown in Figure 5.6. At this point, you can click Print to print the report in the corresponding format, or click Save to save the report.

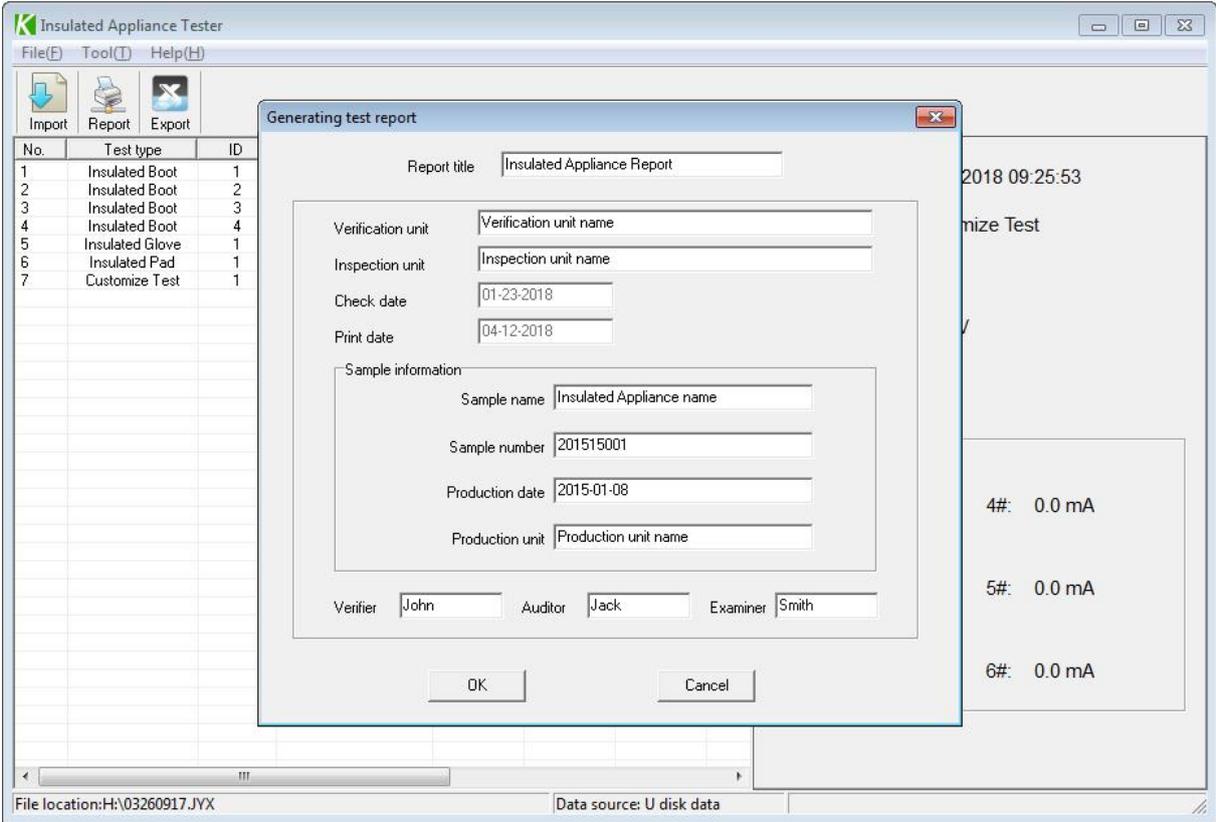


Figure 5.5 Generate Report

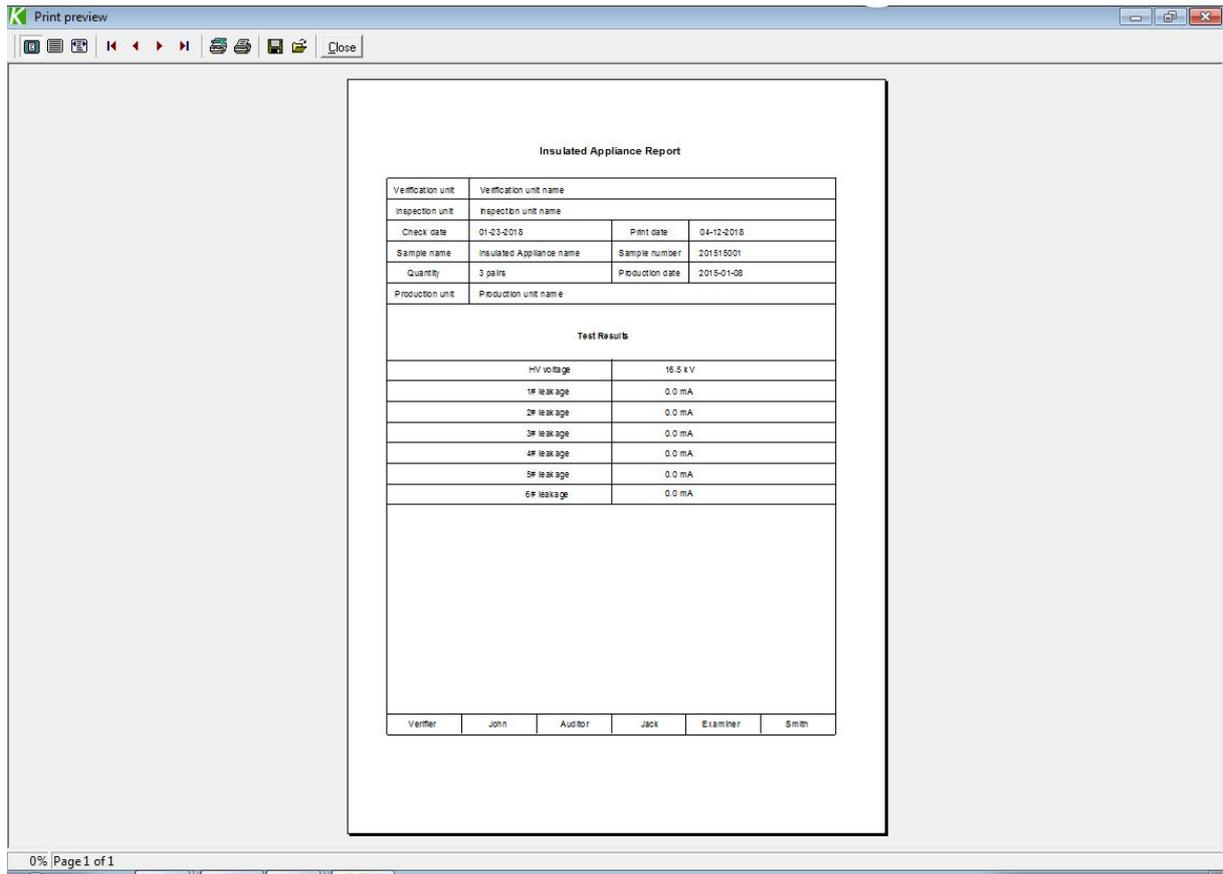


Figure 5.6 Report Print Preview

### 5.2.4 Export data

Click the button  on the main interface, you can export the test data used for the xls format file, as shown in Figure 5.7, select here to save the location of the export data file, and after naming the saved file, you can test all the data Make long-term backups.

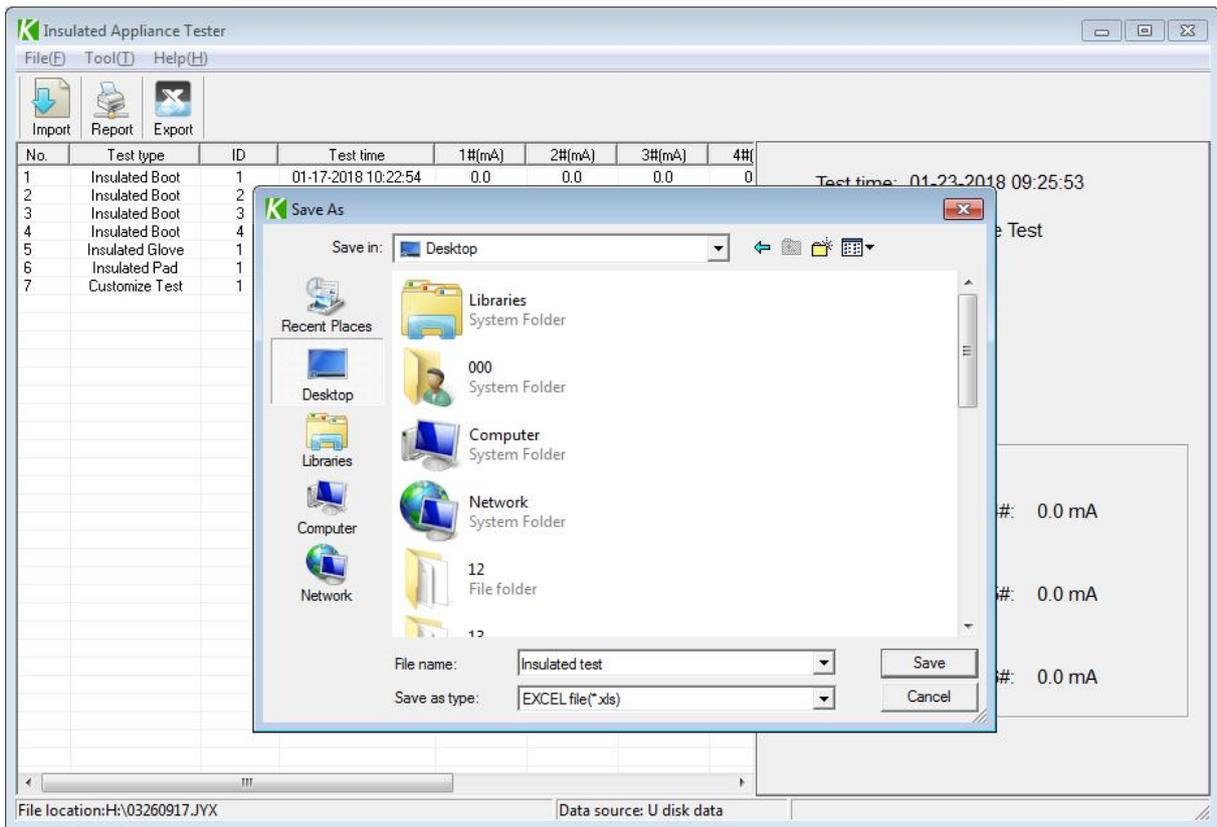


Figure 5.7 Exporting Data

## VI. Micro printer operation

Replace the paper

(1) Press the round button, open the printer cover, take out the scroll, as Figure 6.1.

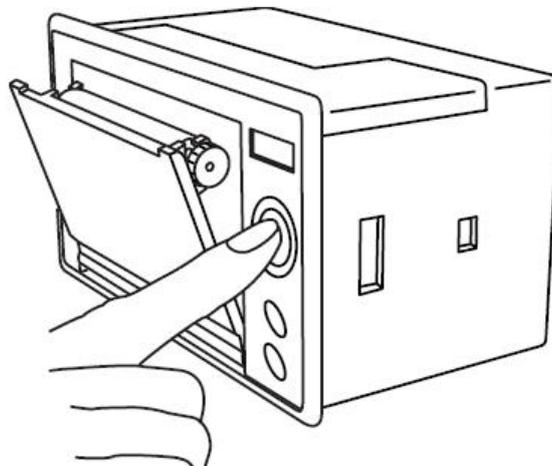


Figure 6.1 Open the printer cover

(2) Install the new scroll, see Figure 6.2.

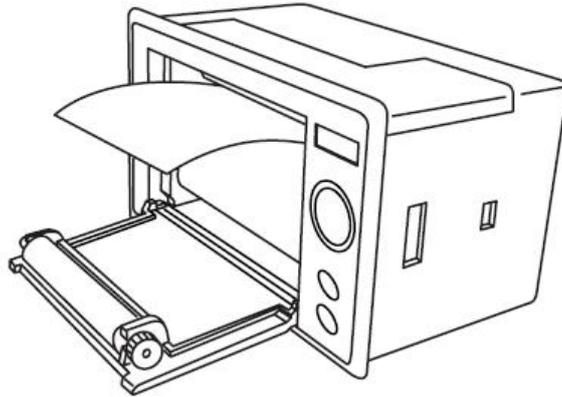


Figure 6.2 Install new scroll

(3) Pull out the some of the paper, in the middle position, close the front cover, see Figure 6.3.

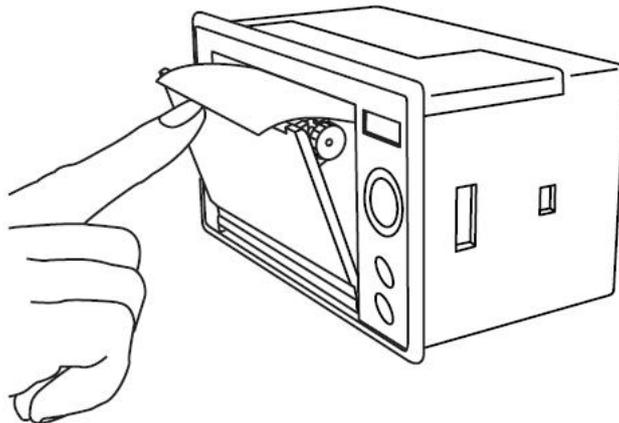


Figure 6.3 Close the front cover

Note: Let the paper from the paper extends before close the front cover, let glue fully suppress the roll axis, or cannot print. When replace the scroll-paper, thermal coating must be confirmed on the top side. If the paper deviate phenomenon, can re-open the front cover and adjust the paper position.

## VII. Transport and Protection

1. When the device is transported, the plastic bag should be covered to prevent moisture.
2. During handling, hard impact should be prevented.

3. The device is stored in a place with a relative humidity of no more than 80%, non-corrosive substances, and dry ventilation.

## Appendix I Test Standards for Commonly Used Electrical Insulation Tools

NO.	Name	Voltage level (kV)	<u>period</u> (Y)	AC voltage (kV)	Time (min)	Leakage current (mA)	Note
1	Insulation board	6~10	1T	30	5		
		35		80			
2	Insulation cover	35	1T	80	5		
3	Insulated clamp	35 or less	1T	3 times voltage	5		
		110		260			
		220		400			
4	Electroscope	6~10	2T	40	5		
		20~35		105			
5	Insulated gloves	HV	2T	8	1	≤9	
		LV		2.5		≤2.5	
6	Nuclear phaser	6	2T	6		1.7~2.4	
		10		10		1.4~1.7	
7	Rubber boots	HV	2T	15	1	≤7.5	

## Appendix II Common Troubleshooting

### 1. Why no boot?

A: The instrument is powered by AC120V 60Hz. Please make sure that the power supply is normal. Check whether the 6A fuse in the power socket is burned and check whether the power line is complete.

2. Why does the screen display background become black and the font is not clear?

A: Please use a small flathead screwdriver to adjust the "contrast adjustment" resistor until the font is clearly visible.

3. Why does the power display show "returning to zero" without displaying the main interface?

A: The reason is that the power of the control box was turned off after the last time the control box internal regulator was not returned to zero, so the first time to power on is to reset the internal voltage regulator. It only takes a few seconds to wait. Enter the main interface.

### 4. Why does the printer feed but no words appear?

Answer: It may be that the paper is installed in reverse. Remove the paper and replace it with one side. The flashing red light on the mini printer indicates that the paper needs to be replaced when the paper runs out.

### 5. Why keep the voltage larger or smaller than the set pressure?

A: If the test voltage is high or low due to the fluctuation of the utility power during the test, you can press the "Increase" button on the test interface to increase the voltage, or press the "Decrease" button to decrease the voltage.