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I.Introduction

Thank you for purchasing the instruments with excellent performance.

The automatic melting point instrument perfectly combines high-precision temperature control technology and high-definition video camera technology, which not only provides users with accurate, stable and reliable test results, but also brings you an efficient and convenient test experience. High-definition video can easily and clearly see the whole process of sample melting, automatically detect real-time map display, convenient for users to accurately measure the sample melting point and melting distance.

Performance browsing:

- ☑meets pharmacopoeia test methods, including European Pharmacopoeia, American Pharmacopoeia, Chinese Pharmacopoeia;
- ☑HD recording;
- ☑to easy viewing and °C;, large temperature range;
- ☑heating rate 0.1°C / Min-20°C / Min infinite adjustment;
- ☑HD color screen enlarged window;
- ☑Can determine four samples simultaneously;
- ☑Connection printer for real-time data printing and historical data printing.

II. Definition of melting point and application field

1.1 Melting point definition:

The melting point instrument is an instrument to measuring the melting point of material. The melting point of a substance refers to the temperature when the substance changes from solid state to liquid. In the field of organic chemistry, the melting point determination is the basic means to identify the nature of the substance and one of the important methods of purity determination.

1.2 Use areas:

Melting point instrument plays an important role in the chemical industry and pharmaceutical research, and is a necessary instrument to produce drugs, spices, dyes and other organic crystal substances.

III. Safety information

The instrument is designed with the latest technology and designed under accepted safety specifications. However, it may still be a source of danger if used as follows:

- · Personnel who do not guide the operation in full accordance with the instructions.
- · Use the instrument for test purposes other than the sample melting point.

Safety matters: any neglect of safety precautions will lead to personal damage to the instrument normal work and other property losses.

Safety precautions:

- Make sure you plug the power cord into an already grounded socket, and if not grounded, a technical failure can cause life safe!
- Never touch the stove, cover or sample just out of the body! The temperature may reach 400°C.
- If toxic gas occurs after the sample, place the instrument for ventilation.
- Do not push the paper on the instrument to prevent heat dissipation and damage to the instrument.
- Please use it in well-ventilated rooms.
- Exclude the environmental impacts of:
 - ▲ With intense illumination;
 - ▲ Strenuous vibration;
 - ▲ The humidity is greater than 80%;
 - ▲ A strong electric field or a strong magnetic field;
 - ▲ The ambient temperature is below 5°C or above 40°C;
 - ▲ Active gases.

IV. Instrument structure

The structural composition of the instrument is shown in Graph A:



Graph A Instrument Front vision

1. Sample temporarily put bucket;
2. Heating furnace (see Graph B for details);
3. 3.5-inch TFT color LCD screen, image display;
4. Key button area;
5. 5.6-inch TFT color LCD screen, functional human-machine interface;
6. SD card slot.



Graph B Heating Furnace

The user can insert the tested sample into the capillary (120mm length, inner diameter 0.9~1.1mm, 0.10~0.15mm wall thickness) and insert the capillary into the four heating holes of the heating furnace (see Graph C).The number of samples for a single test ranged from 1 to 4.



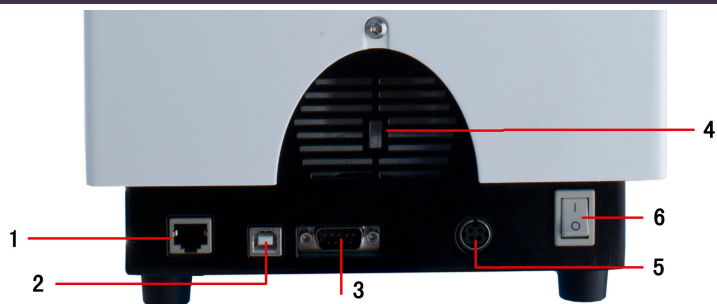
:Start the photo-taking function;



: Start / stop the camera function;



: System power switch.



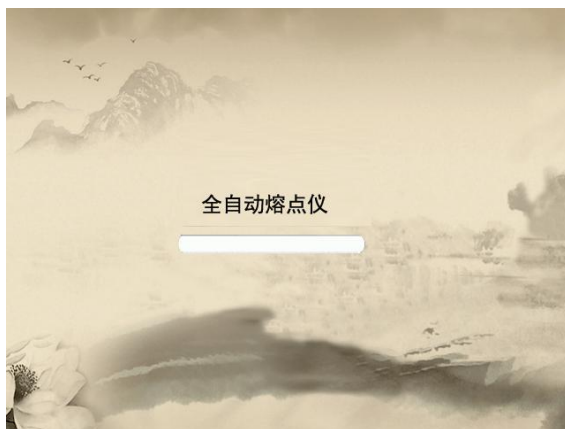
Graph C instrument back view

- 1. Network interface;
- 2. USB interface;
- 3. Serial port (printer interface);
- 4. Heat dissipation vents;
- 5. Power supply interface;
- 6. Power supply master switch.

V. Function introduction

1. Opening interface

After turning on, the interface is shown in Graph 1.



Graph 1

The startup progress bar is brushed to the login interface, as shown in Graph 2. After entering the user name and password in the login interface, click the "Login" icon in the lower right corner to enter the main interface.



Graph 2

2. Main interface

The main interface includes two parts:

Function key section: setting, test, data, camera, help interface;

Parameter display section: current temperature, preset temperature, heating rate; as shown in Graph 3.



Graph 3

2-1. Test interface

At the main interface, click [Test] to enter the test interface. The interface is shown in Graph 4. Including [sample name], [preset temperature], [warming rate], [stop temperature], [initial], [range], [], [end] parameter settings.



Graph 4

[Sample Name]: It can be entered in English, Chinese, or symbols, with up to 20 characters entered;

[Start temperature]: The available input value range is 0°C to 400°C (or: 0°C ~350°C);

[Heating rate]: The input value range is 0.1°C / Min to 20°C / Min;

[Stop temperature]: After the input value range of 0 to 400 reaches the stop temperature, the instrument will automatically cool down to the start temperature, waiting for the user's subsequent operation;

[τ end]: Optical signal intensity at the sample final melting (which also indicates the melting degree), range: 0-1200;

[Range]: Range of allowable deviation of sample final melting time signal value, range: 0-1200;

[β]: Determine the change amount of light signal value after final melting, range: 1-10;

[τ initial melting]: The deviation time range of actual initial melting and automatic initial melting: 1S-120S;

[Default scheme]: Restore the four optical signal setting parameters of [end], [range], [β], [τ initial melting] to the factory default optical signal setting scheme;

[Scheme Save]: Save all the current input values, which can be called in the [Experimental scheme] of the setting interface (please refer to

2-3-3 on page 17 of this manual for detailed operation methods);

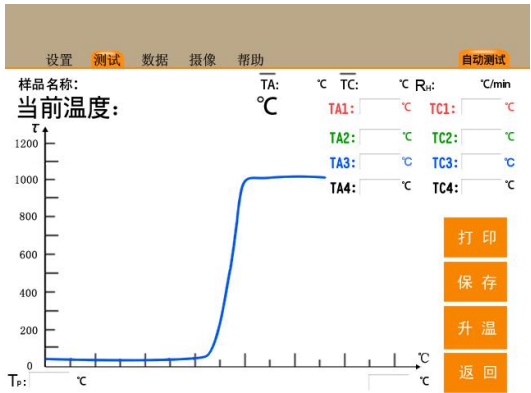
[Automatic detection]: Conduct the automatic test interface;

[Manual inspection]: Enter the manual test interface;

[Return]: Return to the main interface.

Example description of the parameter significance:

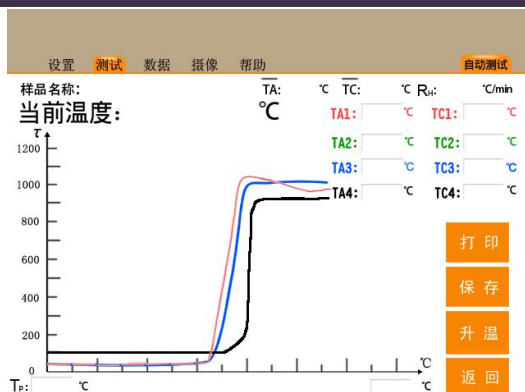
As the melting curve of the sample is shown in Graph 5, then the [final] value can be set to 1000.



Graph 5

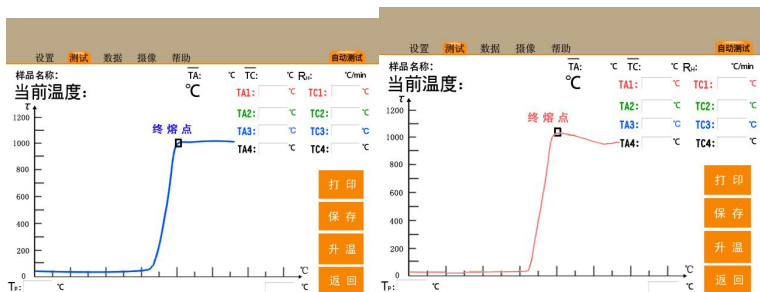
For the same samples, the lowest value was 800 and the highest was 1150, as shown in Graph 6. Then the [final] value can be set to 1000, and the [range] value can be set to ± 200 , so that the parameter setting can include all the ranges that may occur during the final melting of this sample. Thus, it makes the detection of the instrument more accurate,

In general, the two parameters of [end] and [range] can be set as the default value (i. e., the whole range can determine the final melting result), usually without change.



Graph 6

As the sample melting curve is shown in Graph. 7, since the curve is smooth after final melting, the [β] value can be set to smaller values such as 1 or 2; and as shown in Graph. 8, the melting curve trend changes greatly, and the [β] value can be set to larger values, such as 4 or 5. All values can be adjusted for the actual measurements. Choosing the appropriate [β] value makes the melting point test results more accurate.



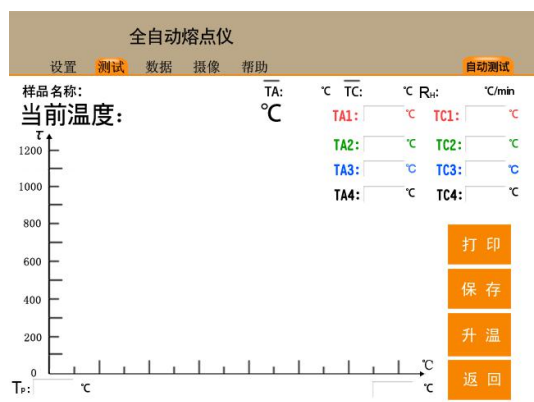
Graph 7, Graph 8

Matters need attention:

- After clicking on the right side of each parameter, press the digital key below to enter the data;
- When entering data, respond only to input within the numeric keyboard area. Press Enter to confirm or press Esc to cancel the exit.

2-1-1. Automatic detection interface

At the test interface, after the parameters such as starting temperature and heating rate are set, click [automatic detection] to enter the automatic detection interface, which is shown in Graph 9.



Graph 9

TA: Meinitial melting temperature of tested samples;

TC: Mefinal melting temperature of tested samples;

RH: Rate heating;

TP: starting temperature

TA1 to TA4 respectively indicate the initial melting value of the corresponding sample of the furnace body from right to left;

TC1 to TC4 indicate the final melting value of the furnace body corresponding sample from the right to the left;

Horizontal axis: the optical signal intensity value of the light passing through the sample;

Vertical axis °C: the current temperature of the sample.

[Print]: The instrument will print the test results (add the optional printer);

[Heating up]: Heat up at the heating rate, namely, starting the test;

[Save]: The instrument will save the test results (TA TC value) in the data interface (see 2-2 on page 13 for detailed operation methods); to save the test map, the user should select the [System Settings] of the setting interface (please refer to 2-3-1 on page 16 for detailed operation methods);

[Return]: Exit the automatic interface and return to the parameter setting interface.

Matters need attention:

- The maximum time to automatically detect the sample in the non-exploration mode is seven minutes, and the map over seven minutes will no longer show. If the sample does not complete the whole melting process within seven minutes during the measurement, the user is recommended to adjust the start temperature;
- Discovery mode testing ([System Settings] Discovery mode selection at the setting interface) can be tested more Samples, long time test (see 2-3-1 on page 16 for detailed operation methods)
- After the actual temperature reaches the preset starting temperature (with a buzzer prompt), put it to be tested

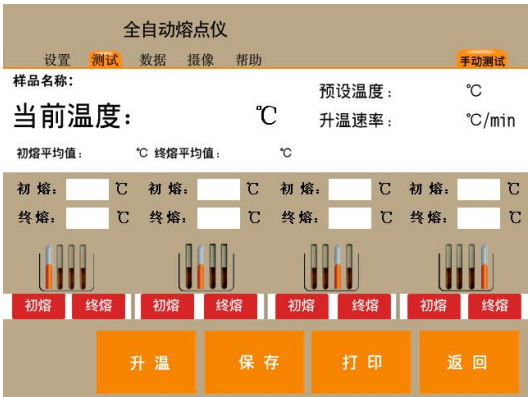
Sample (if the sample is put first and then into the automatic detection interface, which will cause automatic detection abnormality), press [heating up] to detect the sample melting point. At this time, the melting process of the measured sample can be observed through the video above the instrument, and the instrument will also automatically display the

melting curve of the sample, and automatically record the initial melting and final melting values of the sample.

- If the map is "Yes" in the system setting, press [Save] key after the test, due to save a large amount of map data, be sure to stay at least after pressing [Save] key for more than two seconds, and then perform other operations, such as printing or returning, otherwise, the map will fail.

2-1-2. Manual detection interface

After the parameters of starting temperature such as heating rate, in the test interface, click [manual detection] to enter the manual detection interface, which is shown in Graph 10.



graph 10

TA: Meinitial melting temperature of tested samples;

TC: Mefinal melting temperature of tested samples;

[Heating up]: Heat up at the heating rate, that is, the test begins;

[Save]: The instrument will save the test results (i. e., TA TC value). If

you need to check the test results, you can query them in the data interface (please refer to 2-2 on page 13 of this manual for detailed operation methods);

[Print]: The instrument will print the test results (the printer is optional);

[Return]: Exit the test interface and go back to the test interface.

After the actual temperature reaches the pre-set starting temperature (prompted by a buzzer), put in the sample to be tested, and press [Heating up] to detect the sample melting point. At this point, it can be viewed in the video above the instrument

During the melting process of the measured sample, when the measured sample reaches the initial melting degree, click on the corresponding position in FIG. 8 [beginning Melting] key, that is, to record the initial melting value. When the measured sample reaches the final melting degree, click the [final melting] key in the corresponding position in FIG. 8 to record the final melting value.

2-2. Data interface

At the main interface, click [Data] to enter the data interface. The interface is shown in Graph 11. This interface mainly displays the data saved by the user.

Note: The latest saved data is at the top, meaning that the larger the serial number value, the newer the data displayed.



graph 11

[Looking back]: Play the video and map selected by the user;

[Print]: Print the saved data selected by the user;

[Previous page]: Turn the page up;

[Next page]: Turn down to the page;

[Return]: Exit the test interface and go back to the main interface.

Click on any position in the line of data that needs to be printed or viewed back with a "√" at the front of the trip. Click [Print] to print the data selected by the user; click [Look Back] to check the video and map selected by the user.

You can look back to the relevant content with the final "video" and "map" at the end of the peer data.

2-2-1. Look back at the interface

At the data interface, click [Back] to enter the look back interface. The interface is shown in Graph 12. Also in the Graph as shown in Graph 27 of this instruction manual appears in the display screen.



graph 12

[Mode]: Switch between playback mode and preview mode;

[OK]: The user can select the desired video in Graph 12 and press it to play;

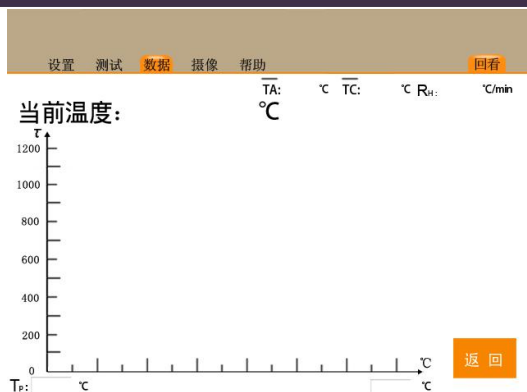
[Return]: Exit the back interface and return to the data interface.

Operation declaration:

Step 1: After the user selects the video to play through the top, bottom, left and right keys, press the OK button to confirm and open the video;

Step 2: When the user presses the OK key again, a red triangle appears in the lower left corner of the image display, indicating that the video has begun to play;

Step 3: When the red triangle appears, press [OK] to view the corresponding map. Graph 13 (to ensure the synchronization of video and map, please in this step, press [OK] key in time).



graph 13

After completing the viewing operation, press [Return], enter the back interface in Graph 12, and then press [mode] to switch the image display to preview mode.

2-3. Set up the interface

At the main interface, click [Settings] to enter the Settings interface, as shown in 12. The setting interface includes [System Settings], [Time Settings], [Experimental scheme], [Print setting], [User password setting], and [Correction] settings.



graph 14

2-3-1. System Setup interface

At the setting interface, click [System Settings] to enter the system Settings interface, as shown in Graph 15.



graph 15

[Preset prompt]: Is it whether a sound prompt is required when the actual temperature of the instrument reaches the starting temperature (the default is);

[Heating prompt]: After clicking the heating key, the heating sign will be displayed after the actual temperature (the default is);

[Heating camera]: During the test process, click the heating instrument to automatically start the camera function; (the default is no);

[Save the map]: After the test is completed, the instrument will automatically save the map (the default is no);

[Exploration mode]: After the exploration mode is selected, the automatic detection time can be very long rather than 7 minutes, realizing the melting point of unknown substances. [Note: The suggested heating rate of the exploration mode is 5 °C / Min] (the

default is no);

[Overheat protection / alarm temperature]: The available input value is 350~400. In the case of unexpected temperature out of control, the user can set a temperature in advance, and the instrument will automatically cut off the continuing heating function after reaching this temperature, to ensure human-machine safety (the default is 350°C);

[Return]: Exit the test interface and go back to the setting interface.

2-3-2. Time setting interface

At the setting interface, click [Time Settings] to enter the time setting interface, as shown in Graph 16. After clicking anywhere in the box, press year-month-day-time-minute-second, click in the lower digital interface to make input, and press Enter.



graph 16

[Return]: Exit the time setting interface back to the setting interface.

2-3-3. Experimental protocol interface

At the setting interface, click [Experimental Scheme] to enter the experimental scheme interface, which is shown in Graph 17.



graph 17

[Call]: Click on any position in the one line of the required scheme, there will appear a "" at the front of the trip, click [Call] key to enter the test interface, the instrument will automatically fill the data of the scheme called by the user into the relevant parameter items;

[Previous page]: Turn the page up;

[Next page]: Turn down to the page;

[Return]: Exit the experimental scheme interface and return to the setup interface.

2-3-4. Print the setup interface

At the setting interface, click [Print Settings] to enter the printing setting interface, as shown in Graph. 18.



graph 18

[Title Content]: Title of the printout report;

[Operator]: Printout report operator name;

[Return]: Exit the print setup interface and return to the setting interface.

2-3-5. User password setting interface

At the setting interface, click [Password Settings] to enter the password setting interface, which is shown in Graph 19. Click on the box after the new password, use the number keyboard below to input the new password, press Enter key, and then [confirm] key, restart the whole machine can use the new password to log in.



graph 19

[Return] Exit the test interface and go back to the setup interface.

Note: Only change the current user password.

2-3-6. Correct the interface

At the setting interface, click [Correction] to enter the correction parameter input interface, as shown in Graph 20.



graph 20

[Sample melting point]: Enter the final melting value of the tested standard sample;

[Preset temperature]: The values range from 0 to 400;

[Heating up rate]: The input values range from 0.1 to 20;

[Stop temperature]: The input range of 0 to 400 reaches the stop temperature, the instrument will automatically cool to start the temperature, waiting for the subsequent operation of the user. When stop temperature input is 0, no stop temperature.

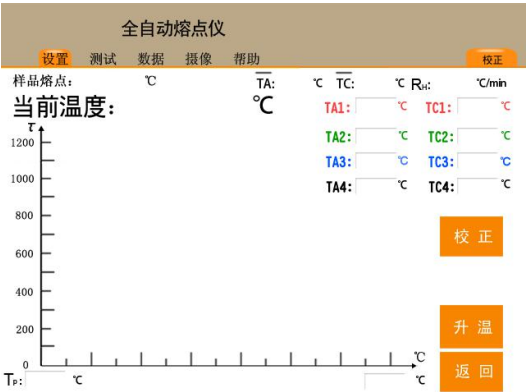
[Default scheme]: Restore the four optical signal setting parameters of [end], [range], [], [] and [beginning] to the factory default optical signal setting scheme;

[Resore factory]: Restore factory raw data;

[Automatic detection]: Enter the corresponding correction interface. The interface is shown in Fig. 21. For the specific operation method, please check the operation of the 2-1-1 automatic detection interface on page 8 of this manual.

[Manual detection]: Enter the corresponding correction interface as shown in Graph 22. For specific operation methods, please consult the 2-1-1 manual test interface on page 7 of this manual.

[Return]: Exit the correction interface and go back to the setting interface.



graph 21



graph 22

[Correction]: If the test result is not abnormal, the correction test result can be saved by pressing the correction key;

[Heating up]: Heat up according to the heating rate, that is, the detection begins;

[Return]: Exit the correction test interface and return to the correction interface.

Note: functional melting point instrument with automatic detection, it is recommended to correct with automatic detection to ensure the accuracy of the instrument test.

2-4., Camera interface

At the main interface, click [Camera] to enter the camera interface, as shown in FIG. 23.



graph 23

[Mode]: Switch between playback mode and preview mode;

[Menu]: Click this button to set the image screen shown in Graph 27 on page 25 of the manual, and make relevant settings through the UP, DN, photo and video keys in FIG. 23; click again to exit the image screen setting screen;

[UP], [DN], [Photo], [Video]: These four keys play different roles in different modes. See the detailed instructions of 2-4-1 in this page for specific operation.

Matters need attention:

- **The external SD card supports 64GB, and the maximum continuous recording time can reach 120 minutes;**
- **The SD card needs to be inserted properly to take photos and video. If the SD card is not inserted or the SD card is loose, the screen will display "?"The icon, when you need to turn off, replug in the SD card before turning on.**

2-4-1 Operating instructions

A. Preview mode

- Press [Mode] to switch between playback mode and preview mode;
- Press the [Photo] key to take photos;
- Press [Video] to start the recording, and then press [Video] to save and stop the recording. Note: When the continuous video file size reaches 4G, the system will automatically save and stop the video recording; when the continuous video recording time reaches 60 minutes, the system will automatically save and stop the video recording; or when the SD card is used
- The Memory Full Memory Full will then appear on the full screen;
- Press OK to set freeze / unfreeze preview image, you can take photos under frozen state;
- Press [DN] to enter digital zoom, press [Video] to enlarge the image, press [Photo] to shrink the image; press [DN] or for 2s will exit digital zoom;
- Press the [UP] key to control the OSD on / off. (Note: OSD means creating special glyph or graphics in the display that allows the user to get some information.)

B.menu

Press [Menu] to enter the view / audio settings menu, as shown in Graph 24. [UP] / [DN] key select the set item, [Photo] / [Video] key switch option value, the red font display on the screen refers to the current setting. Press [Menu] again to save and exit the View / Audio Settings menu.



graph 24

1. The Video Settings menu

1.1 Photo Size (photo size): VGA / 1.3M / 5M / 9M. It is set to 9M by default.

1.2 Photo Quality (photo quality): Level 1 10. The default state is set to level 10.

1.3 Video Size (video size): VGA / QVGA. V G A by default. form.

1.4 Video Quality (video quality): Level 1 10. The default state is set to level 10.

1.5 Brightness (luminance): Level 1 10. The state is set to level 4 by default.

1.6 Color (color temperature): Auto / 6500K / 9300K / Manual. Auto by default.

When set to Manual, press OK to enter the submenu adjusting the color setting and manually set the RGB scale.

The 1.6.1 Manual Color sub-menu, as shown in Graph 25

Red: Level 0 - 255. The state is set to 128 by default.

Green: Level 0 - 255. The state is set to 128 by default.

Blue:Level 0 – 255. The state is set to 128 by default.



graph 25

1.6.2 Auto Calibrate White balance automatic calibration sub-menu:

Press OK to enter the submenu of automatic calibration. The screen prompts "Place a piece of white paper in front of the camera, press [photo] to confirm and start the automatic calibration, press [video] to exit", and press [photo] to prompt "Self"

The dynamic calibration has been completed, press OK to confirm and exit, press [Photo] to recalibrate, press [Video] to cancel and exit ", and press the screen prompt to automatically calibrate the RGB scale.

1.7 Contrast (contrast): Level 1 10. The default state is set to level 8.

1.8 Saturation (color saturation): Level 1 10. The default state is set to level 8.

1.9 Sharpness (clarity): Level 1 10. The default state is set to level 8.

1.10 Mirror (mirror): Left / right mirror.It is set to OFF by default.

1.11 Flip (flip): Up / down flip.It is set to OFF by default.

1.12 Time Lapse (timing photo): The module automatically obtains a photo at the set time interval.When set to ON, press OK to enter the sub menu of the time interval

The time interval between photographed.It is set to OFF by default.

1.12.1 Time Lapse sub-menu, as shown in Graph 26

Hour:00 – 23. The setting is 00 by default.

Minute:00 - 59. The setting is 00 by default.

Second:00 - 59. It is set to 10 by default.



graph 26

1.12.2 Limit of time interval: the minimum time interval is 10 sec.

1.13 Time StaJH (Time Paste): You can choose to paste the date / time when obtaining the image in the photo and video file. It is set to OFF by default.

1.14 Frequency (frequency): Optional frequency of 50 / 60Hz. The default state is set to 50Hz.

2. Audio setup menu (it is not supported by this instrument)

2.1 Audio In

2.2 Volume

C. Playback mode

- Press [Mode] to switch between playback mode and preview mode;
- The screen will display up to six thumbnails simultaneously, as shown in Graph 27. Press [Photo] / [Video] to move the last or next file, press [UP] / [DN]

to move to the first three or last three files, and press OK to play the current file on the full screen.

- When the photo file is selected, press [UP] on / off the OSD, and press OK / [mode] to zoom in

Or shrink the photo; when the image scales, [UP] key up, [DN] key down, LT key left, [Video] right.

When the video file is selected, press [UP] to turn / off OSD, press OK to start / stop playing video, press [Photo] / [Video] to advance or back, OK to stop, and [DN] to pause / continue.



graph 27

Matters need attention:

All the files will be stored in a sub folder named after the xxx IMAGE.example

For example: 100IMAGE, 101IMAGE, 102IMAGE, these sub folders are stored in the DCIM folder, each can save 1000 files, such as: PICT0001.JPG, PICT0002.AVI..

E.Key operation

	Preview mode	Replay (thumbnail) mode	Replay (single speech piece) mode
[pattern]	Enter playback mode	Go to preview mode	Go to Playplay (thumbnail) mode
[menu]	Enter the system settings		Go to the Delete menu
UP	OSD open / close	The first three files	OSD open / close
DN	Go to the digital zoom state	The last three files	
LF	take a picture	The previous file	The previous file
RT	Start / stop the video recording	Next file	Next file
OK	Freeze / thaw the images	Select and confirm the file	Video file: Start playing the video recording Photo file: enlarge the photos

	Back-up video	Menu Settings	Time date setting
[pattern]	Enter playback mode	Enter playback mode	Enter playback mode
[menu]		Save the current	Exit menu mode

		settings and exit the menu mode	
UP	OSD open / close	Select Set Items	Increase the number
DN	Pause Play / Continue Play	Select Set Items	Reduce the number
LF	Back play	Select Set Parameters	Move to the previous setting option
RT	Forward Play (2)	Select Set Parameters	Move to the next setting option
OK	Start (1) / Stop playing	affirm	affirm

	Return of the video recording (playback mode)		
[pattern]	reduce		
[menu]	Full-screen display of the photo file / exit zoom mode		
UP	shift up		
DN	shift down		
LF	left shift		
RT	right shift		
OK	amplify		

2-5.Help interface

In main interface, click **[Help]** to enter the help interface, which is shown in Graph 30.



graph 30

[Notes]: Press the precautions key and enter the precautions interface (precautions for instrument use).

[Return]: Exit the test interface and go back to the main interface.

VI. Operation steps and use methods

1. Capillary test sample preparation

The samples to be tested were placed in a mortar and dry.Take a long dry, clean glass tube of about 120mm and stand upright on magnetic or glass plates.The capillary containing the tested sample was placed

from the top mouth to fall freely and repeatedly 8 times so that the sample powder is tightly assembled at the tube bottom at a height of about 3mm-5mm.

2. Melting point instrument test

2.1 Automatic test paradigm percomic acid: sample final melting point 153°C

Step 1: Turn on the power switch and preheat the instrument for 20 minutes.

Step 2: enter the main interface, select the test, enter the sample name: secondary acid, start temperature 148 °C , heating rate 1 °C / min, stop temperature 155 °C , and the four optical signal setting parameters of the end, range, and first point to set or select the default scheme, and then enter the corresponding interface according to [automatic detection].

Step 3: When the actual temperature stabilizes to 148 °C (a buzzer prompts), put the capillary loaded with the sample, until the temperature is stabilized to 148 °C, (Note: after adding the sample, the temperature of the furnace body will decrease slightly, so build After the temperature is stable) Press [heat up] to automatically show the initial melting value when the measured sample reaches the final melting degree, the instrument will automatically display the final melting value.

Step 4: When all the results are out, you can save data or press [print] to print data.If the sample is tested again, you only need to repeat the third step again. If you want to change the tested sample, press [Return] and return to the test interface for the corresponding parameter setting.

2.2 Manual test paradigm percomic acid: sample final melting point 153°C

Step 1: Turn on the power switch and preheat the instrument for 20 minutes.

Step 2: enter the main interface, select the test, enter the sample name: secondary acid, starting temperature 148°C, heating rate 1°C / min, stop temperature 155 °C , and then press [manual detection] to enter the corresponding interface.

Step 3: When the actual temperature stabilizes to 148 °C (a buzzer prompts), put the test sample and observe the melting process of the test sample from the video above the instrument. When the test sample reaches the initial melting degree, click the [initial melting] key in the corresponding position in Graph 10. When the final melting degree, click the [final melting] key in the corresponding position in Graph 10.

Step 4: When all the results are out, you can save data or press [print] to print data.If the sample is tested again, you only need to repeat the third step again. If you want to change the tested sample, press [Return] and return to the test interface for the corresponding parameter setting.

3. Melting point instrument correction

3.1 Correction paradigm

The sample final melting point was corrected for 150 diic acid 3°C

Step 1: enter the correction interface in the setting, set the test parameters of the standard sample secondary acid, input the sample melting point 153°C, start temperature 146°C, heating rate 1°C / min, stop temperature 153 °C , and then press [Automatic detection] or [Manual detection] to enter the corresponding interface.If the correction method is conducted by automatic detection, the setting

parameters of the final, range, and initial four light signals can be adjusted according to the specific samples (the correction samples are three standard samples, and the parameters can choose the default scheme).

Step 2: The third step of the test sample (see the detailed instructions of 2-1-1 and 2-1-2 on page 10 of this manual for specific operation).

Step 3: If there is no abnormality after the test results come, press [Correction] to save the correction test results, and otherwise, press the third step to test again. Press the [Return] key to exit the correction interface.

Matters need attention:

- **At the correction time, if the final melting temperature and the starting temperature of the measured sample is less than 5°C, it is recommended to recorrect and set the starting temperature above 5°C below the final melting temperature.(Example: Under the above set spare parts, the actual final melting temperature of standard sample 153°C is 151.5°C, when the starting temperature needs to be reset below 144.5°C and re-corrected.)**
- **The correction can be corrected at 1 point or multiple points (up to three points), with one point valid at 0°C -100°C, 100°C -200°C, and 200°C -400°C each. If the user is corrected multiple times in the same range, the value of the last correction is valid.**

3.2 Standard settings recommended for standard samples

--Set the test parameters of the standard sample naphthalene, input the sample melting point 81.1°C (specific value can be based on the value indicated on the attached certificate), starting temperature 76°C,

heating rate $1^{\circ}\text{C} / \text{min}$, stop temperature 82°C ,

--Set the test parameters of the standard sample peric acid, input the sample melting point 153°C (specific value can be based on the value indicated on the attached certificate), starting temperature 147°C , heating rate $1^{\circ}\text{C} / \text{min}$, stop temperature 155°C ,

--Set the test parameters of the standard sample anthracraquinone and input the sample melting point 285.7°C (specific values can be based on the value indicated on the attached certificate), starting temperature 278°C , heating rate $1^{\circ}\text{C} / \text{min}$, and stop temperature 288°C ,

Matters need attention:

- The instrument is calibrated before leaving the factory and is not corrected in a short period.
- If the user has an exception during the correction process, you can restore the factory to restore the original data of the instrument.
- The instrument can be corrected with from 1 to 3 standard samples.

VII. Common faults and treatment methods

Fault phenomenon	Analysis of causes	Exclusion method
The small screen has fog produced, the screen becomes blurred	The furnace body moisture, rapid heating up, produce water vapor	Heating for a while, after the water vapor evaporates, it will automatically return to the best state
There is no reflection on the display screen after turning on	The instrument power supply is not plugged in	Plug in the power plug or turn on the power switch
Each operation function fails	The programmed heating system is damaged	Return to the factory for maintenance
Atlas preservation failed	<ol style="list-style-type: none"> 1. Save the profile option is No 2. Press the [Save] key for less than two seconds 	<ol style="list-style-type: none"> 1. The map save option is Yes 2. Press [Save] and stay for at least two seconds
Press the [heat up] key without display	<ol style="list-style-type: none"> 1. Stop temperature setting below start temperature 2. Heating prompt option is No 	<ol style="list-style-type: none"> 1. Reset the stop temperature 2. The heating prompt option is Yes
Automatic detection of anomalies	<ol style="list-style-type: none"> 1. Electric dry in electric electric has sundries 2. Press [automatic 	<ol style="list-style-type: none"> 1. Clean up the furnace core debris

	<p>detection] already in the front furnace capillary</p> <p>3. The automatic detection parameters are not set correctly</p>	<p>2. Remove the capillary tube and test it again</p> <p>3. Set the automatic detection parameters according to the default scheme or according to the actual situation of the sample</p>
The result of melting point is not allowed	<p>1. No calibration for a long time,</p> <p>2. The platinum resistance position is loose</p> <p>3. The electric heating furnace core has sundries</p>	<p>1. Calibrate the standard samples 2 and 3 and return to the factory for maintenance</p>
The image display is not in preview mode	No mode switch was made after reviewing the mode	After entering [Camera], press [mode] to switch the image display mode to the preview mode
Press the Login key not to go to the main interface	Wrong user name or password input	Re-enter the correct user name or password
Poor reproducibility	<p>1. Inconsistent inconsistent</p> <p>2. The capillary size is</p>	1. Strict sample installation

	<p>inconsistent</p> <p>3. Low sample purity</p>	<p>specifications</p> <p>2. Strictly pick wool tubes</p> <p>3. High-purity sample confirms that the instrument is normal</p>
<p>The sample of the melting process could not be clearly observed during the test</p>	<p>1. The light source cannot directly hit the bottom of the furnace body</p> <p>2. Samples were darker during melting</p>	<p>Rotate or lift the capillary for observation, and lift it at a height of less than 2mm</p>

VIII.Treatment of capillary fracture in the furnace

During the test, if capillary fracture in the furnace, remove in the following diagram:



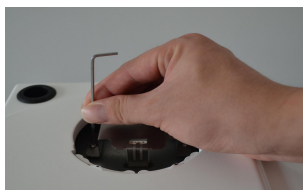
1. Hold the furnace cover



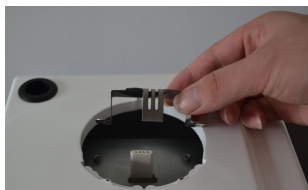
2. Turn counterclockwise for 90°



3. Open the cover



4. Release the snail on the support of the furnace core



5. Take out the furnace core support



6. Remove the oven core from the broken capillary