

Model YR439-1

Embedding center

## Instruction Manual

Thank you very much for purchasing our Embedding center YR439-1.

Please read the “Operating Instructions” and “Warranty” before operating this unit to assure proper operation. After reading these documents, be sure to store them securely together with the “Warranty” at a hand place for future reference.



**Warning:** Before operating the unit, be sure to read carefully and fully understand important warnings in the operating instructions.



OUR SERVICES

## Benefits and Support

In Kalstein France, we take care of the full satisfaction of our customers, that is why we provide value-added services of the highest level based on our experience.



### Online Inductions and Trainings

In any part of the world, receive your induction or training from our specialized team of engineers



### Quick Response

Our work team is always available to response all your consults or questions, in order to support you in any situation.



### #Letsgivemore ♥

Thanks to your purchase, a donation will be made to a non-profit foundation that fights against breast cancer and helps most vulnerable communities.



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Enjoy of personalized advice for the correct preventive and corrective maintenance of your equipment, thanks to Kalstein's manuals and articles, special catalogues and video tutorials.



### Delivery Logistics

We take care of all the necessary logistics for the dispatch of your goods, whether is by sea, land or air.



### Kalstein Worldwide

With more than 25 years growing with our customers, Kalstein's multiformat and modern content, is now present in more than 10 countries and increasing.



## 1. Important Illustrations

The information, data, points for attention and adjustments in the manual have reflected the latest technological level of us grasped in the field after investigations.

We don't have obligations of updating the manual for you in time, with the development of technology, and we don't offer new version copies and latest versions of the manual to the users.

We don't have the responsibilities if the illustrations, drawings and technological requirements in the manual are in contradiction to the laws of the country the user is domiciled. Particularly, our company doesn't have the responsibilities for the damages or destructions of the machine for applying with the illustrations in the manual (on other aspects).

The illustrations, drawings and technological requirements in the manual don't represent the guaranty from the company on the characteristics of the product. Only the items specified in the contract are legally effective.

Kalstein France is entitled with the rights of altering the technological characteristics and processing technics, without the obligations of notification in advance. Thus, in this way we can improve ourselves and make the progress on our technology.

This manual is protected by property rights. The property rights of the manual are reserved by Kalstein France printing, duplication, micrography or copy of other electronic documents or other media concerning partial or entire texts and photos of the manual must be approved by Kalstein France in written form in advance.

Please refer to the nameplate on the back of the instrument for the serial number and manufacturing date of the instrument.




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### 3. Safety Regulations of Instrument

#### Safe installation

△Make sure the grounding wire of the 3-line power is securely connected before starting the machine, which must comply with the GB9706.1 standard. Please fix the socket stable enough, then connect it, afterwards turn on power switch.

- An independent power shall be supplied for the machine.
- The operation of the machine shall be performed in a place far away from the electromagnetic interferences.
- The machine should be placed steadily, avert vibration.
- When it's power on and started,  indicate being heating, you cannot use your hands to touch heating parts of instrument (such as Paraffin container, Left and right conserving box, Paraffin nozzle, Working table and Forceps table).

**Attention:** Don't keep it heated for long as machine turned on.

Don't operate the instrument under the fan after you turn on the instrument, otherwise, the refrigeration effect is not good.

△ When you change the fuse, first cut off the power supply, and use the fuse in the same specification and model (Refer to the technology parameter). Shut the power socket when you change components, like lamp.

- When machine is under heating situation, you should prevent liquid of wax from flowing on surface of instrument. If not, you immediately make it clean, or liquid of wax would permeate into inside of instrument and damage the instrument. Filter enclosing should be fixed rightly, or the result of flowing of liquid isn't good. Working table and little drawer should be clean up daily.

#### Transportation

- The instrument only allows the vertical transportation.
- When you clean the instrument, please cut off the power supply first, can't use the solvent which is contain the handle ketone and the benzene, don't let the solvent to flow into the inside of the instrument.
- When you use the solvent, you must comply the safety regulations of the manufacturer and relative rules of the laboratory.

### 4. Specification

#### 4.1 Specification for embedding center

- The electric security type is the class I
- Temperature range: ambient~85°C

- Temperature range for cryo-plate:  $\leq -5^{\circ}\text{C}$
- Temperature tolerance:  $\pm 1\text{C}$
- Turn on/off setting: Any minute, any hour and any day in one week
- Paraffin tank size: 494mm×131mm×92mm
- Left and Right Thermal Chamber size:240×160×55 mm×2
- Working plate size:540mm×93mm
- Voltage: AC220V 50HZ or AC110V 60HZ
- Power: 1000VA
- Overall Dimension:675×575×395mm
- Weight: 39kgs

#### 4.2 Working Environment

- Condition: $5^{\circ}\text{C} \sim 40^{\circ}\text{C}$
- Humidity should less than 80%
- Atmospheric pressure: 860hpa $\sim$ 1060hpa

## 5. Summary

### 5.1 Introduction

Kalstein Model YR439 Tissue embedding center is the regular instruments used to embed pathological tissues. It is used to cool the tissues of human body or the zoological and botanical tissues after embedding the tissue. The advanced controlling-microprocessor and the new PTC calorific material have been applied to this instrument. It has functions of temperature control on 5 parts, and multiple over-heat protection appliances. Users can decide time of power on/off by functions of Timing power on/off and preset time of this week, in this way, the tissue can be embedded immediately as Paraffin block is melt.

This model is novelty in form, precise in structure, stable in performance and easy for operation. And the Cooling platform adopt new-type frequency converting compressor, cooling temperature adjusted freely. And it's composed of disassembled parts,

Any parts can be put together as required.

This machine is New developed both abroad and at home. It is the practical and necessary instrument for pathological study and teaching for hospitals, medical schools, scientific research institutes and food quarantine

and inspection organizations.

### 5.2 Performance and technical information for embedding center

- Pre-set turn on/off time for every day. If set 00 Hour 00 minute for some day, that means the machine will not turn on.

- Clean and stable OLED screen. It will enter into screen protection mode after 15 minutes without operating the keypad in the automatic working condition.

- Histo-trimmers on two ends of the hot plate is convenience for user to clean the cassettes.

- Adjustable magnifier

- Two modes of operation: Automatic and manual.

- Keys with light indicator

- Low voltage and adjustable LED illuminating system with bent copper pipe

- Two module configuration options (left to right or right to left)

- Volume of paraffin tank:  $\geq 6$  liters

### 5.3 Performance and technical information for cooling plate

- New model frequency conversion compressor which could set the temperature from +30 to  $-35^{\circ}\text{C}$  under special environment

- Green digital screen with stable quality.

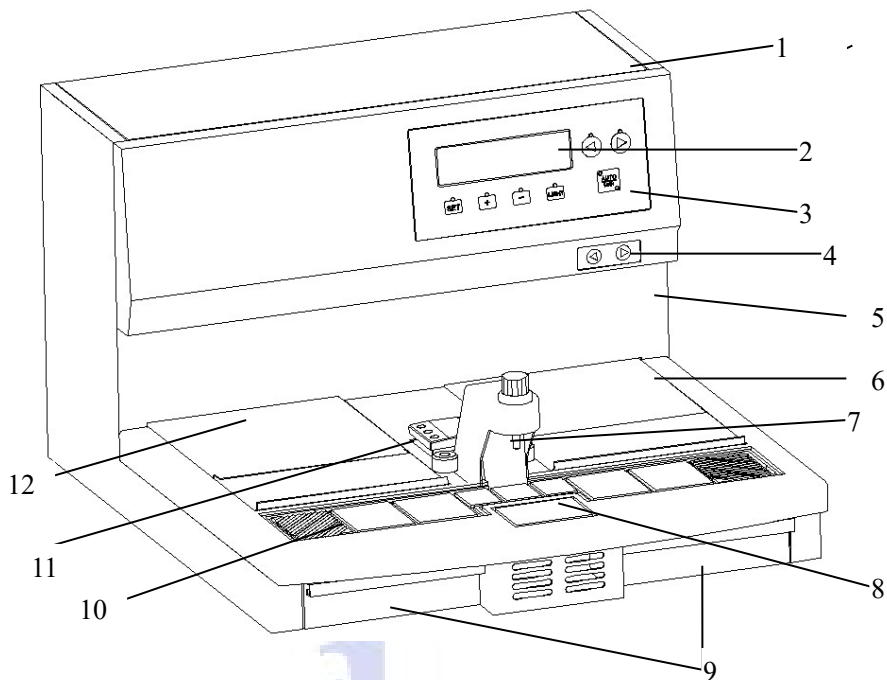
- The temperature measure module is from US DALLAS with high precision and good performance.

- Working temperature could cool down to  $-20^{\circ}\text{C}$

### 5.4 Structure drawing for embedding center

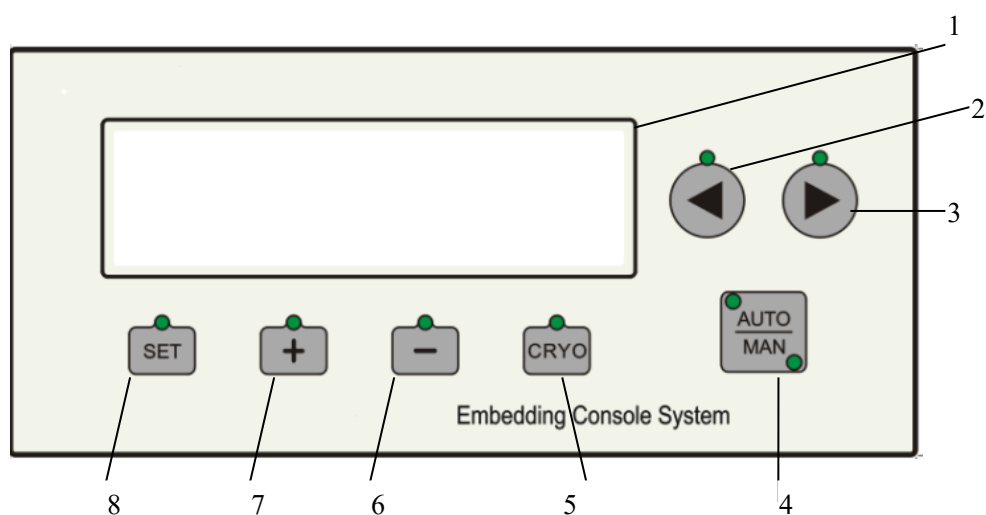
KD-BMIV embedding center is consisted of five heating parts and one cooling part. See picture 1.

Picture 1



- 1、Paraffin tank
- 2、OLED screen
- 3、Keypad
- 4、LED keypad
- 5、Housing
- 6、Right Thermal Chamber
- 7、Dispenser
- 8、Small cryo-plate
- 9、Waste tray
- 10、Working table
- 11、Forceps holder
- 12、Left Thermal Chamber

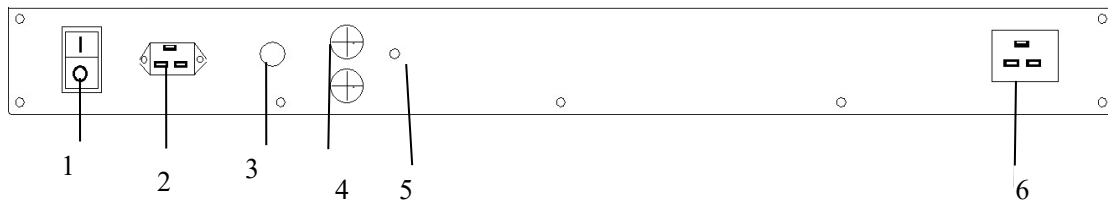
### 5.5 Front pad for embedding center



- 1、Screen
- 2、Up key
- 3、Down key
- 4、Auto/Manual Key
- 5、Small cryo-plate on/off key
- 6、Minus key
- 7、Plus key
- 8、Set key



## 5.6 Back Panel for embedding center



Back picture

1. Power switch      2. Socket      3. Foot switch socket      4. Fuse socket  
5. Grounding wire connector      6. Socket for cooling plate

## 6. Box opening and installation

● Please check out whether the package is damaged seriously, if it is damaged seriously, please contact to the Transporters.

- Unpack the wooden carton to take out all Appurtenances and the Instruction manual.
- Carry the instrument (including the enclosing), if the instrument need for the safe transport again, we suggest using the original packaging materials.
- Take out the enclosing, put the instrument on the stable platform in the lab.



Don't put the instrument in an explosive and flammable working site for operation.

- The instrument should be installed in a place where is near the grounding socket, so that the power supply line can connect to the socket.

## 7. Starting up machine



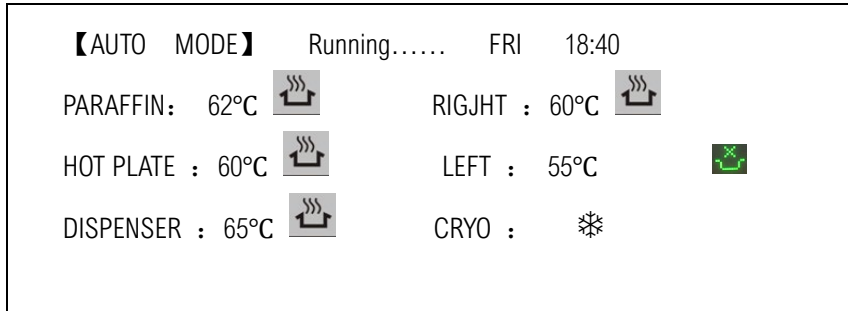
The instrument only can use the power supply line we supplied with the instrument to connect with the socket, and the line must be connected with the grounding socket.

- Before you connect the main electrical source, please check whether the power switch is in the “0” position, the “0” means off.



When you connect the power, please insert one end into the instrument's power plugs first, then insert another end into the power plugs in the Lab.

Turn on the main switch of the instrument, the indicator light of switch will be on, and in the meantime the OLED screen will show the following picture:



## 8. Ways of Operations

8.1 、 Firstly, put enough paraffin block in the paraffin container, but don't runout.

Connect the power line to the power and instrument. Turn on the power switch. “I” position means that the power is on, and “O” position is power off.

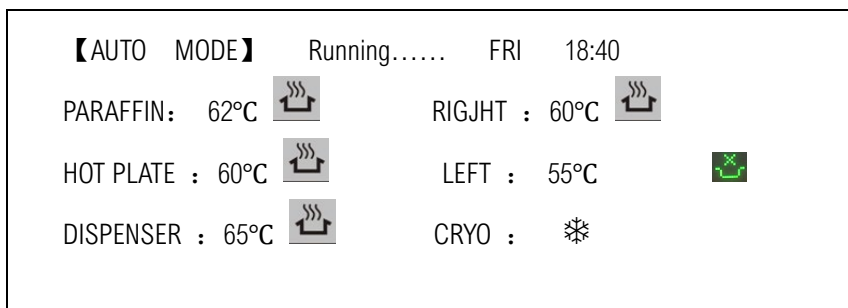
8.2、 This is the keypad for LED light.. Press key, the LED light will become brighter and press key, LED light will become darker.

8.3、 Before using this embedding center, please set the temperatures for six working zone.

**Attention:** Here below are the pre-setting temperatures for six working zones: Left Thermal Chamber:55°C, Paraffin Dispenser:70°C, Paraffin tank:65°C, working table:55°C, right thermal chamber:65°C; small cryo-plate:—10°C。

If pre-settings are ok, the user could turn on the power and run the programmer directly. means heating. means stopping heating.

(Note: If the instrument is turned on in pre-setting turn on time, it will automatic start to work) Interface as below:

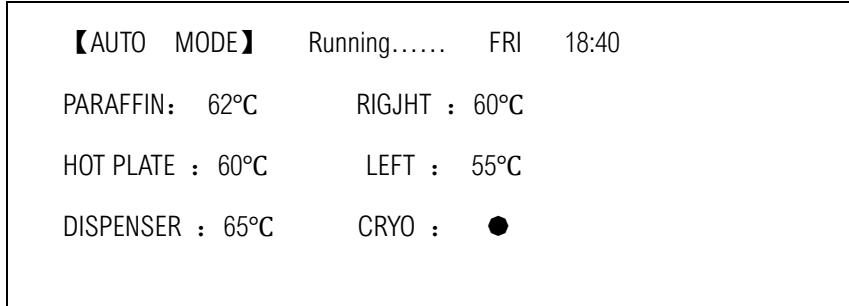


The screen will enter protection and power save mode after 15 minutes without touching the keypad. The screen will be lighted once press any keys except CRYO key. Press AUTO/MAN key, the machine will enter



manual mode.

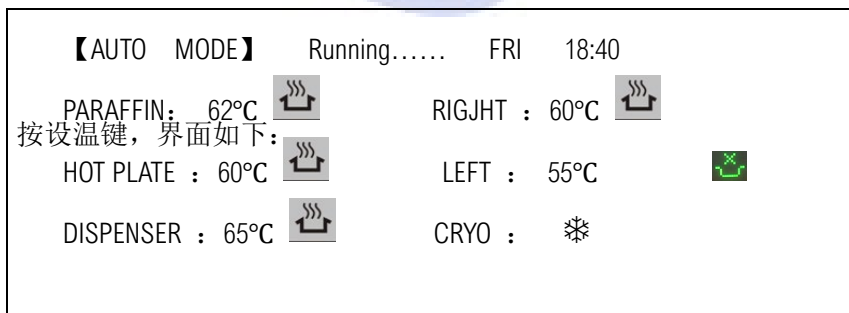
(Note: If the instrument is turned on out of the pre-setting turn-on time, it will enter into the waiting interface) Interface as below:



If the user wants to run the instrument, please press AUTO/MAN key to enter manual interface

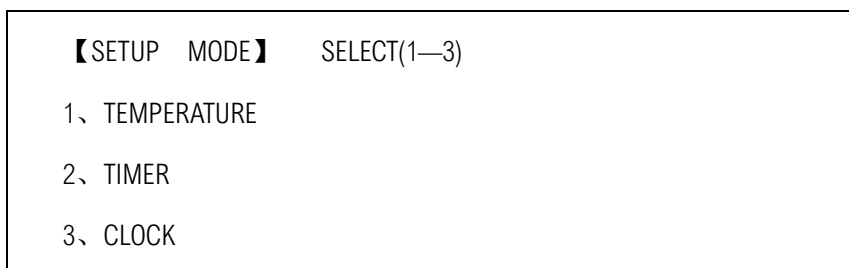


Press  to enter running mode and press  to return to waiting mode



#### 8.4、Setup Mode

Press SET key to enter setup mode under manual mode.





### 8.5、 Temperature setting mode:

Press ◀, ▶ key to choose the setting content. Example, choose 1、 TEMPERATURE and press SET key, enter into temperature setting status, press ◀, ▶ to choose the working zone, press + or – to increase or decrease the temperature figures. After finishing setting, press **AUTO/MAN** key to return to running interface. 1、 PARAFFIN (paraffin tank) ; 2、 RIGJHT (right thermal chamber) ; 3、 HOT PLATE (working table) ; 4、 LEFT (left thermal chamber) ; 5、 DISPENSER (paraffin dispenser) ; 6、 CRYO (small cryo-plate).

<b>【SET TEMPERATURES】</b>	SELECT(1—6)
1、 PARAFFIN: 62°C	2、 RIGJHT : 60°C
3、 HOT PLATE : 60°C	4、 LEFT : 55°C
5、 DISPENSER : 65°C	6、 CRYO : ●

### 8.6、 Time setting mode:

If choose 2、 TIMER and press Set key, enter time setting mode. Press ◀, ▶ to set turn on and turn off time from Monday to Sunday. Press + or – to increase and decrease the time figure.

<b>【 SET TIME 】</b>	SELECT(1—7)
1、 MON: 06:10 [ON]	16:30 [OFF]
2、 TUE : 08:10 [ON]	16:30 [OFF]
3、 WED : 09:10 [ON]	16:30 [OFF]

Press ▶ to choose time setting for Thursday, press ◀ to return to time setting for Monday. After finishing the setting, press **AUTO/MAN** key to return to automatic running interface.

4、 THU: 06:10 [ON]	16:30 [OFF]
5、 FRI: 06:10 [ON]	16:30 [OFF]
6、 SAT : 07:10 [ON]	16:30 [OFF]
7、 SUN : 06:10 [ON]	16:30 [OFF]

Example: Turn on at 7:30 and turn off at 12:50 on Tuesday, follow below steps:



Turn on the power and press AUTO/MAN key to enter into waiting mode, press SET key then press ▶ to

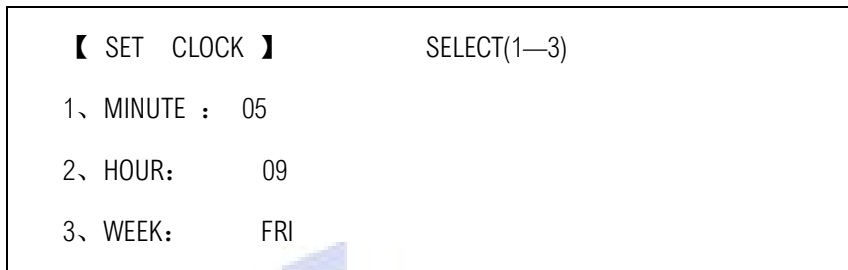


choose 2、TIMER, press  to choose Tuesday and press + or –to set 07:30 [ON] 12:50 [OFF] .

**Note: If the user set turning on and off time are both 00:00, that means the instrument do not work on that day.**



### 8.7、 Fixing time mode:

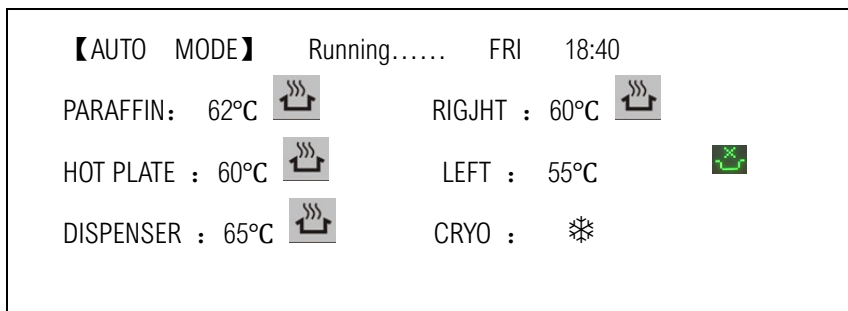
Choose 3、CLOCK and press SET key, you will enter current time setting mode. Press ,  to choose minute, hour, week, then press+ or –to increase or decrease the time figures. Press **AUTO/MAN** key to return back to running interface.







All the setting parameters like temperature, time will be recorded in the computer chip. When re-start the embedding center and press AUTO/MAN key, it will run according to the pre-setting parameters.

### 8.8 CRYO key:

If press CRYO key under AUTO mode, the cooling plate on the embedding center will be turn off.  means the cooling plate is running. If no , that means the cooling plate stop working.



**Note: When the temperature gets to setting temperature, the heating symbol  will change to . If the actual  temperature is lower than the setting temperature, the symbol will automatically change to .**



There are two indicator lights beside the screen. The underneath indicator light is on mean the compressor is working, and the up-indicator light is on means the compressor stop working. If the actual temperature is lower than setting temperature, the compressor stops running. When the actual temperature is higher than setting temperature, the compressor re-start to work.

In order to the end user to use conveniently, the pre-set temperature is  $-10^{\circ}\text{C}$ .

## 9. Attention

- After getting the machine, please open the package to examine the outer appearance, check the appurtenances, and read the instruction carefully before starting and operating the machine.

- In order to ensure the security of people and the equipment, the three-line power source is needed, and make sure that the grounding works well. Non-grounding power is prohibited to this machine.

- When paraffin block does not melt completely, or temperature of nozzle doesn't reach up to set temperature, you mustn't use hand or foot switch to avoid paraffin liquid flow out and the pipe blocked.

- over-heat protecting system stalled in the instruments. When temperature of heating equipment exceeds to  $100^{\circ}\text{C}$ , the system cut heating power automatically. As lower than this temperature, instrument recover to heating situation.

- In order to prolong lifetime of compressor in cooling plate, working time each time shouldn't exceed to 4hours. Once power off, you'd better start up every 5 minutes.

- The equipment must be away from the flammability and Explosive things.

- Strictly prohibit the hardness things to touch the LCD screen.

- When the instrument is in the heating, you can't touch the heat place with your hand.

- Once the machine works, liquid shouldn't fill up with the container or flow into instrument.

- Please turn off the main switch and pull out the power socket first before you change the fuse, the model and the specification of the changed fuse must be the same as the one used before.

- The xylene and acetone and other organic solvent is not available to clean the surface of the equipment.

- When you clean the equipment, you must turn off the main power first, pull out the power socket.

- The equipment must be cleaned every day, clean up the rest wax in the drawer.

- If you don't use the equipment for a long time, you should pull out the power socket, and then hood the dust proof cover.



## 10. Maintenance

●In the conditions that the customer should comply with the rule of the user instruction, we will provide one year warranty time. One year later, we will supply Maintenance Services for a long time.

### 10.1 Fault recognize

Fault	Cause	Elimination
<b>Embedding center</b>		
No response as power on	Power line connected not well	Connect power line, turn it on again
No response as power on	Switch isn't turned	Press the switch, indicator light is on
No response as power on	Fuse isn't connected well	Check if fuse is good or not, change with another
Light isn't on	Wrong with fuse	Check if fuse is good or wrong., ask technician to check it.
No heating	Wrong with fuse	Change fuse or ask technician to check
No heating	Wrong with heating element	Ask technician to check
No heating	Sensor of temperature detecting	Ask for technical support
No flow of paraffin liquid	Wax block is not melted enough	Time is not enough, continue heating
No flow of paraffin liquid	Magnetic valve is blocked	Ask for technical support
No flow of paraffin liquid or leak	Wrong with magnetic valve	Ask for technical support
Leak of liquid but sound is good as magnetic valve start up	Other things in the magnetic valve	Clean the dust gauze, ask technician
Light twinkling when turn on	Unstable power	Check the power
Start to heat when turn on but under off work mode	SSR is broken	Ask for technical support

### 10.2 Cleaning

Before you clean the equipment, please turn off the power switch and pull out the power socket first.

- Only the cleanser for home use or the soap lye can be used for cleaning the instrument.
- Acetone and benzene will damage the paint on the surface of the instrument.
- Leakage of the cleaning liquid is not allowed into the instrument.
- Use wet fabric to clean the equipment, but don't use the very wet fabric to clean it.
- After the operation every day, you should clean the equipment, reclaim and keep the rest wax, so you can use next time.

## 11. Transportation and storage

Condition

a) Environment Temperature -10°C~+55°C

b) Humidity should less than 80%



c) Atmospheric pressure: 860hpa~1060hpa

Should be put in clear room with good ventilation

- Transportation: “Handle in care”, “avoid wetting”, and “place upward”.

## 12. Appendix

Amendment of the instrument

Our company has the right to change the technical parameters of any Model for improving the function of the instruments. Excuse us for not informing the customers in advance.

### Quality guarantee

It is for sure that every instrument we sell has been strictly examined to ensure that every instrument is qualified and matches its technical standard.

The free service terms which are favorable to the customers are made for the sales agencies.

Free service terms are only provided for those who regularly use of the instrument and operate the instrument according to the Instructions.

We will not be responsible for the damage and other problems caused by abuse and mis operation of the instrument.

### Discards and disposition

The discarded instrument and its parts should be disposed according to the current laws or regulations.

For the safe of environmental protection, we are willing to give you some advice on discarding them.

Service information for customers

If you need any service or parts of the instrument in the guaranteed usable period, please consult the agencies of our company or the sellers. But you should provide them the specification, model, the item number and the time of the buying.

### Attention:

If you send the instrument or its parts back to Kalstein company, please make sure the following:

1. If the instrument or its parts has sliced the tissue with virus and bacteria or touched with radiation resources, please disinfect them or eliminate the radioactivity before sending back. Our technicians will examine and verify for sure.
2. If you are sure that the instrument or its parts you want to send back to our company is safe from infection of virus, bacterium or radiation, please tell our technician the possible ways you will use to disinfect them or eliminate the radioactivity. Any possible dangerous of infection from bacterium and virus or radiation will lead to sending back the instrument or its parts without any of our maintenance by collect.

For technical service, please inform us:

- Model No. of the instrument
- Address and contact person
- causes for the service