

Tissue Embedding & Cooling System

YR448

Instruction Manual

Thank you very much for purchasing our Tissue Embedding & Cooling System

YR448.

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.

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 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 SAS 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.

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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 can not 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 allow 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: $\pm 1^{\circ}\text{C}$
- 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 Specification for cooling plate

Digital screen, indicates actual temperature.

- The electric security type is the class I
- Temperature range: 5~—28°C:
- Working area: 315×380 mm
- Voltage: AC220V 50HZ or AC110V 60HZ
- Power: 300VA
- Fuse: F1A/AC250V
- Overall Dimension: 710×350×390 mm
- Weight: 25kgs

4.3 Working Environment

- Condition:5°C~40°C
- Humidity should less than 80%
- Atmospheric pressure: 860hpa~1060hpa

5. Summary

5.1 Introduction

YR448 Tissue embedding center and cooling plate 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 instruments. 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 temprature adjusted freely. And it's compose 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 convience for user to clean the cassttes.
- 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:≥6 liters

5.3 Performance and technical information for cooling plate

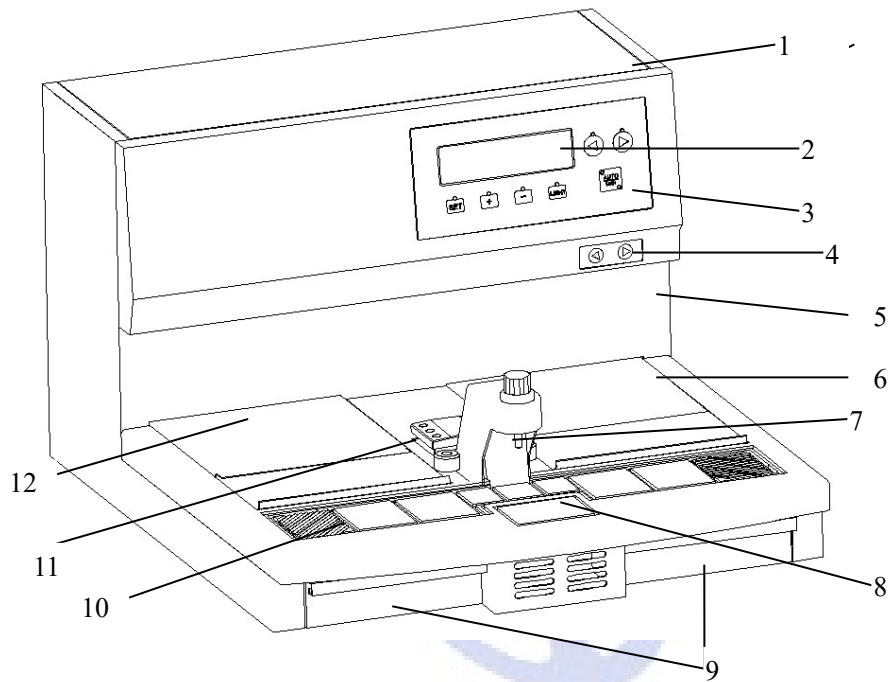
- New model frequency conversion compressor which could set the temperature from +30 to —35°C under special environment
- Green digital screen with stable quality.
- The temperature measure moude is from US DALLAS with high precision and good performance.

- Working temperature could cool down to -20°C

5.4 Structure drawing for embedding center

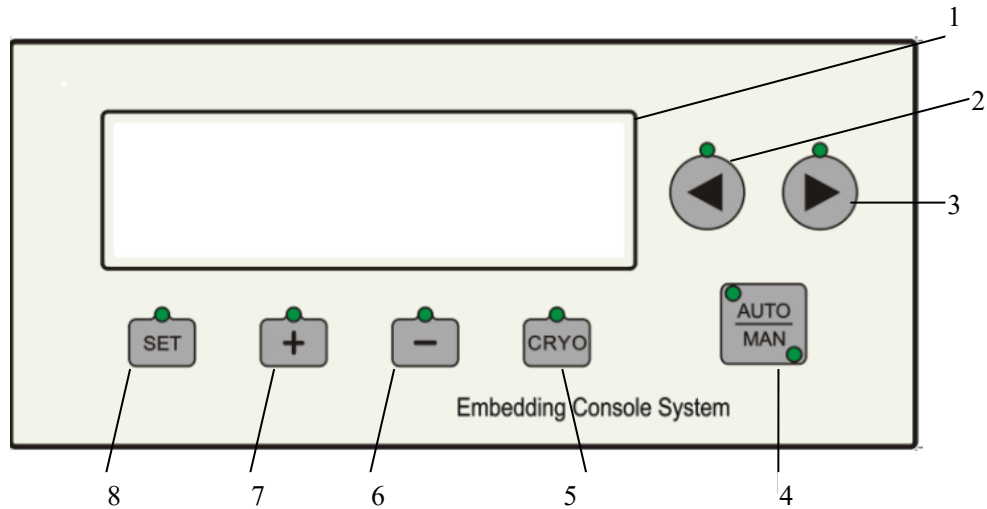
YR448 embedding center is consisted of five heating parts and one cooling part. See picture 1.

Picture 1



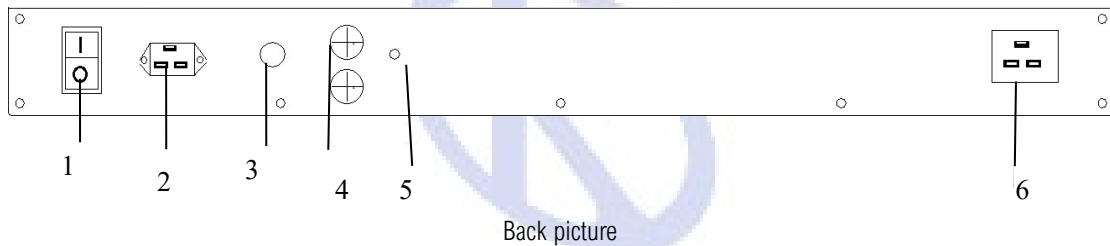
- | | | | |
|-----------------|-------------------------|-------------------|-------------------------|
| 1、Paraffin tank | 2、OLED screen | 3、Keypad | 4、LED keypad |
| 5、Housing | 6、Right Thermal Chamber | 7、Dispenser | 8、Small cryo-plate |
| 9、Waste tray | 10、Working table | 11、Forceps holder | 12、Left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

5.5 Front pad for embedding center



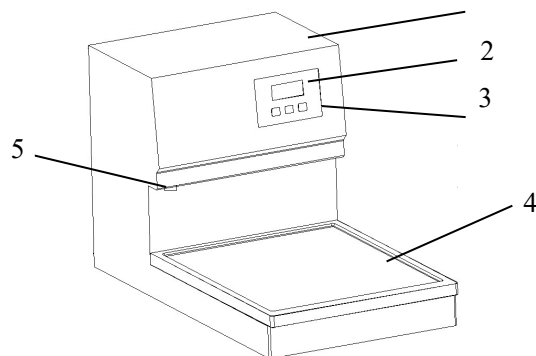
- 1、Screen 2、Up key 3、Down key 4、Auto/Manual Key
- 5、Small cryo-plate on/off key 6、Minus key 7、Plus key 8、Set key

5.6 Back Panel for embedding center



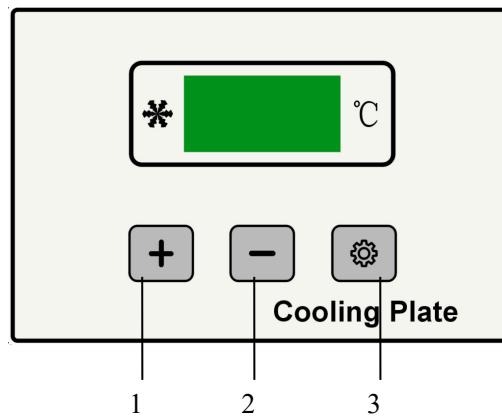
- 1. Power switch 2. Socket 3. Foot switch socket 4. Fuse socket
- 5. Grounding wire connector 6. Socket for cooling plate

5.7. Cooling plate is consisted by the housing, compressor, vibrating controller, condenser, motor, Micro-computer controller, temperature sensor, screen, keypad.



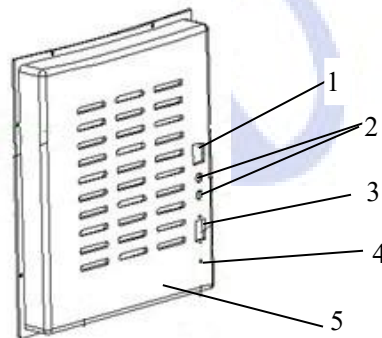
- 1、Housing 2、Screen 3、Keypad 4、Working area 5. Switch

5.8 Front panel for cooling plate



1、 Increase 2、 Decrease 3、 Setting

5.6 Back panel for cooling plate




1、 Power switch 2、 Fuse socket 3、 Power socket 4、 Grounding wire connector
5、 Back cover

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 to use the original packaging materials.
- Take out the enclosing, put the instrument on the stable platform in the lab.

 Don't put the instrument in a 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 “0” position is power off.

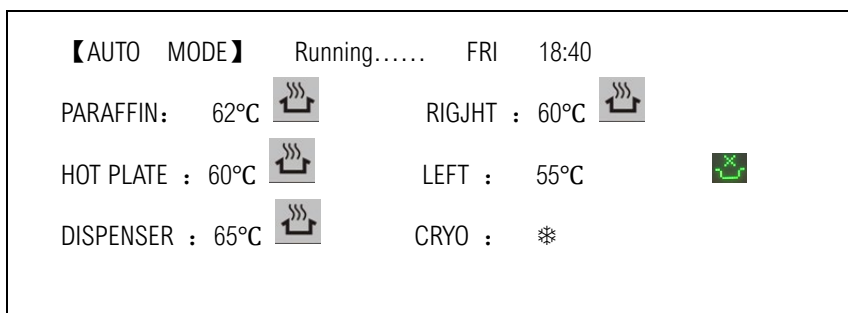
8.2、  This is the keypad for LED light.. Press ▶ key, the LED light will become brighter and press ◀ key, LED light will become darker.

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:



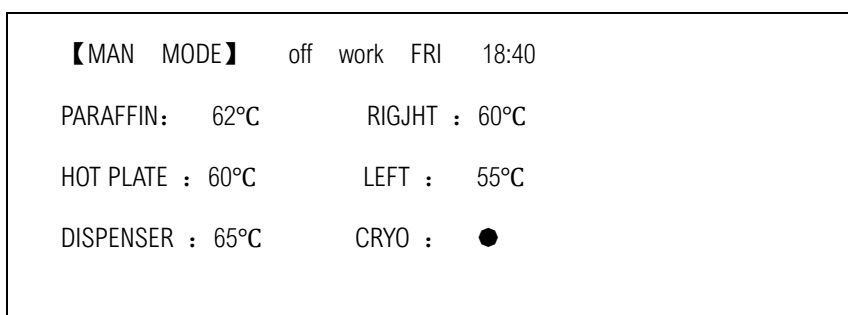
The screen will enter into protection and power save mode after 15 minutes without touching the keypad. The screen will be lighted once press any keys except CRYO key. Press AUTO/MAN key, the machine will enter into manual mode.


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

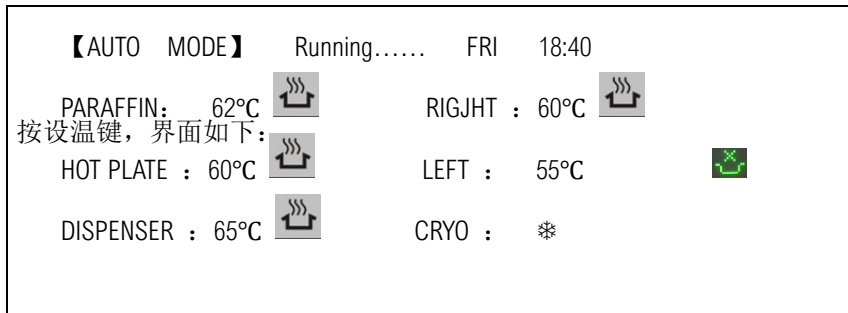
Interface as below:



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

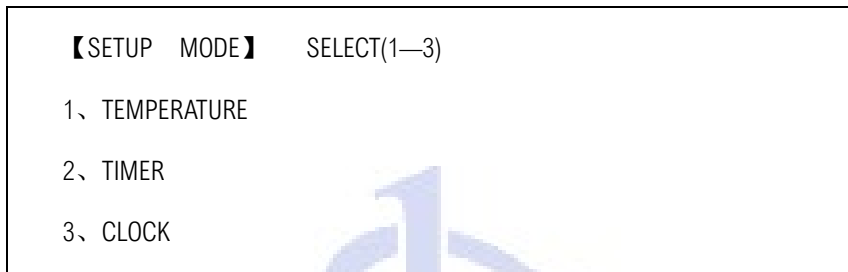


Press  to enter into running mode and press  to return back to waiting mode



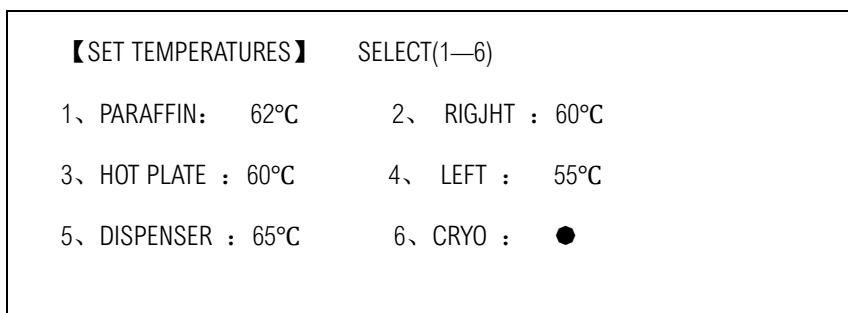
8.4、 Setup Mode

Press SET key to enter into 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 back 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).



8.6、 Time setting mode:

If choose 2、 TIMER and press Set key, enter into 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.



【 SET TIME 】	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 back to time setting for Monday. After finishing the setting, press **AUTO/MAN** key to return back 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:

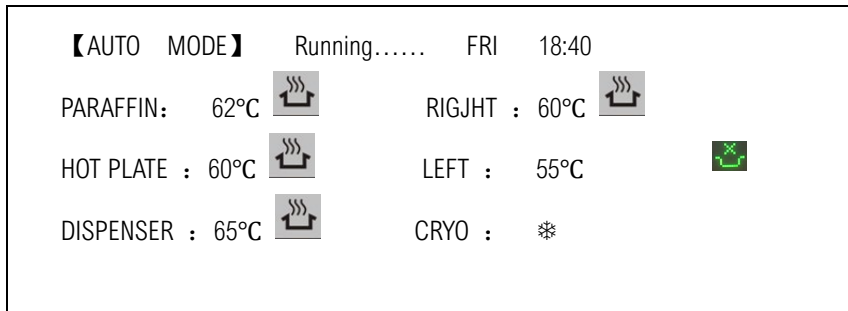
Choose 3、 **CLOCK** and press **SET** key, you will enter into current time setting mode. Press **◀**、 **▶** to choose minute, hour, week, then press **+** or **-** to increase or decrease the time figures. Press **AUTO/MAN** key to return back to running interface.

【 SET CLOCK 】	SELECT(1—3)
1、 MINUTE : 05	
2、 HOUR: 09	
3、 WEEK: FRI	



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.



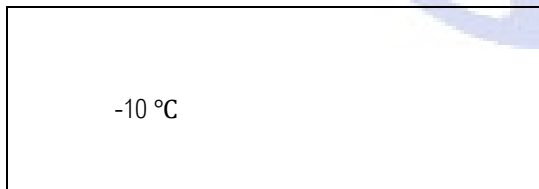
Note: When the temperature get to setting temperature, the heating symbol  will change to

If the actual  temperature is lower than the setting temperature, the symbol will automatical change to 

8.9 Ways of operation for cooling plate

Connect cooling plate to the power and turn on power switch.

If the power switch shows green light, that means the cooling plate has the power and the interface shows as below:



Press SET key, the compressor stop running, press + or — to adjust the temperature. Then press SET key to enter into runing mode.

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 stop running. When the actual temperature is higher than setting temperature, the compressor re-start to work.

In order to convience the end user to use, the pre-set temperature is -10°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 not melt completely,or temprature of nozzle doesn't reach up to set temprature,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 temprature of heating equipment exceed to 100°C,the system cut heating power automatically.As lower than this temprature,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 everyday, 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 dustproof 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
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Embedding center		
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 temprature detecting	Ask for technical support
No flow of paraffin liquid	Wax block is not melt 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	Un-stable power	Check the power
Start to heat when turn on but under off work mode	SSR is broken	Ask for technical support
Cooling plate		
Cooling plate can not cool down	Bad wire connection	Check the wires
Cooling plate can not cool down	Controller or compressor may be broken	Ask for technical support
It can cool down but the temperature can not reach to setting temperature	The fan does not work	Ask for technical support
It can cool down but the temperature can not reach to setting temperature	No enough refrigerating fluid	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 everyday, 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 $-10^{\circ}\text{C}\sim+55^{\circ}\text{C}$

b) Humidity should less than 80%

c) Atmospheric pressure: 860hpa \sim 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 misoperation 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.

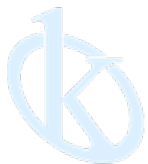
Attention:

If you send the instrument or its parts back to Kalstein France 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



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