

## Operation Manual



**BHTP-309**

## Automatic Tissue Processor

Thank you for Choosing Biolab products. Please read the "Operating Instructions" and "Warranty" before operating this unit to assure proper operation.

# Index

1. Important illustration.....	3
2. Safety Regulations of Instrument .....	3
3. Brief .....	4
4. Main technical parameters .....	5
5. Box opening and instrument mounting .....	5
6. Startup .....	6
7. Usage and steps of operation .....	6
7.1 Operation Instructions .....	6
7.2 Abbr. in the text and their meanings .....	7
7.3 Steps of operation .....	7
7.4 User guide .....	9
8. Caution in usage ... ..	10
9. 1Problems and elimination .....	10
10. Maintenance .....	12
11. Transportation and storage .....	12
12. Appendix .....	12

## 01 Important illustration

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 don'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.

Biolab is entitled with the rights of altering the technological characteristics and processing techniques, 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 Biolab Printing, duplication, micrography or copy of other electronic documents or other media concerning partial or entire texts and photos of the manual have to be approved by Biolab 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.

## 02 Safety Regulations of Instrument

- When the instrument is at work, if use the inflammable goods, please pay attention to safety.
  - If do not use the instrument for a long time, pull out the plug and cover the dust enclosure.
- Do not add reagent when the instrument is working, in addition, make sure there is no reagent flow into the instrument when inject the reagent.

- Do not add reagent when the instrument is working, in addition, make sure there is no reagent flow into the instrument when inject the reagent.

- place the instrument steadily, and inclination shouldn't exceed to 5°

- Do not take the solid object to touch the display screen.

Only the power line along with the instrument can be used for connection, and the power supply should be earthing well.

use separate socket for supplying power to avoid interference

Before replace the fuse, close the main switch and pull out the plug, then replace the fuse with the same model and spec, you may refer to the technical parameter for the concrete model and spec.

We strongly advise you to use the mounting dehydration basket provided by our company.

When clean the instrument, must close the main switch and pull out the attaching plug.

The instrument may not be placed near the flammable and detonatable objects.

The acet. and xylene organic solvent is not allowed to clean the surface of the instrument.

The liquid may not over brim the bath during the processing, and the liquid reagent just immerse the specimen is OK.

The instrument could only be repaired by the technicians authorized by our company.

## 03Brief

BHTP-309 Automatic Tissue Processor is an equipment that could automatically perform fixing, dehydrating, transparency and wax immersing treatment on specimens of human beings, animals or plants. It's widely applied in pathologic departments of various hospitals, pathologic teaching offices of various medical colleges and universities, animal and plant scientific research units and food inspection departments.

- The machine surface is painted with APS engineering plastic, which is highly strong, corrosion-resistant, with lucid lines and graceful appearances.

- Monolithic computer control technology is adopted by the machine, which is equipped with English LCD display, the man-machine conversation is easier to use, the machine is equipped with organic glass shield, gas exhaust device is adopted, which is properly sealed, environmental-friendly and safe.

- Medicament hydraulic cylinder: it could complete the dehydrating operations of more than 100 tissues one time.

- Short time power-cut or power failure during the running of the machine will not influence the normal working of the machine.

- Also the equipment adopted by stepping motor, brushless motor and high accuracy spindle transmission gearing that it construct can precise electronic position system.

- Enclosed charcoal enhanced ventilation help control processing vapors

## 04 Main technical parameters

- 20 sets of programmes;
- The number of the cylinder and their volumes : 12 cylinders (no.10,11,12 are paraffin cylinder, others are reagent cylinders) ;
- The volume of each cylinder : 1000ml;
- The setting of the prolonged starting time : 00h to 99h(No.1 cylinder) ;  
0~24h (other cylinders) ;
- Range of pre-setting temperature: ambient~80°C;
- time of exchange cylinder, delay and leachate: 10~60S seconds;
- Protecting cylinder of tissue: No.1~No.7 cylinder;
- Voltage : AC220±10%. 50Hz±1 ;
- Power : ≤800W;
- Heating control: self-heating as specimen goes into second cylinder, energy saving;
- Dimension : 1010×550×420 mm 3 ;
- Weight : Approx.80kg;
- Safety of electric:I ,B.

## 05 Box opening and instrument mounting

• check whether or not the machine was damaged obviously, please contact with your shipping agent when any damage is found.

• Firstly open package carton, then take out operation manual and accessories.

• Carry the instrument(together with protection cover) ,you'r advised to use original packages as the instrument need to be transported safely

• Taking out protection cover, place the instrument on level lab table.

the instrument mustn't be put in the place which is explosive and poisonous condition.

• the machine should be mounted near to the grounding socket to connect the power line anytime

## 06Startup

The instrument should be connected with power line along with grounding socket;

- The instrument can be only connected to exhaust duct;
- Before connecting to power, check the switch see if it's at the position :O;

before connecting to power, insert power plug, then insert the other end into socket in the lab;

- before switch on, check whether any part is connected well;
- turn on the main switch, indicator light, then LCD shows :BHTP-309.

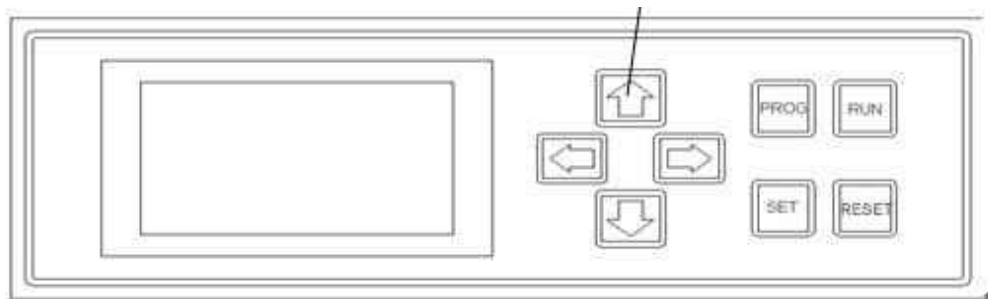
## 07Usage and steps of operation

**Outlook of the model:**



(Picture1)

Operation Instructions



(Picture 2)

- |          |          |                  |
|----------|----------|------------------|
| 1. UP    | 2. DOWN  | 3. LEFT          |
| 4. RIGHT | 5. PROG  | 6. RUN           |
| 7. TEMP  | 8. RESET | 9. Display panel |

## 7.2 Abbr. in the text and their meanings

- "PROG" means making programming progress by pressing this key.
  - "RUN" means choosing the programme with which machine can work itself
- "TEMP" means pre-set temperature of wax cylinder
- "RESET" means instrument come back restoration status.

## 7.3 Steps of operation

- Switch on electricity power, the central system automatically run to restoration status. The mechanical arm run to the first tank automatically (Picture 3).
- The LCD display TISSUE PROCESSOR
- After 3—5 seconds, the central system automatically goes into self-testing stage. (picture 3)



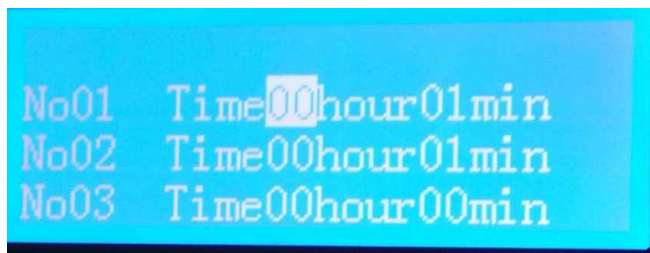
(Picture 3)

- The mechanical arm drives the dehydration basket go firstly from upward position down into No.1 cylinder, and after that, LCD indicates (picture 4)



(Picture 4)

●Press "PROG" key ,then it goes to digital interface of editing programme(Picture 5) , user can adjust working time of each cylinder by pressing "UP","DOWN","LEFT"and"RIGHT"key.As it's done,re-press"PROG" key to confirm this operation step.



(Picture 5)

"UP" means increase numeral value;  
"DOWN" means reduce numeral value;  
"RIGHT" means going ahead to next step;  
"LEFT" means back to previous step.

●Press"SET" key to adjust wax temperature



(Picture 6)



by pressing "UP", "DOWN", "LEFT" and "RIGHT" key, the user can adjust data you want. ,press "SET" key to confirm this operation

- As above "PROG" and "TEMP" step are finished, press "RUN" button to let the machine run, then LCD indicates (Picture 7) :



( Picture 7)

Press " RUN " Key , the machine will operate automatically .

#### 7.4 User guide

Caution: The mechanical arm of the machine is computer controlled, One it goes from one cylinder to another, the Lid on the cylinder open then close as it finish time. You mustn't put your hands to touch the cylinder or the lid to avoid any damage to you.

##### •Finish Operating

When the machine finish working, The screen shows main menu, Firstly, press "Up" key, the mechanical arm lift up from No.12 cylinder, then you can take out dehydration basket. Press "RESET" key, the mechanical arm automatically go back to No.1 cylinder.

Attention: Once the machine working strictly compliance with Pre-setting programme, The mechanical arm return to No.1 cylinder always as you press "RESET" key during its working progress

## 08 Caution in usage

- When the instrument is at work, if use the inflammable goods, please pay attention to safety.
- If do not use the instrument for a long time, pull out the plug and cover the dust encloser. Do not add reagent when the instrument is working, in addition, make sure there is no reagent flow into the instrument when inject the reagent.
- Do not add reagent when the instrument is working, in addition, make sure there is no reagent flow into the instrument when inject the reagent.
- place the instrument steadily, and inclination shouldn't exceed to 5°
- Do not take the solid object to touch the display screen.

Only the power line along with the instrument can be used for connection, and the power supply should be earthing well.

use separate socket for supplying power to avoid interference

Before replace the fuse, close the main switch and pull out the plug, then replace the fuse with the same model and spec, you may refer to the technical parameter for the concrete model and spec.

We strongly advise you to use the mounting dehydration basket provided by our company. When clean the instrument, must close the main switch and pull out the attaching plug.

The instrument may not be placed near the flammable and detonatable objects.

The acet. and xylene organic solvent is not allowed to clean the surface of the instrument.

The liquid may not overbrim the bath during the processing, and the liquid reagent just immerse the specimen is OK.

The instrument could only be repaired by the technicians authorized by our company

## 09 Possible problems and elimination

problems	reason	elimination
No power indication	Fuse is burnt out or poor contact of power socket	Change with new fuse or power line
<b>electric shock feeling</b>	Grounding line isn't connected or poor contact	Change with new, firm line

Time programming cannot be made	Buttons on panel are broken	Change with new panel
Lifting arm go toward s to right	Vertical sensor broken	Examine the sensor > 0.1V,pls change, ≤0.1V ,it's good
Lifting arm go upwords to top, but don't go to right side	Sensor of number 1 is broken	change
On running, press left/right button to make lead rail more, but it doesn't stop	Single positioning sensor is broken	change
Basket more powerlessly and make noises	Electrical control is broken	Check the motor
Lifting arm goes upwords or shaking frequently downwords	strap in vertical rail lack of teeth	Check ,and change if necessary
Vertical rail can't move to leftside or rightside,but the motor buzzles	Steel rope was disconnected	change
Paraffin can't be heated up	The heating tube was broken or the controlled silicon in temperature controlling board is broken	Check,and change if necessary
Paraffin cylinder opens up or can't shut up closely	There is problem about cylinder	Check ,or change if necessary

Display panel is not clear	Electronic board is broken	Adjust its resistance
Display panel can't show any figures	broken	Check 34063 on its back(normal: input24V, output5V)
Button is not insensitive	Button is broken	Check the button board and connecting line

Under the condition of following the instructed operating regulations, we guarantee to keep our promise of free maintenance service within one year from the sales day. To those which have surpassed the period, we will also provide maintenance service according to the stipulations.

## 10 Maintenance

- Clean it before turn off the power, then pull out the plug.
- Use soft household detergent or soap lye to keep it clean
- Don't use detergent like acetone or benzene, any detergent mustn't flow into the instrument.
- Any liquid mustn't flow into the machine
- Before replace the fuse, close the main switch and pull out the plug, then replace the fuse with the same model and spec, you may refer to the technical parameter for the concrete model and spec.

## 11 Transportation and storage

- This machine should be stored in the clean and airy indoor places with the relative humidity under 80% and be kept far from the caustic gas.
- Handle in care, avoid wetting, and place upward.

## 12 Appendix

### ●Product Alteration

Biolab reserves the rights of altering the technological parameters of the product without notifying in advance, because the instruments required to face to the alteration and improvement for technological progress.

### ●Warranty Period

Biolab guarantees that all instruments manufactured by the company have been strictly and comprehensively checked on quality to guarantee the compliance with the technological standard.

The warranty conditions will be up to the Biolab sales agent responsible to you.

The warranty period is only valid for normal usage according to the specified conditions for the instrument and the circumstances of following the various regulations specified in the operational instruction manual.

Warranty terms are not applicable for the damages caused by misuse or improper operations of instrument and our company is not responsible for the above-mentioned damages either.

### ●Discard and Disposal

The discarded instrument or parts of instrument shall be disposed according to the existing relevant and effective laws and regulations.

We are pleased to offer you an environment-friendly disposal plan when you need to dispose the discarded BHTP-309.

### ●User's Service Information

Please contact the sales representative of Biolab or the sales agent once sold the instrument to you if you require any service or parts during the warranty period. Please inform the instrument model, serial number and supply time. Biolab doesn't accept any rejection of goods without any formal permission for rejection of goods.

Please pay attention to the following items if you will deliver the instrument back to Biolab:

a. The instrument or parts shall be disinfected or radioactive elimination treatment before sending back if viruses or radioactive substances have been connected with the instrument or the parts. Our user's service technician will be assigned to check this out clearly.

b. If you are sure that the instrument or parts are free from any radioactive or dangerous viruses, please get the suggestions on the possible methods for disinfection and radioactive elimination from your Biolab representative. The instrument or parts will be directly sent back to the customer under the customer's expenses if possible infection dangers are still existed on the instrument or parts upon the arrival of the Biolab representative.

Please tell us the following information if you require technical services:

Model and serial number.

The place where the instrument is located and the contact person.

Reasons for service request.



Email: [contact@biolabscientific.com](mailto:contact@biolabscientific.com)

Website: [www.biolabscientific.com](http://www.biolabscientific.com)