

1.2 Information and use of the instrument

The Histo-Pro 200 is an automatic tissue processor, designed for Pathology and research laboratories.

This recently-designed instrument from Histo-Line Laboratories combines the simplicity of use by operators with maximum safety and reliability.

Clarity and ease of access to the controls can be found in front of the instrument, equipped with a large color touch screen.

It is equipped with intelligent and easy to use software, with an alarm system as a reminder or failure of the instrument.

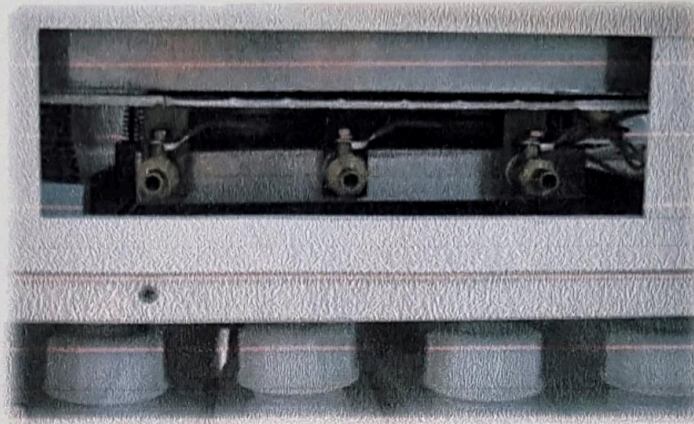
S5 Multiple system of sample protection.

S10 } Histo-Pro 200 processes all biological tissues, with both standard protocols and protocols using not toxic reagents like Diaphane (xylene substitute and d-lemonene). For both reagents the processor is designed with optimized protocols and adaptable to all circumstances.

S18; S8 } The software stores all the necessary protocols, with the option to set: management usage of the reagent, the processing time, the operating temperature, agitation (stirring) time.



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The operator can set the different programs, diversified by station, time and temperature; there are also special programs for the cleaning of retort after paraffin steps.

In front of the unit, behind a small flap retractable, there are the hose connections for useful and simple paraffin drainage.

The basket provided the possibility of having different load quantities: ~ 70, ~ 140, ~ 200 cassettes with use controlled amounts of reagent according to the load.

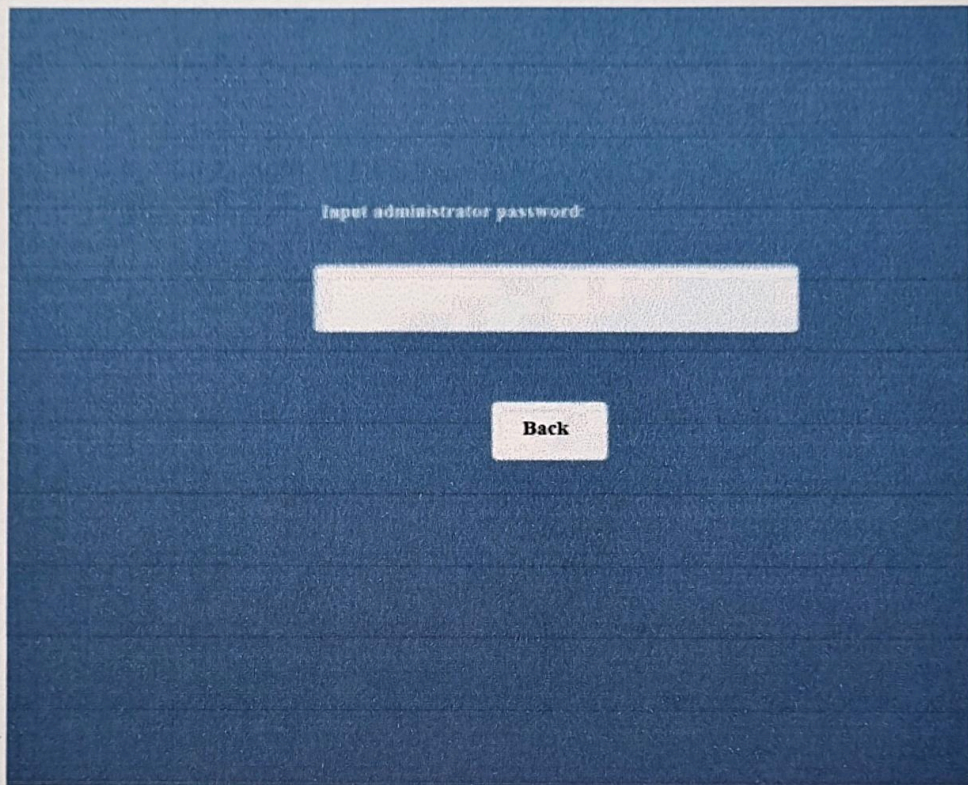
54 14" color touch screen solvents resistance, with a graphical representation of the management process of the instrument, through intuitive software.

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5.3 Password protect

Press **SYSTEM SET** button in Standby screen (**Fig.2**), it will display as below:

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(Fig.3)

Type the password to continue.



NOTE

- Password protected. Can set by user;
- Default password is 0000
- If want change password, please go to Set System Parameter interface at this Chapter. (see 5.4)

5.5 SYSTEM SET INTERFACE - Set program

Press **SET PROGRAM** button in *SYSTEM SET INTERFACE* screen (**Fig.4**), it will display as below:



(Fig.5)

Set temperature

1. **R:** Retort area temperature set;
T Reagent: Set the reagent temperature in retort from ambient to 65 degree;
T Wax: Set Wax temperature in retort from 55°C to 70°C.
2. **W:** Wax area temperature set;
T Wax: Set Wax temperature in 3 wax stations from 55°C to 70°C.
P: Pipes area temperature set from 55°C to 70°C. Default value 65°C

Set program

59 Press **Pro. No.** area (1 to 20) and set working time (**Hours and Minutes**) for steps (1 to 13).

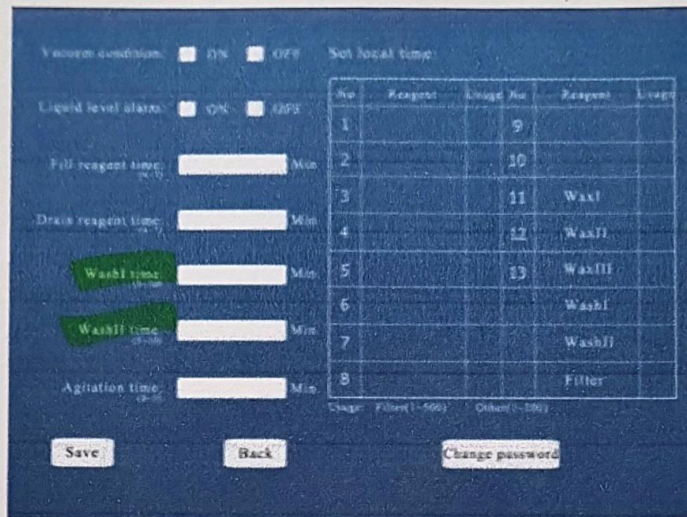
Save or Exit

Press **SAVE** button to store program in memory.

Press **EXIT** button for exit without saving.

5.6 SYSTEM SET INTERFACE – Set system parameter

Press **SET SYSTEM PARAMETER** button in **SYSTEM SET INTERFACE** screen (**Fig.4**), it will display as follow:



(Fig.6)

1. **Vacuum condition:**
Flag **ON** for vacuum in retort during processing.
2. **Liquid level alarm:**
Set **ON** for retort liquid level sensor. **Please note:** with level alarm **ON**, be sure every container has enough liquid to cover samples and reach sensor. Suggest to use it with maximum samples load only.
3. **Fill reagent time:**
Set fill reagent time from 4 to 7 minutes;
4. **Drain reagent time:**
Set drain reagent time from 4 to 7 minutes;
5. **Wash I time:**
Set the wash time for Wash I station, from 3 to 10 minutes;
6. **Wash II time:**
Set the wash time for Wash II station, from 3 to 10 minutes;
7. **Agitation time:**
Set agitation time for reagent in retort from 0 to 5 minutes;
8. **Reagent:**
Set station reagent name.;
9. **Reagent usage:**
Set reagent Usage Times.

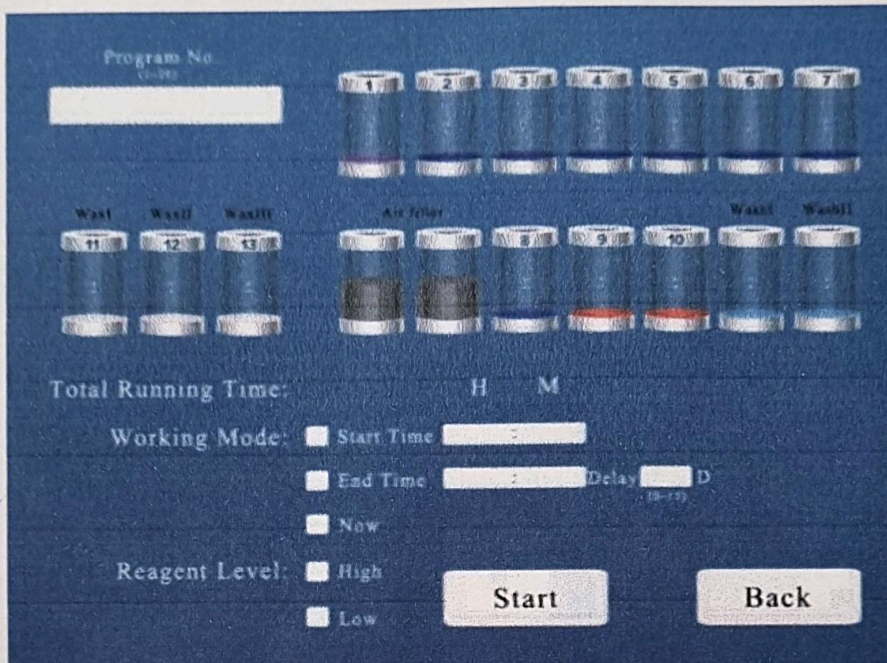
59 }

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5.9 AUTO RUN- Running a program

Press **AUTORUN** button in *STAND BY* screen (**Fig.9**), it will display as follow:

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(Fig.10)

1. **Program No.:**
Choose required program number to run.
2. **Total Running Time:**
According to program No., it will show the total running time.
3. **Working Mode:**
Flag **Start Time** and enter the time you need the program to run.
Flag **End Time** and enter the time you want the program to finish (example: 8:00 for the morning after).
Delay will add days (24 hours) to program (example: it's Friday and you need the samples ready for Monday at 8:00, then set **3**. Set 1 for the day after, 2 for the day after tomorrow, 3 for the third day)
Now will start the program immediately and finish after timing.

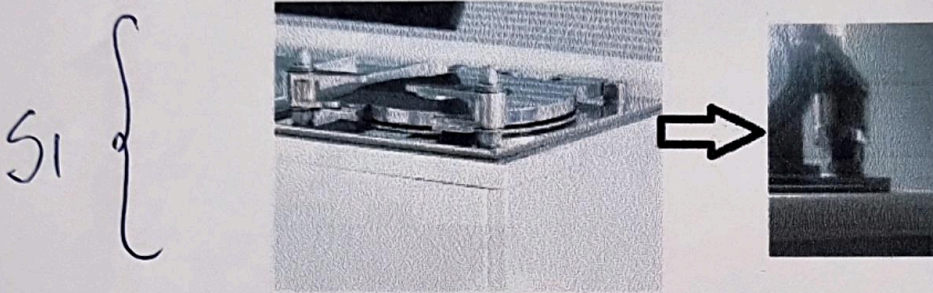
58 **4. Reagent Level:** Set **High** or **Low** reagent level in retort, according to cassettes quantity.

5.10 Samples protection

Power supply failure

During running automatically, if main power supply failure, as soon as power supply recover, it will go on running from the pause step.

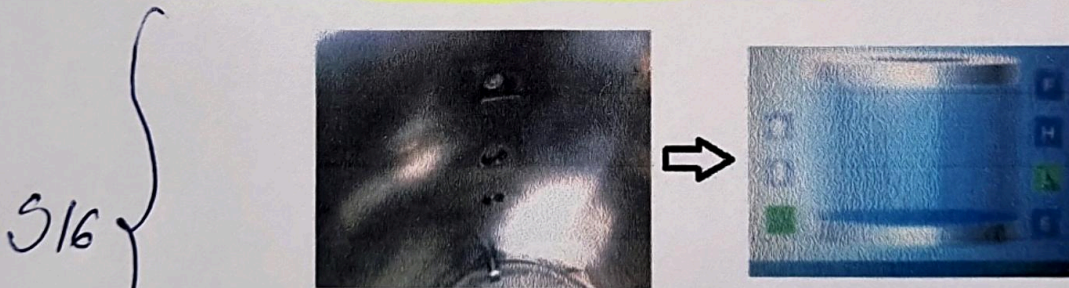
Retort Safe Switch is turn on



(Fig.13)

On the right handle of retort, there is a Safe Switch fixed. While retort in vacuum running, if the Safe switch is turned on, the running will stop immediately and show message on screen to remind customer.

Retort reagent level is over than the Full Level Sensor



(Fig.14)

There are 3 Level Sensors totally in retort:

L Lower sensor, for Low Level processing.

H Higher sensor, for High Level processing.

F Overflow sensor, this is the highest level for reagent in retort.

If retort reagent level is over than the Full level sensor, it will stop running immediately.

Short time process (small samples 2 – 3 mm)

The HISTOPRO can perform short step time processes. Reduced step times can be adopted for biopsies or small size samples. The user will have to determine the best step timing basing his choices on past experiences and also taking care of what follow:

- 511 {
- 1) the efficiency of a vacuum tissue processor (like the HISTOPRO) is superior to that of a traditional "carousel" tissue processor
 - 2) the shorter are the step time the more is important the overall quality of the reagents and their correct maintenance.
 - 3) the time indicated for each step program is inclusive of the fill and drain times, normally:
 - > 1'15" for the filling
 - > 2'30" for the drain for processing programs with a total time > 5 hours
 - > 1'15" for the drain for processing programs with a total time < 5 hours
 - 5) The minimum step time is 5 minutes. **We recommend to not set short times in the first wax. The minimum time for it must not be shorter than 20 minutes.**

A good timing choice for the first wax is a minimum of 1 minute every 10 samples (thus 20 minutes for 200 samples and 30 minutes for 300)

6) For the reasons described at point 5 the first wax is not subject to cycles of vacuum (even when vacuum is set in the program), that is due to the possible formation, with high samples load, of a sort of solidified foam on top of the sample baskets that will require long time for its melting. The two phenomenon above described are more or less common to every kind and brand of tissue processor. That is easily understandable by the fact that, as said, the first wax gets in contact with quite cold samples baskets and SPC walls. The problem can be reduced if in the last reagent the temperature is set at 45°C. In case of drain alarms in the first wax the most useful and efficient remedy is the first wax step time increasing. Another sign of this problem can be the systematic decrease of the level of the first wax bottle together with the increase of the level in the second wax bottle.

Fixation

The overall samples fixation is normally done outside the tissue processors. That is due also to the need to perform different fixation type and timing in relationship to the kind and size of sample.

The first step in formalin is not necessary if the fixation has been completely executed outside the tissue processor.

It can be useful to remember that the formalin can leave solid crystals that may be detrimental for some of the internal parts of the tissue processor (and again this is worth for every kind and brand of tissue processor). Thus we recommend what follow:

- > Perform a complete fixation outside the tissue processor
- > Wash the samples in fresh tap water before to introduce them in the tissue processor
- > Set for the first step a low gradation alcohol or water
- > In case the fixation is completed in the tissue processor, set a bottle of water in the following station (that is worth especially for week-end processes)