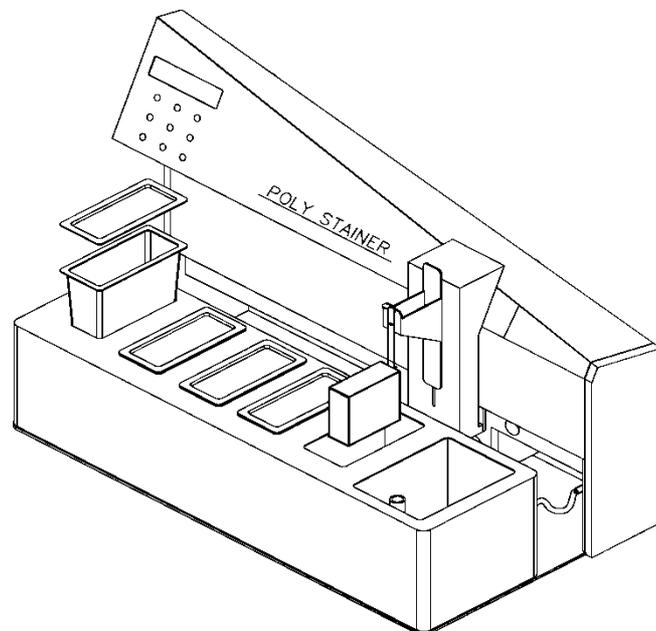


CAT. No.  
50005476



# POLY STAINER

## USER'S GUIDE

DOC. No. 5476-08



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## IMPORTANT

Read this little manual carefully before starting the instrument. It will not take you very long and it will allow you to get to know it more quickly and more conveniently.

# 1. INTRODUCTION

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The Gram staining method, named after the Danish bacteriologist who originally devised it in 1844, Hans Christian Gram, is one of the most important staining techniques in microbiology. It is almost always the first test performed for the identification of bacteria.

## ***WHAT IS THE POLY STAINER?***

The Poly Stainer is a programmable instrument especially designed to automate the Gram staining method. It's capable to carry up to twenty inoculated slides into four containers for reagents, one rinse water bath, and one warm air drying container.

The Poly Stainer is extremely easy to use. The user has available a graphic instructions on the display, which is continually active, requiring instructions, giving information about the process which is being carried out and asking for specific actions on the part of the user.

***N.B.: TO OBTAIN A GREAT PERFORMANCE OF THE INSTRUMENT IT WILL NEED TO BE KEPT CLEAN BY THE USER. USE A CLOTH MOISTENED WITH WATER WITH SOAP, OR METHILIC ALCOHOL TO CLEAN THE REAGENTS. NEVER FORGET TO DISCONNECT THE INSTRUMENT FROM THE POWER SUPPLY BEFORE BEGINING TO CLEAN IT.***

# TECHNICAL SPECIFICATIONS

---

## **GENERAL SPECIFICATIONS:**

- Slides per basket: Up to twenty
- Reagent Containers: Four (Polypropylene)
- Rinse Water Bath: One with overflow. Optional bottom drain can be installed
- Drying Container: 12°C-15°C higher than the room temperature.
- Programming: Time to dip the slides basket in each container. During this time, resting periods and shaking periods.  
  
Time to maintain the basket on top of each container after dipping.
- Number of programs: Up to 10 for each program if has been set up to 5 positions without pass by the rinse water container.
- Positions per program: The basket can go to ten different positions. At each of them the total dipping time, resting and shaking, and drain over the container can be selected.
- Working temperature: +15°C to +40°C
- Mains: 100~240 V 50/60 Hz Upon Cat. No. Request
- Power: 250 W
- Dimensions (LxWxH): 700x440x400 mm
- Weight: 23 Kg

## 2. INSTALLING AND STARTING UP THE INSTRUMENT

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When you receive the instrument make sure that the package contains:

- IUL Package Checking, ensure that all of the specified parts checked are inside.

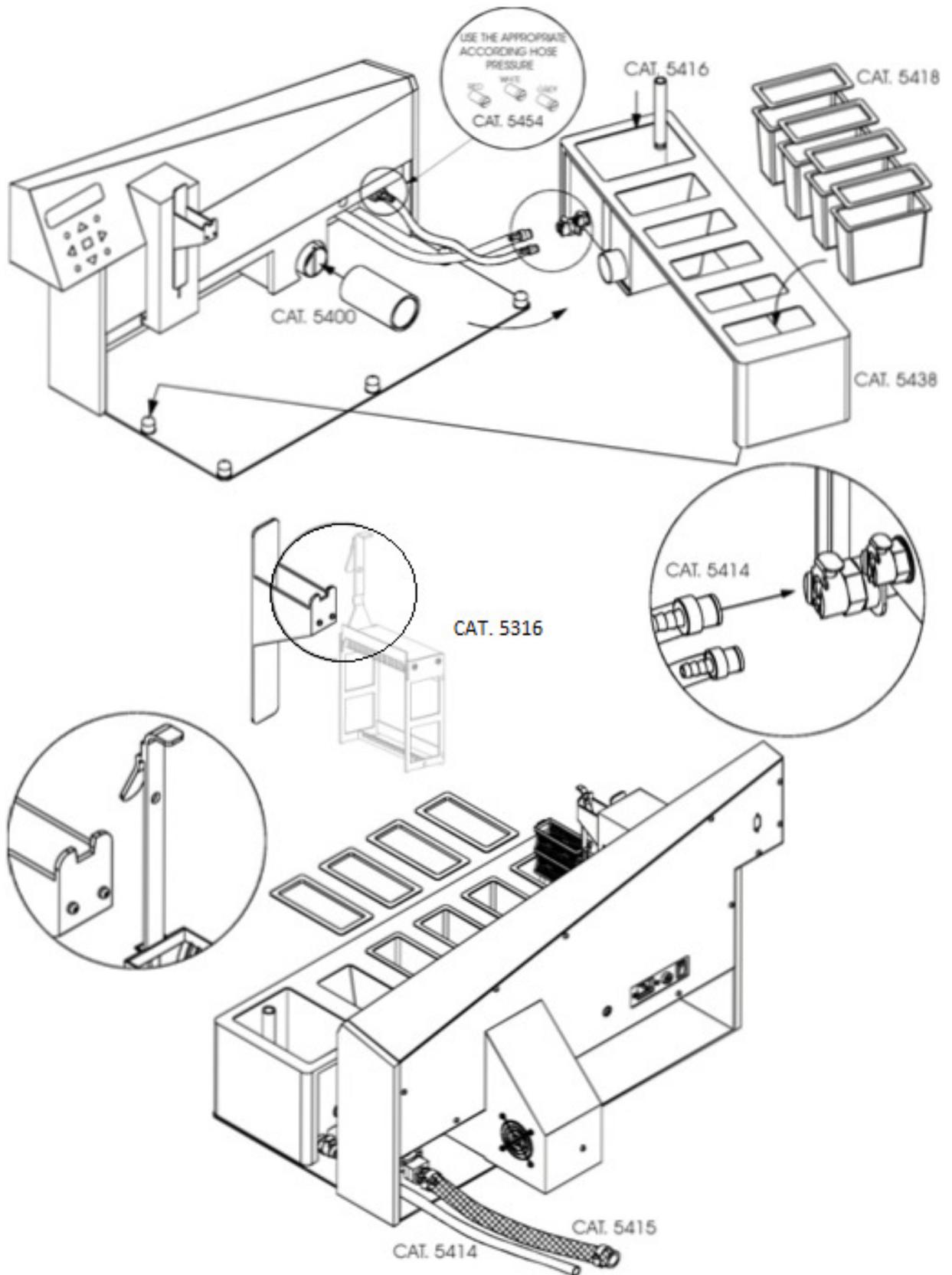
Likewise make sure that none of the parts has suffered any apparent damage.

Place the instrument upon a rigid, vibration-free support.

At the rear part there is the identification label of the instrument as well as the Fuse information:



Assembly all the parts according to this draw:



*N.B. IN MOST OF THE CASES THE CAT. 5454 SHOULD NOT BE USED, IT CONTAINS THREE PLASTIC JETS OF COLORS WITH DIFFERENT INTERNAL DIAMETERS.*

*THESE PIECES ARE DESSIGNED TO ADJUST THE INSTRUMENT ACCORDING WITH THE PRESSURE OF THE CURRENT WATER INSTALATION.*

*IF YOUR INSTALATION HAVE A LOT OF PRESSURE WHEN THE INSTRUMENT FILLS THE RINSE BATH CAN PRODUCE SPLASHING. ON THE OTHER HAND, IF YOUR INSTALATION HAVE LOW PRESSURE THE INSTRUMENT WILL TAKE A LONG TIME TO FILL THIS BATH.*

*CHANGE THE STANDARD MOUNTED JET (BRASS OR BLACK) IF ANY OF THESE PROBLEMS HAPPEN.*

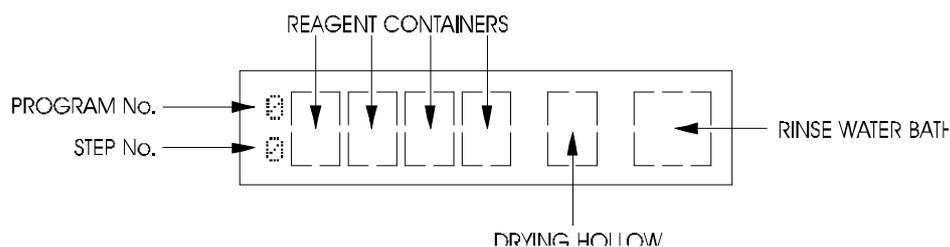
# 3. PROGRAMMING

The stain sequence must be established before to do any operation.

Up to ten different sequences (programs 0-9) can be stored in the internal non volatile memory of the Poly Stainer.

Every programmed sequence can do up to ten operations (0-9).

When you start the instrument appears on the screen these icons, which represent:



## Functions of the keyboard:

- Use the up/down scrollers ▲▼ to increase or decrease any value.
- Push  key to accept one state.
- Use the left/right scrollers ◀▶ to set the destination container of the slides.
- Push  key to enter a new program. This key is used also to save a new or edited program once entered all settings.
- Use  key to enter into the settings of the active program. This key is also used to edit one line of program once entered in its settings, or pushed twice erase this entire program.
- Push  to execute a program.
- Push  to pause or stop a program.

## Selecting reagent containers:

**FOR A CORRECT PROGRAMMING IT IS RECOMMENDED TO USE THE ATTACHED TABLE DOC. COD5340**

Select program No. ▲▼ and push .

With ◀▶ placed in any of the icon that represents the reagent containers, drying hollow, rinse water bath and push  there will appear the parameters of the times of program.

On the screen will appear blinking the icon of the basket. Set the seconds for the total time of the operation that will be the sum of plunged time and time plunged with agitation. Push .

On the screen will appear blinking the icon of the basket, but now is in the position of drip. Set the seconds in order that the basket remains in the position of drip. To accept the value push .

On the screen will appear blinking the icon of the basket in plunged position. Set the seconds in order that the basket remains plunged without agitation. To accept the value push .

On the screen will appear blinking the icon of the basket in plunged position but with movement of agitation. Set the seconds in order that the basket remains plunged by agitation. To accept the value push .

### ***Drying Hollow:***

Once selected and accepted on the screen appears blinking the icon of the basket. Now set the seconds (30 seconds steps) that the slides will remain down at this position. Accept the value .

The drying can carry out with forced air warm, or to temperature ambient .

To select the warming push the keys ▲ ▼ Until appears 0001 next to the icon  to select 0000 air implies using temperature environment air.

### ***Selecting the rinse water container:***

On the screen appears an animated cross that represents the option of Quick Drain System (CAT No. 5310). If the Quick Drain System is installed, to enable select 1 and to disable select 0.

***THIS OPTION IS AVAILABLE FOR INCREASE THE PRODUCTIVITY OF THE POLY STAINER. BASICALLY IT CONSISTS IN A WATER PUMP WHICH DRAINS QUICKLY THE WATER HOLDED ONCE FINISHED AN OPERATION AT THIS POSITION.***

### ***Modify a program:***

Select the program No. push ▲ ▼

Push  , Push  to coming to the wished point, correct and push again  to finishing (on the screen the totally black icon will appear), push .

### ***Erase a program:***

Select the program No. push ▲ ▼

Push 2 times  , tn  then the program will be erased totally.

# 4. RUNNING A PROGRAM

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Select the right program ▲ ▼.

Push the ⏪ key to execute this program.

Push the ⏸ key to pause the execution.

Push the ⏹ key more than two seconds to stop the execution.

Once finished the execution of the program the Poly Stainer makes an audible signal indicating that.

# 5. INTERNAL PARAMETERS

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Power On the instrument with the  key pushed to enter in the internal parameters set up.

## **FAN**

Select "ON" to enable the function of forced air when the basket goes to the drying hollow.

Select "OFF" to disable the fan.

## **WATER OPEN**

Select "Previous S2" to activate the current water valve when the instrument goes to the rinse water position. (Default value)

Select "always" to activate the current water valve while the instrument is power ON.

Select "all program" to activate the current water valve while the instrument is executing any program.

## **SHAKING SPEED**

Select any value from 1 (slow) to 4 (fast). The default value is 2.

## **SHAKING AMPLITUDE**

Select any value from 1 to 100 millimeters. The default value is 15.

## **EMPTY TIME**

Select any value from 1 to 16 seconds to set the empty time of the rinse water container when the quick drain system is installed. The default value is 14.

## **FILL TIME**

Select any value from 1 to 255 seconds to set the fill time of the rinse water container once finished the quick drain operation. The default value is 28.

## **BUZZER TIME**

Select any value from 1 to 16 seconds. The default value is 5.

As soon as all the changes are done push  to end

## **DEFAULT SETTINGS**

To leave the instrument with all the parameters for defect:

To start the instrument with the touched  key.

# 6. BEFORE NOTIFYING THE TECHNICAL SERVICE

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If the instrument does not work correctly, has any damaged or spoiled piece, before contact the Technical service read this:

## ***RINSE WATER DRAIN PROBLEMS (WITHOUT QUICK DRAIN SYSTEM)***

- Check that any point of the drain hose is not higher than the cube fitting or that is not collapsed.
- Cutting this hose as short as possible will improve the drain operation. In any case it's highly recommended do not enlarge the standard drain hose.
- Pay Attention to the tap of the inlet water (if exist), it can be used to set the proper balance between the inlet and the outlet water.

## ***RINSE WATER DRAIN PROBLEMS (QUICK DRAIN SYSTEM)***

- If the rinse water bath is always draining water making not possible the filling of this cube increase the internal parameter called "Empty time". See the Chapter 6 in this user guide.
- If the rinse water bath sometimes is not completely filled increase the internal parameter called "Fill time". See also the Chapter 6 in this user guide.
- Check that the quick drain system is activated in the parameters of program.
- Check that the pump turns.
- Check that the overflow tube is not obstructed or collapsed.

## ***OTHER PROBLEMS***

If the Poly Stainer does not start up check the connection of the mains lead and the fuse situated on its rear side. If the two previous cases are correct to take note if the instrument shows a code of error to facilitate it to the Technical Service in your country or:

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[support@iul-inst.com](mailto:support@iul-inst.com)

# 7. ACCESSORIES

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## *OPTIONAL ACCESSORIES*

As follows you can see the list of the optional accessories with their catalogue number.

<u>CAT. No.</u>	<u>DESCRIPTION</u>
05310	Quick drain system.
05438	Stainless Steel container tray.
05316	Basket for slides (lateral load).
05418	Reagent container with cover.
900011135	Protective cover

# 8. WARRANTY CONDITIONS

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## **LIMITED WARRANTY**

IUL, S.A. warrants the Instrument, disposables and replacement items, to the original "Purchaser" for a period of one (1) year after date of receipt by the end user, against defects in material and workmanship. IUL, S.A. agrees to correct either by repair or, at its election, by replacement, any such defect found on examination to have occurred, under normal use and service, during such one (1) year period provided IUL is promptly notified in writing upon discovery of such defect to the address of one of its workshops noted in the User's Guide.

## **EXCLUSIONS**

IUL S.A. shall not be liable as to any defect arising from abuse of the Instrument, failure to operate and maintain the Instrument in accordance with the User's Guide supplied with the Instrument, repair, service, alteration or modification of the Instrument by any person other than the authorized service personnel of IUL, modification, change or reuse of the disposables supplied by IUL for use in the Instruments, operation outside of the environmental specifications for the product listed in the User's Guide or accidental damage to the Instrument.

Except express indication, the instruments IUL must be used in a laboratory ambience, remaining void the guarantee if they are installed outdoors.

## **NO OTHER WARRANTIES**

The warranty set forth above is exclusive and no other warranty, whether written or oral, is expressed or implied. IUL and its suppliers specifically disclaim any implied warranties including merchantability and fitness for a particular purpose.

## **NO LIABILITY FOR CONSEQUENTIAL DAMAGES**

IUL, S.A. or its suppliers shall not be liable as to any damage whatsoever (including without limitation, special, incidental, consequential, or indirect damages for personal injury, loss of business profits, business interruption, loss of business information, or any other pecuniary loss) or defect arising from abuse of the Instruments, failure to operate and maintain the Instruments in accordance with the User's Guide, repair, service, alteration or modification of the Instruments by any person other than authorized service personnel of IUL, S.A. , or modification, change or reuse of the disposables supplied by IUL, S.A. for use in the Instruments.

## **IMPORTANT INFORMATION**

Purchaser shall indemnify **IUL, S.A.** and hold it harmless for all expenses, damages, attorneys' fees, and costs resulting from claimed infringement from patents, trademarks or industrial property rights arising out of compliance by **IUL, S.A.** with Purchaser's specifications, designs or instructions.

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Acceptance by **IUL, S.A.** of purchaser's order is expressly limited to and conditioned upon purchaser's acceptance of, and assent to, these terms and conditions referred to herein. Any additional, inconsistent or different terms and conditions contained in purchaser's purchase order or other documents submitted by purchaser to **IUL, S.A.** at any time, are hereby expressly rejected by **IUL, S.A.** . Purchaser acknowledges that, notwithstanding anything to the contrary contained in its purchase order or other documents, receipt and acceptance by purchaser of the Instrument shall constitute acceptance by purchaser of these terms and conditions.

## ***ERROR MESSAGES***

These are the error messages and their primary causes:

- ErrorCode 0001:** One of the instrument displacements has surpassed the maximum time to done it.
  
- ErrorCode 0002:** One of the displacements arrives to the end of travel stop switch.
  
- ErrorCode 0003:** One of the displacements causes excessive current consumption.
  
- ErrorCode 0004:** The instrument orders a displacement but not does receive any signal from the speed/direction sensor of the selected motor





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