USER'S GUIDE

710219

Innovation • Value • Discovery

ExiPrep™96 Lite

Automated NA Purification System

REF A-5250

IVD

EC REP

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BIONEER

Innovation • Value • Discovery

ExiPrep™96 Lite

Automated NA Purification System

User's Guide

Version No.: 4.0 (2018-10-04)

Please read all the information in booklet before using the unit

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Intended Use

It is instrument capable of extracting nucleic acid needed in various samples as blood, serum, sputum and tissues for the gene amplification test.

Warranty and Liability

All Bioneer products undergo extensive Quality Control testing and validation. Bioneer guarantees quality during the warranty period as specified, when following the appropriate protocol as supplied with the product. It is the responsibility of the purchaser to determine the suitability of the product for its particular use. Liability is conditional upon the customer providing full details of the problem to Bioneer within 30 days.

Trademark

ExiPrep™ is a trademark of Bioneer Corporation.

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Notice

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710219

U.S. and Canadian Safety Standards

Standard for Electrical instrument for measurement, control and laboratory use;

- Part1: General Requirements,
  UL 61010-1, 2nd Ed, Rev., October 28, 2008&CAN/CSA-C22. 2 No. 61010-1-04(R2009)
- Part 2: Particular Requirements for Automatic and Semi-Automatic Laboratory Instrument for Analysis and Other Purposes,
  CAN/CSA-C22. 2 No. 61010-2-081:04
- Part 2-010: Particular Requirements for Laboratory Instrument for the Heating of Materials
  CAN/CSA-C22.2 NO. 61010-2-010-04
- Part 2: Particular requirements for in vitro diagnostic (IVD) medical instrument,
  CAN/CSA-C22. 2 No. 61010-2-101:04

CE

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EUROPEAN REPRESENTATIVE	EC REP	: MT Promedt Consulting GmbH Altenhofstr. 80 D-66386 St. Ingbert, Germany Phone: +49 6894 581020
PRODUCT		: *ExiPrep*™96 Lite Automated NA Purification System
CATALOG NO.	REF	A-5250

Contents

I. Overview 1
II. Symbols description 2
III. Safety warnings and cautions 5
IV. Precautions on waste liquid 8
V. Product configuration and description 9
1. Product configuration 9
2. Specifications 10
3. Instrument structure and name 11
VI. Product installation requirement 15
VII. Removing the shipping bracket and approving power source 17
1. Removing shipping bracket 17
2. Approving power source 18
3. Changes of Magnetic Rods 19
VIII. Magnetic Rod Covers and Cartridges Preparation 21
IX. Software Operation 24
1. How to use the software 24
2. UV Lamp 28
3. Setup – General 28
4. Setup – Log 29
5. Setup – Device 30
X. Troubleshooting 31
XI. User Maintenance 33
1. Cleaning of the main body 33
2. Replacing the Fuse 33
3. Storage Method 35
4. Shipping the Instrument for Service 35
XII. Warranty 36

I. Overview

This is the instrument that can extract nucleic acid. In the case of nucleic acid extraction, entire process from sample lysis to elution can be done in a short time.

In addition, it can refine fluidly per individual sample unit and has an automated dispensing function to increase efficiency and productivity, saving time and cost. This unit comprises a syringe unit, heating block and a cooling system.

To increase nucleic acid extraction efficiency, the *ExiPrep*™96 Lite has a heating block. Sample heating reduces experiment time and increases elution efficiency, resulting in increased sample yield.

The responsive 7 inch touch-screen enables simple instrument operation. From selecting sample-optimized protocols to turning the UV sterilization lamp on and off, the touch-screen is designed for optimal workflow. During instrument operation, the touch-screen will give real-time feedback on the progress of the extraction, maximizing user convenience.

ExiPrep™96 Lite comes with a contamination shield designed to protect the assay from cross-contamination during operation. During the cartridges are in motion, the contamination shield will automatically slide upper the cartridges. This will eliminate the possibility of intra-assay cross-contamination, which is critical when working with multiple samples.

II. Symbols description

Safety Labels Description on the *ExiPrep*™96 Lite

English	Be cautions when moving the door, You will get hurt when it opens and shuts.
Francais	Faire attention lors du déplacement de la porte. Risque de blessures corporelles lors de l'ouverture et de la fermeture.
English	Do NOT open the door during instrument's operation. You can be injured your hands or body.
Francais	Ne pas ouvrir la porte pendant la durée des opérations des instruments. Risque de blessures corporelles.

Symbols for safe use

The table below presents the symbols used in user guide.

CE	Conformité Européenne Mark
IVD	*In vitro* diagnostic medical instrument
	Temperature limit
	Manufacturer
EC REP	Authorized representative in the European Community
REF	Catalog number

Please refer to 'Safety precautions' contained in the manual.

Symbols for safety

	Hot surface. Note that surface is hot.
	When Instrument is moving. You can be injured your fingers or hands.
	Do NOT open the door during instrument's operation. Injuries many result when opening and closing door.
	Be cautions when moving the door, You will get hurt when it opens and shuts.
	Please note that there is a risk of infection if you contact the waste liquid inside a instrument.

Electrical Symbols

	Indicates the **On** position of the main power switch.
	Indicates the **Off** position of the main power switch.
	Indicates the **standby** switch status while the main power source is 'On'.
	Displays the ground terminal for the main protective ground of the instrument.
	Indicates a terminal that receives or supplies alternating current or voltage.
	Indicates a terminal that receives or supplies direct current or voltage.

Environmental Symbols on the *ExiPrep*™96 Lite

The following symbol (WEEE) applies to the *ExiPrep*™96 Lite placed on the European market.

Do not dispose of *ExiPrep*™96 Lite as unsorted municipal waste.

Follow local municipal waste ordinances for proper disposal provisions to reduce the environmental impact of waste electrical and electronic instrument.

European Union customers:

Call your local Europe office for Bioneer instruments pick-up and recycling.

III. Safety warnings and cautions

Please read carefully warnings and cautions for safety before use. The precautions listed herewith are important safety messages and should be observed to ensure the product is used safely and properly to prevent accidents and danger. In this manual, the degree of risk from improper handling is classified into the following three categories. “Safety warnings and cautions” is classified into “Danger”, “Warning” and “Caution” and they mean the following:

Ignoring this sign or improper handling may result in death or serious injury.

Hazards or dangerous actions that may result in minor injury or damage.

Hazards or dangerous actions that may cause a burn.

Hazards or dangerous actions that may result in electric shock.

1. Cautions for experimenters or during the experiment

1) Be sure that the power cord (100–240V~, 50/60Hz) is properly connected to the main unit and that the power cord is plugged in the outlet correctly. If the power cord is not properly connected the power many not turn on and cause malfunction.
2) This is a instrument to extract a nucleic acid. Please use it according to the purpose.
3) Operating the LCD touch screen during operation of this product may result in stoppage or error in the test results. Be sure to operation the LCD touch screen after the operation of instrument is completed.
4) Do not turn off the power or shut down the program during operation. Data communication errors can cause the instrument to operate unsteadily or affect the results of the experiment.
5) Handling the product with wet hands may cause malfunction or electric shock. The power cord should be handled with a dry hand.
6) When installing the cartridge, be sure to install completely close contact with the heat block that is installed in the position of the cartridge. If it is not close contact, the performance of Prep can deteriorate for the cartridge does not come in close contact with the heat block.

2. Environmental precautions

1) Do not use when the power plug is loose. The power plug damaged from overheating may cause fire or electric shock.
2) Do not connect multiple instruments to a single outlet. Failure to do so may result in overheating of the socket due to overload and may cause fire.
3) Be sure to handle the power cord with a dry hand when connecting and disconnecting. It may cause electric shock.
4) Do not place objects near the instrument that may interfere with product operation.
5) Do not install the instrument in a dusty area. It may cause malfunction.
6) Install the instrument away from electric heating devices. It may cause fire.
7) Install the instrument avoiding areas of splashing water or humidity. It may cause electric shock, fire or malfunction.

8) Do not install the instrument in a place where flammable or corrosive gas is generated. If gas leaks, do not operate the power cord, but open the window to ventilate. Fire sparks may cause explosion and a fire.
9) Do not disassemble or modify the instrument. It may cause fire, electric shock or malfunction and may not be covered by warranty.

3. Installation precautions

1) The instrument is a precision drive unit and should be installed away from direct sunlight.
2) Please install it on a flat surface where there is no vibration.
3) When installing the instrument, place the system at least 15cm away from the wall.
4) When installing the instrument, make sure that the cooling fan on the bottom is not damaged.
5) When connecting computer, router and *ExiPrep*™96 Lite, please be sure the power is turned off. Connecting the instrument while the power is on may damage the instrument.
6) When connecting computer, router and *ExiPrep*™96 Lite, check the communication cable connection. If the connection is unstable, the data may not be obtained due to the data transmission error while the instrument is in operation.

4. Usage precautions

1) Wipe off the dust from the power plug and plug it securely so that the plug does not move. Unstable connection may cause fire.
2) The ambient temperature of the instrument shall be within 15℃~35℃. If the external temperature is too high, it may affect the operation of the instrument and accurate experimental results may not be obtained.
3) Keep the recommended humidity (20~80%, no condensation). Excessive humidity or dryness may cause corrosion or malfunction.
4) Do not place objects around sides and the rear of the instrument. It may cause malfunction during operation.
5) This instrument is built with precision drive parts. Do not drop or give a strong shock. It may cause malfunction and cause safety problems.
6) Turn off the power and unplug if not used for a long time. It may cause fire due to heating and ignition.
7) Be sure that the cooling fan on the bottom is not damaged. If the cooling fan does not work, it may cause fire from overheating of the cooling fan motor and cooling agent.

5. Warnings and cautions and danger regarding the use and management of the product

1) This instrument shall be used only for nucleic acid extraction and shall not be used other than the purpose described in the manual.
2) Be sure to use the accessories and cartridges supplied by us.
3) Do not modify or delete the information of the built-in instruments.
4) Do not touch the LCD touch screen with sharp objects. Using sharp drills, nails, picks, etc. may cause damage the product.

5) Please be careful when using solvent or strong detergent or chemical solvent on the surface of the instrument. It may discolor. If those come into contact with the product, immediately wipe it gently off with a soft cloth.
6) Do not store in high humidity for a long time. It will then be classified as malfunction due to immersion and will not be covered under warranty. On the other hand, the product may not be used for they are unrepairable even if you pay.
7) Modifying and disassembling the instrument may exclude you from warranty and not covered by after-sale service.
8) Do not forcefully disconnect the power cord from the instrument during operation. It may cause malfunction.
9) If you smell burning or experience severe overheating while using the product, stop using it immediately and contact us.
10) Do not drop or give a strong shock. It may cause malfunction and may not be covered under warranty regardless of a warranty period.
11) Be sure not to allow any foreign objects into the cooling fan on the bottom. If the cooling fan does not work due to foreign objects, it may cause fire from overheating of motor and cooling agent.

6. Precautions in using sterilization(UV) lamp

1) The sterilization(UV) lamp automatically shuts off when the door is opened while it is in operation. For safety, be careful not to have your eye or skin to come in contact while operating the sterilization lamp.
2) The sterilization(UV) lamp only works when the door is closed. Make sure that no foreign objects are in the door sensor.
3) The product is programmed to operate for 15 minutes for sterilization and safety. Do not use the sterilization for a long time.
4) Ultraviolet rays of the sterilization lamp may cause severe damage to eyes and skin and therefore not advisable to see directly or indirectly. Be sure to take safety precautions such as ultraviolet shielding instrument so as to not to see directly or indirectly or irradiate skin.

IV. Precautions on waste liquid

This instrument uses a kit containing a solution comprised of a large amount of chlorine compound. Nucleic acids extracted through the instrument and kits are conservative and may affect the performance if residues are present. Please refer to the following for proper prevention of hazards.

1. Precautions immediately after using the Instrument

CAUTION

1) Waste liquid from the cartridges may overflow and contaminate the instrument if the tray is handled abruptly resulting in false positive from the next experiment.
2) Waste liquid contains a large amount of chlorine ions that corrodes metals as stainless steels which causes the instrument corrosion.
3) If the waste liquid contaminates inside the instrument due to mishandling of the cartridges, the instrument must be disassembled and to wash clean. Please contact us.

2. Cleaning solution used for inside and outside of the Instrument

1) Use distilled water (DW), 70% ethanol, nucleic acid decomposition solution (5% Nitric acid, 1% lox, DNAzap). Be careful for lox and DNAzap corrode metal. Moisten lint free cloth or paper towel, not soaking wet to drip for it may drop on the instrument. Do not spray the liquid on the instrument.

3. Contamination of Instrument

NOTE

If the instrument is contaminated, proper measures must be taken immediately to prevent accumulation and damage.

1) If contamination occurs inside the instrument but did not yet make it into the inside, absorb it immediately with a paper towel moisten with nucleic acid decomposition liquid and rinse with a paper towel moisten with DW again. Absorb the remaining solution with a dry paper towel and operate UV lamp to remove the contaminants from the instrument.
2) If contaminants enter inside the instrument, the instrument must be disassembled to wash. Please contact us.

4. Waste Treatment

1) Waste liquid and consumables used must be disposed of properly according to the waste disposal regulations.
2) Wear appropriate eyewear, clothing, and gloves when handling reagent and waste liquid.

V. Product configuration and description

1. Product configuration

ExiPrep™96 Lite

User's Guide

Power Cord

32 well Magnetic Rods (x3)

(Options)
8 well Magnetic Rods (x3)

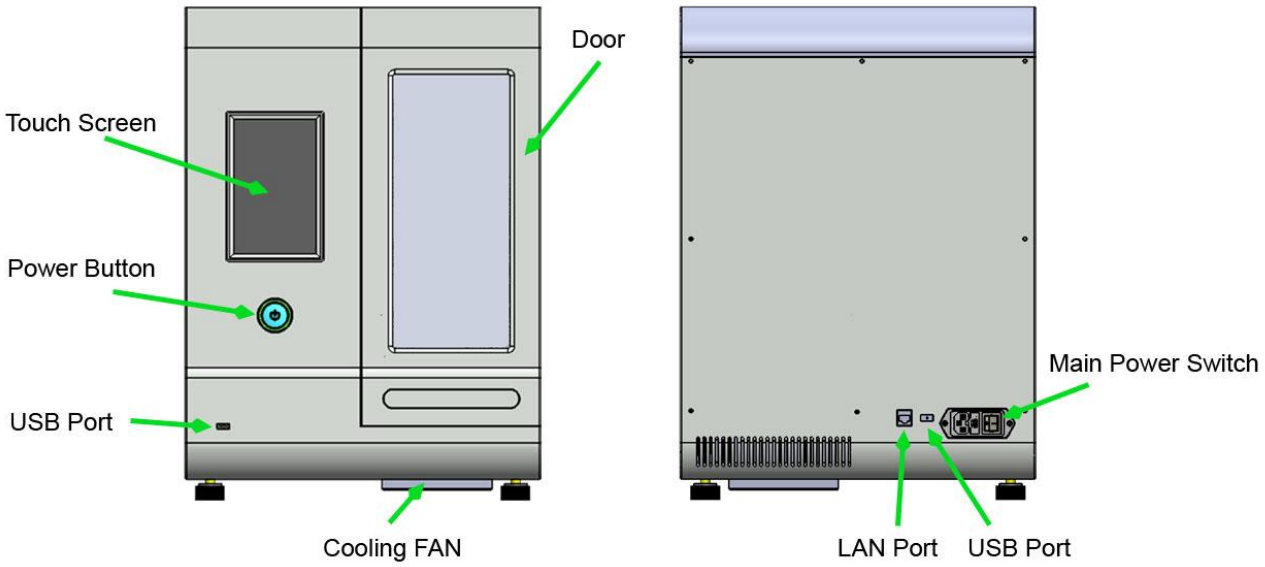
Part Name	Cat. No.	Qty.
ExiPrep™96 Lite	A-5250	1 ea
32 well Magnetic Rods		3 ea
User's Guide		1 ea
Power cord		1 ea
(Options) 8 well Magnetic Rods		3 ea

2. Specifications

Physical specifications	
Dimensions	40cm(W) x 57.5cm(D) x 54.6cm(H) 15.75in(W) x 22.64in(D) x 21.5in(H)
Weight	46 Kg (101.42 lbs)
Voltage / Frequency	100-240V~, 50/60Hz
Power	500VA Max (Fuse: 250V, F6.3AL, 2ea)
Operating specifications	
Heating block	30-90℃ (86-194 °F)
Temperature controlled block	4-90℃ (39.2 ~ 194 °F)
Operating temperature	15 – 35°C (59.0 – 95.0°F)
Operating humidity	20 – 80%, no condensation
Operating system	Built-in
Communication	TCP/IP
User interface Display	7 inch Touch
Data Storage	USB 2.0 (x2)

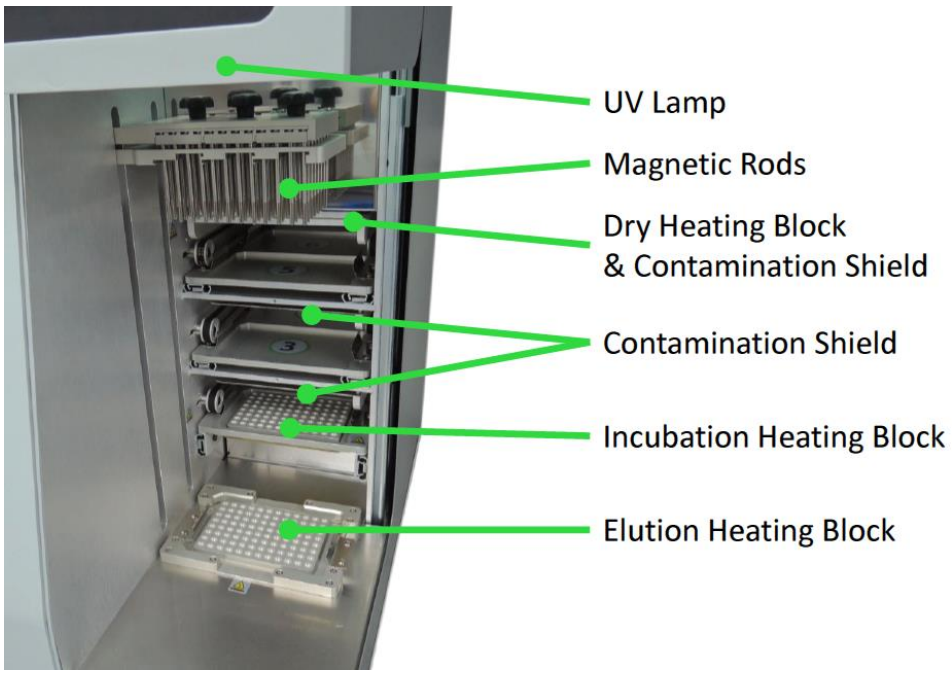
3. Instrument structure and name

(1) Outside



<Outside>

(2) Inside



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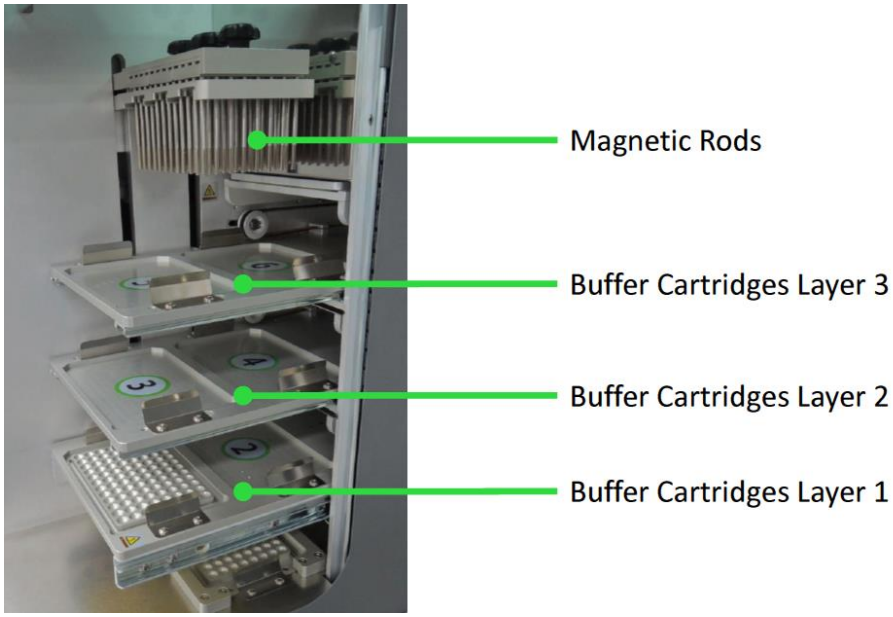
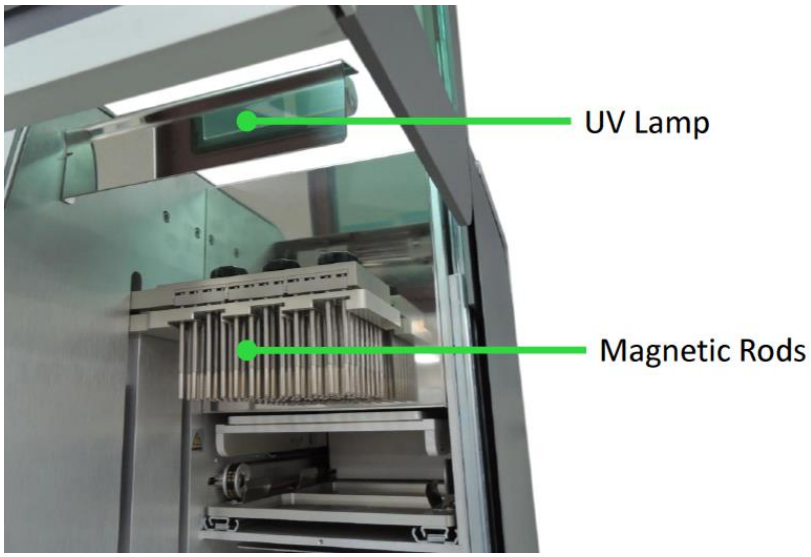
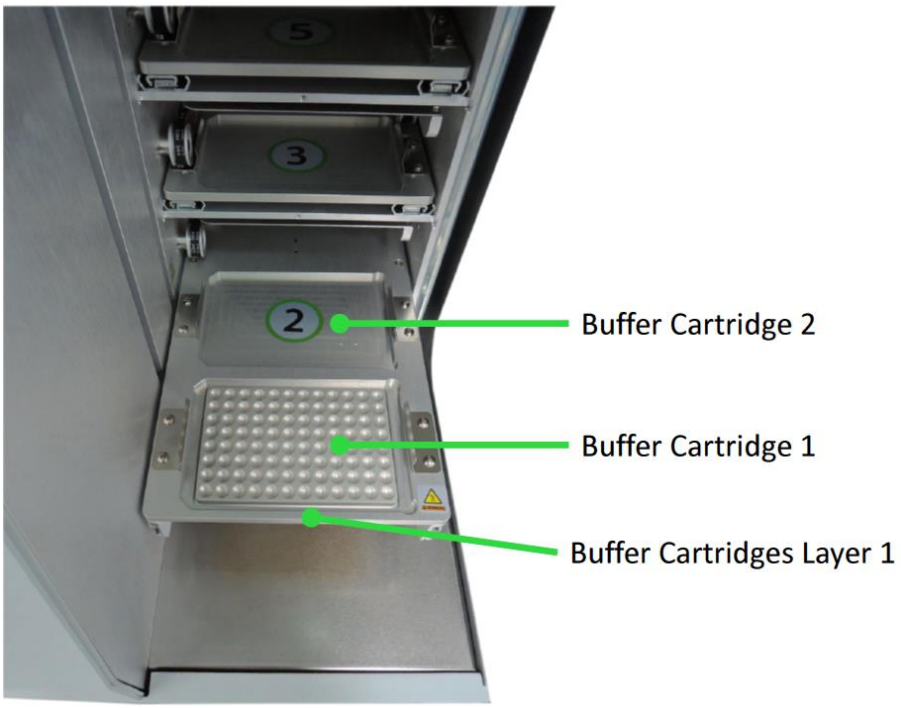


<Inside 2>

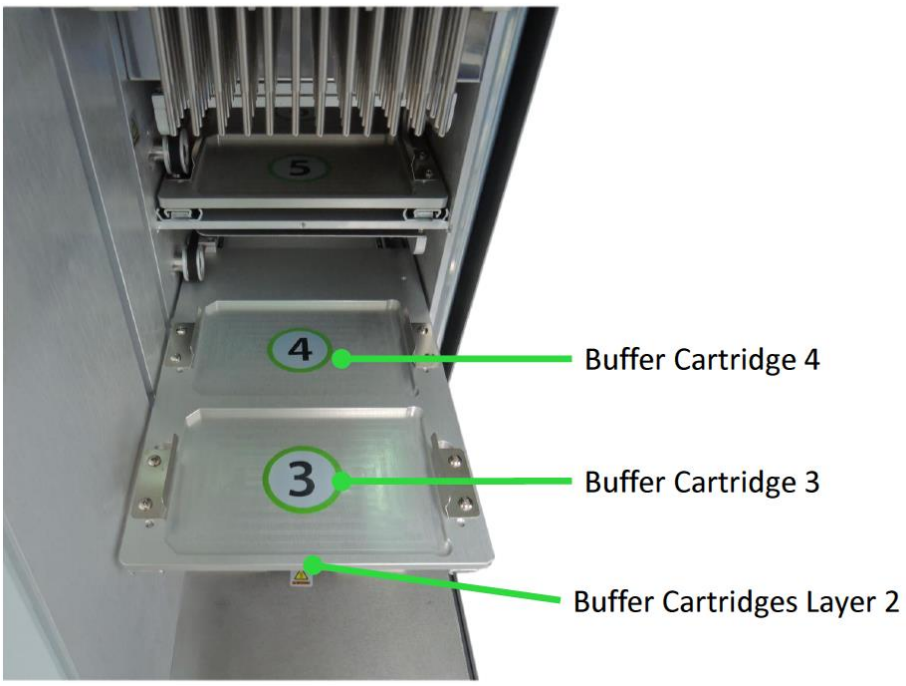


<Inside 3>

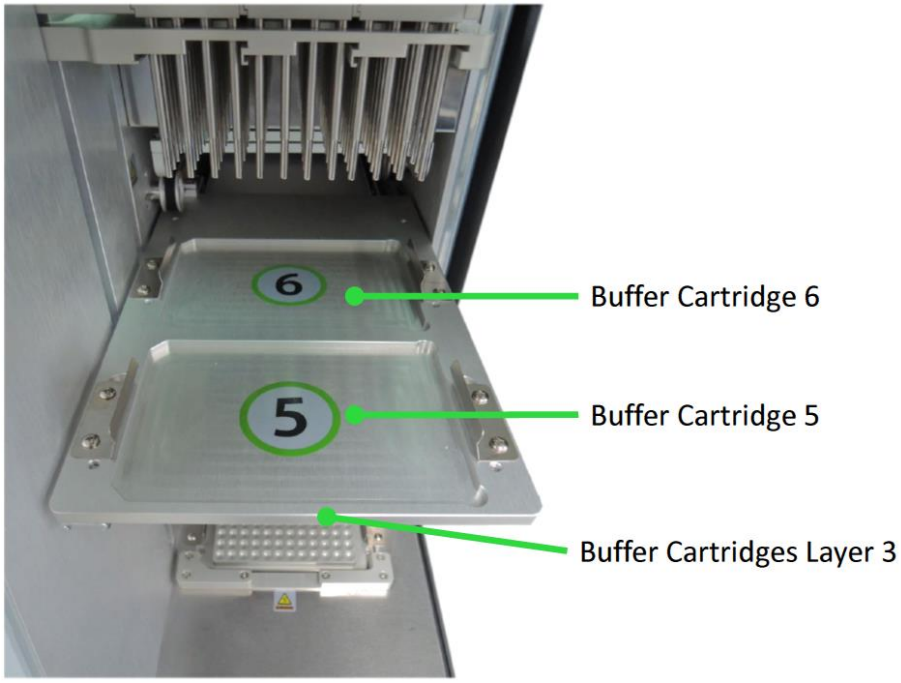
(3) Buffer Cartridges



<Buffer Cartridges Layer 1>



<Buffer Cartridges Layer 2>



<Buffer Cartridges Layer 3>

VI. Product installation requirement

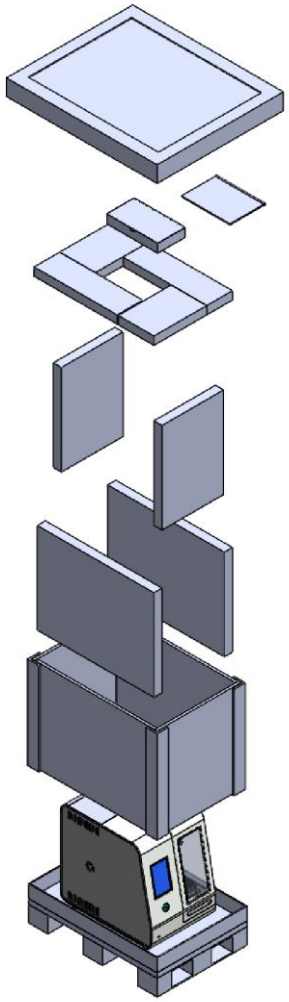
- *ExiPrep*™96 Lite designed for indoor user and the following things must be considered in selecting the place of installation.
  - Satisfies the requirements for space and weight.
  - Satisfies environmental requirements.
  - The power outlet with the power rating of 550VA or above should be located within 1.5m (4.92ft.).
  - Must be isolated from any form of moisture.

- Materials needed

  Box cutter, scissors, knifes, gloves

- Unpack

1) Unpack *ExiPrep*™96 Lite:



a) Cut the product from box with scissors.
b) Open the product top box and remove *ExiPrep*™96 Lite accessory box.
c) Remove the protective cover at the top and lift out the outer packaging box over the top of instrument. At this time two or three persons must work.
d) Lift the instrument from the bottom packaging box and move it to the desired location. At this time two or three persons must work.
e) Unpack the *ExiPrep*™96 Lite and check that the instrument has no damages.

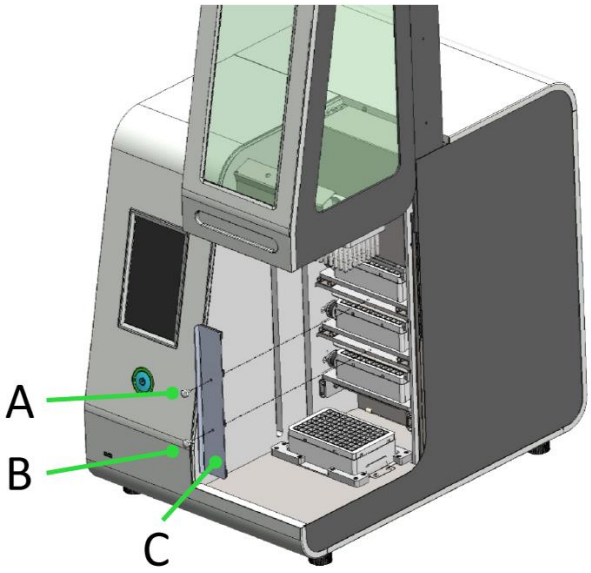
If the instrument is damaged, record the damage and contact us or your dealer.

2) If you want to place the instrument in the desired space, check the following.
- Check the location where you can comfortably hold the instrument.
- Take a comfortable posture so that your spine is not stressed.
- Bend you knees and use your legs to lift the instrument.
- Do not twist your body while holding the instrument and two or more people must work together.
- Check the accessories of *ExiPrep*™96 Lite.

VII. Removing the shipping bracket and approving power source

- Clean up the test table that you want to place the instrument
- Refer to this manual to check if all accessories are in included in the box
- If the instrument does not work after removing the shipping bracket, and connecting power after installation or initialization process is being completed, stop the operation immediately and contact us or your dealer.

1. Removing shipping bracket

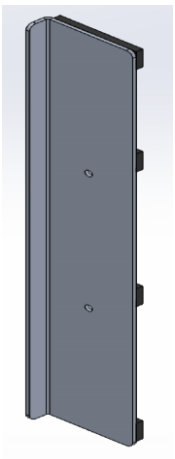


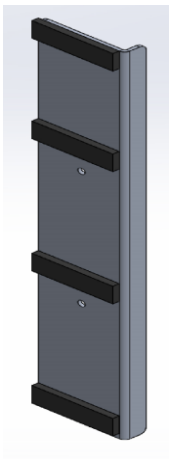
1) When you open the door, inside the instrument you can see **the bolts (A, B)** and **shipping bracket(C)** that holding the setup tray and syringe in the front.

CAUTION

The shipping bracket must be removed before approving the power source. Turning the power source and operating the instrument without first removing the shipping bracket may damage the instrument.

2) Remove **two bolts (A, B)** that are connected to Buffer Cartridges Slides.


<Front View>


<Rear View>

3) When **the bolts (A, B)** are removed, **the shipping bracket(C)** can be separated.

NOTE

Store the shipping bracket and bolts removed separately so that you can use it again when relocating the instrument.

2. Approving power source

1) Connect the power cord to the back of the instrument and approve the power source.

2) Press the POWER switch on the front of the unit for about 1 second.
3) The instrument will be initialized and the LCD screen will turn on automatically.

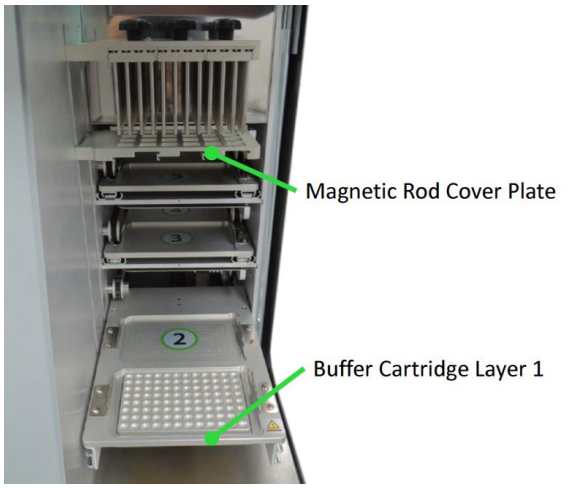
NOTE

LED color of Power button displays current operation status.

- **Red light:** Displayed when a problem occurs during self-diagnosis.
- **Blue light:** The instrument is ready for operation and the next operation is ready to perform (Standby).
- **Green light:** The instrument is ready for operation.
- **Yellow light:** self test.
- **Cyan light:** The instrument is in operation.
- **Purple light:** Door is open.
- **White light:** Pause during operation.

3. Changes of Magnetic Rods

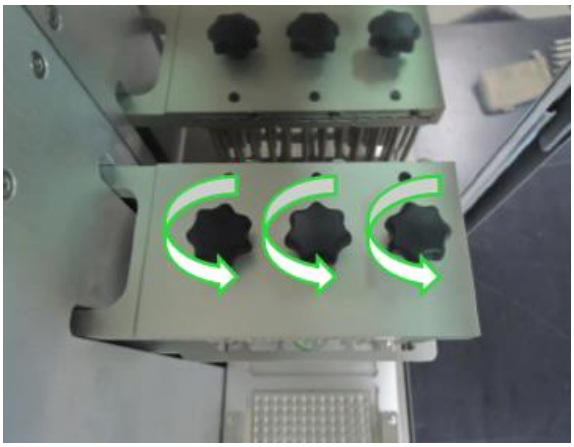
ExiPrep™96 Lite can be used with 96 wells and 24 wells depending on the user's samples and needs. It can be used simply by replacing magnetic rods.



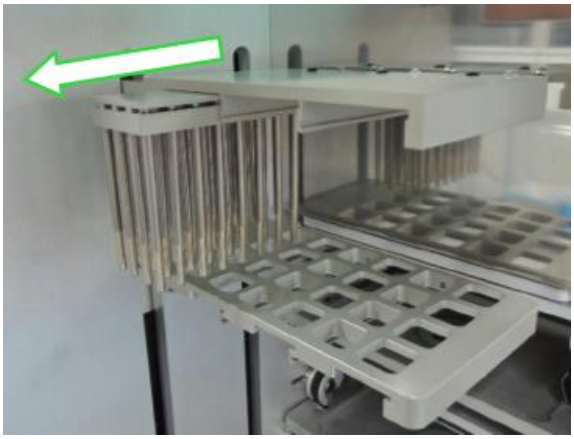
1) After power on and initialization, open the door.

2) Click on the top of the 'Plate' button. 

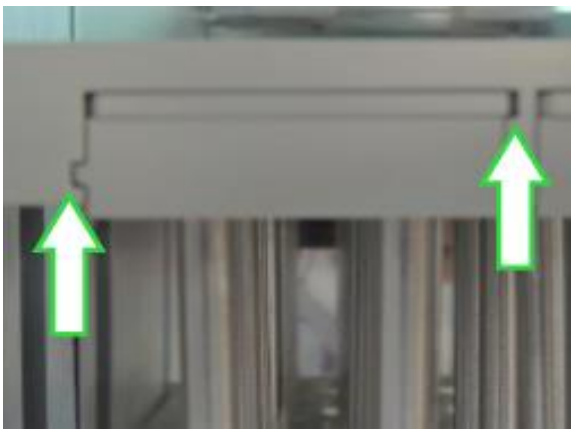
Then the magnetic rod cover plate comes down to insert the magnetic rod cover and buffer cartridge layer 1 comes forward to insert the cartridges.



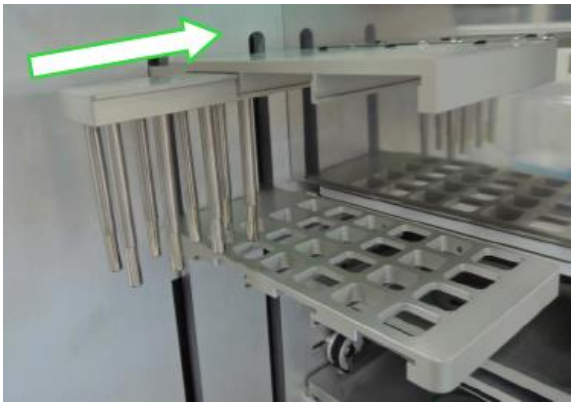
3) Remove the bracket at the top of the magnetic rods plate by turning it to the left.

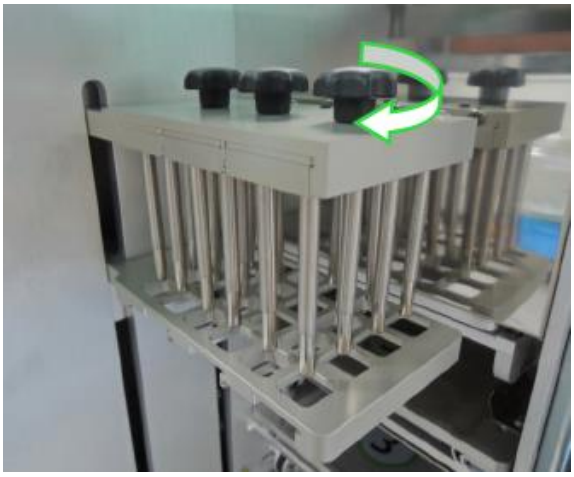


4) Pulling the magnetic rods toward the front of the instrument will remove the magnetic rods.



5) Prepare the magnetic rods you want to use and insert into the slide guide of the magnetic rods plate.





6) Turn the Magnetic rods bracket to the right to fasten it.

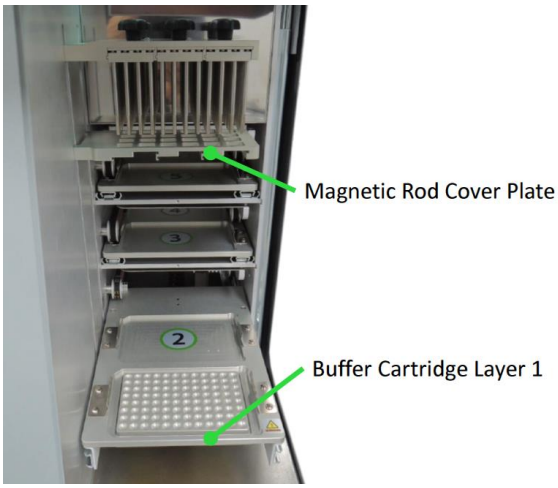
⚠ WARNING

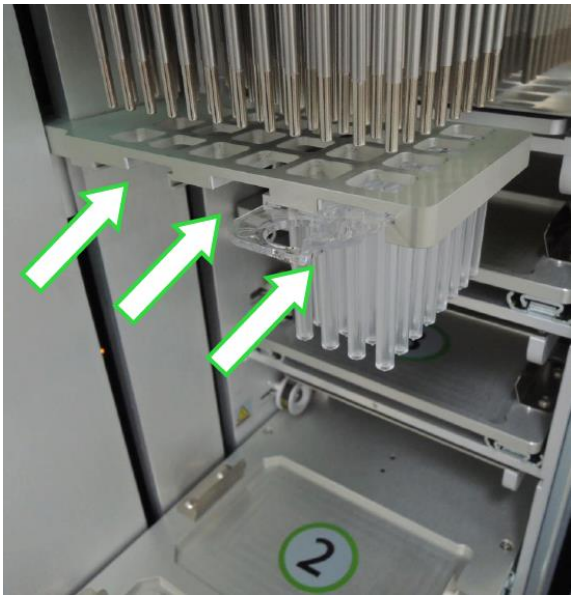
You can't mix 32 well magnetic rods and 8 well magnetic rods.
If you use 32 well and 8 well the magnetic rods at once, it may seriously affect the experiment and product damage.

VIII. Magnetic Rod Covers and Cartridges Preparation

NOTE

Magnetic Rod Covers and Buffer Cartridges are included in the kit box.





1) After power on and initialization, open the door.
2) Click on the top of the 'Plate' button 

. Then the magnetic rod cover plate comes down to insert the magnetic rod cover and buffer cartridge layer 1 comes forward to insert the cartridges.
3) Color of plate is displayed to yellow. 

4) Insert magnetic rod covers into magnetic rod cover plate.
5) insert the cartridge 1, 2 into the buffer cartridge layer 1.

6) When buffer cartridge layer 1 comes forward, click on the top of the 'Plate' button again.
7) Then, buffer cartridge layer 1 put back to insert the cartridges and buffer cartridge layer 2 comes forward to insert the cartridges.
8) Color of plate is displayed to yellow. 

9) insert the cartridge 3, 4 into the buffer cartridge layer 2.

10) When buffer cartridge layer 2 comes forward, click on the top of the 'Plate' button again.
11) Then, buffer cartridge layer 2 put back to insert the cartridges and buffer cartridge layer 3 comes forward to insert the cartridges.
12) Color of plate is displayed to yellow. 

13) insert the cartridge 5, 6 into the buffer cartridge layer 2.

14) Magnetic rod covers and each cartridge finish setting, plate icon color is disappears.

15) Insert elution cartridge into elution heating block.

NOTE

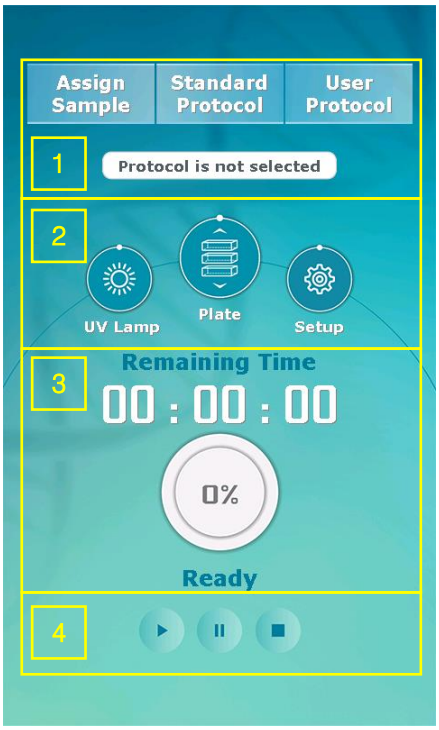
If click on the bottom of the 'Plate' button, buffer cartridge layer works in reverse.

IX. Software Operation

CAUTION

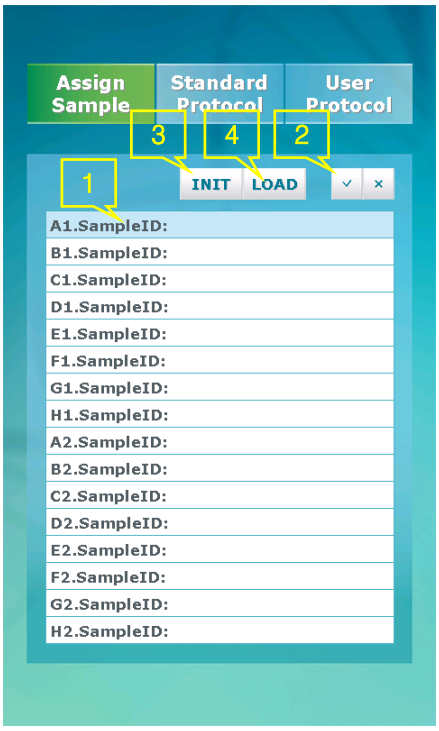
Before starting the instrument, check if the retainer instrument located inside at the front is removed. If the instrument is powered and operated without removing the retainer, the instrument may be damaged and it may not operate normally.

1. How to use the software



1) If you press the push switch on the front of the device, the main screen will appear after logo screen.

No	Icon	Description
1	Assign Sample	Go to the menu to enter Sample ID
	Standard Protocol	Go to the menu to select the standard protocol
	User Protocol	Go to the menu where the user can modify and select the protocol
	Protocol Label	The Protocol selected is displayed.
2	UV Lamp	Turn UV on/off or run Protocol (12 minutes)
	Plate	Control Cover and plate for experiment
	Setup	Go to setup menu
3	Time Label	Displays remaining Time progress time, and finish time
	Step Label	Display current step
4	Run	Start experiment
	Pause	Pause experiment
	Stop	Stop experiment



2) In the Assign Sample menu, enter the ID of the sample to be tested. If you do not need to type, you can proceed to the next step.

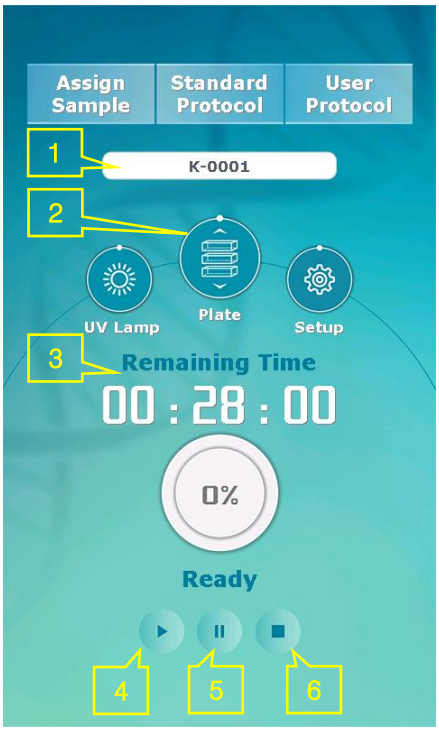
   a) Double-click the column to display the input window, input SampleID, and press the OK button to enter SampleID. Or, after selecting the column, SampleID is entered when the barcode with SampleID is read into the barcode reader.
   b) Press the OK button to apply Sample ID.
   c) If you click 'INIT' button, the contents of the list will be deleted.
   d) If you click 'LOAD' button, SampleID will be input automatically.

3) From the Standard Protocol menu, select the Protocol to use for the experiment.

   a) Select the Protocol to be used in the experiment from the list.
   b) Press the OK button to prepare the experiment with the corresponding protocol.
   c) In Standard Protocol, Washing Time and Elution Volume are defined and disabled.
   d) If you want to add Protocol to the list, click 'IMPORT' button after inserting USB memory. As shown in the figure on the right, when the Explorer pops up, select the folder containing the protocol, activate the check boxes of the files, and click the OK button to add them to the list.

   e) If you want to delete the selected protocol, press 'DEL' button.

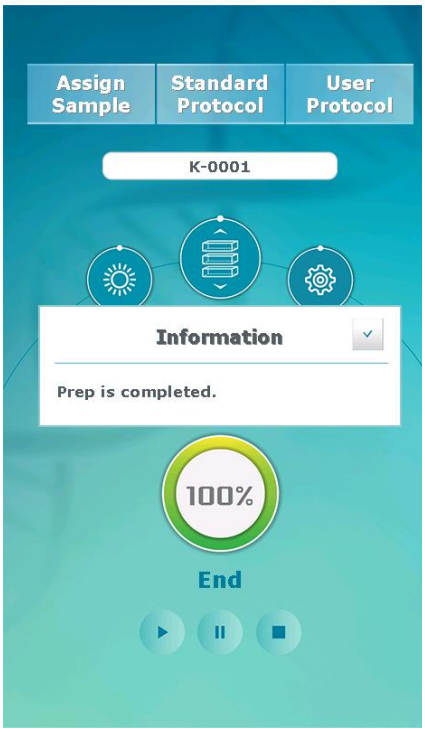
4) If you modify the Standard Protocol, go to the User Protocol menu.
   a) If there is no protocol created in the list, change Templete Protocol, washing Time, and Elution Volume to the desired value.
   b) Click the 'ADD' button to enter a name in the Protocol Name input box, and the protocol will be added with the name entered in the list.
   c) Select the Protocol to be used in the experiment from the list.
   d) Click the OK button to prepare the experiment with the corresponding protocol.
   e) If you select a protocol in the list, the Template Protocol, Washing Time, and Elution Volume of the corresponding protocol are displayed. To correct this, modify the Template Protocol, Washing Time, and Elution Volume and press 'SAVE' button.
   f) If you want to delete the selected protocol, press 'DEL' button.



5) Select Protocol and return to the main screen.
   a) Confirm that the selected Protocol is displayed.
   b) Use the 'Plate' button to control the cover and plate of the instrument, put the cover on the instrument and load the sample and buffer.
   c) Click Remaining Time to display Progress Time. Click again to display Finish Time.
   d) If you click 'Run', the popup on the right side will appear. Check the CheckList item and click OK to start the experiment. Depending on the protocol, when the Lysis step is over, a pop-up will occur and an alarm will sound and the instrument will pause. Release the alarm, open the door, insert ethanol, close the door and press OK to continue the experiment.

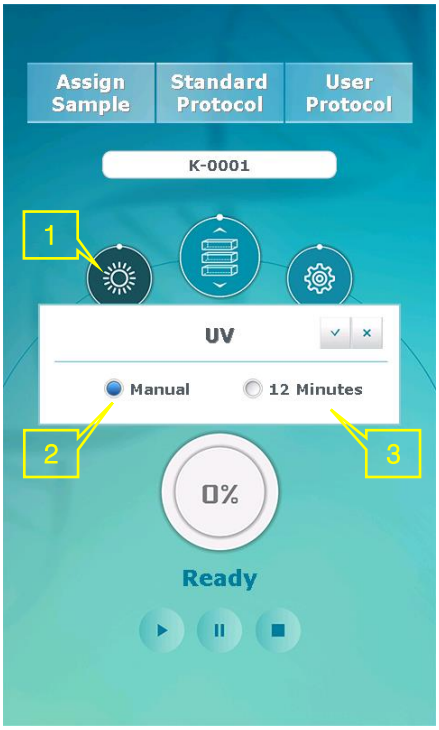
   e) If you want to pause the experiment, press the 'Pause' button.
   f) If you want to stop the experiment, press 'Stop'

button.

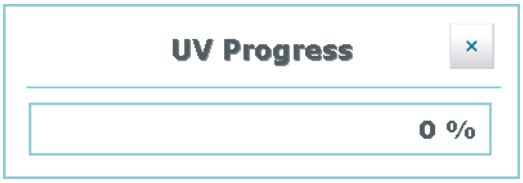


6) When the experiment is completed, the completion pop-up will appear with the alarm and the log for the experiment will be automatically saved. Information about Log can be found in Setup-Log and information about experiment time, protocol, and SampleID is recorded.

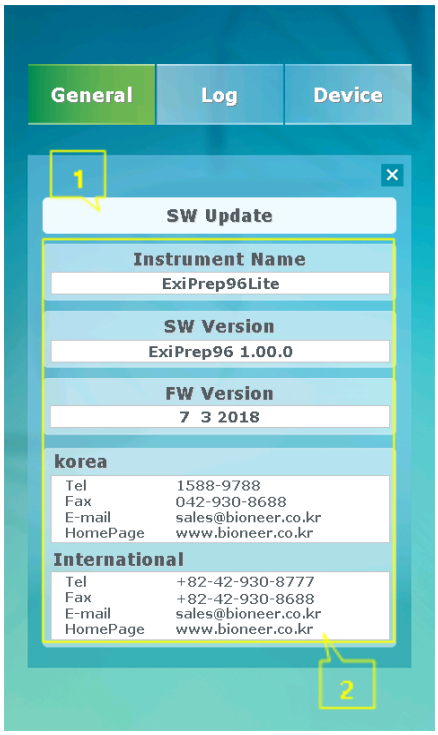
2. UV Lamp



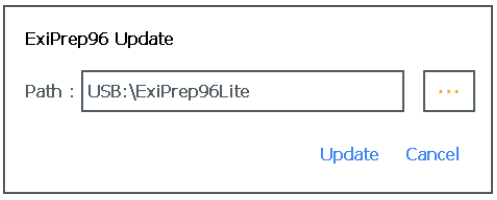
1) UV lamp can be used to sterilize the inside of the instrument.
   a) Click the UV Lamp button and a popup window will appear.
   b) If you select Manual and press OK, you can turn ON UV Lamp. You can execute the UV operation for the desired time and turn off by pressing UV Lamp again.
   c) Select 12 Minutes and click OK. The UV Progress popup will be displayed as shown below. The UV operation is automatically terminated after 12 minutes. If you want to stop, press the Cancel button.



3. Setup – General

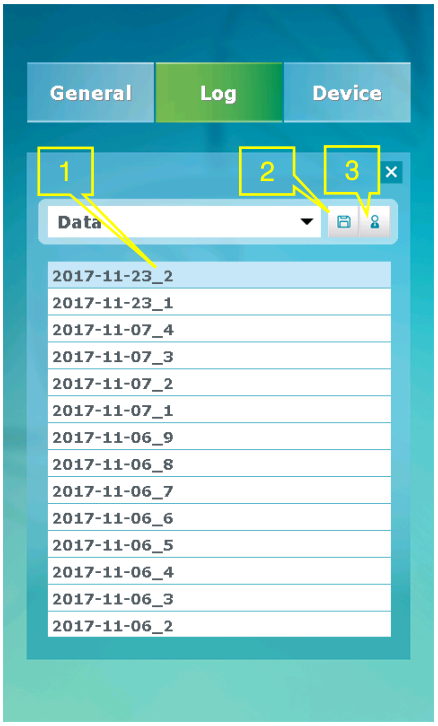


1) Update the software or display the product information.
   a) You need an update program on USB and update with new software. After inserting USB, click button to pop up pop-up window below and designate S / W folder saved in USB and press Update button. The existing software will be backed up and automatically restarted after the new software is installed.

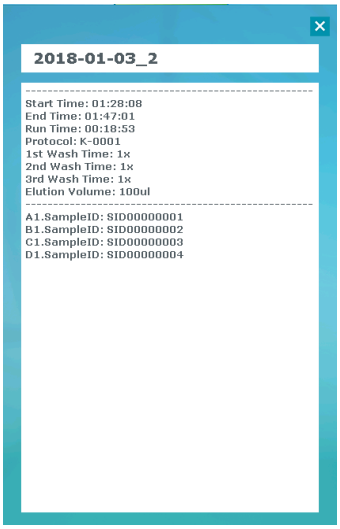


   b) Display the device name, S / W version information, F / W version information, and contact information.

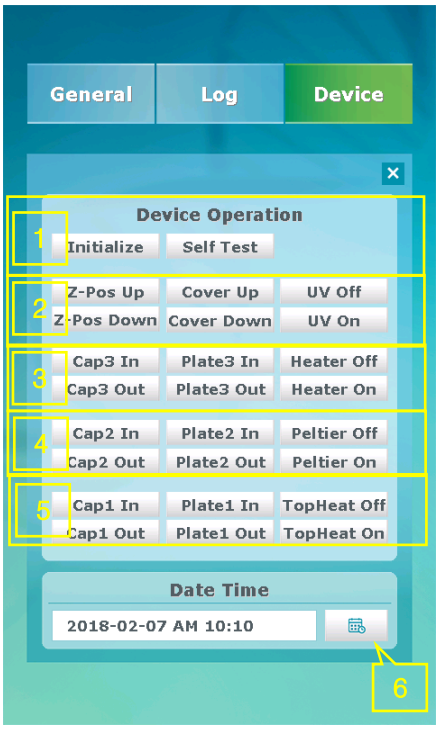
4. Setup – Log



1) Once you run the experiment, the log is automatically saved. Up to 100 experiments have been saved.
   a) Double-click the date and order number to view the details. Experiment time, protocol, specimen.
   b) Copy the log file to USB memory.
   c) Log in to the administrator account. Administrators do not require software maintenance.



5. Setup – Device



1) Modules can be individually controlled to maintain instrument.

No	Button	Description
1	Initialize	Initialize the instrument.
	Self Test	Proceed with Self Test.
2	Z-Pos Up / Z-Pos Down	Z-axis up / down.
	Cover Up / Cover Down	Cover up / down.
	UV Off / UV On	Turns UV on / off.
3	Cap3 In / Cap3 Out	Third Cap in / out.
	Plate3 In / Plate3 Out	Third Plate in / out.
	Heater Off / Heater On	Turns the heater on / off.
4	Cap2 In / Cap2 Out	Second Cap in / out.
	Plate2 In/Plate2 Out	Second Plate in / out.
	Peltier Off / Peltier On	Turn Peltier off / on.
5	Cap1 In/ Cap1 Out	First Cap in / out.
	Plate1 In / Plate1 Out	First Plate in / out.
	TopHeat Off / TopHeat On	Turns the TopHeater on / off.
6	Date Time	Set the time by popping the setting popup.

X. Troubleshooting

In case of abnormal operation, please check the followings or contact us or your local dealer.

Problem	Measures
Cannot turn on power	1. Ensure that power connector is connected to the outlet. 2. Check if the power cord is connected to the body. 3. Check if the body's power switch on the front is turned on. 4. Contact your local dealer for repair.
Power is on but not being initialized	1. Press the power switch to shut off the power source. 2. Check if it has been shut down abnormally. 3. Check if cartridges, magnetic rods plate, etc inside the body have remained if abnormally shut down. 4. Check if there is any accessory that remains or hinder the operation and remove it. 5. Press the power switch to approve the power source and check if it initializes. 6. Contact your local dealer for repair.
Power is on but LCD screen does not turn on	1. It could be a problem with the instrument. Contact your local dealer for repair.
Does not run even if Apply Run button is pressed	1. Check if the shipping bracket for transport has been removed. 2. Check if it is normally initialized when powering up. 3. Check if there are foreign objects or cartridges that may hinder the operation. 4. Check if accessories are properly installed and attached. 5. Check if there is any other button is operating on the LCD screen. 6. Contact your local dealer for repair.
It operates but not correctly	1. Check if the Setup Tray is in a right position. 2. Check if there are foreign objects or cartridges that may hinder the operation. 3. Check if accessories are properly installed and attached. 4. Contract your local dealer for repair.
Door does not close	1. Check if the cartridges are in a right position. 2. Contact your local dealer for repair.
Does not work even after closing the door	1. Check if there are any foreign objects or accessories at the check switch of the door. 2. Contact your local dealer for repair.
Cartridges cannot be installed	1. Check if the cartridges are the right one for the location. 2. Check if there are foreign objects and accessories and rack, etc at their locations. 3. Check if retainer pins are damaged or bent. 4. Contact your local dealer for repair.
Stops while operating	1. Check if the power source is connected.

Problem	Measures
	2. Check if the power switch is turned on. 3. Check if the green progress bar on the top of LCD screen is moving which means it is being delayed. 4. Check if stop or pause buttons are pressed. 5. Contact your local dealer for repair.
Operates abnormally	1. Check if it were used for protocols other than its original purpose. 2. Check if motor malfunctioned blocked by foreign objects or accessories while the syringe block is moving. 3. Check if it operates normally by rebooting the same protocol. 4. Contact your local dealer for repair.
Heater does not work	1. Check if accessories as rack and waste tray are properly installed. 2. Check if solution did not drip to the setup tray and inside the instrument during operation. 3. Contact your local dealer for repair.
Smells burning from the instrument	1. Disconnect the power plug immediately and stop using the instrument. 2. Contact your local dealer for repair.
UV Lamp does not work	1. Be sure to check if the front door is completely closed. 2. Contact your local dealer for repair.
Cooling fan does not work	1. Check if power source is connected. 2. Check the temperature setting from the LCD screen or PC operating program. 3. Contact your local dealer for repair.
Protocol update does not progress	1. Check if the USB inserted has been properly recognized. 2. Check if the external computer and instrument are properly connected via LAN cable. 3. Turn off the power source of computer and instrument and turn back on. 4. Start an update. 5. If fails, try another update once again. 6. Contact your local dealer if it keeps failing.
S/W ends abnormally.	1. Proceed with S/W update. 2. If a problem occurs with a PC error, contact your local dealer for repair.
POWER button is not working	1. Check if the power cord is properly connected and turn the power switch 'ON'. 2. The button does not work when the instrument is performing self-diagnosis. After the self-diagnosis is completed, check if the status of LED flashes green and operate the button.

XI. User Maintenance

1. Cleaning of the main body

Note
- Turn off the power of *ExiPrep*™96 Lite and disconnect the power cord.
- Wait until the temperature of heat block drops back to room temperature.

(1) Cleaning of the LCD Touch Screen

- Clean the LCD touch screen using the cleaning solution available in the market
- Be careful not to leave any scratch on the screen

(2) Cleaning of the Door

- Clean the Door using the cleaning solution available in the market
- Be careful not to leave any scratch on the screen.

2. Replacing the Fuse

This instrument uses two fuses.

- Tools required for the replacement
  - 2 fuses with the specification of 250V, F6.3AL, 5×20mm
  - 1 flat-head screwdriver (small)

- Replacing the Fuse

1) Turn off the power at the rear of *ExiPrep*™96 Lite and disconnect the power cord.

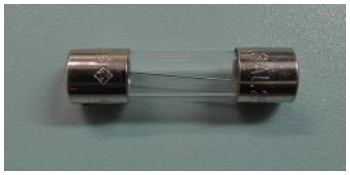
Risk of electric shock

Serous electric shock may result during the operation of high voltage instrument and it may cause physical injury or even death. To prevent the electric shock, disconnect the power cord at least one minute before use and disconnect the power supply from the external power source.

2) If you insert a flat-head screwdriver into the upper part of power inlet, the fuse cover can be opened.

3) Pull out the fuse slot and check the condition of fuses.

4) Take out the disconnected fuse from the fuse slot, and replace it with a new fuse with the specification of 250V, F6.3AL, 5×20mm.



5) Return the fuse slot to its original position under the power cord inlet and close the fuse cover.
6) Push the fuse cover firmly until it gets to the original position.
7) Connect the power cord of the instrument.

3. Storage Method

Storage Condition

1) Temperature: 0~40℃
2) Relative humidity: Within the range that vapor doesn't get condensed, which is around 20 to 80%

Storage of the Instrument

1) The instrument must be stored in accordance with the cautions presented in the user manual, when not in use.
2) It must be stored in accordance with all the storage conditions stated above.

4. Shipping the Instrument for Service

1) First of all, please inform the regional manager of customer center about the contents of the service request.

2) Remove the source of contamination of the instrument.

If the bath block is contaminated by radioactive material, remove the source of the contamination with a commercial decontamination agent. If contaminated material cannot be removed with a decontamination agent, Bioneer Corp. will not receive the instrument for services.

3) Check whether the source of contamination is completely removed.

4) Pack the main body of instrument in the box with the packaging materials that were supplied at the time of purchase. Do not send the accessories and power cord.

5) If you attach the shipping slip on the box, the instrument would be sent to the service center mentioned on the shipping slip. The repair process will take 1 to 3 weeks.

NOTE

If the service request sheet is not submitted, the repair of the instrument may be delayed.

XII. Warranty

This instrument is warranted by Bioneer against manufacturing defects in materials and workmanship for a limited warranty period of one (1) year from the date you received your product. Bioneer will either (1) repair the product at no charge if a hardware defect is found or (2) exchange the product if the same hardware defect arises more than three times during the limited warranty period. Any other accessories other than the instrument itself are considered as consumables and warranted for three months. Spare parts for the instrument will be available for five years from the initial instrument release date. If a defect arises after the limited warranty period, shipping and handling charges may apply to any repairs or exchanges of the product undertaken by Bioneer.

Exclusions and limitations

This warranty does not apply: (a) to cosmetic damage, including but not limited to scratches, dents, and broken plastic on ports: (b) to damage caused by accident, abuse, misuse, flood, fire, earthquake or other external causes: (c) to a product or part that has been modified in any way without explicit written consent of Bioneer; or (d) to damage cause by any services performed by unauthorized engineers or service providers.

Obtaining Warranty Service

Please review this User Manual and access the online support referred to in the manual accompanying this product before requesting warranty service.

BIONEER
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ExiPrep™96 Lite Maintenance Sheet

Month/Year: /

S/N: EP96L-

Operator:

Description \ Days	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Daily																															
Worktable Cleaning																															
Check Touch Screen operation																															
Elution Rack Cleaning																															
Layer cartridge rack cleaning																															
Contamination Shield Cleaning																															
Door Moving Check																															
Weekly																															
Self Test Check																															
Plate Cleaning																															
UV Lamp Check																															
Exterior Check																															
Cooling Fan Cover damage Check																															
Biannually or When Required																															
Pollutants inside the instrument Check																															
Heating Block Temperature Check																															
Heating & Cooling Block Temperature Check																															
Home Position Check																															
Magnetic roads bending check																															

* Required Materials: Distilled Water, 70 % Ethanol, 1 % Clorox (Or 2 % acetic acid), DNA Zap, Swab, Wiper, Powder-free disposable glove.

BIONEER Worldwide

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