

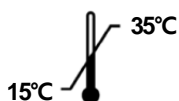
USER GUIDE



Innovation • Value • Discovery

AccuLoader™

Multi-Well Sample Loader



REF A-5251

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AccuLoader™

Multi-Well Sample Loader

User Guide

Version No.: 0.0 (2021-01-11)

Read all contents in this manual before using the instrument.



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Warranty and Liability

All BIONEER products are tested under strict quality control protocols. BIONEER guarantees the quality of all directly manufactured products until the expiration date claimed on the label. If there are any issues in product quality, immediately contact BIONEER Customer Service Center (sales@bioneer.com).

BIONEER does not assure liability for use of the product apart from its intended purpose, as described in the appropriate and applicable User Guide.

BIONEER assures liability under the condition that the user discloses all information related to the problem to BIONEER in written form within 30 days of occurrence.

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U.S. and Canadian Safety Standards

Standard for Electrical Equipment for Measurement, Control and Laboratory Use;

- Part1: General Requirements,
UL 61010-1:2012, 3rd Ed, 5/11/12, CSA C22.2 No. 61010-1-12



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PRODUCT

: *AccuLoader™*
Multi-Well Sample Loader

CATALOG NO.

REF A-5251



FCC ID: 2AYOX-A5251

RF(Radio Frequency): 2402~2480 MHz

This device can be operated in at least one Member State without infringing applicable requirements on the use of radio spectrum.

- FCC Part 15.105 This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.
- FCC Part 15.19(a) This device comply with part15 of FCC rules. Operation is subject to the following two conditions:
– This device may not cause harmful interference.
– This device & its accessories must accept any interference received, including interference that may cause undesired operation.
- FCC Part 15.21 This equipment may generate or use radio frequency energy. Changes or modifications to this equipment may cause harmful interference unless the modifications are expressly approved in the instruction manual. This user could lose the authority to operate this equipment if an unauthorized change or modifications is made.

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I. Introduction

AccuLoader™ is a sample dispensing auxiliary instrument used for dispensing a large number of samples into a cartridge for nucleic acid extraction.

1. Principles

The contamination shield cover moves automatically so that the opening for sample dispensation corresponds to the well for sample dispensation when a barcode is scanned into the instrument, allowing the operator to dispense the samples into the correct wells.

2. Advantages

- Prevention of external contamination and cross-contamination of samples
- Memory storage system for dispensation location and barcode information
- Exchangeability of spill pad for the opening of the contamination shield cover
- Heat transfer capability of cartridge mounting block for sample incubation

II. Applications

The operation software and the instrument must be connected via Bluetooth. The information of the samples maybe entered using the mobile application, and the designated well of sample dispensation may be checked on the screen of the application. The contamination shield cover moves automatically so that the opening for sample dispensation corresponds to the well for sample dispensation when the barcode of a sample is scanned into the instrument. Even for pooled sample dispensation, the process may be performed by entering the information according to the pooling conditions. The instrument may be controlled and operated using the connected application.





III. Symbols for Safe Use

The symbols used in this manual are as follows.





	Conformité Européenne Mark
	Temperature limit
	Manufacturer
	Date of Manufacture
	Authorized representative in the European Community
	Catalog number

The symbols on both the manual and the instrument are as follows.

Safety Symbols

	Do not turn off the application during operation. It may affect the results of the experiment.
	Do not run any other application during operation. It may cause malfunction or affect the results of the experiment.
	Keep a safe distance from the moving parts of the instrument. It may cause injuries.
	Be careful not to drop samples on the instrument. Coming in contact with the samples may cause infection.

Electrical Symbols

	Indicates the on position of the main power switch.
	Indicates the off position of the main power switch.
	Indicates a terminal that receives or supplies alternating current or voltage.
	Indicates a terminal that receives or supplies direct current or voltage.

Refer to "IV. Warnings and Cautions for Safety" for more details.

IV. Warnings and Cautions for Safety

Read this chapter before using the instrument. The cautions displayed here describe important details on safety and must be followed to prevent accidents and dangers by using the instrument safely and properly. This manual classifies the degree of risks from mishandling into the following three grades. “Warnings and Cautions for Safety” are divided into “danger”, “warning”, and “caution”, they mean as follows:



Ignoring this sign and mishandling may result in death or serious injury.



Ignoring this sign and mishandling may result in minor injury or property damage.



Ignoring this sign and mishandling may result in death or serious injury due to heat.



Ignoring this sign and mishandling may result in death or serious injury due to electric shock.

1. Warnings and cautions for installation



- 1) Install the instrument away from direct sunlight, as it is a precise instrument.
- 2) Install the instrument on a firm, flat surface.
- 3) Install the instrument at least 15 cm away from the wall.
- 4) Do not install the instrument in a dusty place. It can cause malfunction or failure of the instrument.
- 5) Install the instrument away from fire hazards, including heaters.
- 6) Install the instrument away from water or humidity. If not, it can cause an electrical shock, fire, or failure of the instrument.
- 7) Do not install the instrument where flammable or corrosive gas is generated. If there is a gas leakage, do not try to unplug the power plug of the instrument, and open the windows for ventilation. Spark may cause an explosion or fire.
- 8) Do not place any object for at least 20 cm on the left side of the instrument for scanning barcodes.
- 9) Be careful on the flat cable of the moving part on the left side of the instrument.
- 10) Connect the power cable (100–240V~, 50/60Hz) to the adaptor and the electrical outlet properly before turning on the instrument. If not, the power may not turn on or cause failure of the instrument.
- 11) Use an adapter with a capability of 24V DC, 2.5A, or higher.

2. Warnings and cautions for operation



- 1) Operate the instrument between 15°C and 35°C. If not, it may affect operation.
- 2) Keep the recommended operation humidity (20 – 80%, no condensation). If not, it may cause corrosion or malfunction of the instrument.
- 3) Do not use the instrument when the power plug is loose. The plug may get damaged from overheating and cause fire or electrical shock.
- 4) Do not use many instruments simultaneously from a single electrical outlet. The plug may overheat from overload and cause a fire.
- 5) Brush off the dust from the power plug and plug it in firmly. If the connection is unstable, it may cause a fire.

- 6) Make sure your hands are dry when plugging or unplugging the power plug. If not, it may cause an electrical shock.
- 7) Do not place any object that can interfere with the operation near the instrument.
- 8) Do not disassemble or modify the instrument. It may cause a fire, electrical shock, or failure of the instrument and you will not be able to receive service.
- 9) Do not give a strong impact or drop the instrument. There are precise parts in the instrument and it may cause failure of the instrument and cause safety issues.
- 10) Turn off the power and disconnect the power plug when the instrument is not used for a long time. If not, it may cause a fire from overheating.

3. Warnings and cautions for experiment



- 1) Use the instrument only according to its purpose of dispensing samples into wells accurately and correctly.
- 2) Do not operate the application when the instrument is moving. It may stop the instrument or cause errors in the results of the experiment. Use the application only when the instrument has stopped moving or after sample dispensation has been completed.
- 3) Do not turn off the instrument or the program during operation. Samples will not be dispensed at the correct location and it may affect the results of the experiment.

4. Warnings and cautions for instrument



- 1) Use the instrument only according to its purpose of sample dispensation and do not use it for any purpose other than as instructed in the manual.
- 2) Use the accessories and consumables provided by BIONEER.
- 3) Do not modify or delete instrument-related information built into the instrument.
- 4) Lightly wipe the surface of the instrument immediately if a solvent-type detergent gets on the. If not, it may get discolored.
- 5) Do not store the instrument in a humid place for a long time. It will be categorized as water damage and you will not receive free service. Also, you may not be able to use the instrument anymore if it cannot be repaired.
- 6) Do not disassemble or modify the instrument as you will not receive free service and you may get excluded from the service coverage.
- 7) Do not disconnect the power cable forcibly. It may cause failure of the instrument.
- 8) Turn off the power immediately if the instrument smells of burning or overheats during operation, and contact your local distributor.
- 9) Do not drop or give impact to the instrument. It may cause failure of the instrument and you may not receive free service regardless of the warranty period.
- 10) Be careful of burns when using a heating block.

V. Product Description

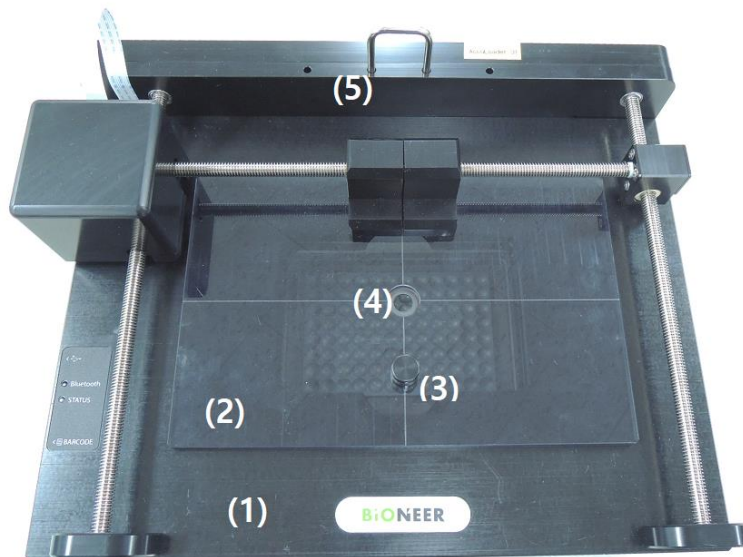
1. Composition

Components	Cat. No.	Q'ty
<i>AccuLoader</i> ™	A-5251	1
96 well cartridge block	–	1
Cartridge block pin	–	4
User Guide	–	1
Adapter	–	1
Power cable	–	1
Spill pad for opening for sample dispensation (consumable)	–	1
48-well sample tube rack block – block pin included (optional)	–	1

NOTE

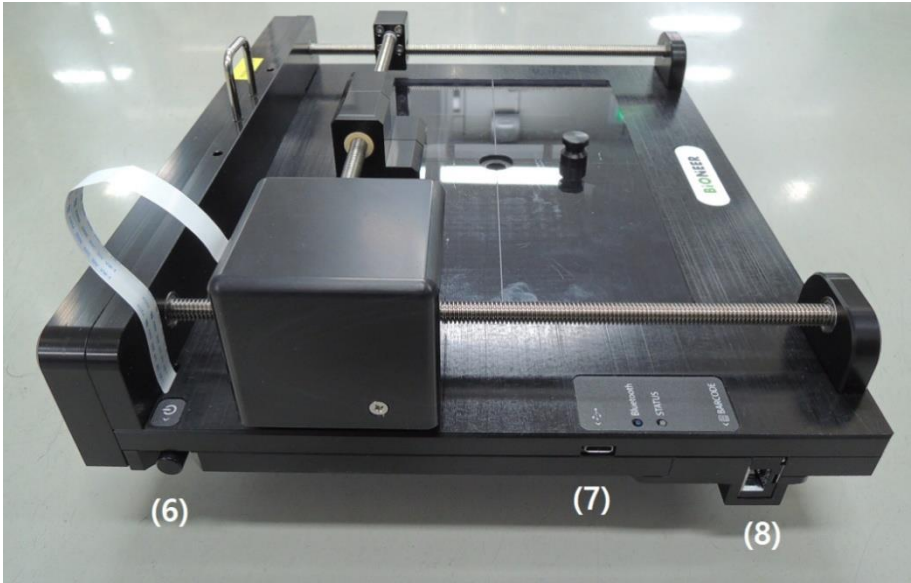
Tablet for operation application is not provided by BIONEER.

2. Structure

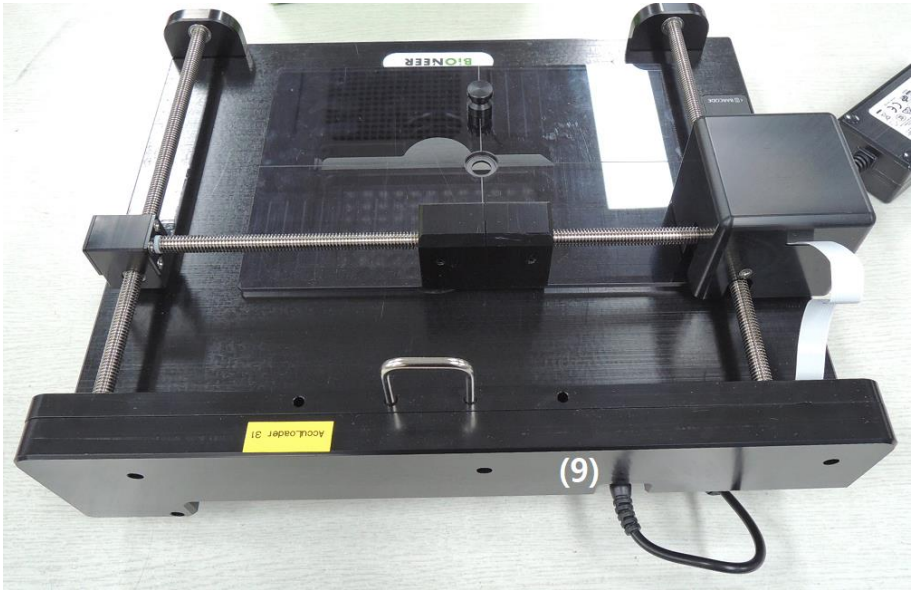


<Figure 1. Top view>

No.	Name
1	Main Body of <i>AccuLoader</i> ™
2	Contamination shield cover
3	Contamination shield cover handle
4	Opening for sample dispensation
5	Contamination shield cover limit damper



<Figure 2. Left side view>

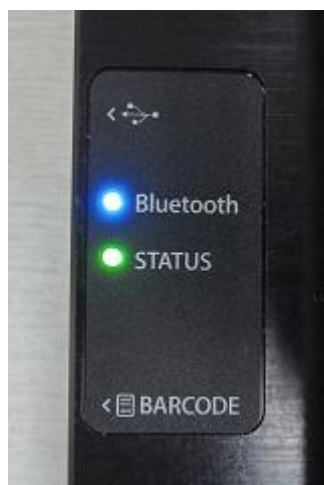


<Figure 3. Right side view>

No.	Name
6	Push power button
7	USB port
8	Barcode reader
9	Power adapter jack

3. LED status indicator

The LED indicator located on the left side of the instrument is as following.



<Figure 4. LED status indicator>

RGB LED Colors

- R e d** : Error
- Green**: Ready
- Yellow**: Initializing
- C y a n** : Running
- Purple**: Completed
- White**: Paused

Bluetooth LED

- B l u e** : Connected to Bluetooth
- LED off**: Not connected to Bluetooth

4. Barcode reading

1) Depth of field

The depth of field measurements used the following parameters.

- (1) Distances are measured from the front of the engine.
- (2) +23°C (+73°F), 1,600 lux
- (3) Photographic quality codes

Standard Range

Symbology	Typical (in/mm)		
	Near distance	Far distance	Delta
4 mil Code 39	4.3/109	5.9/149	1.6/40
5 mil Code 39	3.7/94	7.9/201	4.2/107
7.5 mil Code 39	2.7/68	12.0/305	9.3/237
10 mil Code 39	2.2/55	15.0/381	12.8/326
13 mil 100% UPC	2.0/52	18.0/457	16.0/405
15 mil Code 39	1.77/45	21.5/547	19.73/502
20 mil Code 39	1.7/43	26.8/680	25.1/637
40 mil Code 39	3.4/85	35.1/891	31.7/806
55 mil Code 39	4.7/119	38.4/976	337/857

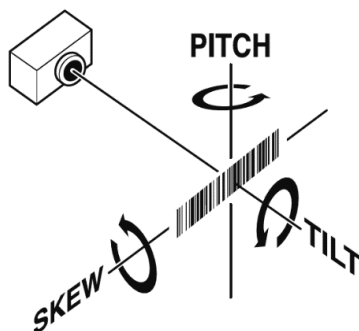
NOTE

Performance may be impacted by bar code quality and environmental conditions.

2) Bar code reading angles

NOTE

The following angles are not cumulative.



Standard Range

- (1) Specular reflection angle: $\pm 5^\circ$
- (2) Pitch: ± 60 degrees typical for 2.9-inch wide 15-mil C128(uncontrolled, can be demand printed)
- (3) Skew: ± 65 degrees typical for 100% UPS at 5-inch distance
- (4) Tilt: ± 35 degrees typical

<Figure 5. Barcode reading angles>

VI. Unpacking and Installation

1. Checking the installation environment

- 1) Check the environmental requirements for installation from “IV. Warnings and Cautions for Safety”

2. Unpacking and installing

Pay attention to the details below for unpacking and installation for your safety.

- Check the location where you can hold the instrument comfortably.

1) Unpacking

(Materials needed: box knife, scissors, or utility knife and gloves, etc.)

- a) Cut off the packing straps using scissors, etc.
- b) Take out the box of accessories from the upper box of the package.
- c) Separate the protection cover from the package and take out the instrument.

2) Checking the accessories and the consumables

Check the composition part of “V. Product Description”.

If any component is not included or damaged, contact your local distributor or BIONEER.

3) Installing the instrument

- a) Lift the instrument from the package and move it to the desired location.
- b) Remove the packaging and check if there is any damage to the instrument.

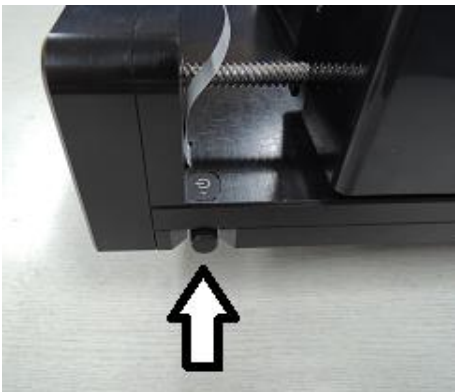


If the instrument is damaged, record the condition and area of the damage and contact your local distributor.

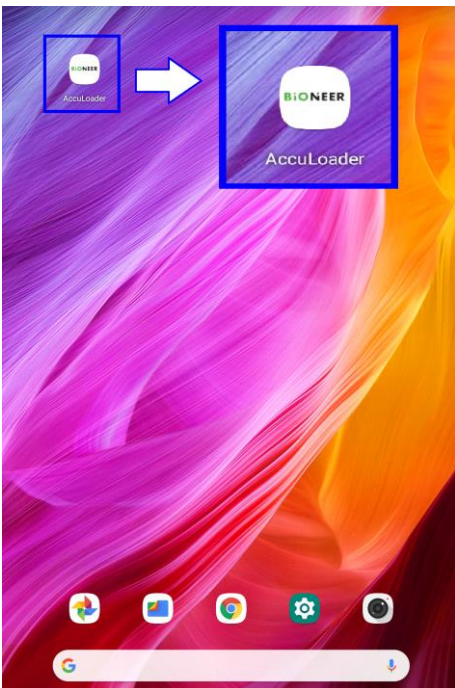
3. Checking the operation



- 1) Connect the adapter to the adapter jack at the back of the instrument and electrical outlet.



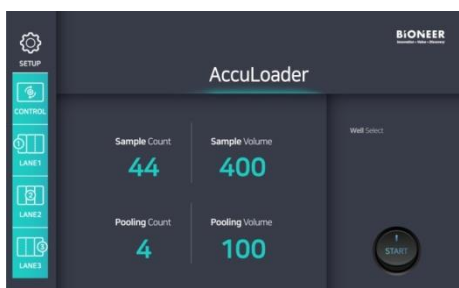
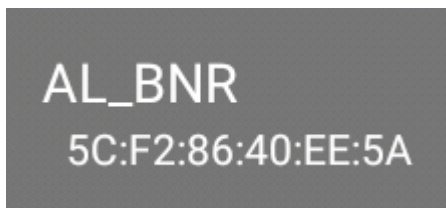
2) Turn on the instrument by pressing the power button on the left side and check if initialization is performed.



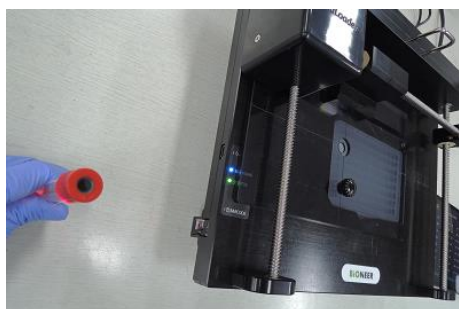
3) Turn on the operation application and start the application.



4) Check the Bluetooth ID on the application and connect to the instrument.



- 5) Enter any value in the setting field and tap the **Start** button



- 6) Move a sample tube with a barcode to the scanning area of the instrument.

NOTE

The barcodes must be scanned at the exact location for its accuracy.



- 7) Prepare for experiment if the instrument operates as explained above, or restart both the instrument and the application to check again.

VII. Operation

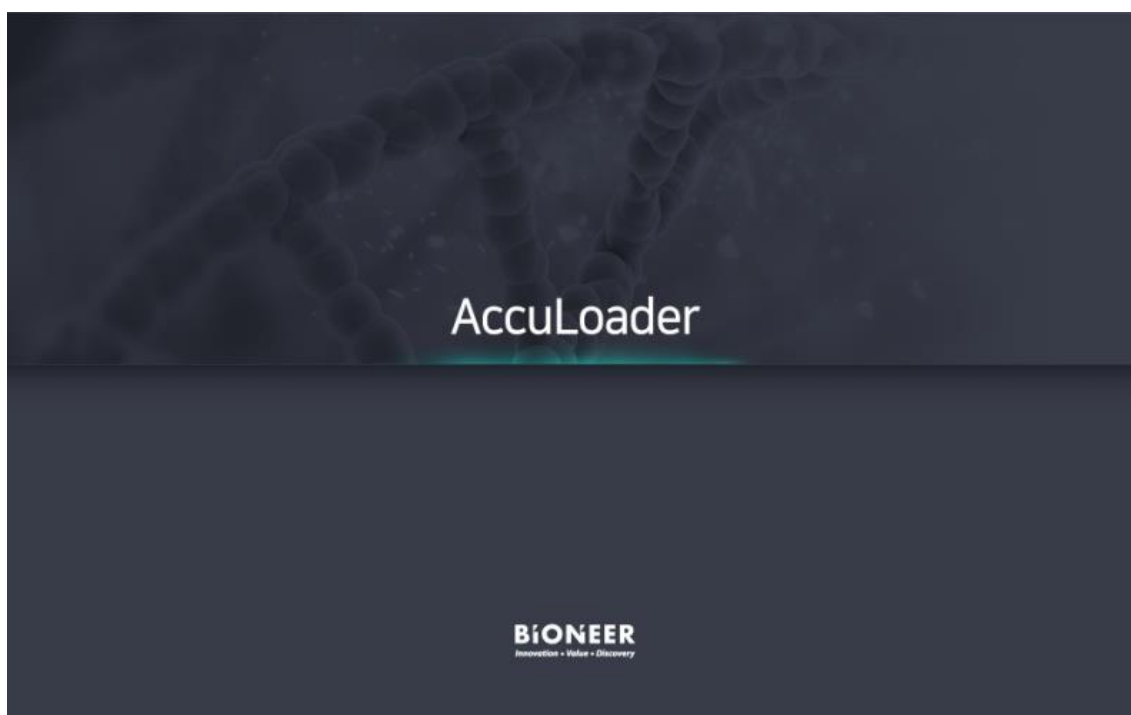
1. Program description

AccuLoader program is an application operating program.

The intention of *AccuLoader*™ operation is to assist operators in dispensation of samples with accuracy, especially for pooled samples.

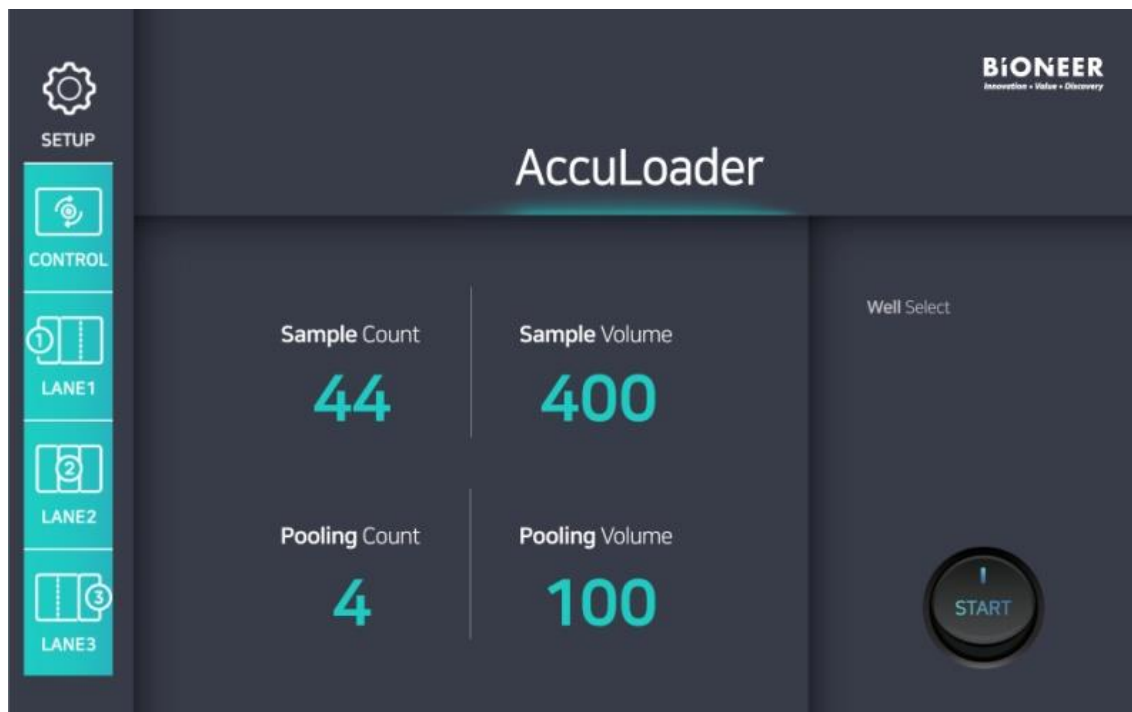
2. Running the program

- 1) Turn on the instrument and run **AccuLoader** application after initialization.



<Figure 6. Home screen>

- Home screen will appear after the first splash screen disappears. It will display the previously set conditions.



<Figure 7. Setting screen>

- Tap the **SETUP** button on the left side of the screen.

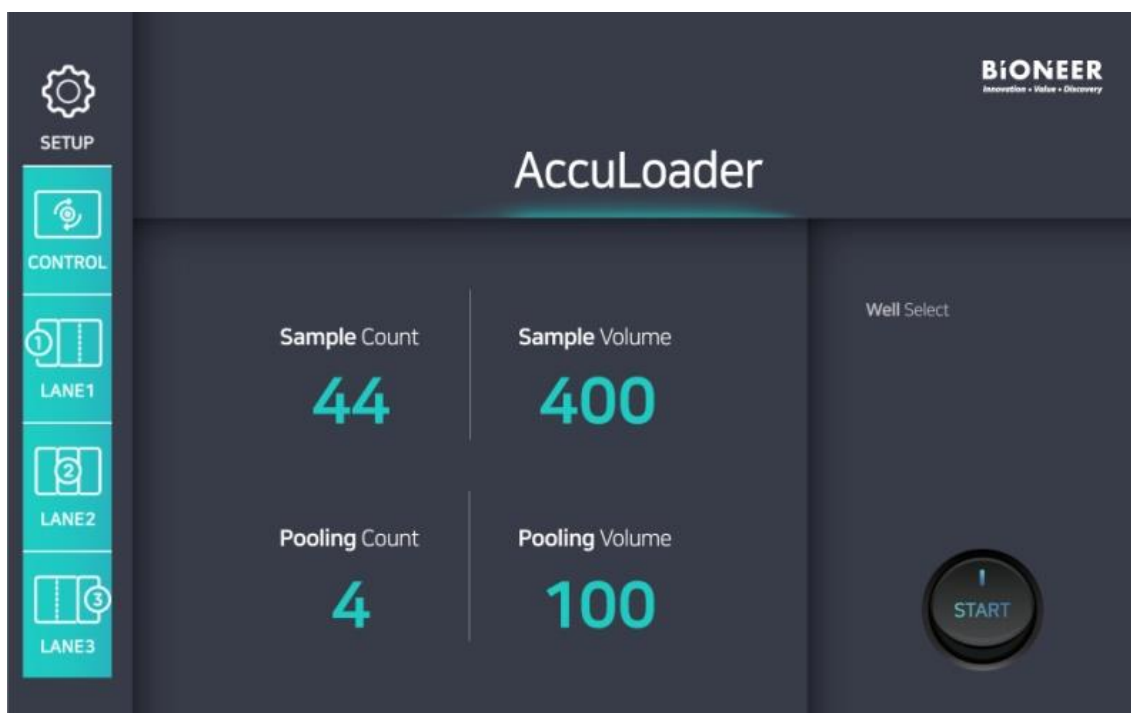


NOTE

The ID address of Bluetooth differs for each instrument.

- Select **AL_BNR**.

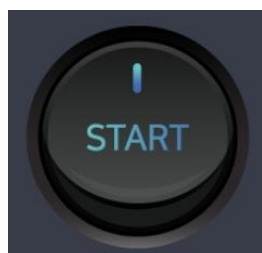
5) Assign **Sample Count** and **Pooling Count**.



<Figure 8. Setting screen description>

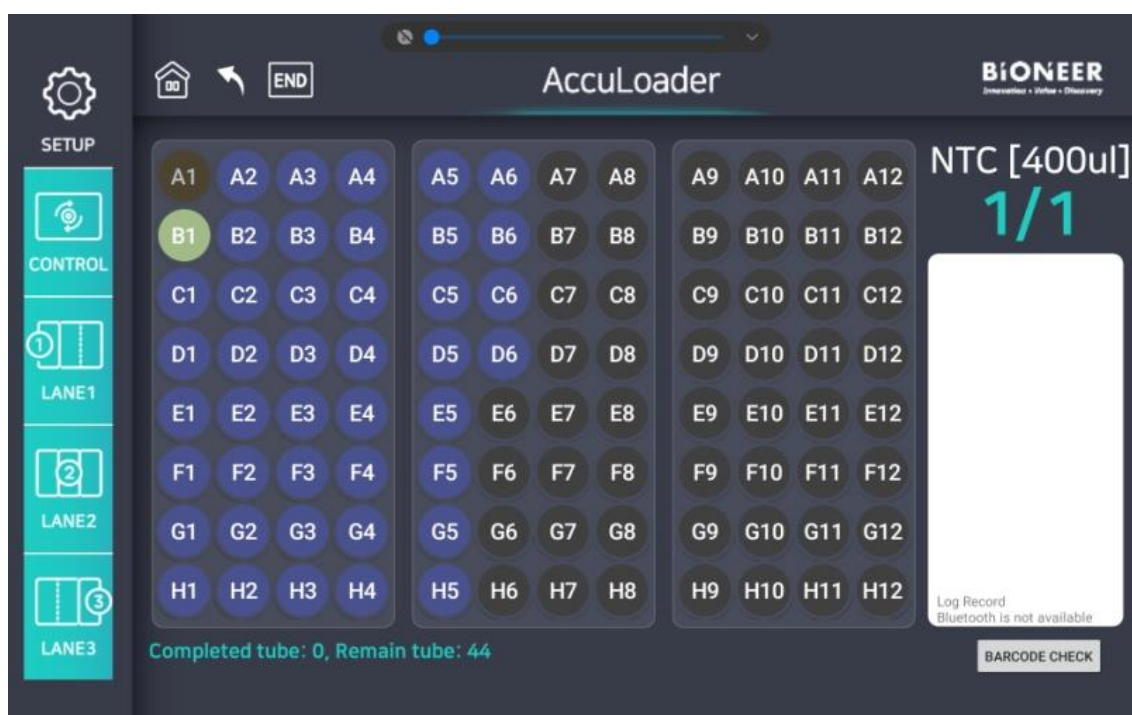
Item	Description
Sample Count	Total number of samples including the controls
Pooling Count	Number of samples per well excluding the controls
Sample Volume	Has initial value of 400 µl
Pooling Volume	Automatically calculated from the assigned sample count and pooling count values

- 6) Tap the **START** button on the lower right side of the screen when all settings are complete.



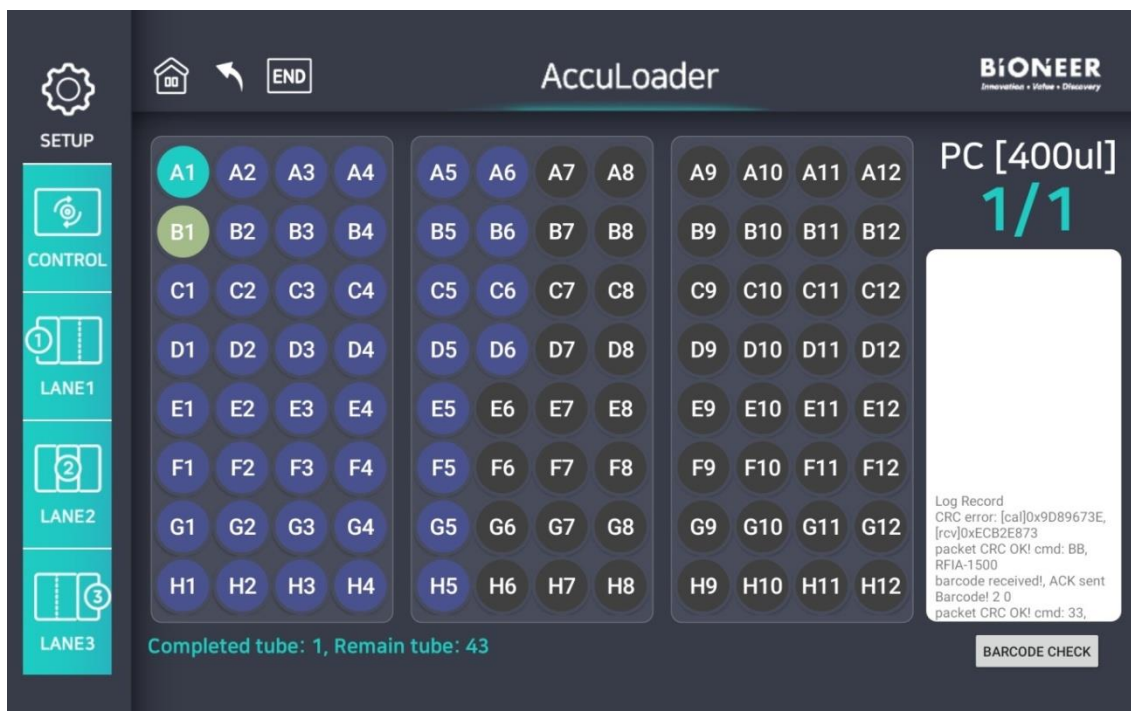
<Figure 9. Start button>

- 7) Run screen will appear.
 An animation will display the location for the NTC (no template control) well.
 Scan the NTC tube with the barcode scanner and the plate will move from the starting position so that the opening is on the NTC well.
 Open the NTC tube cap and dispense the assigned volume of NTC into the NTC well using a pipette.



<Figure 10. NTC dispensation>

- 8) An animation will display the location for the PC (positive control) well.
 Scan the PC tube with the barcode scanner and the plate will move so that the opening is on the PC well.
 Open the PC tube cap and dispense the assigned volume of PC into the PC well using a pipette.



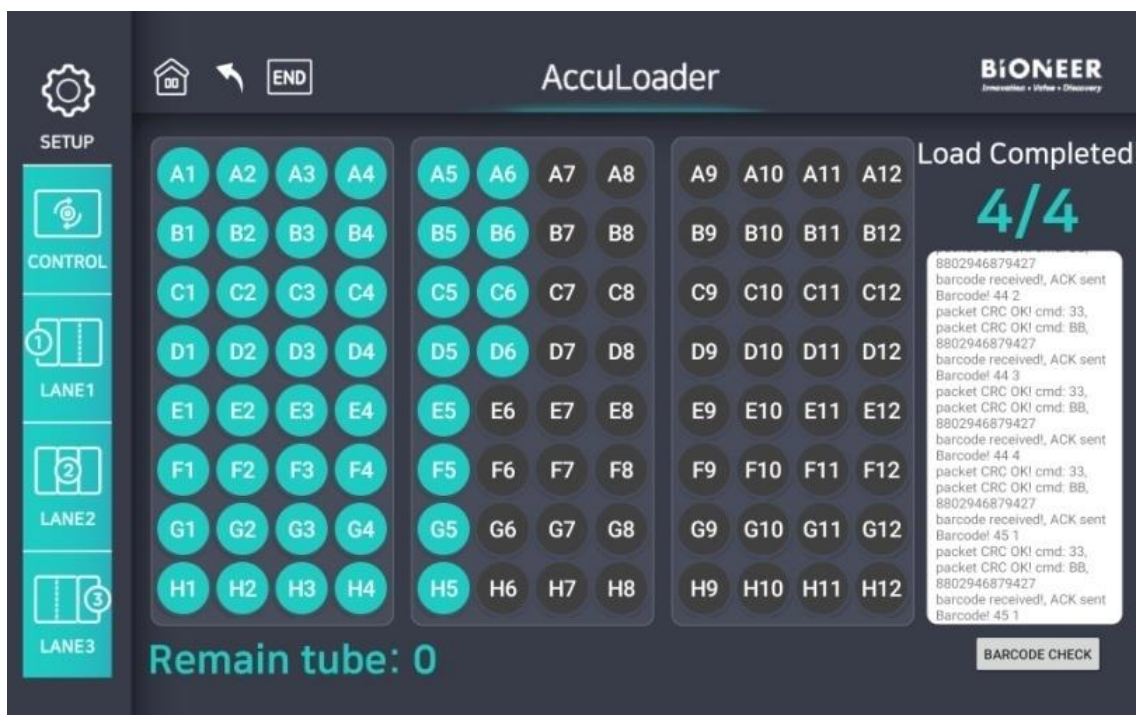
<Figure 11. PC dispensation>

- 9) Scan the first sample tube with the barcode scanner and dispense the assigned volume of samples into the designated wells using a pipette.
Repeat the barcode scanning and sample dispensation steps as many times as the assigned pool size for the sample tubes.



<Figure 12. Sample dispensation>

- 10) All completed status will be displayed.
When all dispensation has been completed, "Remain Tube: 0" and "Load Completed!" will be displayed at the bottom and the upper right side, respectively.
Tap the **END** button for initialization of the instrument to open the contamination shield cover.



<Figure 13. Completion of operation>

11) In case of dispensing into a new cartridge, repeat from Step 5.

VIII. Maintenance

1. General maintenance

- 1) Do not spill liquid or ignore contamination on the instrument for stable daily experiments.
- 2) Do not use abrasive detergents. It may damage the surface of the instrument.
- 3) Clean the instrument after the experiment. Use a lint-free cloth dampened with mild, neutral detergent.
- 4) Do not use highly acidic or basic detergent. Wipe it immediately if it gets on the instrument.
- 5) Decontaminate the instrument first when transferring the instrument.
- 6) Contamination from improper dispensation or spilling may affect the results of the experiments. Refer to the following and take appropriate actions to prevent risk factors.

2. Cautions after operation



Be careful of contaminating the instrument from spilling of the samples after operation.

- 1) Do not handle the cartridge suddenly or improperly. The samples in the cartridge may spill and contaminate the instrument, and affect the results of the experiments.
- 2) The solutions including the samples may corrode the instrument.
- 3) Contact your local distributor for service if the inside of the instrument gets contaminated for disassembly and cleaning of the instrument. You may be charged for service.

3. Cleaning the instrument

- 1) Use distilled water (DW), 70% ethanol, nucleic acid degradation solution, etc. to clean the instrument. Instead of spraying the cleaning solution onto the instrument directly, use a dampened lint-free cloth or paper towel because bleach and nucleic acid degradation solution can corrode metals. Then, wipe the instrument with a dry lint-free cloth or paper towel to remove any remaining solution.
- 2) Use cleaning solutions specifically designed for touchscreens.

4. Actions for contamination

NOTE

Prevent damages to the instrument by taking the following actions when the instrument is contaminated.

- 1) If the contaminant has not flown inside the instrument, absorb the contaminant with a paper towel dampened with nucleic acid degradation solution or 70% ethanol immediately and wipe it again with a paper towel wet with DW. Wipe any remaining solution with a dry paper towel, and then sterilize the instrument using UV light.
- 2) If the contaminant has flown inside the instrument, contact your local distributor for service of disassembly and cleaning of the instrument. You may be charged for service.

5. Waste treatment

Dispose of the used solutions and consumables following the waste disposal regulations after sample dispensation.

6. Power adapter

Use a Safety Standard certified adapter $24V \text{ --- } 2.5A$ with a capability of or higher for the instrument. The adapter connector must have an outer diameter of 5.5 mm and an inner diameter of between 2.1 and 2.5 mm.



<Figure 14. Adapter plug>

7. Storage and handling

Storage conditions

- 1) Temp: 0 – 40°C
- 2) Humidity: 20 – 80% (No condensation)

Storage of the instrument

- 1) Store the instrument following the warnings and precautions provided in the manual when not in use.
- 2) Store the instrument following all storage conditions specified above.

8. Disposal of the instrument

The instrument for disposal must be decontaminated for safety reasons. If you want to dispose of your instrument, request for disposal after performing the decontamination procedures and providing the “Certificate of Decontamination” to your local distributor.

The instrument will be retrieved after your local distributor receives the disposal request with the “Certificate of Decontamination”.

IX. Troubleshooting

If the instrument does not operate properly, check the following and contact your local distributor if not resolved.

Problem	Action
The instrument does not turn on.	<ol style="list-style-type: none"> 1. Check the connection between the adapter and the electrical outlet. 2. Check the connection between the adapter and the power cable. 3. Check the connection between the adapter connector and the adapter jack at the back of the instrument. 4. Check if the power button is at the off position. 5. Request for service.
The instrument does not perform initialization.	<ol style="list-style-type: none"> 1. Check if the contamination shield cover is open. 2. Check if there is any foreign object interfering with the moving parts. 3. Request for service.
The instrument smells of burning.	<ol style="list-style-type: none"> 1. Request for service as it may be an internal problem of the instrument.
The instrument does not operate.	<ol style="list-style-type: none"> 1. Check if two or more AccuLoader applications are running. 2. Check the Bluetooth connection. 3. Check the settings. 4. Request for service.

X. Technical Specifications

General specifications	
Dimensions	34.1 cm (W) x 27.2 cm (D) x 11.8 cm (H) 13.43 in (W) x 10.71 in (D) x 4.65 in (H)
Weight	4.5 kg (9.93 lbs)
Power	Adapter input: 100–240 V~, 50/60Hz, 1.5A Max Output: 24V DC, 2.5A Instrument Input: 24V DC, 2.5A
Operation specifications	
Temperature	15 – 35°C (59.0 – 95.0°F)
Humidity	20 – 80%, no condensation
System	Operation control via a mobile application
Communication	Bluetooth
Receipt of info.	1D barcode
Mobile application specifications	
Core	Octa Core
Core clock	1.6GHz
Bluetooth	V4.2 or over
Display resolution	1,920 x 1,200 pixels
RAM	3GB or over

XI. Technical Support

1. Requesting for service

Fill out the “Service Request Form” to request for service.

2. Shipping the instrument for service

- 1) Inform your local distributor of the details of the service request.
- 2) Decontaminate the instrument.

Decontaminate the instrument using a decontamination solution if it is contaminated by biohazardous materials. If you cannot remove the contaminant, you may not receive the service.

- 3) Check if there is no remaining contaminant inside the instrument and fill out the “Certificate of Decontamination”.
- 4) Pack the instrument with the original packaging. Do not send the power cord and other accessories.
- 5) Send the instrument to your local distributor or hand over the process to the salesperson in charge.
- 6) The repair process takes from 1 to 3 weeks depending on the instrument conditions.

If you do not provide the “Service Request Form” and the “Certificate of Decontamination”, the repair may be delayed.

3. WEEE(Waste Electrical and Electronic Equipment)

The symbol below (WEEE) is the explanation of the symbols that is used in Europe.



Do not dispose as unclassified waste.

To minimize the effect of electric or electronic instruments on the environment, follow the regulations on proper disposal of such items.

European Union customers:

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

XII. Warranty

All BIONEER instruments are tested under strict quality control protocols.

1. Warranty period

- Instrument: 1 year
- Accessories and consumables: 3 months
- Retention period of spare parts: 5 years from the discontinuation date of the model

2. Warranty details

- BIONEER provides free repair service for defects that occurred while following the provided instructions within the warranty period.
- All parts other than the main body are consumables. (Under official box conditions)
- Service may not be available or may be charged even within the warranty period in the following cases:
 - Failures due to accidents, physical impacts, misuse, or water damages;
 - Disassembly or modification of the instrument;
 - Failures due to natural disasters, including fire, earthquake, flood, etc.;
 - Repair performed by a non-BIONEER person; or
 - The instrument is not under warranty or the service is requested outside the warranty area
- Individual matters not specified in this section will be based on the service and customer support regulations of BIONEER, and other matters will be reviewed and implemented for user convenience.

3. Details on instrument exchange

- Instrument exchange is proceeded only when there is a valid reason to exchange the instruments, and only 1:1 exchange with the same model is possible (Not refundable).
- Subject to exchange: instruments that had the same failure for 3 or more times with service history within the warranty period

4. Wait! Before requesting for service

- When the instrument is not operating properly, refer to the “IX. Troubleshooting” chapter in this manual first.
- If the problem is not resolved, contact us with the following contact information.
 - Customer support: ☎+82-42-930-8777
 - Web: <http://www.bioneer.com>

5. Service cost

- BIONEER provides free service under our warranty terms and conditions in case of repairing instruments for problems of the instrument itself within the warranty period on all BIONEER instruments.
- The service fee is determined by the service fee standard for each product. For the exact cost of repair, contact our customer support center.
- Shipping and service fees may be charged even within the warranty period as described in “2. Warranty details”, and service may not be available in some cases.

Certificate of Decontamination

Decontamination and disinfection procedures of the instrument must be performed for repair or return before shipping. This must be performed for safety of both the customer and the manufacturer.

Instrument: _____ Serial no.: _____
Name: _____ Contact information: _____
Address: _____

The method of decontamination

Dampen a lint-free cloth with 70% ethanol or nucleic acid degrading solution and clean all parts of the instrument that can be contaminated, including the components, the surface, etc. Then, wipe again with a cloth dampened with DW immediately.

Repeat as many times as needed depending on the degree of contamination.

Additional fees may be charged for the decontamination procedure before service if the decontamination procedure has not been performed or this certificate is not provided. Check the following contents.

- The product for service or return is not contaminated by toxic, carcinogenic, radioactive, or any other harmful material.
- The decontamination procedure has been performed for the product for service or return and it will not be harmful to the handler of the instrument.

The type of materials used with the instrument

- Chemical materials Biological materials Radioactive Materials

Remarks on the contamination

Decontamination process

Location: _____

Date: _____ Name/signature: _____

If radioactive material was used with the instrument, a signature of the radiation safety manager is needed for the removal of radioactive contamination.

Location: _____

Date: _____ Name/signature: _____

Service Request Form			
Product	<i>AccuLoader™</i> , Multi-Well Sample Loader		
Catalog No.	A-5251	Serial No.	
Date of Request			
Date of Purchase			
Problem	Date		
	Part		
	Description		
	Remark		
Customer	Address		
	Department		
	Name		
	Contact	Phone:	Fax:
	E-mail		

AccuLoader™ Maintenance Sheet

Month/Year: _____ / _____																							Operator:									
S/N: _____ - _____																																
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	
Description																																
Before Operation																																
Clean workbench																																
Clean contamination shield cover																																
Clean cartridge heating block																																
Check spill pad of the opening																																
Check cable connection																																
Check initialization location																																
Check Bluetooth connection																																
Check barcode scanner																																
After Operation																																
Clean cartridge heating block																																
Clean contamination shield cover																																
Clean exterior of the instrument																																
Quarterly/If Needed																																
Check moving parts and contamination																																
Check exterior damages																																

* Materials: DW, 70% ethanol, 1% bleach (or 2% acetic acid), nucleic acid degradation solution, cotton swabs, lint-free cloth, and powder-free disposable gloves

BIONEER Worldwide

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