

# Operation Manual

## V1.2

**isoPURE™ Mini**  
Automated Purification System

**AP1016**



**ACCURIS**  
INSTRUMENTS



Thank you for purchasing the IsoPure™ Mini Automated Purification System. This user manual details the instrument's features, specifications, as well as complete operating instructions; please read it carefully before operation. Keep this user manual for later use.

**Important:**

**Please keep the box and packaging material for this instrument. If service is required, the box will be needed to ship the instrument to our Service Department.**

**Initial Inspection**

Please inspect the instrument as well as all included accessories when you first open the packaging. If you find anything damaged or missing, please contact Benchmark Scientific or your local distributor immediately.

**BENCHMARK SCIENTIFIC / ACCURIS INSTRUMENTS**

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# Safety Warnings and Guidelines

## 1. Important information for safe use

Users should understand how to use this instrument before operating. Please read this manual carefully prior to operation.



Any improper operation may cause injury. Please read this manual carefully and operate safely according to the guidelines.

## 2. Operation and Maintenance

The operation and maintenance of the instrument should comply with the basic guidelines and warnings below. Incorrect operation or maintenance will have detrimental effects on the life, performance, and safety features of the instrument.



The instrument is a normal indoor instrument which conforms to class I of the GB 4793.1 standard.



This instrument is designed for use in a laboratory environment. The device must be operated by skilled laboratory personnel with appropriate training.



To prevent injury or voiding the warranty, the operator should not attempt to repair the instrument without explicit guidance from Accuris Instruments. If service is required, please contact Accuris Instruments or your local distributor for repair.



Before powering on, confirm that the voltage used meets the electrical requirements of the instrument as stated on the rating plate. If the electric cord is damaged, replace it with the same type of cord. Hold the socket firmly before pulling the plug from an outlet. Do not pull the electric cord.



The temperature of the heating block can be high; please do not touch it while it is in use to prevent injury.



The instrument should be installed in an environment of standard room temperature, low dust, low humidity, and away from direct sunlight, electromagnetic interference, and heat sources. Do not block the vents on the instrument.



Always power off the instrument when you are finished using it. Unplug the power cord and cover the instrument with a cloth or plastic sheet to prevent excessive dust from entering the housing.



Pull the connector plug from the electrical outlet immediately and contact the vendor in the event of:

- Liquid entering the housing.
- Abnormal operation: such as any abnormal sound or smell.
- The instrument is dropped or there is any damage to the housing.
- Any malfunction.

### **3. Maintenance**

The instrument should be cleaned regularly using a soft cloth dampened with a small amount of alcohol.

### **4. Transportation and storage requirements**

Ambient temperature: 10°C ~ 35°C

Relative humidity: ≤ 80%

Atmosphere pressure range: 500 ~ 1060hpa

Place in a well-ventilated room, away from corrosive gas.

# Table of Contents

<b>Chapter 1 Introduction</b> .....	1
1. Key Features .....	1
<b>Chapter 2 Specifications</b> .....	2
1. Required Installation Environment .....	2
2. Specifications .....	2
3. Dimensions .....	3
<b>Chapter 3 Instrument Overview</b> .....	4
1. Structure .....	4
2. Control Panel.....	6
<b>Chapter 4 Instrument Setup</b> .....	7
1. Preparation Before Use.....	7
2. 96 Deep Well Plate Installation .....	8
3. Tip Comb Installation.....	9
4. Removing Tip Combs .....	9
<b>Chapter 5 Programming &amp; Operation</b> .....	10
1. Android App Installation.....	10
2. App Main Interface .....	11
3. Protocol Select & Transmit Interface.....	11
4. Create New Protocol Interface .....	20
5. Acquire Protocol From Instrument Interface .....	21
6. Instrument Bluetooth Connection Interface.....	23
7. Instrument Software Interface .....	25
<b>Chapter 6 Troubleshooting</b> .....	32

# Chapter 1 Introduction

The IsoPure™ Mini is an automated purification system for DNA/RNA, proteins, and cells. It can bind, transfer and release magnetic beads by using moveable magnetic rods. Users can extract 1~16 samples simultaneously with appropriate magnetic bead kits and reagents available from many suppliers. The IsoPure™ series can be used with samples from animal/plant tissue, blood, and body fluids.

## 1. Key Features

- User-Friendly Input & Operation - Touch screen, 3 operation shortcut keys, included mouse.
- Android™ app and PC software included for programming.
- Internal LED Lighting for visualization of sample processing chamber
- Open software system – Editable protocols with storage for up to 100 protocols.
- Heating function – Heating strips for lysis and elution.
- UV Sterilization function (3W UVC bulb) to reduce risk of cross-contamination.
- Safe and reliable - Fully automated with disposable consumables.
- Fast extraction - 10 ~ 60min depending on protocol & optimization.

# Chapter 2 Specifications

## 1. Required Installation Environment

Environmental Temperature: 10°C~40°C

Relative Humidity: ≤ 80%

Input Voltage: AC 100~240V, 50Hz/60Hz

## 2. Specifications

<b>Model</b>	<b>IsoPure™ Mini</b>
<b>Display</b>	4.3-inch touch screen
<b>Purification Method</b>	Magnetic Bead-Based Purification
<b>Sample Volume</b>	50μL—1000μL
<b>Throughput</b>	Up to 16 samples using deep well plates or the included aluminum rack
<b>Stability</b>	CV ≤ 3%
<b>Extraction Time</b>	10 ~ 60min
<b>Lysis &amp; Elution Temperature</b>	Ambient +5°C – 120°C
<b>Temperature Accuracy</b>	± 1°C
<b>Programming Control</b>	Equipped with an Android app software to create, edit and transfer protocols to the instrument
<b>Program Storage</b>	Store up to 100 protocols in internal memory
<b>Communication Ports</b>	USB for mouse & flash drive RS232 port for QR code scanning system
<b>Data Transfer</b>	Bluetooth, USB, QR code Scanner
<b>QR Code Scanning System</b>	Handheld scanner for instant protocol transfer
<b>Consumables</b>	Standard 96 deep well plates, Magnetic rod tip combs, Aluminum rack, 6-well sample strips

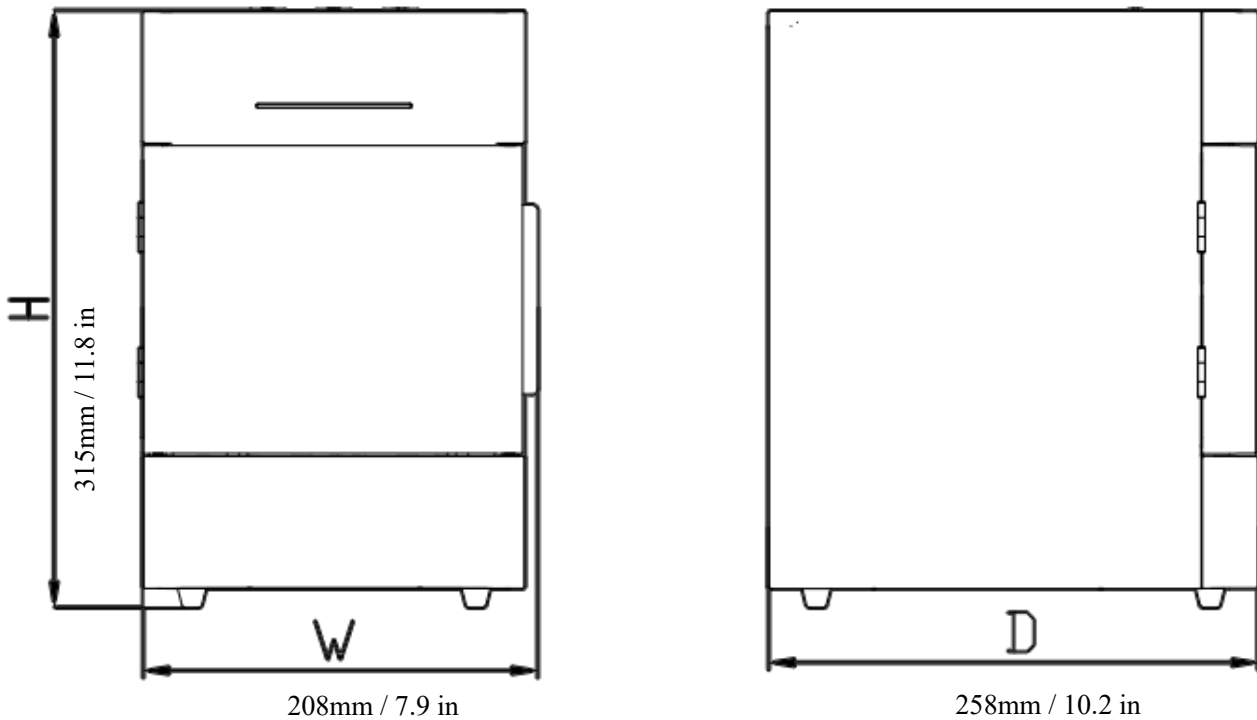


<b>UV Sterilization</b>	UV Lamp (3W UVC, 253.7 $\lambda$ )
<b>Magnetic Bead Recovery</b>	> 95%
<b>Internal Lighting</b>	LED lamp
<b>Power</b>	Standby 10W, MAX 150W
<b>Dimensions</b>	20.8cm x 25.8cm x 31.5cm
<b>Weight</b>	7 kg / 15.4 lbs

### 3. Dimensions

**Fig 1. Dimensions**

**Dimensions (W×D×H):** 7.9x10.2x11.8 in / 208×258×315mm



# Chapter 3 Instrument Overview

## 1. Structure

### Front

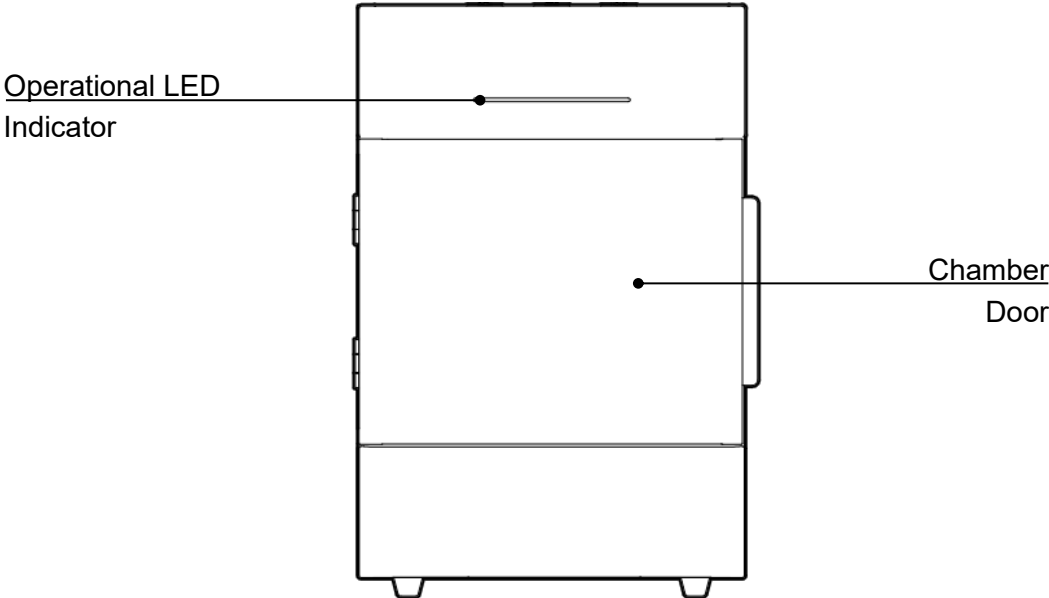


Fig 2. Front

### Back

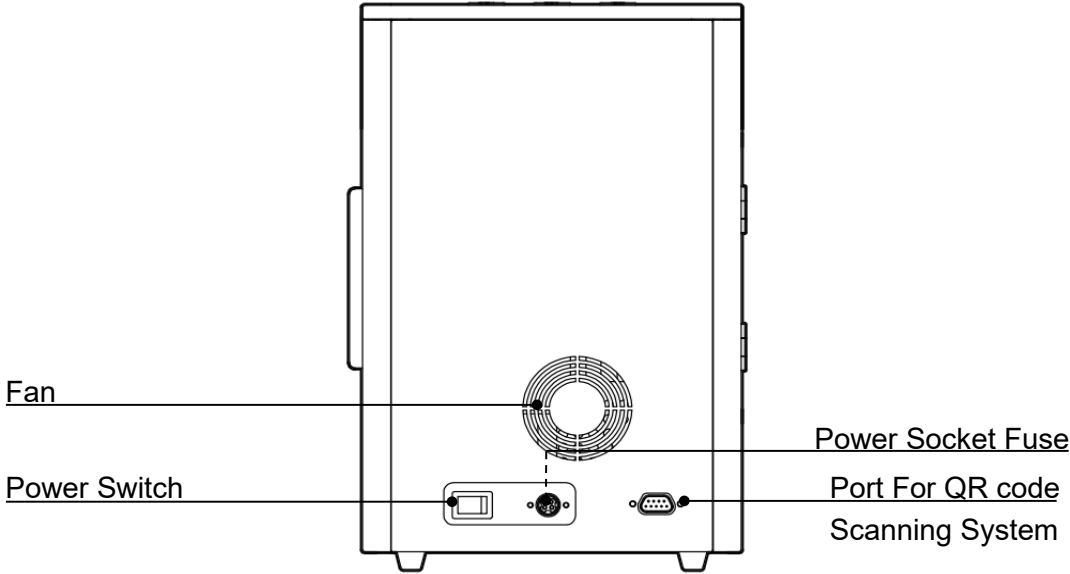


Fig 3. Back

## Side

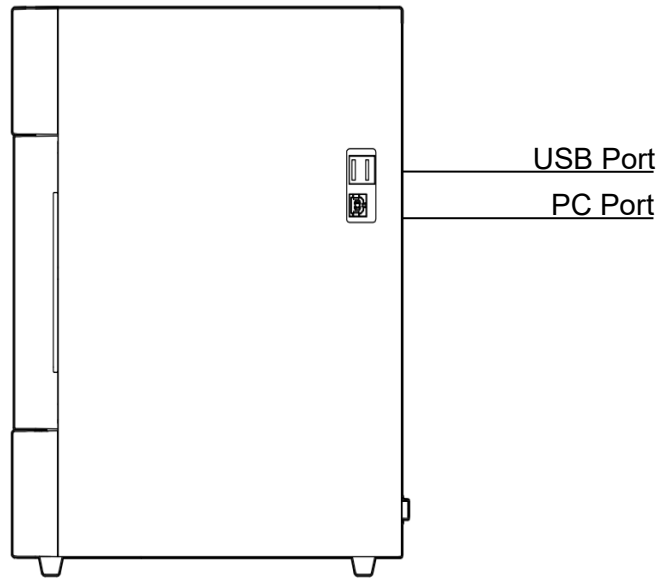


Fig 4. Side

## Sample Processing Chamber

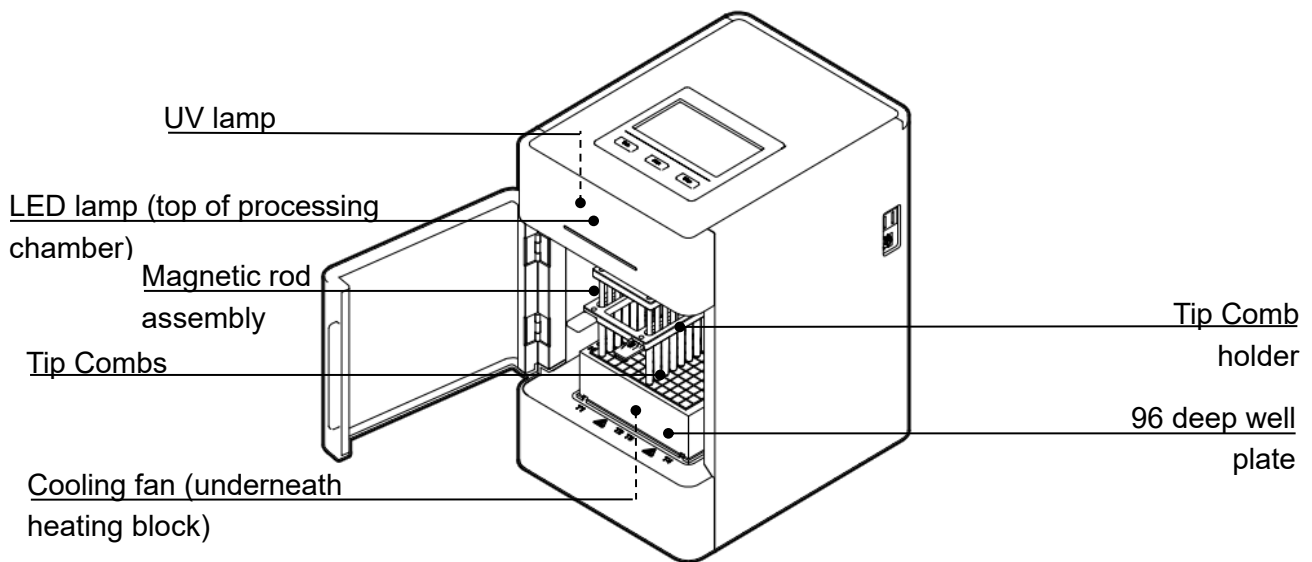
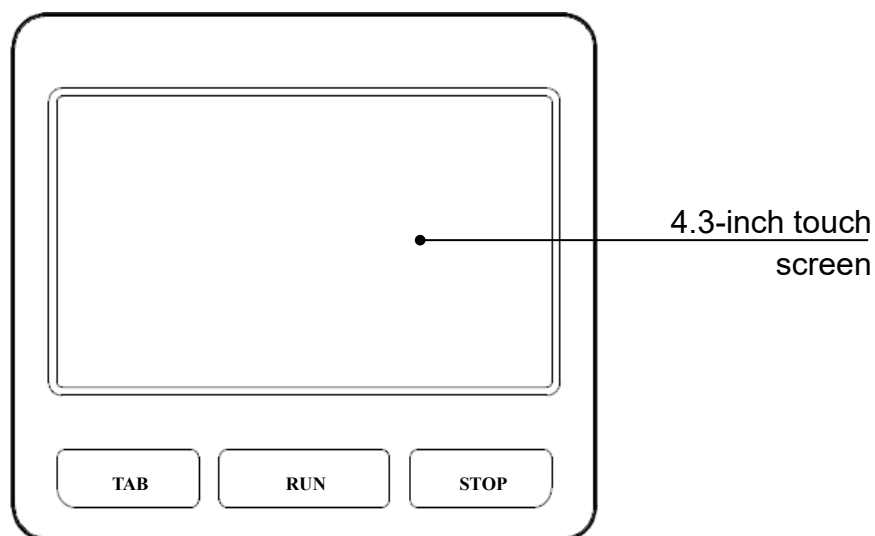


Fig 5. Sample Processing Chamber

## 2. Control Panel



**Fig 6. Touch screen control panel**

**Touch screen:** For operational control (mouse also can be connected for operation).

**TAB:** Switch between protocols.

**RUN:** Start the protocol.

**STOP:** Stop the protocol.

# Chapter 4 Instrument Setup

## 1. Preparation before use

Remove the instrument from the shipping box. To release the horizontal motor, use the included Allen key to unscrew the M6 hexagonal screws found underneath the instrument. Remove the tape holding the chamber door to open the door. Remove the zip ties between the magnetic rod assembly and the tip comb holder.

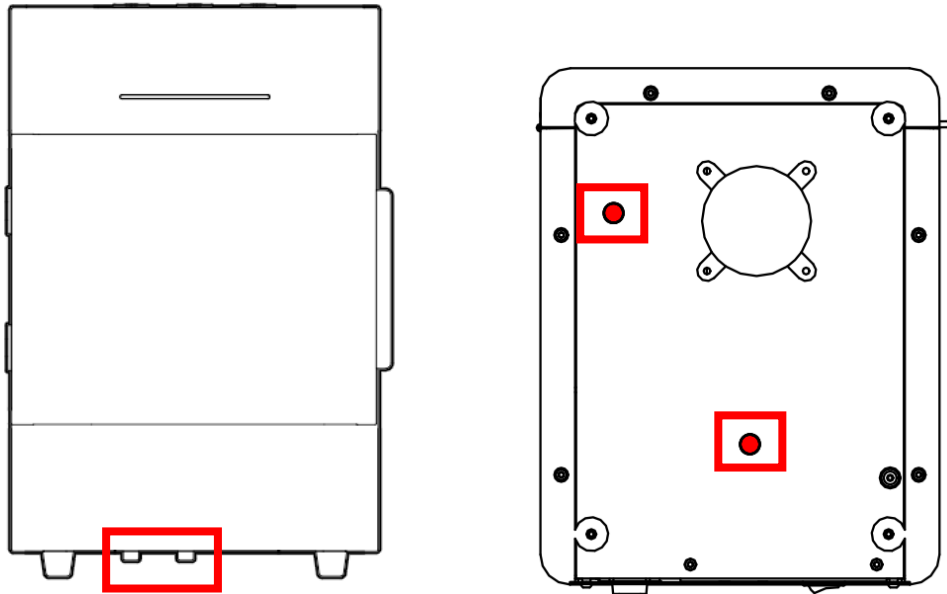


Fig 7. Remove the M6 screws

**Note: Do NOT power the instrument on prior to removing the M6 hexagonal screws and zip ties. Please be careful with the magnetic rods when removing the M5 screws to prevent damage.**

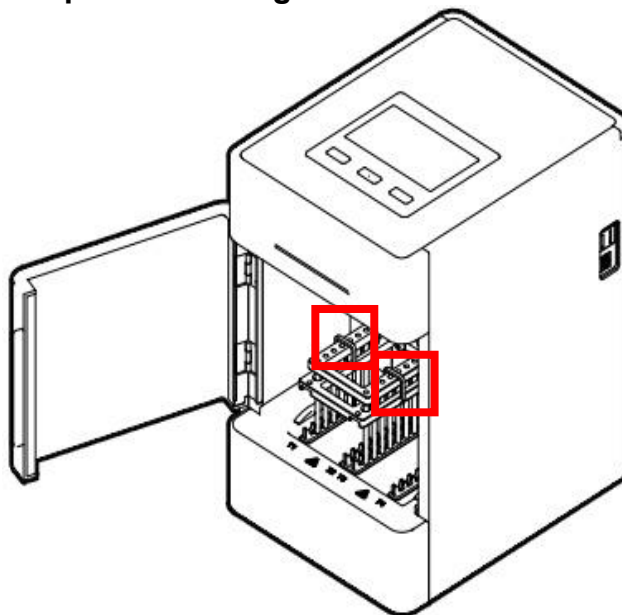


Fig 8. Remove the zip ties

## 2. Plate Installation

### 96 Deep Well Plate Installation

Open the chamber door. First, place the plate in the position according to the blue arrow ①. Then press the plate into the heating block according to the arrow ②. Note the orientation of the plate (plate corner A1 should correspond with the mark A1 on the base of the processing chamber) to avoid the wrong sequence of reagents. After the plate is in place, close the door.

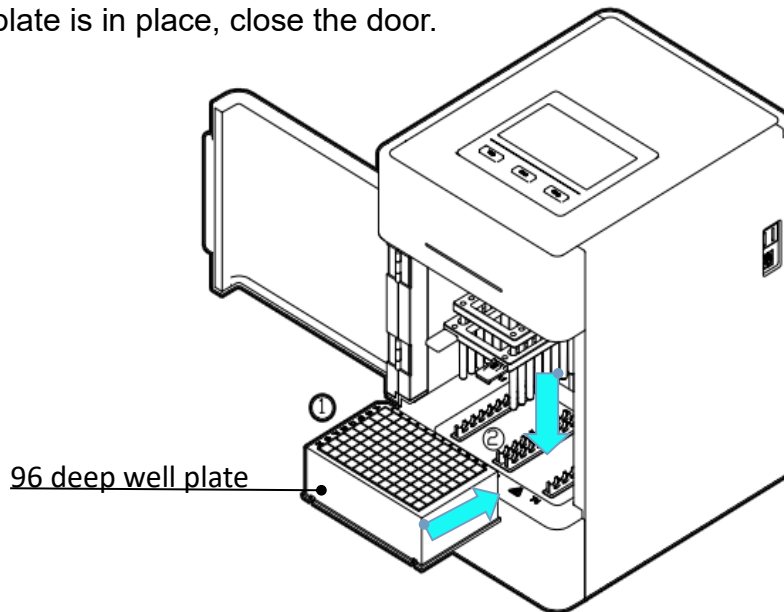


Fig 9. 96 Deep well plate installation

### Aluminum Sample Rack Installation

The Aluminum Sample Rack is inserted in the same way as deep well plates. The difference is that the Aluminum Sample Rack can process 1~8 samples using 6-well sample strips.

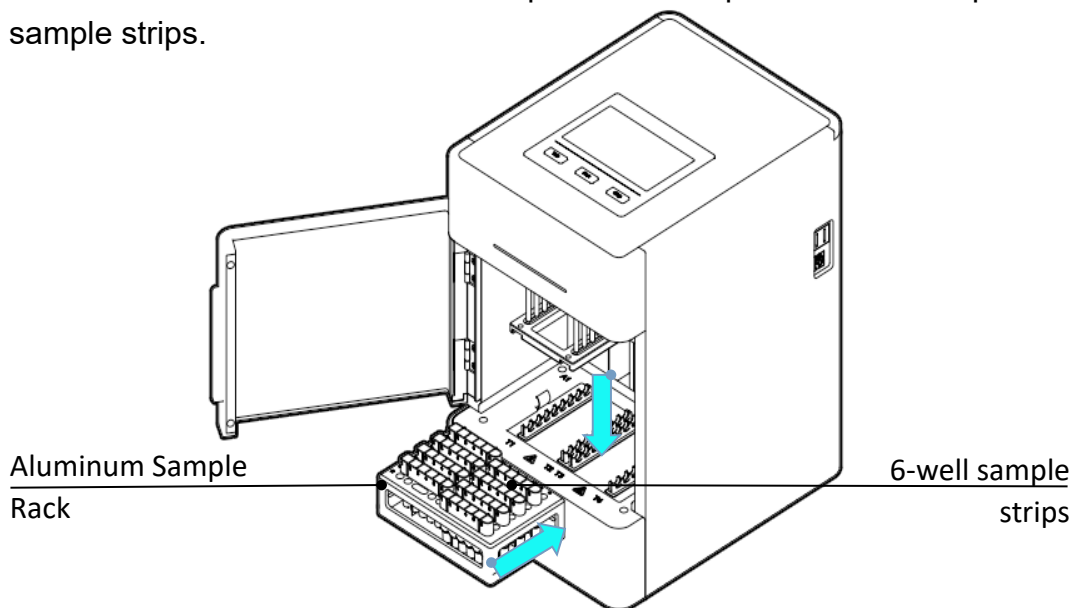
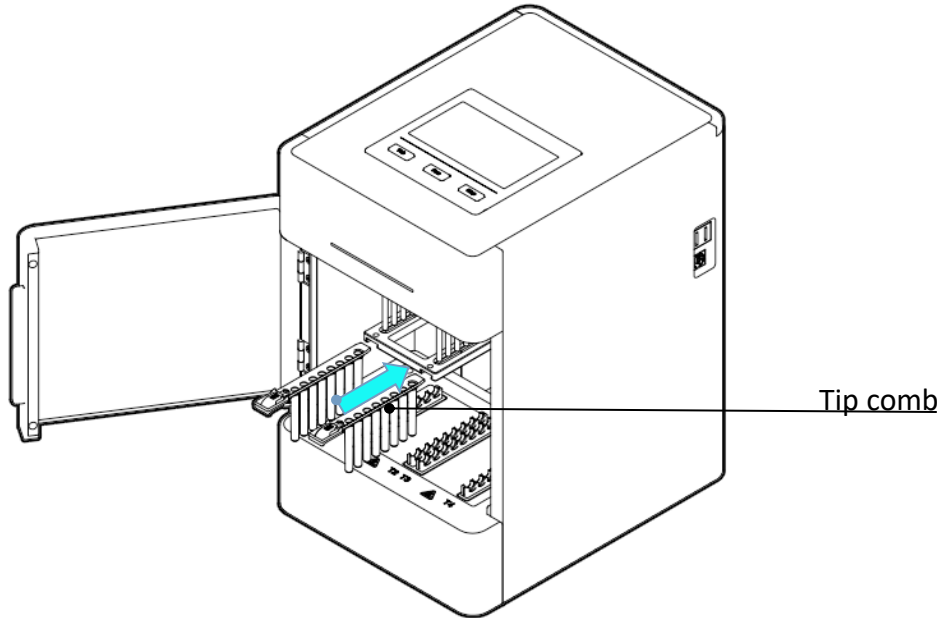


Fig 10. Aluminum Sample Rack installation

### 3. Tip Comb Installation

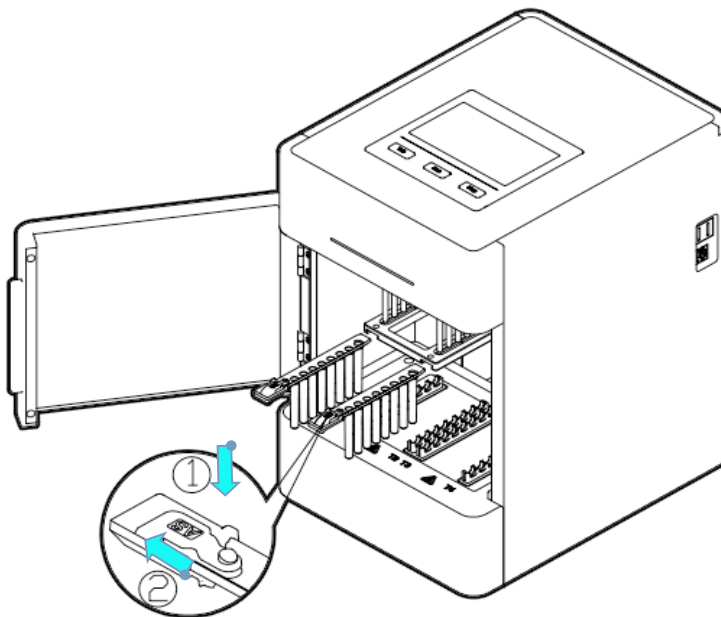
Slide the tip combs into the grooves of the tip comb holder following the arrow in **Fig. 11**.



**Fig 11. Tip comb installation**

### 4. Removing Tip Combs

Press down the tab found on the tip comb's handle according to the blue arrow ①. While pressing down the tab, pull the tip combs in the direction of the blue arrow ②.



**Fig 12. Removing tip combs**

# Chapter 5 Programming & Operation

Protocol programming is done using the Android App software which is saved on the included USB flash drive. Protocols are then transferred to the instrument where they are saved in the internal memory and can be selected for operation. For users that do not have an Android device, PC software can also be used for protocol programming. The PC software is also saved on the included USB flash drive.

## 1. Android App Installation:

Connect the included USB flash drive and the Android device to a computer. On the Android device: Please make sure that downloading from unknown sources is allowed on your "Files" app setting (**Settings→Apps & Notifications→Advanced→Special App Access→ Install Unknown Apps→Files→ Grant permission**), and that "File Transfer" is selected under "USB Preferences" in the device's settings (**Settings→Connected Devices→USB→Use USB for "File Transfer"**). Copy the .APK file from the USB flash drive and transfer it into the downloads folder under the internal storage of the Android device. On the Android device, find the .APK file in the "Files" app under "Downloads", and click the .APK file to install (**Fig. 13**).

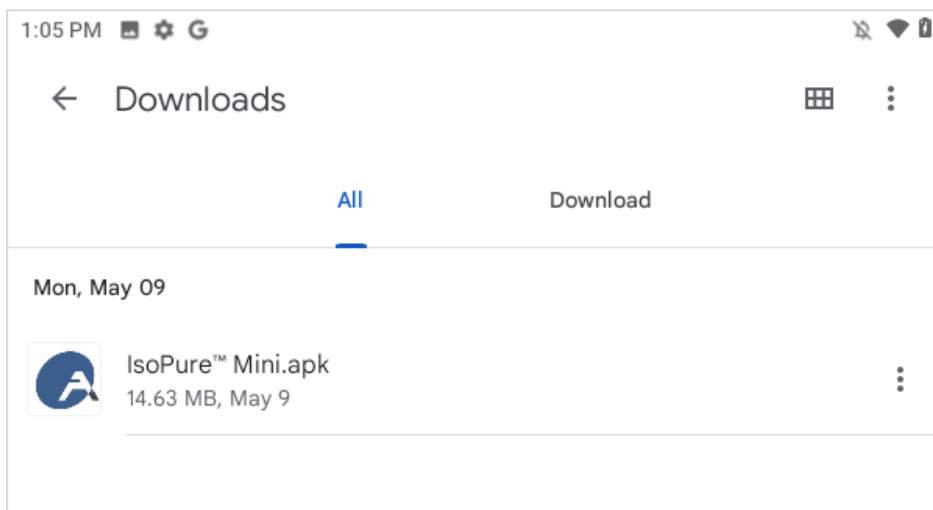


Fig 13. IsoPure™ Mini App Location

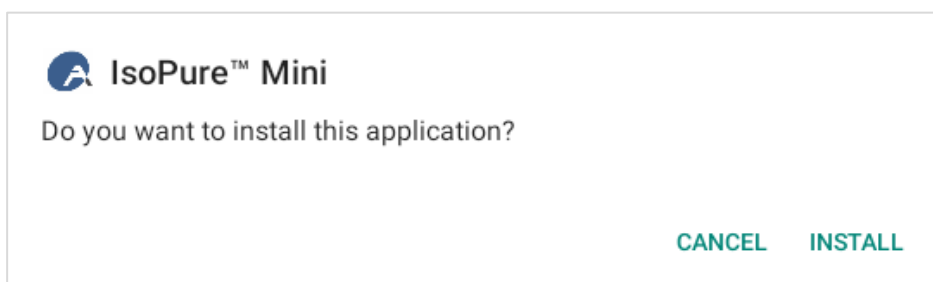


Fig 14. App installation



## 2. App Main Interface

After the app has been installed and the startup has completed, the main interface will be displayed. Four main functions are available: **Protocol select and transmit**, **Create new protocol**, **Acquire protocol from instrument**, and **Instrument Bluetooth Connection**.




Fig 15. App main interface

Table 1. App Main Interface Legend

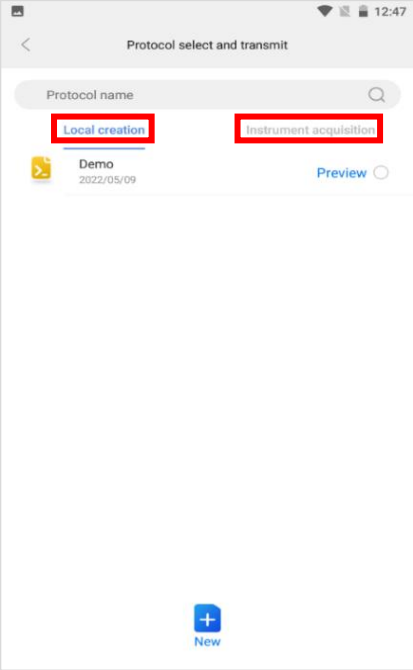
Icon	Name	Definition
	<b>Protocol select and transmit</b>	Quickly select a protocol for viewing or transmitting to the IsoPure Mini
	<b>Create new protocol</b>	Create and edit a new protocol
	<b>Acquire protocol from instrument</b>	Download protocols from IsoPure Mini onto app
	<b>Instrument Bluetooth connection</b>	Connect the Android device to the IsoPure Mini via Bluetooth

## 3. Protocol Select and Transmit Interface

Click the “Protocol select and transmit” button on the main interface. This interface offers options for **local creation and instrument acquisition** (Fig. 16).

**Local Creation:** Shows a list of protocols saved in the memory on the Android device. Or click the “” icon to create and edit a new protocol. Protocols can be selected for modification.

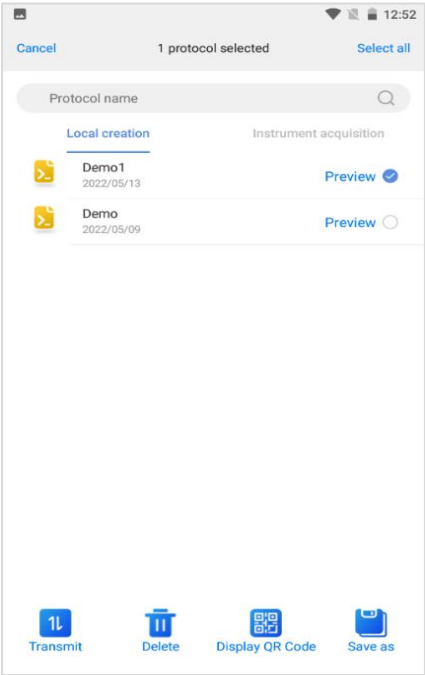
**Instrument Acquisition:** Shows a list of protocols saved in the internal memory of the instrument. Protocols can be selected for transmission to the app.



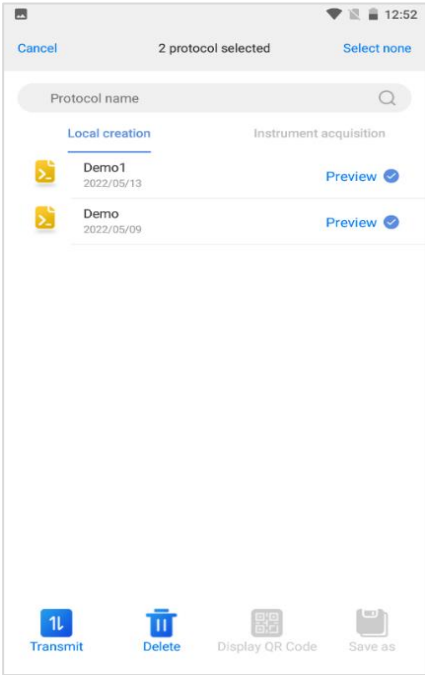
**Fig. 16: Protocol Select and Transmit Interface**

**Local Creation:**

Select a protocol or multiple protocols (Fig. 17, Fig. 18). 4 buttons will appear at the bottom of the screen: **Transmit**, **Delete**, **Display QR Code**, and **Save as**.



**Fig 17. One Protocol selected**



**Fig 18. Multiple protocols selected**

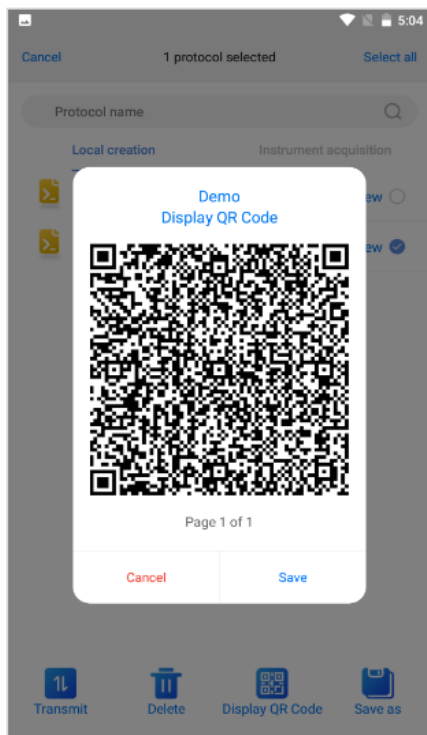
**Transmit:** Transfer the selected protocols from the app to the instrument.

**Delete:** Remove protocols from app memory.

**Display QR Code:** Generate the protocol specific QR code. Use the included handheld scanner to instantly transfer the protocol to the instrument. Press “Save” when the code is displayed to save the code to the photo gallery on the Android device (Fig. 19).

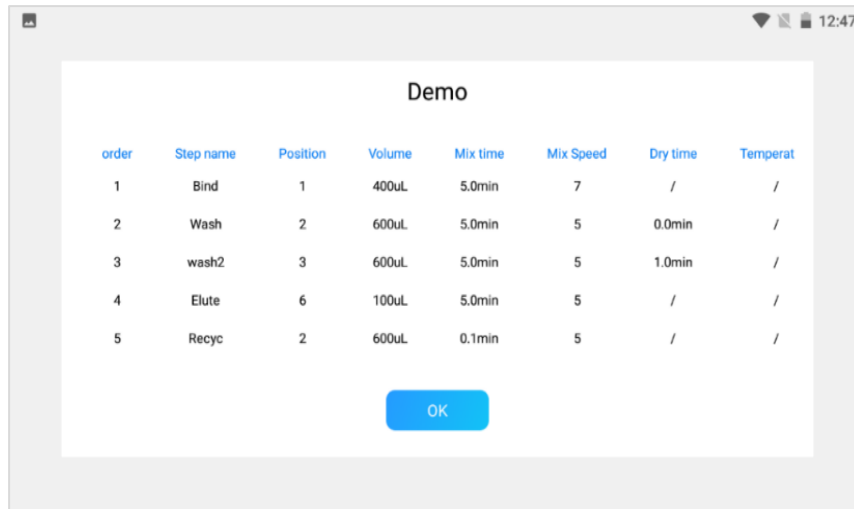
**Save as:** The selected protocol can be saved under a new name

**Note:** “Display QR Code” and “Save as” buttons can only be used when only 1 protocol is selected. When multiple protocols are selected, only Transmit and Delete can be performed.



**Fig 19. QR Codes**

**Preview:** Select the blue “Preview” button to the right of a protocol to see the protocol steps with details (**Fig. 20**).

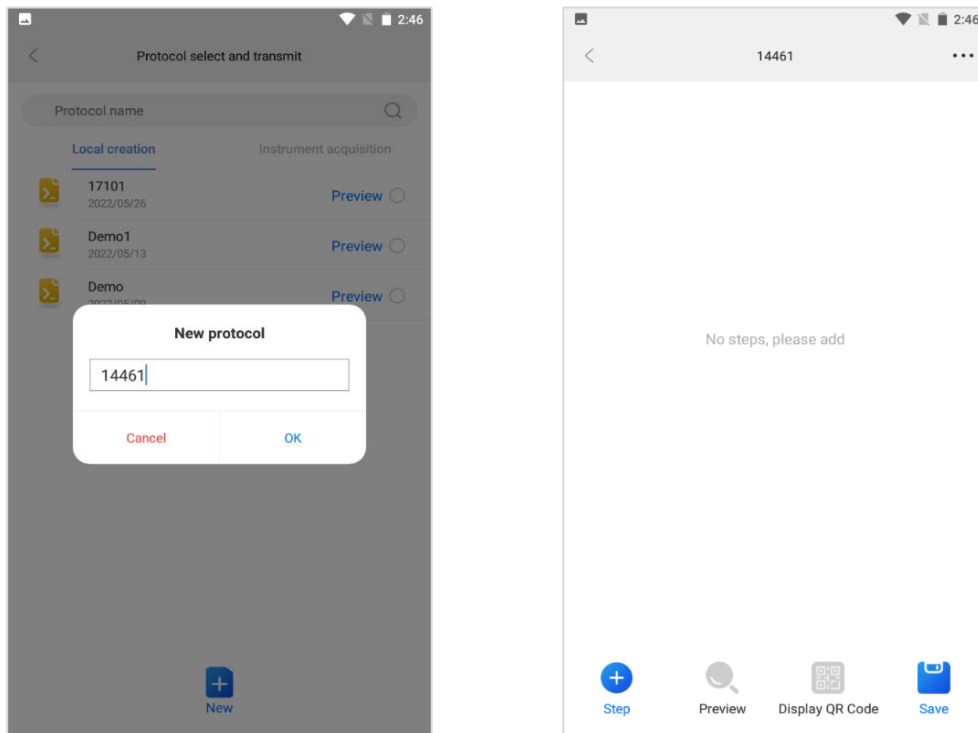


order	Step name	Position	Volume	Mix time	Mix Speed	Dry time	Temperat
1	Bind	1	400uL	5.0min	7	/	/
2	Wash	2	600uL	5.0min	5	0.0min	/
3	wash2	3	600uL	5.0min	5	1.0min	/
4	Elute	6	100uL	5.0min	5	/	/
5	Recyc	2	600uL	0.1min	5	/	/

**Fig. 20: Preview of protocol steps**

### New protocol

Click the "New" icon on the “**Protocol select and transmit**” interface to create a new protocol (**Fig. 21**). Set the name of the protocol. The default protocol name is the current time. For example, the current time is 14:46, so the first protocol is 14461; a second protocol created within the same minute would be named 14462.

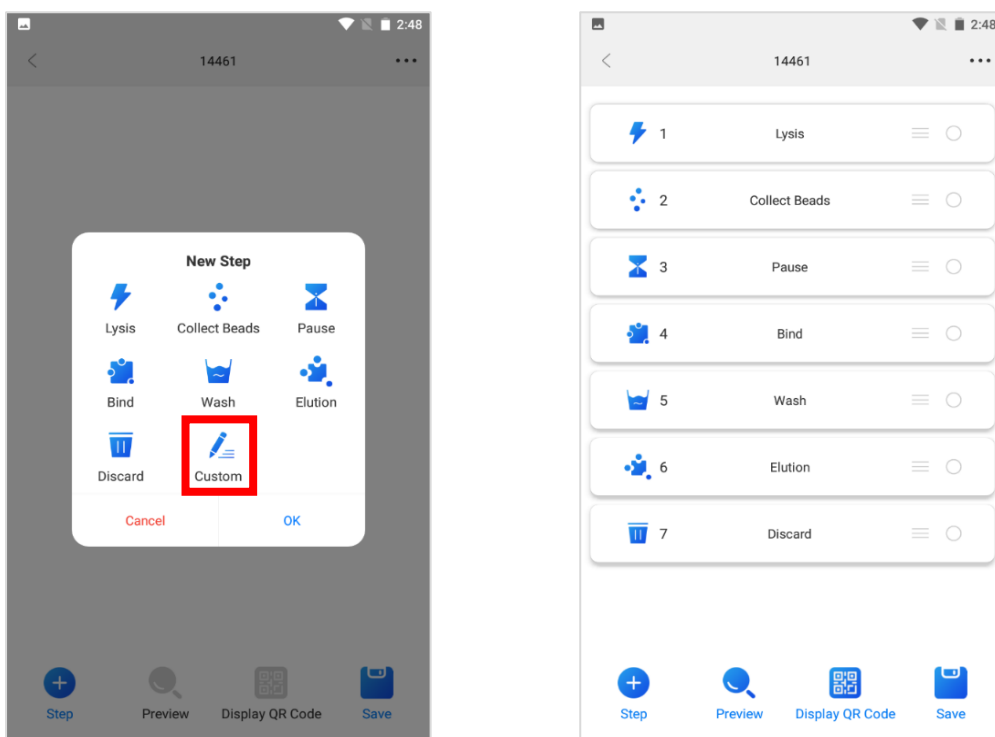


**Fig 21. Create & name a new protocol**

After the new protocol is named, the interface will allow for the addition of new steps (Fig. 22). Users can add, delete, or copy a step. After the protocol steps have been set, users can preview, edit, and rearrange protocol steps.

**Note:** A new protocol can also be created from the “Create new protocol” icon on the app main interface.

**Add step:** To create a new protocol step, users can choose to either add the preset default steps (Lysis, Collect Beads, Pause, etc.) or add a “Custom” step (Fig. 22).

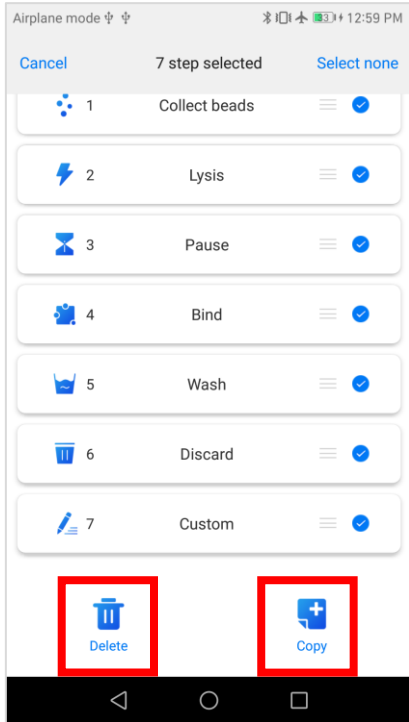


**Fig 22. Add a new protocol step**

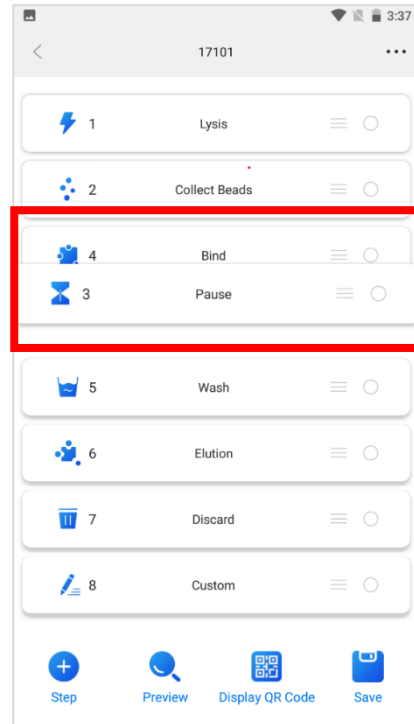
**Preview:** View details of a protocol after its steps have been set (Fig. 20).

**Delete or copy:** Select the circle to the right of a protocol step to delete or copy that step. Users can select single or multiple steps for deleting or copying (Fig. 23). When deleting step, a prompt box will be displayed to confirm the step deletion.

**Move:** Adjusts the sequence of steps. Hold and drag the “Move” icon to adjust the sequence of steps (**Table 2, Fig. 24**).



**Fig. 23 Select to Delete or Copy steps**



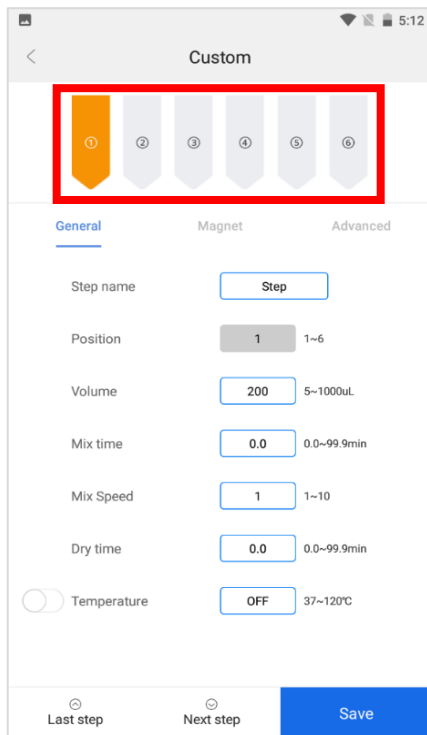
**Fig. 24 Move the sequence of steps**

**Table 2 New Protocol Interface Legend**

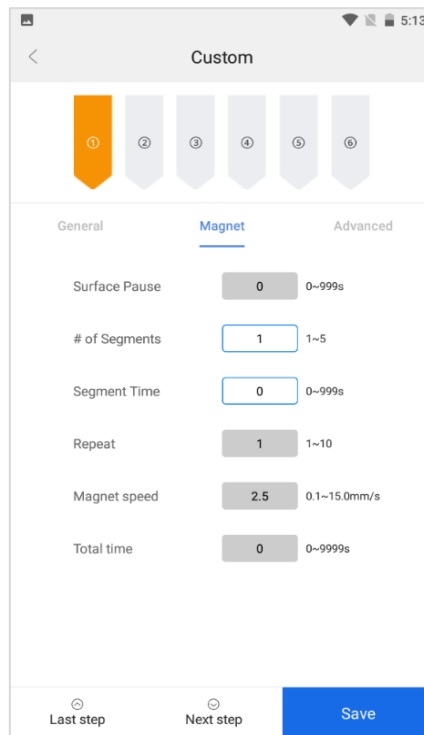
Icon	Name	Definition
	Move	Hold and drag to rearrange the steps of the current protocol.
	Select a step	Select step for copying or deleting.
	Step	Add a new step.
	Display QR Code	Generates the protocol specific QR code.
	Preview	Preview the step settings of the current protocol.

## Step parameters settings

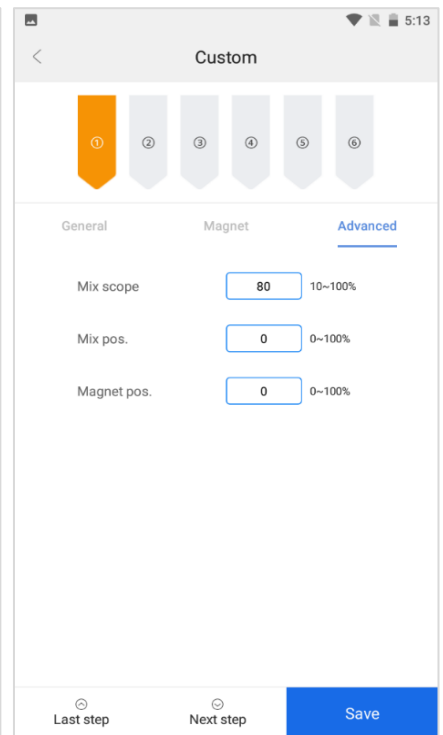
Select a step from the list of steps of a protocol (press the middle of the bar) to enter the parameter settings interface (**Fig. 25**). At the top, the current sample-well position is shown (position 1-6). To change the position of the step, highlight another position number in orange. Parameters can be adjusted for “General”, “Magnet”, and “Advanced” settings (**Fig. 26**, **Fig. 27**). Note that in the “General” parameter settings interface, the temperature can only be adjusted if position 1 or 6 is selected; these are the locations of the heating block and typically correspond to lysis and elution steps.



**Fig. 25 General parameter settings**



**Fig 26. Magnet parameter settings**



**Fig 27. Advanced parameter settings**

**Table 3 Parameter Settings Legend**

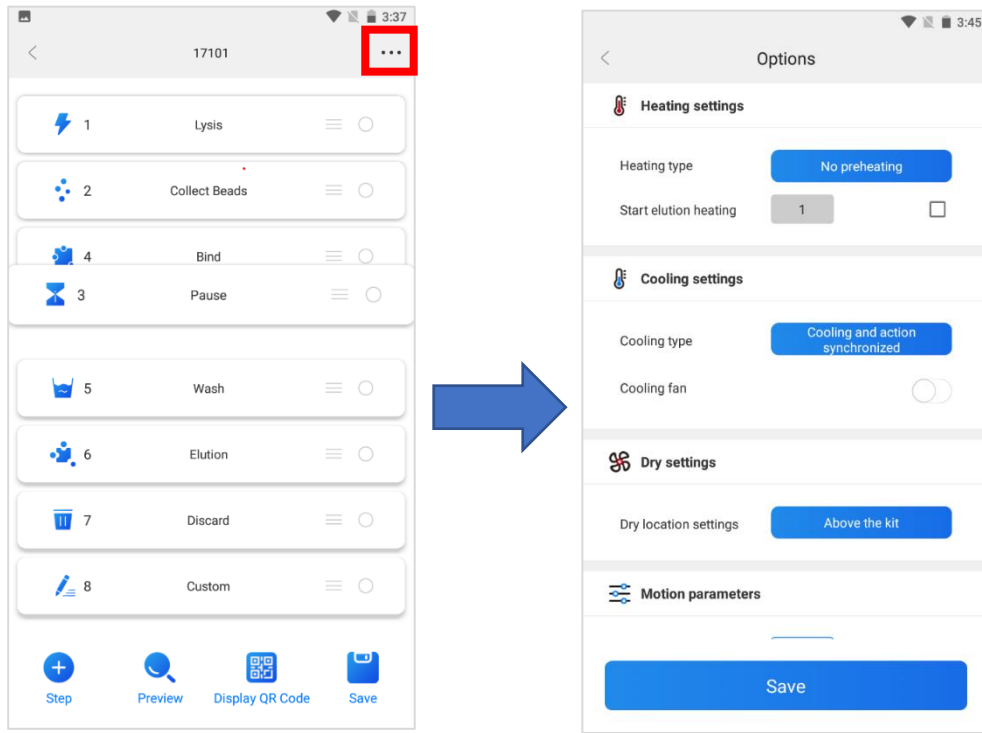
General Parameter Settings	Definition
<b>Step Name</b>	Name of step. The default steps cannot be renamed. Only a custom step can have a custom name. Custom step parameters are shown in Fig. 25.
<b>Position</b>	The position site corresponds to columns of the plate (position 1 = column 1 on plate), the positions for default steps are set as follows: 1 for lysis, 2 for collect beads, 1 for bind, 3 for wash, 6 for elution, and 3 for discard.
<b>Volume</b>	Set the volume of the corresponding position (50-1000 $\mu$ L)
<b>Mix time</b>	Set the mix time. Range 0.0 and 99.9min.
<b>Mix speed</b>	Set the mix speed. Range of 1-10.
<b>Dry time</b>	Set dry time. Range 0.0-99.9min.
<b>Temperature</b>	Set the temperature of the in the range of 37 - 120°C, Temperature can only be set for positions 1 and 6. Default temperature setting is "Off".
Magnet Parameter Settings	Definition
<b>Surface Pause</b>	The pause time after bead collection when magnetic rods & tip combs are above the liquid surface level to prevent loss of beads due to breaking the surface tension. Range 0-999s.
<b># of Segments</b>	To maximize the collection of the magnetic beads after mixing, up to 5 segment positions can be selected.
<b>Segment time</b>	Time spent at each segment position. Range 0-999s. If segment time is set to 0, the other magnet parameter settings cannot be adjusted, and there will be <b>no magnetization</b> in the step.
<b>Repeat</b>	Repeat the full cycle of set magnetization parameters. Range 1-10.
<b>Magnet speed</b>	Set magnet speed. Range 0.1-15.0mm/s.
<b>Total time</b>	The estimated total time for the magnetic binding step process. The time remaining of each step is displayed on the control panel during a protocol run. Range 0-9999s
Advanced Parameter Settings	Definition
<b>Mix scope</b>	Set mix scope. Range 10-100%, the default is 80%.
<b>Mix pos.</b>	Set mix position. Range 0-100%, the default is 0%.
<b>Magnet pos.</b>	Set magnet position. Range 0-100%, the default is 0%.



**Note: Click “Save” to save the current step setting parameters.**

**Option settings**

Select the (•••) icon on the top right of the protocol step interface to enter the options setting interface.



**Fig. 28 Option settings**

Click “save” to keep the adjusted parameters (Fig. 31).

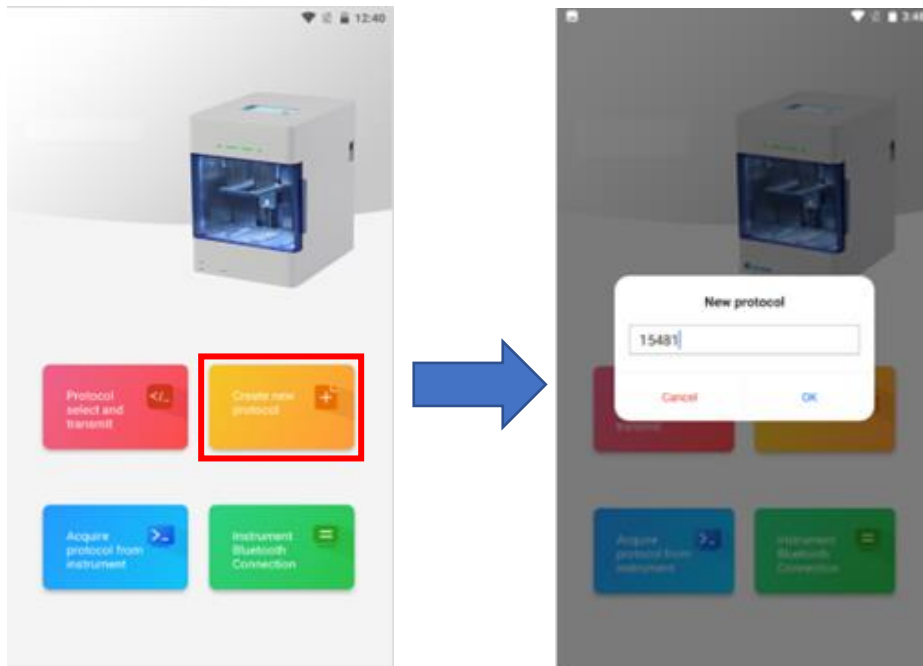
**Table 4 Option Settings Legend**

Step	Option	Definition
Heating settings	Preheating	When the protocol reaches a step that requires heating, the heating block will heat to the required temperature first, then the tip comb movement will begin.
	No Preheating	Heating and tip comb movement are carried out synchronously
	Start elution heating	Set the heating block to begin heating 1, 2, or 3 steps before elution.
Cooling settings	Action after cooling	When the protocol reaches a step that requires cooling, the cooling fan will cool to the required temperature first, then the tip comb movement will begin.
	Cooling and action synchronized	Cooling fan for the heating block and tip comb movement are carried out synchronously
	Cooling fan	Instrument cooling fan; optional, off by default
Dry	Above the kit	After bead collection, the   The default drying

settings		tip combs will pause at the top of the plate.	position is on the top of the kit.
	Specify location	After bead collection, the tip combs will pause at a specified position above the liquid surface level.	
Action parameter	Horizontal velocity (1-100mm/s)	Set horizontal movement speed of magnetic rods & tip combs, default 15mm/s	
	Vertical velocity of magnetic rods (1-100mm/s)	Set vertical movement speed of magnetic rods, default 35mm/s	
	Vertical velocity of tip combs (1-100mm/s)	Set vertical movement speed of tip combs, default 35mm/s	

#### 4. Create New Protocol Interface

Select the "Create new protocol" icon on the app main interface to quickly create a new protocol. The relevant settings are identical to those under "Local Creation" in the "Protocol Select and Transmit" interface (**Fig.32**).



**Fig. 29 Create new protocol**

## 5. Acquire Protocol from Instrument Interface

Before acquiring a protocol from the instrument onto the app, the Android device must be connected to the instrument via Bluetooth. After establishing a Bluetooth connection, the app allows viewing and downloading the saved **protocols** and the **running logs** from the instrument. The downloaded protocols/logs can be viewed and edited in the "Acquire protocol from instrument" interface.

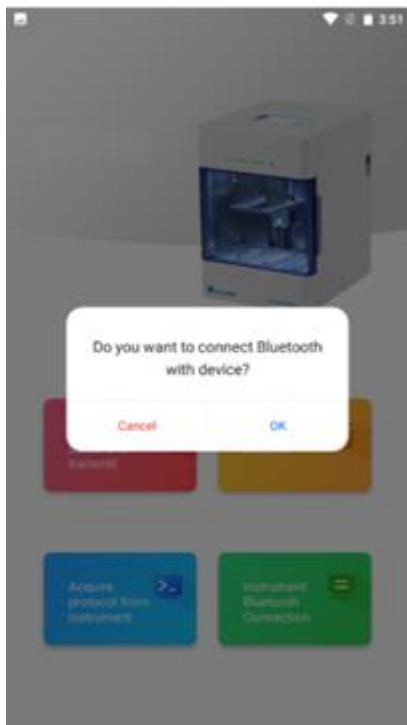


Fig. 30 Connect to Bluetooth

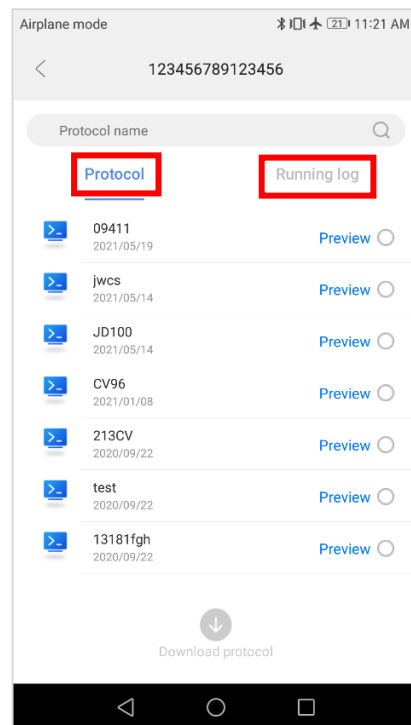
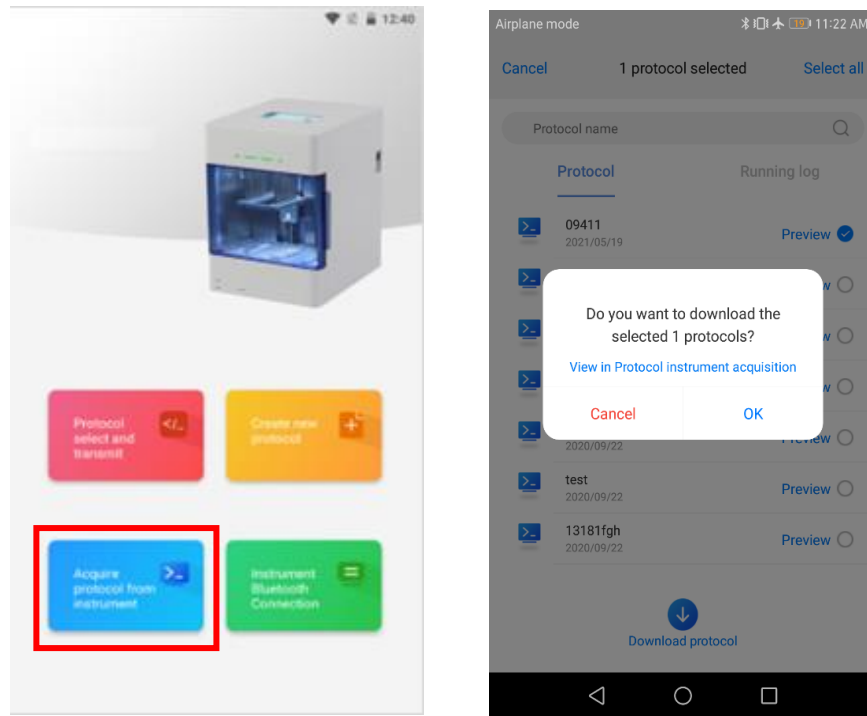


Fig. 31 View protocol list or running log

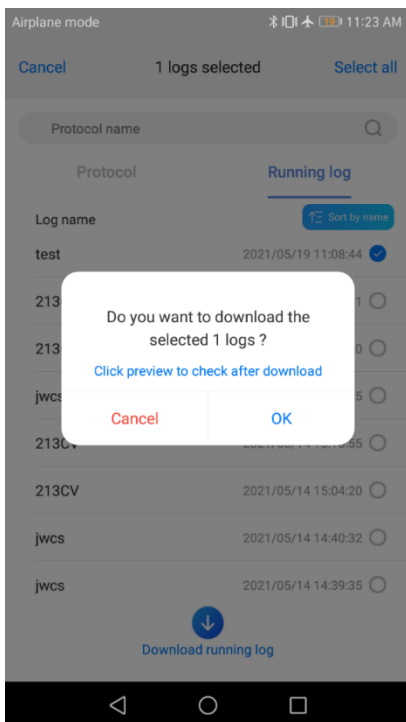
**Fig. 31** displays the current protocols saved in the instrument's internal memory. Users can select protocols to download onto the app (**Fig. 32**).



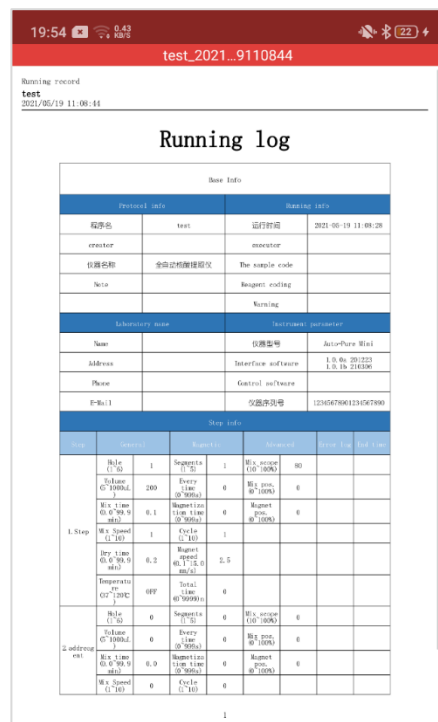
**Fig. 32** Download protocol from instrument to app

### Running log

Select the “Running log” tab and a log to download onto the app. Click the “Download running log” button to download the log (**Fig. 33**). After downloading the log, click to preview it. The log is transmitted to the app in a .CSV format. The app will convert the .CSV to a .PDF format for viewing it (**Fig. 34**).



**Fig. 33** Log download



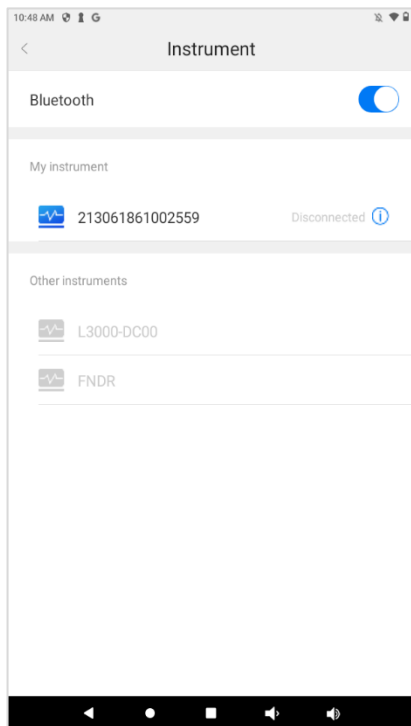
**Fig. 34** Log preview

## 6. Instrument Bluetooth Connection Interface

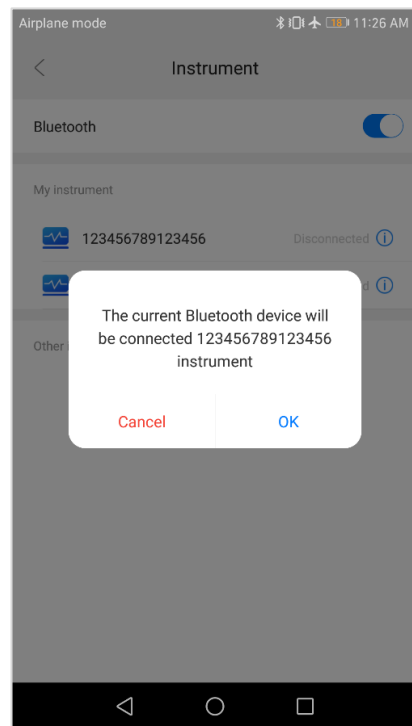
When the Bluetooth is turned on for the Android device, the app can directly open the “Instrument Bluetooth Connection” interface.

The “My instruments” section displays each IsoPure Mini the Android device has connected to. The right side of the screen will indicate which instrument the app is currently connected to.

Click one of the instruments to establish a connection between the app and the instrument (**Fig. 35**).




**Fig. 35 Instrument Bluetooth Connection Interface**

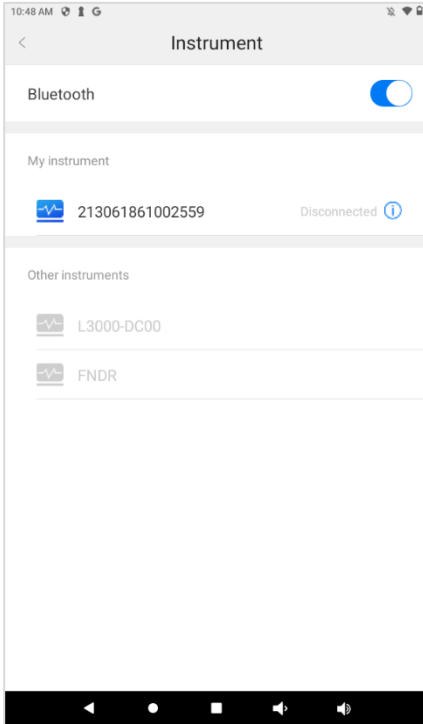


**Fig. 36 Connect to Instrument via Bluetooth**

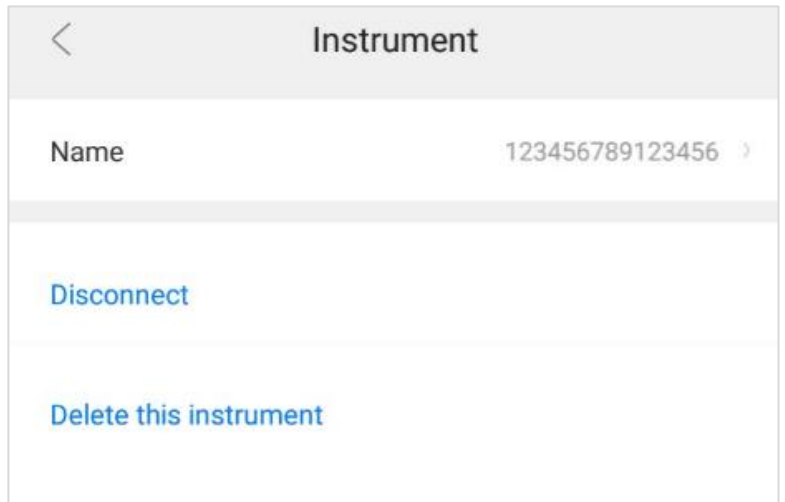
**Note:** The default Bluetooth ID of the instrument is its serial number.

## Modify instrument information

In the “Instrument Bluetooth Connection” interface. Select the “” icon to rename the instrument’s Bluetooth ID or to disconnect the Bluetooth connection.



**Fig. 37 Modify instrument information**



**Fig. 38 Instrument Bluetooth information**

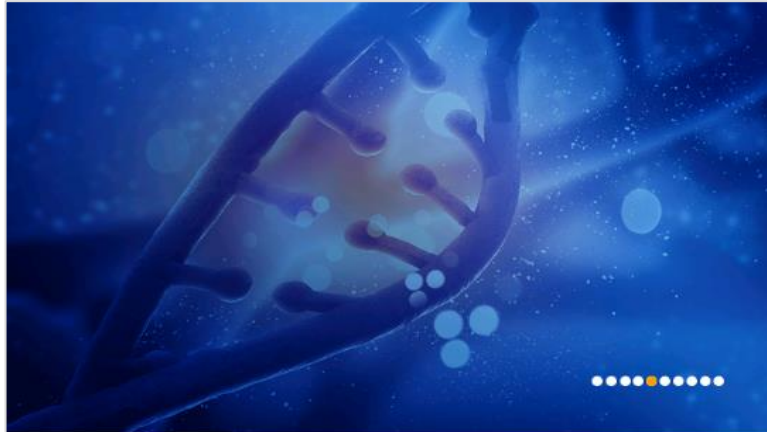
Click "**Disconnect**" to disconnect the Bluetooth connection between the Android device and the instrument.

Click "**Delete this instrument**" to remove the selected instrument from the “My instrument” section.

## 7. Instrument software

### Start-up Interface

Upon powering on the instrument, the start-up screen will be displayed (**Fig. 39**).



**Fig. 39 Start-up Screen**

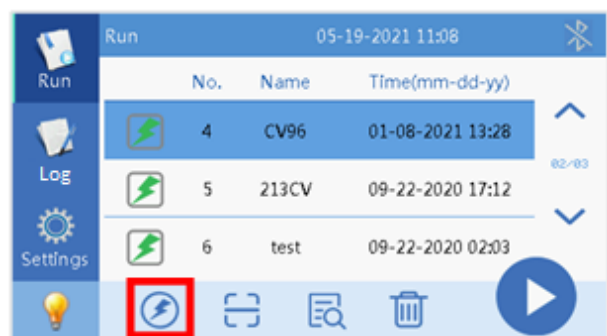
### Run Interface

Select “Run” to enter the Run interface. This interface is divided into two views: **Shortcut View** and **List View**. (**Fig. 40**, **Fig. 41**).

Press the icons:  or  to toggle between views.

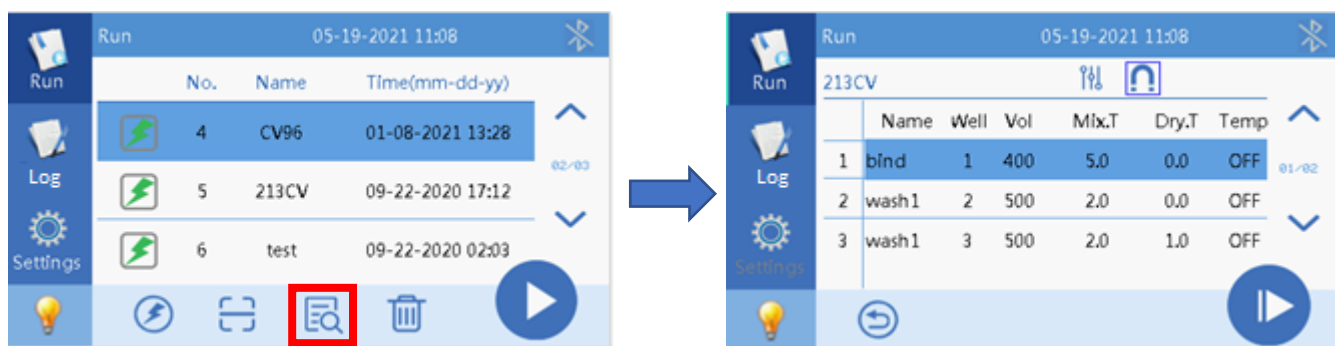


**Fig. 40 Shortcut View**








**Fig. 41 List View**

Click the “” icon to preview the selected protocol, as shown in figure 43 below.



**Fig. 42 Preview protocol**

**Table 5. Run Interface Icons Legend**

Icon	Definition
	Delete the selected protocols from the instrument's internal memory.
	Switch from Shortcut view to List view, and vice versa.
	Activate the instrument scanning software, which allows the scanning of a QR code for instant protocol upload.
	Preview the parameter settings of a selected protocol.
	Run the selected protocol.



## Running a protocol



Click the  icon to start a protocol run, and  icon to pause. (Fig. 43). During a protocol run, a progress bar at the bottom of the screen provides an indication of the process. Remaining time, temperature of the heating blocks, current step name and details of the current step are also displayed.



Fig. 43 Running a protocol

## Log interface

The instrument automatically generates and stores a log of each protocol run. The report contains the name of the protocol, date and time of the protocol run, parameter settings for each step, instrument information, and more. The instrument can store reports of up to 1000 protocol runs, which can be exported via a USB flash drive. The most recent report will display at the top of the list in the “Report” interface (Fig. 44).

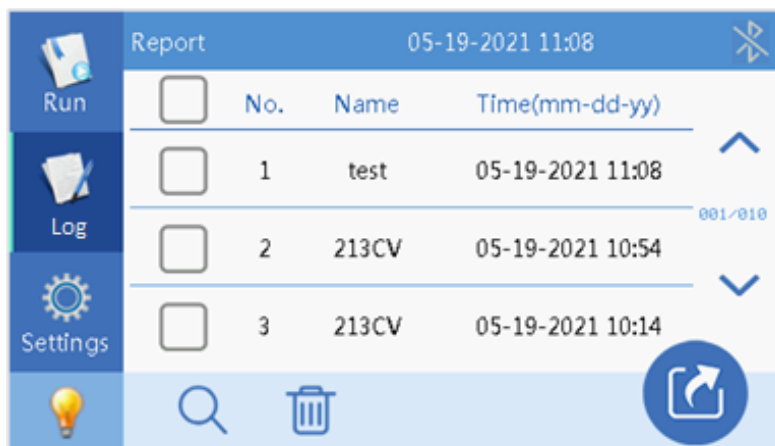





Fig. 44 Protocol Logs

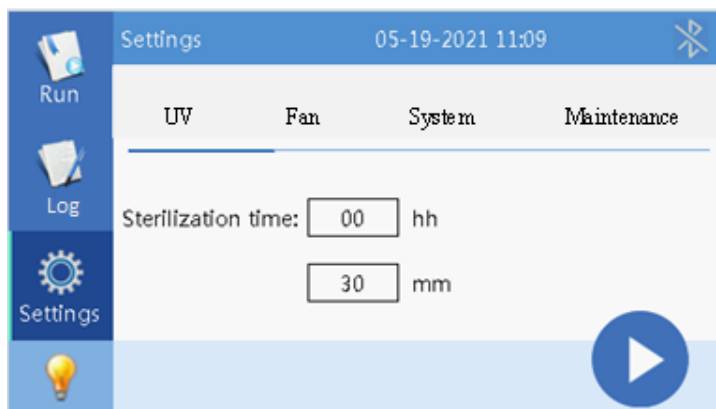
**Table 6. Log Icons Legend**

Icon	Definition
	Delete the selected logs
	Search for a specific log
	Export log to a USB flash drive

**Settings interface**

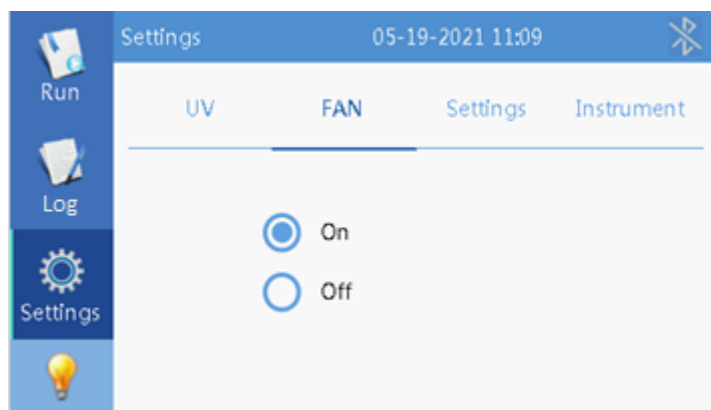
The settings interface has 4 tabs: “UV”, “Fan”, “System” and “Maintenance”.

**UV:** The time of sterilization can be set. Click the start button to begin the process. The UV light will turn off automatically after the timer has ended.



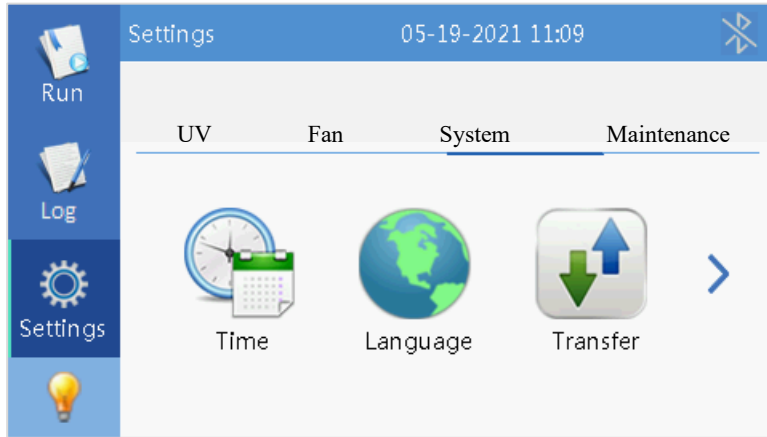
**Fig. 45 UV Sterilization Settings**

**Fan:** The internal fan can be turned on or off during a protocol run.

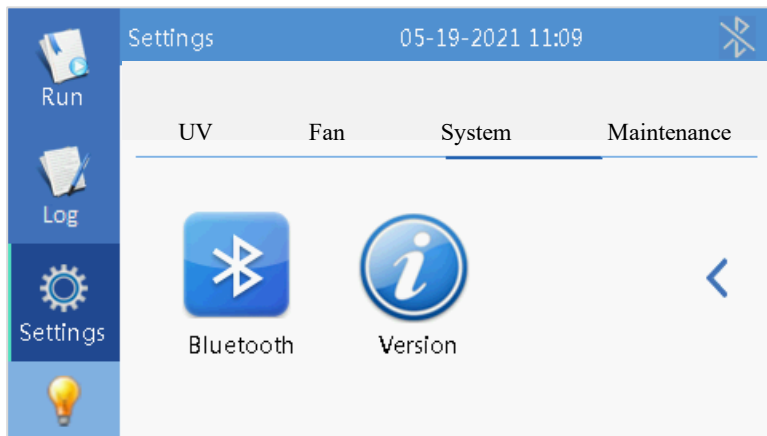


**Fig. 46 Internal fan settings**

**System:** Settings for “System” interface is divided into “Time”, “Language”, “Transfer”, “Bluetooth” and “Version”, as shown in figure 48 and 49.

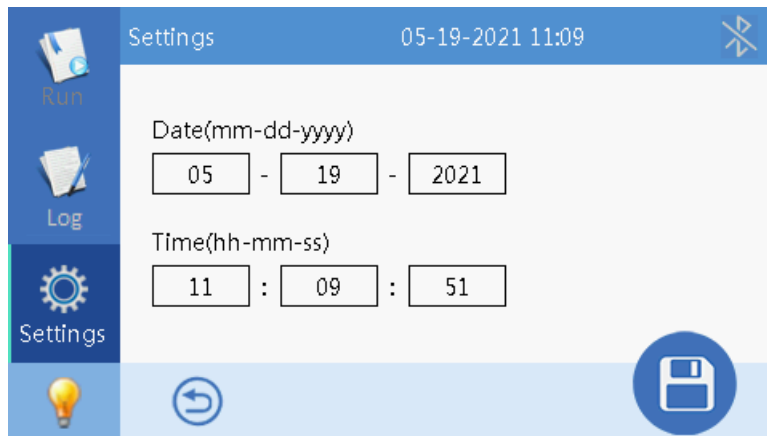


**Fig 47. System settings**



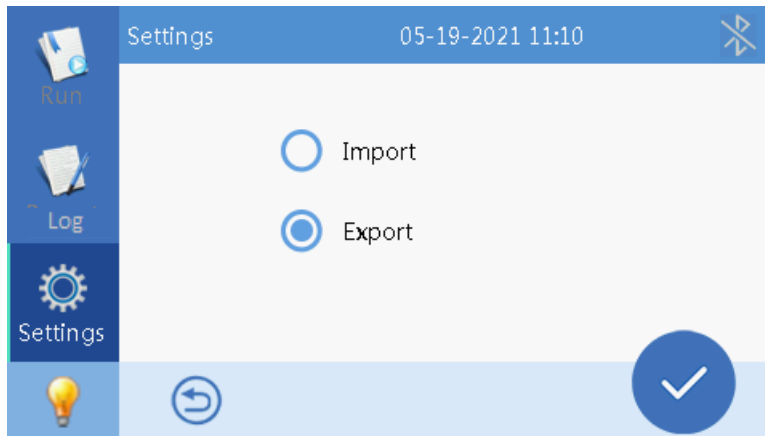
**Fig 48. System settings page 2**

**Time:** Change the currently displayed time on the instrument.



**Fig 49. System time**

**Transfer:** Import/Export protocols from/to a USB flash drive.



**Fig 50. Import/Export Protocols**


To import/export a protocol via USB, insert the included USB flash drive into the IsoPure™ 96. If importing a protocol, the file must be saved in the USB drive under a folder labeled “items”. Then, select the "Import " (or “Export”) button to enter the flash drive directory. Select the required protocols for transfer and press "Ok" to import/export.

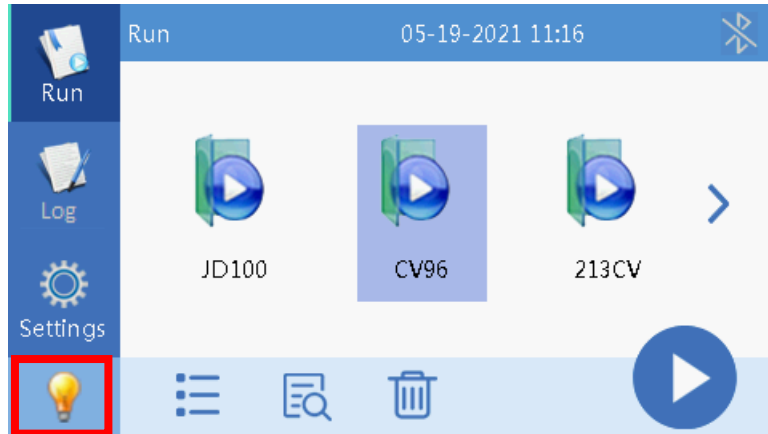
**Bluetooth:** Turn Bluetooth on/off; the Bluetooth ID is the serial number of the IsoPure Mini.



**Fig 51. Bluetooth Setting**

## Internal LED Lighting

In the lower left corner of the general instrument interface, there is a lamp icon “”,  
Select the icon to turn the Internal LED lamp on/off (**Fig. 52**).



**Fig 52. Turn internal LED lighting on/off**

**Maintenance:** Please contact Accuris Instruments with regards to maintenance of the instrument. The instrument is calibrated prior to shipping to ensure proper function.

## Chapter 6 Troubleshooting

No.	Trouble	Analysis	Troubleshooting
1	<b>No display after turning on power</b>	Power not connected	Check power supply
		Switch failure	Replace switch
		Fuse failure	Replace fuse (250V F6.3A 5X20)
		Other	Contact Accuris Instruments
2	<b>No UV light</b>	UV bulb failure	Replace UV bulb Contact Accuris Instruments
3	<b>No internal light</b>	LED Light failure	Replace LED Contact Accuris Instruments
4	<b>Program does not stop automatically after opening the door</b>	Sensor failure	Contact Accuris Instruments
5	<b>Noticeable difference between the actual and displayed temperature</b>	Sensor failure	Contact Accuris Instruments
6	<b>Heating strips not heating properly</b>	Sensor failure	Contact Accuris Instruments
		Heater failure	
7	<b>Instrument does not start protocols after pressing “run”</b>	Controller failure	Contact Accuris Instruments
		Motor failure	
8	<b>Abnormal sound during operation</b>	Guide rail installed incorrectly	Contact Accuris Instruments
		Motor failure	
		Synchronous belt is worn/damaged	
9	<b>“Tab”, “Run”, and/or “Stop” buttons not working as intended</b>	Switch button failure	Contact Accuris Instruments

## Software Error Codes

No.	Fault	Error Code
1	Overheating of Heating block positions 1, 6, 7, & 12 (lysis & elution wells)	E011, E021, E031, E041
2	Open circuit in positions 1, 6, 7, & 12 (lysis & elution wells)	E015, E025, E035, E045
3	Short circuit in positions 1, 6, 7, & 12 (lysis & elution wells)	E015, E025, E036, E046
4	Horizontal zero sensor damaged	E403
5	Tip comb motor - zero sensor damaged	E425
6	Magnetic rod motor - zero sensor damaged	E415
7	Clock crystal is damaged	E702
8	Memory chip E2P damaged, setting parameters lost	E703
9	Zero-calibration parameter error	E711
10	NAND FLASH damaged	E704
11	Online Communication failure (Moving parts/Rotary parts)	E801

**Memo**

A large, empty rectangular box with a thin black border, occupying most of the page below the 'Memo' header. It is intended for the user to write their memo content.