FLUORESCENCE STRIP READER OPERATION MANUAL



Shenzhen Finder Biotech Co., Ltd.

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Restrictions and warnings

Please use the accessories supplied or recommended by manufacturer (Shenzhen Finder Biotech Co., Ltd, hereinafter referred to as FinderBio).

Customers should take full responsibility for any risk or exception caused by operation not following instructions supplied by manufacturer.

The operation of equipment depends on corresponding programming software. Any behavior which is to destroy or crack software will be deemed to be in breach of warranty.

FinderBio has the right to terminate corresponding customer service, and reserves legal right to sue according to the law.

If technology support is needed, please contact local FinderBio customer service center or FinderBio customer service headquarter.

**Notice**

Please do not use this manual if pages are missing.

If new manual is needed, please contact our Customer Service Department.

Telephone: 86-0755-23499025

E-mail address: techsupport@szfinder.com

Please confirm that the manual version of software is the same as that of equipment before use. The manufacturer is NOT responsible for any error, negligence or accident and corresponding harm directly or indirectly caused by different versions of software manuals.

The equipment meets the requirements of emission and noise immunity specified in GB/T18628 .

The equipment is designed and detected according to class A equipment in GB4824. Under family environment, the equipment may cause radio interference, which needs protective measures.

The equipment is banned to be used beside strong radiation source (e.g.: unshielded radiation source), or it may not be able to work normally because of interference.

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1. Introduction

1.1. Overview

FD600-H Fluorescent Quantitation Reader (hereafter refer to as equipment) is an auxiliary equipment for clinical test using fluorescent quantitation method for analysis.

The equipment is suitable for the interpretation of the results of fluorescent quantitation reagent. The equipment is able to conduct quantitative detection and analysis for matching fluorescent quantitation rapid test kit, determine the concentration of samples by measuring the absorption optical density of the light at specific wavelengths absorbed in detection zone and quality-control zone.

1.2. Equipment Structure

The equipment is composed of hosts (including display screen, motor system, detection system and thermal printer) and power cord.



Figure 1 Front External View

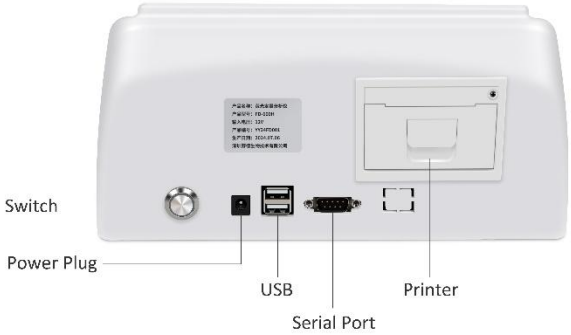


Figure 2 Back External View

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1.3. Accessory List

The container contains, but not limited to, following accessories

- Fluorescence Strip Reader: one
- USB cable: one
- Adapter 12V: one
- Communication cable: one
- Thermal printer paper: one
- Manual: one
- Easy operation card: one
- Product certificate: one
- Packing list: one

If any part is lost or broken, please contact FinderBio Customer Service Department or local agency.

1.4. Technical Indicator

Display Screen	7-inch touch screen
Optical Source	Mono stable light emitting diode
Test Channel Number	Single-channel
Thermal Print	Build-in thermal printer
Barcode Scanner	Scan automatically test card
External Barcode Scanner	The device automatically reads the information in the QR code in the rapid test kit
Environment Requirement	Meet 1.5 Installation Requirements
Power	100~240V~ 50/60HZ
Input Power	60VA
Size	235×190×120mm
Weight	1.5kg

1.5. Installation Requirements

Working Temperature Range	0℃~40℃
Working Humidity	40%RH~80%RH
Atmospheric Pressure	86.0kPa~106.0kPa

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Miscellaneous	Install indoors with good grounding condition, keep away from strong electromagnetic interference source, avoid strong or direct light and soaking, no explosive gas or dust.

2. Safety Instruction

2.1. Operators

The equipment is only for clinical test. Please read operation manual before use.

The use of equipment is restricted to clinical testers (customers) certified by FinderBio or its designated agencies only.

2.2. Test Card

The equipment is dedicated for the fluorescent quantitation test kits manufactured or authorized by Shenzhen Finder Biotech Co., Ltd.

2.3. Samples, Liquor Wastes and Residues

Because test samples may contain hazardous materials which are harmful to human health and environment, samples should be handled according to lab standard operating procedures (e.g.: wear protective gloves and protective suit if necessary). Samples, liquor wastes and residues should be disposed of according to local laws and regulations.

2.4. Safety Signs

Please notice the following signs representing important information or potential related dangers.

I	Power on
O	Power off
	Ecological risks

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Danger

2.5. Name Plate of Hosts

Name plate includes:

- Equipment name.
- Equipment model.
- Power supply and input power.
- Factory number.
- Production date.
- Manufacturing factory.

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2.6. Power Shutdown Emergency

Cut off power by turning off equipment power switch or pulling off the plug in case of an emergency situation (equipment should be put in the position where it is easy to be shut down). By taking such measures, the operator is able to cut off electricity and stop all the moving parts.

3. Equipment Installation

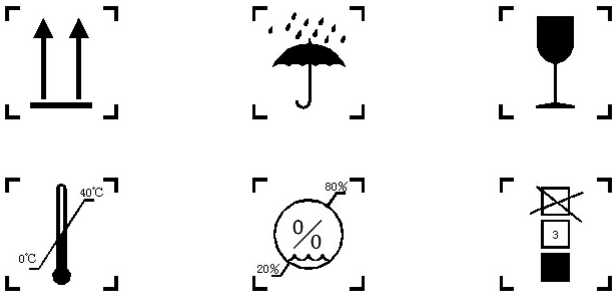
3.1. Installation Preparation

3.1.1. Installers

The equipment should be installed by technical staffs authorized by FinderBio.

3.1.2. Transportation, storage and unpacking

During the storage and transportation, please place the package as the tags outside the box. Do not turn the equipment upside-down.



During the transportation and storage, please meet the following requirements:

- Please do not store under high humidity; do not expose to light; get away from heating equipment such as heater.
- Storage environment: 0℃~40℃, 20%~80%RH, no corrosive gas and well-ventilated environment.
- Please do not place the equipment in dusty or rainy area.
- Please keep the equipment away from audio devices such as magnetic objects or loudspeaker.
- Please place the equipment on flat place.

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- Damage or faults may occur when the equipment falls from high place or receives from outer physical impact.

Please follow the steps below during unpacking:

- The equipment should be packed into standard cardboard boxes. Please check if the outer package is intact before unpacking.
- Please check the equipment and its accessories according to packing list after unpacking.
- Please place the equipment on stable work bench.
- Please check if equipment serial number is in name plate and qualification certificate matches the delivery sheet.
- Please visually check if there is any loose, deformation or damage.
- Please do not dispose the outer package in order to pack the equipment for storage when it is not used for long time, or during transport and transfer.

3.2. Installation

- Open the package, and take out equipment
- Place the equipment in the working area with grounded receptacle; make sure that interval space around should be over 30cm.
- Connect power cord to main power supply, and equipment power port.
- Connect communication cable to communication port.
- Make sure that the lab table is no less than 800mm×550mm.
- Make sure that the lab table can bear at least 20kg or more.
- Use lab common disinfectants for clean and disinfection.
- Make sure that the room is well-ventilated to ensure heat dissipation.
- Make sure that the reader is facing to an open space for ease of operation.
- Make sure that the reader is steadily placed to avoid the collision caused by human during working.
- Do not open the equipment enclosure.

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4. Instructions

4.1 Equipment Startup

Turn on the power switch behind the equipment and UNISON enters start-up initialization interface. Once the initialization test gives normal signal, the system enters main operation interface.



Figure 3 Start-up Interface

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4.2 Main Operation Interface

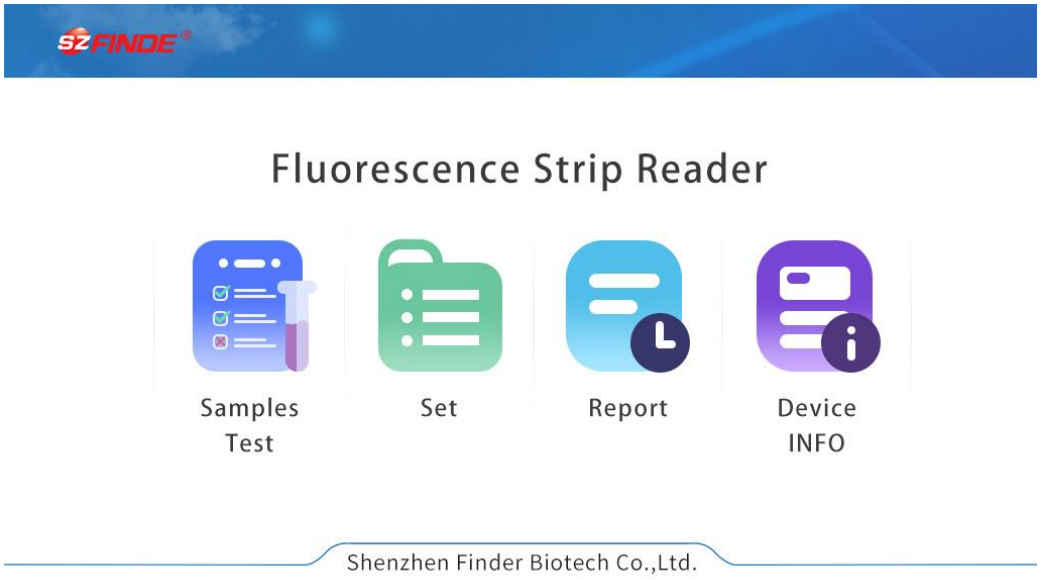


Figure 4 Main Operation Interface

Main Operation Interface contains: “Samples Test”, “Set”, “Report”, and “Device INFO”.

Samples Test: click “Start Test’, and wait for the result.

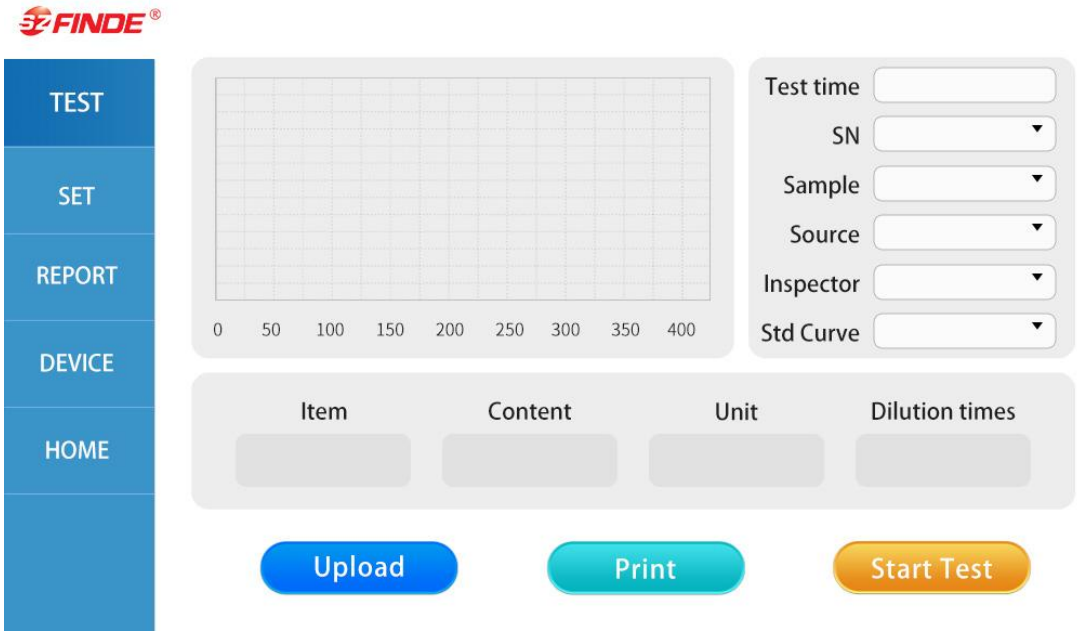


Figure 5 Test menu Interface

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Set: Add “Inspector”, “Sample”, and “Source”. Tap the corresponding dialog box to enter information



Figure 6 Set menu Interface

Report: click “Report”, browse detection record. Include ‘Upload’, ‘Print’, ‘Export’ and ‘Delete’.

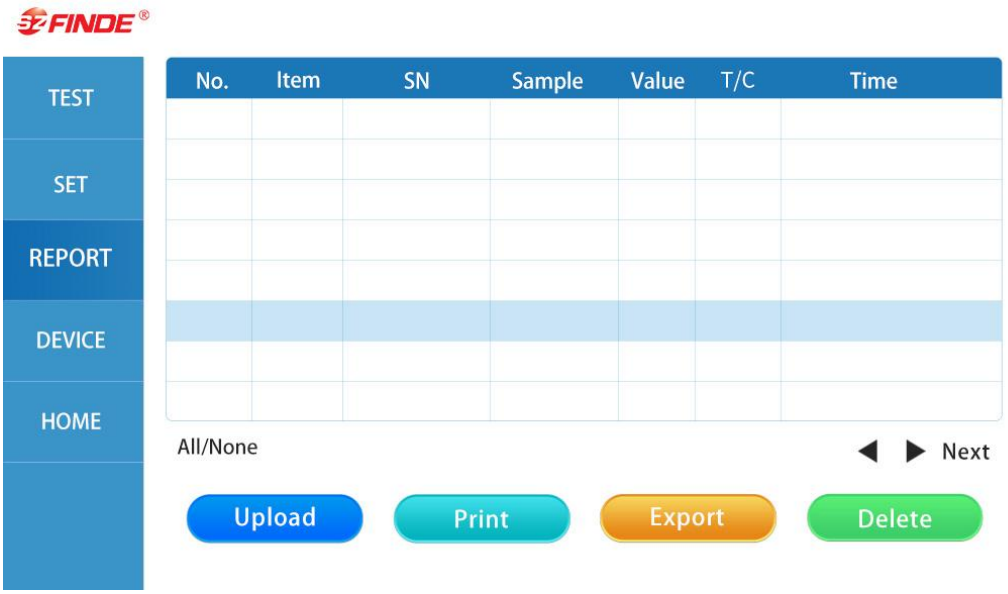


Figure 7 Report Menu Interface

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Device: click ‘DEVICE’, View the information about the device..

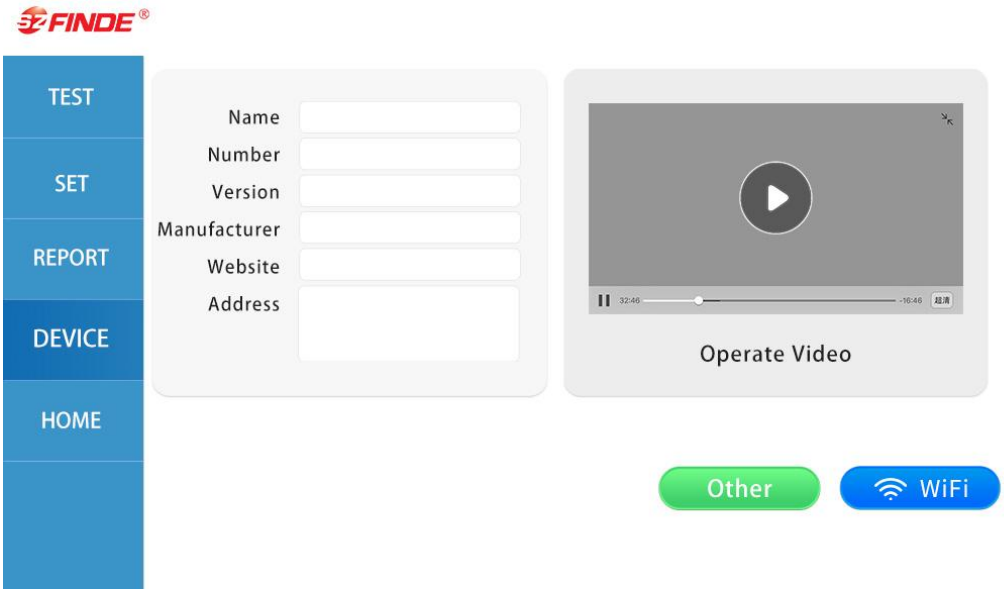


Figure 8 Device Menu Interface

WiFi: Tap ‘WiFi’, the device automatically searches for available WiFi, enters the password, and the instrument connects to WiFi.

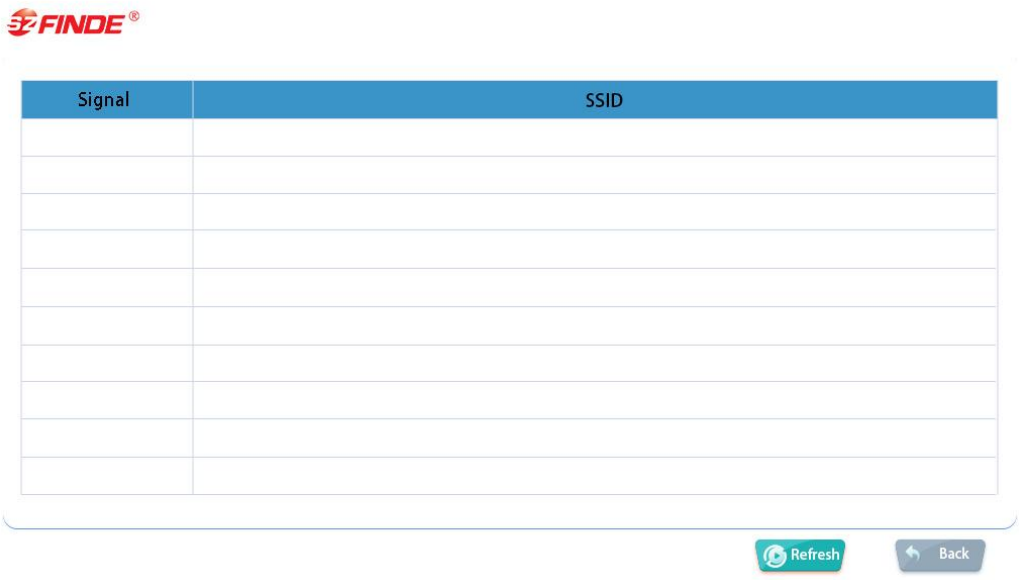


Figure 9 WiFi Interface

Other: Click "Other", set whether to upload test results automatically, whether to print results automatically after the test is completed.

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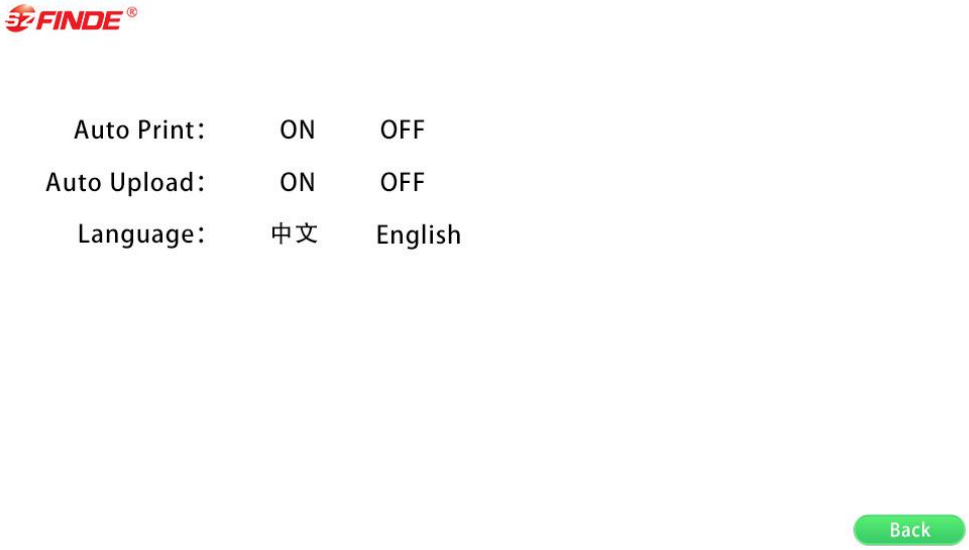


Figure 10 Other Interface

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5. Running Procedure Detection

• After adding the sample to the test kit, place it on the workbench and let it react according to the instructions. Once the required reaction time is reached, insert the test card into the device's test card slot with the sample well facing outward.

• If the item is not in the device, scan the QR code on the reagent kit cover. If the item is available, directly click "SN" and select the corresponding batch number, then sequentially select "Sample", "Source" and "Inspector". Finally, choose the corresponding "Std Curve" according to the test kit instructions.

• Click "Start Test," and the device will automatically complete the detection and display the measurement value. You can choose to "Print" Report and "Upload" Report as needed.

Device Testing Process Diagram:

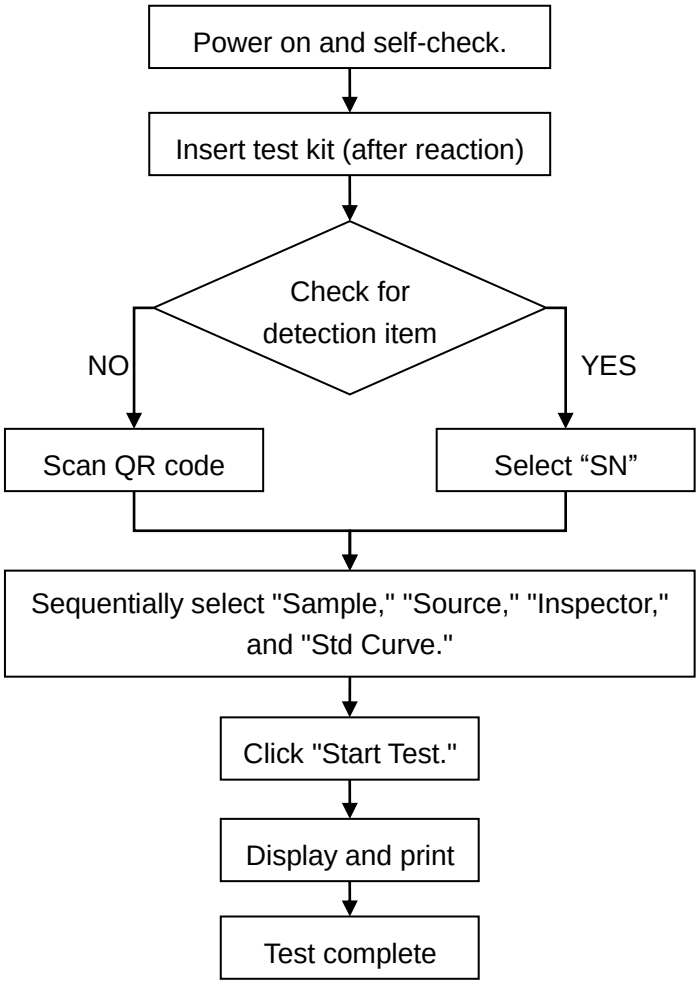


Figure 11 Flow chart of detection

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6. Maintenance

Under normal condition, equipment does not need maintenance.

6.1. Clean and disinfection of equipment

Wipe the surface by wet tissue or cleaning cloth. Wipe by tissue or cleaning cloth dipped into cleaning solution when there is much dust.

It is recommended to wear disposable powderless latex gloves when operating or adjusting equipment.

**Notices**

Consider every part in contact with serum or biohazard as potential infection

Conduct thorough disinfection to equipment before moving out of lab or maintaining

Disinfection should be conducted in well-ventilated room, by personnel who was authorized and trained. The personnel who conduct disinfection must make safety protection, such as wearing disposable powder-free gloves, protective glasses and protective suit.

Do not use disinfector to clean inside of the equipment, or it may affect the performance and service life of the equipment.

Do not use acetone to clean the surface of equipment

Make sure to shut down the system and cut off power before cleaning or outer disinfection. According to the instructions of disinfector, spray disinfector carefully onto the whole surface (screen not included), or disinfect the equipment by disposable soft cloth soaked into disinfector. After disinfection, please wipe off the disinfector by soft cloth dipped into clean water, and connect power supply until it is completely dry.

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7. Fault handing

If there is simple fault, please confirm and exclude according to this chapter.

If the fault can't be solved, please contact local FinderBio Customer Service Center, local agencies or FinderBio Customer Service headquarter. The included qualification certificate is the only certification for technical maintenance service, please make it safekeeping

7.1. Start-up fault

Name	Phenomenon	Treatment
Power supply is not connected	Shut down: no display, no movement, no response	Check the power cable, connect and power on. Please contact the service provider if equipment still can't be started

7.2. Running fault

Name	Phenomenon	Treatment
Touch screen can't be used	The screen displays normally, but there is no response or buzz when clicking the button.	Restart the equipment. Please contact service provider if it still can't be used
Self-test is not successful	The operation software is shown in the screen and can be operated.	Restart the equipment. Please contact service provider if it still can't be used
Reagent card can't be identified	The screen shows 'sample is not in' after inputting normal card	Please contact service provider
Calibration card of kit can't be identified	Indicator light of ID card is not on after inserting the calibration card. A tip will show at the bottom of screen: 'ID card is incompatible with equipment'.	Please contact service provider
The printer can't work	There is no response after clicking 'print' in the search interface after detection completion.	Check if there is paper, or the printer is opened in the setting. Please contact service provider if it still can't be used

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7.3. Return for maintenance

Before the equipment is returned for maintenance, the operator should:

- Disconnect the power cord of equipment and return with the equipment together
- Disinfect as following procedure: Wipe and disinfect carefully all the outer and working surface of the equipment with disposable soft tissue or cleaning cloth soaked into disinfector. Wipe and disinfect every 20min. After 4hours, wipe off all the disinfector by neutral detergent or deionized water.
- Wipe the outside surface dry, pack the equipment and accessories.
- Send back by the designated logistic provider and to the designated address, or deal by service provider, engineer designated by FinderBio.

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Appendix I Operation Guideline of Fluorescence Strip Reader

- **Start up**
  - Make sure power switch is off, connect power cord and power on
  - Enter main interface after self-test
- **Preparation before sample detection**
  - Prepare reagent card, QR code of kit
  - Prepare "required equipment and reagents" in the kit instructions
  - Prepare sample
- **Sample detection**
  - Pre-processing samples according to the instructions of the test card.
  - Add sample at specified amount into sample hole of reagent card.
  - Click "SN" to select the corresponding batch number. If the item is not in the device, scan the QR code on the inside cover of the kit.
  - Set inspection parameters, including “Sample”, “Source”, “Inspector”, “Std Curve”, etc.
  - Put test card into detection slot and push it to the position.
  - Click "Start Test", the device automatically completes the detection and displays the measured value.
  - Select "Print" or "Upload" report as required.
  - Take out test card whose test is completed, dispose according to the requirement of medical waste.
- **Shut down**
  - Power off after sample detection is completed

Notice:

- Please wear gloves during operation to avoid injure and infection
- Please place the equipment away from direct sunlight and dusty and moist environment.
- Please dispose used sample according to requirement of hazardous substance disposal from health system, because the samples may contain substance which is harmful to human health and the environment.

If you have any question, please contact us at any time

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Appendix II Customer Service Sites

Shenzhen Finder Biotech Co., Ltd. Customer service department

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