Bean-to-coffee Vending Machine

Instruction manual

This manual is made to give instructions on vending machine installation, start-up and maintenance.

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Preface

Thank you for purchasing VC bean-to-coffee vending machines, to make sure that you install and use the machines correctly please read this manual carefully before installation and using.

To guarantee your rights and interests please check carefully whether the machines are damaged and whether there is any missing part when unwrapping the packages. If you find any problems or have any queries while using the machines please reach out to us timely, we will do our best to help you with troubleshooting as soon as we can.

The ownership of intellectual properties of all the parts of the machines belongs to Hunan Zhonggu Science and Technology Co., LTD, including but not limited to hardware parts and software parts, unless authorized no one shall imitate, copy, extract or translate the intellectual properties.

Electrical safety: to avoid serious damage from possible electric shocks before moving or repairing the machines please unplug the power cord first. If the power cord is found damaged it must be replaced by the manufacturer or professional maintenance staff.

Attentions

1) All the parts that will touch the food or ingredients in this machine are food-grade parts, including but not limited to tubes, connectors, paper cups, cup lids, etc. It is prohibited to use non-food-grade parts to replace the original parts.
2) When cleaning these parts manually please use clear water, DO NOT use any detergents, disinfectants or any other cleansers that will leave any peculiar odor or any residue on the parts.
3) Before routine maintenance, cleaning or repairing the machine the maintenance staff must turn off the power switch and unplug the power cord from the socket.
4) The power cord, the circuit board and the mechanical parts in the machine must be replaced by professional technicians.

1. About this machine

1.1. Features

Model	VC -NCF-4N(V10.1)
Dimensions	H:810mm x W:500mm x D:450mm
Peak power	3000W
Standy power	Less than 30W

Making time	About 60s
Screen	10.1″ HD touch screen
Coffee bean hopper	1.2KG
Instnat canisters	(4L*2/2L*1)
Brewer system	7-16g powder
Voltage	AC100V-240V,50/60Hz
Temperature	92℃
Back-end system	Computer and Wechat intelligent iCloud system
Payment methods	Wechat/Alipay/Face recognition/Cash/Cashless

1.2. Machine views



1.3. Interior parts



2. Transporting and storing

2.1. Storing

1) The working temperature has to be 5℃-35℃, if the temperature is too low the machine may freeze and get damaged.
2) The machine has to be stored in a dry and clean place and the storing temperature has to be 3℃-40℃.

2.2. Transporting

To avoid unnecessary damages during transportation please pay attention that:

1) The machine must stand, don’ t put it upside down or lay it down on the floor.
2) Do not put one machine on another machine.
3) Do not put anything heavier than 5 kilograms on the machine top.
4) Fixed support is necessary during transportation just in case the machines fall.

3. Machine installation

3.1. Place the machine

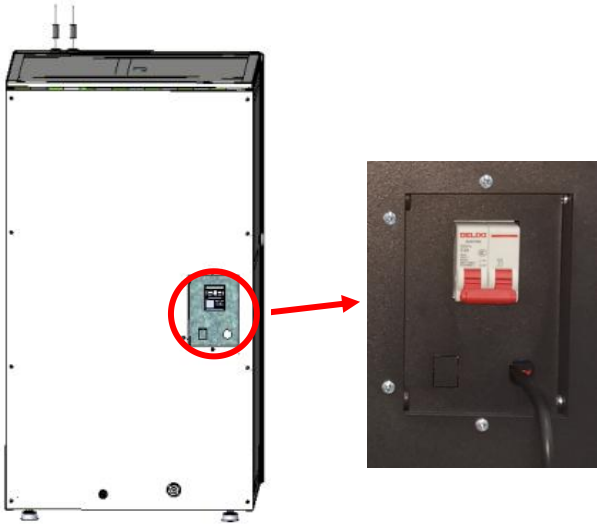
1) Transport the machine to the designated position and unwrap the package.
2) It is recommended to place the machine on a platform 0.6m-0.8m high.

Suggestions：

1) Install the machine indoor where there is good air ventilation.
2) Install the machine on firm and even ground.
3) Make sure there is enough space left for cleaning, maintenance and repairing.
4) There shall be a distance of 300mm left between the wall and the machine back.

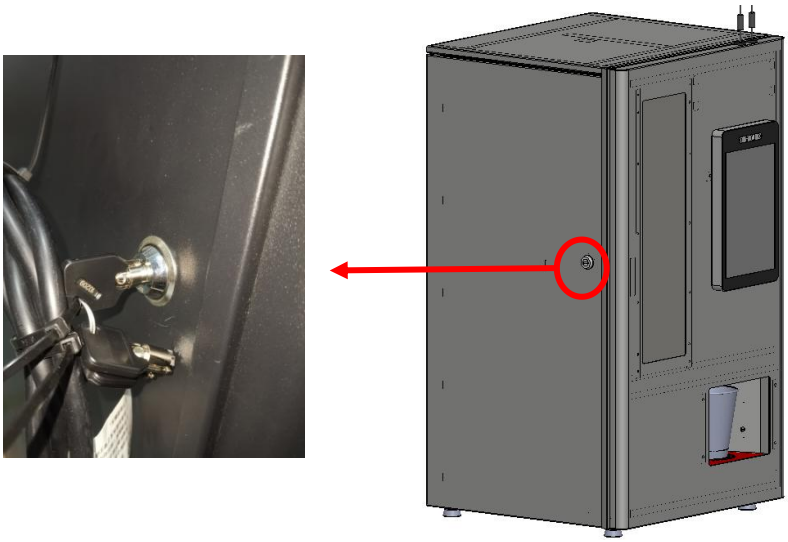
3.2. Power up the machine

Please use a 16A special socket for this machine, power on the socket, switch on the red switch to start up the machine.

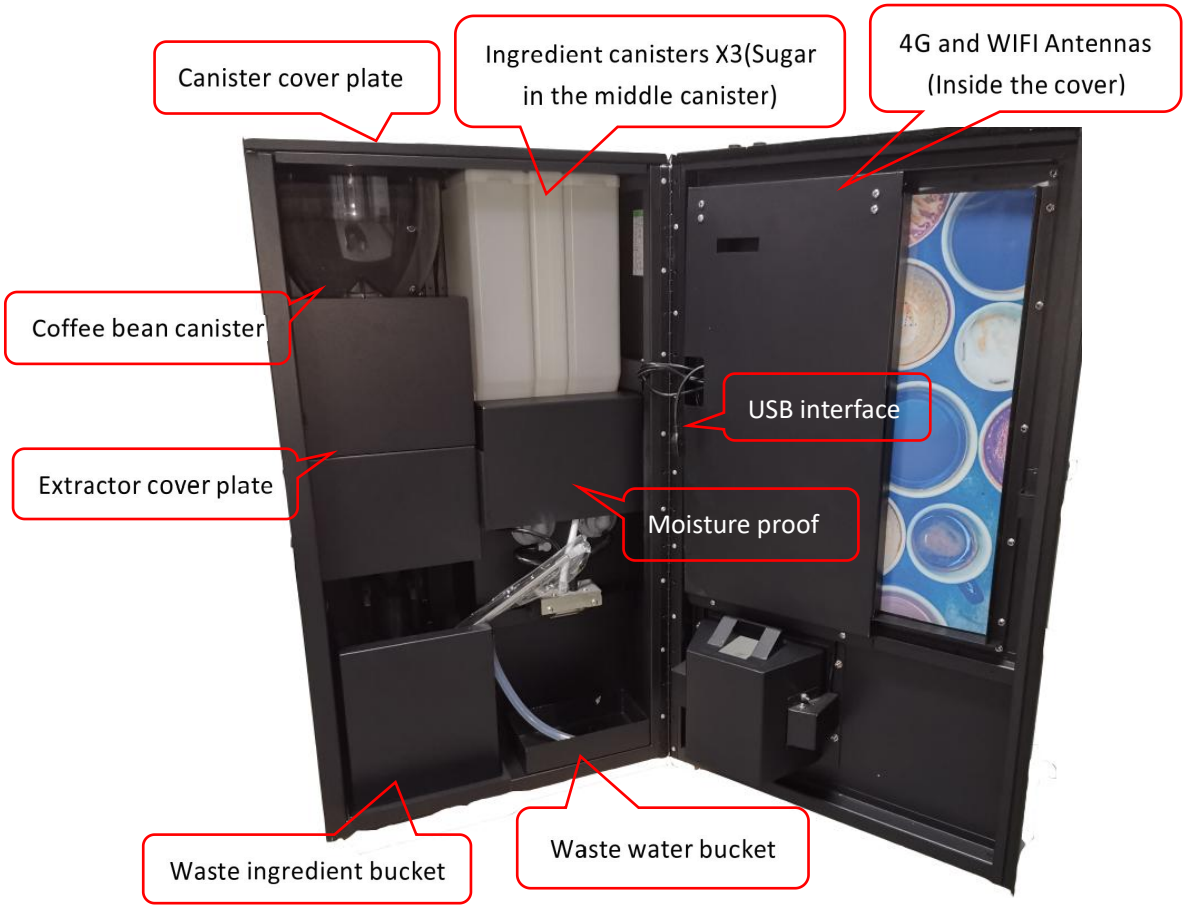


3.3. Open the door

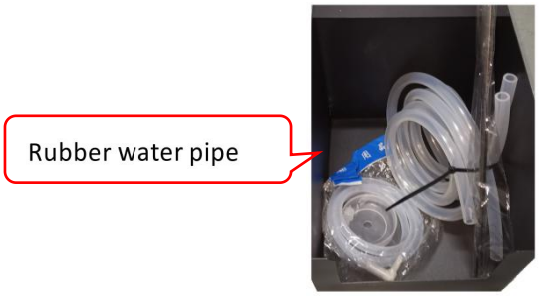
1）Find the key tied to the power cord, insert the key into the keyhole on the left side of the machine,and turn the key to open the door.



3.4. Interior parts positions

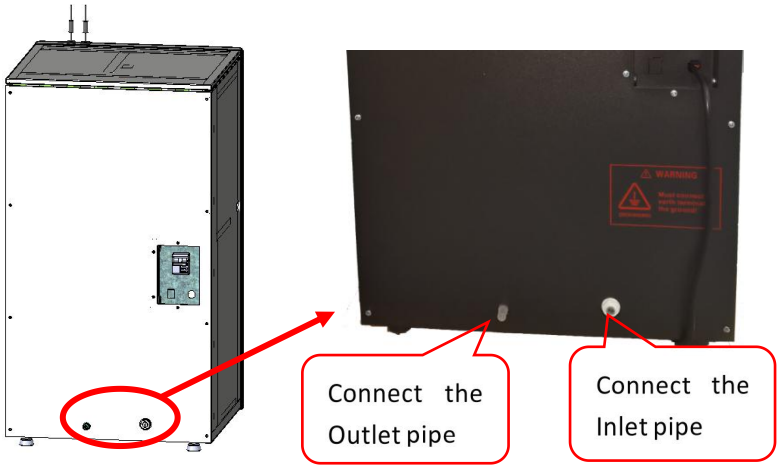


There are rubber water pipes inside the waste ingredient bucket of the machine.

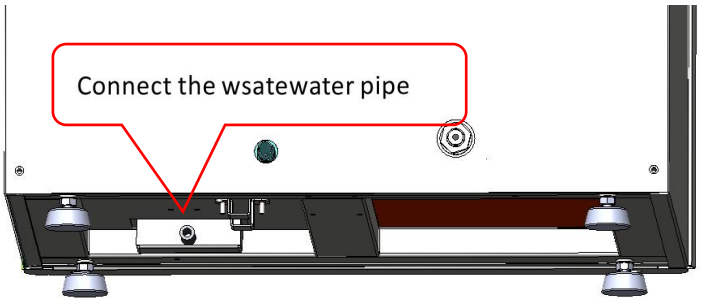


3.5. Water supply

1) Connect one end of the inlet pipe to the water inlet behind the machine,and the other end to the bottled water.

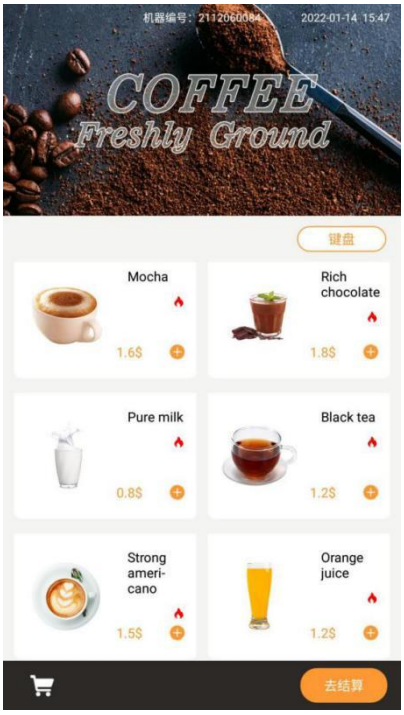


2) The wastewater outlet is located under the machine,and the waste water barrel can be taken out ,connected to the rubber water pipe and put back.

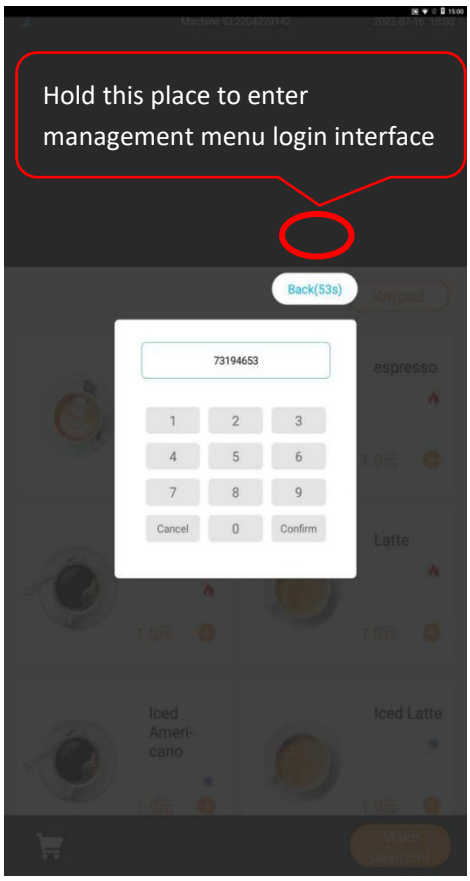


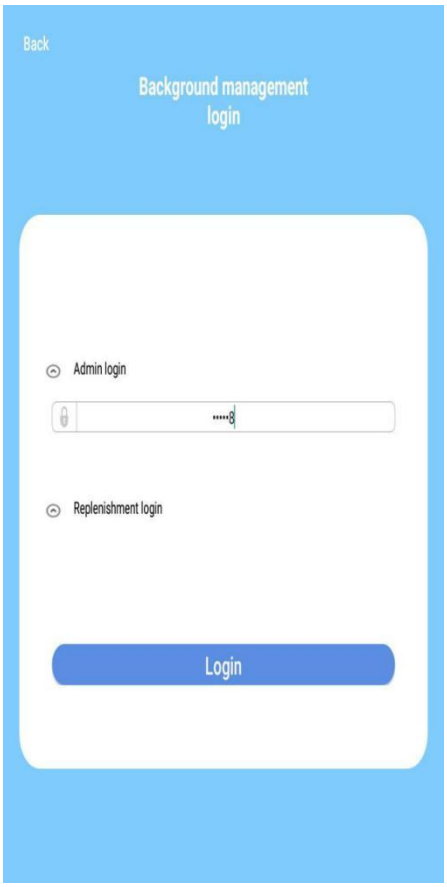
4. Fill the boiler

1) Wait for 1-3 minutes after powering on the machine, the shopping interface will pop out, like you can see from the picture below.



2）Click the “keyboard” icon.

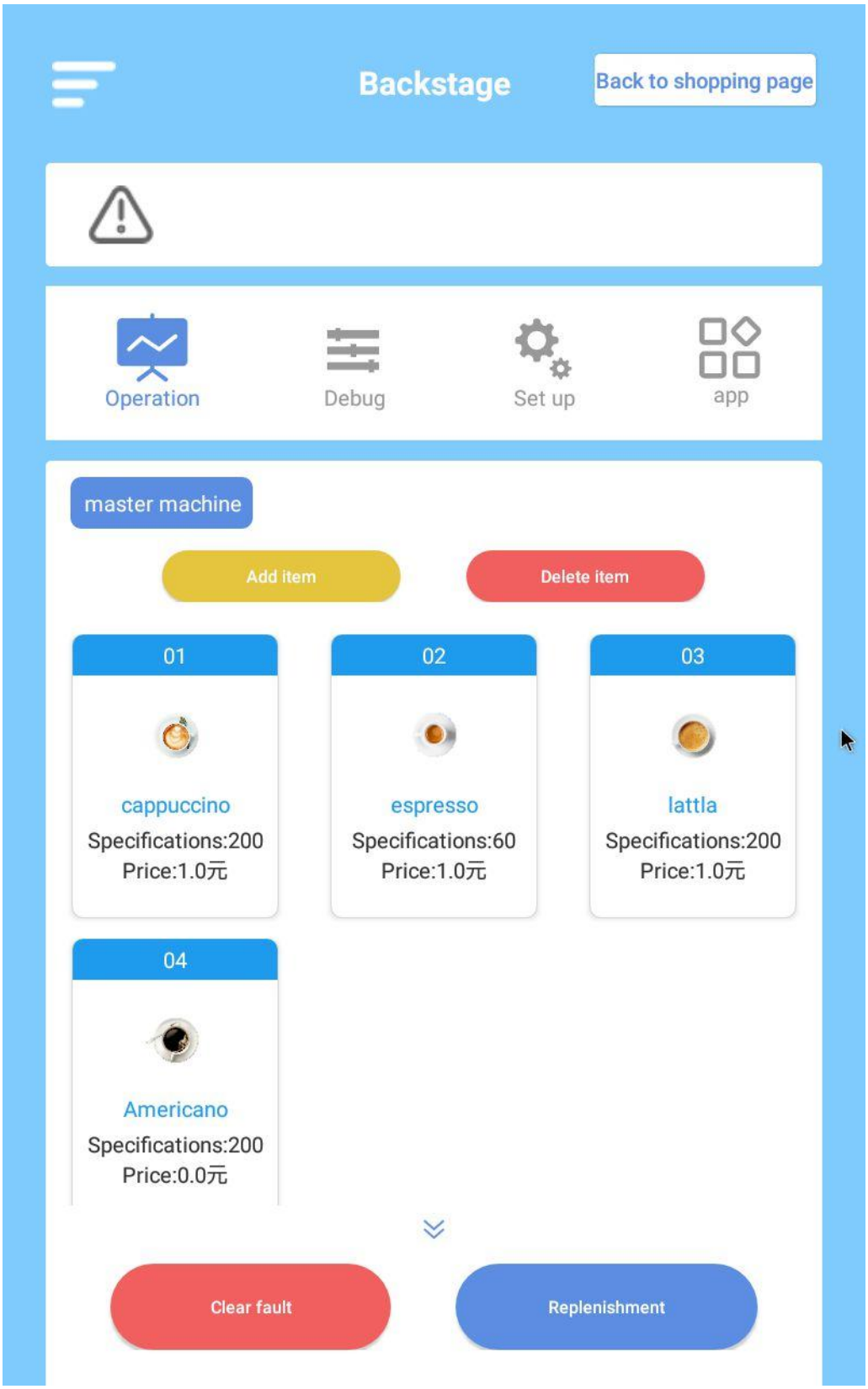




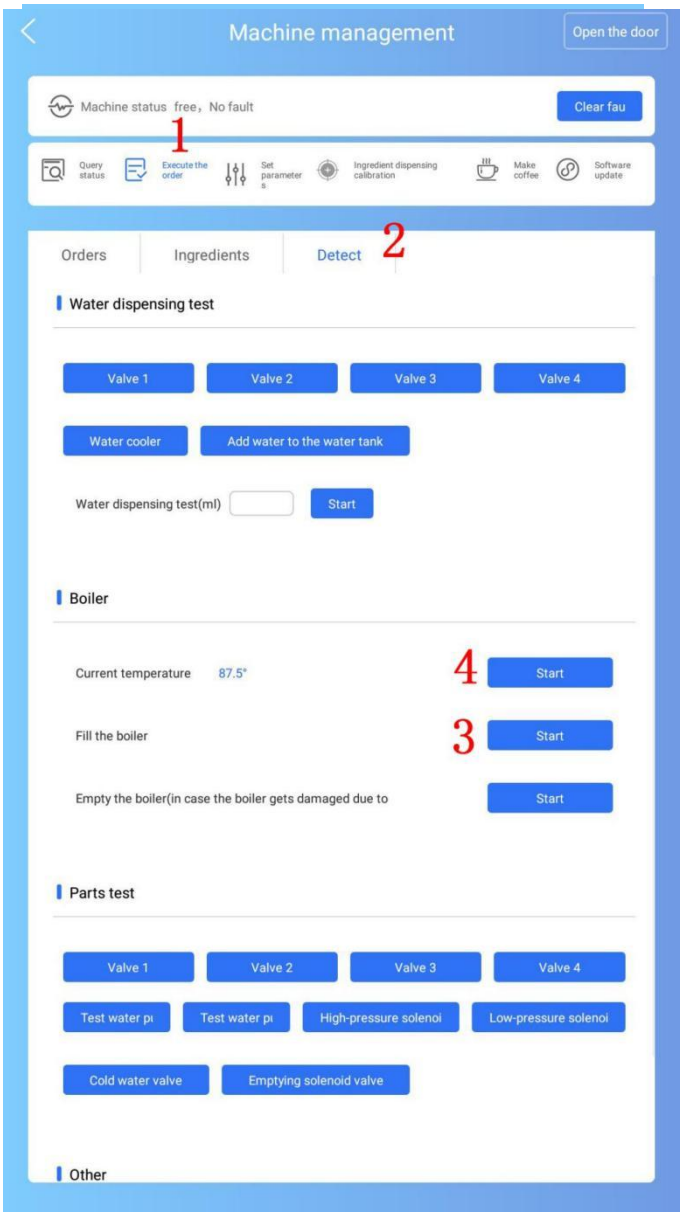
3）Enter 73194653 in the box, then hold the position as shown in the picture to enter management menu login interface.

4）Enter the initial password(000000 or 888888), click login to enter.

5）The management menu is like what you can see from the picture below.



6）Click “Debug”-“Execute the order”-“Detect”-“Fill the boiler” in sequence.



(a) It takes a few minutes to fill the boiler, there will be water coming out during the later period.
(b) Click button “4” to start boiler heating, if the temperature is going up it is working. If it says 999 it means there is an error.

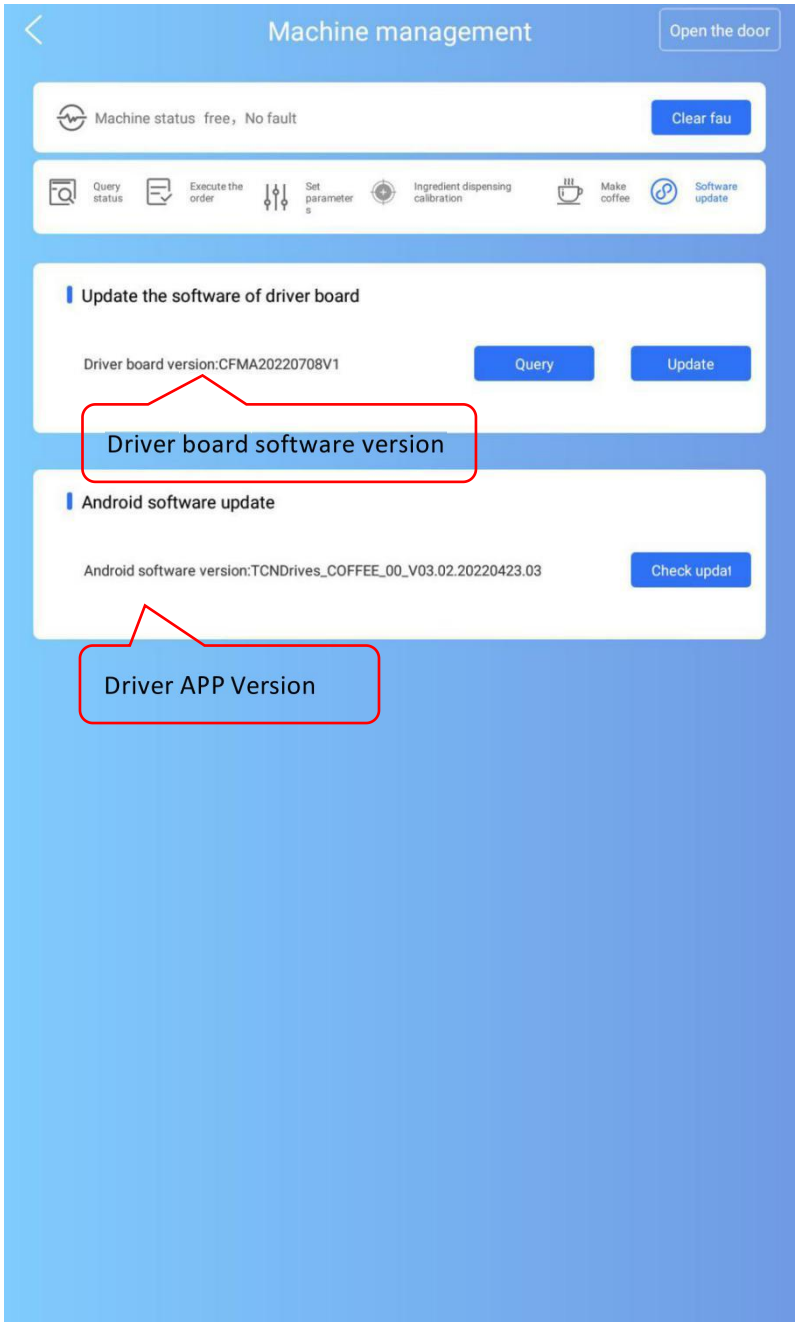
Attention: fill the boiler first after turning on the machine if it is a new machine, and please empty the boiler before transporting the machine just in case the boiler gets damaged.

5. Software version and update

There are three different APPs in this machine, namely the skin plug-in APP, the main program APP and the driver APP.

5.1. The driver APP

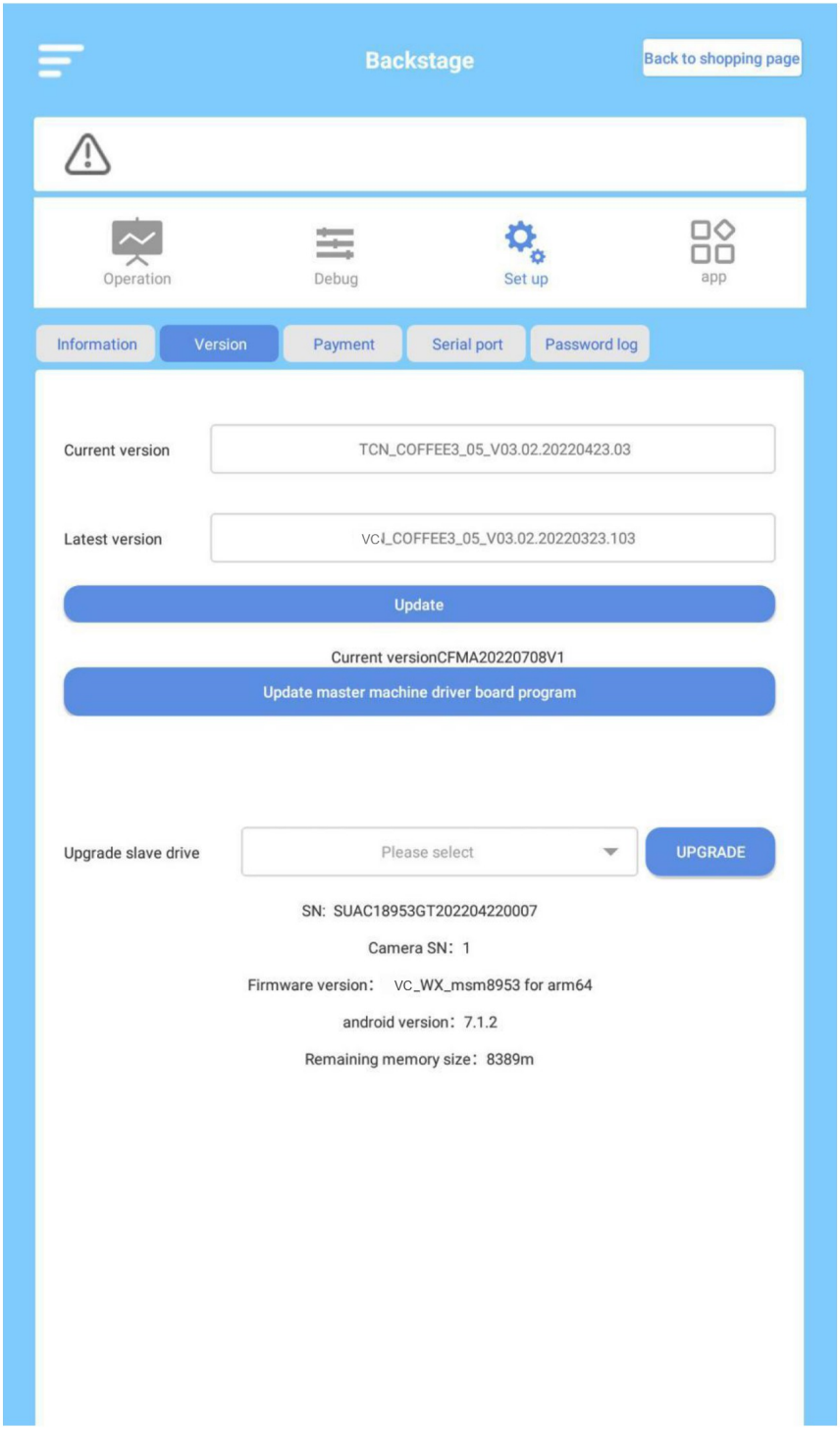
Click “Debug”-“Software update” in sequence and see if the software version is the latest.



The current versions end with 20220323.03 and 202201424V1.

5.2. The main program

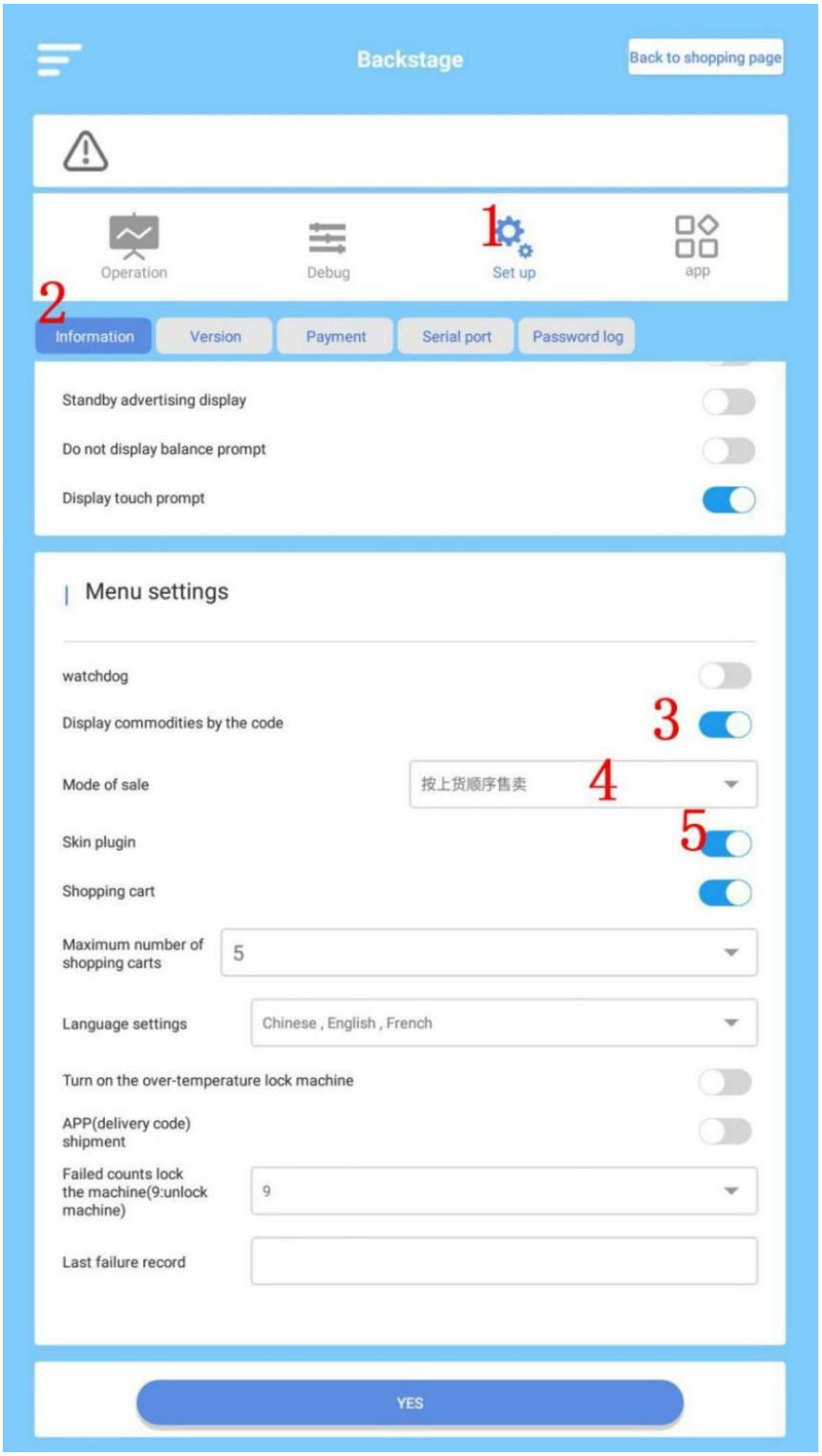
Click “Set up”- “Version” in sequence”



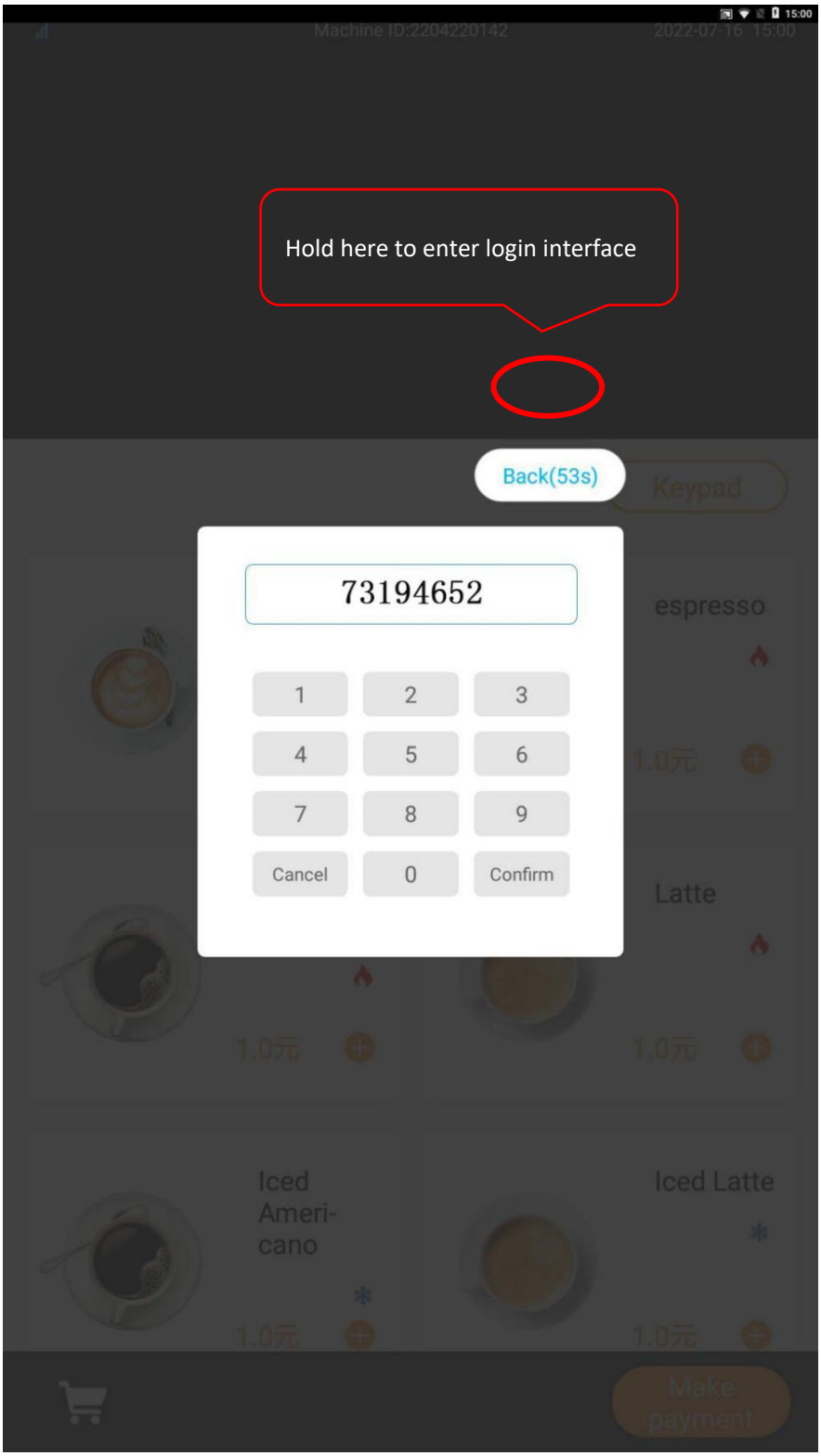
The current main program version number ends with 20220323.103.

5.3. Skin plug-in APP

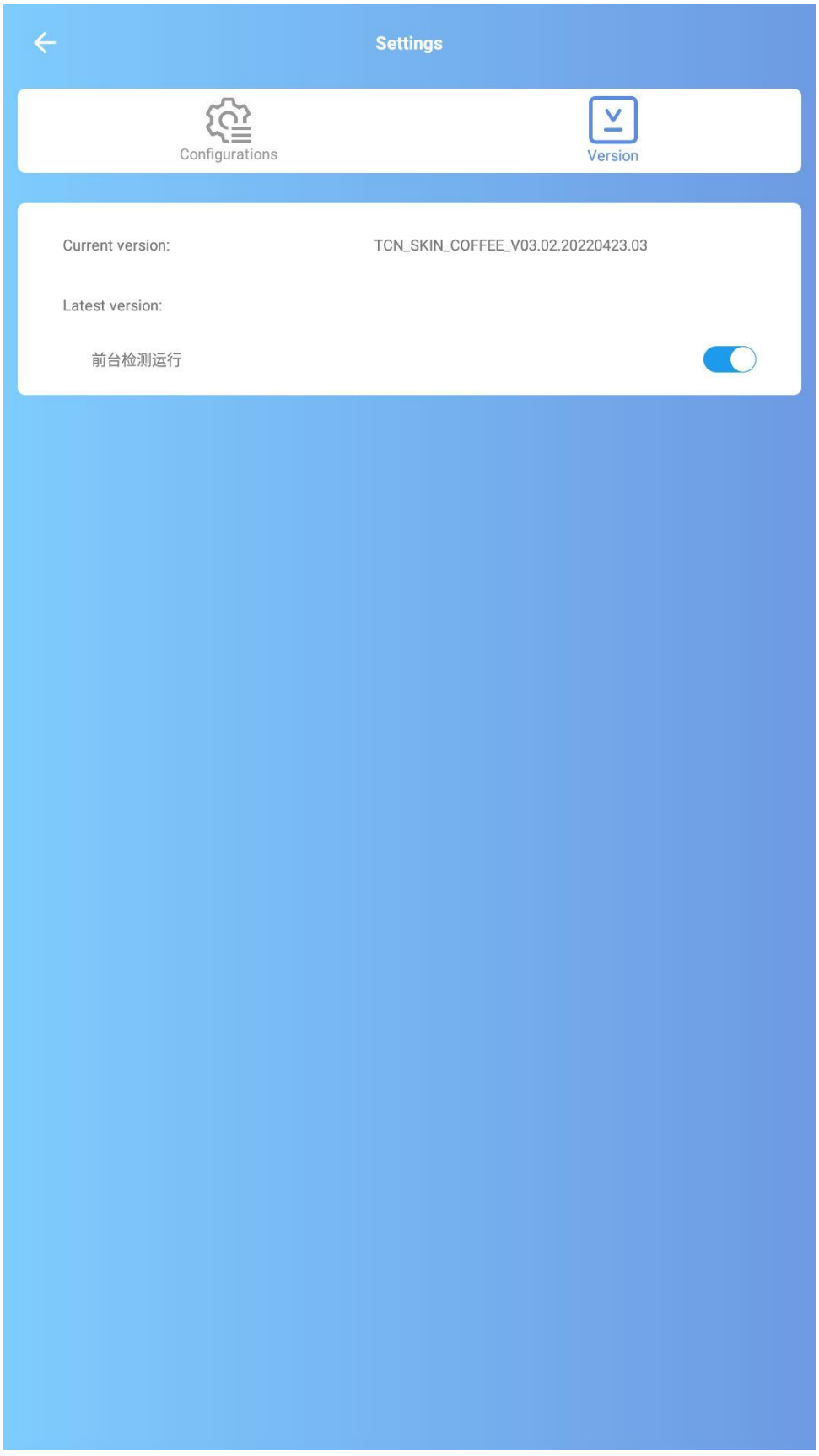
1) It is necessary to activate skin plug-in, click “Set up” - “Information setting” and scroll down to the bottom, then click “Display commodities by the codes”, select the correct mode and activate “Skin plugin” .



2) To check the skin plugin version, enter 73194652 in the shopping interface and click “Version”.

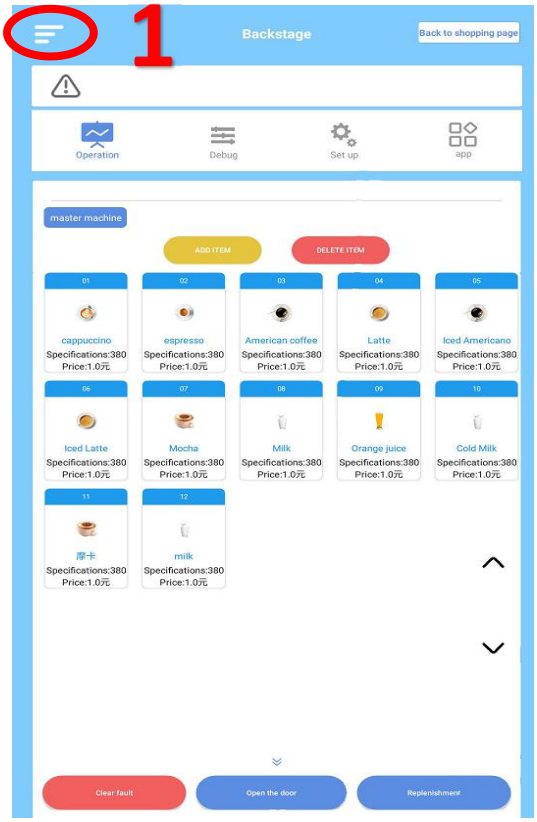


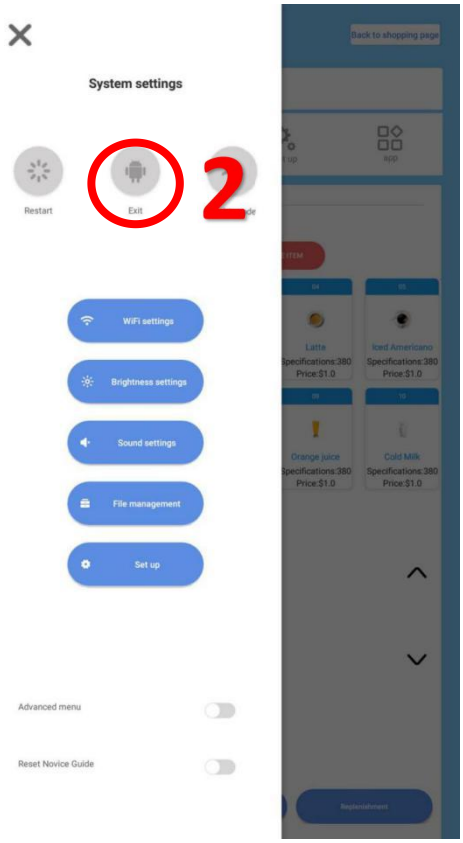
3) Skin plugin version: VC _SKIN_COFFEE_V03.02.0220323.08.



5.4. Software update

1）To update the driver program BIN: exit the program and enter the Android menu.



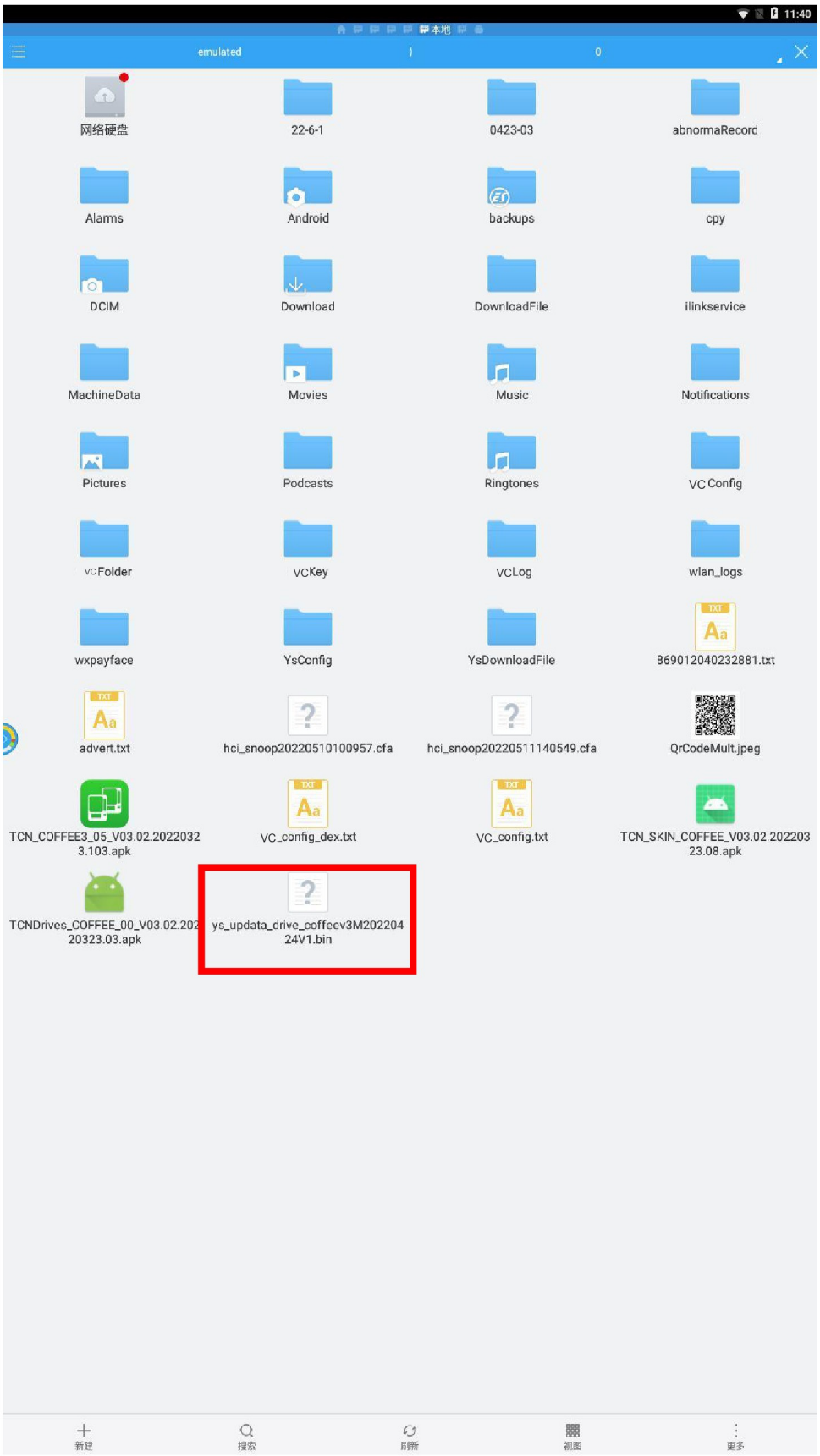


2）Click the “ES file browser”, copy the .BIN file in the flash driver and paste it to the root directory in the Android box. Note: there can be only one .BIN file in the folder, otherwise the program may go wrong while updating and cannot be updated anymore.

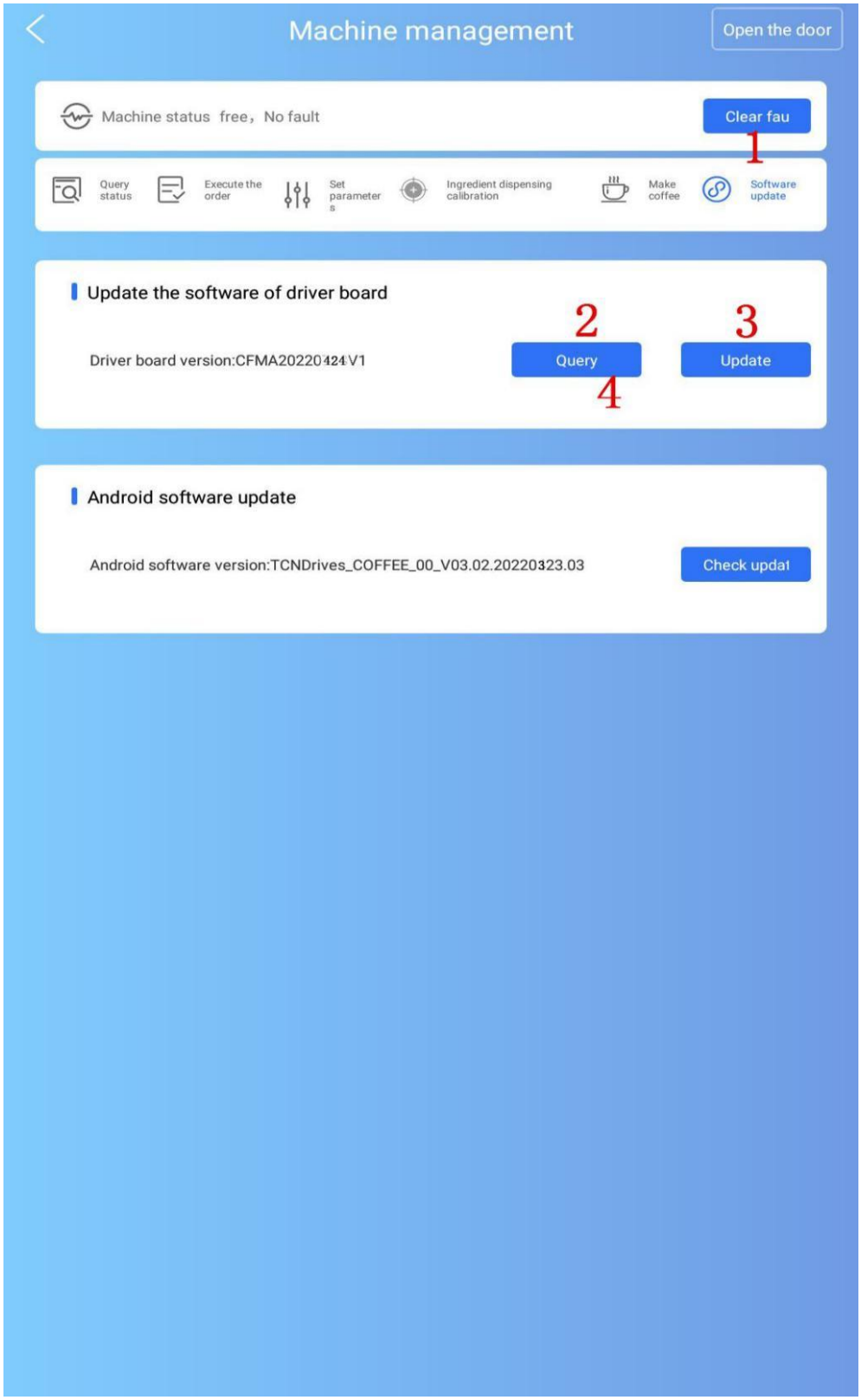
3）Update driver program, background program and skin plugin: copy the new programs to the root directory, install the cover the previous programs.

4）Enter “Debug” interface, click “Software update”-“Query”-“Update” in sequence. If the light at the pick-up door blinks three times, and you hear the extractor resetting, update is finished. After that, click “Query” again and see if the version is the latest one.

The following figure shows the system root directory.



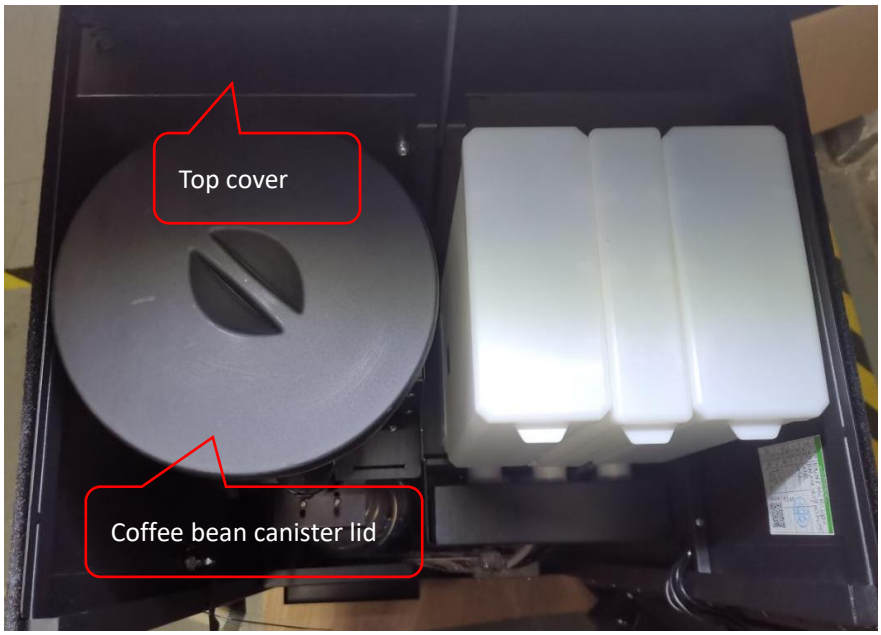
The steps to upgrade the program are shown below.



6. Add materials

6.1. Add coffee beans

1）First turn over the top cover of the machine ,use the support rod to top the top cover,and then open the coffee bean canister lid and add coffee beans.



2）The switch plate of coffee bean canister needs to be pulled out before the coffee beans enter the grinder.



Attentions:

The middle canister is permanently for sugar, as for other canisters you can put in whatever ingredient you want.

6.2. Add materials to the canisters

Attentions:

Canister 2 is permanently for sugar, put in only berry sugar.

The milk powder has to be whole milk powder.

1）Counting from left to right are canisters 1 to canister 3.



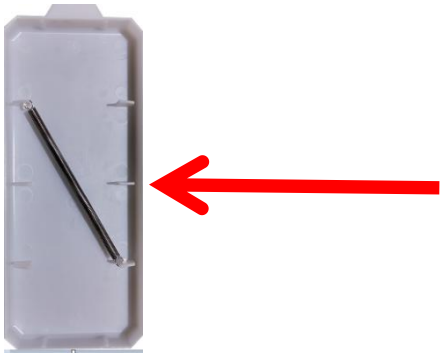
2）Take out the canister plate and the cover plate, like you can see from the picture below:



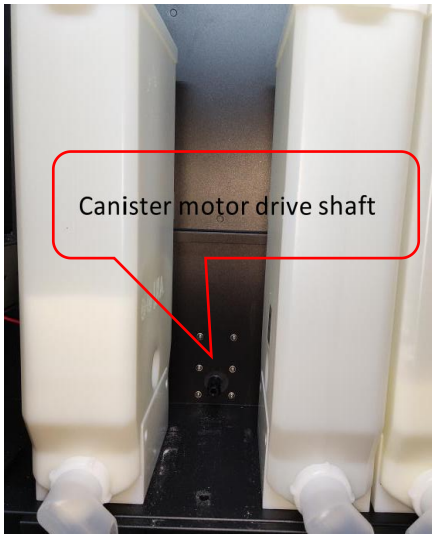
3）Rotate the ingredient dispensing nozzle and pull the canister upward to take the canister out.



4）Open the cover on the canister top to add ingredient, there is a spiral on the cover where you can put drying agent to prevent the ingredient from getting wet.



5）Install the canisters: aim the rotary shaft behind the canister to the motor rotating shaft and push the canister inward until the canister fits the fixing hole, like you can see from the picture below:



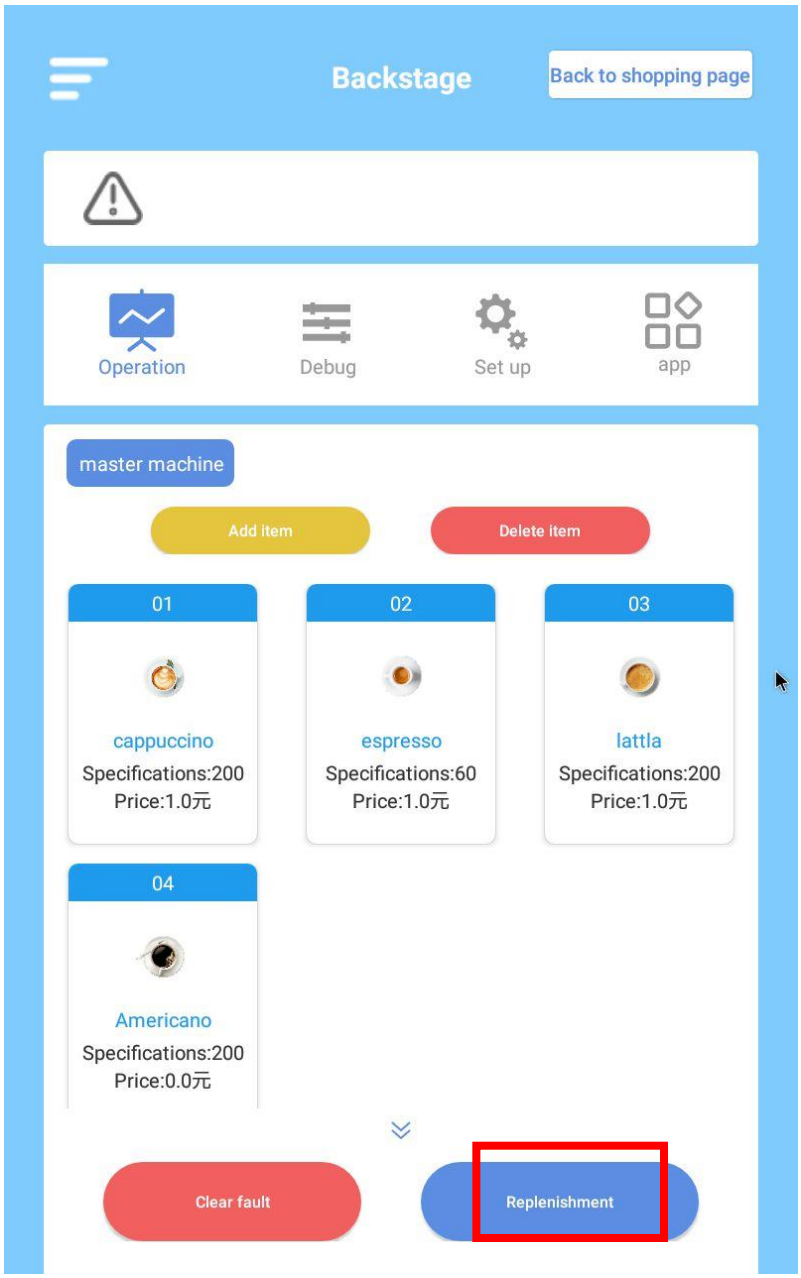


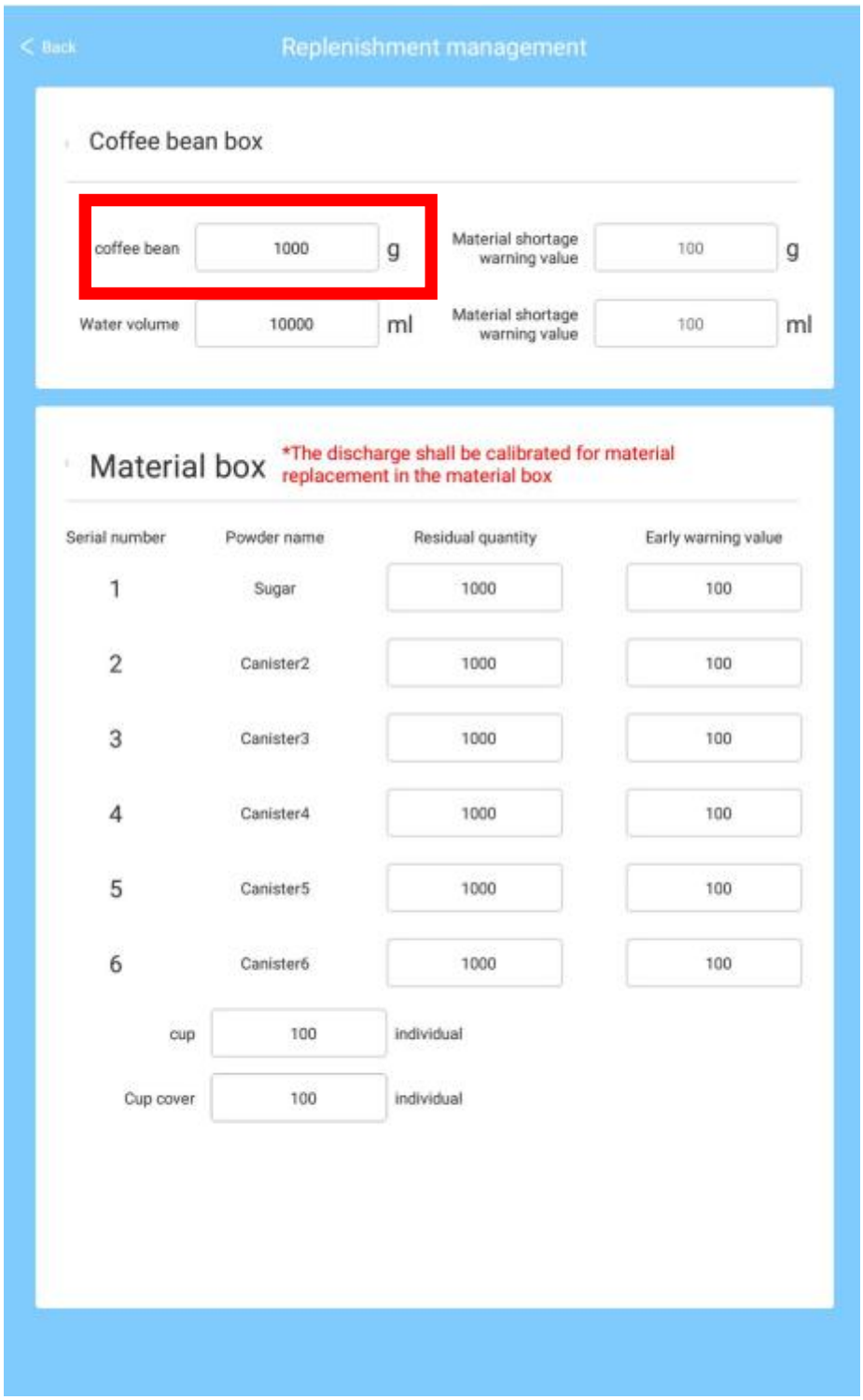
Attentions:

- Put in only instant powder to the canisters.
- Put in only fine powder to the canisters, canister 1 is for sugar.
- After adding coffee beans and ingredient to the canisters please enter the corresponding weights in management menu.

6.3. Load products

1）Each time after adding materials to the canisters you need to enter the sum value to the corresponding boxes.



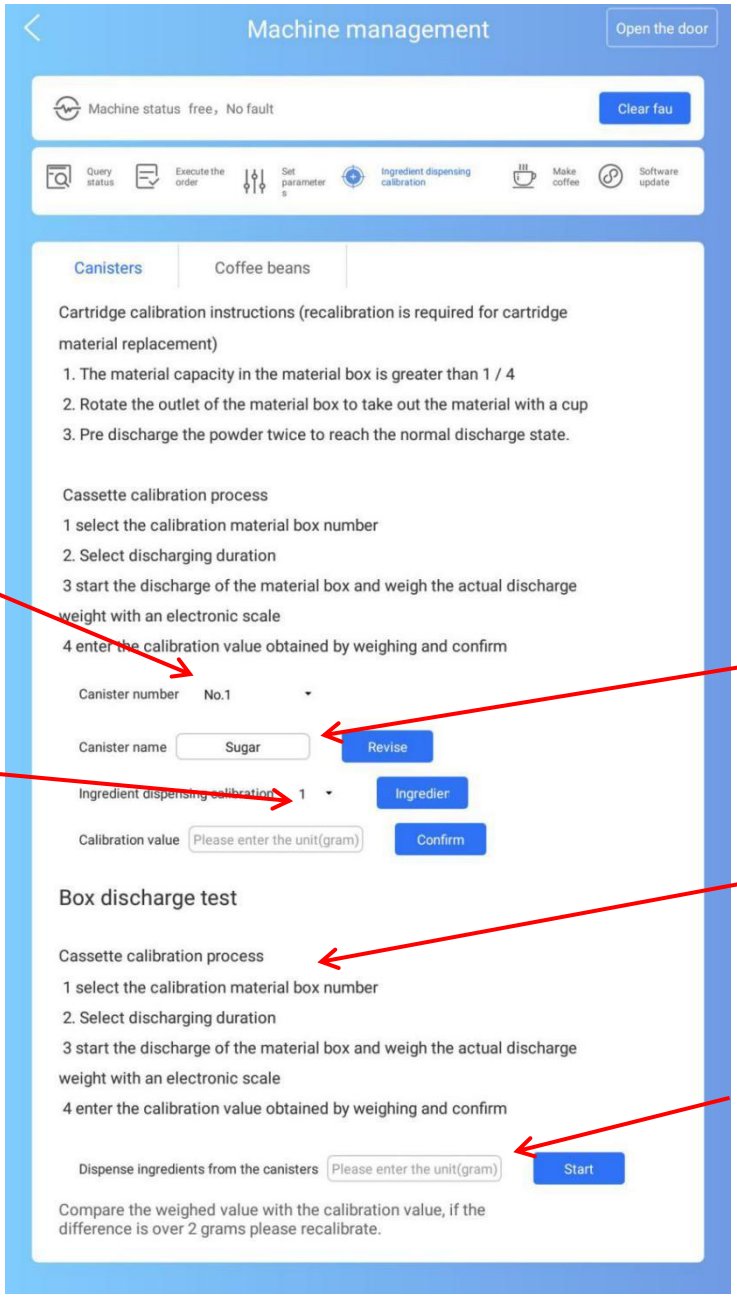


2）When the data is refreshed, click save.

For example: you added 1000 grams of coffee bean to the canister and previous to that there were 304 grams in the canister, you need to enter 1304 grams to the box.

6.4. Canister dispensing calibration

1) Pull out the stirrer cover gently and place a cup under the dispensing nozzle. Enter “Debug” menu, select “Dispending calibration”, select a canister from canisters 1-3.



Select a canister (1-3)

Dispensing calibration time

Change the canister name here and save. Canister 2 is permanently for sugar.

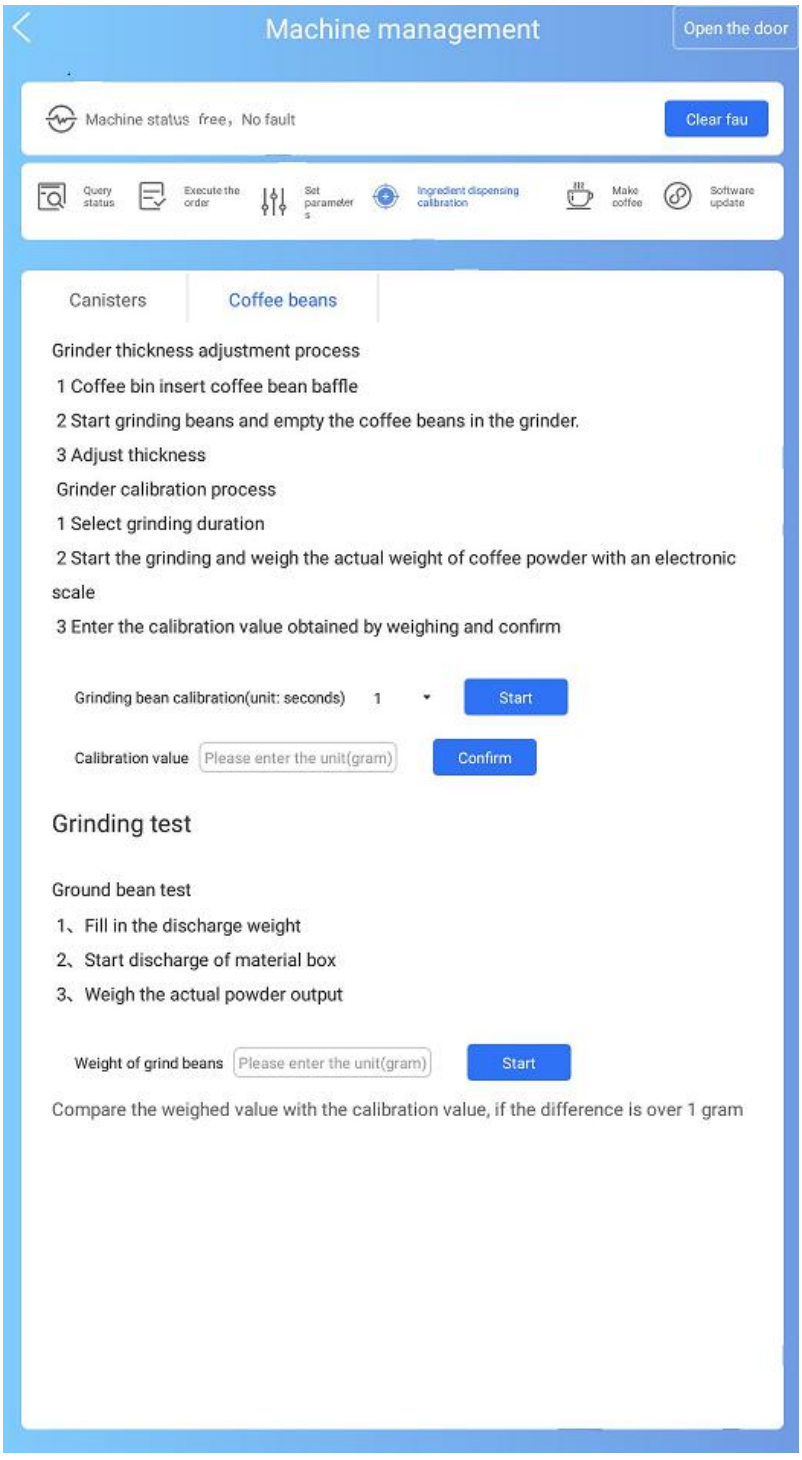
Procedures

Dispensing verification: Enter a value, start and weigh, if the difference between the actual weight and the value is small than 2 grams, calibration done.

2) Select a canister and you can change its name(Canister 2 is permanently for sugar and cannot be changed). Enter an ingredient dispensing time(3-5 seconds) and click dispense, then take the cup, weigh it and enter the weight of powder, click “confirm”, then enter a dispensing value, use a cup to take the powder, weigh and see if the variance is within 1 gram, if yes, calibration done, if not, go on with the calibration. The first time you use this machine or when you change the ingredient type in the canisters you need to do calibration.

6.5. Coffee bean grinding calibration

1) Take away the front cover plate and pull out the extractor sub-plate, take down the extractor, put a cup under the powder tube, then enter “Debug”-“Calibration”-“Coffee bean” to calibrate. The process is the same with that of canister dispensing calibration, if the variance is over 1 gram it must be re-calibrated.





2) Install the extractor back after calibration.

6.6. Adjust coffee bean powder

1. The grinding scale is adjustable(default value 3.5), the smaller the scale, the finer the coffee powder.
2. Before adjusting please insert the isolating plate to isolate the coffee beans and let the grinder idle, when you hear the grinder working, adjust the gear on the right slightly, clockwise the powder will be finer.

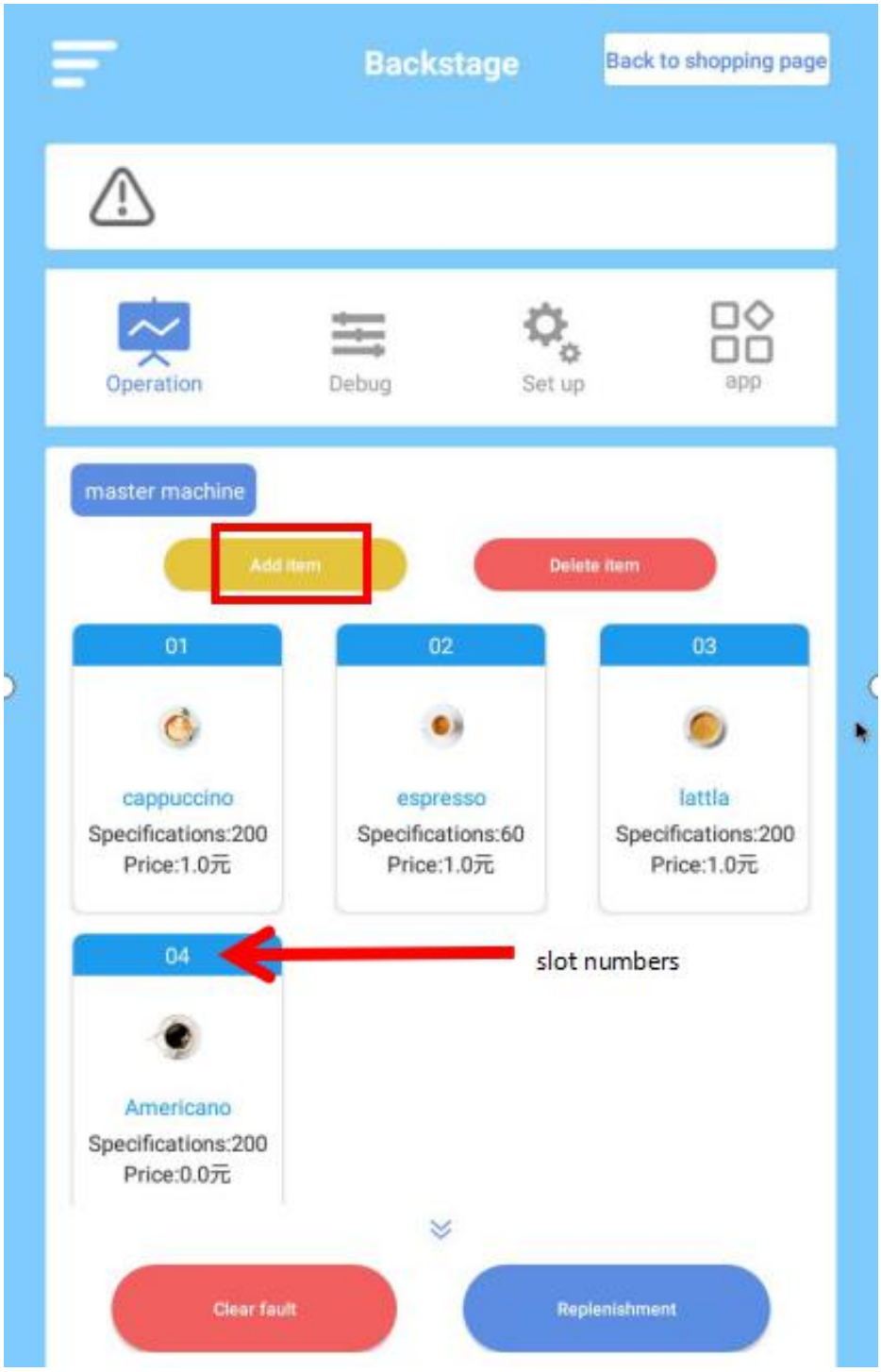
Attentions: after adjusting please click “Grinding test” in “Debug” menu and do 4-6 tests to empty the residual coffee powder in the chamber, the finer the powder, the more times it takes to empty.



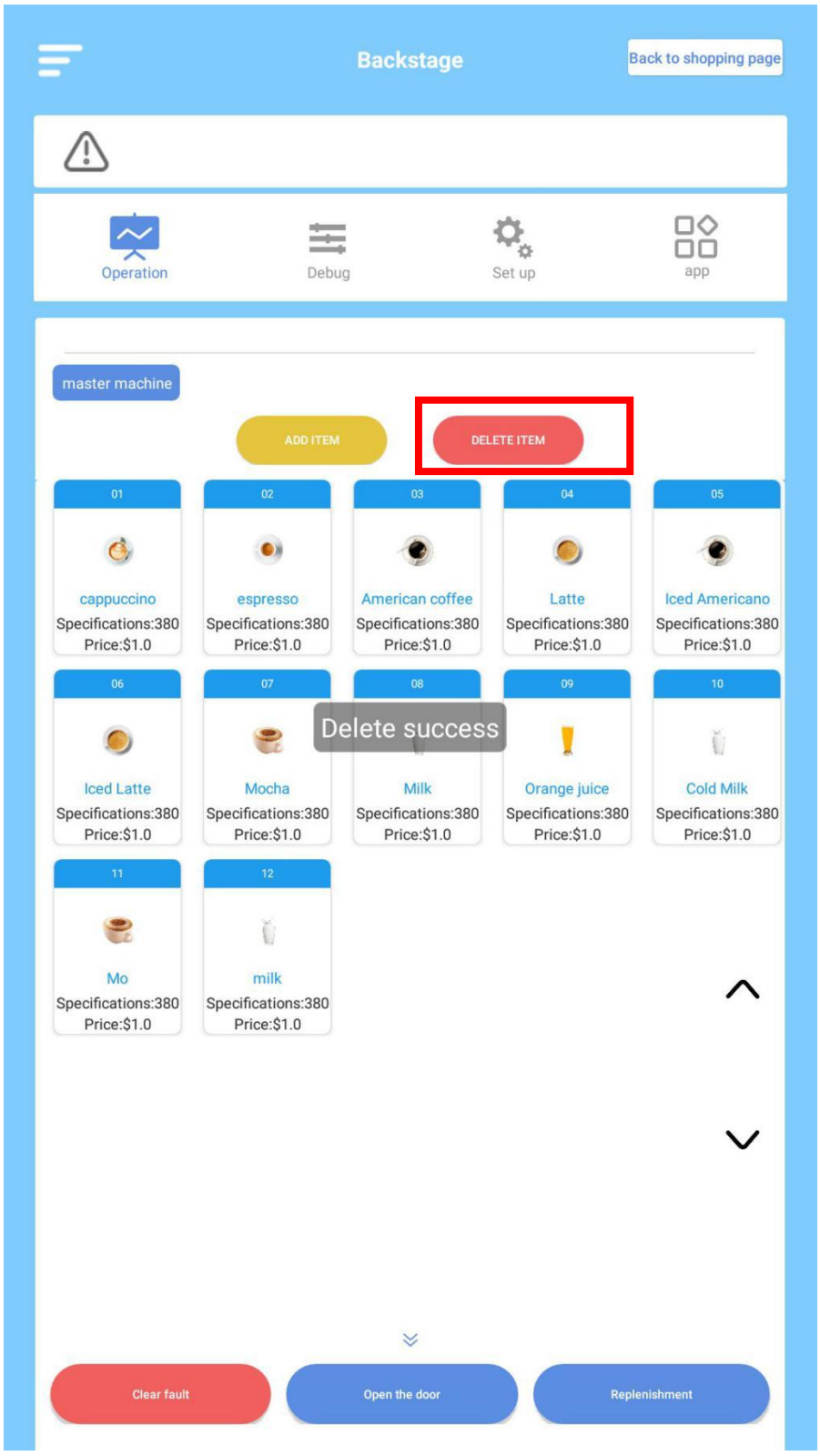
7. Formula management

7.1. Add/Delete products(slots)

1) Add products: Enter background management menu, “Operation” - “Add”, enter slot numbers, you can add multiple slot numbers in one operation.



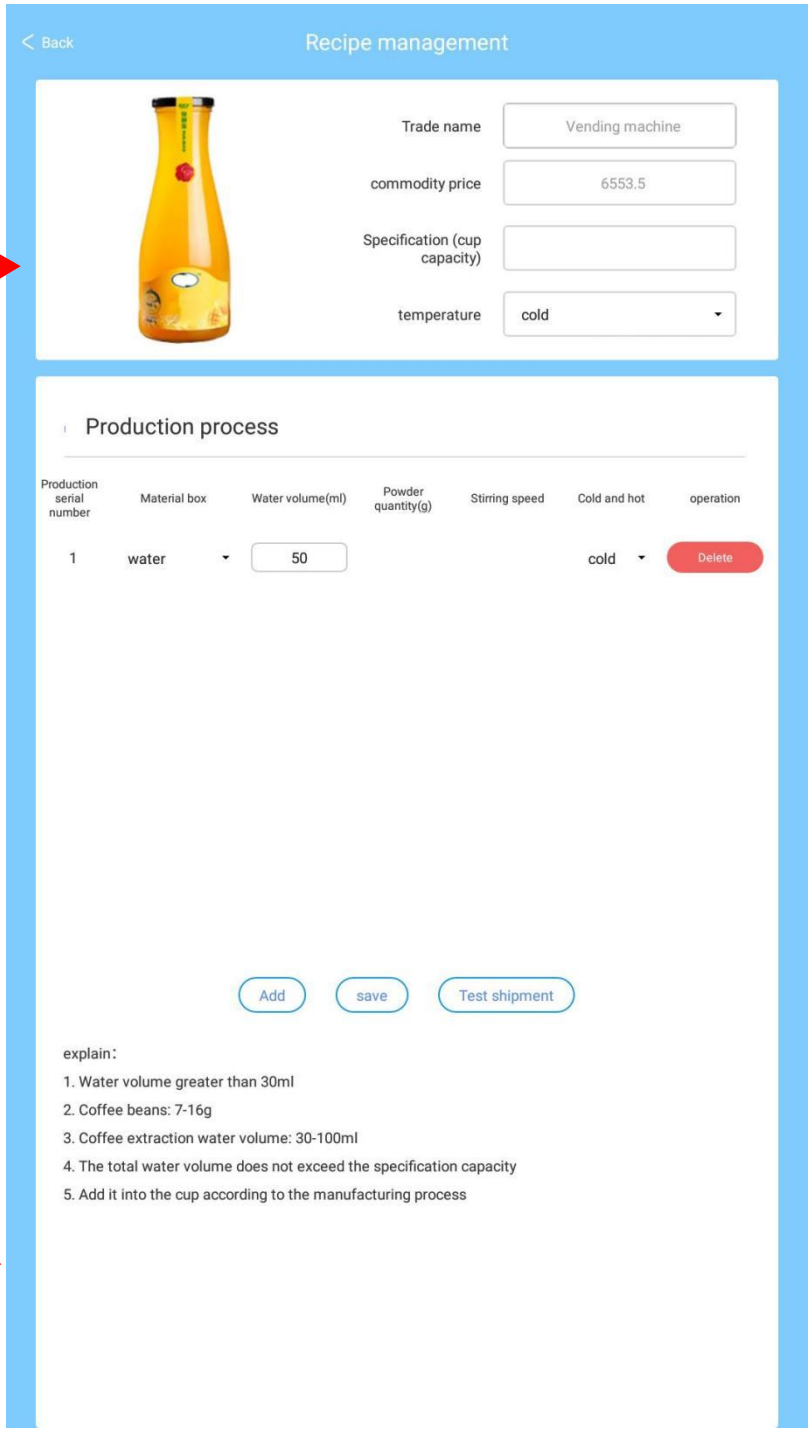
2) Delete a product. Enter the background menu, Click “Operation”-“Deletion” and enter the product serial number you want to delete. You can delete multiple products in one operation.



7.2. Formula management

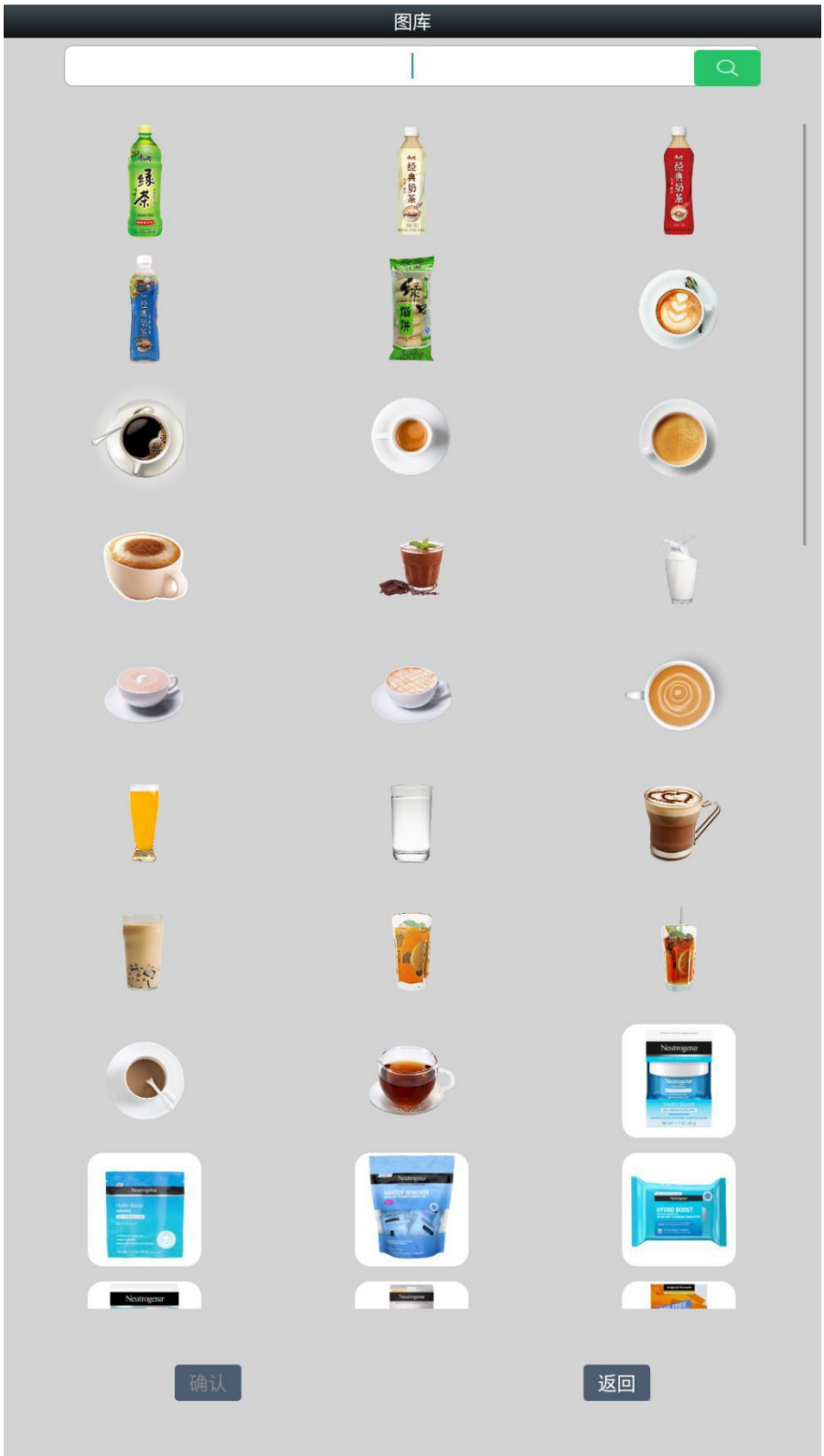
1) Click a product to enter product(formula) management interface.

Click to change an image

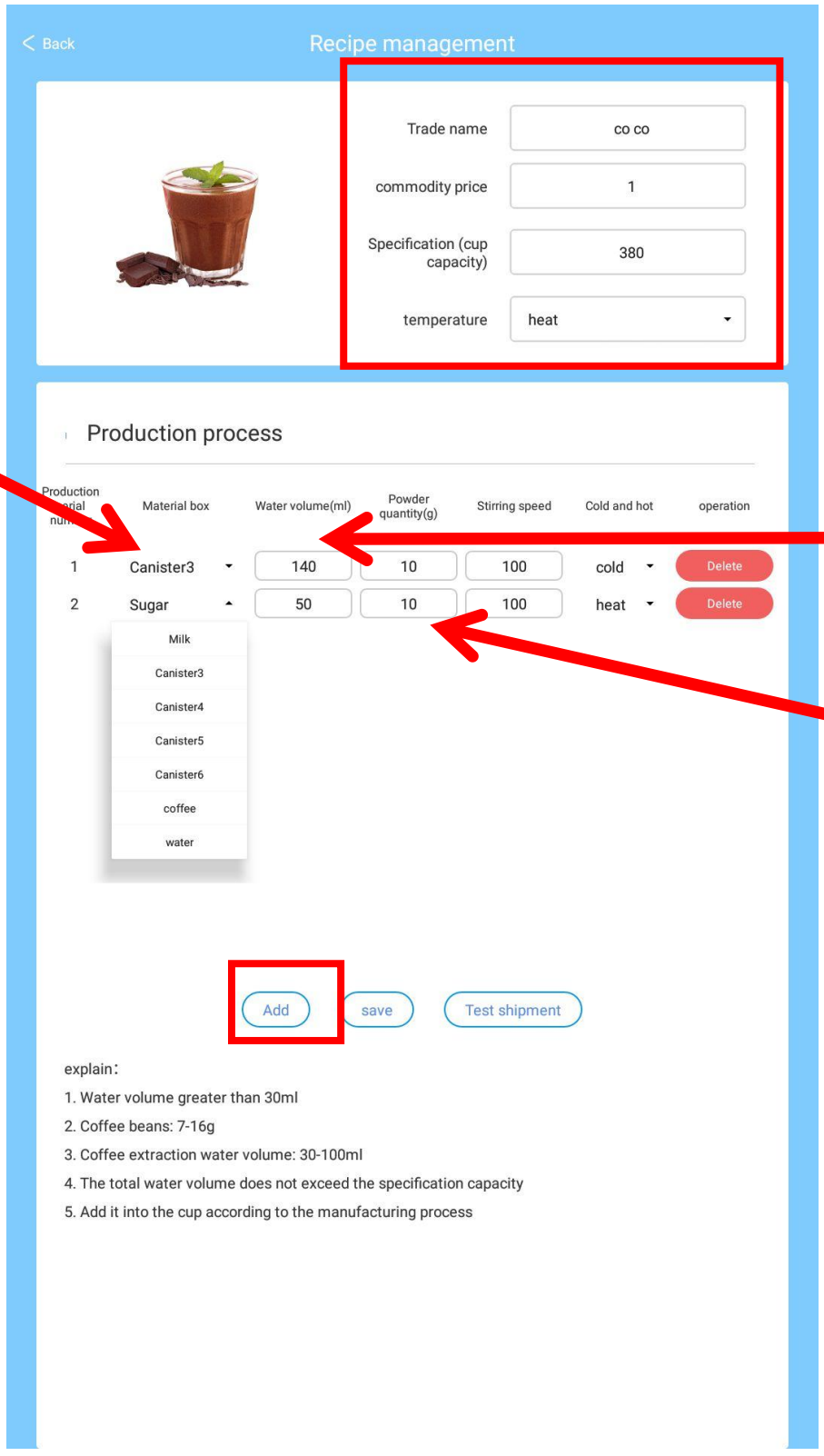


Operating instructions

2) Click the image to enter the folder where the images are, select the image and click confirm.



3) Product names, prices, cup capacities(standard cups are 12Oz or 380ml ones), hot or cold drinks(has to come with an optional cold water tank). You can manage the powder types, volume and the sequence while brewing coffee, hot or cold coffee, save after editing the information.



Canister names

Water volume for stirring

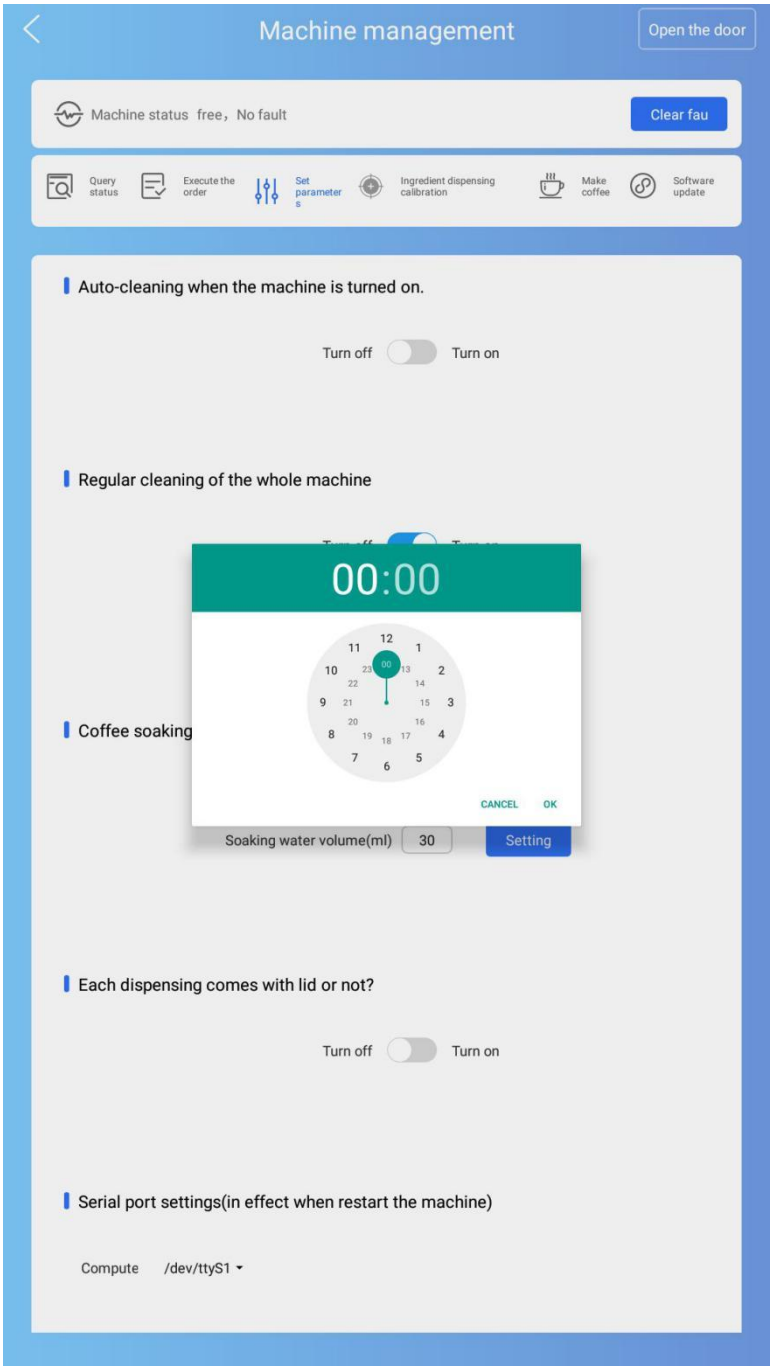
Dispensed powder weight

4) Click “Test dispensing” after revising and saving the formulas to test the formulas you saved just now. Wait for 1-2 minutes and you can have a cup of drink made with the formula you want to test. If the test is good, go on and add more formulas.

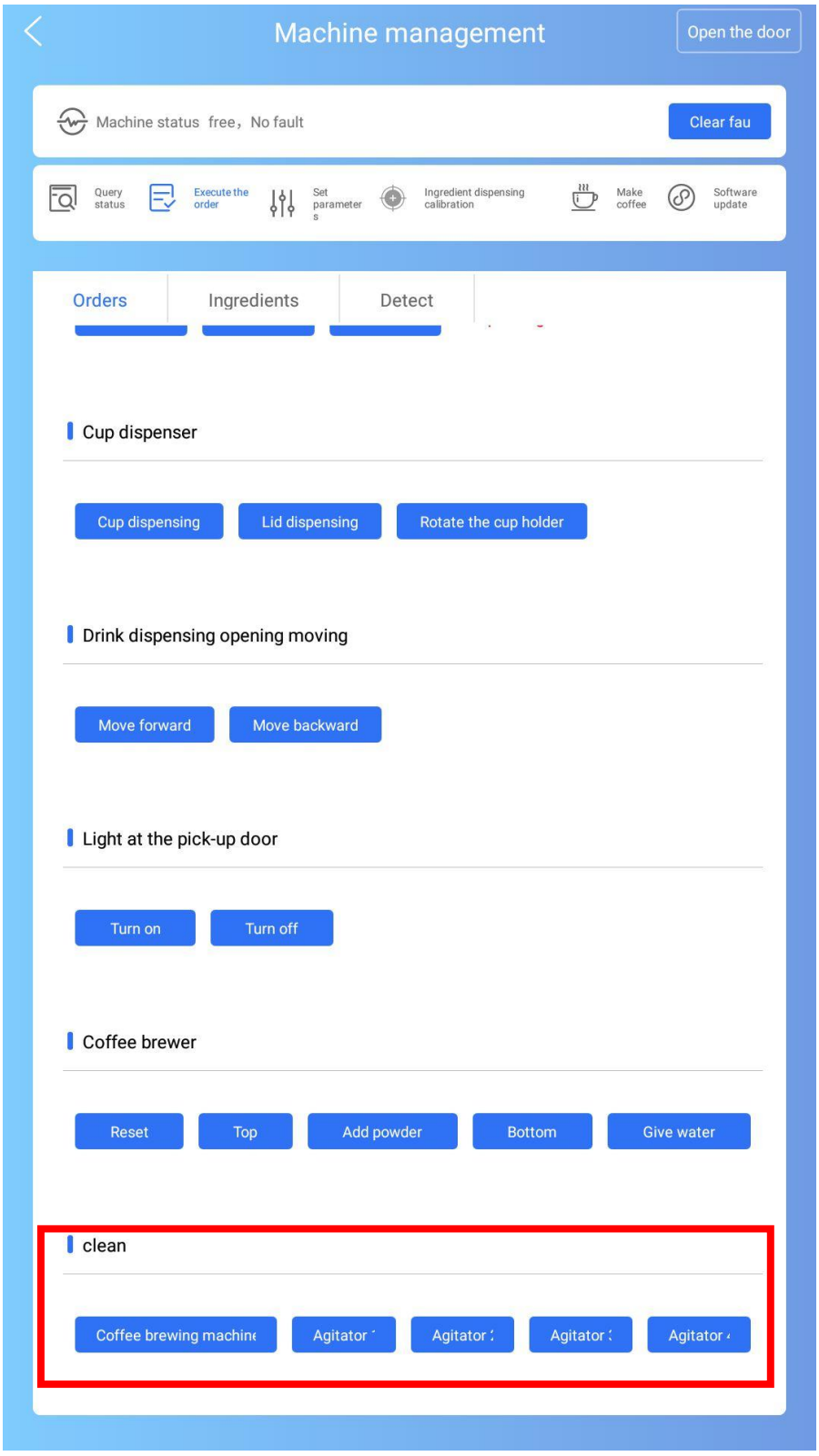
8. Routine maintenance

Important parts cleaning

1) Automatic cleaning(regular cleaning): enter “Debug” menu, click “Set parameters”, turn on “Regular cleaning” and set the time.



2) Automatic cleaning



3) When coming back from the background menu a dialog box will pop out and ask if you want to clean the interior parts, click “Yes” and the machine will wash the important parts automatically.(The brewer and stirrer 1/2/3)

8.1. Parts disassembling and cleaning

Disassemble the brewer and stirrer, wash with clean water and install them back to the machine.

8.2. Common faults and troubleshooting

When there is an error there will be a corresponding error code, please refer to below chart for common fault troubleshooting.

Error code	Description
1	Pre-store water tank out of water
2	No powder in the extractor/Too much powder/No coffee bean/Grinder error
3	Controlling board communication error
4	There is sth at the pick-up door
5	No cups
6	Extractor motor over current
7	Extractor motor disconnected
8	Extractor motor disconnected（time out）
9	No lids
10	Waste water bucket is full
11	Controlling board running time out
12	There is a cup in the robot arm/robot arm drop sensor error
13	There is no cup in the robot arm
14	Controlling board communication command response error
15	Controlling board communication command busy, time out
16	Controlling board is busy
17	Coffee powder weighing sensor error
18	Pick up door open error
19	Executing order time out
20	Stirrer moving error

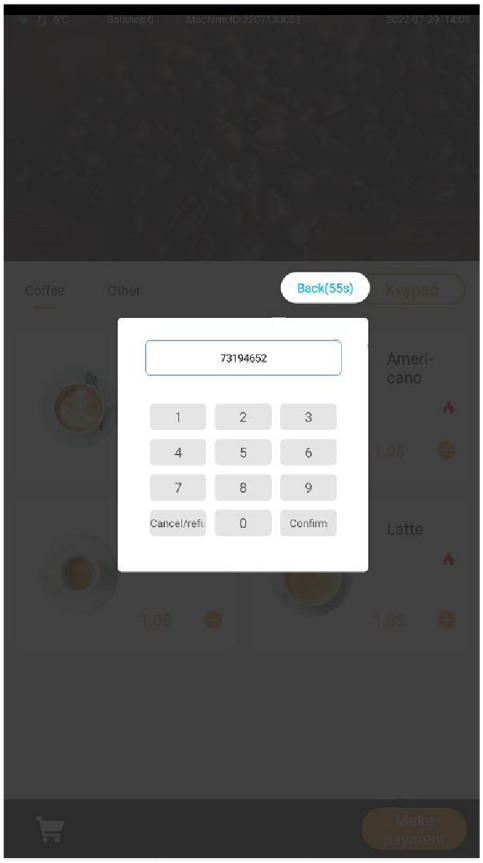
21	Boiler heating disconnected
22	Water pump 1 disconnected
23	Water pump 2 disconnected
24	Booster pump disconnected
25	Grinding motor disconnected
26	Extractor not installed
27	Cup dispensing error
28	Coffee dispensing nozzle moving motor over current
29	Coffee dispensing nozzle moving motor disconnected
30	Coffee dispensing nozzle moving motor disconnected（ time out）
31	Cup holder motor over current
32	Cup holder motor disconnected
33	Cup holder motor time out
34	Front door motor over current
35	Front door motor disconnected
36	Front door motor time out
37	Brewer pulse failure
38	Single cup dispensing failed
39	Boiler not filled
40	Cup dispensing time out
41	Cup dispensing time out（disconnected）
42	Cup dispensing time out
43	Small door motor over current
44	Small door motor disconnected
45	Small door motor disconnected（ time out）
46	Small door blocked by foreign matter
47	Flowmeter pulse error
52	Brewer motor over current
53	Brewer disconnected

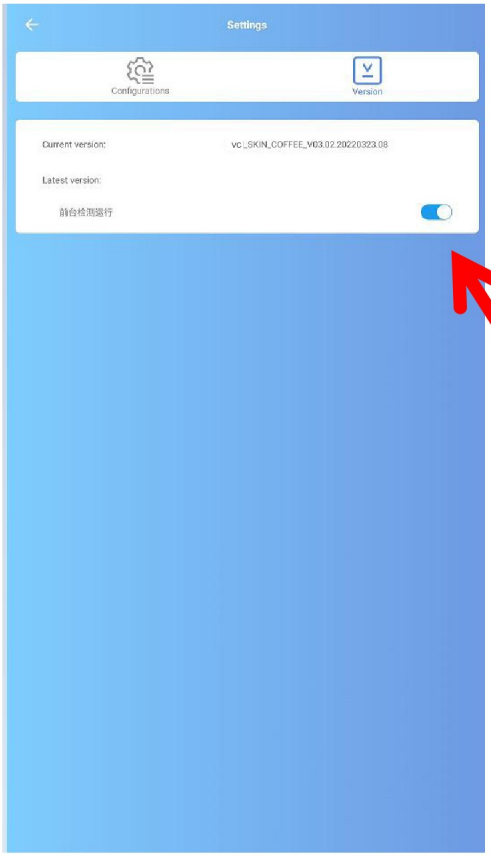
54	Brewer motor time out
55	Extractor switch over time
56	Water level switch error
81	Canister motor over current（Canister 1 motor）
82	Canister motor over current（Canister 2 motor）
83	Canister motor over current（Canister 3 motor）
84	Canister motor over current（Canister 4 motor）
85	Canister motor over current（Canister 5 motor）
86	Canister motor over current（Canister 6 motor）
94	Canister motor disconnected（Canister 1 motor）
95	Canister motor disconnected（Canister 2 motor）
96	Canister motor disconnected（Canister 3 motor）
97	Canister motor disconnected（Canister 4 motor）
98	Canister motor disconnected（Canister 5 motor）
99	Canister motor disconnected（Canister 6 motor）
201	Exhaust valve（Exhaust valve 1）
202	Exhaust valve（Exhaust valve 2）
203	Exhaust valve（Exhaust valve 3）
204	Exhaust valve（Exhaust valve 4）
205	Exhaust valve（high-pressure solenoid valve）
206	Exhaust valve（low-pressure solenoid valve）
207	Exhaust valve（Cold water valve）
208	Exhaust valve（Draining valve）

9. Advertisement setting

9.1. Change advertisement

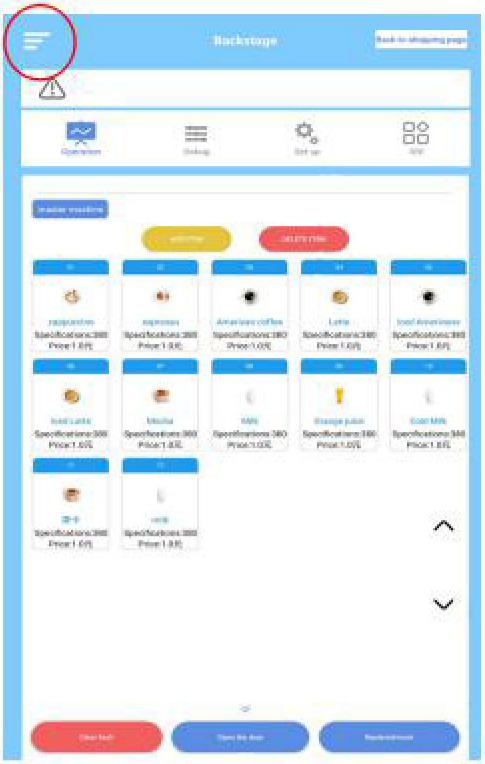
1）Click the keyboard icon, enter 73194652 and use your fingers to hold the position 1 centimeter above the “Back” button to enter management menu, before you enter skin plugin please turnoff “Check APP foreground” first.

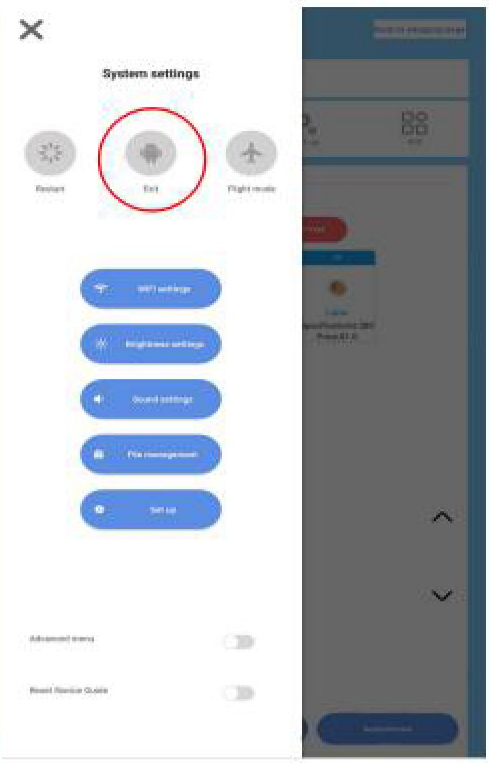




Turn off “Check App foreground”

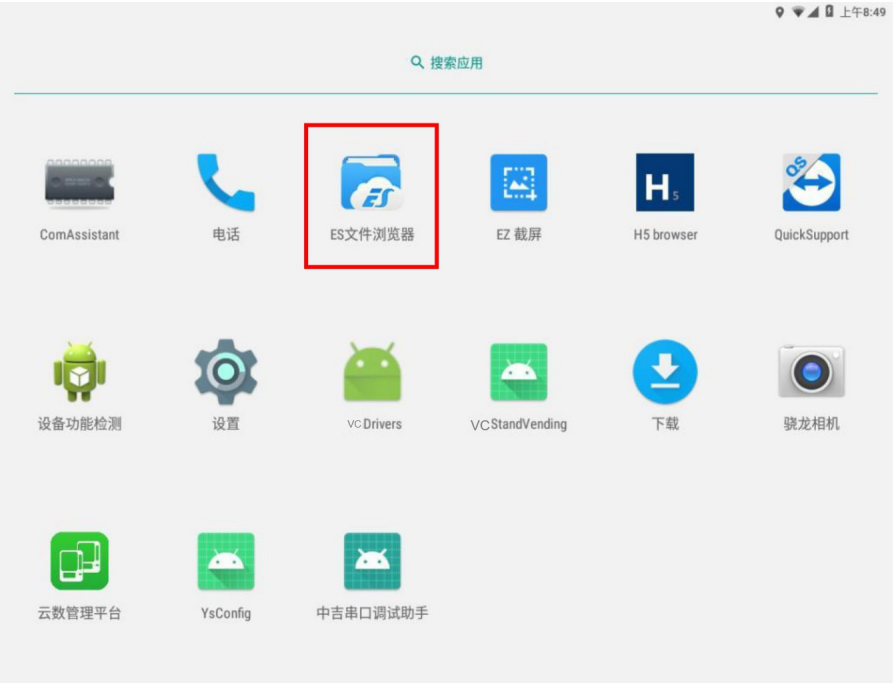
2）Click the icon on the top left corner and click “Exit” to enter Android background menu.

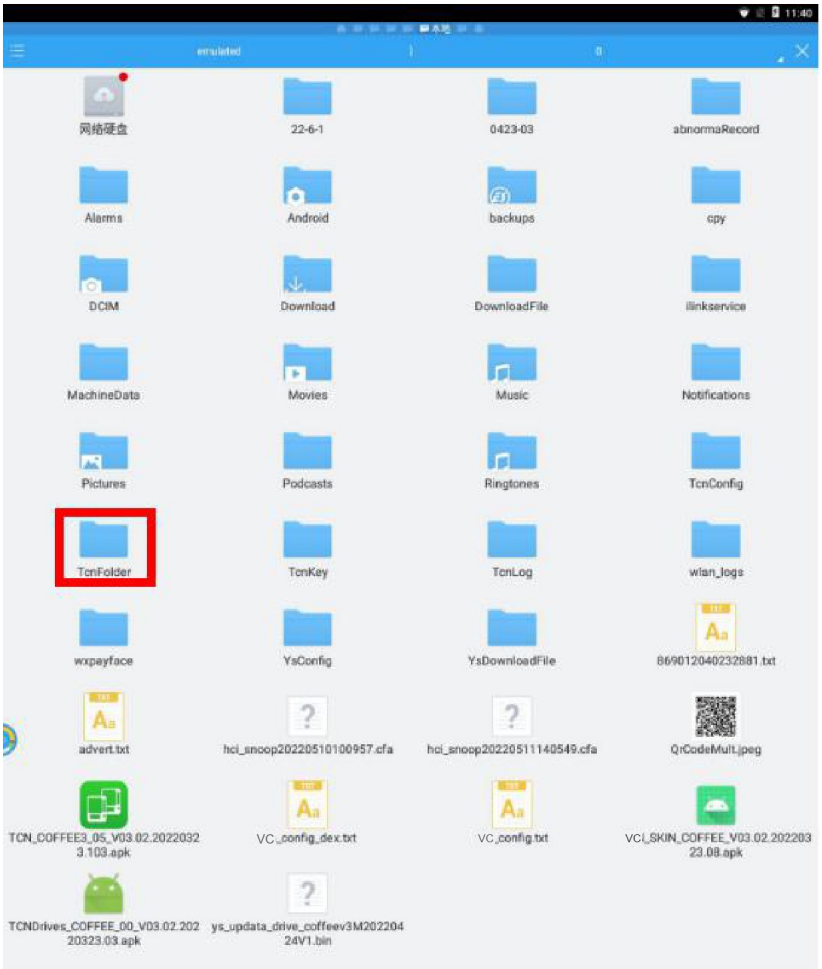




3）Click “ES File browser”, enter VCfolder and copy the advertising videos to folder “VideoAndImages”.

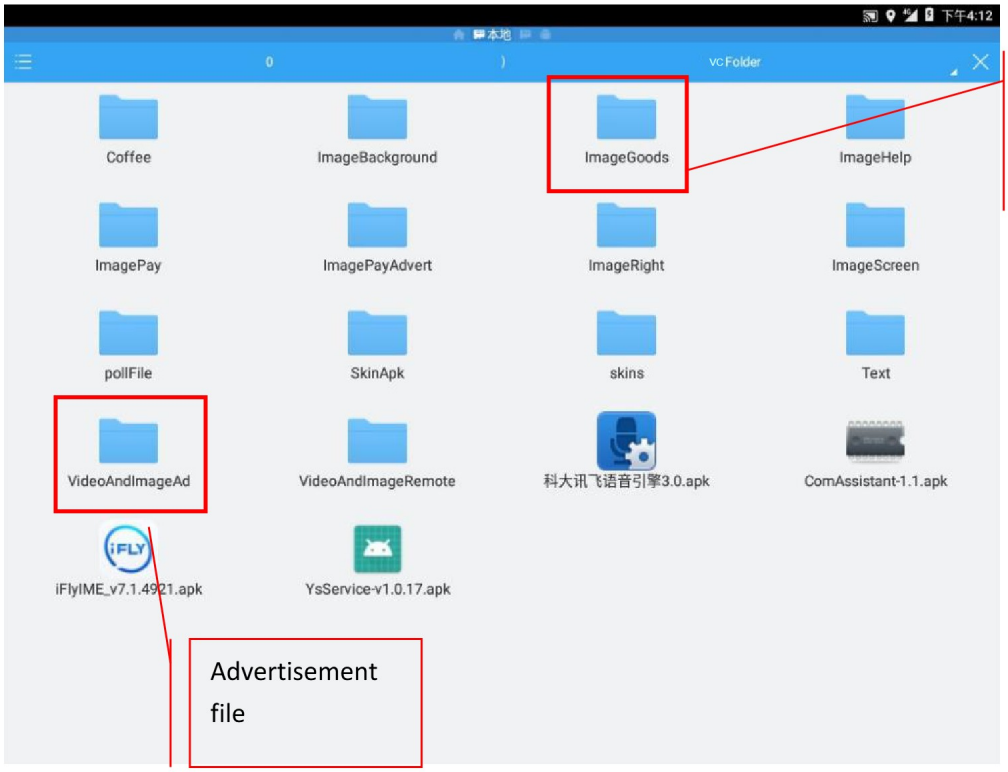
Please turn off “Check APP foreground” before you change anything here.





9.2. Upload product images(after uploading please restart the machine to activate)

Like you can see above, enter the ES file browser, open VC folder and paste the images to “ImageGoods”.



Appendix: common error codes and descriptions.