Service Manual



Model
K95-Plus/ K95T-Plus

This manual contains the most important information that is relevant to typical service activities.

Safety Instruction

These safety descriptions must be observed to ensure personal safety and the protection of the machine.
Symbols and risk phrases represent the level of hazards as follows:



WARNING

It indicates a potential danger, if not avoided, will may result in death or serious injury.



CAUTION

It indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.



NOTE

It directs your attention to the risk of damage to machinery.

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1 Installation

NOTE

Location

a) The installation location must be dry and protected against water spray;
b) Do not use the coffee machine outdoors;
c) The machine has to be installed on a solid, level and heat-resistant base;

1 Installation

1.1 Open the package

Take out the coffee machine from the packaging and check the included accessories.
Please check the **User Manual** for detailed info about accessories.

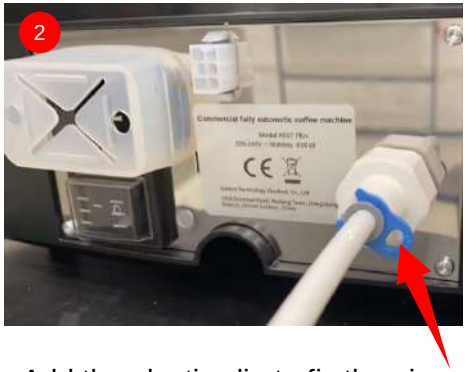
1.2 Water Connection

1.2.1 Fixed water connection

Tap water pressure must be among 2~6ar.



Insert the water pipe into the connector



Add the plastic clip to fix the pipe



Put the tube to the other connector and fix it by using the blue plastic clip.

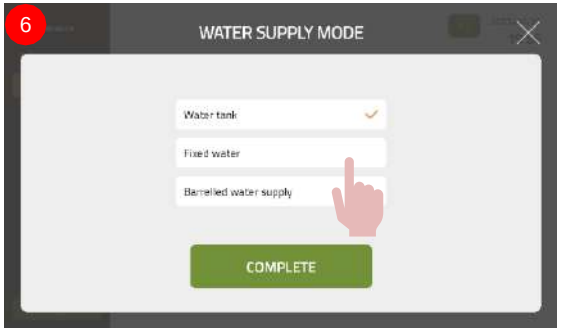
1 Installation



Connect to tap



Turn on the tap water



Select ‘Fixed water’ mode

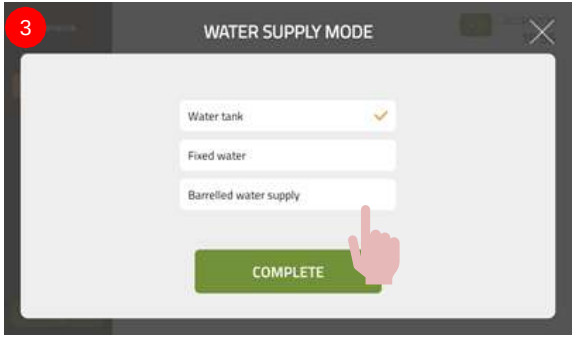
1.2.2 Barreled water connection (optional)



Connect to connector with barreled pipe



Put the pipe into the barreled water



Select ‘Barreled water’ mode

1 Installation

1.3 Electronical Connection

Damaged power cords, lines or plug connections can lead to electrocution.
Do not connect any damaged power cords, lines or plug connections to the power supply.
Ensure that the machine and the power cord are not near any hot surfaces such as gas or electric stoves or ovens.



Put the plug the power cable to socket



Turn on the power switch



Press the screen power button

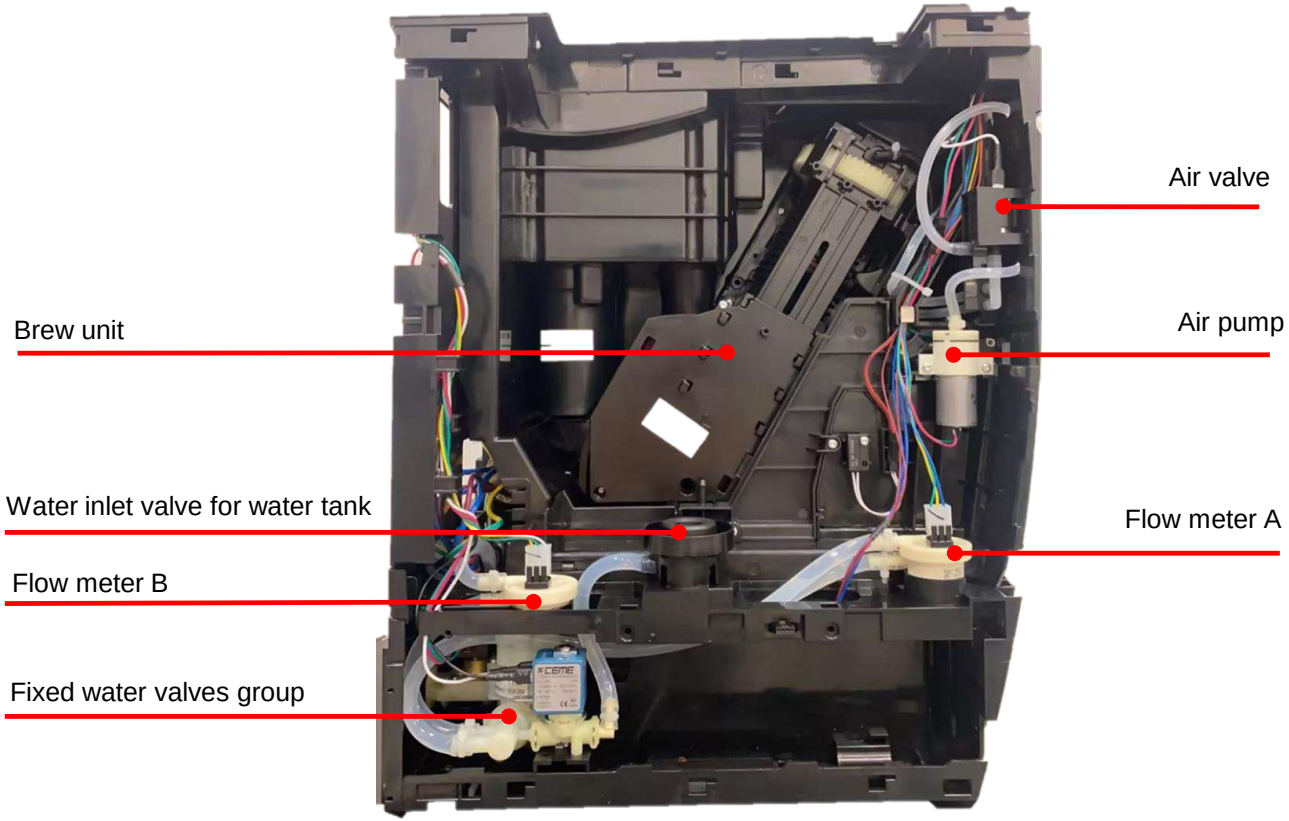
2 Machine Overview





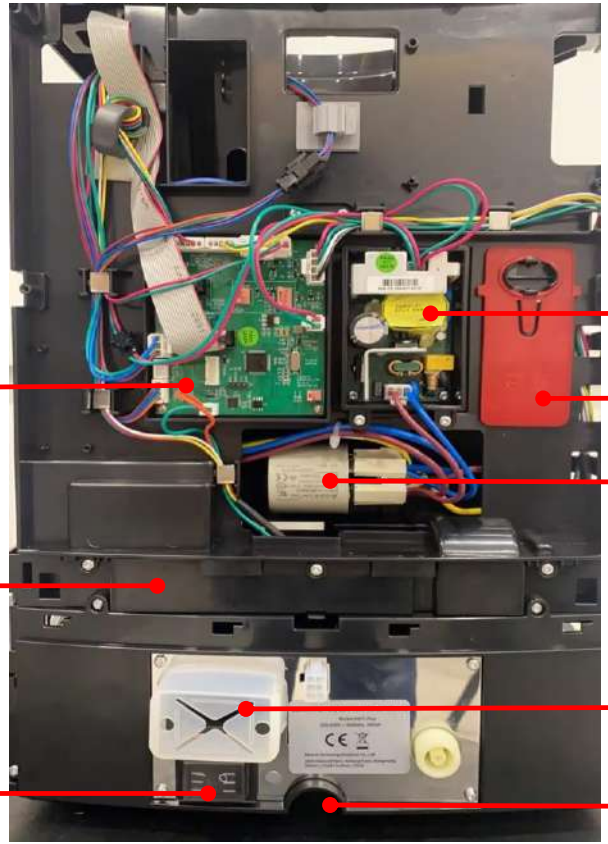
3 Components Overview

3.1 Left View



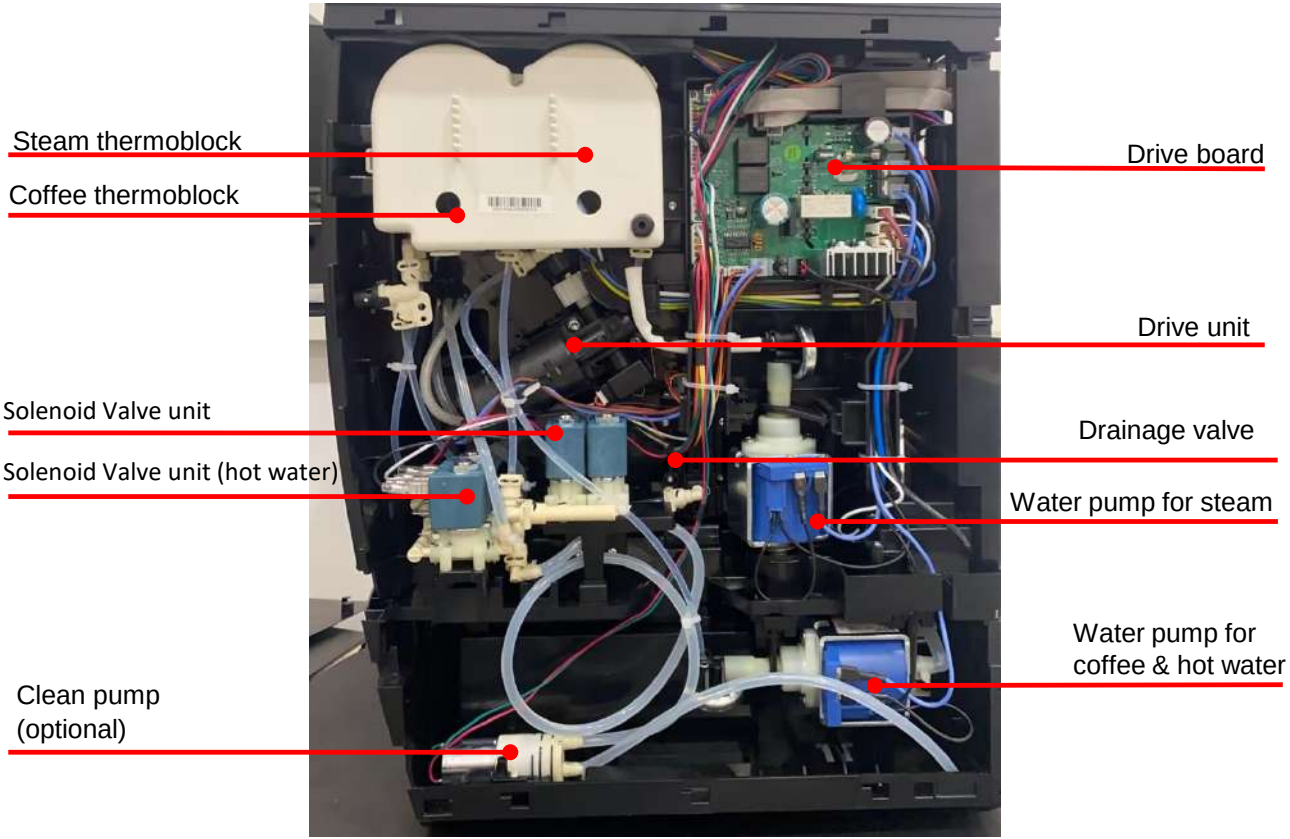
3 Components Overview

3.2 Rear View



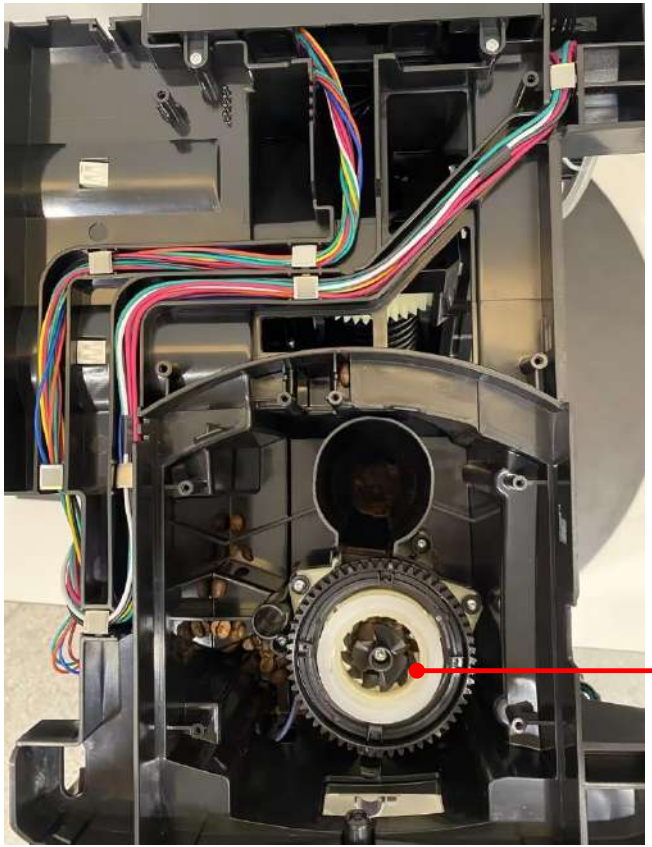
3 Components Overview

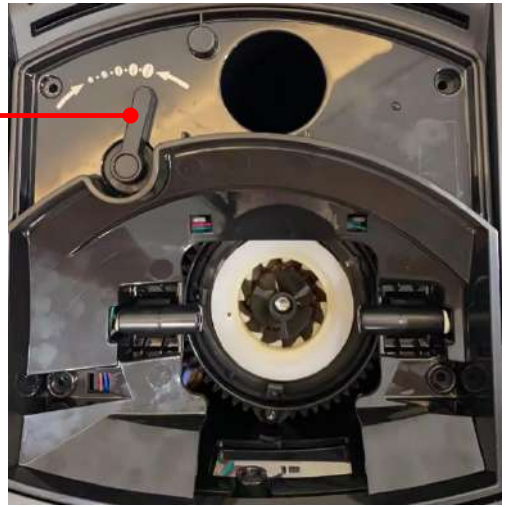
3.3 Right View



3 Components Overview

3.4 Above View





4 Parts Instruction

4.1 Brewing System

4.1.1 Brewer



Function

Coffee brewing

Technical Data

Parameter	Value range	Remarks
Powder capacity	9~16g	
Brewing pressure	6~7 bar	
Life cycle	30，000 brewing	

4 Parts Instruction

Brewer working principle



Brew cycle

1. Grinding and proportioning



2. Compacting



3. Brewing



4. Emptying



4 Parts Instruction

4.1 Brewing System

4.1.2 Brewer driver



The brewing unit is actuated by a signal from the control board.
If the brewing unit is in the wrong position, then it sends feedback to the control board and the display shows the message, ‘Brew unit error’,

Function

① Provide moving power to brewer;
② Monitor the brewer running status.

Technical Data

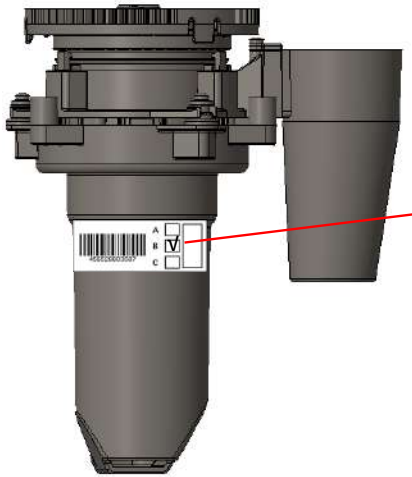
Parameter	Value range	Remarks
Voltage	DC 24V	

4 Parts Instruction

4.2 Grinding Unit

Function

Grinding coffee beans into powder



Grinder type	Grinding capacity (g/s)
A	1.66~2.20
B	1.48~1.64
C	1.30~1.46

The grinder unit has three types of capability . Because the efficiency of the grinder produced by the supplier is inconsistent

1. Based on the table above, if the grinding amount of beans is the same, the grinding time of A is more shorter, the grinding time of C is more longer.
2.Normally, there is no need to change the grinder type.
While level need to be adjusted based on marker in new grinder when repairing or replacement.

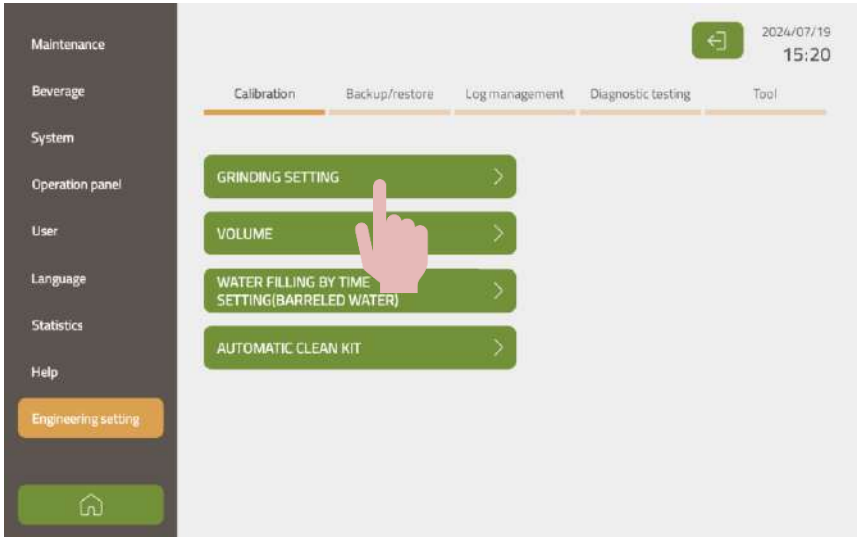
Technical Data

Parameter	Value range	Remarks
Voltage	DC 230V	

4 Parts Instruction

4.2 Grinding Unit

Select ‘grinding group’ as per the grinder type.

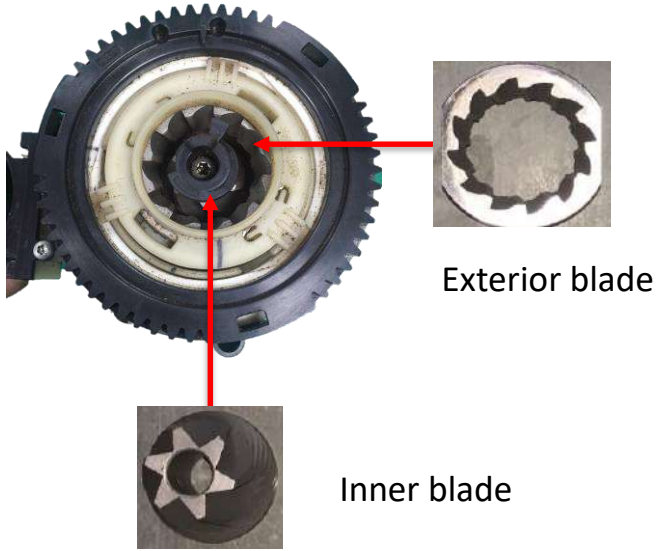




4 Parts Instruction

4.2 Grinding Unit

Repairing and maintenance



Repairing :1 in order to ensure the accuracy of the grinder group, it is assembled by a series of special tools. We do not recommend repair in your side, if you have to repair, please replace the exterior blade and Inner blade at the same time.

2. After replacing the new grinder unit, you need to enter the engineering mode and reset the grinding group corresponding to the grinder unit.
For example，the grinder unit is marked A，please reset A group in select grinding group menu .

Maintenance： The only key part of the grinder group that can be removed is the exterior blade.

4 Parts Instruction

4.3 Water Pumps

Function

Supply the water circuit

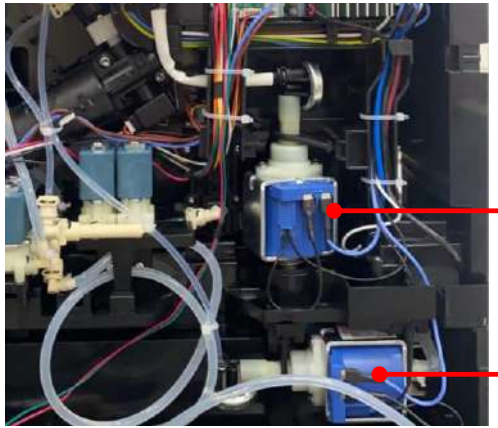
Technical Data

Water pump A(making steam)

Parameter	Value range	Remarks
Power supply	220V	
Life cycle (times)	30000	

Water pump B (making coffee)

Parameter	Value range	Remarks
Power supply	220V	
Life cycle (times)	30000	



If machine has been in stock for long time(normally longer than 6 months),

4 Parts Instruction

4.4 Heating Parts
-Thermoblock



Function
Generate hot water and steam

Technical data

Parameter	Value range	Remarks
Power supply	220 V AC	
Power	1400 W	

4 Parts Instruction

4.5 Milk unit

Function

Milk beverage dispensing



1. Milk foam dispenser
2. Milk inlet
3. Air inlet
4. Steam inlet

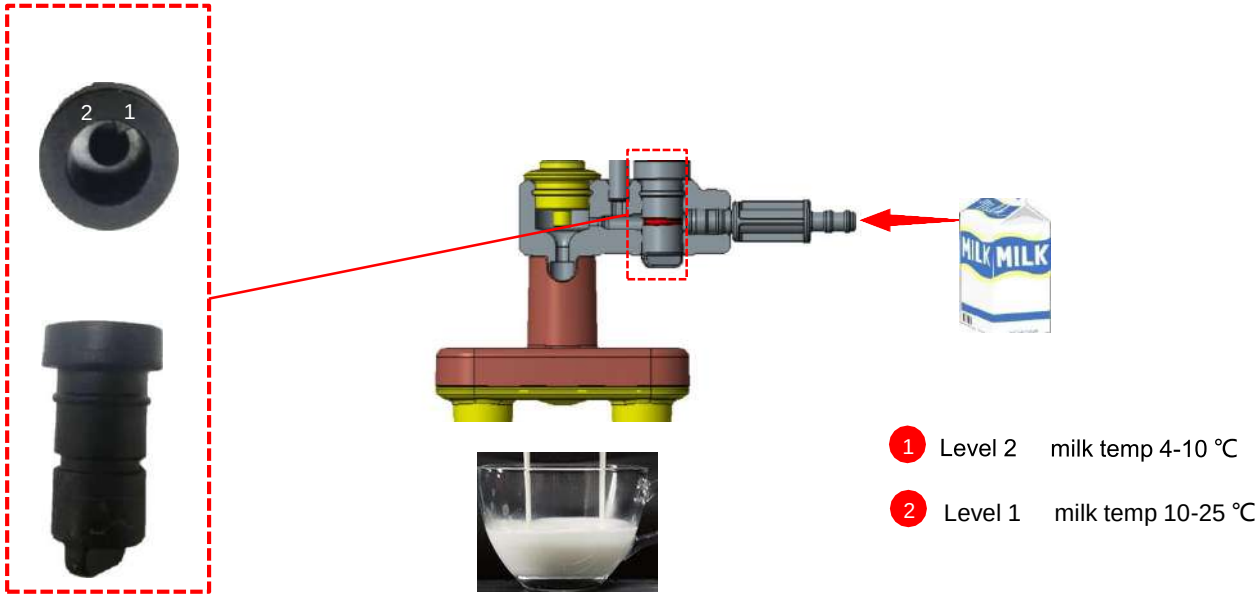
Disassembled spout



The beverage spout should be manually cleaned weekly. Please check maintenance manual for details.

4 Parts Instruction

4.5 Milk unit



1 Level 2 milk temp 4-10 ℃

2 Level 1 milk temp 10-25 ℃

4 Parts Instruction

4.6 Flowmeter



Function:

① Detects water flow;

② Responsible for the error messages **‘Coffee circuit error’, ‘Steam circuit error’.**

4 Parts Instruction

4.7 Clean pump (optional)



Function

Clean the milk pipe of the cooler

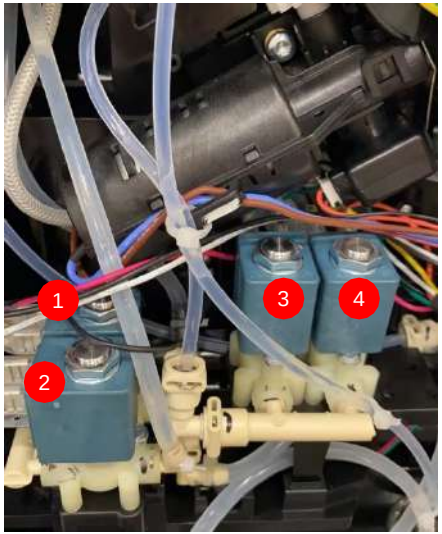
Technical Data

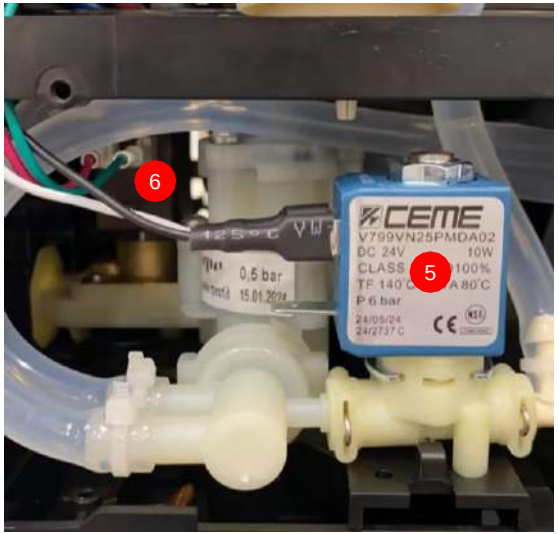
Parameter	Value range	Remarks
Power	DC 24V	

The fan will work for 2 minutes after making beverage or cleaning process.

4 Parts Instruction

4.8 Solenoid valves





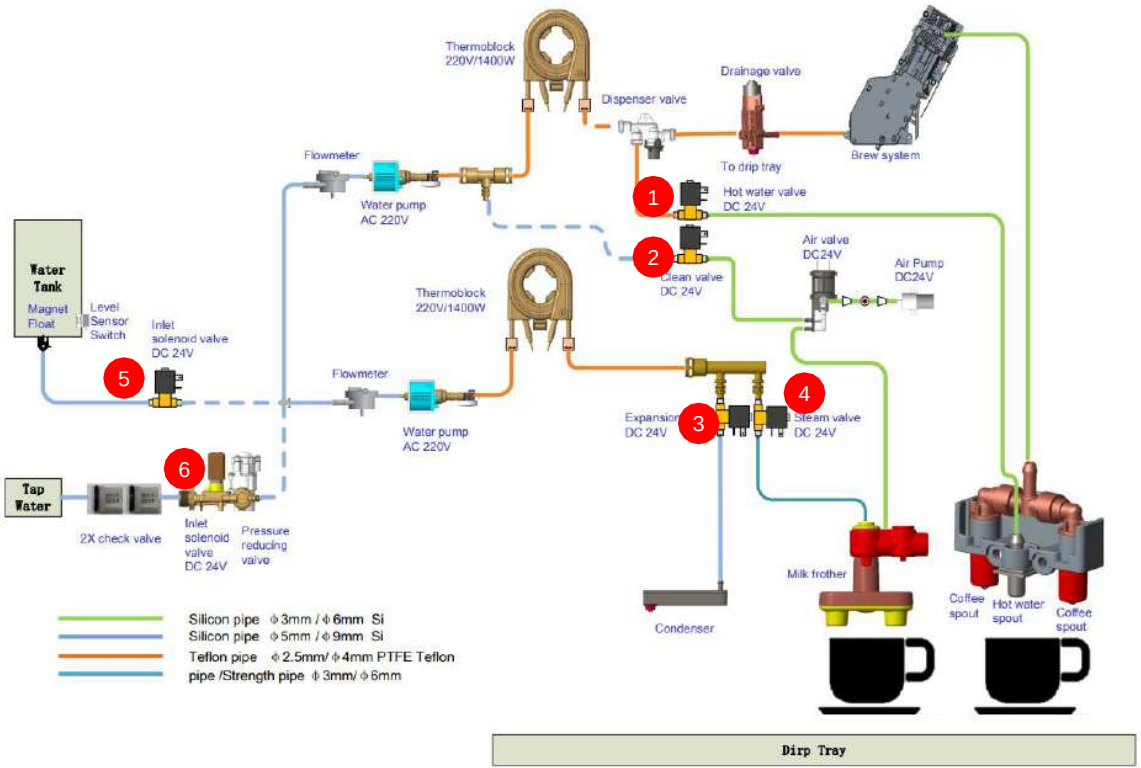
Parameter	Value range
Power supply	DC 24V

Function

Control the fluid direction

4 Parts Instruction

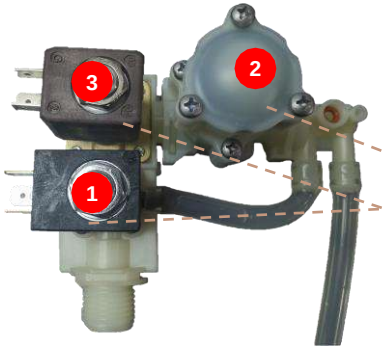
4.8 Solenoid valves

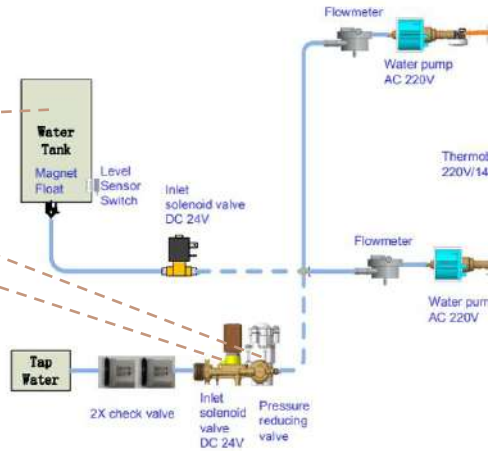


1. Making hot water
2. Cleaning the milk system
3. Release the steam inside thermoblock
4. Making steam
5. Water tank supply
6. Tap water supply

4 Parts Instruction

4.8 Solenoid valves
- inlet solenoid valve





1 Solenoid valve:

For tank operation, this valve is open.
For constant water operation, it is closed.

2 Pressure reducer

Reduces the pressure for constant water operation in order to protect the water pump. The pressure in the water line is reduced to below 0.5 bar.

3 Solenoid valve

For tank operation, this valve is closed.
For tap water operation, it is open.

4 Parts Instruction

4.9 Drainage valve

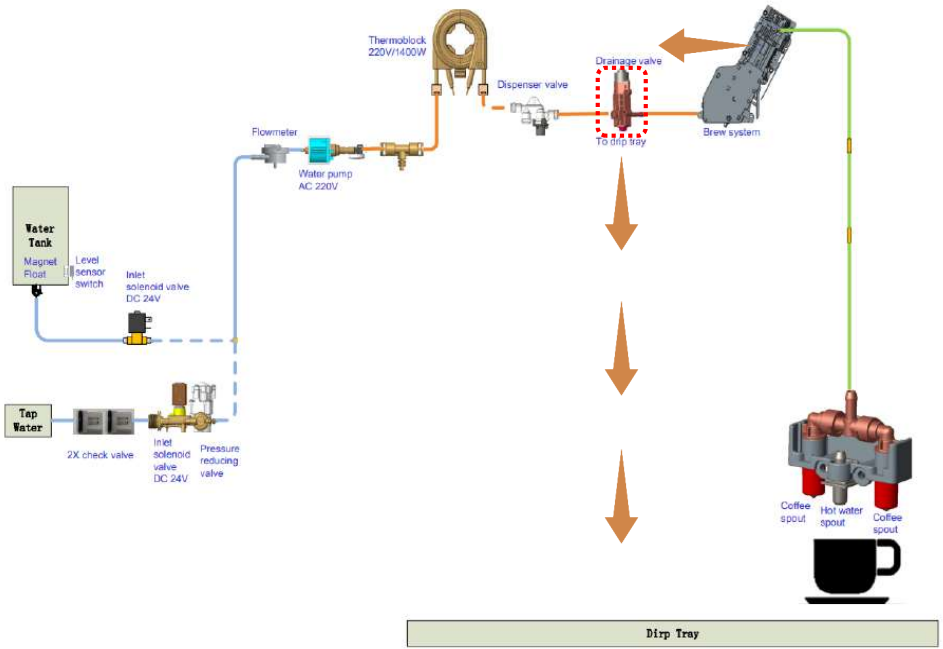
Function

Brewing coffee or release pressure after making every cup of coffee

Technical Data

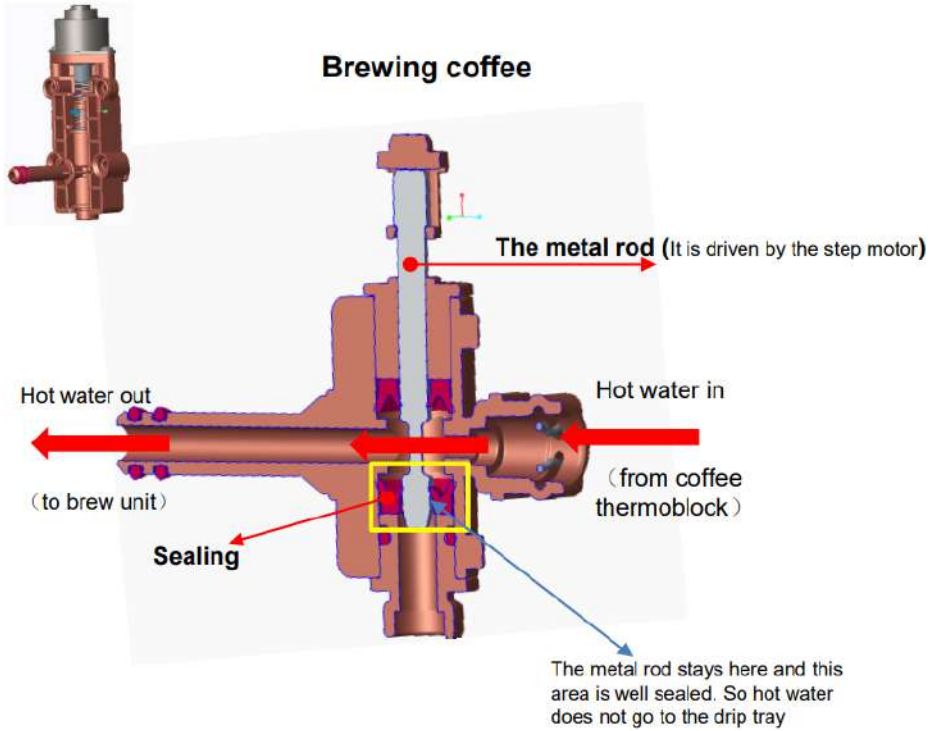
Parameter	Value range	Remarks
Power supply of motor	DC24V，11W	

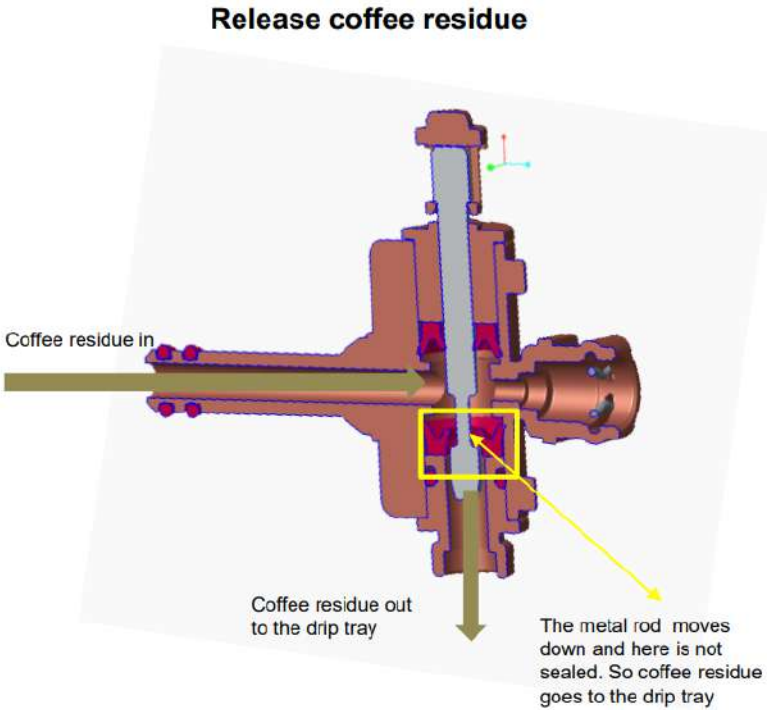




4 Parts Instruction

Drainage valve working principle



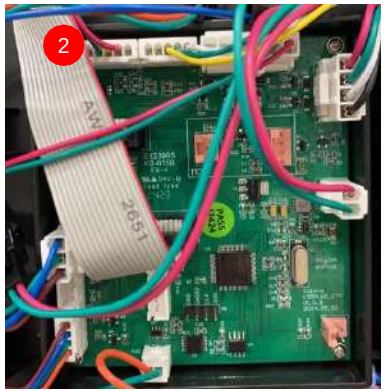


4 Parts Instruction

4.10 PCBs



Drive board



Main board



Power board



Fuse board

1. Drive board
2. Main control PCB- Ctr software is here
3. Power supply PCB
4. Fuse board

4 Parts Instruction

4.11 Android Screen



1.Android version：2.1
2.RAM：1GB
3.ROM：8GB
4.Display size：10.1 inch
5.Resolution：1280*800 (RGB)

?	Resource requirements	Image requirements: Image format: PNG/JPJ/JPEG, recommended resolution ratio for the standby advertisement: 1024*600, recommended resolution ratio for the welcome advertisement: 1024*540, and recommended resolution ratio for the preparation advertisement: 660*520.	?	Resource requirements	Video resource requirements: Video size:<100M, format:MP4, bitrate:<3000kb-ps,25 frames per second. For the standby advertisement: aspect ratio is 16:9, recommended resolution ratio:1280*720. For the welcome advertisement: aspect ratio is 16:9,recommended resolution ratio:1280*720. For the preparation advertisement: aspect ratio is 4:3,recommended resolution ratio:660*520.

5 Special tools

5.1 USB Stick



The format of the U disk should be FAT32.

Function

- Upgrade the software;
- Upload and download the machine data;
- Upload and download the AD source, including videos, pictures;

6 Assembly & Disassembly

Please check the videos which are prepared by the factory for how to disassemble and assemble the machine.
The videos prepared including,

- How to open the machine;
- How to take out the brew unit;
- How to remove the screen;
- How to remove the grinder units;
- How to remove the brew unit driver;
- How to remove the water pumps;
- How to remove the thermoblock;
- How to remove the solenoid valves;
- How to disassemble the brew unit;
- How to disassemble the grinder unit;
- How to disassemble the beverage spout;

Please contact factory for how to get these videos.

7 Software

There are three different software type in K95Plus model.

All of the software are upgraded via USB sticker.

7.1 Ctr

The **Ctr** file is located in the main PCB.



7.2 HMI

The **HMI** file is located in the Android screen PCB.



Important!

The APK file can only be upgraded from low version to high version.

7.3 Calibration

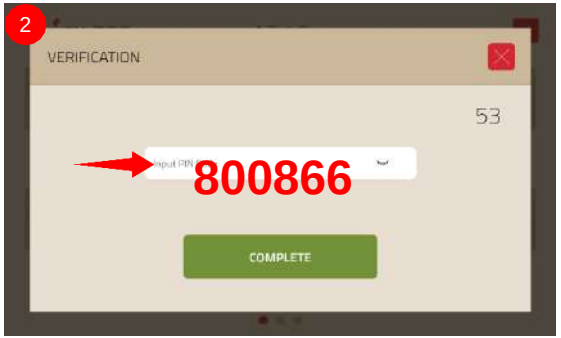
The **calibration** file is located in the Android screen PCB. It is used to activate some special functionalities if needed.



8 Engineering mode

Only technical personal have the access to engineering setting .
800866 is the PIN code to enter engineering setting.
The following service activities can be performed by using the engineering setting.







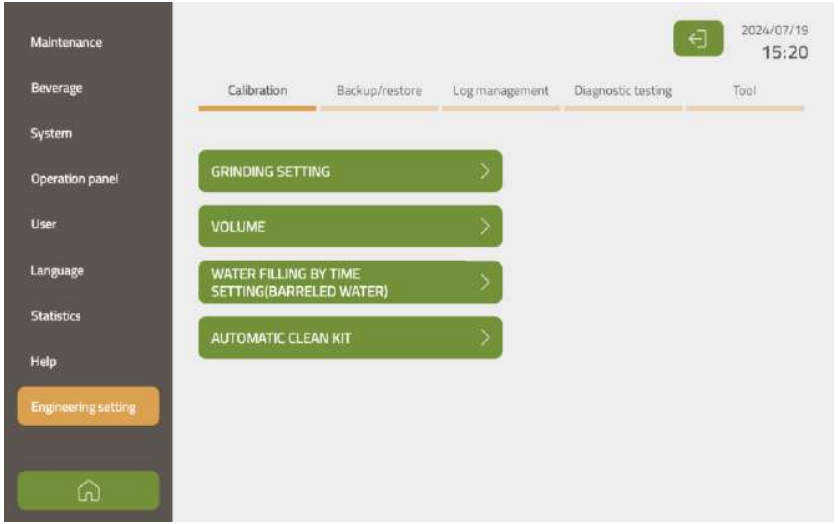
8 Engineering setting

8.1 Calibration

The following setting are available:

- Grinding fineness adjustment
- Volume calibration

Perform every step according to the message displayed on the screen.



8 Engineering setting

8.2 Backup/Restore

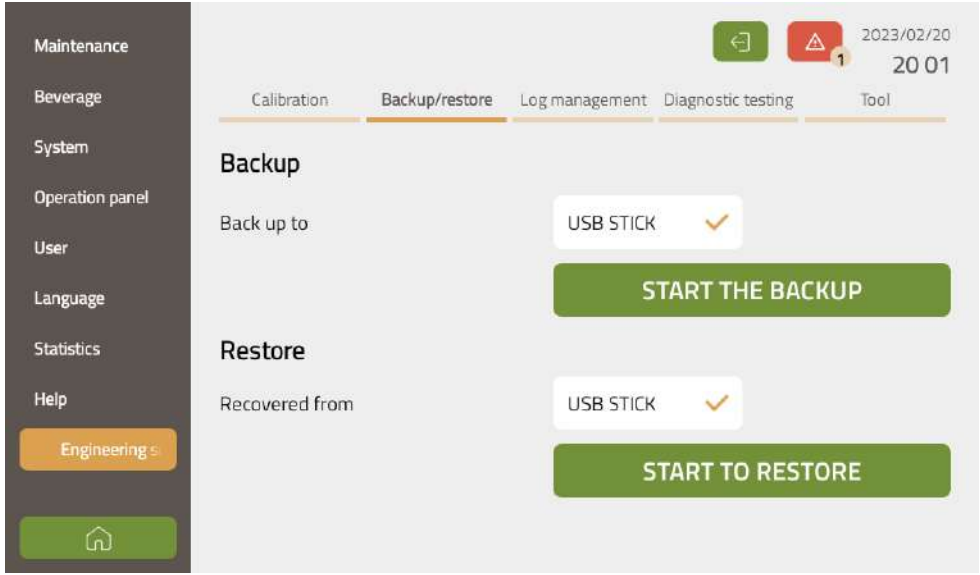
8.2.1 Backup

All of the machine setting could be backed up to a USB sticker or even the cloud.

8.2.2 Restore

All of the machine setting could be uploaded via USB sticker or even the cloud.

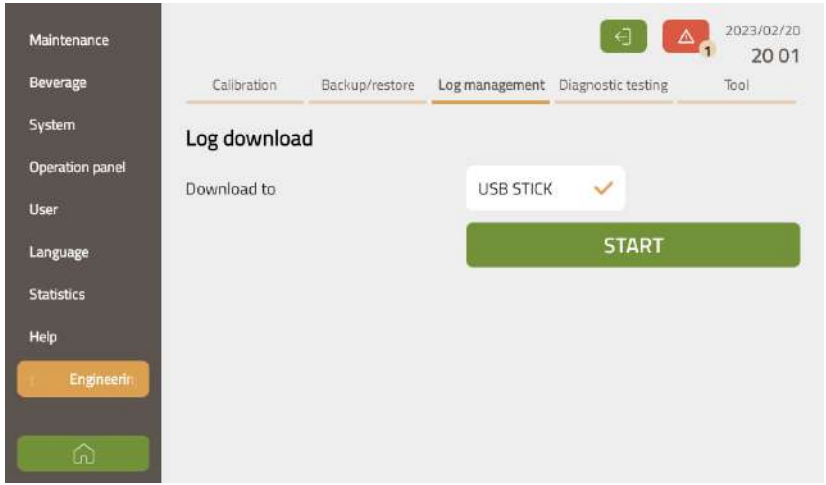
Perform every step according to the message displayed on the screen.



8 Engineering setting

8.3 Log Management

When there is something wrong with the software issue, the log info could be downloaded here and the info will be helpful for the factory to find out the reason behind the problem



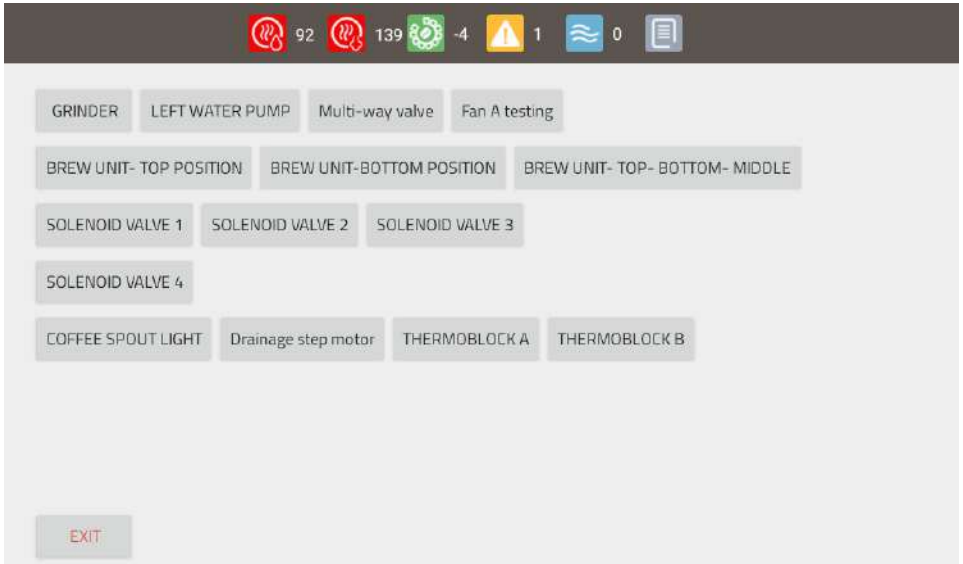
8 Engineering setting

8.4 Diagnostic

8.4.1 Self-diagnosis

Click the part name and the part will be working for some seconds. It will be very helpful for the service engineers to find the reason behind a failure.





8.4.2 Remote diagnosis

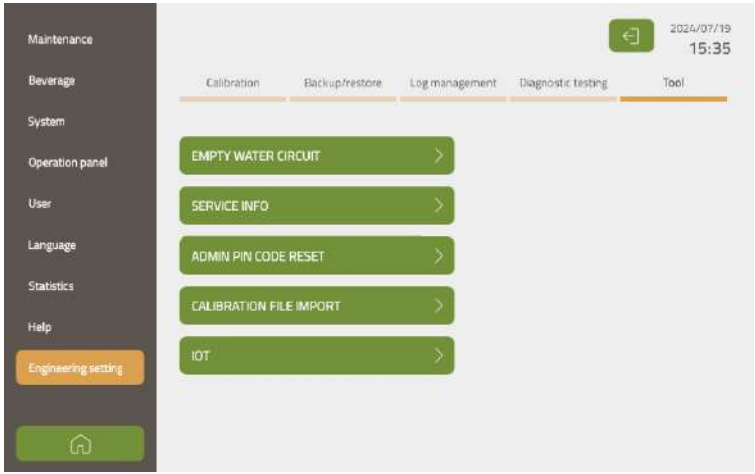
It is also to make the remote diagnosis for a failure case via IOT platform.

8 Engineering setting

8.5 Tools

8.5.1 Empty Water Circuit

The water circuit must be emptied in case of
① Transportation
② Leave the machine in stock for long time.
③ Keep the machine in a place where ambient temperature is below 0 ℃



8 Engineering setting

8.5.2 Service information

The service call could be set here



8.5.3 Admin PIN code reset

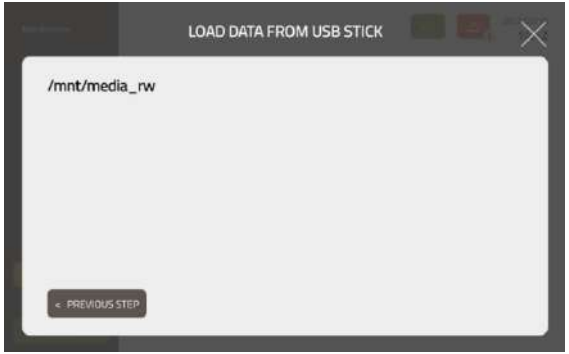
The admin PIN code could be reset here



8 Engineering setting

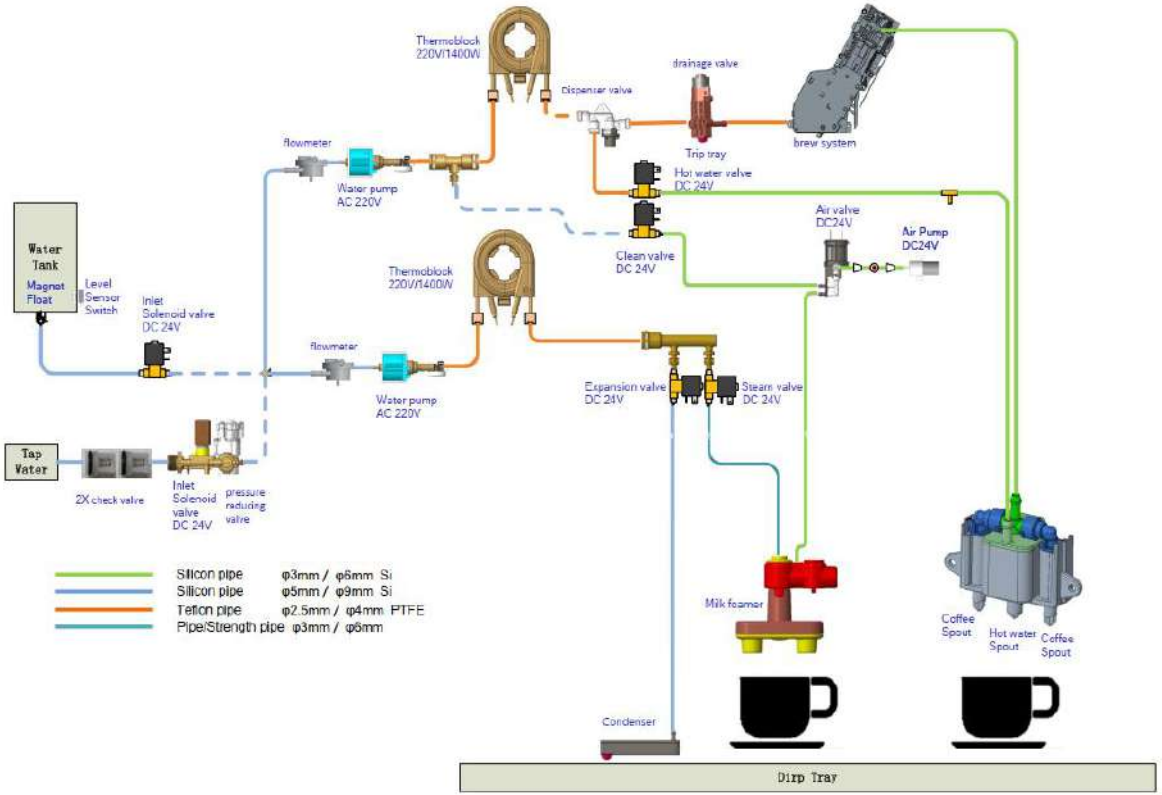
8.5.4 Calibration file import

The calibration software are upgraded here.



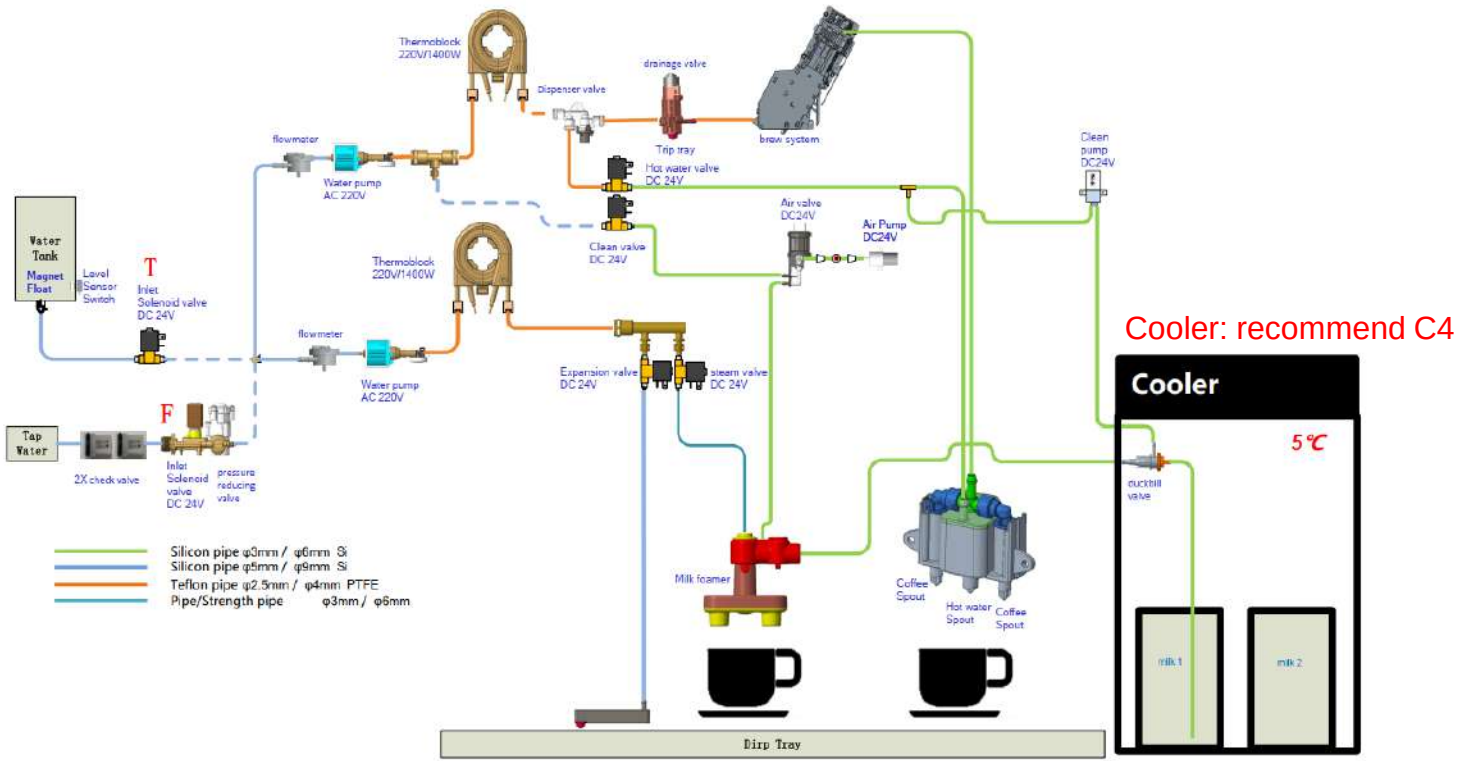
9 Working principle of beverage preparation

9.1 Water circuit



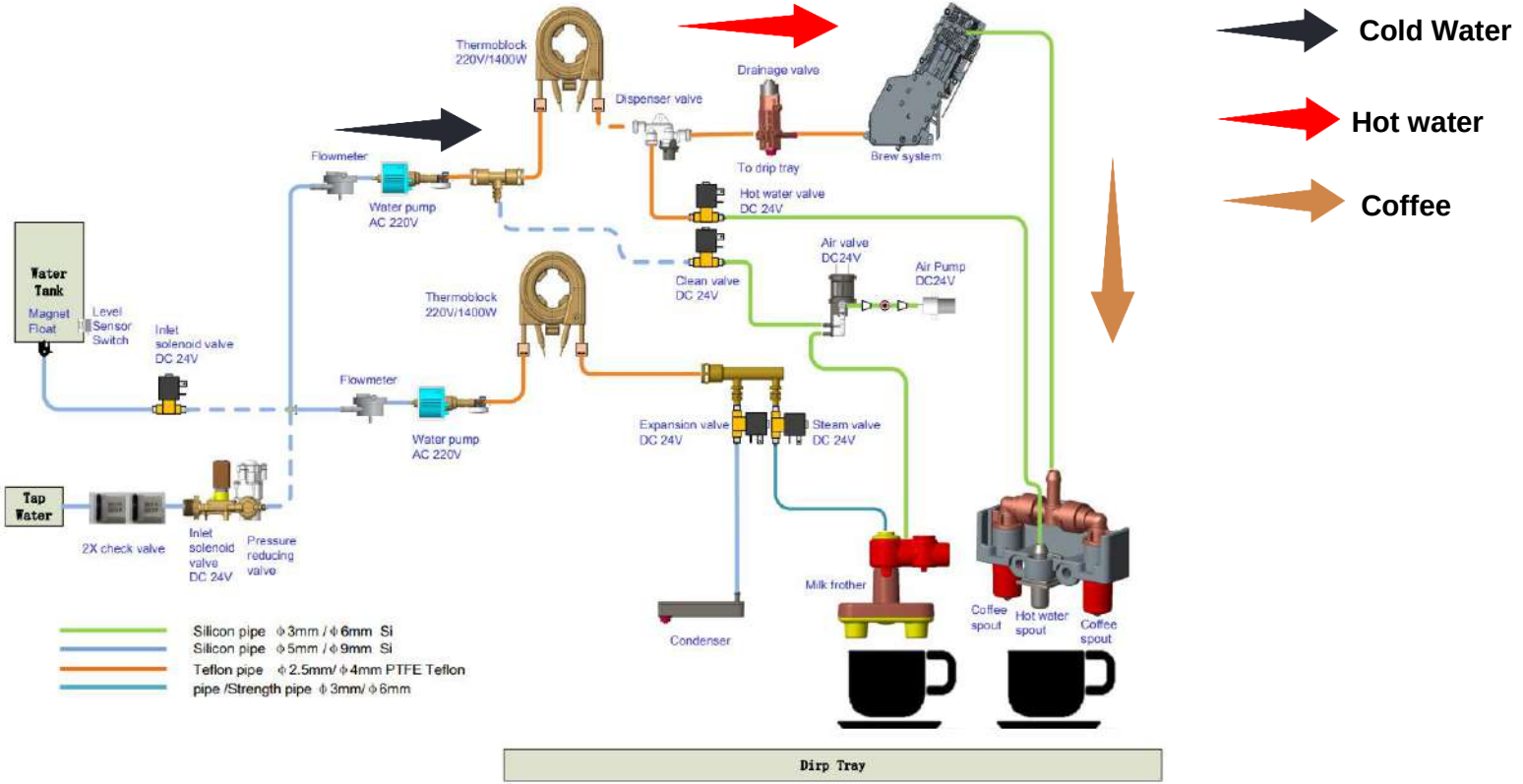
9 Working principle of beverage preparation

9.2 Water circuit (with cooler)



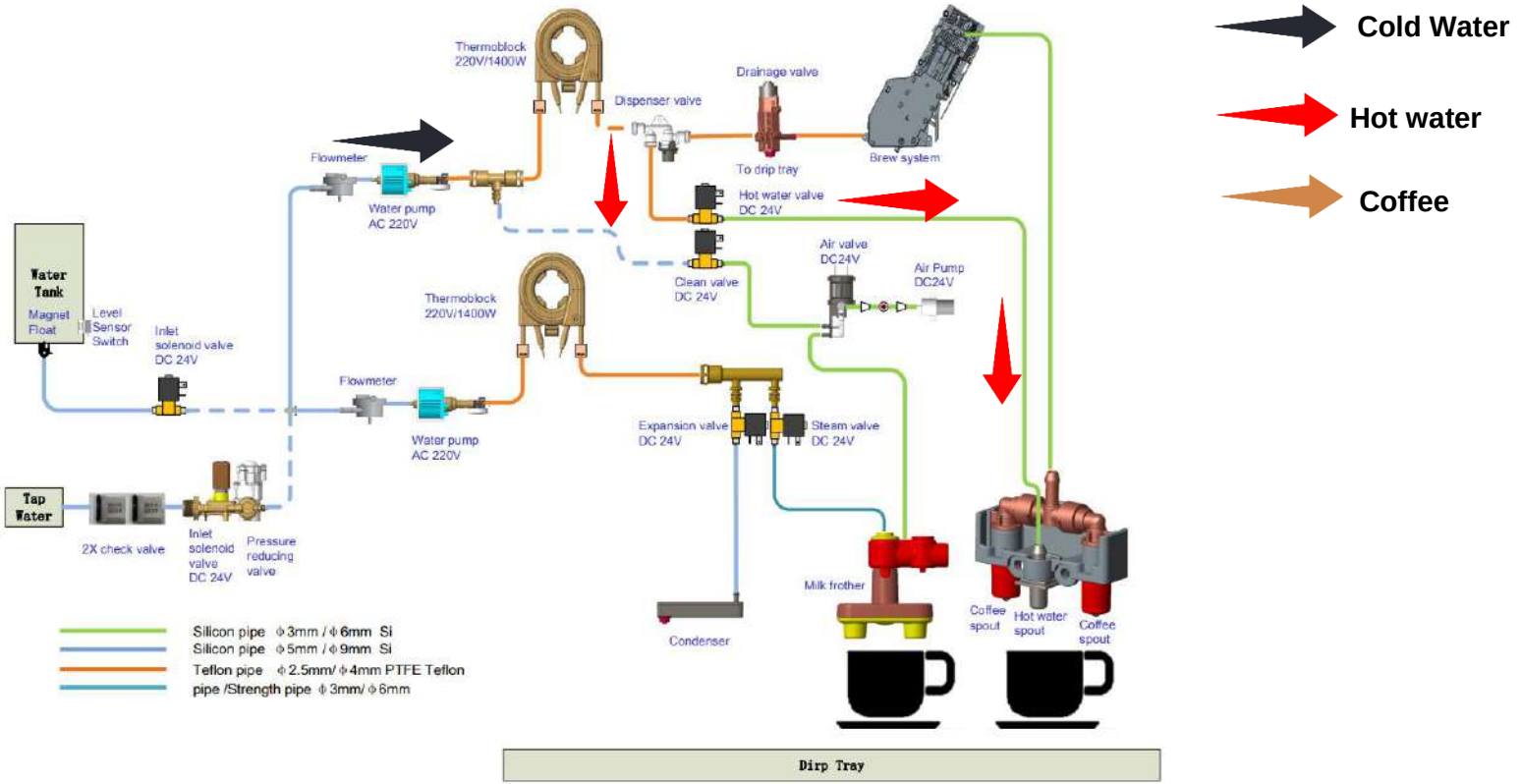
9 Working principle of beverage preparation

9.3 Prepare a cup of espresso



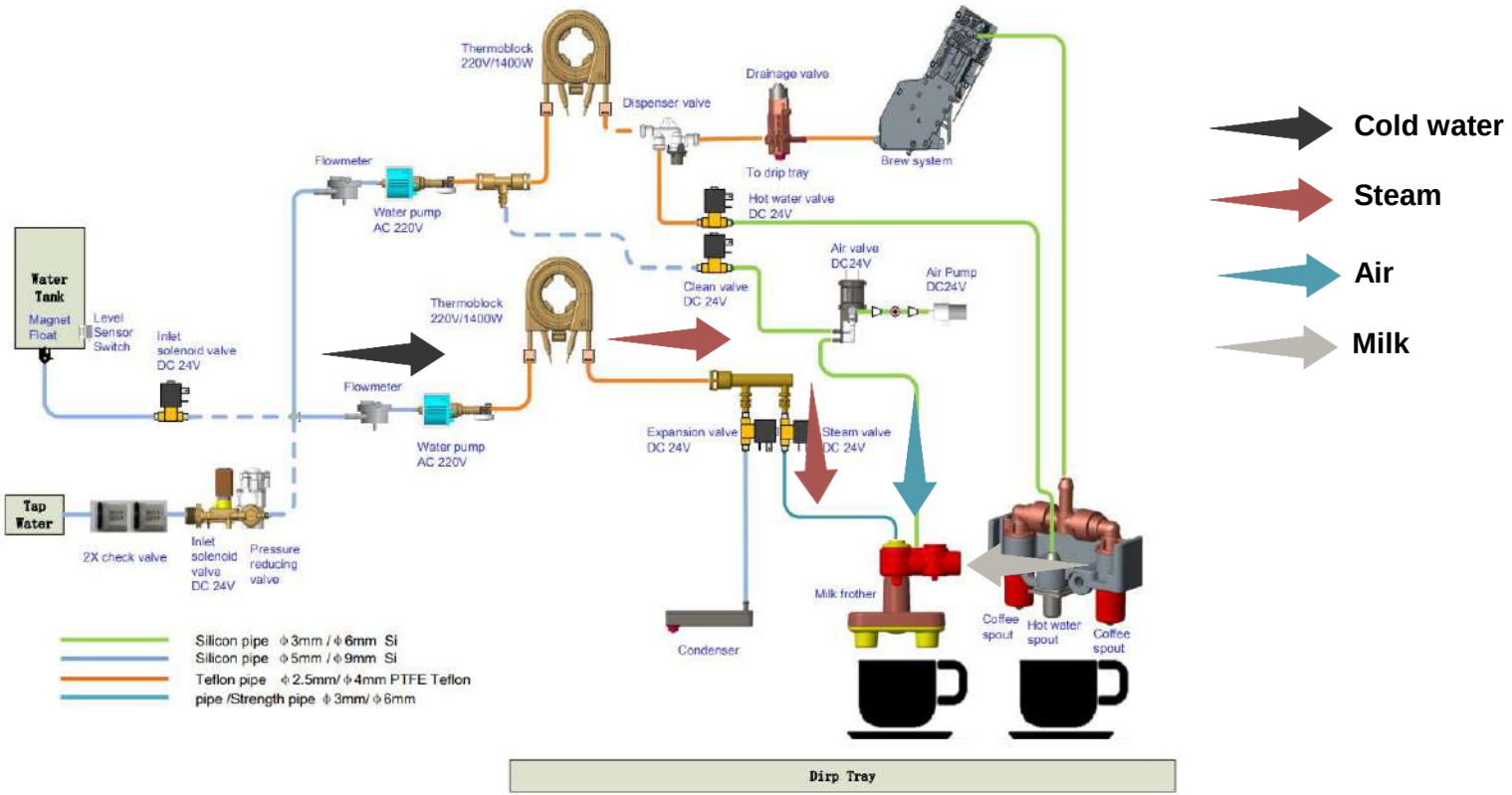
9 Working principle of beverage preparation

9.4 Prepare a cup of hot water



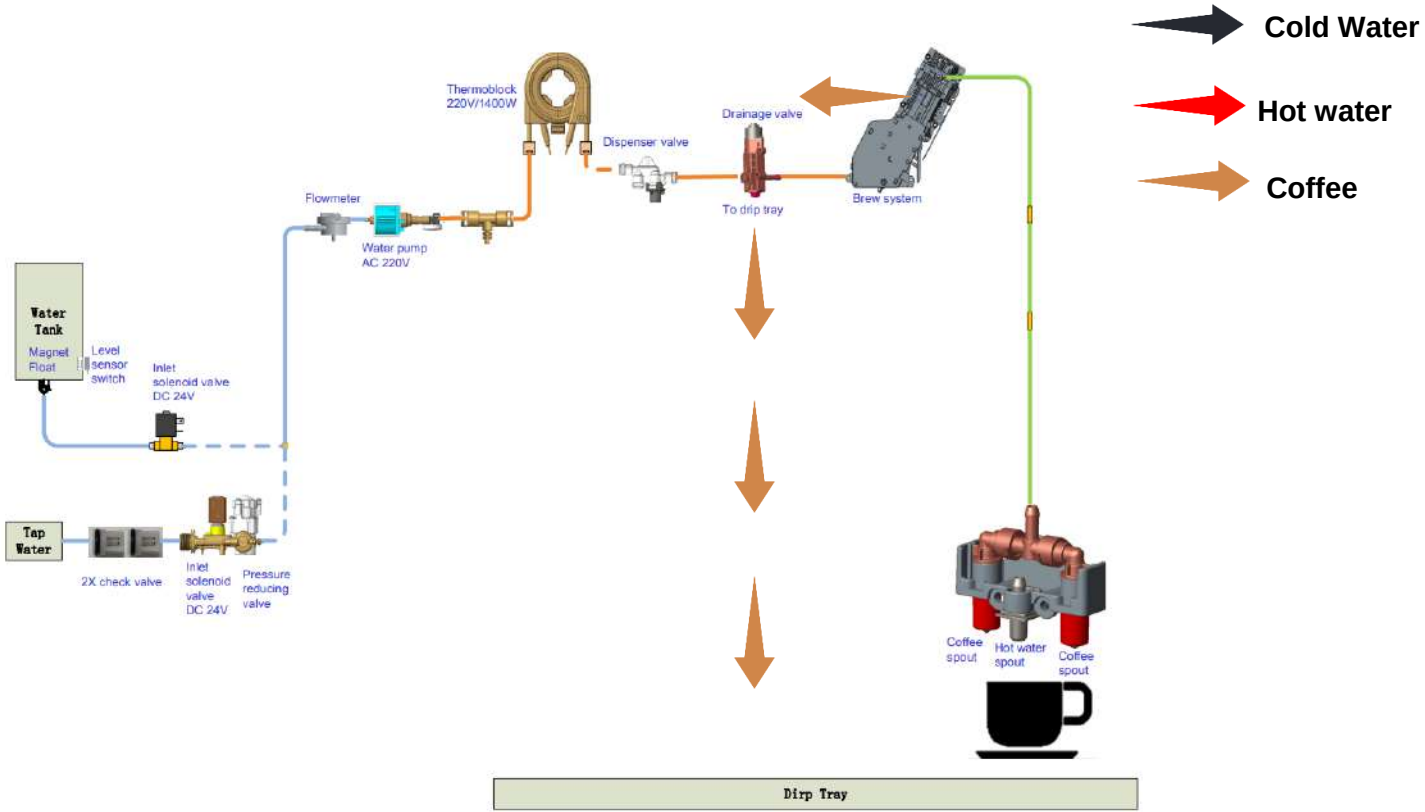
9 Working principle of beverage preparation

9.5 Prepare a cup of milk foam



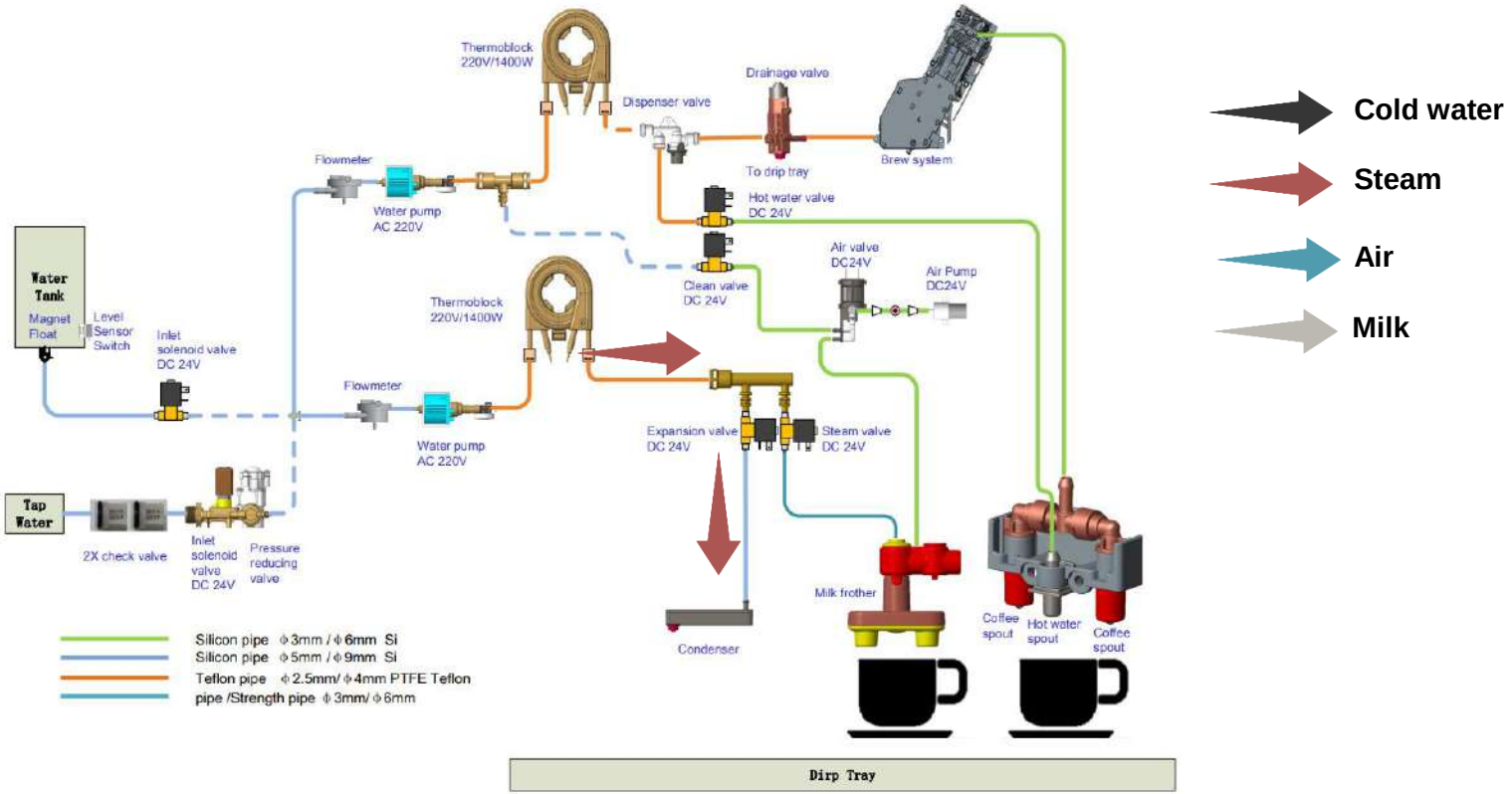
9 Working principle of beverage preparation

9.6 How to release the pressure inside the brew unit after preparing a cup of espresso



9 Working principle of beverage preparation

9.7 How to release the steam inside thermo-block before preparing steam(release 3 seconds）



10 Maintenance Concept

10.1 Cleaning and maintenance for operator or user

The following maintenance activities could be handled by the user. And the detailed operation could be found in the **user manual.**

Cleaning intervals	Operation	Type
Daily (or needed)	Brew unit rinsing	automatic or manual
	Milk frother rinsing	automatic or manual
	Empty drip tray	manual
	Empty grounds container	manual
	Clean the screen	manual
	Clean milk frother	manual
Weekly	Clean the brew unit	manual
	Milk frother rinsing	manual
	Clean the bean hopper	manual
	Milk system cleaning	manual
	Clean the water tank	manual
If presents	Clean the brew unit	When the screen shows a message
	Descaling	When the screen shows a message
	Filter change	When the screen shows a message

KALERM SERVICE

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