FAST-A W1P1

Weighing metering pump

User Manual

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Kamoer Fluid Tech (Shanghai) Co., Ltd.

www.kamoer.com

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Print documents

This document supports high quality printing.

Reading Tips

Symbol Description

Forbid

Important Notes

Operation and usage tips

Vocabulary explanation, reference information

Suggestions for use

Kamoer provides the following documentation for users of weighing and metering pumps:

1.《FAST-A User Manual》

Catalog

Product Overview

Brief Introduction

Weighing metering pump is a pump and load cell to achieve a closed-loop liquid filling pump. Compared with the peristaltic pump, its advantage is that it does not need to pay attention to the flow decay of the pump pipe, and it can be directly used without calibration. High filling accuracy, filling volume regardless of the amount, the error range is certain. Mainly used in the laboratory filling and the filling precision requirements of the relatively high occasions.

Feature Highlights

- High filling accuracy, using a 0.01g fine weight sensor.
- No calibration, no need to calibrate the pump tube to use
- Support automatic tare, user-friendly
- Closed-loop control, the amount of running output is identified by the weight sensor, and the output is automatically stopped when finished
- Use Kamoer KK300 pump head, support quick tube change, avoid cross contamination when using different liquids
- Resistive touch screen human-machine interaction for easier interaction
- Includes tube holder for easy fixing of tubes

Applications

- Laboratory

  Laboratory filling of liquids
- High-value liquid filling occasions

  Applications with high requirements for liquid accuracy
- Other applications with high accuracy requirements

Unpacking Preparation

- Before opening the box, check that the outer packaging has not been damaged during transportation.
- After opening the box, refer to the packing list in the appendix to confirm that all parts are not missing and check for visible damage.

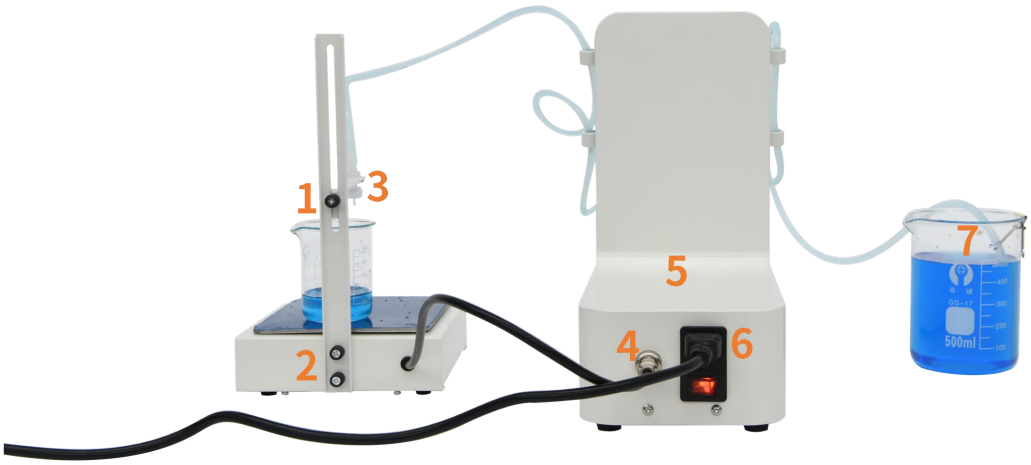
Please contact the manufacturer immediately if any defects are found during the opening process.

Part Name

1. Mainframe 2. Tube 3. Liquid storage tank
4. Touch screen 5. Pump head, support quick tube change
6. Tube fixing frame 7. Drip head 8. Scale
9. Sensor connection line 10.Power integration switch
11. Storage bucket placement table

Product Installation

Note: To ensure that the scale is not crushed during transport, there are 4 black spacers glued to the corners of the scale tray, which must be removed before first use for normal use. During use, the bottle should be placed in the middle of the scale to ensure the accuracy of the addition.



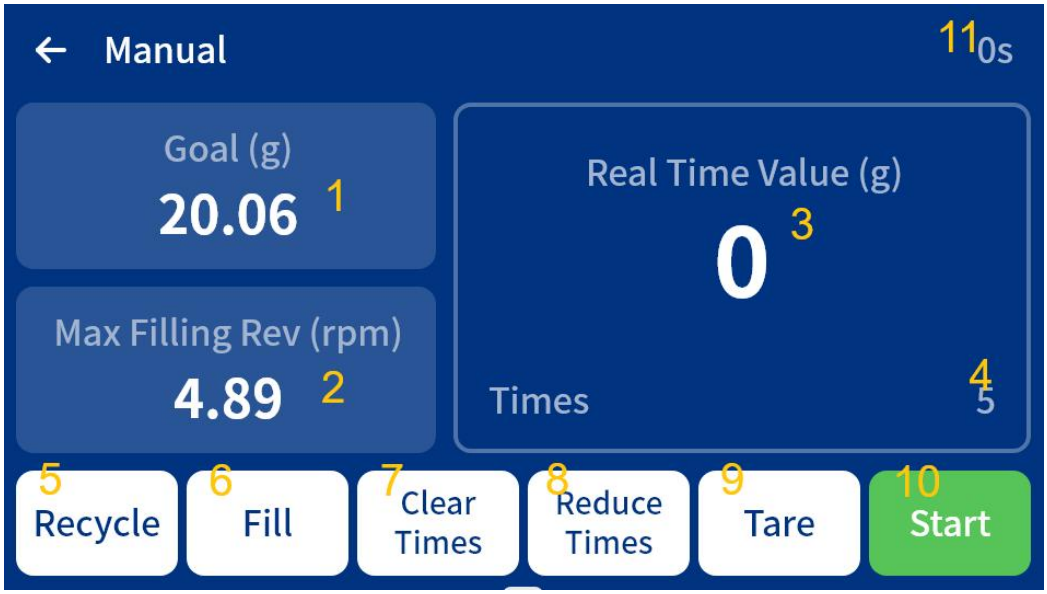
- Fix the brackets on the scale with screws 1 and 2 in the above picture;
- Connect one end of the tube to 3 places, the middle passes through the pump head, and the other end is in the liquid storage tank;
- Connect the sensor wire of the scale to the aviation connector at 4, and suspend the nut;
- Connect the power cord to 6 places;
- Place the liquid storage bucket on the table at 5 in the figure. If the liquid storage bucket is large, it can be placed next to it;

Tubing installation: Lift upward at 1 in the above figure, place the tube in the pump, press down again at 1, and the tube is installed in the pump head.

Software Use

Manual mode

Home click on the manual mode to enter the manual mode operation interface, manual mode tare, and start pump operation are user-triggered, the use of high flexibility.



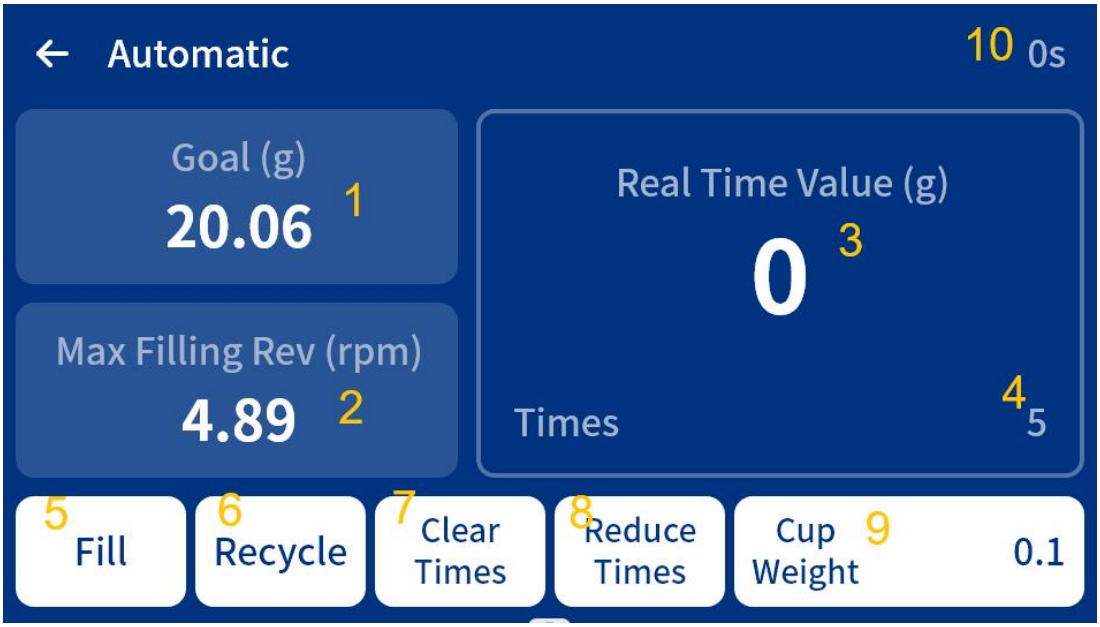
1. Set the target volume: the target volume is the volume that the user needs to fill once.
2. Max speed of liquid filling: the max speed of liquid filling, high speed makes the liquid filling time short, but when the running liquid volume is very small, you need to set the max speed of liquid filling lower to avoid running liquid volume exceeding the set target value.
3. Real-time weight display: display the real-time value of the weight sensor.
4. Filling times: Filling times are recorded, and the times are accumulated 1 time for each filling.
5. Filling: Fill the liquid to the pump tube.
6. Recovery: Clicking the pump will run in reverse to recover the liquid in the tube to the storage container. Filling and recovery involve the direction of pump operation, the direction of pump operation can be set in the system settings.
7. Clear the number of times: Click to clear the number of filling times.
8. Reduce the number of times: click to reduce the number of times once.
9. Tare: Click tare to clear the weight of the weight sensor.
10. Start/Stop: Click to start the operation, and the pump will stop automatically when the output

liquid weight reaches the target set value.

11. Filling time: display the time of this filling.

Auto Mode

In the home control interface, click on the automatic mode to enter the automatic mode control interface. In the automatic mode working interface, users can realize the function of automatic tare, which is more convenient to use. That is, the user will put the cup on the scale and the pump will automatically complete the filling function according to the target amount set by the user.



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3. Real-time weight display: display the real-time value of the weight sensor.
4. Filling times: Filling times are recorded, and the times are accumulated 1 time for each filling.

Filling: Fill the liquid to the pump tube.

6. Recycle: Clicking the pump will reverse the operation and recycle the liquid in the tube to the storage container.

7. Clear: Click to clear the number of filling times.

8. Reduce the number of times: click to reduce the number of times.

9. Cup weight: the weight of the cup, the principle of use is that when the weight of the cup placed on the scale is greater than this set cup weight, the pump will automatically start to fill, and stop after completing filling according to the target amount set by the user.

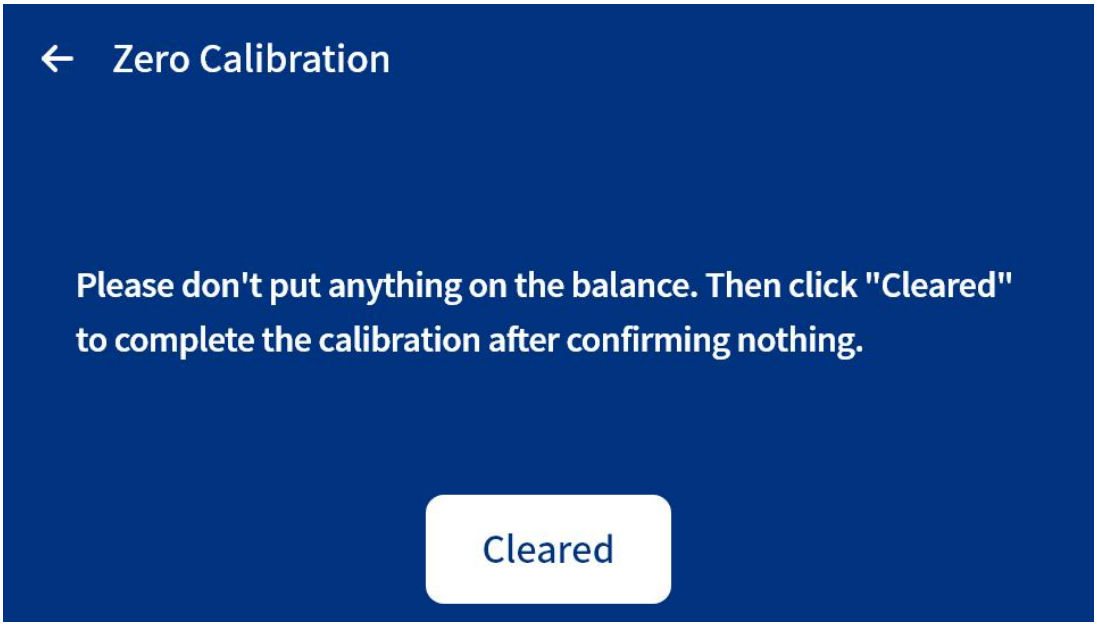
10. Filling time: the duration of this filling.

Cup weight setting:

The setting of cup weight is related to the 0 point of the weighing, the 0 point is the weight identified by the program without placing anything on the weighing, the program knows 0 point and then determines whether there is a cup by identifying a trigger weight on the weighing.

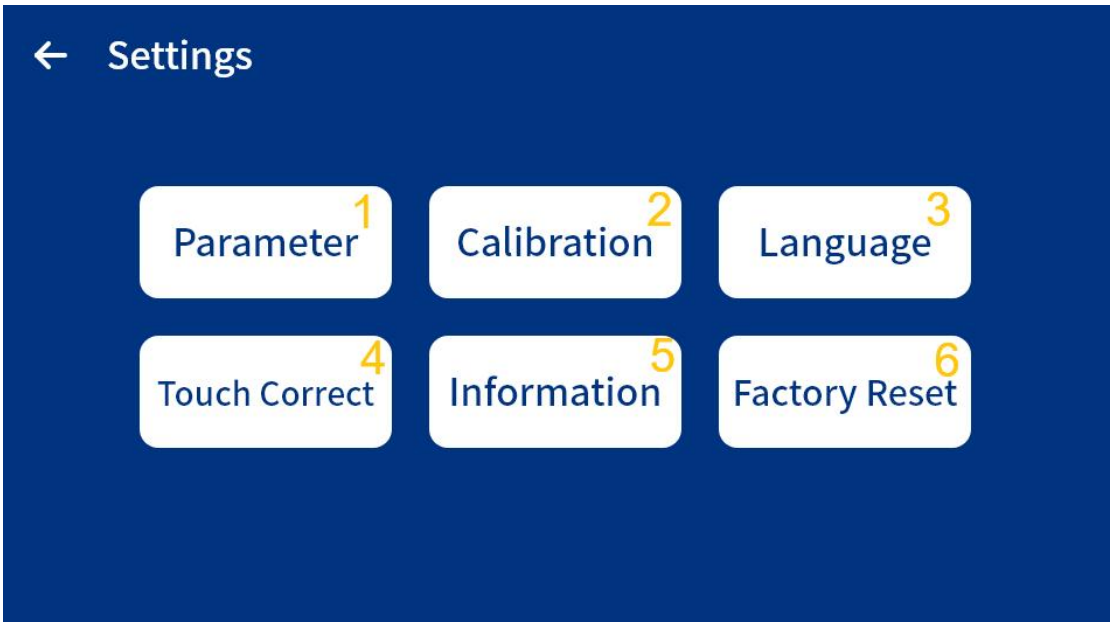
Here are two cases, when the use of the cup does not need the cup holder fixed, then the weighing does not place anything on the calibration, when the weighing of the cup needs to weigh the cup holder fixed, when the 0 point calibration, the weighing needs to place the cup holder, do not put other things.

Calibrate in System Settings->Weigh Calibration->0 Point Calibration



Setup

Click Settings on the home page to enter the system parameter setting interface, where you can set some general parameters.



1. Parameter setting: Here you can set the function of deceleration threshold, suck back angle and suck back speed.
2. Weighing calibration: Calibrate the load cell, if you find that the weighing is not allowed, you can use this function to calibrate the load cell.
3. Language: set the display language, currently supports Chinese and English.
4. Screen calibration: calibrate the touch screen.
5. System information: display firmware version information.
6. Restore factory settings

Pump parameter setting

In the system setting interface, click Parameter Setting to enter the parameter setting interface.

1. Deceleration threshold: the deceleration threshold of the pump, when the pump runs to this threshold before the target value starts to decelerate until it reaches the end of filling.
2. Suction back angle: set the amount of suction back when the filling is finished to prevent the liquid from dripping.
3. Suction back speed: set the speed of suction back, generally at a faster speed.
4. Liquid volume unit: the unit of target liquid volume, divided into ml and g. When setting ml, you need to set the density of liquid at the same time.
5. Pump direction: Set the running direction of the pump.

Performance Tuning

If there is no special need, just run according to the factory-set parameters.

Weighing metering pump in the process of use, some users are concerned about the accuracy, some users are concerned about the efficiency, accuracy and efficiency are affected by each other, when the accuracy requirements are high, liquid filling, in order to liquid volume does not exceed the target value too much, the last few drops of liquid drops slowly, waiting to weigh the stable time is also longer. When the efficiency requirements are high, near the target value when the pump decelerates, so that each filling time is short, the accuracy will be affected.

Accuracy commissioning

Parameters affecting accuracy

1. Pump running speed, the greater the speed, weighing the slower the stability, high precision requirements, then slow down the pump speed, speed in manual mode or automatic mode of work interface settings.
2. Deceleration threshold, deceleration threshold determines how long before the pump starts to decelerate in the target amount, early deceleration can prevent excessive addition, so that the weighing reading has time to stabilize, to mention the accuracy, you can increase the deceleration threshold.
3. When the above two steps can no longer improve the accuracy, you can change the caliber of the drip head smaller, so that the amount of a drop is smaller, subject to the last drop of the amount of error is smaller.

   Place the container in the middle of the scale each time you use it to ensure accurate weighing

Speed debugging

1. Pump running speed, the larger the speed, the faster the speed, speed can be set in manual mode and automatic mode.
2. Deceleration threshold, the deceleration threshold is reduced to allow the pump to decelerate later and improve efficiency.

App Distribution Network

This product supports the function of App firmware upgrade, download the Kamoer Lab App through the mobile application store, complete the registration of the account, login and bind to add the device, you can upgrade the firmware of the device.

Appendix

Maintenance

- When the scale is not in use, do not put heavy objects on top of the scale for a long time.
- Do not exceed the range of the scale to use the scale.

Filling parameters

Filling liquid volume	Filling time	Error value
0.5ml	5 second	±0.011ml
1ml	6 second	±0.03ml
5ml	8 second	±0.032ml
10ml	10 second	±0.028ml
15ml	19 second	±0.021ml

Technical parameters

Weight	Machine 3805g，Scale 985g，Total 4790g
Power supply	Input ： 100VAC -240VAC
Scale Parameters	Measuring range：200g Precision：0.01g
Interface	WIFI，Firmware upgrades are available
Working environment	Temperature 0°C～60°C, relative humidity <80%RH without condensation
Storage environment	Temperature -20°C - 85°C， Humidity 10% - 90%（Non-condensing）

After-sales warranty information

1. Warranty conditions

The warranty period free service is only valid under normal use and maintenance according to the user's manual, all man-made failures or damage are not covered by the warranty. Users should keep the purchase invoice and user manual properly so that you can get satisfactory after-sales service in time.

2. Warranty coverage

Within one year from the date of purchase, if any damage occurs due to manufacturing process or components, the company will provide free warranty service.

The free repair service provided during the warranty period includes free repair, free supply and replacement of defective parts, and replacement of products that cannot be repaired with products of the same model (if the model has been discontinued, then with a model similar to it). The free service does not include the cost of transportation of the product due to repair.

3. Non-warranty coverage

The following factors are not covered by the free warranty and customers are required to pay for the repair.

1) Product appearance (please confirm at the time of purchase);

2) Improper use, maintenance or storage (please follow the user manual for proper use, maintenance and storage);

3) Connection to improper power supply;

4) damage to components caused by short circuiting of the circuit board due to the entry of various insects, etc. into the machine;

5) Damage caused by accident;

6) Use of improper parts (not applicable to non-company parts);

7) Negligent handling, modification or repair by persons not authorized by the Company (please do not disassemble and repair without authorization);

8) Failure or damage caused by use outside the applicable occasion;

9) damage caused by force majeure, etc.;

10) consumable and wearable parts (such as pump tubes, etc.) ;

11) Warranty period expired;

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