

KXP 100 User Manual 2022-03-11

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1 Read Notice

1.1 FCC warning

This device has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This device generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this device does cause harmful interference to radio or television reception, which can be determined by turning the device off and on, the user is encouraged to try to correct the interference by one or more of the following measures: --Reorient or relocate the receiving antenna. --Increase the separation between the device and receiver. --Connect the device into an outlet on a circuit different from that to which the receiver is connected. --Consult the dealer or an experienced radio/TV technician for help

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment

FCC Radiation Exposure Statement The antennas used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located for operating in conjunction with any other antenna or transmitter.

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: 1) this device may not cause harmful interference, and 2) this device must accept any interference received, including interference that may cause undesired operation.

1.2 Recommendations

Kamoer provides the following documents for KXP 100 Filling pump with stepper motor:

1. 《KXP 100 User Manual》
2. 《KXP 100 Quick Start Guide》

It is recommended that you first read the "KXP 100 Quick Start Guide" to understand the use process. For detailed product information, please read "KXP 100 User Manual".

2 Product Description

2.1 Introduction

KXP 100 is a filling pump with stepper motor which has the advantages of high precision, screen display, low noise, and maintenance-free. This product can be operated not only by the button knob, but also by the mobile phone remote control.

2.2 Feature highlights

- Small size and powerful function
- Simple structure, easy maintenance, can quickly replace the equipment tube
- Standard Pharmed BPT imported equipment tube, ultra long life, heat resistance, acid and alkali resistance, ozone and UV radiation resistance, anti-aging and oxidation
- With display screen, intuitively view status parameters
- With potentiometer knob, easy to adjust the parameters of the device
- Support flow calibration
- Real-time clock is included, it runs automatically according to the set parameters, and the parameters are not lost when the power is turned off
- Support iOS and Android devices to control devices through WIFI, and support App to upgrade device firmware

2.3 Application

- Scientific research
 - Including laboratory access to liquids, instruments and equipment.
- Production filling
 - It is used to fill various beverages and other liquids in factories.
- Other scenes that require timing, quantitative, and circular assembly of liquids

2.4 Unpacking preparation

- Before opening the packing box, check whether the outer packing is damaged during transportation.
- After opening the packing box, refer to the packing list in the appendix to confirm that there are no missing parts and check for visible damage.
- If any defects are found during unpacking, please contact the manufacturer immediately.

2.5 Part Name



- | | |
|------------|--------------------|
| 1. Display | 2. Adjustment Knob |
| 3. Inlet | 4. Outlet |
| | 5. DC 24V |

3 Product installation

This chapter mainly introduces how to install the KXP 100 and the precautions during the installation process.

Tips

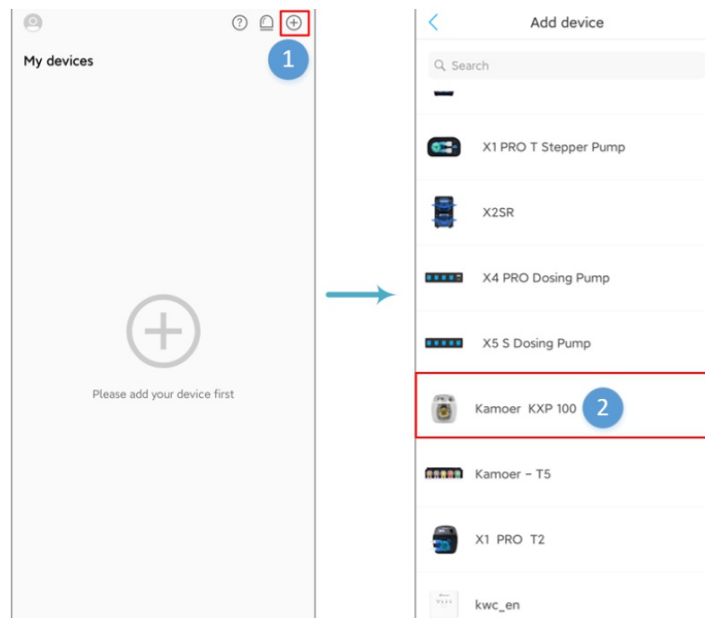
- This product belongs to the filling equipment. When the difference between the liquid inlet and the liquid outlet is too large, siphoning or backflow may occur.
- In order to avoid the phenomenon of siphoning and backflow, the equipment should be placed in a reasonable position to ensure that the height difference between the inlet and outlet is within 0.5 meters.
- The connecting pipe for the liquid inlet should be as short as possible, and the connecting pipe for the liquid outlet should be suspended above the container.
- Please carefully check whether the connection direction of the liquid inlet and the liquid outlet is correct.

4 App Use

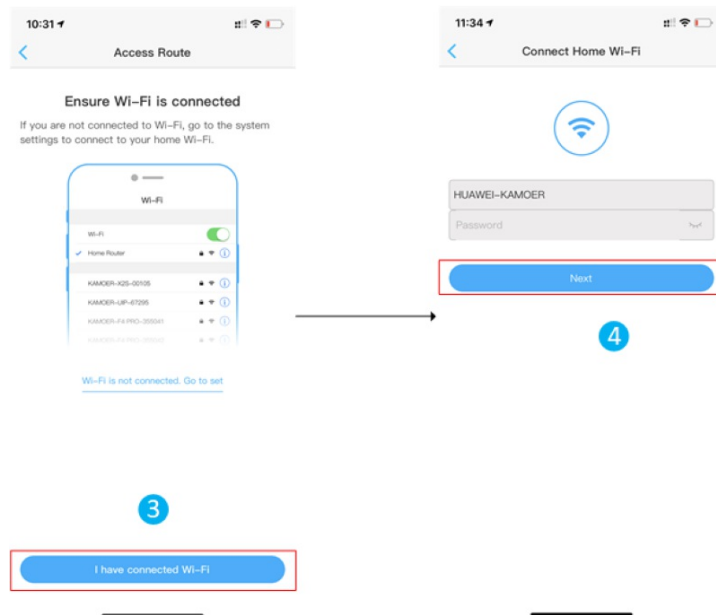
This chapter mainly introduces how to control KXP 100 Filling pump with stepper motor with App

4.1 Connect The Device To The Cloud

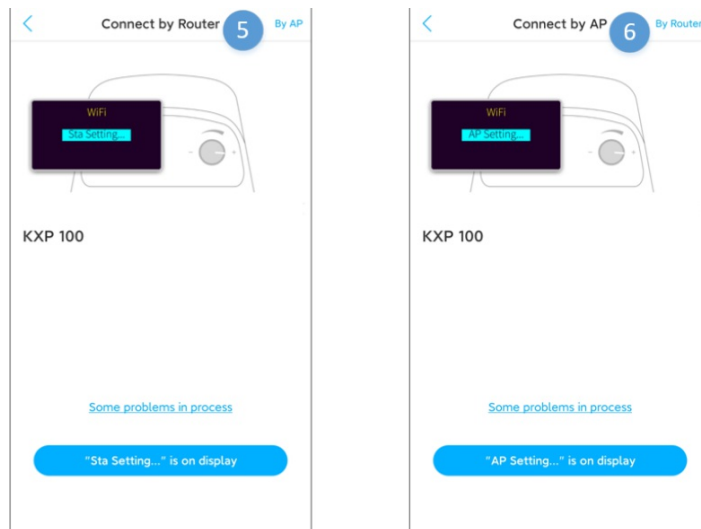
After the device is unpacked and powered on, you need to use the App to connect the device to the cloud through a wireless router. The specific steps are as follows:



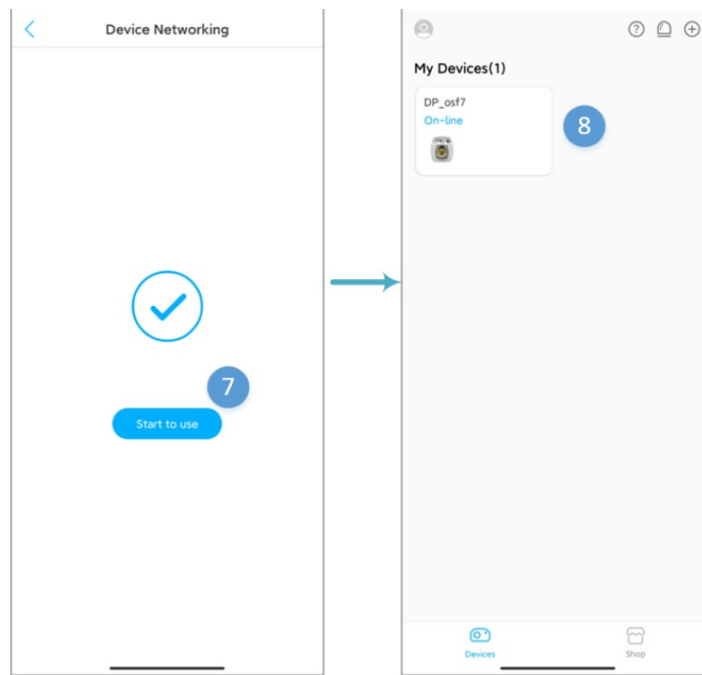
- 1-2. Open the App, click the "+" button in the upper right corner of the device to add a device, enter the add device interface, select "KXP 100" in the list of supported devices and click to enter;



- 3. Make sure that the mobile phone is connected to Wi-Fi that requires network distribution, and that the Wi-Fi can be connected to an external network, (the device does not support 5G Wi-Fi and cannot use 5G Wi-Fi hotspots);
- 4. Enter the Wi-Fi password, taking care not to enter the wrong password, and click "Next" to enter the device networking operation;



- 5. If select configure network by router, the device will display Sta Setting, and switch to By Router in the upper right corner of the corresponding mobile App interface. Click the "'Sta Setting...' is on display" Button to enter the configure network by router. Wait for the network configuration to complete.
- 6. If you select configure network by AP, the device will display AP Setting, select Connect by AP in the App interface of the corresponding mobile phone, and click the "'AP Setting...' is on display" button to enter configure network by AP. Complete the network configuration according to the interface prompt.



- 7. Click "Start Use", the device is connected to the cloud, and the binding between the mobile APP and the device is completed

Tips

- You only need to configure the device to connect to Wi-Fi once. After the configuration is successful, as long as the App can connect to the Internet, you can find the device in the device list after opening the App.**
- If the device fails to connect to Wi-Fi, restart from the first step**

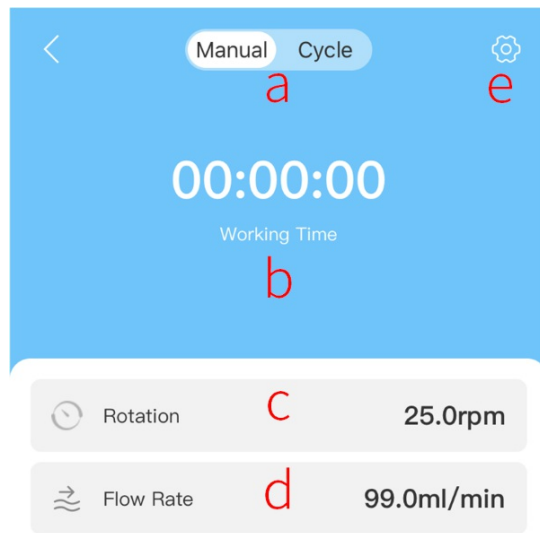
4.2 KXP 100 Control Interface Overview

The device contains three modules:

- **1. Manual:** Implement two functions in this module, The first is to set the device speed, The user can enter the value at any time to change the speed and flow rate of the device, Solve the tedious and inaccurate manual operations. The second is to check the working time, current equipment speed, and flow rate, so that users can understand the status of the equipment and change the operating status of the equipment at any time.
- **2. Cycle:** When the user enters the parameters, the device automatically works in accordance with the user's input.
- **3. Setting:** Contains 3 functions

4.3 Run manually Page

In the manual page, we can see the basic information of the pump:



- **a. Manual / cycle switch:** Switch the working mode of the device;
- **b. Working Time:** This operation, the continuous working time of the equipment;
- **c. Rotation:** Display the current speed of the device, the user can enter a custom value through the keyboard (can not exceed the maximum speed of the machine);
- **d. Flow Rate:** The current flow rate is displayed instantly according to the current speed.

4.4 Cycle run interface

In the cyclic operation interface, we can enter various parameters to make the device automatically start the cyclic work according to our input:

<
Manual
Cycle
⚙️

a

00:00:00

Working Time

b

0.0ml

Working Volume

c

00:04:00

Time Setting

d

396.1ml

Volume Setting

⌚

Pause Time

e

00:00:05

⌚

Rotation

f

25.0rpm

≈

Flow Rate

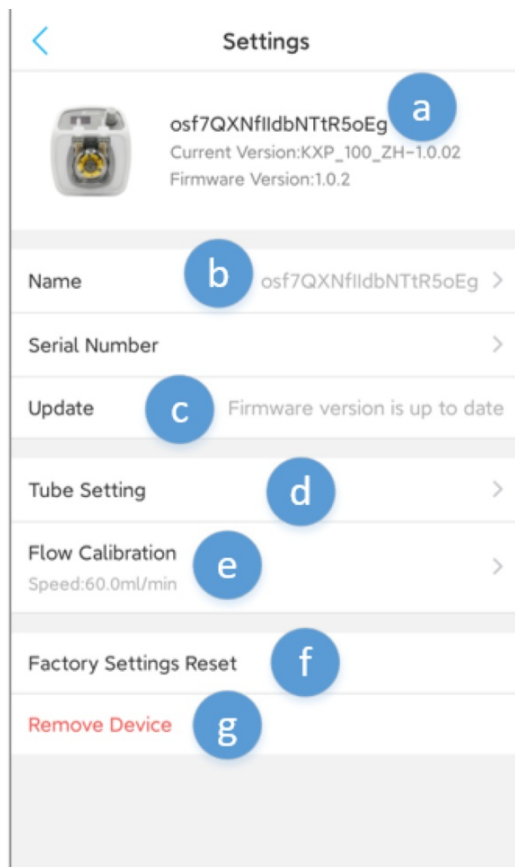
g

99.0ml/min

Start

- a.Working Time:** The length of time that the equipment has been continuously working in this cycle;
- b.Worked Volume:** The total volume value of the running liquid in this cycle;
- c.Time Setting:** Set the duration of a single cycle of the device, the user can enter a custom value through the keyboard
- d.Running Volume setting:** Set the volume of the liquid transferred in a single cycle of the device. The user can enter a custom value through the keyboard
- e.Pause Time:** Set the length of time the device is suspended during the cycle;
- f.Rotation:** Set the rotation speed of the device during the cycle. After setting the rotation speed, the flow rate will be automatically set to the corresponding value due to the corresponding relationship;
- g.Flow Rate:** Set the flow rate when the device circulates. After setting the flow rate, the speed will be automatically set to the corresponding value due to the corresponding relationship.

4.5 Settings page



a.Current Version: Display the current version of the firmware, if the firmware is updated, there will be a prompt below;

b.Name: The name of the device can be modified here to identify the purpose of the device;

c.Update: Firmware update, if new firmware is released, there will be a prompt;

d.Tube setting: 在Set the life of the equipment tube here and check the length of time the equipment tube is used;

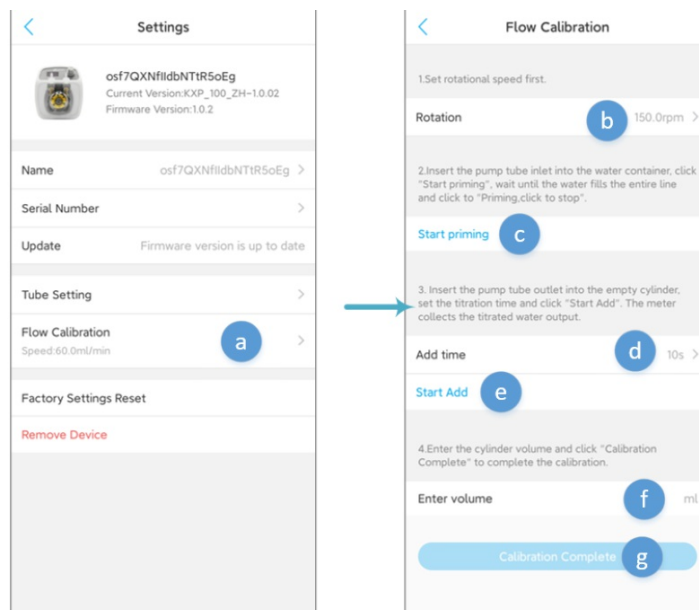
e.Flow Calibration: Perform the flow calibration of the device here, see the next section for details: flow calibration;

f.Factory Setting Rest: After clicking, the device parameters will be restored to the factory default settings;

g.Remove Device: Click Unbind App and device binding.

4.6 Flow calibration

The purpose of calibration is to improve the accuracy of equipment operation; In the setting interface, click "flow rate calibration" to enter the flow calibration interface. Calibration requires the use of a measuring cylinder. The device is equipped with a 10ML measuring cylinder at the factory. Considering the different concentration of the titration solution of the equipment tube and the degree of aging of the equipment tube, calibration is required for the first use. When the titration is inaccurate, it should be calibrated in time.



a. Flow Calibration: click flow rate calibration on the setting interface to call up the flow rate calibration channel selection interface;

b. Rotation: set the calibrated speed;

c. Start emptying: The purpose of evacuation is to let the air out of the equipment tube, so that the accuracy will not be affected during the

subsequent calibration; after clicking evacuation, you can click the stop to find the air out of the equipment tube;

d. Add time: set the running time of the device during calibration; Before proceeding to the next step, make sure that the water inlet of the equipment pipe has been immersed in water, and the water outlet of the equipment pipe is placed in the measuring cylinder;

e. Add start: click the titration button, the device will stop after running the time set in the previous step;

f. Enter volume: Enter the volume after reading the liquid volume in the measuring cylinder, the unit is ml;

g. Calibration Completed: Click the "calibration completed" button to complete the flow calibration.

4.7 Firmware upgrade

When the firmware program of the device is updated, the user needs to upgrade the firmware to use it.

The power cannot be cut off during the upgrade process, and the App should not perform other operations during the upgrade process.

5 Appendix

5.1 Technical Parameters

- **Dimensions(LxWxH)** 75x70x110 mm
- **Weight** 534g (without power adapter)
- **Power adapter**
 - Input: 100VAC -240VAC
 - Output: DC24V 1.9A
- **Titration parameters**
 - Pump: KPAS 100
- **Interface** RotaryWi-Fi/Rotary encoder
- **Working environment** Temperature 0-70 ° C, humidity 10%-90% (non-condensing)
- **Storage environment** Temperature -20 °C-85 °C, humidity 10%-90% (non-condensing)

5.2 After-sales warranty information

1. warranty condition

The free service during the warranty period is only valid under the normal use and maintenance according to the user manual. All artificial faults or damages are not covered by the warranty. Please keep the purchase invoice and user manual properly so that you can get satisfactory after-sales service in time.

2. warranty range

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 provision and replacement of faulty spare parts, and products that cannot be repaired are replaced with products of the same model (the model has been discontinued, the model is similar to it). Free service does not include transportation costs incurred due to repairs.

3. non-warranty range

The following factors are not covered by the free warranty, and customer repairs will be charged. 1) Product appearance (please confirm at the time of purchase); 2) Improper use, maintenance or storage (please follow the user manual for correct use, maintenance and storage); 3) Connect inappropriate power supply; 4) The damage of components caused by short circuit boards caused by various types of insects entering the machine; 5) Losses caused by accidents; 6) Use of inappropriate parts and accessories (not applicable to parts and accessories of our company); 7) Non-authorized personnel negligently handle, modify or repair (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 wearing parts (such as pH electrode, ORP electrode, etc.); 11) The warranty period expires.

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6 update log

date	detail
2021-10-25	Write user manual
2022-03-11	Add fcc warning