

# Reef Master SPA

## Quick Start Guide

A3 2024-01-22



# Warranty Service

## 1. Warranty conditions

The warranty service is only valid for users who have correctly installed, used, and maintained according to the manual. All man-made faults or damages are not covered by the warranty. Please keep your purchase voucher properly so that you can receive satisfactory after-sales service in a timely manner.

## 2. Warranty coverage

Within **one year** from the date of purchase, if any damage occurs due to manufacturing processes or components, our company will provide free warranty services. The free maintenance services provided during the warranty period include free repair, free supply and replacement of faulty parts, and the products that cannot be repaired will be replaced with products of the same model. Free services do not include transportation costs incurred for product repairs.

## 3. Non-warranty coverage

The following factors are not covered by the free warranty, and customers need to pay for maintenance.

- 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) Access inappropriate power supply;
- 4) Various types (such as insects, etc.) enter the machine and cause the damage of components caused by short circuit board;
- 5) Losses caused by accidents;
- 6) Use of inappropriate parts (non-company parts are not applicable);
- 7) Negligent handling, modification, or repair by personnel not authorized by our company (please do not disassemble or repair without authorization);

- 8) Failure or damage caused by use outside of the applicable scope;
- 9) Damage caused by force majeure, etc;
- 10) Consumable and vulnerable parts (such as Pump pipe, etc.);
- 11) The warranty period has expired;

## About Reef Master

Reef Master is an automated equipment for testing water quality in aquatic environments. The Reef Master CMK Bone Master can test three parameters: calcium, magnesium, and KH. In addition to testing calcium, magnesium, and KH, the Reef Master can also test parameters such as nitrite, nitrate, phosphate.

The measurement method can choose manual measurement and automatic detection function. Users can easily view test results and set test parameters in Android or iOS apps. When the test value is abnormal, the device will automatically push an alarm to the app. The equipment can also control the titration pump or calcium reverse pump based on the test results, and adjust the water quality to the appropriate level.



1. Color display screen
2. Front cover
3. Front hood decorative light
4. External communication interface
5. DC24V power cord
6. Connection 1 for seawater sample extraction
7. KH detection reagent connector
8. Calcium magnesium A detection reagent connector
9. Calcium magnesium B detection reagent connector
10. Waste liquid connector 1
11. Sea water sample connection 2
12. Nitrate nitrite joint A
13. Spare
14. Nitrate nitrite joint C
15. Phosphate joint A
16. Phosphate joint B
17. Cleaning fluid connector
18. Waste liquid connector 2

## Product Features

- CMK supports concentration detection of calcium, magnesium, and KH in seawater
- SPA additionally supports detection of nitrite, nitrate, phosphate
- App remote control, allowing for real-time sensor values and historical records to be viewed
- Support automatic and manual detection modes
- App remote control, allowing for real-time sensor values and historical records to be viewed
- Alarm push for abnormal detection values
- Support for online firmware upgrades
- Equipped with a display screen to view detection results and status
- Linkage control of F4 PRO titration pump and calcium reverse can be achieved to automatically adjust water quality parameters


# Application occasions

- Breeding of marine organisms  
Including hard coral (SPS), soft coral (LPS), and mixed coral (SPS/LPS)
- Other occasions where water quality parameters such as calcium, magnesium, KH, nitrite, nitrate, and phosphate need to be tested

# Software function

- Including two working modes: automatic and manual
- In automatic mode, one parameter is detected 1 to 24 times a day
- Monitoring function for residual amount of reagent bottles
- Alarm push function
- Can be linked with F4 PRO titration and calcium reaction to regulate water quality

# Product installation

 Due to space limitations, please refer to the user manual instructions in the app for installation and use.

# Download App

1. Scan the QR code, and find the application download with the following icon.



iOS



Kamoer Remote



Android (Google Play)

- Apple users enter the App Store, while Android users enter Google Play and search for 'Kamoer Remote'. Find the application download corresponding to the icon.

**Kamoer Remote App supports Android 4.4 and above, and iOS 9.1 and above.**

## Register an account

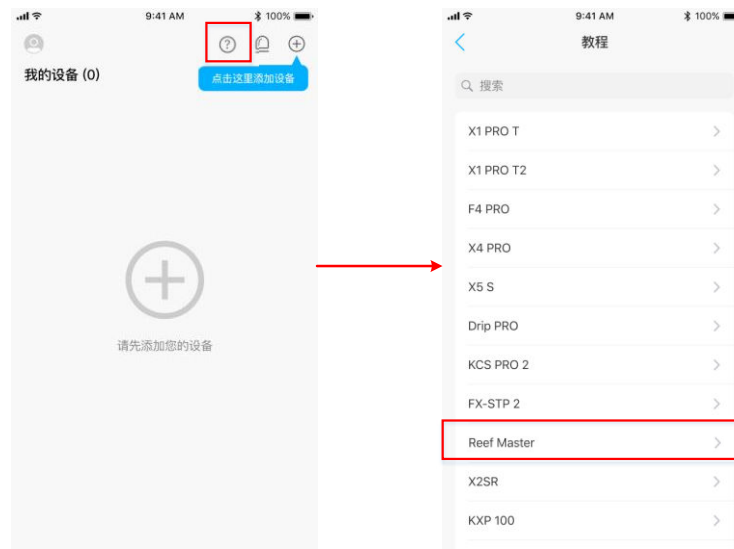
Open the app, scan the device QR code or manually select the area where the device is located, register through mobile or email, and follow the app prompts to complete account registration.

**Attention: Region selection is very important, as incorrect selection may result in inability to allocate power to the network. It is recommended to scan the device QR code to select the region.**



# View Tutorial


Click on the "?" icon in the top right corner of the device list page to enter the "Tutorial" page. On the tutorial page, select "Reef Master" to view the tutorial, which includes user manuals and common problem solving.



# Connect devices to the cloud

After unpacking, the device needs to be powered on for the first time. At this time, the app needs to be used to connect the device to the cloud through a wireless router. The operation steps are as follows:

1. Ensure that the wireless router is connected to the Internet, the Bluetooth function of the phone is turned on, and connected to the 2.4G Wi Fi hotspot of the wireless router (the device does not support 5G Wi Fi and cannot use 5G Wi Fi hotspots).
2. Open the Kamoer Remote App, log in with a registered account, click on the "+" icon in the upper right corner, enter the "Add Device" page, and select "Kamoer Reef Master SPA" in the device support list to add;

3. Enter the Bluetooth connection interface and select your own device to connect; After connecting the device, pop up Connect Wi Fi and click to select your own home Wi Fi;
4. After entering the home Wi Fi interface, enter the Wi Fi password, click Next, and wait for the connection to succeed;
5. After successful connection, the app will prompt for successful connection and display an icon  on the screen.

## App binding device

There are two ways to bind devices.

Method 1: Bind devices through the distribution network method described above.

Method 2: If the device is connected to the cloud through a router, the phone can be connected to the wireless router. The app will scan and display the locally available devices, and the user can directly click the "Bind" button on the right to complete the binding.

## App Unbind

Long press the corresponding device icon on the device list page, and click the "Delete" icon in the pop-up menu at the bottom to unbind.


## First use


Connect and fill the pipeline according to the user manual instructions in the app. Do not turn on the automatic balance parameter function for the first time. After the device test value stabilizes, you can turn on the automatic balance parameter function.



# Matters needing attention

Please carefully read the user manual before using the Reef Master to ensure correct operation of the device. Detailed user manuals are provided in the app, and the methods for viewing the manual are described in the above chapter.

 During transportation, use protective packaging to protect the equipment from any damage. After unpacking, please dispose of all packaging components in a way that will not cause damage to the environment. All materials used for packaging equipment are environmentally friendly; They are 100% recyclable. **Be cautious! When unpacking, packaging materials should be kept out of reach of children.**

 Children and vulnerable groups with limited physical, sensory, or mental abilities are not allowed to use this device, and people who are not familiar with this device are not allowed to use it.

# Technical parameter

<b>Size(L x W x H)</b>	230 x 120 x 338 mm
<b>Weight</b>	Approximately 3350 g (excluding power adapter)
<b>Power</b>	Input: 100VAC -240VAC, Output: DC24V 2A
<b>Interface</b>	WIFI, Bluetooth, CAN (backup)
<b>Working environment</b>	Temperature 0-70 °C, humidity 10% -90% (non condensing)
<b>Storage environment</b>	Temperature -20°C~85°C, humidity 10%-90% (non-condensing)

# Packing list

No.	Name	Model specifications	Unit	Qty.	Remarks
01	Host	Reef Master SPA	PCS	1	
02	Power adapter	DC24V 2A	PCS	1	
03	KH detection reagent	250ml	PCS	1	
04	Calcium Magnesium A Reagent	250ml	PCS	1	
05	Calcium Magnesium B Reagent	250ml	PCS	1	
06	Nitrate Nitrite A	100ml	PCS	1	
07	Nitrate Nitrite C	50ml	PCS	1	
08	Phosphate A	25ml	PCS	1	
09	Phosphate B	50ml	PCS	1	
10	Tube for extracting seawater samples	1*3mm silicone hose, black	Meter	4	2 pieces, 1 piece 2 meters
11	Waste liquid pipe	1*3.3mm silicone hose, white	Meter	4	2 pieces, 1 piece 2 meters
12	Reagent tube	1*3.2mm Perx	Meter	7	7-section 1-meter pipe
13	Reagent bottle cap 250ml	With 1/16L connector	PCS	3	
14	Reagent bottle cap 100ml	With 1/16L connector	PCS	4	





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