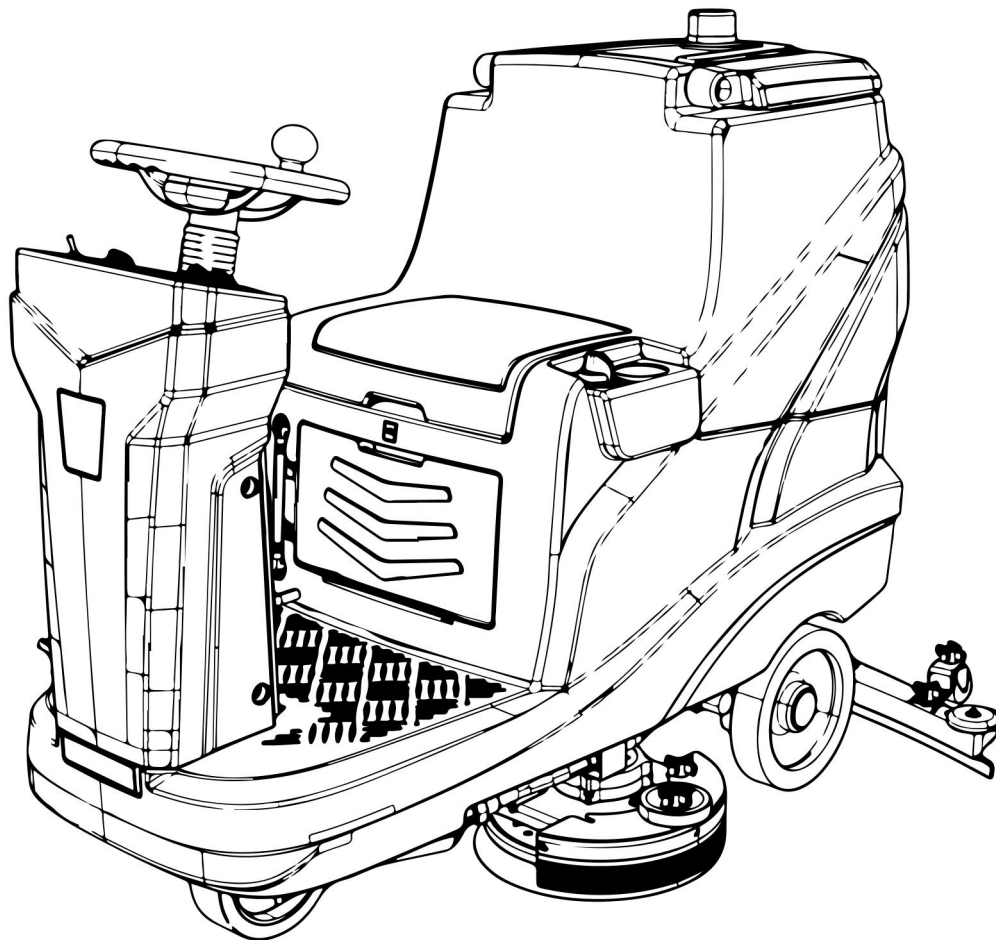


# Ride-on Scrubber Operation Instruction

**K70+**



02/2024

Do not use this device without reading this manual.



# Preface

Thank you for choosing our equipment. We are confident in providing you with this product which is manufactured using the latest technology and has undergone strict quality control. This manual is used to help you understand the operation and maintenance of the equipment so that you can use it more comfortably and efficiently, so please read this manual thoroughly before using.

## Safety Precautions

To ensure safety, please follow the following important usage rules!


1. Do not use this device while under the influence of alcohol or medication.
2. Before any maintenance and repair, please turn the machine OFF, and please remove the key from the main power switch and keep it properly.
3. This machine must be used by qualified and authorized personnel. Minors and disabled persons are not allowed to use it.
4. Keep batteries away from sparks, flames and smoke.
5. It is prohibited to use the machine in places with dangerous, flammable or explosive gases, liquids and water vapors.
6. No loose clothing or accessories are allowed. Keep clothing, gloves and hair away from moving parts.
7. Do not smoke while the battery is charging.
8. In case of fire, please use dry powder fire extinguisher, instead of water to extinguish the fire.
9. When a machine is scrapped, accessories containing hazardous substances (such as batteries, waste oil, etc.) shall be sent to a specific center for disposal.


## Safe use


1. Before using the equipment, please read this user manual carefully. This will ensure that you understand the control and maintenance requirements and help you use the equipment safely.
2. If the machine is handed over to other people, please be sure to hand over the instruction manual as well and tell them to read it carefully before use.


When reading this user manual,

1. This manual includes all configurations for this series of products, therefore, you may find that some of the information does not apply to your device.
2. All information, specifications and illustrations in this manual are effective when this manual is published. Our company reserves the right to change specifications or designs without prior notice.

In this manual, we use the symbol  with the word "**Warning**" to indicate the possibility of a hazard that may result in death or serious personal injury; in order to avoid or reduce the hazard, the relevant steps must be strictly followed.

In this manual, we use the symbol  with the word "**Caution**" indicates the possibility of dangers that may cause minor or moderate personal injury or equipment damage; in order to avoid or reduce the danger, the relevant steps must be strictly followed.

(  ) A mark similar to this indicates that the direction to which the arrow points is forward.

(  ) An arrow similar to this indicates movement or action.

# Contents

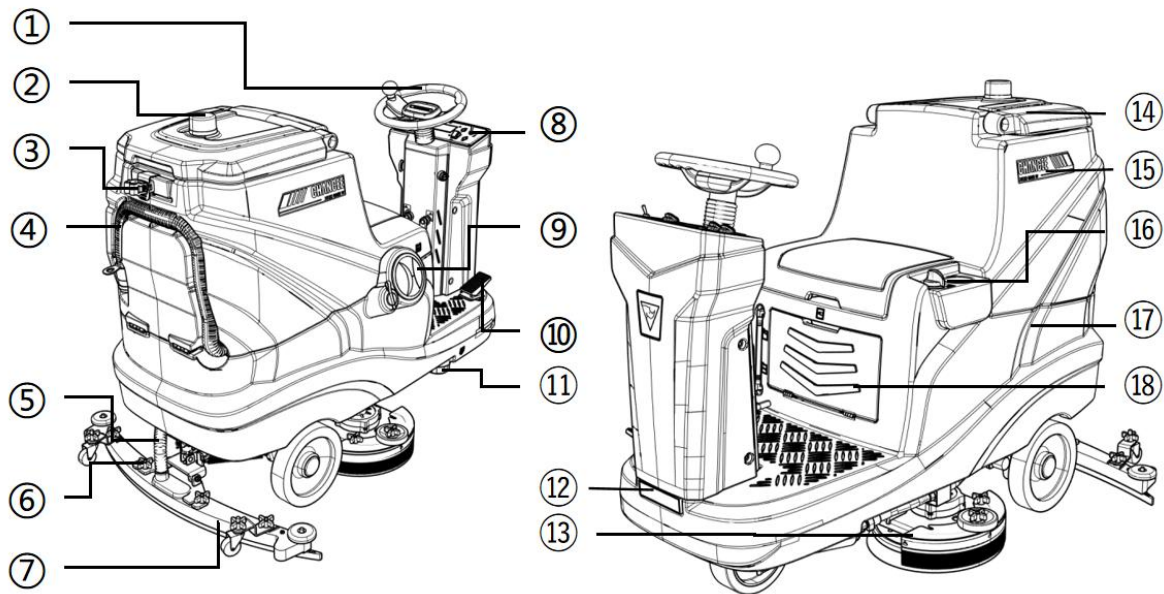
Chapter 1 Product Introduction .....	1
1.1 Applicable Scenarios .....	1
1.2 Equipment Overview .....	1
1.3 Control Panel/Buttons .....	2
1.4 Technical parameters .....	3
1.5 Accessories list .....	4
1.6 Consumables and Optional Accessories .....	4
Chapter 2 Installation .....	5
2.1 Unloading .....	5
2.2 Installation .....	5
Chapter 3 Inspection before use .....	6
3.1 Check the battery .....	6
3.2 Check clean water level .....	6
3.3 Check sewage level .....	6
3.4 Check the wear of the brush plate .....	6
3.5 Check the wear of the rubber strips .....	6
Chapter 4 Operation instructions .....	7
4.1 Driving .....	7
4.2 Scrubbing .....	7
4.3 Discharging sewage .....	8
4.4 Shutting down .....	8
4.5 Charging .....	9
Chapter 5 Cleaning and maintenance .....	10
5.1 Cleaning .....	10
5.2 Maintenance .....	10
Installation of rubber strips .....	11
Chapter 6 Transportation and Storage .....	12
6.1 Transportation .....	12
6.2 Storage .....	12
Chapter 7 Common faults .....	13
Warranty Card .....	1

# Chapter 1 Product Introduction

## 1.1 Applicable Scenarios

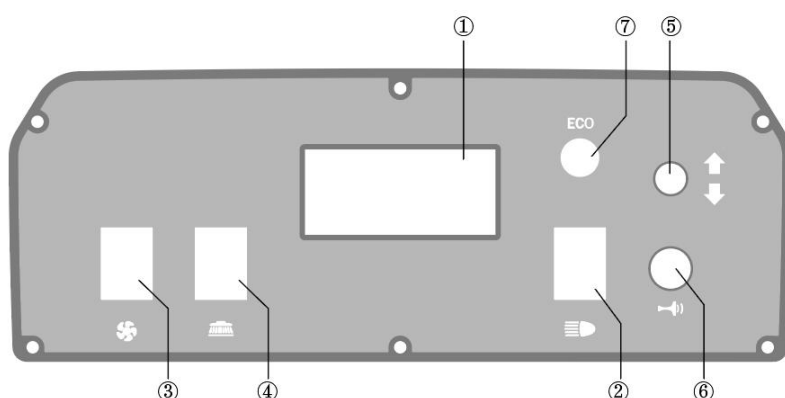
This equipment can be used in a variety of scenarios, including commercial and industrial places , such as hotels, schools, hospitals, industrial offices, supermarkets, office buildings, etc.; for epoxy floors, PVC floors, terrazzo, wear-resistant floors, tiles and cement floors , wooden floors, rubber floors, different floors can be cleaned with brush plates made of different materials.

## 1.2 Equipment Overview



No.	Name	Function
①	Steering wheel	Control driving direction
②	Warning light	For warning
③	Hook	Hang rags, brushes and other cleaning utensils
④	Sewage draining tube	Discharge sewage from the recovery tank
⑤	Sewage suction tube	Suck ground sewage into the tank
⑥	Squeegee adjustment knob	Adjust the distance between rubber strips and ground
⑦	Squeegee	Collect ground sewage
⑧	Control panel	Main function console
⑨	Clean water adding port	For adding clean water
⑩	Driving pedal	Accelerate/Decelerate the machine
⑪	Clean water draining cover	Discharge clean water from the solution tank
⑫	Headlight	For lighting dark environment
⑬	Brush plate	Clean the ground
⑭	Recovery tank cover	Check and clean the recovery tank
⑮	Recovery tank	Store recycled sewage
⑯	Water flow adjustment knob	Adjust the water flow of brush plate
⑰	Solution tank	Store clean water
⑱	Storage room	Store charger and charging plug

### 1.3 Control Panel/Buttons



No.	Name	Function
①	Voltage meter	Display the current voltage and power of the machine, also fault, machine operating status, etc.
②	Headlight	For lighting
③	Suction start/stop	Start/stop suction motor
④	Brush plate start/stop	Start/stop brush plate
⑤	Forward/backward	Control the machine to move forward/ backward
⑥	Horn	For whistling
⑦	ECO	Energy-saving mode
⑧	Key switch	For powering on and shutting down the machine
⑨	Emergency stop	Shut down the entire machine in an emergency

### 1.4 Technical parameters

Name	Value	Name	Value
Cleaning width (mm)	750	Brush motor power (W)	350*2
Squeegee width (mm)	1000	Driving motor power (W)	450
Continuous running hour (h)	3	Clean water capacity (L)	80
Theoretical working efficiency (m <sup>2</sup> /h)	5900	Sewage capacity (L)	85
Battery capacity (V/Ah)	24/140	Total weight (kg)	207.5
Suction motor power (W)	500	Working size (mm)	1400*1000*1100

## 1.5 Accessories list

When you open the packaging box, you will find that it contains the following components. Please check the components listed in the table. If there are anything missing, please contact us in time.

No.	Name	Quantity
①	Host	1
②	Charger	1
③	Squeegee assembly	1
④	Tool kit	1
⑤	Operation instruction	1
⑥	Warranty card	1

## 1.6 Consumables and Optional Accessories

The consumables of this equipment are listed in the table below. When any of them is worn, you need to purchase or replace it;

This equipment can cope with different scenarios through different optional accessories, which you can purchase through suppliers or manufacturers.

Consumables	Optional Accessories
Pad holder, Brush plate, Rubber strip, Cleaning pad (red), Cleaning pad (white)	Pad holder, Brush plate, Cleaning pad (red), Cleaning pad (white), Lithium battery, Lead-acid maintenance-free battery, Liquid-added battery



## Chapter 2 Installation

### 2.1 Unloading

**⚠ Caution:**

Please remove the outer packaging carefully to avoid damaging the machine shell;

It is recommended to keep the packaging boxes of related products after receiving the goods, so that the machine can be repackaged later when the equipment is moved or returned or exchanged;

It is prohibited to violently unload the machine from the pallet to avoid damaging the parts;

**Place the unloading wooden pallet, remove the wooden blocks that fix the big wheels, and then move the machine backwards to unload the equipment from the pallet.**

### 2.2 Installation

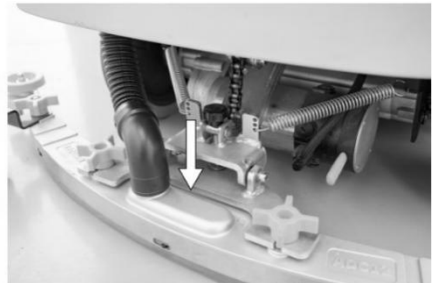
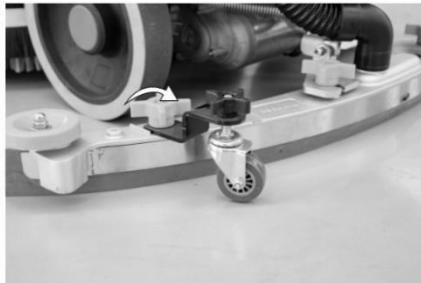
#### 2.2.1 Squeegee installation

Step 1: Park the machine on level ground and remove the key;

Step 2: Pass the squeegee fixing screw through the tripod eyelet and tighten it with the plastic knob;

Step 3: Insert the other end of the suction tube into the suction port of the squeegee;

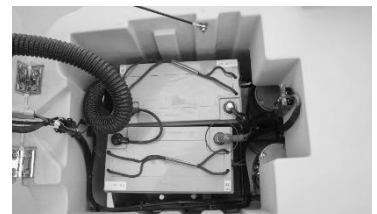
Step 4: Check the rubber strips and make some adjustments if necessary.



#### 2.2.2 Connecting the battery cables

**Step 1:** Lift the sewage tank and check whether the wire harness on the battery is connected and tightened;

**Step 2:** Connect the disconnected battery poles in series. Note that the positive (+) port is red and the negative (-) port is black. After the connection is completed, put down the sewage tank.



**⚠ Caution:** Due to the different distances of logistics routes, in order to avoid battery loss during long journeys, the battery cables have been disconnected at the factory.

## Chapter 3 Inspection before use

### 3.1 Check the battery

After turning on the power key switch, the battery meter will display the current voltage of the battery. When the voltage is about 21V or there's one last bar, please charge it in time.

**⚠ Caution :**

During the use of the battery, deep discharge will cause the battery capacity to decrease and its life to be shortened. For example: the battery is often used below 21.3V and is not charged in time.



### 3.2 Check clean water level

**⚠ Caution :**

Please ensure that there is sufficient water, and avoid using the suction motor when there is no water. Otherwise, the motor may take in dust. In severe cases, the noise of the suction motor will become louder or the suction power will be insufficient.

### 3.3 Check sewage level

**⚠ Caution :**

Please pay attention to the sewage water level. When the water level reaches the float position of the water level sensor, the suction motor will stop working.

Please dump the sewage in time.



### 3.4 Check the wear of the brush plate

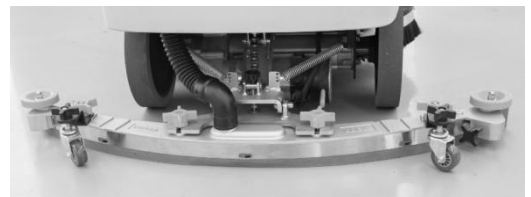
**⚠ Caution :**

When the length of the brush plate is found to reach the red warning line, please replace the brush plate in time.



### 3.5 Check the wear of the rubber strips

Check whether the strips are damaged, deformed, aged or cracked. If so, please replace them in time.



## Chapter 4 Operation instructions

### 4.1 Driving

Step 1: Turn on the main power key switch of the machine;

Step 2: Turn the forward/backward switch as needed, and lightly press the accelerator pedal to move the machine forward and backward.



Turn on the key  
switch



Forward gear



Backward gear



Press the  
accelerator pedal

#### **Caution:**

When the machine needs to be moved backwards or changed places, the brush plate and squeegee should be raised off the ground to avoid wear of the brush plate and deformation of the rubber strips or squeegee sheet metal parts.

### 4.2 Scrubbing

Step 1: Turn on the key switch of the machine;


Step 2: Press the brush plate start/stop button to lower the brush to the ground;

Step 3: Press the suction start/stop button to lower the squeegee to the ground;

Step 4: Hold the steering wheel and lightly step on the acceleration pedal to rotate the brush plate. Keep the machine running smoothly and then start cleaning (**Do not drive too fast**);

Step 5: Stop the brush plate and suction function after cleaning.



 **Caution:** Avoid stopping the machine in the same place for a long time with the brush plate working, as this will leave unnecessary marks on the ground.

### 4.3 Discharging sewage

Step 1 : Push the machine to a site that meets the sewage discharge standards, stop the machine, and turn off the power;

Step 2 : Remove the sewage tube from the clamp at the rear of the machine, place it downwards, open the tube cover, and discharge the water. The inner wall of the tank can be appropriately rinsed with clean water.

**⚠ Caution :** When flushing the recovery tank, do not splash water into the suction port to prevent the suction motor from burning out.



### 4.4 Shutting down

Step 1 : Empty water in both tanks;

Step 2 : Drive the machine to a flat ground;

Step 3 : Turn off the power switch and remove the key.



## 4.5 Charging

- The correct way to charge battery is to plug in the battery first, then the mains power; after charging, cut off the mains power first, and then the battery plug;
- The power system of this floor scrubber is composed of four 6V maintenance-free lead-acid batteries connected in series, and the system voltage is 24V;
- When the machine has been operating for a period of time, the battery power will drop. When the last two bars of the power meter are red, or the voltage is lower than 21V, it means that the power is insufficient and needs to be charged in time;
- When maintaining the battery, please wear protective gloves to avoid contact with acidic substances of the battery;
- Check whether the battery connection wire is worn and whether the contacts are loose, and replace it if necessary;
- The battery terminals should be kept clean and dry, without debris and dust covering them, otherwise it will be extremely detrimental to the battery, and in serious cases, it will burn the battery;
- In order to ensure that the battery has a long service life, it should be charged in time after the machine finishes working, but deep discharge is strictly prohibited;
- When the machine is not used for a long time, please fully charge the battery and store the battery with the positive pole (+) disconnected.

### **Caution :**

During use of the battery, deep discharge will cause the battery capacity to decrease and its life to be shortened. For example: the battery is often used when the voltage is below 21V and is not charged in time. If the machine will not be used for a long time (more than 15 days), it needs to be fully charged in advance, and as shown in the figure below, you should cut off the connecting wires on the battery and wrap them with insulating tape to prevent the battery from losing power due to long-term non-use.



### **Caution :**

In addition to lead-acid maintenance-free batteries, we also have liquid-filled models and lithium-ion batteries; For liquid-filled batteries, please check the liquid level of the battery every 20 days and replenish the electrolyte in time; Lithium-ion batteries have a voltage protection function. When the machine voltage is lower than 21V, the power output will be automatically cut off and further use of the device is prohibited. At this time, you need to charge it in time before you can continue to use it.

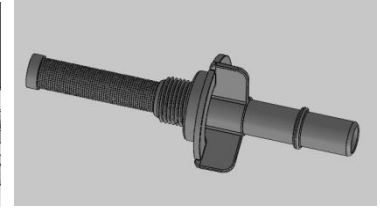
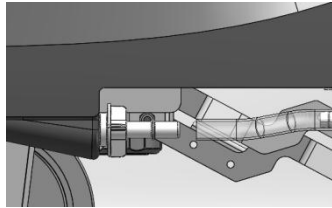
## Chapter 5 Cleaning and maintenance

Proper cleaning and maintenance will increase the service life of your machine, so please check and clean the machine regularly.

### 5.1 Cleaning

Step 1: Check and clean the wheel set and remove entangled objects;

Step 2: Clean the sewage tank and sewage tubes regularly, and use water to flush the dirt in the tank and blockages in the tubes;



Step 3: Clean the dirt under the rubber strips regularly, and wipe the strips with a cotton rag;

Step 4: Check the water filter regularly. When there are impurities in the transparent cover, rotate and unscrew the cover, and rinse it and the filter screen repeatedly with clean water.

#### **Caution:**

The machine is not a tightly waterproof device. Do not flush the machine directly with water in that it may cause a short circuit in your machine or burn out the original electrical components.

### 5.2 Maintenance

#### 5.2.1 Replacement and installation of brush plate

Step 1: Park the machine on a flat ground, keep the brush plate raised, turn off the key switch, and make sure that the machine is powered off;

Step 2: Turn the plastic cross knob counterclockwise to remove the water retaining brush;

Step 3: Grasp the bristles and quickly rotate the brush plate counterclockwise to remove it;

Place the brush plate directly below the brush motor and ensure that the brush plate buckle holes are aligned with the flange. Hold the plate brush up with both hands and rotate it in any direction. Release your hands and confirm that the brush plate is tightened, then the installation is completed.

 **Caution:** There are two types of cleaning pads with different hardness. Choose the more suitable one according to the site.

·**Replacing the pad holder:** The pad holder can be purchased through our company's platform. The specific replacement is to place the cleaning pad at the bottom of the pad holder and make them fit firmly;

·The cleaning pad and the pad holder must fit neatly together, then install the pad holder on the machine. The steps are the same as that of the brush plate;

·The cleaning pad must be soaked in clean water before using it for the first time for 10-15 minutes. A dry scouring pad

will damage the floor.

### 5.2.2 Replacement and installation of rubber strips

Step 1: Park the machine on a flat ground, turn off the main power switch, and ensure that the machine is powered off;

Step 2: After turning the plastic knob in the opposite direction, take out the squeegee assembly.

#### Removing of rubber strips

Step 1: Unscrew the orange knob of the squeegee and remove the universal wheel;

Step 2: Pull up the lever of the rubber strip pressure plate and remove the plate;

Step 3: Remove the bottom plate of the squeegee assembly, and remove the front and rear rubber strips of the squeegee;

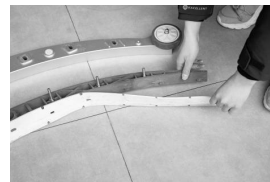
#### Installation of rubber strips

Step 1: Align the holes of the front rubber strip with the protrusions of the plastic component of the squeegee, and fix the plastic bottom plate to the bottom plate of the squeegee;

Step 2: Align the holes of the rear rubber strip with the protrusions of the plastic component of the squeegee;

Step 3: Install the rubber strip pressure plate and lock the buckle;

Step 4: Install the squeegee universal wheel.



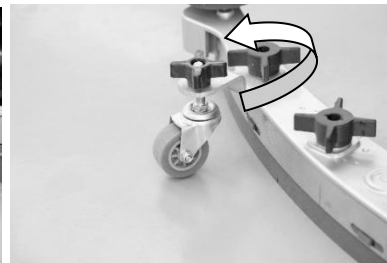
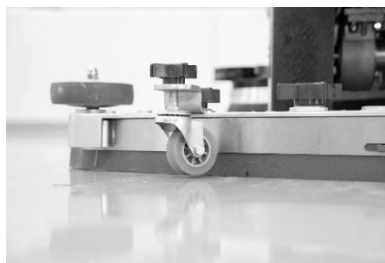
### 5.2.3 Install the squeegee universal wheel

Step 1: Put down the squeegee assembly and observe whether the rubber strips can touch the floor;

Step 2: Push the machine forward to check whether the rubber strips are slightly bent and to ensure that there are no gap;

Step 3: If there is a gap between the rubber strip and the ground, the assembly can be adjusted upward through the squeegee universal wheel;

Step 4: If the rubber strips are too close to the ground, then adjust the assembly downward through the universal wheel of the squeegee.



## **Chapter 6 Transportation and Storage**

### **6.1 Transportation**

If the machine and the accessories need to be lifted, it is recommended that you put them on a pallet and lift them with a forklift. And water in both tanks must be emptied when transporting the machine;

In order to prevent slipping and damage caused by collisions during transportation, please ensure that the binding should be firm and the center of gravity should be stable to ensure safety. For transportation vehicles whose surfaces are in contact with the machine, both surfaces should be packed with soft pads or hard cardboard;

Lightly load and unload. Do not let the machine fall, roll, be pressed, etc. or turned upside down.

### **6.2 Storage**

Before storing the machine, clean the machine, see [Chapter 5, 5.1 Cleaning] for details;

For machines that will not be used for a long time, anti-rust treatment should be done before storage. Check the easily corroded parts, and apply butter;

If the machine will not be used within 7 days, store the machine fully charged in a clean, dry and away from flammable places;

If the device is not used for a long time, fully charge the device battery, then disconnect the battery connector, and store the battery at room temperature above 0 degrees. It is required to charge it once a month;

In areas with lower temperatures, clean water and sewage need to be emptied to prevent the water tank from cracking due to water freezing.



## Chapter 7 Common faults

Fault	Phenomenon/Part	Troubleshooting	Solution
Charging failure	Charger failure	If the charger is not connected to the machine, see whether the green light will be on. If the machine is plugged in, the red light is on, and the built-in fan of the charger does not run	Replace the charger
	Charging interface oxidation	Whether there is any obvious oxidation trace on the copper interface	Clean the charging interface oxide
Suction motor not working	Switch	Turn on the switch and check if the switch light is on	Replace the switch
	Connector	Check whether the connector is tightly inserted or has fallen off	Tighten the connector
	Controller	Check whether the controller screws and terminals are tight	Contact customer service center
	Suction motor	Use a multimeter to measure whether there is voltage at the input end of the suction motor	
Brush motor not working	Switch	Turn on the switch and check if the switch light is on	Replace the switch
	Connector	Check whether the connector is tightly inserted or has fallen off	Tighten the connector
	Controller	Check whether the controller screws and terminals are tight	Contact customer service center
	Brush motor	Use a multimeter to measure whether there is voltage at the input end of the brush motor	
Water not coming out	Clean water tube	Whether there is any scale in the transparent tube of the clean water tube	Clean clean water tube
	Filter	Whether there is dirt on the filter	Clean filter
	Solenoid valve	Measure whether the solenoid valve has input voltage	Check the input voltage of the solenoid valve. If it is normal, remove it and clean the blocked part. Replace the solenoid valve if necessary.
Loud noise	Resonance of rubber strips and sewage suction port	1. Is there any abnormal sound when the rubber strips are lifted? 2. Is there any obvious vibration in the water absorbing tube?	Adjust the height of the squeegee mecanum wheels
	Suction motor	1. Is there any abnormal sound when the rubber strips are lifted? 2. Is there still any abnormal sound after the water absorbing tube is pulled out?	Replace the suction motor
Adjust the height of the squeegee mecanum wheels	Adjust the height of the squeegee mecanum wheels	Adjust the height of the squeegee mecanum wheels	Adjust the height of the squeegee mecanum wheels

Replace the suction motor	Replace the suction motor	Replace the suction motor	Replace the suction motor
The machine not sucking water properly	Floating ball cage clogged	Check the floating balls in the cage	Need extra attention in daily use
	Tube blocked	Clean the water suction tube	Need daily cleaning and maintenance
	Recovery tank sealing circle	Sealing circle aging	Replace accessories
	Squeegee	1. Whether the strips are cracked, aged or deformed 2. Whether the strips are wavy	1. Adjust the angle of the squeegee and the height of the universal wheel of the squeegee; 2. Replace the rubber strips
Machine not walking	Solenoid brake	Check the solenoid brake gear when the machine is turned off to see if it is not the downward gear	Contact customer service center
	Accelerator pedal	1. Shortly connect the accelerator pedal connector plug. If the machine can move, there is something wrong with the accelerator pedal. 2. The fault light flashes 7 times.	
	Controller	Use a multimeter to measure whether there is input voltage to the controller	
	Driving axle	Use a multimeter to measure whether there is input voltage to the driving axle	

# Warranty Card

Name		Tell	
Postal address		Bill No.	
Purchase time		Number	
Product model		Date	
Replace accessories			
Fault description			

