

# MANUAL BOOK



**BRMHK7150**

**Dual-brush Ride-on Floor Scrubber**

Please read this manual carefully before operation/please properly keep it.

## Warning

- ✧ The clean water tank must be kept at a certain level. The machine must not be operated without water to prevent it from sucking in dry dust, which could damage or soiling the vacuum motor.
- ✧ The battery should be charged in a well-ventilated place, and it should be charged in time if the battery is insufficient. Due to the characteristics of lead-acid batteries, prolonged low battery levels or failure to recharge in time can cause irreparable damage to the battery.
- ✧ For safer transportation: The manufacturer will disconnect the battery cable before the machine leaves the factory. Consumers should reconnect the battery themselves. The battery cable is placed in the bag (as shown in the picture below).



- ✧ Before using the floor scrubber, please read and familiarize yourself with the contents of the manual carefully.
- ✧ When operating this floor scrubber, avoid getting involved in long fiber materials such as ropes, corrosive chemicals, high-temperature debris, etc., otherwise the brushes may be damaged or cause other safety accidents.
- ✧ Any form of modification may affect its performance and life, and even affect its safety of use and may violate regulations. Damage caused by modification is not within the scope of the "three guarantees".
- ✧ When this floor scrubber is turned on, do not extend or bring any part of your body into the rotating parts to avoid injury to your body caused by the rotation of the machine.
- ✧ The machine must be parked on a flat ground and should not be parked on a slope, otherwise it will cause other safety accidents.
- ✧ The power supply of this floor scrubber must be disconnected before opening the hood, installing accessories, or performing maintenance or inspection.
- ✧ When the machine is stopped, the brush and squeegee should be fully lifted to extend the service life of consumable parts and maintain the machine.
- ✧ Do not use a water gun or a high-pressure water gun to directly rinse the machine.
- ✧ Do not use the machine in places with too much dry dust.
- ✧ The storage and operating temperature requirements of this machine must be 32°F to 104°F (0°C to +40°C).

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## 1. Performance Parameters

| Model                                       | Unit           | BRMHK7150      |
|---------------------------------------------|----------------|----------------|
| Overall dimensions<br>(length*width*height) | mm             | 1860*1200*1560 |
| Weight (including battery)                  | KG             | 525            |
| Voltage                                     | V              | 36             |
| Battery volume                              | Ah             | 200Ah          |
| Water flow                                  | L/Min          | 5.0            |
| Cleaning width                              | mm             | 1020           |
| Cleaning efficiency (theoretical)           | m <sup>2</sup> | 7150           |
| Drive motor                                 | W              | 650            |
| Brush motor                                 | W              | 650*2          |
| Vacuum motor                                | W              | 600            |
| Squeegee width                              | mm             | 1200           |
| Charging time                               | H              | 6-8            |
| Solution tank capacity                      | L              | 200            |
| Recovery tank capacity                      | L              | 220            |
| Brush pressure                              | KG             | 48~52          |
| Brush diameter                              | mm             | 510*2          |
| Maximum climbing angle                      | %              | ≤15            |

## 2.Overall structure



3.Intelligent control panel (LCD SCREEN)



Power switch (Emergency switch)



Forward and backward button



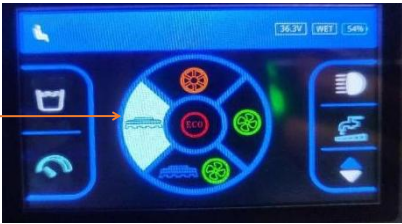
Forward



Backward



Brush button



Vacuum motor button



One-button start

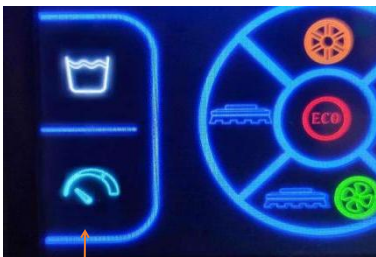




ECO mode



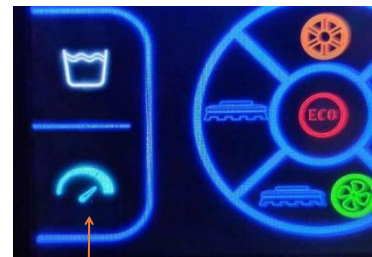
Speed control button



Speed I



Speed II



Speed III



Water spray volume



Volume I



Volume II



Volume III



Volume IV



Volume V

Recovery tank maximum water level limit warning, Vacuum motor will stop working when the sewage level reaches the volume limit.



Battery volume meter



## WARNING! !

- ✧ After the operation is completed, the brush plate should be lifted to prevent the brush from deformation and wear.
- ✧ After the operation is completed, the squeegee should be lifted to prevent the water-absorbing rubber strip from deformation.
- ✧ Do not park the scrubber on a slope.
- ✧ The vehicle cannot climb a slope of more than 15%, and there must be no stored water in the clean water tank and the sewage tank.

## 4. Machine commissioning and pre-operation inspection

### 4.1 Pre-operation inspection

1. Check whether the appearance is clean. Note: Please do not use this machine in an inflammable and explosive environment.
2. Check whether the battery wiring is in good contact to prevent short circuit faults.
3. Use the key to turn on the machine and check whether the power is sufficient. If the power is too low, please do not continue to use the machine. Turn off the power immediately and charge the battery. Make sure that the battery is fully charged before use.
4. Check whether the disc brush or needle holder is installed correctly.
5. Check whether the squeegee assembly is installed correctly (the rubber blade has been installed).
6. Ensure that the dirt in the sewage tank is removed.

### 4.2 Machine commissioning

#### 4.2.1 Installation of disc brush

1. Make sure the machine is in a stationary state.
2. Take out the disc brush that comes with the machine, and align the disc brush buckle with the flange buckle under the disc brush motor, pull open the spring buckle to cover the disc brush with the flange buckle, and leave the disc brush with both hands without falling off.
3. If you need to use a needle seat, please first place the fiber pad on the needle seat, and then perform the same installation method as the disc brush.

#### 4.2.2 Installation of squeegee assembly

1. First lift the squeegee assembly off the ground.
2. Unscrew the two black cross bolts in the middle of the squeegee assembly, and place the squeegee assembly in the fixing slot of the squeegee fixing plate.
3. Insert the water suction hose into the corresponding mouth of the squeegee assembly. (See the corresponding schematic diagram of the whole machine structure)
4. Press the water suction button, and wait until the locked squeegee assembly is placed on the ground, check whether the rubber strip is pressed to the ground reasonably, and make appropriate adjustments.

#### 4.2.3 Filling the water tank

The water filling port is located at the left rear of the machine. Pick up the water filling cap and add clean water to the water tank.

Tip!!

When using a bucket to fill water, make sure the bucket is clean. If you need to add detergent, please contact your local agent.

## 5. Machine operation

After the inspection is completed, you can start working.

1. Check the water volume of the water hose. If the water volume is insufficient, add an appropriate amount of water before working;
2. Cover the water tank cover to ensure that the water tank cover is properly covered and forms a preliminary seal;
3. Cover the sewage pipe cover and put it in the sewage pipe clamp;
4. According to the dryness of the ground, adjust the water volume and adjust it to the appropriate water volume;
5. Sit in the driving position and adjust the appropriate operating position.
6. Turn on the key to power on the vehicle.
7. The panel display is on, the forward and reverse switch is placed on the forward gear, and the speed switch is placed on the minimum speed (the far left).
8. Move the brush plate and water suction switch forward, the squeegee and brush plate are lowered, the water suction motor works, step on the foot switch, the brush plate works, the solenoid valve opens, and at the same time slowly increase the speed switch, the vehicle moves forward, and starts working.

9. To stop cleaning, first turn off the brush plate button, lift the brush plate and disconnect the solenoid valve, move forward for 5 seconds and then turn off the water suction button, drive to the sewage discharge area, discharge the sewage, clean the sewage tank and the squeegee, and after completion, park the car and adjust the speed to the slowest, press the key switch, and pull out the key. If the battery shows 10%, it should be charged.

#### **Suggestions!!**

**When using this floor scrubber, it is best to clean at a speed of 80-90 meters per minute.**

#### **Tips!!**

**When the vehicle is in reverse, the water suction is automatically lifted and the water suction motor is not working.**

## **6.During machine operation**

1. When working on a slope or slippery ground, please operate at a low speed. Do not work on a slope of more than 15%.
2. After the whole machine is started, keep walking to avoid damaging the ground.
3. If the water absorption component leaves a drag mark on the ground after absorbing water, please wipe the scraper strip with a rag to remove the garbage. (Please clean the area to be cleaned in advance to avoid drag marks.)
4. If there is too much foam in the sewage tank, please use defoaming liquid to pour it into the sewage tank for defoaming in time. (Please contact your local agent)
5. When the sewage tank is full of sewage, the water absorption motor stops working. Please drain the sewage.

#### **Tips! !**

**When the sewage tank is full of sewage, the vacuum motor stops working.**

## **7.After machine operation is completed**

### **7.1 Draining the sewage tank**

7.1.1 After each cleaning work is completed, or before refilling the clean water tank, the sewage in the sewage tank should be drained and the sewage tank should be cleaned.

1. Take out the sewage pipe, unplug the sewage pipe cover, put it in the drain bucket or drain channel to start draining.
2. Open the sewage tank cover and rinse the inside of the sewage tank with clean water.
3. Clean the float filter in the sewage tank.
4. Clean the water full protector in the sewage tank.

#### **Warning! !**

**When the clean water tank is filled with water again, if the sewage tank is not drained, foam or water may enter the float device and damage the water suction motor.**

### **7.2 Draining the clean water tank**

After each cleaning work is completed, the clean water tank should be drained and cleaned.

1. Open the ball valve switch located next to the left rear wheel of the clean water tank to drain all the clean water in the clean water tank.
2. Unscrew the transparent cover of the filter assembly to drain the clean water in the clean water tank. Please clean the filter in the filter.

### **Tips! !**

**When the clean water tank is filled with water again, if the sewage tank is not drained, foam or water may enter the float device and damage the vacuum motor.**

### **7.3 Battery Charging**

1. Place the charger and the machine in a well-ventilated place.
2. Turn off the machine power.
3. Plug the AC power cord of the charger into a well-grounded power socket.
4. Plug the DC output terminal of the charger into the charging port of the front column of the machine. (See the corresponding schematic diagram of the whole machine structure)
5. The charger automatically starts charging. If the battery is fully charged, the charger will automatically shut down.
6. When charging is finished, first unplug the plug connected to the AC power supply, and then unplug the output terminal of the charger from the machine.

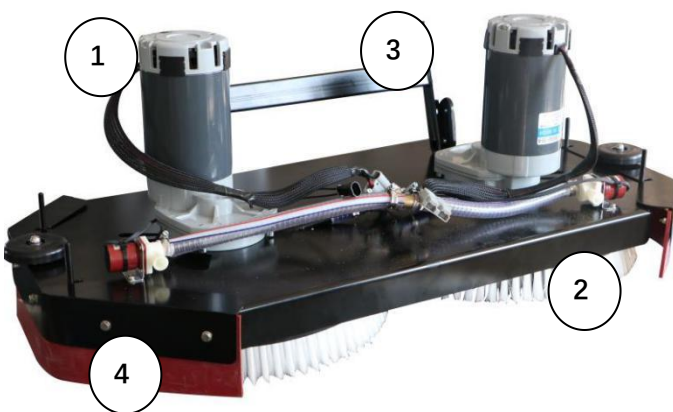
**WARNING! !When charging this machine, you must use the original charger provided with the vehicle.**

## **8.Cleaning system**

8.1 The cleaning system consists of a motor, a floor scrubber, and a spray system.

### **Warning!!**

When the machine is turned on for cleaning, do not stay in the same place to rotate the brush disc. Staying in the same place for a long time will damage the floor scrubber.



1. Brush motor: Mainly drives the brush plate to rotate.
2. Brush: mainly used for cleaning and decontamination of various conventional floors.
3. Lifting mechanism: mainly used for the lifting and lowering the entire cleaning system.
4. Water-Splash protection rubber: prevents sewage from being thrown out during the cleaning process to form secondary pollution

### **8.2 Operation method**

Press the brush button, the brush plate slowly descends, press it again, the brush plate slowly rises. When the brush plate button is pressed, the brush plate push rod motor starts and lowers the brush plate assembly. When the brush plate assembly descends to the ground, the brush plate starts to rotate when the foot switch is pressed.

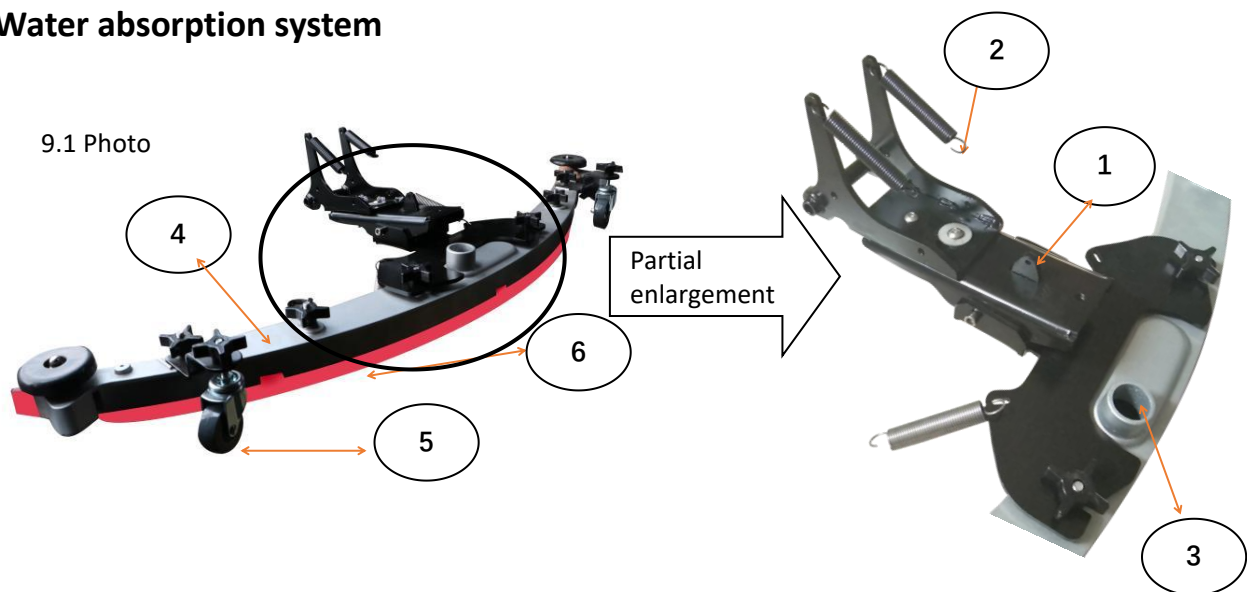
### 8.3 Inspection and maintenance

|   | Problem                                            | Reason                                        | Solution                    |
|---|----------------------------------------------------|-----------------------------------------------|-----------------------------|
| 1 | The brush plate swings obviously from side to side | The screws fixing the rotating rod are loose. | Tighten the screws tightly. |
| 2 | The two sides of the brush plate are uneven.       | The screws fixing the rotating rod are loose. | Tighten the screws tightly. |

### 8.4 Maintenance methods

1. When the floor scrubber is stationary for a long time, the floor scrubber brush should be lifted to avoid deformation of the bristles, which will affect the cleaning effect next time.
2. During the cleaning work, the metal entanglement on the bristles should be removed in time to reduce the load of the brush motor, avoid damaging the consistency of the floor, and improve the overall work efficiency.
3. Avoid cleaning objects that are easy to solidify, corrosive, and flammable, such as lime, cement, and sulfuric acid.

## 9. Water absorption system



1. Squeegee connection seat: directly connected to the lifting motor chain, mainly plays the role of lifting the squeegee assembly.
2. Squeegee rotating frame: a conductive bridge for the squeegee assembly to go straight, turn, and return.
3. Sewage suction pipe: an important part for sucking sewage, connecting the squeegee assembly and the sewage tank hose.
4. Squeegee assembly: an important component for sewage collection.
5. Support universal wheel: used for height adjustment of the squeegee rubber strip, which has been adjusted to the optimal value before leaving the factory.
6. Rear water-absorbing rubber strip: a consumable part, please replace and maintain it as required when using it.

## 9.2 Operation method

The water suction lifting mechanism of this floor scrubber adopts a system that uses a push rod motor to control the lifting and lowering with one button.

When the water suction button is pressed, the water suction push rod motor starts and lowers the squeegee assembly, and the water suction motor starts working at the same time.

## 9.3 Squeegee debugging

As the squeegee is used for a longer time, the rubber strip will wear and the water absorption effect will be affected to a certain extent. In order to achieve the effect of completely removing stains, the following corresponding debugging is required.

1. Adjust the height of the two supporting universal wheels behind the squeegee to be consistent. When it is stationary, it needs to be suspended about 2mm-3mm from the ground.
2. Rotate the four-corner handle nut until the rear rubber strip is tightly pressed against the ground.

## 9.4 Rubber strip replacement

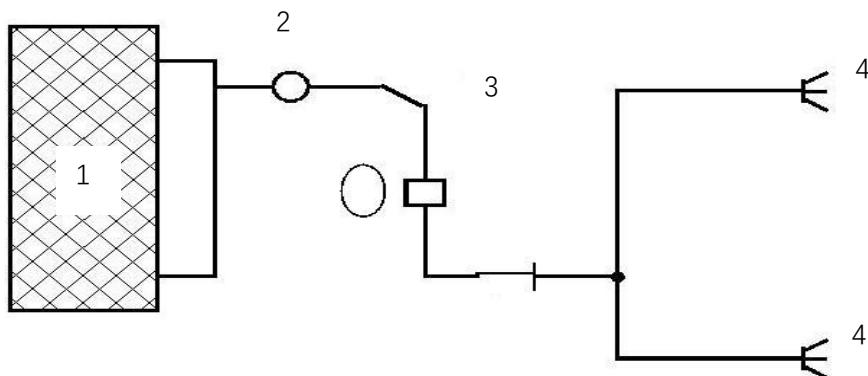
1. The rubber strip is rectangular and can be replaced after both sides have been fully used.
2. First loosen the pressure plate pressed on the front and rear rubber strips.
3. Then remove the front and rear rubber strips.
4. After taking out the required new rubber strips. Install the new rubber strips in the order they were just removed.

### Maintenance Tips! !

**After each floor cleaning, the squeegee assembly needs to be lifted and the rubber strips need to be cleaned.**

# 10. Water system

## 10.1 Schematic diagram



1. Clean water tank: It is one of the core parts of the vehicle for storing water for cleaning the ground.
2. Filter: Installed on the left and right sides of the front driving wheel of the clean water tank to filter impurities in the water system.
3. Solenoid valve: Installed on both sides of the upper part of the brush plate assembly, one on each side, to control the water volume and shut off the water volume.
4. Water outlet: Located in the middle of the brush plate, it supplies water during the brush cleaning process.

## 10.2 Operation method

The vehicle water system and cleaning system are designed to work synchronously.

When the brush plate is working, the solenoid valve is open, and when the brush plate is not working, the solenoid valve is closed, and the ball valve adjusts the water volume separately.

## 10.3 Inspection and maintenance

| Problem |                                     | Reason                          | Solution                                                                          |
|---------|-------------------------------------|---------------------------------|-----------------------------------------------------------------------------------|
| 1       | Water outlet<br>No water coming out | Filter is clogged               | Clean the filter                                                                  |
| 2       |                                     | Solenoid valve is not open      | Check if there is any foreign matter blocking it, short circuit in the line, etc. |
| 3       |                                     | Main ball valve is not open     | Open the ball valve switch                                                        |
| 4       |                                     | Water outlet is clogged         | Clear the debris at the water outlet (water outlet of clean water tank)           |
| 5       | Water output is too small           | Air is inside the water pipe    | Disassemble the water pipe and remove the air                                     |
| 6       |                                     | Water pipe is folded            | Adjust the water pipe to be folded                                                |
| 7       |                                     | Ball valve is not opened enough | Open the ball valve wider                                                         |

# 11. Inspection and maintenance

## 11.1 maintenance

| Inspection and maintenance |                                                                      | Intervals |    |    |     |     |
|----------------------------|----------------------------------------------------------------------|-----------|----|----|-----|-----|
|                            |                                                                      | 4         | 20 | 50 | 200 | 500 |
| 1                          | Battery power test                                                   | √         |    |    |     |     |
| 2                          | Check the carbon brush of the motor                                  |           |    |    |     | √   |
| 3                          | Check whether the brush is entangled with wires or silk              | √         |    |    |     |     |
| 4                          | Check the water filter                                               |           | √  |    |     |     |
| 5                          | Check the dashboard and electronic switches                          |           |    |    |     | √   |
| 6                          | Check the wear of the brush                                          |           |    | √  |     |     |
| 7                          | Clean the upper and lower water tanks in time                        | √         |    |    |     |     |
| 8                          | Check the wear of the water-absorbing rubber                         |           | √  |    |     |     |
| 9                          | Check the use of the water suction pipe and the water discharge pipe | √         |    |    | √   |     |
| 10                         | Check the water discharge                                            | √         |    |    |     |     |
| 11                         | Check the water absorption of the squeegee                           | √         |    |    |     |     |

## 11.2 Battery maintenance

This floor scrubber system is powered by 6 6V maintenance-free batteries connected in series, and the system voltage is 36V.

1. After the machine has been operating for a period of time, the battery power will decrease. When the last grid of the power display is flashing, it means that the battery power is insufficient and needs to be charged in time.
2. When maintaining the battery, please wear protective gloves to avoid contact with battery acid.
3. The top and electrodes of the battery must be treated for corrosion. Wipe them repeatedly with a brush dipped in soda water, but do not pour this solution into the battery.
4. Check whether the battery connection is worn and whether the contact parts are loose. Replace them if necessary.
5. The power output terminal on the battery should be kept clean and dry. No debris or dust should be covered on it. It is extremely bad for the battery, shortening the battery life or even burning the battery.

### **Tips! !**

- ✧ **In order to make the battery have a long service life, it should be charged in time after the machine operation is completed. Do not leave the battery in a discharged state for a long time.**

### **Warning! !**

- ✧ **During the use of the battery, the capacity of the battery will decrease and the life will be shortened if it is deeply discharged.**
- ✧ **Since the battery will release hydrogen, the battery box must be kept open during charging and away from sparks or fire sources to prevent the hydrogen released by the battery from causing danger**

## 12. Battery Maintenance Guide

This product uses lead-acid batteries, which are maintenance-free, maintenance-free, and have automatic pressure relief functions; the principle of use is: charge as you use it, charge immediately after use, and do not discharge the battery frequently (minimum protection voltage).

1). What is a short circuit and what effect does it have on battery performance?

It refers to the connection of the positive and negative poles of the battery to generate a strong current; the internal positive and negative pole groups are connected. When charging, the voltage rises very slowly and always remains low; the electrolyte temperature rises very quickly; the electrolyte density rises very slowly or almost unchanged; the terminal voltage drops rapidly when the current is discharged.

2). What is over-discharge and what effect does it have on battery performance?

It refers to the phenomenon that the amount of electricity stored in the battery continues to discharge after reaching the minimum working voltage during discharge. After the battery is over-discharged, the voltage drops sharply in a very short period of time. At this time, the entire internal reaction system of the battery is disordered. If it is over-discharged repeatedly, the positive electrode will lose its activity, which will affect the battery life. Reduce battery usage time and extend battery charging time.

3). How to store the battery after use?

Batteries are sensitive products. If they are not used for a long time, it is best to remove the battery from the machine and place it in a dry place at room temperature. Because the battery is placed inside the machine, and the electrical appliances and circuit boards are not disconnected, the battery will continue to discharge slightly.

4). Why is the battery life short?

Batteries are undercharged for a long time, and are not charged for a long time after discharge. During use, over-discharge often occurs. When charging, the standard charger is not used, resulting in overcharging. The voltage difference between the used battery packs is generated, and a low-voltage working state is formed for a long time.

## 13. Troubleshooting

| Problem                       | Cause                                                                              | Solution                                                             |
|-------------------------------|------------------------------------------------------------------------------------|----------------------------------------------------------------------|
| The machine fails to work.    | The switch is not turned on or is damaged.                                         | Use the key to turn on the switch or replace the switch.             |
|                               | The brush motor button is not turned on or is damaged.                             | Turn on the switch or replace the switch.                            |
|                               | The vacuum motor button is not turned on or is damaged.                            | Turn on the switch or replace the switch.                            |
|                               | The battery is dead or damaged.                                                    | Please charge or replace the battery.                                |
|                               | The overload reset switch trips off.                                               | Remove short circuit fault and press down the overload reset switch. |
| The charger does not work.    | The plug is not connected to the power supply.                                     | Check the plug connection.                                           |
|                               | The positive and negative connection wires are connected incorrectly.              | Connect the positive and negative poles correctly.                   |
|                               | The charger fails.                                                                 | Refer to charger's fault code.                                       |
| The brush disc motor does not | The brush disc is lifted off the ground or the brush disc motor button is damaged. | Replace the microswitch of the brush disc motor.                     |

|                                          |                                                         |                                                                |
|------------------------------------------|---------------------------------------------------------|----------------------------------------------------------------|
| work.                                    | The motor switch is damaged                             | Replace the motor microswitch.                                 |
|                                          | The overload reset switch trips off.                    | Troubleshoot, and press down the overload reset switch.        |
|                                          | Wear of motor's carbon brush                            | Please contact the Service Center.                             |
|                                          | The joint of brush disc motor is loose.                 | Fix the joint again.                                           |
|                                          | The brush disc motor is damaged.                        | Replace the motor.                                             |
| The machine cannot move forward.         | The steering wheel is damaged.                          | Replace the steering wheel.                                    |
|                                          | The large caster is damaged.                            | Replace the big caster.                                        |
|                                          | The adjusting nut of brush disc is loose.               | Re-adjust the brush disc's adjusting nut.                      |
|                                          | The vacuum motor is damaged.                            | Replace the vacuum motor.                                      |
|                                          | The sewage tank is full.                                | Discharge the sewage.                                          |
| Little water or no water is flowing out. | Filter screen of the clean water tank                   | Clean the filter screen of the clean water tank.               |
|                                          | The water valve switch is broken.                       | Replace the water valve switch.                                |
|                                          | The solenoid valve is broken.                           | Replace the solenoid valve.                                    |
| Problem                                  | Cause                                                   | Solution                                                       |
| Vacuum power is insufficient.            | The sewage tank is full or the suction pipe is damaged. | Drain the sewage tank or replace the suction pipe.             |
|                                          | The drain pipe cover is not sealed.                     | Re-cover the drain pipe cover.                                 |
|                                          | The sewage filter screen in the sewage tank is blocked. | Clean the sewage filter screen.                                |
|                                          | Foreign matters at the seal of the sewage pipe cover.   | Remove the foreign matters and re-cover the sewage pipe cover. |
|                                          | Wear of squeegee blade strip                            | Replace the squeegee blade strip.                              |
|                                          | The squeegee blade strip cannot be bent properly        | Adjust the height of squeegee blade strip.                     |
|                                          | The vacuum motor is damaged.                            | Replace the vacuum motor.                                      |
|                                          | Foreign matters at the sewage guide cover               | Clean off the foreign matters in the sewage guide cover.       |
|                                          | The battery level is low.                               | Charge the battery.                                            |
| The running time is shortened.           | The battery level is low.                               | Please fully charge the battery.                               |
|                                          | The battery fails.                                      | Replace the battery.                                           |
|                                          | The battery needs maintenance.                          | Refer to the "Battery Maintenance".                            |
|                                          | The battery charger fails.                              | Maintenance or replacement of battery charger                  |

**Since this product is constantly updated, the specific parameters are subject to the actual product.**



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