



## Notice

- This manual provides the necessary instructions for the operation and maintenance of the machine.
- Read and understand this manual thoroughly before operating or using the machine, and operate the machine carefully.
- Maintain the machine regularly in accordance with the maintenance instructions provided in the operator's manual.

:: Use genuine or equivalent parts for repairs.

:: Do not use flammable liquids; never work near or in areas where flammable liquids, gases or combustible ash are present.

Dusty premises to operate the machine.

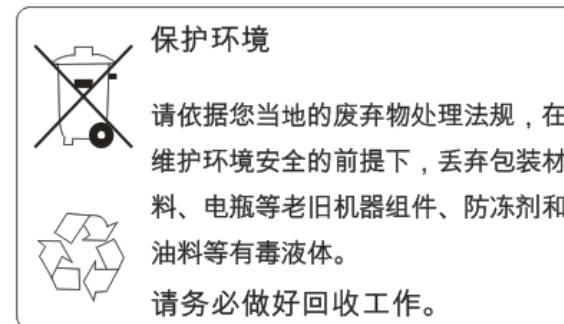
- This machine is not equipped with an explosion-proof motor. If the machine is used in a field with flammable gases, liquids or combustible dust

If the machine is used in a facility, the electric motor may generate sparks during start-up and operation, which may cause a fire.

Causes flash fire or explosion.

- Do not pick up flammable materials or reactive metals.

- Hydrogen gas is released from the battery. Keep away from sparks or open sources of ignition. Keep the battery compartment open while charging.
- Warning: Danger of electric shock. Disconnect the battery wires before servicing the machine.
- WARNING: Rotating brush operates. Keep both hands away. Turn off the power before servicing the machine.



## Warning!

- ◆ Before using the scrubber, please read and familiarize yourself with the contents of the manual.
- ◆ This scrubber is only used as hard floor cleaning equipment, if it is used for other purposes beyond the instructions in this manual,

our company will not be responsible for any damage or liability caused by this.

- ◆ This scrubber should avoid getting involved in long fiber material such as rope wire, corrosive chemicals, high temperature debris, etc. when operating, otherwise the brush type may be damaged or cause other safety accidents.
- ◆ This scrubber is designed to operate in areas where there are various kinds of dirt and debris and other dirty areas on hard surfaces.

Any kind of modification may affect its performance, life span, or even safety of use and may violate the law. The damage caused by the modification is not covered by the "Three Packages".

- ◆ When the machine is on, do not put any part of your body into the rotating parts to avoid the machine from rotating and causing injury to your body.
- ◆ The machine must be parked on level ground, and should avoid parking on slope, otherwise it will cause other safety accidents.
- ◆ When opening the hood, installing accessories or maintenance or overhauling, you must first disconnect the power of this scrubber.
- ◆ The battery should be in a well ventilated place when charging, and should be charged in time when the power is low.
- ◆ When you finish the work, you should remove the key and keep it in a safe place in time to avoid the operation by unauthorized personnel.

- ◆ When stopping the machine, the machine should lift all the brushes and suction steak, which can prolong the service life of consumable parts and maintain the machine.
- ◆ Do not flush the machine directly with a water gun or high-pressure water gun.
- ◆ Do not use the machine in places where there is too much dust.
- ◆ The temperature requirements for storage and operation of this machine must be 32° F to 104° F (0° C to +40° C).

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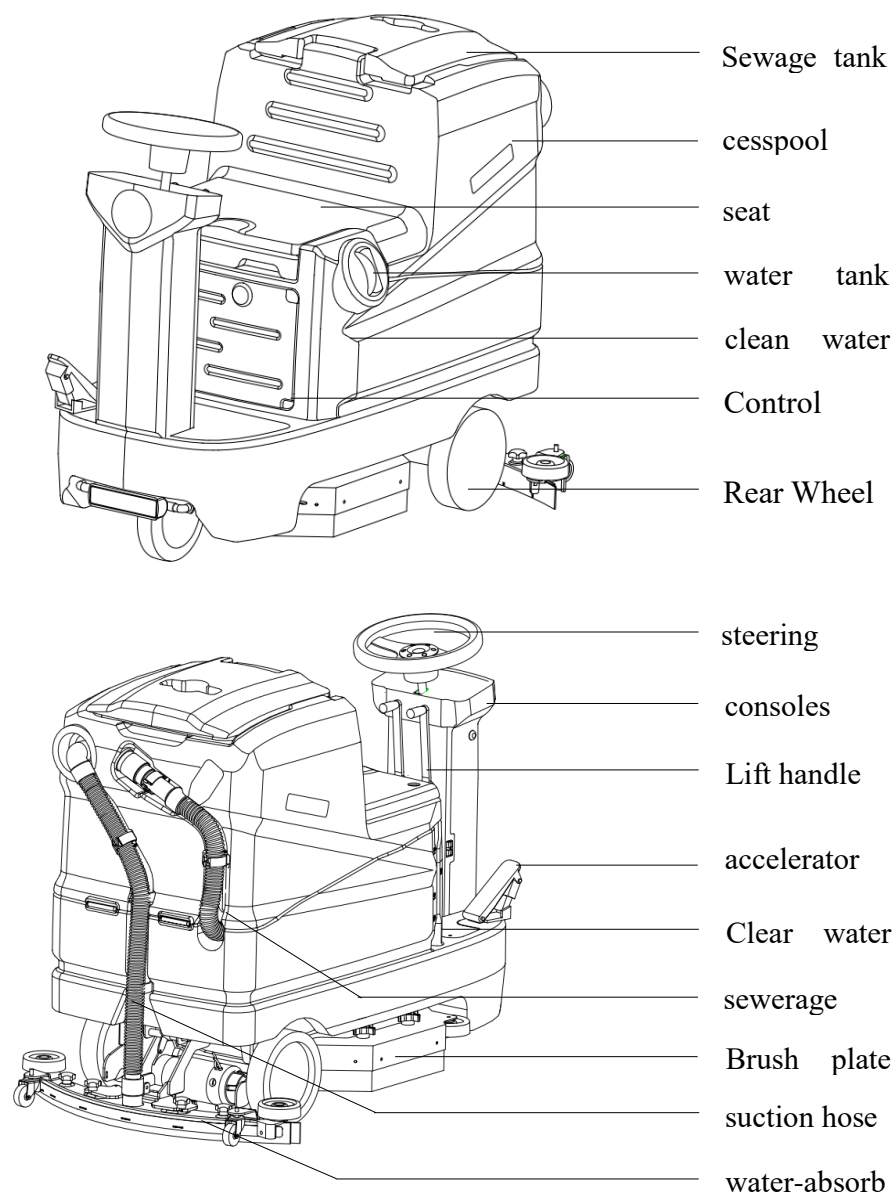
### 1. Performance parameters (single brush)

vehicle type	unit	Clean-D6
Whole machine	mm	1230*660*1020
Weight (with battery)	KG	225
currents	V	24
total power	W	1500
water flow	L/Min	3.5
Cleaning width	mm	560
Cleaning efficiency	m <sup>2</sup>	3000
Vacuum suction	mmH <sub>2</sub> O	2200
Drive motor	W	500
Disc Brush Motor	W	550
Suction motor	W	450
Suction rake width	mm	780
battery pack	/	2*12V; 100AH/3HR
Charging time	H	6-8
Clear water tank capacity	L	70
Sewage tank capacity	L	75
Brush plate pressure	KG	30
working hours	H	≈3.5
noise	dB	65
Climbing degree (no load)	%	< 25%

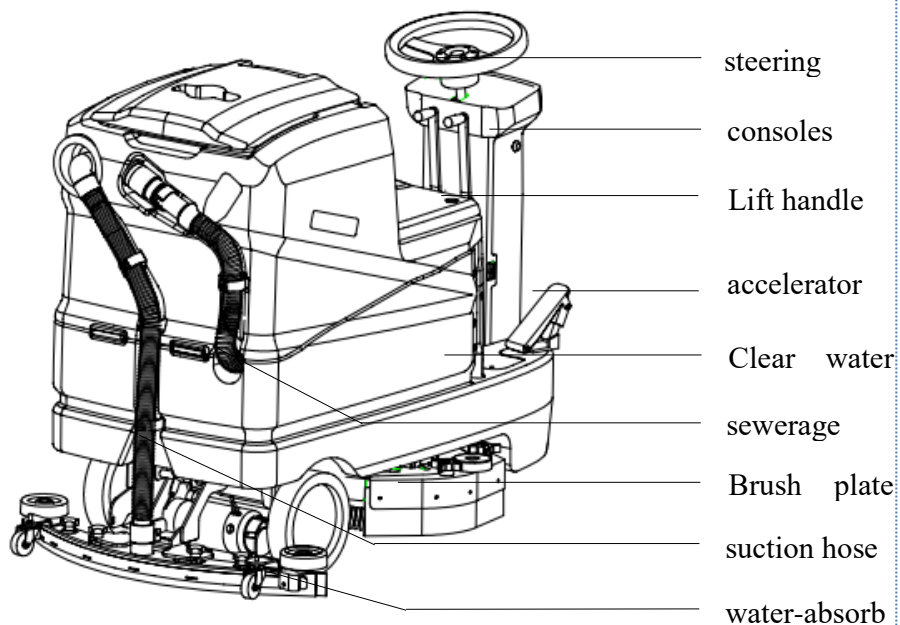
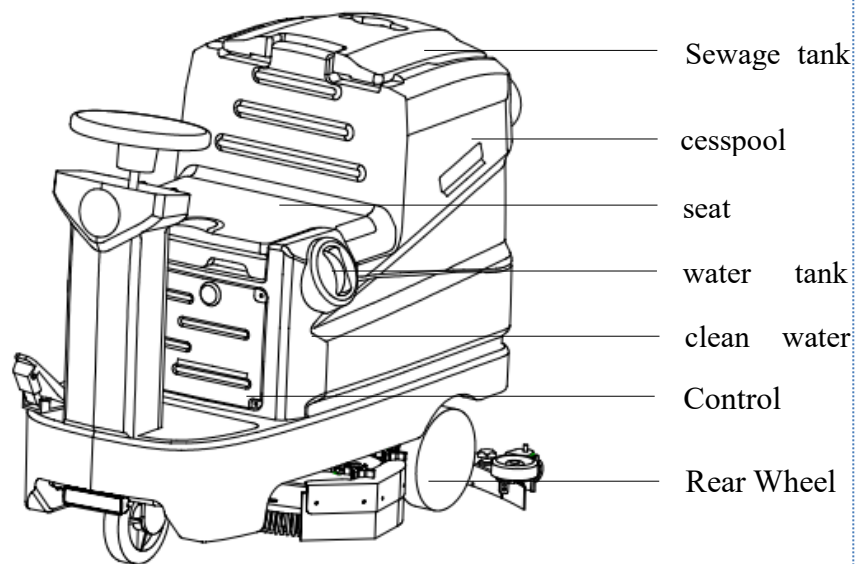
## 1. Performance parameters (double brush)

vehicle type	unit	Clean-D7
Whole machine	mm	1230*740*1020
Weight (with battery)	KG	260
currents	V	24
total power	W	2050
water flow	L/Min	3.5
Cleaning width	mm	710
Cleaning efficiency	m <sup>2</sup>	3900
Vacuum suction	mmH <sub>2</sub> O	2200
Drive motor	W	500
Disc Brush Motor	W	2*550
Suction motor	W	450
Suction rake width	mm	930
battery pack	/	2*12V; 120AH/3HR
Charging time	H	6-8
Clear water tank capacity	L	70
Sewage tank capacity	L	75
Brush plate pressure	KG	38
working hours	H	≈3.5
noise	dB	65
Climbing degree (no load)	%	< 25%

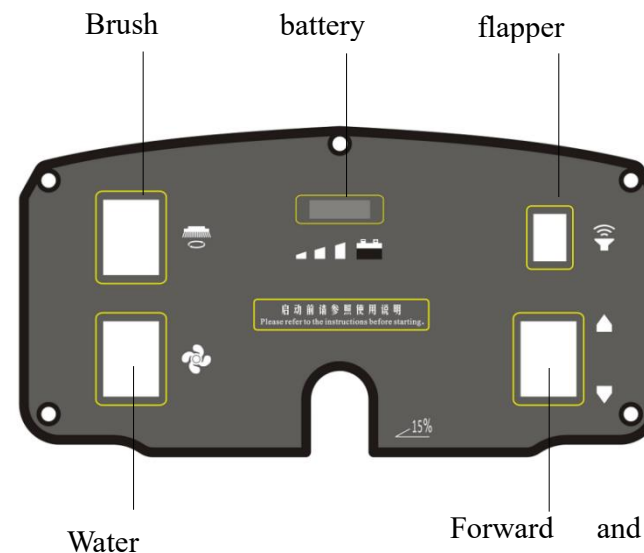
## 2. Construction of the whole machine (single brush)



## 2. Complete machine construction (double brush)



## 3. Control systems



### (1) Power key switch:

The power key is mounted on the right side of the console, and the power is turned on when the key is twisted to the ON position and off when the key is twisted to the OFF position.

### (2) Brush plate switch:

When the switch is pulled forward, the brush motor drives the brush to start, and when the switch is pulled backward, the motor turns off.

The brush tray lift puller on the right side is to control the raising and lowering of the brush tray components.

### (3) Power display:

As long as the machine is in the power on state, this light

will be on. The power meter is from right to left for power display, the rightmost is the highest voltage. When the voltage is as low as 20.4V, the last frame of the power meter will keep flashing, and the driver will stop working when the voltage is as low as 20V.

**It is recommended that the brush, suction, and water spray functions be discontinued; retain only the drive travel.**

<b>Warning!!!</b>	
t i	◆ The brush tray components should be lifted after completing the job to prevent deformation and wear of the brushes.
s r	◆ The suction rake components should be lifted after completing the job to prevent deformation of the suction rubber strips.
e	◆ The scrubber should never be parked on a slope.
c o m	◆ The entire vehicle must not climb more than 25% of the time, and there must be no stored water in the fresh water and sewage tanks.

**ended to consider charging when the power meter is showing the second cell on the left.**

(4) Suction switch :

When the switch is pulled forward, the suction motor starts, and when this switch is pulled backward, the suction motor turns off.

When the suction motor is pulled forward after the suction pick lift puller on the left side has lowered the suction pick parts, the Only then can you open it.

(5) Sewage water full protection indication:

The protection sensor signal is transmitted to the panel when the sewage tank is full, and the panel power display shows 4 cells after 7 seconds

Blinking is performed and at the same time, the suction motor stops working.

(6) Blather switch: Blather button tapping button, when tapped, that is, blather energized sound.

(7) Emergency stop switch.

Located under the seat cushion, the entire vehicle is powered off when this switch is pressed and powered on when the emergency stop head is pulled up.

(8) Reverse switch:

When this switch is pulled backward, the whole car goes backward, and when this switch is pulled forward, the whole car goes forward.

When the suction pick lift puller on the left side lifts the suction pick component and the suction motor is pulled back, the

Only then can we go backwards.

## 4. Machine commissioning and pre-operation checks

### 4.1 Pre-operation checks

1. Check if the appearance is clean. Note: Do not use this machine in a flammable and explosive environment.

2, check whether the battery wiring contact is good to prevent short circuit failure.

3、Use the key to turn on the machine and check if the power is sufficient, if the power is too low, please do not continue to use the machine, you should immediately turn off the power and charge the battery, make sure the battery is fully charged before use.

4. Check that the disc brush or needle holder is properly installed and completed.

5、Check if the water pick is installed correctly (the rubber strip has been installed).

6. Ensure that the sewage tank is fouled out.

### 4.2 Machine commissioning

#### 4.2.1 Disc Brush Installation

1. Make sure the machine is in a stationary state.

2. Remove the disk brush that comes with it and align the disk brush snap with the flange buckle below the disk brush motor and rotate the disk brush to the left with your hands to cover the flange buckle, and leave the disk brush with both hands without falling off.

3. Put the brush tray carrying handle down and then press the

button to pull the brush tray forward, the system will automatically start the rotation and install the brush tray.

4. The needle holder is installed in the same way as the disc brush, but first the fiber pad should be placed on the needle holder and then operated.

#### 4.2.2 Water Grate Assembly Installation

1. Start by lifting the water grate retaining plate assembly off the ground.

2. Unscrew the two middle handles on the water pick assembly and place the water pick assembly on the fixed plate of the water pick.

Inside the fixed card slot.

3. Insert the water suction hose into the corresponding port of the water pick assembly. (See the diagram of the complete machine construction)

4. First make sure the panel is in manual working condition, then press the water suction press button, wait to put the locked water steak assembly to the ground, check whether the rubber strip pressure ground is reasonable, and make appropriate adjustment.

#### 4.2.3 Clear water tank filling

The clear water filler is located on the left side of the cushion, just unscrew the filler cap and add the clear water to the tank.

#### Hint!!!

- ◆ When using a bucket to fill with water, you need to make sure the bucket is clean. To add cleaner, contact your local agent.

## 5. Machine operation

Once the check is complete, you can start working on it.

1. Check the volume of water in the water scale tube, if the volume of water is insufficient, the appropriate amount of water should be added first before operation.

2. Cover the water tank, ensuring that the water tank is properly covered and that a preliminary seal is formed.

3. cover the sewer pipe cap and place it in the sewer pipe clamp.

4. Turn on the key so that the whole vehicle is in the energized state.

5. adjusting the size of the water volume according to the dryness of the ground and adjusting it to the appropriate volume of water.

6. Seat in the driver's seat, lower the brush and suction lift handle, and turn on the corresponding function.

7. Depress the accelerator, the whole car moves forward, and the associated brush, suction, and spray water also carry out work.

8. To stop cleaning work, first turn off the corresponding function, then lift the brush and suction separately.

Turn the key off again to disconnect the power.

### Suggestions!!!

When working with this scrubber, cleaning at a speed of 80-90 meters per minute is optimal.

## 6. During the operation of the machine

1. When working on slopes or slippery ground, operate at low speed and do not operate on slopes exceeding 3 degrees.

On the job.

2. When the whole machine is started, keep walking so as not to damage the ground.

3. If the water squeegee assembly leaves drag marks on the floor after absorbing water, test the squeegee strip with a rag to remove the debris.

(Please clean the area to be cleaned beforehand to avoid drag marks.)

4. If there is too much foam in the effluent tank, use defoaming solution to defoam the tank in time.

(Please contact your local agent)

5. In the process of use, always observe the power display meter, when the voltage is as low as 20.4V, the power

The last cell of the meter is flashing constantly and the driver stops working when the voltage goes as low as 20V.

It is recommended that the brush, suction, and water spray functions be discontinued; retain only the drive travel.

It is recommended to consider charging when the power meter is showing the second cell on the left.

6. When the fresh water in the fresh water tank is used up, water will be added and cleaning will be done again.

7. The protection sensor signal is transmitted to the panel when

the sewage tank is full, and the panel power display shows 4 cells after 7 seconds

Blinking is performed and at the same time, the suction motor stops working.

## 7. After the machine work is completed

### 7.1 Sewage tank drainage

1. After each cleaning job or before refilling the fresh water tank, the effluent in the sewage tank should

Drain and clean the sewage tank.

2. Take off the drain hose, pull off the open sewer cap, and put it in a drain bucket or drain to drain.

3. Open the cover of the sewage tank and flush the inside of the tank with water.

4. Clean the float screen located inside the waste water tank.

5. Clean the water full protector located in the waste tank.

#### Warning!!!

- ◆ When the fresh water tank is filled again, foam or water may get inside the float unit and damage the suction motor if the sewage tank is not drained.

### 7.2 Clear water tank drainage

The fresh water tank should be drained and cleaned after each cleaning job.

1. Open the ball valve switch located next to the left rear wheel

of the fresh water tank and allow all the fresh water in the tank to drain.

2. Unscrew the transparent cover of the filter assembly to also drain the clear water from the clear water tank. Please clean the strainer in the filter.

#### Hint!!!

- ◆ When the fresh water tank is filled again, foam or water may get inside the float unit and damage the suction motor if the sewage tank is not drained.

### 7.3 Battery charging

1. Place the charger and machine in a well-ventilated area.

2. Turn off the power to the machine.

3. Plug the charger's AC power cord into a well-grounded electrical outlet.

4. Plug the DC output of the charger, into the charging port of the machine.

5. The charger automatically starts charging, and if the battery is fully charged, the charger will automatically turn off.

6. At the end of charging, first unplug the plug ice dragon connected to the AC power supply, then the charger's transmission

The out end is unplugged from the machine.

#### Warning!!!

- ◆ When charging this machine, the heart must use the original charger that came with the vehicle.

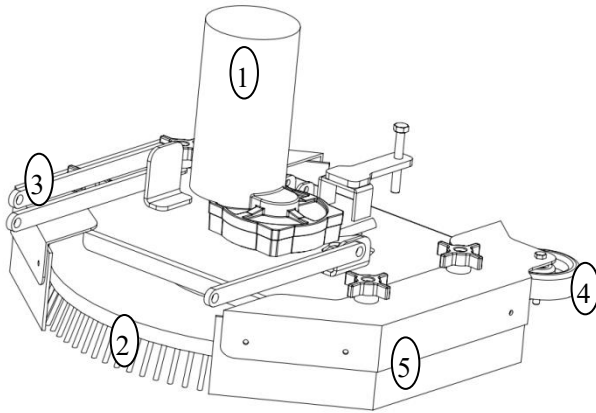
## 8. Cleaning systems

The cleaning system consists of motor, scrubbing brush, and spraying system to form a complete cleaning system.

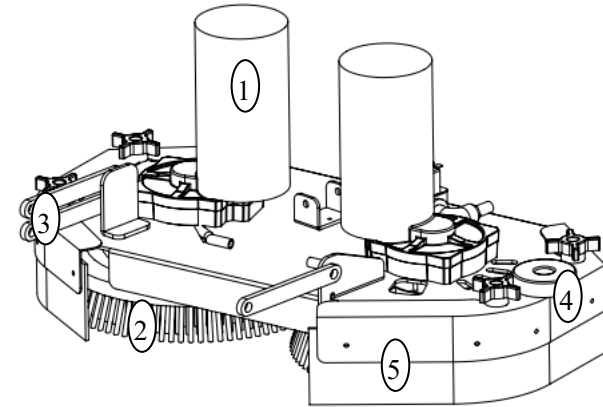
### Warning!!!

- ◆ When cleaning work on the machine, do not put stay in the same place rotation, long stay in the same place, will damage the ground scrubbing

### 8.1 Schematic diagram (single brush)



### 8.2 Schematic diagram (double brush)



1、 Brush plate motor: mainly used for brush plate ground cleaning rotation drive role.

2、 Wash the floor brush: mainly used for all kinds of regular ground cleaning, decontamination role.

3、 Rotary swing arm: mainly used to support the whole cleaning system to lift and drop and fixed role.

4、 Anti-collision wheel: protects the brush cover and plays a guiding role in the walking process.

5、 Water blocking skirt: mainly used in the process of washing the floor, to prevent the scrubbing brush from dumping water appear.

## 8.2 Method of operation

The brush lift mechanism of this scrubber is operated in manual lift mode.

With the swivel lever on the inside right side of the console lowered, the brush tray parts are placed on the ground, at which point, again

Turn on the brush plate button on the panel to start the brush plate to start rotating work, when the brush plate rotates to start working, the water from the fresh water tank also flows out from the tank automatically.

To stop the brush tray, simply lift the tray up and turn off the brush tray switch.

## 8.3 Inspection and maintenance

Problematic	reason	Treatment
The brush plate	Loose swivel rod set	Tighten the
Heavier brush	Swivel rod set screw too	Loosen the
High bottom	Brush tray limit screw	Adjusting the

## 8.4 Maintenance practices

- 1、When the scrubber is stationary for a long time, the scrubbing brush should be lifted to avoid deformation of the bristles, which affects the next Sub-cleaning effect.
- 2、While cleaning is in progress, remove metal tangles from the

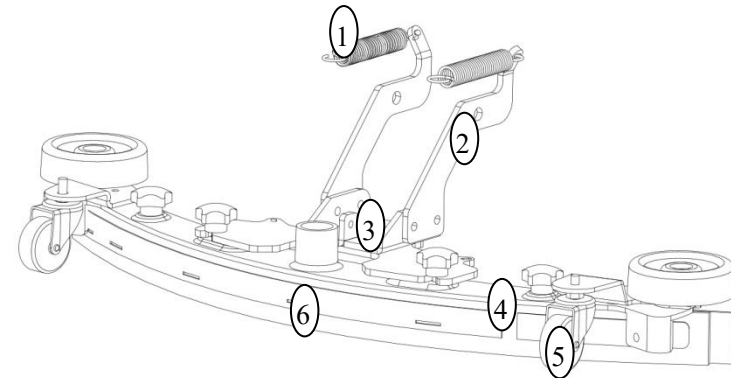
bristles in a timely manner to reduce the brush plate electrical

The load on the machine, while avoiding damage to the consistency of the ground, improves the overall performance of the work.

3, should avoid cleaning lime, cement, sulfuric acid and other easily solidified, flammable objects.

## 9. Water absorption system

### 9.1 Schematic



1. Pressurized tension springs: direct connection to the frame chassis and the swing arm of the water pickup, mainly the water pickup set

Piece plus pressure action.

2. Swivel swing arm of the water pickup: the connection to the chassis of the frame and the water pickup assembly, mainly plays a water

Rotating action of the pick assembly.

3、Swivel plate: directly connected to the swivel arm of the swivel assembly and the swivel arm of the swivel, mainly the swivel

The role of the component swinging from side to side.

4、Water Grill Components: Important components for sewage collection.

5、Support universal wheel: for the height adjustment of the water steak rubber strip, factory has been debugged to the best value.

6、After the water-absorbing rubber strip: it is a consumable part, please replace and maintain it as required when using.

### 9.2 Methods of operation

The lifting mechanism of the water steak component of this scrubber is operated in the manual lifting mode.

With the swivel lever on the inside left side of the console lowered, the built-in miniature with the water absorption function has been turned on.

switch, at the same time, the water steak parts are also placed in the ground, at this time, then turn on the panel suction button, the

The suction motor starts the work of sucking water.

When the water rake component is lifted, i.e., the built-in microswitch for the suction function has been turned off, the panel press

The key is in any of the gears, the suction motor will not have suction work.

**The entire vehicle can only be backed up when the water steak components are raised.**

### 9.3 Commissioning of Water Grubs

Water rake with the use of time, the rubber strip wear, water absorption effect will have a certain impact, in order to achieve complete removal of stains, the following corresponding debugging is required.

1、Set the height of the two supporting gimbals at the back of the water rake to the same height, and when stationary, you need to suspend

The empty distance from the ground is about 2mm-3mm.

2、Rotate serial number (5) until the rear adhesive strip is tightly pressed against the floor.

### 9.4 Adhesive strip replacement

The adhesive strips are rectangular sharpened edges and are replaced after all four edges have been fully used.

1、First loosen the pressure plate that is pressed on the front and rear adhesive strips.

2. Then remove the front and rear adhesive strips.

3, After removing the new adhesive strip needed.

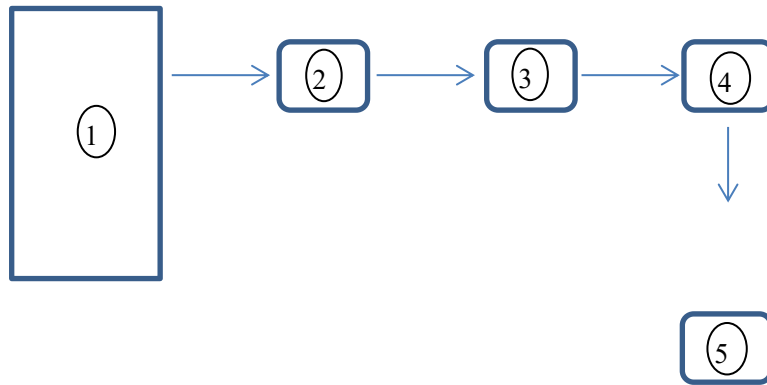
4, Just install the new adhesive strip in the order you just removed it.

#### Maintenance tips!!!

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

## 10. Water system

### 10.1 Schematic



1、 Clear water tank: It is one of the core accessories for the whole vehicle to reserve water for cleaning the ground.

2、 Ball valve switch: installed on the left side of the front wheel, used to adjust the size of the water output.

3、 Filter: Installed on the right side of the front wheel to filter impurities in the water system.

4、 solenoid valve: installed in the upper part of the brush plate assembly, to control the switch role of the water.

5、 Water outlet: located in the middle part of the brush tray, supplying water for the brush cleaning process.

### 10.2 Methods of operation

The complete water system and the cleaning system are designed to work on a synchronous principle.

When the brush motor is in rotating operation, the water output is also on by default; when the brush motor stops working, the water output is also automatically turned off.

When the water output does not meet the requirements, the water volume can be adjusted by the ball valve switch.

### 10.3 Inspection and maintenance

Problematic image		reason	Treatment
1	water outlet not producing	Clogged filters	Cleaning filters
2		Solenoid valve	Check the circuit and
3		Clogged spout	Remove debris from
4	Leaky spout	Solenoid valve	Clean foreign matter
5		Damaged joints	Replace the connector
6		Leakage at the	Refixing the bandage
7	Low water output	Discounted	Adjust the water pipe to
8		Insufficient	Clean the solenoid valve

## 11. Inspection and maintenance

### 11.1 Regular inspections

Regular maintenance and inspection		Interval (h)				
		4	20	50	200	500
1	Battery level detection	√				
2	Carbon brush inspection of					√
3	Is the brush tangled with	√				
4	Check the fresh water		√			
5	Check the instrument panel					√
6	Check the brushes for wear			√		
7	Timely cleaning of upper	√				
8	Check for wear on the		√			
9	Check the use of suction	√			√	
10	Checking the clear water	√				
11	Checking water pickup	√				

and dry, can not have debris and dust covered in the above, the battery is extremely unfavorable, will shorten the life of the battery or even burn the battery.

## 11.2 Battery maintenance

<b>Warning!!!</b>
◆ The battery capacity will be reduced and the life of the battery will be shortened by deep discharge during use.
◆ Since the battery releases hydrogen gas, it is important to keep the battery box open and away from sparks or sources of ignition when charging to prevent a hazard from the hydrogen gas released from the battery.

This scrubber system is powered by 2 12V maintenance-free batteries in series, with a system voltage of 24V.

- 1、 When the machine operates for a period of time, the battery power will drop, when the last frame of the power display meter at flashing light, indicating that the electric display is insufficient, need to charge in time.
- 2、 When performing maintenance on the battery, please wear protective gloves to avoid contact with the battery acid.
- 3、 the top of the battery and electrodes shall be anti-corrosion treatment, repeatedly wipe with a brush dipped in soda water, but shall not pour this solution into the battery.
- 4、 Check if the battery connecting wire is worn and if the contact parts are loose, please replace if necessary.
- 5、 the battery on the power output terminals, should be kept clean

<b>Hint!!!</b>
◆ In order to make the battery have a long service life, when the machine is finished, it should be charged in time, do not make the battery in a discharged state for a long time.

## 12. Troubleshooting methods

Question	reason	Treatment
Brushes do not produce water	Clogged water lines	Check and unblock water
	Low water in the	Fill up the water tank
	Solenoid valve	Replacement of solenoid
Brush plate	Damaged brush plate	replacements

motor stop working	Loose wire harness plug	Repair or replacement
	Panel switch failure	replacements
	Motor overcurrent	Overload protection
	No suction sound from the contactor	Check the line signal or replace the contactor.
Suction motor stop working	Damaged	replacements
	Loose wire harness plug	Repair or replacement
	Panel switch failure	replacements
	Faulty	replacements
	No suction sound from the contactor	Check the line signal or replace the contactor.
water absorption There are	Foreign matter at the	Eliminate foreign
	Absorbent tape not taut	Reinstall the adhesive strip
Not enough suction. or cannot	Sewage tank cover not	Put the lid on the sewage
	Broken lid seal	Seal replacement
Not enough suction. or cannot absorb	The drain cover is	Cover the drain pipe
	Sewage tank is full	Get the sewage out.
	Clogged suction hose	Cleaning the suction
Water absorption is not clean	Wear and tear of the	Replace the rubber strip
	Water rake with clearance from the	Adjustment of the water grate gimbal
	The angle of the	Adjusting the angle of

The vehicle is not reach	Electromagnetic	Turn the electromagnetic
	Corrosion of power supply terminals	Disconnect the power and remove the nut.
	Low battery level	recharge batteries
	Accelerator damage	replacements
	Loose electrical	Repair or replacement
	electromagnetic brake	troubleshooting
The whole car is not powered up	The whole car cannot be backed up	The water pick is not lifted or the water pick
	Emergency stop	Turn on the scramble stop
	Bad key. or loose key	Check the wiring
	Blown fuse	Fuse replacement

### 13. Explanation of machine fault codes

	Image	reason	Treatment
1	Power meter 1st	undervoltage	Charge Now
2	Power meter 2nd	Drive motor	Check the motor and
3	Power meter 3rd cell flashing	Drive motor Long-term	Stop working. Increase interval
4		Drive motor Shorted	Check the motor connection wire
5	The 4th cell of	Sewage tank full	Emptying of sewage
6	The 5th cell of the power meter flashes	Drive motor Long-term	Stop working. Increase interval
7		Electromagnetic	Pull the solenoid
8	The 6th cell of	Wrong charging	Plug in the correct
9	The 7th cell of the power meter flashes	Accelerator high-end,	Accelerator replacement
10		Bad contact on	Plug in and connect
11		Wrong boot	Turn on the key
12	The 8th cell of	Controller	Replace the
13	The 9th cell of	Electromagnetic	Pull the solenoid

14	the power meter is flashing	electromagnetic brake	Check and inspect the signal wires
15	The 10th cell of	Battery voltage	battery replacement

### [Battery Maintenance Guide]

This product is selected from lead-acid batteries, with maintenance-free, maintenance-free, automatic pressure relief ;

The principles of use are: charge as you go, charge as soon as you use it, and do not drain the power often (minimum protection voltage).

1). What is a short circuit and how does it affect battery performance?

Refers to a battery where the positive and negative terminals are connected to produce a strong current; the internal positive and negative groups are connected. When charging, the electric The voltage rises very slowly and always remains low; the electrolyte temperature rises very high and fast; the electrolyte density rises very slowly or hardly changes; the terminal voltage drops rapidly when the current is discharged.

2). What is over-discharge and how does it affect battery performance?

It is the amount of power stored inside the battery that

continues after the minimum operating voltage is reached during discharge

Continuously in the discharge of the phenomenon. After the battery produces over-discharge, the voltage drops drastically in a very short time, when the whole battery internal reaction system is disturbed, such as repeated over-discharge again, the positive electrode will lose its activity, which will affect the service life of the battery. Reduce the battery use time and extend the battery charging time.

### 3). How should I store the battery after use?

The battery is a sensitive product, if it is not used for a long time, it is best to remove the battery from the machine and put it in a room temperature, dry place; because the battery is placed inside the machine, and the electrical appliances and circuit boards are not disconnected, it will form a continuous micro-discharge of the battery.

### 4). Why is the battery life short?

The battery is undercharged for a long time and not charged for a long time after discharging, in the process of use, there is a phenomenon of over-discharging from time to time, and the standard charger is not chosen when charging, which leads to the phenomenon of over-charging, and in the process of use, the voltage difference

between battery packs is produced, and a low-voltage working condition is formed for a long time.