



RT50D+ Self-Propelled Battery  
Powered Automatic Floor  
Scrubber



## Content

Safety Precautions .....	3
For industrial and commercial use .....	3
Please read all instructions before using the machine .....	3
1. Machine assembly drawing .....	4
2. Control panel .....	4
3. Squeegee release handle .....	4
4. Brush lifting pedal .....	4
5. Drive motor .....	4
6. Squeegee handle .....	4
7. Squeegee .....	4
8 Machine parameters.....	4
Battery installation .....	5
Battery charge .....	5
Squeegee installation .....	5
Needle seat and brush installation .....	5
Fill water tank .....	5
Machine operating instructions.....	6
The “open” and “close” of suction motor .....	6
The lift and fall of cleaning unit.....	6
Water tank flow setting/ clean and replace filter .....	6
Operation of the machine .....	7
Maintenance.....	7
Wheel bracket assembly .....	8
Control panel assembly.....	8
Suction motor assembly .....	9
Floating head assembly .....	9
Lifting assembly.....	10
Squeegee assembly.....	10
Squeegee lifting assembly .....	11
Vacuum hose assembly .....	12
Drain pipe assembly.....	12
Troubleshooting.....	13

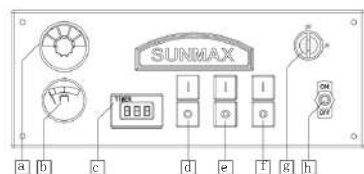
# Safety Precautions

For industrial and  
commercial use

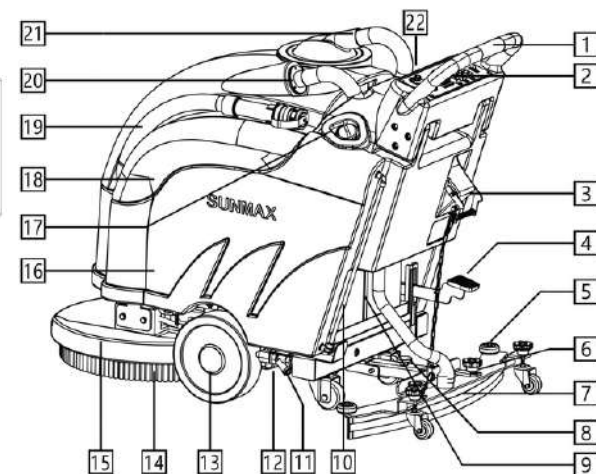
Please read all instructions  
before using the machine

- For indoor use only. Do not expose the machine in rain
- Do not regard the machine as a toy. Be careful when children are around during operation.
- Please use the machine according to the instructions in this manual.
- Please use the accessories recommended by the manufacturer.
- Please charge the battery in a ventilated place. The gas released during charging may ignite in a narrow space. To avoid explosion, please open the top cover and ensure the battery cover is in place when charging.
- Before adjusting or repairing the machine, disconnect all positive and negative battery terminals. The accidental starting of traction motors, suction motors and electrical components may cause personal injury.
- Battery acid can cause eye or skin damage. Before installing or charging the battery, please wear goggles, gloves, and protective clothing.
- If the charger does not work properly (due to being dropped, damaged, placed outside the house or soaked in water), please return it to the after-sales service center.
- Do not pull the plug or touch the machine with wet hands.
- Do not put any objects into the machine port, keep it unblocked.
- Keep the machine away from dust, thread residues, hair and anything that may reduce airflow.
- Keep hair, loose clothing, fingers and any other body parts away from machine openings and moving parts.
- Make sure the main power switch is turned off before removing the mounting brush and brush connectors.
- Do not operate the machine if you are tired, drunk or taking drugs.
- Please operate behind the machine.
- Be careful when using electrical terminals as short circuit may cause burns.
- Do not put the machine on the slope.
- Keep the machine away from flammable liquid or gas, otherwise it will cause explosion or flash fire.
- Make sure all safety devices are in place and operated correctly before starting the machine.
- When leaving or repairing the machine, put the machine on a flat ground, turn off it and take out the key.
- When repairing the machine, please use the parts supplied or approved by the manufacturer.
- Do not modify the original design of the machine.

## Machine assembly drawing



1. Handle
2. Control panel
- a.Speed control button
- b.Power display
- c.Timer
- d. Sewage suction motor switch
- e.Brush switch
- f.Water switch
- g.Key switch
- h.Forward/ stop/ reverse switch
3. Squeegee lifting handle
4. Brush lifting pedal
5. Fender wheel
6. Squeegee mounting handle
7. Squeegee
8. Squeegee angle regulating button
9. Battery



10. Liquid level display pipe
11. Filter assembly
12. Drive motor
13. Drive wheel
14. Brush
15. Brush cover
16. Water tank
17. Water tank inlet
18. Sewage tank
19. Drain pipe
20. Squeegee pipe
21. Vacuum hose
22. Measuring cap

## PRODUCT INFO

Item Name	Parameter	RT50D+	Item Name	Parameter	RT50D+
Brush Working Width	in	22	Brush Motor Power	W	550
Sucking Work Width	in	31	Solenoid Valve Power	W	12
Clear Water Tank Volume	Gal	13.2	Drive Motor	W	250
Sewage Tank Volume	Gal	14.5	Max Effectiveness	ft <sup>2</sup> /h	36,000
Brush Speed	rpm	200	Battery Capacity	ah	100
Brush Pressure	lb	51	Weight	lb	364
Voltage	V	24	Package Size	in	45*23*37
Vacuum Motor Power	W	550			

## Daily operation and maintenance

### Battery installation

**Warning: battery is heavy.**

Install 2 12V maintenance-free batteries. The new battery shall be fully charged before first use, and can be fully charged and discharged for 5 times.

1. Remove soft pipes (20, 21) from water tank (19).
2. Make sure the sewage tank is empty, and then lift it up.
3. Put battery on the pallet in place.
4. Connect all cables.

**Warning: make sure the red terminal (+) is connected to positive pole (+), and black terminal (-) is connected to the negative pole (-). If the connection is wrong, the machine will not work.**

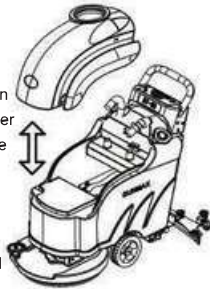
Failure to follow the above rules will result in battery damage and a risk of explosion. Add protective lubricant on the battery electric pile and place the terminal protection device on all electric piles.

### Battery charge

**Warning: only use the battery charger designed for this machine,**

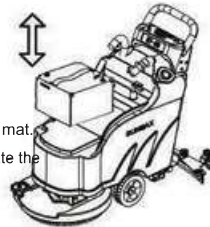
**otherwise it may cause battery damage.**

Remove the sewage tank from the machine, and unplug the control panel. Then connect the charger plug to the power plug of the battery terminal. Plug the other end of the charger into the wall socket, the charger will automatically charge the battery.



### Squeegee installation

1. Push the squeegee release handle (3) up to locked position.
2. Put the squeegee assembly on the rotating arm, ensure that the guide wheel is facing the rear end of the squeegee.
3. Tighten 2 squeegee mounting handles (6).
4. Insert the squeegee pipe (20) in the middle outlet of squeegee, make sure it fits tightly.



### Needle seat and brush installation

1. Step on the brush lifting pedal (4) at the back of the machine to lift the brush mat.
2. When the needle seat/ brush (14) is lifted, insert it into the lower metal plate, rotate the brush counterclockwise until it is locked.

### Fill water tank

**Note: please use a low-foaming detergent. To avoid a lot of foam, inject a little defoaming solvent before**

**cleaning. Do not use pure acids**

**Excessive foam can damage the suction motor, be sure to add the minimum amount of detergent**

1. Open water tank cover (17).
2. Add required water into the tank (16), the water temperature shall not exceed 50°C, the max capacity of the water tank is 50L.
3. Add cleaning chemicals without oxidizing agents, chlorine or bromine, formaldehyde, or mineral fluxes, such as acid or alkaline cleaners.

## Machine operating instructions

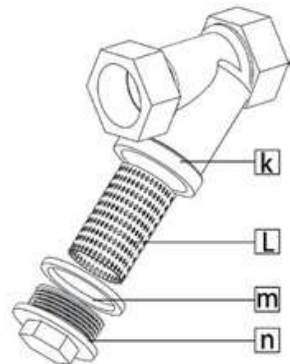
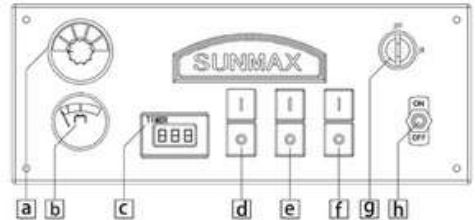
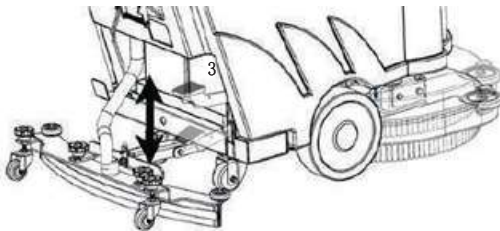
1. Open the power (g), turn the key switch to the right to horizontal position. The power/battery indicator (b) pointer swings to the current power position.
2. Check (b) **whether the battery is fully charged; when the battery is fully charged, the pointer will point to the far right.**
3. Step on the cleaning unit pedal (3) to lower the cleaning unit (10).
4. Start roller brush motor (e), suction motor (d), water tank switch (f).
5. Turn the speed knob (a) left to the minimum position, turn the forward switch (h) to the top, and slowly turn the speed knob (a) to choose different walking speed according to the thickness of the carpet, and achieve the ideal cleaning effect.

### The "open" and "close" of suction motor

1. Press the (I) of switch (d) to start suction motor.
2. To close suction motor, press (O) of switch (d).

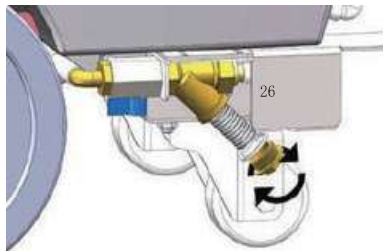
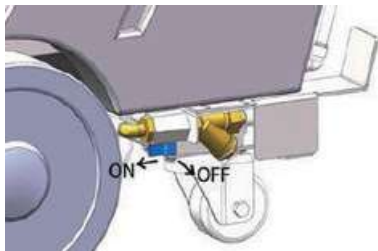
### The lift and fall of cleaning unit

1. Step on the brush pedal (3) to lift brush/ needle seat until it is locked.
2. Step on the brush pedal (3) to unlock it, and slowly lift it up to lower the brush.



### Water tank flow setting/ clean and replace filter

Adjust water flow rate according to floor condition. Turn regulation knob (25) to control water flow. OFF shows the closed position. ON shows the maximum water level. **Clean the dirt in the filter (26) regularly according to the usage frequency (clean once every 1-3 days is recommended), and rotate to disassemble according to the direction of the arrow. Filter body (k), filter (L), sealing ring (m), plug (n)**



# Operation of the machine

## Basic operation

1. Before unpack the machine, please remove the fasteners and ropes fixed to the packing case first. Place the uninstalled parts behind the machine, lift the cleaning unit, and remove the equipment with proper handling tools.
2. Unpack the machine and connect the battery's main power cable, refer to Figure 7-1

## Preparation before operation

1. Add water into water tank, and add proper amount of detergent as required.
2. Add proper amount of defoaming solvent into sewage tank.
3. Turn on key switch, and operate according to machine operating instructions.

## Empty sewage tank

1. Open drain pipe (13) to empty sewage tank (14), and clean the sewage tank with clean water to prevent dirt from accumulating for a long time and blocking the drain pipe.

# Maintenance

## Daily maintenance

1. Flush and empty the tank with clean water. Open the tank cover and let it dry.
2. Remove the wiper assembly, flush and wipe clean. Check if the inlet of the wiper for blockage or debris.
3. Clean and wipe the top of the battery with an ammoniated glass detergent.
4. each battery with distilled water as required. Do not use tap water. No filling is required for maintenance-free.
5. Charge the battery as the instructions in this manual.

## Weekly maintenance

Do not test the strength of a battery unless it is fully charged and cooled.

Test the battery with a hydrometer.

## Monthly maintenance

**Turn off the power and remove the key before maintenance**

1. Lubricate brush plate and wiper lifting device with low viscosity oil.
2. Check if roller brush, wheel of synchronous belt, gasket of synchronous belt are worn or damaged.
3. Clean all the cable terminals.
4. Check all electrical connections and tighten them if they are loose.
5. Use multi-purpose detergent to clean the entire machine.

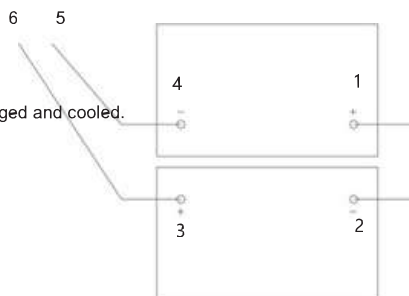
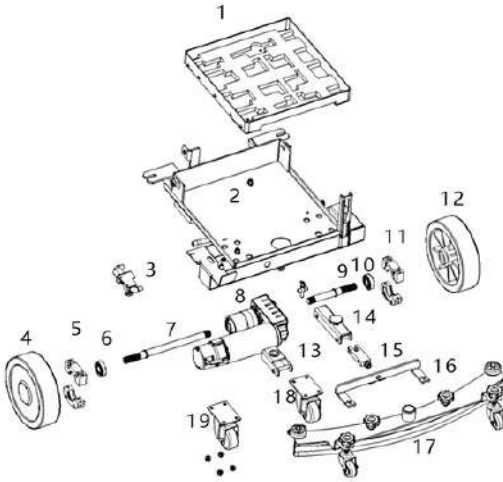


Figure 7-1 Battery main power wiring diagram

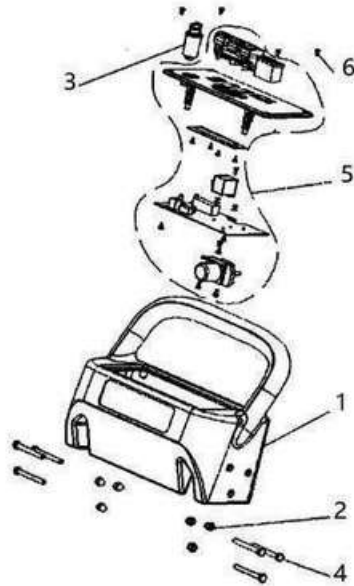
6. Regularly check if roller brush and its squeegee for debris entanglement or blockage.

### Wheel bracket assembly



No.	Description	QT
1	Battery tray	1
2	Base plate	1
3	Water filter assembly	1
4, 12	Drive wheel	2
5, 11	Bearing seat	2
6, 10	Bearing	2
7, 9	Drive shaft	2
8	Drive motor	1
13, 14, 15	Squeegee	1
16	Squeegee bracket	1
17	Squeegee	1
18, 19	Hand wheel	2

### Control panel assembly

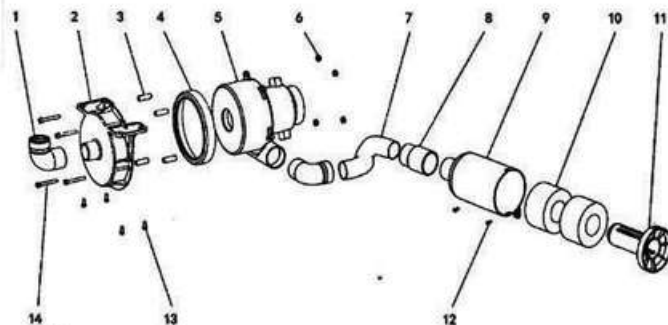


No.	Description	QTY
1	Control box	1
2	Nut	6
3	Key switch assembly	1

No.	Description	QTY
4	Bolt	6
5	Control panel	1
6	Screw	4



## Suction motor assembly

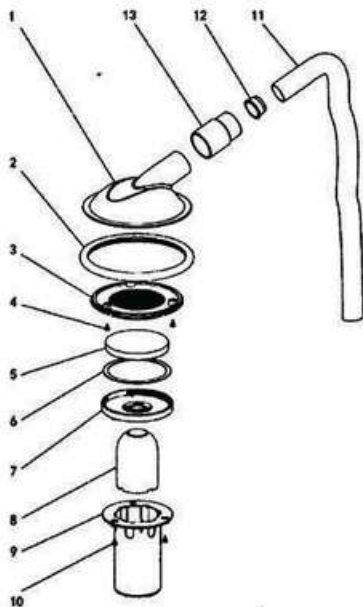


No.	Description	QTY
1	Adaptor	1
2	Bracket	1
3	Connecting bolt	3
4	Gasket	1
5	Suction motor	1
6	Nut	3
7	Soft pipe	1
8	Sleeve	1

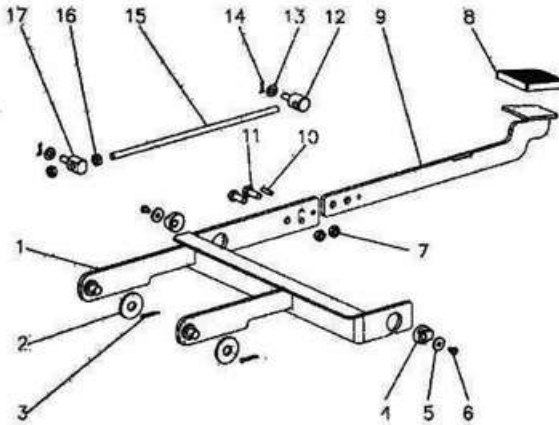
No.	Description	QTY
9	Silencer	1
10	Foam	2
11	Core	1
12	Screw	2
13	Bolt	4
14	Bolt	4

## Floating head assembly

No.	Description	QTY
1	Top cover	1
2	Sealing ring	1
3	Matching grid	1
4	Screw	3
5	Filter	1
6	Gasket	1
7	Cap	1
8	Floating head	1
9	Tank	1
10	Screw	1
11	Soft pipe	1
12	Pipe connector	1
13	Sleeve	1



## Lifting assembly

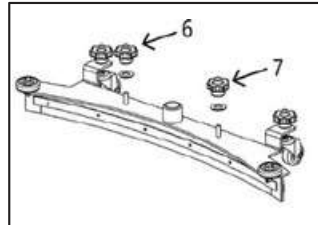


No.	Description	QTY
1	Lifting bar	1
2	Gasket	2
3	Pin	2
4	Eccentric sleeve	2
5	Gasket	2
6	Screw	2
7	Nut	2
8	Panel cap	1
9	Panel	1
10	Spring pin	1
11	Bolt	2
12	Pin shaft	1
13	Gasket	1
14	Split pin	1
15	Bar	1
16	Nut	2
17	Pin shaft	1

## Squeegee assembly

- Check whether the main switch is at "O" position. **machine, and remove the key.**
- Select the butterfly nut in the horizontal position.
- Remove the rubber fastener nuts (6, 7).
- Remove rubber (4), and replace it.


**Warning: during maintenance, please power off the**



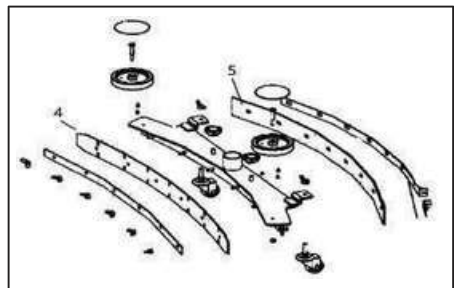
Warning: please wear gloves to avoid **direct contact with dangerous liquid.**

## Replace squeegee rubber strip

If the rear wheel of squeegee is worn, and cannot dry the floor, one of the four edges of the rubber is broken, please replace. In such case, please remove and replace the squeegee in the following steps:

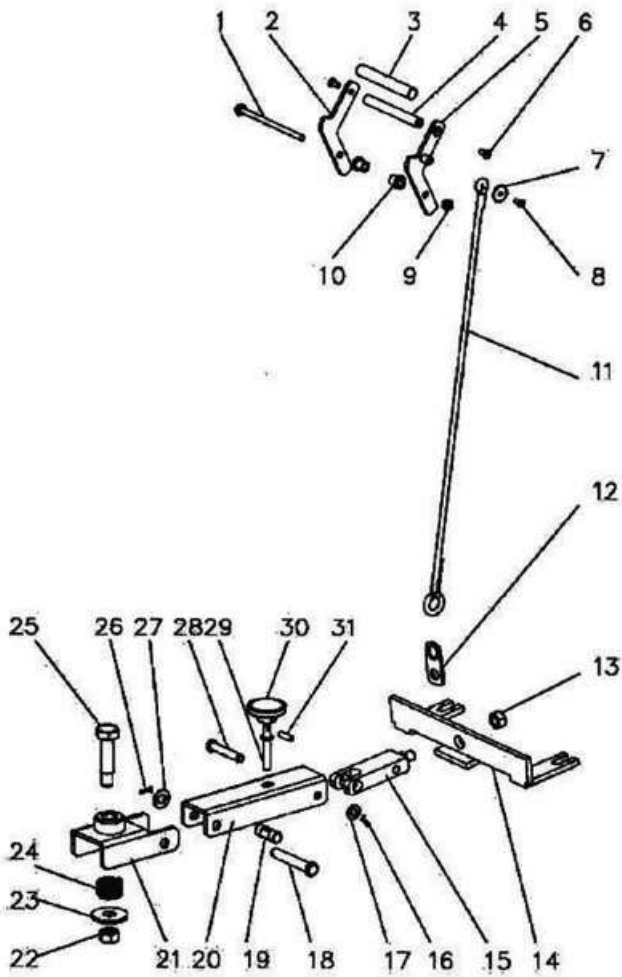
- Loosen nut (6), disconnect squeegee.
-  Warning: during maintenance, please **power off the machine, and remove the key.**
- Select the butterfly nut in the horizontal position
- Remove rubber (5), and replace it.
- Adjust squeegee height according to the rubber

(please refer to "Adjust Squeegee Supporting Part Height")



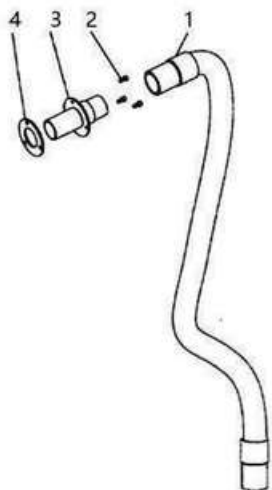
Warning: please wear gloves to avoid direct contact with dangerous liquid.

# Squeegee lifting assembly

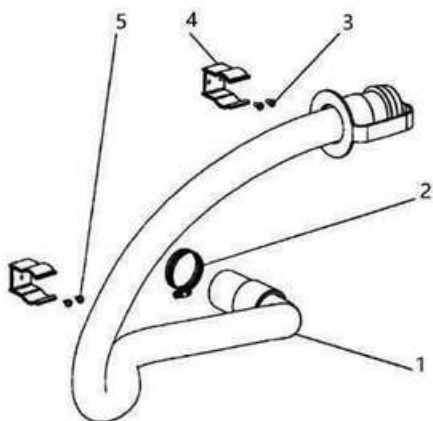


No.	Description	QTY
1	Bolt	1
2	Left guard plate	1
3	Hose	1
4	Handle	1
5	Right guard plate	1
6	Screw	2
7	Gasket	1
8	Screw	1
9	Nut	1
10	Pad	3
11	Rope assembly	1
12	Ring	1
13	Nut	1
14	Balance frame	1
15	Shaft	1
16	Cotter pin	1
17	Gasket	1
18	Pin shaft	1
19	Regulating nut	1
20	Supporting arm	1
21	Supporting arm	1
22	Nut	1
23	Gasket	1
24	Spring	1
25	Screw rod	1
26	Cotter pin	1
27	Gasket	1
28	Pin shaft	1
29	Regulating bolt	1
30	Regulating device	1
31	Spring pin	1

### Vacuum hose assembly

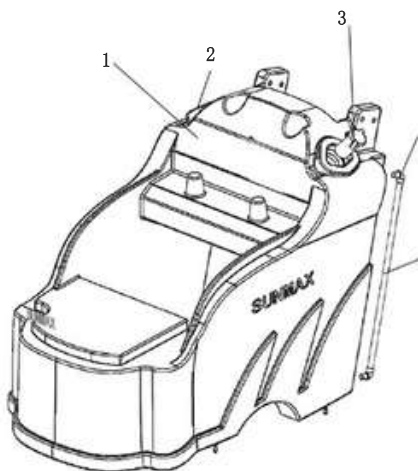


### Drain pipe assembly



### Water tank assembly

No.	Description	QTY
Vacuum hose assembly		
1	Soft hose	1
2	Bolt	3
3	Water inlet	1
4	Gasket	1
Dain pipe assembly		
1	Darin pipe assembly	1
2	Hose clip	1
3	Screw	1
4	Hose clip	2
5	Screw	2
Water tank assembly		
1	Water tank	1
2	Measuring cup	1
3	Inlet plug	1
4	Adaptor	2
5	Water level pipe	1



Fault	Possible cause:
No detergent or detergent is uneven, cleaning effect is not ideal	Suction motor does not work Filter is blocked Sewage tank is full Wiper or soft pipe are blocked, damaged or connected poorly Sealing of water tank cap, suction motor, wiper is poor Wiper pressure is inaccurate Wiper arm does not work smoothly
Squeegee does not work	There is debris on the squeegee inlet The bolts of squeegee are loose The floor is not swept before cleaning
Fail to start or stop cleaning	Soft or valve are blocked
The battery can't be charged	The battery needs to be replaced High voltage suction disc leads to high battery current The charger needs to be repaired The battery runs out
The floor is not polished and dirt is not sucked up	Suction motor does not work Wear caused by excessive use of suction cu or pin seat Clean the floor too fast Insufficient supply of detergent Poor cleaning