



Product operation and maintenance manual



SUNMAX Driving type ground washing machine

Symbols in the manual



Opened book icons with “i” means need to check instruction manual.



Icons of opened book means users need to read the manual before operation.



warning mark, please read carefully part marked with this icon.



warning mark, means risk of gas or liquid leakage.



warning mark, means operators need to take protective measures to avoid hurting limbs.



Warning mark, means risk of fire. Keep away from fire.



warning mark, means packed good need to be lifted with required measures.



handling mark, please read carefully the components with this symbol.

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Transport instructions for the machine when the cleaning equipment is sent to the customer, it must be inspected immediately to ensure that all the equipment mentioned in the shipping document has been received and to see if the machine has been damaged during transportation.

In case of appeal, the receiving Party shall determine the extent of the damage to the equipment and promptly notify our customer service department to ensure that we provide you with the missing equipment and compensate you for any damage caused by our fault.

Main introduction

This machine is a ground washing equipment, which is rotated at high speed by rotating brush and is equipped with detergent solution with efficient decontamination ability. It can clean any form of ground. It's advanced in that it can collect all the dirt from the cleaning, so you don't have to worry that the detergent solution will be left to damage the floor.

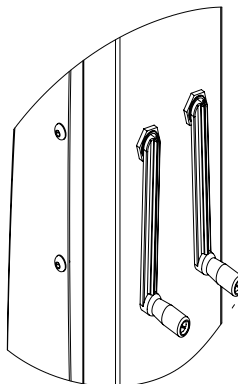
This equipment can only be used for surface cleaning. It is recommended that it be used normally under good working order so as to maintain the best condition of the machine. Therefore, we suggest that you carefully read this manual, if you encounter difficulties in use, you can consult the instructions. If you really need help, you can contact our customer service hotline or dealer for consultation.

Applicable environment

This equipment is used for cleaning the interior surfaces and floors of industrial, commercial and public buildings.

This equipment is not suitable for rain or underwater operation. It is strictly forbidden to use this equipment to absorb dangerous powder

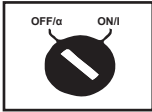
Product serial number



Technical instructions

Technical notes	Unit of measure	Equipment standard
Device width	mm	560
Suction width	mm	800
Achievable work area	m ² /h	4500
Disc brushes	No./Ø mm	1/560
Speed of the disc brush	RPM	170
Electric Brush Horsepower	V/W	24/504
Maximum pressure brush can withstand	KG	23
Traction horsepower	V/W	24/300
Traction wheel (number/diameter/width)	No./(Ø mm/mm)	2/(225/64)
Maximum forward speed	km/h	5.5
Maximum tilt at full load	%	10
Vacuum motor	No./(V/W)	1/(24/450)
Vacuum Suction Force	Mbar	700
Front Elastic wheel (diameter/width)	Ømm/mm	175/60
Solution Tank	L	70
Recycling tank	L	70
Steering diameter	mm	1980
Machine length	mm	1265
Machine length after assembly of optional equipment	mm	1400
Machine height	mm	1030
Machine height after assembly of optional equipment	mm	1070
Machine width (not loaded with rubber broom)	mm	600
Machine width after assembly of optional equipment (not equipped with rubber broom)	mm	620
Battery Room	mm	362x354x290
Rated voltage of battery	V/Ah	12/145
Battery weight (maximum)	KG	88
Equipment weight (not including battery)	KG	110
Operating total weight (equipment + battery + water + operator)	KG	335
Noise (ISO 11201)	dB(A)	-
Vibration amplitude of hand (ISO 5349-1)	m/s ²	-
Amplitude of Body Vibration	m/s ²	-
long x Width x Height	mm	1265x600x1030

Description of symbols in the machine



The main switch or key switch symbol is displayed on the dashboard to indicate whether the device is running on (ON-I) or off (OFF-O).



The sound alarm symbol is used to represent the sound alarm button



The reverse movement symbol is used to represent the operation reverse button



The brush connection or unconnected symbol is used to indicate whether the brush is connected or not connected.



The symbol is used to represent the highest water level of the filling water tank



A symbol is used to represent the position of a solution tank drainage pipe



The symbol is used to represent the position of the drainage pipe of the



This symbol is used to represent the maximum gradient

Safety notice

In order to avoid damaging the operator or causing damage to the machine, you must carefully follow the below requirements.

Attentions:

- Please read the labels on the machine carefully. If abnormal conditions occur, please replace them immediately. Machines must be used by authorized and trained personnel.
- Do not tilt the machine beyond the allowable angle on the screen. This equipment is not
- suitable for cleaning rough or uneven ground. Do not use the equipment on the slope. If
- the battery charger's power cord is damaged, please contact our authorized maintenance
- center immediately. In dangerous situations, press the emergency button on the command
- panel quickly. During maintenance, please turn off the equipment and disconnect the
- power cord. Please do not put the equipment in the scope of children's operable play.
- During the use of equipment, please pay attention to the safety of other personnel,
- especially children. Please use the brush selected in the brush or operation manual of the
- machine. Do not use other brushes to avoid accidents.

Attentions:

- This equipment is not suitable for children, disabled persons, mental patients or those who
- lack knowledge and experience.
- This equipment should not be used in outdoor and humid environment. It is strictly
- forbidden to expose directly to the rain. The storage temperature of this equipment is
- between -25 C -55 C , and it should not be stored in outdoor damp environment for a long
- time. Conditions of use: room temperature 0 C-40 C , relative humidity 30%-90%. The
- power line socket (electric version) of the machine or the power cable (battery version) of
- the battery charger must be properly grounded. Please use the appropriate speed to
- control the equipment. Please do not use this equipment as a means of transportation.
- This equipment does not produce harmful vibration. Do not use the machine in a flammable
- and explosive environment. Do not absorb flammable liquids.
- Do not use this equipment to collect dangerous powder
- Do not mix different types of detergents because they may produce harmful gases.

- This equipment does not apply to the cleaning of carpets.
- Do not place any liquid container on the equipment. When the device is stationary, do not use the brush to avoid damage to the ground. In case of fire, use powder extinguisher to extinguish fire. Do not use water.
- Do not knock the scaffold in order to avoid depravity. During the operation of the operator, safety devices (gloves, shoes, helmets, goggles, etc.) must always be provided.
- The equipment can be cleaned and dried at the same time. During the operation, please do not let the idle people close. If the floor is still damp, relevant signs should be placed for reminding. If the machine is not working properly, please check whether it is caused by routine maintenance. Otherwise, please contact the technical assistance center for assistance. If you need to replace any parts, please purchase the original accessories from our authorized distributors or retailers. After maintenance, please connect the relevant power supply equipment. Before using this equipment, please check whether all the covers identified in the use and maintenance manual are normal. If there is no need for maintenance (see related paragraphs), do not remove relevant protective devices. Do not use water or high pressure water gun to spray directly to clean the equipment. No corrosive liquids should be used. In order to prevent scaling in the filter tank, after adding tank cleaners into the tank wait several hours before the machine can be used.
- Do not use acidic or alkaline liquids, because this may damage the machine or hurt others. Ensure that professional personnel maintain equipment every year. When handling waste generated by equipment, strictly follow the local laws and regulations. When your equipment has reached its service life, the material it contains (especially oil, batteries and electronic components) shall be disposed in a proper way, while considering the material of this equipment is made from 100% recyclable materials. Before handling the equipment, remove the battery first, and make sure that the battery is handled safely according to the local laws and regulations.

Preparation before use

1、Preparation before unpacking

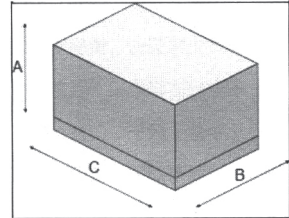
The machine is packaged in a special container rack for forklift loading and unloading. The packing can not be placed on the top of the forklift truck.

The total weight of the machine and package is 135kg, the size of the package is: MxR B

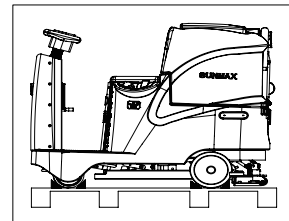
A: 1150 mm

B: 630 mm

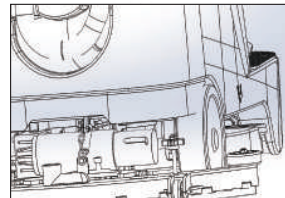
C: 1320 mm



1. Remove outer packing
2. The machine can be fixed on the container rack, and the container rack has a wedge brake roller frame.
3. Release electronic brake and turn clockwise (1) (on the right rear side of the machine).
4. Remove the wedge



5. Use the unloading rack to remove the instrument from the container rack and push it back. Do not assemble the rear part of the water absorber before picking up the instrument to avoid the violent shaking of the brush head. For assembling rubber rollers, please refer to the chapter "water absorber assembly" at the back



6. Keep the container rack for later transportation use



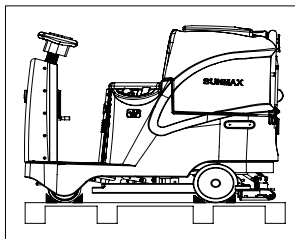
Note: if the product is shipped in cardboard boxes, the proper handling of the package will mean that it meets the statutory requirements.



Note: during operation, ensure no person and other objects around the machine.

2、How to handle the machine

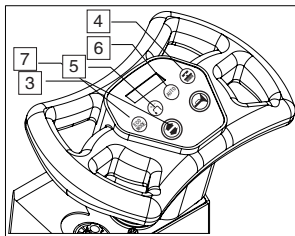
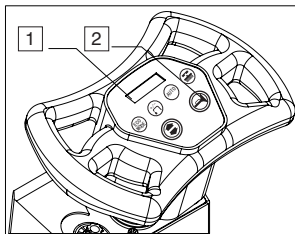
1. Check if the solution tank and recovery tank are empty, if necessary, please empty.
2. Check whether the brush head and suction chop are in the raised position.
3. Use the ramp to place it in the container rack.
4. Check if the key switch at "0" and remove the key.
5. A wooden wedge is used to fasten the machine to the container rack.
6. Use electronic braking.



3、machine panel component

dashboard assembly is as below:

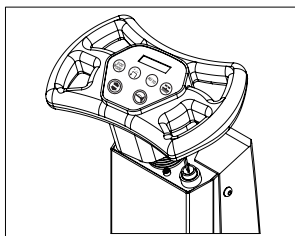
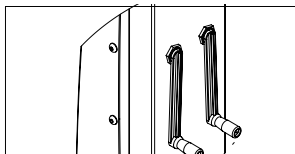
1. Liquid crystal display for battery
2. horn button
3. forward and backward
4. automatic brush up and down
5. Adjust water flow
6. AUTO automatic mode
7. ECO energy saving mode



4、steering column component

Parts on left steering column include:

8. lifting rod of water absorber
9. brush head elevating rod
10. main switch



5、chassis component

Right front component of chassis:

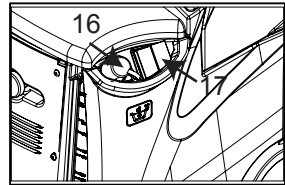
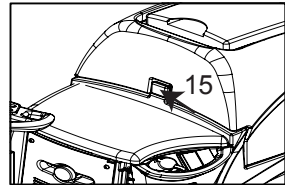
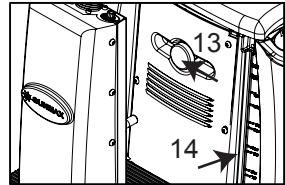
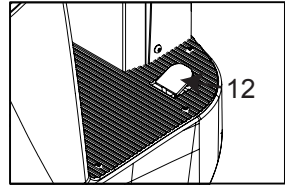
12. driving pedal

Rear component of chassis:

13. emergency button

14. detergent solution level tube

15. recycling tank release button



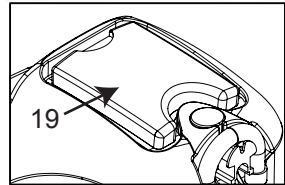
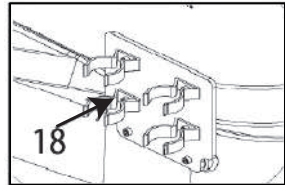
6、side component of machine

Left hand component:

16. water filling hole

17. detergent scaling cup

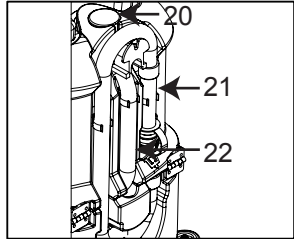
18. handler support tool(optional)



7、rear components of machine

Rear components of machine include:

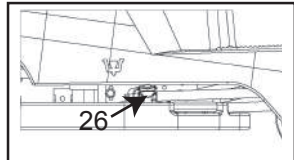
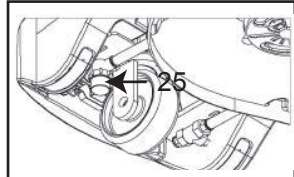
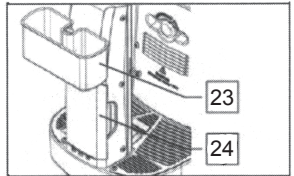
- 19. recycling tank cover
- 20. flash light (optional)
- 21. dirty water tank exhaust pipe
- 22. water absorber dirt suction pipe



8、front part component of machine

Front part components include:

- 23.loading pallet (optional)
- 24. steering wheel protection board
- 25. detergent solution filter
- 26. detergent tank exhaust plug



9、battery type

When start machine must use:

Free of maintenance battery



- Sealed battery using gel technology

Do not use other types of battery.

The battery must conform to the following standard: CEI EN 60254-1:2005-12(CEI 21-5)+CEI EN 60254-2:2008-06(CEI 21-7)

To achieve good performance, we recommend using 12V - 145 Ah/C5 battery.

10、 maintenance and handling of battery

Please keep and charge the battery according to the instructions of the battery supplier.

Pay attention to the choice of battery charger, because the battery type and capacity charger are different. Please choose professional charger.

When the battery is close to its service life, it must be removed from the battery room by a specialist with the help of a professional device. Discarded batteries are classified as hazardous waste, so you must choose the right way to handle them!



Warning: It is recommended that you use protective gloves to avoid serious injuries to your hands.

Warning: It is recommended that you remove the battery using a load meter suitable for the size and weight of the instrument.

11、 loading and unloading of battery

The battery needs to be placed in a special container below the seat. They need to use a lifting tool with the appropriate load and volume to load and unload. These batteries must also meet the CEI 21-5 standard. The size of the battery is

340mmx175mmx290



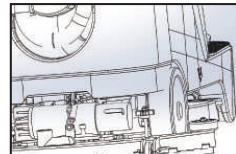
Warning: for battery retention and daily charging, you must follow the battery vendor's instructions carefully. All installation and storage operations must be performed by the relevant technical personnel.



Warning: It is recommended to use sealed batteries to prevent acid leakage!

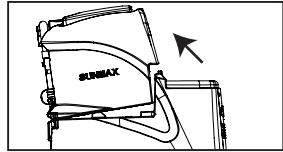
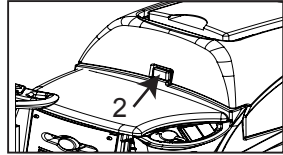


Warning: It is recommended to always use protective gloves to avoid serious hand injuries.



Operation Steps of the battery:

1. Start the electric brake and lock the machine.
2. Make sure the recycle tank has been emptied.
3. Press button 2 to release and rotate the recycle tank
4. Grip the recycle tank and rotate it to the extreme position.



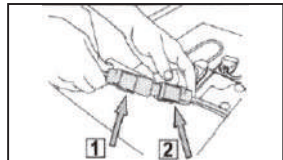
Note: It is recommended to use lifting tools with appropriate load and volume to load and unload

5. Place the battery in the container and place the "+" "-" positive and negative poles facing to each other.



12、battery connector and connection method

1. Connect the positive and negative electrodes of the battery in series using the provided bridging cable
2. Connect the battery connectors to the positive and negative poles to get a voltage of 24V



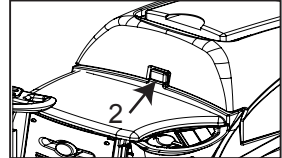
3. Connect connector cable of the battery (2) to the Machine Connector (1)

4. Rotating seat bracket to its working position warning: All installation and maintenance operations must be performed by professionally trained professionals



13. Battery charger Connection (no driver)

In order to prevent permanent damage to the battery, it is necessary to avoid complete discharge of the battery and recharge it in a few minutes after the "discharged batteries (low battery)" indicator starts flashing.

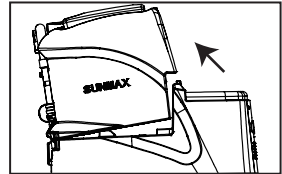


Warning: The battery is strictly prohibited to discharge completely, even if the machine is not in use. Check the capacity and model of the battery charger for the battery of this product.

Connect Battery charger

Notice:

1. Mobile machine near battery charger
2. Make sure the recycle tank is empty or empty it.
3. Check the key switch to "0", otherwise, counterclockwise rotation to "0"
4. Press the button (1) to release and rotate the recycle tank.
5. Hold the recycle tank and rotate until it cannot be moved, the connector of the battery charger is provided in the package containing this instruction, and it must be installed to the battery charger according to the instructions. Cable.



Warning: This process needs to be operated by a professional, and incorrect connections may affect the proper functioning of the device.

6. Disconnect the power system connector from the battery connector
7. Connect the battery charger cable to the battery connector



8. Close the recycle tank until the gas spring is reset to the solution tank

9. Connect the cable to the external battery charger



Warning: Read the battery charger usage and maintenance instructions carefully. Warning: Keep the recycle tank open during battery charging so that the fume is released.



10. After charging is complete, the battery connector must be connected to the device

warning: gas release and the risk of corrosive liquid leakage.



Warning: risk of fire, keep away from fire.

14. battery charging ratio indicator

The lower right corner of the screen full charging of electricity shows 25v26v is not full 22V to be charged,



Warning: When the battery is 20%, the brush motor closes automatically in seconds. However, it is still possible to use the remaining power to complete the drying process before recharging.

Warning: when the battery power is 10%, the suction motor will automatically shut down within a few seconds. However, it still may use the remaining power to move the machine to the specified charging location.





Warning: this process must be operated by the professional. Incorrect connection may affect the normal operation of the device.

5. Connect the battery charger cable to the socket of the charger itself
6. Plug the battery charger connector into the power socket



The power cable of the battery charger is included in the bag of the manual.
Warning: Read the battery charger operation and maintenance instructions carefully.



Warning: Make sure there are no condensate or other forms of liquid before connecting the battery charger power cable to the socket.



Warning: If the electrical system of the machine is accidentally powered up (with a power switch on), the monitor will display a "battery charger" and the Steering wheel command will not function at this time.

15. battery charging ratio indicator

The instrument panel has a monitor (1) indicating (including) the battery charging status. If the lower line 10 LEDs are all bright, the battery charge level is 100%. If the battery charge percentage is 0% and blinking, it smells like the battery is charging state.



Warning: when the battery power is 20%, the brush motor will automatically shut down within a few seconds. However, it may still use the remaining electricity to complete the drying process before recharging.

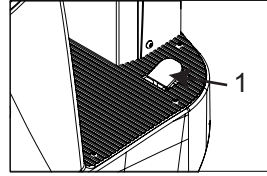


Warning: when the battery power is 10%, the suction motor will automatically shut down within a few seconds. However, it may still use the remaining power to move the instrument to the designated charging location.



15、timer

The display on the instrument panel (1) indicates the use time of the instrument, the number of hours and minutes shown in the above row, and the flashing ":" symbol indicating that the timer is calculating the working time together.



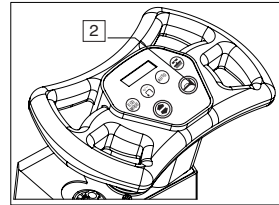
16、forward working speed

This machine is equipped with electronic traction control. To move the machine, turn the key to "ON-I", then step on the driving pedal (1) and change the pressure on the pedal to adjust the speed.

If you want the instrument to move backward, press the button on the panel (2), then step down the pedal (1), and change the pressure on the pedal to adjust the speed.



Warning: backward speed is slower than forward speed to meet current health and safety standards.

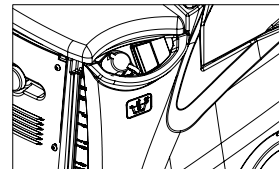
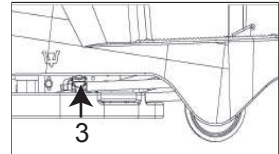
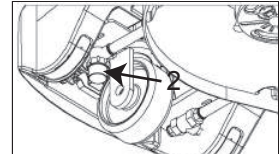
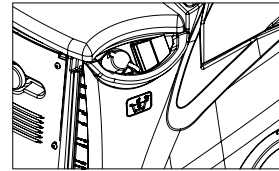


17、solution tank

Each time the filling tank is filled, the recycle tank must completely empty the inlet cover on the left side of the mobile instrument.



Warning: the recycling tank must be emptied every time filling the solution tank.



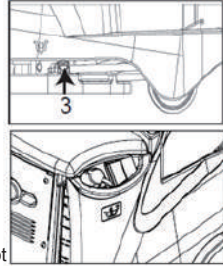
Check if the solution cover (2) is below the solution tank and right front of instrument is closed properly.

Check if the exhaust tap(3) is under the solution tank, and check if the right Of the brush is closed properly.

18、 fill the solution tank

the solution tank can be filled with below two methods:

- 1.Remove the inlet cover, insert the rubber pipe to fill.
2. use rubber cap (2); this will be done by water pipe, but please remove the inlet cover, to keep proper ventilation. (optional)



After remove the inlet cover, the temperature of water filled in can not go over 50 centigrade, you can check the water volume in tank by the water level pipe in left front of seat, the maximum volume of solution tank is 65 liters. Please add liquid detergent according to the density and method provided in the label because if over foam generated it may damage the suction motor so please add detergent according to the minimal volume.



Warning: please determine if the detergent is suitable for the equipment according to the manufacturer's label. Do not select product or solvent without acid or alkaline label. The equipment can use acid or alkaline detergent with PH value between 4 to 10, but the detergent can not contain oxidizer, Chlorine or bromine, formaldehyde, mineral fluxes



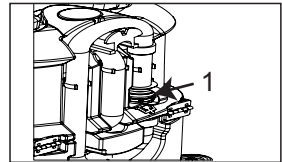
Warning: please wear protective glove when handling acid or alkaline detergent to avoid serious damage to hands.



Note: Please make sure to use low foam detergent, please add a little defoamer in the recycling tank before work to avoid too much foam, please do not use pure acid.

19、 recycling tank

To ensure the recycling tank is empty, clean in time if there is anything in it.



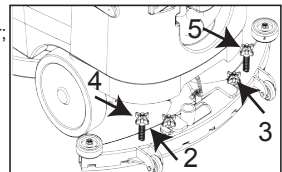
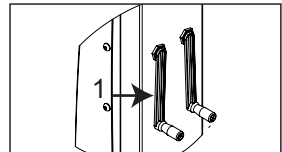
Check if the flow induction pipe cap (1) is closed properly (behind the machine)

20、 water absorber assembly

If the water absorber is not installed for some reason, it must be installed When installing the machine.

The main steps are as following:

- Lift up the absorbing bar, rotate clockwise the left hand-lever;
- Open main switch key rotate counter clockwise to "0".



- Take down the key from the dashboard;
- Release water absorber assembly in button (2) and (3)
- Insert the left water absorber in the left connecting seam then tighten the button (4), to ensure spacer and spring support contact the upper water absorber.
- Insert the right water absorber in the right connecting seam then tighten the button (5), to ensure spacer and spring support contact the upper water absorber.
- Insert suction hope in the water absorber sleeve pipe.

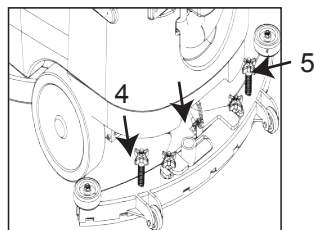


Note: must use protective gloves for these operation to avoid contact with sharp edge or point of metal material.

21、Water absorber angle adjustment

Keep the back water absorber incline back about 5 mm to keep the length the same during operation. If it is necessary to bend the middle rubber, pleas incline the water absorber following below steps:

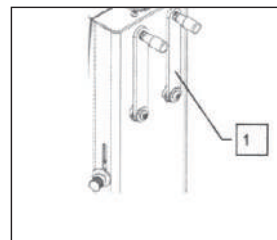
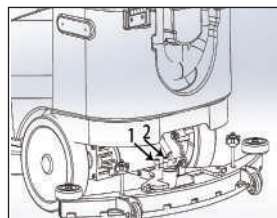
- Loosen nuts (1,2);
- Rotate the screw clockwise, to bend the middle part of water
- After reaching needed bend, fasten the nuts.



22、Water absorber height adjustment

The height of scratching plate must be adjusted according to The worn status of the rubber following below main steps:

- Loosen nuts;
- By sliding the screw (4,5) in the slot to lift or reduce the wheels.
- Fasten the nuts after reaching needed height.



23、 installation of brush

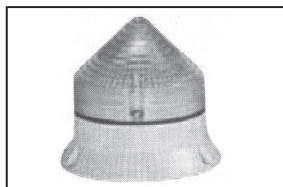
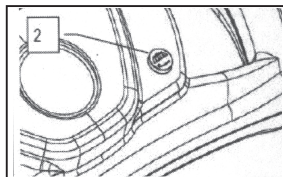
Install brush head and brush body, the main steps are as below:

- To lift the brush head by rotate counter clockwise the control lever in right
- Open main switch key, select “1” clockwise
- Put the bursh on ground near the brush head
- Rotate the control lever (1) on right side, lower the brush head;
- Press “brush release” button continuously.



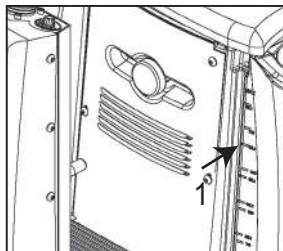
Warning: please dot allow person or material get close to the machine during working.

Note: Please pay attention if the brush has been inserted properly, otherwise the machine will move irregularly during working.



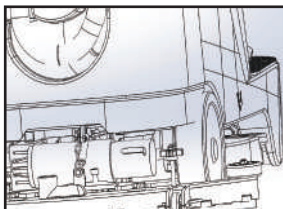
24、 flash indicating lights (optional)

The machine can be equipped with a flash indicating light that run automatically after turn on the main switch key.



25、 Empty solution tank system

There is a liquid indicating tube in front of the driver seat to check the water slot of solution tank.



Machine work

26、work

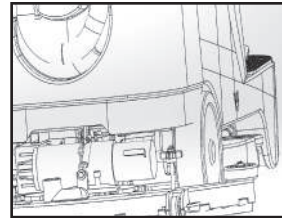
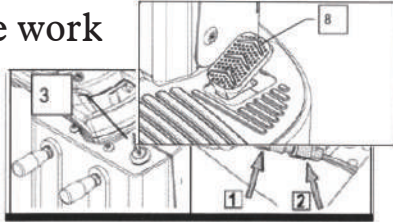
The below preparation is needed before start work:

➤ Please make sure the recycling tank is empty, If not, please empty it.

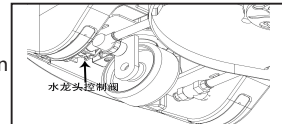
➤ Check if key switch (3) is on "0", if not, counter clockwise rotate it to "0", connect batter connector to power.

➤ Check if electric brake (4) is working. Seat on the driver seat.

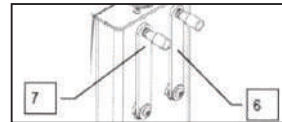
➤ Open main switch key and turn a quarter clockwise (on ON position), the dashboard display will immediately display.



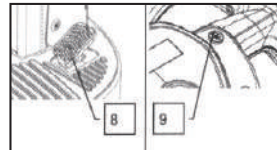
- Adjust water tap control lever to needed detergent volume
- and then clockwise rotate right lever (6) to put down brush head, if need to lower the water absorber then counter clockwise rotate left lever (7).



Warning: when the forward pedal is activated and the brush head is lowered, the magnetic valve start to work and distribute detergent solution. When the water absorber is in working position, the dust absorbing motor will start to work.



Stamp down the forward pedal (8) to move the machine. Warning: If you want to stop the machine, release your foot from the forward pedal.



- If you want to move backwards, press the button on the steering wheel (9), and then step on the pedal (8).

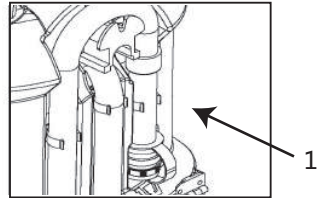


Warning: In the reverse direction of the movement, the water absorber must be carried away from the floor--the rotary lever to adjust clockwise direction.

After the equipment began to work, please try to run a few meters, check whether the detergent is enough, whether water absorber can absorb completely. The equipment will work in full effect until the battery or detergent is used up.

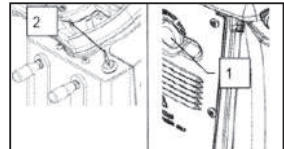
27、Overflow system

The machine is not equipped with an overflow device because the capacity of the recycle tank is larger than the capacity of the solution tank. If there is a special case, the device will have a mechanical device (floating point) on the lid, when the recycling tank is full, will cut off the air suction engine for protection, the vacuum motor sound will be louder. In this case, please rotate the button on the steering column to raise the brush head and suction to make it leave the ground. After 15-25 seconds, the vacuum motor will be closed and the recovery tank can be evacuated by draining the hose (1). It is a good habit to fill the cleaning agent and empty the recycle tank through the drainage tube.



28、Emergency button

If you encounter any problem during work, you can press the emergency Button(1) under the seat, this command with cut off the circuit between Battery and machine system to stop the machine. Recovery of work(problem Solved), close button (2) move button (1) to standard position, then switch Button (2) .

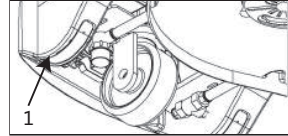


Machine work end

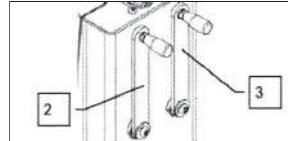
29、Machine work end

When work end, please maintain as below:

Close water tap by moving up the mobile button (1).

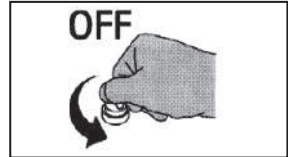


Rotate counter clockwise right lever (2) to lift up the brush Head, then rotate clockwise the left lever (3) to lift up water absorber, close the vacuum motor after a few seconds.



- move the machine to convenient
- place to discharge water.

Rotate counter clockwise a quarter, shut down the machine, and unplug the key from dashboard.



Warning: before maintenance, must switch off power and unplug the key.

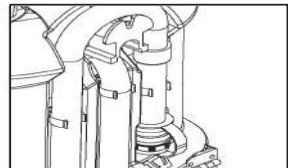


Warning: Must operate with gloves to avoid direct Contact with dangerous liquid.

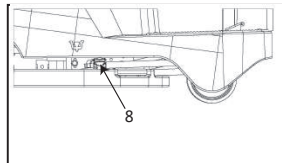
- Break pipe (4), loosen water exhaust cap, empty recycling tank.

4Remove water suction pipe(5) from water absorber. Loosen hand wheel(6,7), dismantle water absorber from the support arm.

Clean the water absorber and rubber with spray water gun. After cleaning water absorber and rubber, put back the water absorber on the rack, first insert the left plugin left slot and then the right plug, please protect the spring and washer when plug in. Then fasten hand wheel to lock the water absorber. Finally, insert the water absorber pipe into the dedicated socket.



- Lower the brush head by the relevant lever on steering column.
- Take the water tap (8) out of brush head
- Rotate counter clockwise the water tap (8), until the solution tank is empty.
- Close the water tap, reposition to the brush head.
- Lift up the brush head by the relevant lever on steering column.
- Sit on the driver seat. Insert the key into start hole and rotate clockwise a quarter (to ON position).
- park the machine to a relative closed place that won't be touched by person or damaged by other things.
- Rotate the start key counter clockwise by a quarter (to OFF position) then unplug the key. Lift up the recycling tank, power off the electricity plug.



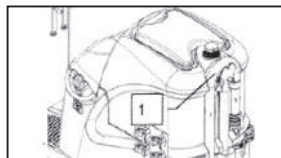
Note: please do not leave the machine without unplug the key and parked the machined.

Daily maintenance

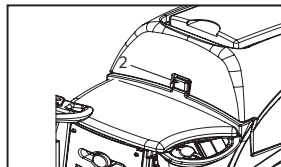
Please perform all maintenance operation in sequence

30、clean recycling tank

- Break pipe(1), take down water exhaust cap and clean recycling tank.
- Press button (2) and release, rotate recycling tank.



Warning: Please power off when doing maintenance, unplug start key.





Note: must operate with glove to avoid contact with dangerous liquid

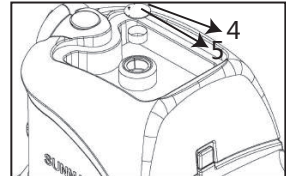
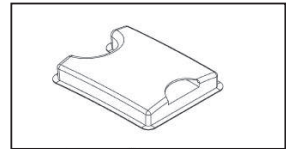
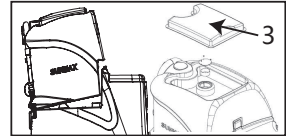
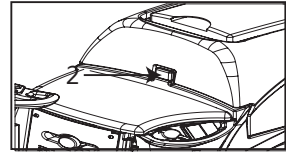
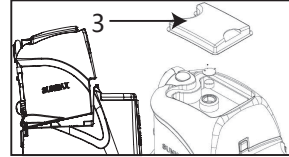
- Clamp and rotate recycling tank, until air spring is still on the Solution tank.
- Dismantle the vacuum cover (3) and put it on back of the machine.
- Clean, flush the recycling tank.
- Put back the exhaust hose cap and vacuum cover.
- Rotate the recycling tank to standard position.



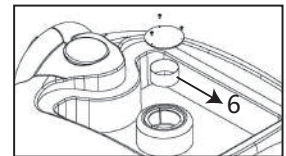
Warning: when doing maintenance, please power off and Unplug start key.

31、Clean recycling tank filtering screen

- Press button (2) release and rotate recycling tank.
- Clamp and rotate recycling tank until air spring is still on the solution tank.
- Dismantle vacuum cover (3) and put it on back of the machine.
- Remove the screw with screwdriver (4)
- Remove the buoy cover (5)



- Take down the vacuum filter from the buoy (6) .
- clean the filter with spray gun.



- Assemble all disassembled parts.

30、clean water absorber

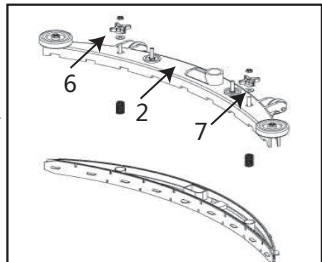
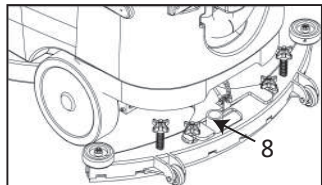
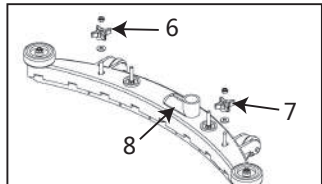
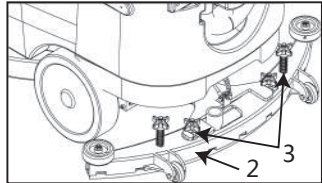
The whole vacuum machine need to be cleaned carefully to ensure The machine can better dry and clean the ground and keep more Powerful air suction power. Please clean as below steps:

- Slide the water suction pipe form water absorber sleeve pipe.
- Rotate loose the hand wheel (3) from support arm, take down the water absorber (2).
- Clean the front and rear part of the rubber with wet cloth, and rub the vacuum room of the water absorber



Note: must operate with glove to avoid contact with dangerous liquid

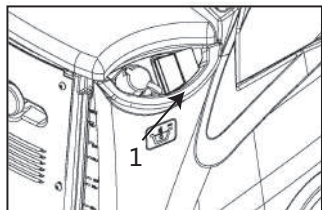
- check the edge of the rubber, if worn out, then replace it. Put the water absorber horizontally and disassemble the rubber,
- Remove the vacuum cleaning nozzle (8) from the water suction stand and clean it.
- Reassemble vacuum cleaning nozzle back on water absorber. After cleaning, put the water absorber (2) back to initial position.
- First insert the left plug to the left socket and then the right, Please protect the spring and washer on the board. Then fasten The hand wheel (6,7), lock the water absorber.
- Insert the water absorber pipe into the socket (1).



30、Clean solution tank filter

Clean the filter carefully to ensure the machine works in good condition. Please

- Clean according to below steps:
Check if the main switch is on "0" position.



- Open the filter cover (1) .

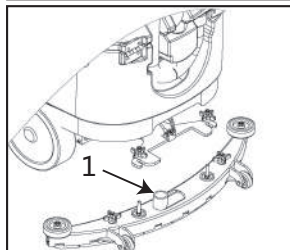
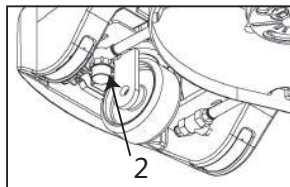


Warning: when doing maintenance, please power off and unplug the start key.



Note: must operate with glove to avoid contact with dangerous liquid

- Move up the rotating button on left of steering column to close water tap
- Open the filter cover in front of the machine
- Remove filter element and flush with water carefully.
- Assemble all disassembled part.



Weekly maintenance

34. clean suction hose

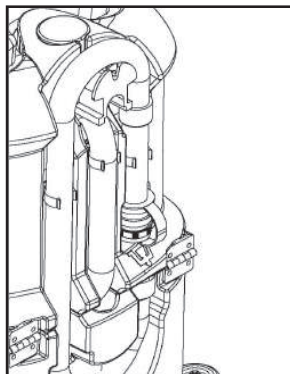
Check if the suction hose is smooth if the suction is unsatisfactory.
If necessary, please clean following below method.

- Make sure the recycling tank has been emptied.
- Check if the main switch is on "0" position.
- Break the suction hose from water absorber nozzle.



Note: must operate with glove to avoid contact with dangerous liquid

- Unplug the suction hose from the recycling tank position at the seat.
- Clean with spray gun from the side.
- Assemble all disassembled parts.



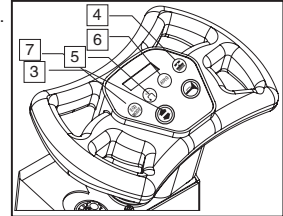
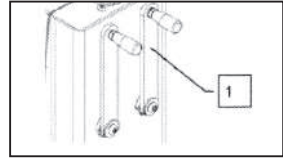
35、Clean brush

To keep better working capability of the cleaning brush, please clean with below methods:

- Check if the main switch is on “1” position.
- Lift up the brush head by counter clockwise rotate the right lever
- Press the brush release button (2) under the steering wheel.
- After press the button, the screen will display “release?”
- Press again button (2) to release brush.



Warning: make sure no person or other things on the machine.

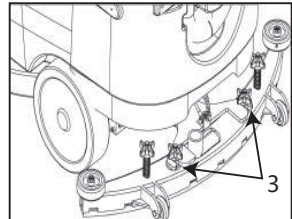


- Take down the brush and clean with spray gun.
- Assemble all disassembled parts.

Special maintenance

36、Replace front rubber of water absorber

If the front water absorber worn out, the water absorbing effect Will become worse and the machine cannot absorb completely. Please replace following below method:

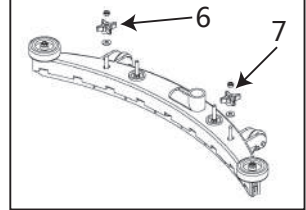


- Check if the main switch is on “0” position.
- release nut (3), break water absorber.



Warning: when doing maintenance, please power off and unplug the start key.

- Select butterfly nut in horizontal position.
- Remove rubber fastener link nuts (6, 7). Remove the
- Rubber (4) and replace it.



Note: must operate with glove to avoid contact with dangerous liquid

37、replace back rubber of water absorber

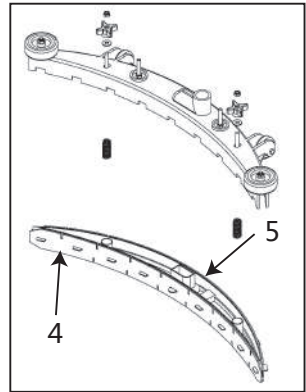
If the back wheel of water absorber worn out and cannot dry the floor, the reason could be one of the four edges is wrong and need to be replaced. If so, please dismantle the water absorber to replace following below steps:

- Check if the main switch is on “0” position.
- release nut (3), break water



absorber. Warning: when doing maintenance, please power off and unplug the start key.

- Select butterfly nut in horizontal position.
- Dismantle back rubber (5) to replace.
- Adjust the height of water absorber according to the height of the rubber (see adjust the water absorber support part height)



Warning: must operate with glove to avoid contact with dangerous liquid

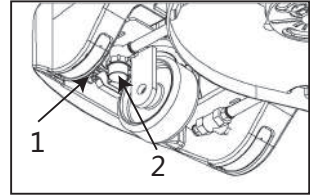
fault handling

38、 machine cannot start

- Check if the battery is fully charged and confirm the power system connector is connected to battery.
- Check if the main switch is opened (on ON/I position).

39、lack of water supply to brush

- check if there is water in the liquid tank.
- Check if the water/detergent release button (1) is open
- Clean the solution filter (2) in front of the machine



40、water absorber cannot absorb completely

- Check if the water absorber is clean.
- Check the setting of the water absorber (see preparation of machine before use)
- Clean the whole vacuum system (see weekly maintenance).
- If the rubber worn out, please replace it.

41、The machine cannot clean well

- Check the worn status of electric brush, replace if necessary. It need to be replace when the brushing fur is 15mm. Please refer to “replacing brush” or dismantling brush” and assembling brush” sections. If the brush is over worn, it may damage the floor.
- Use different type brushes as standard configuration. If the floor is very dirty and hard to clean, please use special brush according to your need and our suggestions. (Please refer to select and use of brush) .

42、too much foam

Check if low foam detergent used. If necessary, please add a little defoamer.

If the floor is not very dirty it will generate too much foam, in this case please use less density detergent.

43、dust absorber does not work

- Check if the recycling tank is empty, if not empty it.
- Check the buoy on the suction cover (see “clean recycling tank” in the “daily maintenance”).

44、brush motor does not work

- Warning: to avoid damage floor, please start brush motor when the machine is moving forward. Check if the brush is too low during startup.

- The operator must sit on the seat.
- Check if hot protection system is started.
- Check if the motor has been connected properly to the terminal under pedal.

Scrap of machine

To scrap a machine, please take it to disassembling center or authorized machine recycling center.

Before scrap a machine the following material must be disassembled and classified and send them to proper recycling center according to existing environment protection laws:

- brush
- filter
- electric and electronic components
- power device
- plastic components (water tank and handler)
- Metal parts (lever and frame)

(*) Please contact the dealer in your region especially when you need to scrap electric and electronic parts.

Select and use of brush

Applicable to all types of ground. It has good abrasion resistance and can use hot water (no more than 60 °C). Polypropylene brushes are not hygroscopic, even in wet conditions can work very well.

Nylon brush

Applicable to all types of ground. It has good abrasion resistance and can use hot water (no more than 60 °C). Nylon brushes are hygroscopic, so when working under wet conditions, they lose their properties over time.

Abrasive brush

This type of brushing fur has very good friction. It can be used to clean the very dirty ground. In order to avoid damage to the floor, only for the necessary work can be used.

Thickness of brush

Thicker brushing fur are more robust and therefore suitable for use on smooth ground or with shallow slits on the ground.

In uneven ground or ground with deep seam, it is best to use soft brushing fur to make it easier to clean.

When the brushing fur is worn and become shorter, the brushes become stiff, unable to penetrate and clean the deep seam. In this case, the use of worn brush will cause the device to jump.

Cushion frame

It is suggested to use cushion frame on smooth and shining surface. There are two types of cushion frame:

- Traditional cushion frame, which has a set of anchor point that can drag the cushion to clean ground.
- central locked cushion frame, which not only has positioning point, but also has a button type central locking system, making the cushion frame centralized and inseparable when work. This type of cushion frame is suitable for multimachine.

Selection of brush type

Machine	Brush type	NO.	Brush type	Ø brushing fur	Ø brush	Length	Note
SUMMAX	1		PA	0.5	560		White brush

Operation instruction

The first row of screen display as cleaning mode normally (ECO ON or

ECO OFF) , 4.au the second row displays: 123456 Power: xxv.

There are two types of cleaning mode: full power and half power (means brushing disc motor power, to make sure water absorbing is complete the dirt suction motor runs at full power all the time) ECO button select ECO ON (half power on) ECO OFF (half power off)

123456 is used to indicate the signal status of S1 S2 S3 S4 S5 S6, if the signal is closed the corresponding number becomes dark, if break, display the status number.

Power: XXV means battery voltage. when the voltage is lower than 2 1.6V , it it i" Low battery " , close all function. .

Error information instruction

- 1 : Low battery** the voltage of battery is low, please charge in time.
- 2 : Traction error** brush motor over current, check transmission system and ground condition
- 3 : Brush error** brush motor over current, check brushing disc system and ground condition.
- 4 : Vacuum error** dirt suction motor over current, replace the broken dirt suction motor.
- 5 : Water error** water run out, fill water to water tank.
- 6 : Sewage error** sewage water tank is full, close washing function and exhaust sewage asap.

Output ports:

Brake: equipped with 24 V no power brake to lock the ground washing machine.

Horn: equipped with 24 V horn. The horn will sound when press the horn button or reverse back.

Water valve: equipped with 24 V water valve, when the cleaning function allows, the brush motor starts, meanwhile the water valve open to give water.

Backup output port has no definition for the moment.

Input ports:

S1: seat switch input. When the drive sits on the seat (the signal 1 on dashboard is off), when the driver leaves the seat, the front driving of washing machine self-lock, and the washing and dirt suction function shut down. When using the brush install and take off function, the driver must leave the seat!

S2: steering switch limit input. When the rotating angle is too big and touch the limit switch (the signal 2 on dashboard is off), the front driving motor speed drop to 50% to avoid car accident.

When reversing or limit switch S2 is off, the front driving motor will drop to 50% speed.

S3: brushing disc detection. When release the brushing disc system (the signal 3 on dashboard is off). The start or not of brushing motor is controlled by front driving motor. When the front motor rotates, the water valve is open and brushing disc works. If front driving motor stop, the water valve and brushing disc shut down. Pull up the brushing disc system (signal 3 on dashboard is on), the brushing disc motor is forced off.

S4: Absorber detection. When release the absorber (the signal 4 on dashboard is off), the start or not of absorber motor is controlled by front driving motor. When front driving motor rotates, the absorber motor works, when front driving motor stops, the absorber motor stops with 20 seconds delay. When pull up the absorber (the signal 4 on dashboard is on), the absorber motor is forced off with 20 seconds delay.

S5: water detection. It is used to detect water tank, when water runs out, the cleaning function is forced to shut down.

S6: sewage detection. It is used to detect sewage tank, when sewage tank is full, the cleaning and dirt suction function will be forced to shut down.

(S5 S6 signal display on dashboard has corresponding number indicator)

S7 S8: backup input port, has no definition for the moment.

5V VR GND is connected to speeding pedal, 5V GND provide power, VR is signal input.

Dashboard function

Dashboard normal display cleaning mode signals status battery voltage. It displays "reverse pattern" when reversing. And it displays the fault code when fault occurs.

ECO button, it is used to select the washing mode (full power or half power)

Reversing button, it is used to select forward or reverse of front driving motor (S3 S4 brushing disc and dirt suction detection signal is closed, forbid to reverse automatically), when reversing the horn buzz discontinuously.

Brushing disc button, this button is used to operate the brush (it works only when the driver leave the seat). When the button is pressed, the control board will select brush install or take off brush according the situation automatically.

Brush install: Put the brush disc under the brush motor, release the brushing system, press "brush disc button" to enter install brush mode and the screen display "Install brush"

Take off brush: pull up the brushing disc, press "brush disc button" to enter uninstall mode of brush and the screen display "Take off brush"

Normal running

Make sure the water tank is filled with sufficient water, the sewage tank is emptied and the battery is sufficient. According to the road conditions, to select the cleaning strength (ECO ON or ECO OFF), put down the brush disc and sewage suction device, step down the accelerator, the washing machine move forward, cleaning and sewage suction start automatically, the machine enters into the normal cleaning state. You can choose to wash or only sewage suction function individually. In case of emergency, press the emergency button to stop.