

Floor Scrubber Machine 150A

User manual





This manual provides necessary machine operation and maintenance instructions.

Please read and understand this manual carefully before operating or using this machine.

When ordering replacement parts, refer to the spare parts manual that came with the machine. Before selecting parts or accessories, please confirm your machine model and serial number. You can order parts and accessories from any authorized service center or dealer by telephone or mail. This machine can provide excellent service. If we can further achieve the following points, we will be able to get the best results at the lowest cost:

- Operate the machine carefully.
- Maintain the machine regularly according to the maintenance instructions provided in the operation manual.
- Use parts manufactured by the original factory or of the same grade for maintenance.

| | |
|---|--|
|  | <p>Protect the environment</p> <p>Please discard packaging materials, batteries and other old machine components, antifreeze, oil and other toxic liquids according to your local waste treatment laws and regulations on the premise of maintaining environmental safety.</p> |
|  | <p>Please do a good job of recycling.</p> |

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Points for Attention

This machine is suitable for industrial and commercial use, specifically used for cleaning indoor hard floors, and cannot be used for other purposes. Please always use the recommended cleaning pads and brushes, as well as the commercial floor cleaner suitable for this machine.

All operators must read, understand, and observe the following safety precautions.

The following is a description of the safety warning symbols and the heading "for safety" used in this manual:



Warning: used to warn of the risk or unsafe operation that will lead to serious injury or death.

For the sake of safety: point out the matters that must be observed when using the machine to ensure safety.

Failure to observe the following warnings may result in personal injury, electric shock, fire or explosion.



Warning: Fire or explosion hazard:

- Do not use flammable liquids; Never operate the machine near or in a place with flammable liquids, gases or flammable dust.

This machine is not equipped with explosion-proof motor. If the local machine is used in a place with flammable gas, liquid or combustible dust, the electric motor will generate sparks during startup and operation, which may lead to flash fire or explosion.

- Do not pick up flammable materials or active metals.
- The battery releases hydrogen. Keep away from sparks or open fire sources. Keep the battery compartment open when charging.



Warning: Risk of electric shock. Disconnect the battery wiring before servicing the machine.



Warning: Rotating brush is running. Keep your hands away. Please turn off the power before servicing the machine.

The following information indicates situations that may pose potential hazards to operators or equipment:

For safety reasons:

1. Do not operate the machine:

- Contact with flammable liquid or close to flammable gas, otherwise it may cause explosion or flash fire.
- Unless trained and authorized to operate the machine.
- Unless you have read and understood the operation manual.
- Unless it is operated correctly.

2. Before starting the machine:

- Please make sure that all safety devices are positioned and operated correctly.

3. When using the machine:

- When encountering slopes and slippery surfaces, please walk slowly.
- Wear non-slip shoes.
- Please slow down when turning.
- Report the damage or malfunction of the machine immediately.
- Never let children play on or near the machine.
- Observe the mixing ratio and handling instructions on chemical containers.

4. Before leaving or servicing the machine:

- Park the machine on a stable ground.
- Turn off the machine.

5. When servicing the machine:

- Avoid moving parts. Do not wear loose tops, shirts or sleeves.
- Disconnect the battery before operating the machine.
- Wear protective gloves and eye protection equipment when handling batteries or battery wiring.
- Avoid contact with battery liquid acid.
- Do not flush the machine with high pressure spray or water pipe.
- use replacement parts provided or approved by the manufacturer.
- All maintenance must be carried out by qualified maintenance personnel.
- Do not modify the original design of the machine.

6. When handling the machine:

- Please turn off the machine.
- Do not handle the machine when the battery is installed.
- Please handle the machine with the help of others.
- When loading and unloading machines from trucks or trailers, please use the recommended loading dock.
- use ropes to fix the machine to the truck or trailer.
- lower the brush head to the lowered position.

Machine operation indications





Receiving machine/Unpack the machine

1. Please carefully check whether there is any damage on the packing box of the machine. If there is any damage, immediately respond to the freight forwarder.

2. Check the shipping content list. If there are any missing items, please contact the seller.

Freight content:

- 4 pcs 6V batteries-standard
- 1 pcs 24v battery charger-standard
- 1 set of battery connecting cable-standard
- 1 pair of water absorbing adhesive tape-standard
- 2 floor brushes-standard
- 2 dials-standard
- Other accessories-purchased separately

3. Before unpacking the machine, please remove the shipping fixtures and ropes that fix the machine on the pallet. With the help of others, carefully unload the machine from the pallet.

Note: If the loading dock is not used, do not push the machine directly to avoid damage to the machine.

Note: To avoid damage to the machine, please unload the machine from the pallet before installing the battery.

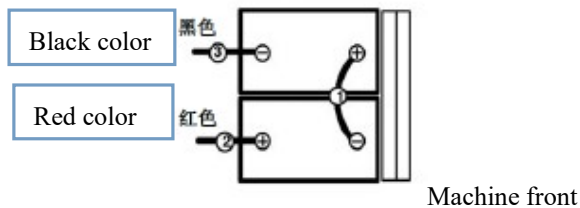
Install the battery



Warning: Fire or explosion hazard. The battery releases hydrogen. Keep away from sparks or open fire sources. Keep the electric bottle cap open when charging.

To be on the safe side: when repairing the machine, please wear protective gloves and eye protection equipment when handling batteries and battery wiring. Avoid contact with battery liquid acid.

1. Park the machine on a level ground and take out the key.
2. Lift the dirty water tank to expose the accessible battery compartment.
3. Carefully install the battery in the battery compartment gate and connect the battery cable as shown in the following figure



Attention: Do not throw the battery into the battery compartment, to avoid damage to the battery and the machine.

4. Before connecting the battery, please make sure that the electrodes and terminals are clean. Use electrode cleaning solution and wire brush as required.
5. Note: Apply a thin layer of metal-free lubricating oil or protective spray on the connected wiring to avoid battery corrosion.
6. After the battery is installed, please check the power scale of the battery meter. Charge the battery as needed.

Machine cleaning method

Cleaning method:

Manually control the water valve to adjust the amount of cleaning solution (water and detergent) flowing to the ground. The brush cleans the floor with a solution of detergent and water. While the machine is moving forward, suck the sewage on the floor into the sewage tank with a suction grill.

Brush and cleaning pad information

To ensure the best performance, please use the correct brush type for cleaning. The recommended brushes and cleaning pads are as follows:

Soft nylon brush (white)-

It is recommended to clean the coated floor without damaging the floor. Clean without scratches.

Polishing pad (white)

Used to maintain highly smooth or polished floors.

Cushion (red)-

Used for scrubbing slight dirt without damaging the ground.

Gravity folding pad (black)-

Used to remove heavy coating or substrate strongly, or to scrub with super strength.

Machine installation

Attach the suction assembly

1. Park the machine on the level ground and take out the key.
2. Lower the lifting rod of the suction scraper to the lower position.
3. Install the suction assembly on the suction mounting bracket as shown in the figure. Be sure to put the fastening knob completely into the jack before tightening the knob.
4. Connect the vacuum suction pipe to the suction assembly.
5. Check the absorbent strip and make appropriate adjustments.

Install brush/cleaning pad

Note: For the recommended brushes and cleaning pads, please refer to the "Brush and Cleaning Pad Information" section of this manual or contact your local authorized dealer.

1. Park the machine on the level ground and take out the key.
2. Step on the brush head lifting pedal to lift the brush head off the ground.
3. Place the cleaning pad on the needle holder first, and then install the driving disc. Fasten the central lock to fix the cleaning pad.
4. Align the pin holder/brush mounting stud and insert it into the buckle of the motor drive plate, and press the switch of the brush plate motor.
5. To remove the needle holder and brush, step on the brush head lifting pedal to lift the brush head off the ground and press the brush plate motor switch.

Machine Operation

For safety reasons: Do not operate the machine before reading and understanding the operation manual.

Warning: Fire or explosion hazard. Never operate the machine near or in a place with flammable liquids, gases, or flammable dust.

Check before operation

- Clean the dust on the ground.
- Check the power scale of the battery meter. (Refer to the battery meter)
- Check the wear of cleaning pad/brush.
- Check the abrasion of absorbent strip and adjust the angle appropriately.
- Make sure that the sewage tank is empty, and a clean floating filter screen is installed.
- Check the wear of brush head skirt.

Operate the machine

1. turn the main power key to the position (I).
2. Pull down the lifting rod of the suction grill to lower the suction grill assembly to the ground.
3. Step on the brush head lifting pedal to lower the brush head to the ground.
4. Open the water control knob.
5. Press the brush motor switch, and then press the water suction motor switch.
6. Motor drive model: Adjust the speed control knob to your desired cleaning speed

Note: It is recommended to use a cleaning speed of 45-60 meters per minute.

During operation of the machine

Warning: Fire or explosion hazard. Do not pick up flammable materials or active metals.

1. Each cleaning path overlaps 5 cm.
2. Keep the machine moving so as not to damage the ground.
3. If there are drag marks on the ground after absorbing water, wipe the rubber strip with a rag to remove garbage. Clean in advance to prevent drag marks.
4. Do not operate the machine on an inclined plane with a slope exceeding 5% (3).

For safety reasons: when using the machine, please move slowly on the slope and slippery ground.

5. If there is too much foam, pour the recommended defoamer solution into the sewage tank.

Note: Do not let foam enter the filter screen to avoid damaging the vacuum motor. Foam will make the filter switch fail.

6. Use the double cleaning method to clean extremely dirty areas. First, lift the absorbent steak for cleaning, and let the solution soak for 3-5 minutes. After the clock, lower the suction squeegee and clean it again.
7. Replace or rotate the cleaning pad as needed.
8. Observe the power consumption of battery power meter (refer to Battery Power Meter).
9. Check the remaining liquid volume through the clear water tank level gauge. The traditional land washing method uses about 10 liters every 10 minutes;
10. When the solution in the clear water tank is used up, empty the sewage tank first and then re-inject the solution.
11. When the staff leaves the machine, please park the machine on the level ground and take out the key.
12. After cleaning, carry out daily maintenance procedures (refer to "Machine Maintenance").

Battery meter

The battery meter will display the battery charge. When the battery is fully charged, all indicator lights are on. With the power consumption, the indicator lights will turn off from right to left. To

prolong the battery life, do not let the indicator light go out below the following power consumption.

Note: In order to prolong the life of the battery, please charge the battery after the total service hours of the machine exceed 30 minutes

Water tank drainage

Drain and clean the sewage tank after each use. Clean water tank should be cleaned regularly to remove any corrosive parts. Move the machine to a drainage place, turn off the power key, and drain the water according to the following discharge instructions: For safety reasons: before leaving or repairing the machine, please park the machine on a level ground, turn off the machine and take out the key.

Sewage discharge tank

1. unscrew the drain cover of the sewage tank in the counterclockwise direction and remove it
2. 2. Open the sewage tank cover and flush the water tank
3. Disassemble and flush the floating filter screen in the sewage tank.

Battery charging

Note: In order to prolong the life of the battery and ensure the best efficiency of the machine, the battery must be charged after the machine has been used for at least 30 minutes. Do not leave the battery uncharged for a long time. The following charging instructions apply to the charger supplied with this machine. Be sure to use chargers of the following specifications to avoid battery damage. Battery charger specifications:

- charger type:-charger for lead-acid battery
- Low output voltage-24 volts
- Low output current-15 amps
- Automatic power-off circuit
- Suitable for deep cycle battery charging

1. Move the machine to a well-ventilated place for charging.

Warning: Fire or explosion hazard. The battery releases hydrogen. Keep away from sparks or open fire sources. Keep the battery compartment open when charging.

2. Park the machine on a level surface and turn the key to the closed position.

3. Before charging, check the electrolyte level in each battery cell.

To be on the safe side: when repairing the machine, please wear protective gloves and eye protection equipment when handling batteries and battery wiring. Avoid contact with battery liquid acid.

4. When charging, please open the sewage tank to facilitate ventilation

5. Plug the AC power cord of the charger into a grounded power outlet.

6. Plug the DC cable of the charger into the battery charging socket behind the sewage tank.

7. The charger will automatically start charging and will automatically turn off when it is full.

Note: The machine will not operate when the charger is connected. Attention: during charging, do not unplug the charger's DC cable from the socket on the machine. So as to avoid arc discharge. If charging must be suspended during charging, please unplug the AC power cord first.

Warning: Fire or explosion hazard. The battery releases hydrogen. Keep away from sparks or open fire sources. Keep the battery compartment open when charging.

8. After charging, check the electrolyte level again.

Machine maintenance

As long as the daily, weekly and monthly maintenance procedures are followed, the machine can be kept in the best working condition. Warning: Risk of electric shock. Disconnect the battery wiring before servicing the machine.

Daily maintenance (after each use)

1. Drain and clean the dirty water tank.

2. Remove and flush the floating filter screen in the sewage tank,

3. Drain the clear water tank, and flush it with hot water not higher than 60°C as needed,

4. Remove the cleaning pad/brush for cleaning. In case of wear, turn over or replace the cleaning pad.

5. Wipe the absorbent strip. Place the absorbent assembly in the raised position to prevent the rubber strip from being damaged.
6. Check the wear condition of the edge of the strip scraper. In case of wear and tear, switch both ends of the strip.
7. Wipe the machine with a multipurpose cleaner and a damp cloth. For safety reasons: when cleaning the machine, do not use high-pressure spraying or water pipes to flush the machine. So as not to cause failure of electronic parts.
8. Check the wear condition of brush head skirt and replace it if it is worn or damaged.
9. Charge the battery. In order to prolong the service life of the battery and ensure the best efficiency of the machine, the battery must be charged after the machine has been used for more than 30 minutes.

Monthly maintenance (every 80 hours of use)

1. Remove the water tank filter from under the machine and clean the filter screen. Make sure to empty the clear water tank before removing the filter.
2. Clean the top of battery to prevent electrode corrosion (refer to "Battery Maintenance").
3. Check whether the battery wiring is loose.
4. Check and clean the seal of the dirty tank cover. Replace it if it is damaged.
5. Spray silicone dry lubricant on all pivots and rollers, and then cover them with waterproof lubricating oil to keep the wheels running smoothly.
6. Check whether the nuts and bolts on the machine are loose.
7. Check whether the machine leaks.

Quarterly maintenance

Every 250 hours, check the wear of carbon brushes of drive motor (drive model), vacuum motor and brush motor. When the length of the carbon brush is worn within 10mm, it is necessary to change the carbon brush. If the machine needs to be repaired, please contact the authorized service center.

Warning: Risk of electric shock. Disconnect the battery wiring before servicing the machine.

Handling machine

When transporting the machine by truck or trailer, be sure to follow the following binding procedures:

1. Raise the brush head to the transportation position.
2. Use the recommended loading dock to load the machine.
3. Close the front of the machine to the front of the truck or trailer. When the machine is in place, lower the brush head and turn the key to the closed position.
4. Put obstacles behind each driving wheel to prevent the machine from sliding.
5. Secure the top of the machine with ropes to prevent tilting. You must install brackets on the truck or trailer. For safety reasons: when handling the machine, please use the recommended loading dock to load and unload the machine from the truck or trailer, and fix the machine on the truck board with ropes.

Storage machine

1. Please charge the battery before storage. Do not store it when the power is exhausted.
2. Drain and rinse the sink box in the sink thoroughly.
3. Store the machine in a dry place and keep the brush head in the raised position.
4. Open the sewage tank cover for ventilation. Attention: Do not let the machine get wet and store it indoors.
5. If the machine is stored in cold environment, please drain all the liquid inside the machine.

Troubleshooting

| Problem | Reason | Solution |
|-----------------------------------|---|---|
| The machine is inoperable | The battery is out of power | Battery charging |
| | Battery failure | Replace the battery |
| | Loose connection of battery | Tighten the battery wiring |
| | The main fuse is blown | Replace fuse |
| Brush motor does not work | The brush head rises off the ground | Lower the brush head |
| | Battery meter lock is not activated | Battery charging |
| | Circuit breaker of brush plate motor triggers tripping | Reset brush circuit breaker button |
| | Brush (up/down) switch malfunction | Please contact the service center |
| | Wear of motor carbon brush | Please contact the service center |
| Vacuum motor does not work | Absorb water and lift it off the ground | Lower the suction grill |
| | The fuse of the vacuum motor is blown | Replace fuse |
| | Vacuum motor or wiring failure | Please contact the service center |
| | Wear of motor carbon brush | Please contact the service center |
| Little or no water outflow | Clear water tank filter or solution pipe is blocked | Clean the clean water tank filter |
| | The flow rate setting of the water flow control knob is too low | Adjust the water flow control knob |
| | Loosen the screw of the control knob | Lubricate the knob and lock the screw |
| Low efficiency of sewage recovery | The sewage tank is full | Drain the sewage tank |
| | Wear of water-absorbing adhesive tape | Replace the water absorbing adhesive tape |
| | The suction pipe is blocked | Remove clogged debris |
| | Sealing strip of sewage tank is damaged | Replace sealing strip |
| | Vacuum motor failure | Please contact the service center |
| Running time is shortened | The battery is defective | Replace the battery |
| | Battery charging failure | Repair or replace the charger |

Technical parameter

| NO. | Item name | Unit | 150A |
|-----|---------------------------|-------------------|----------------|
| 1 | Brush width | mm | 850 |
| 2 | Cleaning efficiency | m ² /h | 5500 |
| 3 | Suction width | mm | 1200 |
| 4 | Continuous operation time | H | 4-6 |
| 5 | grade ability | ° | <25° |
| 6 | pure water box | L | 130 |
| 7 | Sewage box | L | 140 |
| 8 | Brush motor | W | 500*2 |
| 9 | Noise level | dBA | 67 |
| 10 | Battery | V | 24 |
| 11 | Machine size | mm | 1600*1100*1380 |
| 12 | Machine weight | kg | 435KG |