

PSD-XJ860 Floor Scrubber

Instruction Manual



Please read this manual carefully before use

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Chapter one Explanation

1.1 Content and purpose

The following content points out the potential danger. Read these descriptions carefully and take necessary prevention and protection measures. The essence of the machine operation manual is to prevent damage. Safety prevention without accident is necessary. Most accidents are at work and do not pay attention to basic security rules. A careful and cautious user is the best guarantee to stay away from the accident, even stronger than some other preventive measures. When using machines, be sure to pay attention to people around and nearby, especially children.

1.2 Matters need attention

This machine is suitable for industrial and commercial purposes. It is specially used for cleaning the hard floor in the room without other purposes. Please use the recommended cleaning pad and brush, as well as the commercial Floor cleaning suitable for this machine.

The following is an explanation of the safety warning symbols and safety precautions used in this manual

Warn: Used to warn of risks or unsafe operations that may result in serious personal injury or death.

For safety reasons: Point out the precautions that must be followed during the use of this machine to ensure safety.

If the following warnings are not obeyed: May cause personal injury, electric shock, fire or explosion.

Warn: Fire or explosion hazards

1: Do not use flammable liquids and do not operate the machine near or in areas with flammable liquids, gases, or dust.

2: This machine is not equipped with an explosion-proof motor. If this machine is used in a place with flammable gases, liquids, or dust, the electric motor may generate sparks during startup and operation, which may lead to flash fire or explosion.

3: Do not pick up flammable materials or active metals.

4: The battery releases hydrogen gas. Please stay away from sparks or open sources of ignition, and ensure that the battery compartment is open during charging.

Warn: Electric shock hazard, please disconnect the battery connection wire before repairing the machine.

Warn: Rotate the brush and keep both hands away. Please turn off the power before repairing 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:

①Remove flammable liquids or close to flammable gases, otherwise it may cause explosion or flash fire.

②Unless trained to understand the operating manual

2: Before starting the machine

①Please make sure that all the security settings are positioned and operate correctly.

3: When using the machine:

①Please walk slowly when encountering slopes and slippery surfaces

②Wear non slip shoes.

③Please slow down when turning

④Machine damage or operational failure should be reported immediately.

⑤Do not allow children to play on the machine.

⑥Follow the mixing ratio and handling instructions on the chemical container.

4: When leaving or repairing the machine:

①Park the machine on a stable surface

②Turn off the power supply

5: When repairing the machine:

①Avoid moving parts, do not wear loose tops, shirts or sleeves.

②Before operating the machine, disconnect the battery wiring.

③When handling battery or battery wiring, wear protective gloves and eye equipment.

④Avoid contact with battery liquid acid.

⑤Do not rinse the machine with high pressure or water pipe.

⑥Use the replacement parts provided or recognized by the manufacturer.

- ⑦All maintenance must be performed.
- ⑧Do not modify the original design of the machine.

6: When handling the machine:

- ①Turn off the power supply
- ②Do not move the machine with batteries installed.
- ③Please handle the machine with the assistance of others
- ④When loading and unloading machines from trucks or trailers, please use the recommended loading and unloading level.
- ⑤Using ropes to secure the machine to a truck or trailer
- ⑥Lower the brush head to the lowered position.

1.3 Safety requirements on battery

- It is necessary to avoid the battery in a low voltage state, and it should be charged as soon as possible
- To avoid leakage, please keep the battery dry and clean, especially clear pollutants such as metal dust
- It is forbidden to place metal parts (such as tools) on the battery, to prevent the battery from burning short circuit
- Keep a good ventilation in the charging room
- When the key switch is in the connection (on) position, forbidden to connect and dismantle battery
- Before disassembling the battery, first disconnect the negative (-) battery wire, and then disconnect the positive (+) battery wire. When re-wiring, be sure to pay attention to the polarity of the battery, and the error will damage the electrical element
- Avoid direct contact with positive electrodes and negative electrodes, Because it can cause short circuit, the possibility of high fever even causes fire

1.4 Security provisions

In addition to the provisions made in this manual, it is necessary to comply with the general safety regulations required by the required and accident prevention criteria. Even if you have used a similar floor washing machine before, please read the instructions carefully. Reading the instruction manual in advance will save you a lot of time in the future. Before you use it, familiar with all accessories and control parts and functions are essential to you. Read this manual to prevent you from being busy after booting.

Chapter two Performance parameters

Product	Units	Specifications	Remark
Cleaning efficiency	m ² /h	8000 m ² /h	
Brush width	Inch/piece	16inch*2	
Width of water absorption	mm	1200mm	
Cleaning width	mm	860mm	
Brushing speed	Rpm	155Rpm	
Swiping motor power	W	24V/500W*2	
Water absorption motor power	W	24V/550W	
Drive motor power	W	24V/500W	
Water tank capacity	L	145L	
Sewage tank capacity	L	150L	
Battery capacity	V/AH	DC24V/200AH	
Working time	H	3-6H	
Weight	KG	245KG	
Product Size	mm	1650*1200*1320mm	

Chapter three Use of machine

3.1 Machine button: Panel introduction



PSD-XJ860 Control Panel

- 1.Lighting light
- 2.Control panel insurance (reset)
- 3.Electric meter(Can display working hours, voltage, power, below 21V machines will be powered off, prompting that it needs to be charged in time)
- 4.Controller indicator light(If there is a flash, it means that the walking function is abnormal, you need to contact after -sales for maintenance)
- 5.Trumpe
- 6.Brush the motor (start this button, the brush disk automatically falls, step on the acceleration pedal, the brush motor starts to work, turn off this button, and the brush disk will be automatically lifted.)
- 7.Water absorption (Starting this button, the water absorption steak will automatically fall, the water absorption motor starts to work, turn off this button, and automatically lift the water pump.)
- 8.Sewage box water level alarm (The green light is on, it means that the sewage tank is full, and the opportunity of water absorption is stopped.)
- 9.Forward and backward switch (reverse, suction brush will automatically lift, suction brush disc cannot work)

- 10. Power switch, emergency stop switch. (Pressing this button in an emergency situation will cause the machine to power off and stop)

3.1.2 Battery Charging

- The charging socket line requires at least a power cord with a diameter of 4mm.
- Attention: The charger should be moisture-proof, waterproof, and fall resistant.
- Each charging must ensure sufficient charging time (6-8 hours in summer; 6-10 hours in winter). Ensure that the battery is fully charged during operation.
- Built in charger for more convenient use



3.1.3 Water tank plus water

Water inlet: The machine is equipped with a water pipe with a water pipe. You can add water or open the water tank cover before using it. Inject clean water into the water tank. Pay attention to the clean water quality to prevent blocking the water road.



3.2 Machine operation process

Before starting

- Before normal operation of the machine, confirm that the suction hose has been installed correctly and insert the sewage pipe into the suction port of the suction hose
- Adjust the water volume to the appropriate position through the water valve switch under the machine head (Depending on the degree of dryness on the ground, the machine must be operated with water and not dry suction to prevent the suction motor from entering dust and causing damage to the suction motor)



first step: Insert the conical port of the sewage suction pipe into the sewage hole of the water tank, and insert the other end into the suction port of the suction pump



two step: Put the brush cover with a brush bracket and use a plastic knob to tighten.



three step: Open the panel work buttons 6 and 7, and the brush and suction cup will automatically fall down. Press the accelerator pedal to start working.

Power display

After turning on the main power switch, the Voltmeter displays the battery voltage. When the voltage is lower than 21V, please charge it in time.



Start the machine

Step of operation:

- Turn on the power switch
- Press the work button to brush the disc, absorb water (6.7), and then put down the brush disc to absorb water.
- Place the machine in forward gear, lightly press the accelerator pedal, and keep the machine running smoothly (note: it should not be too fast during cleaning).
- If it is necessary to stop quickly or operate on a sloping surface, the machine can be controlled by releasing the accelerator pedal.



●

Stopping the machine

- 1. Turn off the brush-brushed water absorption switch button, brush the dish, and automatically lift it (the water absorption with a delay function, 5-7 seconds)
- 2. Turn off the total power switch.

3.3 Precautions for machine operation

- Avoid stopping the machine in the same place for a long time and allowing the brush to

clean; This will leave unnecessary marks on the ground.

- When cleaning the epoxy floor, it is necessary to add a cleaning pad or replace a soft bristle brush to prevent the brush from damaging the epoxy floor
- When filling the machine with clean water, it is necessary to ensure that the water quality is clean to avoid clogging the drain valve and filter screen with impurities and prevent water from flowing out
- After the machine has been working for a period of time, it is necessary to timely discharge the sewage from the sewage tank to avoid excessive infiltration of the sewage into the suction motor and damage.
- To clean the ground with serious oil stain, please put an appropriate amount of detergent in the clean water tank to achieve better cleaning effect, and at the same time, drip an appropriate amount of defoamer into the sewage tank to prevent the foam in the sewage tank from immersing in the air suction motor and causing burning
- After each work is completed, please rinse the dirty water tank in a timely manner to keep the machine well maintained.
- After winter operation, please drain the clean water tank in a timely manner to avoid freezing and affecting reuse.

Sewage tank discharge sewage

- Turn off the main power supply and ensure that the machine stops.
- Open the drain pipe cover and implement drainage
- The sewage tank can be properly flushed with clean water



Preservation and maintenance of the machine:

- If the machine will not be used within 30 days, store it in a clean and dry place and disconnect the battery connector.

Chapter four Daily maintenance and disassembly of damaged parts

4.1 Regular inspection

Regular maintenance and inspection		Interval time (h)				
		4	50	100	200	500
1	Battery level detection	√				
2	Whether the main brush is wired, the silk wrapped	√				
3	Check if there are any debris in the water tank	√				
4	Check the buttons and electronic products on the control panel		√		√	
5	Check the wear of the brush		√	√		
6	Check the filter for impurities	√				

4.2 Maintenance of suction vent floating ball components.

Regularly clean the filter element of the suction motor at the floating ball port according to the working environment, to prevent long-term failure to clean from causing garbage to block the filter screen and affecting the operation of the suction motor. After cleaning the filter cotton, it must be promptly reinstalled in place, and no components should be missed, and the floating ball cover should be tightly covered



Warn: Electric shock hazard. Please disconnect the battery cable before maintaining the machine.

4.3 Brush replacement and install

4.3.1 Park the machine on a flat surface and lower the floor scrubber.

4.3.2 Rotate the plastic cross nut counterclockwise to remove the brush disc cover

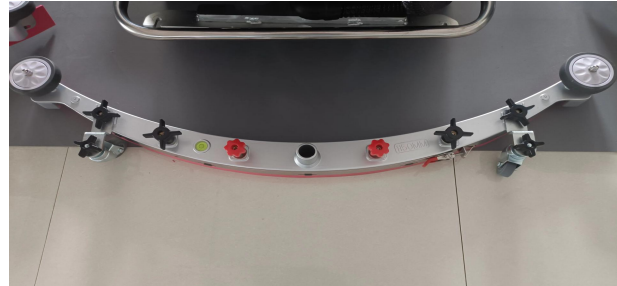
4.3.3 Press the brush tray work button again, lift the floor cleaning brush tray, grasp the brush tray holder, slightly lift it up, quickly swing left and right, and the brush tray can be removed; When installing the brush disc, ensure that the flange is aligned with the brush disc buckle hole, and rotate in any direction to complete the installation. Reminder: The driving brush disc adopts both front and back buckles, and installation can be completed regardless of the direction of rotation.



4.4 Water absorption glue replacement and install

4.4.1 Park the machine on a flat surface, turn off the main power switch, and ensure that the machine is in a power off state.

4.4.2 Put down the suction scoop through the handle; After rotating the plastic handle in reverse, take out the water suction lever component.



4.4.3 Unscrew the nut of the water suction lever component, remove the bottom plate of the water suction lever component, and remove the front and rear rubber strips of the water suction lever



4.4.4 Install the water absorbing adhesive strip.

1.Align the eyelet of the front adhesive strip with the protrusion of the water absorbing plastic component. 2.Fix the plastic components on the water absorbing cast aluminum base plate3.Align the hole of the rear adhesive strip with the protrusion of the water absorbing plastic component.4.Clamp both ends of the pressure strip together5.Tighten the nut



4.5 Battery maintenance maintenance

PSD-XJ860 floor scrubber power system is powered by four 6V maintenance-free lead-acid batteries in series, with a system voltage of 24V.

4.5.1 After the machine has been operating for a period of time, the battery level drops, and when the last cell of the battery indicator flashes,Indicates that the battery is low and needs to be charged in a timely manner

4.5.2 When maintaining the battery, please wear protective gloves to avoid contact with acidic substances in the battery

4.5.3 Check if the battery connection wires are worn and if the contacts are loose, and replace them if necessary

4.5.4 The battery end should be kept clean and dry, and there should be no debris or dust covering it, which is extremely detrimental to the battery,In severe cases, it may burn out the battery.

Attention! ! !

◆To ensure a long service life of the battery, it should be charged promptly after the machine is completed, and deep discharge is strictly prohibited.

◆The correct charging method for lead-acid batteries: first insert the battery, then plug in the mains; After fully charging, disconnect the mains power first, and then unplug the battery.

◆If the machine is not in use for a long time, please fully charge the battery and disconnect the positive pole of the battery for storage.

Warn! ! !

◆During the use of batteries, the capacity of deep discharge batteries will

decrease and their lifespan will be shortened

4.6 Precautions and disassembly of wind suction motor

4.6.1 After daily use of the machine, please discharge the sewage in the sewage tank in a timely manner to prevent the water level from being too high and being sucked into the suction motor, which may burn the motor.

4.6.2 In the process of using the machine, if there is too much foam, it is recommended to use defamer solution to prevent foam from entering the filter screen, entering the suction motor and causing the motor to burn.

4.6.3 Disassembly of suction motor: The suction motor is fixed at the bottom of the sewage tank. Before removal1. First, empty the sewage tank and turn off the main power switch to keep the machine powered off;2. Flip over the dirty water tank and pull out the opposite socket of the suction motor3. Loosen the fixing nut of the suction motor and take out the suction motor.

4.6.4 Installation of suction motor: 1. Align the installation hole of the suction motor with the screw of the sewage tank, and then tighten it with the anti-skid nut. 2. Insert the opposite socket of the suction motor into the machine circuit to complete the installation.



4.7 Controller function, diagnosis and disassembly

4.7.1 Machine controller; Fixed inside the control box under the seat.



4.7.2 Drive function: Full bridge Power MOSFET control enables stepless control of forward, backward, driving and braking, and soft start and flexible braking.

Host operation: Full bridge Power MOSFET control enables stepless control of forward, backward, driving and braking, and soft start and flexible braking.

4.7.3 Downhill speed limit and anti slip function: Do not exceed the maximum allowed speed when driving downhill, and limit the speed when parking on a slope.

4.7.4 Brake function: When the brake switch is effective, the vehicle immediately slows down and brakes, ultimately reaching a stop

4.7.5 Diagnostic function: The number of flashes of the panel indicator light can be observed to determine the corresponding fault cause. For example, when the controller malfunctions, the control panel indicator light flashes continuously for 7 times, pauses for 2-3 seconds, and then flashes continuously for 7 times, repeating this process.



Fault codes	Number of flashes of fault light	Fault content	Solution
E31	Continuous flashing 1 time	Electromagnetic brake not connected	Check the electromagnetic brake
E32	Continuous flashing 2 times	Drive motor is connected	Check if the drive motor circuit is loose or not connected
E33	Continuous flashing 3 times	/	/
E34	Continuous flashing 4 times	Main control circuit failure	Replace the controller and return to the factory for maintenance
E35	Continuous flashing 5 times	Main control circuit or motor short circuit fault	If it runs within 10 seconds of being powered on for the first time, it may be triggered by mistake. If it continues to flash after being powered on again, replace it with a new controller and return to the factory for maintenance
E36	Continuous flashing 6 times	Motor overload	Restart the power supply and check if the drive motor is overloaded

4.7.6 Controller disassembly and assembly:

1. Unscrew the battery connection cable and keep the machine powered off; Use M4 Hex key to unscrew the fixing screws of the driver's seat and open the seat cover.



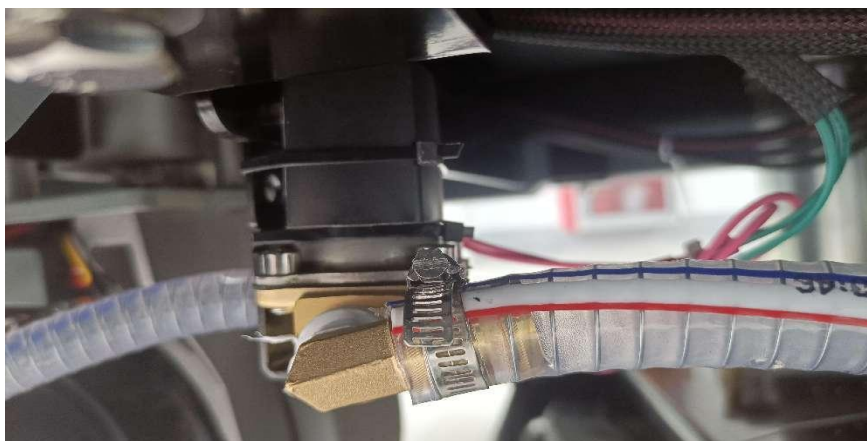
2. Unplug the control panel cable and the controller connector port, unscrew the positive and negative terminal wiring of the controller, and the positive and negative terminal wiring of the walking motor; Remove the fixing screws between the controller and the machine head iron plate to complete the disassembly of the controller.

3. Reverse the installation and disassembly process of the controller. (Note: When wiring the controller, the positive and negative poles should not be wrongly connected)

4.8 Solenoid valve, filter disassemble

4.8.1 Filter disassembly and assembly: The filter is located on the right side of the front wheel of the machine. After using it for a period of time, if it is found that the machine has low or no water output, most of the reasons are due to clogging of filter particles and impurities. You need to loosen the transparent cover at the bottom of the filter and remove the internal filter to clean it.

4.8.2 Disassembly and assembly of solenoid valve: The solenoid valve is located directly in front of the brush disc motor and is fixed to the iron plate by a nylon tie; When replacing, simply cut the tie and pull out the solenoid valve outlet pipe. (Note: During installation, the clean water pipe should fully enter and exit the solenoid valve outlet nozzle to prevent loosening.)



Chapter five Scrubber frequently problem analysis form

Problem	Reason	Processing method
Machine cannot operate	Battery is not electric	Battery charging
	Battery fault	Replace the battery
	Battery wiring loose	Tighten the battery wiring
	Main fuse blown	Better fuse
Brush disc motor does not work	Brush leave the ground	lower Brush
	Circuit circuit broken router triggering power jumping	Reset the brush circuit circuit breaker button
	Main brush switch failure	Please contact the service center
	Carbon brush wear	Please contact the service center
Fan not working	Excessive noise from the suction motor	Please contact the service center
	Suction motor is burnt out	Replace the suction motor
	Carbon brush wear	Please contact the service center
Small or no water outflow	drain valve or water pipe of the clean water tank is blocked	Clean or replace the drain valve of the clean water tank
	Damage of solenoid valve	Replace the solenoid valve
Low efficiency of wastewater recycling	sewage tank is full	Drain the sewage tank
	Water absorption glue strip wear	Replace the water absorption
	Wind-absorbing motor failure	Replace the wind-absorbing motor
	Damage to sewage tank sealing	Replace the sealing strip
Shortened working time	Two battery voltage is not equal	Please contact the service center
	Battery charging failure	Maintenance or replacement charger

Chapter six Maintainable

The life and operation of the machine must be ensured by the correct and conventional maintenance of the machine. The following will make conventional maintenance requirements. Under suitable working conditions, the time interval of maintenance can be changed, which must be determined by professionals responsible for maintenance.

If the maintenance operation is performed, the machine stops (unplugged the switch key), so please read the instructions carefully about safety chapters.

Use conditions:

- Environmental temperature: -10 °C ~ 40 °C;
- The relative humidity of the air: 5 % to 70 %;
- Non-conductive dust environment without explosion
- Environments without corrosive gases or vapors
- Indoor use, ventilated, vibration free environment, with a minimum front and rear space of 300mm

Maintenance schedule:

Maintenance Operations	Delivery time	Every 10h	Every 50h	Every 100h	Every 200h	Every 500h
Inspection of brush disc height adjustment						
Whether the disk is wired and the silk is wrapped						
Clean and inspect the integrity of the suction scraper						
Inspection of sealing strip for water tank cover						
Screw and nut tightening inspection						
Check the wear of the brush disc						
Replacement of water absorbing adhesive strip						

Warranty scope:

- Under the following usage conditions, there is no warranty
- Failure to carry out maintenance according to the maintenance manual, resulting in mechanical damage or malfunction
- Significant damage to the mechanical appearance or structure caused by improper human operation
- Dismantling or modification without the consent and approval of the original factory

- Damage caused by weather or force majeure
- Exceeding the warranty period of 1 year or using for more than 1500 hours