

GFC50
Walk Behind Floor Washer
OPERATIONAL MANUAL



Note: It is essential to thoroughly understand this manual and the various warning labels on the vehicle before use.

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I. Safety instructions

Please read and pay attention to this operating manual before using this equipment for the first time.

Warning:

- Do not use the equipment on slopes. It is forbidden to use water for fire fighting
- This equipment is not suitable for cleaning frozen surfaces (e.g., freezer rooms, and it is forbidden to use water for firefighting.
- Before each use, check the equipment and power cord for any damage. Do not use damaged equipment and only allow professionals to repair damaged parts.
- Keep children away from batteries and chargers.
- Do not charge damaged batteries. In case of battery damage, please contact our after-sales service or have a professional replace the battery.
- Avoid contact with liquid from damaged batteries. In case of accidental contact, wash with water. If it comes into contact with the eyes, seek medical attention immediately.
- Do not use corrosive liquid to clean the machine, just wipe it with a rag.

Danger:

Immediate danger that can lead to serious bodily harm or death.

- Modification and alteration of the equipment are not allowed.
- Do not open the battery pack; there is a risk of short circuiting, as well as the

possibility of emitting foul-smelling steam or corrosive liquids.

- The battery pack must not be exposed to strong light radiation, heat, or fire, as there is a risk of explosion.
- Do not use the charger in environments where explosion hazards exist.
- Maintain good ventilation.

Operating precautions:

1. After each use, make sure to drain the water from the dirty water tank. Regardless of whether the tank is full of dirty water or not, empty it. In the summer, odors can develop, and in the winter, freezing water might damage the tank.
2. When charging, please do so in a dry and well-ventilated environment, preferably outdoors. The charging time for lead-acid batteries is 6-8 hours. Do not overcharge, and once the battery is fully charged, promptly disconnect the power cord.
3. Do not wash the machine with water, please use a rag to clean the machine.

The aforementioned issues caused by human factors are the responsibility of the purchaser to bear.

1. This machine is suitable for places such as factories, shopping malls, hospitals, office buildings, and more.
2. Always use the recommended scrub pads, brushes, and commercially available

floor cleaning agents suitable for this machine.

3. All operators must read, understand, and adhere to the following safety precautions.

Explanation of safety warning symbols and the "For Safety" section used in this manual:

3.1 Warning: Used to alert to risks or unsafe operations that may cause serious personal injury or death.

For Safety: Indicates essential precautions to ensure safety when using the machine.

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

3.2 Warning: Fire or Explosion Hazard:

① Do not use flammable liquids. Avoid operating the machine near or in locations with flammable liquids, gases, or combustible dust. This machine is not equipped with explosion-proof motors. Using this machine in areas with flammable gases, liquids, or combustible dust may result in sparking of the electric motor during startup and operation, leading to ignition or explosion.

② Do not pick up flammable materials or reactive metals.

③ Batteries release hydrogen gas. Keep away from sparks or open flames. Keep battery compartment open while charging.

3.3 Warning: Risk of Electric Shock. Disconnect battery connections before servicing the machine.

3.4 Warning: Rotating brushes are in operation. Keep hands clear. Turn off the power before servicing the machine.

4. The following information highlights situations that could potentially endanger operators or equipment. For safety:

4.1 Do not operate the machine:

① When in contact with flammable liquids or near flammable gases, as it could lead to explosions or sparks.

② Unless trained and authorized to operate the machine.

③ Without reading and understanding the operator's manual.

④ Unless you are following the correct operating procedures.

4.2 Before starting the machine:

4.2 Please ensure all safety devices are in their designated positions and functioning correctly.

4.3 When using the machine:

① When encountering slopes and slippery surfaces.

② Wear slip-resistant footwear.

③ Reduce speed when turning and walk slowly.

④ Immediately report any machine damage or malfunctions.

- ⑤ Do not allow children to play on or near the machine.
- ⑥ Follow the mixing ratios and handling instructions on chemical containers.

4.4 Before leaving or servicing the machine:

- ① Park the machine on a level surface.
- ② Turn off the machine.

4.5 When servicing the machine:

- ① Avoid moving parts. Do not wear loose clothing, shirts, or sleeves.
- ② Disconnect battery connections before operating the machine.
- ③ Wear protective gloves and eye protection when handling batteries or battery connections.
- ④ Avoid contact with battery acid.
- ⑤ Do not use high-pressure sprays or hoses to clean the machine.
- ⑥ Use manufacturer-provided or approved replacement parts.
- ⑦ All repairs must be performed by qualified service personnel.
- ⑧ Do not modify the machine's original design.

4.6 When transporting the machine:

- ① Turn off the machine.
- ② Do not transport the machine with the battery installed.
- ③ Transport the machine with the assistance of others.

- ④ Use recommended loading ramps when loading/unloading from trucks or trailers.
- ⑤ Secure the machine to the truck or trailer using ropes.
- ⑥ Lower the brush head to the lowered position.

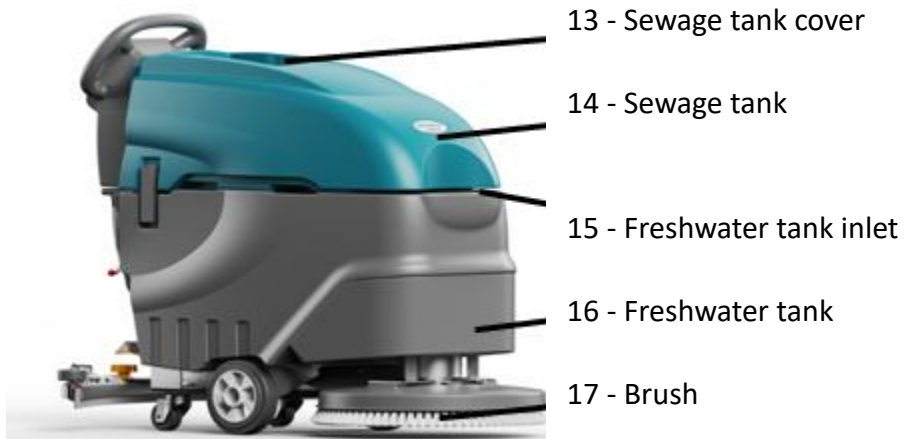
II. About the Machine

2.1 Technical Specifications

Cleaning Width	510mm	Dirty Water Capacity	60L
Suction Width	830mm	Brush Motor	24V/550W
Working Efficiency	2350 m ² /h	Suction Motor	24V/500W
Working Time	3.5-4.5H	Battery	24V100AH
Charging Time	6-8H	Dimensions	1310*830*1130mm
Fresh Water Capacity	50L		

If there are any changes in technical specifications, there will be no separate notification.

2.2 Machine Operating Instructions



Control Panel Indications



- 1 - LCD screen
- 2 - Water volume adjustment switch
- 3 - Brush motor switch
- 4 - Water suction motor switch
- 5 - One-button shutdown

2.3 Unpacking the Machine

2.3.1 Please carefully inspect the packaging of the machine for any signs of damage. If there is any damage, report it to the shipping carrier immediately.

2.3.2 Check the contents of the shipment against the inventory list. If there are any missing items, please contact the seller.

Shipping Contents:

1. 12V 100AH maintenance-free lead-acid batteries - 2 PCS (Standard configuration).

2. 24V maintenance-free lead-acid battery charger - 1 PCS (Standard configuration).

3. Suction Blade Assembly - 1 set (Standard Configuration)

4. Floor Scrub Brushes - 2 PCS (Standard Configuration)

5. Key Cards - 3 PCS; User Manual, Warranty Card, and Certificate of Conformity -

1 each

6. Other Accessories - Available for separate purchases

2.3.3. Before unpacking the machine, remove the fasteners and ropes that secure the machine to the wooden support. With the assistance of others, carefully lift the machine off the wooden support.

Attention 1: If a loading scale is not used, do not push the machine directly to prevent machine damage.

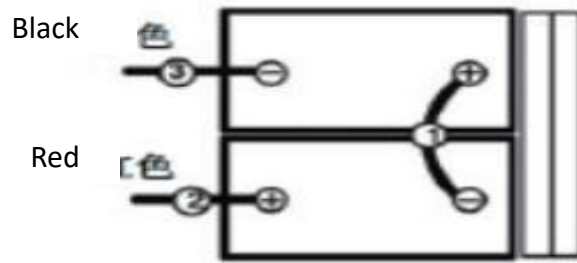
Attention 2: To avoid machine damage, install the battery after unloading the machine from the stack.

2.4 Installing the Battery

Warning: Fire or explosion hazard. Batteries release hydrogen gas. Keep away from sparks or open flames. Keep the battery cover open during charging.

For safety: When servicing the machine, wear protective gloves and eye protection when handling batteries and battery connections. Avoid contact with battery acid.

- ① Park the machine on a level surface and remove the key.
- ② Lift the dirty water tank to expose the battery compartment.
- ③ Carefully install the battery in the compartment, ensuring the battery cable connections are made as shown in the diagram below.



NOTE: Do not throw the battery into the battery compartment to avoid damaging the battery and the machine.

④ Before connecting the battery, ensure that the terminals and connectors are clean. Use your judgment to decide if electrode cleaning solution and a wire brush are needed.

Note 1: Apply a thin layer of non-metallic lubricant or protective spray on the connected terminals to prevent corrosion.

Note 2: Apply a thin layer of non-metallic lubricant or protective spray on the connected terminals to prevent battery corrosion.

⑤ After installing the battery, check the battery charge gauge. Use your judgment to decide if the battery needs charging.

2.5 Machine Cleaning Method

If a loading ramp is not used, do not push the machine directly to prevent machine damage.

Manually control the water valve to adjust the amount of cleaning solution (water and detergent) flowing onto the floor. The brushes use a mixture of detergent

and water to clean the floor. As the machine moves forward, the dirty water on the floor is sucked into the dirty water tank using the suction blade.

2.6 Brushes and Scrub Pads

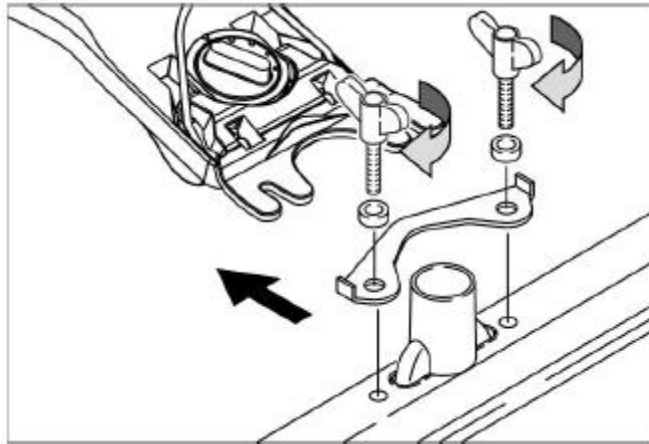
Recommended for cleaning coated floors without damaging the surface. Clean without leaving scratches.

- ① Polishing Pad (White): Used to maintain highly polished or buffed floors.
- ② Buffing Pad (Red): Used for scrubbing light dirt without damaging the floor.
- ③ Aggressive Stripping Pad (Black): Used for heavy-duty removal of thick coatings or substrates, or for extra-strong scrubbing.

III. Machine Installation

3.1 Installing the Suction Blade Assembly

- ① Park the machine on a level surface and remove the key.
- ② As shown in the diagram, mount the suction blade onto the suction blade mounting bracket. Make sure to fully insert and tighten the fastening knobs into the holes.
- ① Connect the vacuum suction hose to the suction blade assembly.
- ② Check the suction blade rubber strip and adjust it as necessary.



3.2 Installing Brushes and Scrub Pads

Note: For information about recommended brushes and scrub pads, please refer to the "Brushes and Scrub Pads" section of this manual or consult customer service.

- ① Park the machine on a level surface and remove the key.

- ② Step on the brush lift pedal to raise the brush off the ground.
- ③ Place the scrub pad on the pin, then install the drive disk and tighten the central lock to secure the scrub pad.
- ④ Align the pin/brush mounting stud with the motor drive disk clip, press the brush motor switch.
- ⑤ To remove the pin and brush, step on the brush lift pedal to raise the brush off the ground, then press the brush motor switch.

For safety: Do not operate the machine until you have read and understood the operator's manual.

Warning: Fire or explosion hazard. Do not operate the machine near or in locations with flammable liquids, gases, or combustible dust.

3.3 Pre-Operation Check

- ① Sweep the dust off the floor.
- ② Check the battery charge gauge. (Refer to the battery charge gauge)
- ③ Check the wear of the brush skirt.
- ④ Check the wear of the suction blade rubber strip and adjust the angle as needed.
- ⑤ Ensure the dirty water tank is empty and the clean float filter is installed.

3.4 Operating the Machine

- ① Turn on the machine with the provided key card.
- ② Lower the squeegee lifting lever to bring the squeegee assembly down to the floor.
- ③ Lower the brush lifting lever to bring the brush assembly down to the floor.
- ④ Turn on the clean water control switch.
- ⑤ Press the brush motor switch, then press the vacuum motor switch.
- ⑥ Adjust the motor drive speed control knob to the desired cleaning speed.

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

3.5 During Operation of the Machine

Warning 1: Fire or explosion hazard. Do not pick up flammable materials or reactive metals.

Warning 2: Risk of damage. Only use recommended cleaning agents. Using other cleaning agents increases the risk of workplace safety and accident hazards for all equipment users. Use solvent-free, hydrochloric acid-free, and hydrofluoric acid-free cleaning agents only. Follow safety guidelines for cleaning agents.

1. Overlap each cleaning path by 5 centimeters.
2. Keep the machine moving continuously to avoid damaging the floor.
3. If there are streaks on the floor after the suction blade has passed, use a cloth

to wipe the rubber strip to remove debris. Pre-sweep to prevent streaks.

4. Do not operate the machine on slopes exceeding 5% (3°). Operating on steep slopes carries a risk of tipping and unnecessary damage.

5. For safety: When using the machine on slopes, slippery surfaces, or while turning, move slowly. There is a risk of tipping when the ground is unstable.

6. Do not use cleaning agents that produce excessive foam. If using cleaning agents, make sure to add an anti-foaming agent.

Note: Do not allow foam to enter the filter to prevent damage to the vacuum motor. Foam can cause the filter switch to malfunction.

7. Use the double-cleaning method to clean extremely dirty areas. First, lift the suction blade for cleaning, let the solution soak for 3-5 minutes, then lower the suction blade and clean again.

8. Assess whether the scrub pad needs to be replaced or flipped, depending on the situation.

9. Monitor the battery power gauge to determine if charging is needed.

10. Check the remaining liquid level through the water tank level indicator. In traditional floor cleaning, the usage is approximately 10 liters every 10 minutes. When the solution in the water tank is used up, empty the dirty water tank first and then refill with the solution.

11. When leaving the machine unattended, park it on a level surface and turn off

the machine. Remove the key.

12. After cleaning, perform daily maintenance procedures. The battery power gauge will display the battery level. When the battery is fully charged, all indicator lights will be on. As the battery is used, the indicator lights will turn off from right to left. To extend battery life, do not allow the indicator lights to go out below the usage level mentioned below.

Note: To extend the battery life, it is recommended to charge the battery only after the machine has been in use for more than 30 minutes in total.

3.6 Water Tank Drainage

After each use, the dirty water tank should be drained and cleaned. The clean water tank should be cleaned regularly to remove any corrosive residues. Move the machine to a drainage area, turn off the power key switch, and follow these drainage instructions:

1. Rotate the dirty water tank drain cap counterclockwise and remove it.
2. Open the lid of the dirty water tank and rinse the tank.
3. Remove and rinse the float filter located inside the dirty water tank.

For safety: Before leaving the machine unattended for maintenance, park it on a level surface, turn off the machine, and remove the key.

3.7 Charging the Battery

Note 1: Deep discharge poses a risk of damage. The battery should be charged before testing this equipment.

Note 2: To prolong battery life and ensure optimal machine performance, the battery should be charged only after the machine has been in use for at least 30 minutes. Do not leave the battery in an uncharged state for extended periods. The following charging instructions are applicable to the charger provided with this machine. Please use the charger provided with this equipment to avoid

battery damage. Battery Charger Specifications:

- Charger Type: Lithium Battery Charger
- Output Voltage: 24 Volts
- Output Current: 15 Amps
- Automatic Power Cut-off Circuit
- Designed for deep cycle battery charging, meaning if the battery capacity reaches the allowed minimum limit, the machine can only be driven while the brush drive and vacuum mechanisms cease to operate.

1. Place the machine in a well-ventilated area for charging.

Warning: Risk of fire or explosion. The battery releases hydrogen gas. Keep away from sparks or open flames. Keep the battery compartment open during charging. The battery releases hydrogen gas. Keep away from sparks or open flames. Keep the battery compartment open during charging.

2. Place the machine on a level surface and turn the key to the off position.

3. For safety, when servicing the machine, wear protective gloves and eye protection while handling the battery and battery cables. Avoid contact with the battery.

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

5. During charging, open the side of the wastewater tank for ventilation.

6. Insert the AC (alternating current) power cord of the charger into a properly

grounded power outlet.

7. Insert the DC (direct current) plug of the charger into the battery charging socket located at the back of the wastewater tank.

8. The charger will automatically start charging and will shut off automatically when fully charged.

Note: The machine cannot be operated while connected to the charger. Caution: Do not disconnect the DC plug of the charger from the machine's socket during charging to prevent arcing. If charging needs to be paused during the process, disconnect the AC power cord first.

Warning: Risk of fire or explosion. The battery releases hydrogen gas. Keep away from sparks or open flames.

IV. Machine Maintenance

Danger:

Risk of injury! Before performing any tasks on the equipment, make sure to turn the main switch to the "0" position and remove the key. Unplug the battery connector.

Drain and clean the wastewater and remaining clean water.

Caution:

The inertia of the vacuum turbine during operation can pose a risk of injury. The vacuum turbine continues to run for a period of time even after it is turned off. Maintenance work should only be performed after the vacuum turbine has completely stopped running.

4.1 Daily Maintenance (After Each Use):

1. Drain and rinse the wastewater tank.
2. Clear away larger debris and rinse the filter.
3. Empty the clean water tank and, if necessary, flush it with water not exceeding 50°C (122°F).
4. Remove and clean the scrubbing pads/brushes. If worn, flip or replace the scrubbing pads.

5. Wipe the squeegee blades. Place the squeegee assembly in the raised position to prevent blade damage.
6. Check the wear of the squeegee blade's scraping edges. If worn, flip the blade ends or replace them.
7. Use a multipurpose cleaner and a damp cloth to wipe down the machine. For safety, avoid using high-pressure sprays or hoses to clean the machine to prevent electronic component damage.
8. Inspect the wear of the brush skirt edges. Replace if worn or damaged.
9. Recharge the battery. To extend the battery life and ensure optimal machine performance, battery charging should only be done after the machine has been used for over 30 minutes.

Note: Proper daily maintenance is essential for machine longevity and consistent performance. Failure to perform these steps could result in reduced efficiency and potential damage to the machine.

4.2 Monthly Maintenance (every 80 hours of use)

1. Remove and clean the filter from under the machine's clean water tank. Ensure the clean water tank is empty before removing the filter.
2. Clean the top of the battery to prevent electrode corrosion and oxidation (refer to "Battery Maintenance").

3. Check for loose battery connections.
4. Inspect and clean the seal on the wastewater tank cover. Replace it if damaged.
5. Apply lubricant to all bearings and rollers, followed by a layer of waterproof lubricating oil, to keep the axles running smoothly.
6. Check for loose nuts and bolts on the machine.
7. Inspect the machine for leaks.

4.3 Quarterly Maintenance

Every 250 hours, check the wear of carbon brushes on the drive motor (for drive models), vacuum motor, and brush motor. When carbon brush length wears within 10 millimeters, replacement is required. Contact an authorized service center if the machine requires repair.

Warning 1 : Risk of electric shock. Disconnect the battery connection before servicing the machine.

Warning 2 : Risk of damage. Do not spray the equipment with water and avoid using corrosive cleaning agents.

4.4 Machine Handling

When using a truck or trailer to transport the machine, follow these binding procedures:

1. Raise the brush head to the transport position.

2. Use recommended loading ramps to load the machine.
3. Place the machine's front side tightly against the front part of the truck or trailer. After placing the machine, lower the brush head and turn the key to the off position.
4. Place obstacles behind each driving wheel to prevent the machine from sliding.
5. Secure the top of the machine with ropes to prevent tilting. Racks must be installed on the truck or trailer's loading platform.

For safety: When transporting the machine, use recommended loading ramps to load and unload it from the truck or trailer, and secure the machine to the loading platform with ropes.

4.5 Machine Storage

1. Charge the battery before storage. Do not store the machine with depleted battery power.
2. Thoroughly drain and clean the water tank and reservoir before storage.
3. Store the machine in a dry area, keeping the brush head in the raised position.
4. Open the sewage tank cover for ventilation. Caution: Do not expose the machine to rain; store it indoors.
5. If storing the machine in cold environments, ensure all liquids inside the machine are thoroughly drained.

4.6 Troubleshooting

If a malfunction occurs that cannot be resolved through troubleshooting, please contact our Customer Service Department immediately.

Issue	Cause	Solution
Machine Not Functioning	Battery Depleted	Charge the battery
	Battery Malfunction or Damage	Replace the battery
	Loose Battery Connections	Tighten battery connections
	Main Fuse Burned	Replace the fuse
Brush Plate Motor Not Operating	Brush Head Raised Above Ground	Lower the brush plate
	Battery Charge Indicator Locked, Not Starting	Recharge the battery
	Brush Plate Motor Stopped due to Overload Protection	Turn off main power, restart after 3 seconds
	Brush Switch (Up, Down) Malfunction	Please contact customer service
Suction Motor Not Operating	Abnormal Sound from Suction Motor	Replace the motor
	Motor Water Ingress	Replace the motor
	Suction Motor Not Operating	Check if the motor switch on the panel is turned on
Low or No	Water Tank Filter or Solution Line Blocked	Clean the water tank filter

Water Flow	Low or No Water Flow	Ensure the water tank is filled with water
	Water Flow Control Knob Set Too Low	Adjust the water flow control knob
Low Suction Efficiency	Dirty Water Tank Full	Empty the dirty water tank
	Worn Suction Rubber Strip	Replace the suction rubber strip
	Suction Hose Blocked	Clear any debris causing the blockage
	Worn Seal on Dirty Water Tank	Replace the seal
	Insufficient Suction Power of Suction Motor	Ensure the dirty water tank cover is properly sealed
	Suction Motor Malfunction	Please contact customer service
Short Operating Time	Defective Battery	Replace the battery
	Battery Charging Fault	Repair or replace the charger
	Overly High Protection Voltage Setting	Please contact customer service

V. Warranty and Spare Parts

5.1 Quality Assurance

Our quality assurance terms apply globally. During the warranty period, in the event of an accidental failure of your equipment (excluding consumables), caused by material or manufacturing defects, we will provide free troubleshooting. If your issue falls under warranty, please contact your authorized dealer with the invoice or reach out to the nearest authorized customer service center for assistance.

5.2 Non-Warranty Regulations

1. Unauthorized repairs, misuse, collisions, negligence, abuse, liquid ingress, accidents, modifications, improper use of non-product accessories, tampering, altering labels or anti-counterfeit marks;
2. Warranty period has expired;
3. Damages caused by force majeure;
4. Damages caused by accidental factors or improper actions, such as inputting inappropriate voltage, high temperature, water ingress, mechanical damage, dropping, severe oxidation or corrosion of the product, etc.;
5. Accidents or damages caused by reasons other than the product's design, technology, manufacturing, and quality issues.

Within the scope of national laws and regulations, the right to interpret and modify this commitment belongs to EKKO Material Handling Equipment, Inc.

5.3 Spare Parts

This guide showcases some of the spare parts. If you have any questions, please contact our customer service.

Name	Material Code	Warranty Period	Remarks
Brush Disk Motor	T0001.50	one year	
Vacuum Motor	T0001.50	one year	
Control Panel	T0005.50	one year	
Large Wheels	T0006.S	one year	
Swivel Wheels	T0007.50	one year	
Squeegee	T0008.S		Consumables
Brush Disk	T0009.50		Consumables
Rubber Strips (1 pair)	T0008.S.1		Consumables
Needle Disk	T0009.50.1		Consumables
Cleaning Pads	T0009.S.2		Consumables