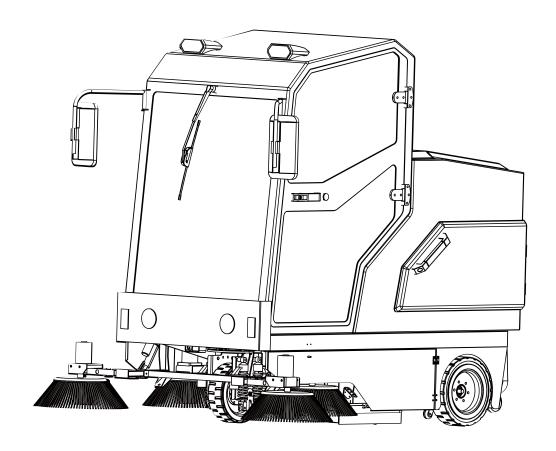
# CG-SP 190/80

Floor Sweeper

# **Operation Instructions**





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### **Precautions**

This manual provides necessary machine operation and maintenance instructions.

Before operating or using this machine, please read this manual carefully, and then operate the machine carefully.

Perform regular maintenance on the machine according to the maintenance instructions provided in the operator's manual.

Use original or equivalent grade parts for repairs.

Do not use flammable liquids; do not operate the machine near or in a place where flammable liquids, gases or combustible dusts are present.

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

Do not pick up flammable materials or reactive metals.

The battery releases hydrogen gas, so keep it away from sparks or open fire sources. The battery compartment must be kept open when charging.

WARNING: ELECTRIC SHOCK HAZARD. Please disconnect the battery wiring before servicing the machine.

WARNING: Rotating brush operates. Keep your hands away. Please turn off the power before servicing the machine.

### For environment protection

Please discard packaging materials, old machine components such as batteries, and toxic liquids such as anti-freeze and oil while maintaining environmental safety in accordance with your local waste disposal regulations.



Please do a good job in recycling.

## Warning!

Before using the sweeper, please read carefully, and become familiar with the contents in the manual.

If it is used for other purposes beyond the instructions in this manual, our company will not be responsible for any losses or liability caused thereby.

When the sweeper is operating, avoid getting caught in long fiber substances such as ropes, corrosive chemicals, high-temperature debris, etc.

Otherwise, the brushes may be damaged or cause other safety accidents.

This sweeper is suitable for working in dirty areas such as hard floors with various kinds of dirt.

Any form of modification may affect its performance, lifespan, and even safety, and may violate regulations. Damage caused by modification does not fall within the scope of the "Three Guarantees".

When the sweeper is powered on, do not insert or bring any part of the body into the rotating parts to avoid harm to the body caused by the rotation of the machine.

The machine must be parked on flat ground and avoid parking on a slope, otherwise it may cause other safety accidents.

The power supply to the sweeper must be disconnected before opening the machine cover, installing accessories, or performing maintenance or inspection.

When the machine is shut down, the main brush and side brushes should all be raised, which can extend the service life of consumable parts and enable the machine to be maintained.

Do not flush the machine directly with a water gun or high-pressure water gun.

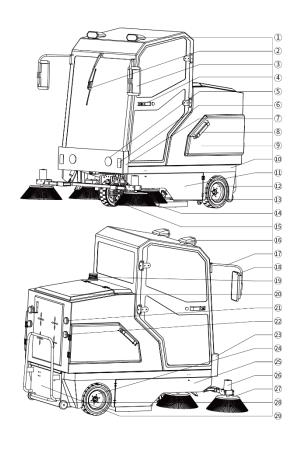
It is strictly prohibited to use this machine in dust workshops and flammable and explosive places.

The temperature required for storage and operation of this machine must be  $0^{\circ}C$  to  $+40^{\circ}C$  (32°F to 104°F).

# **Chapter 1 Technical parameters**

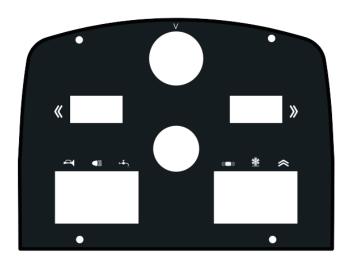
Category	Parameter
Cleaning width (mm)	1900
Rolling brush width (mm)	690
Side brush width (mm)	520*4
Continuous running time (h)	2.5-3
Theoretical cleaning efficiency (m²/h)	19500
Battery capacity (V/Ah)	48/100
Suction motor power (W)	360
Rolling brush motor power (W)	1000
Side brush motor power (W)	90*4
Driving motor power(W)	1200
Debris hopper capacity (L)	180L
Water tank capacity (L)	Basic model 80/rinse model 180
Total weight (kg)	780
Product size (mm)	2200*1900*1950

# **Chapter 2 Overall machine structure**



NO.	Name	NO.	Name
1	Ceiling headlight	16	Ceiling headlight
2	Wipers	17)	Rear view mirror bracket
3	Rear view mirror	18	Rear view mirror
4	Ride-on door handle	19	Warning light
(5)	Bumper headlight	20	Upper cover of back case
6	Bumper turning signal	21)	Turning signal
7	Bumper	22	Brake light
8	Access door handle	23	Bumper
9	Access door	24)	Rear wheel
10	Chassis assembly	25	Side door
11)	Side door	26	Front side brush motor
12	Rear wheel	27)	Front side brush
(13)	Rear side brush	28	Trash can rear wheel
(14)	Front side brush	29	Trash can
(15)	Front wheel		

### **Chapter 3 Control system**



### Power key switch

When the key is turned to the ON position, the power is connected, and when the key is turned to the OFF position, the power is disconnected.

### The cleaning button is divided into three gears:

The front gear: the main brush motor, side brush motor, suction motor, and push rod motor are started with one click, and the main brush and side brushes will be automatically lowered. Cleaning operations can be performed.

Intermediate gear (debug gear): the main brush motor, side brush motor, and suction motor stop rotating, the main brush and side brushes will not be raised, and the height of the main brush and side brushes can be adjusted.

Reset gear: the push rod motor starts; the main brush and side brushes will be raised.

### **Battery display**

The power display device can display the current battery voltage. When the voltage is lower than 44V, the voice broadcast would be like this: Insufficient battery, please charge in time.

### Horn switch

The horn button is a reset button. If you press it once, the horn will sound once.

### **Headlight button**

The headlight button is a self-locking button. If you press it once, the headlight will be on; if you press it again, the headlight will be off.

### Spray button

The spray button is a self-locking button. If you press it once, the spray will open; if you press it again, the spray will close.

### The forward + backward buttons are divided into three levels.

Forward gear: step on the accelerator pedal, and the sweeper will move forward.

Intermediate gear (pause gear): the sweeper does not work.

Reverse gear: step on the accelerator pedal, and the sweeper will go backward.

### **Backward switch**

When the machine requires human assist during going backward, the switch should be moved to the reversing state.

### **Dust vibration button**

The dust vibration button is a self-locking button. When the sweeper operation is completed, press the cleaning button to the reset position and press it once to turn on the dust vibration motor; press it again and the dust vibration motor will turn off.

### Turning left signal button.

This signal is a self-locking one. When the sweeper turns left, press it once and the signal will be on. When the sweeper completes its left turning, press it again and the signal will be off.

### Turning right signal button

This signal is a self-locking one. When the sweeper turns right, press it once and the signal will be on. When the sweeper completes its right turning,

press it again and the signal will be off.

 $\triangle$  warning

1. After completing the operation, the main brush + side brushes should be raised to prevent brush deformation and wear.

2. After the operation is completed, the cleaning button should be pressed to the reset gear, and the dust vibration button should be pressed to shake down the dust on the filter element. And the trash in the trash can should be cleaned up.

3.Do not park the sweeper on a slope.

4.All function keys of the machine should be reset after completing the operation.

## **Chapter 4 Inspection before operation**

 $\textbf{Step1.} \ \textbf{Check whether the appearance is clean}.$ 

Note: It is strictly prohibited to use this machine in flammable and explosive environments.

Step2. Check whether the battery wiring is in good contact to prevent short circuit faults.

**Step3.**Use the key switch to turn on the machine and check whether the battery is sufficient.

If the battery is too low, please do not continue to use it. Instead, you should turn off the power immediately and charge the battery. Make sure the battery is fully charged before use.

Step4. Check whether there is water in the water tank and whether the nozzle is blocked.

Step5. Check the tightness of the chain.

Check whether the chain (under the chair) is losing every three months. If the chain is sagging or loose, please do not use the machine. Immediately use a wrench to raise the thimble bolt under the driving axle until the chain is tight and does not sag.

## **Chapter 5 Machine operation**

After the inspection is completed, the machine can be used to work.

**Step1**.Lock the lock of the trash can.

Step2. Check the water level in the water tank.

If the water is insufficient, add some water before starting the operation, and close the water tank cover.

Step3. Depending on the dryness of the ground.

the spray button can be opened to perform dust reduction operations.

Step4. Sit in the driving position and adjust to appropriate operating position.

 $\label{thm:continuous} \textbf{Step5}. \textbf{Turn on the key switch to put the machine in a powered state}.$ 

 $\textbf{Step6}. \\ \textbf{Turn on the cleaning switch to put the machine in working condition}.$ 

press the accelerator pedal and sweep the floor while moving forward.

Step7. After the job is completed, place the machine and charger in a well-ventilated area.

turn off the key switch and charge the machine.

It is recommended that when using this sweeper, it is best to clean at a speed of 8km/h.

♠ warning

When the whole machine is working, the main brush, side brushes, suction motor, and push rod are started with one click. The main brush and side brushes will be automatically lowered so that cleaning operations can be performed. If you find that the ground can not be cleaned thoroughly, please check the suction motor whether the fuse is broken.

# **Chapter 6 During machine operation**

**Step1.**When operating on a slope or slippery ground.

please operate at a low speed

Step2. When the machine is working.

do not stay still to avoid damaging the ground and machine brushes.

**Step3.**If the machine cannot perform appropriate spraying obviously.

you should take out the filter for cleaning, and check whether there are impurities in the water tank.

**Step4.**If there are, please clean the impurities.

**Step5.** During use, please observe the power display meter.

When the voltage is as low as 42V, the machine will stop cleaning and the drive motor can move. At this time, the machine must be charged. (Please predict this situation in advance)

### **⚠** warning

When the battery voltage is as low as 42V for a long time, it will cause damage to the battery. If it cannot be charged in time, the positive electrode will lose activity, thus affecting the service life of the battery.

#### . Advice

It is recommended that the rated running time of the machine should not exceed 2 hours. After working continuously for 2 hours (please predict in advance), the machine must be stopped for 15-20 minutes, thereby extending the service life of the battery, motor, and other electrical accessories.

# **Chapter 7 After the machine operation**

# 7.1 Cleaning the filter element.

After the cleaning work is completed, the dust on the filter element needs to be cleaned: lock the trash can, press the dust vibration button, and repeat 3-5 times for a cycle of 30 seconds.

# 7.2 Battery charging

Step1. Place the charger and machine in a well-ventilated area.

Step2. Turn off the power of the machine.

Step3. Plug the output plug of the charger into the machine first, and then plug it into the mains plug.

**Step4.**The charger will automatically start charging. If the battery is fully charged, it will automatically cut off the power to protect the battery and charger.

**Step5.** After charging, first unplug the mains plug, and finally unplug the machine.

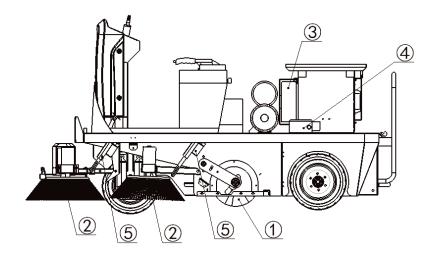
/ warning

When charging this machine, you must use the original charger.

# **Chapter 8 Cleaning system**

The cleaning system consists of main brush, side brush, suction motor, push rod motor and spray system. (shown in Figure 8.1)

## 8.1 Schematic diagram



# 8.2 Operation method

The main brush and side brush of this sweeper adopt a motor automatic lifting control system. When sweeping the floor, the push rod motor will automatically be lowered, and the main brush, side brush, and suction motor will start working at the same time.

# 8.3 Inspection and maintenance

Problem		Reason	Solution	
	Too much noise while the main brush	Loose rocker arm fixing screws	Tighten the rocker arm fixing screws	
1	rotates	Loose focker ann fixing screws	righten the rocker arm fixing screws	
- Harris de brock -		The side brush fixing screws are in the wrong	Adjust the side brush fixing screws to make it	
2	Uneven side brushes	position	flush	

## 8.4 Maintenance methods

When the sweeper is stopped and not in use, the main brush and side brushes should be lifted to avoid deforming of the bristles and affecting further cleaning.

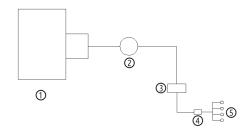
When sweeping the floor, metal entanglements on the bristles should be removed in time, reducing the load on the main brush motor, avoiding damage to the ground, and improving the overall work efficiency.

Avoid cleaning lime, cement, and other easily solid and flammable objects.

# **Chapter 9 Waterway system**

The waterway system is composed of a water tank, filter, water pump, one-way valve, and nozzle. (As shown in Figure 9.1)

# 9.1 Schematic diagram



- 1 Water tank: Mainly used to hold tap water.
- 2) Filter: Filter impurities in the waterway system to avoid clogging the nozzles.
- 3 Water pump: Provide power to the waterway system to prompt the nozzles to spray.
- 4) One-way valve: Close the waterway to prevent the nozzles from dripping downwards.
- ⑤ Nozzle: Make water spray out in mist form.

# 9.2 Operation mode

**Step1.**Turn on the key switch and put the whole machine in the powered-on state.

Step2. Press the spray button and the water pump starts to work, and the water sprayed from the nozzle will become mist-like.

Step3. Turn off the spray button and the water pump stop working. Turn off the spray.

Step4. When the water pump stops working, the one-way valve should be closed in time to prevent the nozzle from dripping.

# 9.3 Inspection and maintenance

Problem	Reason	Solution	
	Filter clogged	Clean the filter	
Nozzle does not spray water	Nozzle clogged	Clean impurities inside the nozzle	
	Damaged connector	Replace the connector	
Nozzle leaking	Water leakage at the interface	Rewind the raw material tape	
	Bent water tube	Adjust the bent water tube	
The spray effect is not good	Nozzle clogged	Clean impurities inside the nozzle	

# Chapter 10 Routine maintenance and replacement of wearing parts.

# 10.1 Regular inspection

	Intervals				
Regular maintenance and inspection	4	50	100	200	500
Check the battery power (observe the power display meter on the control panel)					
Check the motor carbon brush (comprehensive ground, carbon brush service life is 2000h)					
Check whether the main brush is wrapped with wires, silk, etc.					
Check all function keys and buttons on the control panel					
Check the wear degree of the brush (The brush is worn to 70% and needs to be replaced)					
Check the filter for impurities					
Check the nozzle joint for leaks					
Check whether the chain is loose					
Check whether the battery cable is loose					

# 10.2 Main brush replacement and installation

 $\label{thm:continuous} \textbf{Step1.} \textbf{Make sure the machine is in a stationary state.}$ 

**Step2.**Open the right-side panel of the machine, use an open-end wrench to remove the main brush's rocker arm, sealing plate and dirt retainer bracket fixing nuts.

**Step3.**Pull out the worn main brush, replace it with a new one. Install the sealing plate nuts first, then the dirt retainer bracket nuts, and finally the rocker arm nuts.

**Step4.**Move the cleaning button to the front position: main brush, side brushes, the suction motor and the push rod motor can be started with one click; the main brush and side brushes will automatically drop. Observe whether the rotation of the main brush is normal. If it is not, it can be adjusted through the bolts on the rocker arm until it does not jitter. If it is normal, close the right-side panel and start cleaning.

# 10.3 Side brush replacement and installation

 $\begin{tabular}{ll} \textbf{Step1.} Make sure the machine is in a stationary state. \\ \end{tabular}$ 

**Step2.**Use an internal hexagonal wrench to loosen the bolts of the side brushes, and press the side brush down by hand, and the side brush can be removed.

**Step3.** Push up the flange keyway of the new side brush, buckle it on the side brush motor, tighten the screw, and keep your hands away from the side brush without falling off.

### 10.4 Disassembly and installation of the trash can

**Step1.**Ensure that the machine is in a stationary state.

Step2.Loosen the lock of the trash can, pull out the trash can, and dump the garbage.

**Step3.** After the garbage is poured out, the mouth of the trash can should aim at the correct position of the sweeper, push it forward slowly, push it to the bottom, and then press the buckle downward to return the trash can to its original position.



The trash can is inserted into the slot, and the sealing strip on the trash can should fit tightly with the machine. If it does not fit properly, please loosen the lock, and insert it again.

### 10.5 Battery maintenance

The sweeper produced by our company is powered by four 12V lead-acid maintenance-free batteries in series, and the total system voltage is 48V.

When the machine has been operating for a period, the battery power drops. When the battery indicator shows the last bar, it needs to be charged in time.

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

Check whether the battery connection wire is worn and whether the contacts are loose and replace it if necessary.

The battery terminals should be kept clean and dry, and there should be no debris or venue soil covering them, which is extremely detrimental to the battery. In severe cases, the ash may burn the battery.

### **⚠** Note

Correct charging method for lead-acid batteries: plug in the battery plug first, then plug in the mains plug; after it is fully charged, disconnect the mains plug first, then the battery plug. To ensure that the battery has a long service life, it should be charged in time after the machine operation is completed. Deep discharge is strictly prohibited. If the machine is not used for a long time, please fully charge the battery, disconnect the positive terminal of the battery, and store it.

### ⚠ Warnings

During the use of the battery, deep discharge will cause the battery capacity to decrease, thereby shortening the service life.

# 10.6 Cleaning of the water valve filter element

Unscrew the cap on the filter, pull out the filter screen inside, and clean it with clean water.

# **Chapter 11 Common problems and solutions**

Problem	Analysis		Solution	
	Blown fuse  Whether the battery has voltage output		Replace the fuse	
The whole machine is powered off			Charge the battery  Replace the battery (if the machine is not used for a long time, please charge it once a month)	
	The driving motor	The chain falls off	Install the chain	
	can operate	Transmission gear failure	Replace the transmission	
The machine cannot move smoothly	The walking	Walking motor failure	Replace the walking motor	
move smoothly	motor cannot	Walking controller failure	Replace the walking controller	
	operate	Accelerator pedal failure	Replace the accelerator pedal	
Main brush not	Blown fuse		Replace the fuse	
Main brush not	Main brush belt dan	naged	Replace the main brush belt	
working	Main brush motor d	amaged	Replace the main brush motor	
Cida harrah a akarra dii a a	Blown fuse		Replace the fuse	
Side brush not working	Side brush motor da	imaged	Replace the side brush motor	
Brush cannot be lifted	Blown push rod fuse	2	Replace the fuse	
	Relay burned out		Replace the relay	
or lowered	Push rod motor failu	ıre	Replace the push rod motor	
	Barrier wear		Replace the skin barrier	
The machine cannot clean thoroughly	Draught fan failure	Draught fan motor does not work	Replace the motor	
			Slow down	
Leaves or large	The brushes are too high		Adjust the brush height	
garbage particles	Brush bristles are deformed or entangled with wire		Remove the rope or wire	
cannot be swept away	The machine works	too fast	Reduce its working speed	
Dust and fine dust	Filter element clogged		Clean/replace the filter element	
cannot be swept away	Damaged skin barrier		Check the skin barrier and replace it if damaged	
Garbage moves forward	Damaged front skin	barrier	Replace the front skin barrier	
Brushes wear out too	The brush is pressed	d too hard	Adjust the brush height	
quickly	The floor is very rou	gh	Replace the main brush	
Garbage leaking from trash can	Damaged sealing strip		Replace the sealing strip	
The best of the second be	Battery failure		Replacement the battery	
The battery cannot be	Charger failure		Replace the charger	
charged	Loose battery terminals		Check and tighten the terminals	
The battery running	Not enough charging time		Increase the charging time	
time is too short.				
The machine cannot	Battery failure		Replace the battery	
clean thoroughly				
<u> </u>	<u> </u>			

Warranty Card				
Name	-	Tell		
Postal address	1	Bill No.		
Purchase time	1	Number		
Product model	1	Date		
Replace accessories				
Fault description				