



PUDU CC1 USER MANUAL

1. Usage instructions	2
2. Safety instructions	2
2.1 Instructions for Use.....	2
2.2 Environmental Instructions	3
2.3 Instructions for Electricity	5
3. Product components.....	6
3.1 Packing List.....	6
3.2 Appearance and Components.....	6
3.3 Specifications.....	8
4. Product Usage	9
4.1 Power On, Power Off, Pause, Start.....	9
4.2 Handle Usage	11
4.3 Working Modes.....	13
4.3.1 Manual Cleaning.....	13
4.3.2 Automatic Cleaning	14
4.3.3 Scheduled Task Setting	16
4.4 Cleaning Modes.....	17
4.4.1 Scrubbing Mode.....	18
4.4.2 Sweeping Mode.....	20
4.5 Robot Water Replacement.....	23
4.5.1 Manual Water Filling and Draining.....	23
4.5.2 Automatic Water Filling and Draining	25
4.6 Robot Charging	26
4.6.1 Manual Charging.....	27
4.6.2 Automatic Charging	27
4.6.3 Charging interface.....	28
4.7 Robot Status Check.....	28
4.8 Settings.....	29
5. Product Maintenance & Troubleshooting.....	30
5.1 Daily Maintenance	30
5.2 Consumable Replacement.....	32
5.3 Troubleshooting	33

NVC Robotics USA

1. Usage instructions



The PUDU CC1 is an automatic cleaning robot that combines floor washing, sweeping, vacuuming, and dust pushing functions. It is suitable for public places such as office buildings, residential buildings, and commercial areas. It can clean various types of floors, including terrazzo, marble, floor tiles, epoxy resin, sandstone, artificial stone, and short pile hard carpets.

2. Safety instructions

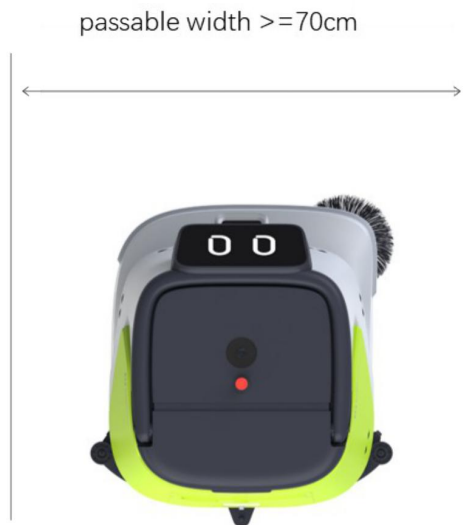
2.1 Instructions for Use

- This auto-cleaning wheeled robot can only be used indoors on flat surfaces. Do not use it outdoors (e.g., on an open balcony) or on any rugged ground (e.g., stairs).
- Do not use the robot at a temperature above 40°C or below 0°C .
- If the robot accidentally enters into any incorrect position due to blocking and some other reasons, please suspend the task
- promptly and push the robot to the correct route before continuing the task.
- Do not pull the robot while it is working. If you need to push or move the robot, tap on the screen to stop it from moving first.
- Do not push the robot backward when the power is on.
- Do not block the robot sensor. Otherwise, the robot may fail to move properly or get lost.
- Do not pat the device or press or tap hard on the screen, or damages may be caused.
- Do not use the robot to carry goods. Do not put open-flame stoves or any flammable solid, gas, or liquid on the tray.

- Do not adjust the settings while the robot is moving. Always tap on the screen to pause the robot before proceeding with any operations.
- Do not clean or maintain the robot when the power is on.
- Cables on the ground should be put away in advance to prevent the robot from dragging them.
- A maximum speed of 1.2 m/s is recommended for safe operation.
- Although the robot features automatic obstacle avoidance, there may be blind spots. Therefore, blocking the robot abruptly from moving at high speeds may cause accidents.
- When transporting the robot, please make sure that the water in the clean water tank and sewage tank is emptied. It is strictly forbidden to tip the machine during transportation, otherwise, the body may be damaged.

2.2 Environmental Instructions

- Do not use or charge the robot in a high temperature/pressure environment, areas with fire or explosion hazard, or other dangerous scenarios to avoid personal injury or robot damage.
- Do not use the robot in a humid environment or on surfaces covered with fluid or gooey stuff to avoid damage to the robot.
- Do not dispose of the robot or its accessories as household waste. Always dispose of the robot and its accessories according to local laws and regulations, and recycle wherever possible.
- This robot is designed for use on flat surfaces and is not suitable for use in environments with steps or large slopes or that are too compact.
- It is not recommended to use the robot on heavily greasy ground.
- Put away any wire or other objects on the ground to prevent the robot from being tripped or entangled.
- When using this product on the ground with obvious protrusions (such as thresholds and floor receptacles), make sure that the height of the protrusions is no more than 8 mm (for cleaning) or 20 mm (for passing through and not for cleaning).
- The minimal travel width is 70 cm. A width greater than 75 cm is preferred for the robot to move smoothly through a long passage



- The maximum possible slope is 8° for the robot (non-cleaning state). To prevent any risks caused by backward slips, the robot should not be paused when moving uphill



- The robot only supports cleaning on flat surfaces (in cleaning state), please do not use the robot for cleaning on slopes visible to the naked eye (greater than 3°).



- It is necessary to add fences or other barriers at the edge of a staircase, the entrance to a downslope, or other places where the robot is at risk of falling.
- If there are pure black surfaces (such as baseboards), mirrored surfaces (such as walls), or fully transparent surroundings with a height between 14-22cm, it is possible that they may interfere with the lidar reflection of the robot, causing abnormal movement. In this case, it is advisable to seek technical support to evaluate the situation. It may be necessary to make certain modifications to the environment to allow for lidar reflection, such as using reflective stickers or materials.

2.3 Instructions for Electricity

- For initial use, please make sure to fully charge the robot's battery to 100% before using it.
- Do not charge your robot using non-original chargers. If the charger is damaged, replace it immediately.
- To maximize the efficiency and battery life of the robot, always keep the battery level above 10%.
- A battery level lower than 10% means that the robot will soon run out of power and needs to be charged as quickly as possible.
- A battery level lower than 2% means that the battery is under protection. In this case, the robot will be unable to perform tasks and must be charged before it can be used again.
- If the machine is not used for a long time, please turn the power key switch to the "off" position.

3. Product components

3.1 Packing List

Robot x 1, Charger x 1, Power Key x 2, Side Brush x 1, Squeegee x 1, Mopping Sweeper x 1, Scrubbing Brush x 2, Sweeping Brush x 2, Water Filling Pipe x 1, User Operation Guide x 1, Certificate of Conformity x 1, Positioning Marker x 1.

3.2 Appearance and Components



Rear Cleaning Parts:



Floor cleaning components
(Hard surface floor)



Squeegee

Dust mop and vacuum cleaner combo
(Hard surface floor)



Mopping sweeper

Vacuum cleaner components
(Short-pile carpet)



vacuum cleaner nozzle
(Optional equipment)

3.3 Specifications

2.4 Specifications

Feature	Description	
Model	CCB01	
Operating voltage	DC 23 V ~ 29.2 V	
Power input	AC 100 V ~ 240 V, 50/60 Hz	
Power output	29.2 V, 15 A	
Battery capacity	50 Ah	
Charging time	< 3 h	
Run-time	Scrubbing: 5h ; Sweeping+Vacuuming+Mopping: 5h	
	Carpet vacuuming:5h ; Silent mopping: 9h	
Cleaning capabilities	Sweeping, (carpet) vacuuming, dust mopping, scrubbing	
Robot weight	75 kg	165.35 pounds
Screen size	10.1-inch LCD screen	
Robot dimensions	630 mm × 626 mm × 667 mm	24.80 x 24.64 x 26.26 inches
Enclosure material	PC+ABS	
Navigation method	Integrated lidar and visual SLAM positioning	
Cruise speed	0.2 m/s ~ 1.2 m/s	
Working noise	< 70 dB	
Max. climbing angle	8°	
Min. Path Clearance	70cm	27.56 inches
Max. surmountable height	20 mm	0.79 inch
Max. surmountable gap	35 mm	1.3 inches
Cleaning width (with side brush)	500 mm	19.68 inches
Cleaning efficiency	700-1000 m ² /h	7535-10764 ft ² /h
Dustbin capacity	2.5 L	
Water tank capacity	Clean water tank: 15 L	
	Dirty water tank: 15 L	
Operation system	Android	
Communication	4G, Lora, WIFI, Bluetooth supported	
Mobile App	Supported	
Operation mode	Manual/Auto	
Auto charging & Auto adding / draining water	Supported (in conjunction with workstation)	
Optional function	workstation	
Working environment	Temperature: 1 °C to 40 °C ; RH: ≤ 85%	
Working altitude	< 2000 m	
Application scope	Terrazzo, marble, tiles, epoxy resin, sandstone, artificial stone, short-pile carpets, etc.	
IP rating	IPX4	

(* The endurance time for each cleaning mode is calculated under low gear.
And the battery capacity drops from 100% to 10%, which will trigger the CC1 low battery automatic return.)

4. Product Usage

4.1 Power On, Power Off, Pause, Start

Power On:

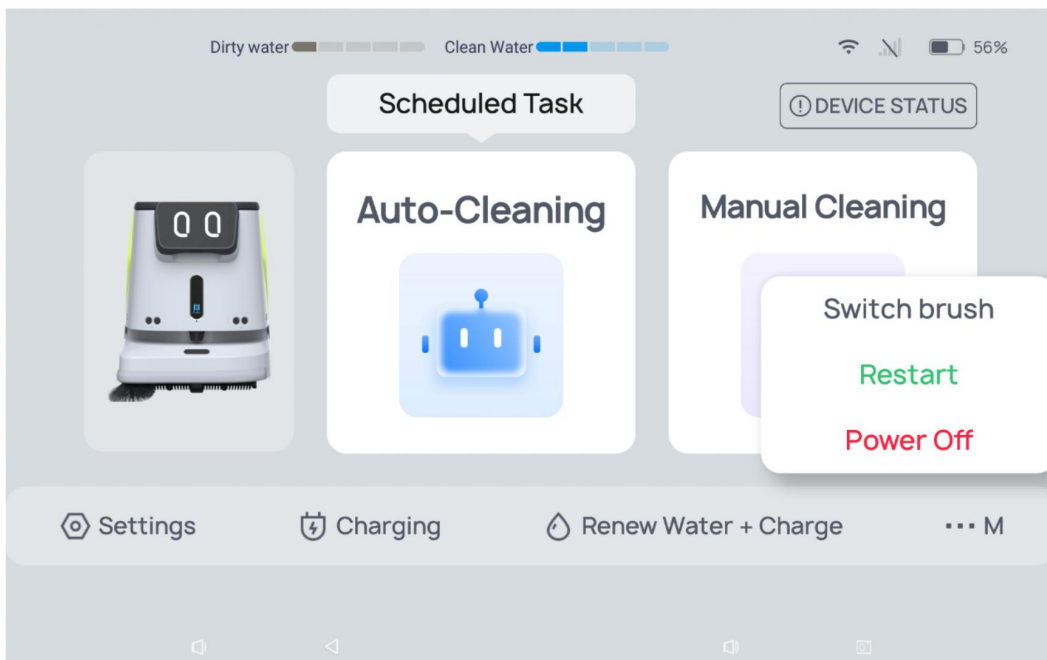
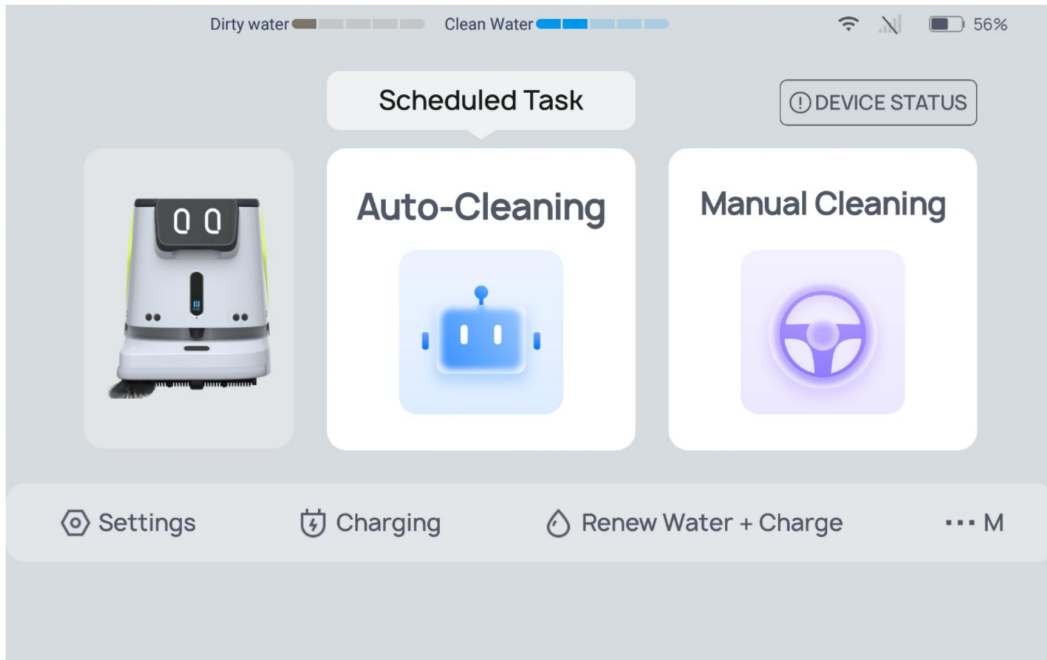
Make sure the key switch is turned on. Press and hold the power button for about 0.5 seconds until the bottom LED strip displays blue.



Power Off:

Press and hold the power button for about 6 seconds to initiate the power off operation. The screen will go black to indicate a successful power off.

On the main page, click on "More" and select "Power Off or Restart Robot" to shut down the device.



Pause

During the automatic cleaning process of the robot, touch the screen and click on the pause button to pause the robot's operation.



Start

If you want to resume the operation, click on the start button on the screen. The robot will continue with its task when clicked.



4.2 Handle Usage

The robot handle is integrated with the screen and can be in two states: raised or lowered. When you need to push the robot or interact with the screen, raise the handle. When the robot is idle or performing automatic tasks, lower the handle.



The handle is in the raised position.

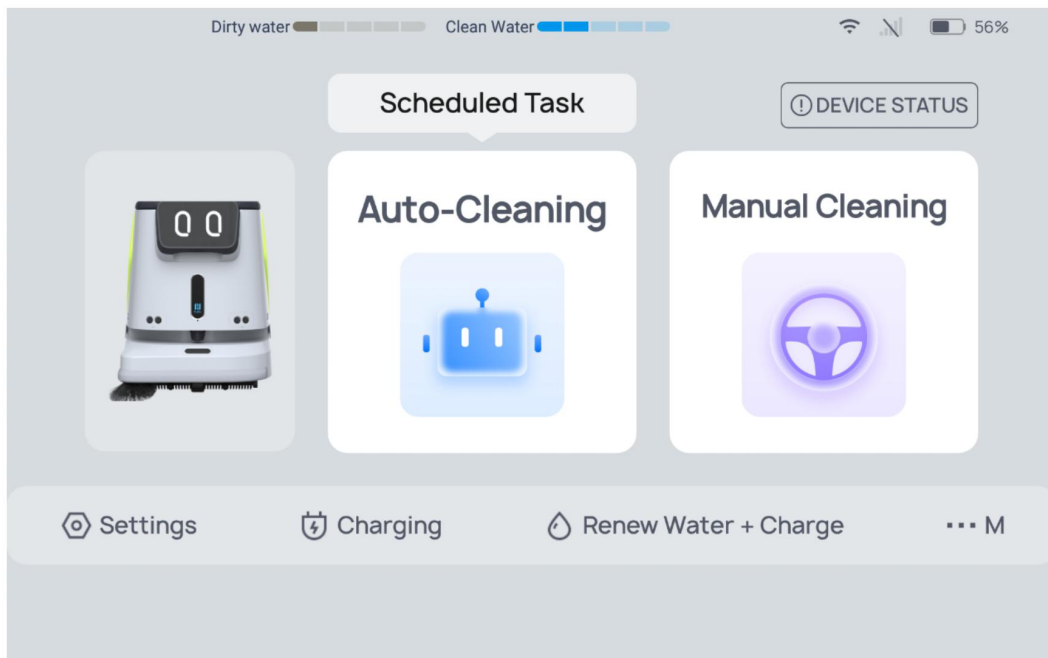


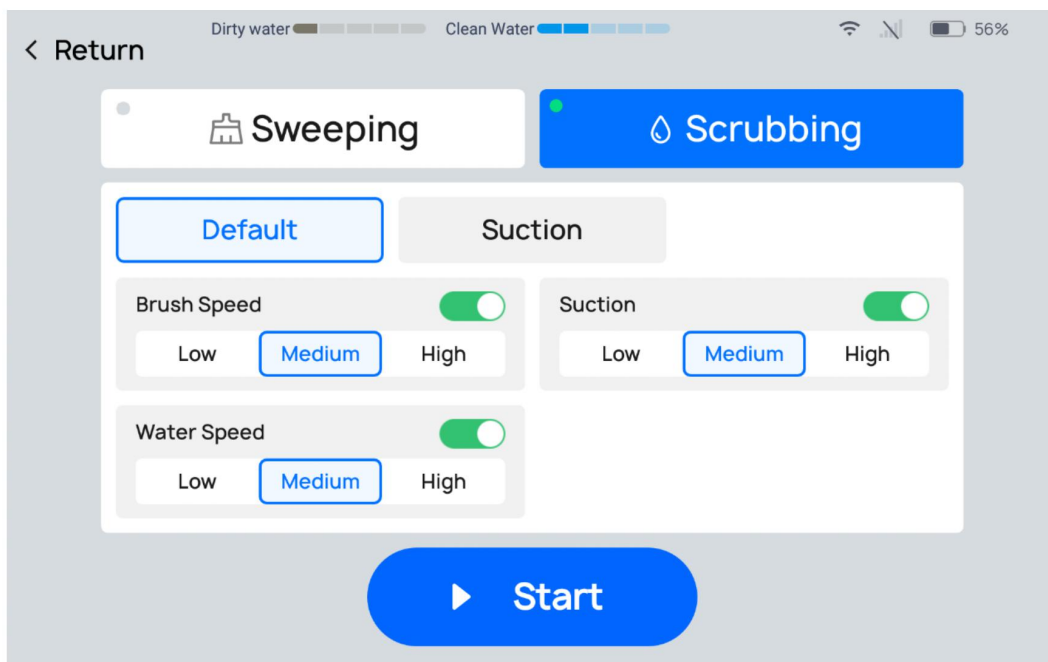
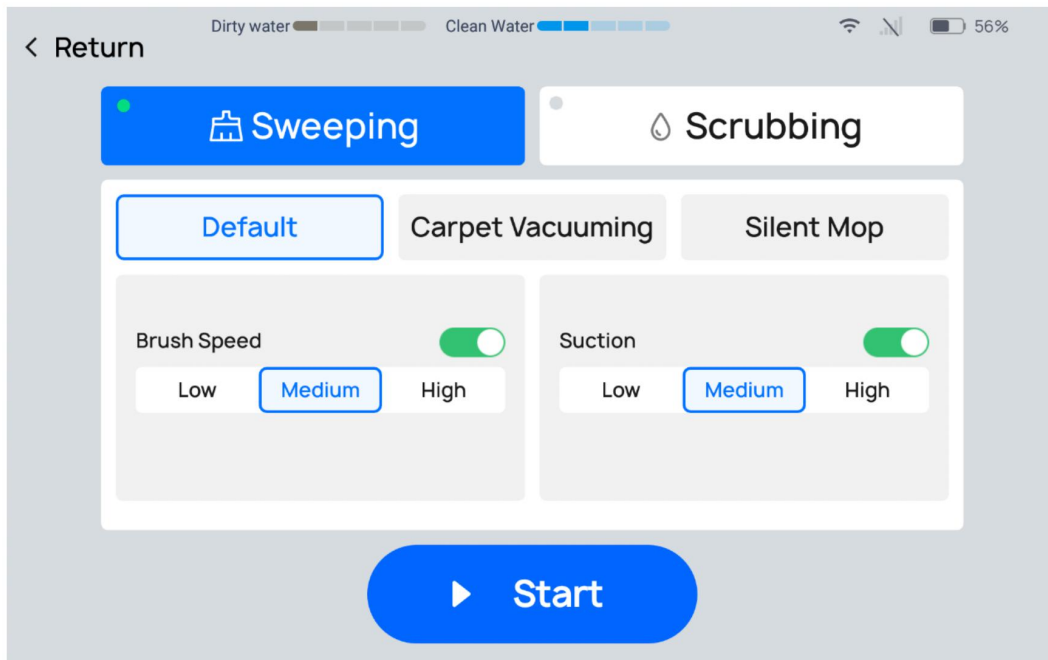
The handle is in the lowered position.

4.3 Working Modes

4.3.1 Manual Cleaning

On the home page, click on "Manual Cleaning", then select the cleaning mode (mopping or sweeping). After clicking on "Start", you can push the robot to perform the cleaning task (Note: when performing manual cleaning, remember to raise the handle and push the robot for cleaning).



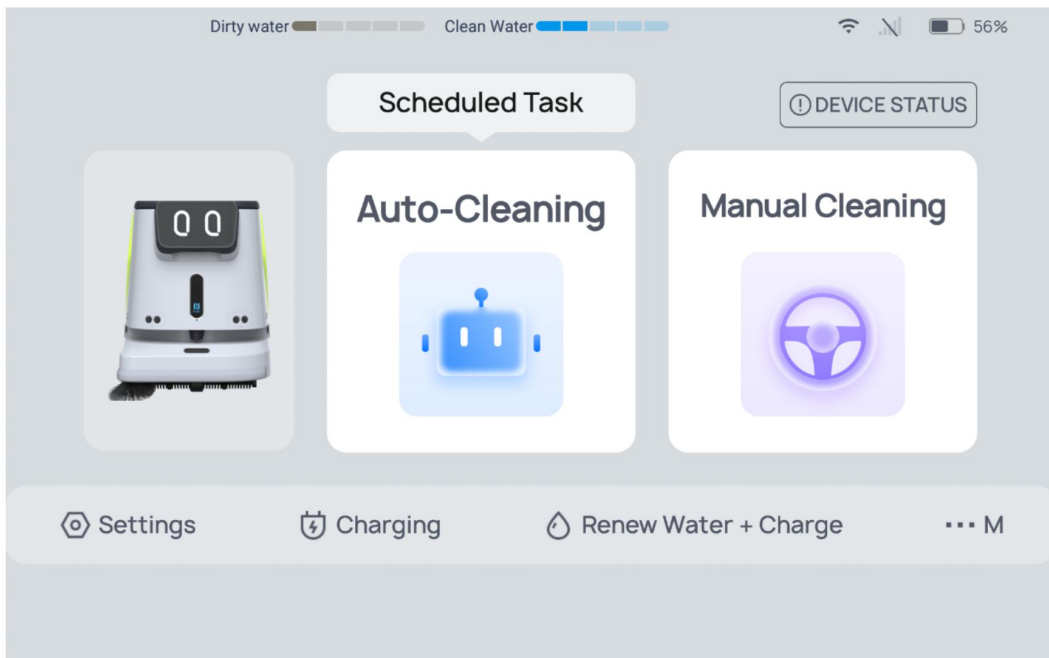


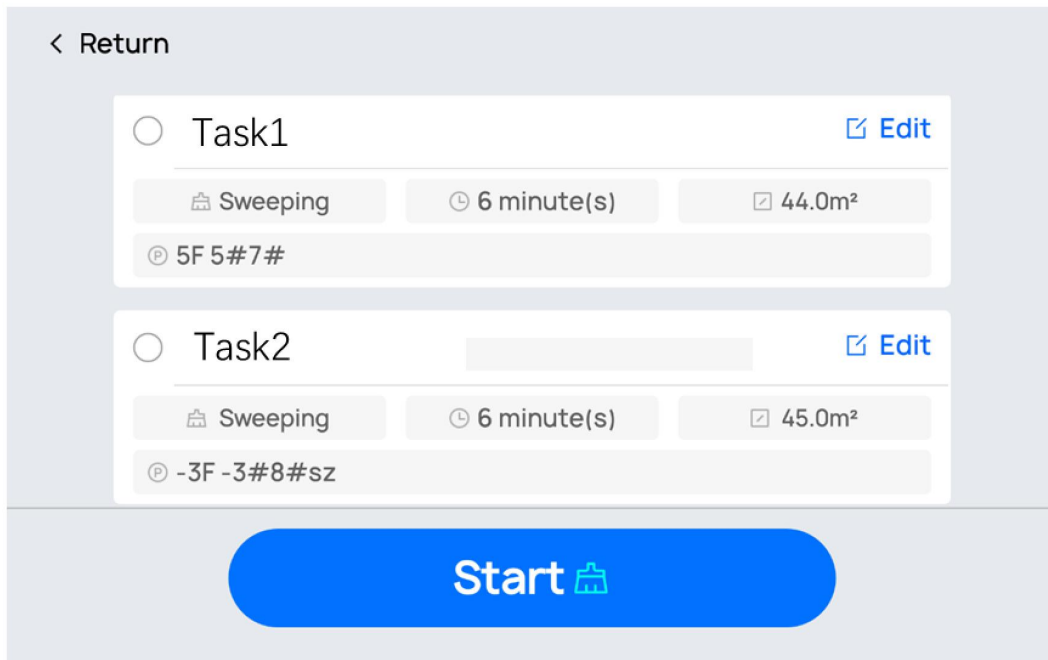
4.3.2 Automatic Cleaning

Before starting an automatic cleaning task, please ensure that the robot is powered on and positioned directly below or in front of the visual marker code (depending on the placement of the marker code). This will ensure that the robot can successfully locate itself at the starting point.



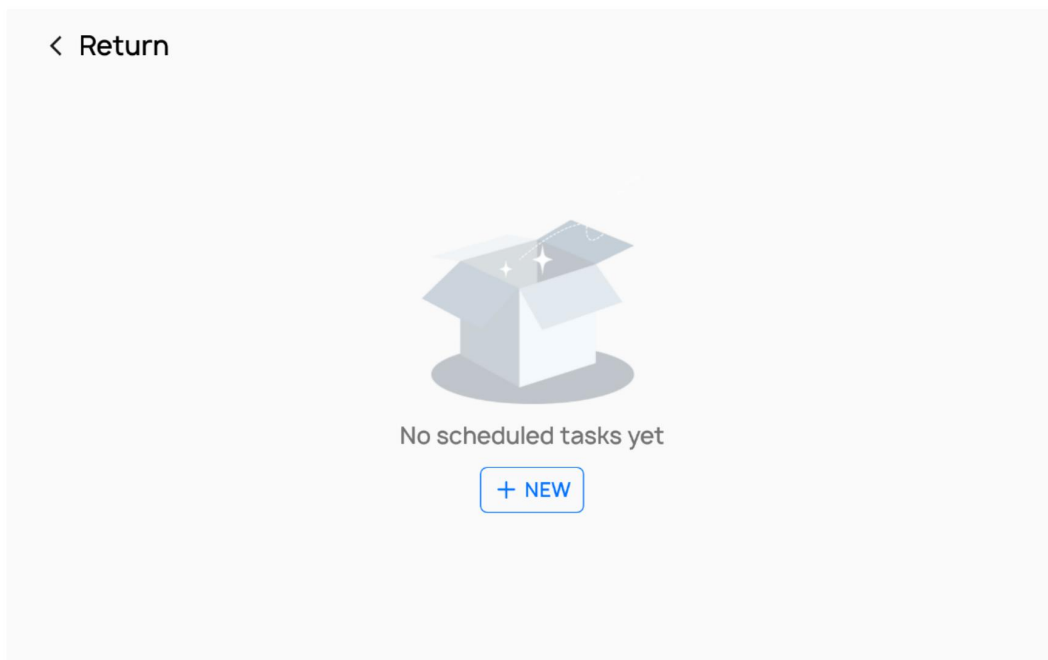
After clicking on "Auto-Cleaning" on the home page, select the desired cleaning task (previously set by the delivery personnel). If no selection is made, the default task will be executed. Click on "Start " to start the task. The robot will begin executing the selected task. (Please note that, in automatic cleaning mode, it is necessary to put down the handle of the screen. Failure to do so may prevent the task from starting properly.)





4.3.3 Scheduled Task Setting

The robot supports scheduled task setting. After setting up a scheduled task, the robot will automatically execute the task at the designated time, provided that it is properly positioned, has sufficient battery power, and an adequate water level.



< Cancel

Please set the time

Daily > Time >

Please select a task (0/1)

5F 5#10#2. 工作站0 1:50

Task1

Sweeping 6 minute(s) 44.0m²

5F 5#7#

Task2

Save

< Cancel

Time ×

01	01
02	02
03	03
04	04
05	05

Confirm

Save

4.4 Cleaning Modes

The robot has two main cleaning modes: 1. Scrubbing Mode 2. Sweeping Mode

4.4.1 Scrubbing Mode

When selecting the "Mopping" cleaning mode for the robot's cleaning task, make sure that the appropriate mopping components have been installed. Specifically:

- 1) Confirm that the side brush is removed.



- 2) Confirm that the squeegee has been installed.

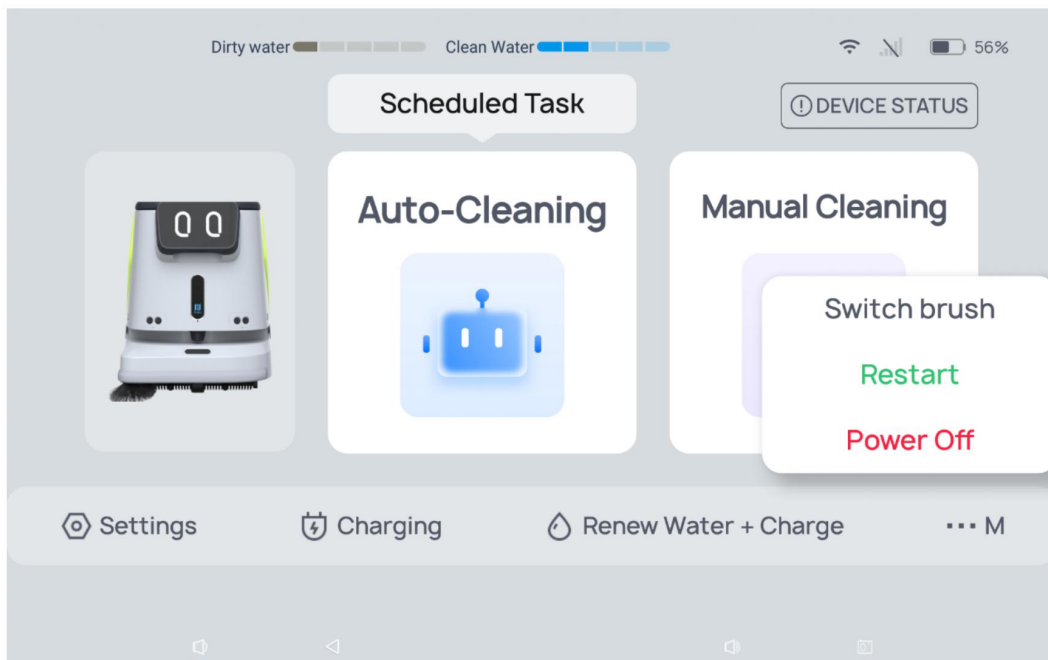


- 3) Confirm that the filter box inside the dirty water tank has been installed, not the dust box.



4) In the scrubbing mode, please install the scrubbing brush.

- Click on "More" on the home page.
- Select "Switch Brush" and the brush compartment will automatically lower to a specific height.
- Place the scrubbing brush flat on the ground and push it into the brush compartment.
- Secure it from the side.
- Click on "Installation Complete" and the brush compartment will automatically lift up.





Floor scrubbing brush,
High-density bristles

When the robot detects that the clean water tank is sufficient and the dirty water tank is not full, it can start the floor cleaning task normally.

4.4.2 Sweeping Mode

When selecting the "Sweeping" cleaning mode for the robot's work task, the robot enters the dry cleaning mode and has the following three cleaning methods:

- 1."Sweeping+Vacuuming+Mopping" working mode (default mode), suitable for hard floors.
- 2.Silent dust Mopping, suitable for hard floors.(Sweeping+Mopping)
- 3.Carpet vacuuming, suitable for short-haired carpets.

Before cleaning, please ensure that the robot has the appropriate cleaning components replaced

1. Cleaning hard floors:

- 1) Confirm that the side brush is installed.



2) Confirm that the sweeping brush is installed.



Sweeping brush,
Low-density bristles

3) Confirm that the dust bin in the dirty water tank is installed.



4) Confirm that the mopping-vacuuming part is installed.



2. Vacuuming short-haired hard carpets

- 1) It is recommended to remove the side brush.
- 2) Install the sweeping brush.



Sweeping brush,
Low-density bristles

- 3) Install the carpet vacuuming part
(Note: The carpet vacuuming part is an optional part.)



4.5 Robot Water Replacement

4.5.1 Manual Water Filling and Draining

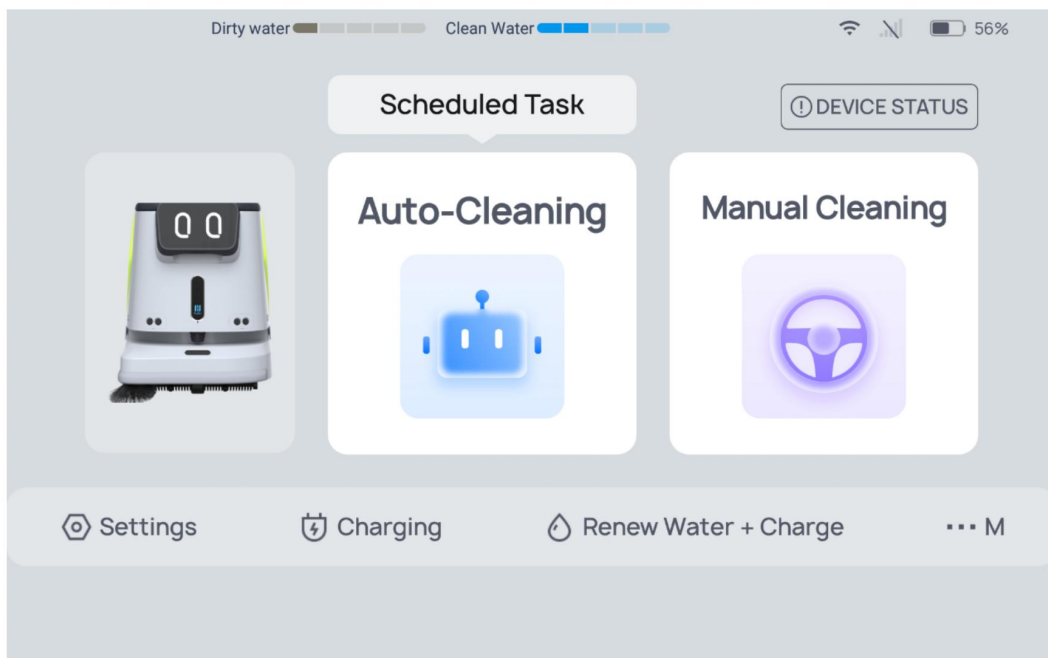
Manual Water Filling:

After connecting the water hose to the water source, insert it into the water inlet to start filling the water. The robot's display will show the current water level in the clean water tank. Stop filling the water when the water level reaches 95% or above.

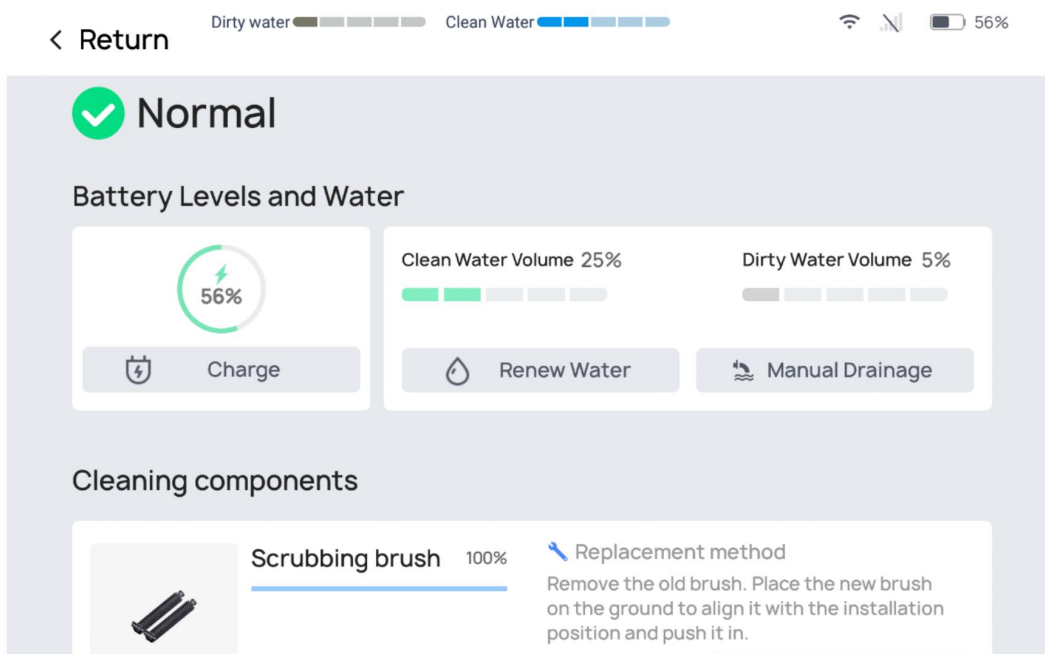


Manual Draining

On the main page, click on the top right corner "DEVICE STATUS" to access the device status viewing page.



On the device status page, you can view the clean water level, dirty water level, and consumables status. Click on "Manual Drainage" to enter the clean dirty water tank page.



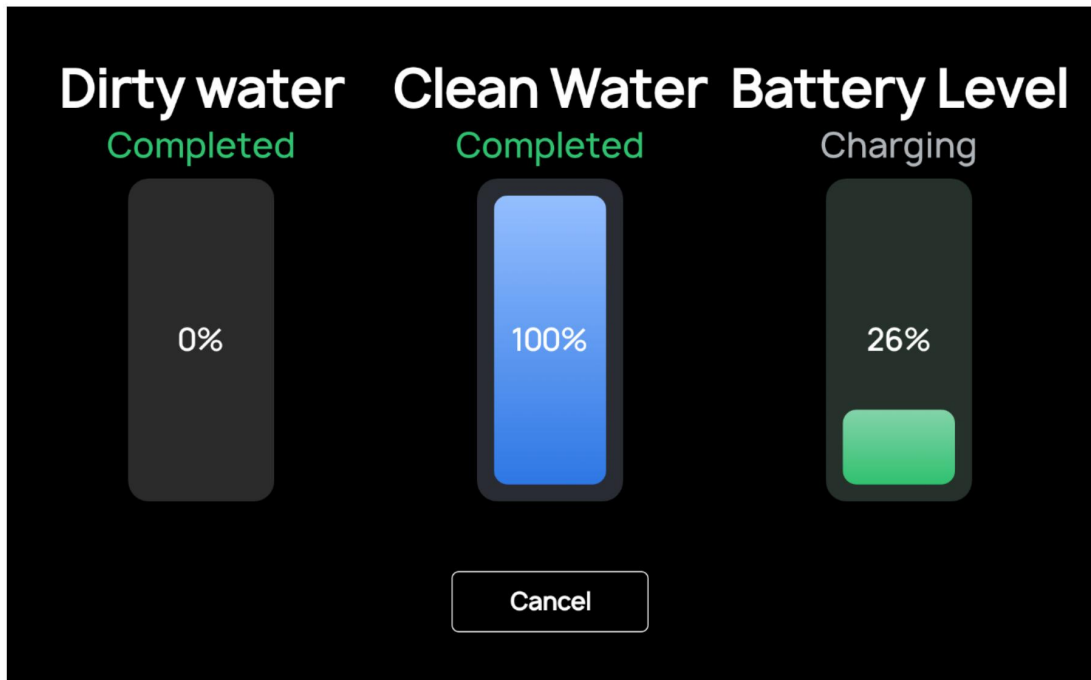
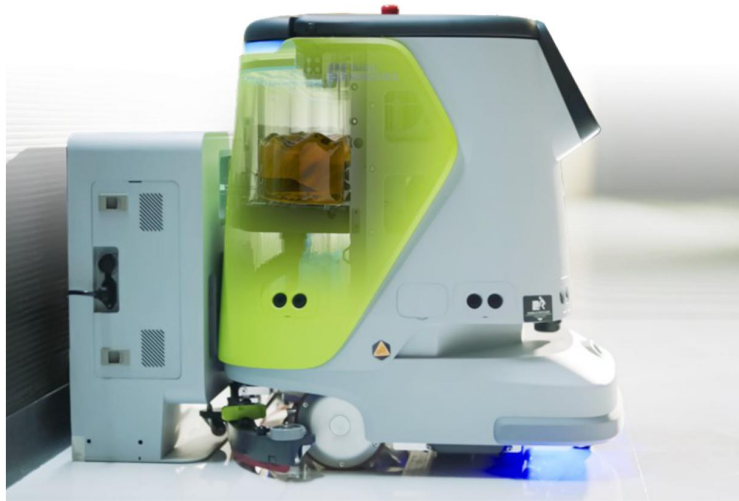
Pull out the dirty water pipe and place the end in a drainable area (such as a floor drain) for drainage. In the manual draining section, click on "Manual Drainage" to open the dirty water valve. The dirty water in the dirty water tank will flow through the dirty water pipe and drain into the floor drain.



4.5.2 Automatic Water Filling and Draining

The robot supports automatic water filling and draining functions, which require optional installation of a workstation and deployment according to the workstation's instructions. After deployment, the robot can achieve fully automated water filling and draining, as well

as automatic charging throughout the process.



4.6 Robot Charging

The CC1 robot supports both manual charging and automatic charging methods:

4.6.1 Manual Charging

To manually charge the robot, connect the charging cable to the robot's charging port. Ensure a secure connection between the charging port and the cable. If the connection is successful, the robot will indicate that it is charging.

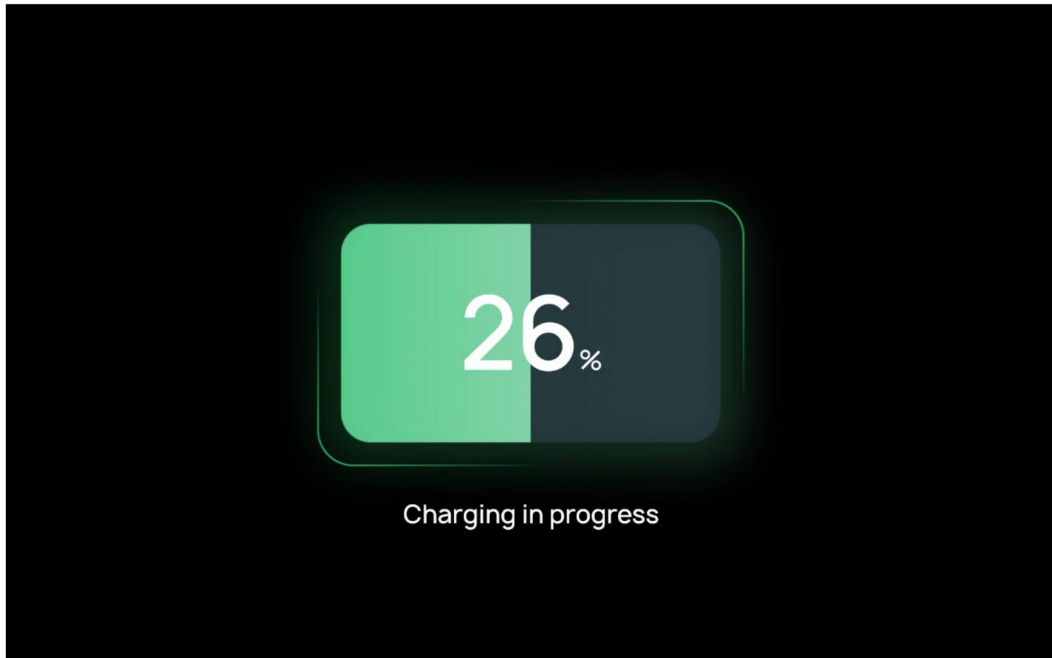


4.6.2 Automatic Charging

The robot supports automatic charging function, which requires optional installation of a docking station or a charging station, and deployment according to the instructions of the selected equipment. After deployment, the robot can achieve full-process automatic recharging by docking with the charging station.



4.6.3 Charging interface

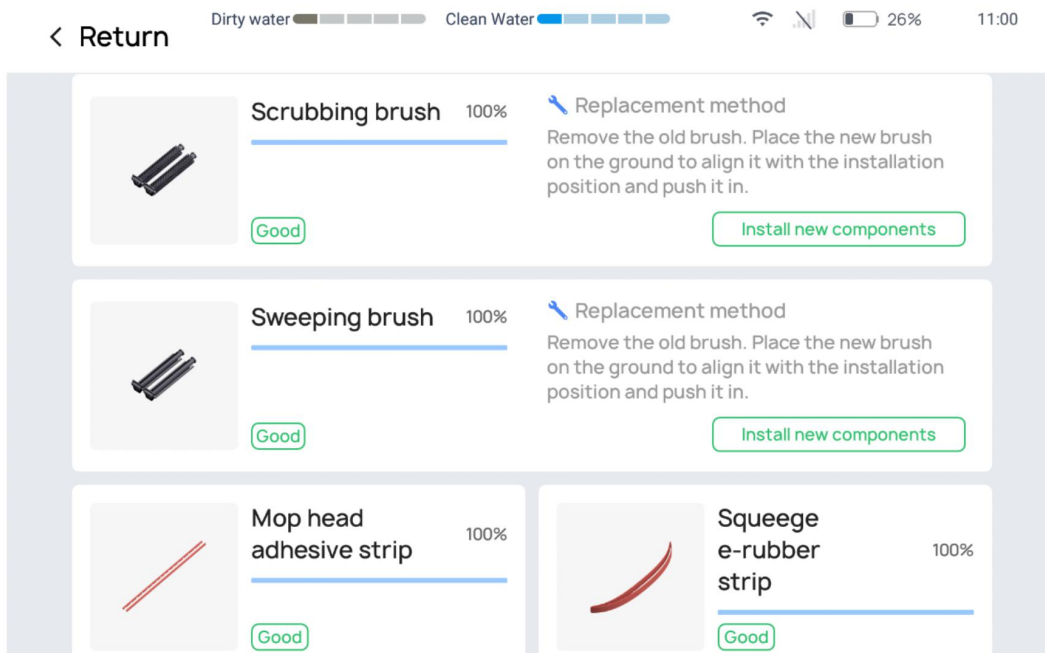


4.7 Robot Status Check

Click on the "DEVICE STATUS" on the homepage to access the device status page.

On this page, you can check the robot's battery level, clean water level, dirty water level, and the remaining usage time of corresponding consumables.

[Consumables Details Page](#)



4.8 Settings

The available settings options include the following:

Settings Options	Description
Task management	Add, modify, and delete cleaning tasks
Cleaning report	View the robot's past cleaning report records
Network	Network settings and connectivity options
Maps	Create new maps, edit and modify existing maps
Language	Select the language corresponding to the country
Software upgrade	Check for the availability of the latest software upgrades
Speed	Set the speed for different cleaning modes, with a default speed of 0.5m/s
Screen lock protection	Enable or disable screen lock, modify screen lock password and screen lock time
Debug	Adjust internal parameters of the robot, accessible only to technical support personnel.
Voice	Please note that any unauthorized modifications or operations that lead to accidents are not the responsibility of our company.

5. Product Maintenance & Troubleshooting

5.1 Daily Maintenance

1. Clean the sensor and the bottom of the body

the sensor is equivalent to the robot's eyes. If it is obscured by dust, the cleaning process will be affected.

- **Cleaning method:** wipe with a soft and clean cloth
- **Period:** regular 3-5 weeks



Sensor Position Indication

2. Clean up dust box, water filter box, garbage box, air filter sponge

the accumulation of garbage and dust will cause bacteria and affect the cleaning effect.

- **Cleaning method:**
garbage box: Use a brush to clean up garbage
water filter box: it can be washed with water
dust box: clean the dust and pat it gently. Do not flush it. Keep it dry.
Air filter sponge: Pat it gently at ordinary times. Replace it directly if it is too dirty. It is not recommended to wash it with water.
- **Period:** clean up every 2 days or once or more on the same day according to the degree of dirt secondary cleanup



garbage box



air filter sponge



water filter box



dust box

3. Clean up the Sweeping brush and Scrubbing Brush

During the working process, the side brush and roller brush will be wrapped with hair and fine fabric, etc. If it is not cleaned for a long time, the cleaning effect will be affected, and even the service life of the motor will be affected.

- **Cleaning method:** use a brush to clean the sweeping brush and scrubbing brush and clean up the winding objects
* when the brushing height is lower than the red brushing height, the roller brush needs to be replaced.
- **Period:** clean up every 2 days or once on the same day according to the degree of dirt or multiple cleanup



multiple cleanup



sweeping roller brush

4. Clean or replace the dust mop and clean the water absorption rake

too dirty mop will affect the cleaning effect of mop. Dirty mop will affect the floor washing effect

- **Cleaning method:**

dust mop: unscrew the knob, remove the dust mop for cleaning or directly change dust mop

water-absorbing rake: wash with water and Rag

- **Period:**

dust mop: change and clean once a week
water-absorbing rake: clean it every 2 days or once on the same day according to the dirty degree or multiple cleanup



dust mop



water-absorbing rake

5. Clean up the sewage tank

dirt accumulated in the sewage tank for a long time will produce bad smell and easily lead the drain valve is blocked

- **Cleaning method:**

after opening the drain valve (drain switch) to drain the sewage water pipe flushing with brush to wash the sewage tank

- **Period:** clean it on the same day or the next day



sewage discharge



cleaning sewage tank

6. Clean the drain assembly of the roller brush plate (drain hole)

long-term accumulation of sludge and dirt on the rolling brush plate will affect the draining effect floor cleaning effect

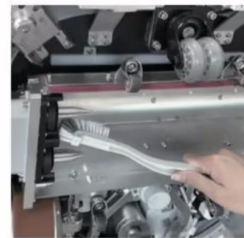
- **Cleaning method:**

robot after draining clean water and sewage to make it fall backward, use a steel brush to clean the small hole of the rolling brush plate, and use a brush to roll brush the plate for cleaning, and wipe it dry with a towel after cleaning

- **Period:** clean once every 2-3 weeks



roller brush disc hole



roller brush disk

7. Clean up the sewage suction pipe

the blockage of the suction pipe will cause the robot to have no suction and the washing mode cannot be correct. The suction pipe is usually blocked by the combination of wool and dust ash.

- **Cleaning method:**

rinse the dirt by adding water to the sewage outlet of the sewage tank. Clean the sewage pipe and wipe it dry with a towel after cleaning.

- **Period:** Cleaning once a week



Suction pipe



Flushing with water at the outlet

5.2 Consumable Replacement

Side Brush: The side brush is a consumable part. If you notice that the bristles are worn out and unable to function properly, it should be considered for replacement.

Dual Brushes: Check the bristles of the brushes. If the remaining height of the bristles reaches a specific indicator height (as shown in the diagram below), they should be replaced.



Scrubbing Squeegee Rubber Strips: The rubber strips on the scrubbing squeegee (front and rear) are consumable parts. In high-usage scenarios, it is recommended to replace them every month. In medium-usage scenarios, it is recommended to replace them every two months. In low-usage scenarios, it is recommended to replace them every three months.

Dust Mopping Rubber Strips: The rubber strips on the dust mopping pad (front and back) are consumable and vulnerable parts. In high-usage scenarios, it is recommended to replace them every month. In medium-usage scenarios, it is recommended to replace them every two months. In low-usage scenarios, it is recommended to replace them every three months.

Dust Mopping Cloth: The dust mopping cloth is a consumable and vulnerable part. It should be cleaned during daily use, depending on the actual dust conditions of the floor.

Dust Box : The dust box is a consumable. If you find that the dust box has been used for a long time and it affects the suction effect even after cleaning, it should be replaced. The specific replacement time depends on the actual dust conditions of the floor.

Water Filter Box: The dust box filter is a consumable. If you find that the dust box has been used for a long time and it affects the suction effect even after cleaning, it should be replaced. The specific replacement time depends on the actual dust conditions of the floor.

(The replacement time for the above consumables can be determined by referring to the "Consumables" status page on the robot status page.)

5.3 Troubleshooting

1) Unable to power on:

- a. Make sure the key switch is in the ON position.
- b. Check if the robot has low battery power. Connect the robot to the power adapter for charging.
- c. If the power adapter cannot charge the robot, it may be due to the battery being completely drained (left unused for more than 30 days). In this case, remove the battery and use a direct charging cable to charge it.

2) Unable to sweep up garbage:

- a. Check if the dust box is full. If it is, remove the dust box, clean it, and then continue with the operation.
- b. Check if the bristles of the brush are worn out. If they are, replace the brush component.

3) Unable to suck up a large amount of dirty water from the floor:

- a. Confirm if the dirty water cover is properly installed.
- b. Remove the mopping pad and check if the suction pipe has suction power and if the dirty water pipe is blocked. If it is blocked, clear the blockage before using.
- c. Check if the rubber strips on the mopping pad are worn out. If they are, replace the rubber strips.

4) Unable to drain dirty water:

Confirm if the dirty water pipe is blocked. If it is, clear the blockage, clean the dirty water tank, and then proceed with draining.