

FAQ

1. How to use CC1's "Sweeping, Scrubbing, Carpet Vacuuming, and Silent Mopping" function?

- CC1's standard sweeping mode consists of three components: a side brush, sweeping brushes, and a mopping-vacuuming part. The mopping-vacuuming part is equipped with a dust vacuuming cavity and a mopping-vacuuming part mop.
In this mode, CC1 performs sweeping, dust vacuuming, and dust mopping simultaneously to ensure a thorough cleaning process.
- For the standard scrubbing mode, CC1 utilizes scrubbing brushes and a squeegee. During scrubbing operation, water is distributed onto the scrubbing brushes, which then moistens and cleans the floor surface. The dirt is subsequently vacuumed into the recovery tank by the squeegee.
Thus, the standard scrubbing mode effectively combines scrubbing and dirt vacuuming in a single operation.
- To further optimize CC1's performance on carpets, a specialized carpet vacuum cleaner nozzle has been developed.
In the carpet vacuuming mode, you have the option to enable or disable the sweeping brushes. When the sweeping brushes are disabled, the device operates in vacuum only mode.
In the carpet vacuuming mode, the carpet vacuuming component efficiently vacuums dust and deposits it into the dust box of the recovery tank.

2. Under what circumstances does CC1 automatically activate its auto function to return to the Docking Station (Workstation) to recharge, refill fresh water, and drain waste water?

- CC1 has certain triggers that prompt it to activate its automatic functions. Specifically, if CC1's battery level drops below 10%, if the fresh water level falls below 5%, or if the recovery tank becomes full, it will automatically start the process of refilling fresh water or draining the wastewater. Additionally, CC1 will estimate the amount of power required to finish its current tasks and recharge itself until it reaches the estimated power level.

3. Can CC1 work automatically without any manual intervention, allowing for a fully automated operation?

- This can be accomplished by using CC1 together with a Docking Station (Workstation) and setting up scheduled tasks for CC1.

4. How often should CC1 be maintained and have its components replaced? What are the recommended maintenance frequencies for different parts?

- It is recommended to inspect the cleaning robot approximately every 2 days to ensure proper functioning. The brushes, dust box, water filter box, scrubbing squeegee rubber strips, Mopping-vacuuming Part Mop, side brush, and filter cartridge should be replaced roughly every 3 months. However, the actual replacement frequency may vary depending on the specific cleaning conditions and how frequently the robot is used. You can refer to the consumables replacement frequency table for more specific guidelines.

5. How often is the cleaning report uploaded?

- The cleaning report is uploaded immediately after the completion of the cleaning task. If there is no Internet connection available, the report will be uploaded during the next software startup. It is planned to optimise the logic in the new version.

6. Regarding the cleaning report: How is the cleaning area determined? And could you explain the process of calculating electricity and water consumption?

- In the cleaning report, the cleaning area is determined by multiplying the width of the cleaning path by the duration of cleaning. This calculation takes into account a standard width of 500 mm for the cleaning robot. However, any time spent transitioning or pausing during the cleaning process is not included in the calculation.
- For electricity consumption, it is measured as a battery level percentage difference. This means that the change in electricity usage before and after cleaning is calculated and recorded. Water consumption is measured by using a flow meter, which keeps track of the amount of water used during the cleaning process.
- It's important to note that the cleaning report may be divided into different sections, and the data from each section is added up to provide a comprehensive overview of the cleaning activities.

7. How can I enable the assist mode?

- To activate the assist mode, follow these simple steps:
 1. On the home screen, tap on the "More" button.
 2. Look for the assist mode switch.
 3. Tap on the switch to turn on the assist mode.

8. If the start time of task 2 is reached while task 1 is running, will the machine execute task 2?

- No, it won't. At that point, task 2 will be considered null and will not be executed.

9. How is the cleaning time calculated?

- The cleaning time is simply calculated by measuring how long it takes to clean the designated cleaning area and path. However, any time spent pausing during the cleaning process is not counted in the calculation.

10. How is the robot's starting position for a task determined?

- Zigzag cleaning path (referred to as "Arc" in the software interface): The endpoint of the longer side of the outer path of the cleaning area are chosen in a way that maximizes cleaning efficiency.
- Spiral path (referred to as "Loop" in the software interface): The end point of the outermost path is used as the starting position.

11. How does CC1 handle extricate itself from a difficult situation, and what is its maximum reverse distance?

- When CC1 enters a narrow space or encounters an obstacle that blocks its path, it activates a mechanism to extricate itself from a difficult situation. The robot then explores by moving to the left or right, or by reversing until it finds a wider space. Once the robot reaches the wider space, it continues with its task. It is important to note that CC1 has sensors at the back to detect obstacles and avoid them. The maximum distance the robot can reverse continuously is 30 cm.

12. When is task re-planning triggered?

- Task re-planning is triggered when CC1's path to the target area is completely blocked by obstacles, and the robot is unable to proceed forward even after attempting to extricate itself from the difficult situation. In this situation, the robot will automatically generate a new path to navigate to a different cleaning task area. The default time limit for being stuck is set to 30 seconds.

13. How does the robot resume cleaning from where it left off due to interruption?

- During an Auto-Cleaning task, if the task is paused or canceled manually, or if the robot automatically returns to its return location, Docking Station (Workstation) or Charging Station (Charging piles) if deployed, due to low battery or low water level, the robot will record the position where the task was interrupted. In the next cleaning operation, the robot will navigate to the recorded position and resume cleaning from there.

14. How much water does CC1 use per hour or per square meter?

- If we consider a minimum cleaning efficiency of 700 square meters per hour, the amount of water used per square meter is estimated to be around 10 mL. So, for every hour of cleaning, the robot will use approximately 3000 mL for low water speed cleaning, 4800 mL for medium water speed cleaning, and 7200 mL for high water speed cleaning settings.

15. Why does CC1 wait to go to the Charging Station (Charging pile) until after completing the cleaning task, instead of charging when it reaches 10% battery level?

- When CC1's battery level drops to 10%, it usually triggers the robot to return to the charging station. However, if the robot is in the last stage, water collection, of the scrubbing task, it will finish water collection before returning to charge. Moreover, in situations like using elevators, passing through gates, being in traffic control zone (AGV), or during the water collection process, the robot will not start charging even if the battery level is below 10%.
- Additionally, if the estimated power consumption for the remaining cleaning tasks is less than 10%, the robot will continue working. However, if the battery level drops below 5%, the robot will be forced to return to the charging station and recharge.

16. CC1 cleaning agent

- The water supply system of CC1 has been tested for acidity and alkalinity (pH6, pH8) using a water circulation validation method.

- The corresponding pH range for the CC1 cleaning solution is pH6-8, with a recommended range of pH6.5-7.5.
- It is crucial to avoid using cleaning solutions that contain limonene, as it can react with plastic components.
- Instead, it is recommended to use a cleaning solution that is either low-foaming or non-foaming. Alternatively, you can add an anti-foaming agent to reduce foam formation.
- One recommended cleaning solution for CC1 is "Diversey".

17. When cleaning floors in medium soiled environments, what should you pay attention to?

1. Use a water filter box.
2. Remove the air filter sponge and tightly cover the lid.
3. Regularly wash the suction hose to prevent clogs.
4. Adjust the suction power to the highest level.
5. It is recommended to use mild cleaning agents that are non-acidic and non-alkaline.

18. Excessive Noise from CC1

- Main scenarios: Quiet environments like shopping malls, offices, and office buildings, etc.
- Main causes: The noise level increases due to the high suction power mode and the relatively quiet surroundings.
- Solution: To address the noise issue, it is recommended to adjust the suction and brush speed settings (primary sources of noise). Furthermore, ensure that the cleaning sequence is organized in a manner where the water collection operation during scrubbing is scheduled as the final step. Ideally, this step should take place in an unoccupied area to minimize noise impact.

19. Scrapes and scratches

- Main reasons:
 1. One of the main causes for scrapes and scratches is the existence of a blind spot in the rear right area of CC1, leading to incidents when making left or right turns.
 2. The algorithm did not include the cleaning components within the obstacle avoidance range.
- Solution: Implementing virtual walls or no-go zones in areas prone to scrapes and scratches.

20. Floor with residual water

- Main reasons:
 1. The floor surface has wide gaps.
 2. There is water left on the scrubbing squeegee rubber strips.
 3. There is water left on the inner surface of the scrubbing squeegee suction hose.

- Solution:

1. Make sure to regularly maintain the robot to prevent clogging in the suction hose, which can stop the proper vacuuming of waste water.
2. Ensure that there are no gaps in the floor in the designated water collection area. The robot will perform a back and forth motion to completely vacuum any remaining waste water from the floor in the designated water collection area.

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