Scrubber 50 Workstation［V2.1］ Deployment Manual

Update record

Document version	Update time	Updated type	Basis of software version	Basis of overall machine version	Revised content	Vevisor
EN_V1.0	24.01.08	A	M8-00-1	V4.1	New created	严玖

Change type: A = Add; M = Modify; D = Delete.

Software Version Basis: The software version used during document development. Different software versions may affect some operational procedures for device deployment.

Overall Machine Version Basis: The overall machine version used during document development. Different overall machine versions have a relatively minor impact on device deployment.

Disclaimer: This document is for reference only. If the information in the document does not match the actual situation, please consult the designated engineer for the correct operational procedures.

Catalogue

1 Workstation Installation Responsibility Statement

Installation procedure	Preparation	Hardware installation	Software deployment
Procedure notice	FAE from Gausium will collaborate with the customer to select a suitable installation location for the workstation and preliminarily determine the routing of circuit and waterway direction.	Under the guidance of Gausium FAE, the customer carries out the hardware installation of water and electrical connections.	Gausium FAE should follow the software deployment Standard Operating Procedure (SOP) to perform debugging and ensure that the workstation can successfully perform automatic charging and drainage.
Responsible party	Gausium and the customer jointly lead the process.	The customer takes the lead while Gausium assists.	Gausium takes the lead.

2 Preparation for Workstation Installation

2.1 Select installation position

Three prerequisites are required to installation environment：

2.2 Clean installation area

- Please clear any debris within the installation area of the workstation, ensuring that there are no objects stacked within a range of 50cm on the left and right sides, and 160cm in front of the workstation.
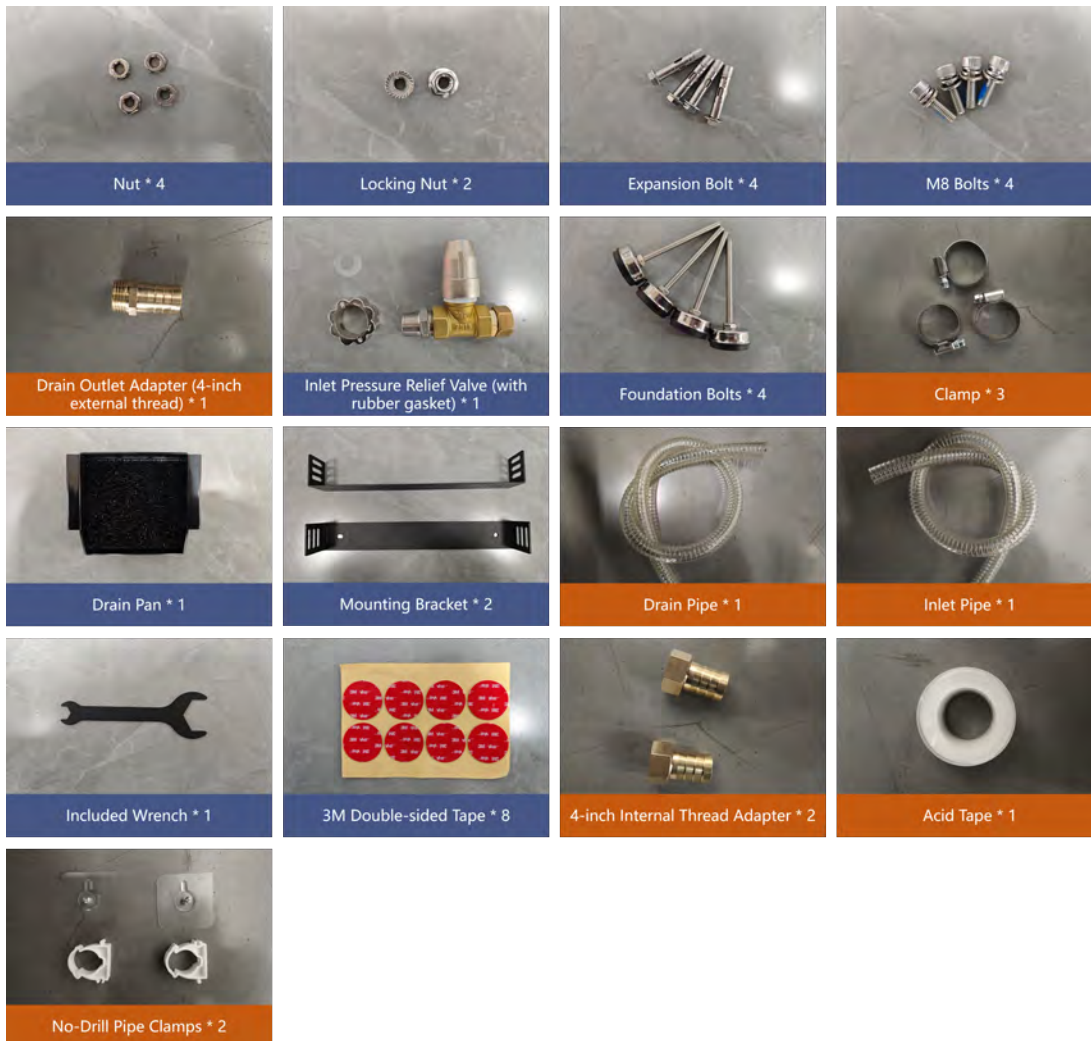- Please clean the installation area of the workstation.

3 Workstation Hardware installation

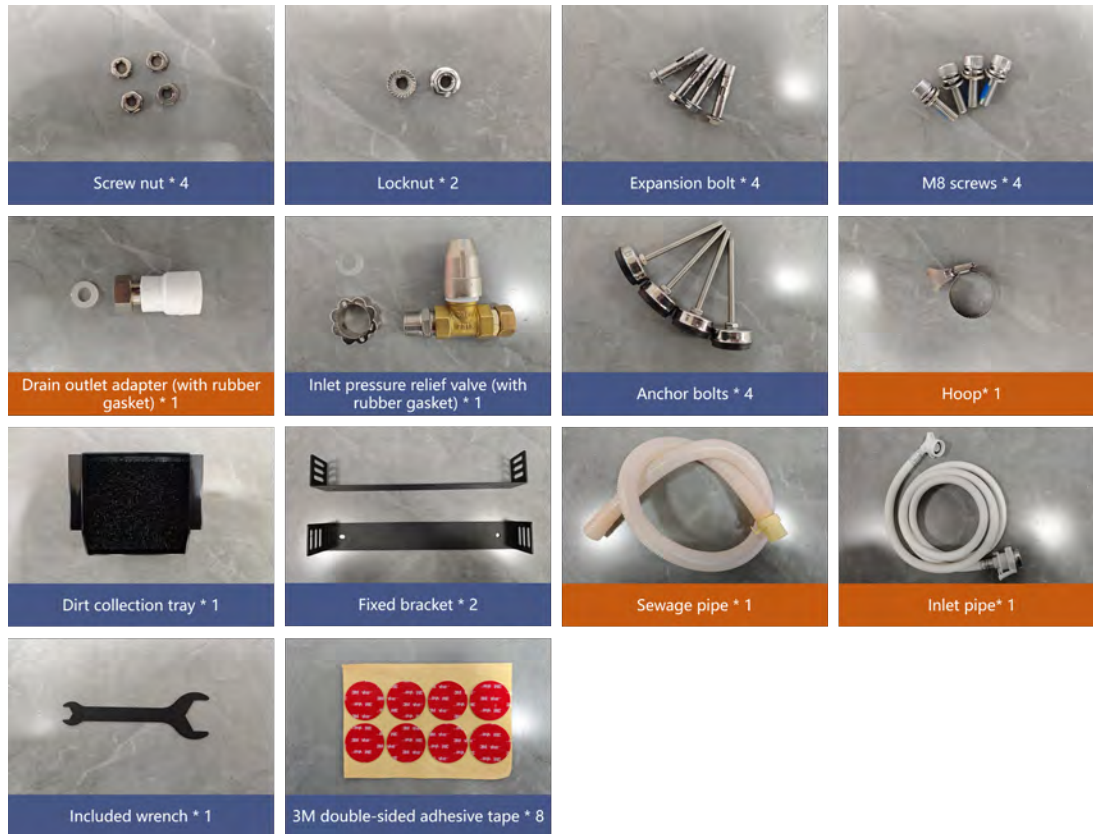## 3.1 Workstation Installation Accessory Kit Instructions

- Due to factors such as material export certification, there may be differences in the installation accessory kits between mainland China and China Hong Kong, Macau, Taiwan, and other overseas countries.

- These variances in the installation accessory kits can have an impact on the hardware installation steps of the workstation.

3.1.1 Installation Accessory Kit「Mainland China」

Nut * 4

Locking Nut * 2

Expansion Bolt * 4

M8 Bolts * 4

Drain Outlet Adapter (4-inch external thread) * 1

Inlet Pressure Relief Valve (with rubber gasket) * 1

Foundation Bolts * 4

Clamp * 3

Drain Pan * 1

Mounting Bracket * 2

Drain Pipe * 1

Inlet Pipe * 1

Included Wrench * 1

3M Double-sided Tape * 8

4-inch Internal Thread Adapter * 2

Acid Tape * 1

No-Drill Pipe Clamps * 2

3.1.2 Installation Accessory Kit「China (Hong Kong, Macau, Taiwan) and Other Overseas Countries」

Accessories different from those of main China are marked by orange；

Screw nut * 4	Locknut * 2	Expansion bolt * 4	M8 screws * 4
Drain outlet adapter (with rubber gasket) * 1	Inlet pressure relief valve (with rubber gasket) * 1	Anchor bolts * 4	Hoop* 1
Dirt collection tray * 1	Fixed bracket * 2	Sewage pipe * 1	Inlet pipe* 1
Included wrench * 1	3M double-sided adhesive tape * 8		

3.2 Hardware installation Steps

3.2.1 Adjust the height of workstation

> All countries and regions share the same installation steps which also are not affected by the contents of the accessory kit.

Adjust the four anchor bolts at the bottom of the workstation to adjust the overall height and front-to-back tilt angle of the workstation.

Use the machine to manually position the pile. When manually positioning the pile, pay attention to the height of the water injection rod and the inlet. If the height is not suitable, adjust the four anchor bolts at the bottom of the workstation again.


Confirm the compatibility of the water injection rod and the inlet: The height of the water injection rod is perfectly centered with the water inlet.
Confirm the compatibility of the electrode plate height: The height of the workstation's electrode plate matches the height of the machine's electrode plate.
If the heights are not compatible, adjust the four anchor bolts at the bottom of the workstation again.

Check the tilt angle of the workstation:
- Check procedure: Use a level detection device to measure the tilt angle of the water injection rod (most smartphones have apps for this purpose). Place the smartphone horizontally on the water injection rod of the workstation and ensure that the camera lens does not interfere with the measurement (carefully position the smartphone to avoid obstruction by the camera lens).
- Check criteria: The water supply rod should be perfectly horizontal. Slight forward tilt of 0° to 1° is acceptable, but backward tilt is not allowed.
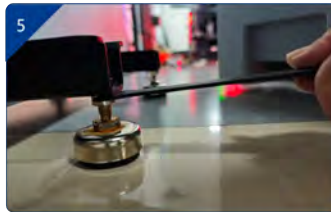
To secure the four anchor bolts at the bottom of the workstation, use the included wrench to tighten the nuts above the anchor bolts.
For a better demonstration, the nuts that need to be tightened, you can remove the transitional water tank of the workstation when taking pictures. However, it is not necessary to remove the transitional water tank.

3.2.2 Secure the workstation

All countries and regions share the same installation steps which also are not affected by the contents of the accessory kit.

As shown in the diagram, use two M8 screws to install one fixed bracket on the back of the workstation.

As shown in the diagram, screw the nuts onto the anchor bolts and assemble two pairs of anchor bolts.

As shown in the diagram, screw the assembled two pairs of anchor bolts onto the back of the workstation.

Place the workstation in the desired position, ensuring that the fixed brackets on the back of the workstation are approximately 2cm away from the wall.

Take another fixed bracket and hold it with one hand. Ensure that the height of this bracket aligns horizontally with the bracket on the workstation. Use a marker pen to mark the drilling position on the wall through the holes of the bracket.

Move the workstation aside and drill holes on the wall at the marked positions using a drill. The drilling depth should be 50mm, and the diameter of the holes should be 8mm.

As shown in the diagram, assemble the two expansion bolts with the brackets.

Align the expansion bolts with the installation holes on the wall. Once aligned, use a hammer to tap the bolts into place.


Tighten the expansion screws.

Place the workstation against the wall and adjust its position as needed. Align the brackets on the back of the workstation with the holes on the wall brackets. Use M8 screws and lock nuts to secure the brackets on both sides of the workstation.

Manually align the machine with the mounting brackets again and check the height of the water filling rod and charging electrode plates. Ensure that the workstation is perfectly aligned and compatible with the machine.

Reconfirm that the tilt angle of the water filling rod on the workstation complies with the installation specifications. It should be as close to horizontal as possible, with no backward tilt allowed and a forward tilt of 0° to 1° permitted.
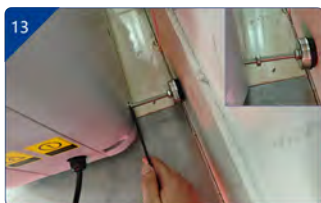
Tighten all the fixed screws and adjust the two rear anchor bolts on the workstation. Once the workstation is fully against the wall, tighten the securing nuts.

3.2.3 Connect the workstation pipe and power supply

Affected by accessory kits, the installation steps in main China different from other countries and regions , including Hong Kong, Macau, Taiwan ;

3.2.3.1 Connecting Water Inlet and Power Supply 「Mainland China」

As shown in the diagram, place the rubber gasket inside the pressure relief valve.
(English)

As shown in the diagram, secure the pressure relief valve to the inlet of the workstation. Use a wrench to tighten it. The included wrench is not suitable for this purpose.

As shown in the diagram, connect the inlet pipe to the pressure relief valve and secure it with a clamp. Connect the other end of the inlet pipe to the water source.

As shown in the diagram, secure the drain outlet adapter (with a 4mm external thread) to the workstation's drain outlet. Use a wrench to tighten it. To prevent water leakage, you can apply a suitable amount of thread seal tape.

As shown in the diagram, fully insert the drain pipe into the drain outlet adapter, and secure it with a clamp. Tighten the clamp.

Place the drain pipe inside the on-site sewer opening, and arrange the water inlet pipe and drain pipe to ensure a neat and tidy appearance. You can use the provided non-punching pipe clamp to secure the position of the water pipe appropriately. Open the water source at the on-site water inlet to ensure there is no water leakage on the water inlet side.

Connect the power supply to the workstation.

3.2.3.2 Connecting Water Inlet and Power Supply「China (Hong Kong, Macau, Taiwan) and Other Overseas Countries」

As shown in the diagram, place the rubber r ing inside the pressure relief valve.

As shown in the diagram, secure the pressure relief valve to the inlet of the workstation. Use a wrench to tighten it. Please note that the wrench provided may not be suitable for this purpose.

As shown in the diagram, connect the inlet pipe to the pressure relief valve. Use a wrench to tighten it. Please note that the wrench provided may not be suitable for this purpose.

As shown in the diagram, place the rubber ring on the discharge port adapter.

As shown in the diagram, secure the discharge port adapter to the workstation's discharge port. Use a wrench to tighten it. Please note that the wrench provided may not be suitable for this purpose.

As shown in the diagram, after fully inserting sewage pipe into sewage port, secure it with a hose clamp. Tighten the hose clamp to ensure a secure connection.

Place the discharge pipe inside the on-site drain, organize the incoming water pipe and discharge pipe to ensure a clean and tidy appearance. Open the water source at the on-site water inlet to ensure that there are no water leaks on the inlet side.
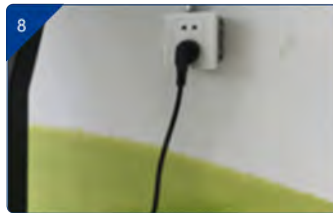
Connect the power supply to the workstation.

3.3 Adjust Workstation Water Inlet Pressure

1. Draining the Freshwater Tank, Pull up the drain handle inside the freshwater tank and rotate it to secure it. Next to use the manual drain hose of the robot to drain the water. If there is no manual drain option, you can use the robot's automatic drain function to return the water to the workstation.

2. Operating the Robot for Automatic Water Refilling, Once the robot successfully docks, open the top cover and if water flows into the freshwater tank, please start the stopwatch to measure the time.

3. Calculating water filling speed and adjusting pressure regulator to ensure that the water filling rate falls within the specified range.

   - How to calculate the water filling rate：

     - **Method 1:**When the duration reaches 1 minute, quickly tap the "End Maintenance" button on the machine's screen to stop the water filling. Then measure the water level in the freshwater tank using a ruler. The water level should be between 3.5 cm and 4.8 cm. If the water level is too high, adjust the pressure regulator valve to decrease the water volume. If the water level is too low, adjust the pressure regulator valve to increase the water volume.

     - **Method 2:**Stop the stopwatch when the water level reaches the height of the sheet metal surface, typically between 2 minutes 16 seconds and 2 minutes 47 seconds. If the time is longer than the specified range, adjust the pressure regulator valve to increase the water volume. Conversely, adjusting the pressure regulator valve to decrease the water volume.

4. After adjusting the pressure regulator valve, repeat the steps 1, 2, and 3 until the water filling rate meets the specifications. To prevent accidental adjustment of the pressure regulator valve in the future, remove the regulator from the valve and place it inside the workstation's side door.

4 Workstation software deployment

- After hardware installation completed, create a workstation location on the current environment map by following steps:


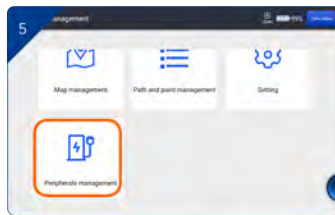Make sure the workstation/charging pile is properly powered and turned on.

Push the machine forward so that the machine is facing the charging pile/workstation, keeping a distance of about 1m.
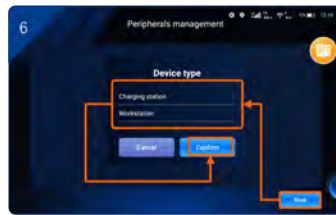

Confirm that the currently selected map can exactly show where the workstation is located and ensure that the machine's positioning is normal (the color of the top right corner positioning icon is white).
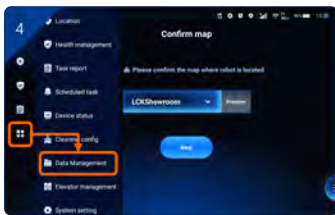
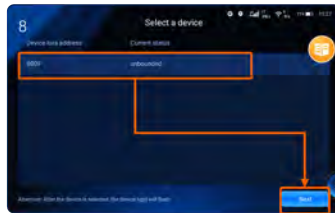Click on more icons on the sidebar, then click on 'Data Management'.
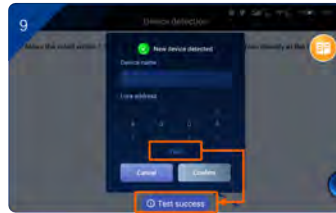

Click on 'Peripheral Management.

Click "New" > Select the device type based on the actual device type > Click "OK"

Click "Start Adding" >>> Click "Automatic search" >>> Click "Confirm"
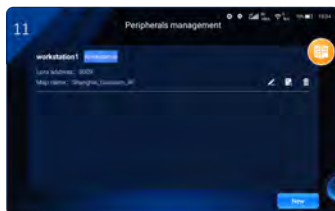

Make sure that the workstation/charger is on and the machine is facing the workstation/charger, select the corresponding lora address in the list of searched devices, and click "Next".

Click "Test" > Display test success

After entering the device name > click "Confirm"

After the work site is created, you can click the "Edit" icon to modify it, you can click the "Preview" icon to preview the location of the point on the map, and you can click the "Delete" icon to delete the point.

- **Workstation deployment attentions:**
  - Use automatic search to create workstation locations whenever possible, and avoid manual addition.
  - In cases where multiple machines and workstations are deployed at the same site, it is necessary to modify the LoRa hardware dip switches on each device (both machines and workstations are referred to as devices), and then log in to the upper computer to modify the machine's software LoRa configuration.

    Key Point 1: The software configuration of the LoRa address should correspond to the actual LoRa dip switches on the hardware.

    Key Point 2: The LoRa addresses of all devices at the site should be unique and not overlap with each other.

5 Workstation deployment checklist

Perform at least 5 automatic docking tasks to ensure successful docking with the charging station on the first attempt each time. Verify that the electrode plates make good contact, the machine can charge properly, and the drainage is functioning correctly;

Check the machine's screen to confirm that the currently selected map corresponds to the actual location of the charging station. Verify that the machine's positioning is functioning correctly by ensuring that the color of the location icon in the top right corner is white.

Click on the floating ball on the right side, then click on the floating ball again, and finally click on "Go Home".

Click on "Recharge".