User Manual
SST Dock

SST-DOCK-MAN-ENG-v1.0
27.12.2024

Contents

⚠️ Safety Information - Read First

To ensure personal safety, read **Safety Information - Read First** before using the SST DOCK.

Use the SST Dock only as specified in this guide and the operator's manual, otherwise the usage provided by the device may be impaired.

Read the **Warning** and **Cautions and Best Practices** below before using the SST DOCK.

⚠️ Warning

- To ensure personal safety, read Safety Information and Warnings before using the SST DOCK.

- Use the SST Dock only as specified by the manufacturer. Failure to do so may impair protection provided by the SST DOCK. The safety and security of any system or network incorporating the SST DOCK and its accessory components is the responsibility of the assembler of the system.

- Follow all required National Electric Codes (NEC) and safety codes.

- Do not attempt to adjust, disassemble, or service the equipment.

- Only use in a well-ventilated space, in normal atmosphere, 20.9% Oxygen and non-hazardous environment.

- Only use the supplied charging adapter - 12V 1.5A.

- Do not apply positive pressure to the gas inlets. Only use a demand flow regulator.

⚠️ Cautions and Best Practices

- If the SST DOCK appears to be damaged or is not functioning properly, please contact WatchGas or a local WatchGas distributor.

- SST DOCK uses Calibration Gas to carry out testing and calibrations so always ensure that these tests are done in a well-ventilated area.

- Always ensure filters are clean and replaced on a regular basis.

- Avoid the station encountering liquids. SST DOCK cannot be mounted in an outside location that could be exposed to rain or wet conditions.

- Maximum exhaust tubing length is 10 meters (30 feet).

- Always use the SST DOCK in conjunction with a demand flow regulator.

- SST DOCK has **no** hazardous location approvals and can only be used in a safe and non-hazardous environment known to be free of toxic and/or flammable gas.

- Servicing can only be carried out by a WatchGas office or trained service technician.

- Ensure calibration gas cylinders are the correct concentration, within their expiration date and contain gas.

- Warranty does not cover electrical surges, physical and/or water damages.

1. Introduction

1.1 SST DOCK Product Description

The SST DOCK is an automated test station that allows Bump and Calibration testing. It is compatible with the full SST-Range in one module.

It has the capabilities to be connected via Wi-Fi, BLE, or Cellular and allows for desk, wall, and hard case mounted dependent on your application.

With two inlets it allows for calibration of the standard four gases plus another gas type.

With built-in NFC it is easier than ever to assign gas cylinders to the correct gas in ports.

1.2 What's In the Box

The content below are the standard items included with the SST DOCK. If the device is damaged or parts are missing, contact the place of purchase immediately.

Part Number	Description
SST-DOCK	WatchGas SST Docking Station for SST1/SST4/SST4 Pumped Touch screen
SST-DOCK-CHRG	SST Dock charger 12V, 1.5A
DFR-SS	WatchGas Demand Flow Regulator
DFR-PSV	WatchGas Demand Flow Regulator including pressure sensor
SST-DOCK-LUR	SST Dock Set of Luers PG-63 to connect hose to inlets/outlet, pack of 6
SST-DOCK-MB	SST Dock Mounting brackets, including 4 screws and spacers
SST-DOCK-RB	SST Dock Rubber bumpers that fit on the corners, pack of 4
SST-DOCK-KEY	SST Dock Power Key, pack of 5
SST-DOCK-PL	SST Dock External filter for fresh air inlet, pack of 5
506275 QC Card	Quality Card
506280 QuickStartGuide	Quick Start Guide

Table 1. What's in the box

1.3 SST DOCK Overview
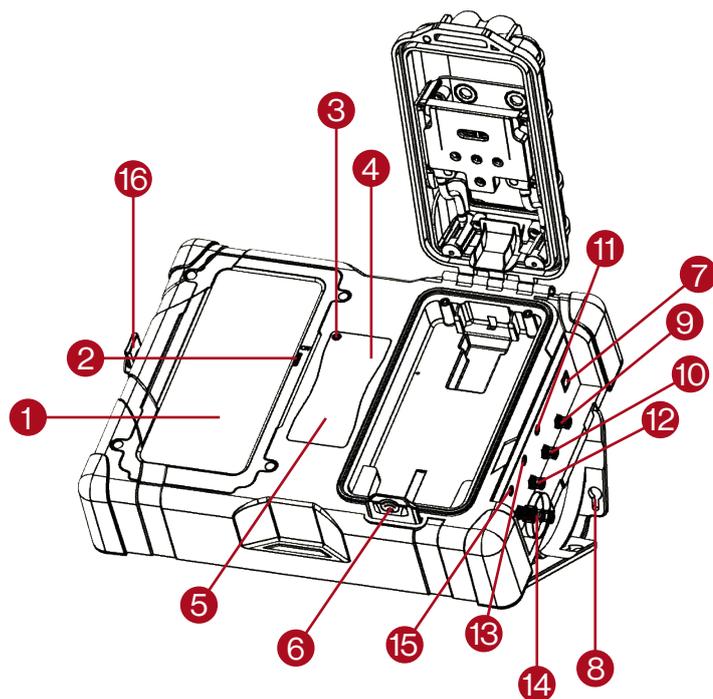
1. Touch Screen
2. Touch Screen ON/OFF
3. Status LED
4. Instruction Label
5. Bottle NFC Reader
6. Lid Lock
7. 12V Power Connection
8. Mounting Bracket
9. Exhaust Outlet
10. Gas Inlet 2
11. Gas Inlet 2 Pressure Sensor Connector
12. Gas Inlet 1
13. Gas Inlet 1 Pressure Sensor Connector
14. Fresh Air Inlet Filter
15. Fresh Air Inlet Pressure Sensor
16. On / Off Key

Figure 1. SST Dock Overview

1.4 Prepare For Use

- Use only Luer PG-63 for all gas inlets/outlets.

- Tubing diameter no less than 3mm (1/8 in) internal d iameter. The tubing should be suitable for the gas used, consult WatchGas for proper Last-o-more tube or compatible tube.

- Only use demand flow regulators from the WatchGas compatible part list.

- **NOTE:** Only connect up to 10 meter (30 feet) of tubing on the fresh air inlet and outlet.

- Ventilation – the outlet should be routed to a ventilated area.

- Adjust the fresh air purge time accordingly.

- Ensure tubing and cables are proper installed.

- Use the shortest lenght of tubing possible.

- Ensure that the fresh air inlet filter is installed.

- If potentially harmful gas is u sed for calibrations, users must read the MSDS of the gas connected. The SST DOCK must be attached to a venting system or be used in a well-ventilated area.

1.5 Mounting the SST Dock

The SST DOCK can be mounted with the invertable mounting bracket in 2 different angles. Use the extended screws and plastic spacer included in the box.

Wall Mounting

The provided mounting brackets can be used to mount the SST DOCK to a wall or table. Mounting screws and plug are not provided. WatchGas recommends to check the strength of the mounting area and to select the proper mounting hardware before mounting the SST DOCK.

NOTE: Mounting the SST DOCK should only be performed by a qualified installation contractor.

1.6 Function Overview

Status LED:

- **Green** - the SST DOCK is connected to an external power source and it is fully operational.

- **Yellow** - the SST DOCK is running on iternal backup battery power and it is fully operational.

- **Red** - there is a fault with the SST DOCK.

If the touch screen is powered off by means of the ON/OFF Key (refer to Figure 1.), then the DOCK LED will turn red when the SST DOCK is charging.

If the SST DOCK in not charging, the LED will show red for 5 minutes, and then enter sleep mode.

Opening or closing the lid will activate the SST DOCK and the red LED will be activated. This is done to preserve energy.

From Sleep Mode:

Power on the touch screen, and the SST DOCK status LED will activate after the lid's activation.

WatchGas recommends users to remove the ON/OFF key to avoid any accidental power downs.

Sensors built in the SST DOCK:

- Microphone to test the device's audio alarm.

- Light sensor to verify the visual alarm.

1.7 Installing the SIM Card in the SST DOCK Touch Screen

- **Step 1:** Power down the touch screen.

- **Step 2:** Unscrew the 4 screws on the touch screen holder, as seen in Figure 2 below.

- **Step 3:** Install the SIM card in the touch screen module.
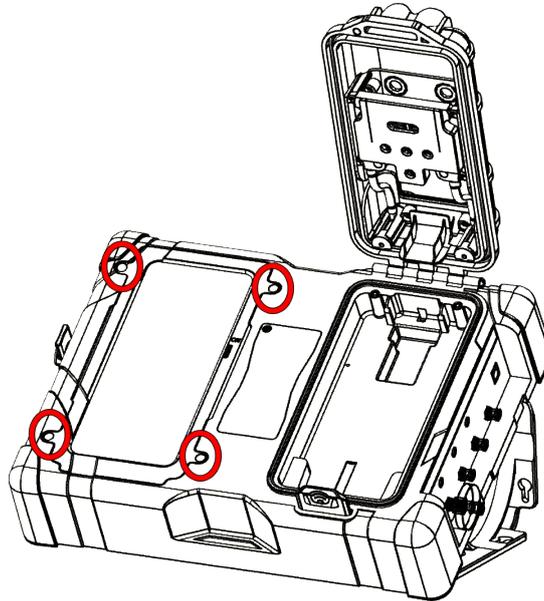
Figure 2. SST DOCK touch screen holder screws

1.8 Connectivity

When the DOCK is connected to the internet, the UI application will automatically be updated.

NOTE: the Valve driver electronic firmware will not be updated automatically, this require an installation.

NOTE: all the latest firmware for devices will automatically be pushed to the DOCK, but devices will not automatically be updated, as this requires confirmation from the user.

2. Menu and Settings

2.1 Start Screen Overview
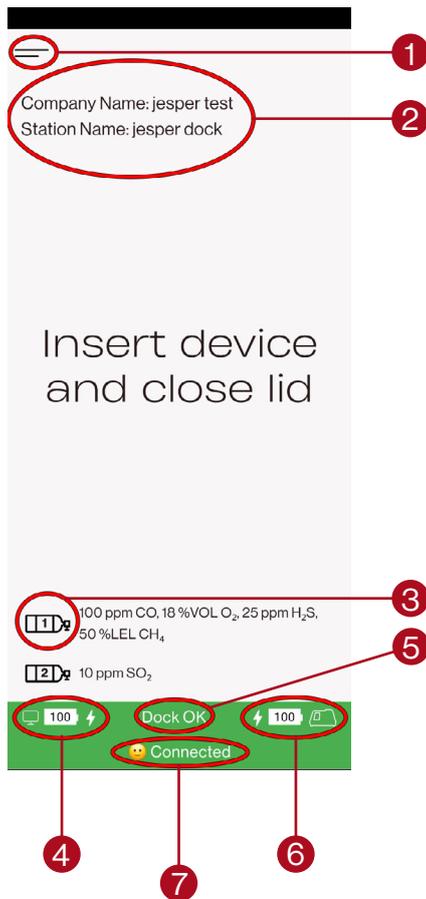
1. Menu
2. SST DOCK name
3. Gas bottle connected to port set up in Menu section X
4. Touch screen battery level
5. Touch screen linked to sensor/driver electronics
6. Sensor/driver electronics battery charge level
7. RTR Software connection status

2.2 Enter Password to Enter Menu
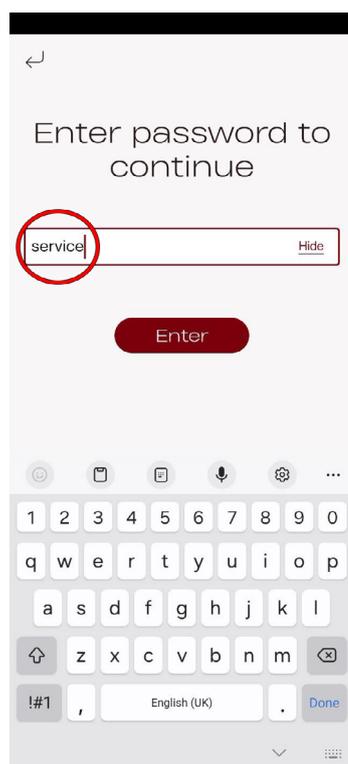
To enter the Menu, there are two password levels:

• **user** - limited access.

• **service** - access to making changes to Settings.

2.3 Menu Overview
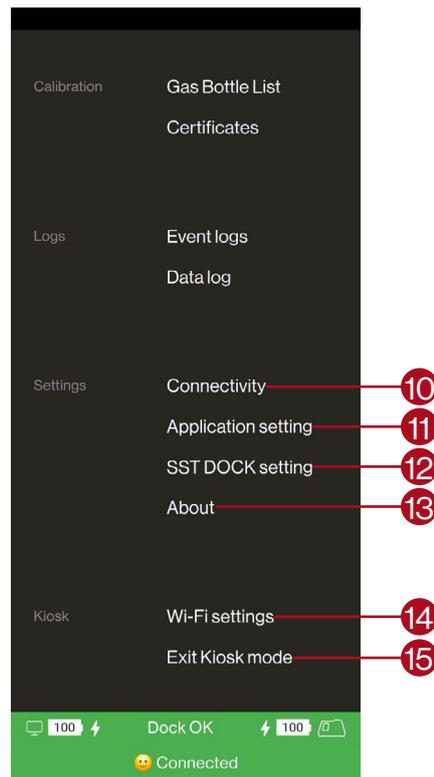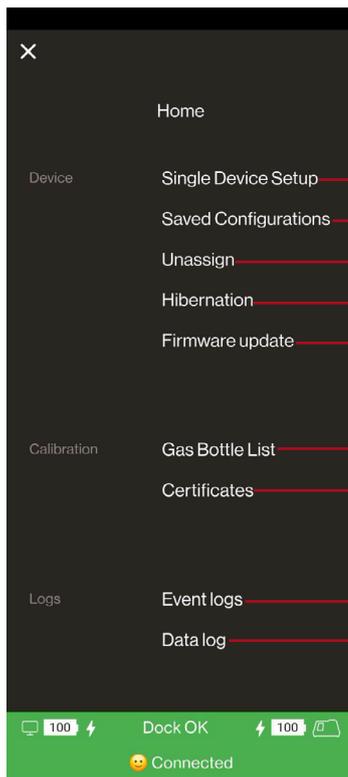
1.   Allows for the setup of a device
2.   Preloaded device configuration files
3.   Unassign a User and Site ID
4.   Power down non-rechargeable devices
5.   Firmware update for devices
6.   Loaded gas bottle list
7.   Stored calibration certificates
8.   Device event log files
9.   Extracted data log files
10. Setup of the RTR Software connection
11. Check functions – language
12. Port setup, driver electronics settings, and diagnostic
13. About
14. Wi-Fi Settings
15. Exit Kiosk Mode

2.4 Single Device Setup
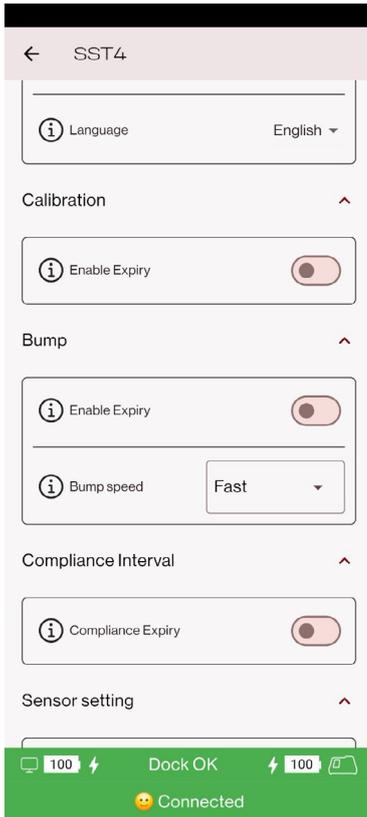
The Single Device Setup allows the user to change the settings in the device that is currently active in the DOCK.

In the Single Device Setup option, it is possible to set the User ID and the Site ID of the device placed inside.

As the device settings are product-specific, please refer to the device manual in question.

2.5 Saved Configuration File

A saved configuration file allows the user to quickly change a device unit's configuration.
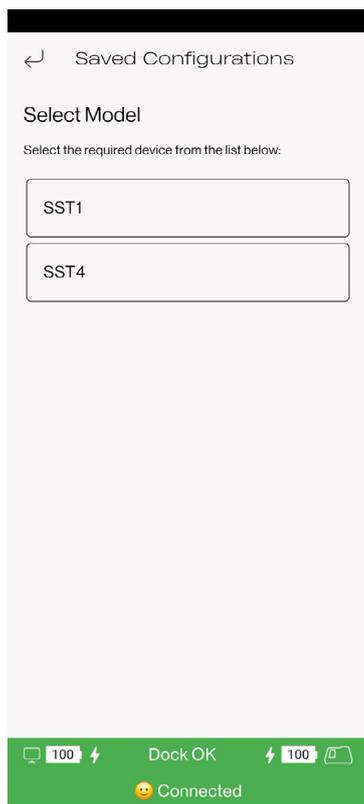
Select file
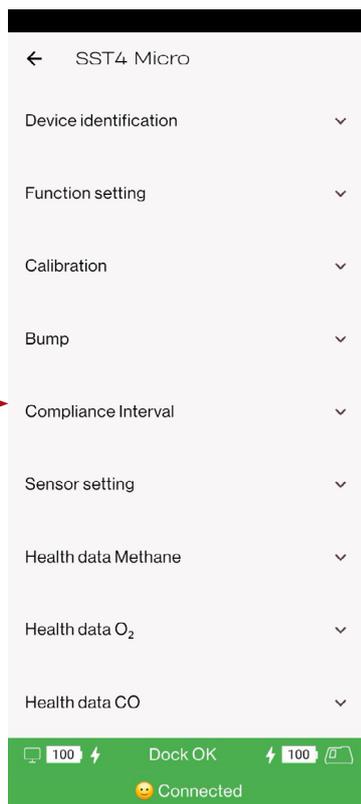
Change the desired setting
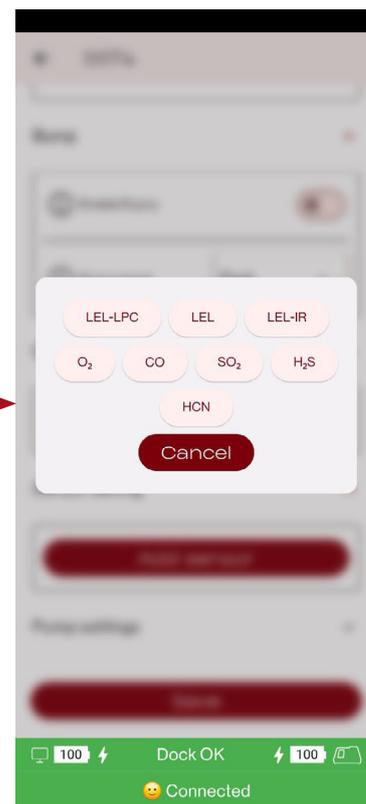
Be mindful to set all the LEL sensors

2.6 Unassign
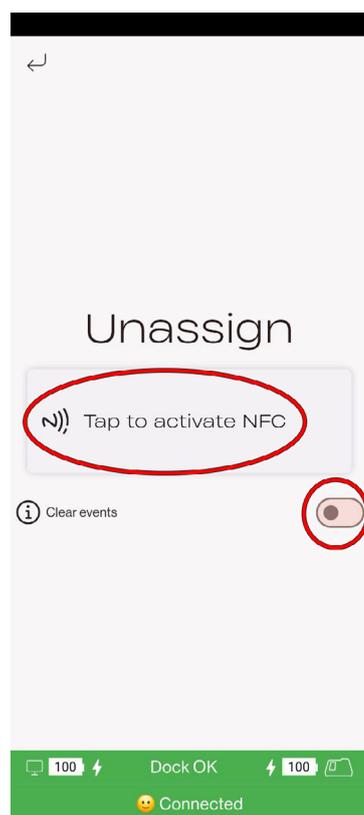
To unassign a device from the user:

Activate the NFC on the unit.

Insert the unit in the SST DOCK and press the unassign option.

If it is required to delete all the events from the device after unassigning it, activate the clear event button.
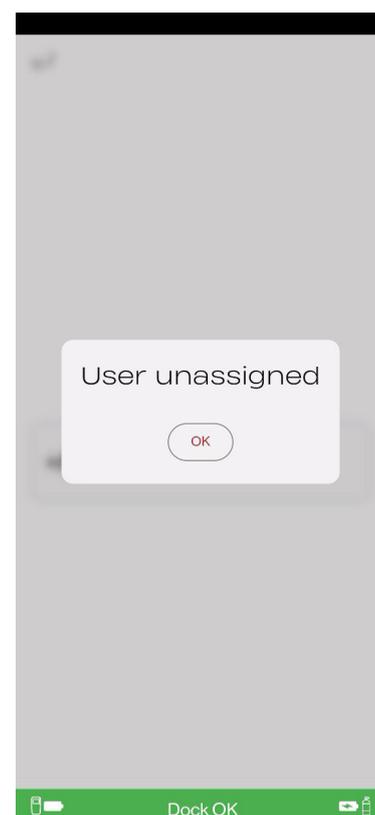
2.7 Hibernation
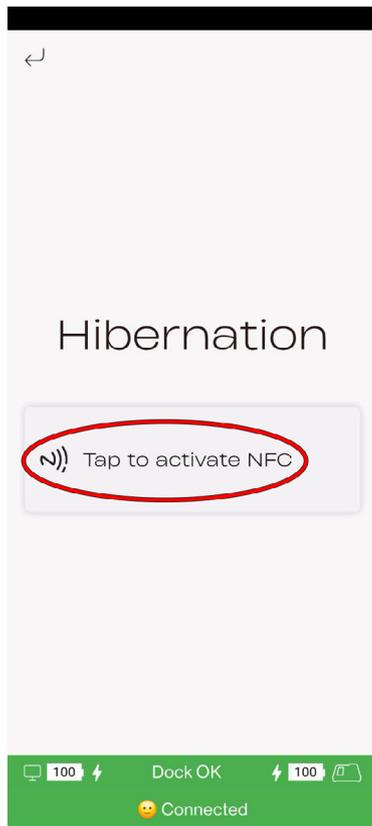
Hibernation of non-rechargable products such as the SST1.

By hibernating the unit its battery usage will be limited and operation time extended.

To enter a device into hibernation, activate the NFC on the device and insert it into the SST DOCK.

Press the button and the device will enter into hibernation mode.

2.8 Firmware Update

Select the firmware to install
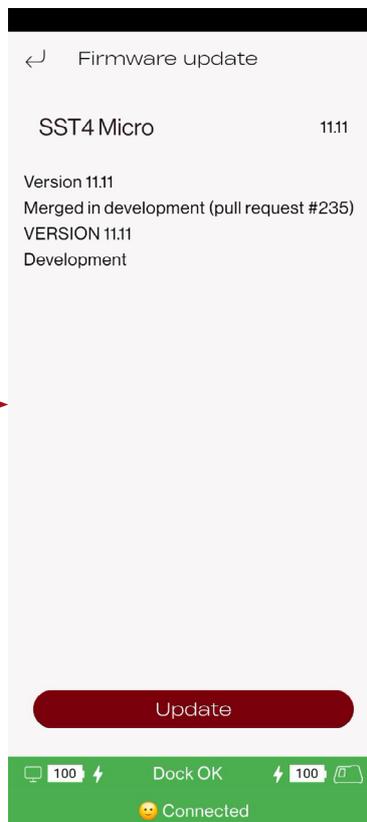
The firmware changelog
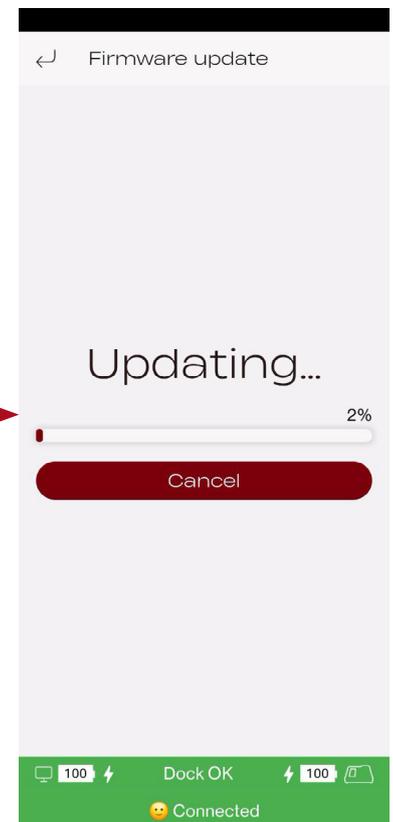
After the firmware update installation is complete, the device will restart

NOTE: The manual firmware update is not to be used unless under special conditions, while working closely with WatchGas.

2.9 Set Up a Gas Bottle

↵ Gas Bottle List

Add a new gas bottle or select the gas bottle from the list below:

4mix
100 ppm CO, 18 %VOL O_2, 25 ppm H_2S, 50 %LEL CH_4 🗑 ← Delete bottle

test 123456789
25 ppm H_2S, 100 ppm CO, 18 %VOL O_2, 50 %LEL CH_4 🗑

so2
10 ppm SO_2 🗑
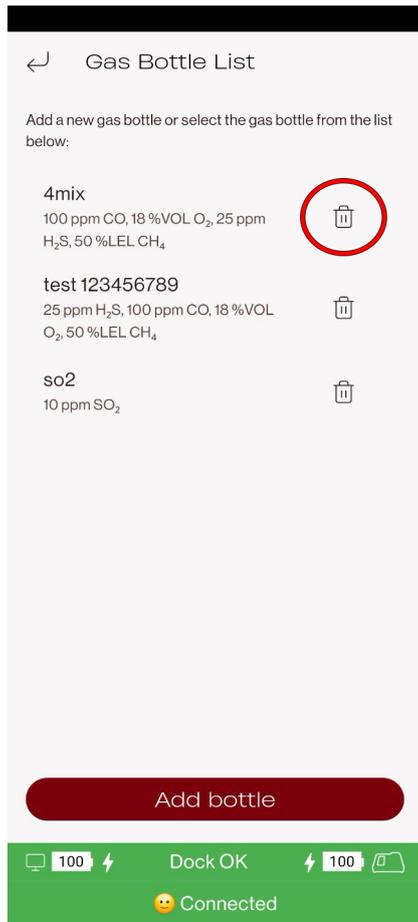
NOTE: the user should ensure that the gas cylinder contains the calibration gas for all 4 channels in the case of the SST4.

Add bottle ← Add new bottle

🖥 100 ⚡ Dock OK ⚡ 100 🔋
🙂 Connected

↵ Gas Bottle

Tap to activate NFC 〰️)) **Scan QR code** ▦
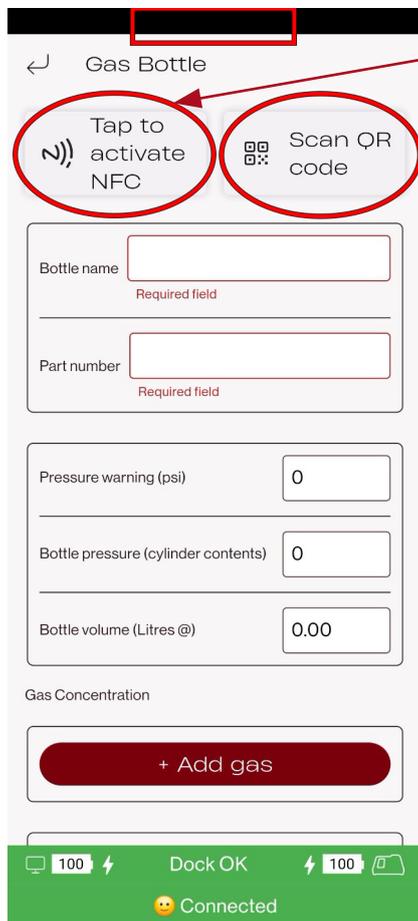
If a WatchGas NFC tag is installed on the gas bottle, simply tap the bottle to load in the information.

If the gas bottle label contains the WatchGas QR code, use the QR code scanner on the front of the touch screen.

Bottle name [ ]
Required field

← WatchGas recommends users enter the bottle name for easy reference.

Part number [ ]
Required field

← WatchGas recommends users enter the part number for easy reorder.

Pressure warning (psi) [0]

← If the pressure sensor is utilized on the regulator, set the low alarm (50 PSI).

Bottle pressure (cylinder contents) [0]

← The pressure sensor range.

Bottle volume (Litres @) [0.00]

← The bottle size.

Gas Concentration

+ Add gas ← Manually add gas concentrations.

🖥 100 ⚡ Dock OK ⚡ 100 🔋
🙂 Connected

2.10 Calibration Certificates
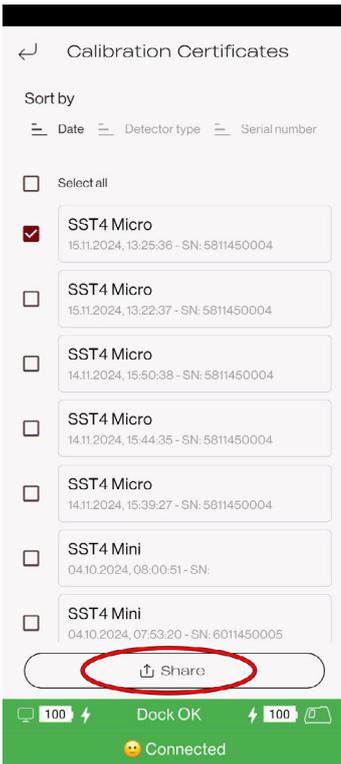
Select the desired cerificate from the list and press the Share button.
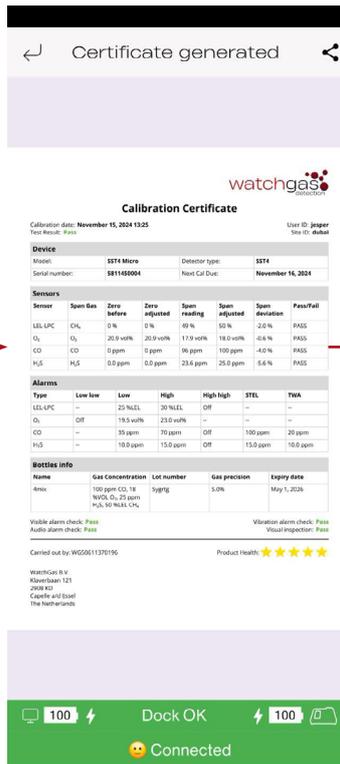
View the Certificate.
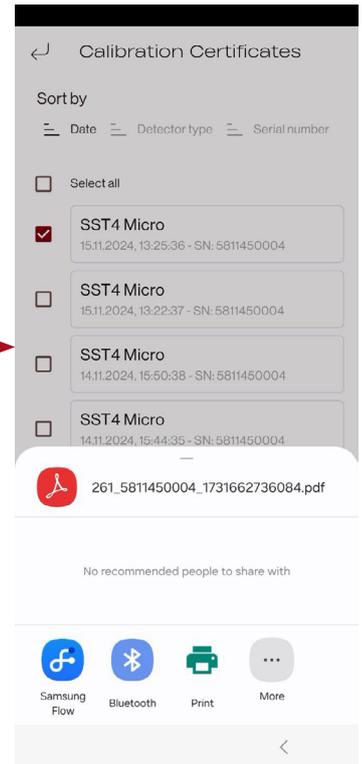
Sharing certificates can be done via multiple different media.

NOTE: the application shall be installed on the touch screen.

If no active email account is present, then the email icon will not show.

2.11 Event Logs
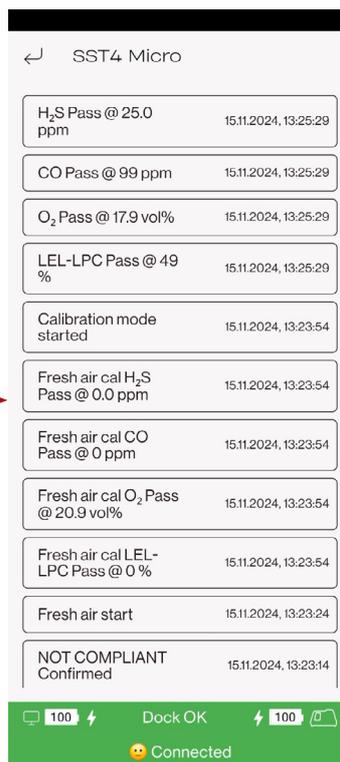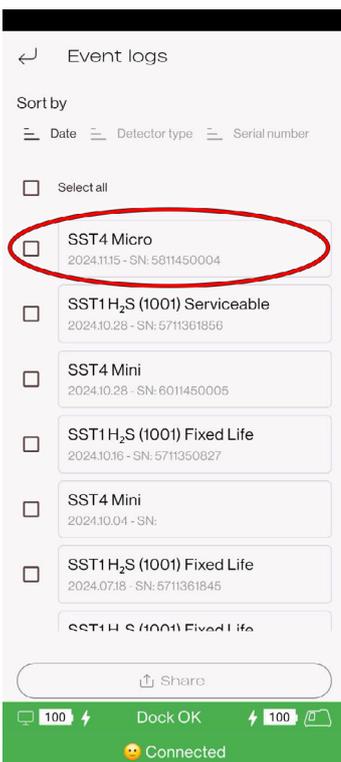
The event log overview allows the user to quickly view the last 100 events from the device.

These can also be shared via multiple different media.

2.12 Data Log Download
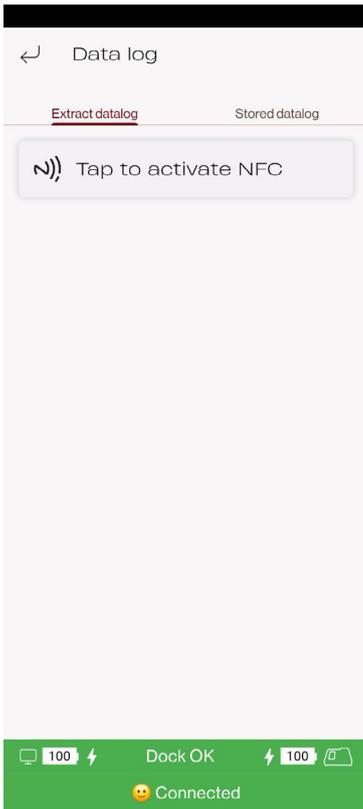
Tap the device to activate NFC
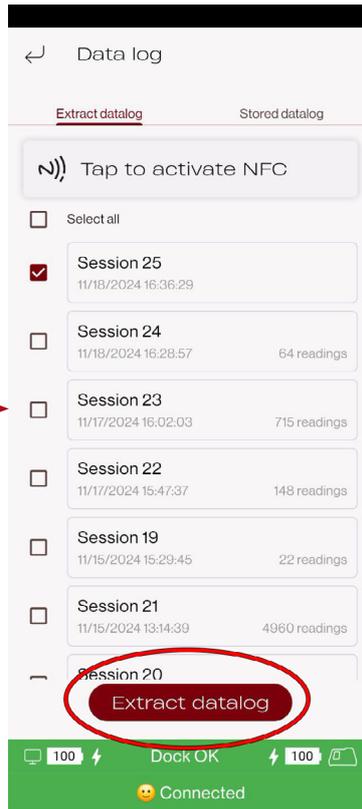
Select the desired data logs and press the Extract Datalog button
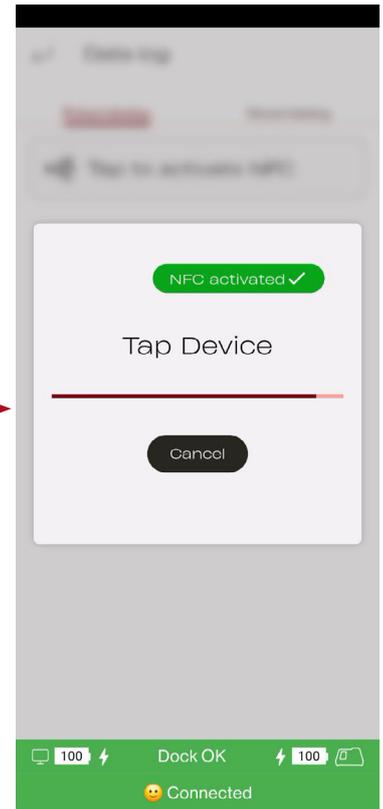
The selected data log files will be downloaded to the SST DOCK

2.13 Connectivity Setup
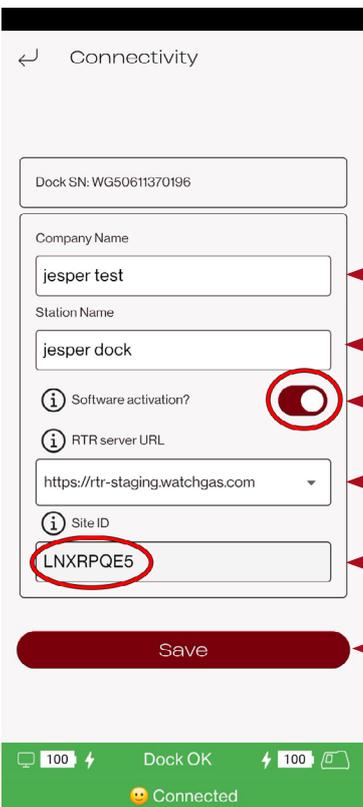
Company name

The Station name will show up if the RTR software is activated

Will be turned on if the RTR software has been activated

Select the server site depending on the location – EU or USA

The Site ID for the RTR software – shall be obtained from administrator

Press the Save button to save the changes

2.14 Application Setting

The SST DOCK Serial Number

Application version

Password change

The Assign check function allows the user to enter a User ID if not already loaded

Unassign the site ID during the unassign process

If Scan protect is active in the device, then the scan protect code needs to match, otherwise the user cannot change the device settings

Language select

Dark theme toggle

2.15 Assign Check Function

When the Assign Check Function is turned on, the SST DOCK will ask for the user to enter the name of the unit that has been placed inside of it.
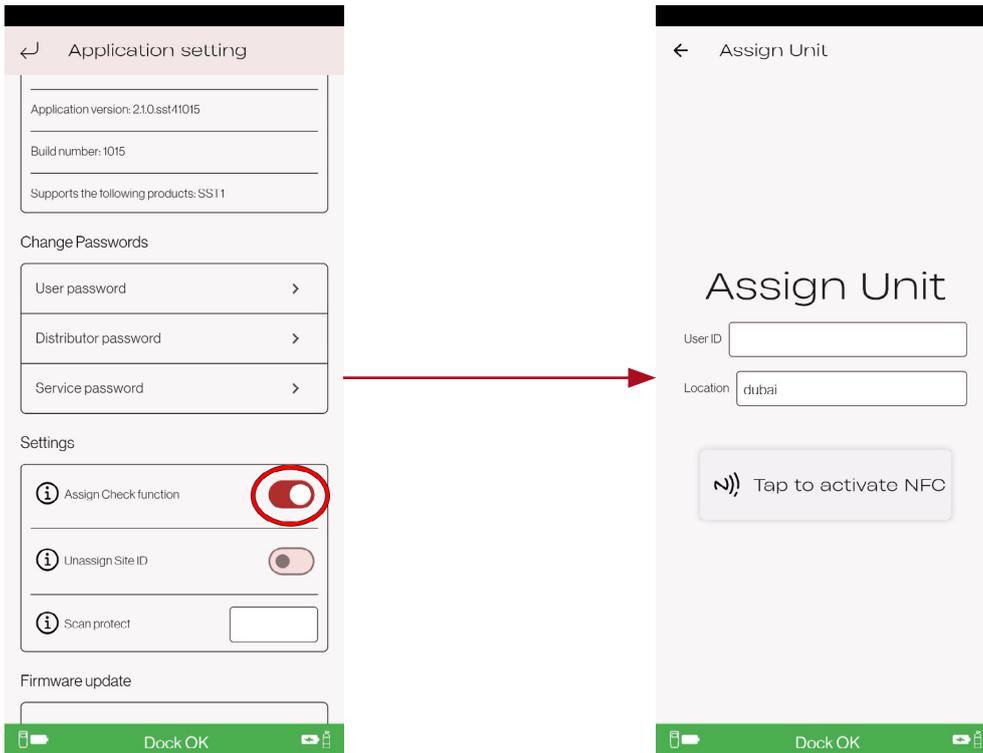
2.16 Unassign Site ID

When the Unassign Site ID option is turned on, the SST DOCK will unassign the unit that has been placed inside of it.
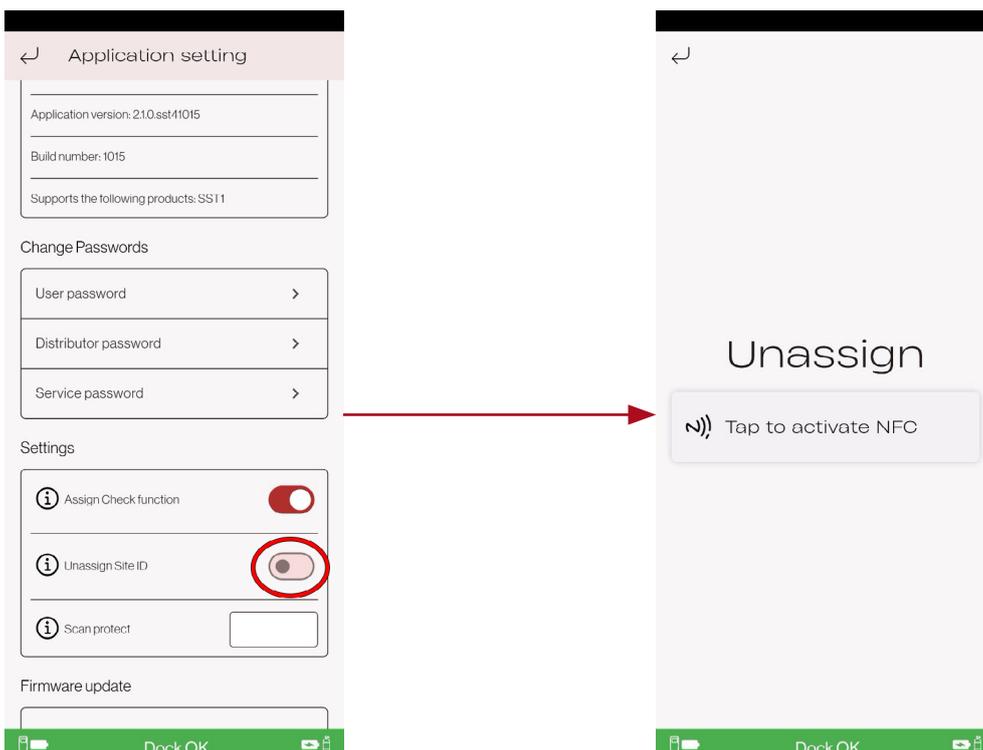
2.17 SST DOCK Setting Menu

Port setup ←——— Gas port setup, where the user can assign the gas bottle to the inlet

Settings ←——— The SST DOCK function

Run diagnostic ←——— The SST DOCK Diagnostic, which allows the User to test the SST
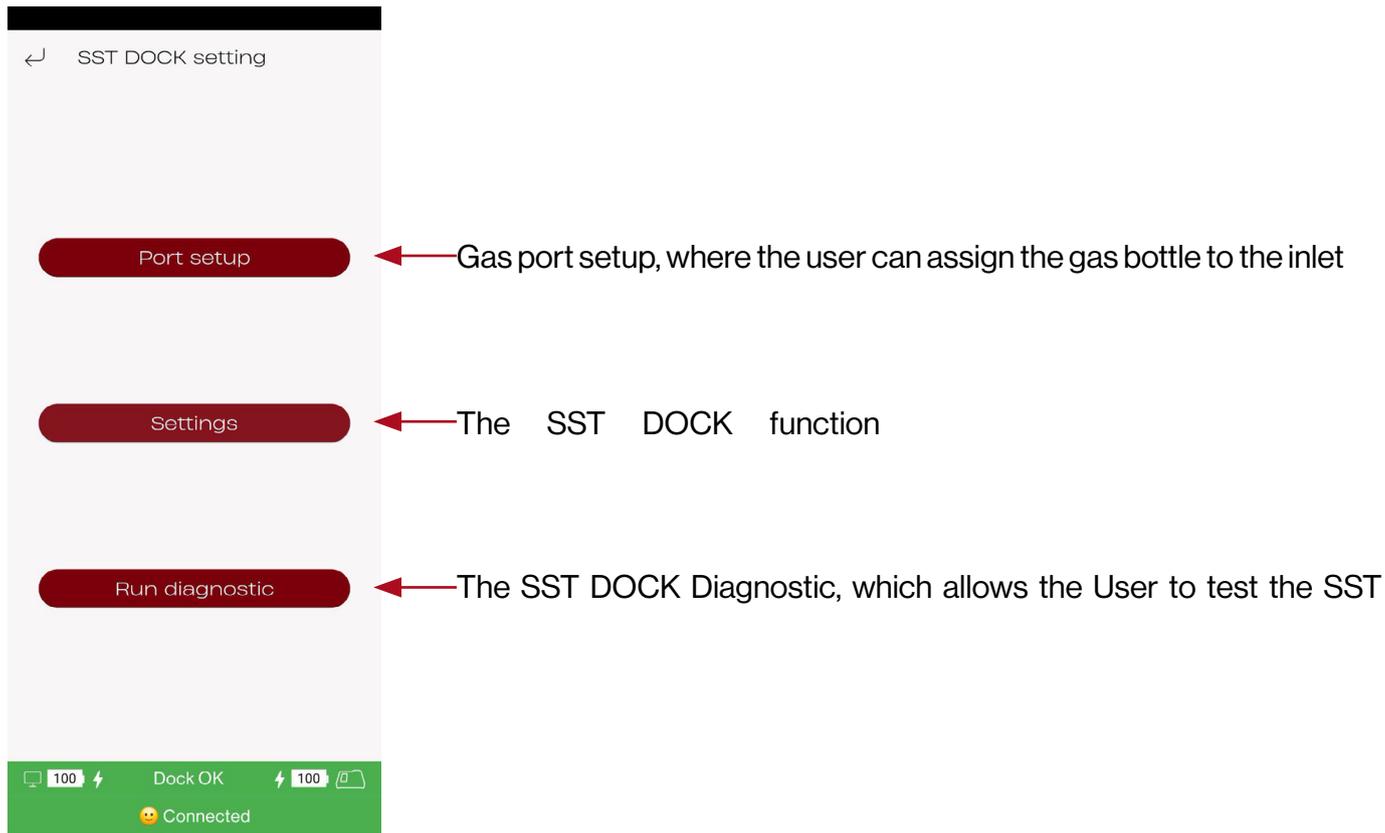
2.18 SST DOCK Port Setup
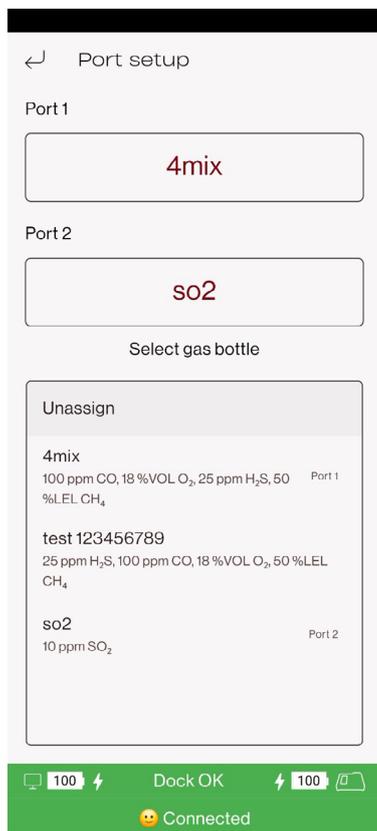
The SST DOCK Port Setup allows the user to select gas bottles from the gas bottle list.

From the preprogrammed gas bottle list drop down menu, select which gas to connect to which port.

The port name is clearly marked on the SST DOCK.

2.19 SST DOCK Settings
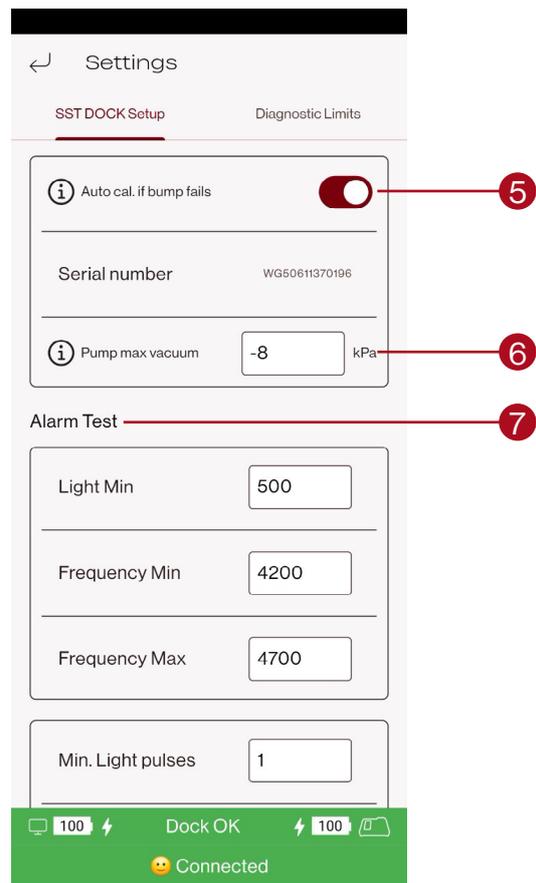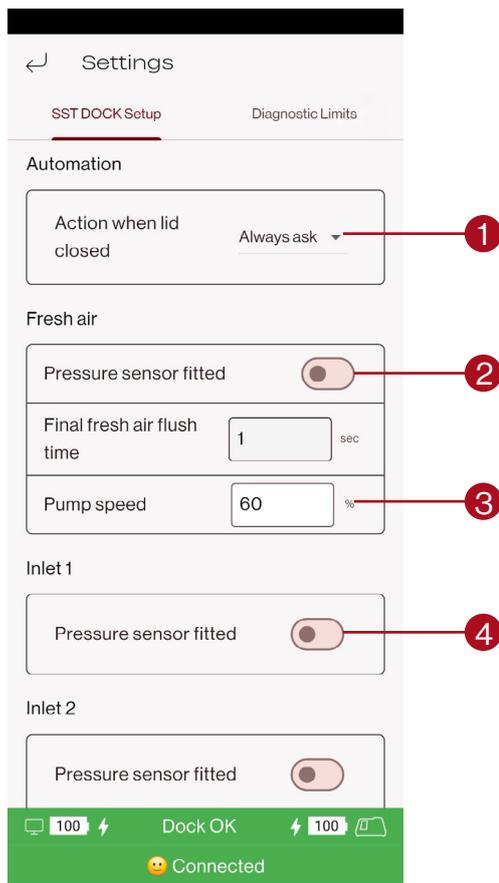
1. Action when the LID is closed with the device inside, the user can select one of the following functions: Always ask (open dialog with fresh air calibration, bump, and zero calibration), Fresh Air Calibration, Bump, or Zero Calibration.
2. If a fresh air bottle is connected and the pressure sensor is installed, this option must be turned on.
3. The Bump test flow, it should never be below 40%.
4. If pressure sensors are fitted they must be turned on here.
5. If this option is turned on and bump fails, the SST DOCK will automatically perform a zero calibration.
6. Inlet block alarm, which indicates that a gas bottle is empty.
7. NOTE: The alarm test settings should not be adjusted unless under special circumstances.

2.20 SST DOCK Diagnostic Settings

1. NOTE: The alarm test settings should not be adjusted unless under special circumstances.
2. The current sensor fault check.
3. The vacuum sensor fault check.
4. The time required for the valves to switch.
5. The vacuum sensor check.
6. The current when the valve is open, this checks if the valve opens.
7. Checks if the valve closes.
8. Checks the pump at 50%.
9. Valves ON/OFF - differential current draw.
10. Differential vaccum

2.21 SST DOCK Diagnostic Test

During the SST DOCK Diagnostic Test all the sensors, pump, and valves are checked - providing a clear overview of where the fault has occurred.
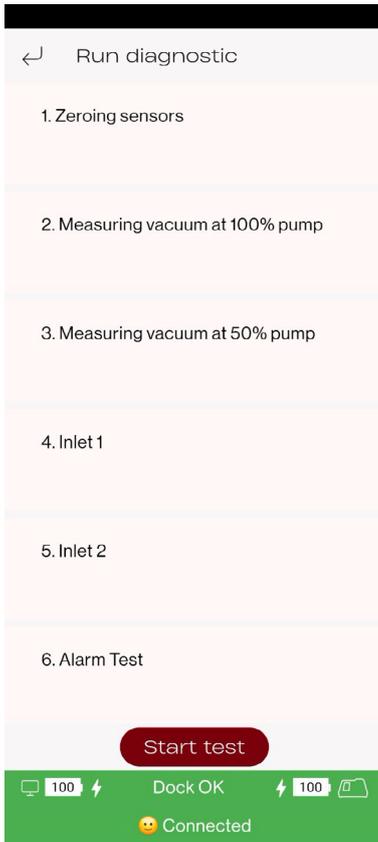
Press the Start test button to begin the Diagnostic Test
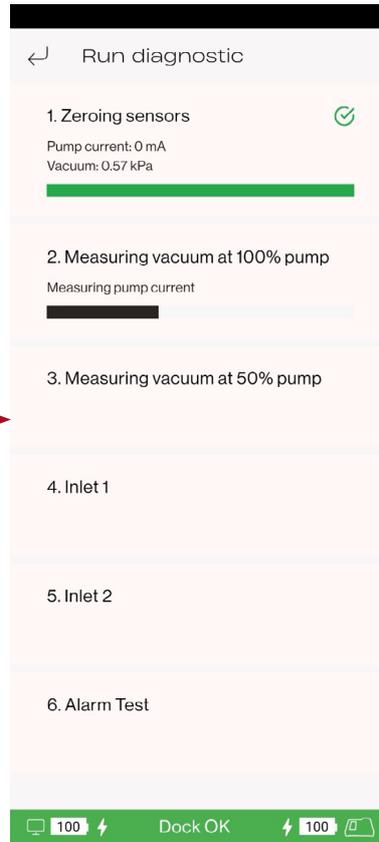
The test will then be run
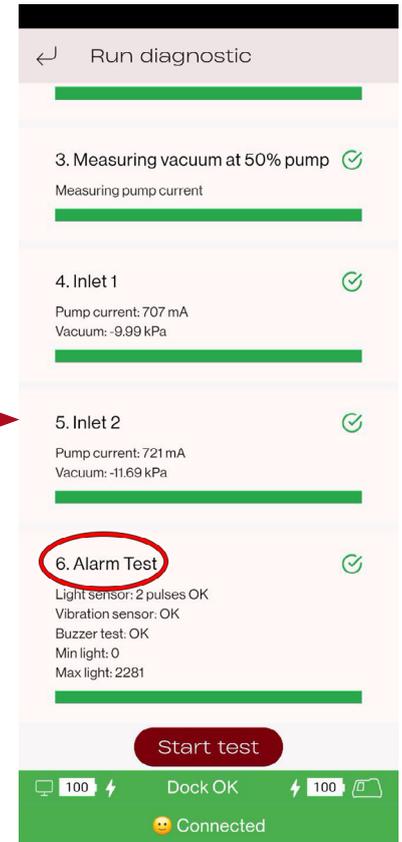
Test results

NOTE: a working gas detector needs to be installed with NFC turned on, or the Alarm Test is going to be skipped.

2.22 SST DOCK About

The SST DOCK About section provides an overview of general information regarding the DOCK. This includes info such as the App version, build number, which products it supports, the SST DOCK serial number, firmware version, and more.
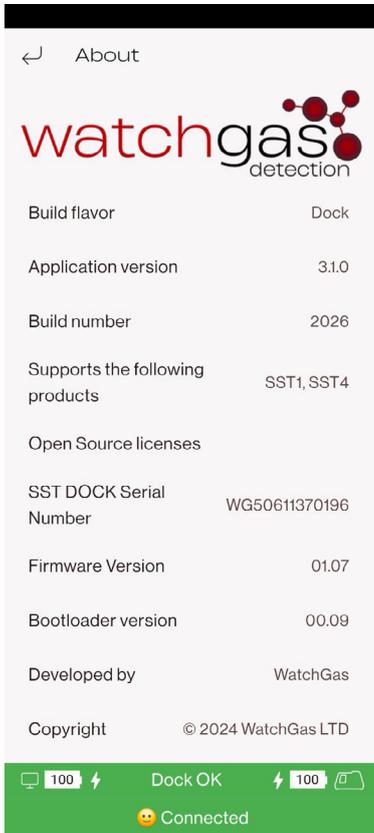
2.23 SST DOCK Wi-Fi Settings
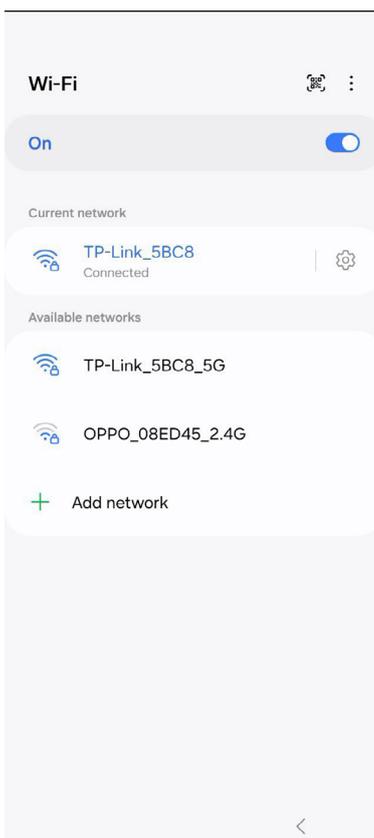
To connect the SST Dock to the internet:

1. Select the appropriate Wi-Fi network.

2. Enter the correct password for said network.

3. The SST Dock will then connect to the network.

2.24 SST DOCK Exit Kiosk Mode

The Exit Kiosk Mode feature allows users to change or add features to the touch screen.

To Exit Kiosk Mode, enter password **2017** and press the Enter button.

3. SST DOCK Functions

3.1 Fresh Air Calibration, Bump, or Zero Calibration

When a device is inserted into the SST Dock and the LID has been closed, the following options are going to be displayed: Fresh Air, Bump, and Calibration.

NOTE: the admin can select in the SST Dock Settings which of these functions are allowed.
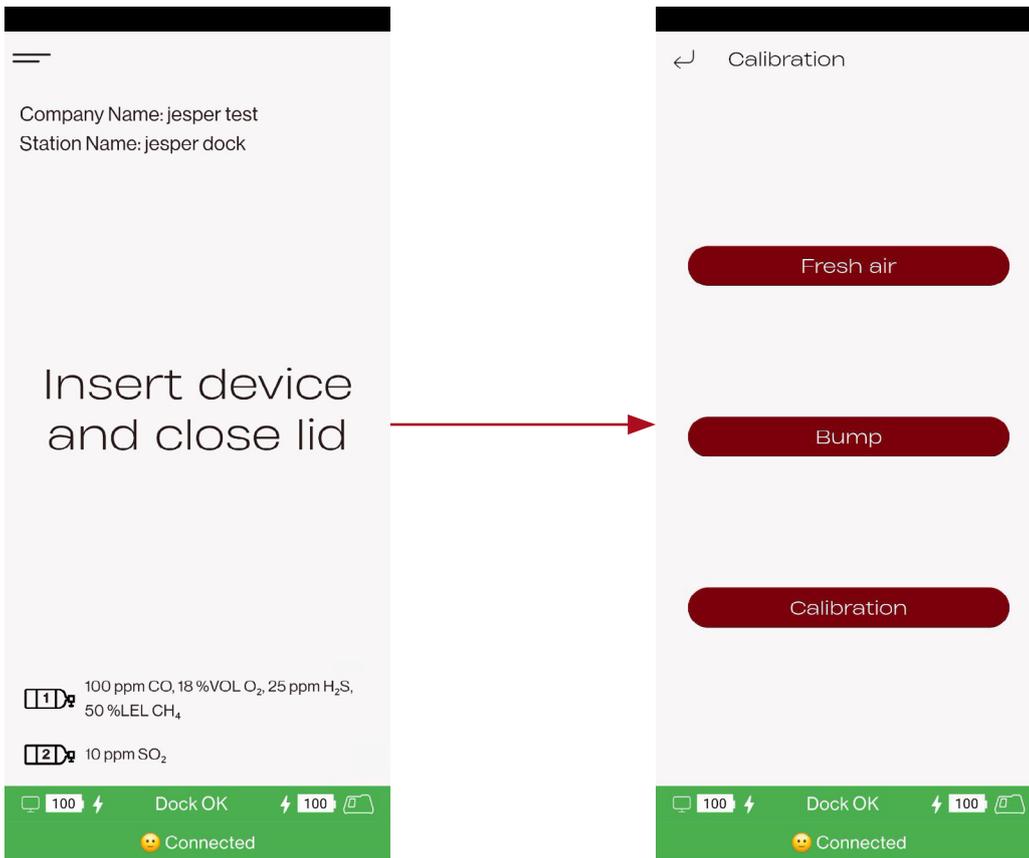
3.2 Fresh Air Calibration

When this option is selected, the SST DOCK will perform a Fresh Air Calibration on the device inside of it.

↵ Calibration

Fresh air

Bump

Calibration

💻 100 ⚡   Dock OK   ⚡ 100 📄
🙂 Connected

↵ Fresh air cal

AIR
25
H₂S ppm   CO ppm
CAL   O2%   LEL% LPC
watchgas MICRO
SST4

Wait for fresh air cal
25 seconds

💻 100 ⚡   Dock OK   ⚡ 100 📄

↵ Fresh air cal

Sensors tested

1. LEL-LPC 0 %	Pass
2. O₂ 20.9 vol%	Pass
3. CO 0 ppm	Pass
4. H₂S 0.0 ppm	Pass

💻 100 ⚡   Dock OK   ⚡ 100 📄
🙂 Connected

Company Name: jesper test
Station Name: jesper dock

Remove device

[1] 100 ppm CO, 18 %VOL O₂, 25 ppm H₂S, 50 %LEL CH₄

[2] 10 ppm SO₂

💻 100 ⚡   Dock OK   ⚡ 100 📄
🙂 Connected

3.3 Bump

When this option is selected, the SST DOCK will perform a Bump on the device inside of it.

First the SST DOCK will test the device's alarms, then apply gas to the unit, and generate a bump certificate of the results.

The bump certificate is then briefly shown and stored on the SST DOCK.
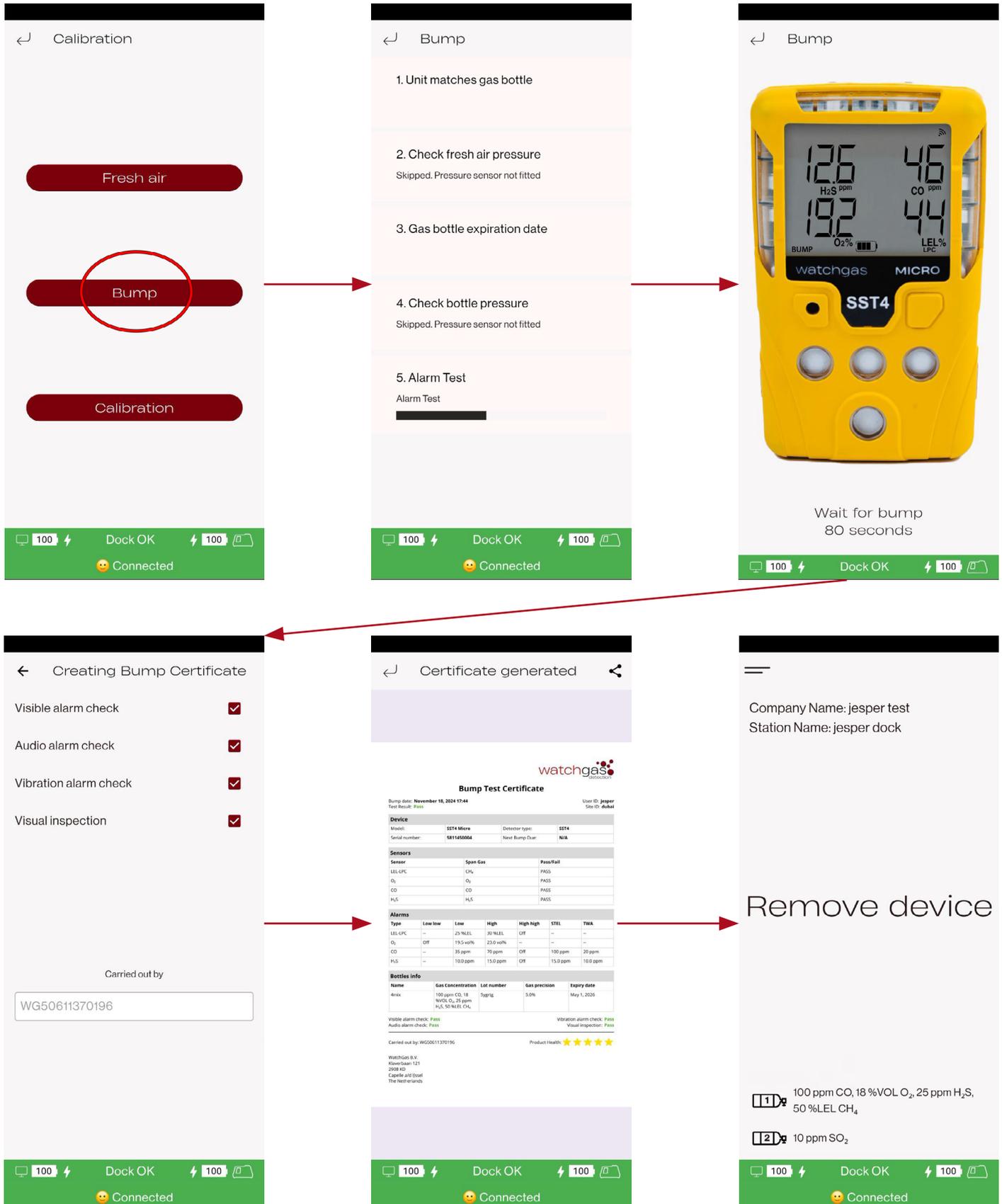
3.4 Calibration

When this option is selected, the SST DOCK will perform a Calibration on the device inside of it.

The calibration process starts with an alarm test, followed by fresh air calibration, followed by a span calibration, and completes with the results certificate preview.

This certificate is then stored on the SST DOCK.

4. SST DOCK Flow vs % Pump Setting

Airflow of Enforcer 1 prototype
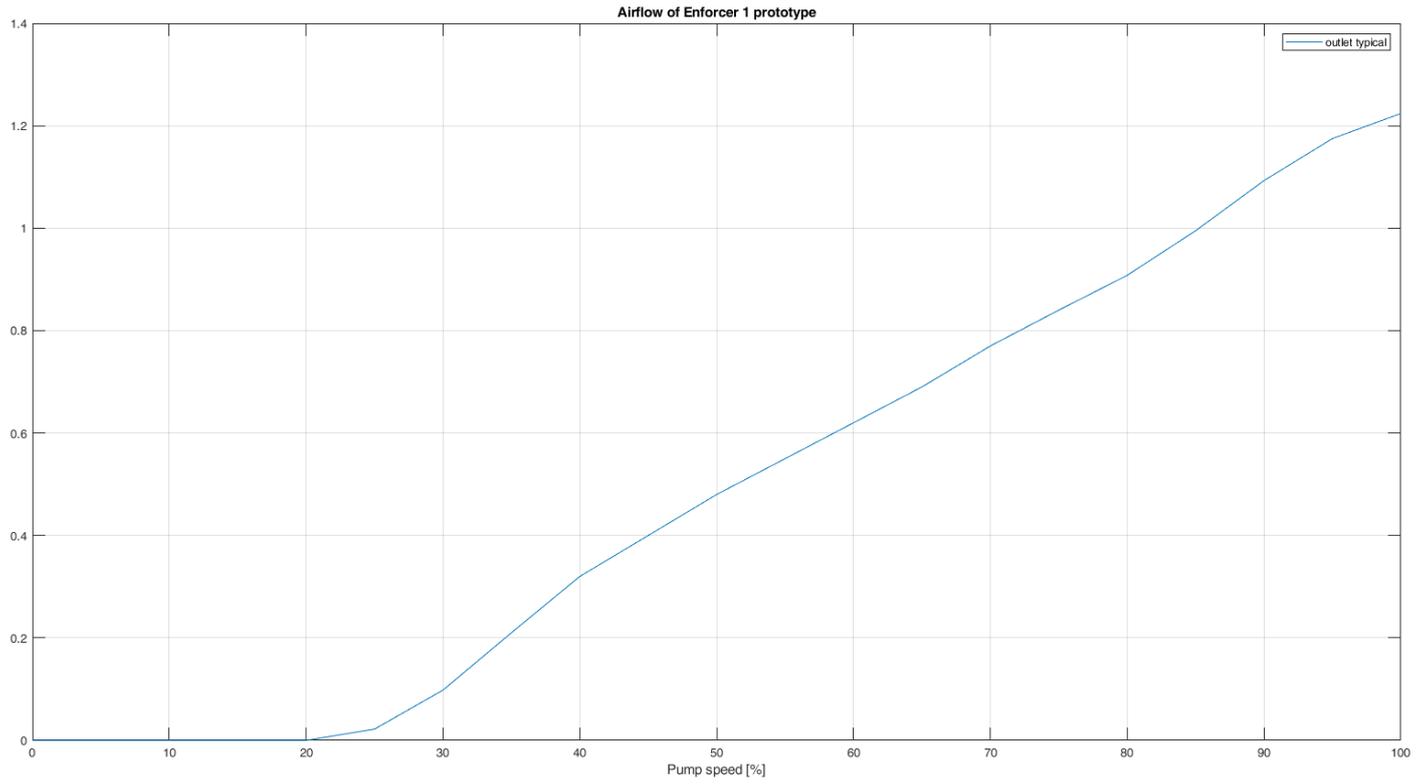
5. Troubleshooting

Note that this User Manual does not include the repair section. For further details, please refer to the SST Dock WatchGas Service Manual.

Problem	Solution
DOCK Fault	Reset alarm
STATUS LED not turning on when the charger is connected	Replace the charger
The SST Dock bump cal result seems incorrect	Check the gas bottle Run diagnostic
Inlet blocked alarm	Check the gas bottle to see if it is empty
The SST Dock does not communicate with the device	Ensure that the Device NFC is active

Table 2. Troubleshooting Problems and Solutions

6. Spare Part Lists

Part Number	Description
SST-DOCK-LID	SST Dock Entire lid assembly
SST-DOCK-CHRG	SST Dock charger 12V, 1.5A
SST-DOCK-PL	SST Dock External filter for fresh air inlet, pack of 5
SST-DOCK-RB	SST Dock Rubber bumpers that fit on the corners, pack of 4
SST-DOCK-MB	SST Dock Mounting brackets, including 4 screws and spacers
SST-DOCK-LUR	SST Dock Set of luers to connect hose to inlets/outlet, pack of 6
SST-DOCK-KEY	SST Dock Power Key, pack of 5
SST-DOCK-LAT	SST Dock Latch to hold lid in place when closed
SST-DOCK-CAP	SST Dock Gasdefusion cap for SST range
SST-DOCK-USB	SST Dock USB C Cable U Green 150mm
SST-DOCK-SCR	SST Dock Screw pack of 100
SST-DOCK-LIDMOD	SST Dock Lid Modifcation Assembly

Table 3. SST4 Micro and Mini Spare Parts and Accessories List

7. Contact details

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