


Document Description: CVSM etC02 Module Check and Service Tool Calibration	Document Number: 80027959 Version: A
	
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Customer Service Bulletin

Product: Connex Vital Signs Monitor (CVSM) **Date:** 2021-02-17

Subject: CVSM etC02 Module Check and Service Tool Calibration

HW Version(s) Affected: All	SW Version(s) Affected: 2.10.00 and above
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Serial Numbers Affected: All	Lot or Date Code Affected: All
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Classification: As Needed

Distribution:

<input checked="" type="checkbox"/> Customer Care	<input checked="" type="checkbox"/> Product Service	<input checked="" type="checkbox"/> Field Service
<input checked="" type="checkbox"/> ASPs	<input checked="" type="checkbox"/> Distributors	<input type="checkbox"/> Company

Training Required: Yes No

Summary:
 To calibrate the CVSM etC02 Module Please follow the following to perform a C02 Calibration Check. Or while using the Welch Allyn Service Tool (Gold License) to calibrate C02 Module.


Materials needed to perform a C02 Module Check or Calibration:

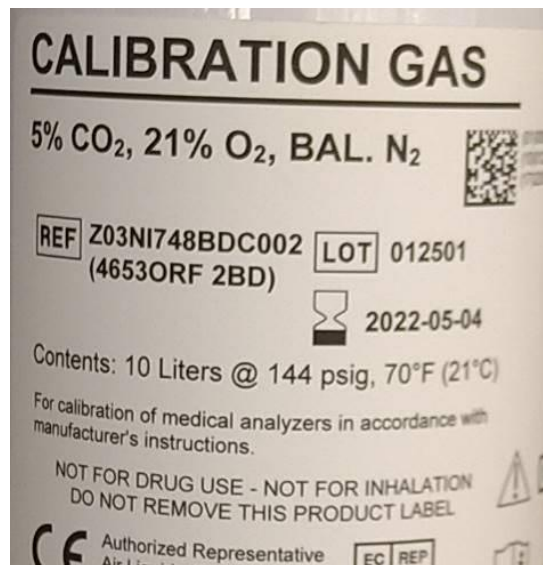
- 144 PSI Calibration gas cylinder containing 5% CO2, 21% O2, Bal N2* with an output flow of 1 liter per minute to the etC02 Module. * **
- "T" piece Part Number: 620216
- Microstream FilterLine® Part number: 006912 (cut to Length with Orange Connector as output) *

*Non Hillrom Supplied

**If the specified gas cylinder or tubing listed in the service manual cannot be purchased locally, a CO2 gas cylinder of any size with the appropriate gas mix (5% CO2, 21% O2, Balance N2) with an accuracy of 0.03% volume percent can be used as long as the output is controlled by a regulator valve to match the stated specification. The gas cylinder must have the proper pressure and output flow of approximately 1 liter per minute to the module as measured by a flow meter prior to connecting to the CO2 module.

The CO2 gas cylinder with the appropriate gas mix (5% CO2, 21% O2, Balance N2) with an accuracy of 0.03% volume percent can be purchased from your local supplier of industrial, medical and specialty gases (delivered in packaged or cylinder form).

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Example of the Gas Canister

CO2 Calibration Check

1. Perform a CO2 calibration or calibration check
2. You can use the etCO2 parameter advanced settings to check the CO2 sensor for proper calibration and to calibrate the sensor when calibration is due. Check calibration helps you verify whether the module is calibrated at the time of the calibration check.
3. Calibrate launches the calibration process.
4. Passing a calibration check could be misleading, especially if calibration is due in the near future. A sensor that is calibrated today might not remain calibrated over the next 4000 operating hours. Check calibration at the intervals recommended here to ensure proper calibration. Initially calibrate the CO2 sensor after 1,200 operating hours, then once a year or after 4,000 operating hours, whichever comes first. The initial calibration should not occur before 720 hours of use unless a calibration check shows the sensor to be out of calibration.

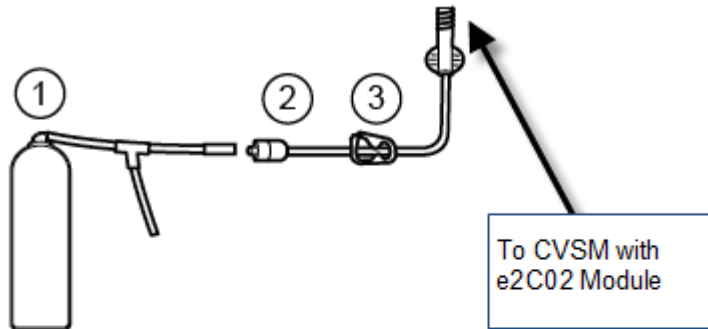
NOTE: If you perform the initial calibration before 720 hours of use, the module will reset to require its next calibration after only 1200 hours rather than 4000 hours.

7. The calibration kit provides the appropriate gas mix (5% CO2, 21% O2, Balance N2) with an accuracy of 0.03% volume percent. The gas canister has a **calibrated orifice** to allow the gas to flow at approximately **1 liter per minute**, the flow rate necessary to perform the calibration.
8. Before you begin, verify the time and date setting on the device is correct to correctly calculate when the next calibration is due. Then connect the CO2 calibration kit to the device as shown in the diagram:

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No.	Item
1	Gas canister
2	Calibration line
3	Hose clamp or hose valve (open)

1. Power on the device.
2. Touch the Settings tab.
3. Touch the Advanced tab.
4. Enter the configured Advanced settings code and touch OK.
5. Touch the Parameters tab.
6. Touch the etCO2 tab.
7. Scroll to the bottom of the screen and touch Check calibration or Calibrate.
8. Enter the calibrated CO2 concentration to the nearest tenth of a percent.
9. Open the gas supply and touch Start.
10. When prompted, close the gas supply.
11. If the calibration or calibration check is successful,
 - Touch OK to complete the calibration process.
 - Disconnect the calibration line from the device.
 - Dispose of or store the pressurized calibration gas container in accordance with your local regulations.
12. If the calibration or calibration check is unsuccessful,
 - Verify that the test CO2 concentration is correct according to the certificate of analysis provided by the vendor.
 - Check the sample line for occlusions or leaks.
 - Verify that the sample line is firmly attached to the input connector.
 - Check that the filter is not blocked.
 - Rerun the calibration check or calibrate procedure.
13. To record the results of your test, go to "Service record."

CO2 Calibration Using the Welch Allyn Service Tool:

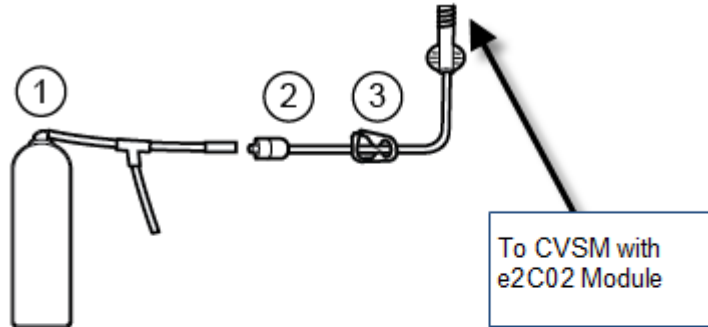
1. Before you begin, verify the time and date setting on the device is correct to correctly calculate when the

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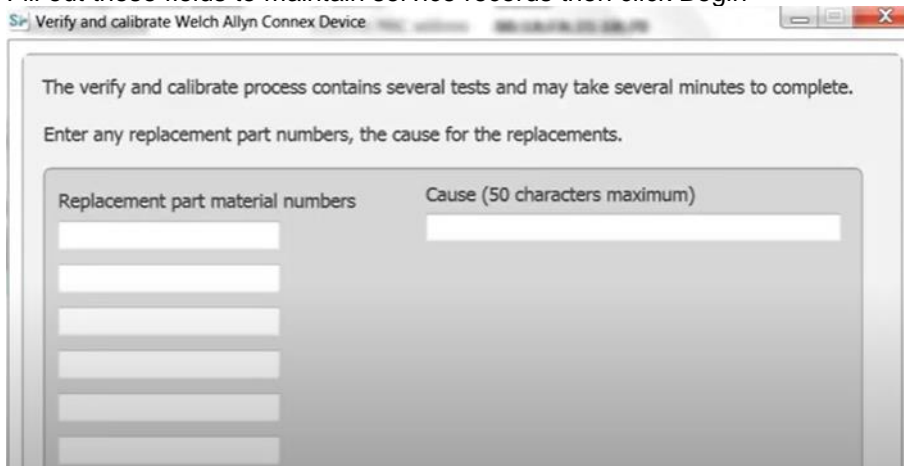
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next calibration is due. Then connect the CO2 calibration kit to the device as shown in the diagram:




No.	Item
1	Gas canister
2	Calibration line
3	Hose clamp or hose valve (open)

2. Connect CVSM w/ USB cable to WAST PC
3. Power on the device
4. Launch the Welch Allyn Service Tool
5. Click on CVSM Device
6. Click on Calibration Tab
7. Click on Oridion CO2 Module then click the Perform Button.
8. Fill out these fields to maintain service records then click Begin



9. Follow the onscreen prompts to perform the CO2 Module Calibration.

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Version	Sec, Pg, Para Changed	Change Made	Date Version Created	Version Created By (initials)
A	N/A	Initial Release	2020-02-17	MDB