

## Procedure

### Execution of Calibration

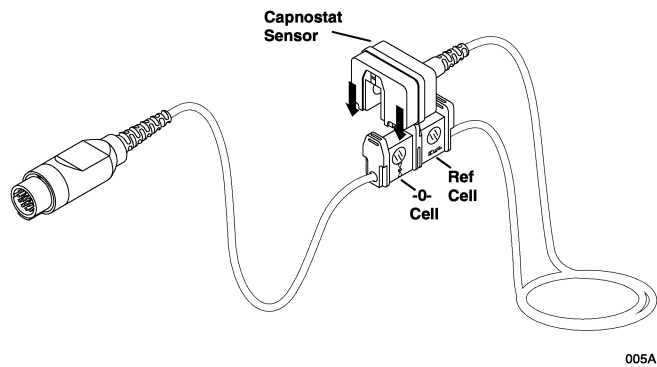
The calibration procedure is relatively simple and should be performed as needed (1) whenever changing adapter types (for example, adult to neonatal), and (2) when the monitor requests it (message in CO2 parameter window).

1. Place the sensor and airway adapter away from all sources of CO2 (including the patient's and your own exhaled breath, and ventilator exhaust valves).
2. With the cable connected to the module and the sensor connected to the airway adapter, select CALIBRATE ADAPTER from the CO2 Menu. A popup menu with READY and ABORT choices is displayed.
3. Select READY. Calibration is performed automatically and the message "CALIBRATING" is displayed in the CO2 parameter values window.
4. CO2 monitoring resumes automatically after calibration and the message "CALIBRATING" disappears from the CO2 parameter window.

### Sensor Check

A sensor check should be performed whenever you suspect incorrect values or a sensor failure. To perform a sensor check complete the following steps:

1. Remove the sensor from the adapter.
2. Place the sensor on one of the two cells as shown in the figure below. If placed on the cell marked "-0-" (zero), you should see a reading on the Tramscope display of 0. If placed on the cell marked "REF" (reference), you should see a reading of 38 mmHg ( $\pm 2$ ) on the Tramscope display.
3. If the Tramscope display shows the error message, "NOT CALIBRATED" while placed on the "REF" cell, try to calibrate the sensor on the "-0-" cell. Recheck with the "REF" cell and if the problem persists, replace the sensor.



• Calibration Check Cells •

## General Information

---

This section explains the inspection and cleaning procedures that should be performed on a regular basis. The preventive maintenance schedule lists the necessary procedures and intervals for good preventive maintenance practice. The calibration and sensor tests presented are recommended to be performed each time a module is serviced or opened for any reason.

### Section contents

This section includes the following:

- inspection,
- general cleaning, and
- preventive maintenance schedule.

## Inspection

An effective maintenance schedule should be established for the module. The schedule should include inspection and general cleaning on a regular basis. It is recommended the equipment should be inspected each time a patient is admitted to the system.



### Warning



A failure, on the part of the responsible individual hospital or institution employing the use of this monitoring equipment, to implement a satisfactory maintenance schedule may cause undue equipment failure and possible health hazards.

Follow these guidelines when inspecting the equipment:

- Inspect the equipment for obvious physical damage and replace damaged items.
- Ensure the module latches are working properly:
  - when the module is installed in a monitor, it should be latched firmly into place and should not slide out of the monitor without the latch buttons being depressed, and
  - when the latch buttons are depressed, the module should slide easily out of the monitor.
- Inspect all connectors for bent pins or prongs. Qualified service personnel should repair or replace damaged or deteriorated cables.
- Inspect all cable insulation. Qualified service personnel should repair or replace damaged or deteriorated cables.

## Cleaning

### Capnostat Dual Module

The equipment should be cleaned before each time a patient is admitted to the system. The exterior surfaces of the module may be cleaned with a lint-free cloth dampened with one of these approved solutions:

- ammonia (diluted),
- Cidex<sup>®</sup>,
- mild soap (dissolved), or
- sodium hypochlorite bleach (diluted).



#### Caution



Follow these cleaning instructions exactly. Failure to follow the instructions may melt, distort, or dull the finish of the case, blur lettering on the labels, or cause equipment failures.

*Always* dilute the solutions according to the manufacturer's suggestions.

*Always* wipe off all of the cleaning solution with a dry cloth after cleaning.

*Never* pour water or any cleaning solution on the equipment or permit fluids to run into the connectors or ventilation openings in the equipment.

*Never* use these cleaning agents:

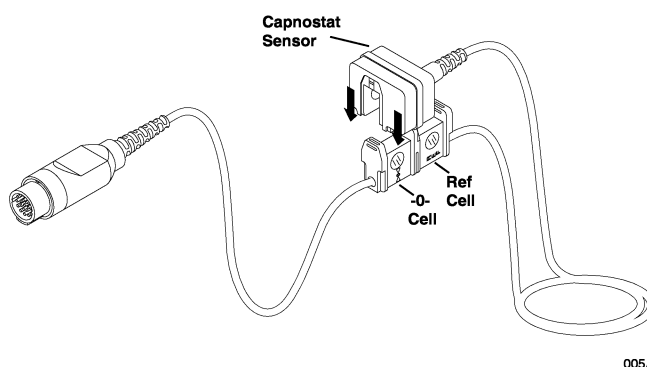
- abrasive cleaners or solvents of any kind,
- alcohol-based cleaning agents,
- wax containing a cleaning substance,
- acetone, or
- Betadine<sup>®</sup>.

## → Cleaning

### Capnostat Sensor Assembly

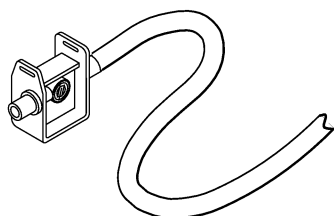
The following is the recommended procedure for cleaning the Capnostat sensor:

- Clean the sensor surfaces with a damp cloth.
- Ensure the sensor windows are clean and dry.
- DO NOT immerse the sensor.
- DO NOT attempt to sterilize the sensor.

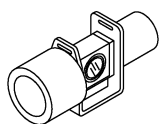


#### • Capnostat Sensor and Check Cells •

### Reusable Capnostat Adapters



#### • Sidestream Adapter •



#### • Mainstream Adapter •

The following is the recommended procedure for cleaning the reusable Capnostat adapters:

- An adapter can be cleaned by rinsing in a warm soapy solution, followed by soaking in a liquid disinfectant, pasteurized, or cold sterilized (glutaraldehyde). It should then be rinsed with sterile water and dried.

**NOTE:** The sidestream adapter should only be cold cleaned.

- The adult and low volume dead space adapters may be sterilized by using the ETO (ethylene oxide) gas method. They may also be sterilized using a steam autoclave method but lifetime of the adapter could be affected.
- Before reusing any adapter, ensure the windows are dry and residue-free, and that the adapter has not been damaged during handling or by the cleaning/sterilization process.

## Preventive Maintenance Schedule

---

### Checkout procedure

It is recommended that a calibration and a sensor check be completed to verify performance whenever:

- a module is replaced,
- a module has undergone repairs,
- an adapter is changed, or
- if the sensor has been changed.

### **Warning**

Failure to implement a satisfactory maintenance schedule may cause undue equipment failure and possible health hazards. Marquette Electronics, Inc. does not in any manner, unless an Equipment Maintenance Contract exists, assume the responsibility for performing the recommended calibrations. The sole responsibility rests with the individual or institution utilizing the equipment. Marquette service personnel may, at their discretion, use this procedure as a helpful guide during visits to the equipment site.