tetraCal - Instructions

How to Properly Use Your tetraCal®

Caring for Your tetraCal®:

1. Healthy batteries, happy tetraCal: always check your batteries to make sure they are in the proper position, they are not dead, and are not corroded. Remove AA batteries during long periods of storage.

2. Inspect your venturi: Keep an eye out for visible deposits or discoloration on the inside and outside of the venturi. External deposits can be removed with a soft cloth. To remove interior deposits, soak in soapy water and rinse. Use an ultrasonic bath if accessible. If lint or dust has accumulated on the inside of the venturi, use compressed air to remove.

3. O-rings: Make sure your o-rings are greased regularly with standard automotive-type grease. Inspect o-rings for wear or cracks and replace at the first sign of wear.

4. Make sure your hoses are not cracked and they are connected properly, otherwise flow leaks may occur.

How to Use Your tetraCal®:

1. Take the battery holster from the front of the machine and place the batteries in per the diagram shown. You may alternatively choose to use the AC power adapter that is provided.

2. Slide the batteries into the front of the TetraCal. You will hear an audible click when it has properly seated.

3. Select the venturi you need for the proper flow you need to find. The tetraCal comes with three, labeled "1", "2", and "3".
   a. Venturi #1 (the one used for this document's purpose) is used for anywhere between 6 to 30 liters per minute
   b. The #2 Venturi goes from 1.2 to 6 liters per minute
   c. The #3 venturi goes from 0.1 to 1.2 liters per minute

4. Make sure the Venturi seats firmly in the base. There are two little buttons on the side of the monitor where you put in the Venturi and they need to be depressed so they can sense which Venturi you're using. If the Venturi are not properly placed, you may get a misread.

5. Once you have the #1 Venturi firmly in place, choose a hose adapter for the top of it. There are 3 different sizes available. Use the medium tube for this document's purpose. The medium, 4' length of tubing has a small connector that will secure to the top of the venturi.

6. The temperature probe provided plugs into the side of the TetraCal, in the slotted area. This will not be needed to zero the tetraCal, so it can be removed.

7. Next, you will need to zero out your tetraCal. Before you start, make sure the unit is guarded from wind or moving air, since the venturi must have no air flowing through it during the zeroing out process. If air is flowing, the flow rate will be set as zero.

8. It is very important allow the TetraCal to equilibrate for more than 10 minutes. If you experience a temperature change of more than 2 degrees or pressure shift of more than 5 degrees, turn it off and re-zero the TetraCal.

9. Place the TetraCal on a level surface. Assemble your air sampler. Take off the PM 10 selective head and attach the flow audit adapter. Ensure that the flow head adapter is open. Attach the hose and wait for a reading. The TetraCal can be running with flow going through or not. If possible, keep the TetraCal in the shade.

10. Keep the temperature probe in the shade as well and do not touch it to anything as it will become a heat sink.

11. Disassemble all of the pieces and place them back into their case.

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