



97-032 Rev B

2 May, 2007

M152/M100/M100A/M101/M102/M101A/M102A Reaction Cell Cleaning Procedure

I. PURPOSE:

A procedure for cleaning the reaction cell in Teledyne API SO₂ analyzers. This should NOT be done as part of routine maintenance, but only when you are certain that the reaction cell is contaminated. The exception to this is for M102 and M102A or M152 running in TRS mode with the STI high temp TRS converter. These analyzers should be cleaned every six months.

II. TOOLS:

#2 Phillips Screwdriver
Long Q-tips
Denatured Alcohol
Distilled Water
Lint free cloths, (Kimwipes, etc).

III. PARTS:

N/A

IV. PROCEDURE:

1. Remove power from analyzer.
2. Remove the cover from the analyzer.
3. For M100A/M101A/M102A/M100AH analyzers, go to step 11.

NOTE!

**If power is still on at this point, turn it off and unplug the analyzer.
If power is applied to the PMT during the remainder of this procedure,
the PMT will be permanently damaged!**

4. For M151/M100, locate the Sensor Ass'y. It is the "T" shaped assembly with the PMT barrel at one side, the UV lamp on one arm of the cross and the Detector on the other side of the cross.
5. Remove the Chopper belt from the motor and pulley.
6. Locate the 4 screws which hold the Sensor Ass'y in place. These screws are mounted into rubber "shock mount" washers. Remove these 4 screws. Now lift the entire Sensor Ass'y and rest it on the left side of the chassis.
7. Directly across from the PMT barrel is a square "end plate" where the wires for the heaters and thermistor come out. Remove the 4 screws in the end plate. Remove the end plate. You are now looking into the reaction cell.

8. If the Reaction cell is clean, go to step 16. Take the lint free cloth and wet it slightly with alcohol. Wring it out thoroughly so that it is damp, but not dripping. Clean the entire inside of the Reaction Cell with the lint free cloth, then dry it with a dry lint free cloth.
9. Take another lint free cloth and wet it with Distilled water. Wring it out as before. Rinse the inside of the reaction cell. Repeat 2 times with new lint free cloths.
10. Use lint free cloths to dry the reaction cell completely. Go to step 16.
11. For M100A/M101A/M102A/M100AH proceed as follows:
12. Locate the UV lamp transformer. On one side is a bundle of tubes and cables locked into a tie wrap. Unlock the tie wrap and move the cables away from the sensor housing.
13. Remove the shipping screw (if installed) and the shock-mounted screw in the sensor housing next to the end plate.
14. Remove the 4 screws holding the end plate in place. Remove the end plate.
15. Perform steps 8 - 10 above.
16. Assembly is the reverse of disassembly, be sure to install the Oring prior to installing the end plate. Be sure that you do not get thermal grease inside the end plate or reaction cell.
17. Leak check the analyzer. Flow check the analyzer. Perform a factory calibration on the analyzer.