



02-004D
2 May, 2007

MEASURING THE FLOW IN A M200AH ANALYZER

I. PURPOSE:

This service note provides instruction on how to measure the flow in a TAPI M200AH analyzer.

II. TOOLS:

Flowmeter

7/16 open-end wrench

9/16 open-end wrench

III. PARTS:

KIT000067 Rcell Rebuild KIT (M200AH/M252H), If required.

IV. PROCEDURE:

NOTE: for the following steps see the diagram on page 3 for locations of the fittings & where to check the flows. To simplify the measurement of the flows, loosen the screws that hold the Heated orifice block into the chassis of the analyzer so that it will lay down & it is simpler to get to the fittings. The diagram has been drawn with the block laying down to show details.

1. CHECKING THE SAMPLE FLOW

- Check the Sample Flow by connecting a flowmeter to the sample inlet port of the instrument. The measured flow should be 310cc \pm 30cc for Standard flow option, 550cc \pm 50cc for High flow option.

2. CHECKING THE OZONE FLOW

- Check the ozone flow by disconnecting the 1/8" tubing from the Ozone generator to the reaction cell. Connect the flowmeter to Ozone port of the reaction cell and measure the flow. The measured flow should be 250cc \pm 25cc. If you don't know which fitting to remove from the top of the Rcell, trace the 1/8" tube from the ozone generator to the Rcell.

3. CHECKING THE DRYER PURGE FLOW

- Check the Dryer Purge Flow by connecting your flow meter to the DFU filter from at the inlet to the Dryer and measure the flow. Now subtract the measured ozone flow from step 2 from this total flow and the difference is the dryer purge flow. This flow should be approximately 60-90cc. Be careful with the dryer, the only fitting to remove from the dryer is the one fitting that holds the filter to the dryer. Removing the wrong fittings can result in the dryer becoming failed.

4. CHECKING THE BYPASS FLOW

- Check the Bypass flow by disconnecting the 1/8" tubing from the 7mil orifice port on the vacuum manifold. Connect the flowmeter to the 7mil orifice port and measure the flow. The measured flow should be 250cc \pm 25cc for Standard flow option, 500cc \pm 50cc for High flow option.

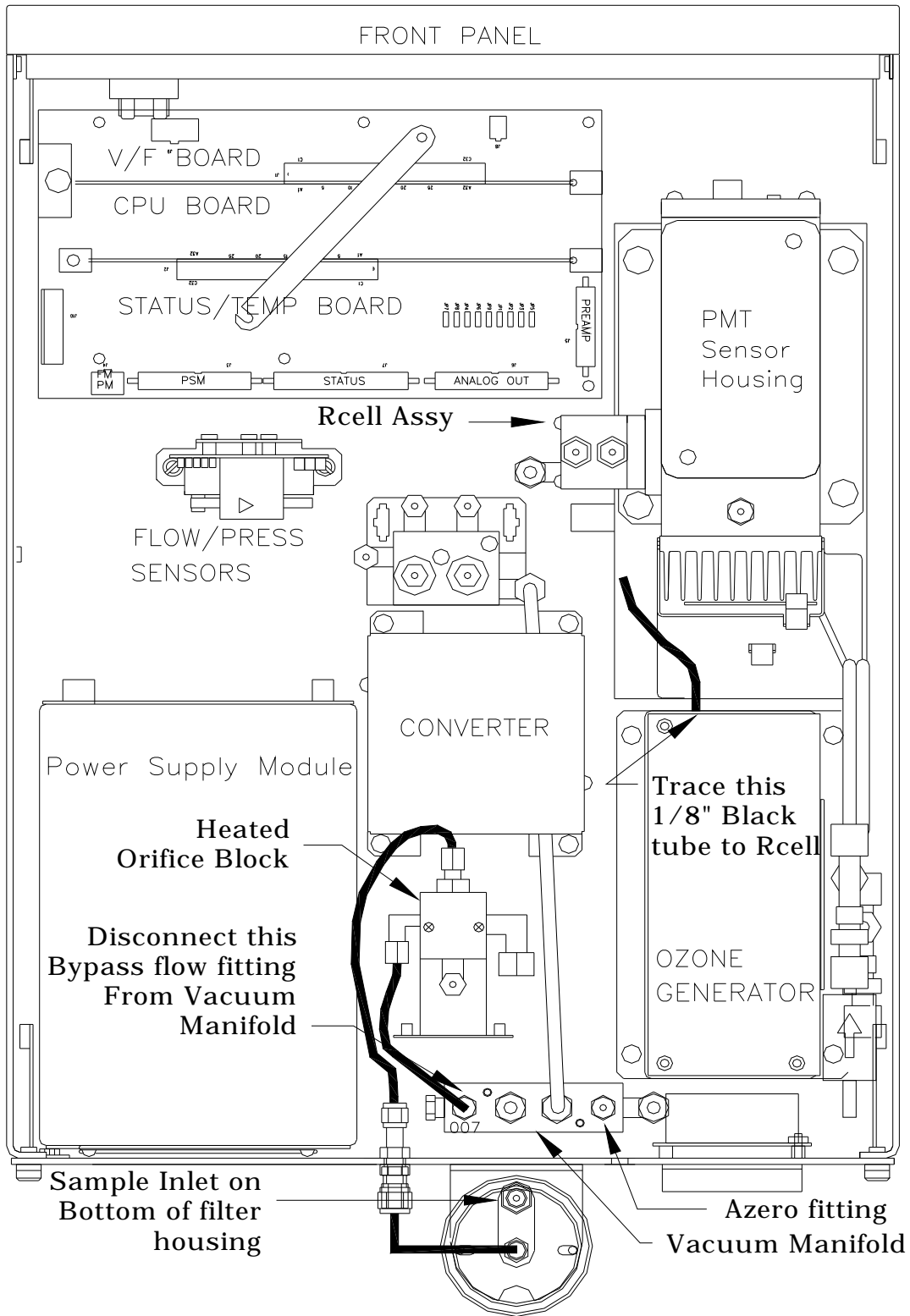
5. **CHECKING THE 3 MIL ORIFICE FLOW**

- Check the 3 Mil orifice flow by disconnecting the 1/8" tubing from the 7mil orifice port on the vacuum manifold and then cap the tubing (note: you can leave the fitting on the vacuum manifold open, but you must plug or cap the tube that comes off of that fitting). connect the flowmeter to the sample inlet on the filter housing & measure the flow. The measure flow should be 40cc ± 4cc.

If any of the above flows do not meet specifications the sintered filters and o-rings should be replaced for that specific port and the flow should be re-checked. If the flow still does not meet specifications then the orifice should be replaced. Listed below are the orifices for each of the flows. The KIT000067 has all the orifices, filters & O-rings for the standard flow M200AH. If you have the high flow option, you will need to order a 00940600 orifice which is the 500 cc/min orifice along with the KIT000067.

FLAWS	OZONE	DRYER PURGE	BYPASS	FLOW BLOCK	SAMPLE
	250CC	60-90CC	250CC - STD 500CC - HIGH	40CC	BYPASS + FLOW BLOCK

After all of the flows have been checked reconnect all of the lines and perform a leak check on the instrument.



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