



**04-010B
2 May, 2007**

FIELD INSTALLATION OF IZS INTO M200E ANALYZER

I. PURPOSE:

This note provides instructions on retrofitting a T-API model M200E with the IZS (permeation tube) option.

II. TOOLS:

#2 Phillips head screwdriver
Flat blade screwdriver
7/16" wrench
1/2" wrench
9/16" wrench
Flowmeter capable of measuring 40CC/Min.

III. PARTS:

API Part Number 04231-0000, Option, IZS, M200E



The electronics used in T-API analyzers are sensitive to Electrostatic Discharge (ESD). When working on any T-API device, please ensure that you are properly grounded prior to handling or touching any electronic circuitry in the analyzers! For more information on how to protect sensitive components from ESD during handling, please contact T-API customer service and ask for the ESD Service note number 03-022A.

IV. PROCEDURE:

1. Remove power from analyzer.
2. Remove cover from analyzer.
3. Locate Vacuum Manifold at the rear of the analyzer (see Drawing #1).
4. One of the fittings on this manifold will have a plug in it (no tube coming out). Lower the rear panel and remove this fitting.
5. Locate the O-rings, orifice, sintered filter, spring and 1/8" SS fitting from the KIT.
6. Drop an O-ring into the opening on the vacuum manifold. Ensure that it is sitting flat in the hole. Drop the orifice into the hole, with the painted side facing up. Drop the other O-ring

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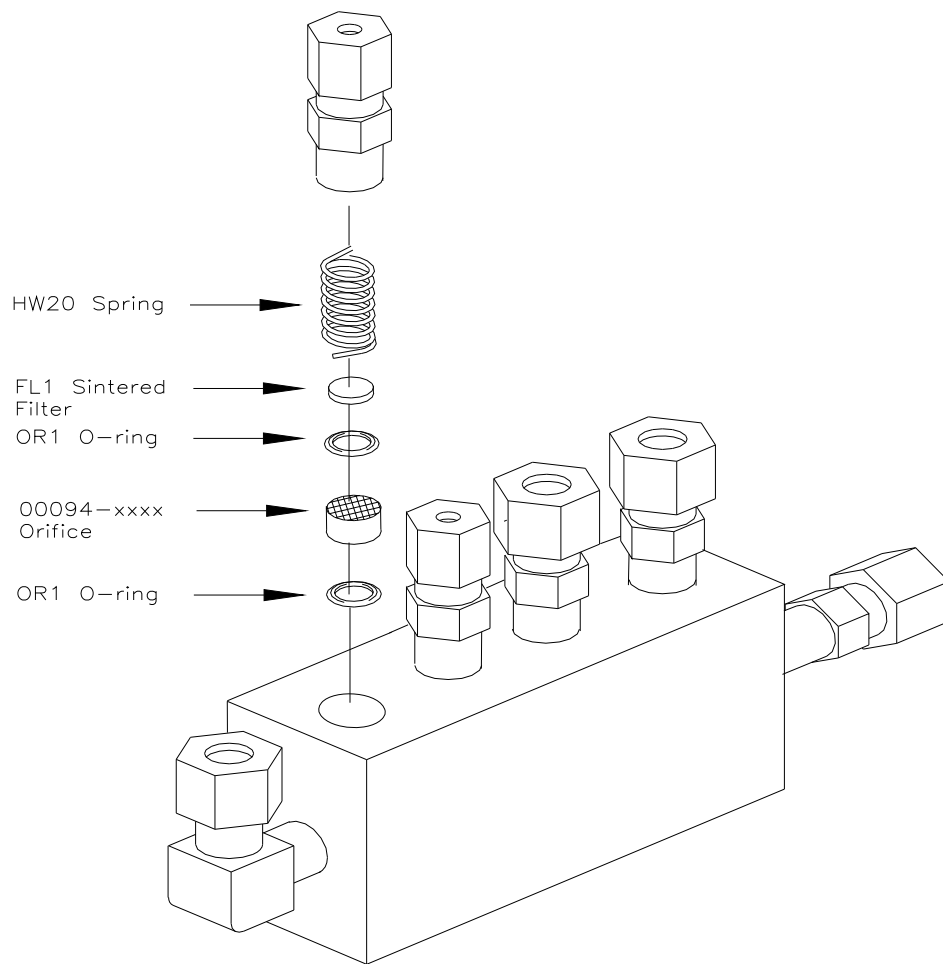
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- on top of the orifice. Drop the sintered filter on top of the O-ring, then put the spring on top. (See drawing #1)
7. Screw the fitting into the hole, compressing the spring. Ensure the fitting is tight.
 8. Connect the vacuum pump to the exhaust fitting of the analyzer and turn the pump on.
 9. Using a Flowmeter, measure the flow at the 1/8" fitting you just installed. This flow must be 40+-5CC/Min. Turn pump off.
 10. Look in the left rear corner of the analyzer and locate three cables (there may be 4, you only need 3 of them). The ones you want are a two-pin with purple and black wires, a two pin with orange and black wires, and a 5 pin with orange, yellow, clear and black wires.
 11. Cut the tie-wrap from the cables. Cut the shrink tubing off of the connectors.
 12. Take the IZS oven assembly and install it into the chassis using the two flat blade captive screws on the assembly. The valves should be facing inward.
 13. Install the three connectors onto the IZS oven assembly. The purple and black wired connector should connect to the center plug on the IZS oven assembly.
 14. Remove the nut and ferrule from the elbow fitting on the side of the valve closest to the rear panel. Set them aside.
 15. Locate the SAMPLE bulkhead fitting on the rear panel. Disconnect the 1/8" tube from the inside of the bulkhead fitting and attach it to the elbow closest to the rear panel on the IZS oven assembly.
 16. Take the bulkhead fitting from the KIT and install it at the ZERO port on the rear panel.
 17. Take the 1/8" tubing from the KIT and measure out a length of tubing to connect from the bulkhead fitting you installed to the tee on the valve on the IZS oven assembly. Cut the tube to fit.
 18. Remove the 1/8" nut and ferrules from the tee on the valve on the IZS oven assembly. Slide the nut and ferrules onto the tube you cut in the previous step. Insert the tube into the tee fitting on the valve. Slide the ferrules and nut onto the fitting and swage them by turning the nut 1¼ turns past finger tight.
 19. Remove the 1/8" nut and ferrules from the fitting you installed into the vacuum manifold and slide them onto the other end of the tube from the previous step. Insert the end of the tube into the 1/8" fitting on the vacuum manifold. Slide the nut and ferrules into place and swage the fitting by turning the nut 1¼ turns past finger tight.
 20. Remove the nut and ferrules from the 1/8" fitting that you installed in the vacuum manifold. Remove the tube from the elbow fitting on top of the valve closest to the rear panel. Connect the tube to the 1/8" fitting you installed on in the vacuum manifold.
 21. Take the other tube from the KIT. Measure the length to fit between the elbow fitting on the top of the valve and the sample inlet bulkhead fitting. Cut the tube to fit.
 22. Take the 1/8" nut and ferrules that you removed in step 14 and put them onto the end of the tube. Insert the end of the tube into the elbow connector on top of the valve closest to the rear panel. Slide the nut and ferrules into place and swage the fitting by turning the nut 1¼ turns past finger tight.
 23. Take the 1/8" nut and ferrules that you removed in step 20 and put them onto the end of the tube. Insert the tube into the sample inlet bulkhead fitting. Slide the nut and ferrules into place and swage the fitting by turning the nut 1¼ turns past finger tight.
 24. Power up the analyzer and connect the pump to the exhaust fitting. Turn on the pump.
 25. Cap the sample inlet. The Sample Pressure will start to decrease. When it has dropped and is stable, compare it to the Rcell Pressure. If the difference between them is more than .5"-Hg then the analyzer has a leak that must be found and repaired.
 26. Move the cap to the ZERO inlet and press CALS. Again wait until the Sample Pressure has decreased and is stable. Verify that the Sample Pressure and Rcell Pressure are within .5"-Hg. If they are not, the IZS sub-system has a leak and must be repaired.
 27. Turn power off and remove the cap from the ZERO inlet.
 28. Take the scrubber clamps and the 4 screws from the KIT. Install them onto the rear panel.
 29. Put the scrubber into the clamps with the filter and tubing pointing down. Connect the tube to the ZERO inlet.

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