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Service Note

06-012B
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CONVERTING THE M100E, M300E, M360E, AND M400E FOR EXTERNAL PUMP

I. PURPOSE:

To provide information on how to remove the internal pump and reconfigure the "E" series analyzers for use with an external pump application .

II. TOOLS:

Wrench – 9/16" (2 required if working on a M300E or M360E)
Wrench – 1/2"
Wire Cutters

III. PARTS:

FT0000063 - union, 1/4"
HW0000127 - releasable clamp, adhesive (2 required if reworking M300E or M360E)

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:

FOR M100E AND M400E ANALYZERS

1. Remove power to analyzer.
2. Remove the cover from analyzer.
3. Locate internal pump in analyzer.
4. Locate the power cables on the pump.
5. Identify if the relay board is p/n 03955xxxx or p/n 04523xxxx.
    a. If it is p/n 03955xxxx, then remove the pump power cables from the main harness.

b. If it is p/n 04523xxxx, then remove the pump power cable from J20 on the relay board.

6. Loosen and remove the tubing from the two fittings from the top of the internal pump.
7. Locate the FT0000063, remove the nuts and ferrules and saving them for some future tubing repair.
8. Connect the two tubes, removed in step 6, with the FT0000063 Union.
9. Remove the internal pump.
10. Place the HW0000127's band around the FT0000063.
11. Clean and degrease with alcohol the chassis in the footprint of where the internal pump was.
12. Remove the protective cover over the adhesive of the HW0000127, and secure the HW0000127 to the chassis in the footprint of where the internal pump was located.
13. Leak check the analyzer.
14. Connect the external pump.
15. Reconnect the power to the analyzer and power up the analyzer.
16. Flow check the analyzer (650cc +/- 10% for the M100E, and 800cc +/- 10% for the M400E).
17. Replace the cover to the analyzer.

FOR M300E AND M360E ANALYZERS

1. Remove power to analyzer.
2. Remove the cover from analyzer.
3. Locate internal pump in analyzer.
4. Locate the power cables on the pump.
5. Remove the pump power cable from J2 on the relay board.
6. Loosen and remove the tubing from the PRESSURE fitting on the top of the internal pump.
7. Carefully lift this tubing until it is clear of all chassis mounted components except the REAR PANEL EXHAUST UNION.
8. Reroute this tubing from the BACK PANEL EXHAUST UNION, around the back side of the OPTICAL BENCH (between the MOTHERBOARD on the BACK PANEL and the back of the OPTICAL BENCH – being careful not to pinch the tubing), to the space that is between the side of the OPTICAL BENCH and the CHASSIS side wall..
9. Remove the FLOW CONTROL ASSEMBLY from the VACUUM fitting on top of the internal pump.
10. Locate the FT0000063, remove the nuts and ferrules and saving them for some future tubing repair.
11. Connect the tube, removed in step 6 and which is now on between the CHASSIS side wall and the side of the OPTICAL BENCH, to one side of the FT0000063 Union.
12. Connect the other side of the FT0000063 Union to the free end of the FLOW CONTROL ASSEMBLY.
13. Remove the internal pump.
14. Place the band of one of the HW0000127's around the middle of the FLOW CONTROL ASSEMBLY and place the band of the other HW0000127 around the FT0000063.
15. Determine the area on the outer side of the OPTICAL BENCH that the FLOW CONTROL ASSEMBLY will be located. Clean and degrease with alcohol that area of the OPTICAL BENCH.
16. Remove the protective covers over the adhesive of both of the HW0000127's, and secure the HW0000127's to the side of the OPTICAL BENCH closest to the chassis side wall.
17. Leak check the analyzer.
18. Connect the external pump.
19. Reconnect the power to the analyzer and power up the analyzer.
20. Flow check the analyzer (800cc +/- 10% for the M300E/M360E).
21. Replace the cover to the analyzer.