



07-020A
19 October, 2007

Installation of two Sample Dryers for a M200EU NOy

I. PURPOSE:

This note will guide the user through the installation of two perma pure dryers, one for the NO channel and one for the NOy channel. These will condition the sample, helping with both H₂O and NH₃ interferants.

II. TOOLS:

9/16" Crescent Wrench
1/2" Crescent Wrench
7/16" Crescent Wrench
#2 Phillips Head Screwdriver
Flat Head Screwdriver
Tubing Cutter
Scribe
Diagonal Cutters (wire cutters)

III. PARTS:

KIT000260 KIT, RETROFIT, DUAL SAMPLE DRYERS, NOY

IV. PROCEDURE:

1. Turn off power to the pump pack and disconnect the power cable. Take out the philips head screws on both of the cover that hold it to the chassis. Remove the cover.
2. Locate the vacuum manifold (See figure 1). Using your 7/16" wrench, remove both of the plugs on the manifold. Clean the threads, using your dental scribe or other tool, of all left over Teflon tape.
3. Take the two FT0000012 fittings from the kit and apply Teflon tape to the threads. Install these two fittings into the two holes that the plugs where previously installed into.
4. Locate the two bulk head fittings on the rear panel that have tee fittings attached to them. Disconnect the four 1/4" tubes going to these two tee fittings (See figure 2).
5. Remove both these bulkhead fittings from the rear panel of the analyzer, this includes the tee and the actual bulkhead fitting. Install the two FT0000040 bulkhead fittings, provided in the KIT, in the location where the two tee fittings where just removed. Make sure that the longer ends of the fittings are on the inside.
6. Disconnect the tubing that goes to the top fitting on each of the sample filters located on the front panel. Remove the two FT0000085 and the two FT0000036 fittings from the kit. Take each one of the FT0000036 fittings and remove one set of nut/ferrules from one of the "RUN" sides of the fitting. (See figure 3)

7. Put the nut and ferrules onto the FT0000085 and install this into the other “RUN” fitting on the tee, make sure to tighten to 1¼ turns. (See figure 3). Install this onto the front panel fitting that was disconnected in step 6. (See figure 3)
8. Take the dryer assembly from the KIT and install it into the pump pack using a flat head screwdriver. This assembly contains both perma pure dryers. One for the NO channel, and one for the NOy channel (See figure 4).

NOTE: For the Next Steps please see the pneumatic schematic, figure 5, attached to this document, to use as a reference for how this new configuration should be plumbed up. When in doubt, follow the schematic.

9. Fully lower both the rear and the front panel for the next steps while installing tubing. This will allow enough tubing so these panels can be open and closed after the tubing has been installed.
10. Locate the two pieces of tubing going to the two center fittings on the vacuum manifold. Follow these pieces of tubing and cut any tie wraps that may be holding them to other pieces of tubing. These two pieces of tubing should have gone back to the tee fittings that were removed in step 5. Connect these tubing to the front panel tee that was installed in step 7. Connect these into the “RUN” portion of each tee.
11. Take some of the TU0000006 from the KIT and cut a length of tubing to run from the tee on the front panel filter to the “RUN” side of the nylon tee on one of the dryers. Make sure to leave a little bit of slack in the tubing. Cut this tubing to the proper length and install one going from each dryer to each front panel filter.
12. Take some of the TU0000006 and make a piece of tubing that will run from the “TEE” portion of the nylon tee on the dryer to one of the two stainless steel fittings on the vacuum manifold that were installed in step 3. Cut the tubing to the proper length and install a piece going from each dryer to each one of these fittings.
13. Take some of the TU0000006 and make a piece of tubing that will go from the “RUN” side of the stainless steel tee on the dryer to the bulkhead fittings that were installed in step 5. Please ensure that they are plumbed up to the proper NOy or NO channels. If you follow the tubing from the NOy IN and NO IN fittings on the back of the unit, you will find which tubing goes to the NOy OUT and NO OUT fittings. Cut this tubing and install it into place.
14. Perform a leak check on the pump pack. Re-install the cover and connect the pump back up to the umbilical cord assembly and the NOy analyzer. Recalibrate the NOy analyzer.

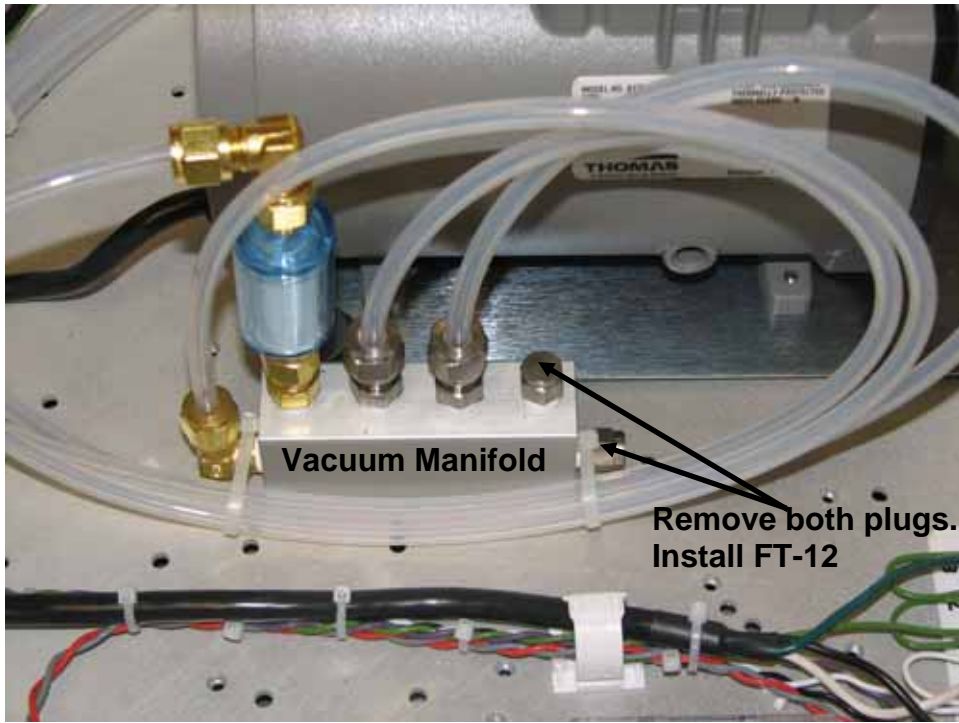


Figure 1

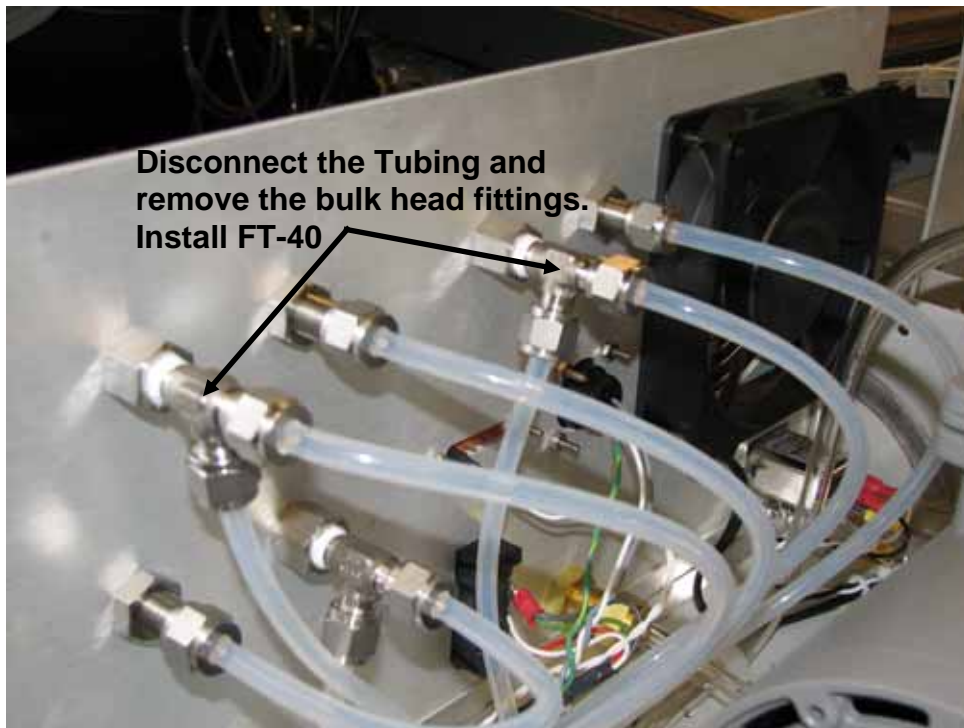


Figure 2

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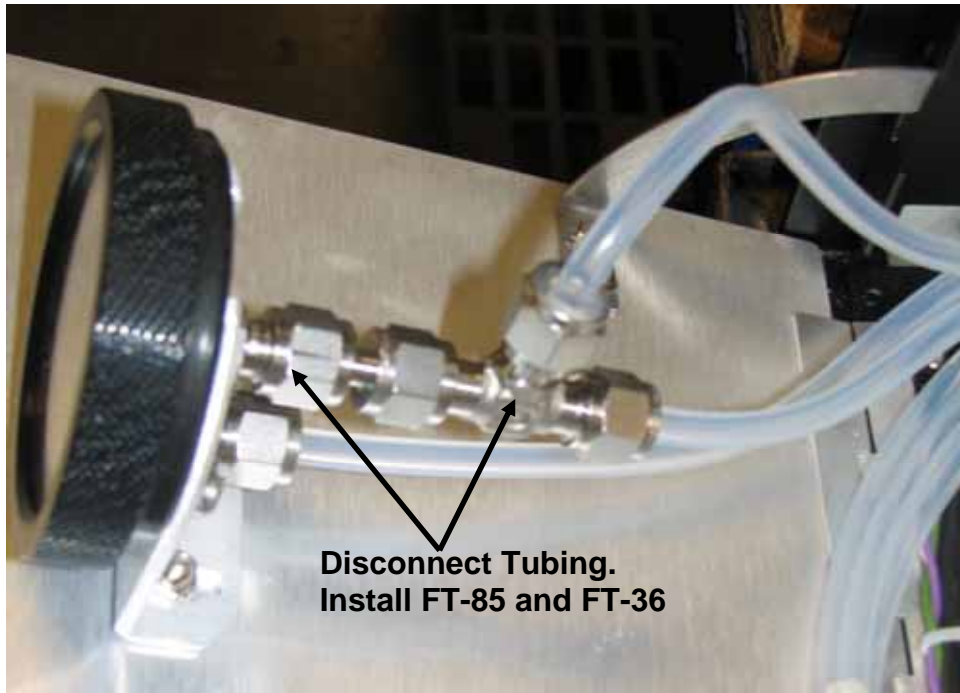


Figure 3

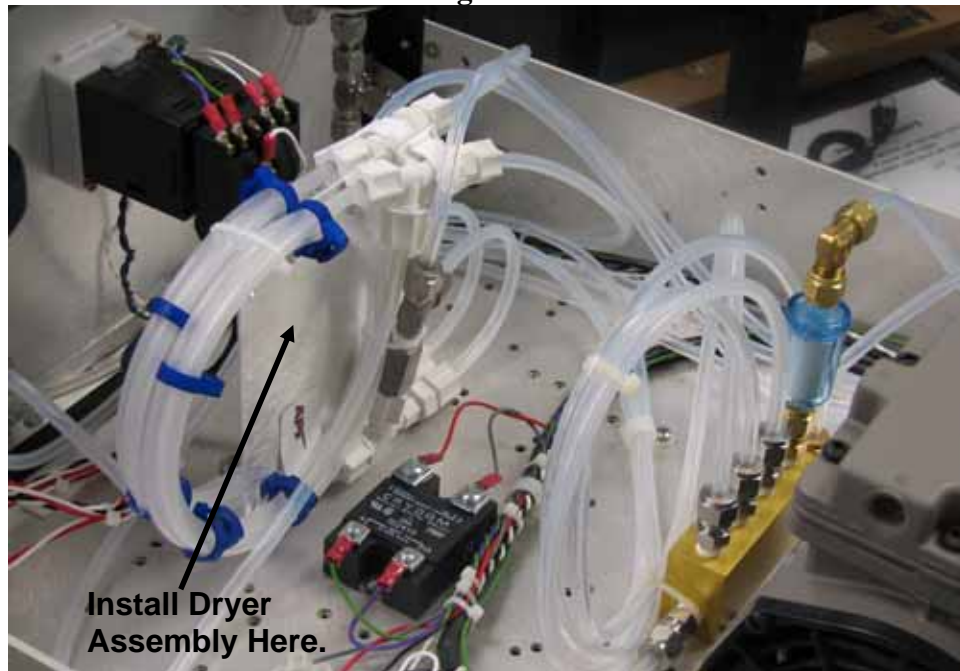


Figure 4

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PUMP PACK

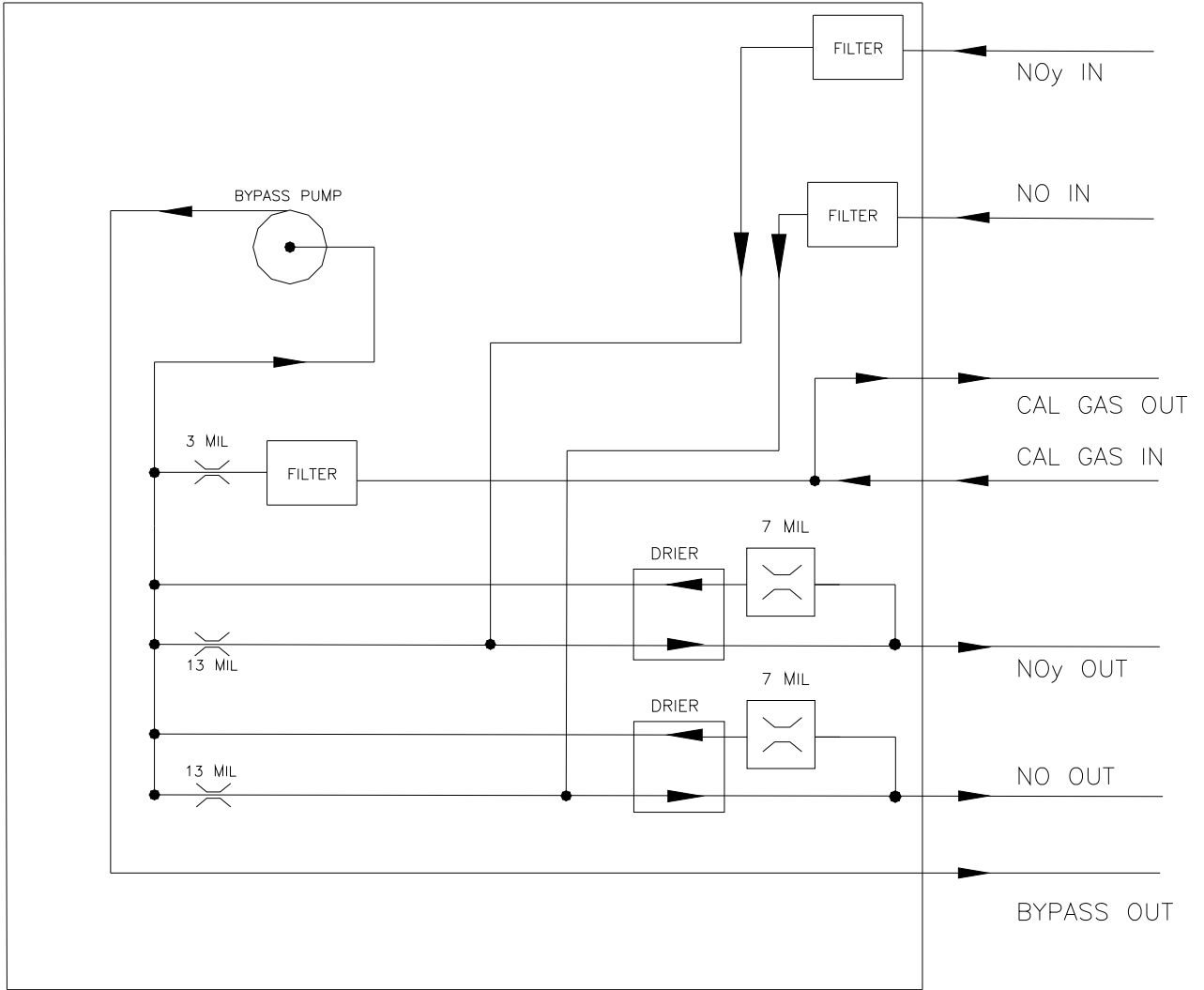


Figure 5

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