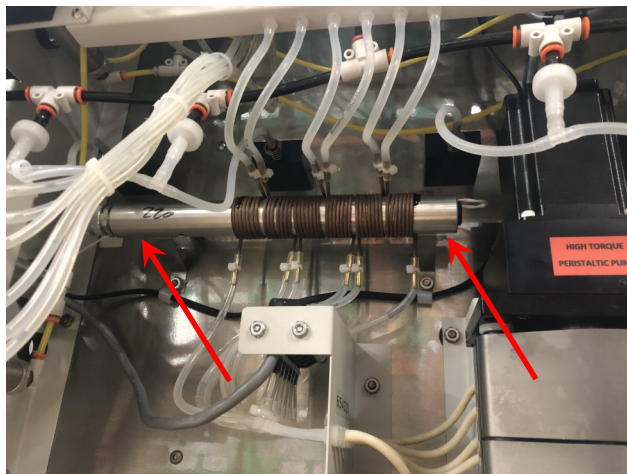
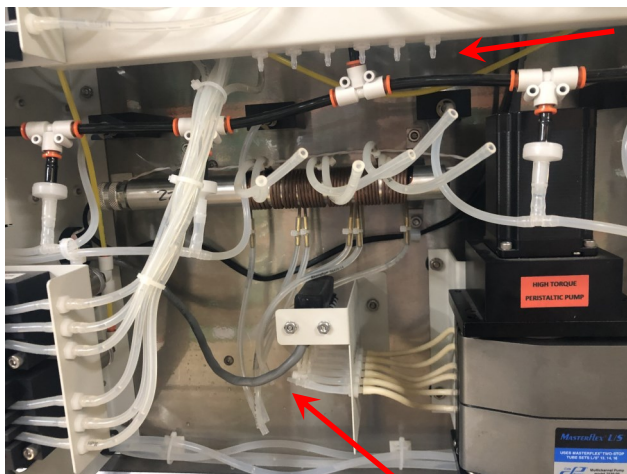


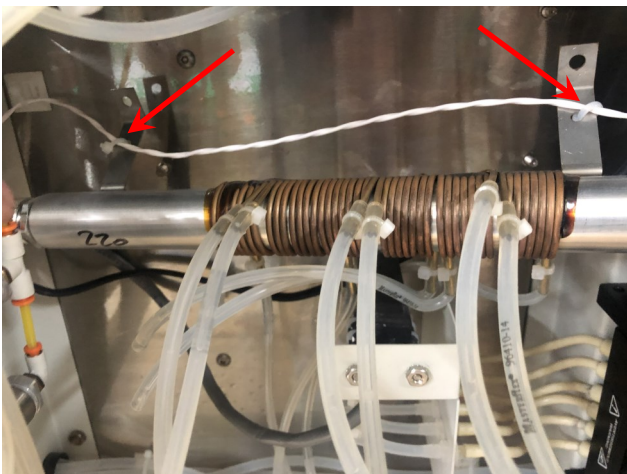
1. TURN POWER OFF TO THE INSTRUMENT AND DISCONNECT THE POWER CORD. Identify the In-line Heater in the rear of the instrument.



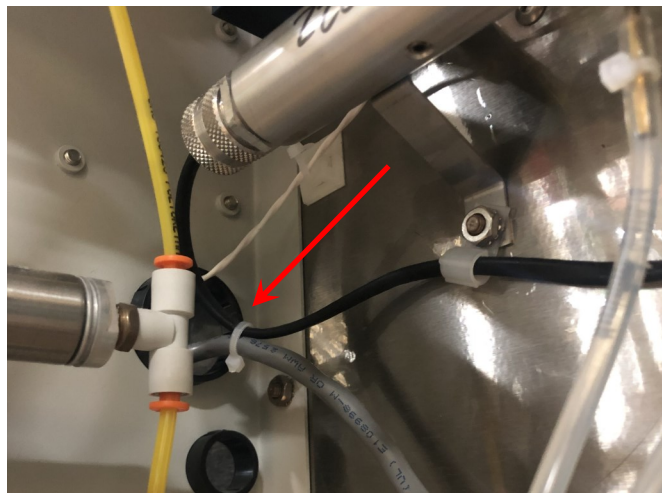
2. Disconnect the twelve tubes going to the tubing support panel (above) and to the pressure sensor assembly (below).



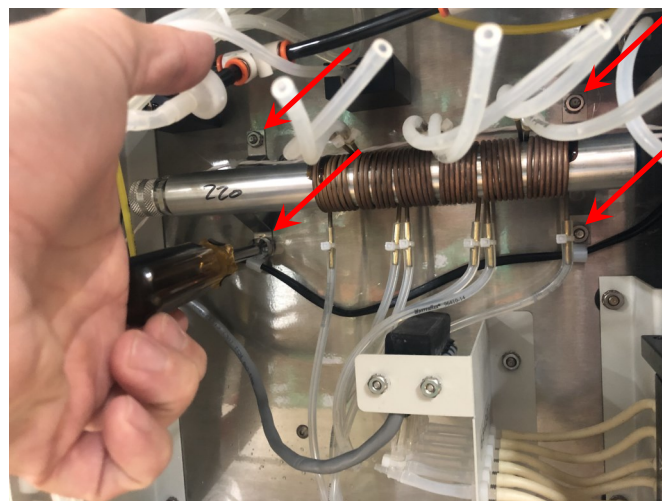
3. Carefully cut the cable ties holding the white thermistor wire to the two brackets on the in-line heater.



4. Carefully cut the cable tie holding the in-line heater power cord to the pressure sensor assembly cable.



5. Remove the four nuts holding the in-line heater brackets to the inside front panel of the instrument.



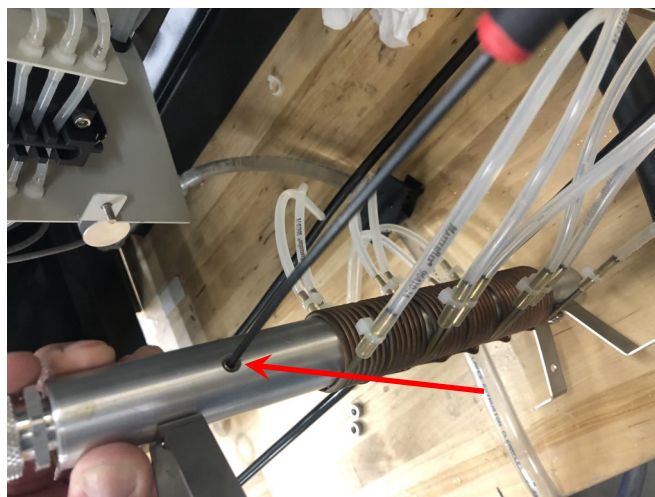
6. Pull the in-line heater assembly off of the four threaded studs on the front panel.



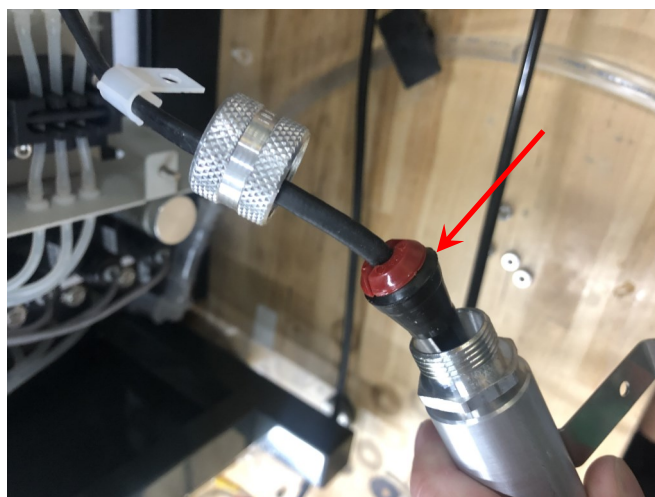
7. Slide the thermistor out of the socket it is in.



8. Loosen the set screw on the in-line heater with a 3/32" hex wrench. *This set screw holds the heater cartridge in place and MUST be loosened before proceeding to the next step to avoid damage to the power cord.*



9. Unscrew the knurled nut holding the heater cable and pull the rubber stopper from its position so that the heater cartridge inside is now loose.



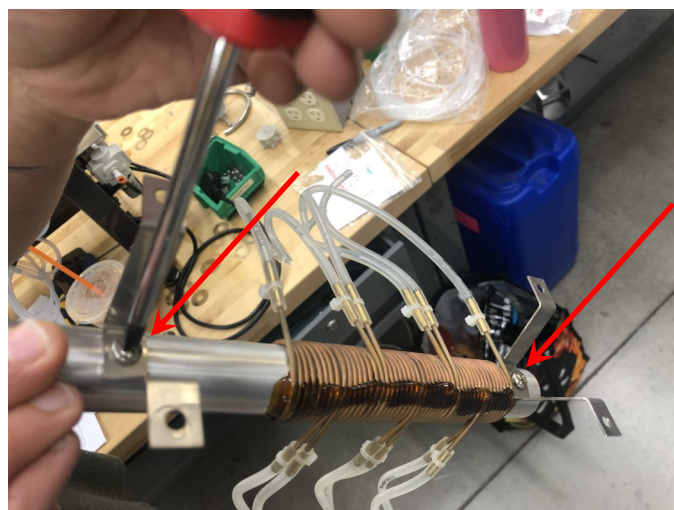
10. Use a 7/8" wrench to unscrew the ring nut.



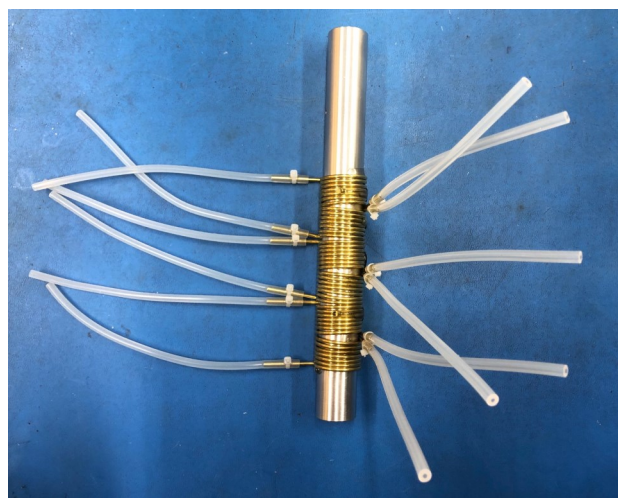
11. Slide the heater cartridge out of the in-line heater core.



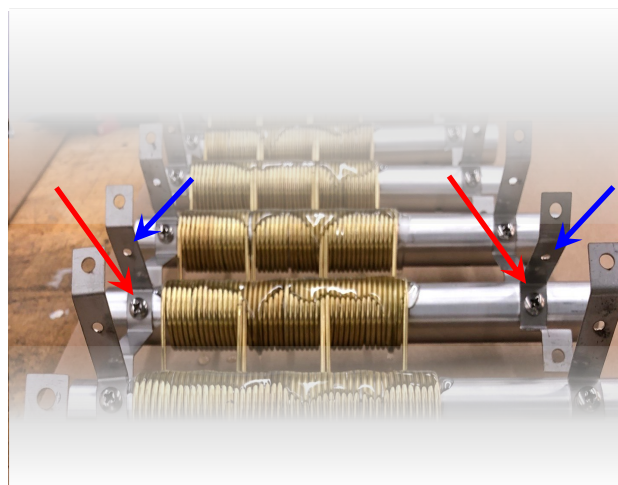
12. Remove the two brackets from the old in-line heater core.



13. Obtain the new TDF120 In-line Heater Core.



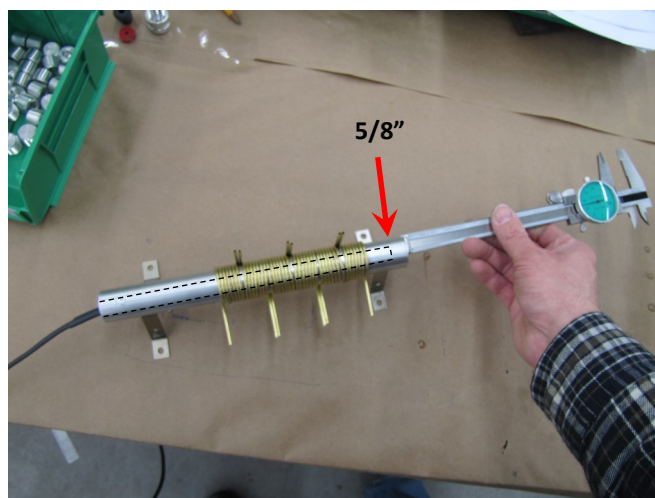
14. Attach the two brackets from the old in-line heater core onto the new one using a phillips screw driver. Do this so that the two holes in the bracket are facing in the direction indicated by the blue arrows.



15. Remove the threaded plug from the end of the in-line heater using a 5/16" Hex wrench.



16. Slide the heater cartridge into the in-line heater core and bring it to 5/8" (~16mm) from the side that has the brass tubing closest to the end.

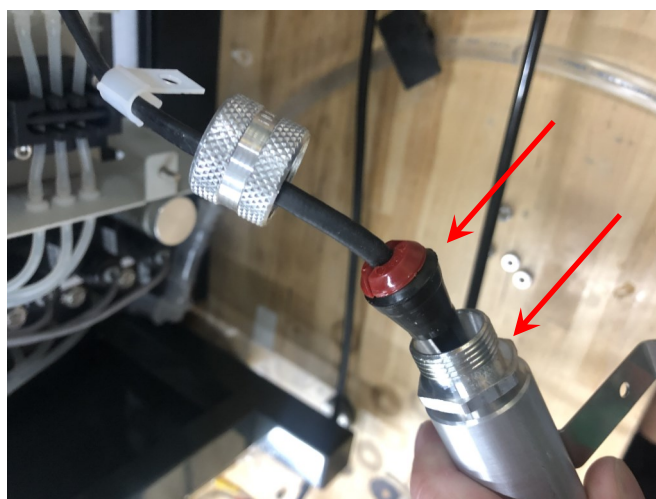


17. With the heater cartridge held in this position, secure it in place with a 3/32" hex wrench.

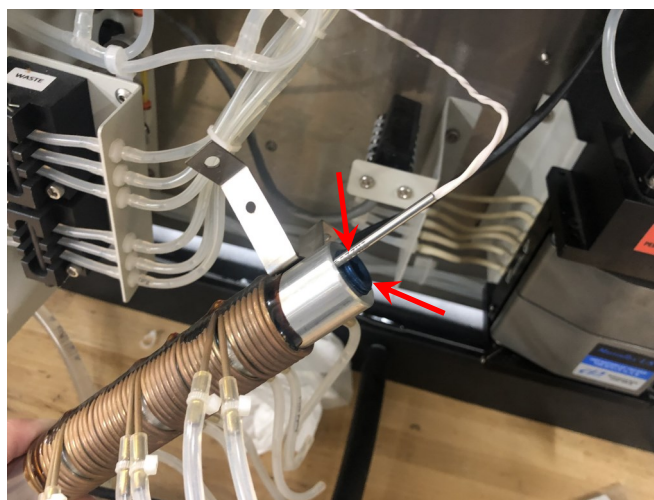


18. Tighten the ring nut with a 7/8" wrench.

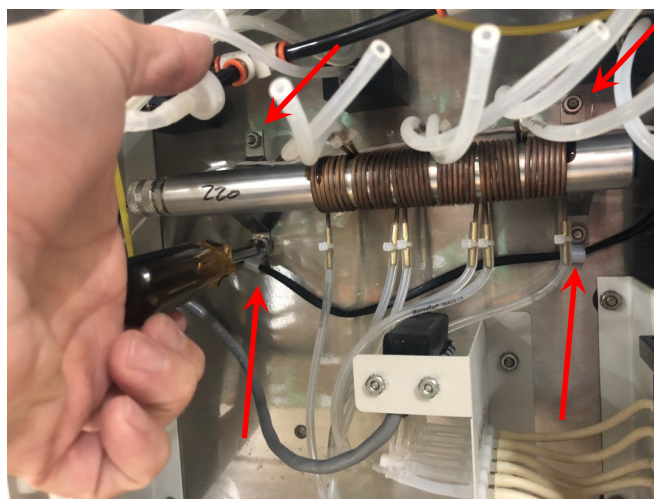
19. Slide the stopper plug parts back into position. Place the knurled nut in position. **Caution: Only tighten the knurled nut finger-tight, being careful not to turn the heater cord. Turning the cord might cause a short circuit.**



20. Slide the thermistor back into position and replace the threaded plug with a 5/16" hex wrench.



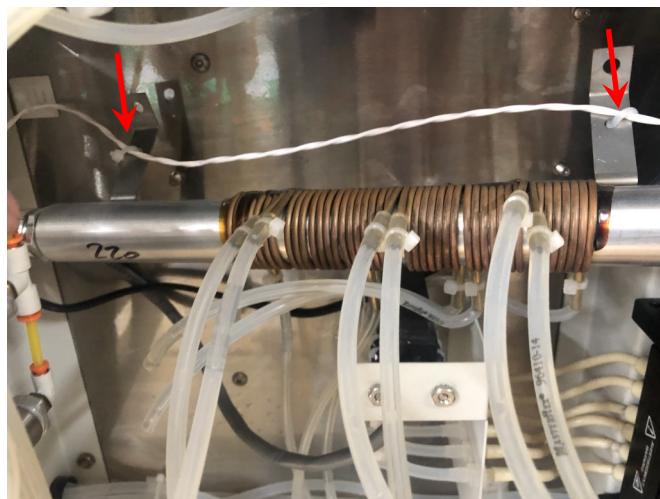
21. Return the in-line heater brackets to the four threaded studs on the front panel in the orientation shown. On the lower two nuts reinstall the cable restraints and attach these to the threaded stud before replacing the nuts. Tighten the four nuts with a 3/8" nut driver or socket wrench.



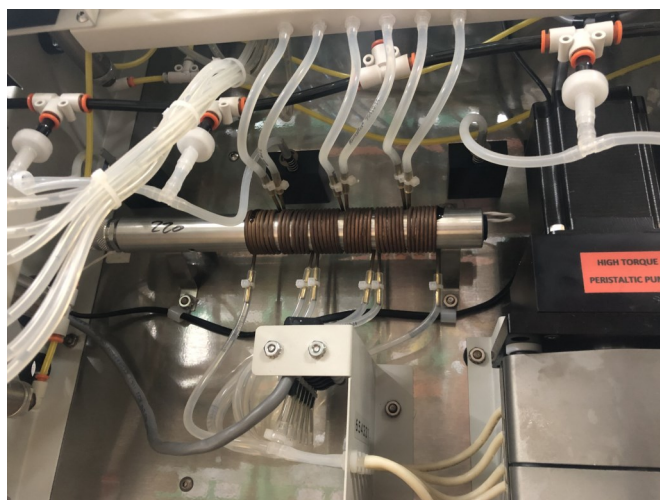
22. Resecure the in-line heater power cord to the pressure sensor assembly cable with a cable tie.



23. Secure the thermistor wire to the two holes in the in-line heater brackets as shown.



24. Connect the twelve new tubes from the in-line heater to the barbed fittings on the tubing support panel and onto the pressure sensor assembly. **Note: Orient the lower tube so that the tube on the left of the in-line heater is connected to the pressure sensor t-connector furthest from the front of the instrument. Then as you work your way through the other tubes to the right on the in-line heater choose the t-connector next closer to the front of the instrument.**



25. Plug the ANKOM^{TDF} instrument back in and turn the power on. Go to Diagnostics and select Pump Tube Test. Use the TDF70 Flush Tube assembly to connect all of the fluid ports to a filled Deionized Water container.

Press START. When the option is presented, select "Continue (line charge)". This may have to be done several times to purge all of the air from the lines. Confirm that there are no leaks at the tubing connections at the back of the instrument and that the results are now passing. The ANKOM^{TDF} is now ready to be returned to service.

