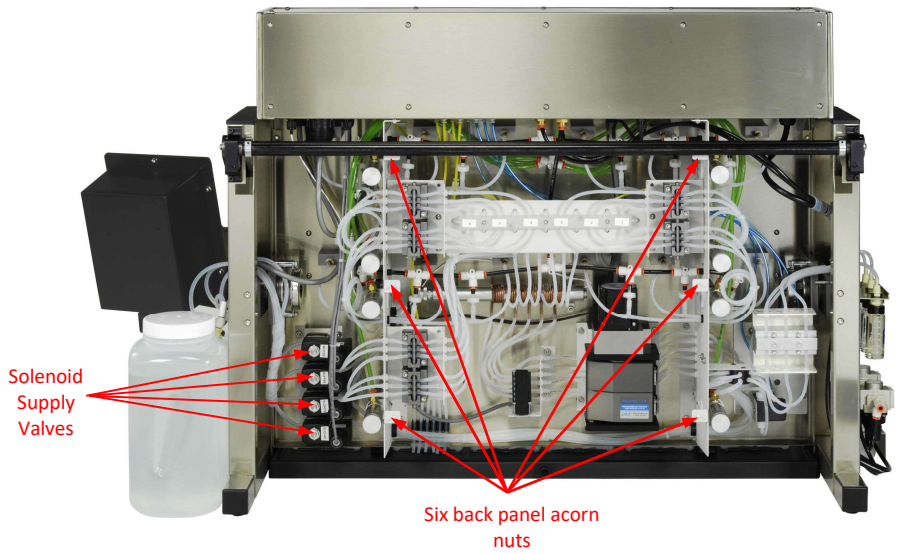
This procedure is to help facilitate the replacement of theTDF25.1-TDF25.4 supply valves.



Note: You will need the following tools:

- Socket Wrench with extension and a 3/8" Socket
- Size 1 Flathead Screwdriver
- Wire Cutters
- Phillips Screwdriver
- Needle Nose Pliers

The following items will be sent in a replacement package:

- TDF25.1- TDF25.4 (as needed)
- Cable ties

To replace one of the Supply Valves on the ANKOM^{TDF} Dietary Fiber Analyzer, follow the steps below.

1. Prepare the instrument for service.

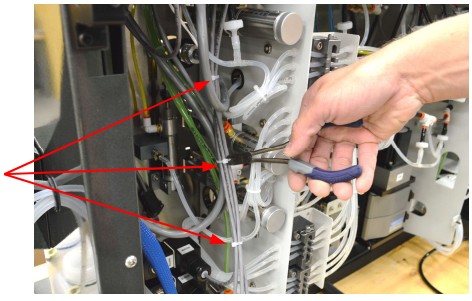
a. Power off the instrument and unplug the power cord.

b. Turn the valve for the air line to its off position.

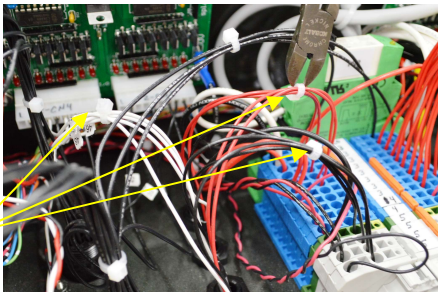
c. Open the back of the TDF by removing the six acorn nuts from the clear back panel, shown in the picture above.

d. Open the top and back of the electrical cabinet by removing the 17 screws, shown in the picture to the right.

2. Carefully cut off the cable ties that hold the four grey cables coming from the supply valves together. Do not damage the insulation.



3. Carefully cut off each cable tie that holds each group of red, black and white small wires that are coming from the grey cables.

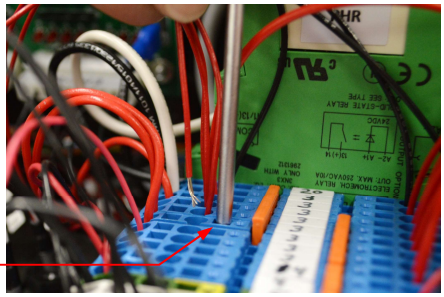


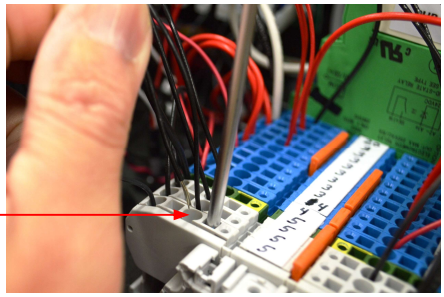
4. Disconnect the red and black wires from the low voltage DIN Rail.

a. Determine which red and black wires pertain to the supply valve you desire to remove. Do this by following the grey cable from the valve to the low voltage DIN Rail.

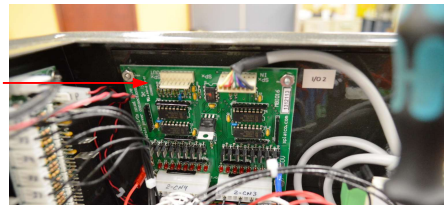
b. Using a size #1 flat head screw driver remove the red wire by pressing the screw driver into the square hole next to the circular hole the wire is attached in. While pressing down, pull the wire free.

c. Repeat step b for the black wire.

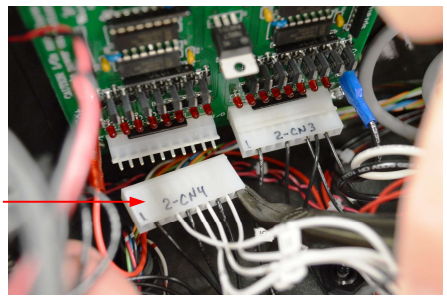




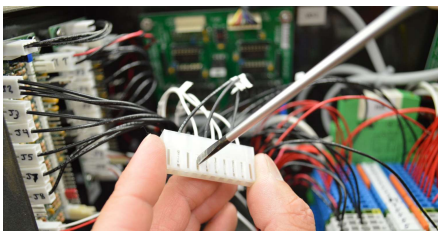
5. Disconnect the white wire from the I/02 circuit board on the 10 position connector labeled 2-CN4.



a. Using needle nose pliers gently pull on each side of the 10 position connector to remove the entire connector from the I/02 circuit board.



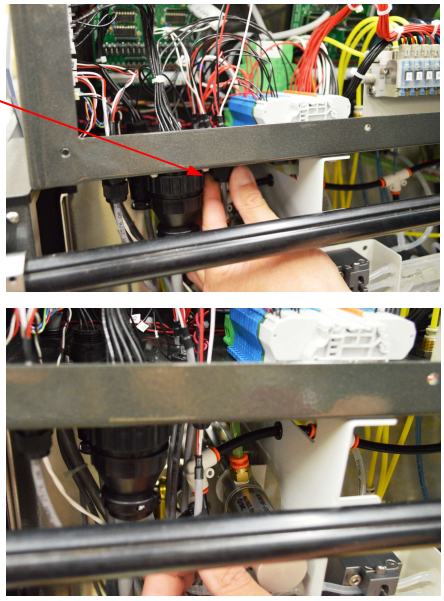
b. Find the white wire of the valve you wish to remove. Using a flat head screw driver press down on the barb in the slot on the back of the 10 position connector to free the wire and carefully pull the wire out of the connector



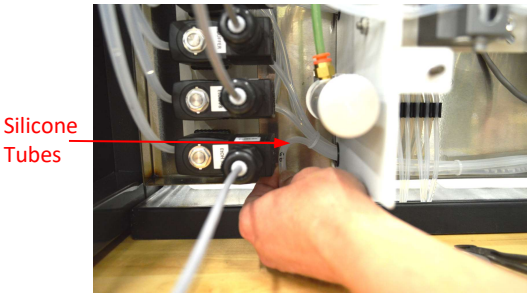
6. Free the grey cable.

a. Loosen the ½" explosion proof fitting that holds the grey cable in the electrical cabinet.

b. Pull the grey cable through the fitting. Be sure not to loosen the nut.

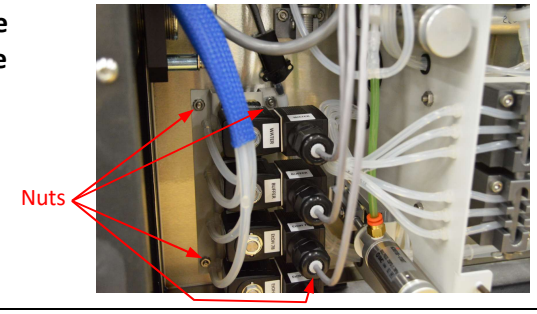


7. Remove the four silicone tubes attached to the straight barbed fittings on the back of the supply valves. As you remove each tube, label it with a marker or tape so you know where to reconnect each tube later.

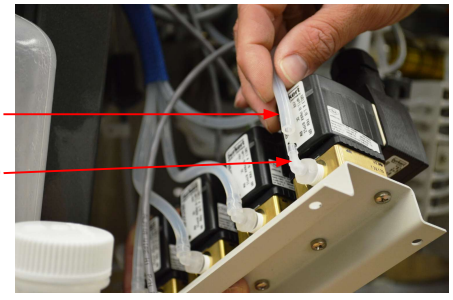


8. Using a Socket Wrench with extension and a 3/8" socket remove the four nuts holding the supply valve bracket to the front of the instrument.

Note: Be sure to hold the bracket when taking off the last nut to ensure it does not fall.



9. Disconnect the silicone tube connected to the angled barb on the valve you are replacing.



10. Remove the supply valve.

a. Turn over the supply valve bracket and use a Philips head screw driver to remove the screws that hold the valve to the bracket.

b. Pull the supply valve straight off.

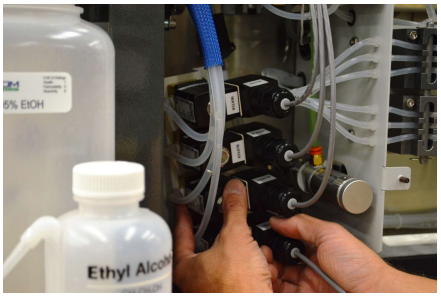
11. Install the new supply valve.

a. Slide the new supply valve onto the bracket and secure it with the screws that were removed in the previous step.

b. Plug the silicone tube back onto the angled barb fitting.

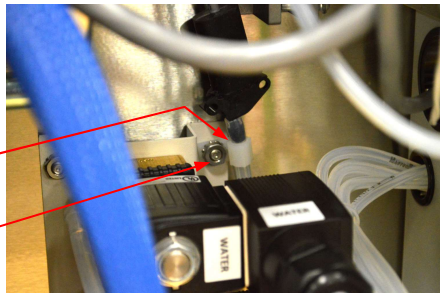
12. Reinstall the supply valve bracket.

a. Place the supply valve bracket onto the screws attached to the front of the instrument.

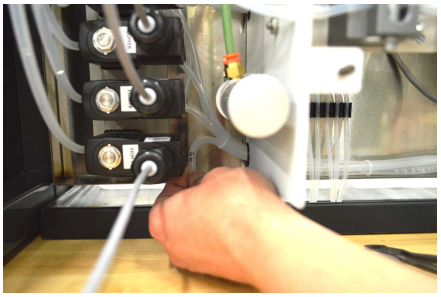


b. Finger tighten the supply valve bracket with the four nuts removed previously.

Note: be sure to reattach the vacuum sensor clip to the screw along with the supply valve bracket.

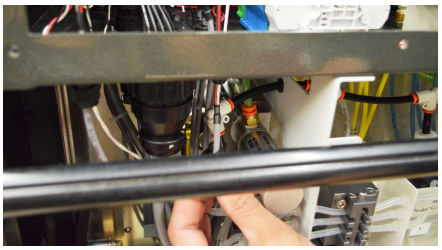


c. Attach the silicone tubes, removed and labeled earlier, to the correct straight fitting on the back of the valves.



d. Tighten the nuts holding the supply valve bracket with a socket wrench with extension and a 3/8” socket.

13. Feed the grey cable back through the explosion fitting.

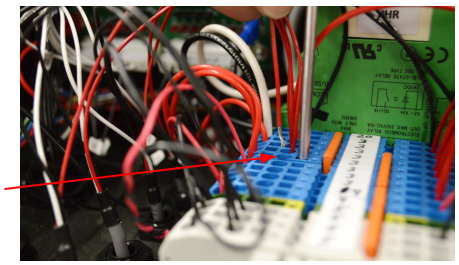


14. Attach the red and black wires to the low voltage DIN Rail.

a. Using the flat head screw driver, push down on the square hole located next to the round hole where the red wire is to be inserted. Insert the red wire into the round hole and remove the flat head screw driver.

b. Perform a pull test on the red wire to ensure it is secure.

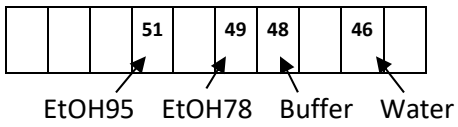
c. Repeat a and b for the black wire.



15. Attach the white wire to the I/02 circuit board.

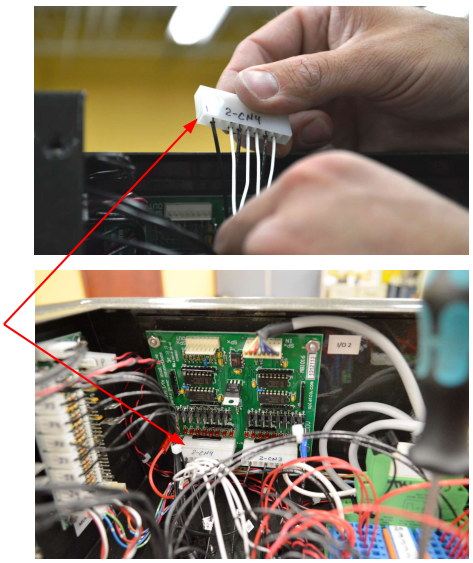
a. With the barb and the slotted side of the connector facing you, slide the barbed end of the white wire into the proper location on the 10 position connector.

Note: Make sure the label on the wire goes to the correct slot shown in the diagram of the 10 position connector below.



b. Perform a pull test on the white wire to ensure it is secure.

c. Plug the 10 position connector back onto the I/02 circuit board as shown in the picture.



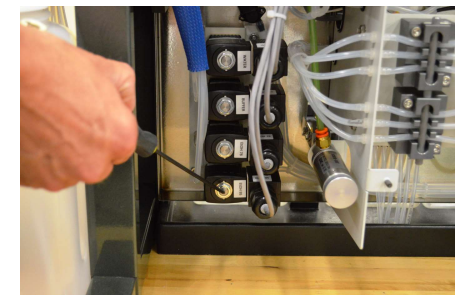
16. Cable tie each bundle of wires (the red wires, the black wires, and the whites wires). Then cable tie the grey cables back together.

17. Test the Valve.

a. On the touch screen display, from the Select a Function screen, press the Diagnostics button and then the Valve Test button.

b. Press the specific valve button you wish to test.

c. Hold a steel object to the bolt of the valve. When the valve is on, it should be magnetized. This shows that the wiring is correct.



18. Reinstall the electrical cabinet panels and the back clear panel.

Your TDF instrument is now ready to be returned to service.