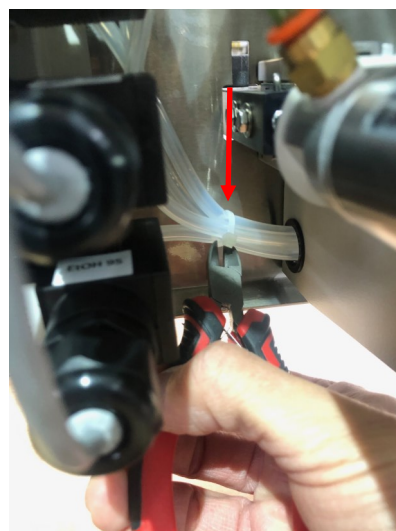


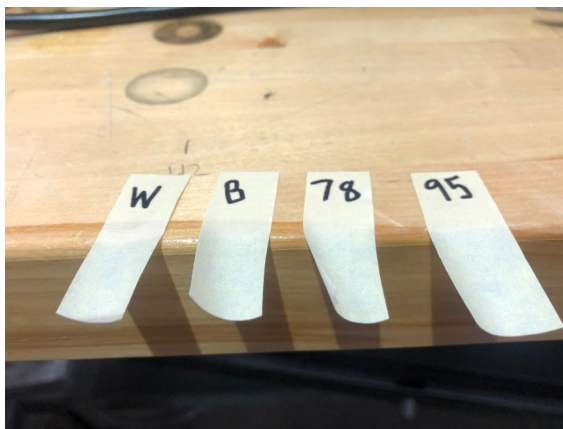
1. Obtain the new TDF25.5 Supply Valve Body & Piston Assembly.



2. Locate the four silicone tubes that are connected to the right side of the TDF25 Supply Valve Assembly and cut the zip tie that is holding the tubes together.



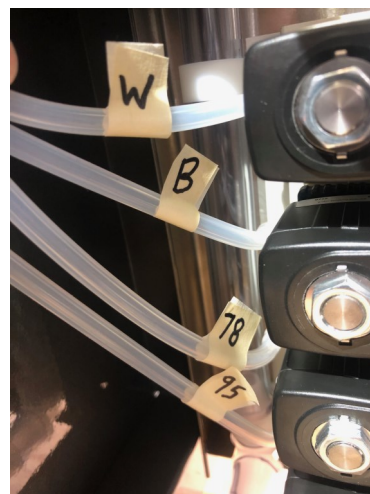
3. Obtain four pieces of tape and label them with "W", "B", "78", "95".



4. Use these to label the four corresponding silicone tubes on the left side of the TDF25 Supply Valve Assembly. The four tubes should be labeled as follows:

Water=W
 Buffer=B
 EtOH78=78
 EtOH95=95

NOTE: Do not disconnect the silicone tubes before labeling them as you will not know the correct places for reattachment later on.



5. Repeat step 3 & 4 with the four silicone tubes on the right side of the TDF25 Supply Valve Assembly. The four tubes should be labeled as follows:

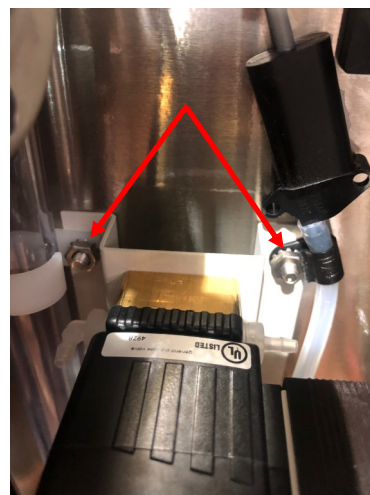
Water=W
 Buffer=B
 EtOH78=78
 EtOH95=95

NOTE: Do not disconnect the silicone tubes before labeling them as you will not know the correct places for reattachment later on.

After all 8 silicone tubes coming from the TDF25 Supply Valve Assembly are correctly labeled, you can now disconnect them from the barbed fittings on the Burkert Valves.



6. Using a $\frac{3}{8}$ " socket wrench, remove the two 167 Hex Nuts from the top left and the top right corner of the TDF25 Supply Valve Bracket.



7. Using a $\frac{3}{8}$ " socket wrench, remove the two 167 Hex Nuts from the bottom left and the bottom right corner of the TDF25 Supply Valve Bracket.



8. Once all four hex nuts are off, you can remove the TDF25 Supply Valve Assembly from the front panel of the TDF Instrument.



9. Use a $\frac{9}{16}$ " wrench to loosen and remove the nut on top of the valve you are replacing. Once the nut is removed you can pull off the valve body from the brass bottom.



10. Use a screwdriver to remove the two 114 Panhead Bolts that are fastening the brass base to the bracket.



11. Obtain the new TDF25.5 Supply Valve Body & Piston Assembly. remove the blue tape and the nut on the top.



12. Use a screwdriver to fasten the new TDF25.5 Supply Valve Body & Piston back onto the TDF25 Supply Valve Bracket with the 114 Panhead Bolts. Orient the new valve bodies in the same way as the ones removed.



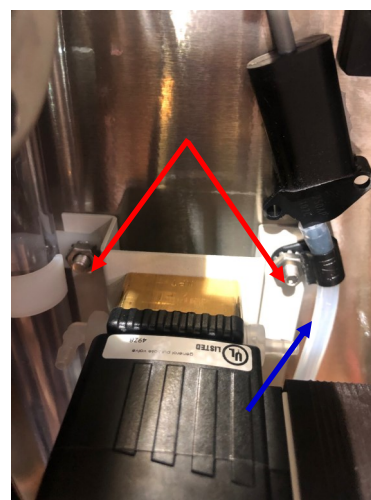
13. Place the Supply Valve onto the piston and fasten it with the nut you removed in step 12 using a $\frac{3}{8}$ " wrench.



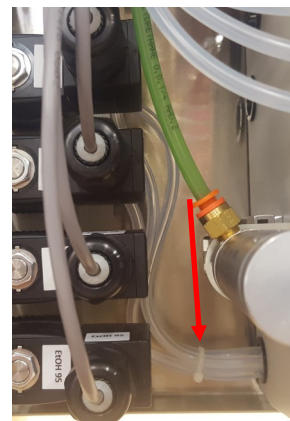
14. Place the TDF25 Supply Valve Assembly back onto the studs on the front panel of the TDF Instrument. Use a $\frac{3}{8}$ " socket wrench to tighten two 167 Hex Nuts on the bottom left and the bottom right corners.



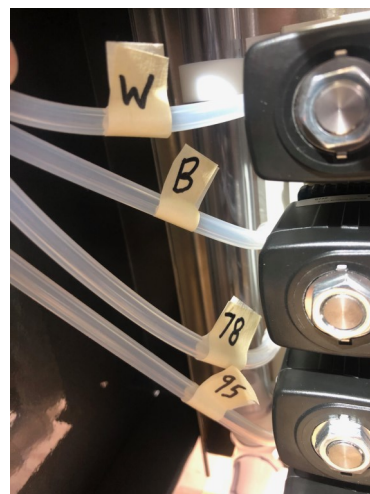
15. Place the black cable holder which is holding the temperature sensor tube onto the stud on the top right of the bracket (blue arrow). Then place the 167 Hex Nuts onto the top right and top left studs and tighten with a $\frac{3}{8}$ " socket wrench (red arrow).



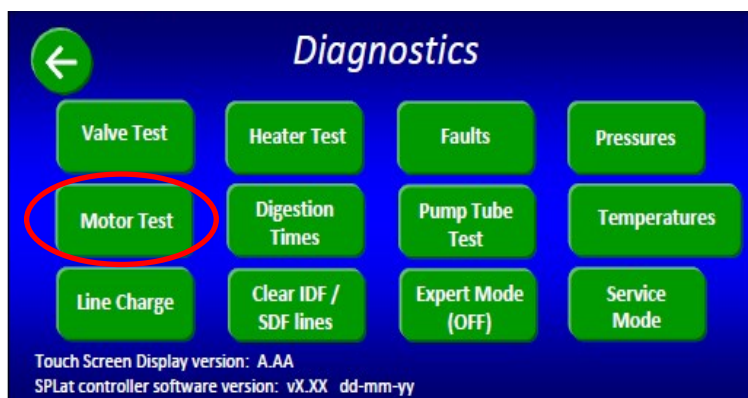
16. Connect the four labeled silicone tubes on the right side of the Supply Valve back to their corresponding valves. Use a zip tie to hold the tubes together (red arrow). Remove the labels from the tubes only after they are connected to the valves.



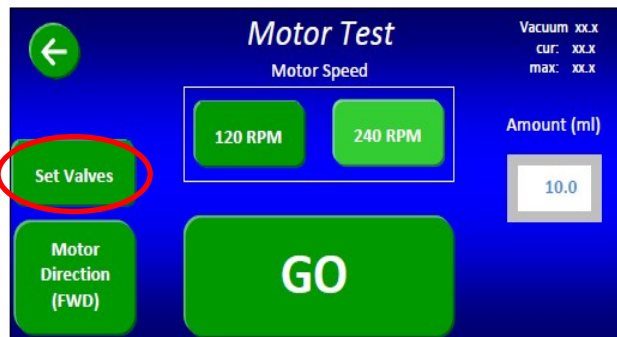
17. Reconnect the delivery tubes coming from the reservoirs: Water (W), Buffer (B), EtOH78 (78) and EtOH95 (95) to the left side of the supply valves.



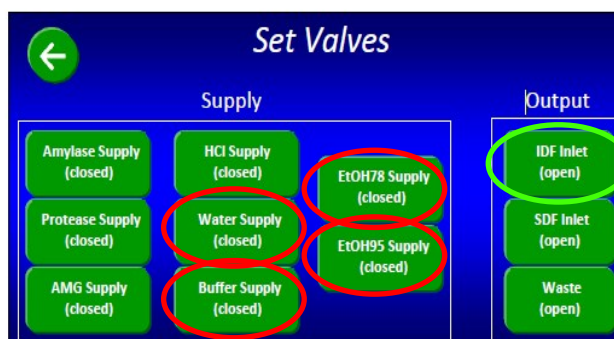
18. Go to the Diagnostics screen and press Motor Test.



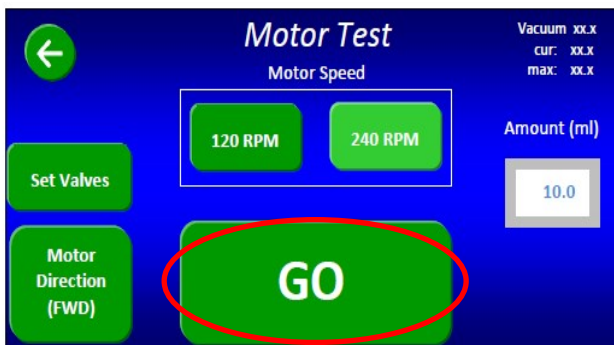
19. From the Motor Test screen, press "Set Valves".



20. Select the Supply valve or valves that have been replaced to be the OPEN valve being tested. (RED ovals) Close all other Supply Valves. This has to be done one at a time. Select the IDF Inlet (GREEN oval) as the open Output valve; close the others. Place beakers or cups under IDF fill nozzles to catch the fluid delivery. Press the left arrow ← to return to the Motor Test screen.



21. Press GO and confirm that approximately 10 mls of the specified solution has been delivered through the IDF fill nozzles and into the beakers. Confirm that the valve(s) being tested are opening also by observing that the vacuum reading (max) is in the -0.8 to -3.0 psi range. A vacuum greater than -3.0 psi indicates a partial blockage. A vacuum greater than -5.0 psi will present as a plugged line, which could indicate a valve that is not opening.



22. To test for a good seal, connect the Flush Tube Assembly with a container of distilled/deionized water attached. Perform 2 or 3 line charges to eliminate air in the tubes. Enter Diagnostics and then Motor test, select Set Valves. Close all Supply Valves. Open Waste Valve as the only Output valve. Set motor speed to 240 and start the Motor test.
23. For version 3.60 software the display in the lower left corner should read greater than 10 PSI .
24. For later versions of software, the display in the upper right corner after a few moments should display "Plugged" and then under Cur and Max the reading should be 10 PSI or greater.
25. To repeat the test, first open all supply valves to release the vacuum and then start procedure again.

26. If tests are successful, return the instrument to service. Should the issue be unresolved, contact ANKOM Technology at the link below.

<https://www.ankom.com/contact/technical-services>