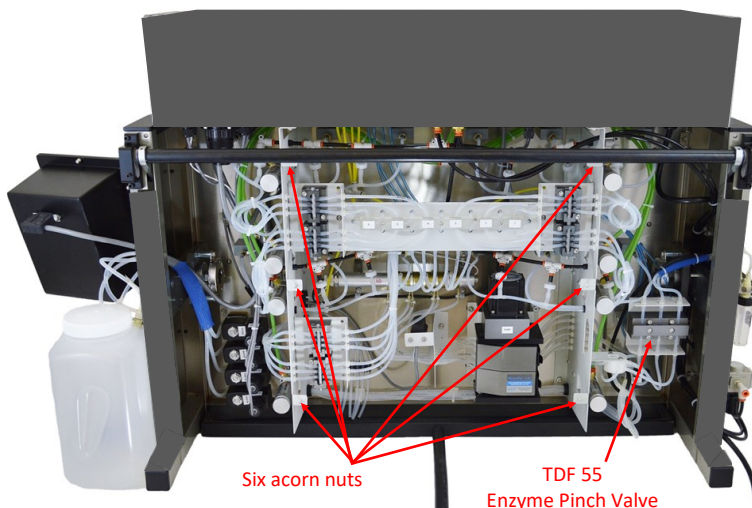


1. Preparing the instrument for service.

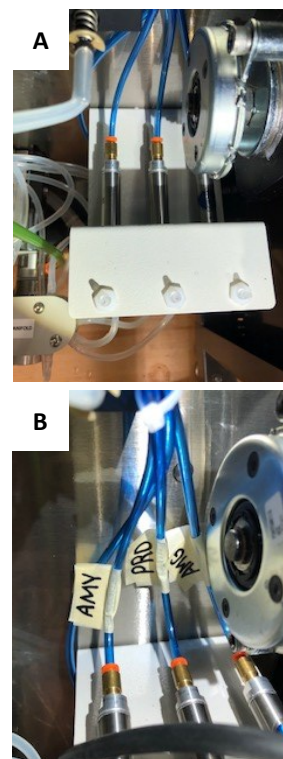
- Power off the instrument.
- Turn the valve for the air line to the "OFF" position.
- Open the back of the TDF Instrument by removing the six acorn nuts from the clear back panel, shown in the image to the right.



NOTE: It is recommended that when ordering a new TDF55 Enzyme Pinch Valve, that a new TDF67 Enzyme Tubing Set is also ordered.

2. Disconnecting the three blue airline tubes.

- Identify the three blue airline tubes going to the three enzyme pinch valve air pistons, figure A.
- Label the tubes with the name of each enzyme so that they can be correctly reconnected later (figure B).
- Disconnect these three blue tubes by simultaneously pushing down on the orange flange and pulling out the tube.



3. Disconnecting the three 11" silicone tubes.

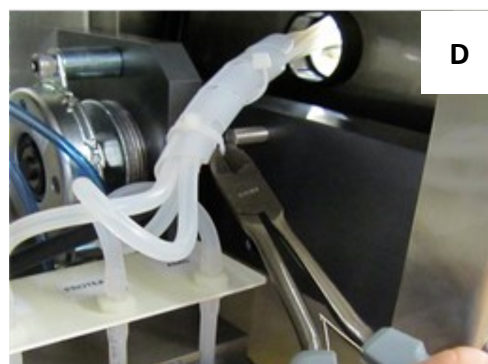
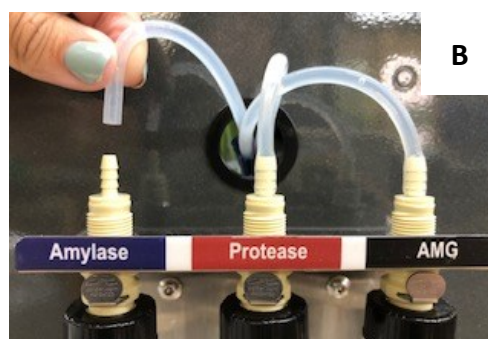
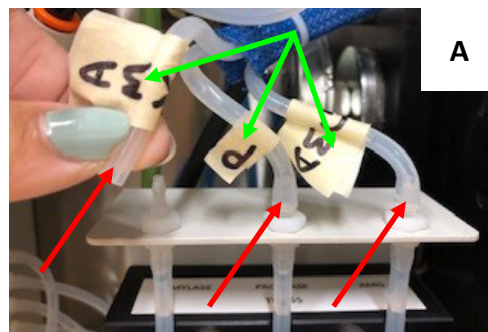
NOTE: If you did not order a new TDF67 set of tubes, you do not have to remove the three tubes from the enzyme container ports (step d). You only need to disconnect them from the Pinch Valve (step c). However, you do still need to label the tubes before performing step c.

If you DID purchase a new TDF67 Tubing set:

- Identify the three 11" silicone tubes connecting to the barb fittings on top of the TDF55 Enzyme Pinch Valve (red arrows, figure A).
- Disconnect the three silicone tubes.
- Go to the side of the TDF Instrument where the three enzyme containers are and remove the opposite ends of the three tubes from the barb fittings on top of the enzyme containers (figure B).
- Cut the zip-ties from the tube covering and remove the blue netting (figure C) from the tubes and set aside for later use. NOTE: Tube covering may still be the old version (figure D).

If you did NOT purchase a new TDF67 Tubing set:

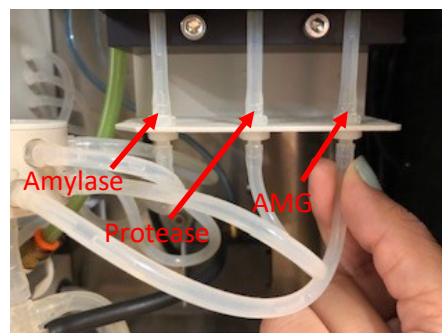
- Identify the three 11" silicone tubes connecting to the barb fittings on top of the TDF55 Enzyme Pinch Valve (red arrows, figure A).
- BEFORE DISCONNECTING THE TUBES**, label each of the three tubes with the name of its corresponding enzyme (green arrows, figure A). This is necessary so that when they are reconnected later, you can match them up to the proper enzyme valves.
- After** the tubes have been correctly labeled, disconnect the three 11" silicone tubes from the top of the Enzyme Pinch Valve.
- The tubes can remain connected to the enzyme containers on the side of the instrument and the blue tube covering can remain as well.



4. Disconnecting the three 6" silicone tubes from the Enzyme Pinch Valve & Manifold.

If you DID purchase a new TDF67 Tubing Set:

- Disconnect the three 6" Silicone tubes from the bottom of the Enzyme Pinch Valve.
- Disconnect the opposite ends of the three 6" tubes from step a by pulling the tubes off of the lower three barbs of the manifold.



If you DID NOT purchase a new TDF67 Tubing Set:

- Disconnect the three 6" silicone tubes from the bottom of the Enzyme Pinch Valve.
- The opposite ends of the three tubes can remain attached to the manifold.



5. Replacing the Enzyme Pinch Valve.

- Use the provided 3/8" Nut Driver (included with original purchase of the instrument) to remove the nuts securing the Enzyme Pinch Valve Bracket to the front panel.
- Hold the new Enzyme Pinch Valve close to the instrument, oriented the way it will be installed and reconnect the blue airline tubes that were removed in step 2. Reference the labels made in step 2b to ensure that the tubing is connected to the correct positions. *NOTE: It is easiest to reconnect the blue airline tubes to the new Enzyme Pinch Valve BEFORE installing it because the connection points are on the back.*
- Remove the labels placed on the blue tubing in step 2b.
- Secure the new Enzyme Pinch Valve to the front panel with the two nuts removed in step 5a.



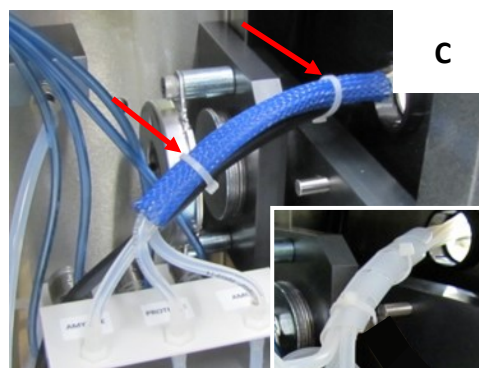
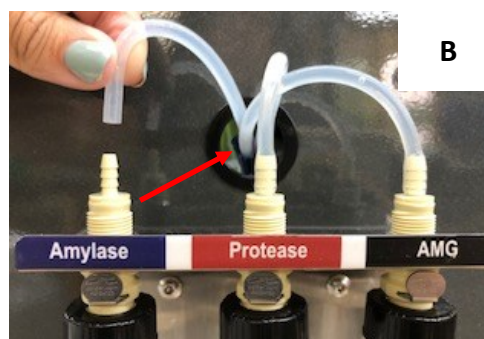
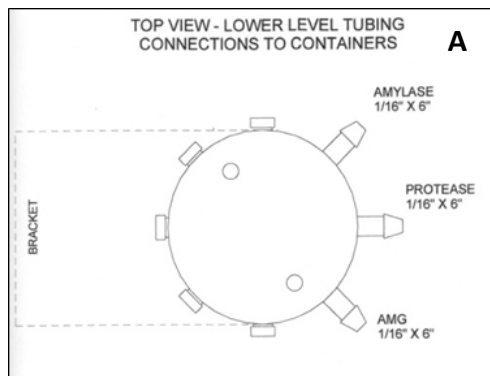
6. Replacing the three 6" & three 11" Silicone Tubing. (Reference pictures from steps 3 for 11" tubing & step 4 for 6" tubing)

If you DID purchase a new TDF67 Tube Set:

- Connect the three new 6" silicone tubes. Reference figure A to ensure the tubes are connected from the manifold to the corresponding enzyme positions on the bottom of the new TDF55 Enzyme Pinch Valve.
- Connect the three 11" tubes to the Enzyme containers on the side of the TDF Instrument. Going *one tube at a time*, run each tube through the side of the instrument (red arrow, figure B), Then through the blue netting you set aside in step 3d, then connect the opposite end of that tube to the correct barbed fitting on top of the Enzyme Pinch Valve with the corresponding enzyme label.
- Zip tie the blue netted tube cover on each end (red arrows, figure C). If you have the old tube cover, see inset of figure C.

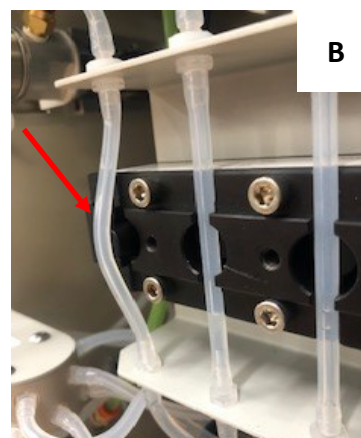
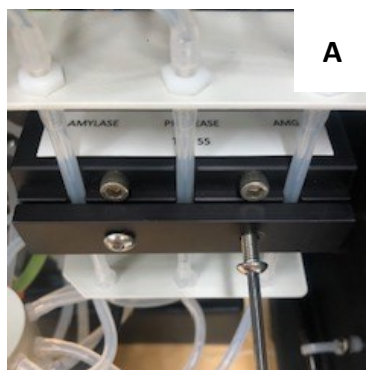
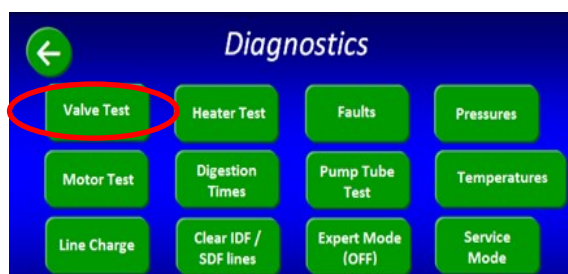
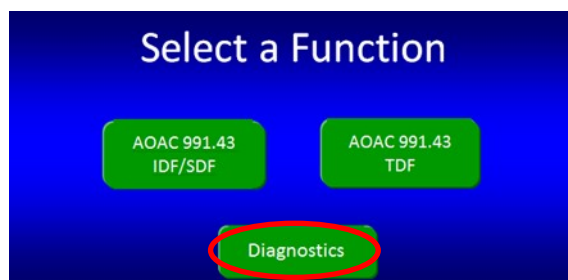
If you DID NOT purchase a new TDF67 Tube Set:

- Reconnect the three 6" Silicone Tubes on the manifold, removed from Pinch Valve in step 4, to the bottom of the new TDF55 Enzyme Pinch Valve. Reference figure A for the corresponding enzyme positions.
- Reconnect the 11" Silicone tubes to the top of the new TDF55 Enzyme Pinch Valve. Use the labels created in step 3f to ensure the tubes are placed back in the correct enzyme positions.
- Remove the labels from the silicone tubes.



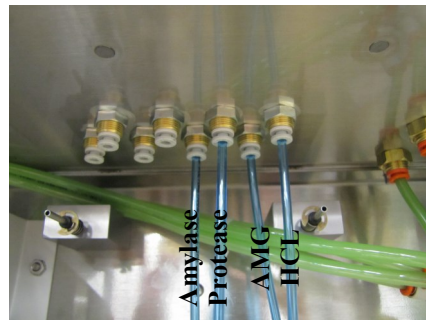
7. Perform a QC test of the new Enzyme Pinch Valve.

- Use the $\frac{1}{8}$ " Allen Wrench (provided with initial purchase of TDF Instrument) to remove the cover plate from the TDF55 Enzyme Pinch Valve (figure A).
- Power on your TDF Instrument. From the "Select a Function" screen, press: Diagnostics → Valve Test → Amylase Supply. "Amylase Supply" button should now state "(closed)". When you do this, the "Amylase Supply" button should turn light green.
- After pressing "Amylase Supply" to close it, go around to the back of the TDF to check if the Amylase piston is in the forward position (red arrow figure B).
- Repeat steps b & c for the Protease and AMG valves.
- Once all three valves are checked and confirmed to be working correctly, you can secure the cover plate, removed in step A, back onto the Enzyme Pinch Valve.



8. If the Valve Test failed:

- a. Double check that ALL tubing connected to the TDF55 Enzyme Pinch Valve is securely attached on both ends.
- b. Ensure that the three blue air tubes are connected to the correct enzymes on the Pinch Valve (Do not use the right side HCl tube). Using the image to the right, find the tubes beneath the electrical cabinet and ensure that each tube runs to its corresponding enzyme location on the TDF55 Enzyme Pinch Valve.
- c. Repeat step 7 to perform a second Valve Test.
- d. If the second Valve Test fails, contact ANKOM Technology by:
<https://www.ankom.com/contact/technical-services>
or Phone: +1(315)-986-8090

**9. Reinstall the back panel.**

Replace the clear back panel of the TDF Instrument securing it with the six acorn nuts removed in step 1.

With this completed, you are now ready to return your TDF Instrument to service.