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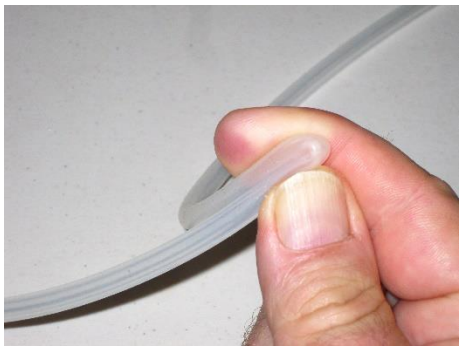
De-bubbling & De-clogging Procedures for Quantum Analysis and Partec Flow Cytometers

There are two methods for removing bubbles and clogs from Quantum Analysis and Partec flow cytometers described below. Method #1 is usually successful and should be the method of choice in most situations. Method #2 is more extreme and should only be used when repeated attempts with Method #1 have failed.

Method #1: Pinch and Squeeze Sheath Tubing

This method fills the cuvette with cleaning solution and causes turbulence within the cuvette so that bubbles and debris are dislodged and pass through the cuvette.



1. Fill a sample tube half full of green cleaning solution.
2. Run the cleaning solution as a sample.
3. As the cleaning solution is running, find the sheath tubing between the instrument and the sheath bottle and pinch it closed (as shown) with your right hand and then with your left hand, repeatedly squeeze and release the sheath tubing between the instrument and where you have it pinched closed. The more aggressively you squeeze and release the tubing, the more effective this method will be.

It may be necessary to repeat Method #1 several times, if the bubbles or debris are difficult to remove. If the Pinch and Squeeze method does not resolve the problem, then it may be necessary to use Method #2.

Method #2: Reversal of Sheath Fluid Flow

This method reverses the flow of the sheath fluid within the instrument so that debris particles that are too large to pass through the cuvette can be removed. NOTE: When the flow is reversed, the sheath fluid still flows from the sheath bottle to the waste bottle. The flow is only reversed inside the instrument.

1. Loosen the sheath cap and release the pressure.
2. Loosen the blue compression nuts on the sheath and waste tubing on the outside of the instrument.
3. Remove the sheath and waste tubing from blue fittings and pinch the ends shut to keep the fluids from leaking out.
4. Attach the sheath tubing to the blue fitting for the waste and attach the waste tubing to the blue fitting for the sheath.
(It is not necessary to tighten the compression nuts.)
5. Tighten the sheath cap.
6. Put a tube of water on the sample port and run the water sample at a speed of 0.
7. After 5 to 10 minutes, stop running the water sample.

(The clog should be gone.)

8. Loosen the sheath bottle cap and release the pressure.
9. Return the sheath and waste tubing to the correct blue fittings.
10. Secure the blue compression fittings.
11. Tighten the sheath bottle cap.
12. Run a tube of water for 2 minutes at a speed of 0 to flush the tubing.