

Job Aid

BD FACSCelesta™ Flow Cytometer: Performing system startup and shutdown with standard fluidics

This job aid provides instructions to help you get started with using your cytometer. It contains instructions for performing system startup and shutdown. For additional information, see the appropriate cytometer user's guide.

Materials needed

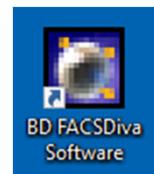
The following materials are needed to complete the system startup and shutdown.

- BD FACSTream™ Sheath Fluid Cat. No. 342003 (20L)
- BD FACSClean™ Solution Cat. No. 340345 (5L)
- BD® Detergent Solution Concentrate Cat. No. 660585
- Bleach
- DI water
- 12x75 mm round-bottom tubes

System startup

Turning on the system

1. Turn on the computer and log in to the operating system.
2. Press the power button on the right side of the instrument to turn on the cytometer main power.
3. Open BD® Coherent Connection Software to start the lasers.
Most lasers will start automatically when the control software starts. For the UV laser, ensure the correct power is set and then start it manually.
4. Start BD FACSDiva™ Software.
5. Enter your log in information and then click **OK**.
6. Ensure that the software is connected () to the cytometer by checking the bottom of the Cytometer window.
If necessary, select **Cytometer > Connect**.



Filling the sheath tank

1. View the sheath level displayed on the control panel.
2. If the sheath tank needs to be refilled, disconnect the air line (green) from the sheath tank.
Press the metal tab to disconnect the air line.



WASTE E F
SHEATH E F
Fine Adj 250

3. Depressurize the sheath tank by pulling up on the vent valve.

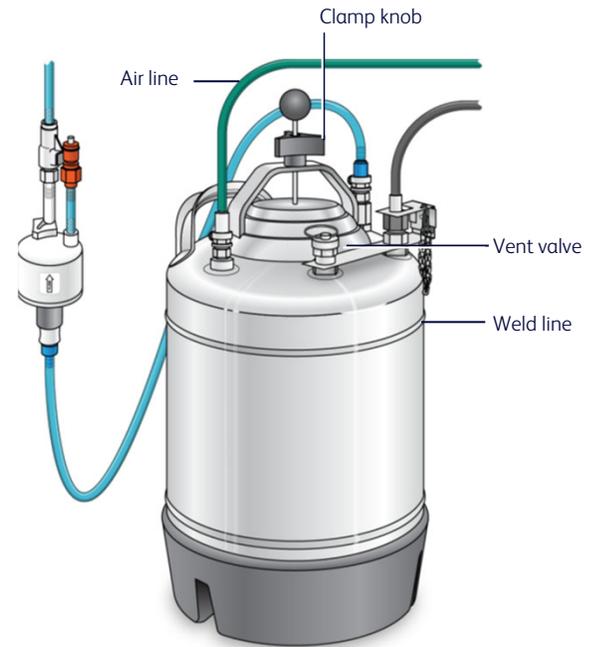
4. Remove the sheath tank lid.
Unscrew the clamp knob and push down on the lid to loosen, if necessary. Tilt the lid to the side to remove it from the tank.

5. Fill the tank with BD FACSTow™ Sheath Fluid to the weld line on the inside of the tank (approximately 10 L).

NOTE Do not overfill the sheath tank because this can cause incorrect flow rates.

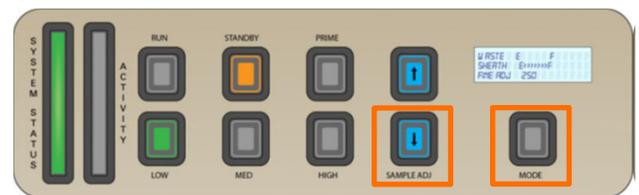
6. Replace the sheath tank lid and tighten the knob.
Verify that the large O-ring on the inside lip of the sheath lid is seated correctly and has not slipped out of position. The tank can leak if the cover is not secured properly.

7. Reconnect the air line (green).



Emptying the waste tank

1. Verify that the cytometer is in standby mode.
If necessary, silence the alarm by pressing the MODE button, then immediately press the DOWN button. The MODE button will flash blue to indicate the alarm is in silence mode.
2. Disconnect the waste and sensor lines from the waste container.

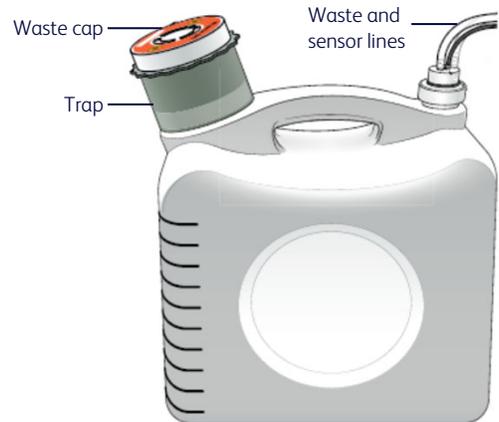


Emptying the waste tank, continued

3. Remove the waste cap and the attached trap from the container. Place the assembly on the bench label-side up.

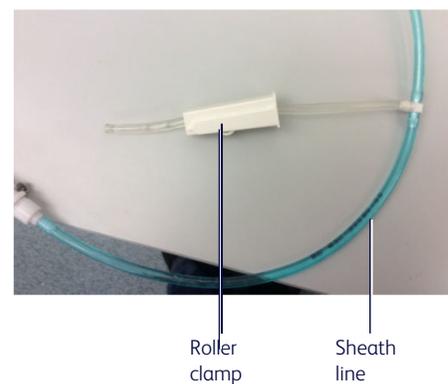
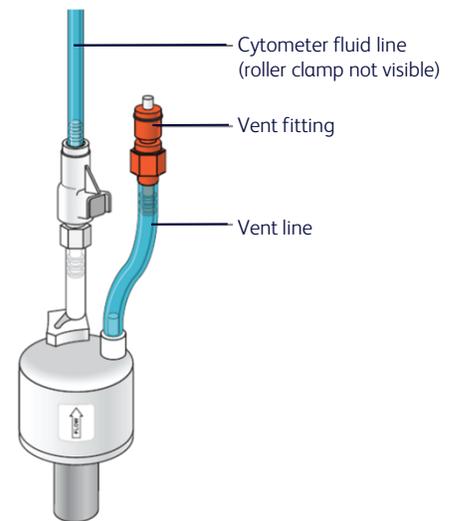
NOTE Do not wet the waste cap. If you see liquid inside the trap, treat it as biohazardous waste.

4. Empty the waste according to your standard laboratory procedures for biohazardous waste.
5. Add 1 L of bleach to the waste tank (a sufficient quantity of bleach to maintain at least 10% concentration of bleach when full).
6. Replace the waste cap and attached trap.
7. Reconnect the waste and level lines.
8. Reactivate the alarm.
Press the MODE button, then immediately press the DOWN button. The MODE button will turn to a solid blue to indicate the alarm is in active mode.



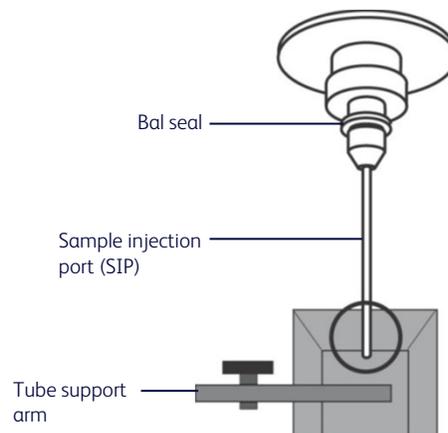
Checking for air bubbles

1. Check the sheath filter for trapped air bubbles.
2. If bubbles are visible, gently tap the filter body to dislodge the bubbles and force them to the top.
3. Direct the vent line into a beaker and press the small button at the end of the vent fitting against the side of the beaker until a steady stream of fluid empties from the filter.
4. Tilt the filter and verify that no trapped air remains in the filter.
5. Repeat steps 3 and 4 until no air is observed in the filter.
6. Check the sheath line for air bubbles.
7. Open the roller clamp at the sheath filter to bleed off any air in the line. Use a beaker to collect the sheath fluid that is expelled.
8. Close the roller clamp.



Rinsing the system

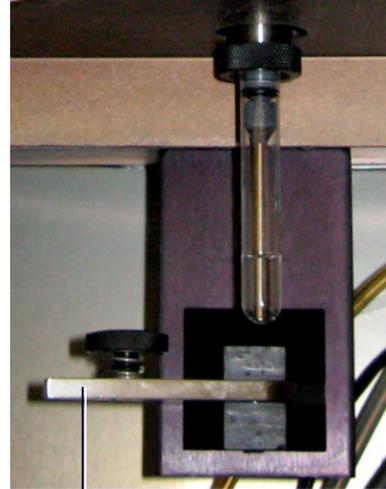
1. Set the sample fine adjust to 250, if needed.
2. Press RUN and HIGH on the cytometer fluidics control panel.
3. Install a tube containing 3 mL of 1.5% BD® Detergent Solution on the SIP and center the tube support arm under the tube.
NOTE The RUN button turns green when the tube has pressurized. If the button remains amber, check the seal on the sheath tank, and check for a cracked tube or a worn Bal seal.
4. Allow the solution to run on high for 10 minutes.
5. Install a tube containing 3 mL of DI water on the SIP. Allow the solution to run on high for 10 minutes.
6. Press the STANDBY button on the fluidics control panel and place a tube containing no more than 1 mL of DI water on the SIP.



System shutdown

Cleaning the system

1. Press RUN and HIGH on the cytometer fluidics control panel.
2. Install a tube containing 3 mL of a cleaning solution onto the cytometer with the support arm to the side (vacuum on) and run for 1 minute.
Use BD FACSClean™ Solution or a 1:10 dilution of bleach in DI water.
3. Move the support arm under the tube (vacuum off) and continue to run for 5 minutes.
4. Repeat steps 2 and 3 with 1.5% BD® Detergent Solution.
5. Repeat steps 2 and 3 with DI water.
6. Install a tube with 1 mL of DI water onto the cytometer and press STANDBY on the cytometer fluidics control panel.



Support arm to the side

Turning off the system

1. Exit BD FACSDiva™ Software and shut down the computer.
2. Turn off the cytometer.

This material is for training purposes.
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