FACSVerse™ – General User instructions

In BD FACSuite software, you can measure and analyze samples using either assays or experiments. Use experiments to acquire and visualize samples manually, to develop your assay and to adjust settings. Use assays when you want to run an analysis repeatedly. Assays are run as entries in a worklist, which provides batch acquisition and analysis.

BD FACSVerse™ Startup Procedure

- ✓ Check whether sheath tank full and waste tank empty. If you empty the waste tank, add 500 ml FACS Clean to the tank.
- ✓ Turn on the power to the system by pressing the Power button. The power button turns green when system power is on.
- ✓ Turn on the computer, login to windows.
- ✓ Start BD FACSuite software. Enter a username and password to log in, and then click OK.
- ✓ Check the connection and fluidic status.
- ✓ Verify that the 20-minutes laser warmup has been completed.
- ✓ Perform a SIT-Flush, select Cytometer > Fluidics > SIT Flush.
- ✓ Perform daily clean: Place a tube with 2 ml of FACS Clean and a tube containing 3 ml of DI water onto the loader. From the menu bar select Cytometer > Daily Clean

Shutting Down the System

- ✓ Prepare a tube with 2 ml of FACS Clean and a tube containing 3 ml of DI water.
- ✓ Place the tubes in the 40-tube rack (plates cannot be used).
- ✓ From the menu bar, select **Cytometer > Daily Clean.**
- ✓ Turn off FACSVerse™ power using **Start > Shutdown.** Click **Ok.**

- ✓ Leave a tube containing 2 mL of DI water on the manual tube port.

  Note: A tube containing 2 mL of DI water should be loaded on the manual tube port whenever the system is not in use.

- ✓ Close all open experiments, log out of the FACSSuite software **File > Exit.**
- ✓ Clean external surfaces and dispose used cleaning materials in biohazard.
- ✓ Provide information about your session in the Logbook.

Create an Experiment

Before running samples an experiment should be created in the Experiment workspace.

- ✓ Use the Experiment Symbol  in the navigation bar to create a new experiment, open an existing experiment, or to create an experiment from an assay.
- ✓ Use the Manage Experiments tab and select **File>Rename** to name the experiment.
- ✓ Install a sample tube onto the cytometer. **Click Preview** to acquire data.
- ✓ Create plots, gates, statistics and a hierarchy in the worksheet needed for acquiring data.
- ✓ Adjust PMTVs if needed. To adjust PMT voltages click the PMTV button in the power-left corner of the plot to enable the data sliders.

  Note: As PMTVs are adjusted, BD FACS Suite software automatically adjusts spillover values.

- ✓ Double click a tube to select **Tube Properties**. Adjust cytometer settings and gates as needed.
  - Add and remove or modify parameters (detectors) as needed.

    Note: Always remain 3 fluorescent parameters in total for the compensation matrix.

  - Set acquisition criteria including time, stopping rules and gate criteria as needed.
    Caution: Add an additional stopping time for 96-well plates to make sure you do not run out of sample. This is an important step, as insufficient stopping criteria will introduce air bubbles into the system.

  - Select a threshold as needed.

- ✓ Use the Acquisition Status panel set **Flow rate**.
- ✓ *Optional*. Click **Toogle Grid** on the worksheet toolbar to enable grids.

Create a User-Defined Assay

Creating a user-defined assay from an experiment is useful when an experiment must be repeated often or if you want to acquire your experiment on the loader.

- ✓ Create or open an experiment in the Experiment workspace.
- ✓ *Optional.* Create tube settings if needed.
- ✓ Prepare a tube of FACS Verse CS&T beads and place it on the manual tube port.
- ✓ Right-click the tube that was previewed and select **> Create Tube settings.**

  Note: Select Preview to view your sample while modifying the settings. Be sure not to acquire data in the tube before creating your tube settings. Tube settings cannot be created from a tube that contains saved data.
- ✓ From the menu bar, select **File>Create Assay**.
- ✓ **Click OK**. The user-defined assay is added to the library.

Experiment Acquisition in the Worklist

Using the worklist, you can acquire samples on the BD FACS Universal Loader and export data automatically based on your preferences.

- ✓ Use the Worklist Symbol  in the navigation bar.
- ✓ On the menu bar, got to **Tools > Preferences >Worklist**. Specify General export, and print preferences for the worklist workspace.
- ✓ Use the Manage tab to create a new worklist: **File > New worklist** or open existing worklist.
- ✓ In the **> Loading options** panel, select a carrier type.
- ✓ Use the **> Task** panel to create worklist entries by selecting assays to add to the worklist. In the number field, enter the number of task you want to add and click Add.
- ✓ *Note: Each entry requires a sample ID. To specify a prefix for sample IDs in the worklist select the Autonumber Sample ID option in worklist preferences.*
- ✓ In the layout view, right-click and select **> Display Properties**.
- ✓ Specify layout options on the General tab. Choose the location of the notch placement.
- ✓ Specify mixing options on the Mixing tab.
  - *Note: Select Apply to all to apply layout and mixing options to multiple carriers.*
- ✓ Start acquisition, click **Run all.**

- ✓ *Optiona*l. Click **Stop Timer** to manually stop the acquisition if you need to adjust PMT voltages, thresholds or modify gates.
  - *Note: Each entry requires a sample ID. To specify a prefix for sample IDs in the worklist select the Autonumber Sample ID option in worklist preferences.*