Quanta FEG 200

*Always wear lint and powder free clean room gloves when reaching into the specimen chamber to reduce leaving oils, dust, or other contaminants inside the chamber.

Normal Operation Procedure (Already Logged On)

1) Mount your sample using the desired sample holder using either double-sided copper tape (preferred) or carbon paint. (A carbon coat is optional for insulating samples, but not required).
2) To Insert/Exchange your sample follow these steps:
   a. Lower the stage to at least 15mm working distance.
   b. Click the **Vent** button located on the right side of the xT Microscope Server window.
   c. Once the Status vacuum indicates that it is vented (red), open the specimen chamber and place the sample in the holder and secure with the appropriate hex tool.
   d. Close the chamber door. **Be sure to observe the sample clearance as the door is closed.** (View chamber in the camera view in the lower-right display on the screen. Lower the stage manually using the Z adjustments on the front door if necessary).
   e. Click the **Pump** button.
   f. Wait for green Vacuum status then click **HV** to turn on the high voltage.
   g. Check vacuum mode:
      High Vacuum → Normal mode
      Low Vacuum → For insulating uncoated samples
      ESEM → Environmental mode for wet samples
6) To remove your sample, follow these steps:
   a. Click **HV** to turn off the high voltage. (Wait until the filament emission current decreases to zero).
   b. Lower the stage to at least 15mm working distance.
   c. Click the **Vent** button to vent the chamber and remove your sample.
   d. Close the chamber door and click the **Pump** button to pump to High Vacuum.

To Start-up the System from Complete Shutdown

1) Push the Power button found on the front control panel of the microscope.
2) Turn on the PC.
3) Log on to the server.
4) Click on the **xT Microscope Server** icon to start the server.
5) Wait until its dialogue is fully functional (All LEDs need to be green), and then click the **Start UI** button.
6) Follow the procedure listed above under Normal Operation Procedure.

To Completely Shutdown the System

1) Click the **HV** button off in the Electron column module. (Wait until the filament emission current decreases to zero.)
2) Click the **Vent** button to vent the chamber and wait until venting is complete (this stops the TMP)
3) Remove your sample
4) Click the **Pump** button to pump to high vacuum.
5) Click **Stop UI** to stop the software and exit the software.
6) Select **Log Off** in the **File** menu and log off the current user.

Frequently Asked Questions for Quanta FEG 200

How do I select different detectors?   Click the Detector menu. Select the detector you want. ETD→Everhart Thornley Detector (secondary electron detector); LFD→Large Field Detector (only in low pressure mode); BSD→Back Scattered Detector (Gaseous Back Scattered Detector in low pressure mode); CL→Cathodo-Luminescence (first click the lower-left display window, then click Detector menu).

How do I change the scan speed? Click plus or minus on the scan speed icon shown below depending on which direction you want the scan speed to change.

How do I blank the beam? Press Ctrl + B or the toolbar icon shown below. Clicking the icon again releases the blanker and returns the beam to scan the sample.

How do I pause? Click the Scan menu and select Pause or press F6. This will pause the image. This function is used automatically with Snapshot. Clicking once stops the scan at the end of the frame (the pause icon changes to orange momentarily and then remains pressed and black). Clicking twice stops the scan immediately.

How do I get stage 2 to move if it won't? Focus your sample and then use the Z to Fwd icon shown below.

How do I use the CL system? Minimum working distance is 15.5mm. See John Donovan for details.