



Tecnai G2 BioTWIN Operating Checklist

Pre-Start Checks

- Ensure the microscope is powered on and under vacuum.
- Check that the column pressure is in the appropriate range ($\sim 10^{-5}$ mbar).
- Verify that the filament is OFF.
- Ensure the camera system (e.g., Eagle) is initialized and connected.

Sample Insertion

- Check that the airlock is vented before opening.
- Insert grid into holder (typically side-entry).
- Inspect and gently clean the holder tip if needed (no dust or debris).
- Insert the holder and pump the airlock.
- Wait until vacuum is restored before proceeding.
- Turn on the filament or high tension (HT), if not already ON.

Imaging

- Focus on particle of interest.
- Adjust defocus if needed (for contrast).
- Acquire images using the camera software (e.g., DigitalMicrograph, TIA).
- Save images in appropriate folder and format (.tif).

Post-Imaging

- Bring the magnification to low mode (4500 \times) before removing the holder.
- Retract the screen and camera.
- Reset the holder to the home position and center the XY stage and Remove the grid holder.
- Store the grid properly or dispose of it according to protocol.
- Turn off the filament
- Log the session in the microscope logbook.
- Start a cryo cycle if you are the end user and it is the final session of the day.