EVG 810 Plasma Activation System Operation

Operational Notes

- Refer to the **EVG Plasma Activation Recipe Info** document for standard recipe parameter information.
- If the system has been idle, it is recommended to make an empty chamber run before running your sample(s). If you are running one of the **Dis 0.2mbar_O2** recipes you can just run one of the **ExSitu_0.2mbar_O2** recipes for the empty run so you don't have to wait the extra 16 minutes.
- Recipes are characterized for substrate thicknesses between 250um and 750um. Thicknesses outside of this range need to have parameters optimized to minimize reflective power (contact Staff).
- If you encounter any errors during your run, attempt to clear them first. If that does not work, select **'Abort'** and then **'Clean up'**. Follow the on-screen directions and then try to run the recipe again.

Operation

1. Select **'Login Here'** (lower left corner of the screen) and use the pop-up window to login to the system.
2. Verify you are in the correct recipe directory by looking at the banner at the top of the program window, it with read EVGVISU – *directory name*.ecp. The general use directory is called **'Official Recipe Directory.ecp'**. If you need to open a different directory, perform the following:
    - Select **'Recipe'**.
    - Select **File → Open**. A pop-up window will appear that should be in the **'Recipes'** folder, double click on a directory to load it.
      NOTE: If you are not in the recipes folder you will need to locate it, use the drop-down menu in the pop-up window to begin looking for it. The file path is:
      C:\Program Files\EVG\EVGVisu\Recipes
3. Select **'Jobs'**.
4. Select **'Start'** and a select recipe window will pop-up. The wafer size is always 6" and should not be changed, use the drop-down menu to select a recipe and then select **'OK'**.
5. The chamber will vent. Once the message at the top of the screen reads **'Please press both safety buttons now!'**, **WAIT ROUGHLY 10 MORE SECONDS**, and then press and hold both of the green buttons until the chamber lid is fully open and has stopped moving.
   IMPORTANT: NEVER HOLD THE BUTTONS DOWN WHILE WAITING FOR THIS MESSAGE TO APPEAR, DOING SO CAN DAMAGE THE TOOL!!!
6. Inspect the inside of the chamber. Do you see any particles? If so, try using the ionizing N2 gun at the tool to blow them off. If that does not work gently brush them aside with a foam swab and isopropanol.
7. A pop-up window stating **'Please put wafer on bonder. Press OK when finished!'** will have appeared once the chamber is opened. Before loading your samples, select **'OK'** to lower the carrier wafer. After it has lowered, make sure the carrier wafer is centered before proceeding.
   NOTE: A 6" carrier wafer is kept in the system at all times. If you want to run a 6" wafer of your own, then you will need to remove this carrier wafer. Do this before lowering the wafer. Use the vacuum wand at the system to unload the carrier wafer and place it in the cassette at the system. Now load your carrier wafer using the vacuum wand. The vacuum wand is always on, pressing the lever on the wand shuts off the vacuum.
8. Place your samples onto the 6" carrier wafer in the chamber.
9. Press and hold both green buttons until the chamber lid is fully closed plus 2 seconds.
10. The system will run the selected recipe and vent the chamber when it is finished. Once the message at the top of the screen reads **'Please press both safety buttons now!'**, **WAIT ROUGHLY 10 MORE**

SECONDS, and then press and hold both of the green buttons until the chamber lid is fully open and has stopped moving.
IMPORTANT: NEVER HOLD THE BUTTONS DOWN WHILE WAITING FOR THIS MESSAGE TO APPEAR, DOING SO CAN DAMAGE THE TOOL!!!

11. A **'Substrate finished'** pop-up window with the options of **'Load next'** or **'End'** will have appeared. If you are finished with the system proceed to the next step. If you need to make more runs, select **'Load Next'**. A pop-up window will appear asking **'Repeat same sequence?'**:
    - If you are running the same recipe, select **'Yes'** and go back to Step 7.
    - If you are running a different recipe, select **'No'** and go back to Step 4 (no need to press **'Start'** as the select recipe pop window will have already appeared).
    - If you are unloading/reloading samples, wait until the carrier wafer has lowered to do so.
12. Select **'End'**. You will be asked to close the chamber cover, select **'No'**. A pop-up window stating **'Process is Finished!'** will appear, select **'OK'** to continue.
    IMPORTANT: YOU MUST SELECT 'NO' HERE!
13. Click on the center of the chamber graphic, a pop-up menu will appear. Select **'LoadingPins Down'** and the carrier wafer will lower.



14. Unload your samples from the carrier wafer.
    NOTE: If you ran your own 6" wafer, after unloading your samples; Click on the center of the chamber graphic again and select **'LoadingPins Up'** to raise the carrier wafer. Use the vacuum wand to remove it and reload the carrier wafer that was originally in the system. Repeat Step 13.
15. Click on the center of the chamber graphic again and select **'Start Idle process'**.
16. Press and hold both green buttons until the chamber lid is fully closed plus 2 seconds.
17. Log out by selecting your user ID in the lower left corner of the screen.
18. Enter the following info in the logbook:
    - Date
    - Name
    - Recipe(s) run
    - Chamber contents
    - Reflected power readings (Refl. Power 1 & 2)
    - Number of runs