

Operation Procedure for PECVD1 Advanced Vacuum Vision 310 PECVD System

Start Up & Chamber Conditioning

1. Run a 5 minute chamber conditioning process to pre-season the chamber with the desired film to be deposited
 - a. The process temperature is set via the boxes at the upper left side of the screen. 250C is the standard temperature. To change the temperatures select them type a new value and press enter
 - b. Select “**Start Batch**”
 - c. Choose desired recipe from the pull-down menu
 - d. Edit the time and other user changeable parameters as needed (time is typically set to 5 minutes for chamber conditioning)
 - e. *If using a LF process, please contact SMIF Staff for an explanation of its operation*
 - f. Click “**Start**”
 - g. The process will begin
 - h. Once complete, the process will run a 2 minute purge cycle
 - i. Acknowledge the process complete pop-up at the end of the cycle

Running a deposition on Samples

2. Run a deposition only after doing a conditioning for more consistent results
3. Click “**Vent**” to vent the chamber
4. Click “**Open**” once it appears and the chamber lid will open and move out of the way
5. Load samples onto the chuck. **CAUTION: The chuck is VERY HOT. Do not let your gloves or any other material that can easily melt or burn touch it**
6. Click “**Close**” and then click “**Close**” in the acknowledge pop-up to close the chamber lid
7. Click “**Pumpdown**” to pump the chamber until the “**Start Batch**” button enables
8. Click “**Start Batch**”
9. Choose desired recipe from the pull-down menu
10. Edit the time and other user changeable parameters as needed
11. *If using a LF process, please contact SMIF Staff for an explanation of its operation*
12. Click “**Start**”
13. The process will begin
14. Once complete, the process will run a 2 minute purge cycle
15. Acknowledge the process complete pop-up at the end of the cycle
16. Click “**Vent**” to vent the chamber
17. Click “**Open**” once it appears and the chamber lid will open and move out of the way
18. Remove samples from the chuck. **CAUTION: The chuck is VERY HOT. Do not let your gloves or any other material that can easily melt or burn touch it**
19. If running more samples with the same or similar film, load them and repeat the process as listed above
20. If not running any further samples close the lid, pump the chamber down and run the **Etchback** process (40 minutes) to clean the chamber to prepare it for the next user or next film. Once the plasma strikes, it is not necessary to wait for the process to finish

Setting Up A Process

21. Click “**Processes**”
22. Expand the **Duke** tree
23. Right click and select “**Add New Recipe**” to set up a new recipe or to edit an existing one expand the **Recipe** tree, expand **Version History**, right click on the latest version of the desired recipe and select “**Edit Recipe**”
24. Name the recipe if needed
25. Click “**Details**” tab
26. Right click on the parameter to edit and select “**Edit Parameter**”
27. Edit as needed then Click “**OK**”
28. Click “**Save**” to save all changes as a new revision/version
29. *PLEASE DO NOT MAKE PERMANENT CHANGES TO THE BASE PROCESSES SET UP BY SMIF IN THE DUKE TREE*
30. Under **Settings** on the left menu right click on “**List in batch start**” and make sure there is a blue check mark on the icon to enable the recipe for use. If not select the **Toggle** to enable it
31. Click “**Close**” when done

Finishing Use

32. Set the temperatures back to 250C if altered
 - a. The process temperature is set via the boxes at the upper left side of the screen. 250C is the standard temperature. To change the temperatures select them type a new value and press enter
33. Always run the **Etchback** process when finished using the system so that the chamber is prepared for the next user. Once the plasma strikes, it is not necessary to wait for the process to finish.
34. See SMIF Staff for a description of how to use the “**Report Tool**” function which keeps a process log of everything run in the system
35. Contact SMIF staff if any errors occur with the system
36. **Do Not** click on any buttons or screens not explained in this procedure