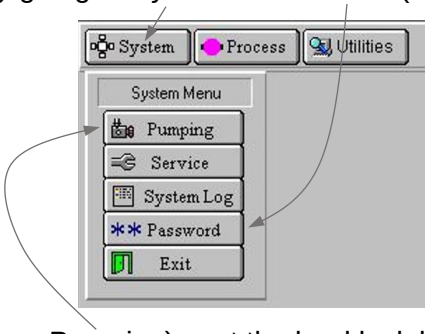
USC UNIVERSITY OF SOUTHERN CALIFORNIA

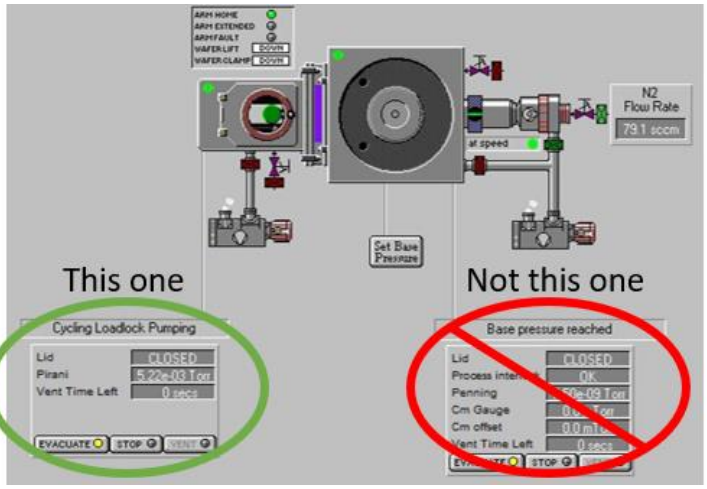
Quick Start Guide: ICP DRIE

This short document is for helping users remember how to operate the tool. It does not replace the SOP nor training.

1. Activate the tool on NEMO
2. Log into PC2000 software by going to System > Password (it is on the top-left of the screen)

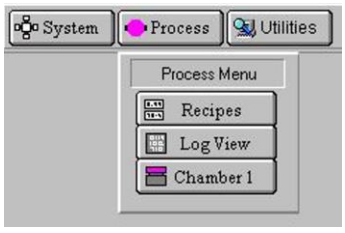


3. On the pumping page (System>Pumping) vent the load lock by clicking STOP and then VENT



4. When venting is complete, load cleaning Si dummy wafer, with the flat facing away from pins

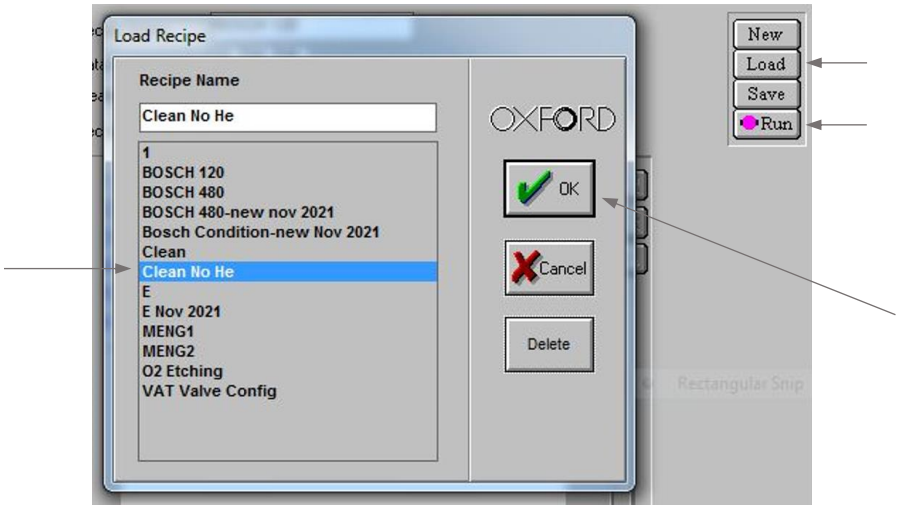
5. Evacuate load lock by clicking STOP, and then EVACUATE
6. The system will prompt you to give your wafer a name – name it as “CleaningWafer”
7. Click Process > Recipes (it is on the top-left of the screen)



In case of emergency, call DPS: 213-740-4321

Written by Eugene Yoon, February 2023

8. Click Load > Clean No He > OK > Run



9. Watch the loading arm when it goes in/out of the chamber at the start and end of process
10. After the cleaning recipe is complete, log it. Make a note if there were any issues
11. Vent load lock (repeat step 3), remove cleaning Si dummy wafer, and load your sample wafer

STOP!

Does your sample wafer satisfy these conditions?

Is wafer edge clean?	Is wafer backside clean?	Will metal be exposed to plasma?
Wafers with a photoresist soft mask must have edge bead removal (EBR). 2 mm is OK, but 4 mm is recommended	Inspect backside by eye. If there are smudges, carefully wipe backside with a texwipe wetted with acetone. Then use another texwipe wetted with IPA.	If there is metal on your wafer, ensure that it is completely or almost completely covered by your masking material. Do not etch metal with this tool.
Why? If dirty, the edge can get stuck to the wafer clamp. Then, the wafer may get shattered during arm loading or unloading.	**Why?** If the backside is dirty, then the wafer might stick to the bottom of the process chamber. This may cause the wafer to get shattered during arm loading or unloading.	**Why?** Metal may get etched by the plasma and then redeposited onto other parts of the tool. This may cause unwanted tool contamination or short-circuiting.

12. Evacuate load lock, name your wafer, load desired recipe, and run it (similar to steps 5 – 8)
13. Log your run after process is complete. Make a note if there were any issues
14. Vent load lock (repeat step 3), remove your sample wafer
15. If you have multiple sample wafers, load the next wafer and repeat steps 12 – 14
16. When load lock is empty, evacuate load lock by clicking STOP, and then EVACUATE
17. The system will prompt you to name your wafer – just press CANCEL to pump down empty
18. Log out of PC2000 software and NEMO