Standard Operating Procedure (SOP)

Tergeo-Plus Plasma Cleaner

(DE-09)

In case of emergency please call 911

For any other major safety concern contact EHRS at: 215-898-4453 or via email: ehrs@ehrs.upenn.edu

If there is an error on the system/tool please report it on NEMO, we will take care of it

Please *DO NOT* run diagnosis without a staff member's approval

General safety tips and common mistakes

- If the tool display is not on, make sure you are logged into the tool via NEMO
- DO NOT open the chamber until the venting process is complete.
- Depending on the process, the sample holder can be hot. Be careful when taking out your sample
- DO NOT log out of the tool before the tool is in an idle state.

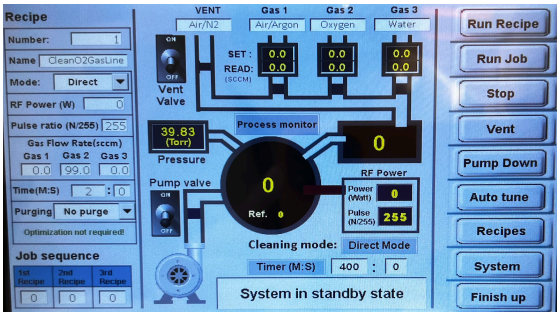
Tergeo-Plus Plasma Cleaner

Tool Overview:

The PIE Scientific Tergeo-Plus Plasma Cleaner is an RF etcher designed for sample cleaning and ashing of resist with a maximum power of 500 W. It is equipped with three process gasses, O_2, Ar, and H_2O. It is capable of direct or downstream plasma, pulsed plasma mode, and has in-situ plasma monitoring for precise process control. The tool can hold samples from piece parts to a single 6” wafer. It can also hold a cassette of 25 4” wafers.

Full procedure

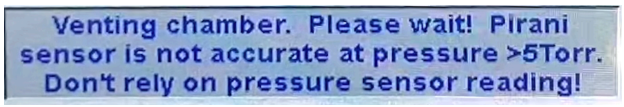
Enable Tool	

0. Log into the tool via NEMO	
1. Check if the chamber is in “standby state” System in standby state If the system is not in a “standby state,” report it to NEMO.	

2. Vent the chamber

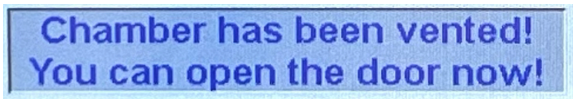
On the right side of the screen, click on "**Vent**."

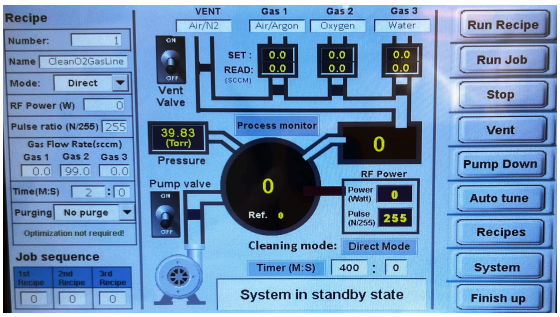
The vent option will turn into "**Venting"** with a yellow background.

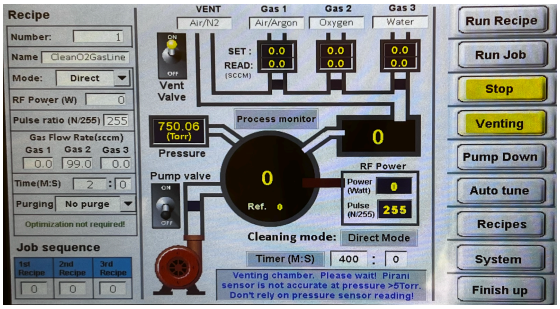


Caution! *DO NOT attempt opening the door until the venting process is done*

Once the chamber status reads "*Chamber has been vented*" you may proceed to the next step.

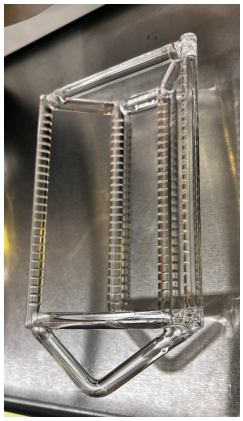


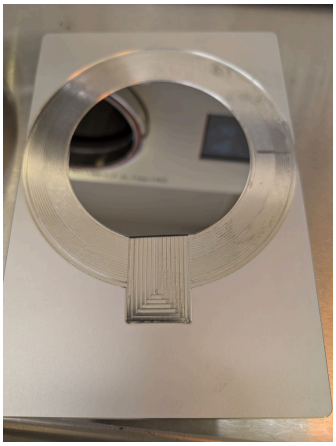


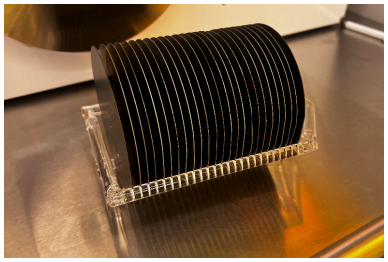


3. Load the wafer and pump down the chamber:

3.1 Gently rotate the door anticlockwise to remove the door.

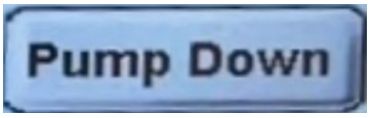
3.2 Place your sample(s) on a sample holder.	
	 
3.3 Load your sample(s).	

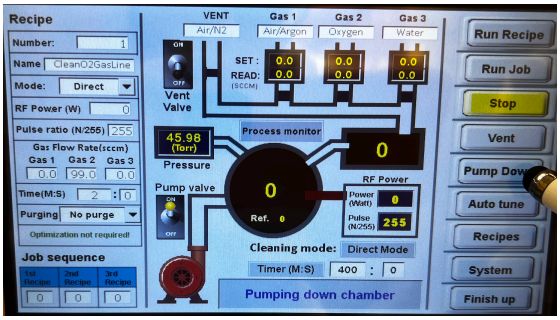




3.4 Close the chamber by placing the door and gently rotating it clockwise.

3.5 On the right side of the control screen, click "**Pump Down**" *to put the chamber under vacuum.*



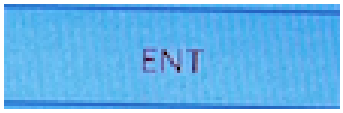


4. Select, modify, and run the recipe.

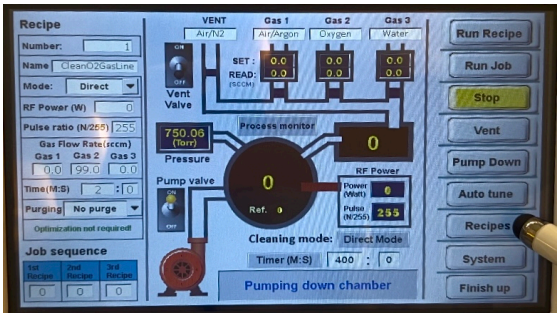
4.1 From the bottom right corner of the screen, click on "**Recipes**."

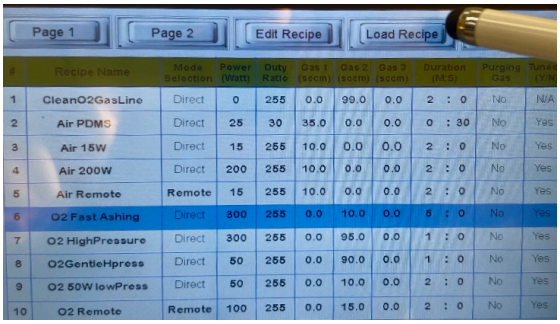
4.2 Select the desired recipe and click on "**Load Recipe**."

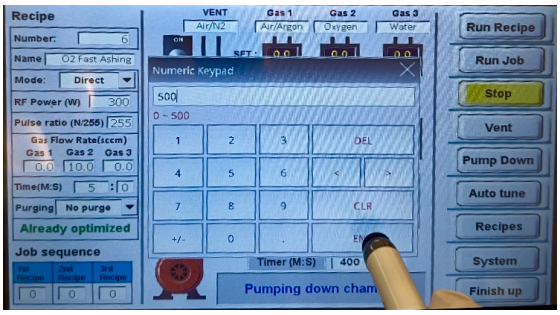
4.3 To modify/check a parameter (ex: power, time): click on the parameter, adjust, and click "**ENT**".

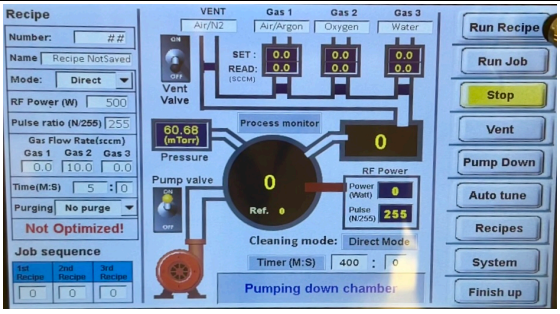
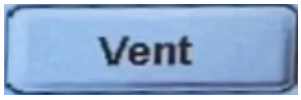
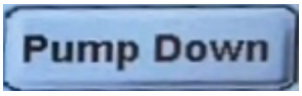
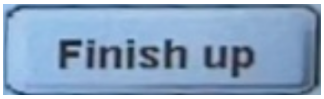
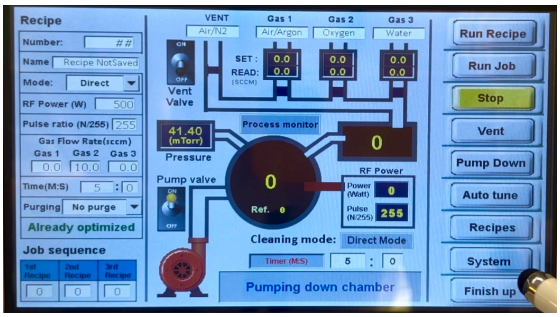
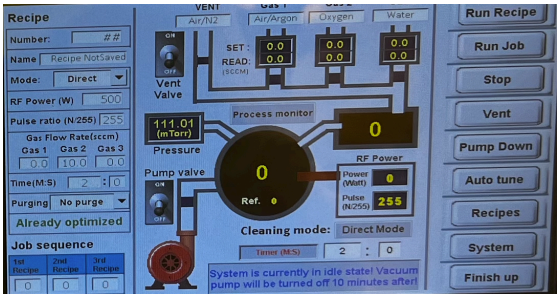


4.4 To run the recipe, click "**Run Recipe**".







	
5. Retrieve your samples 5.1 Once the recipe is completed, Vent the chamber by clicking "**Vent**."  5.2 Once the chamber is vented, remove your samples. Click on Pump Pown and wait until the pressure stabilizes.  5.3 Click "Finish up" to put the system in idle state 	 
Log out of the tool via NEMO.	

Feel free to contact the staff members with any questions about your process and the tool.

Last modified: 11/22/2024 by Madina Sabitqyzy and Lucas Barreto