YES Plasma Strip System Operation

Overview

Plasma strip system for safe, high power photoresist stripping. The system uses a downstream ICP plasma to prevent plasma, UV, or electrostatic charging damage.

Restrictions & Precautions

- **Only use the labeled stainless 4" wafer cassette at the system, do not use your own cassette!**
- **The cassette is labeled for correct orientation, pay attention to this!**
- **The maximum sample thickness when running multiple carrier wafers is 750 microns. If you are only running one carrier wafer, then maximum sample thickness is 3 mm.**
- **Samples with indium on the backside should be avoided, consult with Staff prior to running.**

Operation - All software steps can be performed using the touchscreen or keyboard/mouse.

1. Make sure you are on the **'Main'** tab, if not select it.
2. Verify the system is not in use; in both the **'Chamber'** and **'System'** panels, the **'State'** should read **'Idle'**. The light tower will be off as well.
3. Open the Plexiglass door.
4. Remove the cassette and starting with the bottom slot, load your wafer(s) face up with the major flat oriented to the back of the cassette. There are carrier wafers at the system for small pieces.
   Take care not to cross-slot the wafers and do not skip slots as the system will error!
5. Place the cassette back on the cassette holder, H-Bar end down, making sure it is seated properly. Verify that the wafers are pushed to the back of the cassette slot. In the Cassette panel you should see; **'State: CassettePlaced'**, **'Det. Wafer Size: 100 mm'**, and **'Cassette: Present'**. If you do not see these conditions met, remove and re-seat the cassette.
6. Close the Plexiglass door.
7. In the **'System'** panel, select the **'System Recipe'** field. A **'File Select'** pop-up window will appear with all the available recipes listed. Highlight the desired recipe by selecting it then select **'Select'**. Verify the correct recipe is displayed in the **'System Recipe'** field.
8. In the **'Cassette'** panel select the **'Lot ID'** field and enter the following: *last name-first initial* or *company/group name*, all lower case.
9. Select the **'# of Wafers'** field and enter the number of wafers in your run. The slots on the cassette map will change from white to cyan.
   If you enter more wafers than loaded, the system will error when it reaches the empty slot!
10. In the **'Commands'** panel select **'START PROCESS'**, a pop-up window will appear confirming you want to start processing with the selected recipe. Select **'Yes'** if everything looks correct and **'No'** if you need to make changes.
11. The system will begin processing and the light tower will turn solid green. If the system goes into an alarm state during the run, the light tower with turn blinking red and an alarm message will appear in red banner near the top of the screen.

    NOTE: There are some common errors that users are allowed to clear and then resume using the tool. See below for detailed information.
12. Once the last wafer has completed processing there will be a short 5 second cool down step. **DO NOT** attempt to open the Plexiglass door and remove the cassette until the **'State'** in the **'Cassette'** panel reads **'ReadyToUnload'**.

13. Open the door, remove the cassette, unload your wafer(s)/sample(s), replace the cassette, and close the door.

Clearing Alarms

You are only allowed to clear the alarms listed below! If you encounter any other alarms, stop using the tool and contact Staff.

Active alarms will appear on the alarm bar at the top of the screen. The user can clear active alarms by selecting **'Alarms'** at the bottom of the screen and then selecting the **'Active Alarms'** tab. You can then clear the alarm(s) by selecting **'Clear All'**. To return to the main operating screen, select **'System'** at the bottom of the screen.

- **'Pressure Controller Not Communicating'** – This alarm can occur when the tool is in a prolonged idle state. Clear the alarm before doing anything and operate the tool as you normally would.
- **'Unable To Detect Valid Cassette Size'** – This alarm occurs if you attempt to start a process and the cassette size sensor is not engaged properly. Clear the alarm and then select **'ABORT'** in the **'Commands'** panel. A pop-up window will appear asking **'Abort processing new wafers?'**, select **'Yes'**. Once the **'State'** in the **'Cassette'** panel reads **'ReadyToUnload',** open the door and re-seat the cassette, reference Step 5 of the Operation section for more information.
- **'Robot Get Substrate From Cassette Failed'** – This alarm occurs when the robot arm does not pick up a wafer in the cassette slot. Clear the alarm and then select **'ABORT'** in the **'Commands'** panel. A pop-up window will appear asking **'Abort processing new wafers?'**, select **'Yes'**. Once the **'State'** in the **'Cassette'** panel reads **'ReadyToUnload',** open the door and verify the wafer in question is loaded properly. If this error did not occur on the wafer in slot #1, you will have to unload the processed wafers and then reload the cassette with the unprocessed wafers beginning with slot #1. If you encounter this error a second time, STOP and contact Staff.
- **'Chamber Pressure Reached RF Low Pressure Abort Of [Limit]'** – This alarm is indicative of a pressure issue prior to plasma ignition. Clear the alarm and then select **'RESUME'** in the **'Commands'** panel. You will need to re-run the wafer the error occurred on once the run is complete.
- **'RF Generator Fault: [E7] – Failure To Ignite Plasma'** – This alarm is indicative of the plasma not igniting. Clear the alarm and then select **'RESUME'** in the **'Commands'** panel. You will need to re-run the wafer the error occurred on once the run is complete.
- **'RF Generator Fault: [E79] – Capacity Coupled Plasma Detected'** – This alarm occurs when a capacitively coupled plasma is detected. Clear the alarm and then select **'RESUME'** in the **'Commands'** panel. You will need to re-run the wafer the error occurred on once the run is complete.
  NOTE: This can also occur as a warning (in yellow) and the tool will continue to run.