



Laurell Spin Coater

Safety

- Properly center your substrate on the chuck to prevent shattering.
- Keep resist and cleaning solvents away from the vacuum inlets on chuck.
- Wear eye protection.
- Do not breath fumes.
- Double glove before doing any photolithography.

Allowed Materials and Processes

The Laurell spin coater can be used to spin coat all MMF-approved resists (e.g. SU-8 series, AZ1500 series, KMPR series, NR9 series). If you would like to use a new resist or material, please get prior approval from the facility manager.

Restricted Materials and Processes

The Laurell spin coater is not approved for spin coating PDMS and other materials that might permanently cure in the equipment.

Operating Procedures

1. Check if the waste container directly behind spinner is full. If the waste container is full, contact the student office and ask staff to dispose of the waste. If they are not available and you are trained, carefully unscrew the container by rotating counterclockwise. Dump contents of container into the solvent waste drain on the solvent bench. Wipe off rim of container with acetone to prevent photoresist crust from forming on the threads. Screw waste container back into the spinner by rotating clockwise.
2. Press the Select Process button. Use the up and down arrows to highlight a program number that has the correct number of steps for your process (typically either 1 or 2 steps).
3. Press “EDIT MODE” and change the parameters of the program to meet your specifications.
 - a. Use “pg up” and “pg down” to toggle through each category.
 - b. Once you reach the category you want to edit, press the up or down arrows to change the value.
4. Once you have finished editing the process, press “RUN MODE”.
5. Take a soft, clean wipe with a squirt of IPA and gently wipe down the chuck.
6. Center your substrate on the chuck. You can use the wafer centering device located next to the spin coater in the fume hood or set it in place, then rotate the chuck manually to see if it is centered. Make small adjustments if required.
7. Turn on the substrate vacuum by pressing the “Vacuum” button. The “Vac” section on the screen will go from “00” to somewhere in the low to mid 20s.
8. Close spinner lid.
9. Double check that your spin parameters are correct.



- a. (Optional) You may also take a wafer from the “MMF Junk Wafers” cassette to do a practice spin.
10. Press “Start” and monitor the process.
11. After the spin sequence is complete, lift the lid slowly to allow resist to run off the backside of the cover to prevent drops on your substrate.
12. Switch off vacuum by pressing “Vacuum” button.
13. Remove substrate.

Shutdown and Cleanup

14. Clean the Laurell with acetone on cleanroom wipes. (If you used SU-8, SU-8 developer will work better than acetone.) There should be no photoresist residue left on the spin coater.
15. Close the lid to the spin coater bowl.
16. Check again if the waste container directly behind spinner is full
 - a. If the waste container is full, carefully unscrew the container by rotating counterclockwise.
 - b. Dump contents of container into the solvent waste drain on the solvent bench.
 - c. Wipe off rim of container with acetone to prevent photoresist crust from forming on the threads.
 - d. Screw waste container back into the spinner by rotating clockwise.

Troubleshooting

- The Laurell spin coater will not spin when I press start
- Has the vacuum button been pressed?
- Is the vacuum valve to the spin coater on the back of the bench turned on?
- Is the house vacuum pump turned on?
- The Laurell did not stop when it should have.
- You probably started the recipe in “EDIT MODE” rather than “RUN MODE”. Depending on your process, you may need to rework your wafer.

Version History

Document adapted from (WNF).

- 2020.1 Initial version by Joshua Heinemann.
- 2024.1 Updated.

- 2025.2 – Converted to Accessible PDF Version by Owen Bunn.