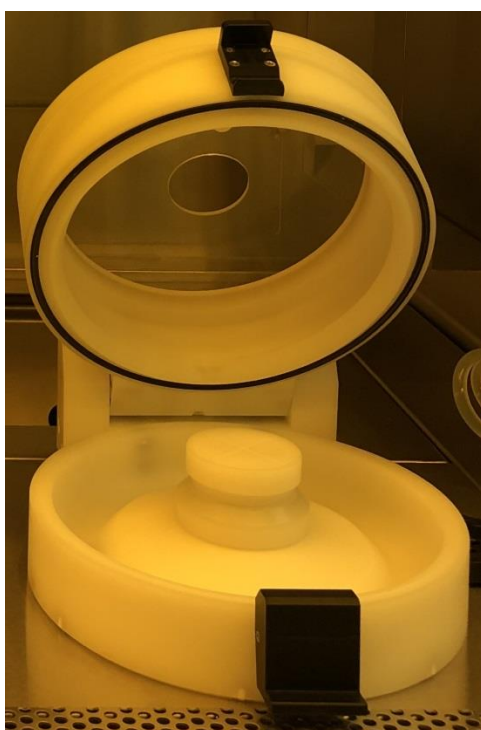


Standard Operating Procedure

Spin Coater



Yale West Campus
Materials Characterization Core
ywccleanroom.yale.edu

100 Cleanroom Core Facility
750 West Campus Drive
West Haven, CT 06516

Version 1.0 January 2018

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Spin Coater SOP

1. Turn on Spin Coater.

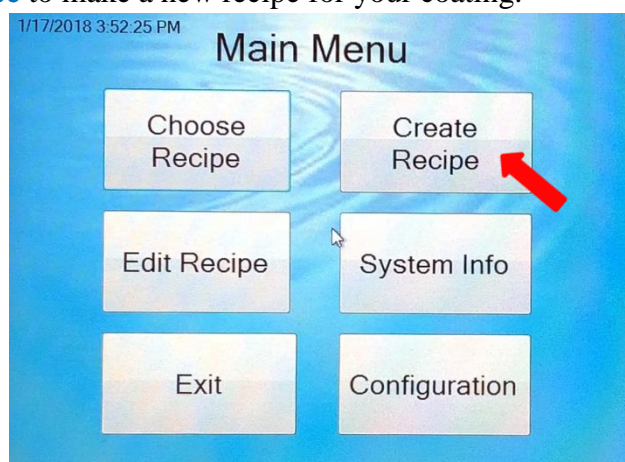
- 1) Go to **FOM** system to log in spin coater. <http://fom.yale.edu/fom/>

Warning: There are two spin coaters. If you are going to coat **SU8**, please log in **Spin Coater 1**.

- 2) Click **Express logon**, the control panel will automatically turn on. Wait until the **Main Menu** window pops out.

2. Create/ Edit Recipe.

- 1) Click **Create Recipe** to make a new recipe for your coating.

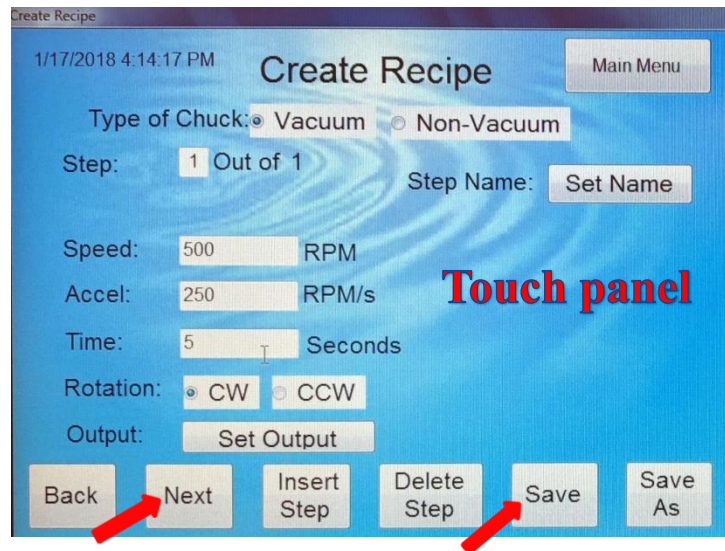


- 2) Set up the parameters by touching the corresponding part.

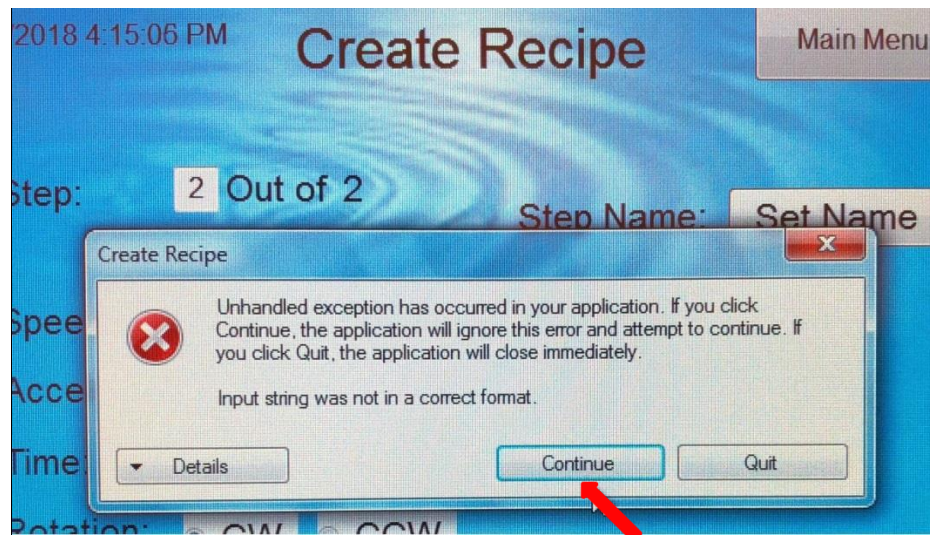
Note: Refer to the photo resist data sheet for the desired thickness to set up parameters.

For example:

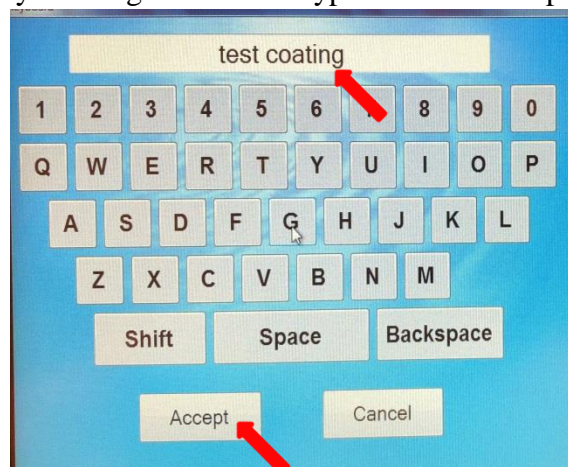
Type of Chuck	Vacuum	Warning: Should be always Vacuum; Otherwise your wafer will fly out.
Speed	500 RPM	
Accel	250 RPM/s	Acceleration
Time	5 Seconds	Note: Total spinning time, including acceleration time
Rotation	CW	Counterclockwise



- 3) If you need two steps of spinning, click **Next** to set up your desired parameters.
Note: If a small window as follow pops out, click **Continue**.



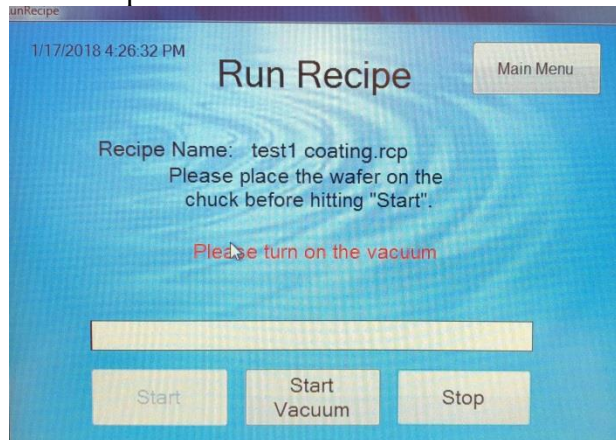
- 4) Save your recipe by clicking **Save**. Then type the name and press **Accept**.



- 5) If you want to edit an existing recipe, click **Edit Recipe**; choose the file you want, and then change the corresponding parameters.

3. Choose Recipe.

In the Main Menu, press **Choose Recipe** and click the one you need to load. The following **Run Recipe** window shows up.



4. Load Wafer.

There are three chucks for different-size wafers as shown below. It is **strongly recommended** to choose the correct one in order to get a uniform photo resist coating.

Note: Never use the large chuck for a small wafer, it is hard to clean.

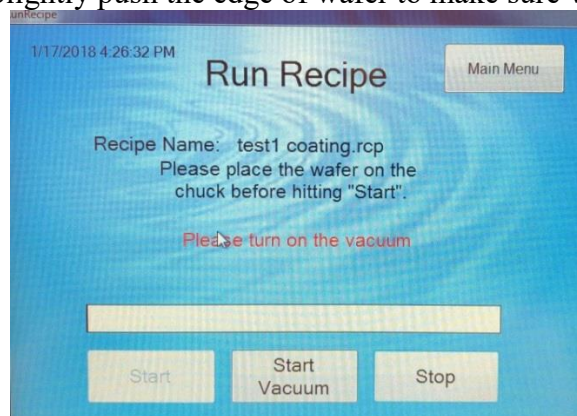


- 1) Press the following black button and then open the lid.
- 2) Place the wafer on top of the chuck using wafer tweezers or the following help tool.
Note: Make sure the wafer is placed in the center of chuck.
- 3) Close the lid.



5. Start Vacuum.

Click **Start Vacuum**. Slightly push the edge of wafer to make sure vacuum is on.



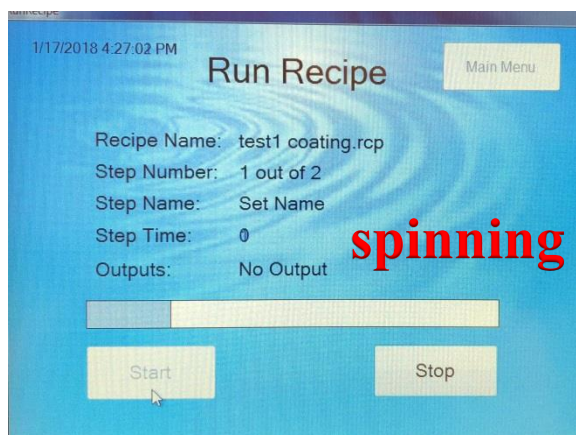
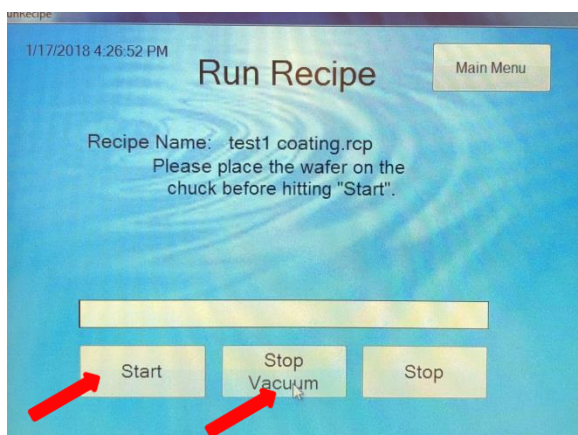
6. Spin Coating.

- 1) **Test coating**. Without dropping the photo resist on the wafer, test to see whether it is spinning smoothly. Click **Start** to run.
- 2) **Formal coating**. Put photo resist in the center of wafer using pipette. Click **Start** to coat.

Warning: If you are working with SU-8, make sure that you are **double-gloved**. SU-8 is very sticky; pipette may be not good for SU-8 transfer to wafer.

- 3) Click **Stop Vacuum**. Take the wafer away from the chuck, observe the coating using optical microscope with the **yellow filter**. Repeat coating if not satisfied.

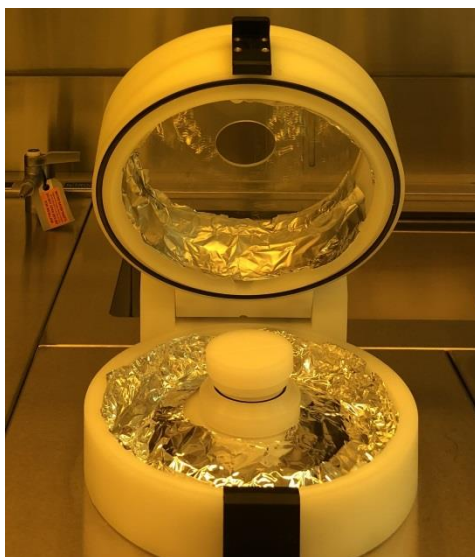
Note: when using the optical microscope to observe your sample after the coating, double check the **yellow filter** is used and the light is **NOT** white.



7. Clean Spin Coater.

It is your responsibility to clean the spin coater and replace new Aluminum foil.

- 1) Peel off the dirty Aluminum foil. Put foil and pipette into ziplock bag and then dispose to trash bin.
- 2) If the basin of spin coater is dirty, clean with acetone and followed by IPA.
- 3) If the chuck is dirty, take it off, squirt generous amount of acetone and follow it up with methanol and IPA over the solvent bench.
- 4) Cover basin and rim using new Aluminum foil.



8. Turn Off Spin Coater.

- 1) Log in **FOM** to turn off the spin coater. The machine will shut down automatically.
- 2) Clean the bench tops or table you have used. Return tweezers and other tools to original place.