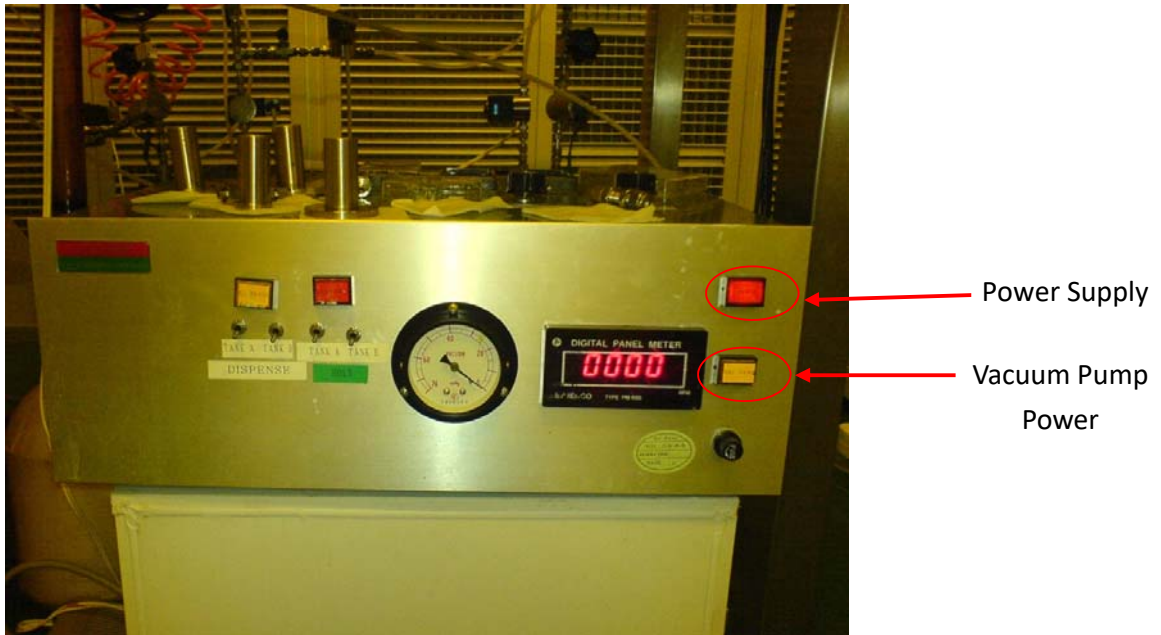


Spin Coater Operating Manual



- Speed Control: Microcomputer control
- Speed Range: 0~6000 RPM
- Substrate Size: 3" wafer, can use fragment pieces

1. Turn on the power and vacuum pump of the spinner, as shown below.

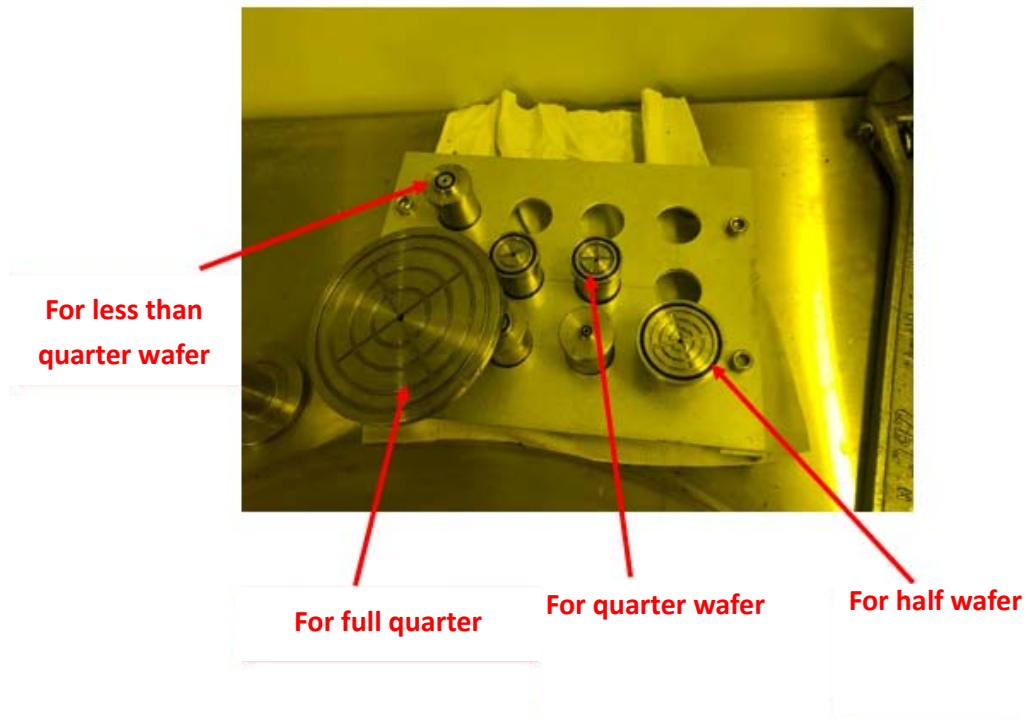


2. Choose a suitable chuck (slightly smaller than the substrate you're going to use and make sure all the grooves are covered)



Note: Clean the chuck with IPA, then rinse with DI water and dry with N₂ blower

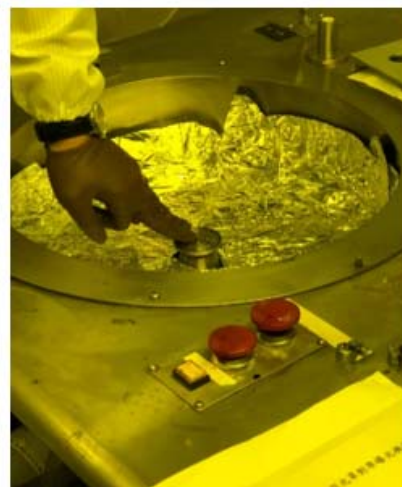
before coating (make sure tube inside the chucks are clean).



Note: do not remove the O-ring inside the chuck!!!

3. Press the chuck onto the center of base.

Note: Please do not to use too much force while pressing, to easily remove the chuck after use. Make sure you put a clean sheet of Al foil each time you use the spin coater. Keep the chamber clean at all time. Wipe and clean all PR inside and around the chamber after each use.



- Before applying any photoresist on the substrate, set the spin speed and **conduct the pre-spin first**. (In order to make sure that the spinner is working well)

Example:

Step setting parameters

N₂ Blow: 5 ~ 10 seconds

Step1: 5 seconds Speed: 1000 rpm

Step2: 60 seconds Speed: AZ Photoresist 3500 rpm

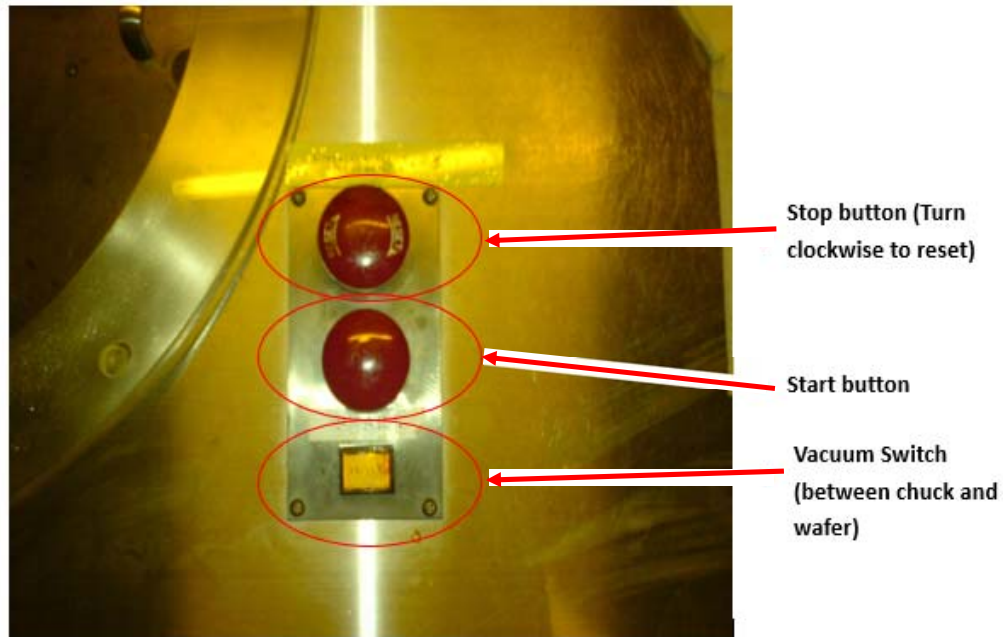


- Note that **it is necessary to open the N₂ valve to the ON position** at this time (keep it parallel to the pipe line)



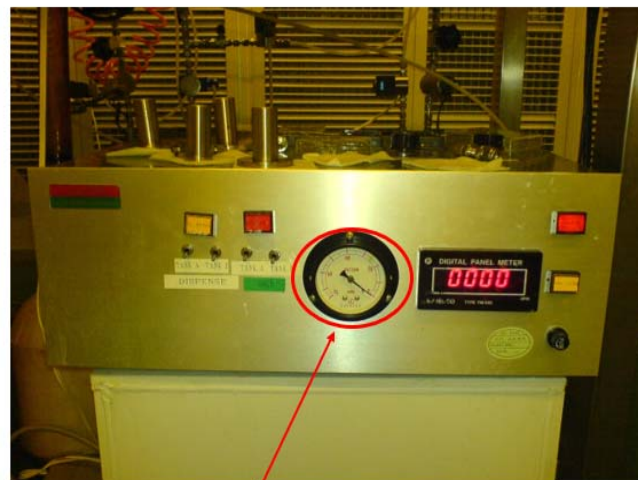
N₂ valve OFF condition

6. Close the cover (lid), and press the START button to conduct pre-spin and after running turn it off by STOP button.



7. After checking all the parts are running well, open the cover (lid), place the substrate on the center of the chuck, and **turn on the vacuum between chuck and substrate by pressing the vacuum switch**. Before placing the wafer, use a nitrogen gun to blow off dust from hands and clothes to avoid contaminating the wafer.

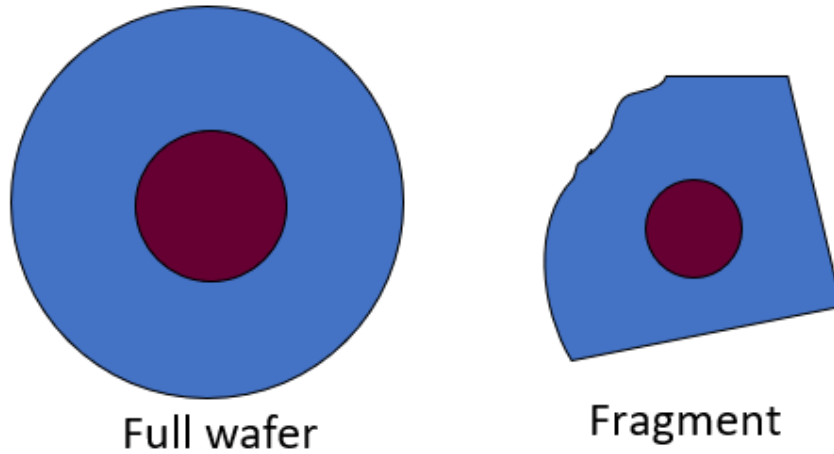
You can proceed once vacuum gauge reading is above 60 as shown in figure below.



Vacuum gauge

8. Pour the photoresist on the substrate. Refer to the next diagram for an appropriate

amount. Excessive photoresist will coat the back of the wafer and stick to the chuck.

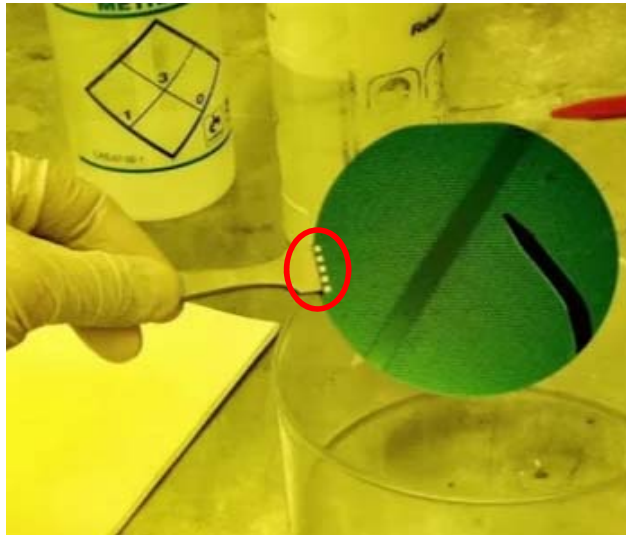


9. Close the cover (lid) properly and press START to conduct the spin coating.
10. After spinning is finished, use tweezers to grasp the edge of the substrate and remove it from the chuck.
11. Check for any meteor marks (caused by particles).
If you see meteor marks, remove the photoresist with acetone, then clean the substrate before attempting another photoresist spin coating.

If there are no meteor marks on the substrate, you can move it to a hot plate or oven for soft bake further processing.

KEEP IN MIND!!!

- During the process of moving the wafer, the photoresist surface should be kept downward to prevent dust from falling on the surface.
- Before using the photoresist, use nitrogen to blow off the dust from the bottle mouth and open it to open the spinner's top cover. The photoresist should be dumped to the central area of the chip. Put the Spinner cover after the photoresist is over. The photoresist must not be exposed to the air for too long, so each time the photoresist is applied, wipe the mouth of the photoresist bottle with dust-free cotton and lock the lid.
- Handle the substrate with tweezers at the edge as shown below.



- Close the spin coater lid immediately after Photoresist is poured on the wafer.

USAGE AND STORAGE OF PHOTORESIST

- Please store all photoresist in the fridges inside class 100.
- Do not use your resist directly from the manufacturer bottles.
- Store your resist in a smaller brown opaque glass bottle. Make sure the bottle is labelled with the name of the photoresist, your name and expiration date.
- After pouring the photoresist, use a clean room wipe wetted with acetone to wipe off the excess photoresist before closing the bottle cap.
- Always wipe the excess photoresist away from the sealing surface of the bottle. Clean the excess with wipe and acetone if needed.
- Return the photoresist to the refrigerator after use.
- Photoresists should always kept in the fridge even they are already transfer to smaller opaque bottles.
- Follow the same cleaning procedure as shown in previous steps. Make sure you allow the resist to warm up to room temperature overnight before using for the best PR performance.