2” Spinner

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Authorized Users:

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Allowed Substrates: 2” wafers as well as their small pieces
Authorization Procedure: Hands on training followed by practical cum written test
Expiry of authorization: If user fails to operate the system for more than three months. Clearing both practical and written test mandatory for re-authorization

Violation Policy:

1. Proper shut down of the system including the Nitrogen supply and the main power supply.
2. Entering the log book each time the system is used.
3. Proper cleaning of the process bowl and the lid after each use.

USE OF ALUMINIUM FOIL MANDATORY

OPERATING PROCEDURE

- Turn ON GN2 to 4 bars and switch ON the vacuum pump of the spinner.
- Switch ON Mains of spinner and the step up/ step down voltage regulator.
- Press the switch on the rear bottom of spinner.
- For existing recipe of spinning, select the program by pressing Program select button.
- For writing new recipe, press F1 and write the program by using add step, delete step button and enter the values using the up and down arrow buttons. Press enter once the program is written.
- Each program step includes: time of step, wafer rotation speed in RPM, and acceleration/deceleration set point (acceleration/deceleration rate is shown in program mode only).
- Place the wafer on the spinner chuck using the wafer alignment tool. Use 2" chuck for pieces and 2" wafers.
- Press vacuum on the keypad and gently remove the wafer alignment tool. The system will not work for vacuum less than 15" Hg. If the vacuum falls below the required level the process will halt and an E04 error message will appear on LCD display. To restart the program after the vacuum has been re-established, RUN/STOP key needs to be pressed.
- As the vacuum valve is pneumatic sufficient pressure of Nitrogen is required which is 60 psi and above In this case there is required vacuum but lack of N2 will flash CDA and cause an E10 error. Once purge pressure has been re-established, press the RUN/STOP key on the keypad to re-start the program.
- Close the lid. A safety lid interlock disallows motor rotation if an open lid condition is detected. In case lid is opened while running a program, the program will be interrupted and chuck rotation will stop slowly. LID indicator will be flashed on the LCD display. The program can be continued from the point at which it has stopped by closing the lid and pressing the RUN/STOP key.
- Select the program and perform a test run without the resist.
- Pour resist on the wafer with the help of a disposable dropper. Close the lid Press RUN to start the process. If process needs to be aborted in between, press STOP.

- Shutdown the system by pressing the button at the rear end of the spinner body followed by switching OFF Mains and the transformer. Turn Off the vacuum pump as well as the Nitrogen supply.

Optimized Recipes

Name of Resist	Steps	Time in seconds	Acceleration	Thickness of the film	Process Type
PPR S1813	1 2	10 30	500 1500	1.8 micron	Lift Off
PPR S1813	1 2	15 30	300 3000	1.5 micron	Spread Spin
PPR S1813	1 2 3	15 45 5	300 6000 500	1.4micron	Small features
SPR-700-1.8	1 2	15 30	300 3000	2.1micron	Spread spin
AZ5214E	1 2	10 30	500 4000	2.0 micron	Lift off
AZ4620	1 2	15 30	300 3000	9.88 micron	Lift off
HSQ	1 2 3	5 45 10	500 2000 0	150 nm	Spread spin

ERROR MESSAGES

Error messages expected during the operation of the spinner and the action required thereby is given as follows:

Code	Description	Action
E03	Motor not reaching specified RPM	Shut down the spinner
E04	Vacuum below required minimum	Shut down spinner and check oil in vacuum pump
E05	Illegal command sent to spinner	Ignore
E07	Motor exceeds maximum RPM	Shut down the spinner
E08	No RPM feedback	Shut down the spinner and remove any restrictions to spinner
E10	Insufficient Nitrogen present	Check Nitrogen pressure and increase it to 4 bars

First level Tool Maintenance

- Clean process bowl and lid with IPA after each use, taking care to prevent chemicals from entering the vacuum path. Ensure that Nitrogen is ON during cleaning so that seal purge is constantly present and leave the lid open to allow drying of residual solvent.
- Cover the chuck using a wafer held in place with vacuum.
- Clean the keypad surface with wet wipe. DO NOT solvent like Acetone directly on to the keypad surface as it may cause keypad failure.
- Clean the chuck O-ring carefully so as not to damage the O-ring or the chuck. Wipe it with Acetone and insert it back to the O-ring groove.