

# Filmetrics F-20 Operating Instructions

**This machine to be used by trained personnel only. For training contact the Cleanroom Engineer or Manager**

**Always reserve a time slot in iLabs and before using the instrument, begin your session using the iLabs 'Kiosk' page**

1. Turn on the Fiber optic light switch on the Filmetrics box and allow the lamp to warm up for approximately 15 minutes.
2. Start vacuum pump.
3. Open the FILMeasure program on the computer.
4. Locate the Filmetrics bare silicon start-up standard kept in a 2" wafer holder in the drawer near the unit.
5. Put the 2" standard wafer on the measuring stage so the light is shining ON the SILICON.
6. Turn on vacuum switch to measurement stage.
7. Click the "Baseline" box on the computer program and then click the "OK" box.
8. Lift the wafer so the light hits the baseline wafer at about a 45-degree angle. Press OK again.
9. Turn off vacuum switch to measurement stage.
10. Locate the Filmetrics oxide start-up standard also kept in a 2" wafer holder in the drawer near the unit. Position the oxide start-up standard so the light shines directly in the center of the OXIDE circle in the center of the wafer.
11. Turn on vacuum switch to measurement stage.
12. Press the MEASURE box. The oxide on the Standard wafer is 8077 Angstroms thick. The measurement should be + or - 100 angstroms of this number. If not, contact Cleanroom Engineer.
13. Turn off vacuum switch to measurement stage.
14. Remove the oxide start-up standard and return it to its container.

**Start Up routine should be repeated every 20 minutes from step 4 to assure consistent measurements.**

15. To begin sample measurements, select the film to be measured from the "Structure" list.
16. To set an expected thickness click the "Edit Structure" box and input the expected thickness of the film to be measured. The closer the expected thickness is set the more accurate the readings will be.
17. Take all desired measurements. Make sure vacuum is applied to sample stage
18. Type in your Sample ID in the box provided on the screen and a name in the Operator box. When the measurements are completed save the data to your C:\ drive directory location. To save data to external location, use a floppy disk in the A:\ drive.
19. When finished: close the FILMeasure program, and TURN OFF THE FIBER OPTIC SWITCH AND VACUUM PUMP.

