

March Plasmod Quick-Reference Guide

23 May 2013

1. Power up the vacuum pump and plasma system using the toggle switch on the power strip attached to the table leg. Press the **AC** power button on the plasma system if it has been toggled off.
2. Open the black valve mounted to the wall for O₂, if desired.
 - The pressure should be 10 psi. Contact a lab technician if the pressure is significantly different.
 - **Do not adjust the flow meter knob. Flow will be indicated when vacuum is later applied.**
3. Place your sample in the chamber.
4. Let the plasma system tube amps and vacuum pump warm up for **10 minutes**.
 - If O₂ is being used, this will provide time to purge the chamber.
5. After warmup, press the **VACUUM** button to start pumping down the chamber.
 - Press on the front of the chamber to ensure that the gasket seats.
 - If O₂ is being used, the flow should be about 50 mL/min.
6. Let the chamber pump down for **2 minutes**.
 - The chamber pressure should be about 300 mTorr or less.
7. After pumpdown, press the **RF** button to strike the plasma flame.
 - **Do not adjust the LEVEL or TUNING knobs.**
 - **Do not press the METER button.**
 - The chamber pressure should rise to about 450 mTorr.
 - RF power will not be applied if the metal door is not fully closed.
8. After exposing your material to plasma, press the **RF** button again to snuff the plasma flame.
9. Press the **VACUUM** button again to vent the chamber.
10. Remove your sample from the chamber.
11. Close the black O₂ valve mounted to the wall, if you used O₂.
12. Power down the vacuum pump and plasma system using the toggle switch on the power strip attached to the table leg.

Notes:

- Plasma exposure time will depend on substrate and/or application.
 - Substrates coated with AZ1518 photoresist should be exposed for no more than 1 minute, as longer times will result in complete film removal.
 - For plain glass substrates, 2 minutes of exposure is sufficient for surface treatment prior to bonding or film deposition.
- The March Plasmod is adjusted to about 90 W of power. **Please consult a cleanroom technician if you wish to use the system at a lower power.**
- Consult the March Plasmod user manual for further information.