

Cressington 108 Sputter Coater Instructions

ALL WORK should be done while wearing gloves.

ONLY USE SEM PIN MOUNTS WITH SHORT (8mm) PINS, OTHERWISE THE PINS WILL GET STUCK AND DAMAGE THE STAGE ROTATION GEARS (\$\$\$)

- Suitable mounts: TED PELLA #16111 Standard SEM Pin Stub Mount, \varnothing 12.7mm x 8mm pin height; EMS #75200 $\frac{1}{2}$ " dia. (12.7mm), pin $\frac{1}{8}$ " dia. (3.1mm), 8mm (H)



1. Lift the lid carefully, remove the glass and place it on a clean surface.
2. Place your samples on the stage. If using stage rotation, tilt the stage $\sim 30^\circ$ to get coating on sides of the specimen as well. The thickness monitor should point UP to the center.
3. Replace the glass, close the lid gently
4. Turn on power switch on the main unit and on the thickness monitor box
 - ZERO the thickness monitor, DENSITY should be 19.3 for gold, TOOLING: 1.0
 - Set desired thickness: hold TERMINATOR, set **between 5 and 20 (nm) for most samples.**
5. Switch to MANUAL.
6. Open the main valve on the Argon gas cylinder
7. Let the system pump down to 0.1 mbar, then push the FLUSH button. Wait 30 seconds, then turn off the FLUSH. Repeat the above step one more time
8. Wait until the vacuum reaches 0.02 mbar (0.04 mbar will be OK)
9. Switch to AUTO
10. Make sure the paddle shutter in the chamber lid is open.
11. IF your samples are small/thin enough, you can turn on the stage rotation (the small black knob on the front of the chamber). **HOWEVER, if you have tall samples, they will not have enough clearance and will crash into the thickness monitor.**
12. Turn on TERMINATOR (on the upper box), then push Auto-Cycle. The machine will perform two auto flush cycles and then starts sputter coating.
13. When the pre-set thickness is reached, the machine turns off the coating.
14. HOLD "ZERO/XTAL LIFE" BUTTON ON THE THICKNESS MONITOR FOR 2 SECONDS TO SEE THE CRYSTAL LIFE INFORMATION. Write this in the log book, together with all other information.
15. Turn OFF both power switches, stop stage rotation, close the paddle shutter. Set stage tilt back to 0.
16. Once the chamber is vented, lift the lid, remove the glass, Remove your samples.
17. Replace the glass, close the lid. Close the main valve on the Argon gas cylinder.