

Denton Desk II Large Chamber Cold Plasma Sputter Coater

Operating Instructions

Make sure to wear gloves while placing samples in chamber

1. Gently lift the chamber lid
2. Rub (*a very small amount of*) grease on the rubber gasket
3. Place samples in chamber under gold target
4. Close the chamber lid
5. Make sure the Au hose is attached to the Argon tank
6. Open the Argon tank
7. Turn Desk II on (button on lower right side)
8. Turn pump on (black switch at end of pump)
9. Turn the gas knob on the instrument counterclockwise.
10. Wait until LEDs indicate about 20 mTorr (~3 red bars)
11. Press the SPUTTER button. [The SPUTTER button will not stay lit.]
12. Turn the small GAS knob clockwise **fully but not tightly** to close the valve.
13. Wait until the pressure comes down to about 100 mTorr (~7-8 red bars) then press SPUTTER again. Repeat this step until the SPUTTER button stays lit.
14. Adjust pressure as needed by slowly turning the GAS knob counterclockwise until the pressure is about 70 mTorr (~6 red bars)
15. Set time for Sputtering—20 to 30 seconds**
 - a. **for smaller samples, it may be necessary to set a shorter time. Please ask Dr. Gadiant or Cassandra for guidance if you are unsure
16. When ready, press START then immediately increase the current by turning the CURRENT knob clockwise until LEDs read 40-45 mA. [The current will shut off automatically when finished.]
17. Turn Desk II off (button on lower right side)
18. Turn off the pump
19. **Close the Argon tank**
20. Carefully open the chamber lid and remove samples

Common issues:

- It is taking more than 10 minutes for pressure to reach 20 mTorr
 - Make sure the GAS knob is **not** fully closed (all the way to the right/clockwise)
 - Check to make sure grease was used on the gasket
 - Ensure that the Argon tank is open
- Gasket came off when inserting/removing samples
 - [This happens very often] Carefully slide the gasket back into place before closing the chamber lid