



## Operating the Hummer VI Sputter Coat Unit

### CAUTION-GLASS UNDER PRESSURE

**\*\*Wear Safety Glasses \*\***

### Before You Begin:

If the unit has not been used that day we recommend you allow the system to pump for at least 15-30 minutes before initiating coating procedure.

Samples must be COMPLETEY DRY or you will experience problems coating

### Instructions:

1. Check and adjust the following before proceeding:
  - a. **Main** power = Off
  - b. **Voltage** control = 0
  - c. **Pulse** switch = Off
  - d. **High Voltage** switch = Off
  - e. **Processing** switch = Manual
  - f. **Fine Gas Control** = Closed
2. Open the chamber lid fully and with care (target can fall out). Remove the glass bell chamber and set carefully on the bench.
3. Use forceps provided to place specimens on the stage; 15 mm pin stubs will fit the 12 holes in the stage. Larger stubs will need support.
4. Check and clean the rubber seals on both end of the bell chamber and seat it to the flange around the stage. Carefully lower the lid assembly on to the bell chamber – **DO NOT DROP IT!**
5. Press the lid assembly gently while switching the **Main** power to **ON**. You'll hear the vacuum pump start and an amber light on the front panel will come on. Keep a light pressure on the lid assembly until the vacuum level begins to fall (vacuum gage).
6. When you are set to proceed, switch the **High Voltage** on and set the **Voltage** control to 8 ½. You may see a short sharp spike on the mAmp meter but it should fall back to zero. This is normal. If the needle jumps and stays up, **STOP and SEEK ASSISTANCE.** You may have a leak or sample problem.
7. Slowly open the **Fine Gas Control** valve counter-clockwise to leak air into the system. Pressure in the chamber will start to rise (vacuum gage). There is a significant lag between opening this valve and noting a rise in the mAmp reading (5 to 10 seconds). Be patient and open the valve a turn at a time until the current begins to rise. Current may fluctuate at first, so carefully open or close the valve to get a steady reading of between 8 – 12 mAmps.
8. With a steady current reading, set the timer to 3-4 minutes (Au) or 4-5 minutes (AuPd) and flip the **Processing** switch to the AUTO position.



Western

Biotron Experimental  
Climate Change Research

9. During the coating phase monitor the mAmp meter and the vacuum gauge. Adjust the **Fine Gas Control** valve as needed to maintain a steady mAmp reading between 8 – 12 mAmp.
10. The timer will shut off the **High Voltage** automatically.

### To Shut Down:

- a. Set **Voltage control** to 0
- b. Set **High Voltage** to off
- c. Set **Processing** to Manual
- d. Set **Main** to Off
- e. The system will vent itself and the lid assembly will be ready to open in about 90 seconds.
- f. Remove your specimens (See steps 2 – 4 above), re-assemble the chamber and close the lid assembly.
- g. Log your use on the calendar provided.



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