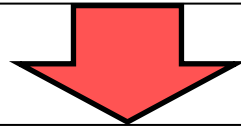


# Hitachi High Vacuum Evaporator

## 1. EVAPORATOR START-UP

- a. Turn the water on at the sink
- b. Close all valves (clockwise [CW])
- c. Push “Main” button on → then “RP” → and lastly “DP”
- d. Open the “FV” valve (Counter CW). Wait at least 15 minutes.
- e. Open “LV1” valve (Counter CW).
- f. Lift the bell jar and swivel it to the side



## 2. SETTING

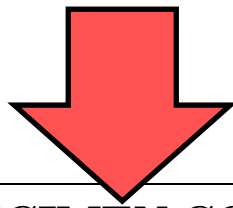
- a. Replace both carbon rods.
  - i. Place a sharpened rod in the sliding rod holder and tighten thumbscrew
  - ii. Place a flat tipped rod in the stationary rod holder and tighten thumbscrew.
  - iii. Now align the rods so the sharpened tip is touching the center of the flattened tip.
- b. Place a brass disk on the glass plate directly under the center of the carbon rods.
- c. Arrange samples around brass disk as evenly distributed as possible.
- d. Put the bell jar back over the chamber.
- e. Lastly, close the “LV1” valve (CW).



## 3. VACUUM

\*\*IF you had to turn on the evaporator, steps 1a-d, wait 15 minutes before beginning this phase, otherwise proceed immediately.

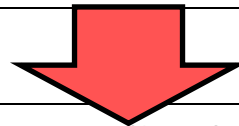
- a. MAKE SURE TO FOLLOW THE SEQUENCE OF VALVE OPEN/CLOSE PRECISELY. Close the “FV” valve (CW) → then open the “RV” valve (Counter-CW).
- b. **WAIT** 5-10 minutes before proceeding to the next step.
- c. Close the “RV” valve (CW) → open the “FV” valve (Counter CW) → open “MV” valve (Counter CW). Now, the vacuum gauge activates and the red light will illuminate.
- d. **WAIT** for the vacuum to read  $10^{-4}$  Torr. This step will take about 45-75 minutes.



#### 4. SPECIMEN COATING

- a. Turn the switch to side 2 for carbon coating.
- b. Push the red EVAP button on.
- c. Adjust the amperage slowly until carbon road are “sputtering.”  
Monitor the brass disk and compare to the examples on the wall. Turn the amperage down when the desired thickness is achieved.
- d. Push the red EVAP button off → close the “MV” valve (Clockwise) → Open the “LV1” valve (Counter CW).

\*\*To coat more samples, return to step 1e in EVAPORATOR SETUP and repeat the proceeding steps (i.e., steps 1e → 4d).



#### 5. SHUTTING DOWN/OFF

- a. Close the “LV1” (CW) and “MV” valves (CW).
- b. Push the “DP” button off.
- c. WAIT 20 minutes.
- d. Close the “FV” valve (CW).
- e. Push the “RP” button off.
- f. Push the “Main” button
- d. Turn the water off at the sink.

\*\*\*\*\***END**\*\*\*\*\*