

## EB#1 operation instructions

- 1) Turn off the ion gauge.
- 2) Verify the circuit breaker on the high voltage power supply is off.
- 3) Press the Red “Vent/Open” button. (Once button is pressed, do not press either button until cycle is complete)
- 4) Verify the mirror is reflective and the shutter is not flaking. Replace or clean shutter if flaking.
- 5) Load your sample. Ensure the fixture is not blocking the quartz crystal.
- 6) Open shutter by selecting “Manual” on the IC5. If it fails to open, press stop reset on the IC5.
- 7) Switch EBC mode to manual. Select pocket desired by pressing change then pocket and then enter 1 - 8 based on pocket/material assignment chart.
- 8) Load source material into the proper hearth pockets.

\*Ag, Pt, and Pd will be refilled and maintained by Staff only.

\*\*The Au source requires a graphite disk between the crucible and the pocket.

- 9) Verify crystal life by selecting “Sensors” on the IC5. Change crystal if life is >15. Press Operate to go back to the main screen.
- 10) Press stop and reset to close shutter.
- 11) Press the green “Close/Pump” button. (Once button is pressed, do not press either button until cycle is complete)

- If roughing the chamber exceeds the set point time, the pump down step will be aborted and the “Pumpdown Time Out” alarm will activate.
- If the “Pumpdown Time Out” alarm is activated, firmly press the “Reset” button and wait for 5 sec.
- Press the Red “Vent/Open” button, and once the chamber is open inspect for obstructions or any reason that would cause the pump down to fail.
- Once obstructions are cleared, Press the green “Close/Pump” button and continue to step 12.
- Should the “Pumpdown Time Out” alarm activate a second time, report a problem in Sign Up Monkey.

- 12) Turn on the circuit breaker on the high voltage power supply. Temescal CV-65LX
- 13) Switch EBC controller mode to operate. Press Manual, Mode, Operate.
- 14) From the main Operate screen on the IC5 Select “Program” then select “Process Directory”. Using arrow keys, scroll to desired material/stack and select “Process”.
- 15) Enter desired rate, and final thickness for each material. Thickness limit must match final thickness.
- 16) IMPORTANT: Enter 1-8 for crucible. This is where the source material is located. (Crucible on the IC5 is the same as pocket on the EBC)
- 17) Select “Process Directory” then select “Select Active Process”.
- 18) Select “Program”, select “Operate”.
- 19) Verify process # 1-50 is the correct process that you want to run. (Bottom left hand corner of IC5 screen)
- 20) After process pressure is reached, ( $<3.0 \times 10^{-6}$ ) press Stop, Reset and then Start to start the process run.
- 21). Touch the screen where Prog is, to turn on the sweep. (White = on)
- 22) Sweep will change automatically depending on the material selected.
  - Once the program has started, YOU MUST stay with the machine until the program is complete.
- 23) When process is complete and IC5 displays “Idle” (not idle ramp) wait a minimum of 10 minutes before venting. Wait a minimum of 20 – 30 minutes for Pt, W, Ta & Mo.
- 24) Touch the screen where Prog is to turn off the sweep.
- 25) After the IC5 displays Idle (not idle ramp), turn the high voltage power supply circuit breaker to off.
- 26) Follow steps 1 – 8 to vent/remove sample and source material. (Replenish Au to 95 grams.)
- 27) Clean up any flakes that may have occurred by using a clean room vacuum.
- 28) Press the green “Close/Pump” button. Verify chamber goes into hivac before leaving the system.
- 29) Fill out the logbook.