

Thermal Evaporator #2 Operating Instruction

1. Turn off Ion Gauge.
2. On CHA vacuum controller push toggle switch to "Vent" position.
3. After "Atmosphere" light illuminates, select "Standby on CHA vacuum controller.
4. Raise bell jar.
5. Remove shutter and boat shield.
6. Install up to 3 tungsten boats.
7. Load source material into boats.
8. Replace shield and shutter.
9. Replace quartz crystal if a number greater than 10% is displayed on the quartz crystal monitor when "xtal" is pressed.
10. Install new mirror and verify it is approximately ¼" below shutter.
11. Change glass slide for sight glass if coated.
12. Close bell jar.
13. Select "Start" on CHA vacuum controller.
14. Allow system to pump to < 3.0e-6 torr.
15. Select filament desired.
16. Program quartz crystal monitor.
17. Turn Innotek power supply circuit breaker to ON.
18. Over 2-3 minutes, slowly increase filament voltage while watching filament display reading.
19. Open shutter and adjust filament voltage to reach deposition rate required.
20. Evaporate material at a rate not to exceed 10 angstroms/sec.
21. When thickness set point is reached, the shutter will automatically close.
22. Slowly over 1 minute decrease filament voltage.
23. Turn Innotek power supply circuit breaker to OFF.
24. If using more than 1 boat, select next boat desired and repeat steps 16-23.
25. Allow system to cool 20 minutes.
26. On CHA vacuum controller push toggle switch to "Vent" position.
27. After "Atmosphere" light illuminates, select "Standby on CHA vacuum controller.
28. Raise bell jar.
29. Remove shutter and boat shield.
30. Remove boats.
31. Vacuum and flakes or any debris.
32. Replace shield and shutter.
33. Close bell jar.
34. Select "Start" on CHA vacuum controller.
35. Verify system achieves hi-vac.
36. Fill out logbook.
37. Complete.