

# Varian Instructions

## Pump Down

1. Make sure **Vent** is **closed** , **O2** is **closed**
2. Seal chamber
3. **Close Foreline** (pressure should be <50mTorr in **foreline**)
4. **Open Rough**
5. Pump down to <100 mTorr
6. **Close Rough**
7. **Open Foreline** ( VERY IMPORTANT!!!)
8. **Open Hi-Vac**
9. Make sure Turbo Pump load doesn't get too high (> 5)
10. Turn **ON Ion-Gauge** (make sure that it is on log scale)

## Vent

1. **Close Hi-Vac**
2. Turn **OFF Ion-Gauge**
3. **Open Vent**
4. Wait for gap to appear between base and chamber
5. Lift chamber using hoist
6. **Close Vent**

# Evaporation

1. Load Sample and adjust tilt stage to desired angle
2. Load source
3. Make sure slide windows are in place and that the guard does not touch the electrodes!!!
4. Seal Chamber
5. Follow **Pump Down** instructions
6. Pressure before evaporation should be  $<1 \times 10^{-6}$  Torr
7. Calibrate thickness monitor
8. Make sure shutter is closed
9. Turn **Cooling Water** is **ON**
10. Turn on Power supply to correct terminal (make sure to start at 0%)
11. Raise current by **5% per 30 s** until desired rate is achieved
12. Open shutter to begin depositing
13. Close shutter to end depositing
14. Allow several minutes to cool.
15. Instructions for double angle
  - a. **Close Hi-Vac** (very important!!!)
  - b. Turn **OFF ION-Gauge**
  - c. **Open O2** and let in desired amount of O2 before **Closing O2**
  - d. **Close Foreline**
  - e. **Open Rough**
  - f. When pressure  $<100$ mTorr **Close Rough**
  - g. **Open Foreline**
  - h. **Open Hi-Vac**
  - i. Turn **ON ION-Gauge**
  - j. Allow to cool
16. Follow Venting instructions
17. Turn **Cooling Water** is **OFF**