

Varian E-Beam Evaporator



The Varian E-beam evaporator at NCF is restricted to the deposition of **metals only**. The system has 4 available pockets for crucibles. Pocket 3 is restricted to the deposition of **gold metal only**. Pockets 1, 2, and 4 can be used for any metals desired by the user. Source materials are provided by NCF, with precious metals such as gold, or platinum charged per gram used. Users may also bring their own source material and crucible. The system uses a cryo-pump, so pump down time is approximately 25 – 30 minutes. After passing the NCF safety exam, users can request training on this machine by sending an email to ncftech@uic.edu. Those not trained can request an NCF work service order by contacting the lab manager.

Location: cleanroom, deposition bay

Training: 3 sessions (2 trainings and a checkout session)

Technical Specifications:

- # of E-beam pockets: 4 (deposition can be done with or without a crucible depending on the metal)
- Sample holders: 2", 3", 4" planetary holders (with rotation), as well a stationary holder for 90° deposition
- Max # of samples: according to planetary
 - 2" – 20 wafers
 - 3" – 8 wafers
 - 4" – 18 wafers
 - Stationary holder – four 3" wafers, and irregular wafers
- Chamber Pressure: $< 5 \times 10^{-6}$ torr
- Thickness Monitor: Quartz Crystal monitor, provided by NCF
- Max thickness allowed per use: 1 μ m