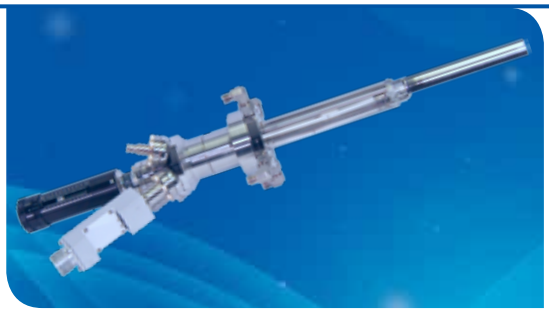
SVTA-EBS Compact E-Beam

Description

SVTA-EBS Compact evaporator is a very versatile source for depositing thin layers of Carbon, Silicon, Tantalum, Molybdenum, and most other refractory metals that are manufactured in wire form. Its exclusive design utilizes an electron beam power supply for electron emission and an integral flux monitor to regulate the deposition rate. The source material is typically a rod of 1-5 mm in diameter. When held at a positive potential, it attracts electrons emitting from the filament and is heated to an evaporation temperature to produce a flux of atoms. A linear motion feed-through provides adjustment of the source position. Alternatively, materials in chunk or powder form may be evaporated from a special crucible.



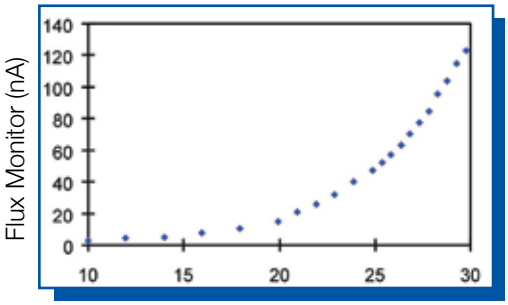
Typical Applications

- Silicon MBE – Metallization
- Magnetic Thin Films
- Doping
- Interface Studies

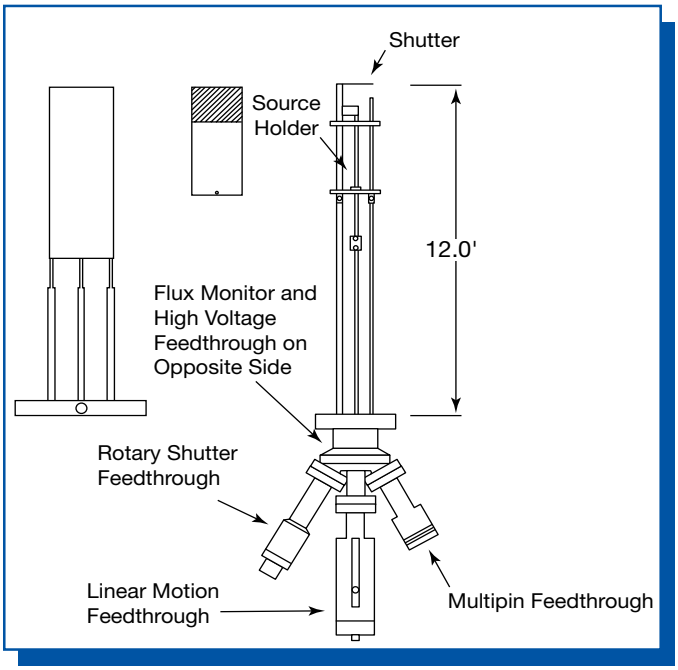
Specifications

Maximum Power	300 W
Emission Current	100 mA
Maximum Temperature	3,000 °C
Electrical Connectors	Filaments: Amphenol Circular High Voltage: SHV
Mounting Flange	2.75" or 4.5" CFF
Length	12" *(or Custom)*

Silicon Flux vs. Emission at 1.5 keV



Flux Monitor current as a function of emission current between tip and filament for a silicon rod



Schematic drawing of a compact electron beam source showing linear motion feedthrough.

Models	E-Beam Source
SVTA-EBS-275	12" Standard Compact Electron Beam

Models	Additional Options
SVTA-EBS-LF2	2" Linear Feed
SVTA-EBS-WCS	Water Cooling Shroud
SVTA-EBS-IS	Integral Shutter
SVTA-EBS-CR	Crucible Option