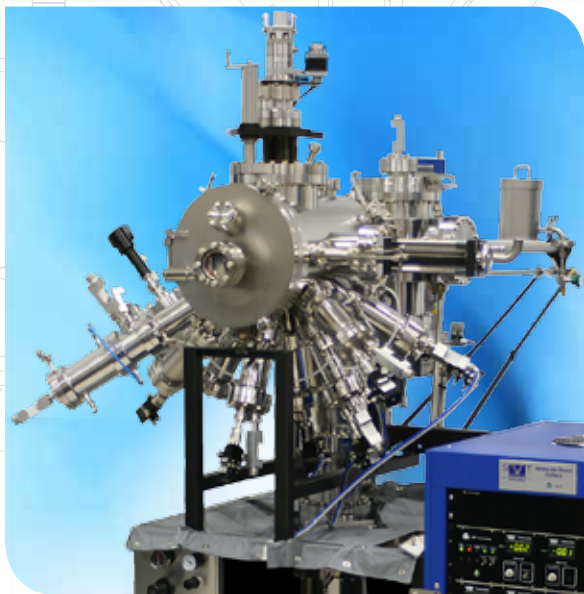


# SMART NanoFab MBE

## Versatile Compact Research System



### SMART NanoFab MBE

- SVT Associates' SMART NanoFab MBE system is the perfect combination of small footprint and large capability. The table-top UHV chamber includes a series of ports to accommodate a wide selection of deposition sources and process monitoring tools.
- A multiple sample load-lock allows for rapid sample loading while maintaining the high purity environment.
- The integrated electronics racks and convection bake system provides convenient control of the entire system.
- Complete process automation is available through the RoboMBE™ software suite.

### Applications

- III-V, II-VI, II-Oxides, III-Nitrides and other materials
- Multi-Technique Deposition MBE

### SVT Associates, Inc.

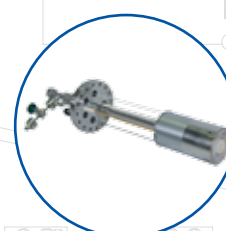
- Leading manufacturer of thin film deposition equipment with over 190 systems in the field.
- In-house Applications Laboratory with seven deposition systems producing world class materials.
- Continuously developing strong combinations of equipment manufacturing and process know-how.
- Diverse system product line spanning the thin film deposition market.

### Deposition Sources and Monitoring Tools

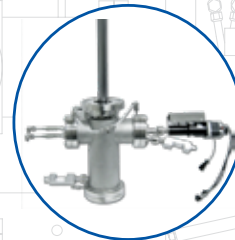
- Effusion Cells
- RF-Plasma Source
- Gas Injection
- RHEED and RHEED Image Analysis Software
- AccuFlux In-Situ Process Monitor
- Quartz Crystal Monitor
- Linear Flux Monitor for Calibration



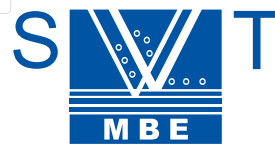
Effusion  
Cells



RF Plasma  
Sources



Valved  
Crackers



# SMART NanoFab MBE – Specifications

## BASE SYSTEM

### Chamber and Vacuum Pumps

12" Access Flange  
1,500l/s Cryo Pump  
*Additional pumps available as options*  
Integrated Cryo-Shroud  
Base Pressure:  $< 2 \times 10^{-10}$  Torr

### Deposition Sources

Eight Positions to Use:  
16 cc Effusion Cells  
Valve Cracking Sources  
RF Plasma Source  
Pneumatic Shutters

### Deposition Stage

Up to 2" (50 mm) Sample Size  
Heating to 850 °C (1000 °C w/water cooling)  
Continuous Rotation  
z-Axis Translation  
Master Shutter

### In-Situ Process Monitoring Tools

Quartz Crystal Deposition Rate Monitor  
Linear Flux Monitor  
AccuFlux Process Monitor  
AccuTemp Process Monitor  
RHEED

### Gauges

Full Range MicroIon Gauges  
UHV Ion Gauges

### Automation Package:

Pressure Readout  
Auto Pump Down and Venting  
Stage Heating and Rotation  
Growth Recipe Control  
Safety Interlocks

### Load Lock

Quick Access Door  
80l/s Turbo Pump  
Six Position Sample Cassettes  
Magnetically Coupled Transfer Arm

### Additional Features

Integrated Electronics Rack  
Integrated Bakeout

